MÜPRO

YAPO PLAN



Support technology and vibration control systems

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MÜPRO

1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

MÜPRO

A

Acrylic joint sealers 16/3
Adapter for mounting base for flat roof installation 9/6
Adhesive for foamglass 3/88
Adhesive for MypoTHERM® Caoutchouc/Caoutchouc Plus 15/14
Adhesive for MypoTHERM® Insulation tube 15/8
Allen bolts 5/19
Allen bolts, stainless steel 11/58
Allen key 17/19
Anchor point pipe clamps type 170 FL 6/10
Anchor points for pipes for chilled water pipes (Wooden blocks) 6/9
Anchor points for pipes PHONOLYT® 6/1–6/2
Anchor rods for chemical reaction anchors VBA 13/35
Anchor rods for injection anchors XV Plus 13/38–13/39, 13/42
Anchoring cams 7/21
Angle plate 4/87
Angle plate, hot-dip galv. 12/57
Angle plate, stainless steel 11/49
Angle rail 4/93
Anti-vibration pads 1/5

B

Base plates 5/8–5/9
Base plates, stainless steel 11/60
Bits for Zykon steel hammerset anchors FZEA 13/34
Blind rivets 9/11
Bolt screw plugs 13/31
Bolt screws 5/2
Bolt screws, stainless steel 11/56
Box-section heavy slide guide 7.8 kN 6/19
Box-section heavy slide guide, hot-dip galv. 12/66
Brackets refrigerant anchor points 6/11–6/12
Button anchor points PHONOLYT® 6/3
Button PHONOLYT® 1/3

C

Cantilever brackets 4/83
Cantilever brackets, hot-dip galv. 12/54
Cantilever brackets, stainless steel 11/43
Caoutchouc pipe support 3/94–3/96
Cap nuts 5/21
Cartridge gun for PU-Foam 16/5
Cartridge guns 17/7
Cartridge guns for injection anchors XV Plus 13/44
Cavity plugs 13/21
Cavity plugs box 13/23–13/24
Ceramic fabric tapes 3/40
Channel connector, heavy-duty version 4/80–4/81
Channel connector, heavy-duty version, hot-dip galv. 12/51–12/52
Channel connector, heavy-duty version, stainless steel 11/41
Chemical reaction anchors VBA 13/35–13/36
Chisels for SDS chucks 17/17
Clamping claws 5/14
Claw anchors® 13/9
Cleaning kit for drill holes 13/44
Cold shrink tape 9/13
Color-Marker marking spray 16/5
Connection plates 4/87–4/88
Connection plates, hot-dip galv. 12/57
Connection plates, stainless steel 11/49
Construction brackets 4/84
Construction brackets, stainless steel 11/45–11/46
Craftsman boxes 17/23
Cramping connector 4/79
Cramping elements 7/25
Cramping sets 7/22–7/24
Cross connector plate 4/88
Cutter knifes 17/19
Cutting-off discs 17/18
Cylinder head screws 5/19
Cylinder head screws, stainless steel 11/59

D

DÄMMGULAST® blue 3/38
DÄMMGULAST® Channel sections for MPC-Profiles 1/9, 4/23, 11/18, 12/12
DÄMMGULAST® Channel sections for MPR-Profiles 1/10, 4/53, 11/36, 12/30
DÄMMGULAST® Junior 3/37
DÄMMGULAST® red 3/38
DÄMMGULAST® Resilient pad 1/7
DÄMMGULAST® Resilient pad, stainless steel 11/17
DÄMMGULAST® seewater proof 3/39
DÄMMGULAST® Vibration control linings 3/36–3/39
DÄMMGULAST® Washers 1/8
DÄMMGULAST® Washers and steel washers, stainless steel 11/17
DÄMMGULAST® yellow 3/37
Diamond cutting-off disc 17/18
Disposable gloves 17/21
Distance angles 5/24
Distance angles, stainless steel 11/60
Dome supports 6/4
Drill hole cleaning kit 13/44
Drill-in brackets for radiators 18/7–18/8
Duct clamps 9/1–9/4
Duct clamps, stainless steel 11/4–11/5
Duct fixing angles 9/9
Duct fixing angles, hot-dip galv. 12/67
Duct fixing angles, stainless steel 11/53
Duct fixing bracket 9/7–9/8
Duct joint clamps 9/10
Duo 3/7
DUPLO-Solar 3/89

E

EASY clips 3/8
EURO-QUICK® 3/1
Expanders for radiators 18/1–18/2
Eye bolts 5/8

F

Felt tapes 15/22
Filbow clamps pear-shaped 3/41
Filbow clamps with cup nut 3/43
Filbow clamps with knurled nut 3/42
Fine dust masks 17/20
Fixing clamps small 3/92
Flat chisels 17/17
Foam glass pipe holder, with DÄMMGULAST® blue 3/87–3/88
Foam rubbers 9/12
Foot PHONOLYT® 1/4

G

Garbage bags 17/21
Gas-meter fixing kits 5/23
Girder clamps 5/11–5/13
Girder clamps, stainless steel 11/51
Glazing tapes 9/12
Gloves 17/21
Guide angles 7/28
Guide rails 6/16

H

Hammer drills 17/11–17/15
Hand washing paste 17/21
Hanger bracket 5/10
Hanger sockets 5/8
Hanger sockets, stainless steel 11/59
Headed drills with SDS chuck for steel anchors 13/3
Heavy load plug (Heavy-duty anchors BZ) 13/6–13/7
Heavy load plug (Heavy-duty anchors BZ), stainless steel 11/63–11/64
Heavy slide guide 7.8 kN box-section 6/19
Heavy slide guide box-section, hot-dip galv. 12/66
Heavy-duty anchors BZ 13/6–13/7
Heavy-duty anchors BZ, stainless steel 11/63–11/64
Hex connectors 5/5
Hexagon head bolts 5/20
Hexagon head bolts, hot-dip galv. 12/59
Hexagon head bolts, stainless steel 11/58
Hexagon head chucks 17/9
Hexagon wood screws 5/1
Hexagon wood screws, stainless steel 11/59
Hexagonal nuts 5/21
Hexagonal nuts, hot-dip galv. 12/59
Hexagonal nuts, stainless steel 11/57
Hole punches 17/7
Hollow-core slab ceiling anchors 13/20
Hook & loop strip for signage system 14/7
Hose clamps 3/90–3/91

I

Impact mandrels for Zykon steel hammerset anchors FZEA 13/34
Injection anchor XV Plus assortment case 13/43
Injection anchors XV Plus 13/37–13/43
Installation pliers 13/22
Installation plug set 15/23
Insulation (MypoTHERM® Insulation tubes) 15/8–15/9
Insulation (MypoTHERM® Kompakt floor tubes) 15/10
Insulation clamps RG 250 3/50–3/51
Insulation clamps RG 80 3/46–3/47
Insulation clamps type 170/175 EX 3/83–3/86
Insulation clamps type H, M, T 3/52–3/67
Insulation clamps type RTN+ 3/68–3/79
Insulation shells type RTN+ 3/80–3/82

J

Joint brackets 5/24
Joint brackets, hot-dip galv. 12/63
Joint brackets, stainless steel 11/50
Joint tape 1/13
JUNIOR 3/6

L

Laminated plastic signs for signage system 14/5
Laser distance meter 17/1
Lightweight concrete plug (Under cut anchors) 13/8
Link chain, hot-dip galv. 12/60
Load-distributing sleeves for PU shells 3/49

M

Machine-setting tools for steel anchors 13/3
MAFUND® plate 1/14
Manual fixing tool 17/19
Marking spray Color-Marker 16/5
Metal twist drills 17/16
Mineral wool pipe jackets with aluminium facing 15/20–15/21
ML-Clamping bodies for strap clamps 14/11
ML-Clamping sets for clamping bodies 14/12
ML-Clamping straps for strap clamps 14/11
ML-Fastening plates for pipework signposting 14/9
ML-Strap clamps for fastening plates 14/10
Mortar cartridge for chemical reaction anchors VBA 13/35
Mounting adhesive tapes 16/6
Mounting angles 4/85–4/86
Mounting angles, hot-dip galv. 12/55–12/56
Mounting angles, stainless steel 11/47–11/48
Mounting base for flat roofs, hot-dip galv. 12/58
Mounting bases for flat roof installation 9/5
Mounting bases for signage system 14/6–14/7
Mounting strap for signage system 14/8
MPC-Channel connectors 4/24
MPC-Channel connectors, stainless steel 11/19
MPC-Channel support brackets 4/25
MPC-Channel support brackets, stainless steel 11/20
MPC-Clamp brackets 4/22
MPC-Clamp brackets, hot-dip galv. 12/11
MPC-Clamp brackets, stainless steel 11/17
MPC-Cross channel connectors 4/33
MPC-Cross channel connectors, hot-dip galv. 12/16
MPC-Cross channel connectors, stainless steel 11/24
MPC-Diagonal struts 4/15
MPC-Diagonal struts, hot-dip galv. 12/10
MPC-Double rail nut 4/22
MPC-Double rail nut, hot-dip galv. 12/11
MPC-Double rail nut, stainless steel 11/17
MPC-Girder cleats 4/34
MPC-Girder cleats, stainless steel 11/25
MPC-Girder support 4/35
MPC-Hammer head bolts 4/21
MPC-Hammer head bolts, stainless steel 11/16
MPC-Hammer head fasteners 4/19–4/20
MPC-Hammer head fasteners, stainless steel 11/15
MPC-Headed drill and MPC-Setting tool 13/16, 13/18
MPC-Lateral angles 4/31–4/32
MPC-Lateral angles, hot-dip galv. 12/15
MPC-Mounting anchors 13/16–13/19
MPC-Mounting angles 4/29–4/30
MPC-Mounting angles, stainless steel 11/23
MPC-Protection caps 4/22, 11/16 12/11
MPC-Quick fasteners 4/16–4/18

02/19

MPC-Quick fasteners, stainless steel 11/13–11/14
MPC-Rail nuts 4/22
MPC-Rail nuts, hot-dip galv. 12/11
MPC-Rail nuts, stainless steel 11/17
MPC-Saddle supports 4/26–4/27
MPC-Saddle supports, hot-dip galv. 12/13
MPC-Saddle supports, stainless steel 11/21
MPC-Support channels 4/1–4/8
MPC-Support channels, hot-dip galv. 12/1–12/5
MPC-Support channels, stainless steel 11/6–11/10
MPC-VARIO joint 4/36
MPC-VARIO-Saddle support 4/28
MPC-VARIO-Saddle support, hot-dip galv. 12/14
MPC-VARIO-Saddle support, stainless steel 11/22
MPC-Wall hanger brackets 4/9–4/12
MPC-Wall hanger brackets, hot-dip galv. 12/6–12/8
MPC-Wall hanger brackets, stainless steel 11/11–11/12
MPC-Wall hanger supports 4/13–4/14
MPC-Wall hanger supports, hot-dip galv. 12/9
MPR-3D-Connectors type S+ 4/76
MPR-3D-Connectors type S+, hot-dip galv. 12/49
MPR-Adapter discs type S+ 4/64
MPR-Angle connectors type S+ 4/72–4/74
MPR-Angle connectors type S+, hot-dip galv. 12/45–12/47
MPR-Angle plate 90° type S+ 4/75
MPR-Angle plate 90° type S+, hot-dip galv. 12/48
MPR-Channel connector type S+, heavy-duty version 4/64
MPR-Channel connector type S+, heavy-duty version, hot-dip galv. 12/38
MPR-Channel connectors 4/54
MPR-Channel support bracket type S+ 4/65
MPR-Clamp brackets 4/51
MPR-Clamp brackets, hot-dip galv. 12/28
MPR-Clamp brackets, stainless steel 11/35
MPR-Connection lock type S+ 4/62
MPR-Connection lock type S+, zinc-nickel 12/37
MPR-Connection plates type S+ 4/75
MPR-Connection plates type S+, hot-dip galv. 12/48
MPR-Construction bracket type S+ 4/69
MPR-Construction bracket type S+, hot-dip galv. 12/42
MPR-Corner connectors type S+ 4/76
MPR-Corner connectors type S+, hot-dip galv. 12/49
MPR-Cross channel connector type S+ 4/77
MPR-Cross channel connector type S+, hot-dip galv. 12/50
MPR-Cross channel connectors 4/58
MPR-Cross channel connectors, hot-dip galv. 12/33
MPR-Cross channel connectors, stainless steel 11/39
MPR-Cross connection plate type S+ 4/75
MPR-Cross connection plate type S+, hot-dip galv. 12/48
MPR-Diagonal struts type S+ 4/63
MPR-Diagonal struts type S+, hot-dip galv. 12/38
MPR-Girder cleats 4/59
MPR-Girder cleats, hot-dip galv. 12/34
MPR-Girder cleats, stainless steel 11/40
MPR-Hammer head fasteners 4/48–4/49
MPR-Hammer head fasteners, stainless steel 11/33
MPR-Hammer head fasteners, zinc lamella coating 12/25–12/26
MPR-Mid connector type S+ 4/76
MPR-Mid connector type S+, hot-dip galv. 12/49
MPR-Mounting angle 4/57
MPR-Mounting angle, stainless steel 11/39
MPR-Mounting angles type S+ 4/70–4/71
MPR-Mounting angles type S+, hot-dip galv. 12/43–12/44
MPR-Protection caps 4/52, 11/35 12/29
MPR-Quick fasteners 4/46–4/47
MPR-Quick fasteners type S+ 4/60
MPR-Quick fasteners type S+, zinc-nickel 12/35
MPR-Saddle supports 4/55
MPR-Saddle supports, hot-dip galv. 12/31
MPR-Saddle supports, stainless steel 11/37
MPR-Saddle supports type S+ 4/66–4/68
MPR-Saddle supports type S+, hot-dip galv. 12/39–12/41
MPR-Slide nuts type S+ 4/61
MPR-Slide nuts type S+, hot-dip galv. 12/36
MPR-Support channels 4/37–4/42
MPR-Support channels, hot-dip galv. 12/17–12/22
MPR-Support channels, stainless steel 11/26–11/30
MPR-T-connection plate 4/75
MPR-T-connection plate type S+, hot-dip galv. 12/48
MPR-Threaded plates 4/50
MPR-Threaded plates, hot-dip galv. 12/27
MPR-Threaded plates, stainless steel 11/34
MPR-VARIO joint type S+ 4/78
MPR-VARIO-Saddle support 4/56
MPR-VARIO-Saddle support, hot-dip galv. 12/32
MPR-VARIO-Saddle support, stainless steel 11/38
MPR-Wall hanger brackets 4/43–4/45
MPR-Wall hanger brackets, hot-dip galv. 12/23–12/24
MPR-Wall hanger brackets, stainless steel 11/31–11/32
MPT-Angle plate 8/27
MPT-Base plate 8/36
MPT-Brackets 8/17
MPT-Cantilever bracket 8/22
MPT-Connection plates 8/26
MPT-Consoles Q100 8/15–8/16
MPT-Consoles Q50 8/13
MPT-Consoles Q80 8/14
MPT-Cross channel connectors 8/18
MPT-Cross plate 8/28
MPT-Girder cleats 8/35
MPT-Guide 8/33
MPT-Hammer head bolts 8/23
MPT-Hexagon head bolt 8/24
MPT-Mounting angles 45° 8/20
MPT-Mounting angles 90° 8/19
MPT-Protection caps 8/25
MPT-Retaining plate 8/29
MPT-Saddle supports 8/31–8/32
MPT-Steel beam adaptor plate 8/34
MPT-Support profile connectors 8/30
MPT-Support profile Q100 8/5–8/6
MPT-Support profile Q100 with 3 slots 8/7–8/8
MPT-Support profile Q100 with 4 slots 8/9–8/10
MPT-Support profile Q150 with 3 slots 8/11–8/12
MPT-Support profile Q50 8/1–8/2
MPT-Support profile Q80 8/3–8/4
MPT-T-connection plate 8/27
MPT-VARIO joints 8/21

02/19

Multi-purpose plugs 13/29
MÜPRO-PHONEX® Anchors 1/16, 13/32
MypoTHERM® Butt joint tape 15/7
MypoTHERM® Caoutchouc 15/12–15/14
MypoTHERM® Caoutchouc Plus 15/15–15/18
MypoTHERM® Caoutchouc tapes 15/19
MypoTHERM® Insulating wraps 15/6–15/7
MypoTHERM® Insulation sleeves 15/4
MypoTHERM® Insulation sleeves ECO 15/5
MypoTHERM® Insulation tubes 15/8–15/9
MypoTHERM® Kompakt floor tubes 15/10
MypoTHERM® PE protection sleeves 15/3

N

Nail anchors 13/14–13/15
Nail plugs 13/30
Nails for pipe clips 15/11
Nealed wire 15/22
Nylon plugs 13/27

O

OPTIMAL 3/2–3/3
OPTIMAL Junior® 3/5
Oval head screws 5/20

P

Paper rolls 17/22
Parallel couplings for threaded rods or threaded pins 5/6
Perforated sleeves for injection anchors XV Plus 13/40
PHONEX® Anchors 1/16, 13/32
PHONOLYT® 1/2
PHONOLYT® Anchor points for pipes 6/1–6/2
PHONOLYT® Button 1/3
PHONOLYT® Button anchor points 6/3
PHONOLYT® Foot 1/4
Pipe clamp linings 3/36–3/39
Pipe clamps (Single bossed clamps) 3/20–3/27
Pipe clamps (Single bossed clamps) with connection socket 3/28–3/31
Pipe clamps (Single bossed clamps), heavy-duty version 3/13–3/19
Pipe clamps (Single bossed clamps), stainless steel 11/1–11/3
Pipe clamps (Suspension clamps) 3/32–3/35 6/21
Pipe clamps DIN 3567 7/26
Pipe clips 3/93
Pipe clips for MypoTHERM® Kompakt floor tube 15/11
Pipe connector DUPLO 10/3
Pipe connector DUPLO, stainless steel 10/4
Pipe connector MONO 10/1
Pipe connector MONO, stainless steel 10/2
Pipe cutters 17/2–17/5
Pipe slides 7/5–7/20
Plasterboard plugs 13/30
Plastic sealing plates 5/17
Plastic signs for signage system 14/1–14/3
Plug-in setting tools for steel anchors 13/3
Plugs, stainless steel 11/61–11/64
Plumbers case S 17/22
Pointed chisels 17/17
Polyboxes 17/22
Power hook 5/20
Pozidriv recessed head bolts 5/3
ProfiBit-Toolbox 17/11
Protection caps with inner hexagon 5/21
Protective cover for signage system 14/6–14/7
Protective goggles 17/20
PU-Cleaner 16/4
PU-Foams 16/4
Punched tapes 5/18
Punched tapes, stainless steel 11/60
Pure aluminium self-adhesive tapes 15/22
PU-Sealer 3/51, 6/10
PVC-Self-adhesive tapes 16/8

Q

Quick-change adapters for screwdriving tools 17/9

R

Ratchet box 17/8
Recipro-saw blades 17/18
Reducers 5/7
Reducers, stainless steel 11/56
Reducing connectors 5/7
Reducing couplings 10/6
Reinforcement angle 4/82
Reinforcement angle, hot-dip galv. 12/53
Reinforcement angle, stainless steel 11/42
Reinforcement section for twin brackets 3/10
Rip hexagon nuts 5/21
Rotary stacking container 17/23
Rough grinding disc 17/18
Round connectors 5/6
Round connectors, stainless steel 11/56
Rubber washers for duct fixing angles 9/9

S

Safety clips 3/11–3/12
Saniplast 1/12
Saw blades 17/18
Screwdriver 17/19
Screwdriver bits 17/10
Screw-in chucks for power driver 17/9
Screws for concrete 13/10–13/13
Sealing compound for air ducts 9/14
Sealing tape 9/13
Securing clamps 10/5
Self-drilling screws 9/11
Self-drilling screws, stainless steel 11/59
Serrated lock washers 5/22
Setting tool for nails 15/11
Setting tools for steel anchors 13/3
Setting tools for under cut anchors 13/8
Shoulder pins 5/3
Shoulder screws 5/2–5/3
Silicones 16/1–16/2
Single bossed clamps 3/20–3/27
Single bossed clamps JUNIOR 3/6
Single bossed clamps, heavy-duty version 3/13–3/19
Single bossed clamps, stainless steel 11/1–11/3
Single bossed clamps, with connection socket 3/28–3/31
Sink fastener 13/26
Sleeves for load-distributing of PU shells 3/49
Slide clamps 3/4
Slide guide 4 kN 6/18–6/19

02/19

Slide guide 4 kN for crisscross arrangement 6/18
Slide guides, heavy-duty version 6/20
Slide guides 1.75 kN 6/17
Slide guides, stainless steel 11/52
Sliding shoes 6/15
Sliding stirrups 6/13
Slot bolts 5/3, 5/8
Socket adapters 5/7
Socket spanners 17/9
Special adhesive for ceramic fabric tapes 3/40
StaboFix® Bolts 4/92
StaboFix® Clamps 4/92
StaboFix® Drilling screws 4/92
StaboFix® Economy set 4/90
StaboFix® Fixing system 4/89–4/92
StaboFix® Pliers 4/92
StaboFix® Plumbers case 4/90
StaboFix® Retaining plate 4/89
StaboFix® Section 4/89
Stand bracket sets for radiators 18/4–18/6
STATO® Brackets 6/5–6/6
STATO® Brackets, hot-dip galv. 12/64–12/65
STATO® Clamps 6/7–6/8
Steel anchors 13/2
Steel anchors, stainless steel 11/61
Steel wire brushes for chemical reaction anchors VBA 13/36
Steel wire brushes for injection anchors XV Plus 13/44
Supporting angles 5/15
Supporting angles, hot-dip galv. 12/61
Supporting angles, stainless steel 11/44
Suspension clamps for spiral-seam pipes, one-piece 3/32–3/33
Suspension clamps for spiral-seam pipes, two-piece 3/34–3/35
Suspension clamps, three-pieces 6/21
Swivel hangers 3/44, 6/14

T

T-connection plate 4/87
T-connection plate, hot-dip galv. 12/57
T-connection plate, stainless steel 11/49
Tension bolts 13/22
Text strips for signage system 14/4
Textile tapes 16/7
Threaded bolts 3/10
Threaded pins 5/4–5/5
Threaded pins, hot-dip galv. 12/60
Threaded pins, stainless steel 11/55
Threaded pipes 5/10
Threaded pipes, stainless steel 11/60
Threaded rod cutters 17/6
Threaded rods 5/4
Threaded rods, hot-dip galv. 12/59
Threaded rods, stainless steel 11/55
Through anchors 13/4–13/5
Through anchors, stainless steel 11/62
Toggle plugs 13/25
Toilet fastener 13/26
Torque wrench 17/20
Trapezoid-sheet hangers 5/16
Trapezoid-sheet hangers, hot-dip galv. 12/62
Trapezoid-sheet hangers, stainless steel 11/54
Trapezoid-sheet pliers 17/6
Turnbuckles 5/5
Turnbuckles, hot-dip galv. 12/60
Twin brackets for safety clip 3/10

U

U-bolts 3/45
U-bolts DIN 3570 7/27
Under cut anchors 13/8
Universal nameplate supports for signage system 14/8
Universal plugs (Nylon plugs) 13/27

V

VARIO-Twin brackets for safety clip 3/10
VARIO-Twin pipe clamps 3/9
Ventilated-brick plugs 13/28
Vibration control element 1/6
Vibration control hangers 1/11
Vibration control linings 3/36–3/39
Vibration control linings for MPC-Profiles 1/9, 4/23 11/18, 12/12
Vibration control linings for MPR-Profiles 1/10, 4/53 11/36, 12/30
Vibration control plugs (PHONEX® Anchors) 1/16, 13/32
Vibration dampers 1/15

W

Wall hanger brackets for radiators 18/3
Washer bolts 5/3
Washer for hanger brackets 5/10
Washers DIN 125 5/22
Washers DIN 125, hot-dip galv. 12/60
Washers DIN 125, stainless steel 11/57
Washers for MPC-Support channels 5/22
Washers for MPC-Support channels, hot-dip galv. 12/11, 12/60
Washers for MPC-Support channels, stainless steel 11/16, 11/57
Washers for MPR-Support channels 4/52, 5/22
Washers for MPR-Support channels, mechanically galvanised 12/29, 12/60
Washers for MPR-Support channels, stainless steel 11/35, 11/57
Welding pin for signage system 14/6
Wire brush 17/19
Wooden blocks 6/9
Work gloves 17/21

Z

Zinc spray 16/6
Zykon steel hammerset anchors FZEA 13/33
Zykon steel hammerset anchors FZEA, stainless steel 13/33

Premium fastening solutions for every application:

MÜPRO is a fast-growing, international corporate group with subsidiaries and sales partners throughout the world. We are a leading solutions provider and premium supplier in the areas of fixing technology, vibration control and fire protection. Our products are “Engineered in Germany” – we have more than 50 years of industry experience in design and production. Today, MÜPRO products are used all over the world.

Our system solutions offer high quality and cost efficiency. They are used in all building services areas as well as in industrial and plant technology. We also offer our customers a wide range of variable products produced on a customer and order basis.

Specialist with comprehensive expertise:

We provide assistance throughout the entire development, production and delivery process and support our customers with technical plans and project support at the construction site. We reliably perform the pre-assembly of components, special packaging and special deliveries, as well as enabling cost-saving delivery options on site. We also have many years of expertise in special areas of fixing technology such as cleanrooms and tunnels or mounting in the case of heavy loads. Based in Hamburg, MÜPRO Maritim specializes in support systems for shipbuilding.

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02/19



It‘s all in the combination: expertise, high-quality products and comprehensive service!

Our successful project business is based on high-quality support technology and vibration control systems engineered in Germany, worldwide support from our expert team and optimal system solutions for your construction requirements.

What we offer:

- **Project support:** we support you with expertise and advice throughout all phases of the project.
- **Technical expertise:** we provide precise specifications tailored to your requirements, including designs, parts lists and tender specifications.
- **Construction site support:** our application technicians and engineers provide support on site and directly at the construction site.
- **CustomMade:** we make products based on customer specifications as well as products made to order.
- **CustomServ®:** we assemble entire components and deliver them directly to the construction site on schedule.
- **Construction site logistics:** we ensure optimal supply of construction sites through cost-saving storage options on site and reliably implement requirements such as special packaging and deliveries.
- **Planning software:** our calculation programmes help you to respond to the challenges you face in support technology, such as in relation to the calculation of support channels, or anchor or expansion points.
- **MÜPRO apps:** these practical help tools allow you to use the most important calculation programmes or place orders in the online shop directly from the construction site.



02/19

Quality creates trust:

At MÜPRO quality is self-evident. Today, quality assurance is integrated into an overall quality management system in which all processes are defined and subject to permanent inspection.

Our quality management system, which complies with the requirements of DIN ISO 9001:2015, is certified by one of the largest internationally recognised certifying bodies, the “DNV Zertifizierung und Umweltgutachter GmbH”.



DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 88125-2010-AQ-GER-DAkkS | Initial certification date: 30. October 1995 | Valid: 01. April 2017 - 31. March 2020

This is to certify that the management system of

MÜPRO

MÜPRO Services GmbH
Hessenstr. 11, 65719 Hofheim-Wallau, Germany
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:

ISO 9001:2015

This certificate is valid for the following scope:

Development, production and distribution of support technology and vibration control systems

Place and date: **Essen, 23. March 2017**

DAkkS Deutsche Akkreditierungsstelle D-ZM-18458-01-00

For the issuing office: **DNV GL - Business Assurance Schnieringshof 14, 45329 Essen, Germany**

Thomas Beck
Technical Manager

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance Zertifizierung und Umweltgutachter GmbH, Schnieringshof 14, 45329 Essen, Germany.
TEL:+49 201 7296-222. www.dnvgl.de/assurance



interseroh
zero waste solutions

Recycling-Zertifikat 2019

Transportverpackungen und gewerblich anfallende Verkaufsverpackungen

Müpro Services GmbH
65719 Hofheim-Wallau

ist Kunde der INTERSEROH Dienstleistungs GmbH mit Vertrag Nr. 28306.

Mit diesem Zertifikat bestätigen wir, dass

- angemeldete Transportverpackungen und gewerblich anfallende Verkaufsverpackungen bei den Kunden des Unternehmens von Interseroh-Partnern erfasst,
- erfasste Transportverpackungen und gewerblich anfallende Verkaufsverpackungen stofflich verwertet und
- alle Anforderungen der Verpackungsverordnung erfüllt werden.

Gemäß der Angaben der o.g. Firma sind folgende Verpackungsarten über Interseroh vom **01.01.2019** bis **31.12.2019** gemeldet:

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Papier/Pappe/Karton; PE-Folie (transparent, eingefärbt, Stretchfolie, Luftpolsterfolie); Bänder Stahl; Bänder Kunststoff; Dosen, Kartuschen aus PE/PP; Dosen, Kartuschen aus Aluminium

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Köln, Dezember 2018

Markus Müller-Drenkl

ppa. Frank Kurrat

Qualität und Nachhaltigkeit – wir machen aus gebrauchten Verpackungen Rohstoffe.

Vertrauen Sie auf die Interseroh Dienstleistungs- und Servicequalität, die auf zertifizierten Managementsystemen für Qualität, Umweltschutz, Arbeitssicherheit und Gesundheitsschutz sowie der Zertifizierung als Entsorgungsfachbetrieb basiert.

ALBA Group

Our contribution to environmental protection:

When manufacturing our products, we always ensure that the methods used comply with environmental legislation and the latest technological standards. Taking care of the environment forms an equally important part of a sustainable, forwarding-looking corporate strategy as economic foresight.

For this reason, MÜPRO ensures an optimum use of natural resources starting right at the development and design stages for our products.
A continuous improvement in our manufacturing methods with regard to environmental aspects is a key element in our approach.

Of course we also require the same environmental protection standards which we apply to ourselves of our partners and suppliers.

02/19

Quality mark RAL-GZ 655 “Pipe Mounting“:

The technical regulation RAL-GZ 655 contains rules for any kind of pipe mountings and characterises pipe clamps, brackets, mounting rails and equipment. Technical performance and quality is proven in comprehensive, neutral tests and the resulting security is an advantage to all concerned partners.

RAL has given the authority to award the quality mark to the Pipe Mounting Quality Association. The RAL quality mark can only be awarded to products, which completely meet the high requirements on quality assured pipe mountings.

These requirements are defined in the RAL-GZ 655 quality and test regulations. All products are thoroughly evaluated by a neutral, independent test centre before the seal is awarded. All products awarded subject to continuous external monitoring by this test centre and by the quality association. The technical performance of these pipe mountings is neutrally determined, using modern methods. Thus the Pipe Mounting Quality Association offers safety and faciliates the selection of pipe mountings.

The RAL quality mark is characterized by the high level of trust established among consultants, traders and installers.

Please find further information and the current product range under:
www.safe-connection.de

RAL GÜTEZEICHEN
ROHRBEFESTIGUNG
RAL-GZ 655-B

Our quality standards at a glance:

- RAL quality mark stands for external monitored technical performance and quality at pipe mountings
- ETA with CE mark provides the safety of a process which is recognized throughout Europe to assess the essential performance features of a construction product
- CE includes the compliance of requirements for health protection, safety and environment protection
- National approval from the German Institute for Building Technology, Dibt, Berlin
- Recognition from the German Association of Property Insurers (VdS), Cologne for the installation of sprinkler systems
- Factory Mutual (FM), approval for the installation of sprinkler system
- Product in accordance with VdS regulations for fastening sprinkler systems on concrete components
- Fire-tested as specified in DIN 4102 or in DIN EN 1363, fire resistance classes F30, F60, F90, F120
- Vibration control test for sound-decoupled fixings
- Stainless for higher demands on the corrosion resistance
- Underwriters Laboratories (UL), worldwide acting, independent company for research and improvement of safety

02/19

MÜPRO

Your added value through our certified products:

Quality comes first at MÜPRO. Consistent alignment with high quality standards is therefore a key part of our company philosophy.

Product areas	RAL	CE	CE		VdS	FM APPROVED		fire protection certified	Vibration control	EDELSTAHL Rostfrei STAINLESS STEEL	UL
Vibration control								●	●		
Fire protection		●		●							
Pipe clamps	●				●	●		●	●		●
Support channels	●				●			●	●		
Accessories					●	●		●	●		●
Anchors/ expansions								●	●		
Ventilation	●								●		
Pipe connectors			●	●							
Stainless steel		●		●		●	●	●	●	●	
Hot-dip galvanised								●	●		
Anchor plugs		●		●	●	●	●	●	●	●	
Insulation			●	●				●			

02/19



Vibration control

MÜPRO

1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

MÜPRO

 PHONOLYT® 1/2

 PHONOLYT® Button 1/3

 PHONOLYT® Foot 1/4

 Anti-vibration pads 1/5

 Vibration control element 1/6

 DÄMMGULAST® Resilient pad 1/7

 DÄMMGULAST® Washers 1/8

 DÄMMGULAST® Channel sections for MPC-Profiles 1/9

 DÄMMGULAST® Channel sections for MPR-Profiles 1/10

 Vibration control hangers 1/11

 Saniplast 1/12

 Joint tape 1/13

 MAFUND® plate 1/14

 Vibration dampers 1/15

 MÜPRO-PHONEX® Anchors 1/16

VIDEO TIP

„PHONOLYT® range – the highly effective solution for noise reduction: MÜPRO explains the operating principle of the PHONOLYT® vibration absorber in the video and presents sample applications.

MÜPRO

The current situation

Building technology is becoming increasingly complex and technical progress has led to a parallel rise in the ambitions of building owners. After **35, 30 and 25 dB(A)** starting from **DIN 4109** and up to **VDI 4100** vibration control level III, **20 dB(A)** and for waste water pipework without the associated fittings noise, we are already seeing **values 5 dB(A)** lower **than the vibration upper limit** being specified. At the same time, legal developments are increasingly oriented towards the sensitivities of the consumers.

Traditionally, the standards that have always had to be redefined for best quality are the **generally acknowledged handcraft rules.**

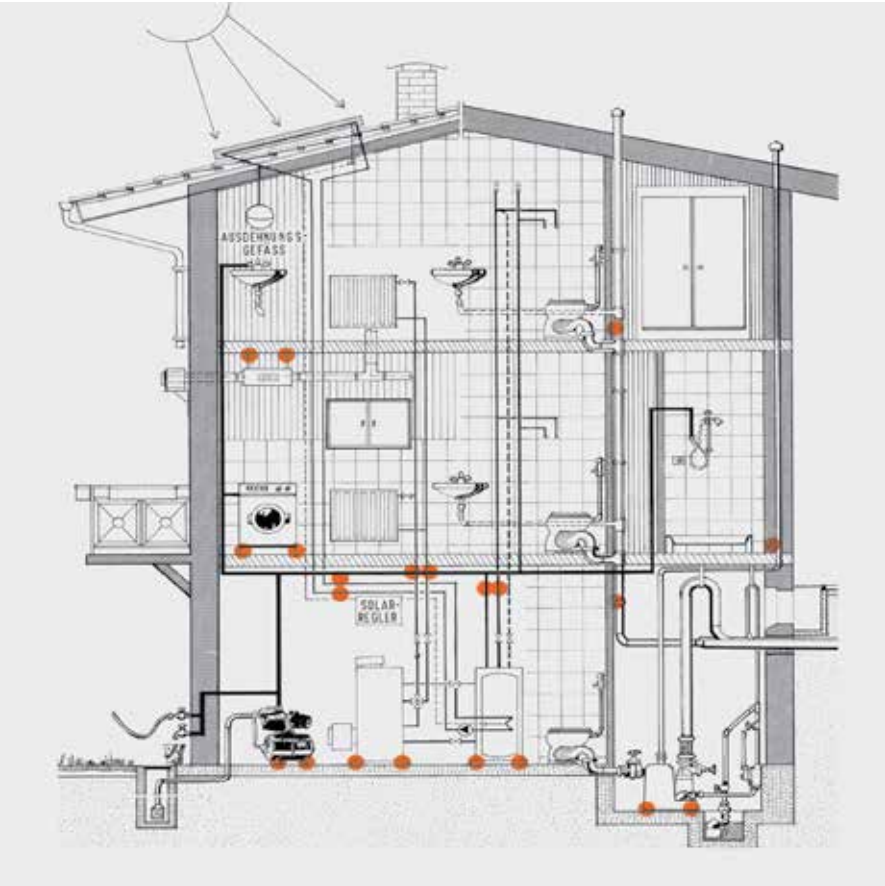
The almost never-ending stream of standards and regulations means that anyone working on a building site, including planners and installation engineers, is facing an ever-increasing liability risk.

The challenge

The greatest vibration damage occurs in building technology when noise in the installed equipment is transferred to the building structure, i.e. to the large “powerful” resonating body. An added complication is the fact that those involved in the construction cannot predict the size of the vibrations. Attachments that have to absorb forces and static loads, such as pipe anchor points, are particularly problematic, as there is mutual physical contradiction between the tasks to be solved, namely strength and vibration control.

If the stipulation is that the lower vibration level must not exceed **25 or 20 dB(A), or in extreme cases even 5 dB(A),** utmost care must be taken to ensure that only the very best products and the very latest technology are used. Vibration damage, which usually cannot be localised and can often only be eliminated by a total renovation, is one of the most expensive construction defects.

Work that has not been carried out according to the regulations and the recognised technical rules can have a “time bomb” effect, even if a client overlooks existing defects during acceptance and does not make a complaint. If the work was not carried out according to the current state of technology and the generally



recognised installation standards, subsequent buyers or users can still hold the planner and the installation company liable for any damage, for a period of up to 30 years.

The solution

The solution is vibration control! By making sure that all potential sources of vibration and vibration conducting pipes are consistently decoupled from the structure, you can avoid every conceivable vibration coupling in your area of responsibility. Even with large loads and/or high vibration intensities, the MÜPRO vibration control programme offers you **system components to help you** solve the diverse vibration and attachment problems in building technology.

From the simplest attachment using pipe anchoring points, to the attachment of small and large assemblies, you will find a solution for every individual attachment and vibration control problem by using MÜPRO system components.

Remember: Vibration that you have under control cannot spread elsewhere.

02/19

PHONOLYT®

galvanised

Field of application

- The ideal component for vibration controlled anchor points for pipes to meet the vibration control requirements of DIN 4109 and VDI 4100
- Versatile use, e.g. for vibration control of support structures made from MPC-Support channels
- Ideal as vibration decoupled down pipe-support for all pipe types
- Ideal for vibration controlled fixing of devices such as boilers, pumps, motors, air-conditioning and ventilation systems
- Suitable for ceiling, wall or floor mounting
- For sound-decoupled pipeline fixed points

Advantages

- Vibration decoupler available in two versions for different duties
- Isolates the pipe acoustically from the building structure
- Reduces the structure-borne noise by up to 40 dB(A)
- Predictable vibration control for planners and users
- Practical design made for easy installation
- High static loading capacity
- Encapsulated vibration control – safety that you can rely on
- Effective isolation of vibration coupling using vulcanised-in MÜPROLAN
- The cast-steel vibration-control capsule provides a high degree of safety, even in the case of fire
- Approved for all installation positions
- Silicone-free





Down-pipe support for all pipe types **vibration-decoupled**



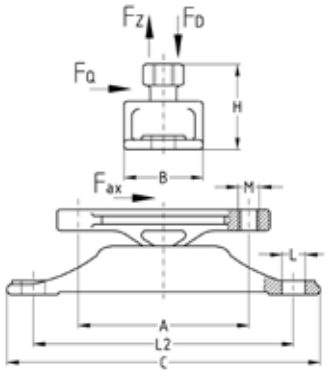
Vibration-decoupled water pipe anchor points



Vibration-decoupled support for equipment

Features

Type	dB(A) 27	dB(A) 40
Average vibration reduction [dB(A)]	27	40
Max. recommended load tension Fz [N]	3,000	3,700
Max. recommended load compression FD [N]	5,700	15,000
Max. recommended load axial Fax [N]	2,500	5,000
Max. recommended load lateral FQ [N]		3,000



Type	Connecting thread	Part no.	Sales unit	Pack unit	Dimensions [mm]						
					A	B	C	H	M	Ø L	L2
dB(A) 27	M10	**120292**	1	pieces	80	37	147	40	10	11	122
dB(A) 40	M12	**120296**			126	60	227	66	12	13	194

02/19

MÜPRO

PHONOLYT® Button

galvanised

Field of application

- Ideal for vibration controlled fixing of devices such as boilers, pumps, motors, air-conditioning and ventilation systems; also vessels, MPC-Support channels, etc.
- Suitable for ceiling, wall or floor mounting
- For sound-decoupled pipeline fixed points
- The ideal component for vibration controlled elevating devices to meet the vibration control requirements of DIN 4109 and VDI 4100
- Various mounting options when used with cross beams and frames made of MPC-Support channels: stable, versatile and optionally expandable

Advantages

- High-performance anchor point attachments with outstanding structure-borne noise reduction of up to 30 dB(A)
- High loading capacity in all directions
- Time-saving fitting due to only one connection thread on each side
- Adjustment using threaded pins or rods
- Security provided by undercut vulcanised-in anchor
- Effective isolation of vibration coupling using vulcanised-in MÜPRO-LAN
- Silicone-free





Vibration-isolated wall mounting

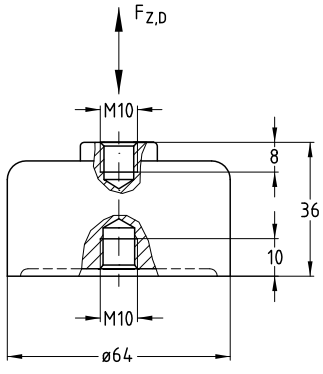


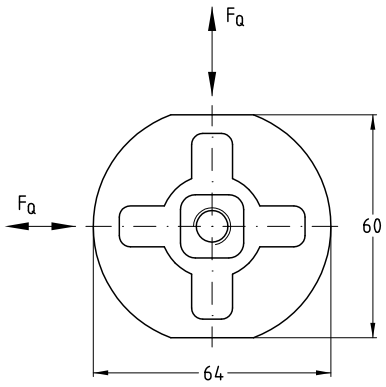
Vibration-isolated pump baseframe made from MPC-Support channels



Vibration-isolated ceiling suspension

Features	
Average vibration reduction [dB(A)]	30
Max. recommended loading tension/compression $F_{Z,D}$ [N]	1,500
Max. recommended loading lateral F_Q [N]	





Connecting thread	Part no.	Sales unit	Pack unit
M10	**120442**	1	pieces

02/19

PHONOLYT® Foot

galvanised

Field of application

- High-performance vibration-insulating element for floor-mounting
- For the structure-borne vibration control of heavy equipment such as boilers, whirlpools, motors, pumps, chillers and air compressors
- Variety of mounting possibilities when used with cross beams and frames made of MPC-Support channels: stable, versatile and can be extended as desired
- The ideal component for vibration controlled elevating devices to meet the vibration control requirements **of DIN 4109 and VDI 4100**

Advantages

- Heavy duty, compressive load capacity up to 20 kN
- Rubber sole prevents skidding
- Easy height adjustment using threaded pin or hexagonal head screw in the M12 connecting thread
- Effective isolation of vibration coupling using vulcanised-in MÜPROLAN
- Silicone-free





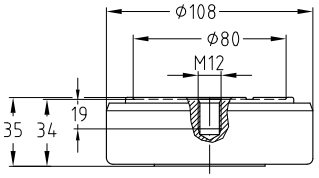


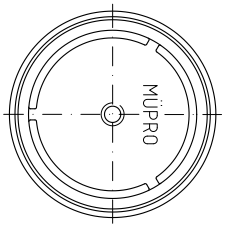


Features

Average vibration reduction [dB(A)]	30
Max. recommended compression load [N]	20,000

Connecting thread	Screw-in depth [mm]	**Part no.**	Sales unit	Pack unit
M12	19	**120430**	1	pieces





02/19

MÜPRO

Anti-vibration pads

galvanised

Field of application

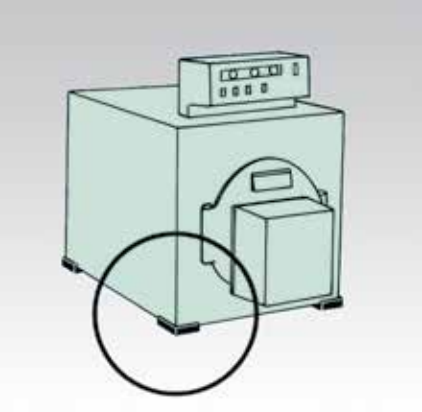
- For the structure-borne vibration control of boilers, air-conditioning and ventilation systems
- Simply slip under item to be supported: no fixings on floor or equipment are necessary

Advantages

- Dampens the transfer of structure-borne noise to the building structure
- Low overall height
- Highly elastic rubber pad absorbs up to 95 % of its own and external vibrations
- Oil-resistant, synthetic rubber
- Resistant to temperatures from –50 °C to +120 °C
- Aluminium base plate

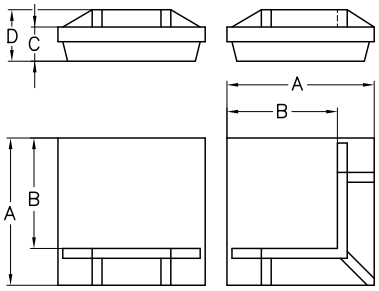






Features

Size edge length [mm]	Recommended loading per anti-vibration pad [N]
60	up to 500
90	500–1,000
125	1,000–2,000
200	2,000–3,000



Mounting	Size edge length [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	C	D
For corner mounting	60	**107117**	4	pieces	60	45	14	21
	90	**107118**			90	70	20	30
	125	**107115**			125	98	25	40
	200	**107116**			200	165	37	58
For side mounting	60	**107113**			60	45	14	21
	90	**107114**			90	70	20	30
	125	**107111**			125	98	25	40
	200	**107112**			200	165	37	58

02/19

Vibration control element

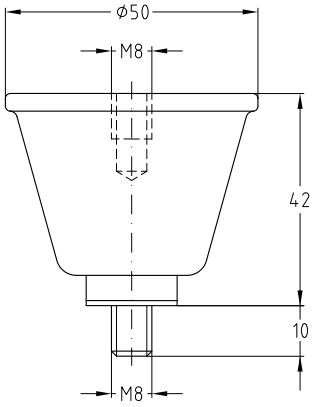
galvanised

Field of application

- Versatile use, e.g. for the fixing of pipelines, air ducts and equipment
- Also for the vibration-damped suspension of sound absorbing ceilings
- Suitable for ceiling, wall or floor mounting

Advantages

- High noise reduction of up to 26 dB(A)
- With self-extinguishing, decoupling washer
- Does not tear out in case of fire due to steel casing





Features

Max. recommended loading (with optimum damping) [N]:	
axial tension	600
axial compression	300
radial compression	200

Connecting thread	**Part no.**	Sales unit	Pack unit
M8	**117722**	50	pieces

02/19

DÄMMGULAST® Resilient pad

galvanised

Field of application

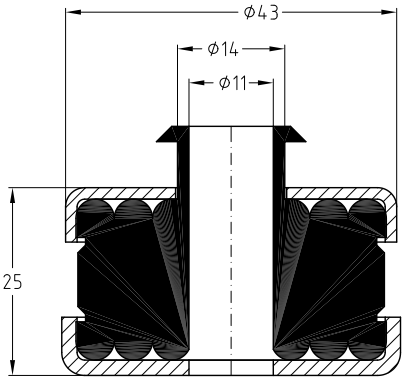
- Vibration control of traverses and pipe bridges made of MPC-Support channels

Advantages

- Effective structure-borne vibration control for many installation situations
- Bushing to prevent metal contact between screws and mounted object
- Very simple installation without additional work
- Average sound level improvement of up to 17 dB(A)
- Ideal combination with DÄMMGULAST® Washers for vibration-isolated fitting of MPC-Support channels







Features

Max. recommended load [N]	1,000

For thread	Size [mm]	Part no.	Sales unit	Pack unit
M8/M10	43 x 25	**107083**	50	pieces

02/19

DÄMMGULAST® Washers

Field of application

- Decoupling of traverses and pipe bridges made of MPC-Support channels
- Can be fitted using screws, threaded pins and rods up to M10
- Ideal supplement to DÄMMGULAST® Resilient pad in channel installation

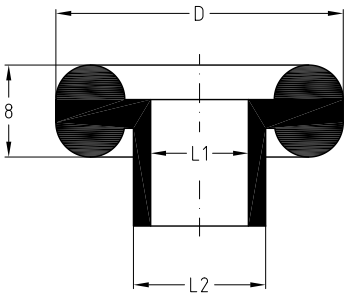
Advantages

- Highly elastic vibration decoupler for light compressive loadings
- Protective bushing against metal contact
- Very simple installation without additional work
- Noise reduction of up to 18 dB(A)









Features

	For thread	Size D x L1 [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]		
						D	L1	L2
DÄMMGULAST® Washers	M8	24 x 8.5	**107087**	100	pieces	24	8.5	11
		28 x 8.5	**107089**			28		
	M10	34 x 10.5	**107086**			34	10.5	14
DÄMMGULAST® Washers, flame-resistant	M8	24 x 8.5	**107088**			24	8.5	11
Washers		24 x 8.5	**127238**					–
		28 x 8.5	**127229**			28		
	M10	36 x 10.5	**127121**			36	10.5	

For an even load distribution, always combine DÄMMGULAST® Washers with metal washers. Maximum recommended loading: 300 N.

02/19

DÄMMGULAST® Channel sections

for MPC-Profiles

Field of application

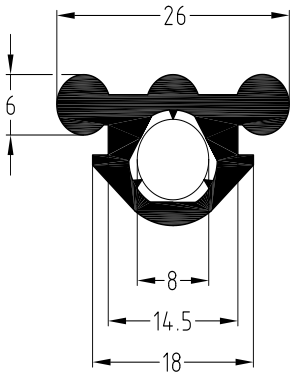
- Ideal for the decoupling of traverses for air duct fixtures
- For secure vibration-decoupling of MPC-Support channels

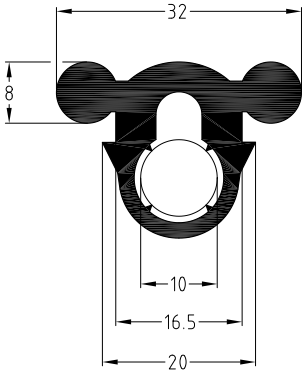
Advantages

- Easy installation by inserting into MPC-Support channels and/or screwing onto threaded rods
- Prevents structure-borne noise coupling by avoiding contact between the air duct and the threaded rods
- Interlocking profile prevents channel section being pushed out
- Prevents fluttering and other vibration noises in the air ducts
- Small contact surface, large absorption mass









Features

Design	For support channels	Suitable for	Part no.	Sales unit	Pack unit
DÄMMGULAST® Channel section roll of 30 m	27/18, 28/30	Channels with slot widths of 13–16 mm, M8 threaded rods	**107689**	1	roll
	38/24–40/120	Channels with slot widths of 15–18 mm, M8 and M10 threaded rods	**107690**		
DÄMMGULAST® Channel sections section of 50 mm			**107691**	300	pieces
DÄMMGULAST® Channel sections section of 100 mm			**107686**	200	

When installing air conditioning and ventilation equipment, MPC-Support channels can be used as load-bearing traverses. Structure-borne vibration coupling bridges resulting from direct metal contact between the air duct and the traverse or threaded rods can be prevented by the use of DÄMMGULAST® Channel section as intermediate layer.

The DÄMMGULAST® Channel section was developed especially for these application areas and provides the optimum solution from a practical installation point of view.

02/19

DÄMMGULAST® Channel sections

for MPR-Profiles

Field of application

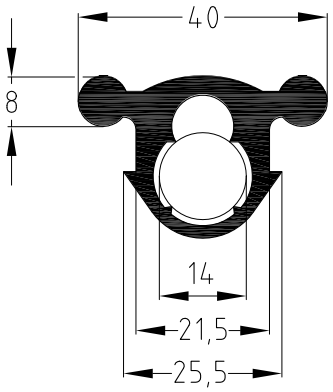
- Ideal for the decoupling of traverses for air duct fixtures
- For secure vibration-decoupling of MPR-Support channels

Advantages

- Easy installation by inserting into MPR-Support channels and/or screwing onto threaded rods
- Prevents structure-borne noise coupling by avoiding contact between the air duct and the threaded rods
- Interlocking profile prevents channel section being pushed out
- Prevents fluttering and other vibration noises in the air ducts
- Small contact surface, large absorption mass







Features

Design	For support channels	Suitable for	Part no.	Sales unit	Pack unit
DÄMMGULAST® Channel section roll of 20 m	41/21–41/124	Channels with slot widths of 22 mm, M8 and M10 threaded rods	**151189**	1	roll
DÄMMGULAST® Channel sections section of 50 mm			**155366**	200	pieces

When installing air conditioning and ventilation equipment, MPR-Support channels can be used as load-bearing traverses. Structure-borne vibration coupling bridges resulting from direct metal contact between the air duct and the traverse or threaded rods can be prevented by the use of DÄMMGULAST® Channel section as intermediate layer.

The DÄMMGULAST® Channel section was developed especially for these application areas and provides the optimum solution from a practical installation point of view.

02/19

Vibration control hangers

galvanised

Field of application

- Decoupling of traverses and pipe bridges made of MPC-Support channels

Advantages

- Noise decoupling integrated into the hanger
- Very good vibration improvement of up to 17 dB(A) due to the highly elastic DÄMMGULAST® Spring element
- Attachment for threaded rods M8, M10 or alternatively for strip-mounting, depending on type
- The design for strip-mounting is also suitable for suspension attachment by means of hanger sockets
- Subsequent height adjustment of the threaded rods is possible





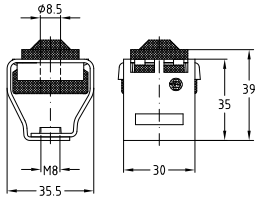
Vibration control hanger M8



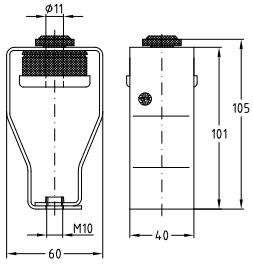


Vibration control hanger M10

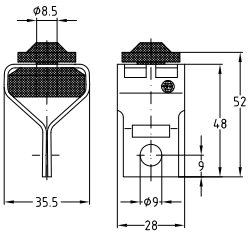




For M8



For M10



For strip-mounting

For strip-mounting

Features

Connection for	Overall height L [mm]	Max. permitted load [N]	Average vibration reduction [dB(A)]	**Part no.**	Sales unit	Pack unit
Threaded rods M8	40	230	16	**117736**	100	pieces
Threaded rods M10	110	1,000	17	**117733**		
Strip-mounting, screws up to M8	55	230	16	**117728**		

02/19

Saniplast

Field of application

- Ideal fitting assistance for all kinds of sanitary ware
- Can be used on both walls and floors

Advantages

- Prevents crushing and scraping between sanitary ware and tiles
- Toothed profile adaptable to any shape of sanitary ware
- Special self-adhesive tape allows repeated removal and application
- Double-length use due to central split into two strips
- Resistant to acetic acid-moistened silicone





Length of roll [m]	Usable length [m]	Thickness [mm]	Width [mm]	**Part no.**	Sales unit	Pack unit
4.5	9	3	36	**117338**	1	roll

Mounting surfaces must be dry and free of dust and grease. Saniplast should be attached by leaving a short distance to the edge. Mount the object in place and seal the joint with a permanently flexible sealant.

02/19

Joint tape

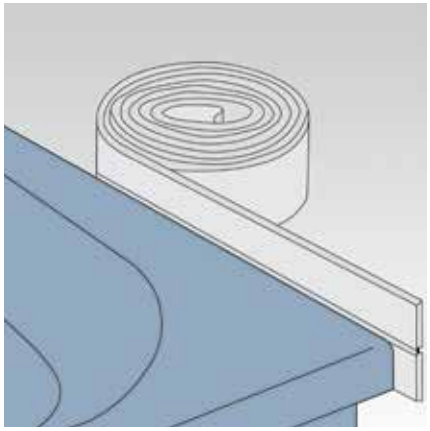
Field of application

- For preventing acoustic bridges between wall and sanitary ware

Advantages

- Self-adhesive on one side
- Tape fold-down ensures a mortar-free joint
- Perforation of the joint tape facilitates removal after the tiles have been laid
- Allows easy sealing of the joint with silicone



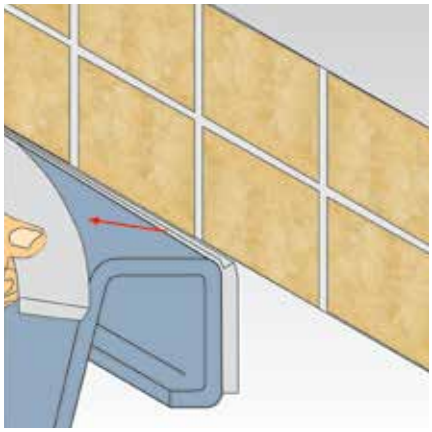


Remove protective film.

The adhesive tape is fitted with the broad side on the edge of the bath and pressed firmly.

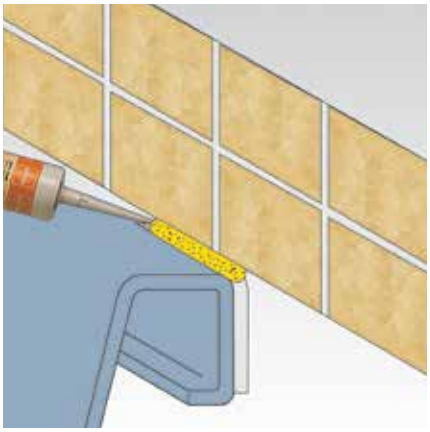
The narrow side is folded down to the bath and fixed in place.

Align the bath to the wall.



The tiles can now be laid with the appropriate distance, taking the width of the joint into account.

Once the tiles are laid, the overlapping strip is removed with a gentle pull.



Subsequently, the clean joint can easily be sealed with silicone.

Length of roll [m]	Thickness [mm]	Width [mm]	**Part no.**	Sales unit	Pack unit
3.3	4	50	**130217**	1	roll

MAFUND® plate

Field of application

- For machines, equipment, body soundproofing
- Effective protection from shock, vibration and structure-borne noise

Advantages

- High resistance against ageing and chemical influences
- High stability across a wide temperature range
- Convenient, secure application through selection of load and number of MAFUND® layers
- High static friction ensures installation without any further fastening in most cases
- Exceptional suspension and damping
- Minimal material usage with high insulation effect
- More cost-efficient than complete insulation systems
- Extended service life of machines, equipment, etc.
- Lower noise pollution through acoustic decoupling



Features

Material	NR/ SBR polymer with a hardness of 45 ± 5 Shore A
Temperature range	–20 °C to +80 °C
Static elasticity module	Est = 324 N/cm²
Dynamic elasticity module	Ed = 441 N/cm²

Loading [N/cm²]		Dimensions [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
nominal	maximal					
2–25	50	500 x 250 x 25	**133990**	1	pieces	3,200

02/19

MÜPRO

Vibration dampers

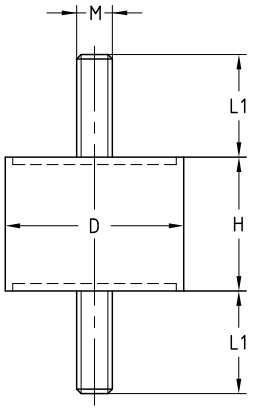
galvanised

Field of application

- For vibration-damped installation in various areas of application

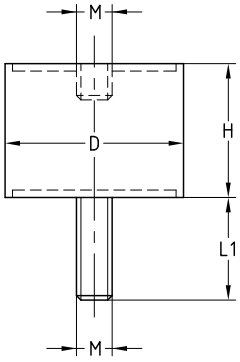
Advantages

- Buffer with cylindrical contour and optional dual-sided external thread or external and internal thread
- Damper available in M8 or M10
- Elastic mounting of equipment, units, pumps, etc.
- Isolation of vibration extends the service life of equipment and motors





Vibration damper with dual-sided external thread





Vibration damper with external and internal thread

Features

Rubber	Natural rubber
Shore A hardness	57° (medium)

Design	Thread M	Threaded length L_1 [mm]	Outer diameter D [mm]	Height H [mm]	Pressure load [1]			Part no.	Sales unit	Pack unit
					Spring rate c [N/mm]	Max. recommended load [N]	Optimal load [2] [N]			
with dual-sided external thread	M8	23	40	30	232	1,060	570	**169006**	1	pieces
	M10	28	50		440	2,020	1,080	**156630**		
with external and internal thread	M8	23	40	40	141	860	460	**160169**		
	M10	28	50		259	1,580	840	**169007**		

[1] Reference values, may vary somewhat due to tolerance of rubber hardness

[2] Optimal for vibration damping (high dynamic stress)

Other types available on request.

02/19

MÜPRO-PHONEX® Anchors

Field of application

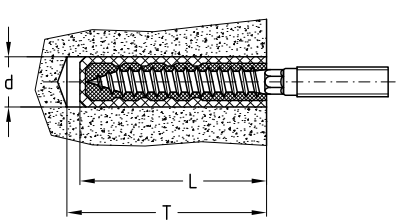
- Suitable for structure-borne noise decoupling anchorages in concrete, natural stone, solid brick, lime sand brick, ventilated brick, wood

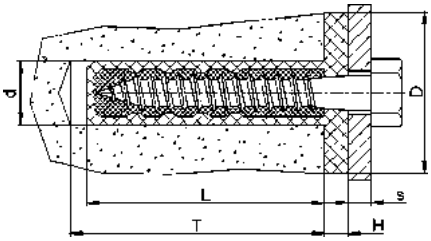
Advantages

- Structure-borne noise isolation already integrated into the anchor
- No additional construction space required for vibration control elements
- Sound level reduction by up to 16 dB(A)
- Suitable for all types of wood screws, e. g. bolt screws and shoulder screws
- The version with vibration collar prevents structure-borne noise transmission even on wall-mounted objects
- Excellent screw guidance, no breaking out at the side
- Suitable for wall-mounted heaters









Features

Type	Anchor-∅ d [mm]	Anchor length L [mm]	Collar-∅ x depth D x H [mm]	Wood screw-∅ [mm]	**Part no.**	Sales unit	Pack unit
With collar	10	30	22 x 5	3.5–5.0	**120239**	100	pieces
	12	40	30 x 5	4.5–6.0	**120243**		
	14	50	34 x 6	6.0–8.0	**120247**	50	
	16	60	42 x 7	8.0–10.0	**120251**		
	18	70		10.0–12.0	**120255**		
Without collar	10	30	–	3.5–5.0	**120259**	100	
	12	40		4.5–6.0	**120263**		
	14	50		6.0–8.0	**120268**	50	
	16	60		8.0–10.0	**120272**		
	18	70		10.0–12.0	**120276**		

Anchor-∅ d [mm]	Drilling depth T [mm]	Screwing depth without collar [mm]	Screwing depth with collar [mm]	Load values [1] [N]	
				max. recommended tensile load	max. recommended lateral load
10	40	30	34 + S	150	350
12	50	40	45 + S	300	500
14	60	50	55 + S	500	1,000
16	70	60	66 + S	800	1,200
18	80	70	75 + S	1,200	1,400

[1] Load values apply for concrete strength class ≥ B25 based on max. screw diameter according to table above and use of anchors according to the mounting instructions below (the recommended loads take a safety factor v = 5 into account).

With all frictional and chemical plug and anchor connections, the load-bearing capability of the plug is influenced decisively by the cleanliness of the drilled hole. Residues such as drill dust reduce the effectiveness of the fixture. For this reason, blow or brush out the hole to free it from dust before inserting the plug (see drill hole cleaning kit).

02/19



Fire protection

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

Fire-tested pipe support systems

The situation

Fire protection in building technology

Constructional fire protection is becoming increasingly important in house and building technology. Increasingly complex piping systems and thus rising fire load risks tighten up the requirements on planning, design and installation of piping systems.

This applies especially in the case of buildings for special purposes such as hospitals, old people's homes, shopping centres and schools where fire protection measures are indispensable.

Escape and rescue routes or wall and ceiling penetrations for pipes need to fulfill and combine the demands of constructional fire protection, such as obtaining minimum required duration of fire resistance as well as vibration control and thermal insulation.

The specifications for building fire protection are given by, among others, the German Model Building Code (MBO), the German State Building Codes (LBO), DIN 4102, the German Pipe Systems Guideline LAR (MLAR) as well as by the DIN 4109 standard for vibration control considerations and the German Energy Saving Regulation (EnEV) in the area of thermal insulation.

The challenge

The Fire Protection Requirement according to LAR/DIN 4102

The following requirements are defined for fastenings in the region above self-supporting, fire-protecting false ceilings in terms of fire resistance:

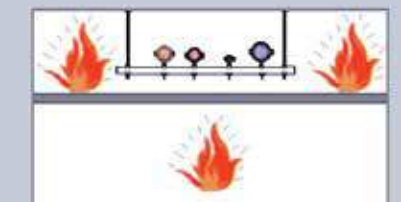
- Fire resistance F30 in the region between ceiling and suspended fire-protection false ceiling
- Fire-proof fastenings for piping systems in escape and rescue routes
- Fastening to approved plugs and anchors made of steel with proof of fire protection
- Proof of stability and deformation of support systems by fire testing
- Material thickness ≥ 1,5 mm
- Mounting distance according to the instructions of the pipe manufacturer regarding the maximum permissible load as per the fire test reports.
- Wall hanger brackets additionally suspended at the free end.

The solution

Fire-tested MÜPRO attachment systems

The use of fire-tested MÜPRO attachment systems in combination with a proper fire-protection design of the fastening construction creates a system meeting completely the high demands of a fire resistant attachment system as laid down in DIN 4102 and the LAR.

The modular product range of fire-tested MÜPRO products allows you to build up a comprehensive set of fire-protected attachment solutions. Our application technology team provides competent support in the planning and design of fixture solutions.



F30 suspended ceiling holding the General Construction Supervision Test Certificate (ABP) for fire exposure from above and below

02/19

Support technology products meeting the requirements of LAR 11/2005

Fire-tested vibration control

	Product	Size	Page
	PHONOLYT®	dB(A) 27–M10 dB(A) 40–M12	1/2

Fire-tested pipe clamps

	Product	Size	Page	
			galvanised	Stainless steel
	Single bossed clamps, heavy-duty version, with DÄMMGULAST® yellow	⅜"–6" Connection thread ≥ M12	3/13–3/15	11/3
	Single bossed clamps, heavy-duty version, with DÄMMGULAST® red	⅜"–6" Connection thread ≥ M12	3/16	–
	Single bossed clamps, heavy-duty version, without lining	⅜"–6" Connection thread ≥ M12	3/17–3/19	
	Single bossed clamps, with DÄMMGULAST® yellow	⅜"–170 mm Connection thread ≥ M10	3/20–3/21	11/1
	Single bossed clamps, with DÄMMGULAST® blue	⅜"–170 mm Connection thread ≥ M10	3/22–3/23	–
	Single bossed clamps, with DÄMMGULAST® red	⅜"–170 mm Connection thread ≥ M10	3/24–3/25	
	Single bossed clamps, without lining	⅜"–6" Connection thread ≥ M10	3/26–3/27	11/2

Fire-tested anchor points/expansion points

	Product	Size	Page	
			galvanised	Stainless steel
	PHONOLYT® Anchor points for pipes, double kit	2"–6" M12	6/2	–
	Sliding stirrups	M10	6/13	
	Slide guides 1.75 kN	≥ M10	6/17	11/52
	Slide guide 4 kN	≥ M12	6/18–6/19	–
	Box section heavy slide guide 7.8 kN	M12 M16	6/19	
	Swivel hangers long/short	M10 M12	6/14	

Fire-tested accessories

	Product	Size	Page
	Hanger bracket	M10	5/10

02/19

Support technology products meeting the requirements of LAR 11/2005

Fire-tested support channels

	Product	Profile	Page galvanised	Stainless steel
MPC-System components				
	MPC-Support channels	38/40, 39/52, 40/60, 40/80	4/3–4/4	11/7–11/10
	MPC-Support channels, H-profiles	38/48, 38/80, 40/120	4/5–4/8	–
	MPC-Wall hanger brackets	38/40, 40/60, 38/80 ≤ 700 mm	4/9–4/10	11/11–11/12
	MPC-Quick fasteners with external thread	M10 for 38/40–40/120	4/16	–
	MPC-Quick fasteners with internal thread	M10 for 38/40–40/120	4/17–4/18	11/13–11/14
	MPC-Hammer head fasteners	M10 M12	4/19–4/20	11/15
	MPC-Hammer head bolts	M10 M12	4/21	11/16
	MPC-Clamp brackets	M10–M16	4/22	11/17
	MPC-Saddle supports	38/40, 39/52, 40/60, 40/80	4/26	11/21
	MPC-Lateral angle right7left	M10	4/31–4/32	–
MPR-System components				
	MPR-Support channels	41/21/2.0, 41/41/2.0, 41/41/2.5, 41/62/2.5	4/37–4/38	–
	MPR-Support channels, H-profiles	41/82/2.0, 41/124/2.5	4/39–4/42	
	MPR-Wall hanger brackets	41/41/2.5, 41/62/2.5 ≤ 800 mm	4/43–4/44	
	MPR-Quick fasteners	M10, M12 Size for 41/41	4/46–4/47	
	MPR-Hammer head fasteners	M8, M10, M12	4/48–4/49	
	MPR-Clamp brackets	M10, M12, M16	4/51	
	MPR-Quick fasteners type S+	M8, M10, M12	4/60	
	MPR-Slide nuts type S+	M8, M10, M12	4/61	
	MPR-Connection lock type S+	M10	4/62	
	MPR-Saddle supports type S+	41/41, 41/82	4/66	
	MPR-Construction bracket type S+	198 x 198 mm	4/69	

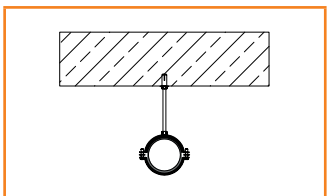
02/19

Support technology products meeting the requirements of LAR 11/2005

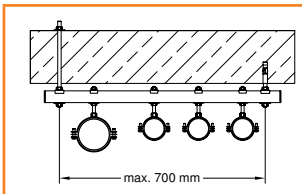
Fire-tested plugs

	Product	Size	Page galvanised	Stainless steel
	Steel anchors	M6, M8, M10, M12, M16	13/2	11/61
	Through anchors	M8, M10, M12, M16	13/4–13/5	11/62
	Heavy-duty anchors BZ	M8, M10, M12, M16	13/6–13/7	11/63–11/64
	Under cut anchors	M8, M10, M12	13/8	–
	Screws for concrete	M10	13/10–13/13	
	Nail anchors	type N, N-K, N-M	13/14–13/15	
	Hollow-core slab ceiling anchors	M8, M10, M12	13/20	
	Zykon steel hammerset anchors FZEA	M8, M10, M12	13/33–13/34	
	Injection anchors XV Plus for concrete	M8, M10, M12	13/41	
	MPC-Mounting anchors with internal thread with external thread	 M8 M6	13/16–13/19	
	Chemical reaction anchors VBA	M8	13/35–13/36	

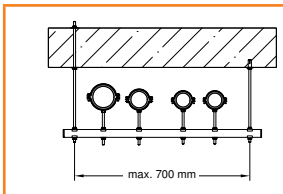
System assemblies tested according to DIN 4102-2 by the North-Rhine Westphalia Materials Testing Office (MPA NRW)



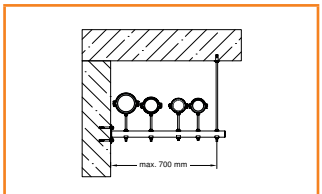
Single attachment



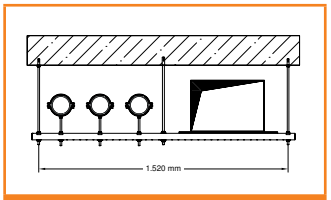
Directly mounted support channel construction



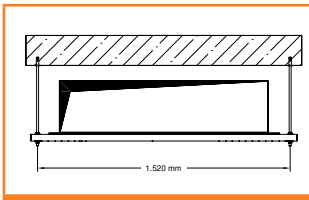
Suspended support channel construction



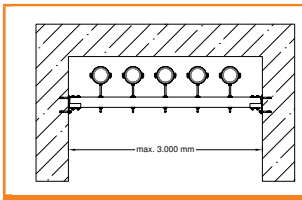
Wall hanger bracket suspended at the free end



MPC-Support channel suspended multi-field system



MPC-Support channel suspended span width up to 1,520 mm



MPC-Support channel used as traverse span width up to 3,000 mm

02/19

Products for the attachment of sprinkler systems

Minimum requirements for supports in compliance with VdS-Guideline 2092/CEA 4001

Nominal-Ø [mm]	Minimum load-bearing capacity at 20 °C [kg]	Minimum cross-section area [mm²]	Thread
DN ≤ 50	200	30	M8
50 < DN ≤ 100	350	50	M10
100 < DN ≤ 150	500	70	M12
150 < DN ≤ 200	850	125	M16

Pipe clamps

	Product	Size	Type	Guideline	Page
	Single bossed clamps, heavy-duty version, without lining	for pipe outer diameter from ⅜" to 2", M8 from 70 mm to 4", M10 from 125 mm to 6", M12	galvanised	VdS 2100	3/17–3/19
	Single bossed clamps, heavy-duty version, with DÄMMGULAST® red	for pipe outer diameter from ⅜" to 2", M8 from 70 mm to 4", M10 from 125 mm to 6", M12			3/16
	Filbow clamps with knurled nut	for pipe outer diameter from ¾" to 219.1 mm connection for M8–M16 threads			3/42
	Filbow clamps pear-shaped	for pipe outer diameter from ¾" to 219.1 mm connection for M8–M16 threads			3/41
	Filbow clamps with cup nut	for pipe outer diameter from ½" to 10" connection thread M8–M20			3/43

Wall hanger brackets

	Product	Profile	Type	Guideline	Page
	MPR-Wall hanger brackets	41/41/2.5, 41/62/2.5	galvanised	VdS 2100	4/43–4/44

Plugs

	Product	Size	Type	Guideline	Page
	Steel anchors	M8 M10 M12	galvanised Stainless steel A4	information VdS [1)]	13/2 11/61
	Heavy-duty anchors BZ	M8 M10 M12 M16			13/6–13/7 11/63–11/64
	Screws for concrete	Ø 7.5 mm hexagonal head Ø 10.0 mm hexagonal head Ø 7.5 mm for tool fitting M8 Ø 10.0 mm for tool fitting M10	galvanised		13/10–13/13

02/19

Products for the attachment of sprinkler systems

Plugs

	Product	Size	Type	Guideline	Page
	MPC-Mounting anchors with internal thread	M8	galvanised	information VdS [1)]	13/18–13/19
	Hollow-core slab ceiling anchors	M8 M10 M12		VdS 2100	13/20
	Under cut anchors	M8 M10			13/8
	Zykon steel hammerset anchors FZEA	M8 M10 M12		information VdS [1)]	13/33

Components for pipe suspensions

	Product	Size	Type	Guideline	Page
	Trapezoid-sheet hangers - with welded-on nut - with clearance hole - with adjusting nut	M8 M10	galvanised	VdS 2100	5/16
	Girder clamps with joint type Lindapter FLS	M8 M10			5/11
	Girder clamps, type VSG TKN10	M8 M10 M12			5/12
	Girder clamps, type TKM Kroko	M8 M10 M12		VdS 2100 VdS 2344	5/13
	MPC-Girder cleats	for 38/24 and 38/40 profiles, M8 for 39/52 and 40/60 profiles, M8 for 38/40 and 40/60 profiles, M10		VdS 2100	4/34
	MPR-Girder cleats	for 41/2.0 profile, M8 for 41/2.0 and 41/2.5 profiles, M10		VdS 2100	4/59
	U-bolts	M8–M20		VdS 2092 CEA 4001	3/45

VdS 2100: VdS-Guideline for sprinkler systems, requirements and test methods for components, Issue 1988-05.

VdS 2092: VdS-Guidelines for sprinkler systems; planning and installation incl. transitional arrangement p. 1/2001, Issue 1998-08.

CEA 4001: VdS CEA-Guidelines for sprinkler systems; planning and installation, Issue 2005-09.

Information VdS [1)]: VdS circular, dated, 14.11.2007 addressed to all firms that install fire extinguishers, concerning the use of plugs and anchors for fastening in concrete.

02/19

Products for the attachment of sprinkler systems

FM APPROVED

Minimum requirements for support in compliance with FM guidelines classes 1951, 1952 and 1953

Nominal-Ø [mm]	Nominal-Ø [inch]	Thread
20 < DN ≤ 100	¾–4	M10
125 < DN ≤ 200	5–8	M12
250 < DN ≤ 300	10–12	M16

Pipe clamps

	Product	Size	Type	Guideline	Page
	Single bossed clamps, heavy-duty version, without lining	for pipe outer diameter from ¾" to 6" connection thread M10 and M12	galvanised	FM 1951	3/17–3/19
	Filbow clamps with knurled nut	for pipe outer diameter from ¾" to 8" connection thread M10–M16			3/42
	Filbow clamps pear-shaped	for pipe outer diameter from ¾" to 6" connection thread M10, M12			3/41
	Filbow clamps with cup nut	for pipe outer diameter from ¾" to 8" connection thread M10–M16			3/43

Plugs

	Product	Size	Type	Guideline	Page
	Through anchors	M10 M12 M16	galvanised	FM 1951 FM 1952 FM 1953	13/4–13/5
	Heavy-duty anchors BZ	M10 M12 M16			13/6–13/7
	Steel anchors	M10 M12 M16			13/2

Components for pipe suspensions

	Product	Size	Type	Guideline	Page
	Girder clamps with joint type Lindapter FLS	M10	galvanised	FM 1951	5/11
	Girder clamps, type VSG TKN10	M10 M12			5/12
	Girder clamps, type TKM Kroko	M10 M12			5/13

02/19

MÜPRO



Pipe clamps

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

MÜPRO

	Indoor use	Indoor and outdoor use		
	galvanised	hot-dip galvanised	Stainless steel	
			V2A	V4A
One-piece pipe clamps				
 OPTIMAL Junior®	3/5			
 EASY clips	3/8			
 VARIO-Twin pipe clamps	3/9			
 Safety clips	3/11–3/12			
Two-piece pipe clamps				
 EURO-QUICK®	3/1			
 OPTIMAL	3/2–3/3			
 Single bossed clamps JUNIOR	3/6			
 Duo	3/7			
 Single bossed clamps, heavy-duty version	3/13–3/19		11/3	11/3
 Single bossed clamps	3/20–3/27		11/1–11/2	11/1–11/2
High-temperature pipe clamps				
 Single bossed clamps, heavy duty version, with DÄMMGULAST® red	3/16		upon request	
 Single bossed clamps, with DÄMMGULAST® red	3/24–3/25		upon request	
Ventilation duct clamps				
 Suspension clamps, for spiral-seam pipes, one-piece	3/32–3/33		upon request	
 Suspension clamps, for spiral-seam pipes, two-piece	3/34–3/35		upon request	
 Duct clamps	9/1–9/4		11/4–11/5	
Slide pipe clamps				
 Slide clamps	3/4			
Sprinkler pipe clamps				
 Filbow clamps pear-shaped	3/41			
 Filbow clamps with knurled nut	3/42			
 Filbow clamps with cup nut	3/43			
 Swivel hangers	3/44			

	Indoor use	Indoor and outdoor use		
	galvanised	hot-dip galvanised	Stainless steel	
			V2A	V4A
Sprinkler pipe clamps				
 Single bossed clamps, heavy-duty version, with DÄMMGULAST® red	3/16			
 Single bossed clamps, heavy-duty version, without lining	3/17–3/19			
Refrigerant pipe clamps				
 Insulation clamps RG 80	3/46–3/47			
 Insulation clamps RG 250	3/50–3/51			
 Insulation clamps type H, M, T	3/52–3/67			
 Insulation clamps type RTN+	3/68–3/79			
 Insulation shells type RTN+	3/80–3/82			
 Insulation clamps type 170/175 EX	3/83–3/86			
 Foam glass pipe holder, with DÄMMGULAST® blue	3/87–3/88			
Heavy-duty pipe support/DIN pipe clamps				
 Pipe clamps DIN 3567		7/26	7/26	7/26
	DIN pipe clamps also available without corrosion protection.			
Other pipe clamps				
 Single bossed clamps, with connection socket	3/28–3/31		upon request	
 DÄMMGULAST® Vibration control linings	3/36–3/39			
 Ceramic fabric tapes	3/40			
 U-bolts	3/45			
 Load-distributing sleeves	3/49			
 DUPLO-Solar	3/89			
 Hose clamps	3/90–3/91			
 Fixing clamp small	3/92			
 Pipe clips	3/93			
 Caoutchouc pipe support	3/94–3/96			

VIDEO TIP

MÜPRO pipe clamps: our comprehensive range offers the right solution for every application. The video shows the areas of application and sample installations.

EURO-QUICK®

galvanised

Field of application

- Suitable for fixings in housing and industrial areas
- Suitable for fastening of drinking water and heating pipes
- For indoor use

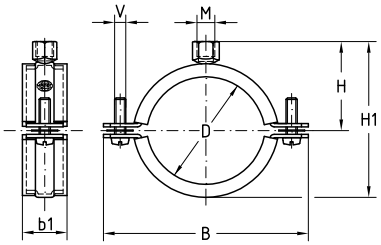
Advantages

- With highly elastic insert
- Captive fastening screws
- High rigidity thanks to reinforcing rib
- Usable at a temperature range from –50 °C to +110 °C
- Fastening screws with combination cross-head
- Safe handling thanks to rounded flange
- Clip-over edges and the guide rib of the pipe clamp insert ensures a secure hold and prevents it from being pushed out



Features

Size	Max. recommended load [N]
12–15 to 25–30 mm	853
32–37 to 59–63 mm	880
63.5–70 to 75–78 mm	1,355
78–84 to 108–115 mm	2,044
114–118 to 212–222 mm	2,700



Connecting thread	For pipe outer Ø [mm]	[inches]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H	H1	V
M8	12–15	¼	**132122**	50	pieces	48.5	21	28.5	40	M6
	15–19	⅜	**132123**			52.5		30.5	44	
	20–25	½	**132124**			58.5		33.5	50	
	25–30	¾	**132125**			62.5		35.5	54	
	32–37	1	**132126**			70.5		39.5	62	
	40–45	1¼	**132127**			78.5		43.5	70	
	47–53	1½	**132128**			86.5		47.5	78	
	54-58		**132129**			92.5		50.5	84	
	59–63	2	**132130**			96.5		52.5	88	
M8/M10	63–70		**132131**			103.0	23	56.0	95	
	72–78	2½	**132132**			111.0		60.0	103	
	78–86		**132133**			119.0		64.0	111	
	87–93	3	**132134**			126.0		67.5	118	
	98–104		**132135**			137.0		73.0	129	
	108–115	4	**132136**			152.0		79.0	141	
	114–118		**132137**			156.0		81.0	145	
	124–130		**132138**			176.0		87.0	157	M8
	132–137		**132139**			184.0	28	91.0	165	
	137–142	5	**132140**			195.0		96.0	175	
	159–163		**132141**			217.0		107.0	197	
	164–168	6	**132142**			224.0		109.5	202	
	193–203		**139166**	25		257.0		128.0	239	
	212–222	8	**132143**			275.0		135.0	257	

02/19

OPTIMAL

galvanised

Field of application

- Suitable for fixings in housing and industrial areas
- Suitable for fastening of drinking water and heating pipes
- For indoor use

Advantages

Economical solution due to advanced technology:

- **Practical latching fastener**
- The 2 locking screws allow adjustment to accommodate a greater variation in pipe diameter
- Installation advantages of an one-piece clamp
- High security due to **the positive-fit edge hook-in opening**
- **The pipe is free to move during the installation**
- No inadvertent opening once it has clicked in, due to the safety latching fastener

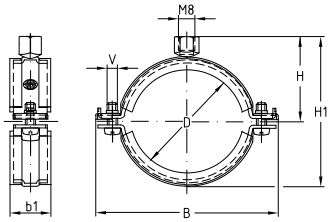




- Tightening bolts with combination, captive cross-head convenient for power driver
- DÄMMGULAST® vibration control lining with green identification stripe: average sound level improvement up to 18 dB(A)
- Optimum handling due to injury-proof design

Features

Size	Max. recommended load [N]
¼"–1¼"	800
1½"–70 mm	1,690
2½"–116 mm	2,320
125 mm–6"	2,696



The attachment of pipes, especially under the ceiling, often requires the use of two hands. It is then convenient, if the OPTIMAL latching fastener can be closed with only one hand. After closing the latch, the pipe is safely held in place but remains free to move. Consequently, adjustment of pipe can be made with two hands.

And don't forget: high security due to the **positive-fit** edge hook-in opening.

02/19

OPTIMAL

galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8	¼		13–15	**119822**	100	pieces	55	23	42	26	M5
	⅜		16–18	**119838**			57		45	28	
	½		19–24	**119818**			63		51	31	
	¾		25–30	**119834**			70		57	34	
	1		32–37	**119806**			76		65	38	
	1¼		41–44	**119814**	50		85		71	41	
	1½		48–51	**119810**			93		79	45	M6
		57	53–58	**119842**			100		86	49	
	2		60–63	**119826**			107		92	52	
		70	69–73	**119846**			116		101	56	
	2½		74–78	**119830**			127		106	58	
M8/M10	¼		13–15	**119866**	100		55		46	30	M5
	⅜		16–18	**119882**			57		49	32	
	½		19–24	**119862**			63		55	35	
	¾		25–30	**119878**			70		61	38	
	1		32–37	**119850**			76		69	42	
	1¼		41–44	**119858**	50		85		75	45	
	1½		48–51	**119854**			93		83	49	M6
		57	53–58	**119886**			100		90	53	
	2		60–63	**119870**			107		96	56	
		70	69–73	**119894**			116		105	60	
	2½		74–78	**119874**			127	28	110	62	
		83	80–84	**119898**			132		117	66	
	3		88–90	**119794**			139		122	68	
		102	99–103	**119770**			155		136	75	
		110	108–112	**119774**			163		145	80	
	4		113–117	**119798**			168		150	82	
		116	116–120	**119778**			172		153	84	
		125	125–129	**119782**			174		164	89	
		133	133–137	**119786**			185		171	93	
	5		137–141	**119802**			188		176	95	
		160	159–162	**119790**			212		197	106	
	6		164–168	**119890**			220		202	108	

	Connecting thread	Size [inch]	Part no.	Sales unit	Pack unit	Content [clamps]	Part no. Polybox excl. clamps	Type
OPTIMAL, with DÄMMGULAST® green, in polybox	M8	¼	**119954**	1	box	300	**121019**	Polybox large 500/450 x 300 x 180
		⅜	**119962**					
		½	**119950**					
		¾	**119958**			200		
		1	**119946**					

02/19

MÜPRO

Slide clamps

for plastic pipes, galvanised

Field of application

- Mounting of plastic pipes
- Gliding

Advantages

- The special lining designed for smooth, noiseless sliding of plastic pipes
- With DÄMMGULAST® compound vibration control lining for optimum structure-borne noise damping
- The positive-fit joining of lining and clamp prevents the lining from slipping out





The security of the advanced OPTIMAL technology offers further advantages:

- Quick mounting due to practical, self-securing latch mechanism
- No inadvertent opening once it has clicked in, due to the positive-fit edge hook-in opening
- Tightening screw with combination, captive cross-head convenient for power driver

In order to prevent the tilling of the slide clamp, the following threaded rod lengths should not be exceeded:

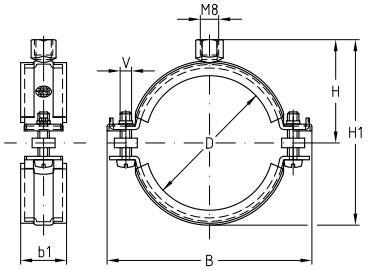
Size 16 mm–50 mm:
max. 80 mm
Size 56 mm–110 mm:
max. 60 mm

The distances between supports recommended by the plastic pipe manufacturers must be observed.



Features

Size [mm]	Max. recommended load [N]
16–40	800
50–63	1,690
75–110	2,320



Connecting thread	Size [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8	16	**119902**	100	pieces	57	23	45	28	M5
	20	**119906**			63		51	31	
	25	**119910**			70		57	34	
	32	**119914**			76		65	38	
	40	**119918**	50		85		71	41	
	50	**119922**			93		79	45	M6
	56	**119926**			100		86	49	
	63	**119930**			107		92	52	
M8/M10	75	**119938**			127	28	110	62	
	90	**119942**			139		122	68	
	110	**119934**			163		145	80	

02/19

OPTIMAL Junior®

with DÄMMGULAST®, galvanised

Field of application

- Suitable for fixings in housing and industrial areas
- Suitable for fastening of drinking water and heating pipes
- For indoor use

Advantages

- Practical latching fastener
- Easy clicking-in of the fastening bolt with the tip of a finger
- High safety due to the positive-fit edge hook-in opening
- The pipe is free to move during the installation
- No inadvertent opening once it has clicked in, due to the safety latching fastener
- Quick installation due to the single fastening bolt
- The easy click-in fastener allows opening and closing of the pipe clamp with only one hand
- Captive fastening bolt
- Fastener retains the pipe securely even at the full opening angle of the clamp

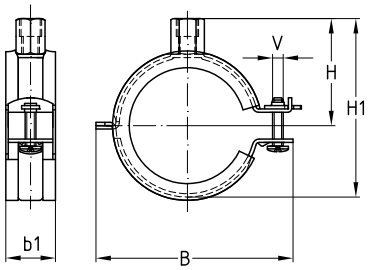




- DÄMMGULAST® vibration control lining with green identification stripe: average sound level improvement up to 18 dB(A)
- Vibration control tested
- RAL GÜTEZEICHEN ROHRBEFESTIGUNG RAL-GZ 655-B This product is awarded with the “Gütezeichen Rohrbefestigung” (quality mark of pipe support) and is submitted to controls according to RAL-GZ 655-B

Features

Size	Max. recommended load [N]
12 mm–1¼"	400
1½"–2"	500
70–83 mm	850
3"–4"	1,000



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8		12	12–14	**141485**	100	pieces	50	23	33	20	M5
	⅜		15–18	**136101**			54		37	22	
	½		19–22	**136102**			58		41	24	
	¾		23–27	**136103**			63		46	27	
		28	26–30	**141486**			66		49	28	
	1		32–35	**141487**			71		54	31	
		40	37–41	**141488**	50		77		60	33	
	1¼		42–46	**141489**			82		65	36	
	1½		48–51	**141490**			88		71	39	
M8/M10		55	53–58	**141491**			94		86	51	
	2		59–64	**141492**			101		93	54	
		70	68–73	**119532**			119	28	101	59	M6
	2½		74–80	**119536**			126		108	62	
		83	83–87	**119540**			132		114	65	
	3		89–92	**119544**			137		119	68	
		102	100–104	**119473**			148		130	73	
		110	108–111	**119477**			156		138	77	
	4		112–115	**119481**			160		142	79	

02/19

Single bossed clamps JUNIOR

two-piece, galvanised

Field of application

- Suitable for pipe attachments in industrial areas
- Suitable for fastening of drinking water and heating pipes
- For indoor use

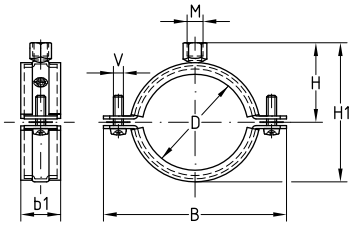
Advantages

- Proven two-piece clamp
- High stiffness due to reinforcing bead
- The 2 locking screws allow adjustment to accommodate a greater variation in pipe diameter
- Tightening bolts with combination cross-head convenient for power driver
- Fastener screws with captive washer
- Connecting thread with combi thread M8/M10
- DÄMMGULAST® vibration control lining with green identification stripe: average sound level improvement up to 18 dB(A)
- Vibration control tested



Features

Size	Max. recommended load [N]
12 mm–½"	700
¾"–2"	1,200
70 mm–3"	2,000
102 mm–6"	2,500



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8/M10		12	6–15	**142357**	100	pieces	45	22.5	38	28	M5
	⅜		15–19	**142358**			51		44	30	
	½		20–25	**142359**			57		50	33	
	¾		25–30	**142360**			63		56	37	
	1		33–37	**142361**			70		64	40	
	1¼		42–46	**142362**	50		80		72	45	
	1½		47–52	**142363**			86		79	48	
		57	54–58	**142364**			91		84	50	
	2		59–63	**142365**			96		88	53	
		70	68–73	**142366**			118		104	60	M6
	2½		72–80	**142367**			127		113	65	
		83	82–85	**142368**			132		119	68	
	3		88–92	**142369**			139		125	71	
		102	99–103	**142370**			151		137	77	
		110	108–112	**142371**			160		145	81	
	4		112–118	**142372**			164		149	83	
		125	125–130	**142373**	25		174		159	88	
		133	133–137	**142374**			182		167	92	
	5		137–142	**142375**			191		175	96	
		160	159–164	**142376**			210		195	106	
	6		164–169	**142377**			216		201	109	

	Connecting thread	Size [inch]	Part no.	Sales unit	Pack unit	Content [clamps]	Part no. Polybox excl. clamps	Type
Single bossed clamps JUNIOR, with DÄMMGULAST® green, in polybox	M8/M10	⅜	**143958**	1	box	200	**121019**	Polybox large 500/450 x 300 x 180
		½	**143959**					
		¾	**143960**					
		1	**143961**					

02/19

Duo

galvanised

Field of application

- Suitable for fixings in industrial areas
- Suitable for fastening of drinking water and heating pipes
- For indoor use

Advantages

The easy to install quick fastening enables the efficient pipe support in any position:

- Quick and reliable snapping in of the fastener once the clamp is closed, holding the pipe securely
- The easy to swivel lower clamp half allows opening and closing of the pipe clamp with only one hand
- Captive fastening bolts
- Wide opening of the clamp due to the swivelling ability of the lower clamp half
- Low vibration entry and exit areas due to the ribbed profile of the DÄMMGULAST® Lining
- Connection thread M8/M10 for suspended, floor or wall mounting
- DÄMMGULAST® vibration control lining with green identification stripe: average sound level improvement up to 18 dB(A)





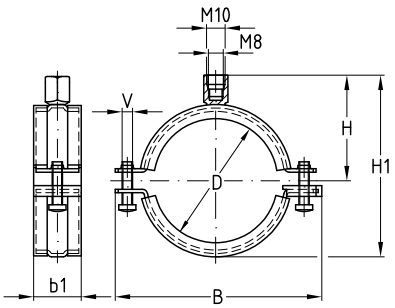






Features

Size	Max. recommended load [N]
12 mm–2"	700
70 mm–4"	1,000



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8/M10		12	12–15	**142938**	100	pieces	45	22.5	38	28	M5
	⅜		15–19	**142939**			51		44	30	
	½		20–25	**142940**			57		50	33	
	¾		25–30	**142941**			63		56	37	
	1		33–37	**142942**			70		64	40	
	1¼		42–46	**142943**	50		80		72	45	
	1½		47–52	**142944**			86		79	48	
		57	54–58	**142945**			91		84	50	
	2		59–63	**142946**			96		88	53	
		70	68–73	**142947**			118		104	60	M6
	2½		72–80	**142948**			127		113	65	
		83	82–85	**142949**			132		119	68	
	3		89–92	**142950**			139		125	71	
		102	99–103	**142951**			151		137	77	
		110	108–112	**142952**			160		145	81	
	4		112–118	**142953**			164		149	83	

02/19

EASY clips

galvanised

Field of application

- Ideal as support for risers or suspended pipes
- Suitable for fixings in housing and industrial areas
- For indoor use

Advantages

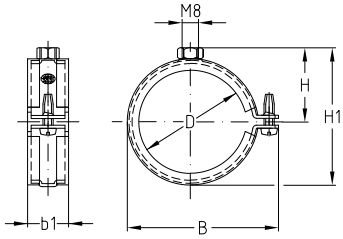
- Efficient fastener for quick pipe attachment
- Quick-fastening, suitable for screwdriver
- Self-locating fastener screw
- Fastener screw with captive washer
- Practical, one-piece design
- DÄMMGULAST® vibration control lining with green identification stripe: average sound level improvement up to 18 dB(A)
- Positive-fit vibration control lining with wide clip-over edges that prevent the lining from slipping out of the clamp





Features

Size [mm]	Max. recommended load [N]
13.5–28.0	800
33.5–63.0	1,000
68.0–83.0	1,166
88.9–114.3	1,500



Connecting thread	Size [inch]	Size [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H	H1
M8	¼	13.5/15.0	**124210**	100	pieces	37	18	17	30
	⅜	17.2/18.0	**124116**			40		19	33
	½	21.3/22.0	**124080**			44		21	37
	¾	26.9/28.0	**124111**			50		24	43
	1	33.7	**124068**			57		27	49
	1¼	42.4	**124076**	50		67		32	59
	1½	48.3	**124072**			73		35	65
		55.0	**124126**			79		38	71
		57.0	**124129**			81		39	73
	2	60.3	**124093**			85		41	77
		63.0	**124133**			87		42	79
		68.0	**124137**			98	23	52	92
		70.0	**124141**			100		53	94
		75.0	**124145**			104		56	100
	2½	76.1	**124097**			106			
		80.0	**124149**			111		58	105
		83.0	**124153**			113		59	107
	3	88.9	**124107**			121		63	115
		90.0	**124157**			122		64	116
		102.0	**124084**			133		69	127
		110.0	**124088**			142		74	136
	4	114.3	**124250**			146		76	140

	Connecting thread	Size [inch]	Part no.	Sales unit	Pack unit	Content [clamps]	Part no. Polybox excl. clamps	Type
EASY clips, with DÄMMGULAST® green, in polybox	M8	¼	**124214**	1	box	300	**121031**	Polybox medium 350/300 x 200 x 150
		⅜	**124239**					
		½	**124202**				**121019**	Polybox large 500/450 x 300 x 180
		¾	**124227**					
		1	**148138**			200		

02/19

VARIO-Twin pipe clamps

galvanised

Field of application

- Ideal for parallel pipes
- Ideal as support for risers or suspended pipes
- Ideal for good appearance as the safety fastener is on the inside
- Suitable for attachment of pipelines in residential and industrial constructions
- For indoor use

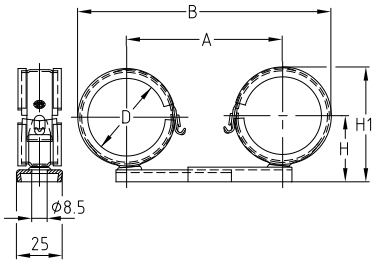
Advantages

- Twin clip has the fastening advantages of the safety clip
- Safety fastener without fastening screws
- Distance between pipe axes is adjustable
- Markings faciliate the distance adjustments
- Allows combination of different pipe diameters on one twin clip
- Efficient support for 2 pipes with one anchor plug
- DÄMMGULAST® vibration control lining with green identification stripe: average sound level improvement up to 18 dB(A)



The mounting distance of the pipe from the structure element is determined by the selection of the appropriate bolt screw length. The distance can be adjusted by means of the nut and locknut. The fitting of the VARIO-Twin bracket by means of **anchors** enables the distance from the structure **to be continuously adjusted** while maintaining flexural rigidity.





Features

Suitable for	Size [inch]	Size [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] H1	H	B	Adjustment range A
Copper pipes		10	**107299**	100	pieces	30	21	23+A	40–80
		12	**107300**			32	22		
		15	**107301**			35	24	28+A	
		18	**107302**			38	25	31+A	
		20	**107303**			40	26		
		22	**107304**			42	27	35+A	
		24	**107305**			44	28	37+A	
		28	**107306**			48	30	42+A	50–95
		30	**107309**	50		50	31	46+A	
		33	**107310**			53	33		
		35	**107311**			55	34		
		42	**107312**			62	37	56+A	60–105
		43	**107313**			63	38		
Steel pipes	⅜		**107308**	100		38	25	31+A	40–80
	½		**107298**			42	27	35+A	
	¾		**107307**			47	30	41+A	50–95
	1		**107295**	50		54	33	46+A	
	1¼		**107297**			63	38	56+A	60–105
	1½		**107296**			69	41	63+A	

02/19

VARIO-Twin brackets

for safety clip, with internal thread, galvanised

Connecting thread	Adjustment range between pipe axes [mm]	Part no.	Sales unit	Pack unit
M8	40–80	**107248**	50	pieces
	50–95	**107249**		
	60–105	**107247**		



Twin brackets

for safety clip, with internal thread, galvanised

Connecting thread	Distance between pipe axes [mm]	Part no.	Sales unit	Pack unit
M8	40	**107243**	50	pieces
	55	**107244**		
	65	**107245**		
	85	**107246**		
	105	**107240**		
	150	**107241**		
	200	**107242**		



Threaded bolts

galvanised

Connecting thread	Total length [mm]	Thread length [mm]	Part no.	Sales unit	Pack unit
M8	9	4	**121244**	100	pieces
	15	5	**121213**		
	25		**121221**		
	35		**121228**		
	45		**121232**		
	55		**121236**		
	65		**121240**		



Reinforcement section

for twin brackets from 105 mm upwards, galvanised

Fixing hole Ø [mm]	Part no.	Sales unit	Pack unit
8	**107139**	50	pieces





02/19

Safety clips

galvanised

Field of application

- Suitable for all attachment of pipes in residential constructions
- Ideal as support for risers or suspended pipes
- Ideal for attachment using bolt screws or shoulder screws
- Ideal for the installation of pipes in parallel when used together with twin brackets
- For indoor use

Advantages

- Quick and efficient attachment without fastener bolts
- Safety fastening due to form-fit click-in
- Self-locking due to spring effect
- Easy to handle as the shape of the fastener is made to fit the tool
- The pipe is free to move during the installation
- Without fastener lugs – ideal where appearance is important





- The slender construction without fastening lugs allows pipes to be installed close together
- DÄMMGULAST® vibration control lining with green identification stripe: average sound level improvement up to 18 dB(A)



As support for risers



For suspended pipes



For two risers



To close: Place the screwdriver on the tool application point, hook into the latch and press the clamp to close



To open: Place the screwdriver on the tool application point, press and lift the fastener over the latch

02/19

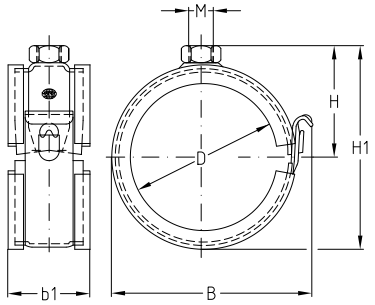
MÜPRO

Safety clips

galvanised

Features

Size	Max. recommended load [N]
10–22 mm	240
⅜"–½"	
24–28 mm	360
¾"	
1"	400
30–40 mm	
42–43 mm	480
1¼"–1½"	



Connecting thread	Size		Part no.		Sales unit	Pack unit	Dimensions [mm]				
	[inch]	[mm]	green	white			D	B	b1	H1	H
M8		10.0	**123222**		100	pieces	10.0	22	19	25	18
		12.0	**123226**	**123324**			12.0	24		27	19
		15.0	**123230**	**123328**			15.0	27		30	20
		16.0	**123234**				16.0	28		31	21
	⅜	17.2	**123261**				17.2	29		32	22
		18.0	**123238**	**123332**			18.0	30		33	
		20.0	**123242**	**123351**			20.0	32		35	23
	½	21.3	**123218**				21.3	33		36	24
		22.0	**123246**	**123336**			22.0	34		37	
		24.0	**123250**	**123340**			24.0	36		39	25
	¾	26.9	**123258**				26.9	39		42	26
		28.0	**123254**	**123344**			28.0	40		43	27
		30.0	**123266**	**123348**			30.0	42	24	45	28
		33.0	**123274**				33.0	45		48	29
	1	33.7	**123206**	**123321**			33.7	46		49	30
		35.0	**123282**				35.0	47		50	
		40.0	**123285**				40.0	52		55	33
		42.0	**123289**				42.0	54		57	34
	1¼	42.4	**123214**				42.4				
		43.0	**123293**				43.0	55		58	35
	1½	48.3	**123210**				48.3	60		63	37

	Connecting thread	Size [mm]	Part no.	Sales unit	Pack unit	Content [clamps]	Part no. Polybox excl. clamps	Type
Safety clips, with DÄMMGULAST® green, in polybox	M8	15	**123305**	1	box	300	**121031**	Polybox medium 350/300 x 200 x 150
		18	**123309**					
		22	**123313**					
		28	**123317**					

02/19

Single bossed clamps

heavy-duty version, with DÄMMGULAST® yellow, galvanised

Field of application

- Suitable for pipelines with dynamic loads in combination with expansion points
- Suitable for fixings in industrial areas
- Suitable for fixings in air-conditioning, ventilation and sanitary areas
- For indoor use

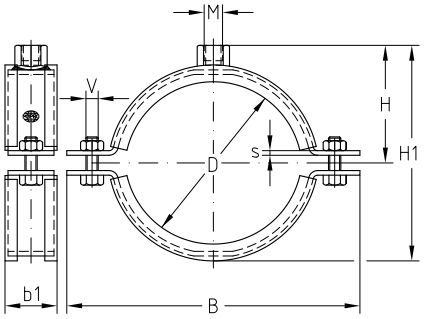
Advantages

- Proven two-part clamp with increased material cross-section
- Stronger tightening bolts for high load capacity
- DÄMMGULAST® vibration control lining with yellow identification stripe: average sound level improvement up to 22 dB(A)



Features

Size	Connecting thread	Max. recommended load [N]
1½"–2"	M12	4,200
2½"–4"		5,000
125 mm–6"		6,700
180–280 mm	M12 M12/M16/½" ET M12/M16/½" IT M12/M16/1" IT	7,500
315 mm	M12	7,500
	M12/M16/½" EG M12/M16/½" IT M12/M16/1" IT	11,000
323–355 mm	M12	9,000
	M12/M16/½" ET M12/M16/½" IT M12/M16/1" IT	11,000
405–429 mm	M12/M16/½" ET M12/M16/½" IT M12/M16/1" IT	12,500
450–635 mm		17,000



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] b x s	B	b1	H1	H	V
M12	1½		48–54	**121914**	50	pieces	30 x 3.0	110	34	82	49	M8
	2		57–64	**122099**				126		99	57	
	2½		72–80	**122111**				144		111	63	M10
		83	79–85	**122534**				146		114	65	M8
	3		88–92	**122266**				159		122	69	M10
		102	99–103	**121934**				170		134	75	
	4		108–118	**122353**				184		149	82	
		125	121–127	**121998**	20		40 x 4.0	204	46	160	88	
		133	133–141	**122018**				212		176	95	
	5		138–144	**122429**				217		177	96	
		160	159–168	**122052**				235		195	105	
	6		164–170	**122473**				242		204	109	
		180	178–182	**122079**				260		220	118	
		200	193–203	**122123**				280		235	125	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications.

Please refer to chapter „Heavy-duty pipe support" for pipe clamps DIN 3567.

02/19

MÜPRO

Single bossed clamps

heavy-duty version, with DÄMMGULAST® yellow, galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] b x s	B	b1	H1	H	V
M12		212	208–214	**122151**	10	pieces	40 x 4.0	299	46	245	130	M10
		219	217–224	**122167**				302		257	136	
		225	222–228	**122187**						260	138	
		250	244–254	**122214**				330		285	148	
		267	267–277	**122234**				360		311	163	
		280	278–282	**122250**						315	165	
		315	313–318	**122294**				394		350	183	
		323	320–326	**122305**			50 x 5.0	415	56	360	188	M12
		355	353–360	**122325**				447		392	204	
M12/M16/ ½" ET		180	176–181	**166474**	1		40 x 4.0	283	46	229	125	M16
		198	193–200	**166475**				301		247	134	
		212	208–214	**166476**				315		261	141	
		223	219–225	**166477**				326		272	147	
		248	244–250	**166478**				351		297	159	
		272	267–274	**166479**				375		321	171	
		280	276–282	**166480**				383		329	175	
		315	311–316	**166481**			50 x 5.0	421	57	370	194	
		326	322–327	**166482**				432		381	199	
		355	351–356	**166483**				461		410	214	
		405	400–407	**166484**				511		460	239	
		429	425–430	**166485**				535		484	251	
		450	446–451	**166486**			60 x 6.0	559	66	506	262	
		457	453–458	**166487**				566		513	266	
		500	495–501	**166488**				609		556	287	
		508	503–509	**166489**				617		564	291	
		532	527–533	**166490**				641		582	303	
		560	555–561	**166491**				669		602	317	
		610	605–611	**166492**				719		641	342	
		635	630–636	**166493**				744		691	355	
M12/M16/ ½" IT		180	176–181	**167427**			40 x 4.0	283	46	248	144	
		198	193–200	**167428**				301		266	153	
		212	208–214	**167429**				315		280	160	
		223	219–225	**167430**				326		291	166	
		248	244–250	**167431**				351		316	178	
		272	267–274	**167432**				375		340	190	
		280	276–282	**167433**				383		348	194	
		315	311–316	**167434**			50 x 5.0	421	57	389	213	
		326	322–327	**167435**				432		400	218	
		355	351–356	**167436**				461		429	233	
		405	400–407	**167437**				511		479	258	
		429	425–430	**167438**				535		503	270	
		450	446–451	**167439**			60 x 6.0	559	66	525	281	
		457	453–458	**167440**				566		532	285	
		500	495–501	**167441**				609		575	306	
		508	503–509	**167442**				617		583	310	
		532	527–533	**167443**				641		601	322	
		560	555–561	**167444**				669		621	336	
		610	605–611	**167445**				719		660	361	
		635	630–636	**167446**				744		710	374	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications.

Please refer to chapter „Heavy-duty pipe support" for pipe clamps DIN 3567.

02/19

Single bossed clamps

heavy-duty version, with DÄMMGULAST® yellow, galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] b x s	B	b1	H1	H	V
M12/M16/ 1" IT		180	176–181	**167467**	1	pieces	40 x 4.0	283	46	266	162	M16
		198	193–200	**167468**				301		284	171	
		212	208–214	**167469**				315		298	178	
		223	219–225	**167470**				326		309	184	
		248	244–250	**167471**				351		334	196	
		272	267–274	**167472**				375		358	208	
		280	276–282	**167473**				383		366	212	
		315	311–316	**167474**			50 x 5.0	421	57	407	231	
		326	322–327	**167475**				432		418	236	
		355	351–356	**167476**				461		447	251	
		405	400–407	**167477**				511		497	276	
		429	425–430	**167478**				535		521	288	
		450	446–451	**167479**			60 x 6.0	559	66	543	299	
		457	453–458	**167480**				566		550	303	
		500	495–501	**167481**				609		593	324	
		508	503–509	**167482**				617		601	328	
		532	527–533	**167483**				641		619	340	
		560	555–561	**167484**				669		639	354	
		610	605–611	**167485**				719		678	379	
		635	630–636	**167486**				744		728	392	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications.

Please refer to chapter „Heavy-duty pipe support" for pipe clamps DIN 3567.

02/19

MÜPRO

Single bossed clamps

heavy-duty version, with DÄMMGULAST® red, galvanised

Field of application

- Suitable for pipelines with dynamic loads in combination with expansion points
- Suitable for fixings in industrial areas
- Suitable for fastening of drinking water and heating pipes as well as for thermical oil pipes
- Attachment of pipelines in increased temperature ranges
- For indoor use

Advantages

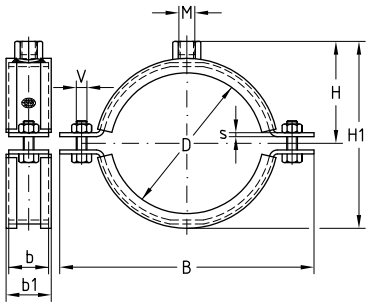
- Proven two-part clamp with increased material cross-section
- Stronger fastening latches for high load capacity
- High strength all-round welding of the connecting nut
- DÄMMGULAST® vibration control lining red, high-temperature resistant up to +225 °C
- Average sound level improvement up to 24 dB(A)
- Approved for the attachment of sprinkler systems by VdS



Features

fire protection certified ≥ M12 · VdS G 4000030

Size	Max. recommended load [N]
⅜"–3"	5,000
102–133 mm	5,830
5" upwards	6,666



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] b x s	B	b1	H1	H	V
M8	⅜		14–19	**124418**	100	pieces	30 x 3.0	74.0	34	46.0	29.0	M8
	½		20–26	**124422**				83.0		52.0	32.0	
	¾		25–28	**124425**				88.3		57.0	34.5	
	1		30–35	**124430**				91.5		61.0	36.5	
	1¼		40–43	**124434**	50			102.5		72.0	42.0	
	1½		48–54	**124438**				109.9		79.0	45.5	
	2		57–64	**124442**				125.6		96.0	54.0	
M10		70	68–72	**124302**				133.6		105.0	59.5	
	2½		72–80	**124306**				144.4		110.0	62.0	M10
		83	82–86	**124311**				155.0		119.1	66.6	
	3		88–92	**124315**				158.6		121.0	67.5	
		102	99–103	**124283**				170.4		133.2	73.6	
	4		108–118	**124287**				184.2		147.6	80.8	
M12		125	125–130	**124331**			40 x 4.0	202.5	46	164.0	90.0	
		133	133–141	**124339**	25			211.5		177.0	96.5	
	5		138–144	**124343**				217.0		178.0	97.0	
		160	159–168	**124347**				235.0		196.0	106.0	
	6		164–170	**124359**				242.0		205.0	110.5	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

Single bossed clamps

heavy-duty version, without lining, galvanised

Field of application

- Applicable as a pipeline anchor point
- Suitable for installations without vibration control requirements
- Attachment of sprinkler lines
- Suitable for fixings in industrial areas
- For indoor use

Advantages

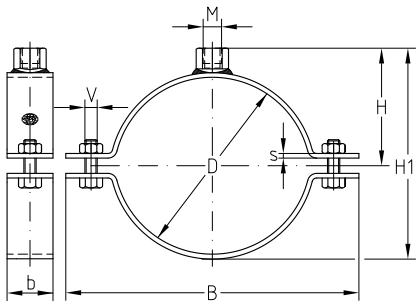
- Proven two-part clamp with increased material cross-section
- Stronger fastening latches for high load capacity
- High strength all-round welding of the connecting nut



Features

fire protection certified M12, up to 6" · FM APPROVED for M10–M12 · VdS G 4000028

Size	Max. recommended load [N]
⅜"–3"	5,000
102–125 mm	5,800
5"–6"	6,700
180–280 mm	11,000
315–429 mm	15,000
450–635 mm	17,000



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	VdS	FM	Dimensions [mm] b x s	B	H1	H	V
M8	⅜		14–18	**125699**	100	pieces	●		30 x 3.0	66	33	22	M8
	½		20–22	**125693**			●			71	38	25	
	¾		25–28	**125697**			●			74	45	28	
	1		31–35	**125687**			●			83	51	31	
	1¼		40–43	**125691**	50		●			92	60	35	
	1½		48–52	**125689**			●			100	69	40	
		57	53–57	**125701**			●			105	74	43	
	2		58–61	**125695**			●			110	78	45	
M10	⅜		14–18	**124771**	100					66	35	24	
	½		20–22	**124507**						71	40	27	
	¾		25–28	**124765**				●		74	47	30	
	1		31–35	**124495**				●		83	53	33	
	1¼		40–43	**124503**	50			●		92	62	37	
	1½		48–52	**124499**				●		100	71	42	
		57	53–57	**124861**				●		105	76	45	
	2		58–61	**124650**				●		110	80	47	
		70	68–73	**124906**			●	●		121	92	52	
	2½		73–78	**124653**			●	●		126	97	55	
		83	80–85	**124930**			●	●		134	104	59	
	3		85–90	**124762**			●	●		144	109	61	M10
		102	98–104	**124519**			●	●		159	120	67	
	4		108–116	**124814**			●	●		170	132	73	

Please refer to chapter „Anchor points/expansion points" for further information regarding the attachment of anchor and expansion points.

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications.

02/19

MÜPRO

Single bossed clamps

heavy-duty version, without lining, galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	VdS	FM	Dimensions [mm] b x s	B	H1	H	V
M12	⅜		14–18	**125259**	100	pieces			30 x 3.0	66	37	26	M8
	½		20–22	**124965**						71	42	29	
	¾		25–28	**125257**				●		74	49	32	
	1		31–35	**124955**				●		83	55	35	
	1¼		40–43	**124961**	50			●		92	64	39	
	1½		48–52	**124958**				●		100	73	44	
		57	53–57	**125372**				●		105	78	47	
	2		58–61	**125127**				●		110	82	49	
		70	68–73	**125406**				●		121	94	54	
	2½		73–78	**125129**				●		126	99	57	
		83	80–85	**125434**				●		134	106	61	
	3		85–90	**125255**				●		144	111	63	M10
		102	98–104	**124968**				●		159	122	69	
	4		108–116	**125314**				●		170	134	75	
		125	124–130	**125038**			●	●		184	149	82	
	5		133–140	**125356**	25		●	●	40 x 4.0	203	163	89	
	6		160–169	**125374**			●	●		231	191	103	
M12/M16/ ½" ET		180	176–181	**166454**	1					271	213	119	M16
		198	193–200	**166455**						289	231	128	
		212	208–214	**166456**						303	245	135	
		223	219–225	**166457**						314	256	141	
		248	244–250	**166458**						339	281	153	
		272	267–274	**166459**						363	305	165	
		280	276–282	**166460**						371	313	169	
		315	311–316	**166461**					50 x 5.0	409	350	188	
		326	322–327	**166462**						420	361	193	
		355	351–356	**166463**						449	390	208	
		405	400–407	**166464**						499	440	233	
		429	425–430	**166465**						523	464	245	
		450	446–451	**166466**					60 x 6.0	547	487	256	
		457	453–458	**166467**						554	494	260	
		500	495–501	**166468**						597	537	281	
		508	503–509	**166469**						605	545	285	
		532	527–533	**166470**						629	569	297	
		560	555–561	**166471**						657	597	311	
		610	605–611	**166472**						702	647	336	
		635	630–636	**166473**						732	672	349	
M12/M16/ ½" IT		180	176–181	**167407**					40 x 4.0	271	232	138	
		198	193–200	**167408**						289	250	147	
		212	208–214	**167409**						303	264	154	
		223	219–225	**167410**						314	275	160	
		248	244–250	**167411**						339	300	172	
		272	267–274	**167412**						363	324	184	
		280	276–282	**167413**						371	332	188	
		315	311–316	**167414**					50 x 5.0	409	369	207	
		326	322–327	**167415**						420	380	212	
		355	351–356	**167416**						449	409	227	
		405	400–407	**167417**						499	459	252	
		429	425–430	**167418**						523	483	264	

Please refer to chapter „Anchor points/expansion points" for further information regarding the attachment of anchor and expansion points.

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications.

02/19

Single bossed clamps

heavy-duty version, without lining, galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	VdS	FM	Dimensions [mm] b x s	B	H1	H	V
M12/M16/ ½" IT		450	446–451	**167419**	1	pieces			60 x 6.0	547	506	275	M16
		457	453–458	**167420**						554	513	279	
		500	495–501	**167421**						597	556	300	
		508	503–509	**167422**						605	564	304	
		532	527–533	**167423**						629	588	316	
		560	555–561	**167424**						657	616	330	
		610	605–611	**167425**						702	666	355	
		635	630–636	**167426**						732	691	368	
M12/M16/ 1" IT		180	176–181	**167447**					40 x 4.0	271	250	156	
		198	193–200	**167448**						289	268	165	
		212	208–214	**167449**						303	282	172	
		223	219–225	**167450**						314	293	178	
		248	244–250	**167451**						339	318	190	
		272	267–274	**167452**						363	342	202	
		280	276–282	**167453**						371	350	206	
		315	311–316	**167454**					50 x 5.0	409	387	225	
		326	322–327	**167455**						420	398	230	
		355	351–356	**167456**						449	427	245	
		405	400–407	**167457**						499	477	270	
		429	425–430	**167458**						523	501	282	
		450	446–451	**167459**					60 x 6.0	547	524	293	
		457	453–458	**167460**						554	531	297	
		500	495–501	**167461**						597	574	318	
		508	503–509	**167462**						605	582	322	
		532	527–533	**167463**						629	606	334	
		560	555–561	**167464**						657	634	348	
		610	605–611	**167465**						702	684	373	
		635	630–636	**167466**						732	709	386	

Please refer to chapter „Anchor points/expansion points" for further information regarding the attachment of anchor and expansion points.

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications.

02/19

MÜPRO

Single bossed clamps

with DÄMMGULAST® yellow, galvanised

Field of application

- Suitable combination for pipelines with dynamic loads with expansion points
- Suitable for fixings in housing and industrial areas
- Suitable for fixings in industrial areas, as well as in air-conditioning, ventilation and sanitary areas
- For indoor use

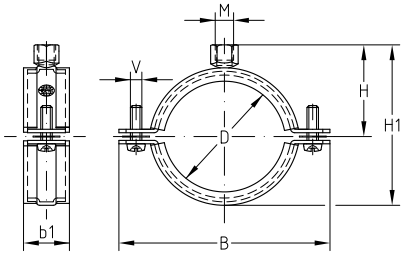
Advantages

- Proven two-piece single bossed clamp
- The 2 locking screws allow adjustments to accommodate a greater variation in pipe diameter
- Tightening bolts with combination cross-head convenient for power driver
- Tightening bolts secured with captive washers
- Heavy duty type with high load capacity due to creased shape
- Acoustic insulation, positive-fit liner with wide clip-over edges prevent the lining from slipping out of the pipe clamp
- DÄMMGULAST® vibration control lining with yellow identification stripe: average sound level improvement up to 22 dB(A)
- RAL GÜTEZEICHEN ROHRBEFESTIGUNG RAL-GZ 655-B This product is awarded with the „Gütezeichen Rohrbefestigung“ (quality mark of pipe support) up to size ≤ 200 mm and is submitted to controls according to RAL-GZ 655-B



Features

Size	Max. recommended load [N]
⅜"–2"	1,700
70–83 mm	2,200
3"–6"	2,900
170–200 mm	3,500
212–225 mm	5,800



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8/M10	⅜		14–20	**151359**	100	pieces	64	23	55	35.5	M6 x 20
	½		21–26	**151360**			71		61	38.5	
	¾		26–30	**151361**			75		65	40.5	
	1		31–38	**151362**			81		71	43.5	M6 x 25
	1¼		40–47	**151364**	50		91		81	48.5	
	1½		48–54	**151365**			100		89	52.5	
		57	54–60	**151366**			105		94	55.0	
	2		60–66	**151367**			111		100	58.0	
		70	68–73	**151369**			126	28	109	62.5	M8 x 35
	2½		73–80	**151370**			131		114	65.0	
		83	82–87	**151371**			142		124	70.0	
	3		87–94	**151372**			146		128	72.0	M8 x 40
		102	99–104	**151373**			157		139	77.5	
		110	105–112	**151374**			166		148	82.0	
	4		112–118	**151375**			172		154	85.0	
		125	122–128	**151376**			182		164	90.0	
		133	132–137	**151377**			191		173	94.5	
	5		137–142	**151378**			196		178	97.0	
		144	142–148	**151379**			202		184	100.0	
		150	149–156	**151380**			210		192	104.0	
		160	159–164	**151422**			218		200	108.0	
	6		164–169	**151423**			223		205	110.5	
		170	169–172	**151424**			225		207	111.5	

Single bossed clamps can be produced in all other pipe sizes and types.
For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

Single bossed clamps

with DÄMMGULAST® yellow, galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M10/M12	⅜		14–20	**151425**	100	pieces	64	23	60	40.5	M6 x 20
	½		21–26	**151426**			71		66	43.5	
	¾		26–30	**151427**			75		70	45.5	
	1		31–38	**151428**			81		76	48.5	M6 x 25
	1¼		40–47	**151430**	50		91		86	53.5	
	1½		48–54	**151431**			100		94	57.5	
		57	54–60	**151432**			105		99	60.0	
	2		60–66	**151433**			111		105	63.0	
		70	68–73	**151435**			126	28	114	67.5	M8 x 35
	2½		73–80	**151436**			131		119	70.0	
		83	82–87	**151437**			142		129	75.0	
	3		87–94	**151438**			146		133	77.0	M8 x 40
		102	99–104	**151439**			157		144	82.5	
		110	105–112	**151440**			166		153	87.0	
	4		112–118	**151441**			172		159	90.0	
		125	122–128	**151442**			182		169	95.0	
		133	132–137	**151443**			191		178	99.5	
	5		137–142	**151444**			196		183	102.0	
		144	142–148	**151445**			202		189	105.0	
		150	149–156	**151446**			210		197	109.0	
		160	159–164	**151447**			218		205	113.0	
	6		164–169	**151448**			223		210	115.5	
		170	169–172	**151449**			225		212	116.5	
		180	177–183	**151450**	25		235		223	122.0	
		200	197–203	**151451**			256		243	132.0	
		212	208–214	**151452**			284	46	256	138.5	M10 x 40
	8		217–225	**151453**			295		267	144.0	
		225	225–232	**151454**			304		274	147.5	
M12/M16/½"	5		137–142	**151455**	50		196	28	187	106.0	M8 x 40
		144	142–148	**151456**			202		193	109.0	
		150	149–156	**151457**			210		201	113.0	
		160	159–164	**151458**			218		209	117.0	
	6		164–169	**151459**			223		214	119.5	
		170	169–172	**151460**			225		216	120.5	
		180	177–183	**151461**	25		235		227	126.0	
		200	197–203	**151462**			256		247	136.0	
		212	208–214	**151463**			284	46	260		M10 x 40
	8		217–225	**151464**			295		271	142.5	
		225	225–232	**151465**			304		278	148.0	

Single bossed clamps can be produced in all other pipe sizes and types.
For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

MÜPRO

Single bossed clamps

with DÄMMGULAST® blue, galvanised

Field of application

- Suitable combination for pipelines with dynamic loads with expansion points
- Suitable for fixings in housing and industrial areas
- Suitable for fixings in industrial areas as well as in air-conditioning, ventilation and sanitary areas
- For indoor use

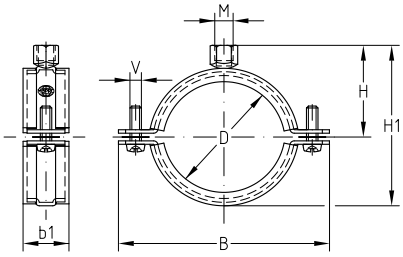
Advantages

- Proven two-piece single bossed clamp
- The 2 locking screws allow adjustments to accommodate a greater variation in pipe diameter
- Vibration control lining DÄMMGULAST® with blue identification stripe: **Fire classification B1 according to DIN 4102, no flammable dripping**
- Average sound level improvement up to 16.5 dB(A)
- Tightening bolts with combination cross-head convenient for power-driver
- Tightening bolts secured with captive washers
- Heavy-duty type with high load capacity due to creased shape
- Acoustic insulation, positive-fit liner with wide clip-over edges prevent the lining from slipping out of the pipe clamp
- RAL GÜTEZEICHEN RAL-GZ 655-B This product is awarded with the „Gütezeichen Rohrbefestigung“ (quality mark of pipe support) up to size ≤ 200 mm and is submitted to controls according to RAL-GZ 655-B



Features

Size	Max. recommended load [N]
⅜"–2"	1,500
70–83 mm	2,200
3"–6"	2,900
170–200 mm	3,200
212–225 mm	5,800



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8/M10	⅜		14–20	**151466**	100	pieces	64	23	55	35.5	M6 x 20
	½		21–26	**151467**			71		61	38.5	
	¾		26–30	**151468**			75		65	40.5	
	1		31–38	**151469**			81		71	43.5	M6 x 25
	1¼		40–47	**151471**	50		91		81	48.5	
	1½		48–54	**151472**			100		89	52.5	
		57	54–60	**151473**			105		94	55.0	
	2		60–66	**151474**			111		100	58.0	
		70	68–73	**151476**			126	28	109	62.5	M8 x 35
	2½		73–80	**151477**			131		114	65.0	
		83	82–87	**151478**			142		124	70.0	
	3		87–94	**151479**			146		128	72.0	M8 x 40
		102	99–104	**151480**			157		139	77.5	
		110	105–112	**151481**			166		148	82.0	
	4		112–118	**151482**			172		154	85.0	
		125	122–128	**151483**			182		164	90.0	
		133	132–137	**151484**			191		173	94.5	
	5		137–142	**151485**			196		178	97.0	
		144	142–148	**151486**			202		184	100.0	
		150	149–156	**151487**			210		192	104.0	
		160	159–164	**151488**			218		200	108.0	
	6		164–169	**151489**			223		205	110.5	
		170	169–172	**151490**			225		207	111.5	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

Single bossed clamps

with DÄMMGULAST® blue, galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M10/M12	⅜		14–20	**151491**	100	pieces	64	23	60	40.5	M6 x 20
	½		21–26	**151492**			71		66	43.5	
	¾		26–30	**151493**			75		70	45.5	
	1		31–38	**151494**			81		76	48.5	M6 x 25
	1¼		40–47	**151496**	50		91		86	53.5	
	1½		48–54	**151497**			100		94	57.5	
		57	54–60	**151498**			105		99	60.0	
	2		60–66	**151499**			111		105	63.0	
		70	68–73	**151501**			126	28	114	67.5	M8 x 35
	2½		73–80	**151502**			131		119	70.0	
		83	82–87	**151503**			142		129	75.0	
	3		87–94	**151504**			146		133	77.0	M8 x 40
		102	99–104	**151505**			157		144	82.5	
		110	105–112	**151506**			166		153	87.0	
	4		112–118	**151507**			172		159	90.0	
		125	122–128	**151508**			182		169	95.0	
		133	132–137	**151509**			191		178	99.5	
	5		137–142	**151510**			196		183	102.0	
		144	142–148	**151511**			202		189	105.0	
		150	149–156	**151512**			210		197	109.0	
		160	159–164	**151513**			218		205	113.0	
	6		164–169	**151514**			223		210	115.5	
		170	169–172	**151515**			225		212	116.5	
		180	177–183	**151516**	25		235		223	122.0	
		200	197–203	**151517**			256		243	132.0	
		212	208–214	**151518**			284	46	256	138.5	M10 x 40
	8		217–225	**151519**			295		267	144.0	
		225	225–232	**151520**			304		274	147.5	
M12/M16/½"	5		137–142	**151521**	50		196	28	187	106.0	M8 x 40
		144	142–148	**151522**			202		193	109.0	
		150	149–156	**151523**			210		201	113.0	
		160	159–164	**151524**			218		209	117.0	
	6		164–169	**151525**			223		214	119.5	
		170	169–172	**151526**			225		216	120.5	
		180	177–183	**151527**	25		235		227	126.0	
		200	197–203	**151528**			256		247	136.0	
		212	208–214	**151529**			284	46	260		M10 x 40
	8		217–225	**151530**			295		271	142.5	
		225	225–232	**151531**			304		278	148.0	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

MÜPRO

Single bossed clamps

with DÄMMGULAST® red, galvanised

Field of application

- Suitable for pipelines with dynamic loads in combination with expansion points
- Suitable for fixings in housing and industrial areas
- Suitable for fixings in industrial areas as well as in air-conditioning, ventilation and sanitary areas and thermical oil pipes
- Attachment of pipelines in increased temperature ranges
- For indoor use

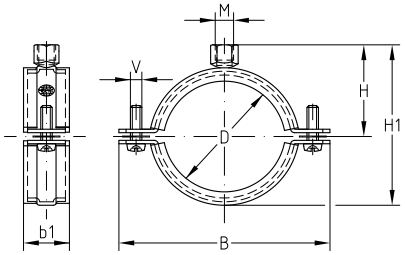
Advantages

- Proven two-piece single bossed clamp
- The 2 locking screws allow adjustment to accommodate a greater variation in pipe diameter
- With **high-temperature resistant DÄMMGULAST® Vibration control lining red**
- The high-quality DÄMMGULAST® section maintains its properties in **the temperature range –60 °C to +225 °C**
- Average sound level improvement up to 24 dB(A)
- Tightening bolts with combination cross-head convenient for power driver
- Tightening bolts secured with captive washers
- Heavy-duty type with high load capacity due to creased shape
- Acoustic insulation, positive-fit liner with wide clip-over edges prevent the lining from slipping out of the pipe clamp
- RAL GÜTEZEICHEN ROHRBEFESTIGUNG RAL-GZ 655-B This product is awarded with the „Gütezeichen Rohrbefestigung“ (quality mark of pipe support) up to size ≤ 200 mm and is submitted to controls according to RAL-GZ 655-B



Features

Size	Max. recommended load [N]
⅜"–2"	1,300
70–83 mm	2,200
3"–6"	2,900
170–200 mm	3,500
212–225 mm	5,300



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8/M10	⅜		14–20	**151532**	100	pieces	64	23	55	35.5	M6 x 20
	½		21–26	**151533**			71		61	38.5	
	¾		26–30	**151534**			75		65	40.5	
	1		31–38	**151535**			81		71	43.5	M6 x 25
	1¼		40–47	**151537**	50		91		81	48.5	
	1½		48–54	**151538**			100		89	52.5	
		57	54–60	**151539**			105		94	55.0	
	2		60–66	**151540**			111		100	58.0	
		70	68–73	**151542**			126	28	109	62.5	M8 x 35
	2½		73–80	**151543**			131		114	65.0	
		83	82–87	**151544**			142		124	70.0	
	3		87–94	**151545**			146		128	72.0	M8 x 40
		102	99–104	**151546**			157		139	77.5	
		110	105–112	**151547**			166		148	82.0	
	4		112–118	**151548**			172		154	85.0	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

Single bossed clamps

with DÄMMGULAST® red, galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8/M10		125	122–128	**151549**	50	pieces	182	28	164	90.0	M8 x 40
		133	132–137	**151550**			191		173	94.5	
	5		137–142	**151551**			196		178	97.0	
		144	142–148	**151552**			202		184	100.0	
		150	149–156	**151553**			210		192	104.0	
		160	159–164	**151554**			218		200	108.0	
	6		164–169	**151555**			223		205	110.5	
		170	169–172	**151556**			225		207	111.5	
M10/M12	⅜		14–20	**151557**	100		64	22	60	40.5	M6 x 20
	½		21–26	**151558**			71		66	43.5	
	¾		26–30	**151559**			75		70	45.5	
	1		31–38	**151560**			81		76	48.5	M6 x 25
	1¼		40–47	**151562**	50		91		86	53.5	
	1½		48–54	**151563**			100		94	57.5	
		57	54–60	**151564**			105		99	60.0	
	2		60–66	**151565**			111		105	63.0	
		70	68–73	**151567**			126	28	114	67.5	M8 x 35
	2½		73–80	**151568**			131		119	70.0	
		83	82–87	**151569**			142		129	75.0	
	3		87–94	**151570**			146		133	77.0	M8 x 40
		102	99–104	**151571**			157		144	82.5	
		110	105–112	**151572**			166		153	87.0	
	4		112–118	**151573**			172		159	90.0	
		125	122–128	**151574**			182		169	95.0	
		133	132–137	**151575**			191		178	99.5	
	5		137–142	**151576**			196		183	102.0	
		144	142–148	**151577**			202		189	105.0	
		150	149–156	**151578**			210		197	109.0	
		160	159–164	**151579**			218		205	113.0	
	6		164–169	**151580**			223		210	115.5	
		170	169–172	**151581**			225		212	116.5	
		180	177–183	**151582**	25		235		223	122.0	
		200	197–203	**151583**			256		243	132.0	
		212	208–214	**151584**			284	46	256	138.5	M10 x 40
	8		217–225	**151585**			295		267	144.0	
		225	225–232	**151586**			304		274	147.5	
M12/M16/½"	5		137–142	**151587**	50		196	28	187	106.0	M8 x 40
		144	142–148	**151588**			202		193	109.0	
		150	149–156	**151589**			210		201	113.0	
		160	159–164	**151590**			218		209	117.0	
	6		164–169	**151591**			223		214	119.5	
		170	169–172	**151592**			225		216	120.5	
		180	177–183	**151593**	25		235		227	126.0	
		200	197–203	**151594**			256		247	136.0	
		212	208–214	**151595**			284	46	260		M10 x 40
	8		217–225	**151596**			295		271	142.5	
		225	225–232	**151597**			304		278	148.0	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

MÜPRO

Single bossed clamps

without lining, galvanised

Field of application

- Applicable as a pipeline anchor point from ½" to 1½"
- Suitable for installations without vibration control requirements
- Suitable for fixings in housing and industrial areas
- Suitable for fixings in air-conditioning, ventilation and sanitary areas
- For indoor use

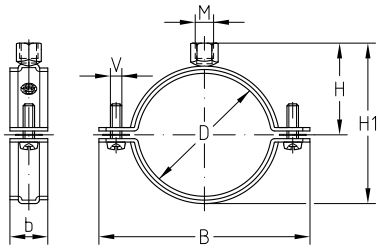
Advantages

- The 2 locking screws allow adjustment to accommodate a greater variation in pipe diameter
- Tightening bolts secured with captive washers
- Robust design
- Tightening bolts with combination cross-head convenient for power driver
- This product is awarded with the „Gütezeichen Rohrbefestigung“ (quality mark of pipe support) up to size ≤ 210 mm and is submitted to controls according to RAL-GZ 655-B



Features

Size	Max. recommended load [N]
⅜"–70 mm	1,900
2½"–174 mm	4,400
179–210 mm	5,000
223–241 mm	5,300



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b	H1	H	V
M8/M10	⅜		14–18	**151598**	100	pieces	50	20	39	27.5	M6 x 20
	½		19–25	**151599**			57		45	30.5	
	¾		26–30	**151600**			64		55	35.5	
	1		31–37	**151601**			71		61	38.5	
		40	38–41	**151602**			75		65	40.5	
	1¼	42.4	42–46	**151603**			81		71	43.5	M6 x 25
	1½		47–52	**151604**	50		87		76	46.0	
		57	53–57	**151605**			91		81	48.5	
	2		58–63	**151606**			100		89	52.5	
		70	64–71	**151607**			105		94	55.0	
	2½		72–78	**151609**			120	25	103	59.5	M8 x 35
		83	79–85	**151610**			126		109	62.5	
	3		85–90	**151611**			131		114	65.0	
		98	94–99	**151612**			142		124	70.0	
		102	99–104	**151613**			146		128	72.0	M8 x 40
	4		108–115	**151614**			157		139	77.5	
		122	118–123	**151615**			166		148	82.0	
		125	125–130	**151616**			172		154	85.0	
	5		133–140	**151617**			182		164	90.0	
		147	142–148	**151618**			191		173	94.5	
		152	148–153	**151619**			196		178	97.0	
		160	154–160	**151620**			202		184	100.0	
	6		160–169	**151621**			210		192	104.0	
		174	170–175	**151622**			218		200	108.0	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

Please refer to chapter „Anchor points/expansion points" for further information regarding the attachment of anchor and expansion points.

02/19

Single bossed clamps

without lining, galvanised

Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b	H1	H	V
M10/M12	¾		26–30	**151624**	100	pieces	64	20	60	40.5	M6 x 20
	1		31–37	**151625**			71		66	43.5	
		40	38–41	**151626**			75		70	45.5	
	1¼	42.4	42–46	**151627**			81		76	48.5	M6 x 25
	1½		47–52	**151628**	50		87		81	51.0	
		57	53–57	**151629**			91		86	53.5	
	2		58–63	**151630**			100		94	57.5	
		70	64–71	**151631**			105		99	60.0	
	2½		72–78	**151633**			120	25	108	64.5	M8 x 35
		83	79–85	**151634**			126		114	67.5	
	3		85–90	**151635**			131		119	70.0	
		98	94–99	**151636**			142		129	75.0	
		102	99–104	**151637**			146		133	77.0	M8 x 40
	4		108–115	**151638**			157		144	82.5	
		122	118–123	**151639**			166		153	87.0	
		125	125–130	**151640**			172		159	90.0	
	5		133–140	**151641**			182		169	95.0	
		147	142–148	**151642**			191		178	99.5	
		152	148–153	**151643**			196		183	102.0	
		160	154–160	**151644**			202		189	105.0	
	6		160–169	**151645**			210		197	109.0	
		174	170–175	**151646**			218		205	113.0	
		179	175–180	**151647**			223		210	115.5	
		190	187–194	**151649**	25		235		223	122.0	
		210	206–214	**151650**			256		243	132.0	
M12/M16/½"	5		133–140	**159169**	50		182		173	99.0	
		147	142–148	**159170**			191		182	103.5	
		152	148–153	**159171**			196		187	106.0	
		160	154–160	**159172**			202		193	109.0	
	6		160–169	**159173**			210		201	113.0	
		174	170–175	**159174**			218		209	117.0	
		179	175–180	**159175**			223		214	119.5	
		181	180–182	**159176**			225		216	120.5	
		190	187–194	**159177**	25		235		227	126.0	
		210	206–214	**159178**			256		247	136.0	
		223	218–226	**159179**			284	40	260		M10 x 40
		234	227–235	**159180**			295		271	142.5	
		241	235–244	**159181**			304		278	148.0	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

Please refer to chapter „Anchor points/expansion points" for further information regarding the attachment of anchor and expansion points.

02/19

MÜPRO

Single bossed clamps

with connection socket and DÄMMGULAST® yellow, galvanised

Field of application

- Suitable for pipelines with dynamic loads in combination with expansion points
- Suitable for fixings in industrial areas
- Specially suitable for standing fixings
- Suitable for fixings in air-conditioning, ventilation and sanitary areas
- For indoor use

Advantages

- Proven, two-piece single bossed clamp in heavy-duty design
- For bending-resistant fastening at greater distances from the building structure
- Ideal combination when used with pipe nipple and base plate or socket adapter
- DÄMMGULAST® vibration control lining with yellow identification stripe: average sound level improvement up to 22 dB(A)
- This product is awarded with the „Gütezeichen Rohrbefestigung“ (quality mark of pipe support) and is submitted to controls according to RAL-GZ 655-B

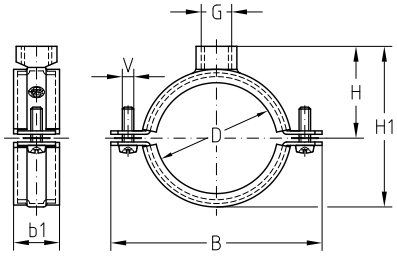




Features

Vibration control

Size	Max. recommended load [N]
⅜"–2"	1,700
70–83 mm	2,200
3"–6"	2,900
170–200 mm	3,500



Connecting thread G [inch]	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
½	⅜		14–20	**154944**	100	pieces	64	23	64	44.5	M6 x 20
	½		21–26	**154945**			71		70	47.5	
	¾		26–30	**154946**			75		74	49.5	
	1		31–38	**154947**			81		80	52.5	M6 x 25
	1¼		40–47	**154948**	50		91		90	57.5	
	1½		48–54	**154949**			100		98	61.5	
		57	54–60	**154950**			105		103	64.0	
	2		60–66	**154951**			111		109	67.0	
		70	68–73	**154816**			126	28	118	71.5	M8 x 35
	2½		73–80	**154817**			131		123	74.0	
		83	82–87	**154818**			142		133	79.0	
	3		87–94	**154819**			146		137	81.0	M8 x 40
		102	99–104	**154820**			157		148	86.5	
		110	105–112	**154821**			166		157	91.0	
	4		112–118	**154822**			172		163	94.0	
		125	122–128	**154823**			182		173	99.0	
		133	132–137	**154824**			191		182	103.5	
	5		137–142	**154825**			196		187	106.0	
		144	142–148	**154826**			202		193	109.0	
		150	149–156	**154827**			210		201	113.0	
		160	159–164	**154828**			218		209	117.0	
	6		164–169	**154829**			223		214	119.5	
		170	169–172	**154830**			225		216	120.5	
		180	177–183	**154831**	25		235		227	126.0	
		200	197–203	**154832**			256		247	136.0	

02/19

Single bossed clamps

with connection socket and DÄMMGULAST® yellow, galvanised

Connecting thread G [inch]	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
¾	1½		48–54	**154952**	50	pieces	100	23	102	65.5	M6 x 25
		57	54–60	**154953**			105		107	68.0	
	2		60–66	**154954**			111		113	71.0	
		70	68–73	**154833**			126	28	122	75.5	M8 x 35
	2½		73–80	**154834**			131		127	78.0	
		83	82–87	**154835**			142		137	83.0	
	3		87–94	**154836**			146		141	85.0	M8 x 40
		102	99–104	**154837**			157		152	90.5	
		110	105–112	**154838**			166		161	95.0	
	4		112–118	**154839**			172		167	98.0	
		125	122–128	**154840**			182		177	103.0	
		133	132–137	**154841**			191		186	107.5	
	5		137–142	**154842**			196		191	110.0	
		144	142–148	**154843**			202		197	113.0	
		150	149–156	**154844**			210		205	117.0	
		160	159–164	**154845**			218		213	121.0	
	6		164–169	**154846**			223		218	123.5	
		170	169–172	**154847**			225		220	124.5	
		180	177–183	**154848**	25		235		231	130.0	
		200	197–203	**154849**			256		251	140.0	

02/19

MÜPRO

Single bossed clamps

with connecting socket, without lining, galvanised

Field of application

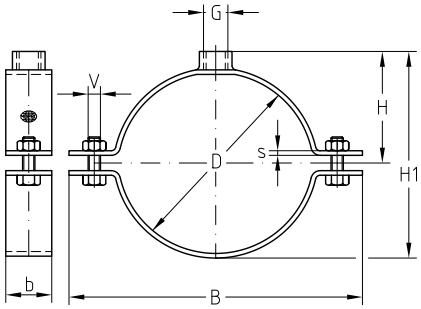
- Applicable as a pipeline anchor point
- Suitable for fixings in industrial areas
- Suitable for fixings in air-conditioning, ventilation and sanitary areas
- For indoor use

Advantages

- Proven, two-piece single bossed clamp in heavy-duty design
- For bending-resistant fastening at greater distances from the building structure
- Ideal combination when used with pipe nipple and base plate or socket adapter
- This product is awarded with the „Gütezeichen Rohrbefestigung“ (quality mark of pipe support) and is submitted to controls according to RAL-GZ 655-B







Features

Size	Max. recommended load [N]
¾"–70 mm	1,900
2½"–174 mm	4,400
179–210 mm	5,000

Connecting thread G [inch]	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b	H1	H	V
½	¾		26–30	**154977**	100	pieces	64	20	64	44.5	M6 x 20
	1		31–37	**154978**			71		70	47.5	
		40	38–41	**154979**			75		74	49.5	
	1¼	42.4	42–46	**154980**			81		80	52.5	M6 x 25
	1½		47–52	**154981**	50		87		85	55.0	
		57	53–57	**154982**			91		90	57.5	
	2		58–63	**154983**			100		98	61.5	
		70	64–71	**154984**			105		103	64.0	
	2½		72–78	**154931**			120	25	112	68.5	M8 x 35
		83	79–85	**154932**			126		118	71.5	
	3		85–90	**154933**			131		123	74.0	
		102	99–104	**154934**			146		137	81.0	M8 x 40
	4		108–115	**154935**			157		148	86.5	
		122	118–123	**159190**			166		157	91.0	
		125	125–130	**154936**			172		163	94.0	
	5		133–140	**154937**			182		173	99.0	
		147	142–148	**159191**			191		182	103.5	
		152	148–153	**159192**			196		187	106.0	
		160	154–160	**154938**			202		193	109.0	
	6		160–169	**154939**			210		201	113.0	
		174	170–175	**154940**			218		209	117.0	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications.

02/19

Single bossed clamps

with connecting socket, without lining, galvanised

Connecting thread G [inch]	Size [inch]	Size [mm]	Clamping range [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] B	b	H1	H	V
½		179	175–180	**154941**	50	pieces	223	25	214	119.5	M8 x 40
		190	187–194	**154942**	25		235		227	126.0	
		210	206–214	**154943**			256		247	136.0	
¾	1½		47–52	**154985**	50		86	20	85	55.0	M6 x 25
		57	53–57	**154986**			91		90	57.5	
	2		58–63	**154987**			100		102	65.5	
		70	64–71	**159203**			105		107	68.0	
	2½		72–78	**154918**			120	25	116	72.5	M8 x 35
		83	79–85	**154919**			126		122	75.5	
	3		85–90	**154920**			131		127	78.0	
		102	99–104	**154921**			146		141	85.0	M8 x 40
	4		108–115	**154922**			157		152	90.5	
		122	118–123	**159206**			166		161	95.0	
		125	125–130	**154923**			172		167	98.0	
	5		133–140	**154924**			182		177	103.0	
		147	142–148	**159207**			191		186	107.5	
		152	148–153	**159208**			196		191	110.0	
		160	154–160	**154925**			202		197	113.0	
	6		160–169	**154926**			210		205	117.0	
		174	170–175	**154927**			218		213	121.0	
		179	175–180	**154928**			223		218	123.5	
		190	187–194	**154929**	25		235		231	130.0	
		210	206–214	**154930**			256		251	140.0	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications.

02/19

Suspension clamps

for spiral-seam pipes, one-piece, galvanised

Field of application

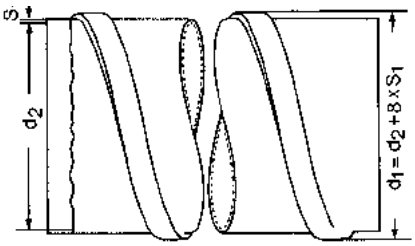
- Attachment of air ducts
- Ideal for suspended pipe attachment from ceilings as well as from support structures of MPC-Support channels

Advantages

- Easy to install due to one-piece design
- Only one locking screw
- Manufactured to suit spiral-seam pipe dimensions
- Variety of attachment possibilities using eye bolts or hanger sockets
- Suitable for use with expansion roller
- Available with and without vibration control lining







Nominal size d_2 [mm]	Connection hole-Ø L [mm]	Part no.		Sales unit	Pack unit
		Without lining	With DÄMMGULAST®		
71	8.5	118455	117952	1	pieces
80		118463	117958		
90		118471	117964		
100		118345	117869		
112		118352	117872		
125		118364	117879		
140		118372	117885		
150		118376	117888		
160		118384	117894		
180		118388	117900		
200		118396	117906		
224		118400	117909		
250		118408	117915		
280	10.5	118412	117918		
300		118416	117921		
315		118420	117924		
355		118424	117927		
400		118428	117930		
450		118431	117933		
500		118435	117936		
560		118439	117939		
630		118447	117945		
710		118451	117949		
800		118459	117955		
900		118467	117961		
1,000		118341	117866		
1,120		118349	117875		
1,250		118360	117877		

Suspension clamps can be produced in all other pipe sizes and types according to customer specifications.

For duct clamps please refer to chapter „Ventilation“.

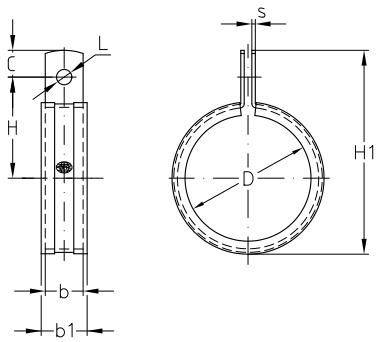
02/19

Suspension clamps

for spiral-seam pipes, one-piece, galvanised

Features

Nominal size d_2 [mm]	Max. recommended load [N]
71–160	2,133
180–250	4,533
280–560	7,000
630–800	8,666
900–1,250	9,066



Nominal size d_2 [mm]	Connection hole-Ø L [mm]	Dimensions [mm]										
		Without lining					With DÄMMGULAST®					
		Part no.	b x s	C	H1	H	Part no.	b x s	C	H1	H	b1
71	8.5	**118455**	20 x 1.0	14	105	53	**117952**	20 x 1.0	14	113	57	23
80		**118463**			114	57	**117958**			122	61	
90		**118471**			124	62	**117964**			132	66	
100		**118345**			135	68	**117869**			143	72	
112		**118352**			147	74	**117872**			155	78	
125		**118364**			160	80	**117879**			168	84	
140		**118372**			175	81	**117885**			183	92	
150		**118376**			185	93	**117888**			198	97	
160		**118384**			195	98	**117894**			203	102	
180		**118388**	25 x 1.5		216	108	**117900**	25 x 1.5		224	112	28
200		**118396**			236	118	**117906**			244	122	
224		**118400**			260	130	**117909**			268	134	
250		**118408**			286	143	**117915**			294	147	
280	10.5	**118412**	25 x 2.5	15	318	158	**117918**	25 x 2.5	15	326	162	
300		**118416**			337	168	**117921**			346	172	
315		**118420**			355	177	**117924**			363	181	
355		**118424**			395	197	**117927**			403	201	
400		**118428**			440	219	**117930**			448	223	
450		**118431**			490	244	**117933**			498	248	
500		**118435**			540	269	**117936**			548	273	
560		**118439**			600	299	**117939**			608	303	
630		**118447**	25 x 3.0		673	336	**117945**	25 x 3.0		681	340	
710		**118451**			753	376	**117949**			761	380	
800		**118459**			844	421	**117955**			852	425	
900		**118467**	30 x 3.0		944	471	**117961**	30 x 3.0		952	475	34
1,000		**118341**			1,046	522	**117866**			1,054	526	
1,120		**118349**			1,166	582	**117875**			1,174	586	
1,250		**118360**			1,296	647	**117877**			1,304	651	

02/19

MÜPRO

Suspension clamps

for spiral-seam pipes, two-piece, galvanised

Field of application

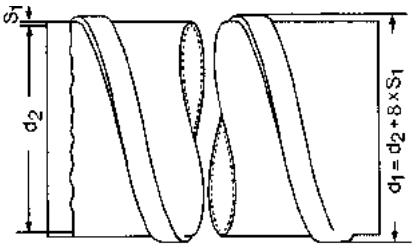
- Attachment of air ducts

Advantages

- Proven two-piece design for attachment using the locking lugs
- Manufactured to suit spiral-seam pipe dimensions
- Attachment using threaded rods through the holes in the lugs
- Variety of attachment possibilities using hexagonal screws and nuts, as well as hanger sockets or eye bolts
- Available with and without vibration control lining







Nominal size d_2 [mm]	Connection hole-Ø L [mm]	Part no.		Sales unit	Pack unit
		Without lining	With DÄMMGULAST®		
71	8.5	123181	120095	1	pieces
80		123201	120111		
90		123213	120127		
100		122943	119888		
112		122963	119904		
125		122983	119916		
140		122995	119924		
150		123003	119928		
160		123015	119936		
180		123023	119952		
200		123035	119963		
224		123043	119971		
250		123051	119980		
280	10.5	123063	119983		
300		123067	119987		
315		123083	119996		
355		123091	120012		
400		123111	120020		
450		123123	120032		
500		123135	120048		
560		123147	120063		
630		123158	120079		
710		123177	120091		
800		123197	120107		
900		123209	120123		
1,000		122939	119884		
1,120		122959	119900		
1,250		122979	119911		

Suspension clamps can be produced in all other pipe sizes and types according to customer specifications.

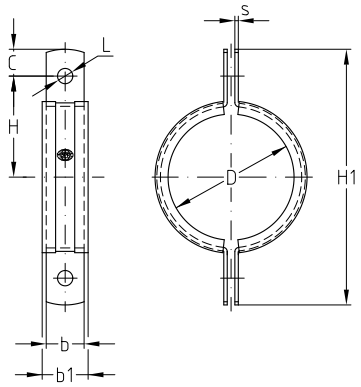
02/19

Suspension clamps

for spiral-seam pipes, two-piece, galvanised

Features

Nominal size d_2 [mm]	Max. recommended load [N]
71–160	2,133
180–250	4,533
280–560	7,000
630–800	8,666
900–1,250	9,066



Nominal size d_2 [mm]	Connection hole-Ø L [mm]	Dimensions [mm]										
		Without lining					With DÄMMGULAST®					
		Part no.	b x s	C	H1	H	**Part no.**	b x s	C	H1	H	b1
71	8.5	**123181**	20 x 1.0	14	133	53	**120095**	20 x 1.0	14	141	57	23
80		**123201**			142	57	**120111**			150	61	
90		**123213**			152	62	**120127**			160	66	
100		**122943**			163	68	**119888**			171	72	
112		**122963**			175	74	**119904**			183	78	
125		**122983**			188	80	**119916**			196	84	
140		**122995**			203	81	**119924**			211	92	
150		**123003**			213	93	**119928**			221	97	
160		**123015**			223	98	**119936**			231	102	
180		**123023**	25 x 1.5		244	108	**119952**	25 x 1.5		252	112	28
200		**123035**			264	118	**119963**			272	122	
224		**123043**			288	130	**119971**			296	134	
250		**123051**			314	143	**119980**			322	147	
280	10.5	**123063**	25 x 2.5	15	346	158	**119983**	25 x 2.5	15	354	162	
300		**123067**			365	168	**119987**			374	172	
315		**123083**			383	177	**119996**			391	181	
355		**123091**			423	197	**120012**			431	201	
400		**123111**			468	219	**120020**			476	223	
450		**123123**			518	244	**120032**			526	248	
500		**123135**			568	269	**120048**			576	273	
560		**123147**			628	299	**120063**			636	303	
630		**123158**	25 x 3.0		701	336	**120079**	25 x 3.0		709	340	
710		**123177**			781	376	**120091**			787	379	
800		**123197**			872	421	**120107**			880	425	
900		**123209**	30 x 3.0		972	471	**120123**	30 x 3.0		980	475	34
1,000		**122939**			1,074	522	**119884**			1,082	526	
1,120		**122959**			1,194	582	**119900**			1,201	586	
1,250		**122979**			1,324	647	**119911**			1,332	651	

02/19

DÄMMGULAST® Vibration control linings

Field of application

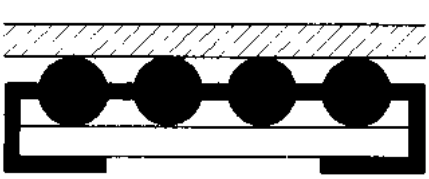
- Ideal for structure-borne vibration isolation of the pipeline from the pipe clamp once mounted

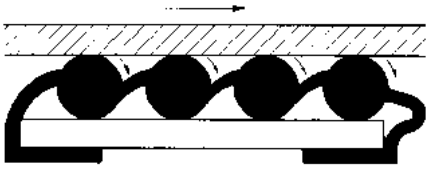
Advantages

- Optimum rolling motion due to the cylindrical profiles in the lining
- Prevents the occurrence of friction and stiction noises caused by thermal, axial expansion of the pipe
- Prevents the build-up of forces on the attachment due to the good rolling motion of the lining
- Available in a variety of grades and sizes to suit all applications
- Clip-over edges prevent the lining from slipping out of the clamp
- As a mark of a real MÜPRO product, a coloured stripe on each edge remains visible after installation

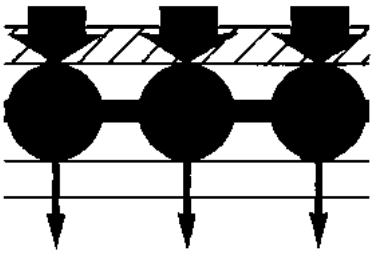


Mode of action





Optimum rolling motion due to the cylindrical profiles in the lining prevents the occurrence of noise and the build-up of forces within the pipe clamp



The low upper line-contact reduces the vibration entry area from the pipe into the vibration control lining. The highly elastic cylindrical profile absorbs the greater part of the structure-borne noise. The lower line-contact reduces yet again the transfer of the remaining vibration to the pipe anchor point.

In order to accommodate **large changes of pipe lengths**, **pipe guides allowing axial motion** should be provided at the fixing points (see chapter “Anchor/expansion points“)**.**

Vibration control linings are generally not suitable for vibration control at the pipe anchor point. For taking up the anchor point forces and providing good vibration control, **PHONOLYT® Anchor point for pipes** should be used.

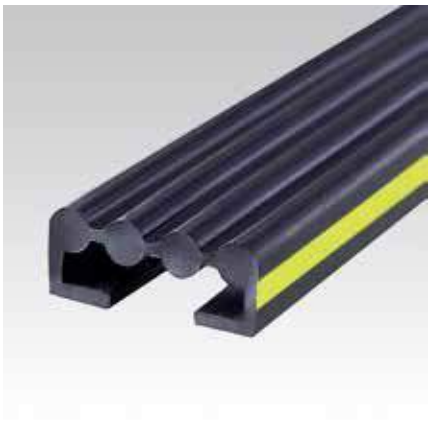
DÄMMGULAST® yellow

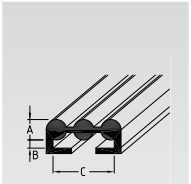
Field of application

- Ideal pipe clamp lining for vibration reduction

Advantages

- Average vibration reduction up to 22 dB(A) due to 6 mm cylindrical profile
- Prevents the occurrence of friction and stiction noises caused by thermal, axial expansion of the pipe
- Prevents the build-up of forces on the attachment due to the good rolling motion of the lining
- Clip-over edges prevent the lining from slipping out of the clamp
- Marked with the **yellow MÜPRO identification stripe**
- Silicone-free



	Size [mm]	Description	Length of roll [m]	Part no.	Sales unit	Pack unit	Dimensions [mm]		
							A	B	C
	20 x 6	3-string	30	**107634**	1	roll	6	3	20
	25 x 6	4-string		**107656**				4	25
	30 x 6			**107659**					30
	40 x 6	6-string		**107681**				6	40
	50 x 6	7-string		**107682**				10	50
	60 x 6	8-string		**107683**					60
	80 x 8	9-string		**107684**			8		80

DÄMMGULAST® Junior

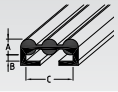
Field of application

- Ideal pipe clamp lining for vibration reduction

Advantages

- Average vibration reduction up to 18 dB(A) due to 4.5 mm cylindrical profile
- Prevents the occurrence of friction and stiction noises caused by thermal, axial expansion of the pipe
- Prevents the build-up of forces on the attachment due to the good rolling motion of the lining
- Clip-over edges prevent the lining from slipping out of the clamp
- Marked with the **orange MÜPRO identification stripe**
- Silicone-free



	Size [mm]	Description	Length of roll [m]	Part no.	Sales unit	Pack unit	Dimensions [mm]		
							A	B	C
	16 x 4.5	2-string	30	**107956**	1	roll	4.5	2	16
	20 x 4.5	3-string		**107957**				3	20
	25 x 4.5	4-string		**107959**				4	25

02/19

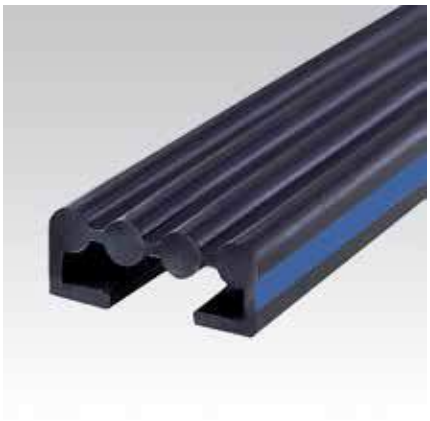
DÄMMGULAST® blue

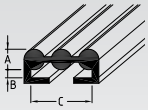
Field of application

- Ideal pipe clamp lining acc. to fire classification B1 (DIN 4102)
- Also suitable for outdoor use

Advantages

- Fire-resistant and self-extinguishing, no burning drips
- **Fire classification B1 according to DIN 4102, no flammable dripping**
- Average vibration reduction up to 16.5 dB(A) due to 6 mm cylindrical profile
- Prevents the occurrence of friction and stiction noises caused by thermal, axial expansion of the pipe
- Prevents the build-up of forces on the attachment due to the good rolling motion of the lining
- Clip-over edges prevent the lining from slipping out of the clamp
- Marked with the **blue MÜPRO identification stripe**
- Silicone-free



Vibration control	Size [mm]	Description	Length of roll [m]	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	C
	20 x 6	3-string	30	**107524**	1	roll	6	3	20
	25 x 6	4-string		**107525**				4	25
	30 x 6			**107527**					30
	40 x 6	6-string		**107528**				6	40
	50 x 6	7-string		**107530**				10	50

DÄMMGULAST® red

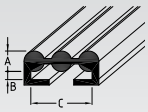
Field of application

- Ideal pipe clamp lining for high temperature range up to 225 °C

Advantages

- Average vibration reduction up to 24 dB(A) due to 6 mm cylindrical profile
- Temperature range from –60° C to +225 °C
- Prevents the occurrence of friction and stiction noises caused by thermal, axial expansion of the pipe
- Prevents the build-up of forces on the attachment due to the good rolling motion of the lining
- Clip-over edges prevent the lining from slipping out of the clamp



Vibration control	Size [mm]	Description	Length of roll [m]	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	C
	20 x 6	3-string	30	**108002**	1	roll	6	3	20
	25 x 6	4-string		**108003**				4	25
	30 x 6			**108005**					30
	40 x 6	6-string		**108006**				6	40
	50 x 6	7-string		**108008**				10	50

DÄMMGULAST® seawater proof

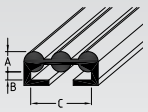
Field of application

- Seawater resistant material, specially suitable for shipbuilding and off-shore applications

Advantages

- Average vibration reduction up to 20 dB(A) due to 6 mm cylindrical profile
- Prevents the occurance of friction and stiction noises caused by thermal, axial expansion of the pipe
- Prevents the build-up forces on the attachment due to the good rolling motion of the lining
- Clip-over edges prevent the lining from slipping out of the clamp
- Silicone-free
- Vibration-control certified



Vibration control	Size [mm]	Description	Length of roll [m]	Part no.	Sales unit	Pack unit	Dimensions [mm]		
							A	B	C
	20 x 6	2-string	30	**108217**	1	roll	6	3	20
	25 x 6	4-string		**108218**				4	25
	30 x 6	3-string		**108219**					30
	40 x 6	5-string		**108220**				6	40
	50 x 6	6-string		**108221**				8	50
	60 x 6	7-string		**108222**				10	60

02/19

Ceramic fabric tapes

Field of application

- Ideal pipe clamp lining for especially high temperatures up to 1,150 °C

Advantages

- Non-fraying at both sides
- Largely resistant to oil, steam, water and liquid metal
- Inconel-enhanced
- Good thermal shock resistance
- Good acoustic and electrical insulating properties
- Asbestos-free



Width [mm]	Thickness [mm]	Length of roll [m]	**Part no.**	Sales unit	Pack unit
20	5	10	**113093**	1	roll
25			**113095**		
30			**113097**		
40			**113099**		
50			**113101**		
60			**113103**		

Special adhesive

for ceramic fabric tapes, asbestos-free, temperature-resistant up to 1,000 °C, tin of 1.6 kg

Part no.	Sales unit	Pack unit
113200	1	pieces



02/19

Filbow clamps pear-shaped

galvanised

Field of application

- Attachment of sprinkler lines

Advantages

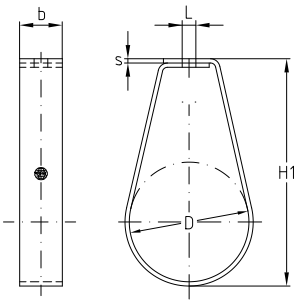
- One-piece design allows quick and easy installation of sprinkler pipes
- Ideal for suspension using threaded pins and threaded rods
- Easy height adjustment on the threaded rod
- Approved by VdS and FM



Features

FM APPROVED · VdS G 4820002

Size	Max. recommended load [N]
¾"–2"	4,500
2½"–4"	7,333
133 mm–6"	8,666
168.3–219.1 mm	13,333



Size [inch]	Size [mm]	VdS	FM	Part no.	Sales unit	Pack unit	Dimensions [mm] Ø L	b x s	H1
¾		●		**126504**	100	pieces	8.5	25 x 1.5	71
			●	**126506**			10.5		
1		●		**126462**			8.5		83
			●	**126460**			10.5		
1¼			●	**126468**					95
		●		**126470**			8.5		
1½		●		**126466**					103
			●	**126464**			10.5		
2			●	**126492**					118
		●		**126494**			8.5		
2½		●	●	**126496**	50		10.5	25 x 2.5	142
3		●	●	**126508**					166
	108.0	●	●	**126472**					192
4		●	●	**126512**					204
	133.0	●	●	**126476**	25		13.0	25 x 3.0	237
5		●	●	**126518**					249
	152.4	●	●	**126482**					264
	159.0	●	●	**126484**					273
6	165.1	●	●	**126520**					284
	168.3	●		**126490**			17.0	40 x 3.0	287
			●	**126488**			13.0		
	219.1	●		**126498**			17.0		376

02/19

Filbow clamps with knurled nut

galvanised

Field of application

- Attachment of sprinkler lines

Advantages

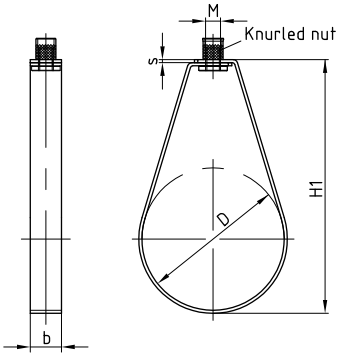
- Approved for the attachment of sprinkler systems by VdS and FM
- One-piece design allows quick and easy installation of sprinkler pipes
- Ideal for suspension using threaded pins and threaded rods
- Simple height adjustment using the knurled nut
- Knurled nut secured by locking hook against falling out



Features

FM APPROVED for M10–M16 · VdS G 4070012

Size	Max. recommended load [N]
¾"–1½"	4,666
2"–4"	6,666
133 mm–6"	7,333
8"	9,833



Connecting thread	Size [inch]	Size [mm]	Pipe outer diameter [mm]	VdS	FM	Part no.	Sales unit	Pack unit	Dimensions [mm] b	s	H1
M8	¾		26.9	●		**126586**	100	pieces	24	2.0	73.0
	1		33.7	●		**126578**					84.7
	1¼		42.4	●		**126580**					96.5
	1½		48.3	●		**126582**					104.3
	2		60.3	●		**126584**			25	2.5	121.0
M10	¾		26.9	●	●	**126604**			24	2.0	73.0
	1		33.7	●	●	**126588**					84.7
	1¼		42.4	●	●	**126592**					96.5
	1½		48.3	●	●	**126590**					104.3
	2		60.3	●	●	**126598**			25	2.5	121.0
	2½		76.1	●	●	**126600**	50				141.5
	3		88.9	●	●	**126602**					166.5
		108	108.0	●	●	**126596**					192.5
	4		114.3	●	●	**126606**					204.0
M12		133	133.0	●	●	**126614**	25		32		236.5
	5		139.7	●	●	**126620**					247.2
		150	153.4	●	●	**126616**					263.0
		159	159.0	●	●	**126618**					271.5
	6		165.1	●	●	**126622**					282.6
M16	8		219.1	●	●	**126624**			40	3.0	376.1

02/19

Filbow clamps with cup nut

galvanised

Field of application

- For fastening sprinkler pipes as per VdS and FM Guidelines

Advantages

- One-piece design allows quick and easy installation of sprinkler pipes
- Approved by VdS and FM

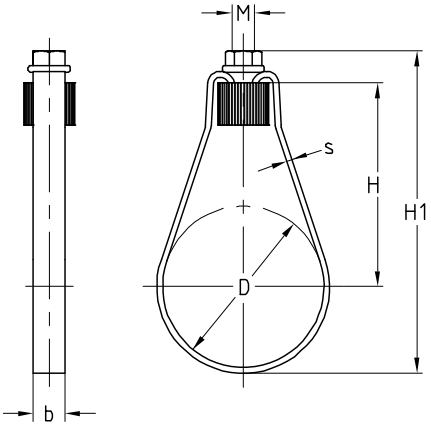
- Ideal for suspension using threaded pins and threaded rods
- Easy height adjustment on a threaded rod or threaded pin



Features

FM APPROVED for M10–M16 · VdS G 413023

Size	Max. recommended load [N]
½"–2"	4,000
2½"–4"	6,000
5"–6"	8,000
8"	10,000
10"	11,000



Connecting thread	Size [inch]	For pipe outer-Ø [mm]	VdS	FM	Part no.	Sales unit	Pack unit	Dimensions [mm] b	s	H	H1
M8	½	21.3	●		**153204**	50	pieces	12	1.5	56	76
	¾	26.9	●		**153205**					57	80
	1	33.7	●		**153207**						83
	1¼	42.4	●		**153209**						88
	1½	48.3	●		**153211**					62	96
	2	60.3	●		**153213**					72	112
M10	¾	26.9	●	●	**153206**					57	82
	1	33.7	●	●	**153208**						85
	1¼	42.4	●	●	**153210**						90
	1½	48.3	●	●	**153212**					62	98
	2	60.3	●	●	**153214**					72	114
	2½	76.1	●	●	**153215**	25		15	2.5	89	140
	3	88.9	●	●	**153216**					104	161
	4	114.3	●	●	**153217**					135	205
M12	5	139.7	●	●	**153218**					151	235
	6	168.3	●	●	**153219**					188	287
M16	8	219.1	●	●	**153220**	15		20		236	364
M20	10	273.0	●		**153221**				3.0	307	470

02/19

Swivel hangers

galvanised

Field of application

- Attachment of sprinkler lines

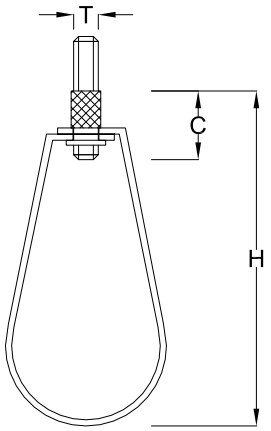
Advantages

- Size range from ¾" to 8"
- Made of carbon steel
- Galvanised, other finish available upon request
- Easy height adjustment due to knurled nut
- Complies with Manufacturers Standardization Society MSS-SP-58 and MSS-SP-69 (Type 10)
- Approved by FM and UL



Features

Size	Max. recommended load [N]
¾"–2"	2,220
2½"–4"	4,440
5"–8"	8,450



Connecting thread T	Nominal size [inch]	Nominal size [DN]	Part no.	Sales unit	Pack unit	Dimensions [mm] H	Dimensions [mm] C
M10	¾	20	**147417**	300	pieces	78	25
	1	25	**147411**	250		84	
	1¼	32	**147413**	200		90	
	1½	40	**147412**			97	
	2	50	**147414**	150		108	
	2½	65	**147415**			124	
	3	80	**147416**	100		144	
	4	100	**147418**			174	
M12	5	125	**147419**	50		208	32
	6	150	**147420**			245	
	8	200	**147421**	30		313	

02/19

U-bolts

similar to DIN 3570, form A, galvanised

Field of application

- For simple pipe attachment in building technology and industrial construction
- **Complies with the VdS (German Association of Property Insurers) Guideline 2092 for sprinkler systems**

Advantages

- Design similar to DIN 3570
- Standard material S235JR (St37) acc. to DIN EN 10025
- Electrolytically galvanised
- Supplied with 4 nuts acc. to DIN 934. In the M8 to M12 versions, also with 4 washers

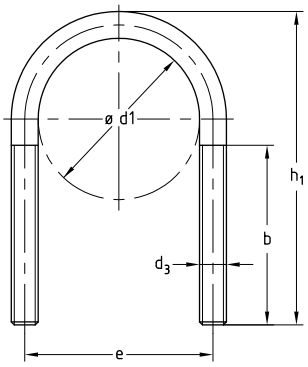


Versions M8 to M12 with nuts and washers



Versions M16 to M20 with nuts

Pipe outer diameter d1 [mm]	Nominal size	**Part no.**	Sales unit	Pack unit	Dimensions [mm]			
					b	d_3	e	h_1
22	15	**113317**	100	pieces	25	M8	30	52
27	20	**113320**			40		35	67
34	25	**113323**					42	74
43	32	**113326**					51	83
49	40	**113329**					57	89
61	50	**124881**	50		45	M10	71	104
77	65	**124884**					87	120
89	80	**124887**					100	132
108	100	**124920**			55	M12	121	162
115		**124929**					127	168
133	125	**124932**	25				146	183
140		**124935**					152	191
159	150	**124938**					172	208
169		**124941**					182	218
220	200	**125109**	5			M16	233	278
273	250	**113174**			70	M20	295	334
324	300	**113180**					352	385



U-bolts with M8 to M12 threads are supplied with 4 washers and 4 nuts acc. to DIN 934 in electrolytically galvanised finish. For M16 threads and bigger, they are supplied with 4 nuts but without washers. Other sizes can be supplied upon request.

02/19

Insulation clamps RG 80

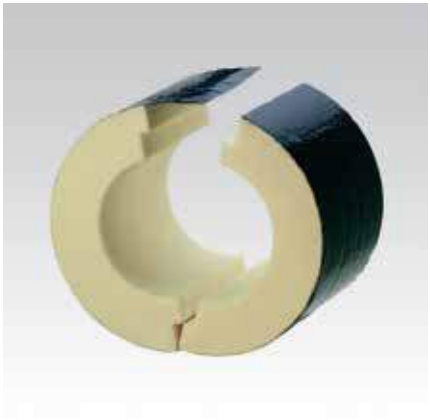
with DÄMMGULAST® and insulation shells, galvanised

Field of application

- Thermal decoupled pipe support in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for chilled water pipes

Advantages

- Rigorous avoidance of temperature bridges in hot or cold pipework
- **High insulation effect**, low effective density
- Prevents the formation of condensation on the pipe clamp
- **Vapour barrier** due to the aluminium facing
- Good adhesion between shell and vibration lining due to **releasing agent-free surfaces**
- Longer shell lengths are available if the vapour barrier is required to overlap within the region of the butt joints

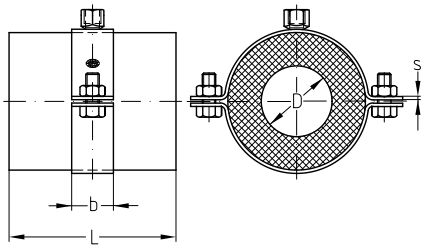




- Load-distributing sleeves are available for improved spreading of the load
- Insulation shells and pipe clamps with DÄMMGULAST® lining are matched to fit exactly
- Average vibration reduction up to 22 dB(A)

Features

Material	Polyurethane rigid foam, with closed cells
Density	80 kg/m³
Thermal conductivity	λ = 0.026 W/mK
Fire classification (according to DIN 4102)	B2
Temperature range	–30 °C to +120 °C
Compression strength	0.65 N/mm²
Type	PU shell, aluminium facing, black surface finish, vibration damping due to single bossed clamp with DÄMMGULAST® lining



According to the **AGI Working Sheet Q 11** (“Arbeitsgemeinschaft Industriebau”, an association for industrial construction works) the insulating shell must have the same thickness as that of the vibration lining. The butt joints between the insulation shell halves and the outer vibration lining must overlap and be functionally linked to each other. This can be done e.g. by the use of adhesive or self-adhesive tape. To achieve as good a **vapour-tight joint** as possible, an adhesive tape overlap of 50 mm on each side of the butt joints is occasionally required. For this purpose, the insulation shells can be supplied in longer lengths. The length of the insulation shells in all cases should be agreed in detail by the pipe-laying contractor on the one hand and the insulation contractor on the other prior to starting the installation work.

For pipe diameters of 2" and upwards we recommend as a principle the insertion of load-distributing sleeves for spreading the load.

The use of load-distributing metal sleeves can also be required for smaller pipe diameters depending on the spacing between supports (for further details, please refer to the following pages).

When installing **pipe anchor points** we recommend wooden blocks and STATO® Clamps (see chapter “Anchor points/expansion points”).

Insulation clamps RG 80

with DÄMMGULAST® and insulation shells, galvanised

Connecting thread M10, aluminium facing with black surface finish, length of shell L = 100 mm

Pipe outer-Ø D [inch]	Pipe outer-Ø D [mm]	Insulation thickness 20 mm Part no.	Insulation thickness 30 mm Part no.	Sales unit	Pack unit
⅜	17.2	124404	124408	1	pieces
½	21.3	124436	124440		
¾	26.9	124502	124506		
1	33.7	124546	124550		
1¼	42.4	124582	110226		
1½	48.3	110242	110244		
	57.0	110256	110258		
2	60.3	110266	110268		
	70.0	110286	110288		
2½	76.1	110300	110302		
	83.0	110310	110312		
3	88.9	110320	110322		
	102.0	124180	124184		
	110.0	124212	124216		
4	114.3	124245	124249		
	125.0	124269	124273		
	133.0	124289	124293		
5	139.7	124329	124333		
	160.0	124358	124362		
6	168.3	124381	124389		
8	219.1	124464	124472		

Differing diameters, connection threads, insulation thicknesses and shell lengths can be produced upon request.

Sizes for copper pipes

Pipe outer diameter D [mm]	Insulation thickness 20 mm Part no.	Sales unit	Pack unit
15.0	110328	1	pieces
18.0	110330		
22.0	110332		
28.0	110334		
35.0	110336		
42.0	124582		
54.0	110338		

02/19

MÜPRO

Insulation clamps

Load capacity and support spacings for insulation clamps

High pipe weights and large spacings between supports lead to high compressive loads on the PU shells at the seating surface of the pipe clamp.

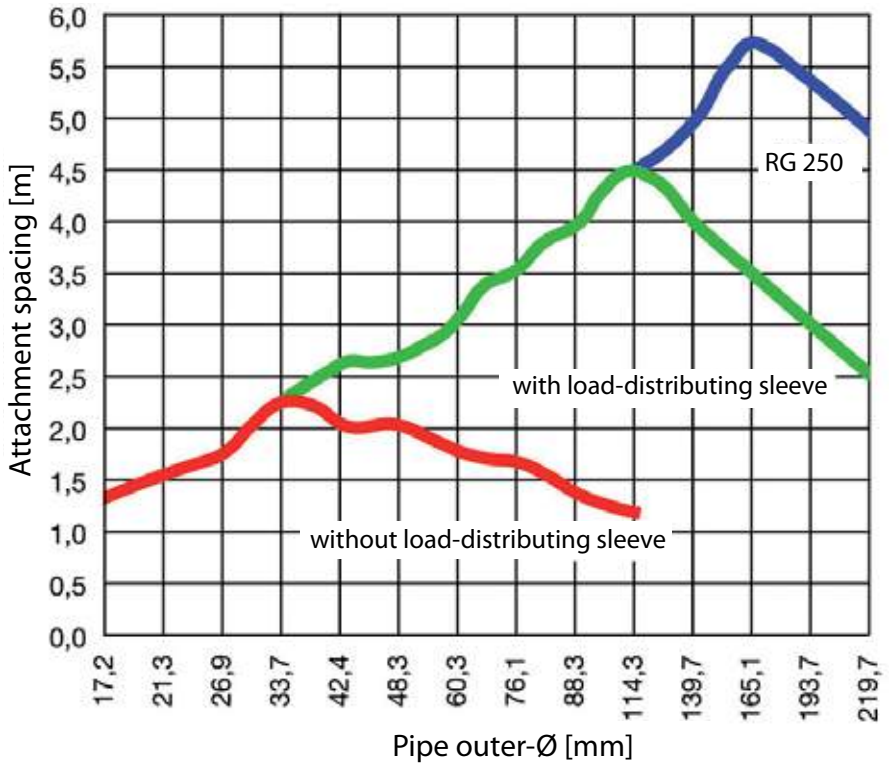
The “Arbeitsgemeinschaft Industriebau” in its AGI Q11 working sheet recommends a theoretical, long-term maximum compressive load on PU rigid foam RG 80 of 0.15 N/mm² (corresponds to 25 % of the breaking load).

In addition to the recommendation of the AGI Q11, the deflection of the pipes is also taken into account in the values of the table below.

The recommended maximum load values of the respective pipe clamps shells are to be observed.

Shell length: 100 mm

Shell thickness: 1 mm



Pipe outer diameter		**Pipe** (steel) max. recommended support spacing [m]	**Insulation clamp RG 80 without load-distributing sleeve**		**Insulation clamp RG 80 with load-distributing sleeve**		**Insulation clamp RG 250**	
[inch]	[mm]		Permanent load-bearing capacity [N]	Max. support spacing [m]	Permanent load-bearing capacity [N]	Max. support spacing [m]	Permanent load-bearing capacity [N]	Max. support spacing [m]
⅜	17.2	1.4	36	1.4	182	–	180	1.4
½	21.3	1.6	45	1.6	225		223	1.6
¾	26.9	1.9	71	1.9	285		282	1.9
1	33.7	2.2	89	2.2	357	2.2	442	2.2
1¼	42.4	2.6	112	2.0	449	2.6	556	2.6
1½	48.3	2.7	128		512	2.7	634	2.7
	57.0	3.1	151	1.8	604	3.1	748	3.1
2	60.3		159		639		791	
2½	76.1	3.6	201	1.7	807	3.6	998	3.6
3	88.9	3.9	235	1.4	942	3.9	1,166	3.9
	108.0	4.1	286	1.3	1,145	4.1	2,268	4.1
4	114.3	4.6	303	–	1,212	4.6	2,400	4.6
	133.0	5.0	564		1,410	4.5	2,793	5.0
5	140.0	5.1	592		1,481	4.4	2,933	5.1
	159.0	5.6	674		1,686	3.9	3,339	5.6
6	168.3	5.7	714		1,785	3.8	3,534	5.7
8	219.1	6.0	929		2,323	3.0	4,601	4.8

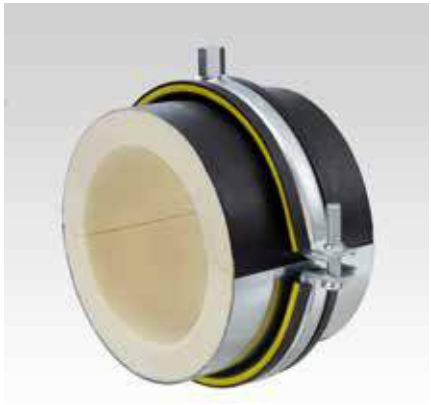
For other pipe materials, the appropriate max. recommended spacings between supports need to be considered.

Load-distributing sleeves

for insulation clamps with PU shells, galvanised

For large pipe diameters or spacings between supports it is mandatory that insulation clamps with PU shells are fitted with load-distributing sleeves for improved load distribution.

The use of load-distributing sleeves for pipe diameters of 2" and more is recommended.





Pipe outer-Ø D		Insulation thickness 20 mm	Insulation thickness 30 mm
[inch]	[mm]	Part no. (1 half-sleeve)	Part no. (1 half-sleeve)
⅜	17.2	–	116834
½	21.3		116855
¾	26.9		116897
1	33.7	116968	116971
1¼	42.4	117022	117025
1½	48.3	117055	117058
	57.0	117082	117085
2	60.3	117097	117100
	70.0	117109	117112
2½	76.0	117124	117127
	83.0	117138	117141
3	88.9	117150	117153
	102.0	116699	116702
	110.0	116717	116720
4	114.3	116732	116735
	125.0	116750	116753
	133.0	116765	116768
5	139.7	116780	116783
	160.0	116804	116807
6	168.3	116815	116818
8	219.1	116864	116867

Please submit your order as follows:

- For load-distributing sleeves in half-sleeve design:
  Part no. of insulation clamp
  + **1 piece of part no.** of load distributing sleeve
- For load-distributing sleeves as full-sleeve design:
  Part no. of insulation clamp
  + **2 pieces of part no.** of load-distributing sleeve

Depending on the conduit **one** or, e.g. for vertical pipes, **two half-sleeves are needed around the shells** to distribute the load.

If vapour-tight, overlapped and glued butt joints are required, **100 mm-long load-distributing sleeves** should always be combined **with PU shells of 250 mm length.**

This leaves the insulation contractor sufficient excess to mask the butts.

02/19

Insulation clamps RG 250

with DÄMMGULAST® and insulation shells, galvanised

Field of application

- Thermal decoupled pipe attachment in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

Advantages

- Rigorous avoidance of temperature bridges in hot or cold pipelines
- Rigid, highly compressed PU insulation shell for heavy loads
- **High insulation effect**
- Prevents the formation of condensation on the pipe clamp
- High vapour diffusion resistance
- **Easy, precise installation due to centring knobs**
- **Structure-borne noise damping due to DÄMMGULAST® vibration control lining with yellow identification stripe:** Average sound level improvement up to 22 dB(A)

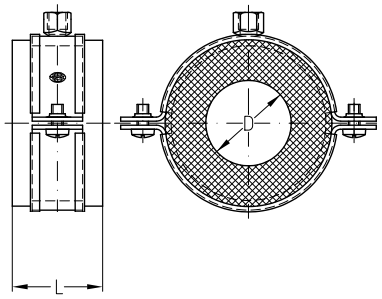




- Surfaces free from release agents allow good bonding with the pipe insulation

Features

Material	Polyurethane rigid foam, with closed cells
Effective density	250 kg/m³
Thermal conductivity	λ = 0.043 W/mK at 0 °C
Fire classification (according to DIN 4102)	B2
Temperature range	–45 °C to +105 °C
Water vapour diffusion resistance	μ = 1,000
Compression strength	4.3 N/mm² at 23 °C
Type	PU shell, black, with two-piece pipe clamp, vibration-damped with DÄMMGULAST® lining



According to the **AGI Working Sheet Q 11** (“Arbeitsgemeinschaft Industriebau”, an association for industrial construction works) the insulation of refrigeration lines must be made diffusion tight. Also, the joints of the shell halves in the insulation clamps need to be sealed using PU sealer.

The bond with the outer pipe insulation is made by means of an adhesive suitable for PU.

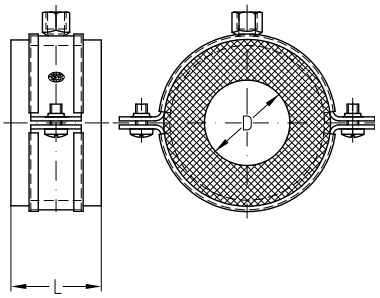
The use of wooden blocks and STATO® Clamps (see chapter “Anchor points/expansion points”) is recommended when installing pipe anchor points.

02/19

Insulation clamps RG 250

with DÄMMGULAST® and insulation shells, galvanised

Connecting thread	Size [mm]	Insulation thickness [mm]	Shell length L [mm]	Part no.	Sales unit	Pack unit
M10	17.2	20	40	**124401**	1	pieces
	18.0			**124424**		
	21.3			**124432**		
	22.0			**124484**		
	26.9			**124498**		
	28.0			**124530**		
	33.7		45	**124542**		
	35.0			**124566**		
	42.4	30		**124578**		
	48.3			**110240**		
	54.0			**110252**		
	57.0			**110254**		
	60.3		50	**110264**		
	63.5			**110276**		
	70.0			**110284**		
	76.1			**110298**		
	88.9			**110318**		
	108.0	40	70	**124208**		
	114.3			**124237**		
	133.0			**124285**		
	139.7			**124321**		
	159.0			**124350**		
	168.3			**124378**		
	219.1	60	100	**124460**		



PU-Sealer

310 ml cartridge

Part no.	Sales unit	Pack unit
122470	12	pieces



02/19

Insulation clamps type H, M, T

two-piece, with single bossed clamps with DÄMMGULAST® yellow and insulation shells, galvanised

Field of application

- Thermal decoupled pipe attachment in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

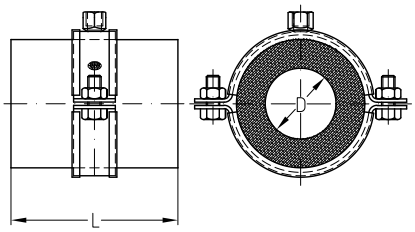
Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PET and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Secure water vapour diffusion barrier
- Easy installation using self-adhesive fasteners in the part-joint
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation
- Fixed load-distribution sleeves for improved load transfer
- **Structure-borne noise damping due to DÄMMGULAST® vibration control lining with yellow identification stripe:** Average sound level improvement up to 22 dB(A)



Features

Material	Polyethylene terephthalate, synthetic rubber
Effective density	100 kg/m³
Thermal conductivity	λ = 0.033 W/mK at 0 °C λ = 0.037 W/mK at +40 °C
Fire classification	Euroclass E - EN 13501-1 in systems association with AF/Armaflex: B-S_3-d_0
Temperature range	–50 °C to +110 °C
Water vapour diffusion resistance	μ = 10,000
Design	2 PET segment shells and closed-cell elastomeric foam, integral load-distributing sleeves, with two-piece pipe clamp, vibration-damped with DÄMMGULAST® lining



Pipe outer diameter	Max. recommended fastening distance [m]
10–18 mm	2.00
½"–24 mm	2.75
¾"–30 mm	3.00
1"–38 mm	3.50
1¼"–44.5 mm	3.75
1½"–57 mm	4.25
2"–70 mm	4.75
2½"–80 mm	5.50
from 3" upwards	6.00

02/19

Insulation clamps type H – Insulation thickness 9.5–16 mm

two-piece, with single bossed clamps with DÄMMGULAST® yellow and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell type H					
Pipe outer-Ø D			Part no. complete clamp	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	Part no. single shell	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
10		10.2	111364	1	pieces	10/12	45	34	124168	1	pieces
12								36			
	1/4							38			
15			111374			15/18		40	111773		
18	3/8							43			
22	1/2		111380			22/25		47	111779		
24								50			
28	3/4		111382			28/30		53	111781		
30			111384					56			
35	1		111386			35/38	50	64	111783		
38								65			
42			111388			42/45		69	111785		
		44.5						72			
	1 1/2		111390			48	55	76	111787		
54			111392			54/57		82	111789		
57								85			
	2		111394			60/64	65	89	111791		
64								92			
70			111396			70		98	111793		
	2 1/2		111398			76/80	75	105	111795		
80								109			
	3		111400			89	95	118	111797		
		101.6	111362			102/108		134	111765		
108								137			
	4		111366			114	115	144	111767		
125			111368			125		155	111769		
		133.0	111370			133/140		165	111771		
	5		111372					172			
160			111376			160	125	193	111775		
	6		111378			165/168		198	111777		
		168.3						201			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type M – Insulation thickness 15.5–25 mm

two-piece, with single bossed clamps with DÄMMGULAST® yellow and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell type M					
Pipe outer -Ø D			Part no. complete clamp	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	Part no. single shell	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
10		10.2	111404	1	pieces	10/12	55	46	111801	1	pieces
12								48			
	1/4							50			
15			111414			15/18	55	52	111809		
18	3/8							55			
22	1/2		111426			22/25	55	59	111821		
24								62			
28	3/4		111430			28/30	55	68	111829		
30								70			
35	1		111432			35/38	65	79	111835		
38								81			
42			111434			42/45	65	85	111837		
		44.5						88			
	1 1/2		111436			48	65	91	111839		
54			111438			54/57	65	98	111841		
57								101			
	2		111440			60/64	75	105	111843		
64								109			
70			111442			70	75	116	111845		
	2 1/2		111444			76/80	85	122	111847		
80								127			
	3		111446			89	100	136	111849		
		101.6	111402			102/108	100	151	111799		
108								156			
	4		111406			114	115	162	111803		
125			111408			125	115	173	111805		
		133.0	111410			133/140	115	183	111807		
	5		111412					189			
160			111416			160	115	210	111811		
	6		111418			165/168	125	216	111813		
		168.3	111420					219			
		216.0	111428			216/219	170	267	111823		
		219.1						270			

Please refer to chapter „Insulation“ for further information and insulation products.

Insulation clamps type T – Insulation thickness 32–45 mm

two-piece, with single bossed clamps with DÄMMGULAST® yellow and insulation shells, galvanised

Pipe outer -Ø D			Insulation clamp M10 connection thread			Insulation shell type T					
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]	**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
15			**111527**	1	pieces	15/18	75	77	**111887**	1	pieces
18	3/8							77			
22	1/2		**111537**			22/25	75	80	**111895**		
24								84			
28	3/4		**111541**			28/30	75	93	**111901**		
30								95			
35	1		**111547**			35/38	85	104	**111905**		
38								107			
42			**111549**			42/45	85	113	**111909**		
		44.5						116			
	1 1/2		**111551**			48	85	119	**111911**		
54			**111553**			54/57	85	126	**111913**		
57								129			
	2		**111555**			60/64	100	134	**111915**		
64								137			
70			**111557**			70	100	144	**111917**		
	2 1/2		**111559**			76/80	115	152	**111919**		
80								156			
	3		**111560**			89	125	167	**111921**		
		101.6	**111515**			102/108	125	182	**111879**		
108								188			
	4		**111519**			114	145	196	**111881**		
125			**111521**			125	145	207	**111883**		
		133.0	**111523**			133/140	145	219	**111885**		
	5		**111525**					225			
160			**111529**			160	145	248	**111889**		
	6		**111531**			165/168	165	254	**111891**		
		168.3	**111533**					257			
		200.0	**111535**			204	215	305	**111893**		
		216.0	**111539**			216/219	215	317	**111897**		
		219.1						320			
		267.0	**111543**			267/273	215	368	**111903**		
		273.0	**111545**					374			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type H, M, T

two-piece, with single bossed clamps without lining and insulation shells, galvanised

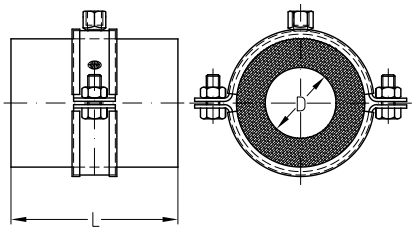
Field of application

- Thermal decoupled pipe attachment in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PET and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Secure water vapour diffusion barrier
- Easy installation using self-adhesive fasteners in the part-joint
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation
- Fixed load-distribution sleeves for improved load transfer





Features

Material	Polyethylene terephthalate, synthetic rubber
Effective density	100 kg/m³
Thermal conductivity	λ = 0.033 W/mK at 0 °C λ = 0.037 W/mK at +40 °C
Fire classification	Euroclass E - EN 13501-1 in systems association with AF/Armaflex: B-S_3-d_0
Temperature range	–50 °C to +110 °C
Water vapour diffusion resistance	μ = 10,000
Design	2 PET segment shells and closed-cell elastomeric foam, integral load-distributing sleeves, with two-piece pipe clamp

Pipe outer diameter	Max. recommended fastening distance [m]
10–18 mm	2.00
½"–24 mm	2.75
¾"–30 mm	3.00
1"–38 mm	3.50
1¼"–44.5 mm	3.75
1½"–57 mm	4.25
2"–70 mm	4.75
2½"–80 mm	5.50
from 3" upwards	6.00

02/19

Insulation clamps type H – Insulation thickness 9.5–16 mm

two-piece, with single bossed clamps without lining and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell type H					
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
10		10.2	**148502**	1	pieces	10/12	45	34	**124168**	1	pieces
12								36			
	1/4							38			
15			**148503**			15/18		40	**111773**		
18	3/8							43			
22	1/2		**148504**			22/25		47	**111779**		
24								50			
28	3/4		**148505**			28/30		53	**111781**		
30								56			
35	1		**148506**			35/38	50	64	**111783**		
38								65			
42			**148507**			42/45		69	**111785**		
		44.5						72			
	1 1/2		**148508**			48	55	76	**111787**		
54			**148509**			54/57		82	**111789**		
57								85			
	2		**148510**			60	65	89	**111791**		
64			**148511**			64		92			
70			**148512**			70		98	**111793**		
	2 1/2		**148513**			76	75	105	**111795**		
80			**148514**			80		109			
	3		**148515**			89	95	118	**111797**		
		101.6	**148516**			102/108		134	**111765**		
108								137			
	4		**148517**			114	115	144	**111767**		
125			**148518**			125		155	**111769**		
		133.0	**148519**			133/140		165	**111771**		
	5		**148583**					172			
160			**150298**			160	125	193	**111775**		
	6	165.1	**150299**			165/168		198	**111777**		
		168.3	**150300**					201			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type M – Insulation thickness 15.5–25 mm

two-piece, with single bossed clamps without lining and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell type M					
Pipe outer -Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
10		10.2	**148530**	1	pieces	10/12	55	46	**111801**	1	pieces
12								48			
	1/4							50			
15			**148531**			15/18		52	**111809**		
18	3/8							55			
22	1/2		**148532**			22/25		59	**111821**		
24								62			
28	3/4		**148533**			28/30		68	**111829**		
30								70			
35	1		**148534**			35/38	65	79	**111835**		
38								81			
42			**148535**			42/45		85	**111837**		
		44.5						88			
	1 1/2		**148536**			48		91	**111839**		
54			**148537**			54/57		98	**111841**		
57								101			
	2		**148538**			60/64	75	105	**111843**		
64								109			
70			**148539**			70		116	**111845**		
	2 1/2		**148540**			76	85	122	**111847**		
80			**148541**			80		127			
	3		**148542**			89	100	136	**111849**		
		101.6	**148543**			102		151	**111799**		
108			**148544**			108		156			
	4		**148545**			114	115	162	**111803**		
125			**148546**			125		173	**111805**		
		133.0	**150301**			133/140		183	**111807**		
	5							189			
160			**150302**			160		210	**111811**		
	6		**150303**			165/168	125	216	**111813**		
		168.3						219			
		216.0	**150304**			216/219	170	267	**111823**		
		219.1						270			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type T – Insulation thickness 32–45 mm

two-piece, with single bossed clamps without lining and insulation shells, galvanised

Pipe outer -Ø D			Insulation clamp M10 connection thread			Insulation shell type T					
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]	**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
15			**148552**	1	pieces	15/18	75	77	**111887**	1	pieces
18	3/8										
22	1/2		**148553**			22/25		80	**111895**		
24								84			
28	3/4		**148554**			28/30		93	**111901**		
30								95			
35	1		**148555**			35/38	85	104	**111905**		
38								107			
42			**148556**			42/45		113	**111909**		
		44.5						116			
	1 1/2		**148557**			48		119	**111911**		
54			**148558**			54/57		126	**111913**		
57								129			
	2		**148559**			60/64	100	134	**111915**		
64								137			
70			**148560**			70		144	**111917**		
	2 1/2		**148561**			76	115	152	**111919**		
80			**148562**					156			
	3		**148563**			89	125	167	**111921**		
		101.6	**148564**			102/108		182	**111879**		
108								188			
	4		**150305**			114	145	196	**111881**		
125			**150306**			125		207	**111883**		
		133.0	**150307**			133/140		219	**111885**		
	5							225			
160			**150308**			160		248	**111889**		
	6		**150310**			165/168	165	254	**111891**		
		168.3						257			
		200.0	**150311**			204	215	305	**111893**		
		216.0	**150312**			216/219		317	**111897**		
		219.1						320			
		267.0	**150313**			267/273		368	**111903**		
		273.0						374			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type H, M, T

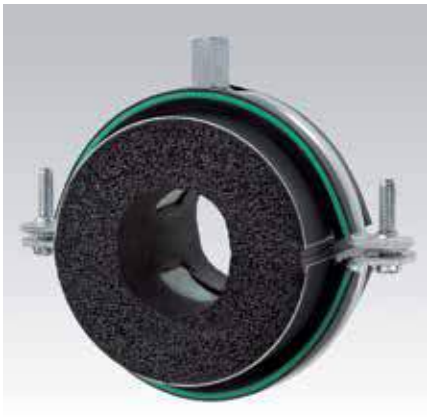
two-piece, with single bossed clamps JUNIOR with DÄMMGULAST® green and insulation shells, galvanised

Field of application

- Thermal decoupled pipe attachment in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

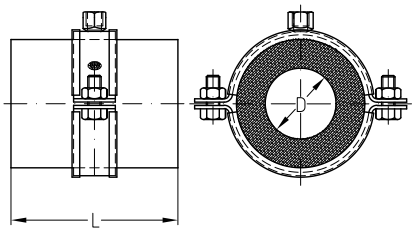
Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PET and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Secure water vapour diffusion barrier
- Easy installation using self-adhesive fasteners in the part-joint
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation
- Fixed load-distribution sleeves for improved load transfer
- Structure-borne noise damping due to DÄMMGULAST® vibration control lining with green identification stripe: Average sound level improvement up to 18.6 dB(A)



Features

Material	Polyethylene terephthalate, synthetic rubber
Effective density	100 kg/m³
Thermal conductivity	λ = 0.033 W/mK at 0 °C λ = 0.037 W/mK at +40 °C
Fire classification	Euroclass E - EN 13501-1 in systems association with AF/Armaflex: B-S3-d0
Temperature range	–50 °C to +110 °C
Water vapour diffusion resistance	μ = 10,000
Design	2 PET segment shells and closed-cell elastomeric foam, integral load-distributing sleeves, with two-piece pipe clamp, vibration-damped with DÄMMGULAST® lining



Pipe outer diameter	Max. recommended fastening distance [m]
10–18 mm	2.00
½"–24 mm	2.75
¾"–30 mm	3.00
1"–38 mm	3.50
1¼"–44.5 mm	3.75
1½"–57 mm	4.25
2"–70 mm	4.75
2½"–80 mm	5.50
from 3" upwards	6.00

02/19

Insulation clamps type H – Insulation thickness 9.5–16 mm

two-piece, single bossed clamps JUNIOR with DÄMMGULAST® green and insulation shells, galvanised

			Insulation clamp M8/M10 connection thread			Insulation shell type H					
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
10		10.2	**149350**	1	pieces	10/12	45	34	**124168**	1	pieces
12								36			
	1/4							38			
15			**149351**			15/18		40	**111773**		
18	3/8							43			
22	1/2		**149352**			22/25		47	**111779**		
24								50			
28	3/4		**149353**			28/30		53	**111781**		
30								56			
35	1		**149354**			35/38	50	64	**111783**		
38								65			
42			**149355**			42/45		69	**111785**		
		44.5						72			
	1 1/2		**149356**			48	55	76	**111787**		
54			**149357**			54/57		82	**111789**		
57								85			
	2		**149358**			60/64	65	89	**111791**		
64								92			
70			**149359**			70		98	**111793**		
	2 1/2		**149360**			76/80	75	105	**111795**		
80								109			
	3		**149361**			89	95	118	**111797**		
		101.6	**150261**			102		134	**111765**		
108			**149362**			108		137			
	4		**149363**			114	115	144	**111767**		
125			**149364**			125		155	**111769**		
		133.0	**149365**			133		165	**111771**		
	5		**149366**			140		172			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type M – Insulation thickness 15.5–25 mm

two-piece, single bossed clamps JUNIOR with DÄMMGULAST® green and insulation shells, galvanised

			Insulation clamp M8/M10 connection thread			Insulation shell type M					
Pipe outer -Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
10		10.2	**149368**	1	pieces	10/12	55	46	**111801**	1	pieces
12								48			
	1/4							50			
15			**149369**			15/18		52	**111809**		
18	3/8							55			
22	1/2		**149370**			22/25		59	**111821**		
24								62			
28	3/4		**149371**			28/30		68	**111829**		
30								70			
35	1		**149372**			35/38	65	79	**111835**		
38								81			
42			**149373**			42/45		85	**111837**		
		44.5						88			
	1 1/2		**149374**			48		91	**111839**		
54			**149375**			54/57		98	**111841**		
57								101			
	2		**149376**			60/64	75	105	**111843**		
64								109			
70			**149377**			70		116	**111845**		
	2 1/2		**149378**			76/80	85	122	**111847**		
80								127			
	3		**149379**			89	100	136	**111849**		
		101.6	**149380**			102		151	**111799**		
108			**149381**			108		156			
	4		**149382**			114	115	162	**111803**		
125			**151163**			125		173	**111805**		

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type T – Insulation thickness 32–45 mm

two-piece, single bossed clamps JUNIOR with DÄMMGULAST® green and insulation shells, galvanised

			Insulation clamp M8/M10 connection thread			Insulation shell type T					
Pipe outer -Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
15			**149390**	1	pieces	15/18	75	77	**111887**	1	pieces
18	3/8										
22	1/2		**149391**			22/25		80	**111895**		
24								84			
28	3/4		**149392**			28/30		93	**111901**		
30								95			
35	1		**149393**			35/38	85	104	**111905**		
38								107			
42			**149394**			42/45		113	**111909**		
		44.5						116			
	1 1/2		**149395**			48		119	**111911**		
54			**149396**			54/57		126	**111913**		
57								129			
	2		**149397**			60/64	100	134	**111915**		
64								137			
70			**149398**			70		144	**111917**		
	2 1/2		**149399**			76/80	115	152	**111919**		
80								156			
	3		**149400**			89	125	167	**111921**		

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type H, M, T

two-piece, with single bossed clamps JUNIOR without lining and insulation shells, galvanised

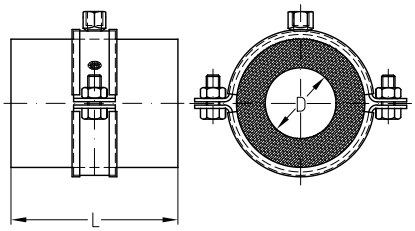
Field of application

- Thermal decoupled pipe attachment in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PET and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Secure water vapour diffusion barrier
- Easy installation using self-adhesive fasteners in the part-joint
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation
- Fixed load-distribution sleeves for improved load transfer





Features

Material	Polyethylene terephthalate, synthetic rubber
Effective density	100 kg/m³
Thermal conductivity	λ = 0.033 W/mK at 0 °C λ = 0.037 W/mK at +40 °C
Fire classification	Euroclass E - EN 13501-1 in systems association with AF/Armaflex: B-S_3-d_0
Temperature range	–50 °C to +110 °C
Water vapour diffusion resistance	μ = 10,000
Design	2 PET segment shells and closed-cell elastomeric foam, integral load-distributing sleeves, with two-piece pipe clamp

Pipe outer diameter	Max. recommended fastening distance [m]
10–18 mm	2.00
½"–24 mm	2.75
¾"–30 mm	3.00
1"–38 mm	3.50
1¼"–44.5 mm	3.75
1½"–57 mm	4.25
2"–70 mm	4.75
2½"–80 mm	5.50
from 3" upwards	6.00

02/19

Insulation clamps type H – Insulation thickness 9.5–16 mm

two-piece, single bossed clamps JUNIOR without lining and insulation shells, galvanised

			Insulation clamp M8/M10 connection thread			Insulation shell type H					
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
10		10.2	**148565**	1	pieces	10/12	45	34	**124168**	1	pieces
12								36			
	1/4		**148566**					38			
15			**148567**			15/18		40	**111773**		
18	3/8							43			
22	1/2		**148568**			22/25		47	**111779**		
24								50			
28	3/4		**148569**			28/30		53	**111781**		
30								56			
35	1		**148570**			35/38	50	64	**111783**		
38								65			
42			**148571**			42		69	**111785**		
		44.5	**148572**			45		72			
	1 1/2		**148573**			48	55	76	**111787**		
54			**148574**			54/57		82	**111789**		
57								85			
	2		**148575**			60/64	65	89	**111791**		
64								92			
70			**148576**			70		98	**111793**		
	2 1/2		**148577**			76/80	75	105	**111795**		
80								109			
	3		**148578**			89	95	118	**111797**		
		101.6	**148579**			102/108		134	**111765**		
108			**148580**					137			
	4		**148581**			114	115	144	**111767**		
125			**150344**			125		155	**111769**		
		133.0	**148582**			133/140		165	**111771**		
	5							172			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type M – Insulation thickness 15.5–25 mm

two-piece, single bossed clamps JUNIOR without lining and insulation shells, galvanised

			Insulation clamp M8/M10 connection thread			Insulation shell type M					
Pipe outer -Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
10		10.2	**148589**	1	pieces	10/12	55	46	**111801**	1	pieces
12								48			
	1/4							50			
15			**148590**			15/18		52	**111809**		
18	3/8							55			
22	1/2		**148591**			22/25		59	**111821**		
24								62			
28	3/4		**148592**			28/30		68	**111829**		
30								70			
35	1		**148593**			35/38	65	79	**111835**		
38								81			
42			**148594**			42/45		85	**111837**		
		44.5						88			
	1 1/2		**148595**			48		91	**111839**		
54			**148596**			54/57		98	**111841**		
57								101			
	2		**148597**			60/64	75	105	**111843**		
64								109			
70			**148598**			70		116	**111845**		
	2 1/2		**148599**			76/80	85	122	**111847**		
80								127			
	3		**148600**			89	100	136	**111849**		
		101.6	**148601**			102/108		151	**111799**		
108			**150345**					156			
	4		**148602**			114	115	162	**111803**		
125			**151164**			125		173	**111805**		
		133.0	**151165**			133/140		183	**111807**		
	5							189			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps type T – Insulation thickness 32–45 mm

two-piece, single bossed clamps JUNIOR without lining and insulation shells, galvanised

			Insulation clamp M8/M10 connection thread			Insulation shell type T					
Pipe outer -Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Size [mm]	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Cooper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]									
15			**148603**	1	pieces	15/18	75	77	**111887**	1	pieces
18	3/8										
22	1/2		**148604**			22/25		80	**111895**		
24								84			
28	3/4		**148605**			28/30		93	**111901**		
30								95			
35	1		**148606**			35/38	85	104	**111905**		
38								107			
42			**148607**			42/45		113	**111909**		
		44.5						116			
	1 1/2		**148608**			48		119	**111911**		
54			**148609**			54/57		126	**111913**		
57								129			
	2		**148610**			60/64	100	134	**111915**		
64								137			
70			**148611**			70		144	**111917**		
	2 1/2		**150346**			76/80	115	152	**111919**		
80								156			
	3		**148612**			89	125	167	**111921**		
		101.6	**151166**			102		182	**111879**		
108			**151167**			108		188			

Please refer to chapter „Insulation“ for further information and insulation products.

02/19

Insulation clamps RTN+ type 2 and 4

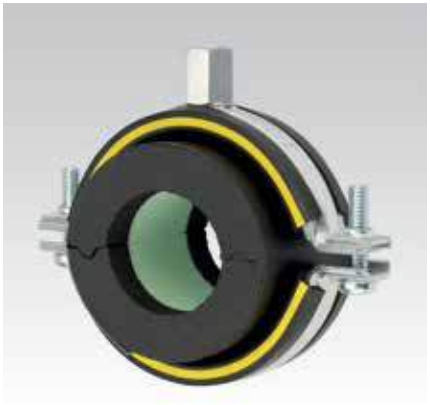
two-piece, with single bossed clamps with DÄMMGULAST® yellow and insulation shells, galvanised

Field of application

- Insulation of pipelines in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

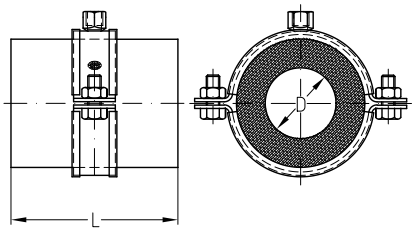
Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PIR and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation
- **Structure-borne noise damping due to DÄMMGULAST® vibration control lining with yellow identification stripe:** Average sound level improvement up to 22 dB(A)



Features

Material	Polyurethane-polyisocyanurate rigid foam, synthetic rubber
Effective density	120 kg/m³
Thermal conductivity	λ = 0.034 W/mK at 0 °C λ = 0.038 W/mK at +40 °C
Fire classification	DIN EN 13501-1:2007 Euroclass E
Temperature range	–45 °C to +105 °C
Water vapour diffusion resistance	μ = 10,000
Design	Insulation clamp with ultraflexible closed cell insulation system with high water vapour diffusion resistance and low thermal conductivity, with two-piece pipe clamp, vibration-damped with DÄMMGULAST® lining



Pipe outer diameter	Single bossed clamp with DÄMMGULAST® yellow, galvanised Max. recommended fastening distance [m]
6–15 mm	2.00
⅜"–18 mm	2.25
½"–24 mm	2.75
¾"–30 mm	3.00
1"–38 mm	3.50
1¼"–44.5 mm	3.75
1½"–57 mm	4.25
2"–70 mm	4.75
2½"–80 mm	5.50
from 3" upwards	6.00

02/19

Insulation clamps RTN+ type 2 – Insulation thickness 9.5–15 mm

two-piece, with single bossed clamp with DÄMMGULAST® yellow and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell RTN+ type 2				
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]								
6.0		6.0	**150509**	1	pieces	50	25	**149190**	1	pieces
8.0		8.0	**150510**				28	**149191**		
10.0	⅛	10.2	**150511**				34	**149192**		
12.0		12.5	**150512**				36	**149193**		
15.0	¼	13.5	**150513**				40	**149194**		
18.0	⅜	17.2	**150514**				43	**149195**		
22.0	½	21.3	**150515**				47	**149196**		
28.0	¾	26.9	**150516**				53	**149197**		
35.0	1	33.7	**150517**				61	**149198**		
38.0		38.0	**150518**				65	**149199**		
42.0	1¼	42.4	**150519**				69	**149200**		
	1½	48.3	**150520**				76	**149201**		
54.0		54.0	**150521**				82	**149202**		
57.0		57.0	**150522**				85	**149203**		
	2	60.3	**150523**				89	**149204**		
64.0		63.5	**150524**				92	**149205**		
		70.0	**150525**				98	**149206**		
76.1	2½	76.1	**150526**				105	**149207**		
		80.0	**150527**				109	**149208**		
88.9	3	88.9	**150528**				118	**149209**		
	3½	101.6	**150529**				134	**149210**		
108.0		108.0	**150530**				141	**149211**		
114.0	4	114.3	**150531**				144	**149212**		

02/19

Insulation clamps RTN+ type 4 – Insulation thickness 15.5–25.5 mm

two-piece, with single bossed clamp with DÄMMGULAST® yellow and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell RTN+ type 4				
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]								
10.0	⅛	10.2	**150532**	1	pieces	50	46	**149213**	1	pieces
12.0		12.5	**150533**				48	**149214**		
15.0	¼	13.5	**150534**				52	**149215**		
18.0	⅜	17.2	**150535**				55	**149216**		
22.0	½	21.3	**150536**				60	**149217**		
28.0	¾	26.9	**150537**				66	**149219**		
35.0	1	33.7	**150538**				74	**149220**		
38.0		38.0	**150539**				79	**149221**		
42.0	1¼	42.4	**150540**				85	**149222**		
	1½	48.3	**150541**				91	**149223**		
54.0		54.0	**150542**				98	**149224**		
57.0		57.0	**150543**				101	**149225**		
	2	60.3	**150544**				105	**149226**		
64.0		63.5	**150545**				109	**149227**		
		70.0	**150546**				116	**149228**		
76.1	2½	76.1	**150547**				122	**149229**		
		80.0	**150548**				126	**149230**		
88.9	3	88.9	**150549**				136	**149231**		
	3½	101.6	**150550**				149	**149232**		
108.0		108.0	**150551**				156	**149233**		
114.0	4	114.3	**150552**				162	**149234**		
133.0		133.0	**150553**				183	**149235**		
	5	139.7	**150554**				189	**149236**		
159.0		160.0	**150555**				210	**149237**		
		165.0	**150556**				216	**149238**		
168.0		168.3	**150557**				219	**149239**		

02/19

Insulation clamps RTN+ type 2 and 4

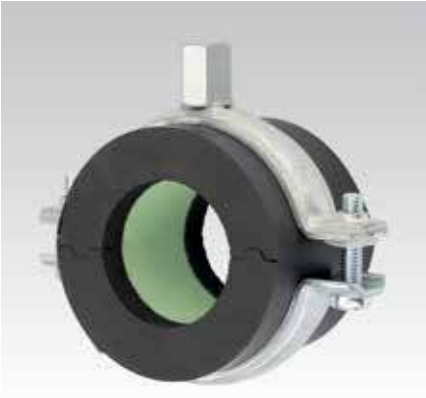
two-piece, with single bossed clamps without lining and insulation shells, galvanised

Field of application

- Insulation of pipelines in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

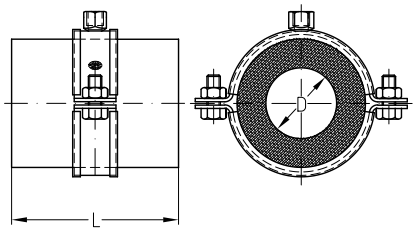
Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PIR and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation



Features

Material	Polyurethane-polyisocyanurate rigid foam, synthetic rubber
Effective density	120 kg/m³
Thermal conductivity	λ = 0.034 W/mK at 0 °C λ = 0.038 W/mK at +40 °C
Fire classification	DIN EN 13501-1:2007 Euroclass E
Temperature range	–45 °C to +105 °C
Water vapour diffusion resistance	μ = 10,000
Design	Insulation clamp with ultraflexible closed cell insulation system with high water vapour diffusion resistance and low thermal conductivity, with two-piece pipe clamp



Pipe outer diameter	Single bossed clamp without lining, galvanised Max. recommended fastening distance [m]
6–15 mm	2.00
⅜"–18 mm	2.25
½"–24 mm	2.75
¾"–30 mm	3.00
1"–38 mm	3.50
1¼"–44.5 mm	3.75
1½"–57 mm	4.25
2"–70 mm	4.75
2½"–80 mm	5.50
from 3" upwards	6.00

02/19

Insulation clamps RTN+ type 2 – Insulation thickness 9.5–15 mm

two-piece, with single bossed clamp without lining and insulation shells, galvanised

Pipe outer-Ø D			Insulation clamp M10 connection thread			Insulation shell RTN+ type 2				
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]	**Part no. complete clamp**	Sales unit	Pack unit	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
6.0		6.0	**150558**	1	pieces	50	25	**149190**	1	pieces
8.0		8.0	**150559**				28	**149191**		
10.0	⅛	10.2	**150560**				34	**149192**		
12.0		12.5	**150561**				36	**149193**		
15.0	¼	13.5	**150562**				40	**149194**		
18.0	⅜	17.2	**150563**				43	**149195**		
22.0	½	21.3	**150564**				47	**149196**		
28.0	¾	26.9	**150565**				53	**149197**		
35.0	1	33.7	**150566**				61	**149198**		
38.0		38.0	**150567**				65	**149199**		
42.0	1¼	42.4	**150568**				69	**149200**		
	1½	48.3	**150569**				76	**149201**		
54.0		54.0	**150570**				82	**149202**		
57.0		57.0	**150571**				85	**149203**		
	2	60.3	**150572**				89	**149204**		
64.0		63.5	**150573**				92	**149205**		
		70.0	**150574**				98	**149206**		
76.1	2½	76.1	**150575**				105	**149207**		
		80.0	**150576**				109	**149208**		
88.9	3	88.9	**150577**				118	**149209**		
	3½	101.6	**150578**				134	**149210**		
108.0		108.0	**150579**				141	**149211**		
114.0	4	114.3	**150580**				144	**149212**		

02/19

Insulation clamps RTN+ type 4 – Insulation thickness 15.5–25.5 mm

two-piece, with single bossed clamp without lining and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell RTN+ type 4				
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]								
10.0	⅛	10.2	**150581**	1	pieces	50	46	**149213**	1	pieces
12.0		12.5	**150582**				48	**149214**		
15.0	¼	13.5	**150583**				52	**149215**		
18.0	⅜	17.2	**150584**				55	**149216**		
22.0	½	21.3	**150585**				60	**149217**		
28.0	¾	26.9	**150586**				66	**149219**		
35.0	1	33.7	**150587**				74	**149220**		
38.0		38.0	**150588**				79	**149221**		
42.0	1¼	42.4	**150589**				85	**149222**		
	1½	48.3	**150590**				91	**149223**		
54.0		54.0	**150591**				98	**149224**		
57.0		57.0	**150592**				101	**149225**		
	2	60.3	**150593**				105	**149226**		
64.0		63.5	**150594**				109	**149227**		
		70.0	**150595**				116	**149228**		
76.1	2½	76.1	**150596**				122	**149229**		
		80.0	**150597**				126	**149230**		
88.9	3	88.9	**150598**				136	**149231**		
	3½	101.6	**150599**				149	**149232**		
108.0		108.0	**150600**				156	**149233**		
114.0	4	114.3	**150601**				162	**149234**		
133.0		133.0	**150602**				183	**149235**		
	5	139.7	**150603**				189	**149236**		
159.0		160.0	**150604**				210	**149237**		
		165.0	**150605**				216	**149238**		
168.0		168.3	**150606**				219	**149239**		

02/19

Insulation clamps RTN+ type 2 and 4

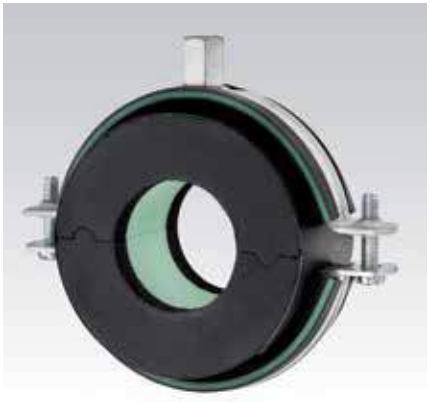
two-piece, with single bossed clamps JUNIOR with DÄMMGULAST® green and insulation shells, galvanised

Field of application

- Insulation of pipelines in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

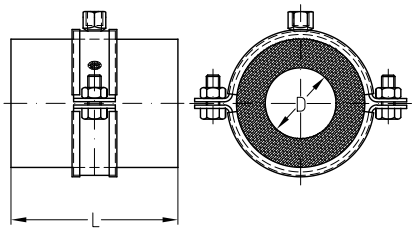
Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PIR and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation
- **Structure-borne noise damping due to DÄMMGULAST® vibration control lining with green identification stripe:** Average sound level improvement up to 18 dB(A)



Features

Material	Polyurethane-polyisocyanurate rigid foam, synthetic rubber
Effective density	120 kg/m³
Thermal conductivity	λ = 0.034 W/mK at 0 °C λ = 0.038 W/mK at +40 °C
Fire classification	DIN EN 13501-1:2007 Euroclass E
Temperature range	–45 °C to +105 °C
Water vapour diffusion resistance	μ = 10,000
Design	Insulation clamp with ultraflexible closed cell insulation system with high water vapour diffusion resistance and low thermal conductivity, with two-piece pipe clamp, vibration-damped with DÄMMGULAST® lining



Pipe outer diameter	Single bossed clamp JUNIOR with DÄMMGULAST® green, galvanised Max. recommended fastening distance [m]
6–15 mm	2.00
⅜"–18 mm	2.25
½"–24 mm	2.75
¾"–30 mm	3.00
1"–38 mm	3.50
1¼"–44.5 mm	3.75
1½"–57 mm	4.25
2"–70 mm	4.75
2½"–80 mm	5.50
from 3" upwards	6.00

02/19

Insulation clamps RTN+ type 2 – Insulation thickness 9.5–15 mm

two-piece, single bossed clamp JUNIOR with DÄMMGULAST® green and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell RTN+ type 2				
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]								
6.0		6.0	**150411**	1	pieces	50	25	**149190**	1	pieces
8.0		8.0	**150412**				28	**149191**		
10.0	⅛	10.2	**150413**				34	**149192**		
12.0		12.5	**150414**				36	**149193**		
15.0	¼	13.5	**150415**				40	**149194**		
18.0	⅜	17.2	**150416**				43	**149195**		
22.0	½	21.3	**150417**				47	**149196**		
28.0	¾	26.9	**150418**				53	**149197**		
35.0	1	33.7	**150419**				61	**149198**		
38.0		38.0	**150420**				65	**149199**		
42.0	1¼	42.4	**150421**				69	**149200**		
	1½	48.3	**150422**				76	**149201**		
54.0		54.0	**150423**				82	**149202**		
57.0		57.0	**150424**				85	**149203**		
	2	60.3	**150425**				89	**149204**		
64.0		63.5	**150426**				92	**149205**		
		70.0	**150427**				98	**149206**		
76.1	2½	76.1	**150428**				105	**149207**		
		80.0	**150429**				109	**149208**		
88.9	3	88.9	**150430**				118	**149209**		
	3½	101.6	**150431**				134	**149210**		
108.0		108.0	**150432**				141	**149211**		
114.0	4	114.3	**150433**				144	**149212**		

02/19

Insulation clamps RTN+ type 4 – Insulation thickness 15.5–25.5 mm

two-piece, single bossed clamp JUNIOR with DÄMMGULAST® green and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell RTN+ type 4				
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]								
10.0	⅛	10.2	**150434**	1	pieces	50	46	**149213**	1	pieces
12.0		12.5	**150435**				48	**149214**		
15.0	¼	13.5	**150436**				52	**149215**		
18.0	⅜	17.2	**150437**				55	**149216**		
22.0	½	21.3	**150438**				60	**149217**		
28.0	¾	26.9	**150439**				66	**149219**		
35.0	1	33.7	**150440**				74	**149220**		
38.0		38.0	**150441**				79	**149221**		
42.0	1¼	42.4	**150442**				85	**149222**		
	1½	48.3	**150443**				91	**149223**		
54.0		54.0	**150444**				98	**149224**		
57.0		57.0	**150445**				101	**149225**		
	2	60.3	**150446**				105	**149226**		
64.0		63.5	**150447**				109	**149227**		
		70.0	**150448**				116	**149228**		
76.1	2½	76.1	**150449**				122	**149229**		
		80.0	**150450**				126	**149230**		
88.9	3	88.9	**150451**				136	**149231**		
	3½	101.6	**150452**				149	**149232**		
108.0		108.0	**150453**				156	**149233**		
114.0	4	114.3	**150454**				162	**149234**		

02/19

Insulation clamps RTN+ type 2 and 4

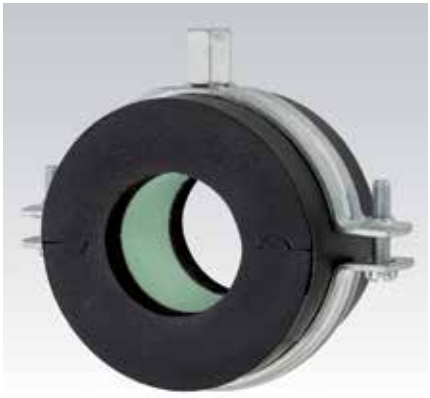
two-piece, with single bossed clamps JUNIOR without lining and insulation shells, galvanised

Field of application

- Insulation of pipelines in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

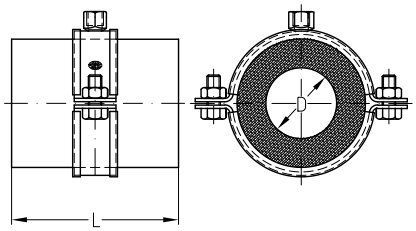
Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PIR and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation



Features

Material	Polyurethane-polyisocyanurate rigid foam, synthetic rubber
Effective density	120 kg/m³
Thermal conductivity	λ = 0.034 W/mK at 0 °C λ = 0.038 W/mK at +40 °C
Fire classification	DIN EN 13501-1:2007 Euroclass E
Temperature range	–45 °C to +105 °C
Water vapour diffusion resistance	μ = 10,000
Design	Insulation clamp with ultraflexible closed cell insulation system with high water vapour diffusion resistance and low thermal conductivity, with two-piece pipe clamp



Pipe outer diameter	Single bossed clamps JUNIOR without lining, galvanised Max. recommended fastening distance [m]
6–15 mm	2.00
⅜"–18 mm	2.25
½"–24 mm	2.75
¾"–30 mm	3.00
1"–38 mm	3.50
1¼"–44.5 mm	3.75
1½"–57 mm	4.25
2"–70 mm	4.75
2½"–80 mm	5.50
from 3" upwards	6.00

02/19

Insulation clamps RTN+ type 2 – Insulation thickness 9.5–15 mm

two-piece, single bossed clamp JUNIOR without lining and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell RTN+ type 2				
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]								
6.0		6.0	**150460**	1	pieces	50	25	**149190**	1	pieces
8.0		8.0	**152109**				28	**149191**		
10.0	⅛	10.2	**150462**				34	**149192**		
12.0		12.5	**150463**				36	**149193**		
15.0	¼	13.5	**150464**				40	**149194**		
18.0	⅜	17.2	**150465**				43	**149195**		
22.0	½	21.3	**150466**				47	**149196**		
28.0	¾	26.9	**150467**				53	**149197**		
35.0	1	33.7	**150468**				61	**149198**		
38.0		38.0	**150469**				65	**149199**		
42.0	1¼	42.4	**150470**				69	**149200**		
	1½	48.3	**150471**				76	**149201**		
54.0		54.0	**150472**				82	**149202**		
57.0		57.0	**150473**				85	**149203**		
	2	60.3	**150474**				89	**149204**		
64.0		63.5	**150475**				92	**149205**		
		70.0	**150476**				98	**149206**		
76.1	2½	76.1	**150477**				105	**149207**		
		80.0	**150478**				109	**149208**		
88.9	3	88.9	**150479**				118	**149209**		
	3½	101.6	**150480**				134	**149210**		
108.0		108.0	**150481**				141	**149211**		
114.0	4	114.3	**150482**				144	**149212**		

02/19

Insulation clamps RTN+ type 4 – Insulation thickness 15.5–25.5 mm

two-piece, single bossed clamp JUNIOR without lining and insulation shells, galvanised

			Insulation clamp M10 connection thread			Insulation shell RTN+ type 4				
Pipe outer-Ø D			**Part no. complete clamp**	Sales unit	Pack unit	Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]								
10.0	⅛	10.2	**150483**	1	pieces	50	46	**149213**	1	pieces
12.0		12.5	**150484**				48	**149214**		
15.0	¼	13.5	**150485**				52	**149215**		
18.0	⅜	17.2	**150486**				55	**149216**		
22.0	½	21.3	**150487**				60	**149217**		
28.0	¾	26.9	**150488**				66	**149219**		
35.0	1	33.7	**150489**				74	**149220**		
38.0		38.0	**150490**				79	**149221**		
42.0	1¼	42.4	**150491**				85	**149222**		
	1½	48.3	**150492**				91	**149223**		
54.0		54.0	**150493**				98	**149224**		
57.0		57.0	**150494**				101	**149225**		
	2	60.3	**150495**				105	**149226**		
64.0		63.5	**150496**				109	**149227**		
		70.0	**150497**				116	**149228**		
76.1	2½	76.1	**150498**				122	**149229**		
		80.0	**150499**				126	**149230**		
88.9	3	88.9	**150500**				136	**149231**		
	3½	101.6	**150501**				149	**149232**		
108.0		108.0	**150502**				156	**149233**		
114.0	4	114.3	**150503**				162	**149234**		
133.0		133.0	**150504**				183	**149235**		
	5	139.7	**150505**				189	**149236**		

02/19

Insulation shells type RTN+

Field of application

- Insulation of pipelines in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for hot and chilled water pipes

Advantages

- Rigorous avoidance of temperature bridges in cold pipelines
- Highly effective insulation due to support elements made of PIR and a synthetic rubber mantle
- Insulation thickness matched to the increasing insulation layer thickness of the insulation sleeves
- Rubber surfaces on the face sides allow easy bonding with the rubber pipe insulation



Features

Material	Polyurethane-polyisocyanurate rigid foam, synthetic rubber
Effective density	120 kg/m³
Thermal conductivity	λ = 0.034 W/mK at 0 °C λ = 0.038 W/mK at +40 °C
Fire classification	DIN EN 13501-1:2007 Euroclass E
Temperature range	–45 °C to +105 °C
Water vapour diffusion resistance	μ = 10,000
Design	Insulation clamp with ultraflexible closed cell insulation system with high water vapour diffusion resistance and low thermal conductivity

Insulation shells RTN+ type 2 – Insulation thickness 9.5–15 mm

Pipe outer-Ø D			Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]					
6.0		6.0	50	25	**149190**	1	pieces
8.0		8.0		28	**149191**		
10.0	⅛	10.2		34	**149192**		
12.0		12.5		36	**149193**		
15.0	¼	13.5		40	**149194**		
18.0	⅜	17.2		43	**149195**		
22.0	½	21.3		47	**149196**		
28.0	¾	26.9		53	**149197**		
35.0	1	33.7		61	**149198**		
38.0		38.0		65	**149199**		
42.0	1¼	42.4		69	**149200**		
	1½	48.3		76	**149201**		
54.0		54.0		82	**149202**		
57.0		57.0		85	**149203**		
	2	60.3		89	**149204**		
64.0		63.5		92	**149205**		
		70.0		98	**149206**		
76.1	2½	76.1		105	**149207**		
		80.0		109	**149208**		
88.9	3	88.9		118	**149209**		
	3½	101.6		134	**149210**		
108.0		108.0		141	**149211**		
114.0	4	114.3		144	**149212**		

02/19

Insulation shells RTN+ type 4 – Insulation thickness 15.5–25.5 mm

Pipe outer-Ø D			Length of shell L [mm]	Outer-Ø shell [mm]	**Part no. single shell**	Sales unit	Pack unit
Copper pipe [mm]	Steel pipe [inch]	Steel pipe [mm]					
10.0	⅛	10.2	50	46	**149213**	1	pieces
12.0		12.5		48	**149214**		
15.0	¼	13.5		52	**149215**		
18.0	⅜	17.2		55	**149216**		
22.0	½	21.3		60	**149217**		
28.0	¾	26.9		66	**149219**		
35.0	1	33.7		74	**149220**		
38.0		38.0		79	**149221**		
42.0	1¼	42.4		85	**149222**		
	1½	48.3		91	**149223**		
54.0		54.0		98	**149224**		
57.0		57.0		101	**149225**		
	2	60.3		105	**149226**		
64.0		63.5		109	**149227**		
		70.0		116	**149228**		
76.1	2½	76.1		122	**149229**		
		80.0		126	**149230**		
88.9	3	88.9		136	**149231**		
	3½	101.6		149	**149232**		
108.0		108.0		156	**149233**		
114.0	4	114.3		162	**149234**		
133.0		133.0		183	**149235**		
	5	139.7		189	**149236**		
159.0		160.0		210	**149237**		
		165.0		216	**149238**		
168.0		168.3		219	**149239**		

02/19

Insulation clamps type 170 EX

galvanised

Field of application

- Thermal decoupled pipe attachment in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for chilled water pipes
- Stable insulating element for high impacts

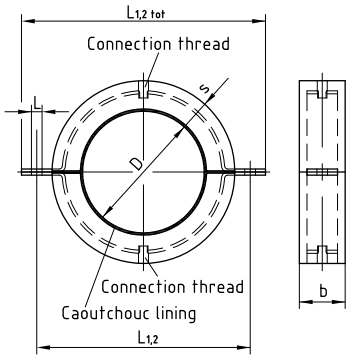
Advantages

- Exterior connection joints (without screws)
- With dual-side metric connection thread
- Highly resistant to water vapour diffusion
- With caoutchouc lining on the pipe side and on the separation surfaces of the insulating clamp; no PU-Sealer neccessary
- Ideal for separating individual pipe sections when using open diffusion insulating materials (mineral fibre)



Features

Material	Polyurethane, black
Density	250 kg/m³
Thermal conductivity	λ = 0.049 W/mK at 0 °C
Fire classification (according to DIN 4102)	B2
Temperature range	–50 °C to +105 °C
Water vapour diffusion resistance	μ = 1,430



Pipe outer diameter [mm]	Connecting thread	Strip perforation for L [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] s	b	L1	L1 tot	L2	L2 tot
114.3	M10	M12	**111173**	1	pieces	40	60	238	274		
133.0			**111175**					264	300		
139.7			**111177**								
159.0	M12		**111179**					279	319		
168.3			**111181**					288	328		
219.1	M16		**111183**				100	359	399		
273.0		M16	**111187**					413	453		
323.9	M20		**111191**					464	504		
406.4	M24		**111199**				120	556	606		
219.1	M16	M12	**111185**			60	100			399	439
273.0		M16	**111189**							453	493
323.9	M20		**111193**							504	544
355.6			**111195**							536	576
368.0			**111197**				120			548	588
406.4	M24		**111201**							596	646
457.2			**111203**							647	697
508.0			**111205**							698	748
609.6			**111207**				140			798	848

According to the **AGI Working Sheet Q 11** (“Arbeitsgemeinschaft Industriebau”, an association for industrial construction works) the insulation of refrigeration lines must be made diffusion tight.

The connection with the outer pipe insulation is made by using a complying adhesive for the insulating material (use adhesive suitable for PU).

02/19

MÜPRO

Insulation clamps type 175 EX

galvanised

Field of application

- Thermal decoupled pipe attachment in the field of refrigeration
- Specially suitable for attachments in ventilation, air-conditioning, heating, refrigeration installations as well as for chilled water pipes
- Stable insulating element for high impacts

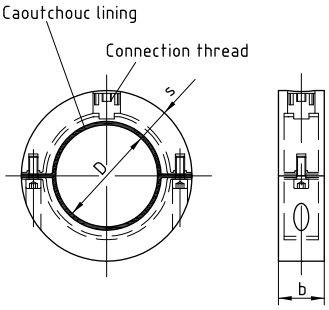
Advantages

- Two half shells including screws, mounted
- With combined connecting thread metric and inch
- Highly resistant to water vapour diffusion
- Ideal for separating individual pipe sections when using open diffusion insulating materials (mineral fibre)
- With caoutchouc lining on the pipe side and on the separation surfaces of the insulating clamp; no PU-Sealer neccessary



Features

Material	Polyurethane, black
Density	250 kg/m³
Thermal conductivity	λ = 0.049 W/mK at 0 °C
Fire classification (according to DIN 4102)	B2
Temperature range	–50 °C to +105 °C
Water vapour diffusion resistance	μ = 1,200



Pipe outer diameter D [mm]	Insulation thickness s [mm]	Shell length b [mm]	Connecting thread	Connecting thread	Part no.	Sales unit	Pack unit
9.5	30	40	M8 / M10 / ½"	5	**111360**	1	pieces
12.7					**111304**		
15.8					**111312**		
17.2					**111318**		
18.0					**111320**		
21.3					**111326**		
22.0					**111330**		
26.9					**111332**		
28.0					**111334**		
33.7					**111336**		
35.0					**111338**		
42.4					**111340**		
48.3					**111342**		
50.0					**111344**		
54.0					**111346**		
57.0					**111348**		
60.3		50			**111350**		
64.0					**111352**		
70.0			M10 / ½"	6	**111354**		
76.1					**111356**		
88.9					**111358**		
108.0	40	60			**111299**		
114.3					**111302**		

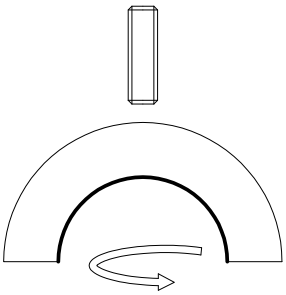
02/19

Insulation clamps type 175 EX

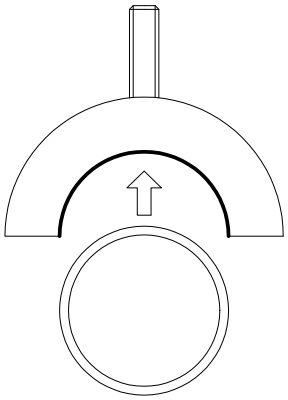
galvanised

Pipe outer diameter D [mm]	Insulation thickness s [mm]	Shell length b [mm]	Connecting thread	Connecting thread	**Part no.**	Sales unit	Pack unit
129.0	40	60	M10 / ½"	6	**111306**	1	pieces
133.0					**111308**		
139.7					**111310**		
159.0			M12 / ½"	8	**111314**		
168.3					**111316**		
193.7	60	100	M16 / ¾"		**111322**		
204.0					**111324**		
219.1					**111328**		

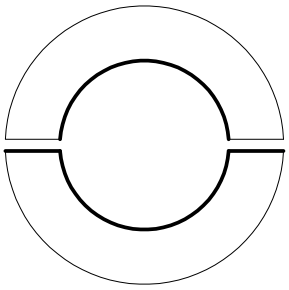
Mounting instructions



Screw on upper half with dual thread



Position pipe



Firmly screw lower half with the offset caoutchouc seating (PUR on caoutchouc, caoutchouc on PUR) firmly to the upper half. The additional use of PU-Sealer may be obmitted

According to the **AGI Working Sheet Q 11** (“Arbeitsgemeinschaft Industriebau”, an association for industrial construction works) the insulation of refrigeration lines must be made diffusion tight.

The connection with the outer pipe insulation is made by using a complying adhesive for the insulation material (use adhesive suitable for PU).

02/19

Insulation clamps type 170/175 EX

galvanised

Type 175 EX ≤ 219; Type 170 EX ≥ 219	
Pipe outer diameter [mm]	Permanent loading capacity [N]
17	210
21	
27	320
34	400
42	510
48	580
57	650
60	720
70	1,260
76	1,370
89	1,600
108	2,590
114	2,740
133	3,190
139	3,350
159	3,830
168	4,040
219	5,260
273	8,190
324	11,600
356	12,000
369	13,250
406	19,500
457	21,900
508	24,300
609	29,200

Average temperature [°C]	Thermal conductivity [W/mK]
40	0.054
20	0.052
0	0.049
–20	0.047
–50	0.044
–100	0.038
–150	0.032
–180	0.029

Temperature [°C]	Compression strength [N/cm²]
23	3.96
0	4.91
–80	9.62
–180	8.11

02/19

Foam glass pipe holder

with DÄMMGULAST® blue, galvanised

Field of application

- **Ideal for cooling systems in areas with special fire protection requirements**
- Thermally decoupled fixing of pipelines in buildings
- Ideally suited for fixing pipelines that carry higher temperature media in air conditioning and heating systems, and for cooling systems and hot or cold water pipes

Advantages

- Reliable prevention of temperature bridges between the building and hot or cold pipelines
- No damage is caused by aggressive media and atmosphere to the foam-glass insulation
- Dimensionally stable under a variety of temperature and humidity conditions – no changes to shape or surface are caused by the influence of climate or weather
- Outstanding compressive strength
- **Non-combustible, does not soak up flammable liquids (materials class A1 in accordance with DIN 4102 Part 1 / Euro class A in accordance with EN 13501-1) – does not spread fire**
- Impermeable to water and water vapour - no soaking through of insulation material with condensed water, i.e. does not promote corrosion
- Foam-glass shell and pipe clamp fitted perfectly to DÄMMGULAST® blue lining
- For an optimal load transfer, the half-shells are glued to the load-distribution sleeves over their entire surface
- **DÄMMGULAST® Vibration control lining with blue indicator stripe, fire class B1 in accordance with DIN 4102, non-dripping in a fire**
- **Structure-borne noise damping due DÄMMGULAST® vibration control lining with blue indicator stripe:** average sound level improvement up to 16.5 dB(A)



Features

Type of foam glass	Grade T4	Grade F
Approx. bulk density [kg/m³]	120	165
Thermal conductivity	λ = 0.041 W/mK at +10 °C	λ = 0.048 W/mK at +10 °C
Behaviour in fire in accordance with DIN 4102 Part 1	Material class A1 Euro class A	Material class A1 Euro class A
Compressive strength in accordance with DIN 53421 [N/mm²]	0.70	1.70
Coefficient of thermal expansion [K^{-1}]	8.5 x 10^{-6} K^{-1}	9 x 10^{-6} K^{-1}
Water vapour diffusion resistance	μ = ∞	μ = ∞
Heat capacity [kJ/kgK]	0.84	0.84
Temperature range	–260 °C to +430 °C	–260 °C to +430 °C

External pipe-Ø [mm]	Foam glass pipe holder			Part no. Foam glass pipe holder with load distributing sleeve		Distance between fixings for foam glass with load distributing sleeve and single bossed clamp	Sales unit	Pack unit
	Grade	Insulation thickness [mm]	Length [mm]	without single bossed clamp	with single bossed clamp	Max. recommended fastening distance [m]		
12.0	T4	25	150	**143890**	**144615**	1.8	1	pieces
13.5				**143891**	**144692**			
15.0				**143892**	**144693**			
17.2				**143893**	**144694**			
18.0				**143894**	**144695**	2.0		
21.3				**143895**	**144696**			
22.0				**143896**	**144697**			
26.9				**143898**	**144698**			
28.0				**143899**	**144699**			
33.7				**143900**	**144700**			
35.0				**143901**	**144701**	2.2		
42.4				**143902**	**144702**	2.5		
48.3				**143903**	**144703**	3.0		
		40		**143904**	**144704**			

02/19

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Foam glass pipe holder

with DÄMMGULAST® blue, galvanised

External pipe-Ø [mm]	Foam glass pipe holder			Part no. Foam glass pipe holder with load distributing sleeve		Distance between fixings for foam glass with load distributing sleeve and single bossed clamp	Sales unit	Pack unit
	Grade	Insulation thickness [mm]	Length [mm]	without single bossed clamp	with single bossed clamp	Max. recommended fastening distance [m]		
51.0*	T4	40	150	**143905**	**144705**	3.0	1	pieces
54.0		25		**143906**	**144706**			
57.0		40		**143907**	**144707**			
60.3		25		**143908**	**144708**			
		40		**143909**	**144709**			
64.0		25		**143910**	**144710**			
70.0*		40		**143911**	**144711**	3.5		
76.1		25		**143912**	**144712**			
		40		**143913**	**144713**			
88.9		25		**143914**	**144714**	4.8		
		40		**143915**	**144715**			
101.6*				**143916**	**144716**			
108.0*		25		**143917**	**144717**			
		40		**143918**	**144718**			
114.3		25		**143919**	**144719**	5.0		
		40		**143920**	**144720**			
		50		**143921**	**144721**			
127.0*		40		**143922**	**144722**			
		50		**143923**	**144723**			
133.0*		40		**143924**	**144724**			
		50		**143925**	**144725**			
135.0*				**143926**	**144726**			
139.7		40		**143927**	**144727**			
		50		**143928**	**144728**			
159.0*		40	300	**143929**	**144729**	5.6		
		50		**143930**	**144730**			
160.0*				**143931**	**144731**			
168.3		40		**143932**	**144732**	5.9		
		50		**143933**	**144733**			
193.7*		40		**143934**	**144734**	5.0		
		50		**143935**	**144735**			
219.1	F	40		**143936**	**144736**			
		50		**143937**	**144737**			
244.5*		40		**143938**	**144738**	4.0		
		50		**143939**	**144739**			
273.0*		40		**143940**	**144740**			
		50		**143941**	**144741**			
298.5*				**143942**	**144742**	3.7		
323.9*				**143943**	**144743**	3.2		
355.6*				**143944**	**144744**	2.9		

Fast delivery upon request.
Delivery times for foam-glass pipe holders marked with* are provided upon request.
Load distributing sleeve, 1 mm thickness, from 12.0 mm to 139.7 mm
Load distributing sleeve, 2 mm thickness, from 159.0 mm to 168.3 mm
Load distributing sleeve, 2.5 mm thickness, from 193.7 mm to 355.6 mm
Single bossed clamp with M10 connection thread, from 12.0 mm to 139.7 mm
Single bossed clamp with M12 connection thread, from 159.0 mm to 355.6 mm

Adhesive for foamglass, PITTSEAL® CW sealant

cartridge à 305 ml

Part no.	Sales unit	Pack unit
172104	1	pieces



02/19

DUPLO-Solar

galvanised

Field of application

- Clamp for fastening header pipes and return lines from the collector to the heat accumulator for solar heating systems

Advantages

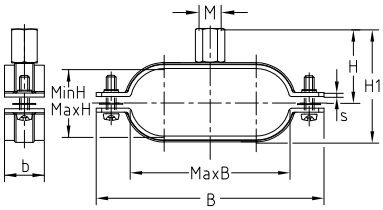
- Clamp is delivered in a set with the required accessories
- Easy to use – minimal installation effort
- Stable design due to creased half clamps
- Connecting thread M8/M10
- Full insulation effect is ensured
- Clamp holds pre-insulated pipe securely and material friendly





Features

Max. recommended load [N]	2,000



Connecting thread	Clamping range [mm]			Part no.	Sales unit	Pack unit	Dimensions [mm]			
	Min H	Max H	Max B				b x s	B	H	H1
M8/M10	28	55	80	**132249**	5	set	20 x 2	120	37	57
	32	65	95	**132248**				134	39	61
	38	60	115	**132247**				154	42	67
	42	75	125	**132246**				164	44	71

1 set consists of 4 clamps, 4 bolt screws (M8 x 80mm) and 4 nylon plugs (10mm x 50mm).

02/19

MÜPRO

Hose clamps

DIN 3017, galvanised

Field of application

- Ideally suited for fastening in demanding standard applications with industrial hoses in plumbing applications
- Robust, easy and secure mounting of light and smooth-walled hoses on pipe ends, couplings or other connections in plumbing
- For indoor use

Advantages

- Embossed inside of clamp band throughout, rounded edges for safe and easy installation and to prevent damage to the hose
- Uniform distribution of tensile forces over the entire hose diameter ensures the best possible installation and reliable sealing behaviour
- Central arrangement of the screw plug and the thread allows uniform distribution of the contact pressure across the clamp band width and thus simple and safe installation
- Optimised helical thread guarantees higher tightening torques and a frictional connection



Clamping range [mm]	Width [mm]				Sales unit	Pack unit
	9 Part no.	Max. tightening torque [Nm]	12 Part no.	Max. tightening torque [Nm]		
8–12	**153412**	3.0 + 0.5	–	–	100	pieces
10–16	**153413**					
12–19	**153414**					
12–20	**153415**		**153444**	5.0 + 0.5		
12–22	**153416**		**153445**			
16–25	**153417**		**153446**			
16–27	**153418**		**153447**			
20–32	**153419**		**153448**			
23–35	**153420**		**153449**			
25–40	**153421**		**153450**			
30–45	**153422**		**153451**			
32–50	**153423**		**153452**		50	
40–60	**153424**		**153453**			
50–70	**153425**		**153454**			
60–80	**153426**		**153455**			
70–90	**153427**		**153456**			
80–100	**153428**		**153457**	5.5 + 0.5	1	
90–110	**153429**		**153458**			
100–120	**153430**		**153459**			
110–130	**153431**		**153460**			
120–140	**153432**		**153461**			
130–150	**153433**		**153462**			
140–160	**153434**		**153463**			
150–170	**153435**		**153464**			
160–180	**153436**		**153465**			
170–190	**153437**		**153466**			
180–200	**153438**		**153467**			
190–210	**153439**		**153468**			
200–220	**153440**		**153469**			
210–230	**153441**		**153470**			
220–240	**153442**		**153471**			
230–250	**153443**		**153472**			

02/19

Hose clamps

MAXI, galvanised

Field of application

- Ideally suited for fastening in demanding applications with industrial hoses in plumbing
- Robust, easy and secure mounting of light and smooth-walled hoses on pipe ends, couplings or other connections in plumbing
- For indoor use

Advantages

- Embossed inside of clamp band throughout, rounded edges for safe and easy installation and to prevent damage to the hose
- Uniform distribution of tensile forces over the entire hose diameter ensures the best possible installation and reliable sealing behaviour
- Central arrangement of the screw plug and the thread allows uniform distribution of the contact pressure across the clamp band width and thus simple and safe installation
- Optimised helical thread guarantees higher tightening torques and a frictional connection



Clamping range [mm]	Width [mm]	Max. tightening torque [Nm]	**Part no.**	Sales unit	Pack unit
60–80	20	18	**153473**	1	pieces
70–90			**153474**		
90–120			**153475**		
105–130			**153476**		
122–157			**153477**		
142–177			**153478**		
167–202			**153479**		
192–227			**153480**		
217–252			**153481**		
242–277			**153482**		
267–302			**153483**		
292–327			**153484**		

02/19

Fixing clamps small

with lining, galvanised

Field of application

- Suitable for attachment of pipelines in domestic building
- Suitable for attachment of pneumatic and compressed air pipes
- For indoor use

Advantages

- Connecting thread M6
- Two tightening bolts secured with captive washers
- Tightening bolts with combination cross-head convenient for power driver
- Structure-borne noise reduction due to the vibration control lining



Connecting thread	Size [mm]	Part no.	Sales unit	Pack unit
M6	8	**119695**	100	pieces
	10	**119687**		

Pipe clips

galvanised

Field of application

- Direct mounting of pipelines on concrete floors under screed

Advantages

- Time-saving, easy installation
- Hardened nails for pipe clips prevent from time-consuming drilling, plugging and screwing
- A setting tool and a hammer will suffice for attachment





Type	Pipe outer diameter [mm]	Fixing hole Ø [mm]	**Part no.**	Sales unit	Pack unit
Single	15–16	6.1	**114941**	100	pieces
	17–18		**114953**		
	19–20		**114965**		
	21–22		**114980**		
	23–24		**114989**		
	27–28		**115004**		
	34–35		**115016**		
	39–40		**115025**		
Double	15–16		**115054**		
	17–18		**115060**		
	19–20		**115066**		
	21–22		**115072**		
	23–24		**115078**		
	27–28		**115084**		
	34–35		**115090**		
	39–40		**115096**		

Please refer to chapter „Insulation“ for nails and setting tool.

Caoutchouc pipe support 13 mm

Field of application

- Thermally decoupled fastening of pipelines in low-temperature applications
- Ideally suited for attachments in ventilation and climate control technology, cooling technology and cold water pipes

Advantages

- Consistent prevention of temperature bridges on cold pipelines
- High insulating effect due to support element made of PIR (polyisocyanurate)
- Insulation thickness matched to the insulation layer thickness of the insulation sleeve
- Reliable water vapour diffusion barrier
- Caoutchouc surfaces at the front enable easy gluing with the pipe insulation made of caoutchouc material
- Temperature resistance –50 °C to +105 °C



Pipe outer-∅ D [mm]	Pipe outer-Ø D Steel pipe		Shell length L [mm]	Outer-∅ shell [mm]	**Part no.**	Sales unit	Pack unit
CU-pipe	[inch]	[mm]					
10	⅛	10.2	50	36	**137791**	1	pieces
12				38	**133687**		
15	¼	13.5		41	**137792**		
18	⅜	17.2		44	**133689**		
22	½	21.3		48	**133690**		
28	¾	26.9		54	**133691**		
35	1	33.7		61	**133692**		
42	1¼	42.4		68	**133693**		
	1½	48.3		74	**133694**		
54				80	**133695**		
57				83	**133696**		
	2	60.3		86	**133697**		
64				92	**133698**		
70				98	**133699**		
	2½	76.1		104	**133700**		
	3	88.9		117	**133701**		
	3½	101.6		130	**137793**		
108				136	**133685**		
	4	114.3		144	**133686**		
133			100	163	**137794**		
	5	139.7		170	**137795**		
159		160.0		190	**133688**		

Common products in stock, others available within approx. 10-15 working days.
From 1¼" upwards, we recommend using load distribution sleeves.

02/19

Caoutchouc pipe support 19 mm

Field of application

- Thermally decoupled fastening of pipelines in low-temperature applications
- Ideally suited for attachments in ventilation and climate control technology, cooling technology and cold water pipes

Advantages

- Consistent prevention of temperature bridges on cold pipelines
- High insulating effect due to support element made of PIR (polyisocyanurate)
- Insulation thickness matched to the insulation layer thickness of the insulation sleeve
- Reliable water vapour diffusion barrier
- Caoutchouc surfaces at the front enable easy gluing with the pipe insulation made of caoutchouc material
- Temperature resistance –50 °C to +105 °C



Pipe outer-∅ D [mm]	Pipe outer-Ø D Steel pipe		Shell length L [mm]	Outer-∅ shell [mm]	**Part no.**	Sales unit	Pack unit
CU-pipe	[inch]	[mm]					
10	⅛	10.2	50	48	**137796**	1	pieces
12				50	**137797**		
15	¼	13.5		53	**137798**		
18	⅜	17.2		56	**133707**		
22	½	21.3		60	**133709**		
28	¾	26.9		66	**133710**		
35	1	33.7		73	**133711**		
42	1¼	42.4		80	**133712**		
	1½	48.3		86	**133713**		
54				92	**135524**		
57				95	**133714**		
	2	60.3		98	**133715**		
64				104	**133716**		
70				110	**137799**		
	2½	76.1		116	**133717**		
	3	88.9		129	**133718**		
	3½	101.6		142	**137800**		
108				148	**137801**		
	4	114.3		156	**133702**		
133			100	175	**133703**		
	5	139.7		182	**133704**		
159		160.0		202	**133705**		
	6	168.3		208	**133706**		
	8	219.1		259	**133708**		

Common products in stock, others available within approx. 10-15 working days.
From 1¼" upwards, we recommend using load distribution sleeves.

02/19

Caoutchouc pipe support 32 mm

Field of application

- Thermally decoupled fastening of pipelines in low-temperature applications
- Ideally suited for attachments in ventilation and climate control technology, cooling technology and cold water pipes

Advantages

- Consistent prevention of temperature bridges on cold pipelines
- High insulating effect due to support element made of PIR (polyisocyanurate)
- Insulation thickness matched to the insulation layer thickness of the insulation sleeve
- Reliable water vapour diffusion barrier
- Caoutchouc surfaces at the front enable easy gluing with the pipe insulation made of caoutchouc material
- Temperature resistance –50 °C to +105 °C



Pipe outer-∅ D [mm]	Pipe outer-Ø D Steel pipe		Shell length L [mm]	Outer-∅ shell [mm]	**Part no.**	Sales unit	Pack unit
CU-pipe	[inch]	[mm]					
10	⅛	10.2	50	74	**137802**	1	pieces
12				76	**137803**		
15	¼	13.5		79	**137804**		
18	⅜	17.2		82	**133729**		
22	½	21.3		86	**133732**		
28	¾	26.9		92	**133733**		
35	1	33.7		99	**133734**		
42	1¼	42.4		106	**133735**		
	1½	48.3		112	**133736**		
54				118	**133737**		
57				121	**133738**		
	2	60.3		124	**133739**		
64				130	**136652**		
70				136	**137805**		
	2½	76.1		142	**133740**		
	3	88.9		155	**133741**		
	3½	101.6		168	**137806**		
108				174	**133723**		
	4	114.3		182	**133724**		
133			100	201	**133725**		
	5	139.7		208	**133726**		
159		160.0		228	**133727**		
	6	168.3		234	**133728**		
	8	219.1		285	**133731**		

Common products in stock, others available within approx. 10-15 working days.
From 1¼" upwards, we recommend using load distribution sleeves.

02/19



Support channels

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

	Indoor use	Indoor and outdoor use			
	galvanised	hot-dip galvanised	zinc-nickel/ zinc lamella	Stainless steel V2A	V4A
MPC-System components					
 MPC-Support channels	4/1–4/8	12/1–12/5		11/6–11/10	11/6–11/10
 MPC-Wall hanger brackets	4/9–4/12	12/6–12/8		11/11–11/12	11/11–11/12
 MPC-Wall hanger supports	4/13–4/14	12/9			
 MPC-Diagonal struts	4/15	12/10			
 MPC-Quick fasteners	4/16–4/18			11/13–11/14	
 MPC-Hammer head fasteners	4/19–4/20			11/15	11/15
 MPC-Hammer head bolts	4/21			11/16	
 MPC-Rail nuts	4/22	12/11		11/17	11/17
 MPC-Double rail nut	4/22	12/11		11/17	
 MPC-Clamp brackets	4/22	12/11		11/17	11/17
 MPC-Protection caps	4/22	12/11		11/16	11/16
 Washers	5/22	12/11, 12/60		11/16, 11/57	11/16, 11/57
 DÄMMGULAST® Channel sections	4/23	12/12		11/18	11/18
 MPC-Channel connectors	4/24			11/19	11/19
 MPC-Channel support brackets	4/25			11/20	11/20
 MPC-Saddle supports	4/26	12/13		11/21	11/21
 MPC-Saddle support type 3	4/27				
 MPC-VARIO-Saddle support	4/28	12/14		11/22	
 MPC-Mounting angles	4/29–4/30			11/23	11/23
 MPC-Lateral angles	4/31–4/32	12/15			
 MPC-Cross channel connectors	4/33	12/16		11/24	11/24
 MPC-Girder cleats	4/34			11/25	11/25
 MPC-Girder support	4/35				
 MPC-VARIO joint			4/36		

Further surfaces available upon request.

	Indoor use	Indoor and outdoor use			
	galvanised	hot-dip galvanised	zinc-nickel/ zinc lamella	Stainless steel V2A	V4A
MPR-System components					
 MPR-Support channels	4/37–4/42	12/17–12/22			11/26–11/30
 MPR-Wall hanger brackets	4/43–4/45	12/23–12/24			11/31–11/32
 MPR-Quick fasteners	4/46–4/47				
 MPR-Hammer head fasteners	4/48–4/49		12/25–12/26		11/33
 MPR-Threaded plates	4/50	12/27			11/34
 MPR-Clamp brackets	4/51	12/28			11/35
 MPR-Protection caps	4/52	12/29			11/35
 Washers	4/52, 5/22	12/29, 12/60			11/35, 11/57
 DÄMMGULAST® Channel sections	4/53	12/30			11/36
 MPR-Channel connectors	4/54				
 MPR-Saddle supports	4/55	12/31			11/37
 MPR-VARIO-Saddle support	4/56	12/32			11/38
 MPR-Mounting angle	4/57				11/39
 MPR-Cross channel connectors	4/58	12/33			11/39
 MPR-Girder cleats	4/59	12/34			11/40
MPR-System components type S+ Not usable with MPR-Support channels 41/41/3.0					
 MPR-Quick fasteners type S+	4/60		12/35		
 MPR-Slide nuts type S+	4/61	12/36			
 MPR-Connection lock type S+	4/62		12/37		
 MPR-Diagonal struts type S+	4/63	12/38			
 MPR-Adapter disc type S+	4/64				

VIDEO TIP

MÜPRO support channel system: the video presents our comprehensive range of support channels and shows the various processing and installation options.

MÜPRO MPR quick-mounting system type S+: more time savings, greater flexibility, greater safety. MÜPRO presents its innovative MPR quick-mounting system type S+ in this video.

	Indoor use	Indoor and outdoor use			
	galvanised	hot-dip galvanised	zinc-nickel/ zinc lamella	Stainless steel V2A	Stainless steel V4A
MPR-System components type S+ Not usable with MPR-Support channels 41/41/3.0					
 MPR-Channel connector type S+, heavy-duty version	4/64	12/38			
 MPR-Channel support bracket type S+	4/65				
 MPR-Saddle supports type S+	4/66–4/68	12/39–12/41			
 MPR-Construction brackets type S+	4/69	12/42			
 MPR-Mounting angles type S+	4/70–4/71	12/43–12/44			
 MPR-Angle connectors type S+	4/72–4/74	12/45–12/47			
 MPR-Connection plates type S+	4/75	12/48			
 MPR-3D-Connectors type S+	4/76	12/49			
 MPR-Cross channel connector type S+	4/77	12/50			
 MPR-VARIO joint type S+	4/78				
Products for usage with MPC-/MPR-System components					
 Cramping connector	4/79				
 Channel connector, heavy-duty version	4/80–4/81	12/51–12/52			11/41
 Reinforcement angle	4/82	12/53		11/42	11/42
 Cantilever brackets	4/83	12/54		11/43	11/43
 Construction brackets	4/84			11/45–11/46	
 Mounting angles	4/85–4/86	12/55–12/56		11/47–11/48	11/47
 Angle-, T- and Cross connector plates	4/87–4/88	12/57		11/49	11/49
 StaboFix® Fixing system	4/89–4/92				
 Angle rail	4/93				
Accessories					
 Threaded rods	5/4	12/59		11/55	11/55
 Hexagon head bolts	5/20	12/59		11/58	11/58
 Hexagonal nuts	5/21	12/59		11/57	11/57
 Washers DIN 125	5/22	12/60		11/57	11/57

Further surfaces available upon request.

MPC-Support channels 27/18 L (light)

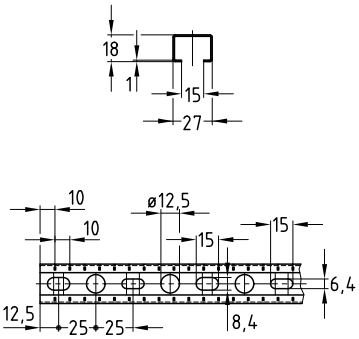
sendzimir galvanised

Field of application

- Ideal for pipe installation as support structure for air ducts in dry interiors
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components

Advantages

- Quick and efficient attachment of pipe sections and multiple pipe ways
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- High bending stiffness due to the cross-section design
- For setting up structures with correctly measured static loads by means of diverse connection components
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPC-protection caps





Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
27/18 L	2,000	**129876**	25	pieces

02/19

MPC-Support channels

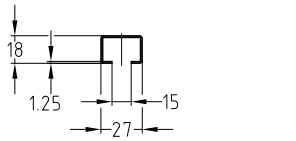
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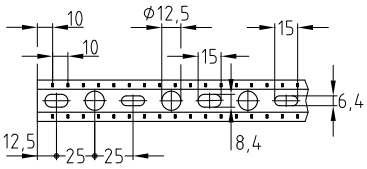
Field of application

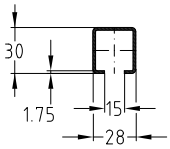
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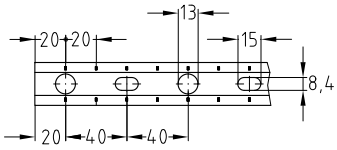
Advantages

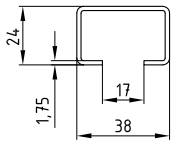
- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- High bending stiffness due to the cross-section design
- For setting up structures with correctly measured static loads by means of diverse connection components
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPC-protection caps

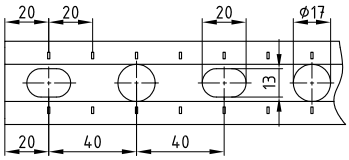














Profile 27/18



Profile 28/30



Profile 38/24

Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
27/18	1,000	**129883**	25	pieces
	2,000	**129911**		
	3,000	**105208**	1	
	6,000	**130003**		
28/30	2,000	**118590**	8	
	3,040	**118692**	1	
	4,000	**118822**	8	
	6,000	**118994**	1	
38/24	2,000	**139920**	10	
	3,040	**153256**	5	
	6,000	**139922**	1	

02/19

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MPC-Support channels

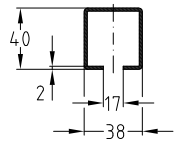
sendzimir galvanised

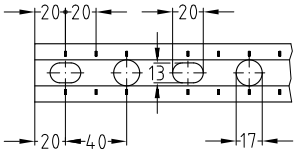
Field of application

- Ideal for pipe installation as support structure for air ducts in dry interiors
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components

Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- High bending stiffness due to the cross-section design
- For setting up structures with correctly measured static loads by means of diverse connection components
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPC-protection caps
- Support channels 38/40 and 40/60 are awarded the RAL-quality mark of the „Gütegemeinschaft Rohrbefestigung“

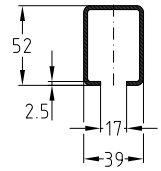


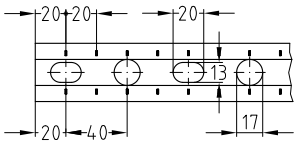


RAL GÜTEZEICHEN ROHRBEFESTIGUNG RAL-GZ 655-C



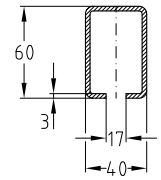
Profile 38/40

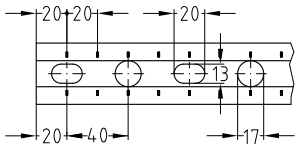






Profile 39/52





RAL GÜTEZEICHEN ROHRBEFESTIGUNG RAL-GZ 655-C



Profile 40/60

Features

fire protection certified

Profile	Length [mm]	Part no.	Sales unit	Pack unit
38/40	2,000	**129917**	5	pieces
	3,040	**129945**	4	
	4,000	**129964**		
	6,000	**130011**	1	
39/52		**130015**		
40/60	2,000	**129921**		
	3,040	**129946**		
	4,000	**129965**		
	6,000	**130020**		

For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

MPC-Support channels

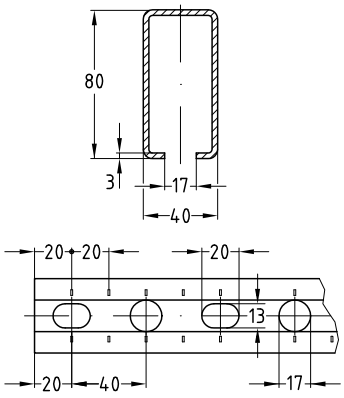
sendzimir galvanised

Field of application

- Ideal for pipe installation as support structure for air ducts in dry interiors
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components

Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- High bending stiffness due to the cross-section design
- For setting up structures with correctly measured static loads by means of diverse connection components
- Clean-cut appearance by the use of MPC-protection caps





Profile 40/80

Features

Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
40/80	6,000	**130024**	1	pieces

For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

MPC-Support channels

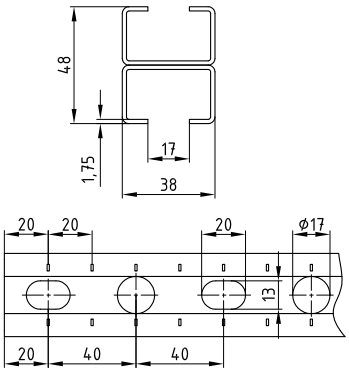
H-Profiles, sendzimir galvanised

Field of application

- Ideal for space-saving support structure of multisection pipeways between ceiling joists
- Ideal for pipe installation as support structure for air ducts in dry interiors
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components

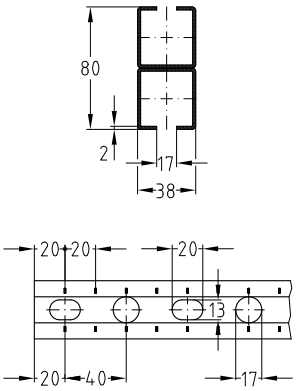
Advantages

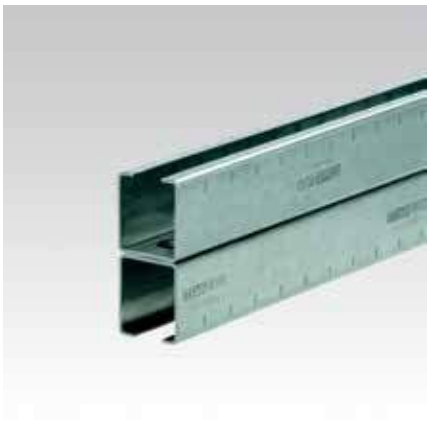
- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Ideal combination of high bending stiffness and ease of installation
- Channel slots on both sides allow simple and quick alignment of all suspended and floor-mounted pipe supports
- Scale marks sideways and on the sides with the slots simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPC-protection caps



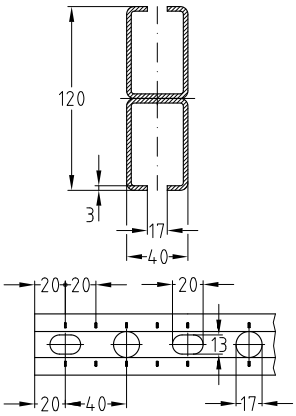


Profile 38/48





Profile 38/80





Profile 40/120

Features

Profile	Length [mm]	Part no.	Sales unit	Pack unit
38/48	6,000	**141179**	1	pieces
38/80	2,000	**129870**		
	4,000	**129872**		
	6,640	**129874**		
40/120		**129875**		

For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

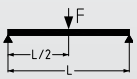
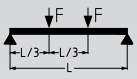
MPC-Support channels

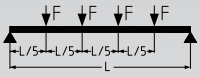
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Technical data of profiles:

Profile	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available MPC-Rail nuts	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
27/18 L	DX51D	sendzimir galvanised	153	M8, M10	0.50	0.56	0.2387	0.7572	0.254	0.560
27/18					0.60	0.69	0.2911	0.9554	0.310	0.707
28/30					1.15	1.36	1.3999	2.0551	0.911	1.467
38/24				M8, M10, M12, M16	1.21	1.40	1.0871	3.6213	0.905	1.905
38/40					1.82	2.21	4.3286	6.1000	2.164	3.210
39/52					2.80	3.35	10.4472	9.7614	4.018	5.005
40/60					3.50	4.44	17.5426	13.3946	5.847	6.697
40/80					4.68	5.64	37.9390	17.5106	9.484	8.755
38/48 H-Profile					2.43	2.79	6.1952	7.2427	2.581	3.811
38/80 H-Profile					3.58	4.42	26.3479	12.2001	6.586	6.421
40/120 H-Profile					7.00	8.88	115.0004	26.7890	19.166	13.394

Load bearing capacities of profiles for bending around the y-axis [N]:

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
27/18 L	308	117	49	24	–	–	230	69	29	14	–	–
27/18	376	143	60	29	–	–	280	84	35	17	–	–
28/30	1,099	549	303	162	–	–	814	410	178	95	–	–
38/24	1,094	541	233	122	–	–	812	317	136	72	–	–
38/40	2,609	1,308	867	523	92	–	1,927	979	559	307	54	–
39/52	4,830	2,430	1,612	1,198	260	43	3,555	1,816	1,206	752	153	25
40/60	7,019	3,537	2,349	1,748	467	117	5,157	2,643	1,758	1,272	274	69
40/80	11,311	5,733	3,815	2,844	1,080	359	8,246	4,274	2,852	2,128	634	211
38/48 H-Profile	3,100	1,559	1,032	753	139	–	2,280	1,165	772	442	82	–
38/80 H-Profile	7,834	3,977	2,646	1,971	741	235	5,696	2,962	1,977	1,475	435	138
40/120 H-Profile	22,447	11,542	7,711	5,765	2,785	1,353	16,040	8,554	5,749	4,307	2,026	794

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
27/18 L	154	49	21	10	–	–	128	39	16	–	–	–
27/18	187	60	25	12	–	–	156	47	20	–	–	–
28/30	544	274	128	68	–	–	451	228	100	54	–	–
38/24	542	228	98	52	–	–	450	179	77	41	–	–
38/40	1,287	652	401	220	39	–	1,067	542	315	173	30	–
39/52	2,374	1,210	804	540	110	18	1,965	1,006	670	424	86	14
40/60	3,444	1,760	1,172	873	197	49	2,848	1,464	976	717	154	39
40/80	5,508	2,847	1,901	1,420	455	151	4,541	2,365	1,582	1,182	357	119
38/48 H-Profile	1,523	776	515	317	59	–	1,260	645	429	249	46	–
38/80 H-Profile	3,804	1,973	1,318	984	312	99	3,133	1,639	1,097	819	245	78
40/120 H-Profile	10,711	5,697	3,833	2,873	1,391	570	8,763	4,723	3,186	2,391	1,141	447

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.54$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L_{/200}$ are not exceeded, taking the deadweight into consideration.

02/19

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MPC-Support channels

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Permissible buckling loads for profiles [N]:

Buckling length Lk [mm]	MPC 27/18	MPC 28/30	MPC 38/24	MPC 38/40	MPC 39/52	MPC 40/60	MPC 40/80	MPC 38/48	MPC 38/80	MPC 40/120
200	10,105	20,698	20,992	33,744	51,172	67,749	86,061	42,610	67,488	135,498
300	9,403	19,911	20,046	33,405	51,172	67,749	86,061	42,392	67,488	135,498
400	8,553	19,069	19,000	32,478	50,269	66,660	84,785	41,299	66,644	134,144
500	7,531	18,133	17,798	31,508	49,109	65,155	82,904	40,166	65,642	132,242
600	6,416	17,068	16,404	30,469	47,902	63,593	80,954	38,964	64,571	130,223
700	5,355	15,861	14,839	29,338	46,627	61,946	78,904	37,669	63,403	128,040
800	4,444	14,529	13,190	28,095	45,264	60,190	76,721	36,258	62,104	125,636
900	3,705	13,132	11,582	26,730	43,794	58,302	74,378	34,714	60,639	122,951
1,000	3,116	11,749	10,109	25,245	42,206	56,263	71,852	33,033	58,966	119,914
1,100	2,648	10,451	8,818	23,663	40,491	54,064	69,128	31,226	57,046	116,455
1,200	2,273	9,278	7,713	22,023	38,654	51,706	66,208	29,323	54,851	112,513
1,300	1,970	8,243	6,778	20,374	36,712	49,209	63,109	27,368	52,374	108,052
1,400	1,722	7,343	5,987	18,765	34,696	46,605	59,869	25,417	49,641	103,084
1,500	1,517	6,565	5,318	17,237	32,643	43,942	56,545	23,518	46,719	97,686
1,600	1,346	5,893	4,750	15,813	30,597	41,274	53,199	21,712	43,703	91,997
1,700	1,203	5,312	4,265	14,506	28,599	38,652	49,897	20,023	40,692	86,189
1,800	1,080	4,809	3,848	13,317	26,680	36,121	46,695	18,463	37,772	80,436
1,900	976	4,370	3,488	12,244	24,864	33,712	43,636	17,037	35,004	74,879
2,000	886	3,987	3,176	11,278	23,163	31,448	40,748	15,740	32,423	69,614
2,100	807	3,651	2,902	10,409	21,584	29,336	38,047	14,563	30,042	64,696
2,200	739	3,355	2,663	9,628	20,126	27,380	35,539	13,499	27,862	60,148
2,300	679	3,092	2,451	8,925	18,784	25,576	33,219	12,536	25,874	55,968
2,400	626	2,859	2,263	8,292	17,553	23,916	31,082	11,664	24,065	52,141
2,500	579	2,651	2,096	7,720	16,425	22,392	29,115	10,874	22,421	48,645
2,600	537	2,464	1,947	7,203	15,391	20,993	27,308	10,157	20,927	45,454
2,700	499	2,297	1,813	6,735	14,443	19,709	25,647	9,506	19,567	42,540
2,800	465	2,145	1,692	6,309	13,574	18,530	24,121	8,912	18,328	39,879
2,900	435	2,008	1,583	5,921	12,776	17,447	22,718	8,371	17,198	37,446
3,000	407	1,884	1,484	5,567	12,043	16,451	21,425	7,875	16,165	35,217
3,100	382	1,771	1,394	5,243	11,368	15,533	20,234	7,422	15,219	33,174
3,200	359	1,667	1,312	4,946	10,746	14,686	19,135	7,005	14,351	31,297
3,300	339	1,573	1,237	4,674	10,172	13,904	18,120	6,622	13,553	29,569
3,400	320	1,486	1,168	4,422	9,641	13,181	17,180	6,269	12,819	27,977
3,500	302	1,406	1,105	4,191	9,149	12,511	16,309	5,943	12,142	26,507
3,600	286	1,332	1,047	3,977	8,693	11,890	15,501	5,641	11,516	25,148
3,700	271	1,264	993	3,778	8,270	11,312	14,750	5,362	10,936	23,888
3,800	257	1,202	943	3,594	7,876	10,775	14,051	5,102	10,398	22,719
3,900	245	1,143	897	3,423	7,509	10,274	13,399	4,861	9,899	21,632
4,000	233	1,089	854	3,264	7,167	9,807	12,791	4,636	9,434	20,621
4,100	222	1,038	815	3,116	6,847	9,370	12,222	4,426	9,001	19,678
4,200	212	991	777	2,977	6,548	8,962	11,690	4,230	8,597	18,797
4,300	202	948	743	2,847	6,268	8,579	11,192	4,047	8,219	17,974
4,400	193	906	710	2,726	6,005	8,220	10,724	3,875	7,865	17,203
4,500	185	868	680	2,612	5,758	7,883	10,285	3,714	7,534	16,480
4,600	177	832	652	2,505	5,526	7,565	9,872	3,563	7,223	15,801
4,700	170	798	625	2,405	5,308	7,267	9,483	3,421	6,930	15,163
4,800	163	766	600	2,310	5,102	6,986	9,116	3,287	6,655	14,563
4,900	157	736	576	2,221	4,908	6,720	8,770	3,160	6,396	13,998
5,000	151	708	554	2,137	4,724	6,469	8,443	3,041	6,152	13,464
5,100	145	681	533	2,058	4,551	6,232	8,134	2,928	5,921	12,961
5,200	139	656	513	1,983	4,387	6,008	7,841	2,822	5,703	12,485
5,300	134	632	495	1,912	4,231	5,795	7,564	2,721	5,497	12,034
5,400	129	610	477	1,844	4,084	5,594	7,302	2,626	5,302	11,608
5,500	125	588	460	1,780	3,944	5,403	7,052	2,535	5,117	11,203
5,600	121	568	444	1,720	3,812	5,221	6,815	2,449	4,941	10,819
5,700	116	549	429	1,662	3,685	5,048	6,590	2,367	4,775	10,455
5,800	112	531	415	1,608	3,565	4,884	6,376	2,290	4,616	10,109
5,900	109	513	401	1,556	3,451	4,727	6,172	2,216	4,465	9,779
6,000	105	497	388	1,506	3,342	4,578	5,977	2,145	4,322	9,466

02/19

MPC-Support channels

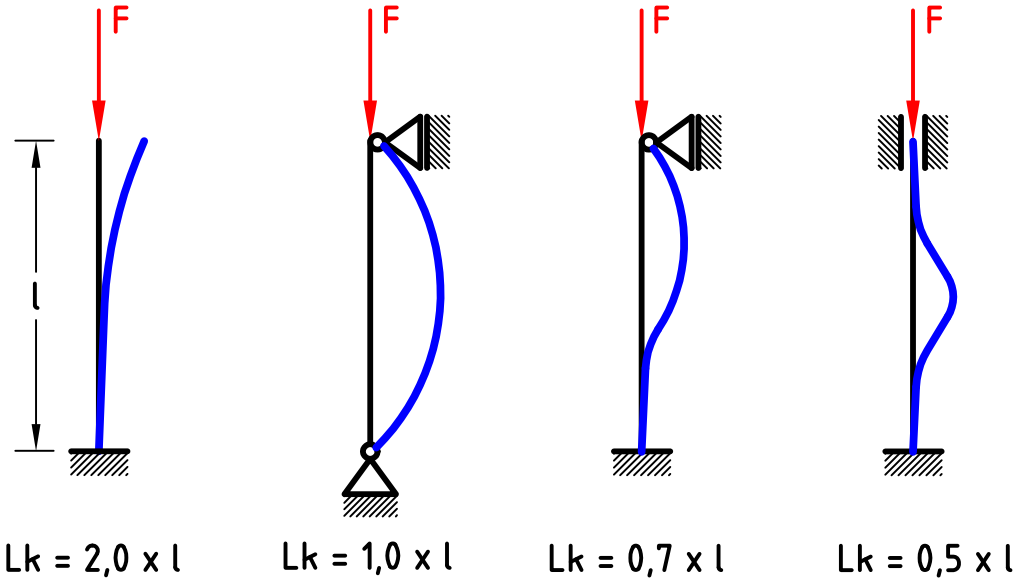
sendzimir galvanised

Buckling loads as per DIN EN 1993-1-1 sections 6.2 and 6.3.
The values in the table apply for fully bearing cross-sections and central load transmission!
The potentially lower slenderness parameter for buckling and lateral torsional buckling must be examined separately!

Buckling about the z-axis and the y-axis was considered.
The least favourable buckling load is documented in the table.

The safety coefficient $\gamma = 1.54$ takes into account the safety and combination coefficients as well as the safety factor of the material.

Determine the authoritative buckling length Lk depending on the storage conditions and the rod length l, as shown in the figure.
Read off the buckling load F as Lk from the table.



MPC-Wall hanger brackets

galvanised

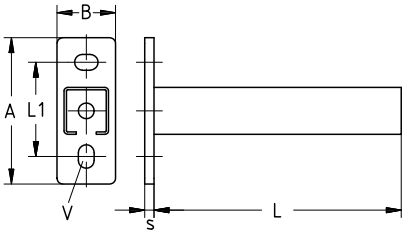
Field of application

- Ideal as cantilever support structure of multisection pipeways
- Applicable as cantilever bracket for air ducts and cable trays
- Applicable in combination with saddle support and channel support brackets as a cross-beam for pipe attachments in shafts and ducts
- Solid wall bracket for valves and equipment
- The 38/80 profile is ideally suitable for double-sided installation of pipe sections due to double channel slots

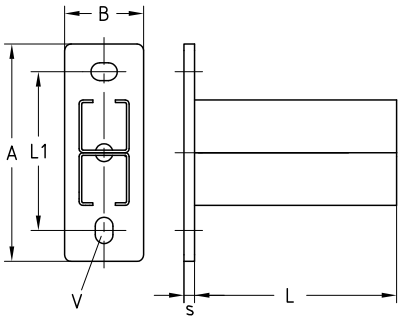
Advantages

- The strong base plate ensures a high load carrying capacity
- The vertical and horizontal holes in the base plate allow easy height adjustment of the bracket
- Variety of lengths covers all construction requirements
- Clean-cut appearance by the use of MPC-protection caps





Sections 27/18, 28/30, 38/40, 40/60



Sections 38/80

Features

Profile	Length L [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]				
					A	B	L1	s	V
27/18	200	**156710**	25	pieces	120	40	80	4	11 x 19
	300	**156711**							
	500	**156712**							
28/30	240	**156713**						5	
	400	**156714**							
38/40	160	**156715**	30		125	50		8	13.5 x 20
	240	**156716**							
	320	**156717**	25						
	400	**156718**							
	480	**156719**	20						
	560	**156720**							
	640	**156721**	10						
	720	**156727**							
	800	**156728**	1						
	1,040	**156722**							
40/60	560	**156723**			165	60	120		
	640	**156724**							
	800	**156725**							
	1,040	**156726**							
38/80	400	**156729**							
	800	**156730**							

For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

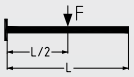
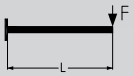
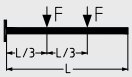
MPC-Wall hanger brackets

galvanised

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]
27/18	120 x 40 x 4	S355MC	231	DC01	153
28/30	120 x 40 x 5			DD11	
38/40	125 x 50 x 8	S235	162		
40/60	165 x 60 x 8	S355MC	231		
38/80 H-Profile					

Load bearing capacities of brackets for bending around the y-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]				
			Max. allowable load [N]			
27/18	52,255	200	463	235	232	155
		300	311	156	156	104
		500	186	93	93	62
28/30	98,082	240	817	408	408	272
		400	490	245	245	163
38/40	260,845	160	3,260	1,630	1,630	1,086
		240	2,173	1,086	1,086	724
		320	1,630	815	815	543
		400	1,304	652	652	434
		480	1,086	543	543	362
		560	931	465	465	310
		640	815	407	407	271
		720	724	362	362	241
		800	652	279	326	217
		1,040	501	161	242	156
40/60	514,741	560	1,838	919	919	612
		640	1,608	804	804	536
		800	1,286	643	643	428
		1,040	989	494	494	329
38/80 H-Profile	676,681	400	3,383	1,691	1,691	1,127
		800	1,691	845	845	563

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient γ = 1.54 takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L/150$ are not exceeded, taking the deadweight into consideration.

The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

02/19

MPC-Wall hanger brackets

for the attachment on support channels, galvanised

Field of application

- Wall hanger bracket with solid, rounded-edge base plate for the attachment on support channels
- Solid cantilever construction due to support from diagonal strut

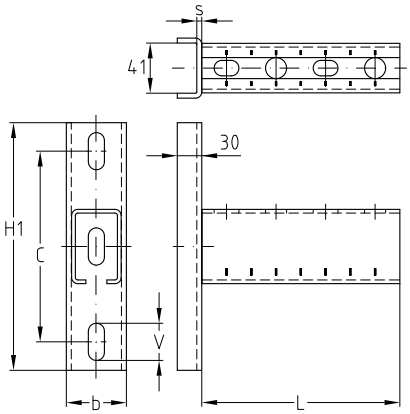
Advantages

- Clip-over edges of the base plate for good appearance
- Variety of set lengths covers all constructional requirements
- Simple height adjustment when mounted in the channel slot
- Clean-cut appearance by the use of MPC-protection caps





For support channels	Length L [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]				
					H1	b	s	C	V
40/60, 40/80, 40/120	560	**118401**	1	pieces	200	49	4	154	13 x 30
	640	**118405**							
	800	**118413**							
	1,040	**118397**							



See MPC-Wall hanger bracket 40/60 for load-bearing capacities.

When mounted in the channel slots, the max. recommended shear and tensile loads for the accessories (e.g. MPC-Hammer head bolts) must be observed.

02/19

MPC-Wall hanger brackets

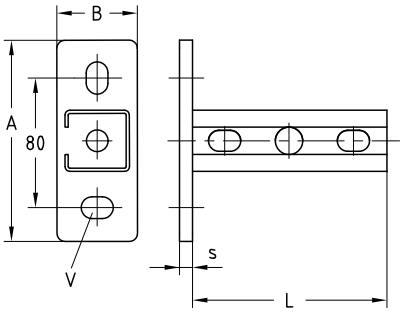
with lateral slot, galvanised

Field of application

- Ideal as cantilever support structure for riser pipes
- Applicable in combination with saddle support and channel support brackets as a cross-beam for pipe attachments in shafts and ducts
- Applicable as a cantilever bracket for supporting air ducts

Advantages

- The strong base plate ensures a high load carrying capacity
- The vertical and horizontal holes in the base plate allow easy height adjustment of the bracket
- Fixing in the side slot of the support channel allows simple alignment of parallel pipelines
- Clean-cut appearance by the use of MPC-protection caps





For support channels	Length L [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]			
					A	B	s	V
27/18	600	**156777**	20	pieces	120	40	4	11 x 19
28/30	400	**156778**					5	
38/40	240	**156779**			125	50	8	13.5 x 20
	480	**156780**						

02/19

MPC-Wall hanger supports

without vibration control, galvanised

Field of application

- For wall mounting of air-conditioning units where no vibration damping is required
- Galvanised version for use in dry interiors

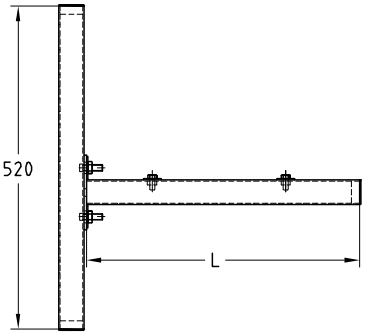
Advantages

- Efficient mounting due to pre-assembled parts
- MPC-Support channels cut-to length and with holes on the rear side including MPC-Protection caps
- Various bracket lengths available (depending on device type)
- Simple height adjustment of the brackets due to sliding MPC-Hammer head bolts
- Variable adjustment of the mounting spaces on the bracket due to MPC-Rail nuts



Features

Length L [mm]	Max. recommended load (set) [N]
480	1,500
560	
640	
800	1,200
1.040	0,900





Complete kit consists of:
2 MPC-Support channels 38/40, length 520 mm
2 MPC-Wall hanger brackets 38/40
6 MPC-Protection caps for 38/40 profile
4 MPC-Hammer-head bolts M10/30
4 Washers 8.5 x 36 x 2 mm
4 MPC-Rail nuts M8 for 38/40 profile
4 Hexagon head bolts M8/20
4 MPC-Clamp brackets M10 for 38/40 profile

Length L [mm]	Part no.	Sales unit	Pack unit
480	**113538**	1	set
560	**113544**		
640	**113547**		
800	**113550**		
1.040	**113535**		

02/19

MPC-Wall hanger supports

with vibration control, galvanised

Field of application

- **For the vibration dampened attachment** of equipment such as ventilation and air conditioning devices, pumps, household water tanks, etc. on walls
- Galvanised version for use in dry interiors

Advantages

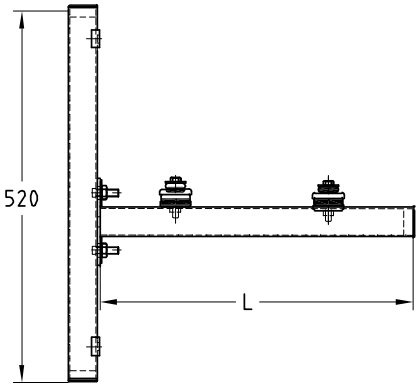
- Efficient mounting due to pre-assembled parts

- MPC-Support channels cut-to length and with holes on the rear side including MPC-Protection caps
- Various bracket lengths available (depending on device type)
- Simple height adjustment of the brackets due to sliding MPC-Hammer head bolts
- Variable adjustment of the mounting spaces on the bracket due to MPC-Rail nuts
- **Average vibration reduction of 17 dB(A) due to DÄMMGULAST® Resilient pads**



Features

Length L [mm]	Max. recommended load (set) [N]
480	1,500
560	
640	
800	1,200
1.040	0,900





Complete kit consists of:
- 2 MPC-Support channels 38/40, length 520 mm
- 2 MPC-Wall hanger brackets 38/40
- 4 DÄMMGULAST® Resilient pads 43 x 11 mm
- 6 6 MPC-Protection caps for 38/40 profile
- 4 MPC-Hammer head bolts M10/30
- 4 DÄMMGULAST® Washers 8.5 x 28 mm
- 4 Washers 8.5 x 28 x 1 mm
- 4 MPC-Rail nuts M8 for 38/40 profile
- 4 Hexagon head bolts M8/55
- 4 MPC-Clamp brackets M10 for 38/40 profile

Length L [mm]	Part no.	Sales unit	Pack unit
480	**113493**	1	set
560	**113511**		
640	**113517**		
800	**113523**		
1.040	**113487**		

02/19

MÜPRO

MPC-Diagonal struts

galvanised

Field of application

- Diagonal strut applicable for the direct wall-mounting of wall hanger brackets

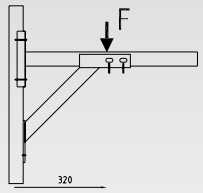
Advantages

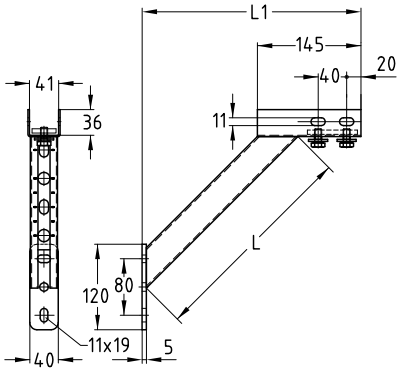
- Quick mounting due to pre-installed double rail nuts
- With clip-over edges for the wall hanger bracket
- Oblong holes at the side enable the positioning of MPC-Support channels 38/40 with slot at the side





Features

	Length L [mm]	Mounting of bracket and diagonal strut in the support channel slot max. recommended load F [N]	Directly mounted max. recommended load F [N]
	440	2,500	6,000
	900	2,000	3,000



For support channels	Length L [mm]	Length L1 [mm]	**Part no.**	Sales unit	Pack unit
38/24–40/120	440	405	**129790**	1	pieces
	900	730	**139228**		

02/19

MPC-Quick fasteners

with external thread, galvanised

Field of application

- Secure and easy installation in slot of MPC-Support channel in order to connect pipe clamps

Advantages

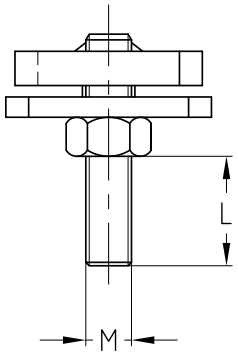
- Time-saving attachment in the channel slot, even if subsequently fitted between existing pipe sections
- Simple and secure handling: insert in the MPC-Support channels, turn and the MPC-Quick fastener is fixed. No slipping, no falling out
- Adjustment marks on the side facilitate its positioning in the support channel
- Reduction of installation effort due to integral threaded pin in various lengths
- Threaded pins are secured against unscrewing
- Subsequent height adjustment of the threaded pin facilitates corrections of the installation
- Suitable for all MPC-Support channels 27/18 to 40/120



For profiles 27/18 and 28/30



For profiles 38/24 to 40/120



Features

fire protection certified 38/40–40/120, ≥ M10

For support channels	Connecting thread	Usable thread length L [mm]	Total length [mm]	Part no.	Sales unit	Pack unit
27/18, 28/30	M8	7	30	**120890**	100	pieces
		25	50	**120870**		
		45	70	**120882**		
		65	90	**120886**		
	M10	30	55	**120838**		
38/24–40/120	M8	7	35	**120894**	50	
		30	60	**120874**		
		40	70	**120878**		
	M10	7	35	**120846**		
		25	55	**120834**		
		50	80	**120842**		

02/19

MPC-Quick fasteners

with internal thread, galvanised

Field of application

- Secure and easy installation in slot of MPC-Support channel in order to attach mounting accessories
- Angle-mounting for fast and efficient installation of brackets and mounting angles

Advantages

- Time-saving attachment in the channel slot, even if subsequently fitted between existing pipe sections
- Simple and secure handling: insert in the MPC-Support channels, turn and the MPC-Quick fastener is fixed. No slipping, no falling out
- Adjustment marks on the side facilitate its positioning in the support channel
- High quality and load capacity
- Suitable for all MPC-Support channels 27/18 to 40/120



For profiles 27/18 and 28/30



For profiles 38/24 to 40/120





For angle mounting

Features

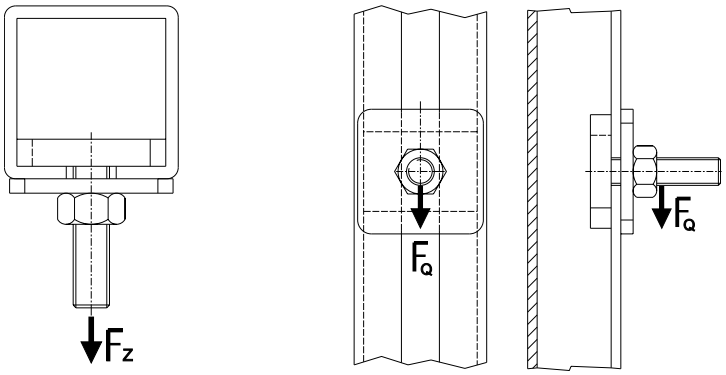
fire protection certified 38/40–40/120, with internal thread ≥ M10

Type	For support channels	Connecting thread	Part no.	Sales unit	Pack unit
With internal thread	27/18, 28/30	M8	**120858**	100	pieces
		M10	**120822**		
	38/24–40/120	M8	**120862**		
		M10	**120826**		
For angle mounting		M8	**120790**		
		M10	**120782**		

02/19

MPC-Quick fasteners

with internal thread, galvanised



For support channels	MPC-Quick fasteners			
	Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ (displacement) [N]	For a tightening torque of [Nm]
27/18	M8	1,400	300	10
	M10			
28/30	M8	2,100	350	
	M10			

For support channels	MPC-Quick fasteners			
	Connecting thread	Max. recommended tensile load Fz [N]]	Max. recommended transverse load FQ (displacement) [N]	For a tightening torque of [Nm]
38/24	M8	2,000	500	20
	M10			25
38/40	M8	2,800	1,000	20
	M10			25
39/52	M8	3,300		20
	M10			25
40/60	M8	4,000		20
	M10			25
40/80	M8			20
	M10			25
38/80	M8	2,800		20
	M10			25
40/120	M8	4,000		20
	M10			25

02/19

MÜPRO

MPC-Hammer head fasteners

galvanised

Field of application

- For time-saving, efficient attachment of pipe clamps to MPC-Support channels

Advantages

- Practical range of lengths
- For insertion at any point into the slot of channel support profiles 27/18 and 28/30
- Lateral adjustment at any time, allows perfect alignment of the pipeline after installation
- Various lengths and thread diameters can be combined within the same channel





Features

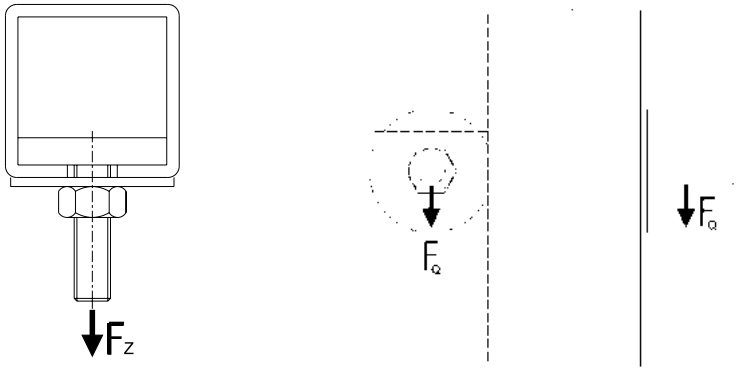
fire protection certified ≥ 38/40

For support channels	Connecting thread	Length [mm]	Usable thread length [mm]	**Part no.**	Sales unit	Pack unit
27/18, 28/30	M8	20	7	**115129**	100	pieces
		30	15	**115152**		
		40	25	**115166**		
		50	35	**115175**		
		60	45	**115178**		
		70	55	**115181**		
		80	65	**115190**		
		90	75	**115193**		
		100	85	**115113**		
		120	105	**115116**		
		140	125	**115119**		
		160	145	**115122**		
		180	165	**115125**		
	M10	35	18	**115104**		
38/24–40/120	M8	30	15	**115056**	50	
		35	20	**115074**		
		40	25	**115080**		
		50	35	**115092**		
		80	65	**115101**		
		100	85	**115035**		
		120	105	**115038**		
		140	125	**115041**		
		160	145	**115044**		
		180	165	**115047**		
	M10	35	18	**114990**		
		55	35	**114999**		
		80	60	**115002**		
		100	80	**114963**		
		120	100	**114966**		
		140	120	**114969**		
		160	140	**114972**		
		180	160	**114975**		
	M12	35	15	**115014**		

02/19

MPC-Hammer head fasteners

galvanised



For support channels	Max. allowable bearing point load capacity of channel [N]	MPC-Hammer head fasteners			
		Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ (displacement) [N]	For a tightening torque of [Nm]
27/18	1,700	M8	1,000	400	10
		M10	1,700	1,200	30
28/30	2,500	M8	1,000	400	10
		M10	2,500	1,200	30

For support channels	Max. allowable bearing point load capacity of channel [N]	MPC-Hammer head fasteners			
		Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ (displacement) [N]	For a tightening torque of [Nm]
38/24	2,200	M8	1,000	600	20
		M10	2,200	800	30
38/40	5,000	M8	2,500	1,000	20
		M10	2,800	1,100	30
		M12	5,000	1,200	40
39/52	6,700	M8	3,000	1,000	20
		M10	3,300	1,100	30
		M12	6,700	1,200	40
40/60 40/80	8,300	M8	3,500	1,000	20
		M10	4,000	1,100	30
		M12	8,300	1,200	40
38/80	5,000	M8	2,500	1,000	20
		M10	2,800	1,100	30
		M12	5,000	1,200	40
40/120	8,300	M8	3,500	1,000	20
		M10	4,000	1,100	30
		M12	8,300	1,200	40

02/19

MÜPRO

MPC-Hammer head bolts

galvanised

Field of application

- For time-saving, efficient attachment to MPC-Support channels

Advantages

- Ideal for attachment of channel constructions and connecting elements
- Suitable for profiles 38/24, 38/40, 39/52, 40/60, 40/80, 38/48, 38/80 and 40/120
- For direct insertion in the channel slot – even between the attachment bolts



Features

Brandschutz-geprüft ab 38/40

For support channels	Connecting thread	Max. allowable bearing point load capacity of channel [N]	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ (displacement) [N]	For a tightening torque of [Nm]
38/24, 38/48	M8	2,200	2,200	600	20
	M10			800	30
	M12			1,000	40
38/40, 38/80	M8	5,000	5,000		20
	M10			1,500	30
	M12			1,800	40
39/52	M8	6,700	6,700	1,000	20
	M10			1,500	30
	M12			1,800	40
40/60, 40/80, 40/120	M8	8,300	8,300	1,000	20
	M10			1,500	30
	M12			1,800	40

Connecting thread	Length [mm]	Usable thread length [mm]	**Part no.**	Sales unit	Pack unit
M8	30	20	**115340**	50	pieces
M10		19	**115298**		
M12		17	**115316**		

02/19

MPC-Rail nuts

for MPC-Support channels and wall hanger brackets, galvanised

	For support channels	Thread	Length L [mm]	Width [mm]	Height [mm]	Part no.	Sales unit	Pack unit
MPC-Rail nuts	27/18, 28/30	M6	21.5	11.8	4.0	**118013**	100	pieces
		M8		14.0	5.0	**120043**		
	38/24–40/120	M6	31.0	16.0	6.0	**148757**		
			32.8	23.0		**148759**		
		M8	31.0	16.0		**148761**		
			32.8	23.0		**118040**		
		M10	31.0	16.0		**147854**		
			32.8	23.0		**117968**		
		M12				**117986**		
		M16	32.5	32.5	8.0	**148762**	25	
MPC-Rail nuts polybox á 300 pieces		M8	32.8	23.0	6.0	**157362**	1	box
		M10				**157361**		



Size 27/18–28/30



Size 38/24–40/120

MPC-Double rail nut

for MPC-Support channels and wall hanger brackets, galvanised

For support channels	Thread	Part no.	Sales unit	Pack unit
38/24–40/120	M10	**117944**	50	pieces



MPC-Clamp brackets

for MPC-Support channels and wall hanger brackets, galvanised

For support channels	For thread	Part no.	Sales unit	Pack unit
27/18, 28/30	M8	**114439**	100	pieces
	M10	**114503**		
38/24, 38/40, 38/48, 38/80	M8	**114447**		
	M10	**114450**		
39/52, 40/60, 40/80, 40/120	M8	**114471**		
	M10	**114474**		
	M12	**114477**		
	M16	**114459**	25	



MPC-Clamp bracket

heavy-duty version, for MPC-Support channels and wall hanger brackets, to transfer large forces, galvanised

For support channels	For thread	Part no.	Sales unit	Pack unit
39/52, 40/60, 40/80, 40/120	M12	**114557**	25	pieces



MPC-Protection caps

for MPC-Support channels and wall hanger brackets

For support channels	Part no.	Sales unit	Pack unit
27/18	**106000**	100	pieces
28/30	**106002**		
38/24, 38/48	**106004**		
38/40, 38/80	**106006**	50	
39/52	**106007**		
40/60, 40/120	**106008**	25	
40/80	**106009**		



02/19

DÄMMGULAST® Channel sections

for MPC-Profiles

Field of application

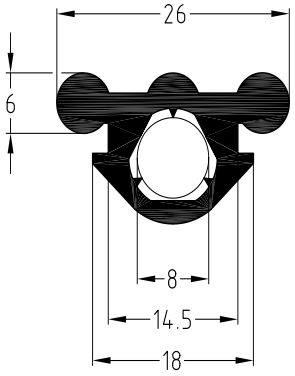
- Ideal for the decoupling of traverses for air duct fixtures
- For secure vibration-decoupling of MPC-Support channels

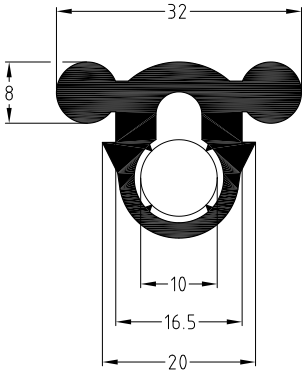
Advantages

- Easy installation by inserting into MPC-Support channels and/or screwing onto threaded rods
- Prevents structure-borne noise coupling by avoiding contact between the air duct and the threaded rods
- Interlocking profile prevents channel section being pushed out
- Prevents fluttering and other vibration noises in the air ducts
- Small contact surface, large absorption mass









Features

Design	For support channels	Suitable for	Part no.	Sales unit	Pack unit
DÄMMGULAST® Channel section roll of 30 m	27/18, 28/30	Channels with slot widths of 13–16 mm, M8 threaded rods	**107689**	1	roll
	38/24–40/120	Channels with slot widths of 15–18 mm, M8 and M10 threaded rods	**107690**		
DÄMMGULAST® Channel sections section of 50 mm			**107691**	300	pieces
DÄMMGULAST® Channel sections section of 100 mm			**107686**	200	

When installing air conditioning and ventilation equipment, MPC-Support channels can be used as load-bearing traverses. Structure-borne vibration coupling bridges resulting from direct metal contact between the air duct and the traverse or threaded rods can be prevented by the use of DÄMMGULAST® Channel section as intermediate layer.

The DÄMMGULAST® Channel section was developed especially for these application areas and provides the optimum solution from a practical installation point of view.

02/19

MPC-Channel connectors

galvanised

Field of application

- Quick butt-joint connection for MPC-Support channels

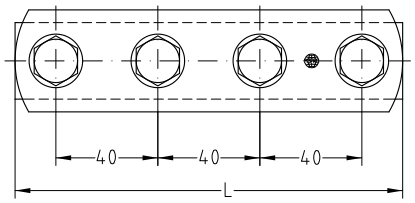
Advantages

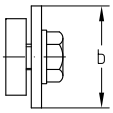
- Enables exact alignment of the channel
- Four bolts provide a frictional joint
- Smooth attachment by sliding into the channel section





For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]	
				L	b
27/18, 28/30	**120060**	50	pieces	148	25
38/24, 38/40, 39/52, 40/60, 40/80	**163109**	25		152	40





Please refer to page 4/80 for the heavy-duty version of the channel connectors.

02/19

MPC-Channel support brackets

galvanised

Field of application

- Ideal for attachment of MPC-Support channels as cross-beam in shafts and ducts
- For right-angled connection of two channels where section slots do not have the same alignment
- Applicable as floor or ceiling mounting for vertical MPC-Support channels

Advantages

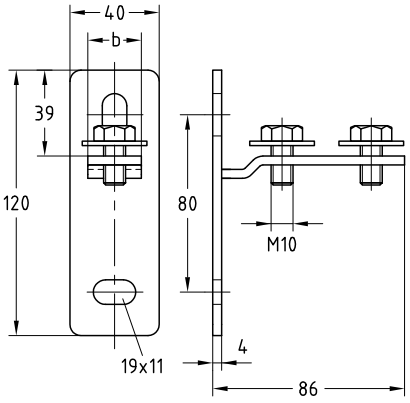
- The vertical and horizontal holes in the base plate enable easy height adjustment of the MPC-Channel support bracket
- Supplied with two clamping bolts, pre-installed



MPC-Channel support bracket, crosswise

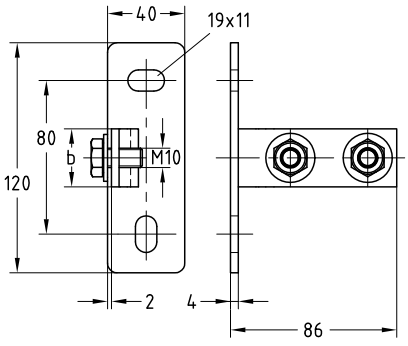


MPC-Channel support bracket, lengthwise



MPC-Channel support bracket, crosswise





MPC-Channel support bracket, lengthwise

Description	For support channels	**Part no.**	Sales unit	Pack unit	Dimensions b [mm]
Crosswise	27/18, 28/30	**156797**	25	pieces	24
	38/40	**156799**			30
Lengthwise	27/18, 28/30	**156796**			24
	38/40	**156798**			30

02/19

MPC-Saddle supports

galvanised

Field of application

- Simple assembly of strong cross-beams using MPC-Support channels
- Applicable for cramped installation conditions in shafts and ducts

Advantages

- The vertical and horizontal holes in the base plate enable simple alignment of the MPC-Saddle support
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel section structures
- The section 38/80 provides torque-resistant support as channel is encompassed on both sides



MPC-Saddle support, crosswise



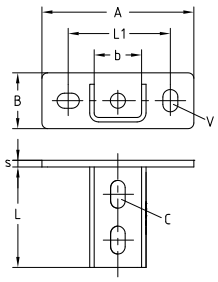
MPC-Saddle support, lengthwise



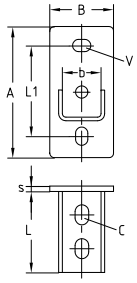
MPC-Saddle support lengthwise pre-assembled with double rail nut



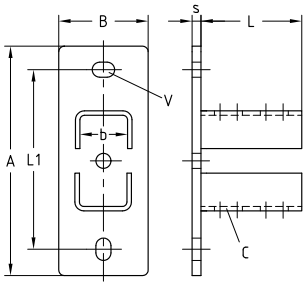
MPC-Saddle support, lengthwise for profiles 38/80, 40/80 and 40/120



MPC-Saddle support, crosswise



MPC-Saddle support, lengthwise



MPC-Saddle support, lengthwise for profiles 38/80 and 40/120

Features

fire protection certified 38/40, 39/52, 40/60, 40/80

	Description	For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	b	L	L1	s	C	V
MPC-Saddle supports	Crosswise	27/18, 28/30	**156818**	30	pieces	125	50	30	70	80	5	11 x 19	11 x 19
		38/24–40/80	**156816**	25		136		42	90	91.5	6	13 x 25	13.5 x 20
	Lengthwise	27/18, 28/30	**156811**	30		125		30	70	80	5	11 x 19	11 x 19
		38/24–40/60	**156809**	25		144	70	42	90	100	6	13 x 25	13.5 x 20
		38/80, 40/80	**156812**	1		205	80			160	8		
		40/120	**156813**			245				200			
MPC-Saddle supports, pre-assembled with double rail nut	Crosswise	38/24–40/80	**156817**	25		136	50			91.5	6		
	Lengthwise	38/24–40/60	**156810**			144	70			100			

MPC-Doublerail nut, please refer to page 4/22.

02/19

MPC-Saddle support type 3

thrust piece crosswise, galvanised

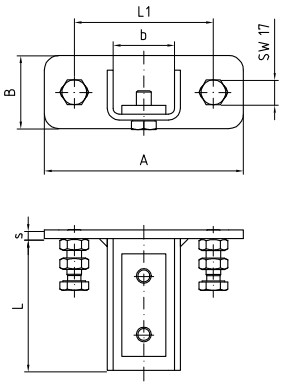
Field of application

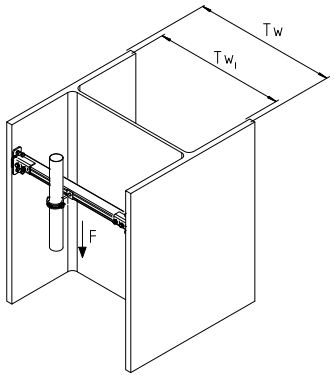
- Crosswise saddle support with clamping bolts for a safe and quick installation of the MPC-Support channels between the flange of structural steel sections

Advantages

- Fastening on the structural steel element without drilling or welding work; saves time and costs
- Secure installation of the MPC-Support channels in the channel slot through double rail nuts
- Can be fastened quickly and easily via clamping screws
- Universal implementation at different section widths







Features

For girder flange expanses Tw	Tw ≥ 260 mm
Max. recommended load for cut length L < 500 mm 3.0 kN	3,000 N
Max. recommended load for cut length L < 700 mm 2.0 kN	2,000 N
Max. recommended load for cut length L < 900 mm 1.0 kN	1,000 N
Cut length L of the channel section	Girder flange expanse (inside), Tw_i – 17 mm

For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]					
				A	B	b	L	L1	s
38/24–40/60	**156808**	8	pieces	136	50	42	90	91.5	6

02/19

MPC-VARIO-Saddle support

galvanised

Field of application

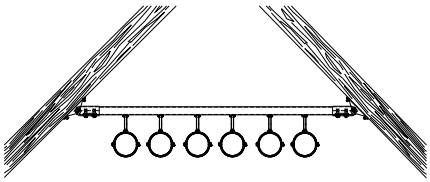
- Ideal for attachment to inclined roof trusses, vaults and in round cable shafts

Advantages

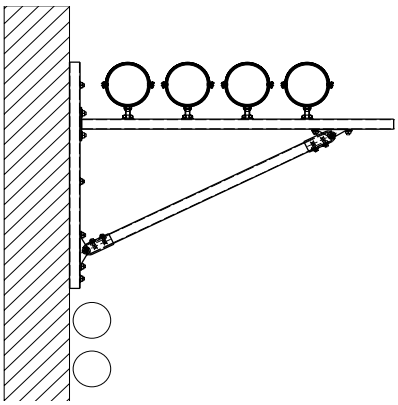
- Variable angle adjustment possible during installation
- Simple and quick installation due to pre-installed double rail nut
- Attachment to the slot of support channels 38/40 possible in all directions



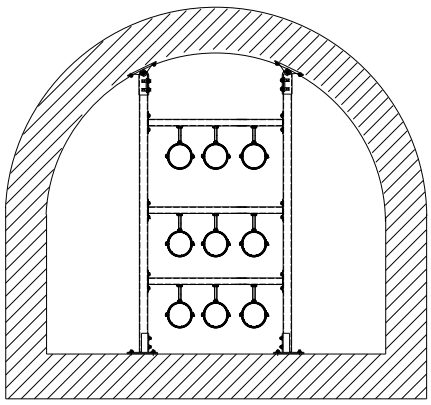




Attachment of a pipe run to an inclined roof truss

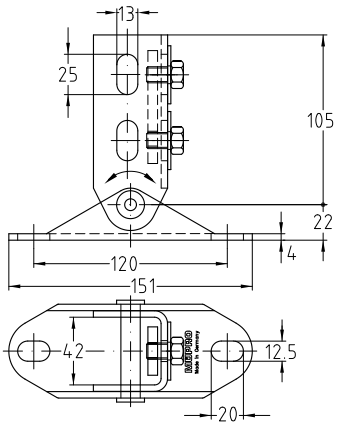


Pipes installed on a MPC-Wall hanger with diagonal strut



Installation of brackets in vaults or round cable ducts and shafts

Completely pre-assembled:
1 MPC-VARIO-Saddle support
1 Double rail nut
2 Hexagonal head bolts M10
2 Washers



For support channels	Minimum angle [°]	**Part no.**	Sales unit	Pack unit
38/24–40/120	20	**129660**	1	pieces

02/19

MPC-Mounting angles

for MPC-Support channels 27/18 and 28/30, galvanised

Field of application

- Solid fixing element for construction of pre-wall installations, shelves as well as for channel constructions for mountings of pipelines and air ducts without welding
- Also applicable for direct mounting on walls, ceilings or floors

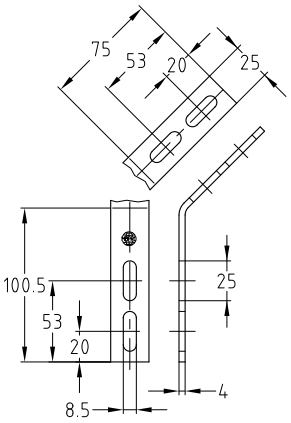
Advantages

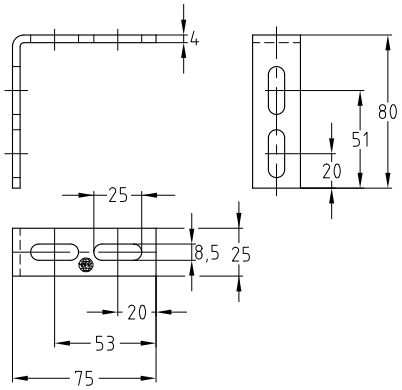
- Versatile in use due to oblong holes
- Versatile in use, e.g. as:
  - Angular support bracket
  - Angular load-bearing bracket
  - Connection element
  - Angular bracket
- Multi-purpose component for professional, practical installation solutions











Angle [°]	For support channels	Part no.	Sales unit	Pack unit
45	27/18, 28/30	**118753**	50	pieces
90		**118797**		

02/19

MPC-Mounting angle 45°

for MPC-Support channels 38/24 to 40/120, galvanised

Field of application

- Solid fixing element for construction of pre-wall installations, shelves as well as for channel constructions for mountings of pipelines and air ducts without welding
- Also applicable for direct mounting on walls, ceilings or floors

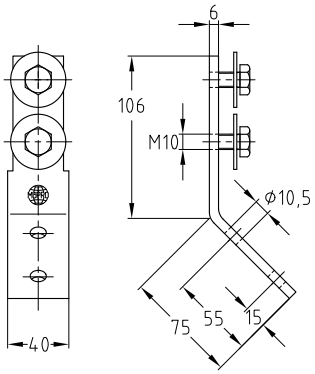
Advantages

- Versatile in use, e.g. as:
  - Angular support bracket
  - Connection element
- Multi-purpose component for professional, practical installation solutions
- Quick installation on site due to pre-assembled bolts and washers





Completely pre-assembled:
1 MPC-Mounting angle 45°
2 Hexagonal head bolts M10
2 Washers



For support channels	Part no.	Sales unit	Pack unit
38/24–40/120	**118769**	25	pieces

Please refer to pages 4/85 and 4/86 for mounting angles 90° for MPC-Support channels 38/24 to 40/120.

02/19

MPC-Lateral angles

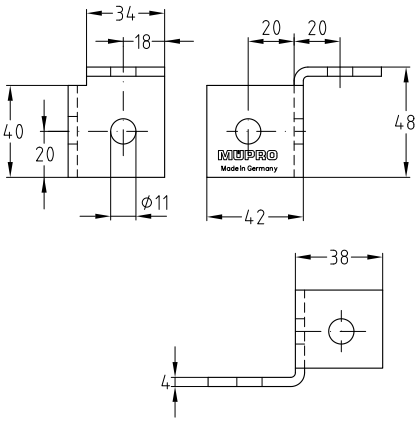
galvanised

Field of application

- Connecting elements for the construction of frames, shelves and wall-mounted installations using MPC-Support channels

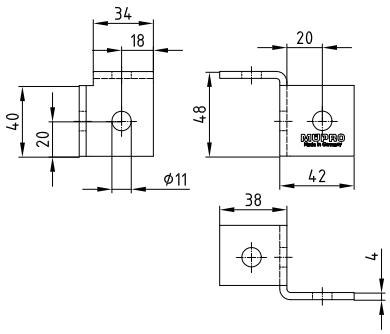
Advantages

- Creation of solid connections without welding
- Various mounting options for stable joint and angle connections with MPC-Support channels
- Appropriate combination of elements allows junctions with up to four exit directions
- Great flexibility – a large variety of connections can be made with only a few components
- Quick and simple attachment in combination with MPC-Quick fastener for angle mounting



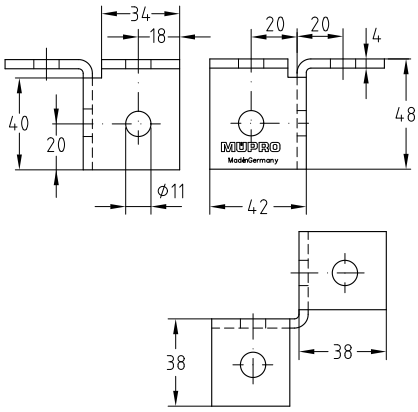


MPC-Lateral angle, right





MPC-Lateral angle, left





MPC-Lateral angle, double-sided

Features

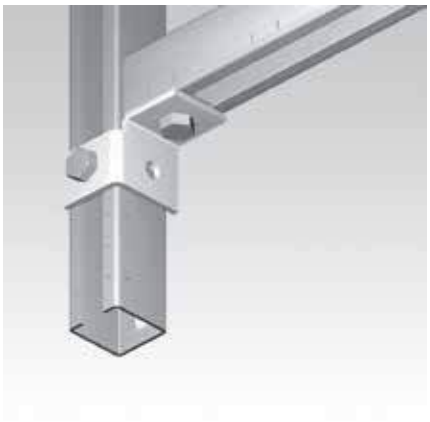
Description	Angle [°]	For support channels	Part no.	Sales unit	Pack unit
Right	90	38/24–40/120	**123068**	25	pieces
Left			**123060**		
Double-sided			**123048**		

Stainless steel version available upon request.

02/19

MPC-Lateral angles

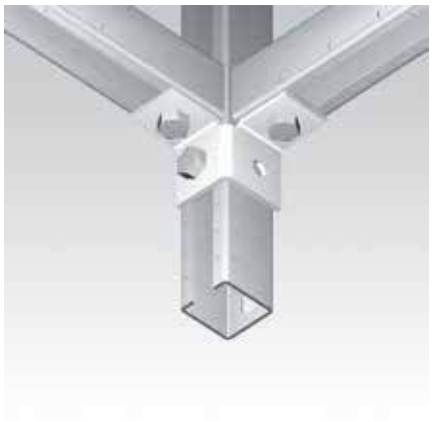
galvanised



MPC-Lateral angle, right



MPC-Lateral angle, left



MPC-Lateral angle, double-sided



Construction of shelf using MPC-Support channels – junction point with connections in
2 directions



Construction of shelf using MPC-Support channels – junction point with connections in
3 directions



Construction of shelf using MPC-Support channels – junction point with connections in
4 directions



Frame construction consisting of MPC-Support channels, MPC-Wall hanger brackets, mounting angles, short and connection plates

02/19

MPC-Cross channel connectors

galvanised

Field of application

- For cross-connections in pre-wall installations and for shelves made from MPC-Support channels

Advantages

- Easy-to-install connection elements for setting up structures with the correctly calculated static loads using MPC-Support channels
- Greater flexibility when setting up structures made from channels
- Multiple punching allows the section slots to be aligned in 4 directions
- For rotation-resistant attachment to building structure



For profiles 28/30 and 38/40

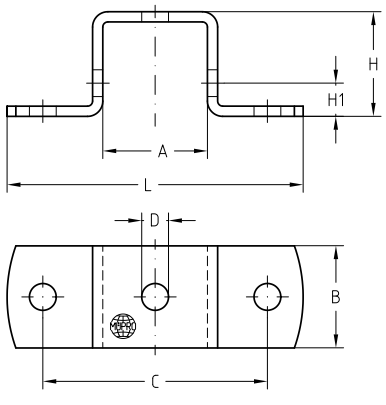


For profiles 40/60, 40/80, 38/80 and 40/120

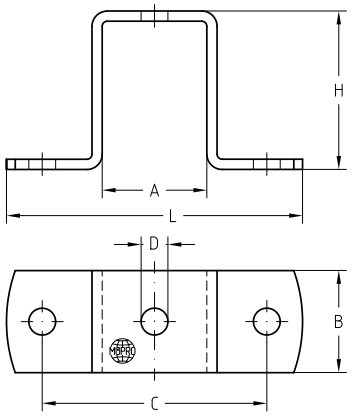








For profiles 28/30 and 38/40



For profiles 38/48, 39/52, 40/60, 40/80, 38/80 and 40/120

For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]						
				A	B	C	D	H	H1	L
28/30	**118243**	25	pieces	31	25	80	9.0	31	13	104
38/40	**118246**			41	40		10.5	41	18	110
38/48	**144838**							49	–	
39/52	**145069**							53		
40/60	**118316**							62		
38/80, 40/80	**118276**							82		
40/120	**118284**							122		

02/19

MPC-Girder cleats

galvanised

Field of application

- Attachment of MPC-Support channels to steel girders without drilling or welding
- For use in dry interiors

Advantages

- Attachment to supporting structure without welding or drilling
- Allows subsequent adjustment of the channels along and across the supporting structure
- Suitable for all flange thicknesses of common girders
- Easy to install, pre-assembled kit
- Proper attachment of suspended loads on girders
- Approved by VdS

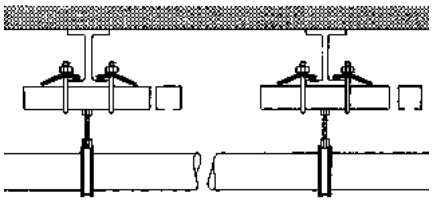




Proof of usability

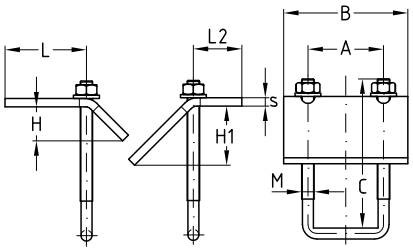
VdS G 4830077

Girder cleat	Profiles	For threaded connection with hammer head bolts, hammer head fasteners
M8	38/24, 38/40, 39/52, 40/60	M8, M10, M12
M10	38/40, 38/80, 39/52, 40/60, (40/80), (40/120)	(M8), M10, M12, M16



Features

For support channels	Thread U-brackets	Max. permitted loading/pair [N] with hammer head bolts, hammer head fasteners		
		M8	M10	M12
38/24, 38/48	M8	1,000	2,200	5,000
38/40		2,500	2,800	
39/52		3,000	3,300	6,700
40/60		3,500	4,000	8,300
38/40, 38/80	M10	2,500	2,800	5,000
39/52		3,000	3,300	6,700
40/60, 40/80, 40/120		3,500	4,000	8,300



For support channels	Thread	Spanner width [SW]	VdS approved	Part no.	Sales unit	Pack unit	Dimensions [mm]							
							A	B	C	H	H1	L	L2	s
27/18, 28/30	M6	10	●	**130281**	50	pieces	37	60	80	18.0	29.0	43.8	27.8	4
38/24, 38/40	M8	13	●	**130283**	20		48	70		17.0	24.5	38.2	27.2	6
39/52, 40/60			●	**130284**					100					
38/40, 39/52, 40/60	M10	15	●	**130273**			50	80		18.5		39.7	30.7	8
		17		**130272**	15				125	19.4	43.0	64.0		
38/80, 40/80		15	●	**130274**						18.5	24.5	39.7		
40/120			●	**130277**					180					

02/19

MPC-Girder support

galvanised

Field of application

- Clamping element for fastening MPC-Support channel sections between the flanges of structural steel sections

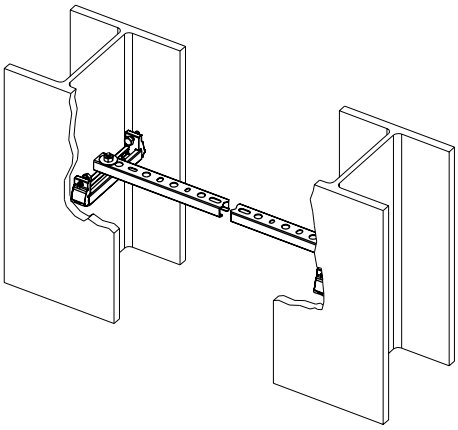
Advantages

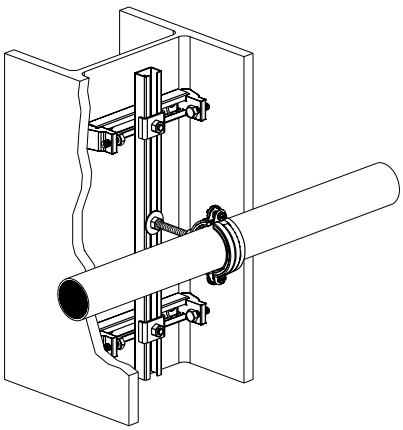
- Ideal for attachment of pipelines and electrical systems to steel girders
- Attachment to the girder without welding or drilling
- Tight hold due to 3-point load transfer on both sides
- Lock washer for a secure hold in the channel section during installation
- Simple attachment of pipelines using MPC-Hammer head fasteners
- Adaptable to all girder widths on site by the length of the channel section

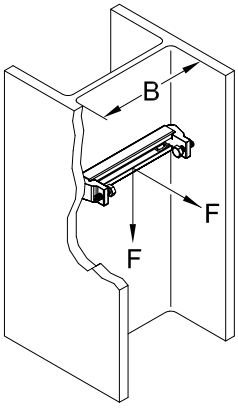












Features

For girder flange width B	Min. 90 mm to max. 350 mm
Max. recommended load F	850 N
Cut length L of the channel section	L = B – 25 mm

For support channels	**Part no.**	Sales unit	Pack unit
27/18, 28/30	**130286**	20	pieces

Larger spans are possible, however at reduced loads.

02/19

MPC-VARIO joint

zinc-nickel

Field of application

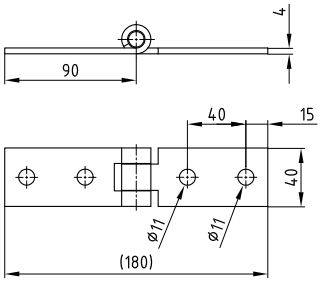
- Flexible implementation for connecting MPC-Support channels, for which different angle adjustments are required for versatile implementation possibilities, such as frame subconstructions for solar modules, angular support brackets, etc.

Advantages

- Pivot angle from 10° to 180° for fast and flexible adaptation to a wide variety of attachment situations
- Cost savings can be realised in the area of stockkeeping, as a variety of support solutions
- Stable design of the joint for optimal transmission of force
- Quick and easy mounting at the construction site via double rail nuts
- Zinc-nickel coating ensures trouble-free outdoor use

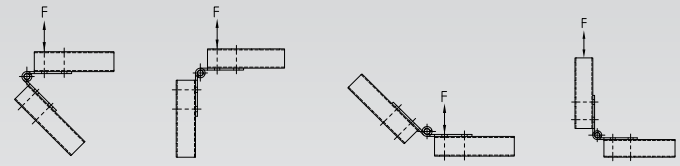
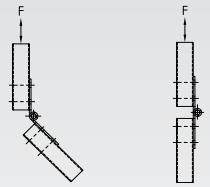








Features

Design	Max. recommended load [N]
	1,000
	2,000

For support channels	Length [mm]	Width [mm]	Thickness [mm]	Hole diameter [mm]	**Part no.**	Sales unit	Pack unit
38/24–40/120	90	40	4	11	**139746**	25	pieces

02/19

MÜPRO

MPR-Support channels

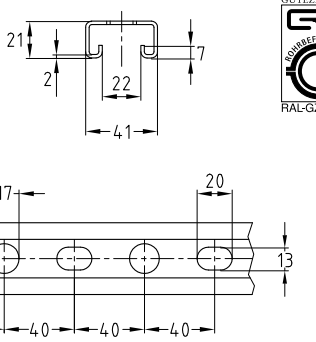
sendzimir galvanised

Field of application

- Ideal for pipe installation as support structure for air ducts in dry interiors
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components

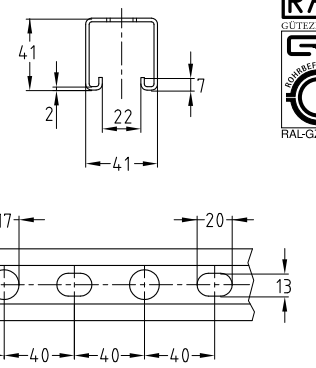
Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- High bending stiffness due to the cross-section design
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- For setting up structures with correctly measured static loads by means of diverse connection components
- Interlocking rail slot for positive locking of attachments
- Clean-cut appearance by the use of MPR-protection caps



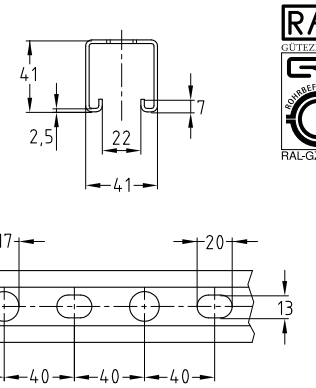


Profile 41/21/2.0





Profile 41/41/2.0





Profile 41/41/2.5

Features

Profile	Length [mm]	Part no.	Sales unit	Pack unit
41/21/2.0	2,000	**150930**	8	pieces
	3,040	**150931**	1	
	6,000	**150932**		
41/41/2.0	2,000	**150933**	4	
	3,040	**150934**	1	
	6,000	**150935**		
41/41/2.5	2,000	**150864**	4	
	3,040	**150937**	1	
	6,000	**150938**		

Profile 41/41 in profile thickness 3.0 mm available upon request. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

MPR-Support channels

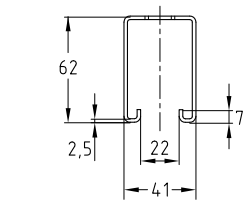
sendzimir galvanised

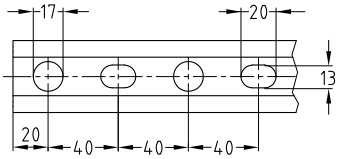
Field of application

- Ideal for pipe installation as support structure for air ducts in dry interiors
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components
- For indoor use

Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- High bending stiffness due to the cross-section design
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- For setting up structures with correctly measured static loads by means of diverse connection components
- Interlocking rail slot for positive locking of attachments
- Clean-cut appearance by the use of MPR-protection caps







Profile 41/62/2.5

Features

Profile	Length [mm]	Part no.	Sales unit	Pack unit
41/62/2.5	2,000	**150936**	1	pieces
	3,040	**150978**		
	6,000	**150979**		

For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

MPR-Support channels

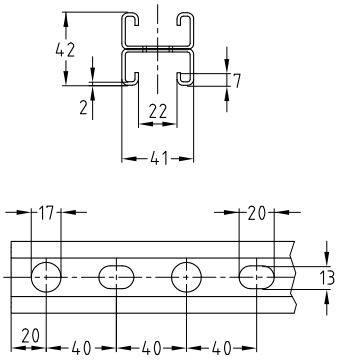
H-Profiles, sendzimir galvanised

Field of application

- Ideal for space-saving support of multisection pipeways between ceiling beams
- Ideal for pipe installation as support structure for air ducts in dry interiors
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components

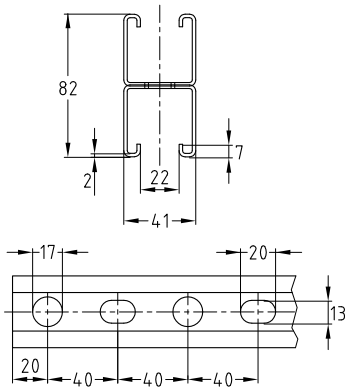
Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Ideal combination of high bending stiffness and ease of installation
- Channel slots on both sides allow simple and quick alignment of all suspended and floor-mounted pipe supports
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPR-protection caps
- Interlocking rail slot for positive locking of attachment parts



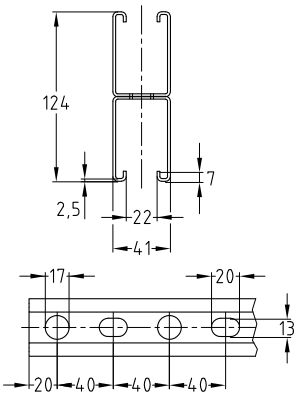


Profile 41/42/2.0





Profile 41/82/2.0





Profile 41/124/2.5

Features

Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
41/42/2.0	6,640	**150968**	1	pieces
41/82/2.0		**150969**		
41/124/2.5		**151050**		

For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

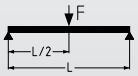
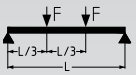
MPR-Support channels

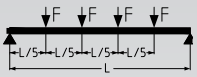
sendzimir galvanised

Technical data of profiles:

Profile 	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available threaded plates	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
41/21/2.0	S250GD	sendzimir galvanised	162	M6, M8, M10, M12, M16	1.45	1.62	0.8894	4.5246	0.839	2.207
41/41/2.0			188		2.08	2.42	4.9736	7.5692	2.451	3.692
41/41/2.5					2.53	3.08	5.8103	9.0333	2.839	4.406
41/62/2.5					3.38	3.98	17.2090	12.9297	5.671	6.307
41/42/2.0 H-Profile					2.90	3.24	5.2844	9.0492	2.516	4.414
41/82/2.0 H-Profile					4.16	4.83	30.6876	15.1385	7.485	7.385
41/124/2.5 H-Profile					6.76	7.96	111.7528	25.8595	18.025	12.614

Load bearing capacities of profiles for bending around the y-axis [N]:

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
41/21/2.0	1,090	440	190	90	–	–	800	260	110	60	–	–
41/41/2.0	3,681	1,833	1,095	601	106	–	2,755	1,376	643	353	62	–
41/41/2.5	4,262	2,122	1,278	701	121	–	3,190	1,593	750	411	71	–
41/62/2.5	8,521	4,248	2,818	2,099	459	117	6,378	3,189	2,114	1,248	270	68
41/42/2.0 H-Profile	3,080	1,878	1,157	630	95	–	1,540	1,410	679	370	56	–
41/82/2.0 H-Profile	6,563	5,608	3,722	2,774	865	277	3,281	3,281	2,791	2,079	508	162
41/124/2.5 H-Profile	13,646	13,522	8,987	6,711	3,256	1,316	6,823	6,823	6,740	5,031	1,969	772

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
41/21/2.0	540	180	80	40	–	–	450	150	60	30	–	–
41/41/2.0	1,841	916	461	253	44	–	1,534	764	362	199	35	–
41/41/2.5	2,131	1,061	538	295	51	–	1,776	884	423	232	40	–
41/62/2.5	4,260	2,124	1,409	896	193	49	3,550	1,770	1,174	703	152	39
41/42/2.0 H-Profile	1,027	939	487	265	40	–	770	770	383	208	32	–
41/82/2.0 H-Profile	2,188	2,188	1,861	1,387	364	116	1,641	1,641	1,551	1,156	286	91
41/124/2.5 H-Profile	4,549	4,549	4,493	3,356	1,412	554	3,411	3,411	3,411	2,796	1,109	435

The determined loads apply for static loads. Calculation based on Eurocode (EC3).
The safety coefficient $\gamma = 1.54$ takes into account the safety and combination coefficients as well as the safety factor of the material.
For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

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MPR-Support channels

sendzimir galvanised

Permissible buckling loads for profiles [N]:

Buckling length Lk [mm]	MPR 41/21/2.0	MPR 41/41/2.0	MPR 41/41/2.5	MPR 41/62/2.5	MPR 41/42/2.0	MPR 41/82/2.0	MPR 41/124/2.5
200	29,182	45,557	56,946	75,004	60,984	91,020	150,007
300	27,244	44,788	55,811	75,004	59,289	91,010	150,007
400	24,922	43,416	54,027	73,330	57,182	89,656	147,921
500	22,127	41,962	52,126	71,527	54,901	88,232	145,627
600	19,030	40,383	50,048	69,639	52,369	86,698	143,164
700	16,008	38,641	47,743	67,631	49,527	85,009	140,464
800	13,362	36,711	45,181	65,469	46,359	83,114	137,446
900	11,181	34,586	42,366	63,124	42,910	80,954	134,020
1,000	9,427	32,296	39,350	60,579	39,301	78,468	130,091
1,100	8,024	29,902	36,233	57,831	35,692	75,599	125,569
1,200	6,896	27,489	33,134	54,898	32,234	72,317	120,394
1,300	5,981	25,140	30,161	51,823	29,033	68,635	114,570
1,400	5,232	22,922	27,392	48,668	26,139	64,626	108,190
1,500	4,613	20,875	24,864	45,505	23,563	60,419	101,439
1,600	4,095	19,015	22,589	42,406	21,289	56,168	94,553
1,700	3,659	17,342	20,558	39,428	19,290	52,015	87,762
1,800	3,289	15,846	18,752	36,612	17,533	48,063	81,249
1,900	2,971	14,512	17,150	33,983	15,989	44,375	75,131
2,000	2,697	13,324	15,728	31,550	14,629	40,978	69,467
2,100	2,459	12,265	14,464	29,314	13,426	37,877	64,274
2,200	2,251	11,319	13,338	27,266	12,361	35,059	59,541
2,300	2,068	10,473	12,333	25,395	11,413	32,506	55,240
2,400	1,907	9,715	11,433	23,688	10,568	30,194	51,340
2,500	1,764	9,033	10,625	22,131	9,811	28,101	47,802
2,600	1,636	8,418	9,898	20,711	9,130	26,204	44,592
2,700	1,521	7,862	9,240	19,413	8,517	24,483	41,676
2,800	1,419	7,358	8,645	18,227	7,963	22,918	39,022
2,900	1,326	6,900	8,105	17,141	7,461	21,492	36,604
3,000	1,242	6,483	7,613	16,144	7,004	20,192	34,395
3,100	1,166	6,102	7,164	15,229	6,587	19,002	32,374
3,200	1,096	5,753	6,753	14,387	6,206	17,912	30,522
3,300	1,033	5,433	6,376	13,611	5,857	16,911	28,820
3,400	975	5,138	6,029	12,894	5,536	15,990	27,254
3,500	921	4,867	5,710	12,231	5,241	15,141	25,810
3,600	872	4,616	5,415	11,617	4,969	14,357	24,475
3,700	827	4,385	5,142	11,047	4,717	13,631	23,241
3,800	785	4,170	4,889	10,517	4,484	12,959	22,096
3,900	747	3,970	4,655	10,024	4,268	12,334	21,032
4,000	711	3,784	4,436	9,565	4,067	11,753	20,043
4,100	677	3,611	4,233	9,136	3,879	11,212	19,121
4,200	646	3,450	4,043	8,734	3,705	10,707	18,261
4,300	617	3,299	3,866	8,359	3,542	10,235	17,457
4,400	590	3,157	3,700	8,006	3,389	9,794	16,705
4,500	565	3,025	3,544	7,676	3,246	9,380	16,000
4,600	541	2,900	3,398	7,365	3,112	8,992	15,338
4,700	519	2,784	3,261	7,073	2,986	8,627	14,717
4,800	498	2,674	3,132	6,797	2,867	8,284	14,132
4,900	478	2,570	3,011	6,538	2,755	7,961	13,581
5,000	459	2,472	2,896	6,293	2,650	7,656	13,062
5,100	442	2,380	2,788	6,061	2,551	7,368	12,571
5,200	425	2,293	2,686	5,842	2,457	7,097	12,108
5,300	410	2,211	2,589	5,634	2,368	6,840	11,670
5,400	395	2,132	2,497	5,437	2,284	6,596	11,255
5,500	381	2,058	2,410	5,250	2,204	6,366	10,862
5,600	368	1,988	2,328	5,073	2,129	6,147	10,489
5,700	355	1,921	2,250	4,905	2,057	5,939	10,135
5,800	343	1,858	2,175	4,744	1,989	5,742	9,798
5,900	332	1,798	2,105	4,592	1,924	5,554	9,478
6,000	321	1,740	2,037	4,446	1,862	5,375	9,173

02/19

MPR-Support channels

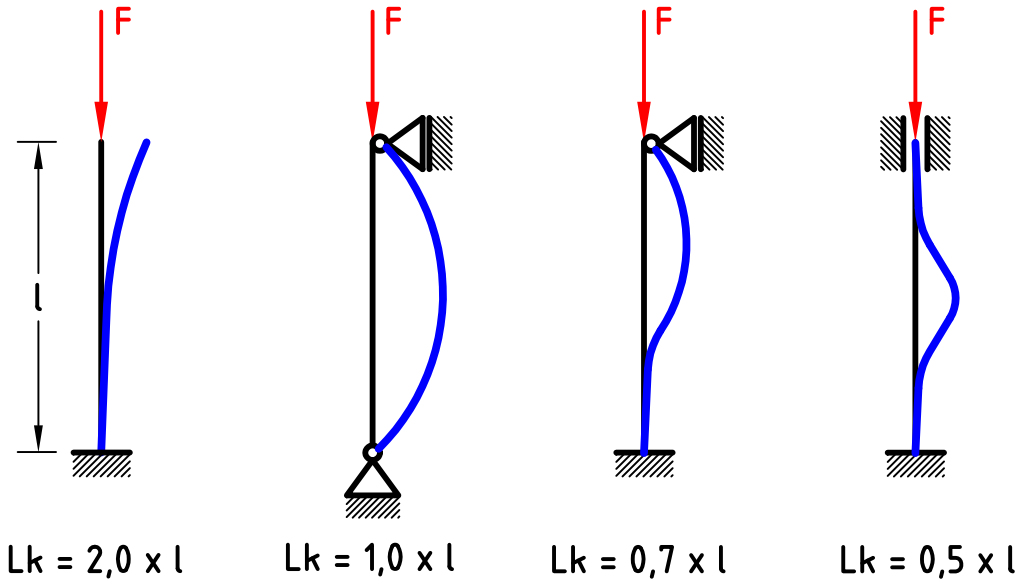
sendzimir galvanised

Buckling loads as per DIN EN 1993-1-1 sections 6.2 and 6.3.
The values in the table apply for fully bearing cross-sections and central load transmission!
The potentially lower slenderness parameter for buckling and lateral torsional buckling must be examined separately!

Buckling about the z-axis and the y-axis was considered.
The least favourable buckling load is documented in the table.

The safety coefficient $\gamma = 1.54$ takes into account the safety and combination coefficients as well as the safety factor of the material.

Determine the authoritative buckling length Lk depending on the storage conditions and the rod length l, as shown in the figure.
Read off the buckling load F as Lk from the table.



02/19

MPR-Wall hanger brackets

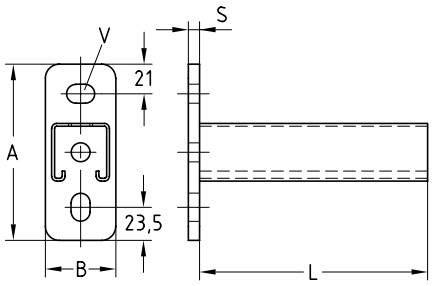
galvanised

Field of application

- Ideal as cantilever support structure of multisection pipeways
- Applicable as cantilever bracket for air ducts and cable trays
- Applicable in combination with saddle support and channel support brackets as a cross-beam for pipe attachments in shafts and ducts
- Solid wall bracket for valves and equipment
- For indoor use
- Selected sizes with VdS certificate for the installation of sprinkler systems

Advantages

- The strong base plate ensures a high load carrying capacity
- Elongated- and cross-hole for flexible attachment to the building structure
- Variety of lengths covers all construction requirements
- Clean-cut appearance by the use of MPR-protection caps
- Wall hanger brackets with VdS certificate – oblong holes in a 50 mm grid







Wall hanger brackets
with VdS certificate

Features

Profile	Length L [mm]	VdS approved	Fire protection certified	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	s	V
41/21/2.0	160			**156763**	30	pieces	125	50	6	13.5 x 20
	240			**156764**						
	320			**156765**	25					
	400			**156766**						
41/41/2.0	160			**156767**					8	
	240			**156768**	20					
	320			**156769**						
	400			**156770**	15					
	480			**156771**						
	560			**156772**						
	640			**156773**	10					
	720			**156774**						
	800			**156775**	1					
	1,040			**156776**						
41/41/2.5	150	●	●	**166150**	25					
	300	●	●	**166151**	20					
	450	●	●	**166152**	15					
41/62/2.5		●	●	**166153**	1		165	60		
	600	●	●	**166154**						
	800	●	●	**166155**						
	1,000	●		**166156**						

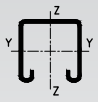
For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

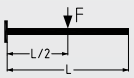
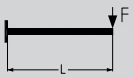
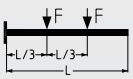
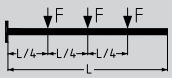
MPR-Wall hanger brackets

galvanised

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress σadm. [N/mm²]	Material	Admissible steel stress σadm. [N/mm²]
41/21/2.0	125 x 50 x 6	S235	162	S235	188
41/41/2.0	125 x 50 x 8				
41/41/2.5					
41/62/2.5	165 x 60 x 8	S355MC	231		

Load bearing capacities of brackets for bending around the y-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]				
			Max. allowable load [N]			
41/21/2.0	112,154	160	1.399	700	700	466
		240	931	466	466	310
		320	696	348	348	232
		400	555	231	278	185
41/41/2.0	275,080	160	3,435	1,718	1,718	1,145
		240	2,287	1,144	1,144	762
		320	1,712	856	856	571
		400	1,367	684	684	456
		480	1,136	568	568	379
		560	971	485	485	324
		640	846	422	423	282
		720	749	373	375	250
		800	671	320	336	224
		1,040	508	185	254	169
41/41/2.5		150	3,664	1,832	1,832	1,227
		300	1,826	913	913	609
		450	1,211	606	606	403
41/62/2.5	382,960	450	1,687	844	844	562
		600	1,257	628	628	419
		800	931	465	465	310
		1,000	733	366	366	244

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.54$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L/150$ are not exceeded, taking the deadweight into consideration.

The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

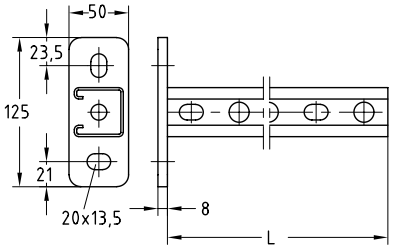
02/19

MPR-Wall hanger brackets

with lateral slot, galvanised

Field of application

- Ideal as cantilever support structure for riser pipes
- Applicable in combination with saddle support and channel support brackets as a cross-beam for pipe attachments in shafts and ducts
- Applicable as a cantilever bracket for supporting air ducts
- For use in dry interiors





Advantages

- The strong base plate ensures a high load carrying capacity
- The vertical and horizontal holes in the base plate allow easy height adjustment of the bracket
- Fixing in the side slot of the support channel allows simple alignment of parallel pipelines
- Clean-cut appearance by the use of MPR-protection caps

Profile	Length L [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]			
					A	B	S	V
41/41/2.0	320	**165251**	20	pieces	125	50	8	13.5 x 20
	480	**165253**						

02/19

MPR-Quick fasteners

galvanised

Field of application

- For secure and fast installation in the channel slot of MPR-Support channels for connecting pipe clamps and mounting elements
- Angle-mounting for fast and efficient installation of brackets and mounting angles

Advantages

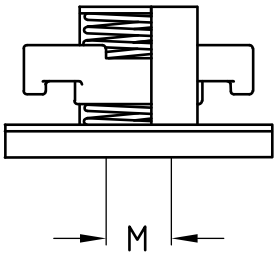
- Versatile quick fastener for all common channel profiles with upturned edges in the channel slot
- Simply turn into the slot – click and ready
- For channels with a material thickness of 2 to 3 mm
- Can be used for slot widths from 20 mm upwards
- Gives a secure hold once it has been turned, remains adjustable till the screw is tightened
- Secure hold even in vertical channel slots
- Serrated profile on the fastener ensures form-locking connection with serrated channel sections
- Suitable for MPR-Support channels 41/41



MPR-Quick fasteners



MPR-Quick fasteners for angle mounting



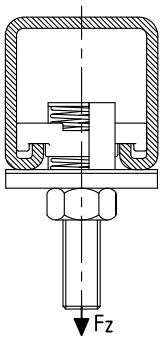
Features

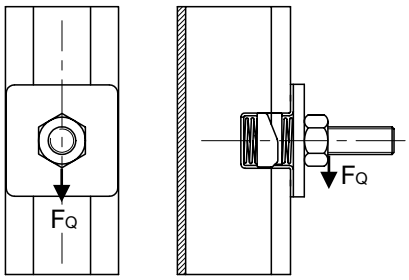
	Connecting thread	Part no.	Sales unit	Pack unit
MPR-Quick fasteners	M8	**120907**	100	pieces
	M10	**120898**		
	M12	**120902**		
MPR-Quick fasteners for angle mounting	M8	**120806**		
	M10	**120798**		

02/19

MPR-Quick fasteners

galvanised





For support channel	Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ (displacement) [N]	Tightening torque [Nm]
41/41	M8	6,000	3,000	30
	M10			
	M12			

Mounting instructions:



Insert the MPR-Quick fastener in the channel slot



Rotate the MPR-Quick fastener by 90°



Position the MPR-Quick fastener in the channel



Screw the threaded pin into the MPR-Quick fastener and lock in place with a hexagonal nut. Then mount the pipe clamp

02/19

MPR-Hammer head fasteners

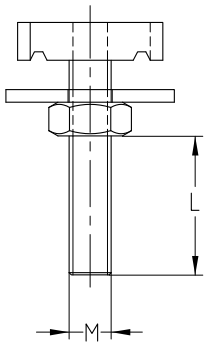
galvanised

Field of application

- For time-saving, efficient attachment of pipe clamps to MPR-Support channels
- For indoor use

Advantages

- Easy and fast assembly in the rail slot
- Lateral adjustment at any time, allows perfect alignment of the pipeline after installation
- Various lengths and thread diameters can be combined within the same channel
- Interlocking threaded plate for secure positive connection in the rail slot of the MPR-Support channels





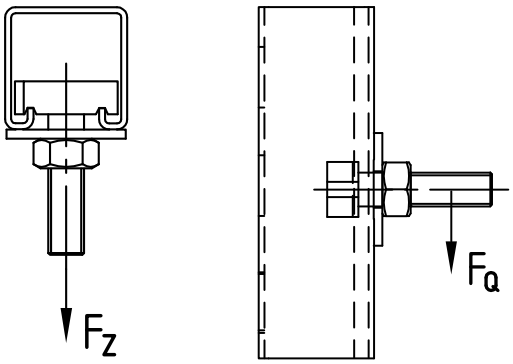
Features

For support channels	Connecting thread	Length [mm]	Usable thread length L [mm]	Part no.	Sales unit	Pack unit
41/21/2.0, 41/41/2.0, 41/41/2.5, 41/62/2.5, 41/42/2.0, 41/82/2.0, 41/124/2.5	M8	35	10	**151057**	50	pieces
		40	15	**151058**		
		50	25	**151059**		
		80	55	**151060**		
		100	75	**151061**		
	M10	35	8	**151062**		
		40	13	**151063**		
		55	28	**151064**		
		60	33	**151065**		
		80	53	**151066**	25	
		100	73	**151067**		
41/21/2.0, 41/41/2.0, 41/41/2.5, 41/62/2.5, 41/82/2.0, 41/124/2.5	M12	40	9	**151069**	50	
		55	24	**151070**		
		60	29	**151071**		
		80	49	**151072**	25	
		100	69	**151073**		
41/41/2.0, 41/41/2.5, 41/62/2.5, 41/82/2.0, 41/124/2.5	M16	65	30	**151074**		
		100	65	**151075**		

02/19

MPR-Hammer head fasteners

galvanised



For support channels Material thickness [mm]	MPR-Hammer head fasteners			
	Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ [N]	For a tightening torque of [Nm]
2.0	M8	4,500	2,000	9
	M10		2,500	17
	M12			29
	M16			
2.5	M8		2,000	9
	M10	5,000	3,000	17
	M12		4,000	29
	M16			

02/19

MPR-Threaded plates

galvanised

Field of application

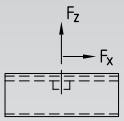
- For fixing of attachment parts in the rail slot of the MPR-Support channels
- For indoor use

Advantages

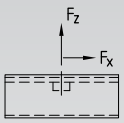
- Interlocking threaded plate for secure positive connection in the rail slot of the MPR-Support channels
- Galvanised version for use in dry interiors



For support channels	Thread	Part no.	Sales unit	Pack unit	Dimensions [mm]		
					l	b	s
41/21/2.0, 41/41/2.0, 41/41/2.5, 41/62/2.5, 41/42/2.0, 41/82/2.0, 41/124/2.5	M6	**151051**	100	pieces	34.5	19.5	6.0
	M8	**151052**					8.0
41/21/2.0, 41/41/2.0, 41/41/2.5, 41/62/2.5, 41/82/2.0, 41/124/2.5	M10	**151053**					
	M12	**151054**					9.0
41/41/2.0, 41/41/2.5, 41/62/2.5, 41/82/2.0, 41/124/2.5	M16	**151055**	25				12.0



	Max. permissible load values of MPR-Threaded plates (channel 2.0 mm)				
	Transverse load Fx in rail slot direction with threaded pin 4.6 and washer 40 x 3 mm		Transverse load Fx in rail slot direction with hexagon screw 8.8 and clamp bracket heavy-duty		Tensile load Fz with threaded pin 4.6 and washer 40 x 3 mm
Size	Tightening torque [Nm]	[N]	Tightening torque [Nm]	[N]	[N]
M6	4	1,000	–	–	2,400
M8	9	2,000	20	3,000	4,500
M10	17	2,500	30		
M12	29		40		
M16					



	Max. permissible load values of MPR-Threaded plates (channel 2.5 mm)				
	Transverse load Fx in rail slot direction with threaded pin 4.6 and washer 40 x 3 mm		Transverse load Fx in rail slot direction with hexagon screw 8.8 and clamp bracket heavy-duty		Tensile load Fz with threaded pin 4.6 and washer 40 x 3 mm
Size	Tightening torque [Nm]	[N]	Tightening torque [Nm]	[N]	[N]
M6	4	1,000	–	–	2,400
M8	9	2,000	20	4,000	4,500
M10	17	3,000	30	4,500	5,000
M12	29	4,000	40		
M16					

02/19

MPR-Clamp brackets

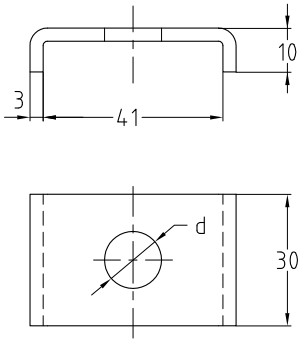
galvanised

Field of application

- For safe force transmission when installing MPR-Support channels together with threaded rods, anchor plugs and screws

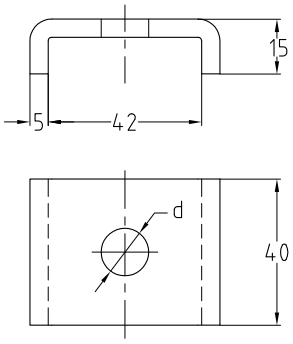
Advantages

- Two versions available
- Heavy-duty type available for transferring large forces
- Safe, folded edge prevents expansion of the rail slot





Standard version





Heavy-duty version

Features

Design	For support channels	For thread d	Part no.	Sales unit	Pack unit
Standard version	41/21–41/124	M8	**165188**	100	pieces
		M10	**151198**		
		M12	**151195**		
Heavy-duty version		M8	**151097**	25	
		M10	**151098**		
		M12	**114489**		
		M16	**151100**		

02/19

MPR-Protection caps

Field of application

- Plastic protection cap for mounting on open ends of the MPR-Support channels

Advantages

- Visually clean finish of the MPR-Support channels protects from injury
- Weather-resistant plastic material for long service life



For support channels	Part no.	Sales unit	Pack unit
41/21, 41/42	**151076**	100	pieces
41/41, 41/82	**151077**	50	
41/62, 41/124	**151078**	25	

Washers

for MPR-Support channels, galvanised

For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit
M8	40	3	**151101**	100	pieces
M10			**151102**		
M12			**151103**		
M16			**127169**		



02/19

DÄMMGULAST® Channel sections

for MPR-Profiles

Field of application

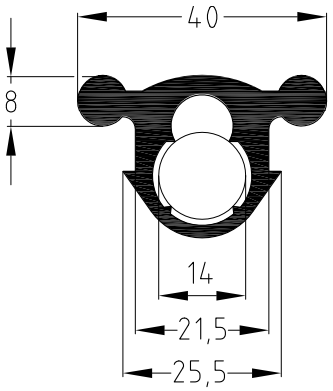
- Ideal for the decoupling of traverses for air duct fixtures
- For secure vibration-decoupling of MPR-Support channels

Advantages

- Easy installation by inserting into MPR-Support channels and/or screwing onto threaded rods
- Prevents structure-borne noise coupling by avoiding contact between the air duct and the threaded rods
- Interlocking profile prevents channel section being pushed out
- Prevents fluttering and other vibration noises in the air ducts
- Small contact surface, large absorption mass







Features

Design	For support channels	Suitable for	Part no.	Sales unit	Pack unit
DÄMMGULAST® Channel section roll of 20 m	41/21–41/124	Channels with slot widths of 22 mm, M8 and M10 threaded rods	**151189**	1	roll
DÄMMGULAST® Channel sections section of 50 mm			**155366**	200	pieces

When installing air conditioning and ventilation equipment, MPR-Support channels can be used as load-bearing traverses. Structure-borne vibration coupling bridges resulting from direct metal contact between the air duct and the traverse or threaded rods can be prevented by the use of DÄMMGULAST® Channel section as intermediate layer.

The DÄMMGULAST® Channel section was developed especially for these application areas and provides the optimum solution from a practical installation point of view.

MPR-Channel connectors

galvanised

Field of application

- Quick butt-joint connection for MPR-Support channels

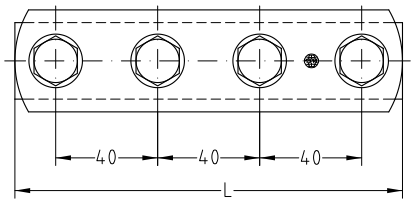
Advantages

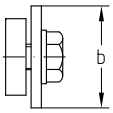
- Enables exact alignment of the channel
- Four bolts provide a frictional joint
- Smooth attachment by sliding into the channel section





For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]	
				L	b
41/21, 41/41, 41/62	**163109**	25	pieces	152	40





Please refer to page 4/80 for the heavy-duty version of the channel connectors.

02/19

MPR-Saddle supports

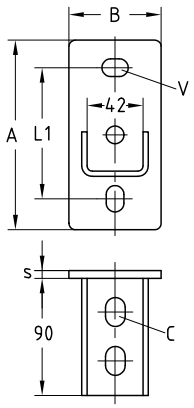
galvanised

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor use

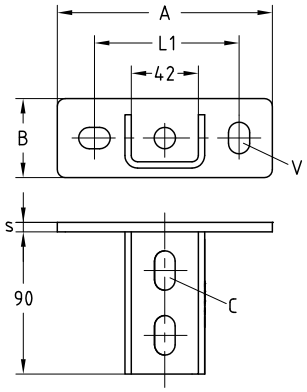
Advantages

- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions
- Type for 41/82 and 41/124 profiles with rotation-free bearing due to clamping on both sides by the MPR-Support channels



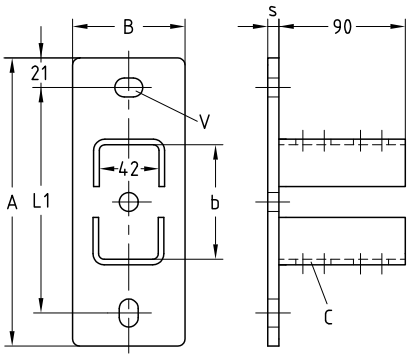


MPR-Saddle support, lengthwise





MPR-Saddle support, crosswise





MPR-Saddle support, lengthwise for profiles 41/82 and 41/124

Description	For support channel	Part no.	Sales unit	Pack unit	Dimensions [mm]						
					A	B	b	L1	s	C	V
Crosswise	41/21–41/62	**156816**	25	pieces	136	50	–	91.5	6	13 x 25	13.5 x 20
Lengthwise		**156809**			144	70		100			
	41/82	**156814**	1		205	80	83	160	8		
	41/124	**156815**			245		125	200			

02/19

MPR-VARIO-Saddle support

galvanised

Field of application

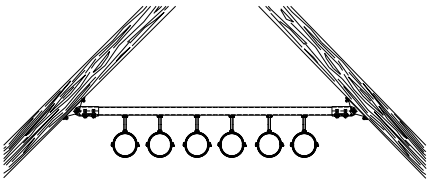
- Ideal for attachment to inclined roof trusses, vaults and in round cable shafts
- For use in dry interiors

Advantages

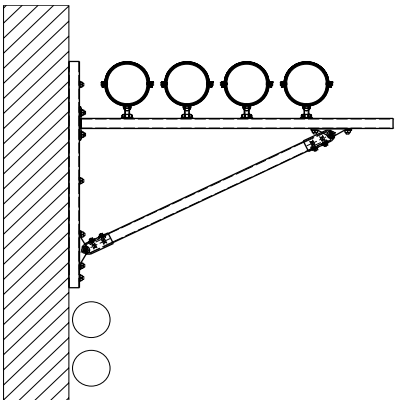
- Variable angle adjustment possible during installation
- Simple and quick installation due to pre-installed srews and MPR-Threaded plate
- Attachment to the slot of support channels 41/41 possible in all directions
- Positive-fit joining due to interlocking MPR-Support channels and MPR-Threaded plates



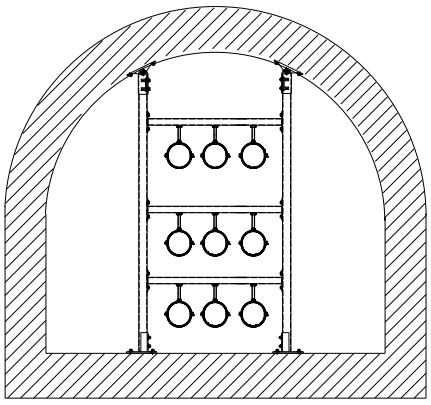




Attachment of a pipe run to an inclined roof truss

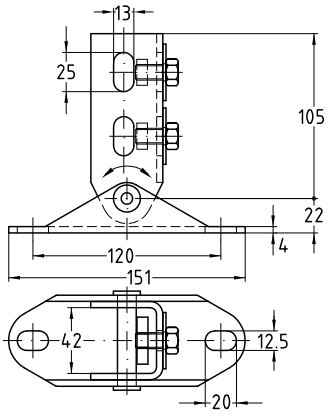


Pipes installed on a wall hanger with diagonal strut



Installation of brackets in vaults or round cable ducts and shafts

Completely pre-assembled:
1 MPR-VARIO-Saddle support
2 MPR-Threaded plates M10
2 Hexagonal head bolts M10
2 Washers



For support channels	Minimum angle [°]	**Part no.**	Sales unit	Pack unit
41/21–41/62	20	**157375**	1	pieces

02/19

MPR-Mounting angle 45°

galvanised

Field of application

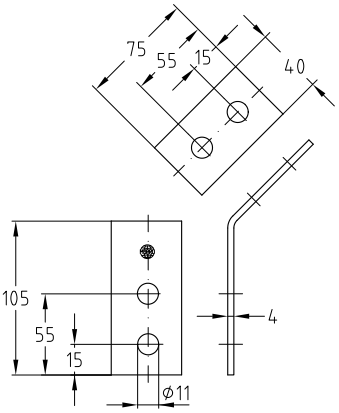
- Solid fixing element for constructions of wall-mounted installations, shelves as well as for channel constructions for pipeline attachments and air ducts without welding
- Also applicable for direct mounting on walls, ceilings or floors

Advantages

- Variable mounting options
- Versatile in use, e.g. as:
  - Angular support bracket
  - Angular load-bearing bracket
  - Connection element
  - Angular bracket
- Multi-purpose component for professional, practical installation solutions



For support channel	**Part no.**	Sales unit	Pack unit
41/21–41/124	**118781**	25	pieces



Please refer to pages 4/85 and 4/86 for mounting angles 90° for MPR-Support channels 41/21 to 41/124.

02/19

MPR-Cross channel connectors

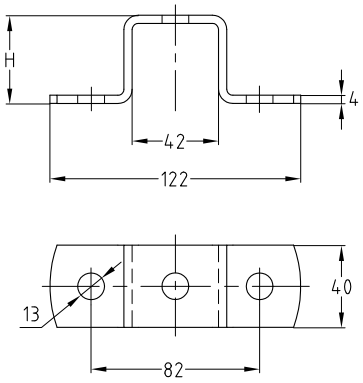
galvanised

Field of application

- For cross-connections in pre-wall mounted installations and shelves made from MPR-Support channels

Advantages

- Easy-to-install connection element for setting up structures with correctly designed static loads using MPR-Support channels
- Greater flexibility when setting up structures made from channels
- For rotation-resistant attachment to building structure





For support channels	Part no.	Sales unit	Pack unit	Dimension H [mm]
41/21	**151093**	25	pieces	23
41/41, 41/42	**151994**			43
41/62	**151094**			64
41/82	**151995**			84
41/124	**151996**			126

02/19

MPR-Girder cleats

galvanised

Field of application

- Attachment of MPR-Support channels to steel girders without drilling or welding
- For use in dry interiors

Advantages

- Ideal solution for attachment of MPR-Support channels to steel girders
- Allows subsequent adjustment of the channels along and across the supporting beam
- Suitable for all flange thicknesses of common support profiles (≤ 24.5 mm)
- Easy to install, pre-assembled kit
- Proper attachment of suspended loads on girders
- Girder cleats M8 or M10 VdS approved (please observe the profile size)

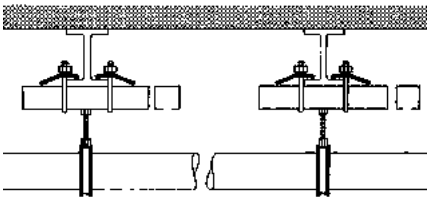




Proof of usability

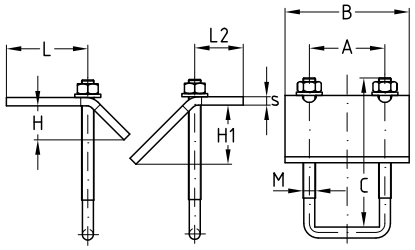
VdS G 413048

Girder cleat	Profiles	For threaded connection with hammer head fasteners, quick fasteners type S
M8	41/2.0	M8, M10, M12
M10	41/2.0, 41/2.5	(M8), M10, M12, M16



Features

For support channels	Thread U-brackets	Max. permitted loading/pair [N] with hammer head fasteners			
		M8	M10	M12	M16
41/21/2.0 41/41/2.0 41/42/2.0	M8	4,500	4,500	4,500	4,500
41/41/2.5			5,000	5,000	5,000
41/21/2.0 41/41/2.0 41/42/2.0	M10		4,500	4,500	4,500
41/41/2.5			5,000	5,000	5,000
41/62/2.5					
41/82/2.0			4,500	4,500	4,500
41/124/2.5			5,000	5,000	5,000



For support channels	Thread	Spanner width [SW]	Part no.	Sales unit	Pack unit	Dimensions [mm]							
						A	B	C	H	H1	L	L2	s
41/21, 41/41, 41/42	M8	13	**151992**	20	pieces	48	70	90	17.0	24.5	38.2	27.2	6
	M10	15	**151095**			50	80		18.5		39.7	30.7	8
41/62, 41/82			**151096**	15				130					
41/124			**151993**					170					

02/19

MPR-Quick fasteners type S+

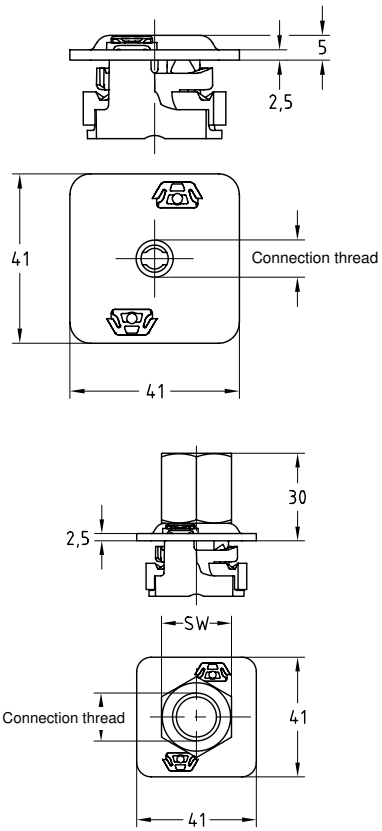
galvanised

Field of application

- For safe and fast connecting of pipe clamps and mounting parts in the rail slot of MPR-Support channels
- For indoor use

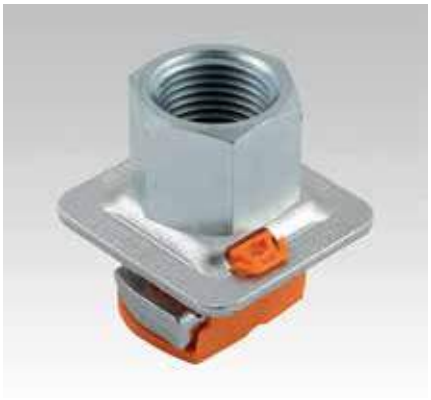
Advantages

- Simply screw into the rail slot – done
- Safely retained after screwing in, alignable until screw is tightened
- Secure interlocking design for a positive connection with the MPR-Support channels
- No shifting even on vertical rail slots





Version M8, M10, M12



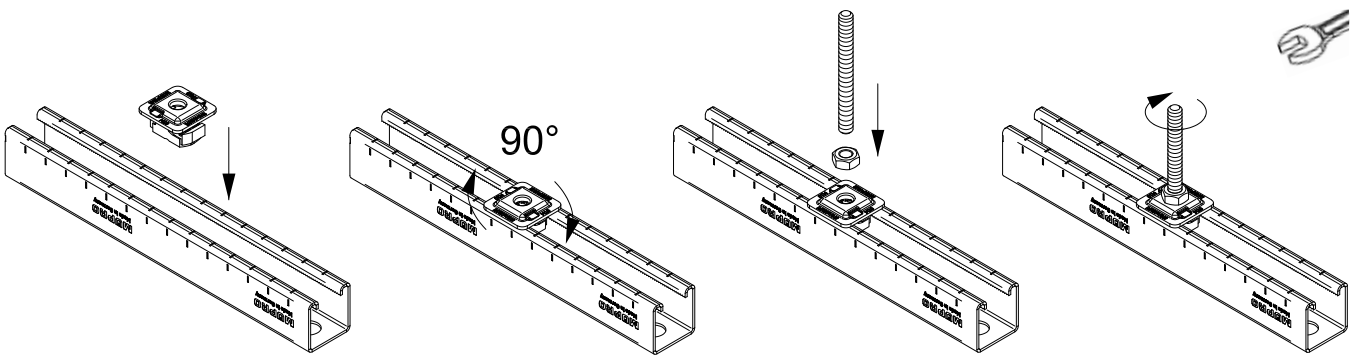
Version M16 + R½"

For support channels	Connecting thread	Spanner width [SW]	**Part no.**	Sales unit	Pack unit
41/21–41/124	M8	–	**165680**	50	pieces
	M10		**165679**		
	M12		**165678**		
	M16	22	**165677**		
	R½"	27	**165676**		

Features

F_1	Max. recommended load F_1 [N]					Tightening torque [Nm]				
	M8	M10	M12	M16	R½"	M8	M10	M12	M16	R½"
MPR-Support channels 2.0 mm	4,500	4,500	4,500	4,500	4,500	9	17	29	29	29
MPR-Support channels 2.5 mm		5,000	5,000	5,000	5,000					

Mounting instructions



02/19

MPR-Slide nuts type S+

galvanised

Field of application

- For fast and safe fastening of flush mounting parts such as installation brackets in the rail slot of MPR-Support channels
- For indoor use

Advantages

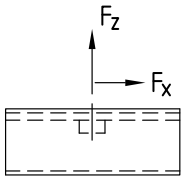
- Simply screw into the rail slot – done
- Safely retained after screwing in, alignable until screw is tightened
- No shifting even on vertical rail slots
- Flush-mounted, tensionally locked connection of accessories to the MPR-Support channels



Features

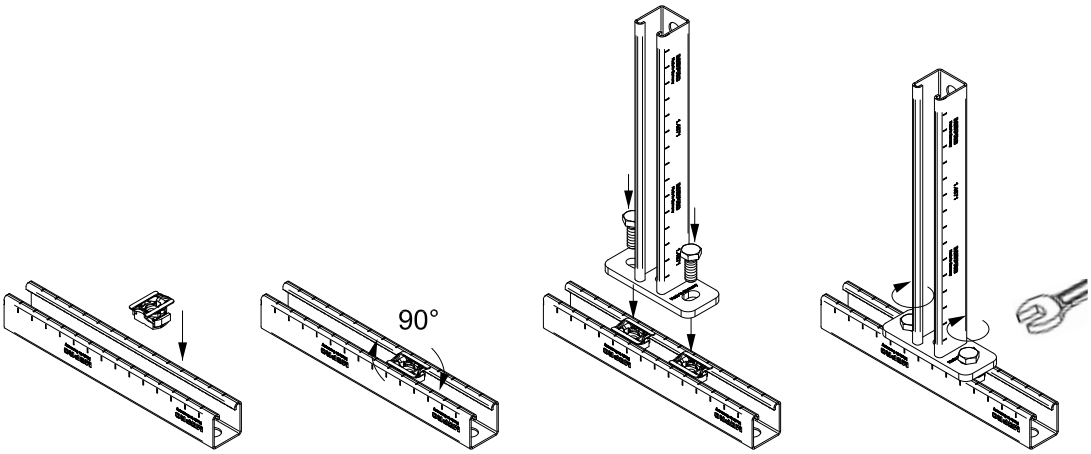
fire protection certified

For support channels	Thread	Part no.	Sales unit	Pack unit
41/21–41/124	M8	**165674**	50	pieces
	M10	**165673**		
	M12	**165672**		



For support channels Material thickness [mm]	MPR-Slide nuts type S+ Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load Fx [N]	For a tightening torque of [Nm]
2.0	M8	4,500	2,700	20
	M10		3,000	30
	M12			40
2.5	M8		1,500	20
	M10	5,000	2,200	30
	M12		2,700	40

Mounting instructions



02/19

MPR-Connection lock type S+

galvanised

Field of application

- For connecting type S+ mounting parts with MPR-Support channels
- For indoor use

Advantages

- Time-saving – fast and powerful frictional connection of type S+ mounting parts with MPR-Support channels
- Easy – simply slot into the type S+ mounting part and tighten the connection lock by turning 90°
- Secure interlocking design for a positive connection with the MPR-Support channels
- No wrench or auxiliary tool needed to hold in place
- No confusion – one size fits all type S+ mounting parts



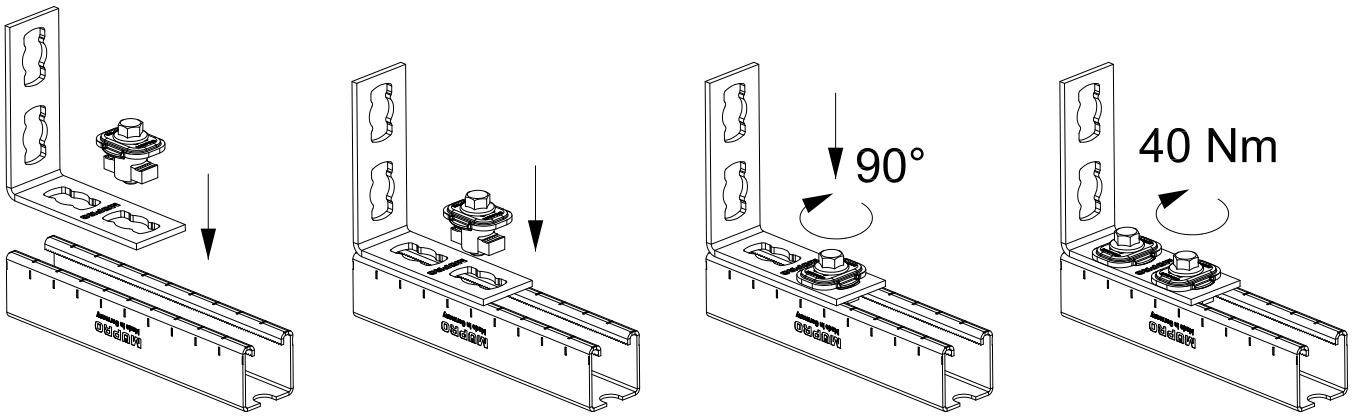
For support channels	Thread	Spanner width [SW]	**Part no.**	Sales unit	Pack unit
41/21–41/124	M10	13	**169020**	50	pieces

Features

fire protection certified

	Max. recommended tensile load [N]	Max. recommended transverse load [N]	Tightening torque [Nm]
MPR-Support channels 2.0 mm	4,500	4,000	40
MPR-Support channels 2.5 mm	5,000		

Mounting instructions



02/19

MPR-Diagonal struts type S+

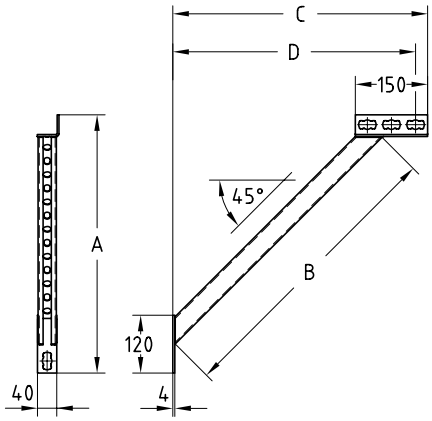
galvanised

Field of application

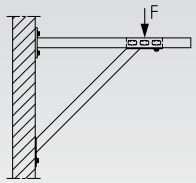
- Supporting strut for reinforcement of corner joints in structures made of MPR-Support channels and MPR-Connection lock type S+
- For indoor use
- Also suitable for lateral support of consoles, e.g. for use with fixed points

Advantages

- Easily connected with the MPR-Support channels due to installation with the MPR-Connection lock type S+
- Various lengths available for different on-site installation conditions





	Length [mm]	Mounting of bracket and diagonal strut in the support channel slot max. recommended load F [N]
	440	2,500
	900	2,000

For support channels	Length [mm]	**Part no.**	Sales unit	Pack unit	Dimensions [mm]			
					A	B	C	D
41/41–41/124	440	**165816**	1	pieces	395	440	380	355
	900	**165818**			741	900	734	709

02/19

MPR-Adapter discs type S+

galvanised

Field of application

- Attachment of MPR-system components type S+ when making a through-fitting or direct attachment to the structure e.g. with anchor plugs

Advantages

- Three versions available
- Safe due to form lock in openings of MPR-system components type S+
- Galvanised version for use in dry interiors



For thread	Part no.	Sales unit	Pack unit
M8	**165511**	50	pieces
M10	**165512**		
M12	**165513**		

MPR-Channel connector type S+

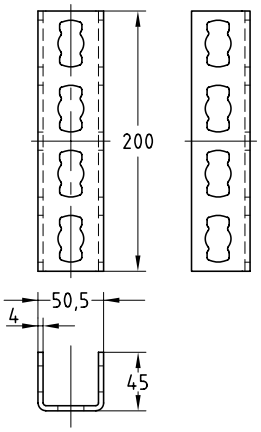
heavy-duty version, galvanised

Field of application

- Fast butt-joining of MPR-Support channels and MPR-Connection lock type S+
- For indoor use

Advantages

- Enables exact alignment of the channels
- Frictional connection via 4 connection locks type S+
- Easy handling thanks to installation with connection lock type S+





For support channels	Part no.	Sales unit	Pack unit
41/41–41/124	**165844**	1	pieces

02/19

MPR-Channel support bracket type S+

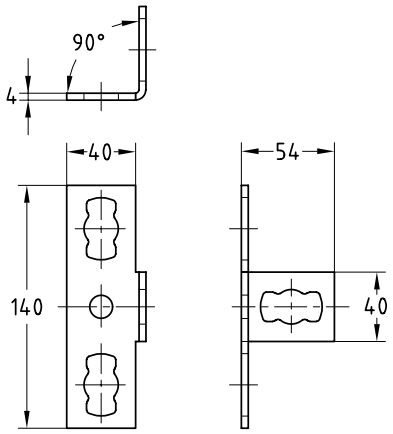
galvanised

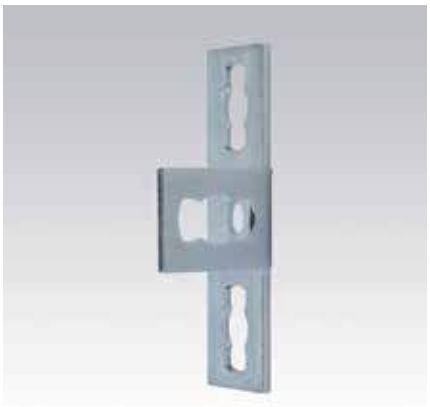
Field of application

- For right-angled connection of two channels where section slots do not have the same alignment
- Can be used as a connecting element in three-dimensional spatial structures preferably with the MPR-Support channel 41/41
- For indoor use

Advantages

- Fast and simple installation of joints in combination with the MPR-Connection lock type S+
- Flexible in connecting MPR-Support channels with, e.g. crossing support channels





For support channels	**Part no.**	Sales unit	Pack unit
41/21–41/124	**165826**	25	pieces

02/19

MPR-Saddle supports type S+

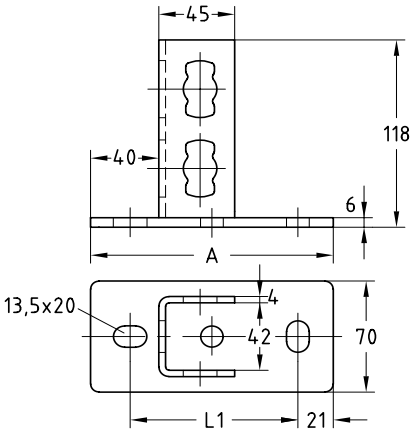
galvanised

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor use

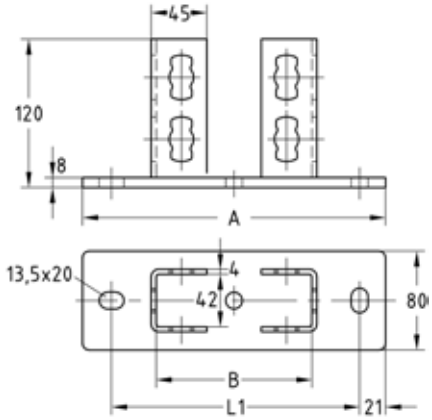
Advantages

- Easily connected with the MPR-Support channels due to installation with the MPR-Connection lock type S+
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions
- Type for 41/82 and 41/124 profiles with rotation-free bearing due to clamping on both sides by the MPR-Support channels





MPR-Saddle support type S+
for profiles 41/41 and 41/62





MPR-Saddle support type S+
for profiles 41/82 and 41/124

Features

For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]		
				A	B	L1
41/41, 41/62	**165822**	10	pieces	144	–	100
41/82	**165823**	1		205	83	160
41/124	**165824**			245	125	200

02/19

MPR-Saddle support crosswise type S+

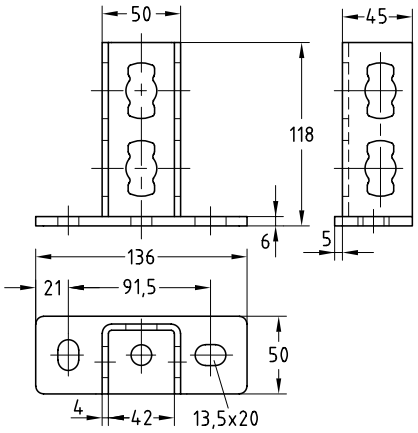
galvanised

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor use

Advantages

- Easily connected with the MPR-Support channels due to installation with the MPR-Connection lock type S+
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions especially of support channels 41/41
- Elongated- and cross-holes for direct attachment to the building structure





For support channels	Part no.	Sales unit	Pack unit
41/21–41/124	**165825**	10	pieces

02/19

MPR-Saddle support crosswise type S+

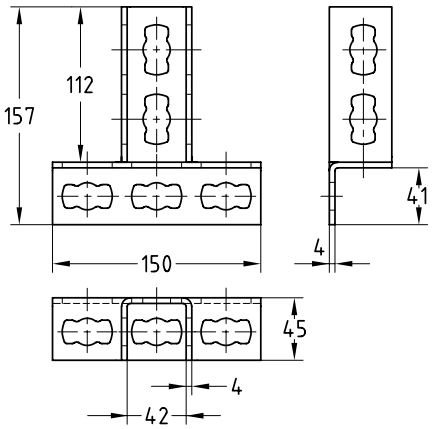
for channel support fitting, galvanised

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor use

Advantages

- Easily connected with the MPR-Support channels due to installation with the MPR-Connection lock type S+
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions especially of support channels 41/41





For support channels	**Part no.**	Sales unit	Pack unit
41/21–41/124	**165821**	10	pieces

02/19

MPR-Construction bracket type S+

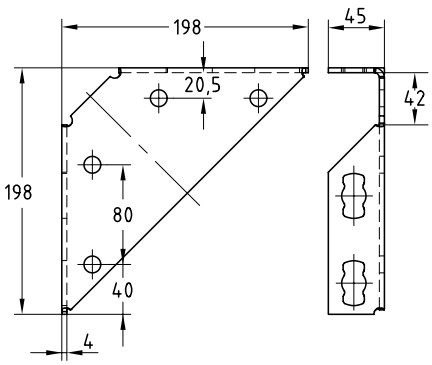
galvanised

Field of application

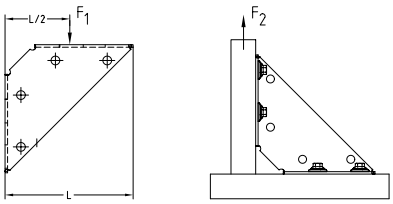
- Ideal connecting element for the construction of cross-beams, frames and shelving systems when used with MPR-Support channels
- For indoor use

Advantages

- A wide variety of installation options in MPR-Support channels and with the connection lock type S+
- Ensures stable corner joints







Features

Size [mm]	Admissible load F_1 [N]	Admissible load F_2 (material thickness of support channel 2.0 mm) [N]	Admissible load F_2 (material thickness of support channel 2.5 mm) [N]
198 x 198	3,500	4,000	5,000

Size [mm]	Part no.	Sales unit	Pack unit
198 x 198	**165851**	1	pieces

02/19

MPR-Mounting angles 90° type S+

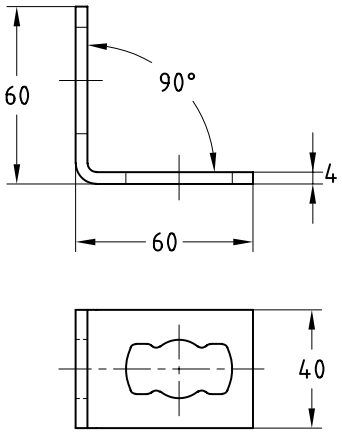
galvanised

Field of application

- Solid fixing element for construction of pre-wall installations and shelves as well as for channel constructions for attachments of pipelines and air ducts without welding
- For indoor use

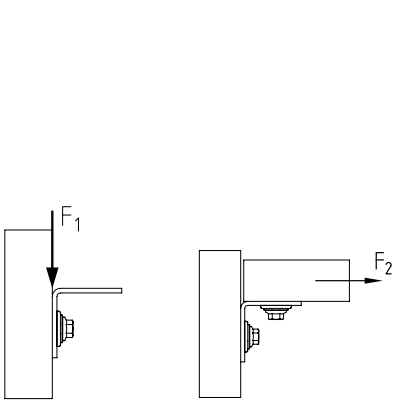
Advantages

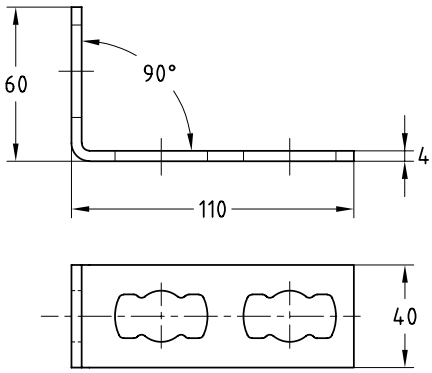
- Fast and simple installation of 90° corner joints with the MPR-Connection lock type S+
- Flexible use due to up to 4 connection locks depending on the design
- Increased load transfer when using 2 connection locks per leg





MPR-Mounting angle 90° 1+1 type S+



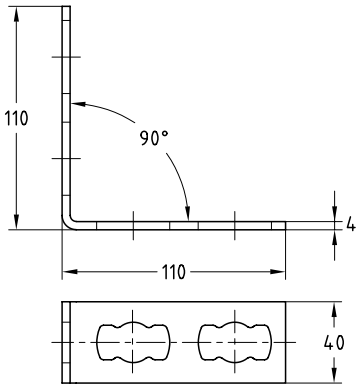




MPR-Mounting angle 90° 1+2 type S+

Features

Design	Admissible load F_1 [N]	Admissible load F_2 [N]
1+1	4,000	2,500
1+2		
2+2	8,000	





MPR-Mounting angle 90° 2+2 type S+

Design	For support channels	Part no.	Sales unit	Pack unit
1+1	41/21–41/124	**165838**	25	pieces
1+2		**165839**		
2+2		**165840**		

02/19

MPR-Mounting angles 135° type S+

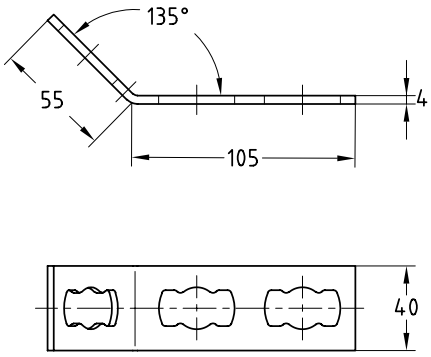
galvanised

Field of application

- Solid fixing element for construction of pre-wall installations and shelves as well as for channel constructions for attachments of pipelines and air ducts without welding
- For indoor use

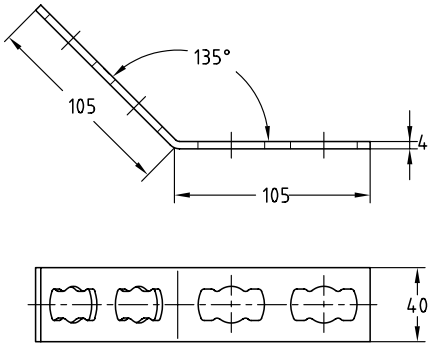
Advantages

- Fast and simple installation of angled joints with the MPR-Connection lock type S+
- Flexible use due to up to 4 connection locks depending on the design
- Increased load transfer when using 2 connection locks per leg



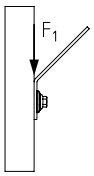


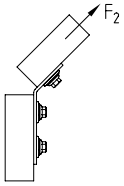
MPR-Mounting angle 135° 1+2 type S+





MPR-Mounting angle 135° 2+2 type S+





Features

Design	Admissible load F_1 [N]	Admissible load F_2 [N]
1+2	4,000	1,500
2+2	8,000	3,000

Design	For support channels	Part no.	Sales unit	Pack unit
1+2	41/21–41/124	**165841**	25	pieces
2+2		**165842**		

02/19

MPR-Angle connector 45° type S+

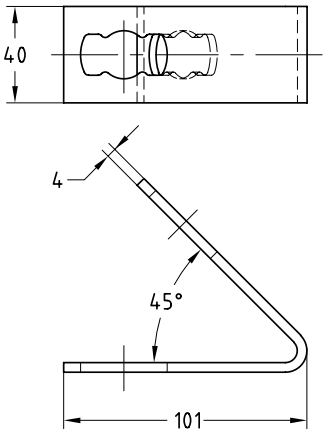
galvanised

Field of application

- Connecting element for on-the-wall installations, shelves and rail constructions, preferably by using the MPR-Support channel 41/41

Advantages

- Fast and simple installation of angled joints in combination with the MPR-Connection lock type S+





Design	For support channels	**Part no.**	Sales unit	Pack unit
1+1	41/21–41/124	**165830**	25	pieces

02/19

MPR-Angle connectors 90° type S+

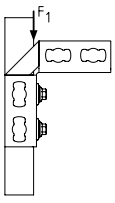
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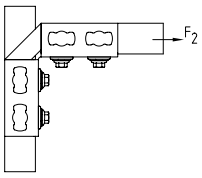
Field of application

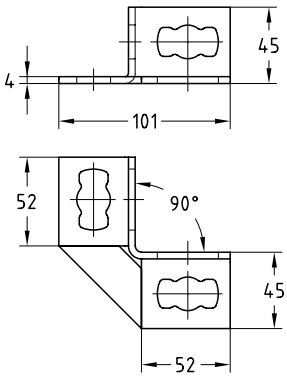
- Connecting element for on-the-wall installations, shelves and rail constructions, preferably by using the MPR-Support channel 41/41
- For indoor use

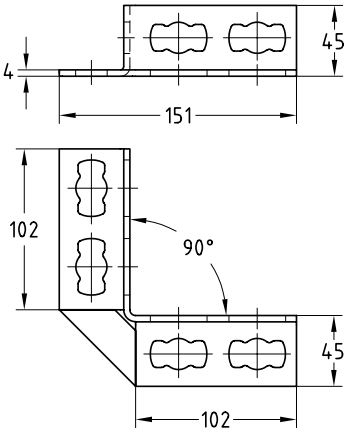
Advantages

- Fast and simple installation of angled joints with the MPR-Connection lock type S+
- Flexible use due to up to 4 connection locks depending on the design
- Increased load transfer when using 2 connection locks per leg
- Flexible connections in 2 directions with MPR-Support channels 41/41











MPR-Angle connector 90° 2+2 type S+



MPR-Angle connector 90° 4+4 type S+

Features

Design	Admissible load F_1 [N]	Admissible load F_2 [N]
2+2	4,000	2,000
4+4	8,000	4,000

Design	For support channels	Part no.	Sales unit	Pack unit
2+2	41/21–41/124	**165831**	10	pieces
4+4		**165832**		

02/19

MPR-Angle connectors 135° type S+

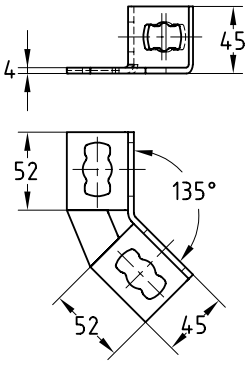
galvanised

Field of application

- Connecting element for on-the-wall installations, shelves and rail constructions, preferably by using the MPR-Support channel 41/41
- For indoor use

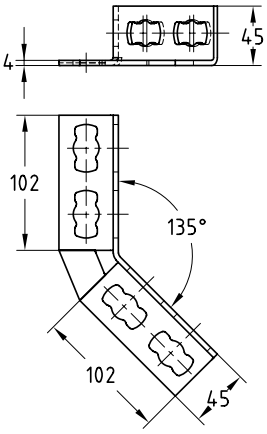
Advantages

- Fast and simple installation of angled joints with the MPR-Connection lock type S+
- Flexible use due to up to 4 connection locks depending on the design
- Increased load transfer when using 2 connection locks per leg
- Flexible connections in 2 directions with MPR-Support channels 41/41



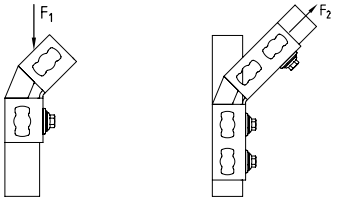


MPR-Angle connector 135°
2+2 type S+





MPR-Angle connector 135°
4+4 type S+



Features

Design	Admissible load F_1 [N]	Admissible load F_2 [N]
2+2	4,000	3,000
4+4	8,000	5,000

Design	For support channels	Part no.	Sales unit	Pack unit
2+2	41/21–41/124	**165833**	10	pieces
4+4		**165834**		

02/19

MPR-Connection plates type S+

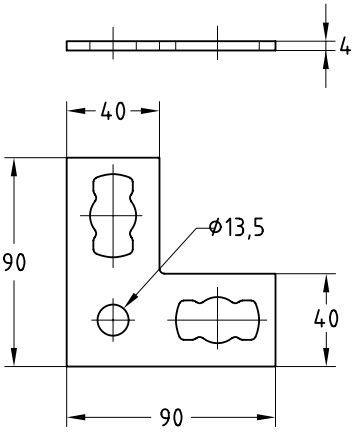
galvanised

Field of application

- Strong connection elements for frames and pre-wall installations using the MPR-System components
- For indoor use

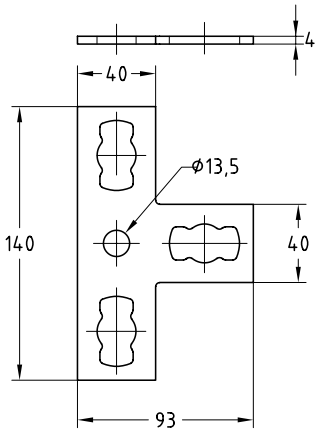
Advantages

- Simple and quick connection of **angle connections, cross connections and T-connections**
- The mounting plates enable frame construction in one plane in which the channel slots have the same alignment
- Good adaptation to channel widths; the corners remain free in frame constructions
- Quick and simple attachment in combination with the MPR-Connection lock type S+



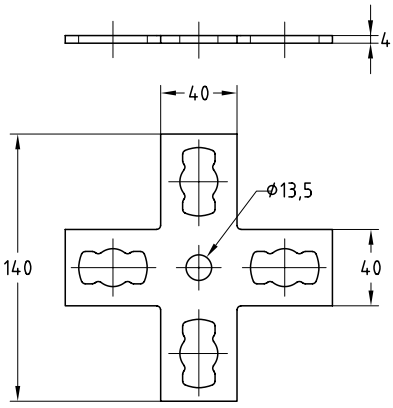


MPR-Angle plate 90° type S+





MPR-T-connection plate type S+





MPR-Cross connection plate type S+

	For support channels	Part no.	Sales unit	Pack unit
Angle plate 90°	41/21–41/124	**165829**	25	pieces
T-connection plate		**165827**		
Cross connection plate		**165828**		

02/19

MPR-3D-Connectors type S+

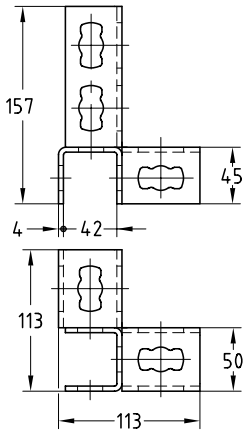
galvanised

Field of application

- Fasteners for three-dimensional structures in on-the-wall installations, shelves and rail constructions
- For indoor use

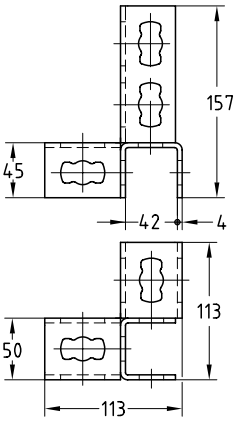
Advantages

- Fast and simple and installation of 3-dimensional connections joints in combination with the MPR-Connection lock type S+
- Flexible arrangement of the rail slot on MPR-Support channels 41/41 with middle or corner connectors type S+
- Versatile designs options using three different connector designs



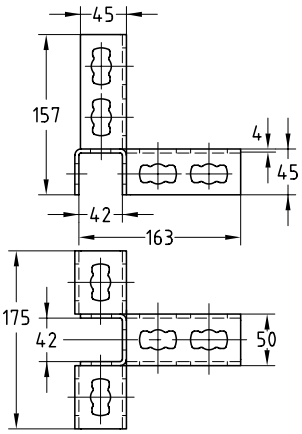


MPR-Corner connector left type S+





MPR-Corner connector right type S+





MPR-Mid connector type S+

	For support channels	Part no.	Sales unit	Pack unit
Corner connector left	41/21–41/124	**165835**	10	pieces
Corner connector right		**165836**		
Mid connector		**165837**		

02/19

MPR-Cross channel connector type S+

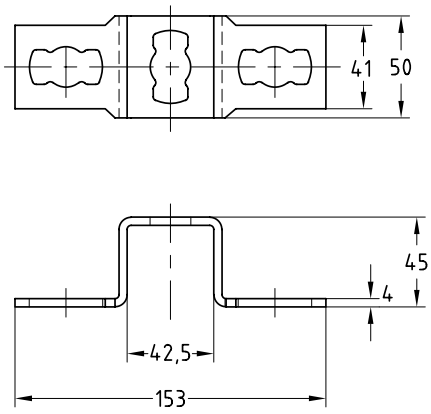
galvanised

Field of application

- For cross connections in on-the-wall installations and shelves made of MPR-Support channels in combination with the MPR-Connection lock type S+
- For indoor use

Advantages

- Easy-to-install connection element for setting up structures with correctly designed static loads using MPR-Support channels
- More flexibility in creating rail constructions in combination with the MPR-Connection lock type S+





For support channels	Part no.	Sales unit	Pack unit
41/41, 41/42	**165846**	25	pieces

02/19

MPR-VARIO joint type S+

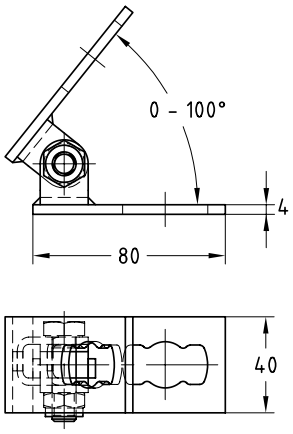
galvanised

Field of application

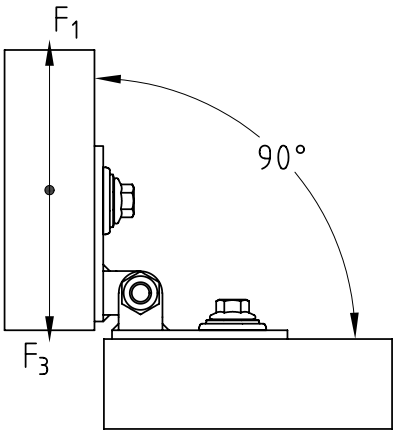
- Flexible use for connection of MPR-Support channels, where different angle settings are required, such as for supports on brackets, etc.
- For indoor use

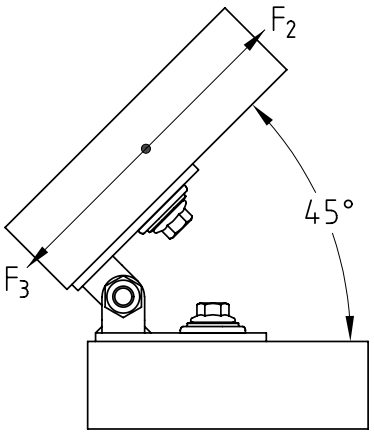
Advantages

- Pivot angle from 0° to 100° for fast and flexible adaptation to a wide variety of attachment situations – saves time and costs at the construction site
- Cost savings can be realised in the area of stockkeeping, as a variety of support solutions can be realized with only one item
- Stable design of the joint for optimal transmission of force
- Fast and simple installation using connection locks type S+









Features

Max. recommended load F_1 [N]	750
Max. recommended load F_2 [N]	500
Max. recommended load F_3 [N]	4,000
Tightening torque [Nm]	40

For support channels	**Part no.**	Sales unit	Pack unit
41/21–41/124	**165819**	10	pieces

02/19

Cramping connector

galvanised

Field of application

- Connection of MPC- and MPR-Support channels at the rear perforations for creating H-profiles
- For use in dry interiors

Advantages

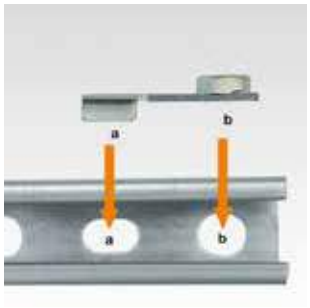
- Easy connection of MPC- and MPR-Support channels back to back
- Secure fixing via the rear perforation
- Perfect solution for creating H-profiles on site



Spanner width connecting screw	**Part no.**	Sales unit	Pack unit
Allen SW 8	**163050**	25	pieces

Mounting instructions









Please take care of the mounting instruction which is enclosed with the product. It is recommended to install the connector with a max. fastening distance of 160 mm.

VIDEO TIP

MPC/MPR Cramping connector – short-term production of H-profiles: the video shows how H-profiles can be put together quickly and conveniently from MPC- and MPR-support channels using the cramping connector.

02/19

Channel connector

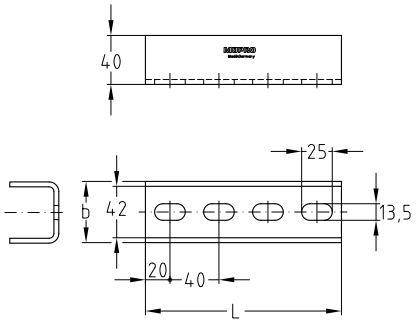
heavy-duty version, galvanised

Field of application

- Quick butt-joint connection for MPC- and MPR-Support channels

Advantages

- Enables exact alignment of the channels
- Four bolts provide a frictional joint
- Form-locking connection between channel and connector (passthrough installation)
- Also available in double length for heavy-duty connections









For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]	
				b	L
38/40–40/120, 41/21–41/124	**120136**	1	pieces	50	160

02/19

Channel connector

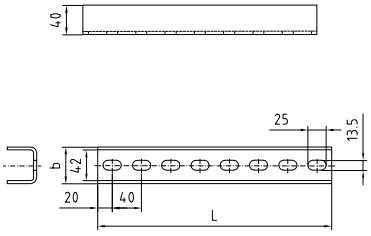
heavy-duty version, double length, galvanised

Field of application

- Channel connector in heavy, stable design for secure connection of MPC- and MPR-Support channels

Advantages

- Form-locking connection due to max. eightfold screw connection
- Especially long guidance of the connected MPC- and MPR-Support channels ensures a high level of protection against lateral deflection
- Oblong holes in the channel connector compensate tolerances when installing





For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]	
				b	L
38/40–40/120, 41/21–41/124	**134833**	1	pieces	50	320

Reinforcement angle

galvanised

Field of application

- Support for MPC- and MPR-Wall hanger brackets where transverse forces occur

Advantages

- Suitable for wall, ceiling and floor mounting
- Further mounting facilities for angle and joint connection of MPC- and MPR-Support channels

- **Suitable for:**
  - Support of wall hanger bracket 38/40, 40/60, 41/21, 41/41
  - Applicable as angle and joint connection of all MPC- and MPR-Support channels

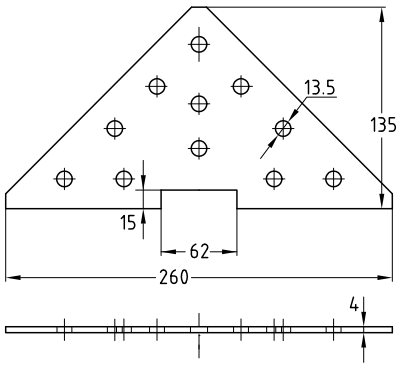








For support channels	Part no.	Sales unit	Pack unit
38/24–40/120, 41/21–41/124	**159436**	1	pieces



Suitable add-on parts for MPC-Support channels 38/24–40/120			
	Part no.	Sales unit	Pack unit
Hexagon head bolt, M10 x 20 mm, galvanised	**105560**	100	pieces
MPC-Rail nut, M10, galvanised	**117968**		

Suitable add-on parts for MPR-Support channels 41/21–41/124			
	Part no.	Sales unit	Pack unit
Hexagon head bolt, M10 x 20 mm, galvanised	**105560**	100	pieces
MPR-Threaded plate, M10, galvanised	**151053**		

02/19

Cantilever brackets

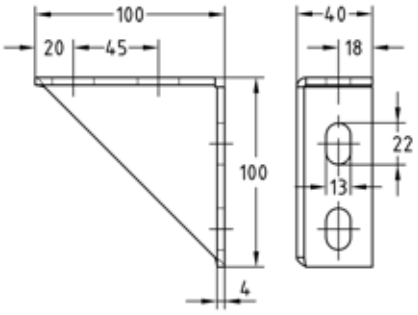
galvanised

Field of application

- Ideal connecting element for the construction of cross-beams and frames systems with support channels
- For use in dry interiors

Advantages

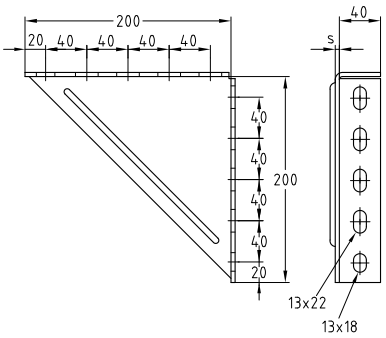
- Variety of mounting possibilities when used with MPC- and MPR-Support channels
- Reinforces and increases the load capacity of channel structures and cross-beams
- Even greater strength values can be achieved by bolting two equal-sided cantilever brackets together

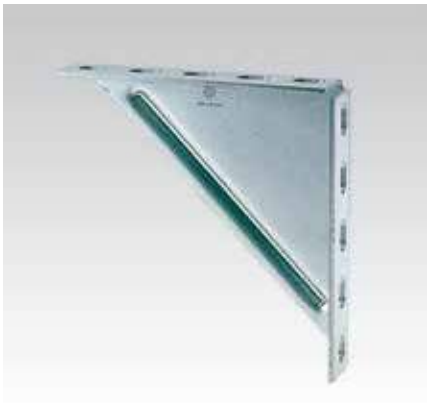




Cantilever bracket 100 x 100

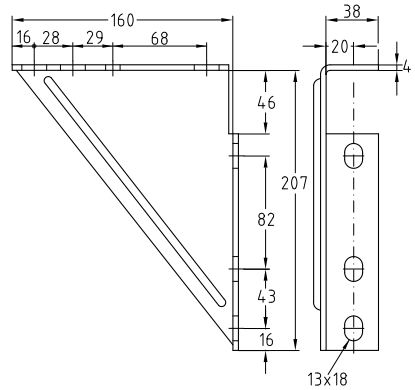






Cantilever bracket 200 x 200







Cantilever bracket 207 x 160

Design	Type	For support channels	Size [mm]	**Part no.**	Sales unit	Pack unit
100 x 100	–	38/24–40/120, 41/21–41/124	100 x 100 x 4	**167126**	20	pieces
200 x 200	1		200 x 200 x 4	**113628**	1	
	2		200 x 200 x 6	**113643**		
207 x 160	–		207 x 160 x 4	**113610**		

For further technical information please refer to chapter "Technical information".

02/19

Construction brackets

galvanised

Field of application

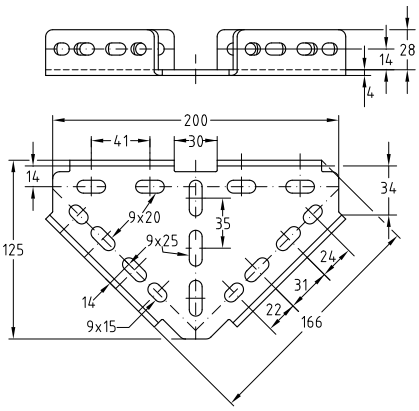
- Ideal connecting element for the construction of cross-beams, frames and shelving systems

Advantages

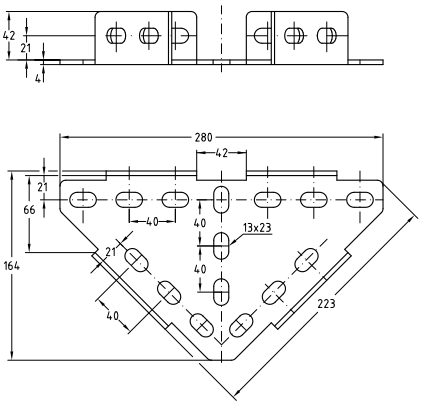
- Great variety of mounting possibilities when used with MPC- and MPR-Support channels
- Provides solid joint and angle connections
- Any arrangement of channel opening possible
- For direct mounting on ceilings, walls and floors or for installation with MPC- and MPR-Support channels as:
  - Angular support brackets
  - Angular load-bearing brackets
  - Floor supports
  - Junction brackets
  - Cross connections
  - Transverse support angles
  - Connection element







Type 1



Type 2

Type	For support channels	Suitable for	Size [mm]	**Part no.**	Sales unit	Pack unit
1	27/18, 28/30	MPC	200 x 125 x 4	**113598**	1	pieces
2	38/24–40/120, 41/21–41/124	MPC/MPR	280 x 164 x 4	**113601**		

02/19

Mounting angles 90°

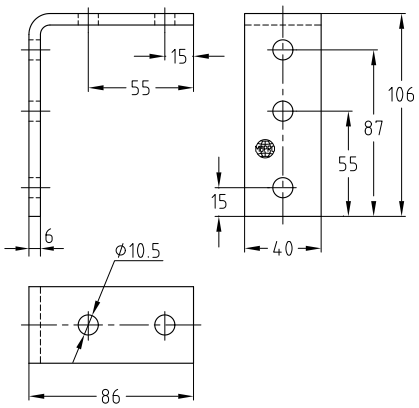
galvanised

Field of application

- Solid fixing element for construction of pre-wall installations and shelves as well as for channel constructions for attachments of pipelines and air ducts without welding
- Also applicable for direct mounting on walls, ceilings or floors

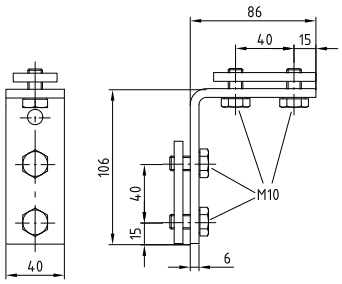
Advantages

- Variable fitting possibilities
- Versatile in use, e.g. as:
  - Angular support bracket
  - Angular load-bearing bracket
  - Connection element
  - Angular bracket
- Multi-purpose component for professional, practical installation solutions
- Can be provided already pre-assembled with MPC-Double rail nut for the quick attachment within channel slot





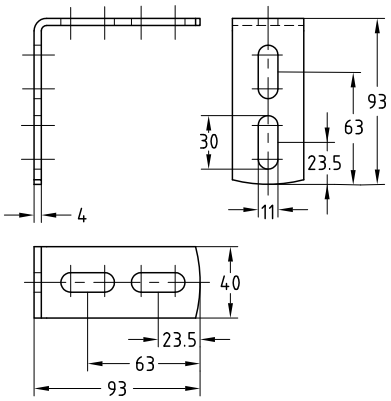
MPC-Mounting angle 90°





MPC-Mounting angle 90°, pre-assembled







Mounting angle 90°, type 3, light

	For support channels	Suitable for	Part no.	Sales unit	Pack unit
MPC-Mounting angle 90°	38/24–40/120	MPC	**118808**	25	pieces
MPC-Mounting angle 90° pre-installed			**147764**		
Mounting angle 90° type 3, light	38/24–40/120, 41/21–41/124	MPC/MPR	**118906**		

02/19

Mounting angle 90°

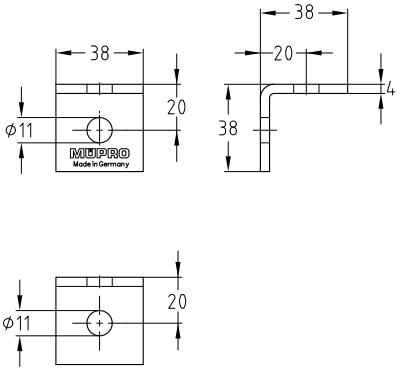
short, galvanised

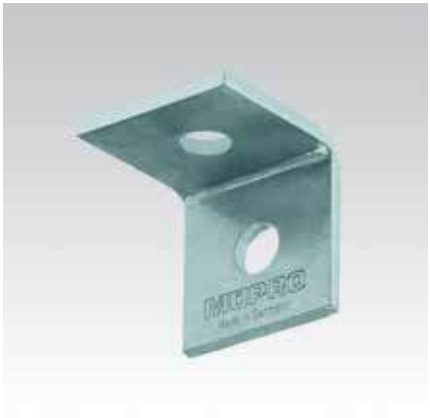
Field of application

- Strong and good value connecting element for the construction of frames, shelves and supports for pre-wall mounted installations

Advantages

- Creation of rigid structures without welding
- High flexibility and easy mounting
- Good adjustment to the widths of MPC- and MPR-Support channels









For support channels	**Part no.**	Sales unit	Pack unit
38/24–40/120, 41/21–41/124	**118820**	25	pieces

02/19

Angle- and T-connection plates

galvanised

Field of application

- Strong connection elements for frames and pre-wall installations using the MPC- and MPR-System components

Advantages

- Simple and quick connection of **angles and T-connections**
- The mounting plates allow frame construction in one plane, in which the channel slots have the same alignment
- Good adaptation to channel widths; the corners remain free in frame constructions
- Quick and simple attachment in combination with the MPC-Quick fastener for angle mounting
- Hole spacings allow pass-through mounting using the MPC- and MPR-Support channels



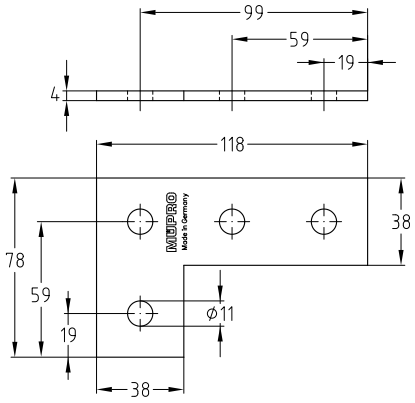
Angle plate

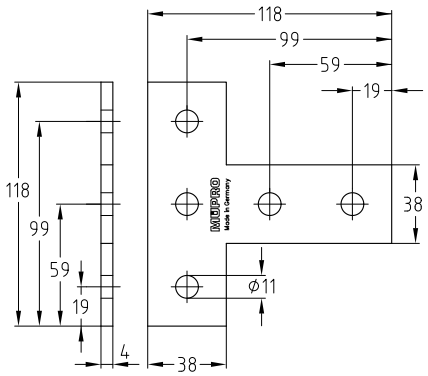


T-connection plate









	For support channels	Part no.	Sales unit	Pack unit
Angle plate	38/24–40/120, 41/21–41/124	**127840**	25	pieces
T-connection plate		**130297**		

02/19

Cross connector plate

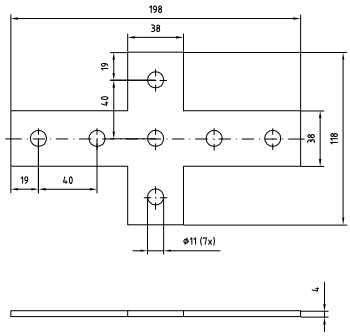
galvanised

Field of application

- Cross connection plate for connecting up to four MPC- and MPR-Support channels in one plane

Advantages

- Attachment at the rear perforation of the MPC- and MPR-Support channel leaves the channel slot free in all directions and enables fast installation of add-on parts
- Ideal connection element for creating subconstructions for ceiling suspensions





For support channels	Part no.	Sales unit	Pack unit
38/24–40/120, 41/21–41/124	**113778**	25	pieces

02/19

StaboFix® Fixing system

galvanised

Field of application

- Fixing system for mounting in cramped shafts, ducts and washbasin installation

Advantages

- High flexibility due to versatile range of applications in front of and within a wall, in wall recesses, wall break-throughs as well as in supply shafts
- Simple folding on site can bring the StaboFix® Sections into the desired form
- The StaboFix® Retaining plate can be simply and quickly clipped onto the sections and enables the attachment of non-twisting and centred wall carrier plates
- Smooth attachment of all common sanitary systems, while obtaining standard sanitary measures by means of a special hole template in the section
- Simple height adjustment of syphon bends or cross-running pipes using StaboFix® Clamps and threaded pins
- Pipe clamps with connection threads M8 and M8/M10 can be simply and quickly attached with StaboFix® Bolts
- All system components are perfectly matched to each other reducing the assembly effort
- High quality and firmness of the components
- Effective installation due to the basic assortment of installation components



StaboFix® Retaining plate



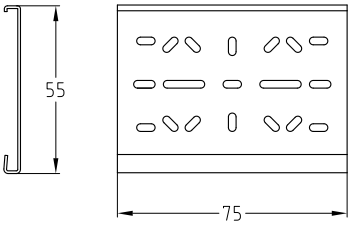
StaboFix® Section



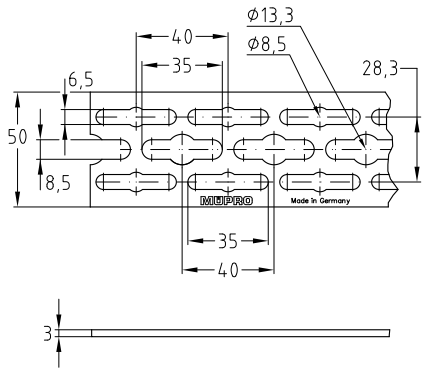
For simple, quick and secure fixing of pipe clamps with connection threads M8 and M8/M10



For the fixing of syphon bends and cross-running pipes – simple height adjustment



StaboFix® Retaining plate



StaboFix® Section

	Size [mm]	Part no.	Sales unit	Pack unit
StaboFix® Section	2,000 x 50 x 3	**129076**	10	pieces
StaboFix® Retaining plate	75 x 55	**129073**	25	

02/19

StaboFix® Fixing system

Field of application

- Carrying case includes complete set to be used on the construction site

Advantages

- Practical basic assortment in the handy carrying case
- Due to the packing of the individual parts in cartons an organized access is possible
- StaboFix® Pliers within the case
- No loose parts lying around on site
- Compact case size of 400 x 300 x 90 mm
- Also available as economy kit: the complete StaboFix® Plumbers case plus 20 StaboFix® Sections

The StaboFix® Fixing system consists of:

1	StaboFix® Pliers
25	StaboFix® Retaining plates
25	StaboFix® Clamps
100	StaboFix® Bolts M8 short
100	StaboFix® Bolts M8 long
100	StaboFix® Drilling screws 4.2 x 16
100	StaboFix® Drilling screws 4.8 x 19



StaboFix® Plumbers case



StaboFix® Economy set

	Part no.	Sales unit	Pack unit
StaboFix® Plumbers case	**166021**	1	pieces
StaboFix® Economy sets consisting of 1 StaboFix® Plumbers case + 20 StaboFix® Sections	**166085**		set

02/19

StaboFix® Fixing system



Installation in a shaft:
Pass-through mounting with two pipe clamps and a threaded pin M8 or M10 for the attachment of parallel pipelines



Installation in a shaft:
Pipe clamps are fitted in no time using the StaboFix® M8 bolt



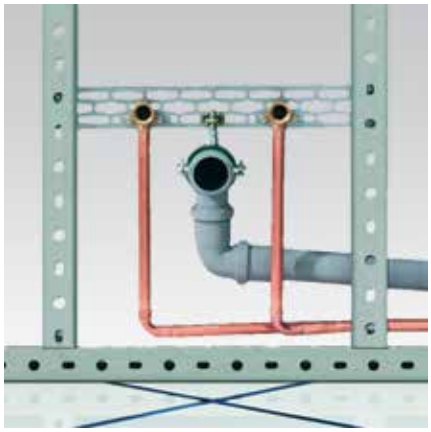
Washbasin installation:
Installation in tight wall recesses



Washbasin installation:
Everything fitted exactly to gauge



Installation in a wall:
Waste pipe of washing machine



Wall-mounted installation:
Wall-mounted installation using StaboFix® with MPC-Support channels

StaboFix® Pliers

for StaboFix® Fixing system
with minimum effort you can bend the StaboFix® Sections using the pliers to the right shape
bending angles of 90° and more

Part no.	Sales unit	Pack unit
129070	1	pieces



StaboFix® Clamps

for StaboFix® Fixing system, galvanised
for safe and quick attachment of threaded pins for pipe clamp mounting
the simple, stepless height adjustment enables an exact alignment of cross-running pipelines

For thread	**Part no.**	Sales unit	Pack unit
M8	**129075**	25	pieces





StaboFix® Bolts

for StaboFix® Fixing system, galvanised
for simple, quick and secure attachment of pipe clamps with connection threads M8 and M8/M10

For pipe clamps with connecting thread	Size [mm]	**Part no.**	Sales unit	Pack unit
M8	M8 x 8	**129078**	100	pieces
M8/M10	M8 x 13,5	**129077**		



StaboFix® Drilling screws

for StaboFix® Fixing system, galvanised
with pozidriv cross-head for attachment to the StaboFix® Retaining plate

Size [mm]	**Part no.**	Sales unit	Pack unit
4,2 x 16	**129071**	100	pieces
4,8 x 19	**129072**		



02/19

Angle rail

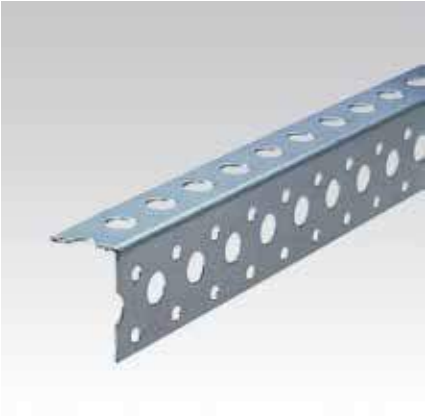
galvanised

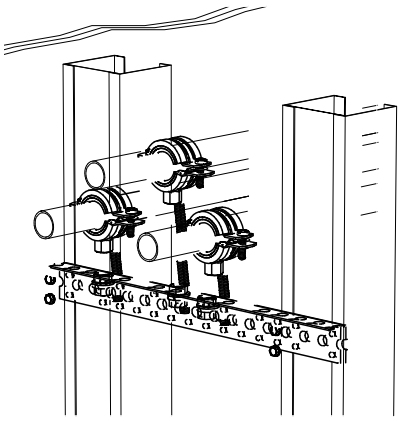
Field of application

- For the attachment of pipelines in dry building construction
- For screwing or riveting on metal supports of drywalls

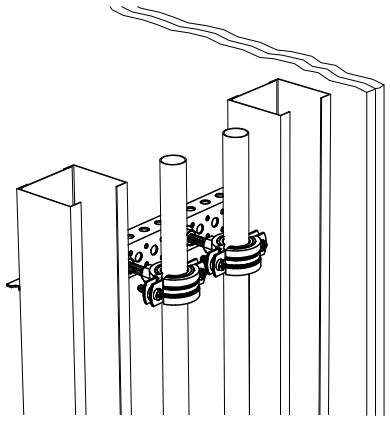
Advantages

- Versatile use at restaurations or renovations
- Connection options via 4.1 mm and 8.5 mm perforation
- Attachment for vertical and horizontal pipe routings





Mounting example for horizontal pipe routings

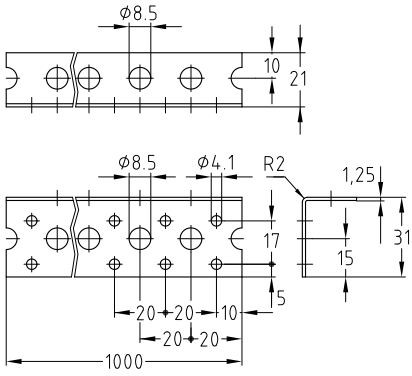


Mounting example for vertical pipe routings

Features

Perforation	4.1 mm for bolts and rivets 8.5 mm for pipe attachments

Length [mm]	Part no.	Sales unit	Pack unit
1,000	**127858**	25	pieces



02/19



Accessories

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

MÜPRO


Hexagon wood screws 5/1


Bolt screws 5/2


Shoulder screws 5/2–5/3


Washer bolts 5/3


Pozidriv recessed head bolts 5/3


Shoulder pins 5/3


Slot bolt
with wood thread 5/3


Threaded rods 5/4


Threaded pins 5/4–5/5


Turnbuckles 5/5


Hex connectors 5/5


Round connectors 5/6


Parallel couplings 5/6


Reducers 5/7


Reducing connectors 5/7


Socket adapters 5/7


Hanger sockets with inner thread
and reinforcement ring 5/8


Slot bolt
with metric thread 5/8


Eye bolts 5/8


Base plates 5/8–5/9


Threaded pipes 5/10


Hanger bracket 5/10


Girder clamps 5/11–5/13


Clamping claws 5/14


Supporting angles 5/15


Trapezoid-sheet hangers 5/16


Plastic sealing plates 5/17


Punched tapes 5/18


Allen bolts 5/19


Cylinder head screws 5/19


Oval head screws 5/20


Power hook 5/20


Hexagon head bolts 5/20


Hexagonal nuts 5/21


Rip hexagon nuts 5/21


Cap nuts 5/21


Protection caps 5/21


Washers 5/22


Serrated lock washers 5/22


Gas-meter fixing kits 5/23

Distance angles 5/24

Joint brackets 5/24

MÜPRO

Hexagon wood screws

DIN 571, galvanised



Thread	Total length [mm]	Wood thread length [mm]	Spanner size [mm]	Part no.	Sales unit	Pack unit
H6	40	24	10	105355	200	pieces
	45	27		105356		
	50	30		105358		
	55	33		105359		
	60	36		105362		
	70	42		105363		
	80	48		105364		
	90	54		105365	100	
	100	60		105351		
	110	66		105352		
	120	72		105353		
H7	50	30	12	105375		
	70	42		105376		
	80	48		105377		
	100	60		105366		
	120	72		105368		
	130	78		105369		
	140	84		105370		
	150	90		105372		
	170	102		105373		
H8	30	18	13	105388	200	
	35	21		105389		
	40	24		105390		
	45	27		105391		
	50	30		105395		
	55	33		105396	100	
	60	36		105400		
	65	39		105401		
	70	42		105404		
	80	48		105406		
	90	54		105407		
	100	60		105379		
	110	66		105381	50	
	120	72		105383		
H10	30	18	17	105328	100	
	45	21		105329		
	50	30		105331		
	60	36		105333		
	70	42		105336		
	80	48		105338		
	90	54		105339	50	
	100	60		105321		
	110	66		105322		
	120	72		105323		
	130	78		105325		
	140	84		105327		
H12	40	24	19	105344		
	50	30		105345		
	60	36		105346		

02/19

Bolt screws

for fastening to wooden ceilings or for use with nylon plugs, galvanised



	Connecting thread	Total length [mm]	Wood thread	Wood thread length [mm]	Metric thread length [mm]	Spanner size [mm]	Size TX-drive	Part no.	Sales unit	Pack unit
Bolt screws	M6	50	H6	37	11	–	T 15	**129687**	100	pieces
		80		47	30			**129693**		
	M8	50	H7	30	10	6	T 25	**129714**		
		60			20			**129717**		
		80		37	30			**129725**		
		100		50	40			**129694**		
		120		62	50			**129702**		
		140						**129706**		
		160						**129708**		
		180						**129709**		
		200						**129710**		
	M10	60	H9	37	20	–		**129678**		
		80		47		8		**129680**		
		100		57	30			**129666**		
		120			50			**129668**		
		140						**129670**		
		160						**129672**		
		180						**129674**		
		200						**129675**		
		220						**129676**		
	M12	100	H10		25	10	T 30	**129681**		
		120			40			**129682**		
		160						**129683**	50	
Bolt screws polybox á 300 pieces	M8	50	H7	30	10	6	T 25	**129711**	1	box
		60			20			**153108**		
		80		37	30			**129721**		
		100		50	40			**153109**		
		120		62	50			**153110**		

Shoulder screws with tool attachment SW 10

for quick mounting with electric screwdriver, galvanised



Connecting thread	Total length [mm]	Wood thread	Wood thread length [mm]	Metric thread length [mm]	Part no.	Sales unit	Pack unit
M8	50	H6	27	6.0	**106302**	100	pieces
	80				**106303**		
		H7	47	6.5	**106308**		
	100				**106304**		
	120				**106305**		
	140				**106306**		
	160				**106307**		
	100	H9	57		**106297**		
	120				**106298**		
	160				**106301**		
M10	80		47	8.0	**106296**		
	100		57		**106292**		
	120				**106293**		
	140				**106294**		
	160				**106295**		

02/19

Shoulder screws with collar

for fastening to wooden ceilings or for use with nylon plugs, galvanised

Connecting thread	Total length [mm]	Wood thread	Wood thread length [mm]	Metric thread length [mm]	**Part no.**	Sales unit	Pack unit
M6	50	H6	30	6	**106309**	100	pieces
	80				**106310**		
M8	50				**106315**		
	80				**106316**		
	120	H7			**106311**		



Washer bolts

galvanised

Thread	Total length [mm]	Wood thread length [mm]	Spanner size [mm]	**Part no.**	Sales unit	Pack unit
H8	50	30	13	**117793**	100	pieces
	70	42		**117799**		



Pozidriv recessed head bolts

galvanised

Thread	Length [mm]	**Part no.**	Sales unit	Pack unit
M6	18	**113826**	100	pieces
	20	**113835**		
	25	**113844**		
M8	20	**113850**		
	25	**113853**		
	30	**113856**		
	35	**113859**		



Shoulder pins

galvanised

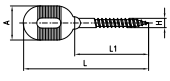
Thread	Total length [mm]	Length of short thread [mm]	**Part no.**	Sales unit	Pack unit
M8	21	7	**106313**	100	pieces
	26		**106314**		



Slot bolt

with wood thread, galvanised

Thread	Oblong hole [mm]	**Part no.**	Sales unit	Pack unit	Dimensions [mm] A	L	L1
H6	6.5 x 13	**114451**	100	pieces	22	84	50





02/19

Threaded rods

strength class 4.8, galvanised



Thread	Length [m]	Part no.	Sales unit	Pack unit
M6	1	113603	100	pieces
	2	113612	50	
M8	1	113639		
	2	113651	25	
	3	113660		
M10	1	113467		
	2	113486		
	3	113495	20	
M12	1	113513		
	2	113525	15	
	3	113534	10	
M16	1	113549		
	2	113561		
	3	113567	5	
M20	1	113579		
	2	113582		

Threaded pins

galvanised



Connecting thread	Length [mm]	Part no.	Sales unit	Pack unit
M6	25	114094	100	pieces
	40	114097		
	70	114099		
	80	114103		
	100	114082		
M8	20	114149		
	30	114184		
	40	114211		
	50	114223		
	60	114241		
	70	114253		
	80	114262		
	90	114271		
	100	114115		
	110	114118		
	120	114128		
	140	114137		
	160	114140		
	180	114143		
M10	25	113762		
	35	113792		
	55	113825		
	80	113858		
	100	113699		
	120	113714		
	140	113723		
	160	113729		
	180	113744		
M12	25	113942		
	55	113983		
	80	114001		
	100	113882		
	130	113900		
	150	113915		
M16	60	114058	25	
	120	114016		
	160	114031		
	250	114046		

02/19

Turnbuckles

with left-hand and right-hand threads and safety sight holes, galvanised

Connecting thread	Total length [mm]	Adjustment range [mm]	Part no.	Sales unit	Pack unit
M8	50	30	**125025**	100	pieces
M10	60	40	**125007**	50	
M12	70	50	**125013**		
M16	170	120	**125019**	10	



Threaded pins with left-hand and right-hand threads

for turnbuckles, galvanised

Connecting thread	Length [mm]	Part no.	Sales unit	Pack unit
M8	50	**114226**	100	pieces
M10	60	**113840**		
M12	70	**113992**		
	150	**113921**		
M16	210	**114040**	50	



Hex connectors

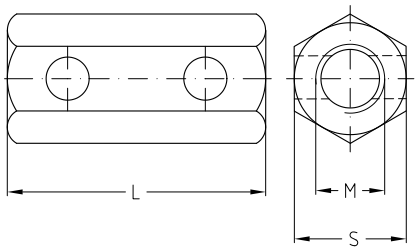
with cross hole, galvanised

Field of application

- For the extension and joining of threaded rods and pins

Advantages

- Robust, galvanised, threaded pipe coupling with hexagonal section and a cross hole
- Two check holes for verifying the required screw-in depth of the threaded ends





Connecting thread	Hole diameter D [mm]	Length L [mm]	Spanner size S [mm]	Part no.	Sales unit	Pack unit
M8	5	30	13	**113319**	100	pieces
M10			17	**113322**		
M12		35		**113328**	50	
M16	–	50	24	**113307**		

02/19

Round connector

according to DIN EN 10241, galvanised

Field of application

- Connecting element for the combination of slide guides 4.0 kN and threaded pipes ½"
- For the extension and joining of threaded pipes

Advantages

- Ideal combination of round connector and threaded pipe for a rigid attachment with greater distance from building structure
- Fast and easy extension and joining of threaded pipes
- Stable, galvanised round connector according to DIN EN 10241



Thread [inch]	Total length [mm]	Outer diameter [mm]	**Part no.**	Sales unit	Pack unit
½	34	26.6	**147091**	1	pieces

Round connectors

for joining or connecting threaded items, galvanised

Thread	Length [mm]	Outer diameter [mm]	**Part no.**	Sales unit	Pack unit
M6	20	10	**113239**	100	pieces
	30		**113248**		
	40		**113251**		
M8	20	11	**113254**		
	30		**113259**		
	40		**113274**		
	50		**113283**		
M10	30	13	**113175**		
	40		**113190**		
M12	30	15	**113196**		
	40		**113205**		
	55		**113220**		
M20	50	28	**113193**	1	



Parallel couplings

for threaded rods or threaded pins, galvanised

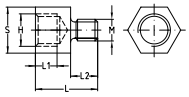
For thread	Length [mm]	Max. recommended load [N]	**Part no.**	Sales unit	Pack unit
M8	35	1,000	**120137**	100	pieces
M10		1,500	**120141**	50	



02/19

Reducers
galvanised

Outer thread	Inner thread	Spanner size S [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] L	L1	L2
M6	M8	13	**113494**	100	pieces	19	7	7
	M10		**113491**			22	9	
M8	M6		**113506**			20	7	8
	M10		**113509**			23		
	M12	17	**113503**				8	
M10	M6	13	**113462**			21	7	
	M8		**113468**					
	M12	17	**113456**			25	8	10
	M16	24	**113459**	50		32	13	
M12	M8	13	**113482**	100		23	7	
	M10		**113474**				8	
	M16	24	**113477**	50		32	13	9
M16	M10	19	**113485**				9	14
	M12		**113488**				10	





Reducing connectors
galvanised

Thread	Length [mm]	Outer diameter [mm]	Part no.	Sales unit	Pack unit
M6/M8	30	13	**113441**	100	pieces
M8/M10	40	16	**113444**		
M8/M12			**113447**		
M10/M12			**113434**		



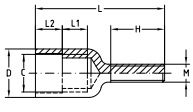
Socket adapters
galvanised

Thread	Length [mm]	Outer diameter [mm]	Part no.	Sales unit	Pack unit
M8–½"	38	26	**130314**	50	pieces
M10–½"			**130312**		
M12–½"			**130313**		



Socket adapters
transition piece from pipe thread to metric thread, galvanised (also see chapter “Anchor points/expansion points”)

Connecting thread	Pipe thread [inch]	Total length L [mm]	Thread length H [mm]	Part no.	Sales unit	Pack unit
M10	½	52	10	**123596**	1	pieces
		72	30	**123612**		
	¾	60	10	**123600**		
M12				**123604**		
		85	35	**123608**		



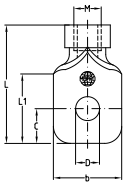


02/19

Hanger sockets with inner thread and reinforcement ring

with round hole, galvanised

Thread	Hole diameter D [mm]	Max. permitted suspension load [N]	Part no.	Sales unit	Pack unit	Dimensions [mm]			
						b	C	L	L1
M8	8.5	3,600	**106600**	100	pieces	25	14	50	29
M10	10.5	4,600	**106597**			30	15	52	30
M12	13.0	3,600	**106598**						

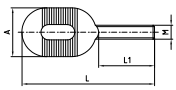




Slot bolt

with metric thread, galvanised

Thread	Width eye bolt A [mm]	Overall length L [mm]	Threaded length L_1 [mm]	Oblong hole [mm]	Part no.	Sales unit	Pack unit
M8	28	77	30	8.5 x 25	**114454**	100	pieces





Eye bolts with metric thread

forged, galvanised

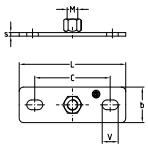
Thread	Thread length [mm]	Total length [mm]	Hole diameter [mm]	Outer-∅ eye bolt [mm]	Part no.	Sales unit	Pack unit
M8	20	52	8.5	21	**120053**	100	pieces
M10	22	61	10.5	24	**120041**		



Base plates with nut

galvanised

Size L x b x s [mm]	Connection socket	Oblong holes V [mm]	Hole-centre distance C [mm]	Part no.	Sales unit	Pack unit
Size 1 (80 x 30 x 3)	M8	9 x 16	54	**112407**	50	pieces
	M10			**112395**		
	M12			**112401**		
Size 2 (120 x 40 x 4)	M8	11 x 19	80	**112467**		
	M10			**112451**		
	M12			**112459**		
	M16			**112463**		



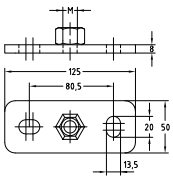


02/19

Base plates with hexagonal nut

welded around, galvanised

Size L x b x s [mm]	Connection socket	Oblong holes V [mm]	Hole-centre distance C [mm]	Part no.	Sales unit	Pack unit
125 x 50 x 8	M16	13 x 20	80.5	**165187**	10	pieces
	M20			**164912**		

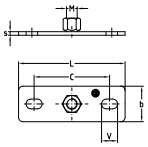




Base plates with combi-nut with two oblong holes

galvanised

Size L x b x s [mm]	Connecting nut with dual-thread	Oblong holes V [mm]	Hole-centre distance C [mm]	Part no.	Sales unit	Pack unit
Size 1 (80 x 30 x 3)	M8/M10	9 x 16	54	**112397**	50	pieces

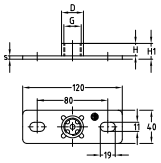




Base plates with connection socket with two oblong holes

galvanised

Size L x b x s [mm]	Connection socket G [inch]	Oblong holes V [mm]	Hole-centre distance C [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]	
							D	H
Size 1 (80 x 30 x 3)	½	9 x 16	54	**112389**	50	pieces	26.4	15
Size 2 (120 x 40 x 4)		11 x 19	80	**112435**				
	¾			**112443**			31.8	17

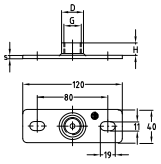




Base plates with connection socket

welded around, galvanised

Size L x b x s [mm]	Connection socket G [inch]	Oblong holes V [mm]	Hole-centre distance C [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]	
							D	H
Size 2 (120 x 40 x 4)	½	11 x 19	80	**112807**	50	pieces	26.4	15
	¾			**112809**			31.8	17
	1			**112805**			39.5	19

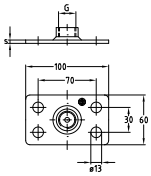


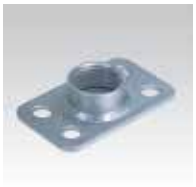


Base plates with connection socket

welded around, with four attachement holes, galvanised

Size L x b x s [mm]	Connection socket G [inch]	Part no.	Sales unit	Pack unit
Size 3 (100 x 60 x 4)	½	**112825**	50	pieces
	¾	**112829**		
	1	**112817**		





02/19

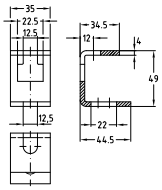
Threaded pipes
galvanised

Thread [inch]	Length [mm]	Part no.	Sales unit	Pack unit
½	500	**113393**	1	pieces
	1,000	**113384**		
	2,000	**113390**	5	
¾		**113426**		
1		**113375**		



Hanger brackets
for quick hooking-in, with height adjustment, galvanised

For threaded rods	Max. recommended load [N]	Part no.	Sales unit	Pack unit
M8–M12	1,200	**106350**	50	pieces







Washers for hanger brackets
for use with threaded rods or threaded pins M8, galvanised

Dimensions [mm]	Part no.	Sales unit	Pack unit
8.5 x 20.5 x 2	**127232**	100	pieces



02/19

MÜPRO

Girder clamps with joint

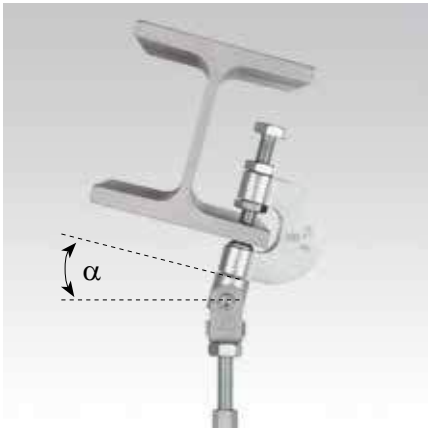
type Lindapter FLS, galvanised

Field of application

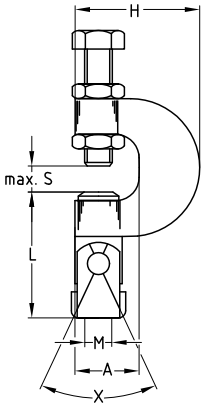
- For flexible attachment of hangers on inclined girders and flanges

Advantages

- For suspensions that cannot be achieved using conventional girder clamps
- Easy fitting using a hexagonal head clamping screw
- Rotatable about 360°
- High load transfer
- Approved by the FM and VdS for the suspension of sprinkler lines from girders inclined at an angle of up to 25°









Features

FM APPROVED · VdS G 4020003

Size	Max. permitted load [N] deflection angle		Tightening torque [Nm]
	α ≤ 25° VdS + FM	25° ≤ α ≤ 45°	
M8	2,500	1,500	18
M10			

When fastening pipes bigger than DN 65, a safety steel strip must be used according to VdS certification.

Size	Part no.	Sales unit	Pack unit	Dimensions [mm]				
				A	H	L	M	S max.
M8	**130262**	10	pieces	27	53	55	M8	17
M10	**130261**						M10	

	Part no.	Sales unit	Pack unit
Safety steel strip, galvanised Length 300 mm, material 40 x 3.0 mm	**163053**	25	pieces

02/19

Girder clamps

type VSG TKN10, galvanised

Field of application

- For attachment of pipelines, air ducts and sprinkler systems on steel girders
- For suspension of threaded pins and threaded rods for the attachment of pipe clamps or cross-beams made with MPC-Support channels

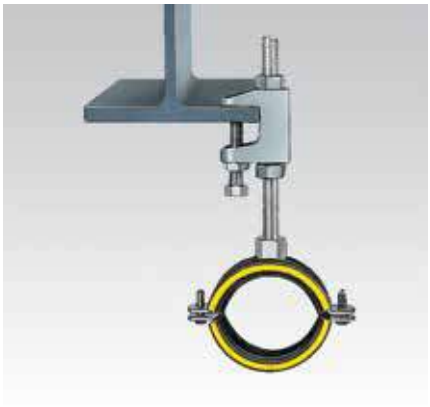
Advantages

- Attachment on girder without welding or drilling
- Subsequent alignment on the girder possible
- High loading capacity
- Quick, subsequent height adjustment of the threaded rods at the non-threaded through-hole
- Approved by VdS
- Sizes M10 and M12 have FM approval
- Also available with internal thread



The girder clamp with clearance hole allows quick and efficient installation when suspending pipes from steel girders. To fasten the pipe clamp, a threaded rod with locknut is inserted into the unthreaded clearance hole of the girder clamp and held in place by screwing a nut on to the upper end. The pipe clamp can be pre-mounted on the threaded rod.

In contrast to girder clamps with internal thread, a height adjustment of the assembled pipework can also be made after the pipe has been installed. The threaded rod can be moved freely upwards in the clearance hole without screwing. Thus there is no risk of loosening the connection between the rod and the pipe clamp by screw movements. The rod is then fixed in position by tightening the locknut.

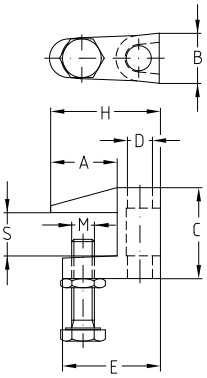


Features

FM APPROVED for M10–M12 | VdS G 4001005 M8–M10 G 4911044 M12

Size	Max. permitted load [N]
M8	1,200
M10	2,500
M12	3,500

When fastening pipes bigger than DN 65, a safety steel strip must be used according to VdS certification.



Size		Clamping range S [mm]	VdS approved	FM approved*	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	C	D	E	H	M
with clearance hole	M8	3–18	●		**130248**	50	pieces	21	19	35	9	35	38	8
	M10	0–20	●	●	**130251**			23	21	42	11	41	44	10
	M12	4–26	●	●	**130257**			35	24	54	13	48	58	
with internal thread	M8	3–18	●		**130260**			21	19	35	M8	35	38	8
	M10	0–20	●	●	**130252**			23	21	42	M10	41	44	10
	M12	4–26	●	●	**130258**			35	24	54	M12	48	58	

* FM approval VS-Guss AG

	Part no.	Sales unit	Pack unit
Safety steel strip, galvanised Length 350 mm, material 25 x 3.0 mm	**123485**	25	pieces

02/19

MÜPRO

Girder clamps

type TKM Kroko, galvanised

Field of application

- To be used for static hanging pipe-work, lighting and ventilation shafts, plus many other uses

Advantages

- Quick and safe setting and removal
- Slip-proof
- Girder clamp TKM bites securely into beam when installed
- No need for screws to set clamp
- Possible to insert threaded rod before setting
- Approved by VdS and FM for the attachment of sprinkler lines



Features

Size	Max. permitted load [N]
M8	2,000
M10	3,500
M12	5,000

Type	Size	Clamping range [mm]	Hole diameter [mm]	VdS approved*	FM approved*	**Part no.**	Sales unit	Pack unit
TKM1	M8	8–20	9	●		**162302**	25	pieces
TKM2	M10		11	●	●	**162303**		
TKM3	M12		13	●	●	**162304**		

For installation, observe assembly instructions included with the product.
Strength class 4.6 threaded rods must be used for installation.
For steel profiles with sloping flange surfaces with an inclination of up to 14 %.
When fastening pipes bigger than DN 65, a safety steel strip must be used according to VdS certification.

* VdS and FM approved by SMK Meister GmbH & Co. KG.

	Part no.	Sales unit	Pack unit
Safety steel strip, galvanised Length 350 mm, material 25 x 3.0 mm	**123485**	25	pieces

02/19

Clamping claws

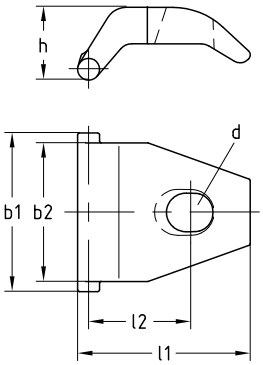
galvanised

Field of application

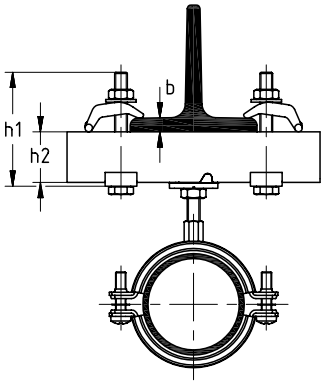
- Attachment of MPC- and MPR-Support channels to profile steel structures without drilling or welding

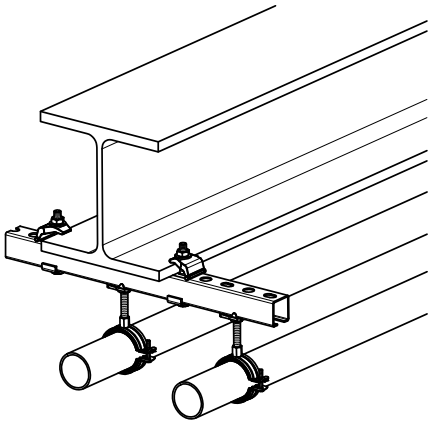
Advantages

- Large clamping range for universal and quick attachment to profile steel structures
- Safe fastening without drilling or welding
- Suitable for attaching square pipes









Features

Size	Max. permitted loading/pair [N]	Breaking load [N]
M10	7,000	45,000
M12	10,000	80,000
M16	12,000	90,000

Size	Max. clamping range b [mm]	Screw length h1 [mm]	**Part no.**	Sales unit	Pack unit	Dimensions [mm]					
						b1	b2	l1	l2	d	h
M10	1–25	0,8 x b + h2 + 33	**157219**	100	pieces	43	38	47	28	11	19
M12	1–35	0,8 x b + h2 + 40	**157220**	50		51		66	37	13	27
M16		0,8 x b + h2 + 43	**157221**			63	46	65		17	29

Installation of the clamping claw with the wide side facing the support channel.

02/19

MÜPRO

Supporting angles

galvanised

Field of application

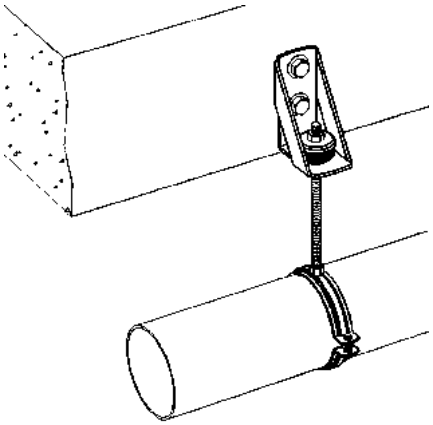
- For lateral suspension of pipelines on reinforced concrete beams
- As substructure for the attachment of fittings, e.g. water meters

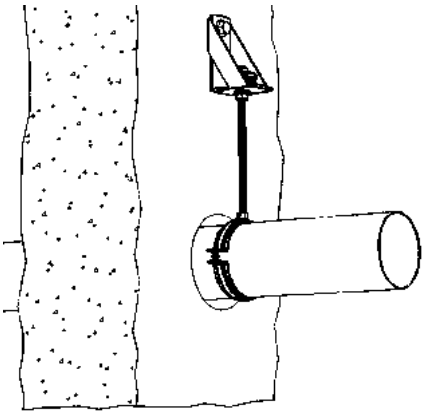
Advantages

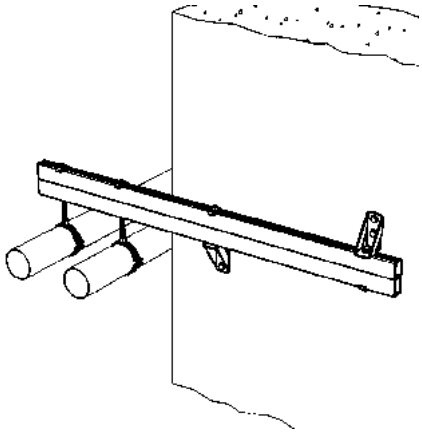
- Angle element for higher requirements for stability of mounting structures
- With high-quality vibration control of DÄMMGULAST® Resilient pad
- Usable as bracket for supporting heavy loads close to a wall
- For supporting cross-beams in confined spaces

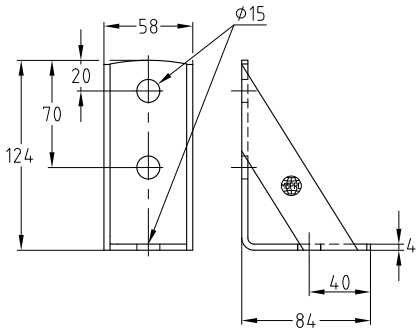


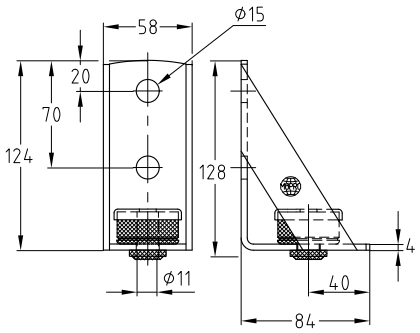












Features

Type	Max. recommended load [N]	Average vibration reduction [dB(A)]	**Part no.**	Sales unit	Pack unit
With DÄMMGULAST® Resilient pad	1,000	17	**127789**	25	pieces
Without DÄMMGULAST® Resilient pad	5,000	–	**127792**		

02/19

Trapezoid-sheet hangers

galvanised

Field of application

- For the professional attachment of installations to trapezoidal sheets

Advantages

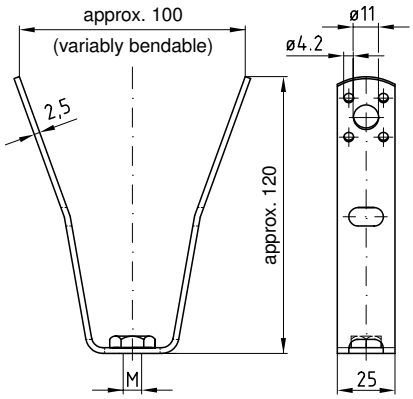
- Attachment using sealing rivets or self-drilling screws to the stays of the corrugations
- Easy to adapt to different trapezoidal sheet sections due to predetermined bending points
- Round holes at the end of the legs also enable a pass-through mounting of M8 or M10 threaded rods
- Available with either unthreaded through hole with welded-on hexagon nut or with adjusting nut for height setting
- Approved by VdS for pipe attachments up to DN 50 with threaded rods and counted nuts (observe assembly instructions included with the product)

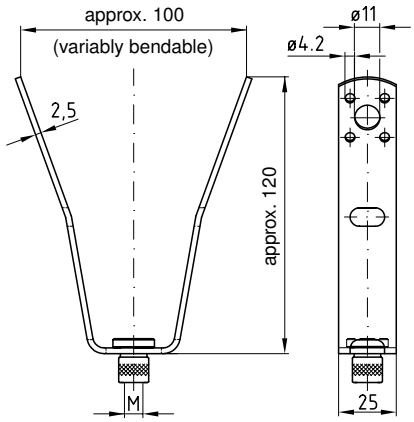


Features

VdS G 4880021

Max. permitted load [N]
1,300





The specifications of the International Assotiation for Light metal Construction IFBS must be observed for the attachment of trapezoidal sheet hangers on trapezoidal sheet metal by means of drilling screws made of cast hardened steel or blind rivets. Zinc plated drilling screws with ETA assessment can be found in the section “Ventilation”.
In case of attachment by means of threaded rods and through-hole mounting the max. hole bearing has to be calculated.

	Type	Part no.	Sales unit	Pack unit
With welded-on nut	M8	**130203**	100	pieces
	M10	**130200**		
With unthreaded through-hole	Hole-Ø 8.5 mm	**130205**		
	Hole-Ø 10.5 mm	**130204**		
With adjusting nut	M8	**130202**		
	M10	**130201**		

Refer to chapter „Tools“ for trapezoid-sheet pliers used for attachment.

	Part no.	Sales unit	Pack unit
DÄMMGULAST® Washer	**107095**	50	pieces

02/19

Plastic sealing plates
white

Pipe outer diameter-Ø [inch]	Pipe outer diameter-Ø [mm]	Overall-∅ [mm]	Part no.	Sales unit	Pack unit
	8.0	38	**115396**	50	pieces
	10.0	39	**115348**		
	12.0		**115323**		
	14.0	43	**115351**		
	15.0		**115354**		
	16.0	50	**115359**		
⅜	17.2		**115390**		
	18.0		**115362**		
	20.0	55	**115369**		
½	21.3		**115345**		
	22.0		**115372**		
	24.0	61	**115375**		
¾	26.9		**115383**		
	28.0		**115378**		
	30.0		**115393**		
1	33.7	70	**115332**		
1¼	42.4	75	**115339**	25	
1½	48.3	88	**115335**		
2	60.3	98	**115366**		



Plastic sealing plates
with dovetail closure for tilt-proof attachment to pipe, white

For pipe outer diameter-∅	Overall-∅ [mm]	Part no.	Sales unit	Pack unit
12 mm	50	**115326**	100	pieces
15 mm	48	**115357**		
⅜"–18 mm	47	**115387**		
½"–22 mm	54	**115342**		
¾"–28 mm	61	**115380**		
1"	66	**115329**		



02/19

Punched tapes

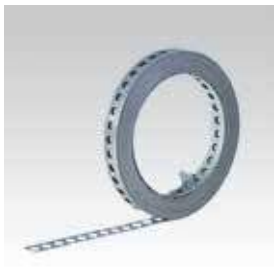
galvanised or plastic coated

Field of application

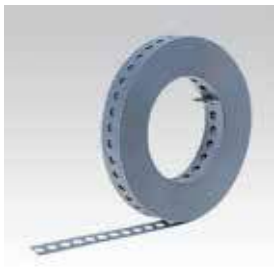
- Efficient punched tape for simple fastening jobs

Advantages

- Easy to handle due to versatile mounting accessories
- Can be fitted with DÄMMGULAST® Junior vibration control lining

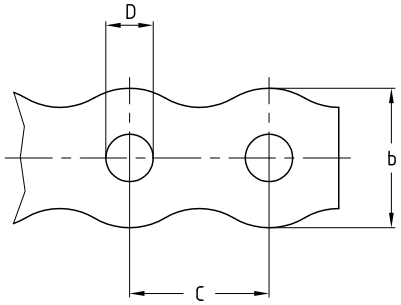






Features

Type	Tape width b [mm]	Max. recommended load [N]
Straight edges, galvanised	17	740
Corrugated edges, galvanised	12	480
	17	1,400
	25	2,250
Plastic coated	19	1,100
	27	1,300



Type	Tape width b [mm]	Hole diameter D [mm]	Hole spacing C [mm]	Length of roll [m]	**Part no.**	Sales unit	Pack unit
Straight edges, galvanised	17	6.5	11.5	10	**114798**	20	roll
				50	**114804**	1	
Corrugated edges, galvanised	12	5.5	14.5	10	**114807**	20	
	17	6.5	20.0		**114801**		
	25	8.5	25.0		**114810**	15	
Plastic coated	19	6.5	15.0		**114786**	12	
	27	8.5			**114789**	9	

Rolls of 50 m are supplied in a practical dispenser case.

Bolts with nuts and washers

for punched tapes, galvanised

	Connecting thread	Screw length [mm]	**Part no.**	Sales unit	Pack unit
Bolts with nuts	M5	15	**121159**	100	pieces
	M6	20	**121163**		
	M8	25	**121167**		





	For thread	**Part no.**	Sales unit	Pack unit
Washers	M6	**127307**	100	pieces
	M8	**127310**		

02/19

Allen bolts with washer

with metric thread, for installation of MPC-Support channels, galvanised

Thread	For support channels	Thread length [mm]	Free thread length [mm]	Allen bolt spanner width [mm]	Outer-∅ washer [mm]	Part no.	Sales unit	Pack unit
M8	27/18, 28/30, 38/24	13	11	6	20	**121083**	100	pieces
M10	38/24, 38/40, 39/52, 40/60, 40/80	16	14	8	28	**121079**		



Allen bolts

with metric thread, galvanised

Thread	Thread length [mm]	Allen bolt spanner width [mm]	Part no.	Sales unit	Pack unit
M8	13	6	**121041**	100	pieces
	20		**121051**		
	25		**121059**		
	30		**121063**		
M10	16	8	**121014**		
	25		**121030**		
	30		**121035**		



Allen bolts

with wood thread, for attachment of MPC-Support channels with nylon plugs, galvanised

Thread	Shaft length [mm]	Allen bolt spanner width [mm]	Part no.	Sales unit	Pack unit
H6	40	6	**120998**	100	pieces
	70		**121006**		



Cylinder head screw

galvanised

Connecting thread	Length [mm]	Part no.	Sales unit	Pack unit
M8	14	**128658**	100	pieces



Cylinder head screws

DIN 84, galvanised

Size	Part no.	Sales unit	Pack unit
M4 x 35	**128644**	100	pieces
M4 x 45	**128646**		
M5 x 35	**128648**		
M5 x 50	**128650**		
M5 x 60	**128652**		
M6 x 50	**128654**		
M6 x 60	**128656**		



02/19

Oval head screws

DIN 964, nickel-plated

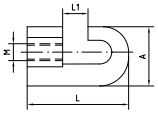
Size	Part no.	Sales unit	Pack unit
M4 x 35	**114765**	100	pieces
M4 x 45	**114768**		
M5 x 35	**114771**		
M5 x 50	**114774**		
M5 x 60	**114777**		
M6 x 50	**114780**		
M6 x 60	**114783**		



Power hook

with internal thread, ideal for suspension of heaters, ceiling radiators, ventilators, air-conditioners and lighting units, galvanised

Connecting thread	Min. diameter of suspension hole [mm]	Max. permitted suspension load [N]	Part no.	Sales unit	Pack unit	Dimensions [mm]		
						L1	L	A
M10	11	1,320	**113697**	50	pieces	15	60	35





Hexagon head bolts

DIN 933, galvanised

Thread	Length [mm]	Spanner size [mm]	Part no.	Sales unit	Pack unit
M6	20	10	**105733**	100	pieces
	30		**105739**		
M8	16	13	**105757**		
	20		**105763**		
	25		**105770**		
	30		**105777**		
	35		**105781**		
	45		**105789**		
	55		**105794**		
	60		**105797**		
	75		**105798**		
	85		**105802**		
	100		**105743**		
	110		**105744**		
	120		**105752**		
M10	20	17	**105560**		
	25		**105565**		
	30		**105575**		
	35		**105585**		
	40		**105590**		
	55		**105600**		
	60		**105605**		
	80		**105609**		
	90		**105612**		
	100		**105545**		
	120		**105547**		
M12	25	19	**105621**		
	30		**105626**		
	35		**105633**		
	60		**105647**		
	80		**105653**	50	
M16	45	24	**105677**		
	60		**105681**		
	80		**105687**		
	100		**105657**	25	
	120		**105660**		
M20	50	30	**105711**		
M24	60	36	**105720**		



02/19

Hexagonal nuts
DIN 934, galvanised

	Thread	Nut height [mm]	Spanner size [mm]	Part no.	Sales unit	Pack unit
Hexagonal nut, DIN 934	M6	5.0	10	**105484**	100	pieces
	M8	6.5	13	**105498**		
	M10	8.0	17	**105433**		
	M12	10.0	19	**105447**		
	M16	13.0	24	**105460**		
	M20	16.0	30	**105469**	25	
Hexagonal nut, DIN 934 polyboxes à 1,000 pieces	M8	6.5	13	**153151**	1	box
	M10	8.0	17	**153152**		



Hexagonal nuts
self-locking plastic ring, DIN 985, galvanised

Thread	Nut height [mm]	Spanner size [mm]	Part no.	Sales unit	Pack unit
M6	4.0	10	**105525**	100	pieces
M8	5.5	13	**105531**		
M10	6.5	17	**105511**		
M12	8.0	19	**105517**		



Rip hexagon nuts
galvanised

Thread	Part no.	Sales unit	Pack unit
M8	**151197**	200	pieces
M10	**142930**	100	



Cap nuts
DIN 1587, galvanised

Thread	Nut height [mm]	Spanner size [mm]	Part no.	Sales unit	Pack unit
M8	15	13	**117119**	100	pieces
M10	18	17	**117060**		
M12	22	19	**117069**		
M16	28	24	**117080**	50	
M20	34	30	**117086**	25	
M24	42	36	**117089**	5	



Protection caps
for the protection of threaded ends, with inner hexagon for attachment, black

For hexagonal nuts	Part no.	Sales unit	Pack unit
M8	**105994**	100	pieces
M10	**105996**		
M12	**105998**		



02/19

Washers
DIN 125, galvanised

For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit
M6	12	1.6	**127307**	100	pieces
M8	16		**127310**		
M10	20	2.0	**127277**		
M12	24	2.5	**127286**		
M16	30	3.0	**127295**		
M20	37		**127298**	50	



Washers
for MPC-Support channels, galvanised

	For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit	Content [pieces]
Washers	M6	18	1.6	**127175**	100	pieces	–
		24	2.0	**127244**			
		36		**127184**			
	M8	24		**127253**			
		30		**165993**			
		36		**127214**			
	M10	24		**127079**			
		29		**127088**			
		30	3.0	**140876**			
		36	2.0	**127121**			
	M12			**127151**			
	M16	40	3.0	**127169**			
Washers in polybox	M8	24	2.0	**155286**	1	box	1,000
		36		**156849**			500
	M10	24		**155288**			1,000
		29		**156850**			500
		36		**156852**			



Washers
for MPR-Support channels, galvanised

For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit
M8	40	3	**151101**	100	pieces
M10			**151102**		
M12			**151103**		
M16			**127169**		



Serrated lock washers
form A, galvanised

For thread	Inside diameter [mm]	Part no.	Sales unit	Pack unit
M8	8.5	**108556**	200	pieces
M10	10.5	**108551**		
M12	12.5	**108552**		



02/19

Gas-meter fixing kit with base plate

galvanised

Gas-meter fixing kit with base plates consists of:
2 Single bossed clamps with DÄMMGULAST® yellow, for pipe diameter 1", with connection socket ½"
2 Base plates size 2, with connection socket ½"
4 Washer bolts 8 x 50 mm
4 Claw anchors® 8 x 38 mm



Part no.	Sales unit	Pack unit
111289	1	set

Appropriate threaded pipe must be ordered separately, in accordance with on-site requirements.

Gas-meter fixing kit OPTIMAL

galvanised

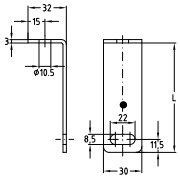
Gas-meter fixing kit OPTIMAL consists of:
2 MPC-Support brackets 27/18, 200 mm length
2 Hammer-head fasteners for profile 27/18, M8 x 30 mm
2 OPTIMAL for pipe diameter 1", with connection thread M8
2 Protection caps for profile 27/18
4 Washer bolts 8 x 50 mm
4 Claw anchors® 8 x 38 mm



Part no.	Sales unit	Pack unit
111291	1	set

Distance angles
galvanised

Leg length L [mm]	Part no.	Sales unit	Pack unit
30	**106019**	100	pieces
35	**106021**		
40	**106024**		
45	**106026**		
50	**106032**		
60	**106034**		
70	**106036**		
80	**106038**		
90	**106040**		
100	**106017**		

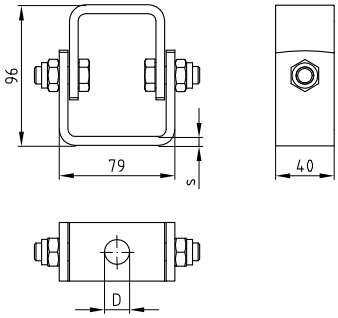




Joint brackets
galvanised

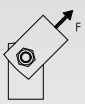
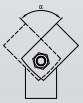
Field of application
- Joint bracket for suspensions and anchorings, e.g. for fixed points or fastenings of bridge drainage systems

Advantages
- Large swivel range for a wide variety of installation situations
- Additional materials / surfaces available upon request





Features

Size	Tensile load at swivel angle 0° [N] 	Tensile load at swivel angle 45° [N] 	Maximum recommended swivel angle [°] 
40 x 6	8,000	5,000	90
40 x 4	5,000	3,500	

Size	For thread	Diameter D [mm]	Thickness s [mm]	Part no.	Sales unit	Pack unit
40 x 4 LG 13	M12	13	4	**111872**	1	pieces
40 x 6 LG 13			6	**139130**		
40 x 6 LG 17	M16	17		**139147**		

Order-related manufacturing, price, and delivery time available upon request.

For hot-dip galvanised joint brackets please refer to chapter „Hot-dip galvanised products“.
For stainless steel joint brackets please refer to chapter „Stainless steel“.

02/19



Anchor points/ expansion points

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

 PHONOLYT® Anchor points for pipes, single kit 6/1

 PHONOLYT® Anchor points for pipes, double kit 6/2

 PHONOLYT® Button anchor points 6/3

 Dome supports 6/4

 STATO® Brackets 6/5–6/6

 STATO® Clamps 6/7–6/8

 Wooden blocks 6/9

 Anchor point pipe clamps type 170 FL 6/10

 Brackets refrigerant anchor point 6/11–6/12

 Sliding stirrups 6/13

 Swivel hangers 6/14

 Sliding shoes 6/15

 Guide rails 6/16

 Slide guides 1.75 kN 6/17

 Slide guide 4 kN 6/18–6/19

 Box-section heavy slide guide 7.8 kN 6/19

 Slide guide, heavy-duty version 6/20

 Suspension clamps 6/21

MÜPRO

PHONOLYT® Anchor points for pipes

single kit, galvanised

Field of application

- Ideal component for vibration-controlled pipe anchor points to meet the vibration control requirements of **DIN 4109** and **VDI 4100**
- Suitable for ceiling, wall or floor-mounting
- Floor mounting of pipe and duct lines
- Ideal as vibration-isolated pipeline anchor point for downpipe support or riser pipes

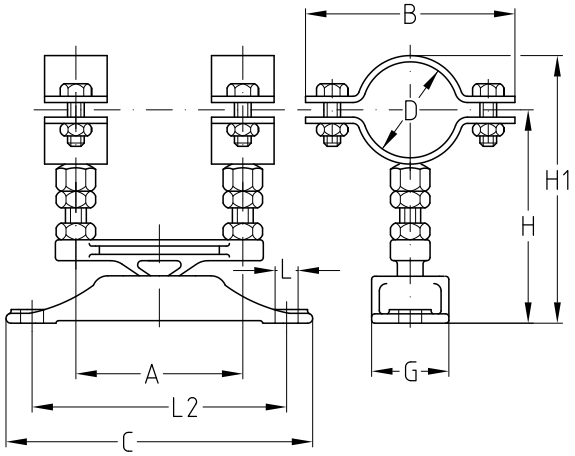
Advantages

- Acoustically decouples the pipe from the building structure and reduces the structure-borne noise by up to 40 dB
- Practical design facilitates installation
- Practical construction for a 2-point fastening of the pipe
- Special feature: **Also approved for alternating load directions on plastic piping**
- Continuously adjustable distance from the wall
- Silicone-free



Single kit dB(A) 27, consisting of:
1 PHONOLYT® Vibration decoupler dB(A) 27, M10
2 Single bossed clamps, 30 x 3 mm, without lining, heavy-duty version, M10, galvanised
2 Threaded pins M10
4 Hexagonal head nuts M10

Single kit dB(A) 40, consisting of:
1 PHONOLYT® Vibration decoupler dB(A) 40, M12
2 Single bossed clamps, 30 x 3 mm, without lining, heavy-duty version, M12, galvanised
2 Threaded pins M12
4 Hexagonal head nuts M12



Features

Type	Size [inch]	Size [mm]	Clamping range [mm]	Threaded pin [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	C	G	H	H1	Ø L	L2
dB(A) 27	⅜		14–18	M10 x 35	**120348**	1	pieces	80	66	147	37	81	92	11	122
	½		20–22		**120340**				71			84	97		
	¾		25–28		**120344**				74			87	104		
	1		31–35		**120308**				83			90	110		
	1¼		40–43	M10 x 55	**120304**				92			94	119		
	1½		48–52		**120316**				100			99	128		
		57	53–57		**120332**				105			120	150		
dB(A) 40	1		31–35	M12 x 50	**120312**			126	83	227	60	123	143	13	194
	1¼		40–43		**120324**				92			127	151		
	1½		48–52		**120320**				100			132	161		
		57	53–57		**120336**				105			135	165		
	2		58–61		**120328**				110			137	170		

Please refer to the “Technical information” chapter for permissible loads.

02/19

PHONOLYT® Anchor points for pipes

double kit, galvanised

Field of application

- Ideal component for vibration-controlled pipe anchor points to meet the vibration control requirements of **DIN 4109** and **VDI 4100**
- Suitable for ceiling, wall or floor-mounting
- Floor mounting of pipe and duct lines
- Ideal as vibration-isolated pipeline anchor point for downpipe support or riser pipes

Advantages

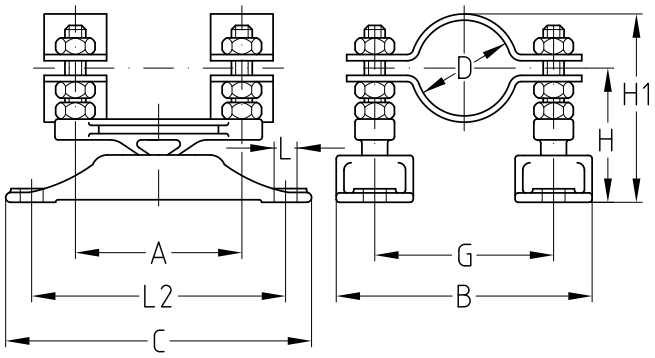
- Isolates the pipe acoustically from the building structure
- Practical downpipe support with perfect vibration decoupling

- Double kit for high loadings
- Special feature: **Also approved for alternating load directions on plastic piping**
- Lowest possible distance from the building structure attainable
- Continuously adjustable wall distance due to threaded pins
- Practical design facilitates installation
- **Fixed point for all pipe types,** regardless of pipe flanges and bushings
- Sound level reduction by up to 40 dB(A)
- Silicone-free



Double kit dB(A) 27, consisting of:
2 PHONOLYT® Vibration decoupler dB(A) 27, M10
2 STATO® Clamps, 30 x 3 mm, without lining, galvanised
4 Threaded pins M10
12 Hexagonal head nuts M10

Double kit dB(A) 40, consisting of:
2 PHONOLYT® Vibration decoupler dB(A) 40, M12
2 STATO® Clamps, 40 x 4 mm, without lining, galvanised
4 Threaded pins M12
12 Hexagonal head nuts M12



Features

Type	Size [mm]	Nominal size DN	Clamping range [mm]	Threaded pin [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	C	G	H	H1	Ø L	L2
dB(A) 27	32.0	25	32–35	M10 x 55	**120352**	1	Stück	80	98	147	61	62–71	82–91	11	122
	42.4	32	40–42.4		**120356**				112		75		86–95		
	48.3	40	48.3–50		**120360**				117		80		89–98		
	56.0	50	56–60.3		**120371**				129		92		96–105		
dB(A) 40	60.3		60.3–61	M12 x 80	**120408**			126	163	227	103	95–102	130–138	13	194
	76.1	65/70	76.1–80	M12 x 100	**120413**				180		120	95–122	139–167		
	82.5	80	80–83		**168462**				187		127		140–168		
	88.9	90	88–90		**120375**				193		133		146–174		
	110.0	100	110–112	M12 x 110	**120391**				217		157	95–132	157–190		
	125.0	125	125–127		**120365**				231		171		164–202		
	133.0		133–135		**120395**				243		183		169–207		
	139.7		137–140		**168464**				246		186				
	159.0	150	159–162	M12 x 130	**120399**				269		209	95–152	182–240		
	200.0	200	199–202	M12 x 150	**168465**				284		224	95–172	199–276		
	212.0		210–212		**120403**				319		259		207–285		

Please refer to the “Technical information” chapter for permissible loads.

02/19

MÜPRO

PHONOLYT® Button anchor points

galvanised

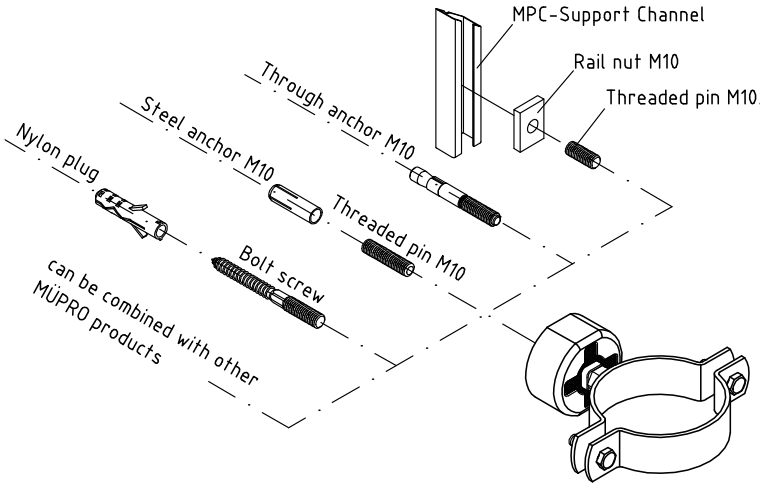
Field of application

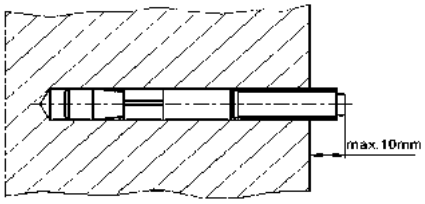
- Pipe anchor point with outstanding sound isolation
- Efficient fixed point for plastic and cast pipes
- Suitable for wall, ceiling and floor mounting
- Alternative attachment by using nylon plug and bolt screw, through anchor, etc.

Advantages

- Easy to fit as there is only one central connection thread
- Lower wall distance to building structure
- Easy to attach to the structure by means of steel anchor and threaded pin M10
- Silicone-free



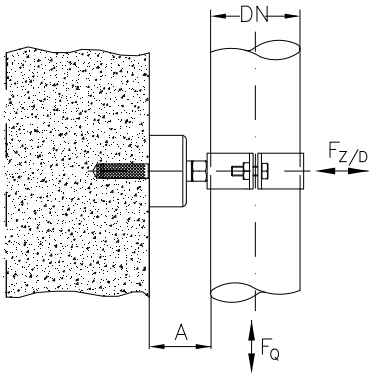




Attachment to building structure:
The projecting end of plug or threaded pin from the wall or ceiling must not exceed 10 mm!

Features

Average vibration reduction [dB(A)]	30
Max. recommended loading tension / compression $F_{Z,D}$ [N]	1,500
Axial to the pipe F_Q [N]	1,080



Nominal size [mm]	Clamping range [mm]	Wall distance A [mm]	**Part no.**	Sales unit	Pack unit
70	73–78	51	**120438**	5	pieces
80	80–85		**120279**		
100	108–116		**120434**		

02/19

Dome supports

galvanised

Field of application

- Strong attachment for greater distances from the building structure
- Version ¾" suitable for shock-resistant attachment of pipes
- Suitable as anchor point with pipe nipple and single bossed clamp with connecting socket
- Suitable as expansion point for large distance to wall with pipe nipple and socket adapter

Advantages

- Bend-proof design even under great axial and radial forces on the pipe
- Efficient attachment with only one plug
- Variable mounting distance can be determined on site by the length of the threaded pipe nipple
- Easy installation using spanner size SW 36
- Can be combined with pipe clamps with connecting socket
- Stable extension by means of socket adapters for the connection of single bossed clamps with M10 or M12 thread



Version ½"



Version ¾"



Mounting as anchor assembly with pipe nipple and single bossed clamp with connecting socket

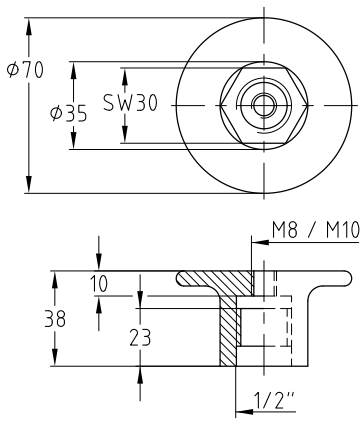


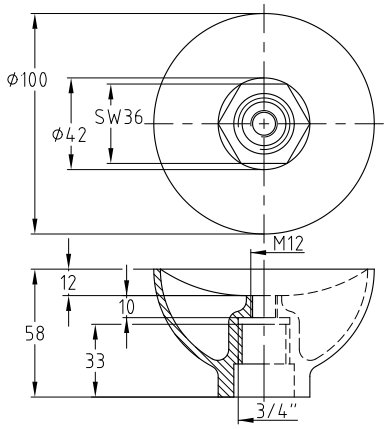
Mounting as expansion assembly for large distance to wall with pipe nipple and socket adapter

Features

Connecting thread	Max. recommended loading tension Fz [kN]	Max. recommended bending moment [Nm]
M8	10,000	65
M10		
M12	12,000	85

Applies for connection screw with strength class 8.8 on steel





For pipe thread	Connecting thread	Part no.	Sales unit	Pack unit
½"	M8	**129783**	1	pieces
	M10	**129780**		
¾"	M12	**129781**		

For pipe anchor assemblies only pipe clamps without linings are to be used.
The max. bending loading of the threaded pipe needs to be considered.

For socket adapter please refer to chapter "Accessories".

02/19

MÜPRO

STATO® Brackets

galvanised

Field of application

- Stable support system with high load-bearing capacity for pipe installations
- **Ideal pipe anchor point in combination with STATO® Clamps without lining**
- Ideal as height adjustable subframe for anchor and expansion assemblies
- Ideal as **anchor point for insulated chilled water pipes in combination with wooden blocks and STATO® Clamps**

Advantages

- Continuously adjustable in height and slope
- As height adjustment for waste water pipes or to compensate for unevennesses
- Can be fitted with up to 3 STATO® Clamps in case of heavy loads
- Especially suitable for heavy pipes with large wall clearances
- Can be used as bearing block, adjustable in height and slope

The complete kit consists of:

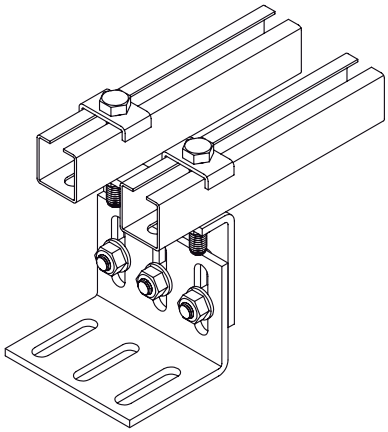
4 STATO® Angle pieces
6 Coach bolts M12
6 Hex. nuts M12
6 Washers for M12

All parts are galvanised.

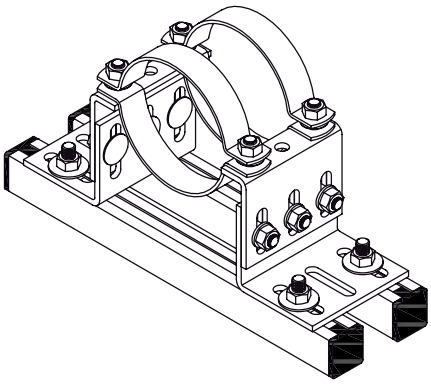


STATO® Clamps with adjustable STATO® Bracket

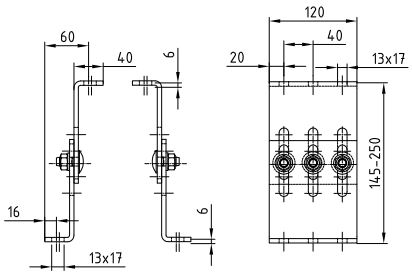




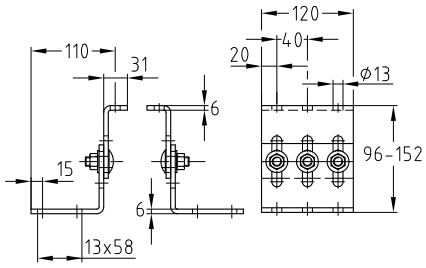
Height adjustable sub-frame for anchor and expansion assemblies



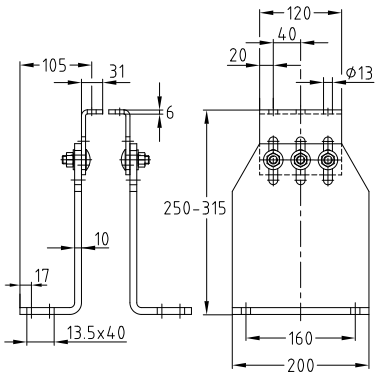
Free slidable elevation



Slim version



Standard version



Heavy-duty version, larger distance from structure

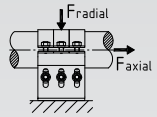
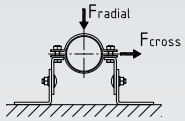
Type	Overall height [mm]		Adjustment range [mm]	**Part no.**	Sales unit	Pack unit
	min.	max.				
Slim version	145	250	105	**129171**	5	pieces
Standard version	96	152	56	**129167**		
Heavy-duty version	250	315	65	**129176**	1	

02/19

STATO® Brackets

galvanised

Features

Type		Slim version	Standard version	Heavy-duty version	Tightening torque [Nm] (valid for M12, steel pipes without coating)
Max. recommended load [N]	axial	5,500 per clamp	5,500 per clamp	5,500 per clamp	75
	cross	min. overall height			
		6,000	8,000	7,000	
		max. overall height			
		3,000	6,000	7,000	
	radial	min. overall height	25,000	25,000	
		20,000			
		max. overall height			
		10,000			

VIDEO TIP

Installation of anchor points with MÜPRO STATO® brackets: the video shows the installation options in industrial settings and plant design and explains the individual installation steps.

02/19

MÜPRO

STATO® Clamps

two-piece, galvanised

Field of application

- Perfect for use as an anchor point clamp in version without vibration control lining
- Attachment of pipelines with higher load requirements
- In combination with the STATO® Bracket useable as the ideal pipeline anchor point

Advantages

- High-duty, two-part clamp
- The 2 locking screws allow adjustments to accommodate a greater variation in pipe diameter
- Also available with vibration control lining DÄMMGULAST® yellow
- The matching clamp for STATO® Bracket
- Supplied with connecting screws, nuts and captive washers



Nominal size pipe outer diameter		Without lining (anchor point clamp)			with DÄMMGULAST®		
[inch]	[mm]	**Part no.**	Sales unit	Pack unit	**Part no.**	Sales unit	Pack unit
2	60.3	**168050**	12	pieces	**129214**	12	pieces
	70.0	**168051**			**129263**		
2½	76.1	**168052**			**129215**		
	82.5	**168053**			**129267**		
3	88.9	**168054**			**129235**		
	101.6	**168055**			**129187**		
	108–110	**168056**	6		**129191**	6	
4	114.3	**168057**			**129243**		
	125–127	**168058**			**129195**		
	133.0	**168059**			**129199**		
5	139.7	**168060**			**129255**		
	152.4	**168061**			**129202**		
	159.0	**168062**			**129205**		
6	165.0	**168063**			**129260**		
	168.3	**168064**			**129211**		
	177.8	**168065**			**129212**		
	212.0	**168066**			**129221**		
8	219.1	**168067**			**129224**		
	244.5	**168068**			**129227**		
	267.0	**168069**			**129231**		
	273.0	**168070**			**129233**		

If required, the two types of STATO® clamps can be produced specifically in accordance with the external diameter of the pipelines or foam glass acoustic cladding, enabling axial movement of the pipeline in the clamp (guide or sliding clamp) or acoustic cladding to be stored with just a low contact pressure.

In combination with STATO® Brackets, a maximum of 3 STATO® Clamps without linings or a maximum of 2 STATO® Clamps with DÄMMGULAST® linings may be mounted per set of brackets. For a pipe outer diameter of 315 mm upwards, the STATO® Bracket heavy-duty version must be used.

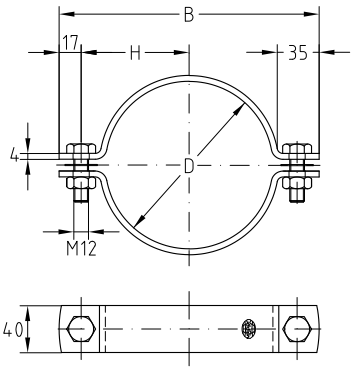
STATO® Clamps

two-piece, galvanised

Features

Max. recommended tensile load [N]	without lining	10,000
Max. recommended tensile load [N]	with DÄMMGULAST®	4,660
Max. recommended load axial [N]		5,500

Max. recommended load axial [N] in combination with wooden blocks please refer to page 6/9.



Nominal size pipe outer diameter		Locking bolts SW	Without lining (anchor point clamp)			with DÄMMGULAST®		
[inch]	[mm]		Part no.	B	H	Part no.	B	H
2	60.3	M12	**168050**	140	53	**129214**	148	57
	70.0		**168051**	148	57	**129263**	158	62
2½	76.1		**168052**	154	60	**129215**	164	65
	82.5		**168053**	161	64	**129267**	171	68
3	88.9		**168054**	168	67	**129235**	177	71
	101.6		**168055**	182	74	**129187**	190	78
	108–110		**168056**	188	78	**129191**	198	82
4	114.3		**168057**	195	80	**129243**	202	84
	125–127		**168058**	206	86	**129195**	213	90
	133.0		**168059**	213	90	**129199**	221	94
5	139.7		**168060**	220	93	**129255**	228	97
	152.4		**168061**	232	99	**129202**	240	103
	159.0		**168062**	239	103	**129205**	247	107
6	165.0		**168063**	246	106	**129260**	253	110
	168.3		**168064**	248	107	**129211**	256	111
	177.8		**168065**	258	112	**129212**	266	116
	212.0		**168066**	293	130	**129221**	300	133
8	219.1		**168067**	300	133	**129224**	307	137
	244.5		**168068**	326	146	**129227**	333	149
	267.0		**168069**	348	157	**129231**	355	161
	273.0		**168070**	354	160	**129233**	361	164

02/19

MÜPRO

Wooden blocks

Field of application

- Thermally decoupled attachment of chilled water pipes
- Insulation of anchoring point for chilled water pipes
- For friction attachments taking up axial pipe forces
- For indoor use

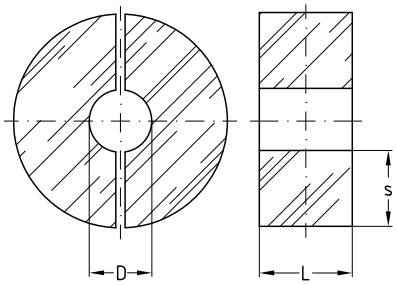
Advantages

- Direct between pipe clamp and cold pipe: decreased heat flux between pipe and environment
- Simple attachment to the pipe insulation
- Suitable for all pipe materials
- Attachment possible at any point on a smooth pipe



Anchor point solution on chilled water pipe with STATO® Clamps and STATO® Brackets





Features

Max. permitted loading axial [N] (mounted with 3 STATO® Clamps and STATO® Brackets)	8,000
Temperature range	0 °C to +90 °C
Shell length L [mm]	200

Pipe outer diameter [mm]	Insulation thickness 20 mm		Insulation thickness 30 mm	
	Wooden block	STATO® Clamp	Wooden block	STATO® Clamp
17.2	115826	168289	115835	168052
21.3	115874	168050	115883	168053
26.9	115951	168051	115960	168054
33.7	116174	168052	116183	164518
42.4	116286	168053	116295	168055
48.3	116325	168054	116334	168056
60.3	116445	168055	116454	129431
64.0	116484	168056	116493	168058
76.1	116526	168057	116538	129291
88.9	116565	168290	116574	153945
102.0	115495	147107	115504	168292
108.0	115531	153945	115540	168064
110.0	115566	168061	115575	153946
114.3	115602	168291	115611	153946
125.0	115638	168063	115647	138322
133.0	115673	153946	115682	129306
139.7	115709	138235	115718	153947
159.0	115748	153947	115757	168067
168.3	115787	129309	115796	152207
219.1	115910	129326	115919	129331
267.0	115987	129333	115996	129343
273.0	116023	129334	116032	129398

Pack size: 1 unit = 2 half-blocks.

On site, wooden blocks need to be insulated against vapor diffusion at least in same quality as sectional pipe insulation.

When choosing the shell thickness, the dew point needs to be considered.

Mount STATO® Clamps with a tightening torque of 50 Nm.

Other shell lengths, diametres and insulation thickness can be produced according to customers specifications upon request.

02/19

Anchor point pipe clamps type 170 FL

galvanised

Field of application

- Thermally decoupled attachment of chilled water pipes
- Complete anchor point pipe clamp for chilled water pipes
- For form-locking attachments taking up axial pipe forces
- For indoor use
- In particular for large nominal sizes

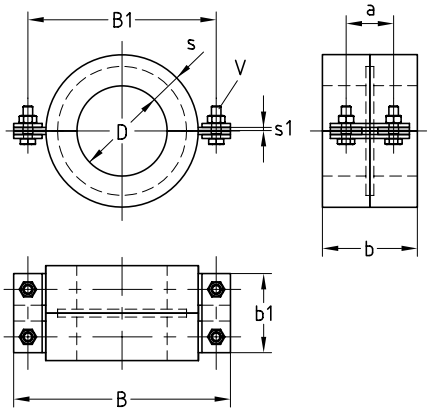
Advantages

- Direct between pipe clamp and cold pipe: decreased heat flux between pipe and environment
- Low thermal transfer with the insulation shells and internal clamp bracket used
- Simplified integration in sectional pipe insulation
- Specially suitable for attachments of steel pipelines according to DIN EN 10022



Features

Material insulation shell	Polyurethane, black
Effective density	250 kg/m³
Thermal conductivity	λ = 0.045 W/mK
Fire classification (acc. to DIN 4102)	B2
Temperature range	–45 °C to +105 °C
Water vapour diffusion resistance	μ = 2,500
Compression strength	4.3 N/mm² at 23 °C
Material clamp/pressure ring	S235JR





Nominal size pipe outer diameter [inch]	[mm]	Insulation thickness s [mm]	Max. recommended load axial [N]	Max. recommended load radial [N]	Part no.	Sales unit	Pack unit	Dimensions [mm] s1	B	B1	b	b1	a	V
2	60.3	30	1,000	1,440	**153065**	1	pieces	4	203	173	100	90	50	M10
2½	76.1		2,500	3,600	**150707**									
3	88.9		3,000	4,300	**150708**				211	181				
4	114.3	40	4,000	6,900	**150709**				274	238	120	100	60	M12
	133.0		4,500	7,700	**167131**				300	264				
5	139.7			8,100	**150710**									
6	168.3		6,000	9,700	**152055**				328	288				
8	219.1	60	9,000	23,000	**159107**				439	399	200	140	100	
	273.0		12,000	28,000	**156831**				493	453				M16
	323.9		15,000	32,800	**165046**				544	504				
	355.6		17,000	36,000	**160913**				576	536				

PU-Sealer

310 ml cartridge

Part no.	Sales unit	Pack unit
122470	12	pieces



02/19

MÜPRO

Brackets refrigerant anchor point

galvanised

Field of application

- Stable support system with high load-bearing capacity for pipe installations
- Ideal pipe anchor point for chilled water pipes in combination with anchor point pipe clamps type 170 FL
- Ideal as height adjustable subframe for refrigerant anchor points

Advantages

- Continuously adjustable in height and slope
- As height adjustment or to compensate for unevennesses
- Especially suitable for absorbing high axial loads on the pipe

1 kit consisting of:

2 Mounting brackets
2 Adapter brackets
6 Coach bolts M12
6 Hexagonal nuts M12
6 Washers for M12

All parts are galvanised.



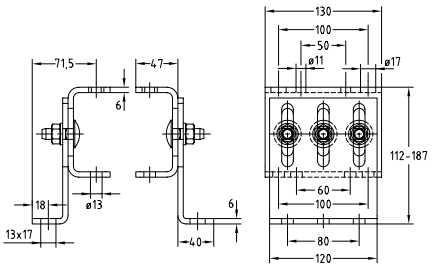
Standard version



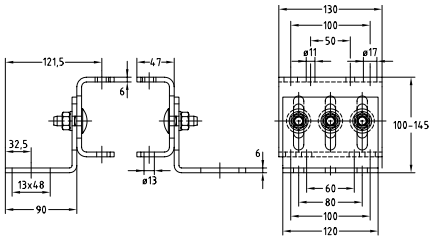
Heavy-duty version



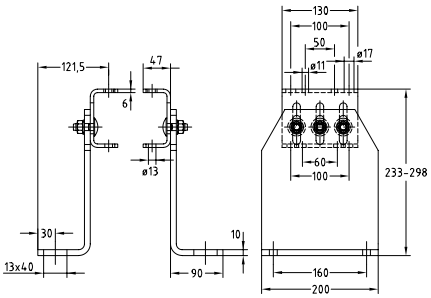




Slim version



Standard version



Heavy-duty version

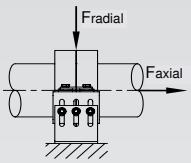
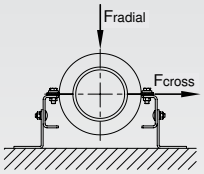
Design	Nominal size clamp	Overall height [mm]		Adjustment range [mm]	**Part no.**	Sales unit	Pack unit
		min.	max.				
Slim version	76.1–219.1	112	187	75	**167717**	1	pieces
Standard version	76.1–168.3	100	145	45	**167121**		
Heavy-duty version	219.1–355.6	233	298	65	**167125**		

02/19

Brackets refrigerant anchor point

galvanised

Features

Type		Slim version	Standard version	Heavy-duty version	Tightening torque [Nm] (brackets)
Max. recommended load [N] 	axial	see catalogue page anchor point pipe clamps type 170 FL			75
	cross	min. overall height			
		6,000	8,000	7,000	
		max. overall height			
		3,000	6,000	7,000	
	radial	min. overall height	25,000	25,000	
		20,000			
		max. overall height			
		10,000			

These load values refer exclusively to brackets.
For load values of anchor point pipe clamps type 170 FL please refer to the corresponding catalogue page.

02/19

MÜPRO

Sliding stirrups

galvanised

Field of application

- Expansion point attachment for suspended pipes
- Suitable for direct ceiling installations and for attachment to MPC-Support channels using rail nuts
- Attachment of pipes with thermal, axial expansion





Advantages

- Prevents any force build-up at the attachment point in case of changes in pipe length
- If mounted reciprocally, an axial synchronous ganging of the pipes is ensured
- Smooth and silent movement due to the large roller
- Can be swivelled laterally, therefore especially useful near pipe side-branches
- Removable roller to facilitate screwing in



Fixing with steel anchor



Attachment on a MPC-Support channel



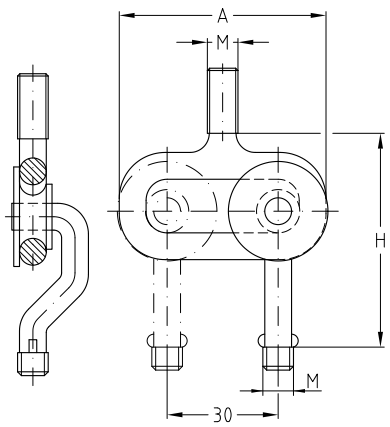
Sliding stirrup in combination with a single bossed clamp

Features

fire protection certified M10

Connecting thread	Max. recommended load [N]
M8	400
M10	650

Type	Connecting thread	Max. slide travel [mm]	Height adjustment up to [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm] A	Dimensions [mm] H
–	M8	30	–	**118344**	50	pieces	55	52
	M10			**118340**			68	60
XL			32	**137991**	25			



02/19

Swivel hangers

galvanised

Field of application

- Attachment solution for suspended pipes – allows axial and lateral pipe movements
- Attachment of pipes with thermal, axial expansion
- Especially suitable for large ceiling distances
- For the installation of swivel hangers together with MPR-Quick fasteners please follow the installation instructions accompanying the product

Advantages

- 360° degree of freedom
- Large deflection from the vertical
- Appropriate threaded rod lengths allow the pipes to be set to the desired height
- Screw-in depth of thread hanger allows precise height adjustment
- Screw-in depth visible through inspection hole (long version)
- Short version for low overall height



Swivel hanger, short

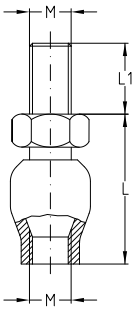


Swivel hanger, long

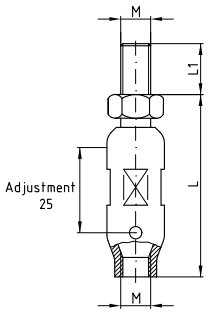


Features

Connecting thread	Max. recommended load [N]
M8	2,400
M10	3,000
M12	3,500



short version



long version

Type	Connecting thread	Overall height L [mm]	Threaded length L_1 [mm]	Deflection from the vertical	Height adjustment up to [mm]	Part no.	Sales unit	Pack unit
Short	M8	34	18	up to 12°	–	**120231**	100	pieces
	M10	35				**120227**	50	
Long, with inspection hole	M12	70	20		25	**120211**		
	M10	61	57			**120208**		
			18			**120204**		
	M8	60				**120223**		
Long, greater deflection	M10	61		up to 22°		**120196**		

For secure tilt-free pipe guides two swivel hangers – one at the top and one at the bottom – must be considered for each attachment point.

The threaded rod must be secured against loosening by the use of locknuts.

02/19

MÜPRO

Sliding shoes

Field of application

- Perfect solution for plastic pipes with large sliding movement
- Ideally suitable for riser pipes
- Suitable for pipes mounted from above and from below
- Attachment of pipes with thermal, axial expansion
- Expansion assembly attachment as cross connection for pipe movement in axial and lateral directions

Advantages

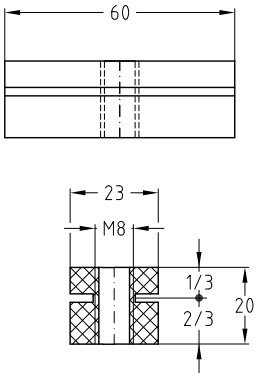
- Length of sliding distance can be freely determined by suitable selection of support channel length
- Large pipework movements in both axial and lateral directions can be accommodated by a module consisting of two sliding shoes, giving a low overall height of only 50 mm (for channel 27/18)
- High load carrying capacity and abrasion-resistant sliding shoe made of Ultramid, reinforced with glass fibre

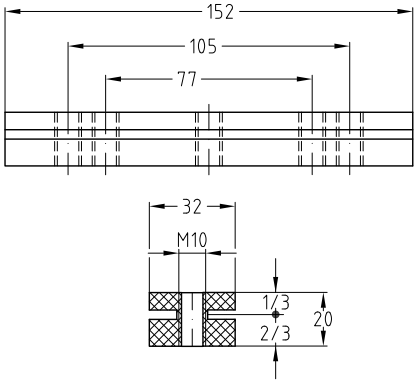


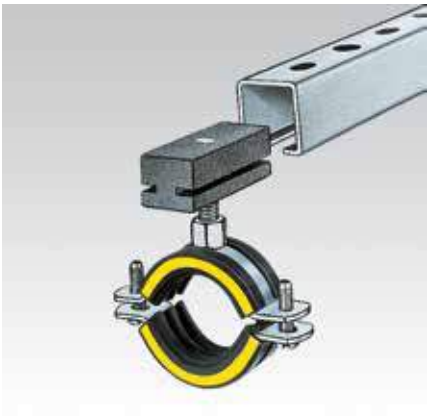
Sliding shoe M8



Sliding shoe M10







Sliding shoe M8 as suspended attachment



Sliding shoe M10 as standing support



Sliding attachment for pipe movement in axial and lateral directions

Connecting thread	For support channels	Max. permitted load [N]	**Part no.**	Sales unit	Pack unit
M8	27/18, 28/30	1,000	**112056**	50	pieces
M10	38/40, 39/52, 40/60, 40/80, 38/80, 40/120		**112052**	20	

When installed, the threaded pin must be fully screwed through the sliding shoe. When attached in combination with a pipe clamp, the threaded pin must not protrude more than 70 mm (M8) or 100 mm (M10).

Attention: Mind the tightening torque specified for the locknuts: connecting thread M8 16 Nm, connecting thread M10 18 Nm.

02/19

Guide rails

galvanised

Field of application

- Ideally suitable for pipes with large thermal, axial expansion
- Suitable for ceiling, suspension, risers and ground installations

Advantages

- Guide rail with long slide travel for versatile installation
- Perfect solution for installation under cramped conditions due to the low overall height of 28 mm (guide rail M8)
- Smooth-sliding, abrasion-resistant sliding shoe



Guide rail M8



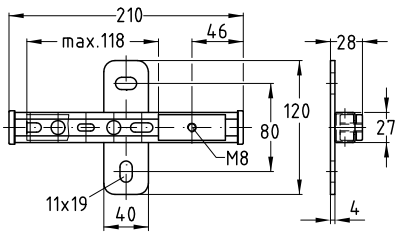
Guide rail M10



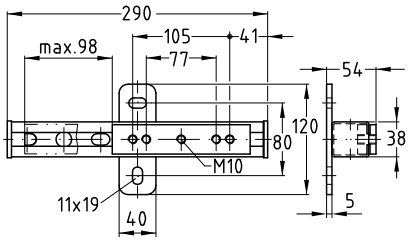


Features

Max. recommended load [N]	1,000



Guide rail M8



Guide rail M10

Connecting thread	Max. slide travel [mm]	**Part no.**	Sales unit	Pack unit
M8	118	**112066**	25	pieces
M10	98	**112062**		

Attention: Mind the tightening torque specified for the locknuts: connecting thread M8 16 Nm, connecting thread M10 18 Nm.

02/19

MÜPRO

Slide guides 1.75 kN

galvanised

Field of application

- Attachment of pipes with temperature affected, axial expansion
- A variety of installation possibilities (floor-mount, ceiling-mount, wall-mount)
- Expansion point attachment for standing and suspended pipes
- Expansion point attachment as cross connection for pipe movement in axial and lateral directions

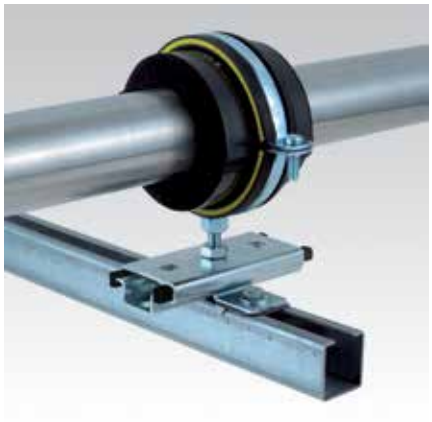
Advantages

- Flat, compact design for secure mounting in cramped mounting situations
- Large slide travel of up to 76 mm
- High-level application flexibility due to triple connection facilities for pipe clamps
- One or two pipe clamps can be mounted depending on the application
- Fire-proof design for application in escape routes and emergency routes





Ceiling installation with steel anchors M8



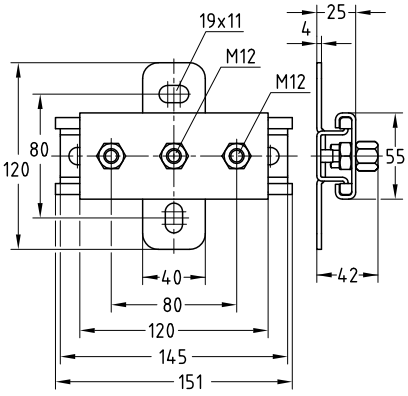
Upright installation of an insulation clamp on a MPC-Support channel

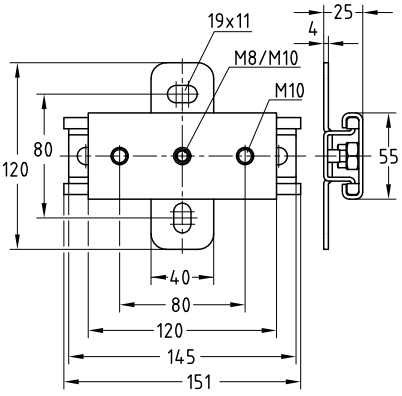


Upright installation of a sliding shoe and a slide guide on a MPC-Support channel



Upright installation of two slide guides in crisscross arrangement, on a MPC-Support channel





Features

Connecting thread 1x	Connecting thread 2x	Temperature range	Max. recommended load [N]	Max. slide travel [mm]	Part no.	Sales unit	Pack unit
M8/M10	M10	–40 °C to +100 °C	1,750	76	**130662**	25	pieces
M12	M12				**139199**		

When attaching two slide guides in crisscross arrangement, the use of an allen bolt with washer, **part no. 121079**, is recommended.

02/19

Slide guide 4 kN

galvanised

Field of application

- Attachment of pipes with temperature affected, axial expansion
- A variety of installation possibilities (floor-mount, ceiling-mount, wall-mount)
- Expansion point attachment for standing and suspended pipes
- Expansion point attachment as cross connection for pipe movement in axial and lateral directions

Advantages

- Smooth-running slide guide for high loads
- Flat, compact design for secure mounting in cramped spaces
- Large slide travel of up to 216 mm
- Highly flexible use due to triple connection possibility with internal threads M12, M16 and external thread ½“
- One or two pipe clamps can be mounted depending on the application
- Quick and easy assembly due to center line and mounting marks
- Base plate compatible with MPC, MPR and MPT-Support channel systems
- Fire-proof design for use in escape routes and emergency routes
- For installation situations where both axial and radial movement needs to be accommodated, a 4 kN slide guide and a 4 kN



adapter slide guide can be mounted together as a cross connection



Single bossed clamp mounted with a M16 connection thread to a MPC-Support channel



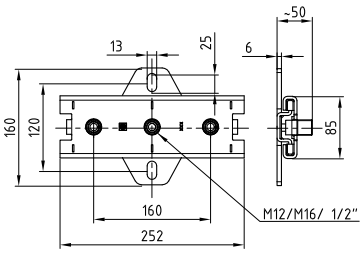
Two single bossed clamps with M16 connection threads mounted on a MPC-Support channel



Two single bossed clamps with M16 connection threads mounted on a MPT-Console Q100

Features

Connecting thread	Temperature range	Max. recommended load [N]	Max. slide travel [mm]	**Part no.**	Sales unit	Pack unit
M12/ M16/½"	–40 °C to +100 °C	4,000	216	**139936**	1	pieces



Slide guide 4 kN for crisscross arrangement

galvanised

Max. sliding distance [mm]	**Part no.**	Sales unit	Pack unit
216	**139947**	1	pieces



02/19

For cross connection assembly the following components are used:

	Thread	Length [mm]	Part no.	Sales unit	Pack unit
Coach bolt, DIN 603	–	30	**143876**	1	pieces
Hexagonal nut, DIN 934	M12	–	**105447**	100	
Washers, DIN 125			**127286**		

Box-section heavy slide guide 7.8 kN

galvanised

Field of application

- Suitable for wall fixing with horizontal or vertical pipes
- Attachment of pipes with temperature affected, axial expansion
- Variety of installation possibilities (floor-mount, ceiling-mount, wall-mount, rail-mount, cross stay)
- Expansion point attachment for standing and suspended pipes

Advantages

- Smooth-running slide guide for heavy loads
- With long slide travel up to 125 mm for pipelines with large changes in length
- Tilt-proof load distribution in standing and suspended installations
- Variable, height-adjustable pipe clamp attachments using threaded pins
- Two pipe clamps prevent jamming and misalignment
- Connection holes for M12 and M16





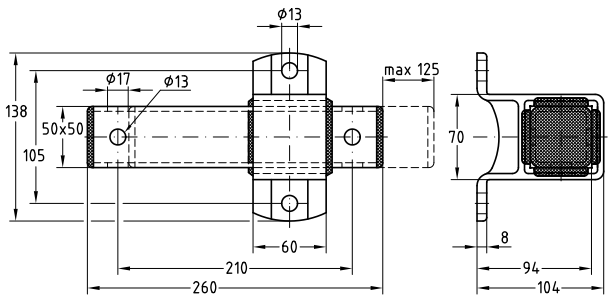




Features

fire protection certified

Max. recommended load [N]	7,800



Max. slide travel [mm]	Part no.	Sales unit	Pack unit
125	**105309**	1	pieces

Also available in stainless steel version upon request.

02/19

Slide guide, heavy-duty version

with guide brackets (without pipe clamps), galvanised

Field of application

- High strength version for standing arrangements
- Expansion point attachment for standing pipes
- Attachment of pipes with temperature affected, axial expansion and higher load requirements





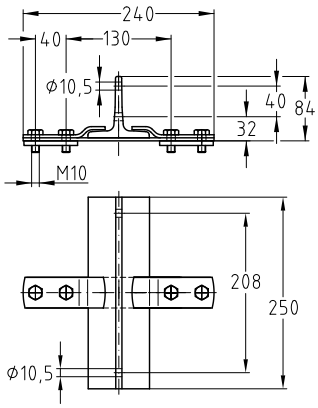
Advantages

- Smooth-sliding pipe guide with polished sliding surface and slider made of abrasion-resistant polyamide
- For use with three-piece, double-sided flange-on suspension clamps
- Surface protection through galvanisation
- Stable guide brackets including M10 fixing bolts and nuts

Features

Max. recommended compression load [N]	15,000

Max. slide travel [mm]	Part no.	Sales unit	Pack unit
200	**118129**	1	pieces



Suitable three-piece suspension clamps can be found on the next page.

02/19

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Suspension clamps

three-pieces, galvanised

Field of application

- Suitable pipe clamp for the heavy-duty slide guide
- Matching for pipe sizes of 4“ and larger

Advantages

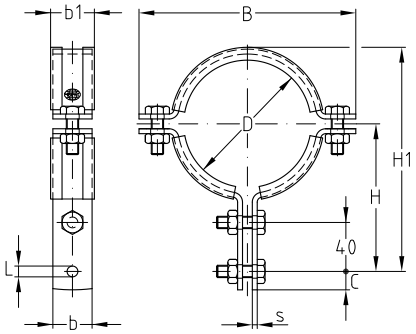
- Connection lug with two attachment bolts allows a robustly flanged joint to the heavy-duty slide guide
- The 2 locking screws allow good adaptation to a greater variation in pipe diameter
- Supply includes attachment nuts and bolts for connection of the lug to the heavy-duty slide guide
- Also available with longer connecting lug and reinforcement plates for installations with thicker pipe insulation



Features

Vibration control

Max. recommended load [N]	6,660



Size		Without lining					With DÄMMGULAST®						Dimensions [mm]			Sales unit	Pack unit
			Dimensions [mm]					Dimensions [mm]									
[inch]	[mm]	Part no.	B	D	H	H1	Part no.	B	b1	D	H	H1	b x s	C	Ø L		
4		**123424**	178	114.3	121	182	**123347**	188	44	114.3	126	192	40 x 4.0	15	11	1	pieces
	125.0	**123380**	189	125.0	127	193	**123295**	199		125.0	132	203					
	127.0	**123384**	191	127.0	128	195	**123299**	201		127.0	133	205					
	133.0	**123388**	197	133.0	131	201	**123303**	207		133.0	136	211					
5		**123428**	204	139.7	134	208	**123352**	214		139.7	139	218					
	152.4	**123392**	216	152.0	140	220	**123307**	226		152.0	145	230					
	159.0	**123396**	223	159.0	144	227	**123311**	233		159.0	149	237					
6		**123432**	229	165.1	147	233	**123356**	239		165.1	152	243					
	168.3	**123400**	232	168.3	148	236	**123315**	242		168.3	153	246					
	177.8	**123404**	242	177.8	153	246	**123319**	252		177.8	158	256					
	212.0	**123408**	276	212.0	170	280	**123323**	286		212.0	175	290					
	219.1	**123413**	283	219.1	174	287	**123327**	293		219.1	179	297					
	244.5	**123417**	309	244.5	186	313	**123331**	319		244.5	191	323					
	267.0	**123420**	331	267.0	198	335	**123335**	341		267.0	203	345					

Suspension clamps can be produced for all other pipe sizes according to customer specifications.

02/19



Heavy-duty pipe support

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1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

 Pipe slides type TP-1 7/5–7/6

 Pipe slides type TP-2 7/7–7/8

 Pipe slides type TF-1 7/9–7/10

 Pipe slides type TF-2 7/11–7/12

 Pipe slides type LP-2 7/13–7/14

 Pipe slides type DS-2 7/15–7/16

 Pipe slides type UPG-1 7/17–7/18

 Pipe slides type UPG-2 7/19–7/20

 Anchoring cams 7/21

 Cramping sets 7/22–7/24

 Cramping elements 7/25

 Pipe clamps DIN 3567 7/26

 U-bolts DIN 3570 7/27

 Guide angles 7/28

Selection of heavy-duty pipe supports

Pipe slides, pipe clamps and accessories can be supplied in various designs. Part numbers for the desired design are given on the data sheets, that list the different combinations of material and surface treatment as well as the screws to be used.

Identification system for pipe slides

Example of codes:

T-section slide guide made from S235JR (St37) with 2 pipe clamps, pipe slide hot-dip galvanised, with galvanised screws and nuts, strength class 8.8, for pipe outer diameter of 60.3 mm.

Part no. 116978
Type: TP80-2-W37-OF-SF-60,3

Type designation and code given by the following key code:

Pipe slide type:

Type name	**Codes**
TP80 - 2 - W37 - OF - SG - 60,3	
	Pipe outer diameter
	Bolts and nuts
	Surface of the pipe slide
	Material of the pipe slide
	Number of pipe clamps
	Pipe slide type

Codes

Pipe slide material
W37 steel S235JR (RSt 37)
WA2 V2A stainless steel
WA4 V4A stainless steel

Pipe slide surface finish
OR untreated /black
OF hot-dip galvanised
OG primer coated
OP pickled and passivated

Screws and nuts for pipe slide
SG strength class 8.8, galvanised
SF strength class 8.8, hot-dip galvanised
SA2 V2A stainless steel
SA4 V4A stainless steel







02/19

Selection of heavy-duty pipe supports

Identification system for pipe slides

In addition to standard combinations for pipe slides (see bold print in table below) you will find further feasible material/ surface finish/attachment combinations in the table below. These can be manufactured upon request. Furthermore, pipe slides can be produced with a polyamide (PA) sliding seating.

Pipe slide material	Pipe slide code	Pipe slide surface	Code for surface	Bolts and nuts	Code for bolts and nuts
S235JR (St37)	**W37**	**untreated**	**OR**	**Strength class 8.8, galvanised**	**SG**
		untreated		Strength class 8.8, hot-dip galvanised	SF
		hot-dip galvanised	OF	Strength class 8.8, galvanised	SG
		hot-dip galvanised		**Strength class 8.8, hot-dip galvanised**	**SF**
		hot-dip galvanised		V2A stainless steel	SA2
		primer coated	OG	Strength class 8.8, galvanised	SG
		primer coated		Strength class 8.8, hot-dip galvanised	SF
		primer coated		V2A stainless steel	SA2
V2A stainless steel	WA2	pickled, passivated	OP	V2A stainless steel	SA2
		pickled, passivated		V4A stainless steel	SA4
V4A stainless steel	WA4	pickled, passivated		V4A stainless steel	SA4

Cramping elements and cramping sets

Cramping elements and complete cramping sets can be supplied for attaching the pipe slide to the supporting steel structure.

Sample order for a cramping set:

Cramping set, guidance with two lift-off securing devices, type F2AH for application of a pipe slide on an HEA 140 T-section.

Part no. 134691 – for HEA 140 T-section, section width 140

Specification of the section type and the section width is absolutely necessary when ordering a cramping set.

02/19

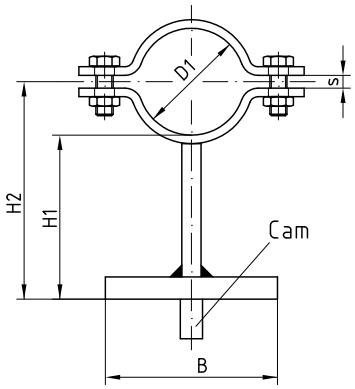
Selection of heavy-duty pipe supports

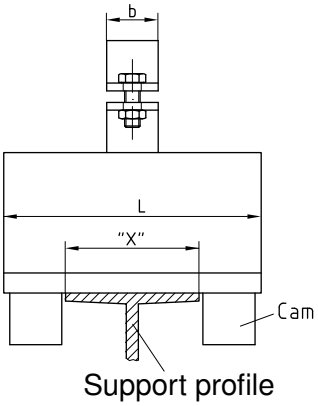
Technical information

Important advice regarding the application of pipe slides: The pipe slide can be used individually as an anchor point, as a guidance with and without lift-off securing devices or as a simple support. The pipe slide can be fixed to the supporting structure using the appropriate cramping sets or cramping elements.

The cramping sets are supplied with bolts and nuts for attaching to the existing supporting structure. Hereto, the specification of the **section width „X“** or the standard designation for the support sections (see sketch below) respectively **is absolutely necessary.**

If applied as an anchor point, the pipe slide must be fitted additionally with cams (see sketch below). The cams are either already welded to the slide or supplied separately. If the cams are to be supplied ex-factory (welded to the pipe slide), it is imperative that this is specified in the order. For this reason, the specification of the section width or the standard designation for the support section, e.g. HEB 140 acc. to DIN 1025, is absolutely necessary.





02/19

Selection of heavy-duty pipe supports

The pipe slide can be used in combination with various cramping sets for different functions:

1. Pipe slide as anchor point
2. Pipe slide as guide bearing with lift-off securing
3. Pipe slide as guide bearing without lift-off securing
4. Pipe slide as bearing

1. Application:
Anchor point pipe slide with anchoring cams, fitted using the cramping set type F2AH



T-section pipe slide with two welded-on anchoring cams using cramping set "guidance with two lift-off securing devices".

The pipe slide is firmly fixed to the substructure by means of the anchoring stops in combination with the side guides and the lift-off securing devices.
(0 degrees of freedom)

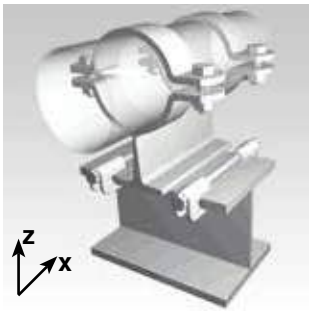
2. Application:
Guidance with lift-off securing, pipe slide fitted using cramping set type F2AH



T-section pipe slide fitted using cramping set "guidance with two lift-off securing devices".

Due to the guidance of the pipe slide at the side and the lift-off securing, sliding of the pipe slide is only possible in the pipe axial directions.
(1 degree of freedom)

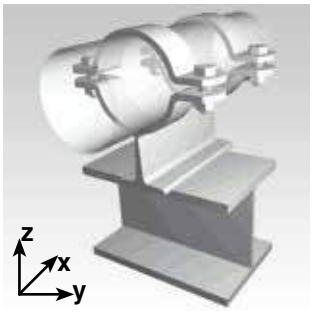
3. Application:
Guidance without lift-off securing, pipe slide fitted using cramping set type F



T-section pipe slide fitted using cramping set "type F guidance".

Due to the guidance of the pipe slide only at the side, movements in axial and vertical directions of the pipe are possible.
(2 degrees of freedom)

4. Application:
Bearing



T-section pipe slide fitted without cramping set.

The pipe slide can move in the x, y and z directions.
(3 degrees of freedom)

02/19

Pipe slides type TP-1

with one pipe clamp, DIN 3567

Field of application

- Attachment of pipelines in heavy-duty building technology, industrial construction and plant engineering
- For insulation thicknesses up to 75 mm for type TP80-1
- For insulation thicknesses up to 90 mm for type TP100-1

Advantages

- Special lengths are available upon request
- Also available with polyamide sliding plate on request
- Also available in stainless steel as well as in primer coated version upon request



	Nominal size DN	Pipe outer diameter D1 [mm]	Part no. W37-OR-SG	Part no. W37-OF-SF	Sales unit	Pack unit
T-Profile 80	25	33.7	**116871**	**116826**	1	pieces
	32	42.4	**116874**	**116829**		
	40	48.3	**116877**	**116832**		
	50	60.3	**116880**	**116835**		
	65	76.1	**116883**	**116838**		
	80	88.9	**116886**	**116841**		
	100	114.3	**116856**	**116811**		
	125	139.7	**116859**	**116814**		
	150	168.3	**116862**	**116817**		
	(175)	193.7	**116865**	**116820**		
	200	219.1	**116868**	**116823**		
T-Profile 100	25	33.7	**116611**	**116581**		
	32	42.4	**116614**	**116584**		
	40	48.3	**116617**	**116587**		
	50	60.3	**116620**	**116590**		
	65	76.1	**116627**	**116593**		
	80	88.9	**116630**	**116596**		
	100	114.3	**116602**	**116566**		
	125	139.7	**116605**	**116569**		
	150	168.3	**116624**	**116572**		
	(175)	193.7	**116633**	**116575**		
	200	219.1	**116608**	**116578**		

Pipe slide material	Pipe slide code	Pipe slide surface	Code for surface	Bolts and nuts	Code for bolts and nuts
S235JR (St37)	**W37**	untreated	**OR**	Strength class 8.8, galvanised	**SG**
		hot-dip galvanised	**OF**	Strength class 8.8, hot-dip galvanised	**SF**

Ordering example: T-section slide guide made from S235JR (St37) with 1 pipe clamp, pipe slide hot-dip galvanised, with hot-dip galvanised bolts and nuts, strength class 8.8, for pipe outside diameter of 60.3 mm.

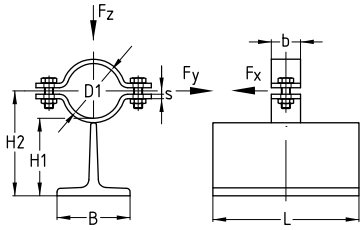
Part no. 116590 Type: TP100-1-W37-OF-SF-60.3

Pipe guide with polyamide sliding surface as well as other versions available upon request.

02/19

Pipe slides type TP-1

with one pipe clamp, DIN 3567



	Nominal size DN	Pipe outer diameter D1 [mm]	Dimensions [mm]						Loading			Weight [kg/piece]
			s	b	L	B	H1	H2	F_x [kN]	F_y [kN]	F_z [kN]	
T-Profile 80	25	33.7	5	30	200	80	85	102	0.6	0.6	1.2	2.470
	32	42.4						106	0.7	0.7		2.500
	40	48.3						109			1.4	2.520
	50	60.3	6	40			86	116	1.2	1.2	2.4	2.840
	65	76.1						124	1.3	1.3	2.6	2.930
	80	88.9						130	1.4	1.4	2.8	3.020
	100	114.3	8	50			88	145	2.8	2.8	5.6	4.040
	125	139.7						158	2.9	2.9	5.8	4.230
	150	168.3			250			172				5.020
	(175)	193.7						185	3.0	3.0	6.0	5.360
	200	219.1						198				5.580
T-Profile 100	25	33.7	5	30	200	100	105	122	0.5	0.5	1.0	3.610
	32	42.4						126	0.6	0.6	1.2	3.640
	40	48.3						129				3.660
	50	60.3	6	40			106	136	1.1	1.1	2.2	4.045
	65	76.1						144	1.3	1.3	2.6	4.105
	80	88.9						150				4.195
	100	114.3	8	50			108	165	2.8	2.8	5.6	5.180
	125	139.7						178	3.0	3.0	6.0	5.370
	150	168.3			250			192	3.3	3.3	6.6	6.440
	(175)	193.7						205	3.5	3.5	7.0	6.780
	200	219.1						218	3.7	3.7	7.4	7.010

02/19

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Pipe slides type TP-2

with two pipe clamps, DIN 3567

Field of application

- Attachment of pipelines in heavy-duty building technology, industrial construction and plant engineering
- For insulation thicknesses up to 75 mm for type TP80-2
- For insulation thicknesses up to 90 mm for type TP100-2

Advantages

- Special lengths are available upon request
- Also available with polyamide sliding plate upon request
- Also available in stainless steel as well as in primer coated version upon request



	Nominal size DN	Pipe outer diameter D1 [mm]	Part no. W37-OR-SG	Part no. W37-OF-SF	Sales unit	Pack unit
T-Profile 80	25	33.7	**117023**	**116960**	1	pieces
	32	42.4	**117026**	**116969**		
	40	48.3	**117029**	**116972**		
	50	60.3	**117032**	**116978**		
	65	76.1	**117035**	**116984**		
	80	88.9	**117038**	**116990**		
	100	114.3	**117008**	**116930**		
	125	139.7	**117011**	**116936**		
	150	168.3	**117014**	**116942**		
	(175)	193.7	**117017**	**116948**		
	200	219.1	**117020**	**116954**		
T-Profile 100	25	33.7	**116784**	**116716**		
	32	42.4	**116787**	**116722**		
	40	48.3	**116790**	**116727**		
	50	60.3	**116793**	**116733**		
	65	76.1	**116796**	**116739**		
	80	88.9	**116799**	**116745**		
	100	114.3	**116769**	**116686**		
	125	139.7	**116772**	**116692**		
	150	168.3	**116775**	**116698**		
	(175)	193.7	**116778**	**116704**		
	200	219.1	**116781**	**116710**		

Pipe slide material	Pipe slide code	Pipe slide surface	Code for surface	Bolts and nuts	Code for bolts and nuts
S235JR (St37)	**W37**	untreated	**OR**	Strength class 8.8, galvanised	**SG**
		hot-dip galvanised	**OF**	Strength class 8.8, hot-dip galvanised	**SF**

Ordering example: T-section slide guide made from S235JR (St37) with 2 pipe clamps, pipe slide hot-dip galvanised, with hot-dip galvanised bolts and nuts, strength class 8.8, for pipe outer diameter of 60.3 mm.

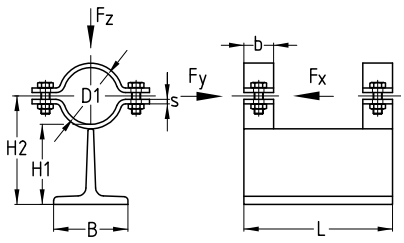
Part No. 116733 Type: TP100-2-W37-OF-SF-60.3

Pipe guide with polyamide sliding surface as well as other versions available upon request.

02/19

Pipe slides type TP-2

with two pipe clamps, DIN 3567



	Nominal size DN	Pipe outer diameter D1 [mm]	Dimensions [mm]						Loading			Weight [kg/piece]
			s	b	L	B	H1	H2	F_x [kN]	F_y [kN]	F_z [kN]	
T-Profile 80	25	33.7	5	30	200	80	85	102	1.1	1.1	2.2	2.800
	32	42.4						106	1.2	1.2	2.4	2.860
	40	48.3						109	1.4	1.4	2.8	2.910
	50	60.3	6	40			86	116	2.3	2.3	4.6	3.550
	65	76.1						124	2.5	2.5	5.0	3.710
	80	88.9						130	2.8	2.8	5.6	3.890
	100	114.3	8	50			88	145	5.0	5.0	10.0	5.930
	125	139.7						158	5.2	5.2	10.4	6.320
	150	168.3			250			172				7.360
	(175)	193.7						185	5.4	5.4	10.8	8.040
	200	219.1						198				8.490
T-Profile 100	25	33.7	5	30	200	100	105	122	0.9	0.9	1.8	3.940
	32	42.4						126	1.1	1.1	2.2	4.000
	40	48.3						129	1.3	1.3	2.6	4.050
	50	60.3	6	40			106	136	2.0	2.0	4.0	4.690
	65	76.1						144	2.3	2.3	4.6	4.850
	80	88.9						150			5.0	5.030
	100	114.3	8	50			108	165	5.5	5.5	11.0	7.070
	125	139.7						178	6.0	6.0	12.0	7.460
	150	168.3			250			192	6.5	6.5	13.0	8.780
	(175)	193.7						205	7.0	7.0	14.0	9.460
	200	219.1						218	7.4	7.4	14.8	9.910

02/19

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Pipe slides type TF-1

with one pipe clamp, DIN 3567

Field of application

- Attachment of pipelines preferably with insulation in heavy-duty building technology, industrial construction and plant engineering
- Preferred for insulated pipes lines
- For insulation thicknesses up to 140 mm

Advantages

- Special lengths are available upon request
- Also available with polyamide sliding plate upon request
- Also available in stainless steel as well as in primer coated version upon request



Nominal size DN	Pipe outer diameter D1 [mm]	Part no. W37-OR-SG	Part no. W37-OF-SF	Sales unit	Pack unit
25	33.7	**116403**	**116366**	1	pieces
32	42.4	**116406**	**116369**		
40	48.3	**116410**	**116372**		
50	60.3	**116413**	**116375**		
65	76.1	**116419**	**116380**		
80	88.9	**116422**	**116382**		
100	114.3	**116397**	**116357**		
125	139.7	**116400**	**116360**		
150	168.3	**116416**	**116363**		

Pipe slide material	Pipe slide code	Pipe slide surface	Code for surface	Bolts and nuts	Code for bolts and nuts
S235JR (St37)	**W37**	untreated	**OR**	Strength class 8.8, galvanised	**SG**
		hot-dip galvanised	**OF**	Strength class 8.8, hot-dip galvanised	**SF**

Ordering example: T-section slide guide made from S235JR (St37) with 1 pipe clamp, pipe slide hot-dip galvanised, with hot-dip galvanised bolts and nuts, strength class 8.8, for pipe outer diameter of 114.3 mm.

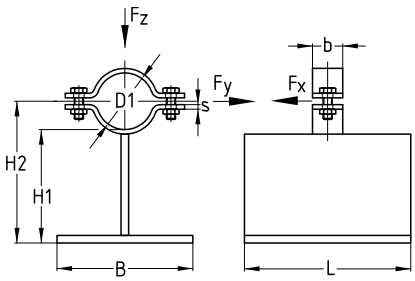
Part no: 116357 Typ: TF-1-W37-OF-SF-114.3

Pipe guide with polyamide sliding surface as well as other versions available upon request.

02/19

Pipe slides type TF-1

with one pipe clamp, DIN 3567



Nominal size DN	Pipe outer diameter D1 [mm]	Dimensions [mm]						Loading			Weight [kg/piece]
		s	b	L	B	H1	H2	F_x [kN]	F_y [kN]	F_z [kN]	
25	33.7	5	30	220	180	150	167	0.5	0.5	1.0	5.300
32	42.4						171	0.7	0.7	1.4	5.400
40	48.3						174	1.0	1.0	2.0	5.400
50	60.3	6	40				180	1.6	1.6	3.2	5.700
65	76.1						188	1.8	1.8	3.6	5.800
80	88.9						195	2.0	2.0	4.0	5.900
100	114.3	8	50				207	2.6	2.6	5.2	6.900
125	139.7						220	3.0	3.0	6.0	7.100
150	168.3						234	3.2	3.2	6.4	7.300

02/19

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Pipe slides type TF-2

with two pipe clamps, DIN 3567

Field of application

- Attachment of pipelines preferably with insulation in heavy-duty building technology, industrial construction and plant engineering
- Preferred for insulated pipes lines
- For insulation thicknesses up to 140 mm

Advantages

- Special lengths are available upon request
- Also available with polyamide sliding plate upon request
- Also available in stainless steel as well as in primer coated version upon request



Nominal size DN	Pipe outer diameter D1 [mm]	Part no. W37-OR-SG	Part no. W37-OF-SF	Sales unit	Pack unit
25	33.7	**116485**	**116446**	1	pieces
32	42.4	**116488**	**116449**		
40	48.3	**116491**	**116452**		
50	60.3	**116494**	**116455**		
65	76.1	**116497**	**116458**		
80	88.9	**116500**	**116461**		
100	114.3	**116476**	**116437**		
125	139.7	**116479**	**116440**		
150	168.3	**116482**	**116443**		

Pipe slide material	Pipe slide code	Pipe slide surface	Code for surface	Bolts and nuts	Code for bolts and nuts
S235JR (St37)	**W37**	untreated	**OR**	Strength class 8.8, galvanised	**SG**
		hot-dip galvanised	**OF**	Strength class 8.8, hot-dip galvanised	**SF**

Ordering example: T-section slide guide made from S235JR (St37) with 2 pipe clamps, pipe slide hot-dip galvanised, with hot-dip galvanised bolts and nuts, strength class 8.8, for pipe outer diameter of 76.1 mm.

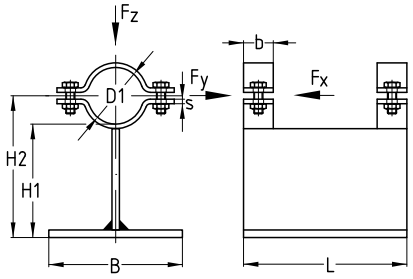
Part no: 116458 Type: TF-2-W37-OF-SF-76.1

Pipe guide with polyamide sliding surface as well as other versions available upon request.

02/19

Pipe slides type TF-2

with two pipe clamps, DIN 3567



Nominal size DN	Pipe outer diameter D1 [mm]	Dimensions [mm]						Loading			Weight [kg/piece]
		s	b	L	B	H1	H2	F_x [kN]	F_y [kN]	F_z [kN]	
25	33.7	5	30	220	180	150	167	1.0	1.0	2.0	6.100
32	42.4						171	1.4	1.4	2.6	6.200
40	48.3						174	2.0	2.0	4.0	6.200
50	60.3	6	40				180	3.2	3.2	6.4	6.800
65	76.1						188	3.6	3.6	7.6	7.000
80	88.9						195	4.0	4.0	8.0	7.200
100	114.3	8	50				207	5.2	5.2	10.4	9.200
125	139.7						220	5.5	5.5	11.0	9.600
150	168.3						234	5.7	5.7	11.4	10.100

02/19

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Pipe slides type LP-2

with two pipe clamps, DIN 3567

Field of application

- Attachment of pipelines in heavy-duty building technology, industrial construction and plant engineering
- For insulation thicknesses up to 80 mm

Advantages

- Special lengths are available upon request
- Also available with polyamide sliding plate upon request
- Also available in stainless steel as well as in primer coated version upon request



Nominal size DN	Pipe outer diameter D1 [mm]	Part no. W37-OR-SG	Part no. W37-OF-SF	Sales unit	Pack unit
175	191.0	**116257**	**116209**	1	pieces
	193.7	**116263**	**116212**		
200	216.0	**116269**	**116215**		
	219.1	**116275**	**116218**		
250	267.0	**116281**	**116221**		
	273.0	**116287**	**116224**		
300	315.0	**116293**	**116227**		
	323.9	**116299**	**116230**		
350	355.6	**116306**	**116233**		
	368.0	**116312**	**116236**		
400	406.4	**116318**	**116239**		
	419.0	**116324**	**116242**		
500	508.0	**116330**	**116245**		
	521.0	**116336**	**116248**		
600	610.0	**116342**	**116251**		

Pipe slide material	Pipe slide code	Pipe slide surface	Code for surface	Bolts and nuts	Code for bolts and nuts
S235JR (St37)	**W37**	untreated	**OR**	Strength class 8.8, galvanised	**SG**
		hot-dip galvanised	**OF**	Strength class 8.8, hot-dip galvanised	**SF**

Ordering example: L-section slide guide made from S235JR (St37) with 2 pipe clamps, pipe slide hot-dip galvanised, with hot-dip galvanised bolts and nuts, strength class 8.8, for pipe outer diameter of 267 mm.

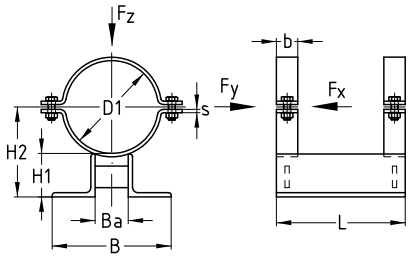
Part no: 116221 Type: LP-2-W37-OF-SF-267.0

Pipe guide with polyamide sliding surface as well as other versions available upon request.

02/19

Pipe slides type LP-2

with two pipe clamps, DIN 3567



Nominal size DN	Pipe outer diameter D1 [mm]	Dimensions [mm]							Loading			Weight [kg/piece]
		s	b	L	B	Ba	H1	H2	F_x [kN]	F_y [kN]	F_z [kN]	
175	191.0	8	50	300	269	69	102	198	10.0	10.0	20.0	14.740
	193.7				270	70		199				14.800
200	216.0				277	77	101	209				15.210
	219.1				278	78		211	10.5	10.5	21.0	15.300
250	267.0		60		294	94	100	233	11.2	11.2	22.4	18.210
	273.0				296	96		236				18.330
300	315.0				310	110	99	256				19.410
	323.9				313	113	98	260				19.600
350	355.6				324	124	97	275				20.870
	368.0				328	128		281				21.320
400	406.4	10	70		342	142	98	301	13.1	13.1	26.2	28.580
	419.0				346	146	97	307				29.070
500	508.0				376	176	95	349	14.5	14.5	29.0	32.150
	521.0				380	180		355				32.780
600	610.0				410	210	92	397	14.9	14.9	29.8	36.170

02/19

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Pipe slides type DS-2

with two pipe clamps, DIN 3567

Field of application

- Attachment of pipelines preferably with insulation in heavy-duty building technology, industrial construction and plant engineering
- Preferred for insulated pipes lines
- For insulation thicknesses up to 140 mm

Advantages

- Special lengths are available upon request
- Also available with polyamide sliding plate upon request
- Also available in stainless steel as well as in primer coated version upon request



Nominal size DN	Pipe outer diameter D1 [mm]	Part no. W37-OR-SG	Part no. W37-OF-SF	Sales unit	Pack unit
175	191.0	**115980**	**116254**	1	pieces
	193.7	**115982**	**116260**		
200	216.0	**115985**	**116266**		
	219.1	**115989**	**116272**		
250	267.0	**115992**	**116278**		
	273.0	**115995**	**116284**		
300	315.0	**115998**	**116290**		
	323.9	**116001**	**116296**		
350	355.6	**116004**	**116302**		
	368.0	**116007**	**116309**		
400	406.4	**116010**	**116315**		
	419.0	**116013**	**116321**		
500	508.0	**116016**	**116327**		
	521.0	**116019**	**116333**		
600	610.0	**116022**	**116339**		

Pipe slide material	Pipe slide code	Pipe slide surface	Code for surface	Bolts and nuts	Code for bolts and nuts
S235JR (St37)	**W37**	untreated	**OR**	Strength class 8.8, galvanised	**SG**
		hot-dip galvanised	**OF**	Strength class 8.8, hot-dip galvanised	**SF**

Ordering example: Twin-stay slide guide made from S235JR (St37) with 2 pipe clamps, pipe slide hot-dip galvanised, with hot-dip galvanised bolts and nuts, strength class 8.8, for pipe outer diameter of 406.4 mm.

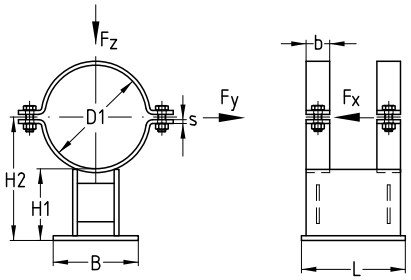
Part no: 116315 Type: DS-2-W37-OF-SF-406.4

Pipe guide with polyamide sliding surface as well as other versions available upon request.

02/19

Pipe slides type DS-2

with two pipe clamps, DIN 3567



Nominal size DN	Pipe outer diameter D1 [mm]	Dimensions [mm]						Loading			Weight [kg/piece]
		s	b	L	B	H1	H2	F_x [kN]	F_y [kN]	F_z [kN]	
175	191.0	8	50	220	180	150	246	12.0	12.0	24	13.700
	193.7						247				13.760
200	216.0						258	14.0	14.0	28	14.200
	219.1						260				14.300
250	267.0		60	260	220		284	17.0	17.0	34	18.650
	273.0						287				18.790
300	315.0						308	19.0	19.0	38	20.370
	323.9						312				20.580
350	355.6						328	20.5	20.5	41	21.440
	368.0						334				21.910
400	406.4	10	70	300	300		353	21.5	21.5	43	33.530
	419.0						360				34.030
500	508.0						404	23.0	23.0	46	37.270
	521.0						411				37.920
600	610.0						455	25.0	25.0	50	41.470

02/19

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Pipe slides type UPG-1

made of U profile as per DIN 1026

Field of application

- Pipe slide made of U profile steel
- Version applicable for type 170 EX refrigerant pipe clamp

Advantages

- Two different insulation thicknesses available
- Polyamide sliding plate for low sliding resistance
- Hot-dip galvanised version (further surfaces available upon request)
- Pipe slides also available with pipe clamp welded on at 45° (specify separately with order)



Features (insulation shell)

Material	Polyurethane, black
Effective density	250 kg/m³
Thermal conductivity	λ = 0.049 W/mK at 0 °C
Building material class	B2 acc. to DIN 4102
Temperature range	–50 °C to +105 °C
Water vapour diffusion resistance	μ = 1,430

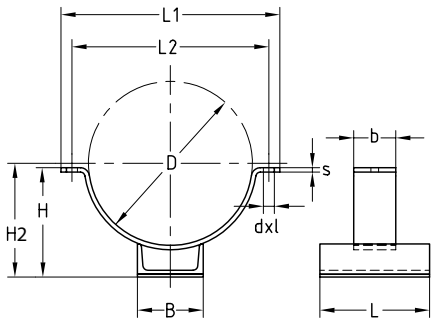
Type	Nominal size DN	Part no. slide	Part no. insulation shell	Sales unit	Pack unit	Part no. accessories bolts	Part no. accessories nuts
UPG-1-W37-OF-SF ISO40 114.3	100	**117190**	**111173**	1	pieces	105636	105445
UPG-1-W37-OF-SF ISO40 133.0	125	**117096**	**111175**			105636	105445
UPG-1-W37-OF-SF ISO40 139.7		**117105**	**111177**			105636	105445
UPG-1-W37-OF-SF ISO40 159.0	150	**117108**	**111179**			105636	105445
UPG-1-W37-OF-SF ISO40 168.3		**117117**	**111181**			105636	105445
UPG-1-W37-OF-SF ISO40 219.1	200	**117193**	**111183**			105642	105445
UPG-1-W37-OF-SF ISO40 273.0	250	**117133**	**111187**			105680	105459
UPG-1-W37-OF-SF ISO40 323.9	300	**117196**	**111191**			105680	105459
UPG-1-W37-OF-SF ISO40 406.4	400	**117199**	**111199**			105680	105459
UPG-1-W37-OF-SF ISO60 219.1	200	**117129**	**111185**			105642	105445
UPG-1-W37-OF-SF ISO60 273.0	250	**117142**	**111189**			105680	105459
UPG-1-W37-OF-SF ISO60 323.9	300	**117151**	**111193**			105680	105459
UPG-1-W37-OF-SF ISO60 355.6	350	**117157**	**111195**			105680	105459
UPG-1-W37-OF-SF ISO60 368.0		**117163**	**111197**			105680	105459
UPG-1-W37-OF-SF ISO60 406.4	400	**117166**	**111201**			105680	105459
UPG-1-W37-OF-SF ISO60 457.2	450	**117175**	**111203**			105680	105459
UPG-1-W37-OF-SF ISO60 508.0	500	**117181**	**111205**			105680	105459
UPG-1-W37-OF-SF ISO60 609.6	600	**117186**	**111207**			105680	105459

All single parts must be ordered separately. Please refer to the accessories table for corresponding article numbers. Pipe slides without polyamide sliding plate are available upon request.

02/19

Pipe slides type UPG-1

made of U profile as per DIN 1026



Type	Nominal size DN	Diameter D [mm]	Dimensions [mm]							
			d x l	b x s	L	L1	L2	B	H	H2
UPG-1-W37-OF-SF ISO40 114.3	100	194	14 x 20	40 x 4	120	274	238	80	140	144
UPG-1-W37-OF-SF ISO40 133.0	125	213				300	264		150	154
UPG-1-W37-OF-SF ISO40 139.7		220							153	157
UPG-1-W37-OF-SF ISO40 159.0	150	239				319	279	100	165	169
UPG-1-W37-OF-SF ISO40 168.3		248				328	288		168	172
UPG-1-W37-OF-SF ISO40 219.1	200	299		50 x 8	200	399	359	120	199	207
UPG-1-W37-OF-SF ISO40 273.0	250	353	18 x 25			453	413		227	235
UPG-1-W37-OF-SF ISO40 323.9	300	404		60 x 8		504	464	140	257	265
UPG-1-W37-OF-SF ISO40 406.4	400	486		80 x 8	240	606	556		299	307
UPG-1-W37-OF-SF ISO60 219.1	200	339	14 x 20	50 x 8	200	439	399	120	219	227
UPG-1-W37-OF-SF ISO60 273.0	250	393	18 x 25			493	453		248	256
UPG-1-W37-OF-SF ISO60 323.9	300	444		60 x 8		544	504	140	277	285
UPG-1-W37-OF-SF ISO60 355.6	350	476				576	536		294	302
UPG-1-W37-OF-SF ISO60 368.0		488		80 x 8	240	588	548		300	308
UPG-1-W37-OF-SF ISO60 406.4	400	526				646	596		319	327
UPG-1-W37-OF-SF ISO60 457.2	450	577				697	647		346	354
UPG-1-W37-OF-SF ISO60 508.0	500	628				748	698	180	378	386
UPG-1-W37-OF-SF ISO60 609.6	600	730				848	798		430	438

02/19

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Pipe slides type UPG-2

made of U profile as per DIN 1026

Field of application

- Pipe slide made of U profile steel
- Version applicable for two type 170 EX refrigerant pipe clamps

Advantages

- Two different insulation thicknesses available
- Polyamide sliding plate for low sliding resistance
- Hot-dip galvanised version (further surfaces available upon request)
- Pipe slides also available with pipe clamp welded on at 45° (specify separately with order)



Features (insulation shell)

Material	Polyurethane, black
Effective density	250 kg/m³
Thermal conductivity	λ = 0.049 W/mK at 0 °C
Building material class	B2 acc. to DIN 4102
Temperature range	–50 °C to +105 °C
Water vapour diffusion resistance	μ = 1,430

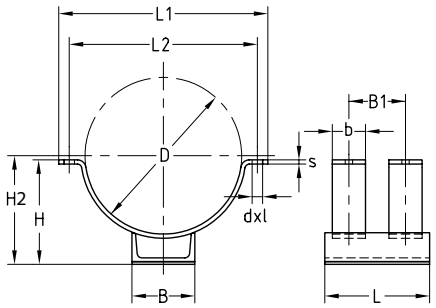
Type	Nominal size DN	Part no. slide	Part no. insulation shell	Sales unit	Pack unit	Part no. accessories bolts	Part no. accessories nuts
UPG-2-W37-OF-SF ISO40 114.3	100	**117099**	**111173**	1	pieces	105636	105445
UPG-2-W37-OF-SF ISO40 133.0	125	**117102**	**111175**			105636	105445
UPG-2-W37-OF-SF ISO40 139.7		**117111**	**111177**			105636	105445
UPG-2-W37-OF-SF ISO40 159.0	150	**117114**	**111179**			105636	105445
UPG-2-W37-OF-SF ISO40 168.3		**117120**	**111181**			105636	105445
UPG-2-W37-OF-SF ISO40 219.1	200	**117123**	**111183**			105642	105445
UPG-2-W37-OF-SF ISO40 273.0	250	**117136**	**111187**			105680	105459
UPG-2-W37-OF-SF ISO40 323.9	300	**117145**	**111191**			105680	105459
UPG-2-W37-OF-SF ISO60 219.1	200	**117126**	**111185**			105642	105445
UPG-2-W37-OF-SF ISO60 273.0	250	**117139**	**111189**			105680	105459
UPG-2-W37-OF-SF ISO60 323.9	300	**117148**	**111193**			105680	105459
UPG-2-W37-OF-SF ISO60 355.6	350	**117154**	**111195**			105680	105459
UPG-2-W37-OF-SF ISO60 368.0		**117160**	**111197**			105680	105459
UPG-2-W37-OF-SF ISO60 406.4	400	**117169**	**111201**			105680	105459
UPG-2-W37-OF-SF ISO60 457.2	450	**117172**	**111203**			105680	105459
UPG-2-W37-OF-SF ISO60 508.0	500	**117178**	**111205**			105680	105459
UPG-2-W37-OF-SF ISO60 609.6	600	**117184**	**111207**			105680	105459

All single parts must be ordered separately. Please refer to the accessories table for corresponding article numbers. Pipe slides without polyamide sliding plate are available upon request.

02/19

Pipe slides type UPG-2

made of U profile as per DIN 1026



Type	Nominal size DN	Diameter D [mm]	Dimensions [mm]								
			d x l	b x s	L	L1	L2	B	B1	H	H2
UPG-2-W37-OF-SF ISO40 114.3	100	194	14 x 20	40 x 4	120	274	238	80	60	140	144
UPG-2-W37-OF-SF ISO40 133.0	125	213				300	264			150	154
UPG-2-W37-OF-SF ISO40 139.7		220								153	157
UPG-2-W37-OF-SF ISO40 159.0	150	239				319	279	100		165	169
UPG-2-W37-OF-SF ISO40 168.3		248				328	288			168	172
UPG-2-W37-OF-SF ISO40 219.1	200	299		50 x 8	200	399	359	120	100	199	207
UPG-2-W37-OF-SF ISO40 273.0	250	353	18 x 25			453	413			227	235
UPG-2-W37-OF-SF ISO40 323.9	300	404		60 x 8		504	464	140		257	265
UPG-2-W37-OF-SF ISO60 219.1	200	339	14 x 20	50 x 8		439	399	120		219	227
UPG-2-W37-OF-SF ISO60 273.0	250	393	18 x 25			493	453			248	256
UPG-2-W37-OF-SF ISO60 323,9	300	444		60 x 8		544	504	140		277	285
UPG-2-W37-OF-SF ISO60 355.6	350	476				576	536			294	302
UPG-2-W37-OF-SF ISO60 368.0		488		80 x 8	240	588	548		120	300	308
UPG-2-W37-OF-SF ISO60 406.4	400	526				646	596			319	327
UPG-2-W37-OF-SF ISO60 457.2	450	577				697	647			346	354
UPG-2-W37-OF-SF ISO60 508.0	500	628				748	698	180		378	386
UPG-2-W37-OF-SF ISO60 609.6	600	730				848	798		140	430	438

02/19

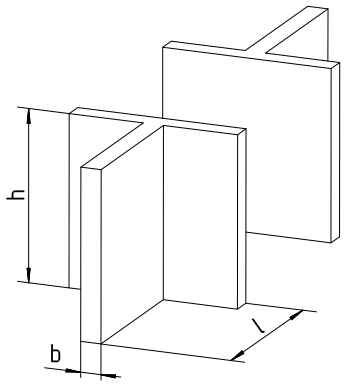
Anchoring cams

Field of application

- Anchor cams for (one site) welding onto the pipe slides for application as anchor
- Individual applications in combination with all pipe slides

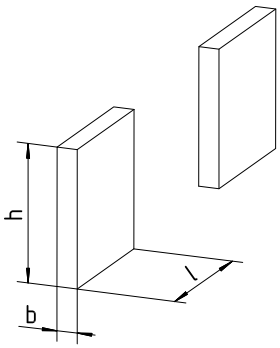
Advantages

- Two versions available





Type N1





Type N2

	Type	Code	Dimensions [mm]			Weight [kg/piece]	Part no.	Sales unit	Pack unit
			b	h	l				
Type N1 2 pieces set	untreated	W37-OR	6	50	50	0.222	**108956**	1	set
	V2A	WA2-OP					**108957**		
	V4A	WA4-OP					**108958**		
Type N2 2 pieces set	untreated	W37-OR		40	40	0.075	**108959**		
	V2A	WA2-OP					**108960**		
	V4A	WA4-OP					**108961**		

Material	Code	Surface	Code for surface
S235JR (St37)	**W37**	untreated	**OR**
V2A stainless steel	**WA2**	pickled and passivated	**OP**
V4A stainless steel	**WA4**		

For application of pipe slide type LP-2 as anchor point four anchoring cams are required.

02/19

Cramping sets

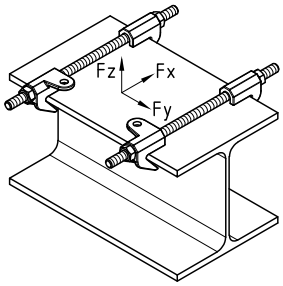
type F1 AH, hot-dip galvanised

Field of application

- For attachment of pipe slide to the supporting steel structure
- Applicable as anchor point and as guidance (expansion point) with lift-off securing
- Hot-dip galvanised version for indoor and outdoor applications
- Applicable for pipe slides with a base plate thickness up to 15 mm

Advantages

- Pre-assembled sets consisting of cramping elements and the associated threaded pins and nuts for attachment of the pipe slide to the supporting steel structure





Max. flange thickness [mm]	Support profile width [mm]	Loading F_x [kN]	Loading F_y [kN]	Loading F_z [kN]	Thread	Max. tightening torque [Nm]	Weight [kg/piece]	**Part no.**	Sales unit	Pack unit
26	75–180	–	±4.0	–5.0	M12	22	1.212	**167369**	1	set
	180–300						1.422	**167372**		

Applicable for pipe slides with a base plate thickness of up to 15 mm.

		Cramping set type F1 AH short Part no. 167369		Cramping set type F1 AH long Part no. 167372	
norm	profile type	Abbreviation		Abbreviation	
		min.	max.	min.	max.
1025-3	HE-A	HE-A 100	HE-A 180	HE-A 200	HE-A 650
1025-2	HE-B	HE-B 100	HE-B 180	HE-B 200	HE-B 450
1025-1	I	I 80	I 475	I 500	I 600
1025-5	IPE	IPE 80	IPE 400	IPE 450	IPE 600
1025-4	HE-M	HE-M 100	HE-M 180	HE-M 200	HE-M 220
EN 10055	T	T 80	T 140	–	–

02/19

MÜPRO

Cramping sets

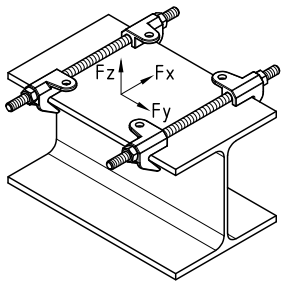
type F2 AH, hot-dip galvanised

Field of application

- For attachment of pipe slide to the supporting steel structure
- Applicable as anchor point and as guidance (expansion point) with lift-off securing
- Hot-dip galvanised version for indoor and outdoor applications
- Applicable for pipe slides with a base plate thickness up to 15 mm

Advantages

- Pre-assembled sets consisting of cramping elements and the associated threaded pins and nuts for attachment of the pipe slide to the supporting steel structure





Max. flange thickness [mm]	Support profile width [mm]	Loading F_x [kN]	Loading F_y [kN]	Loading F_z [kN]	Thread	Max. tightening torque [Nm]	Weight [kg/piece]	**Part no.**	Sales unit	Pack unit
26	75–180	–	±4.0	–10.0	M12	22	1.400	**167370**	1	set
	180–300						1.610	**167373**		

Applicable for pipe slides with a base plate thickness of up to 15 mm.

		Cramping set type F2 AH short Part no. 167370		Cramping set type F2 AH long Part no. 167373	
norm	profile type	Abbreviation		Abbreviation	
		min.	max.	min.	max.
1025-3	HE-A	HE-A 100	HE-A 180	HE-A 200	HE-A 650
1025-2	HE-B	HE-B 100	HE-B 180	HE-B 200	HE-B 450
1025-1	I	I 80	I 475	I 500	I 600
1025-5	IPE	IPE 80	IPE 400	IPE 450	IPE 600
1025-4	HE-M	HE-M 100	HE-M 180	HE-M 200	HE-M 220
EN 10055	T	T 80	T 140	–	–

02/19

Cramping sets

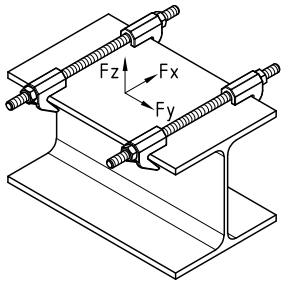
type F, hot-dip galvanised

Field of application

- For attachment of pipe slide to the supporting steel structure
- Applicable as anchor point and as guidance (expansion point) with lift-off securing
- Hot-dip galvanised version for indoor and outdoor applications
- Applicable for all pipe slides

Advantages

- Pre-assembled sets consisting of cramping elements and the associated threaded pins and nuts for attachment of the pipe slide to the supporting steel structure





Max. flange thickness [mm]	Support profile width [mm]	Loading F_x [kN]	Loading F_y [kN]	Loading F_z [kN]	Thread	Max. tightening torque [Nm]	Weight [kg/piece]	**Part no.**	Sales unit	Pack unit
26	75–180	–	±4.0	–	M12	22	1.212	**167371**	1	set
	180–300						1.422	**167374**		

		Cramping set type F short Part no. 167371		Cramping set type F long Part no. 167374	
norm	profile type	Abbreviation		Abbreviation	
		min.	max.	min.	max.
1025-3	HE-A	HE-A 100	HE-A 180	HE-A 200	HE-A 650
1025-2	HE-B	HE-B 100	HE-B 180	HE-B 200	HE-B 450
1025-1	I	I 80	I 475	I 500	I 600
1025-5	IPE	IPE 80	IPE 400	IPE 450	IPE 600
1025-4	HE-M	HE-M 100	HE-M 180	HE-M 200	HE-M 220
EN 10055	T	T 80	T 140	–	–

02/19

Cramping elements

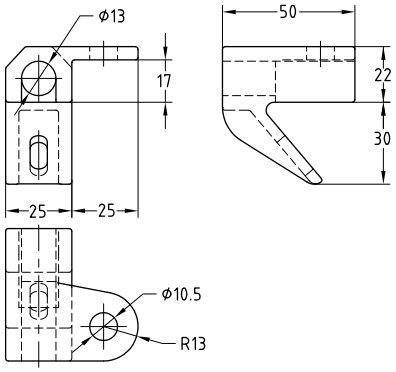
hot-dip galvanised

Field of application

- Applicable in combination with pipe slides as anchor point, guidance with and without lift-off securing

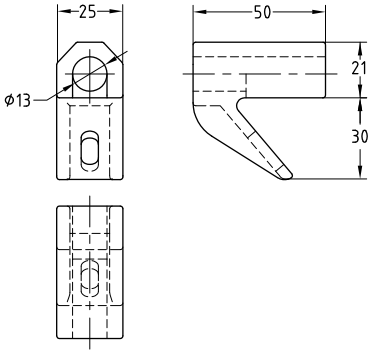
Advantages

- Simple and efficient attachment of pipe slides to steel girder supporting structure, e.g. pipe bridges
- All cramping elements are in cast steel GS 45 with hot-dip galvanised surface





Type K1





Type K2

Type	Thread	Type	Connection to profile		Weight [kg/piece]	Part no.	Sales unit	Pack unit
			Flange thickness S [min.]	Flange thickness S [max.]				
K1	M12	left	6	20	0.230	**113238**	1	pieces
		right				**113241**		
K2		–			0.183	**113244**		

Other cramping elements available upon request.

02/19

Pipe clamps DIN 3567

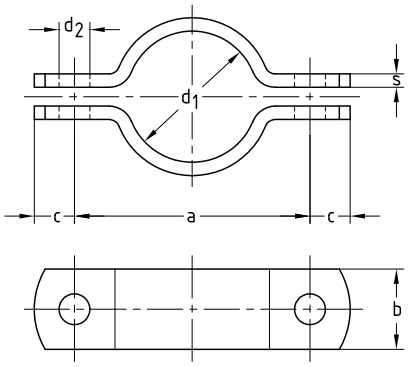
form A

Field of application

- For high static loading requirements in plant construction
- Distribution of heavy loads when mounting pipes with great span lengths

Advantages

- Material S235JR according to DIN 17 100 approved for operating temperatures up to 300 °C
- Nominal size DN 15 is similar to DIN 3567, form A





For pipe outer-Ø d1 [mm]	Nominal size DN	Part no. untreated W37-OR	Part no. FVZ W37-OF	Part no. V2A WA2	Part no. V4A WA4	Sales unit	Pack unit	Dimensions [mm] a	b	c	d2	s	Accessories: hexagon head bolts
20	15	115466	115463	126682	126684	1	pieces	57	30	15	11.5	5	M10 x 30
22		115478	115475	126692	126694			59					
25	20	115493	115490	126700	126702			62					
27		115508	115505	126708	126710			66					
30	25	115771	115768	126720	126722			68					
34		115792	115789	126732	126734			72					
38	32	115809	115806	126744	126746			76					
43		115827	115824	126756	126758			82					
45	40	115833	115830	126760	126762			84					
49		115840	115837	126764	126766			88					
57	50	115861	115858	126776	126778			104	40	18	14.0	6	M12 x 35
61		115867	115864	126782	126784			108					
77	65	115879	115876	126788	126790			122					
89	80	115890	115888	126792	126794			136					
108	100	115409	115406	126646	126648			172	50	24	18.0	8	M16 x 45
115		115415	115412	126650	126652			178					
133	125	115427	115424	126656	126658			196					
140		115433	115430	126660	126662			204					
159	150	115442	115439	126664	126666			222					
169		115448	115445	126670	126672			232					
191	175	115454	115451	126674	126676			254					
194		115460	115457	126678	126680			258					
216	200	115472	115469	126688	126690			280					
220		115487	115481	126696	126698			284					
267	250	115502	115499	126704	126706			342	60	30	23.0		M20 x 50
273		115514	115511	126712	126714			348					
318	300	115780	115777	126724	126726			392					
324		115786	115783	126728	126730			398					
356	350	115797	115795	126736	126738			432					
368		115803	115800	126740	126742			444					
407	400	115815	115812	126748	126750			498	70	36	27.0	10	M24 x 60
419		115821	115818	126752	126754			510					
508	500	115846	115843	126768	126770			600					
521		115852	115849	126772	126774			614					

Material	Code	Surface	Code for surface
S235JR (St37)	**W37**	untreated	**OR**
V2A stainless steel	**WA2**	hot-dip galvanised	**OF**
V4A stainless steel	**WA4**	galvanised	**OG**

Two identical half-shells are supplied per clamp ordered. Corresponding bolts and nuts must be ordered separately (refer to chapter „Accessories“).

02/19

MÜPRO

U-bolts DIN 3570

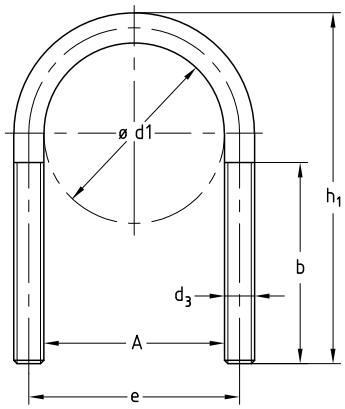
form A

Field of application

- Simple and efficient attachment of pipes to steel supporting structures, e.g. pipe bridges

Advantages

- Material S235JR (St37) according to DIN 17100 approved for operating temperatures up to 300 °C





For pipe outer-Ø d1 [mm]	Nominal size DN	Part no. untreated W37-OR	FVZ W37-OF	VZ W37-OV	V2A WA2	V4A WA4	Sales unit	Pack unit	Dimensions [mm] A	b	d3	e	h1
20–22	15	**124789**	**124786**	**131880**	**124709**	**124712**	1	pieces	25	35	M10	35	65
25–27	20	**124801**	**124798**	**124804**	**124724**	**124727**			30	40		40	70
30–34	25	**124822**	**124819**	**124825**	**124736**	**124739**			38			48	76
38–43	32	**124847**	**124844**	**124851**	**124748**	**124751**			46	50		56	86
45–49	40	**124866**	**124863**	**124869**	**124770**	**124773**			52			62	92
57–61	50	**124956**	**124953**	**124959**	**124896**	**124899**			64		M12	76	109
77	65	**124973**	**124970**	**124976**	**124908**	**124911**			82			94	125
89	80	**124982**	**124979**	**124985**	**124914**	**124917**			94			106	138
108–115	100	**125039**	**125036**	**125042**	**124988**	**124991**			120	60	M16	136	171
133–140	125	**125058**	**125055**	**125061**	**125000**	**125003**			148			164	191
159–169	150	**125076**	**125073**	**125079**	**125012**	**125015**			176			192	217
191–194	175	**125094**	**125091**	**125097**	**125024**	**125027**			202			218	249
216–220	200	**113135**	**113132**	**113138**	**125112**	**125115**			228	70	M20	248	283
267–273	250	**113162**	**113159**	**113165**	**113114**	**113117**			282			302	334
318–324	300	**113141**	**113225**	**113144**	**113126**	**113129**			332			352	385
356–368	350	**113240**	**113237**	**113243**	**113189**	**113192**			378		M24	402	435
407–419	400	**113261**	**113258**	**113264**	**113201**	**113204**			428			452	487
508–521	500	**113282**	**113279**	**113285**	**113213**	**113216**			530			554	589

Material	Code	Surface	Code for surface
S235JR (St37)	**W37**	untreated	**OR**
V2A stainless steel	**WA2**	hot-dip galvanised	**OF**
V4A stainless steel	**WA4**	galvanised	**OV**

U-bolts are supplied excluding nuts and washers. Order separately if required (refer to chapter „Accessories“).

02/19

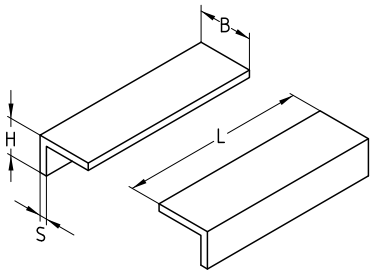
Guide angles

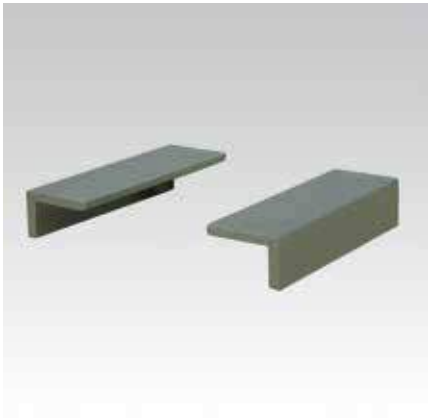
Field of application

- Guide angle for (on-site) welding onto the supporting structure for guidance and to prevent lift-off of pipe slides
- Individually applicable in combination with all pipe slides

Advantages

- Two versions available





	Code	Dimensions [mm]				Weight [kg/piece]	**Part no.**	Sales unit	Pack unit
		S	H	L	B				
L-30 2 pieces set	W37-OR	4	20	100	30	0.159	**108999**	1	set
L-40 2 pieces set	W37-OR				40	0.212	**109000**		

Material	Code	Surface	Code for surface
S235JR (St37)	**W37**	untreated	**OR**

Guide angles are always supplied as pairs in untreated condition. Corrosion protection is made on site.

02/19



MPT-Support system

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

MÜPRO

	Q50–2.5	Q80–2.0	Q100–2.5	Q100–3.5	Q150–2.5
 MPT-Support profiles	8/1–8/2	8/3–8/4	8/5–8/10	8/5–8/6	8/11–8/12
 MPT-Consoles	8/13	8/14	8/15–8/16		
 MPT-Brackets	8/17	8/17	8/17	8/17	8/17
 MPT-Cross channel connectors	8/18	8/18	8/18	8/18	
 MPT-Mounting angles 90°	8/19	8/19	8/19	8/19	8/19
 MPT-Mounting angles 45°	8/20	8/20	8/20	8/20	8/20
 MPT-VARIO joints	8/21	8/21	8/21	8/21	8/21
 MPT-Cantilever bracket	8/22		8/22	8/22	8/22
 MPT-Hammer head bolts	8/23	8/23	8/23	8/23	8/23
 MPT-Hexagon head bolt	8/24		8/24	8/24	8/24
 MPT-Protection caps	8/25	8/25	8/25	8/25	8/25
 MPT-Connection plates	8/26	8/26	8/26	8/26	8/26
 MPT-Angle- and T-connection plates			8/27	8/27	8/27
 MPT-Cross plate			8/28	8/28	
 MPT-Retaining plate	8/29	8/29	8/29	8/29	8/29
 MPT-Support profile connectors		8/30	8/30	8/30	8/30
 MPT-Saddle supports	8/31	8/31	8/31	8/31	8/31
 MPT-Saddle supports for installation of support profiles	8/32	8/32	8/32	8/32	8/32
 MPT-Guide	8/33	8/33	8/33	8/33	8/33
 MPT-Steel beam adaptor plates	8/34	8/34	8/34	8/34	8/34
 MPT-Girder cleats	8/35	8/35	8/35	8/35	
 MPT-Base plate	8/36	8/36	8/36	8/36	8/36

VIDEO TIP

MPT support system – fastening solution for heavy loads: the video shows installation options for individual fixing solutions based on the modular system.

MPT-Support profile Q50

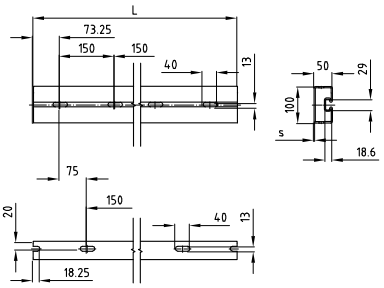
hot-dip galvanised

Field of application

- Rectangular profile for fast and efficient connection of MPT support structures on floor, wall and ceiling

Advantages

- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors
- Saves time and costs during installation with the functional accessories matched to the support profile
- Assurance of uniform product quality due to imprinted manufacturing code
- Single-side continuous fastening groove for flexible arrangement of accessories and support parts
- Clean-cut appearance by the use of MPT-protection caps







Profile	Profile length L [mm]	Profile thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q50–2.5	6,000	2.5	**131624**	1	pieces	41.700

02/19

MPT-Support profile Q50

hot-dip galvanised

Technical data of profile:

Profile	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available hammer head bolts	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
Q50–2.5	S235	hot-dip galvanised	158	M10 M12	6.95	8.40	32.30	94.10	12.10	18.80

Max. load capacities of profile [N]:

Profile	Bending into direction	L [m] 0.5	1.0	1.5	2.0	4.0	6.0	L [m] 0.5	1.0	1.5	2.0	4.0	6.0
Q50–2.5	ZZ	13,664	7,392	4,983	3,731	847	197	9,147	5,353	3,675	2,338	497	115

Profile	Bending into direction	L [m] 0.5	1.0	1.5	2.0	4.0	6.0	L [m] 0.5	1.0	1.5	2.0	4.0	6.0
Q50–2.5	ZZ	6,106	3,565	2,450	1,678	357	83	4,884	2,929	2,027	1,318	280	65

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.48$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

MPT-Support profile Q80

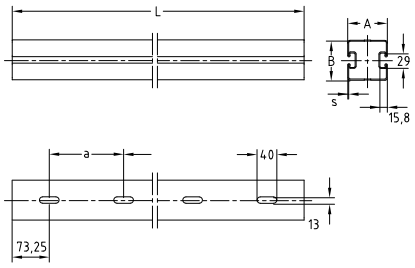
hot-dip galvanised

Field of application

- For support structures used in heavy-duty building technology and on industrial and plant building sites

Advantages

- For construction of safe structures due to the high load-bearing capacity of the profile
- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation
- Efficient installation due to the double fastening groove
- Saves time and costs due to functional accessories that are matched to the support profile
- System components with finished surface and ready for installation save set-up and installation time
- Product quality is ensured through the imprinted manufacturing code
- Continuous fastening groove for flexible arrangement of accessories and fastening components
- Clean-cut appearance by the use of MPT-protection caps







Profile	Profile length L [mm]	Profile thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]		
							A	B	a
Q80–2.0	6,000	2.0	**167323**	1	pieces	41.400	80	80	150

02/19

MPT-Support profile Q80

hot-dip galvanised

Technical data of profile:

Profile	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available hammer head bolts	Profile weight [kg/m]	Profile cross section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
Q80–2.0	S235	hot-dip galvanised	158	M10 M12	6.90	8.3	75.70	57.50	18.90	14.30

Max. load capacities of profile [N]:

Profile	Bending into direction	L [m] 0.5	1.0	1.5	2.0	4.0	6.0	L [m] 0.5	1.0	1.5	2.0	4.0	6.0
Q80–2.0	ZZ	21,462	11,588	7,826	5,878	2,240	843	14,418	8,405	5,776	4,366	1,315	495
	YY	16,955	8,869	5,945	4,448	1,667	588	11,831	6,523	4,417	3,317	978	345

Profile	Bending into direction	L [m] 0.5	1.0	1.5	2.0	4.0	6.0	L [m] 0.5	1.0	1.5	2.0	4.0	6.0
Q80–2.0	ZZ	9,625	5,599	3,851	2,912	943	355	7,709	4,601	3,188	2,418	741	279
	YY	7,899	4,345	2,945	2,212	702	248	6,407	3,591	2,444	1,839	551	194

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.48$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L_{/200}$ are not exceeded, taking the deadweight into consideration.

02/19

MPT-Support profiles Q100

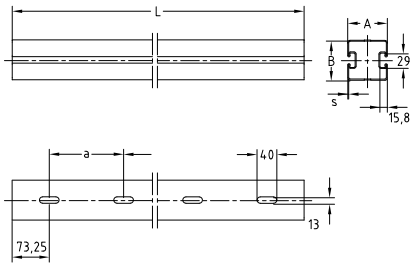
hot-dip galvanised

Field of application

- For support structures used in heavy-duty building technology and on industrial and plant building sites

Advantages

- For construction of safe structures due to the high load-bearing capacity of the profiles
- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation
- Efficient installation due to the double fastening groove
- Saves time and costs due to functional accessories that are matched to the support profile
- System components with finished surface and ready for installation save set-up and installation time
- Product quality is ensured through the imprinted manufacturing code
- Continuous fastening groove for flexible arrangement of accessories and fastening components
- Clean-cut appearance by the use of MPT-protection caps







Profile	Profile length L [mm]	Profile thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]		
							A	B	a
Q100–2.5	6,000	2.5	**131608**	1	pieces	59.820	100	100	150
Q100–3.5		3.5	**131609**			84.300			

02/19

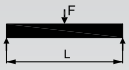
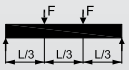
MPT-Support profiles Q100

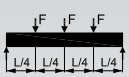
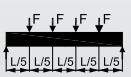
hot-dip galvanised

Technical data of profiles:

Profile	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available hammer head bolts	Profile weight [kg/m]	Profile cross section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
Q100–2.5	S235	hot-dip galvanised	158	M10	9.97	12.8	185.1	156.0	37.0	31.2
				M12						
Q100–3.5				M10	14.05	17.3	249.1	213.9	49.8	42.8
				M12						

Max. load capacities of profiles [N]:

Profile	Bending into direction	L [m]  0.5	1.0	1.5	2.0	4.0	6.0	L [m]  0.5	1.0	1.5	2.0	4.0	6.0
Q100–2.5	ZZ	37,101	21,807	15,047	11,398	5,586	2,225	25,268	15,188	10,873	8,360	3,279	1,306
Q100–3.5		50,653	29,493	20,296	15,357	7,502	2,971	34,767	20,636	14,703	11,280	4,404	1,744
Q100–2.5	YY	33,105	18,787	12,869	9,747	4,914	2,184	23,335	13,331	9,393	7,193	2,885	1,282
Q100–3.5		45,733	25,820	17,670	13,378	6,738	2,995	32,325	18,358	12,910	9,878	3,955	1,758

Profile	Bending into direction	L [m]  0.5	1.0	1.5	2.0	4.0	6.0	L [m]  0.5	1.0	1.5	2.0	4.0	6.0
Q100–2.5	ZZ	16,859	10,118	7,249	5,575	2,352	937	13,195	8,195	5,951	4,605	1,847	736
Q100–3.5		23,199	13,747	9,802	7,524	3,159	1,251	18,191	11,152	8,056	6,218	2,481	982
Q100–2.5	YY	15,572	8,880	6,262	4,798	2,069	920	12,295	7,239	5,161	3,972	1,625	722
Q100–3.5		21,572	12,229	8,607	6,589	2,837	1,261	17,050	9,976	7,096	5,456	2,228	990

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.48$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

MPT-Support profile Q100 with 3 slots

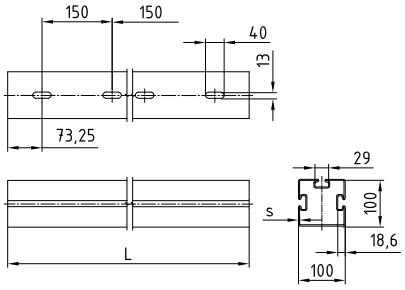
hot-dip galvanised

Field of application

- For support structures used in heavy-duty building technology and on industrial and plant building sites
- Additional mounting slot increases connection possibilities, for example for 3D fixtures

Advantages

- For construction of safe structures due to the high load-bearing capacity of the profile
- Saves time and costs due to functional accessories that are matched to the support profile
- High-level corrosion protection due to standardised hot-dip galvanising ensures flexible implementation indoors and outdoors
- Clean-cut appearance by the use of MPT-protection caps





Profile	Profile length L [mm]	Profile thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q100–2.5 with 3 slots	6,000	2.5	**142547**	1	pieces	64.800

02/19

MPT-Support profile Q100 with 3 slots

hot-dip galvanised

Technical data of profile:

Profile	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available hammer head bolts	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
Q100–2.5 with 3 slots	S235	hot-dip galvanised	158	M10 M12	10.8	13.75	187.5	171.3	37.5	32

Max. load capacities of profile [N]:

Profile	Bending into direction	L [m] (F, L) 0.5	1.0	1.5	2.0	4.0	6.0	L [m] (F, F; L/3, L/3, L/3) 0.5	1.0	1.5	2.0	4.0	6.0
Q100–2.5 with 3 slots	ZZ	37,411	22,059	15,232	11,540	5,642	2,228	25,411	15,338	10,996	8,459	3,313	1,308
	YY	33,732	19,221	13,184	9,991	5,047	2,398	23,637	13,605	9,610	7,367	3,167	1,407

Profile	Bending into direction	L [m] (F, F, F; L/4, L/4, L/4, L/4) 0.5	1.0	1.5	2.0	4.0	6.0	L [m] (F, F, F, F; L/5, L/5, L/5, L/5, L/5) 0.5	1.0	1.5	2.0	4.0	6.0
Q100–2.5 with 3 slots	ZZ	16,955	10,218	7,331	5,641	2,376	938	13,262	8,271	6,017	4,658	1,866	737
	YY	15,774	9,063	6,407	4,913	2,272	1,009	12,437	7,382	5,278	4,067	1,784	793

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.48$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

MPT-Support profile Q100 with 4 slots

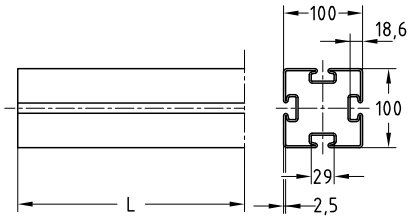
hot-dip galvanised

Field of application

- For support structures used in heavy-duty building technology and on industrial and plant building sites
- Additional mounting slot increases connection possibilities, for example for 3D fixtures

Advantages

- For construction of safe structures due to the high load-bearing capacity of the profile
- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation
- Saves time and costs due to functional accessories that are matched to the support profile
- Continuous fastening groove for flexible arrangement of accessories and fastening components on all sides
- Clean-cut appearance by the use of MPT-protection caps





Profile	Profile length L [mm]	Profile thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q100–2.5 with 4 slots	6,000	2.5	**166816**	1	pieces	74.400

MPT-Support profile Q100 with 4 slots

hot-dip galvanised

Technical data of profile:

Profile	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available hammer head bolts	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
Q100–2.5 with 4 slots	S235	hot-dip galvanised	158	M10 M12	12.4	15.49	194.5	194.5	38.9	38.9

Max. load capacities of profile [N]:

Profile	Bending into direction	L [m] 0.5	1.0	1.5	2.0	4.0	6.0	L [m] 0.5	1.0	1.5	2.0	4.0	6.0
Q100–2.5 with 4 slots	ZZ	38,257	22,759	15,753	11,941	5,823	2,267	25,799	15,753	11,343	8,739	3,418	1,331
	YY	38,257	22,759	15,753	11,941	5,823	2,267	25,799	15,753	11,343	8,739	3,418	1,331

Profile	Bending into direction	L [m] 0.5	1.0	1.5	2.0	4.0	6.0	L [m] 0.5	1.0	1.5	2.0	4.0	6.0
Q100–2.5 with 4 slots	ZZ	17,213	10,494	7,562	5,828	2,452	954	13,436	8,482	6,200	4,809	1,925	750
	YY	17,213	10,494	7,562	5,828	2,452	954	13,436	8,482	6,200	4,809	1,925	750

The determined loads apply for static loads. Calculation based on Eurocode (EC3).
The safety coefficient $\gamma = 1.48$ takes into account the partial and combination coefficients as well as the safety factor of the material.
For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

MPT-Support profile Q150 with 3 slots

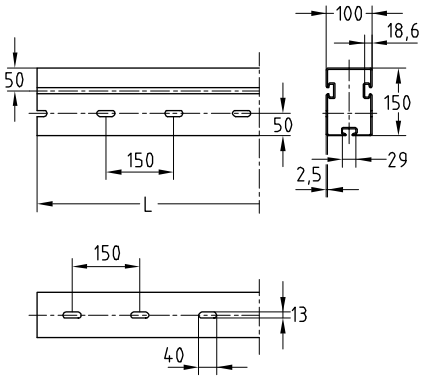
hot-dip galvanised

Field of application

- For support structures used in heavy-duty building technology and on industrial and plant building sites
- Additional mounting slot increases connection possibilities, for example for 3D fixtures

Advantages

- For construction of safe structures due to the high load-bearing capacity of the profile
- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation
- Saves time and costs due to functional accessories that are matched to the support profile
- System components with finished surface and ready for installation save set-up and installation time
- Product quality is ensured through the imprinted manufacturing code
- Continuous fastening groove for flexible arrangement of accessories and fastening components
- Clean-cut appearance by the use of MPT-protection caps





Profile	Profile length L [mm]	Profile thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q150–2.5 with 3 slots	7,050	2.5	**161079**	1	pieces	94.180

MPT-Girder cleats and further mounting parts for profile Q150 available upon request.

02/19

MPT-Support profile Q150 with 3 slots

hot-dip galvanised

Technical data of profile:

Profile	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available hammer head bolts	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
Q150–2.5 with 3 slots	S235	hot-dip galvanised	158	M10 M12	13.08	16.20	445.4	230.6	59.4	46.1

Max. load capacities of profile [N]:

Profile	Load into direction	L [m] 0.5	1.0	1.5	2.0	4.0	6.0	L [m] 0.5	1.0	1.5	2.0	4.0	6.0
Q150–2.5 with 3 slots	YY	46,312	26,245	18,430	14,057	6,942	2,747	27,456	17,733	13,084	10,196	4,076	1,612
	ZZ	58,015	34,692	24,067	18,278	9,090	5,754	38,983	23,958	17,307	13,366	6,774	3,377

Profile	Load into direction	L [m] 0.5	1.0	1.5	2.0	4.0	6.0	L [m] 0.5	1.0	1.5	2.0	4.0	6.0
Q150–2.5 with 3 slots	YY	18,316	11,814	8,723	6,801	2,923	1,157	14,183	9,476	7,115	5,593	2,296	908
	ZZ	26,009	15,960	11,538	8,915	4,515	2,423	20,289	12,890	9,456	7,354	3,752	1,903

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.48$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

MPT-Consoles Q50

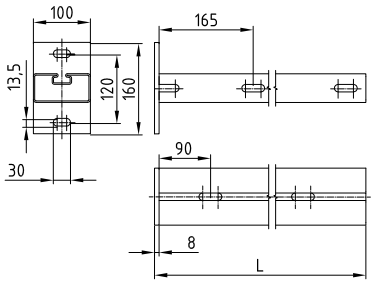
hot-dip galvanised

Field of application

- Consoles for accommodation of pipelines and aggregates in industrial construction, plant building construction and heavy-duty building technology for attachment on floor, wall and ceiling

Advantages

- Baseplate for direct or indirect connection to the structure
- Quick fixing due to continuous mounting slot
- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors
- Clean-cut appearance by the use of MPT-protection caps





Size	Length L [mm]	**Part no.**	Sales unit	Pack unit	weight [kg/piece]
Q50–2.5	500	**147941**	1	pieces	4.50
	750	**147942**			6.25
	1,000	**147943**			7.95

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]
Q50–2.5	160 x 100 x 8	S235	158	S235	158

Load bearing capacities of brackets for bending around the y-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]	F, L/2, L	F, L	F F, L/3 L/3, L	F F F, L/4 L/4 L/4, L	
			Max. allowable load [N]				
Q50–2.5	559,674	500	2,204	1,102	1,102	735	
		750	1,441	721	721	480	
		1,000	1,051	526	526	350	

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient γ = 1.48 takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L_{/150}$ are not exceeded, taking the deadweight into consideration.

The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

02/19

MPT-Consoles Q80

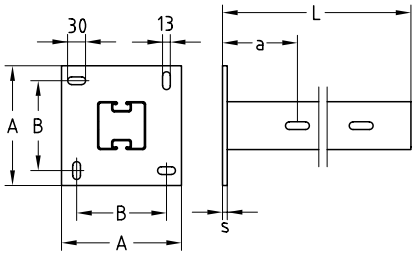
hot-dip galvanised

Field of application

- Consoles for accommodation of pipelines and aggregates in industrial construction, plant building construction and heavy-duty building technology for attachment on floor, wall and ceiling

Advantages

- Stable, perforated baseplate for direct or indirect connection to the structure
- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors
- Quick fastening of add-on parts via the dual-side fastening groove
- Can also be implemented universally as support from the floor or as a shaft from the ceiling
- Clean-cut appearance by the use of MPT-protection caps





Size	Length L [mm]	Thickness s [mm]	Part no.	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm] A	B	a
Q80–2.0	500	10	**167930**	1	pieces	6.028	200	150	165
	750		**167931**			7.712			
	1,000		**167932**			9.380			

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]
Q80–2.0	200 x 200 x 10	S235	152	S235	152

Load bearing capacities of brackets for bending around the y- and z-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]	F L/2 L	F L	F F L/3 L/3 L	F F F L/4 L/4 L/4 L	Max. allowable load [N]		
Q80–2.0	1,751,380	500	7,005	3,502	3,502	2,335			
		750	4,670	2,335	2,335	1,556			
		1,000	3,502	1,751	1,751	1,167			

The determined loads apply for static loads. Calculation based on Eurocode (EC3).
The safety coefficient γ = 1.54 takes into account the partial and combination coefficients as well as the safety factor of the material.
For the given values, the permissible steel stress and the maximum permissible deflection $L_{/150}$ are not exceeded, taking the deadweight into consideration.
The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

02/19

MPT-Consoles Q100

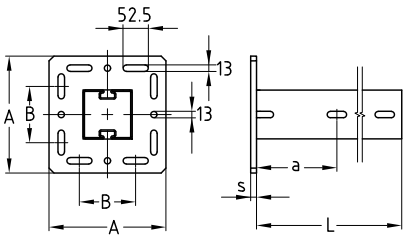
hot-dip galvanised

Field of application

- Consoles for accommodation of pipelines and aggregates in industrial construction, plant building construction and heavy-duty building technology for attachment on floor, wall and ceiling

Advantages

- Stable, perforated baseplate for direct or indirect connection to the structure
- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors
- Quick fastening of add-on parts via the dual-side fastening groove
- Can also be implemented universally as support from the floor or as a shaft from the ceiling
- Clean-cut appearance by the use of MPT-protection caps







Size	Length L [mm]	Thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]		
							A	B	a
Q100–2.5	500	12	**135617**	1	pieces	9.620	240	115.5	165
	750		**135619**			11.480			
	1,000		**135620**			13.960			
	1,500		**135621**			18.960			
	2,000		**135622**			23.960			
	3,000		**135623**			33.960			

02/19

MPT-Consoles Q100

hot-dip galvanised

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]
Q100–2.5	240 x 240 x 12	S235	158	S235	158

Load bearing capacities of brackets for bending around the y- and z-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]	F, L/2, L	F, L	F, F, L/3, L/3, L	F, F, F, L/4, L/4, L/4, L
			Max. allowable load [N]			
Q100–2.5	3,994,128	500	15,976	7,988	7,988	5,325
		750	10,651	5,325	5,325	3,550
		1,000	7,988	3,994	3,994	2,662
		1,500	5,325	2,662	2,662	1,775
		2,000	3,994	1,870	1,997	1,331
		3,000	2,410	750	1,130	730

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient γ = 1.48 takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L_{/150}$ are not exceeded, taking the deadweight into consideration.

The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

02/19

MPT-Brackets

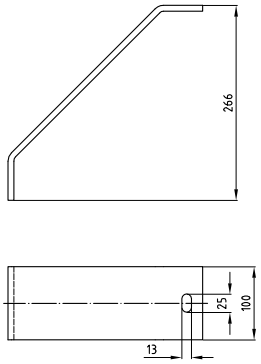
hot-dip galvanised

Field of application

- Hot-dip galvanised brackets for support and bracing of 90° corner connections of MPT support structures

Advantages

- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors
- Fast bracing of corner connections by using two fastening points only
- Easy and safe to install; oblong holes easily compensate for any installation tolerances that may occur







For profile	Thickness s [mm]	Part no.	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]		
						B	L	b
Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	8	**131835**	1	pieces	2.820	100	350	25
Q80–2.0		**167324**			1.736	80	300	30

The combination of MPT-Brackets and the profile Q150–2.5 is limited.

02/19

MPT-Cross channel connectors

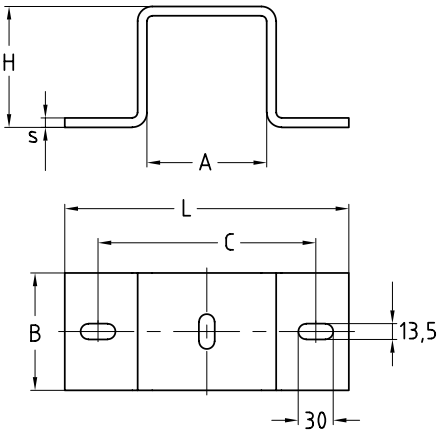
hot-dip galvanised

Field of application

- For cross connections made of MPT-Support profiles Q50, Q80 and Q100

Advantages

- Quick and safe installation via oblong holes in combination with MPT-Hammer head fasteners
- Standardised hot-dip galvanising for outdoor and indoor implementation







For profile	Thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]				
						A	H	L	C	B
Q50–2.5	8	**147940**	1	pieces	1.960	106	56	246	189	100
Q80–2.0		**167936**			1.630	82	86	212	150	80
Q100–2.5, Q100–3.5		**138640**			2.602	106	106	246	189	100

02/19

MPT-Mounting angles 90°

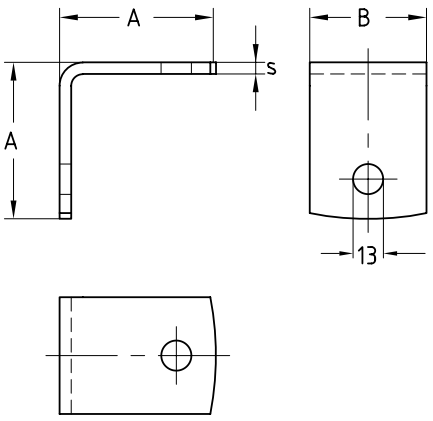
hot-dip galvanised

Field of application

- Approved mounting angles in versions 90° and 90° light-duty model respectively, for corner and angle connections as well as for bracing in combination with MPT-Support profiles Q50, Q80, Q100 and Q150

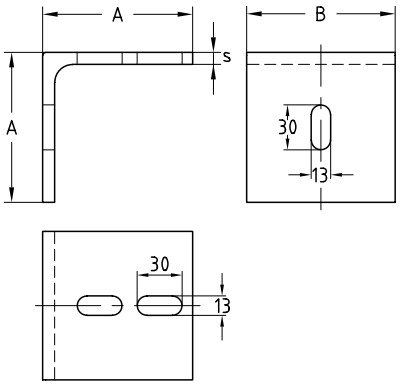
Advantages

- Stable and good value connecting element for connecting MPT-Support profiles
- High-quality hot-dip galvanising for universal implementation outdoors and indoors



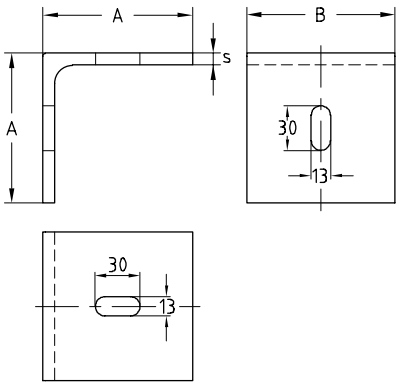


90°, light version, for profile Q50





90°, for profiles Q50, Q100, Q150





90°, for profile Q80

Design	For profile	Thickness s [mm]	Part no.	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]	
							A	B
90°, light version	Q50–2.5	6	**141460**	1	pieces	0.239	67	50
90°	Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	8	**131605**			1..130	100	100
	Q80–2.0		**167322**			0.780	80	80

02/19

MPT-Mounting angles 45°

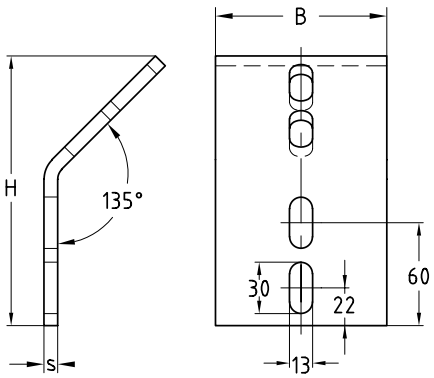
hot-dip galvanised

Field of application

- Proven mounting angles for corner and angle connections as well as for bracing in combination with MPT-Support profiles Q50, Q80, Q100 and Q150
- Additional connection options due to fourfold perforation

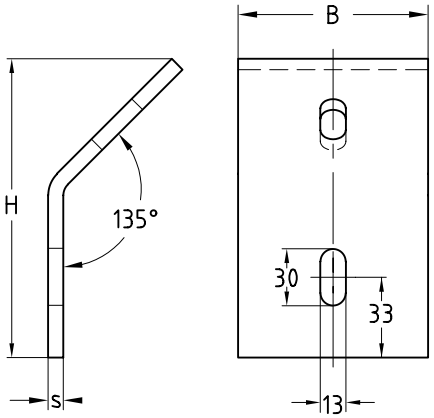
Advantages

- Stable and good value connecting element for connecting MPT-Support profiles
- Occuring tolerances are compensated due to oblong holes in the mounting angle
- High-quality hot-dip galvanising for universal implementation outdoors and indoors





4-hole, for profiles Q50, Q100, Q150





2-hole, for profile Q80

Design	For profile	Thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]	
							B	H
4-Angle bars	Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	8	**151334**	1	pieces	1.066	100	157.2
2-Angle bars	Q80–2.0		**167933**			0.830	80	140.0

02/19

MPT-VARIO joints

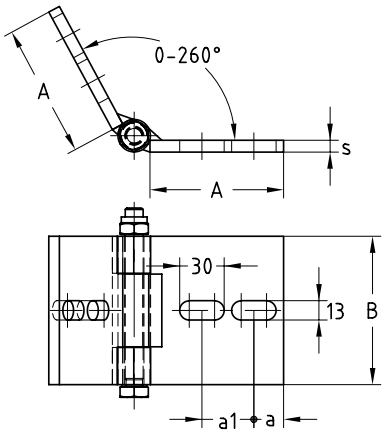
galvanised

Field of application

- Reinforced joint angles for corner and angle connections as well as for bracing in combination with MPT-Support profiles Q50, Q80, Q100 and Q150
- Additional connection options due to fourfold perforation

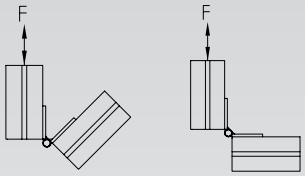
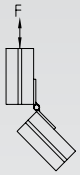
Advantages

- Flexible connecting element for connecting MPT-Support profiles with any connection angles
- Any tolerances that may occur can be compensated due to oblong holes in mounting angles





Features

Design	Max. recommended load [N]
	5,000
	7,500
	10,000

For profile	Thickness s [mm]	Part no.	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]			
						A	B	a	a1
Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	8	**166944**	1	pieces	1.390	90	100	20	35
Q80–2.0		**167939**			1.095		80	22	38

02/19

MPT-Cantilever bracket

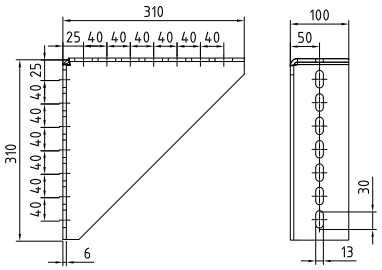
hot-dip galvanised

Field of application

- For attachment on ceiling, wall and floor
- Strong cantilever bracket for accommodation of pipelines and aggregates in industrial construction, plant building construction and heavy-duty building technology

Advantages

- Great variety of mounting possibilities when used with MPT-Support profiles
- High-level corrosion protection due to standardised hot-dip galvanising ensures flexible implementation indoors and outdoors





For profile	Size [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	310 x 310 x 100	**143401**	1	pieces	5.030

02/19

MPT-Hammer head bolts

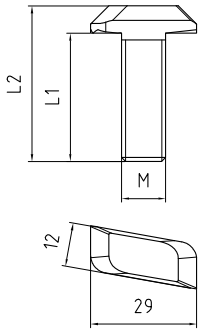
zinc lamella coating, silver

Field of application

- Hammer head bolts with washer and hexagonal nut for safe fastening of add-on parts in the channel slot of the MPT-Support profiles and consoles

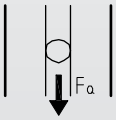
Advantages

- No danger of confusing parts; can be implemented universally for MPT-Profiles Q50, Q80, Q100 and Q150
- Strength class 8.8 for safe transmission of high forces
- Riffled support on the hammer head for safe transmission of the holding force in the fastening groove





Max. load capacities:

For profile	Size	Max. recommended tensile load Fz [N] 	Max. recommended transverse load F_Q [1] [N] 	At tightening torque T_{inst} [2] [Nm]
Q50–2.5	M10 x 25	5,000	6,000	40
	M12 x 35	7,000	9,500	65
	M12 x 60			
	M12 x 80			
	M12 x 100			
Q80–2.0	M10 x 25	10,000	6,000	40
	M12 x 35	12,000	9,500	65
	M12 x 60			
Q100–2.5	M10 x 25	6,000	6,000	40
	M12 x 35	8,000	9,500	65
	M12 x 60			
Q100–3.5	M10 x 25	10,000	6,000	40
	M12 x 35	12,000	9,500	65
	M12 x 60			
Q150–2.5	M10 x 25	6,000	6,000	40
	M12 x 35	8,000	9,500	65
	M12 x 60			

Size	Length L1 [mm]	Length L2 [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
M10 x 25	25	32.5	**139167**	50	pieces	0.058
M12 x 35	35	42.5	**139168**			0.074
M12 x 60	60	67.5	**139169**			0.111
M12 x 80 [3]	80	88.5	**151341**	1		0.110
M12 x 100 [3]	100	108.5	**151342**			0.123

[1] Hole tolerance of the bold has been adjusted.
[2] Values apply for threads being dry and free of dust, oil and grease.
The MPT-Hammer head bolts are covered with a new type of zinc lamella coating, which has a lower friction coefficient than conventional galvanic coatings. This increases the ease of installation as the required preload force is reached at a much lower tightening torque.
[3] Size M12 x 80 and M12 x 100 available on request.

02/19

MPT-Hexagon head bolt

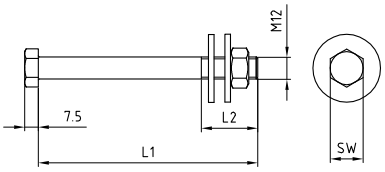
with washers and nuts, hot-dip galvanised

Field of application

- Hexagon head bolt with washers for form-locking connection of MPT system components

Advantages

- For fast and efficient installation at the construction site due to enclosed flat washers and nuts





For profile	Size	Length L1 [mm]	Length L2 [mm]	Spanner width [SW]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	M12 x 130	130	36	19	**160781**	25	pieces	0.179

02/19

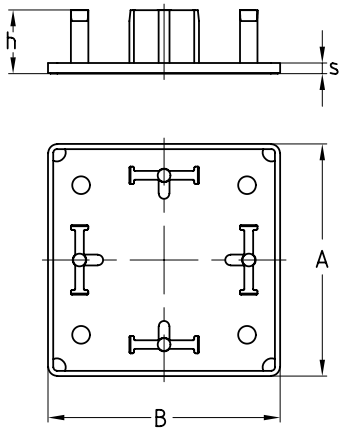
MPT-Protection caps

Field of application

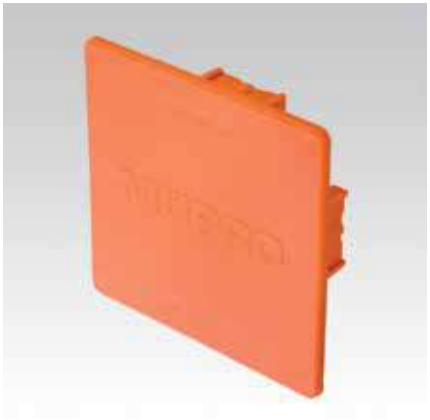
- Plastic protection caps with MÜPRO logo for mounting on open ends of the MPT-Support profiles Q50, Q80, Q100 and Q150

Advantages

- Clean end of the MPT-Support profiles protects from injury
- Weather-resistant plastic material for long service life



schematic sketch
(original may vary)



For profile	Part no.	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]			
					A	B	h	s
Q50	**157359**	25	pieces	0.020	50	100	27.5	4.6
Q80	**167940**			0.024	80	80	17.5	3.0
Q100	**157360**			0.034	100	100	27.5	4.6
Q150	**168242**			0.061	150			

02/19

MPT-Connection plates

hot-dip galvanised

Field of application

- Hot-dip galvanised plates for connection of MPT-Support profiles

Advantages

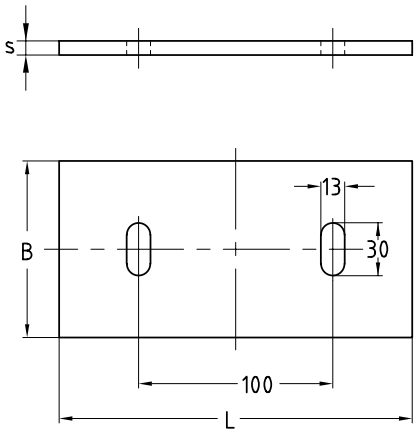
- Fast connection via oblong holes combined with MPT-Hammer head bolts
- High-quality hot-dip galvanising for universal implementation outdoors and indoors



For profiles Q50, Q100, Q150



For profiles Q50, Q80, Q100, Q150





For profile	Length L [mm]	Width B [mm]	Thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	200	100	8	**148007**	1	pieces	1.320
	320			**151337**			2.020
Q80–2.0	160	80		**167321**			0.779

02/19

MPT-Angle- and T-connection plates

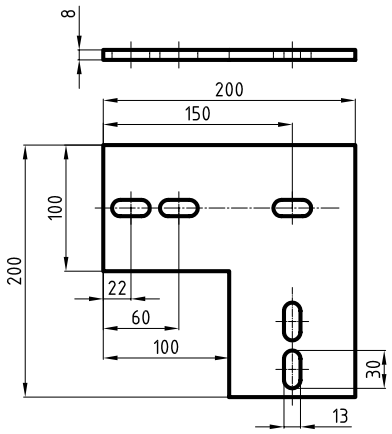
hot-dip galvanised

Field of application

- Hot-dip galvanised angle- and T-connection plates for connection of MPT-Support profiles

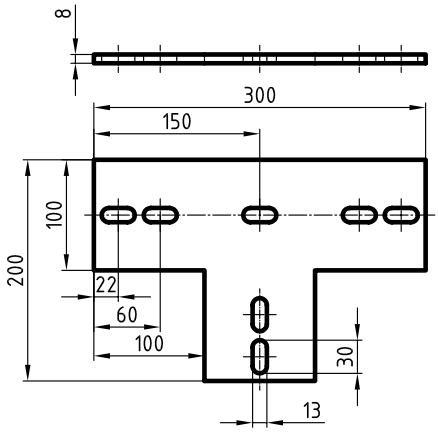
Advantages

- Fast connection via oblong holes combined with MPT-Hammer head bolts
- High-quality hot-dip galvanising for universal implementation outdoors and indoors





Angle plate





T-connection plate

	For profile	Length L [mm]	Width B [mm]	Thickness s [mm]	Part no.	Sales unit	Pack unit	Weight [kg/piece]
Angle plate	Q100–2.5, Q100–3.5, Q150–2.5	200	200	8	**151338**	1	pieces	1.750
T-Plate		300			**151340**			2.330

02/19

MPT-Cross plate

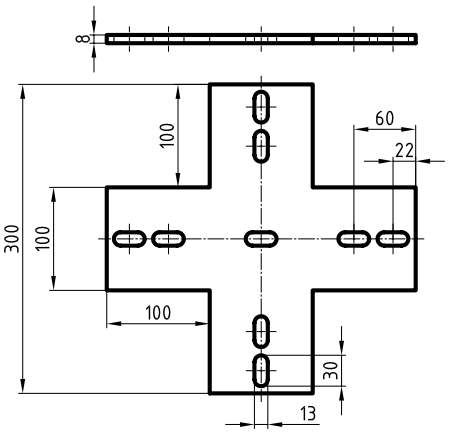
hot-dip galvanised

Field of application

- Hot-dip galvanised cross plate for connection of MPT-Support profiles

Advantages

- Fast connection via oblong holes combined with MPT-Hammer head bolts
- High-quality hot-dip galvanising for universal implementation outdoors and indoors





For profile	Length L [mm]	Width B [mm]	Thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q100–2.5, Q100–3.5	300	300	8	**151339**	1	pieces	2.900

02/19

MPT-Retaining plate

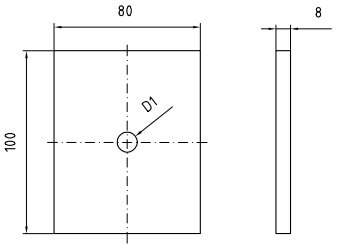
hot-dip galvanised

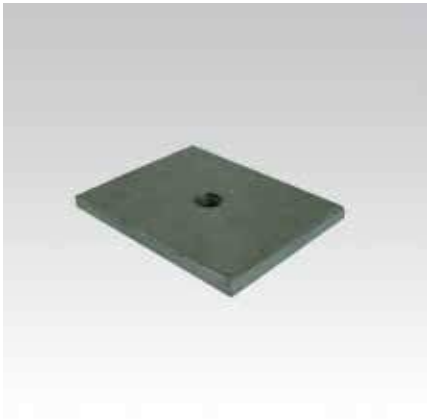
Field of application

- Stable hot-dip galvanised plate for transmission of high forces onto MPT-Support profiles when installing attachment parts

Advantages

- High-level corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors
- Broad support surface offers particularly safe transmission of force





For profile	D1 [mm]	For thread	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q50–2.5, Q80–2.0, Q100–2.5, Q100–3.5, Q150–2.5	13	M12	**135605**	1	pieces	0.500

MPT-Support profile connectors

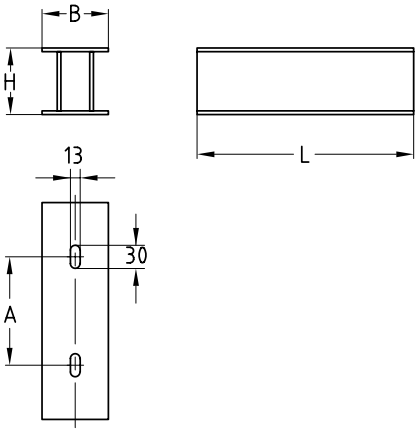
hot-dip galvanised

Field of application

- Axial connection of MPT-Support profiles

Advantages

- Safe and form-locking connection of MPT-Support profiles by inserting the support profile connection into the ends of the support profiles to be connected



schematic sketch
(original may vary)



For profile	Length L [mm]	Part no.	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]		
						A	B	H
Q80–2.0	550	**167938**	1	pieces	3.239	150	73	73
Q100–2.5		**165094**			7.750		92	92
Q100–3.5	600	**165095**			8.070		90	91
Q100–2.5 with 3 slots	550	**166992**			6.950		92	92
Q150–2.5 with 3 slots		**167077**			9.250			140

02/19

MPT-Saddle supports

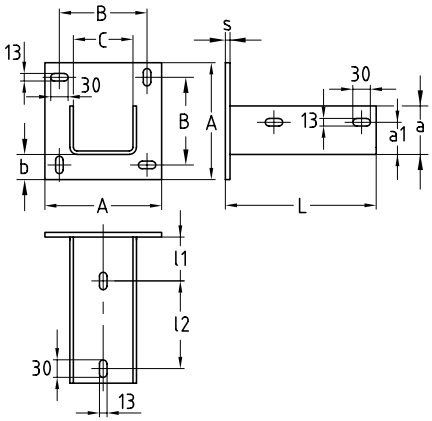
hot-dip galvanised

Field of application

- Stable saddle supports in three sizes for accommodating MPT-Support profiles Q50, Q80, Q100 or Q150 for wall, floor, and ceiling connection

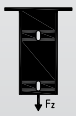
Advantages

- For fast and efficient mounting of cross-beams of MPT-Support profiles
- Stable baseplate for safe fastening on the structural element
- Standardised hot-dip galvanising for flexible implementation outdoors and indoors
- Fully welded version of the grooved support saddle ensures high dimensional stability of the flange





Max. load capacities:

For profile	Max. recommended tensile load Fz [N] 	At tightening torque T_{inst} [Nm]
Q50–2.5	12,500	65
Q80–2.0		
Q100–2.5, Q100–3.5, Q150–2.5	15,000	

For profile	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]									
					A	B	C	s	b	L	a1	a	l1	l2
Q50–2.5	**131837**	1	pieces	4.850	200	150	102	8	72	258	37	57	75	150
Q80–2.0	**167934**			4.478	180	130	82		43		47	73		
Q100–2.5, Q100–3.5, Q150–2.5	**131635**			5.550	200	150	102				54	83		

02/19

MPT-Saddle supports for installation of support profiles

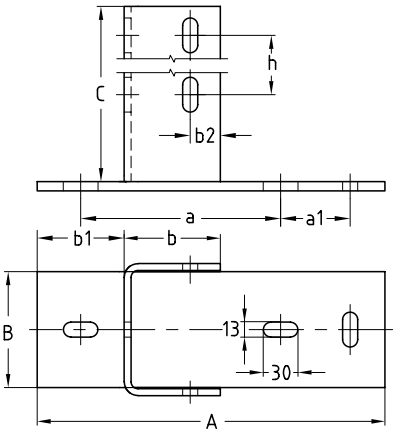
hot-dip galvanised

Field of application

- Stable saddle supports for the connection of MPT-Support profiles in case of 90°-corner connections

Advantages

- For fast and efficient mounting of cross-beams of MPT-Support profiles
- Standardised hot-dip galvanising for flexible implementation outdoors and indoors





For profile	Part no.	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]								
					A	B	C	b	b1	b2	a	a1	h
Q50–2.5	**151335**	1	pieces	4.262	300	100	250	57	75	20	172.5	60	150
Q80–2.0	**167935**			3.916	280	80		73		26	152.5		
Q100–2.5, Q100–3.5, Q150–2.5	**151336**			4.964	300	100		83			172.5		

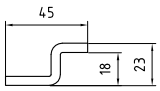
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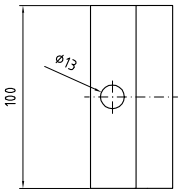
MPT-Guide

hot-dip galvanised

Field of application

- Stable hot-dip galvanised and perforated guide plate for fastening heavy pipe slides on the MPT-Support profiles





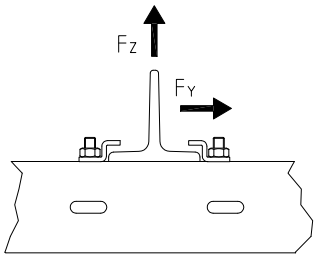


Advantages

- High corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors
- The broad support surface offers particularly safe transmission of the clamping forces
- Safe fastening of pipe slides on the MPT-Support profiles

Max. load capacities:

For profile	Max. recommended load Fz [N]	Max. recommended load Fy [N]
Q50–2.5, Q80–2.0, Q100–2.5, Q100–3.5, Q150–2.5	2,500	2,500



For profile	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q50–2.5, Q80–2.0, Q100–2.5, Q100–3.5, Q150–2.5	**135607**	1	pieces	0.250

For fixing a pipe slide two pieces guide angles must be ordered.

02/19

MPT-Steel beam adaptor plates

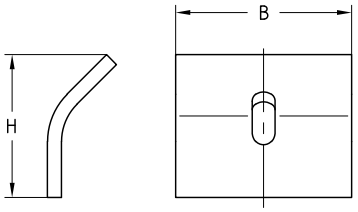
hot-dip galvanised

Field of application

- Stable hot-dip galvanised plates for connecting MPT-Support profiles with structural steel constructions

Advantages

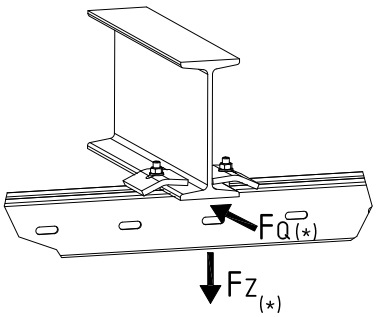
- High-level corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors
- Broad support surface offers particularly safe transmission of force
- Suitable for girder flange thicknesses up to 24 mm





Max. load capacities:

For profile	Size of hammer head bolt	Max. recommended tensile load F_Z [N]	Max. recommended transverse load F_Q [N]	At tightening torque T_{inst} [Nm]
Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	M12 x 60	5,000	1,500	65
Q80–2.0				



(*) Max. load capacities F_Z and F_Q apply for attachments with 2 MPT-Steel beam adaptor plates

For profile	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm]	
					B	H
Q50–2.5, Q100–2.5, Q100–3.5, Q150–2.5	**131607**	1	pieces	0.660	100	81.2
Q80–2.0	**169017**			0.530	80	

02/19

MPT-Girder cleats

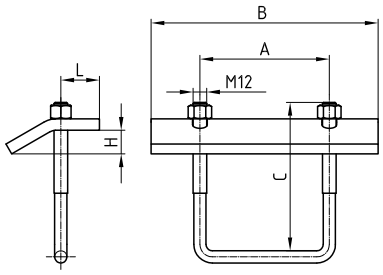
hot-dip galvanised

Field of application

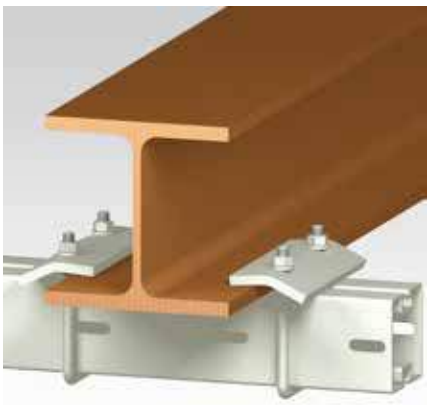
- Attachment of MPT-Support channels to steel girders without drilling or welding

Advantages

- Suitable for steel beams with flange thicknesses up to 25 mm
- Easy to install, pre-assembled kit
- High-level corrosion protection due to standardised hot-dip galvanising ensures flexible implementation outdoors and indoors

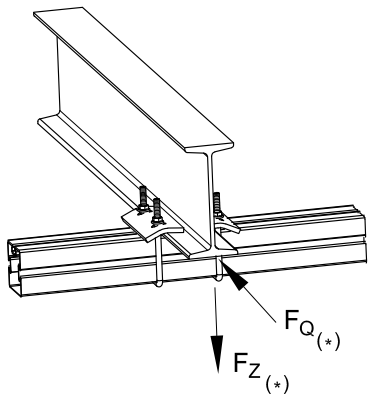






Features

For profiles	Max. permitted loading/pair tension Fz [N]	Max. permitted loading/pair lateral to MPT-Support profile FQ [N]	At tightening torque T_{inst} [Nm]
Q50–2.5	12,000	4,500	33
Q80–2.0			
Q100–2.5, Q100–3.5			



(*) Max. load capacities Fz and FQ apply for attachments with 2 MPT-Girder cleats

For profile	Thread	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]	Dimensions [mm] A	B	C	H	L
Q50–2.5	M12	**151343**	1	pieces	1.634	114	200	130	17.4	28.6
Q80–2.0		**167937**			1.349	94	160	150		34.8
Q100–2.5, Q100–3.5		**151344**			1.714	114	200	180		28.6

02/19

MPT-Base plate

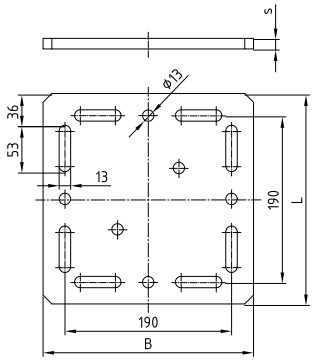
untreated

Field of application

- Stable base and connection plate for welding onto MPT-Support profiles for producing individual consoles and component connections

Advantages

- Raw version without surface treatment for optimal results when welded
- Perforation that matches the MPT-Support system ensures system compatibility
- Cost-effective manufacturing of consoles with individual projection lengths





For profile	Length L [mm]	Width B [mm]	Thickness s [mm]	**Part no.**	Sales unit	Pack unit	Weight [kg/piece]
Q50–2.5, Q80–2.0, Q100–2.5, Q100–3.5, Q150–2.5	240	240	12	**131840**	1	pieces	4.950

02/19



Ventilation

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

 Duct clamps 9/1–9/4

 Mounting bases for flat roof installation 9/5

 Adapter for mounting base for flat roof installation 9/6

 Duct fixing bracket 9/7–9/8

 Duct fixing angles 9/9

 Duct joint clamps 9/10

 Self-drilling screws 9/11

 Blind rivets 9/11

 Glazing tapes 9/12

 Foam rubbers 9/12

 Sealing tape 9/13

 Cold shrink tape 9/13

 Sealing compound for air ducts 9/14

MÜPRO

Duct clamps

with DÄMMGULAST® orange, galvanised

Field of application

- For attachment of spiral-seam pipes

Advantages

- Manufactured to suit spiral-seam dimensions
- Practical latchening fastener: simple and secure insertion and fastening of the pipe due to quick fastener for nominal pipe size of up to 450 mm, M8 hexagon screws for pipe sizes from 450 mm and upwards
- Easy installation due to the wide opening angle of the clamp
- Added rigidity due to the grooved design of the duct clamp
- Easy clicking-in of the fastening bolt with the tip of a finger
- High level of safety due to the hinge-like opening
- No inadvertent opening once it has clicked in
- The easy click-in fastener allows opening and closing of the pipe clamp with only one hand
- DÄMMGULAST® Vibration control lining with orange indentification stripe: average vibration reduction of 18 db(A)
- Manufactured to suite connecting thread M8/M10
- This product is awarded with the “Gütezeichen Rohrbefestigung” (quality mark of pipe support) and is submitted to controls according to RAL-GZ 655-B



Pipe nominal size [mm]	Connecting thread	Part no.	Sales unit	Pack unit
80	M8/M10	**143247**	100	pieces
90		**143248**		
100		**143249**		
112		**143250**		
125		**143251**		
140		**143252**	50	
150		**143253**		
160		**143254**		
180		**143255**	25	
200		**143256**		
224		**143257**		
250		**143258**		
280		**143259**		
300		**143260**		
315		**143261**		
355		**143262**		
400		**143263**	1	
450		**143264**		
500		**143265**		
560		**143266**		
600		**143267**		
630		**143268**		
710		**143269**		
800		**143270**		

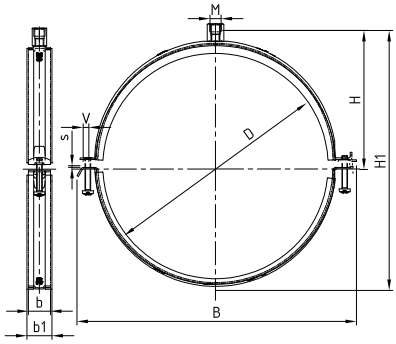
Duct clamps can be produced in all other pipe sizes and types according to customer specifications.

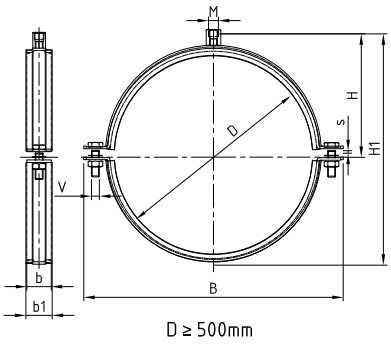
02/19

Duct clamps

with DÄMMGULAST® orange, galvanised

Features	
Nominal pipe diameter [mm]	Max. recommended load [N]
80–200	700
224–450	1,000
500–800	1,200





D ≥ 500mm

Pipe nominal size [mm]	Dimensions [mm]					
	V	b x s	B	b1	H	H1
80	M5	20 x 1.5	124	23	65	114
90			137		70	124
100			149		76	135
112			157		82	147
125			170		88	160
140			185		96	175
150			195		101	185
160			205		106	195
180			225		116	215
200			245		126	235
224	M6	25 x 1.5	286	28	138	259
250			312		151	285
280			342		166	315
300			363		177	336
315			378		184	351
355			418		204	391
400		25 x 2.0	462		227	436
450			513		253	487
500	M8		567		278	538
560		25 x 2.5	627		308	598
600			667		328	638
630			697		343	668
710			777		383	748
800			867		428	838

02/19

MÜPRO

Duct clamps

without lining, galvanised

Field of application

- For attachment of spiral-seam pipes

Advantages

- Two-part single bossed clamp with welded-on M8 connecting nut or M8/M10 combination nut (for pipes of 224 mm dia. and more)
- Manufactured to suit spiral-seam dimensions
- The 2 locking screws allow adjustment to accommodate a greater variation in pipe diameter
- Locking screws with combi-cross slit head and captive washer convenient for screwdrivers and nominal pipe size of up to 400 mm; M10 Hexagon screws for pipe sizes from 450 mm and upwards



Pipe nominal size [mm]	Connecting thread	Part no.	Sales unit	Pack unit
80	M8/M10	**147092**	50	pieces
90		**147093**		
100		**147094**		
112		**147095**		
125		**147096**		
140		**147097**		
150		**147098**		
160		**147099**		
180		**147100**		
200		**147101**		
224		**115657**		
250		**115663**		
280		**115669**		
300		**115672**		
315		**115678**		
355		**115681**		
400		**115687**		
450		**115690**	1	
500		**115693**		
560		**115696**		
600		**115699**		
630		**115704**		
710		**115710**		
800		**115716**		

Duct clamps can be produced in all other pipe sizes and types according to customer specifications.

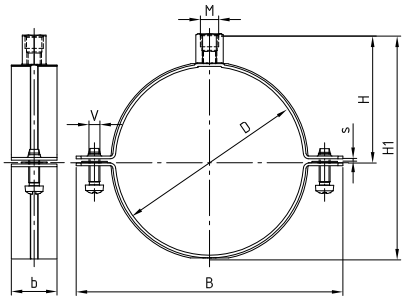
For stainless steel version (without lining or with DÄMMGULAST® Junior lining) please refer to chapter "Stainless steel".

02/19

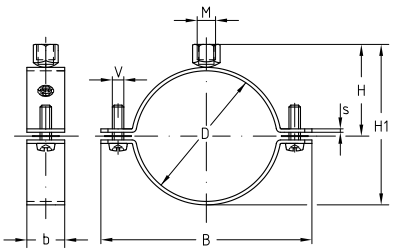
Duct clamps

without lining, galvanised

Features	
Max. recommended load [N]	500



Pipe nominal size 80 to 200 mm



Pipe nominal size 224 to 800 mm

Pipe nominal size [mm]	Dimensions [mm]				
	V	b x s	B	H	H1
80	M6	25 x 1.5	125	59	102
90			135	64	112
100			146	70	123
112			158	76	135
125			171	82	148
140			186	90	163
150			196	95	173
160			206	100	183
180			226	110	203
200			246	120	223
224		25 x 2.5	272	131	247
250			298	144	273
280			328	159	303
300			349	170	324
315			364	177	339
355			404	197	379
400			449	220	424
450	M10		515	245	474
500			565	270	524
560			625	300	584
600			665	320	624
630		25 x 3.0	696	335	655
710			776	375	735
800			866	420	825

02/19

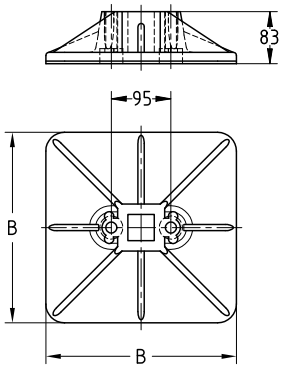
Mounting bases for flat roof installation

Field of application

- Installation of pipes, ventilation ducts, cable trays on flat roofs without roof penetration

Advantages

- Fast and easy installation on site for mounting pipes, cable ducts, cable trays etc.
- High level of flexibility in installation
- Load handling without penetrating the roof membrane
- Good weight distribution and low deadweight
- Retroactive roof repair is simple



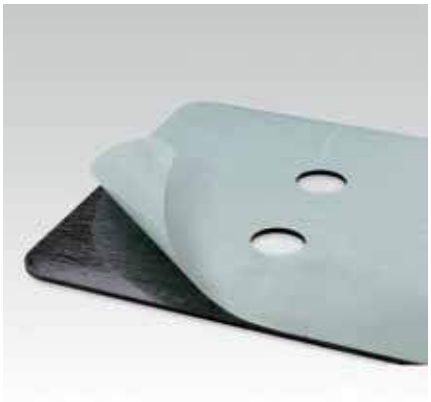


Mounting base

Features

Material	Recycled polypropylene pellets with additives, elastomer
Temperature range	–20 °C to +70 °C
Max. recommended load [N]	10,000 N

Kit consists of:
1 Mounting base for flat roof installation
1 Anti–slip mat (must be attached on the base according to the mounting instruction)





Anti-slip mat

Dimensions B [mm]	Part no.	Sales unit	Pack unit	Weight [kg/piece]
304	**165350**	1	pieces	2.150
456	**165353**			4.300

All effects on the load-bearing building structure and the roof insulation must be checked on site.
The exact chemical composition of the roof membrane determines its susceptibility to polymer migration. Accordingly, the manufacturer of the roof membrane must provide information on its susceptibility to polymer migration and make specific recommendations.

Adapter for mounting base for flat roof installation

Field of application

- Adapter for mounting base for flat roof installation

Advantages

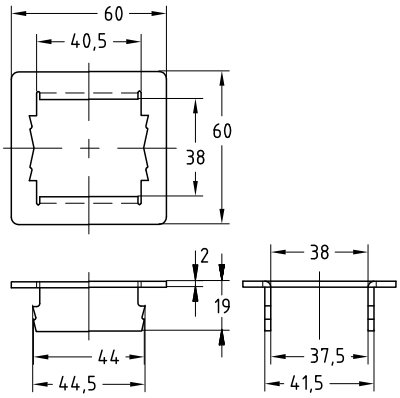
- The MPC- and MPR-Support channels are inserted into the plastic feet using an adapter
- Secure anchoring of the support channel in the mounting base

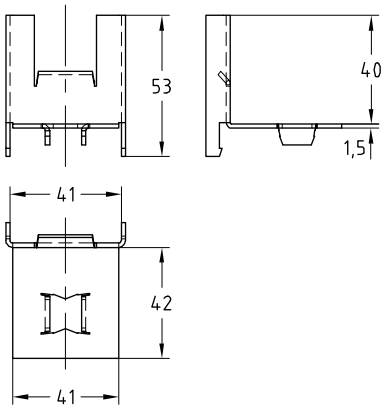


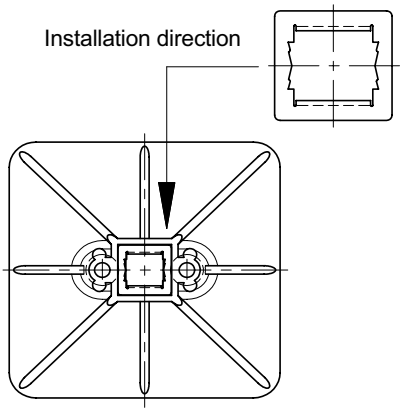
Mounting base adapter 38/40

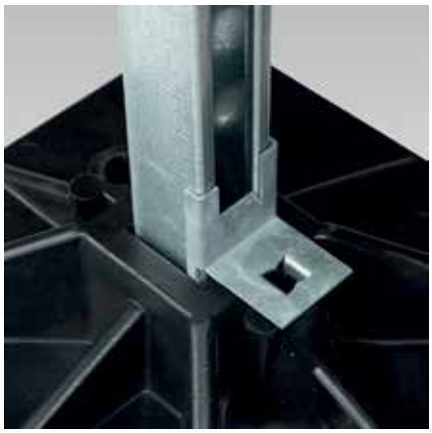


Mounting base adapter 41/41









For support channels	Part no.	Sales unit	Pack unit
38/40	**156892**	1	pieces
41/41	**159755**		

All effects on the load-bearing building structure and the roof insulation must be checked on site.

02/19

Duct fixing bracket

with insulator, galvanised

Field of application

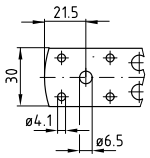
- For vibration-isolated suspension of round and rectangular air ducts
- Versatile application options, e.g. on trapezoidal corrugated metal sheeting for the suspension of MPC-Support channels

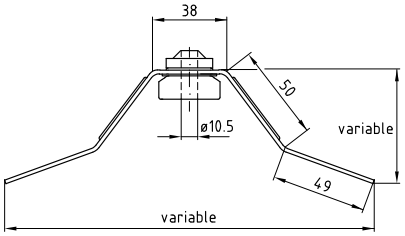




Advantages

- DÄMMGULAST® Spring element integrated in the duct fixing bracket
- Average vibration reduction of 16 dB(A)
- Ideal adaptation to all duct diameters and cross-sections due to pre-determined bending points
- Simple attachment to the air duct with rivets or self-drilling screws
- Suspension of the duct fixing bracket from threaded rods or direct attachment to the structure





Features

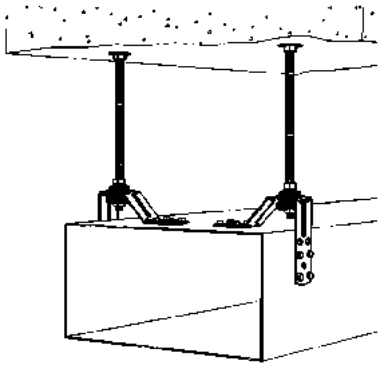
Max. recommended load [N]	230

Part no.	Sales unit	Pack unit
116516	100	pieces

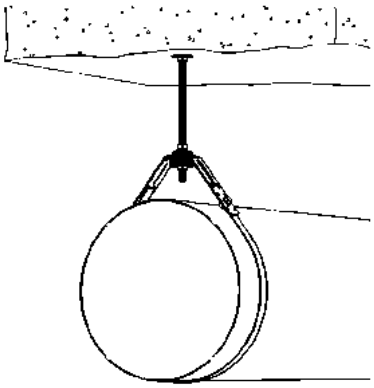
02/19

Duct fixing bracket

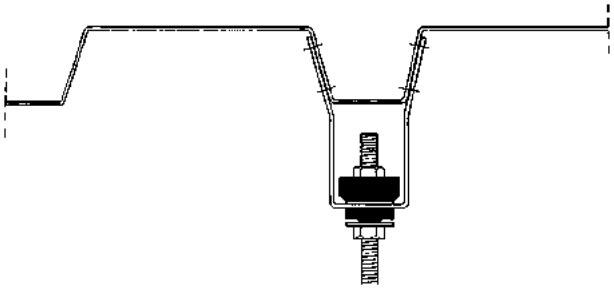
with insulator, galvanised



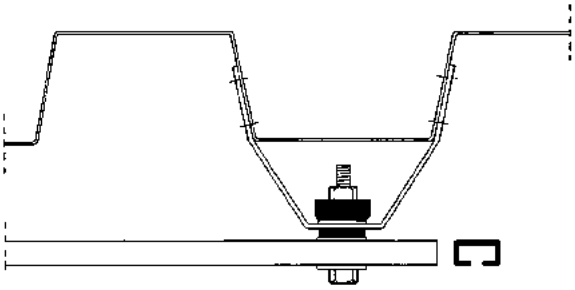
Rectangular duct attached to the ceiling with duct fixing brackets, threaded rods and steel anchors



Air duct suspended from the ceiling with duct fixing bracket, steel tape or punched tape



Direct attachment to trapezoidal corrugated steel sheet with a duct fixing bracket



Vibration damped attachment of a MPC-Support channel to a wide trapezoidal corrugated sheet with a duct fixing bracket

The highly-elastic DÄMMGULAST® Spring element is essential for efficient prevention of structure-borne vibration. The installation is carried out with threaded rods. This prevents vibration coupling between air pipe or air duct and the structure. The duct fixing bracket is attached to the air pipe or duct section with rivets or selfdrilling screws.

02/19

MÜPRO

Duct fixing angles

with insulator, galvanised

Field of application

- Easy to install suspension for air ducts

Advantages

- Incorporated highly-elastic vibration-isolating element
- Excellent alignment and height adjustment via the threaded rods
- Design as angle and twin-angle
- Various attachment options to air duct with rivets, self-drilling screws or bolts up to M8 in the oblong hole
- Direct attachment to building structure possible
- Average vibration reduction of 17 dB(A)



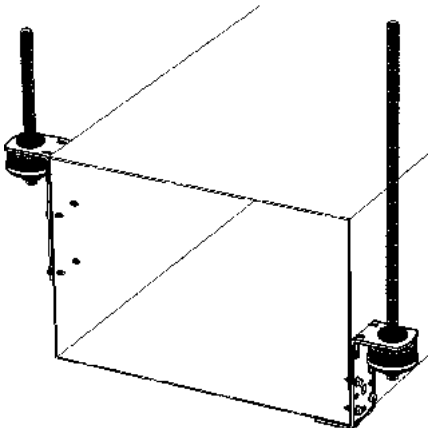
Duct fixing angles

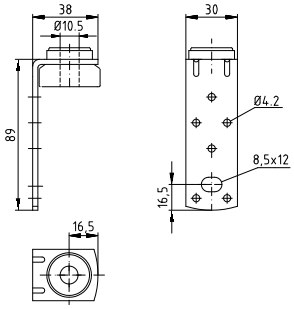


Duct fixing twin-angles

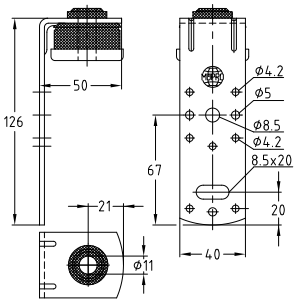
Features

Type	Max. recommended load [N]	Average vibration reduction [dB(A)]
I	230	16
II	800	17

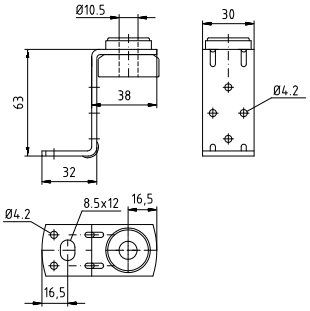




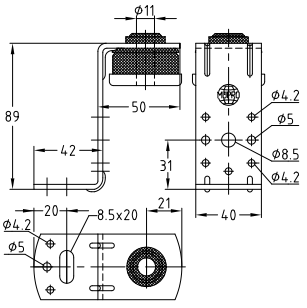
Duct fixing angles
Type I



Duct fixing angles
Type II



Duct fixing twin-angles
Type I



Duct fixing twin-angles
Type II

	Type	Part no.	Sales unit	Pack unit
Duct fixing angles with insulator, galvanised	I	**116579**	100	pieces
	II	**116635**	50	
Duct fixing twin-angles with insulator, galvanised	I	**116543**	100	
	II	**116546**	50	
Rubber washers, single	12 x 24 x 4 mm	**113092**	100	
	12 x 24 x 6 mm	**113094**		

Duct fixing angles and twin-angles are also available in other lengths.

02/19

Duct joint clamps

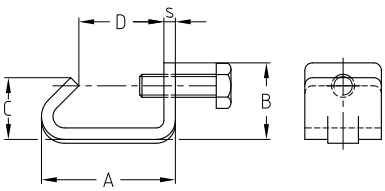
Field of application

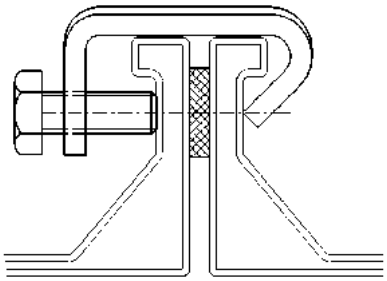
- Simple and quick flange connection for large cross-section ducts and high pressure conditions

Advantages

- No pre-clamping or drilling required
- Supplied with hexagon head bolt already inserted
- High load capacity due to reinforcing rib







Type	Hexagon head bolts	Part no.	Sales unit	Pack unit	Dimensions [mm]				
					A	B	C	D	s
galvanised	M8/20	**116570**	100	pieces	35	20	17	23	3.0 x 30
		116576			31	23		18	4.0 x 30
V2A		**116567**			33	18	14	23	3.0 x 30

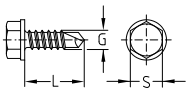
Normally recommended spacing 300–400 mm. For ducts with a side length of less than 800 mm, one clamp needs to be mounted in center of each side.

02/19

Self-drilling screws

DIN 7504, with hexagonal head, for the attachment of air pipes, ducts, spiral-seam pipes, without pre-drilling, galvanised

Length [mm]	Sheet thread [mm]	Screw head Ø [mm]	Spanner size S [mm]	Part no.	Sales unit	Pack unit
13	4.2	8.5	7	**106661**	500	pieces
16				**106663**		
19				**106665**		
22				**106666**		
13	4.8	10.0	8	**106668**		
16				**106670**		
19				**106671**		
38				**106672**		
32	5.5	10.5		**106673**		
16	6.3	12.7	10	**106674**		
25				**106675**		
32				**106676**		
45				**106677**		
13	4.2	9.0	7	**106662**	1	carton*
	4.8	10.0	8	**106669**		



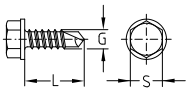


* 12 boxes of 500 pieces in a carton.

Self-drilling screws

with european technical approval, for attachment on trapezoid sheet according to approval ETA–10–0200, galvanised

Length [mm]	Sheet thread [mm]	Screw head Ø [mm]	Spanner size S [mm]	Part no.	Sales unit	Pack unit
16	4.2	9	7	**147874**	500	pieces
19	4.8	10	8	**147875**		





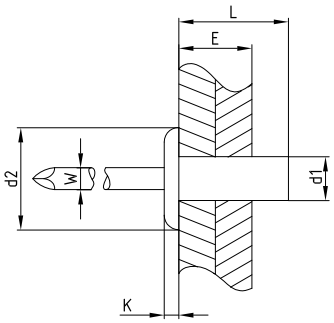
Blind rivets

Field of application

- For the attachment of duct fixing angles and brackets on air ducts and spiral-seam tubes respectively

Advantages

- Blind rivet with large surface in order to secure various materials
- No surface damaging after riveting
- No loosening by dynamic influences (vibration resistant)
- Good behaviour at temperature fluctuations
- High-quality, simple and quick mounting





Type	Material sleeve	Material mandrel	Part no.	Sales unit	Pack unit	Dimensions [mm]					
						D1	L	E	D2	K	W
flat round head	aluminium	steel	**140665**	500	pieces	3,2	9.5	3,5–5,0	6.2	1.0	1.65
			140927			4,0	11.0	5,0–6,5	7.9	1.2	2.20
			140928			4,8	14.5	8,0–9,5	9.3	1.5	2.65

02/19

Glazing tapes

for air ducts, self-adhesive and reinforced

Field of application

- Ideal for sealings in air duct installations

Advantages

- Closed-pore polyethylene tape
- Exceptionally good adhesion
- Self-adhesive on one side, protected with PE film
- Colour: black
- Free of plasticizer
- Tension-reinforced with fibre inserts



Width [mm]	Thickness [mm]	Length of roll [m]	Part no.	Sales unit	Pack unit
9	4	25	**127502**	10	roll
	6	10	**127506**		
12	4	20	**127493**	5	
15			**127499**		

In case of article 127502 no PE-film on the self-adhesive side.

Foam rubbers

self-adhesive

Field of application

- Applicable for sealings of air ducts and spiral-seam tubes respectively

Advantages

- Closed-pore natural rubber tape
- Resistant to temperatures from –40 °C to +80 °C
- One-sided self-adhesive, protected with PE-film
- Colour: black
- Resistant to dilute acids and alkalis, paraffin and spindle oil



Width [mm]	Thickness [mm]	Length of roll [m]	Part no.	Sales unit	Pack unit
10	5	10	**128567**	1	roll
15			**128569**		
24	3		**128571**		

02/19

MÜPRO

Sealing tape

Field of application

- For permanent sealing of ventilation lines and fresh air conduits

Advantages

- Tear-proof, supple, soft PVC adhesive tape
- Aging resistant, natural rubber adhesive with high glue strength and shear strength
- Colour: silver grey



Width [mm]	Thickness [mm]	Length of roll [m]	**Part no.**	Sales unit	Pack unit
50	0.14	25	**116513**	1	roll

Cold shrink tape

Field of application

- For permanent sealing of ventilation lines and fresh air conduits
- For wind-proof and steam-proof agglutinating of foils

Advantages

- Self-adhesive
- The carrier is a tear-resistant aluminium polyester composite coated with a cold sealing butyl rubber adhesive
- Reliably bonds and seals metal, plastic, masonry, concrete and wood
- Colour: silver grey



Width [mm]	Thickness [mm]	Length of roll [m]	**Part no.**	Sales unit	Pack unit
50	0.62	10	**112895**	1	roll

Sealing compound for air ducts

cartridge à 310 ml

Field of application

- Ideally suited for sealing of galvanised steel sheets, in the construction of ventilation ducts and plant engineering

Advantages

- Very good adhesion even on moist surfaces
- Simple and quick processing when used with common cartridge application guns
- Silicone-free
- Odourless and not corrosive as well as chemically neutral
- Remains permanently elastic and self-adhesive



Features

Basis	Polyacrylate
Density	1.53 g/ml
Consistence	Soft pasty
Temperature range	–30 °C to +80 °C
Working temperature	+5 °C to +50 °C
Open time (+23 °C / 50 % relative humidity)	approx. 15–20 min.

Colour	Filling cartridge [ml]	**Part no.**	Sales unit	Pack unit
grey	310	**141148**	1	pieces

For further products please refer to chapter "Sealing and protection materials".

02/19



Pipe connectors

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

 Pipe connector MONO 10/1

 VA4 pipe connector MONO 10/2

 Pipe connector DUPLO 10/3

 VA2 pipe connector DUPLO 10/4

 Securing clamps 10/5

 Reducing couplings 10/6

Pipe connectors MONO

Field of application

- For connecting cast iron (SML) pipes and fittings according to DIN 19522/EN 877

Advantages

- Simple visual check at the control slot* if required tightening torque has been reached
- No torque spanner necessary
- The optimum tightening torque can be achieved despite variations in pipe size (within the tolerance)
- The single-bolt pipe connector is easy to fit and easy to handle
- The tightening bolt with hexagonal socket head enables fast fitting to and removal from the pipe
- Tightening strap made of high quality chrome steel
- Uniform tightening due to the wide central fastening
- A double seam at the sealing collar guarantees a strong radial contact with the pipe and allows the quick pre-assembly of pipes and plain fittings
- The strong fastening has a large adjustment range and thus compensates variations in pipe diameter
- The generously dimensioned inlet sealing lip allows easy insertion of the pipe or fitting
- Sealing collar in high-quality, boiling water resistant elastomeric material
- Tested and approved by the Material Testing Institute of North Rhine-Westphalia, supervision contract Nr. 117430





Before tightening the pipe connector: control slot open



Visual check:
After tightening the pipe connector: control slot closed

Features

Type	Nominal SML pipe size [DN]	Pipe outside diameter [mm]	Fastener thread	Hexagonal socket spanner width [SW]	**Part no.**	Sales unit	Pack unit
One-piece	50	58	M8	6	**115244**	50	pieces
	70	78			**115253**		
	80	83			**115262**		
	100	110			**115223**		
	125	135			**115229**	25	
	150	160			**115235**	10	
	200**	210	M10	8	**144583**	5	

* The function of the MÜPRO control slot is a registered design.

** Pipe connector DN 200 without control slot.

02/19

V4A pipe connectors MONO

Field of application

- For connecting cast iron (SML) pipes and fittings according to DIN 19522/EN 877. Especially suitable for applications outdoors and where greater corrosion resistance is required

Advantages

- Simple visual check at the control slot if required tightening torque has been reached
- No torque spanner necessary
- The optimum tightening torque can be achieved despite variations in pipe size (within the tolerance)
- The single-bolt pipe connector is ready for mounting and easy to handle
- The tightening bolt with hexagonal socket head enables fast fitting to and removal from the pipe
- A wide central fastener allows uniform tightening
- A double seam at the sealing collar guarantees a strong radial contact with the pipe and allows the quick pre-assembly of pipes and plain fittings
- The strong fastener has a large adjustment range and thus compensates variations in pipe diameter
- The generously dimensioned inlet sealing lip allows easy slipping over the pipe or fitting
- Tested and approved by the Material Testing Institute of North Rhine-Westphalia, supervision contract Nr. 117430
- Clamp, fastener and fastening bolts are in rustproof, acid-resistant stainless steel, material type 1,4571 according to EN 10088
- Especially suited for outdoor applications, where higher demands on the corrosion resistance have to be fulfilled
- Coated bolts and nuts for secure and reliable tightening of the connector till the fastener is closed



Nominal SML pipe size [DN]	Pipe outside diameter [mm]	Fastener thread	Hexagonal socket spanner width [SW]	**Part no.**	Sales unit	Pack unit
50	58	M8	6	**115247**	10	pieces
70	78			**115256**		
80	83			**115265**		
100	110			**115226**		
125	135			**115232**		
150	160			**115238**		

02/19

MÜPRO

Pipe connectors DUPLO

Field of application

- For connecting cast iron (SML) pipes and fittings according to DIN 19522/EN 877

Advantages

- Pipe connector with two screws
- Compact design enables fitting in confined spaces
- Wide tightening strap guarantees extensive distribution of the clamping force
- Creased, dimensionally stable transition lip ensures uniform contact of the sealing collar on the pipe, even in the sealing region
- Simple fitting due to combihead bolt with hexagonal longitudinal slot
- Uniform clamping force distribution due to stable seal with large area pressure-plate
- Tightening bolts integrated into the pressure plate, no loose nuts
- Tested and approved by the Material Testing Institute of North Rhine-Westphalia, supervision contract Nr. 117430



Type DN 50–DN 150, one-piece



Type DN 200–DN 300, two-piece



V2A type DN 400, two-piece

Features

CE

Material	Type	Nominal SML pipe size [DN]	Pipe outside diameter [mm]	Fastener thread	Hexagonal socket spanner width [SW]	**Part no.**	Sales unit	Pack unit
Galvanised	one-piece	50	58	M8	10	**115214**	50	pieces
		70	78			**115217**		
		80	83			**130659**		
		100	110			**115176**		
		125	135			**115182**	25	
		150	160			**115188**	10	
	two-piece	200	210			**115194**	5	
		250	274			**115200**	4	
		300	326			**115205**	1	
V2A		400	429	M10	17	**115211**		

02/19

V2A pipe connectors DUPLO

Field of application

- For connecting cast iron (SML) pipes and fittings according to DIN 19522/EN 877. Especially suitable for applications outdoors and where greater corrosion resistance is required

Advantages

- Clamp, fastener and fastener bolts are in rustproof, acid-resistant stainless steel, material type 1,4301 according to EN 10088
- The inner sealing collar is made of high-quality, boiling water resistant elastomeric material
- Especially suitable for applications outdoors and for underground installations
- Compact design enables fitting in confined spaces
- Wide tightening strap guarantees the distribution of the clamping force over a wide area
- Creased, dimensionally stable transition lip ensures uniform contact of the sealing collar on the pipe, even in the sealing region
- The combihead bolt with hexagon and slot simplifies the fitting
- The strong fastening with large area pressure plate enables an uniform clamping force distribution
- Tightening bolts integrated into the pressure plate, no loose nuts



Type DN 70–DN 150, one-piece



Type DN 200–DN 300, two-piece



Type DN 400, two-piece

Type	Nominal SML pipe size [DN]	Pipe outside diameter [mm]	Fastener thread	Hexagonal socket spanner width [SW]	**Part no.**	Sales unit	Pack unit
One-piece	70	78	M8	10	**115220**	50	pieces
	100	110			**115179**		
	125	135			**115185**	25	
	150	160			**115191**	10	
Two-piece	200	210			**115197**	5	
	250	274			**115202**	4	
	300	326			**115208**	1	
	400	429	M10	17	**115211**		

02/19

Securing clamps

galvanised

Field of application

- For longitudinal-locking connection of cast iron (SML) pipes according to DIN 19522/EN 877
- For pipe connections with high requirements, e.g. for use in back-pressure and impact zones or for deflections and diameter steps in downcomers

Advantages

- Assembly time reduced by 50 % with the Securing clamp Express thanks to only 2 tightening screws in combination with suspension joint and one-piece design
- Especially strong flanges for absorbing large forces
- Stable wrap-around of pipe enables optimal securing of the pipe connection cast-iron
- Retro-fitting to pipelines that are already laid can be made at any time
- Tested and approved by the Material Testing Institute of North Rhine-Westphalia up to DN 150, supervision contract Nr. 117430
- One-piece securing clamps patent-nr. DE102012001439A1



Securing clamp Express,
type DN 50–DN 150, one-piece



Securing clamp,
type DN 200–DN 300, three-piece



Securing clamp,
type DN 400, four-piece

Model	Type	Nominal SML pipe size [DN]	Pipe outside diameter [mm]	Fastener thread	Max. internal pressure [bar]	Hexagonal socket spanner width [SW]	**Part no.**	Sales unit	Pack unit
Express for MONO and DUPLO	one-piece	50	58	M8	10	6	**152298**	5	pieces
		70	78				**152299**		
		80	83				**152300**		
		100	110	M10		8	**152301**		
		125	135		5		**152302**		
		150	160				**152304**		
For DUPLO	three-piece	200	210		3		**123465**	1	
		250	274	M12		19	**123437**		
		300	326				**123441**		
	four-piece	400	429				**123445**		

02/19

Reducing couplings

Field of application

- For the coupling of SML pipe systems according to DIN 19522/ EN 877 with other pipe systems according to DIN 19560 (PE-HD pipes) and DIN 19535 (PP pipes) as well as for use as end caps in pipe systems

Advantages

- The end cap can be easily removed by pulling on the tongue (with pliers, if necessary) – no cutting out of the coupling required, therefore:
  - Time and cost saving
  - No danger of damaging the sealing lip
- Two sealing lips guarantee stable guidance of the pipe
- A wide central fastener allows uniform tightening
- Highly elastic material with a great wall thickness guarantees a long life cycle and permanent connection
- High-stability of coupling due to the large insertion depth
- Can be used with an internal pressure of pipe up to 0.5 bar
- Tested and approved by the Material Testing Institute of North Rhine-Westphalia, supervision contract Nr. 117430
- Approved by building authorities



Features

Nominal SML pipe size [DN]	Pipe outside diameter [mm]	Spanner width [SW]	**Part no.**	Sales unit	Pack unit
50	58	7	**130317**	10	pieces
70	78		**130318**		
80	83		**130319**		
100	110		**130315**	20	
125	135		**130316**	5	

02/19



Stainless steel

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

MÜPRO

Pipe clamps

 Single bossed clamps 11/1–11/3

 Duct clamps 11/4–11/5

MPC-System components

 MPC-Support channels 11/6–11/10

 MPC-Wall hanger brackets 11/11–11/12

 MPC-Quick fasteners 11/13–11/14

 MPC-Hammer head fasteners 11/15

 MPC-Hammer head bolts 11/16

 MPC-Protection caps 11/16

 MPC-Washers 11/16

 MPC-Clamp brackets 11/17

 MPC-Rail nuts 11/17

 MPC-Double rail nut 11/17

 DÄMMGULAST® Resilient pad 11/17

 DÄMMGULAST® Washers 11/17

 DÄMMGULAST® Channel sections 11/18

 MPC-Channel connectors 11/19

 MPC-Channel support brackets 11/20

 MPC-Saddle supports 11/21

 MPC-VARIO-Saddle support 11/22

 MPC-Mounting angles 11/23

 MPC-Cross channel connectors 11/24

 MPC-Girder cleats 11/25

MPR-System components

 MPR-Support channels 11/26–11/30

 MPR-Wall hanger brackets 11/31–11/32

 MPR-Hammer head fasteners 11/33

 MPR-Threaded plates 11/34

 MPR-Clamp brackets 11/35

 MPR-Protection caps 11/35

 Washers 11/35

 DÄMMGULAST® Channel sections 11/36

 MPR-Saddle supports 11/37

 MPR-VARIO-Saddle support 11/38

 MPR-Mounting angle 11/39

 MPR-Cross channel connectors 11/39

 MPR-Girder cleats 11/40

Products for usage with MPC-/MPR-System components

 Channel connector, heavy-duty version 11/41

 Reinforcement angles 11/42

 Cantilever brackets 11/43

 Supporting angles 11/44

 Construction bracket 11/45–11/46

 Mounting angles 11/47–11/48

 Angle- and T-connection plates 11/49

Further products of stainless steel

 Joint brackets 11/50

 Girder clamps 11/51

 Slide guides 11/52

 Duct fixing angles 11/53

 Trapezoid-sheet hangers 11/54

 Threaded pins 11/55

 Threaded rods 11/55

 Round connectors 11/56

 Reducers 11/56

 Bolt screws 11/56

 Hexagonal nuts 11/57

 Washers 11/57

 Hexagon head bolts 11/58

 Allen bolts 11/58

 Hexagon wood screws 11/59

 Cylinder head screws 11/59

 Self-drilling screws 11/59

 Hanger sockets 11/59

 Distance angles 11/60

 Base plates 11/60

 Punched tapes 11/60

 Threaded pipes 11/60

 Steel anchors 11/61

 Through anchors 11/62

 BZ Heavy-duty anchors 11/63–11/64

 Anchor rods for injection anchors XV Plus 13/38–13/39, 13/42

VIDEO TIP

MÜPRO support channel system: the video presents our comprehensive range of support channels and shows the various processing and installation options.

Single bossed clamps

with DÄMMGULAST® yellow

Field of application

- Application in areas with high demands on sound insulation
- Suitable for attachments in industrial areas, as well as in air-conditioning, ventilation and sanitary areas
- For indoor and outdoor use

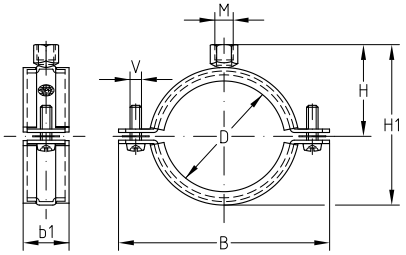
Advantages

- Proven two-piece single bossed clamp
- 2 locking screws allow adjustments to accommodate a greater variation in pipe diameter
- Tightening bolts with combination cross-head convenient for power driver
- Tightening bolts secured with captive washers
- Acoustic insulation, positive-fit insulation lining with wide clip-over edges prevent them from slipping out of the clamp
- Vibration control lining DÄMMGULAST® with yellow identification stripe: average vibration improvement of up to 22 dB(A)



Features

Size	Max. recommended load [N]
⅜"–2"	1,700
70–83 mm	2,200
3"–133 mm	2,900
5"–6"	3,500



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit	Dimensions [mm] B	b1	H1	H	V
M8/M10	⅜		14–20	**157024**	**157134**	25	pieces	64	23	55	35.5	M6 x 20
	½		21–26	**157025**	**157135**			71		61	38.5	
	¾		26–30	**157026**	**157136**			75		65	40.5	
	1		31–38	**157027**	**157137**			81		71	43.5	M6 x 25
	1¼		40–47	**157028**	**157138**			91		81	48.5	
	1½		48–54	**157029**	**157139**			100		89	52.5	
		57	54–60	**157120**	**157140**			105		94	55.0	
	2		60–66	**157121**	**157141**			111		100	58.0	
		70	68–73	**157122**	**157142**			126	28	109	62.5	M8 x 35
	2½		73–80	**157123**	**157143**			131		114	65.0	
		83	82–87	**157124**	**157144**			142		124	70.0	
	3		87–94	**157125**	**157145**			146		128	72.0	M8 x 40
		102	99–104	**157126**	**157146**			157		139	77.5	
		110	105–112	**157127**	**157147**			166		148	82.0	
	4		112–118	**157128**	**157148**			172		154	85.0	
		125	122–128	**157129**	**157149**			182		164	90.0	
		133	132–137	**157130**	**157150**			191		173	94.5	
	5		137–142	**157131**	**157151**			196		178	97.0	
		144	142–148	**160490**	**160493**			202		184	100.0	
		150	149–156	**160492**	**160494**			210		192	104.0	
		160	159–164	**157132**	**157152**			218		200	108.0	
	6		164–169	**157133**	**157153**			223		205	110.5	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

MÜPRO

Single bossed clamps

without lining

Field of application

- Applicable as a pipeline anchor point from ½" to 1½"
- Suitable for installations without vibration control requirements
- Suitable for attachments in industrial areas as well as in air-conditioning, ventilation and sanitary areas
- For indoor and outdoor use

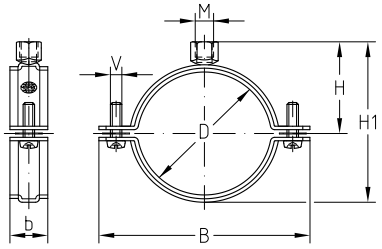
Advantages

- 2 locking screws allow adjustment to accommodate a greater variation in pipe diameter
- Tightening bolts with combination cross-head convenient for power driver
- Tightening bolts secured with captive washers
- Robust design with high load carrying capacity due to bead



Features

Size	Max. recommended load [N]
⅜"–70 mm	2,200
2½"–6"	4,400



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit	Dimensions [mm] B	b	H1	H	V
M8/M10	⅜		14–18	157154	157172	25	pieces	50	20	39	27.5	M6 x 20
	½		19–25	157155	157173			57		45	30.5	
	¾		26–30	157156	157174			64		55	35.5	
	1		31–37	157157	157175			71		61	38.5	
		40	38–41	160495	160500			75		65	40.5	
	1¼	42.4	42–46	157158	157176			81		71	43.5	M6 x 25
	1½		47–52	157159	157177			87		76	46.0	
		57	53–57	157160	157178			91		81	48.5	
	2		58–63	157161	157179			100		89	52.5	
		70	64–71	157162	157180			105		94	55.0	
	2½		72–78	157163	157181			120	25	103	59.5	M8 x 35
		83	79–85	157164	157182			126		109	62.5	
	3		85–90	157165	157183			131		114	65.0	
		98	94–99	160496	160501			142		124	70.0	
		102	99–104	157166	157184			146		128	72.0	M8 x 40
	4		108–115	157167	157185			157		139	77.5	
		122	118–123	160497	160502			166		148	82.0	
		125	125–130	157168	157186			172		154	85.0	
	5		133–140	157169	157187			182		164	90.0	
		147	142–148	160498	160503			191		173	94.5	
		152	148–153	160499	160504			196		178	97.0	
		160	154–160	157170	157188			202		184	100.0	
	6		160–169	157171	157189			210		192	104.0	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

Single bossed clamps

heavy-duty version, with DÄMMGULAST® yellow

Field of application

- Suitable for attachments in industrial areas as well as in air-conditioning, ventilation and sanitary areas
- Application in areas with high demands on sound insulation
- For indoor and outdoor use

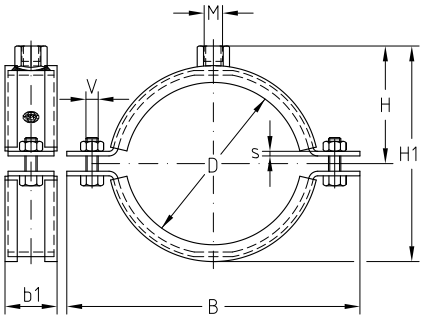
Advantages

- Stronger tightening bolts for high load capacity
- Enhanced braking resistance due to increased material cross-section area
- Vibration control lining DÄMMGULAST® with yellow identification stripe: average vibration improvement of up to 22 dB(A)



Features

Size	Max. recommended load [N]
1½"–2"	4,166
2½"–4"	5,000
133–315 mm	6,666
323 mm upwards	8,333



Connecting thread	Size [inch]	Size [mm]	Clamping range [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit	Dimensions [mm] B	b x s	b1	H	H1	V
M12	1½		45–52	**121907**	**121323**	50	pieces	111	30 x 3.0	34	48	81	M8
	2		56–64	**122091**	**121339**			123			54	93	
	2½		72–80	**122103**	**121343**			138			62	109	
	3		88–92	**122258**	**121371**	25		157			69	122	M10
		110	110–114	**121953**	**121327**			178			79	143	
	4		112–116	**122345**	**121387**			183			81	147	
		133	133–137	**122010**	**121331**	10		203	40 x 4.0	46	92	168	
	5		137–145	**122425**	**121391**			210			95	175	
		160	159–165	**122044**	**121335**			230			105	195	
	6		164–170	**122469**	**121394**			235			108	200	
		200	193–203	**122119**	**121346**			270			125	235	
		212	208–214	**122147**	**121350**			282			131	247	
		219	217–224	**122159**	**121354**			289			135	254	
		250	244–254	**122210**	**121358**			320			150	285	
		267	267–273	**122226**	**121362**			337			159	302	
		280	278–282	**122246**	**121367**			350			165	315	
		315	313–318	**122290**	**121375**			385			183	350	
		323	320–326	**122298**	**121379**			415	50 x 5.0	56	188	360	M12
		355	353–360	**122321**	**121383**	5		447			204	392	

Single bossed clamps can be produced in all other pipe sizes and types according to customer specifications. For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

02/19

Duct clamps

Field of application

- For attachment of air ducts as well as spiral-seam pipes

Advantages

- The 2 locking screws allow adjustments to accommodate a greater variation in pipe diameter
- Acoustic insulation, form-locking with wide clip-over edges prevent the lining from slipping out of the clamp
- Vibration control lining DÄMMGULAST® Junior with orange identification stripe: average vibration improvement of up to 18 dB(A)



Without lining



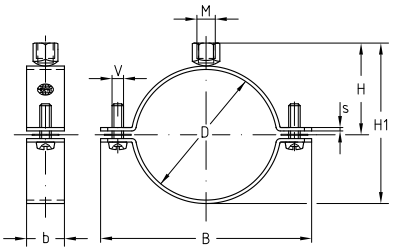
With DÄMMGULAST® Junior

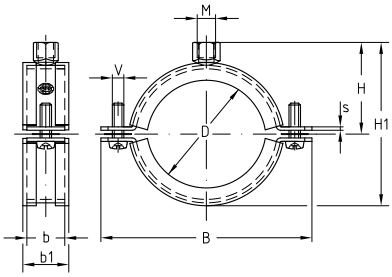
Connecting thread	Pipe nominal size [mm]	Part no. V2A		Sales unit	Pack unit
		Without lining	With DÄMMGULAST®		
M8	50	115606	115459	1	pieces
	63	115612	115264		
	71	115618	115274		
	80	115627	115280		
	90	115633	115289		
	100	115506	115115		
	112	115512	115121		
	125	115521	115128		
	140	115533	115137		
	150	115542	115146		
	160	115548	115156		
	180	115555	115168		
	200	115560	115177		
	224	115567	115186		
	250	115576	115199		
	280	115582	115209		
	300	115585	115218		
	315	115594	115227		
	355	115600	115236		
	400	115603	115245		
M10	450	115456	115091		
	500	115461	115094		
	560	115464	115097		
	600	115467	115100		
	630	115470	115103		
	710	115476	115106		
	800	115479	115109		

02/19

Duct clamps

Features
Max. recommended load [N]
500





Pipe nominal size [mm]	Dimensions [mm]										
			Without lining				With DÄMMGULAST®				
	b x s	V	Part no.	B	H	H1	Part no.	B	b1	H	H1
50	25 x 1.5	M6	**115606**	95	39	66	**115459**	104	28	43	75
63			**115612**	108	45	79	**115264**	117		50	88
71			**115618**	116	49	87	**115274**	125		54	96
80			**115627**	125	54	96	**115280**	134		58	105
90			**115633**	135	59	106	**115289**	144		63	115
100			**115506**	146	64	117	**115115**	152		69	126
112			**115512**	158	70	129	**115121**	164		75	139
125			**115521**	171	77	142	**115128**	177		81	151
140			**115533**	186	84	157	**115137**	192		89	166
150			**115542**	196	89	167	**115146**	202		94	176
160			**115548**	206	94	177	**115156**	212		99	186
180			**115555**	226	107	197	**115168**	232		109	206
200			**115560**	246	114	217	**115177**	252		119	226
224			**115567**	272	131	247	**115186**	281		136	256
250			**115576**	298	144	273	**115199**	307		149	282
280			**115582**	328	159	303	**115209**	337		164	312
300			**115585**	349	170	324	**115218**	358		174	333
315			**115594**	364	177	339	**115227**	373		182	348
355			**115600**	404	197	379	**115236**	413		202	388
400			**115603**	449	220	424	**115245**	458		224	433
450	25 x 2.5	M8	**115456**	515	245	474	**115091**	521		248	480
500			**115461**	565	270	524	**115094**	571		273	530
560			**115464**	625	300	584	**115097**	631		303	590
600			**115467**	665	320	624	**115100**	671		323	630
630	25 x 3.0		**115470**	696	335	655	**115103**	702		338	661
710			**115476**	776	375	735	**115106**	782		378	741
800			**115479**	866	420	825	**115109**	872		423	831

02/19

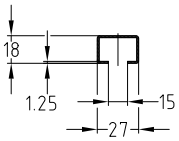
MPC-Support channels

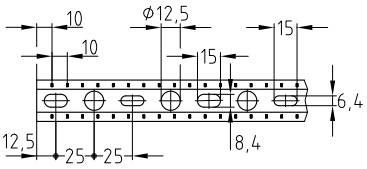
Field of application

- Ideally suitable as support structure for air ducts
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components

Advantages

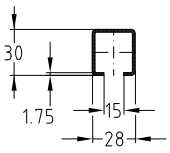
- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure attachment that is adjustable laterally and vertically
- High bending stiffness due to convenient cross-section design
- For setting up structures with correctly measured static loads by means of diverse connection components
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPC-Protection caps

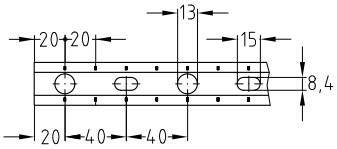






Profile 27/18







Profile 28/30

Features

Profile	Length [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
27/18	2,000	**129907**	**129908**	1	pieces
	6,000	**129999**	–		
28/30	2,000	**118582**	**118586**		
	6,000	**118976**	**118979**		

02/19

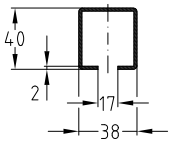
MPC-Support channels

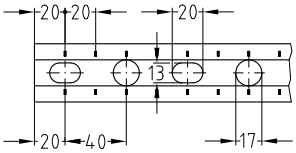
Field of application

- Ideally suitable as support structure for air ducts
- Variety of mounting options for pre-wall installations and shelves in combination with extensive range of system components

Advantages

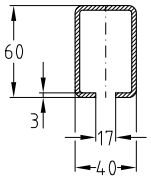
- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure attachment that is adjustable laterally and vertically
- High bending stiffness due to convenient cross-section design
- For setting up structures with correctly measured static loads by means of diverse connection components
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPC-Protection caps

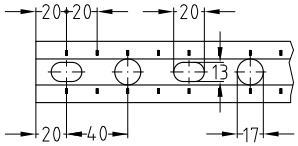






Profile 38/40







Profile 40/60

Features

Profile	Length [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
38/40	2,000	**129914**	**129915**	1	pieces
	4,000	**129962**	**129963**		
	6,000	**130006**	**130007**		
40/60		**130017**	**130018**		

For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

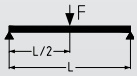
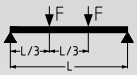
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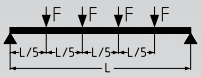
MPC-Support channels

Technical data of profiles:

Profile 	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available MPC-Rail nuts	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
27/18	V2A, V4A	149	M8, M10	0.60	0.69	0.2911	0.9554	0.310	0.707
28/30				1.15	1.36	1.3999	2.0551	0.911	1.467
38/40			M8, M10, M12	1.82	2.21	4.3286	6.1000	2.164	3.210
40/60				3.50	4.44	17.5426	13.3946	5.847	6.697

Load bearing capacities of profiles for bending around the y-axis [N]:

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
27/18	368	136	57	28	–	–	274	80	33	16	–	–
28/30	1,076	537	288	154	–	–	797	390	169	90	–	–
38/40	2,553	1,280	847	497	85	–	1,886	958	532	292	50	–
40/60	6,870	3,462	2,299	1,710	440	105	5,047	2,586	1,720	1,210	259	62

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
27/18	183	57	24	12	–	–	152	45	19	–	–	–
28/30	532	277	121	65	–	–	441	220	95	51	–	–
38/40	1,260	638	382	209	36	–	1,044	531	300	164	28	–
40/60	3,371	1,722	1,147	854	185	44	2,788	1,433	956	682	146	35

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.54$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

MPC-Support channels

Permissible buckling loads for profiles [N]:

Buckling length Lk [mm]	MPC 27/18	MPC 28/30	MPC 38/40	MPC 40/60
200	9,873	20,236	33,026	66,308
300	9,172	19,455	32,658	66,308
400	8,320	18,616	31,736	65,162
500	7,297	17,680	30,770	63,666
600	6,191	16,613	29,733	62,110
700	5,148	15,402	28,602	60,468
800	4,262	14,071	27,356	58,713
900	3,548	12,683	25,988	56,823
1,000	2,981	11,319	24,500	54,780
1,100	2,531	10,047	22,920	52,575
1,200	2,171	8,904	21,287	50,212
1,300	1,881	7,901	19,655	47,713
1,400	1,644	7,031	18,071	45,115
1,500	1,448	6,282	16,574	42,467
1,600	1,285	5,635	15,185	39,826
1,700	1,147	5,078	13,915	37,242
1,800	1,031	4,595	12,764	34,757
1,900	931	4,175	11,727	32,403
2,000	845	3,808	10,795	30,196
2,100	770	3,486	9,958	28,144
2,200	705	3,203	9,207	26,249
2,300	647	2,952	8,532	24,504
2,400	597	2,729	7,925	22,901
2,500	552	2,530	7,377	21,432
2,600	512	2,351	6,881	20,085
2,700	476	2,191	6,432	18,850
2,800	444	2,047	6,024	17,718
2,900	415	1,916	5,653	16,678
3,000	388	1,797	5,315	15,721
3,100	364	1,689	5,005	14,841
3,200	343	1,590	4,721	14,030
3,300	323	1,500	4,460	13,281
3,400	305	1,417	4,220	12,588
3,500	288	1,341	3,999	11,947
3,600	273	1,271	3,794	11,352
3,700	258	1,206	3,605	10,799
3,800	245	1,146	3,429	10,285
3,900	233	1,090	3,266	9,807
4,000	222	1,038	3,113	9,360
4,100	212	990	2,972	8,942
4,200	202	945	2,839	8,552
4,300	193	903	2,716	8,186
4,400	184	864	2,600	7,843
4,500	176	827	2,491	7,521
4,600	169	793	2,389	7,218
4,700	162	761	2,293	6,933
4,800	155	730	2,203	6,664
4,900	149	702	2,118	6,410
5,000	143	675	2,038	6,171
5,100	138	649	1,962	5,945
5,200	133	625	1,890	5,730
5,300	128	603	1,823	5,527
5,400	123	581	1,758	5,335
5,500	119	561	1,698	5,152
5,600	115	542	1,640	4,979
5,700	111	523	1,585	4,814
5,800	107	506	1,533	4,657
5,900	104	489	1,483	4,508
6,000	100	473	1,436	4,366

02/19

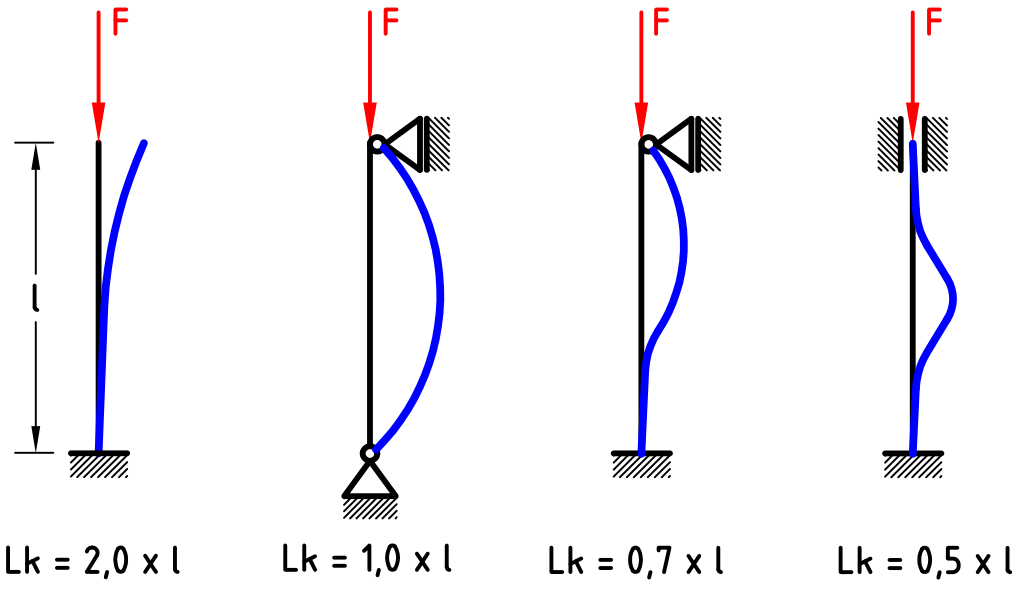
MPC-Support channels

Buckling loads as per DIN EN 1993-1-1 sections 6.2 and 6.3.
The values in the table apply for fully bearing cross-sections and central load transmission!
The potentially lower slenderness parameter for buckling and lateral torsional buckling must be examined separately!

Buckling about the z-axis and the y-axis was considered.
The least favourable buckling load is documented in the table.

The safety coefficient γ = 1.54 takes into account the safety and combination coefficients as well as the safety factor of the material.

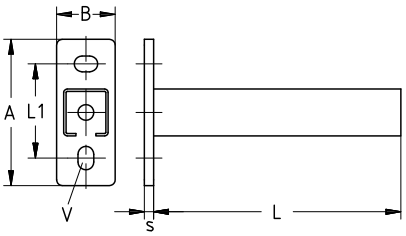
Determine the authoritative buckling length Lk depending on the storage conditions and the rod length l, as shown in the figure.
Read off the buckling load F as Lk from the table.



MPC-Wall hanger brackets

Field of application

- Ideal as cantilever support structure of pipeways
- Applicable in combination with MPC-Saddle support and MPC-Channel support brackets as a cross-beam for pipe attachments in shafts and ducts
- Applicable as cantilever bracket for air ducts and cable trays
- Solid wall bracket for valves and equipment





Advantages

- The strong base plate ensures a high load carrying capacity
- The vertical and horizontal holes in the base plate allow easy height adjustment of the bracket
- Variety of lengths covers all construction requirements
- Clean-cut appearance by the use of MPC-Protection caps

Features

Profile	Length L [mm]	Part no.		Sales unit	Pack unit	Dimensions [mm]				
		V2A	V4A			A	B	L1	s	V
27/18	200	**156743**	**156753**	1	pieces	120	40	80	4	11 x 19
	300	**156744**	**156754**							
38/40	160	**156745**	**156755**			125	50		8	13.5 x 20
	240	**156746**	**156756**							
	320	**156747**	**156757**							
	400	**156748**	**156758**							
	480	**156749**	**156759**							
	560	**156750**	**156760**							
	640	**156751**	**156761**							
40/60	560	**156752**	**156762**			165	60	120		

For use in areas with requirements on the duration of fire resistance, the boundary conditions set out in the fire test report must be observed.

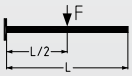
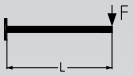
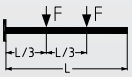
02/19

MPC-Wall hanger brackets

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]
27/18	120 x 40 x 4	V2A, V4A	149	V2A, V4A	149
38/40	125 x 50 x 8		136		
40/60	165 x 60 x 8				

Load bearing capacities of brackets for bending around the y-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]				
			Max. allowable load [N]			
27/18	34,049	200	340	170	170	113
		300	226	113	113	75
38/40	219,110	160	2,738	1,369	1,369	912
		240	1,825	912	912	608
		320	1,369	684	684	456
		400	1,095	547	547	365
		480	912	456	456	304
		560	782	391	391	260
		640	684	342	342	228
40/60	304,499	560	1,087	543	543	362

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.54$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L_{/150}$ are not exceeded, taking the deadweight into consideration.

The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

02/19

MPC-Quick fasteners

Field of application

- Secure and easy installation in slot of MPC-Support channel in order to attach mounting accessories
- Angle mounting for fast and efficient installation of brackets and mounting angles

Advantages

- Time-saving attachment in the channel slot, even if subsequently fitted between existing pipe sections
- Simple and secure handling: insert in the MPC-Support channels, turn and the MPC-Quick fastener is fixed. No slipping, no falling out
- Adjustment marks on the side facilitate its positioning in the support channel
- High quality and load capacity
- Suitable for MPC-Support channel profiles 38/40 and 40/60



For angle mounting



With internal thread

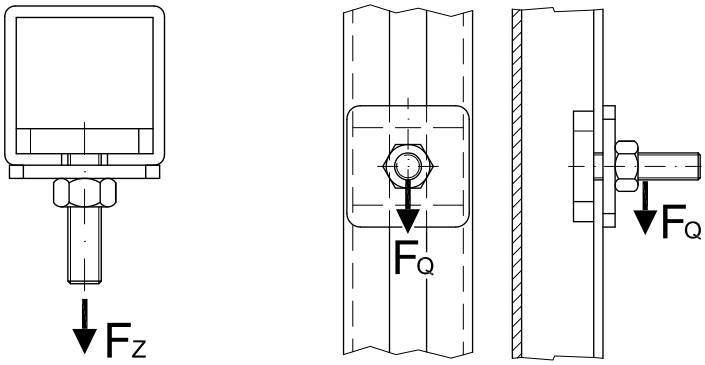


Features

Type	For support channels	Connecting thread	Material	Part no.	Sales unit	Pack unit
With internal thread	38/40, 40/60	M8	V2A	**120866**	50	pieces
		M10		**120830**		
For angle mounting		M8		**120794**		
		M10		**120786**		

02/19

MPC-Quick fasteners



For support channels	MPC-Quick fastener			
	Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ (displacement) [N]	At a tightening torque of [Nm]
38/40	M8	2,800	1,000	20
	M10			25
40/60	M8	4,000		20
	M10			25

MPC-Hammer head fasteners

Field of application

- For time-saving, efficient attachment of pipe clamps to MPC-Support channels

Advantages

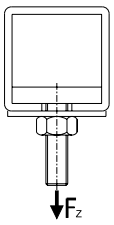
- Practical range of lengths
- For insertion at any point into the slot of channel profiles 27/18 and 28/30
- Lateral adjustment at any time, allows perfect alignment of the pipeline after installation
- Various lengths and thread diameters can be combined within the same channel





Features

For support channels	Connecting thread	Length [mm]	Thread length [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
27/18, 28/30	M8	25	7	**115134**	**115139**	50	pieces
		30	15	**115143**	**115148**		
		40	25	**115157**	**115160**		
		50	35	**115169**	**115172**		
		80	65	**115184**	**115187**		
38/40, 40/60		25	7	**115050**	**115059**		
		35	20	**115053**	**115077**		
		50	35	**115098**	**115095**		
	M10	35	18	**114978**	**114993**		
	M12		15	**115008**	**115017**		





For support channels	Max. allowable bearing point load capacity of channel [N]	MPC-Hammer head fasteners: Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load Fq (displacement) [N]	At a tightening torque of [Nm]
27/18	1,700	M8	1,000	400	10
28/30	2,500				
38/40	5,000		2,500	1,000	20
		M10	2,800	1,200	30
		M12	5,000	1,800	40
40/60	8,300	M8	3,500	1,000	20
		M10	4,000	1,200	30
		M12	8,300	1,800	40

02/19

MPC-Hammer head bolts

Field of application

- For time-saving, efficient attachment to MPC-Support channels

Advantages

- Ideal for attachment of channel constructions and connecting elements
- Suitable for profiles 38/24, 38/40, 39/52, 40/60, 40/80, 38/48, 38/80 and 40/120
- For direct insertion in the channel slot – even between the mounting bolts



Features

For support channels	Connecting thread	Max. allowable bearing point load capacity of channel [N]	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ (displacement) [N]	At a tightening torque of [Nm]
38/24	M8	2,200	2,200	600	20
	M10			800	30
38/40, 38/80	M8	5,000	5,000	1,000	20
	M10			1,500	30
39/52	M8	6,700	6,700	1,000	20
	M10			1,500	30
40/60, 40/80, 40/120	M8	8,300	8,300	1,000	20
	M10			1,500	30

Connecting thread	Usable thread length [mm]	Length [mm]	Material	**Part no.**	Sales unit	Pack unit
M8	20	30	V2A	**115331**	50	pieces
M10	19			**115307**		

MPC-Protection caps

for MPC-Support channels and wall hanger brackets

For support channels	**Part no.**	Sales unit	Pack unit
27/18	**106000**	100	pieces
28/30	**106002**		
38/40, 38/80	**106006**	50	
40/60, 40/120	**106008**	25	



Washers

for attachment of MPC-Support channels

For thread	Outer diameter [mm]	Thickness [mm]	**Part no.** V2A	**Part no.** V4A	Sales unit	Pack unit
M8	24	2.0	**127190**	**127199**	100	pieces
	30		**127204**	**127207**		
M10		2.5	**127097**	**127103**		
	35		**127106**	**127112**		
M12	37	3.0	**127160**	**127163**		



02/19

MPC-Clamp brackets

for MPC-Support channels and wall hanger brackets

fire protection certified ≥ M10

For support channels	For thread	Part no. V2A	Part no. V4A	Sales unit	Pack unit
27/18, 28/30	M8	**114539**	**114536**	100	pieces
	M10	**114506**	**114509**		
38/40	M8	**114542**	**114545**		
	M10	**114512**	**114515**		
	M12	**114524**	**114527**		
40/60	M8	**114551**	**114548**		
	M10	**114521**	**114518**		
	M12	**114533**	**114530**		



MPC-Rail nuts

for MPC-Support channels and wall hanger brackets

For support channels	Thread	Length [mm]	Width [mm]	Height [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
27/18, 28/30	M8	22.0	14.0	5.0	**120031**	**120035**	100	pieces
38/40, 40/60	M6	32.8	23.0	6.0	**148758**	–		
	M8	31.0	16.0		**148760**	–		
		32.8	23.0		**118034**	**118037**		
	M10				**117962**	**117965**		
	M12				**117980**	**117983**		



MPC-Double rail nut

for MPC-Support channels and wall hanger brackets

For support channels	Thread [mm]	Material	Part no.	Sales unit	Pack unit
38/40, 40/60	M10	V2A	**118147**	50	pieces



DÄMMGULAST® Resilient pad

for threaded rods M8 and M10

Size [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
40 x 25	**107081**	**107082**	25	pieces



DÄMMGULAST® Washers and steel washers

for threaded rods M8 and M10

	For thread	Size [mm]	Part no.	Sales unit	Pack unit
Washers	M8	28 x 8.5	**107089**	100	pieces
	M10	34 x 10.5	**107086**		

	For thread	Size [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
Steel Washers	M8	30 x 8.5	**127204**	**127207**	100	pieces
	M10	35 x 10.5	**127106**	**127112**		



02/19

DÄMMGULAST® Channel sections

for MPC-Profiles

Field of application

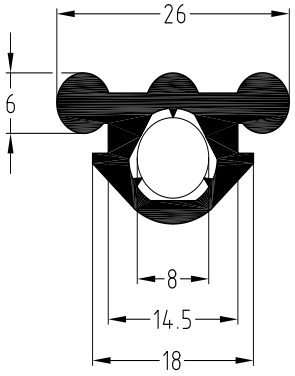
- Ideal for the decoupling of traverses for air duct fixtures
- For secure vibration-decoupling of MPC-Support channels

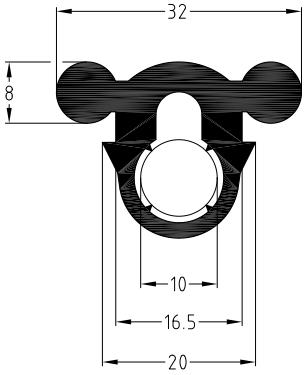
Advantages

- Easy installation by inserting into MPC-Support channels and/or screwing onto threaded rods
- Prevents structure-borne noise coupling by avoiding contact between the air duct and the threaded rods
- Interlocking profile prevents channel section being pushed out
- Prevents fluttering and other vibration noises in the air ducts
- Small contact surface, large absorption mass









Features

Design	For support channels	Suitable for	Part no.	Sales unit	Pack unit
DÄMMGULAST® Channel section roll of 30 m	27/18, 28/30	Channels with slot widths of 13–16 mm, M8 threaded rods	**107689**	1	roll
	38/24–40/120	Channels with slot widths of 15–18 mm, M8 and M10 threaded rods	**107690**		
DÄMMGULAST® Channel sections section of 50 mm			**107691**	300	pieces
DÄMMGULAST® Channel sections section of 100 mm			**107686**	200	

When installing air conditioning and ventilation equipment, MPC-Support channels can be used as load-bearing traverses. Structure-borne vibration coupling bridges resulting from direct metal contact between the air duct and the traverse or threaded rods can be prevented by the use of DÄMMGULAST® Channel section as intermediate layer.

The DÄMMGULAST® Channel section was developed especially for these application areas and provides the optimum solution from a practical installation point of view.

02/19

MPC-Channel connectors

Field of application

- Quick butt-joint connection for MPC-Support channels

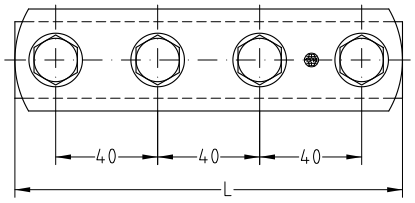
Advantages

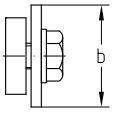
- Enables exact alignment of the channel
- 4 bolts provide a frictional joint
- Smooth attachment by sliding into the channel section





For support channels	Part no.		Sales unit	Pack unit	Dimensions [mm]	
	V2A	V4A			b	L
27/18, 28/30	**120052**	**120056**	1	pieces	25	150
38/40, 40/60	**120064**	**120068**			40	





02/19

MPC-Channel support brackets

Field of application

- Ideal for attachment of MPC-Support channels as a cross-beam in shafts and ducts
- For right-angled connection of two channels where section slots do not have the same alignment
- Applicable as floor or ceiling flange for vertical MPC-Support channels

Advantages

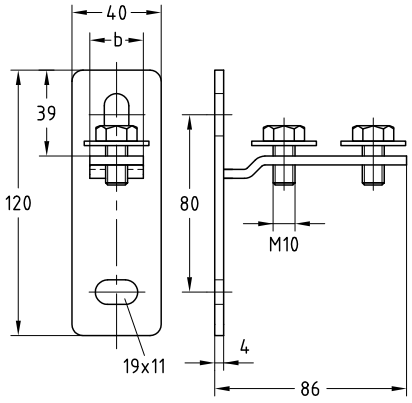
- The vertical and horizontal holes in the base plate enable easy height adjustment of the MPC-Channel support bracket
- Supplied with two clamping bolts, pre-installed



MPC-Channel support bracket, crosswise

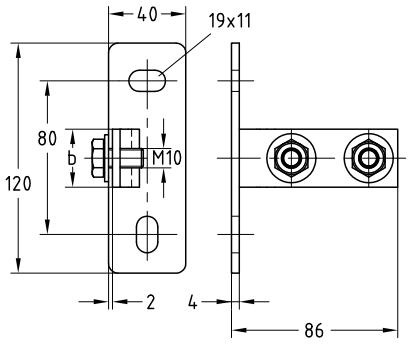


MPC-Channel support bracket, lengthwise



MPC-Channel support bracket, crosswise





MPC-Channel support bracket, lengthwise

Description	For support channels	Part no. V2A	Part no. V4A	Sales unit	Pack unit	Dimensions b [mm]
Crosswise	27/18, 28/30	**156801**	**156805**	10	pieces	24
	38/40	**156803**	**156807**			30
Lengthwise	27/18, 28/30	**156800**	**156804**			24
	38/40	**156802**	**156806**			30

02/19

MPC-Saddle supports

Field of application

- Simple assembly of strong cross-beams using MPC-Support channels
- Applicable for cramped installation conditions in shafts and ducts

Advantages

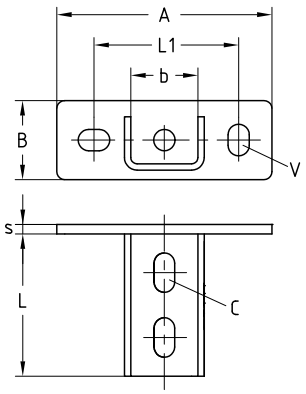
- The vertical and horizontal holes in the base plate enable simple alignment of the MPC-Saddle support
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions

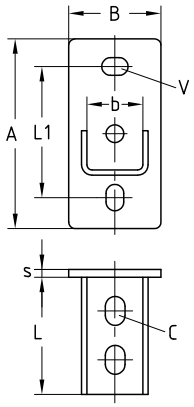


MPC-Saddle support, crosswise



MPC-Saddle support, lengthwise





Features

Description	For support channels	Part no. V2A	Part no. V4A	Sales unit	Pack unit	Dimensions [mm] A	B	b	L	L1	s	C	V
Crosswise	27/18, 28/30	**156822**	**159552**	5	pieces	125	50	30	70	80	5	11 x 19	11 x 19
	38/40, 40/60	**156824**	**156826**			136		42	90	91.5	6	13 x 25	13.5 x 20
Lengthwise	27/18, 28/30	**156821**	**159551**			125		30	70	80	5	11 x 19	11 x 19
	38/40, 40/60	**156823**	**156825**			144	70	42	90	100	6	13 x 25	13.5 x 20

02/19

MPC-VARIO-Saddle support

Field of application

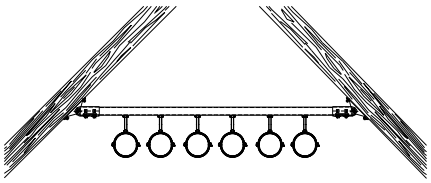
- Ideal for attachment to inclined roof trusses, vaults and in round cable shafts

Advantages

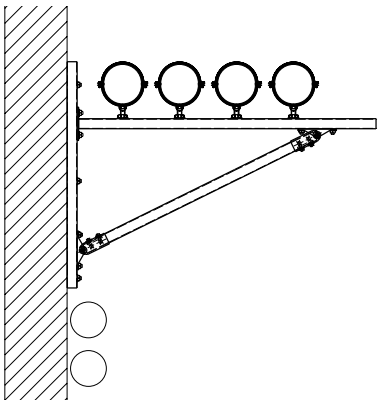
- Variable angle adjustment possible during installation
- Simple and quick installation due to pre-installed double rail nut
- If needed in profile 38/40, variable alignment of the channel slot in all directions possible



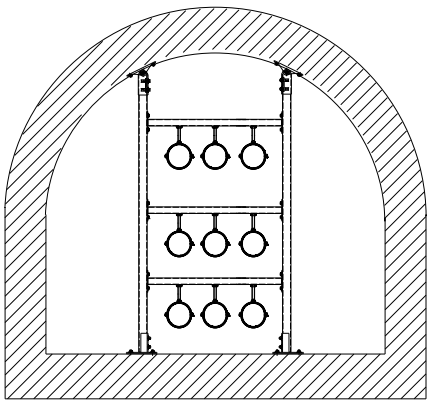




Attachment of a pipe run to an inclined roof truss

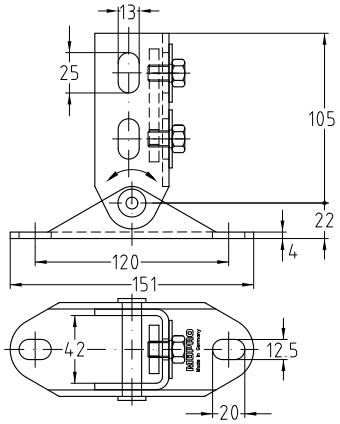


Pipes installed on a MPC-Wall hanger bracket with diagonal strut



Installation of brackets in vaults or round cable ducts and shafts

Completely pre-assembled:
1 MPC-VARIO-Saddle support
1 Double rail nut
2 Hexagonal head bolts M10
2 Washers



For support channels	Minimum angle [°]	Material	**Part no.**	Sales unit	Pack unit
38/40, 40/60	20	V2A	**129659**	1	pieces

02/19

MPC-Mounting angles

for MPC-Support channels 27/18 and 28/30

Field of application

- Connection element for construction of pre-wall installations, shelves as well as channel constructions for mountings of pipelines and air ducts without welding
- Applicable for direct mounting on walls, ceilings or floors

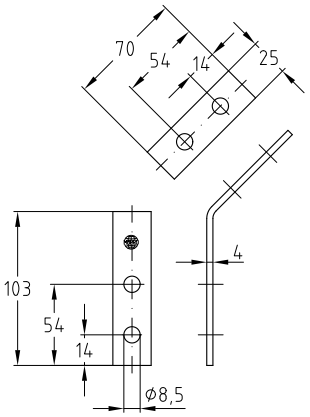
Advantages

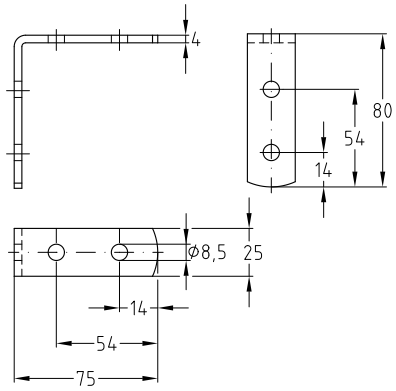
- Versatile applicability due to oblong holes, e.g. as:
  - Angular support bracket
  - Angular load-bearing bracket
  - Connection element
  - Angular bracket
- Multi-purpose component for professional, practical installation solutions











Type	For support channels	Part no.		Sales unit	Pack unit
		V2A	V4A		
45°	27/18, 28/30	**118785**	**118789**	25	pieces
90°		**118898**	**118902**		

02/19

MPC-Cross channel connectors

Field of application

- For cross-connections in pre-wall installations and for shelves made from MPC-Support channels

Advantages

- Easy-to-install connection elements for setting up structures with correctly calculated static loads using MPC-Support channels
- Greater flexibility when setting up channel constructions
- Multiple punching allows the section slots to be aligned in 4 directions
- For rotation-resistant attachment to building structure



For profiles 28/30 and 38/40

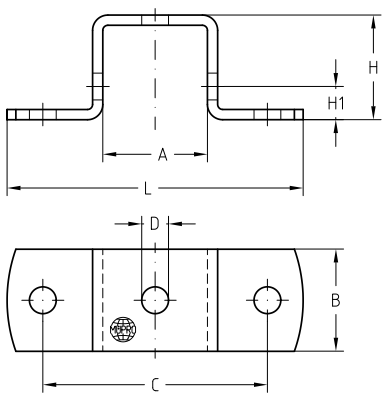


For profile 40/60

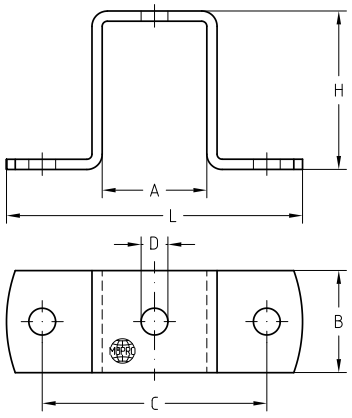








For profiles 28/30 and 38/40



For profile 40/60

For support channels	Part no.		Sales unit	Pack unit	Dimensions [mm]						
	V2A	V4A			A	B	C	D	H	H1	L
28/30	**118228**	**118225**	25	pieces	31	30	80	8.5	31	13	102
38/40	**118249**	**118268**			41	40		10.5	41	18	116
40/60	**118292**	**118300**							62	–	110

02/19

MPC-Girder cleats

Field of application

- Attachment of MPC-Support channels to steel girders without drilling or welding

Advantages

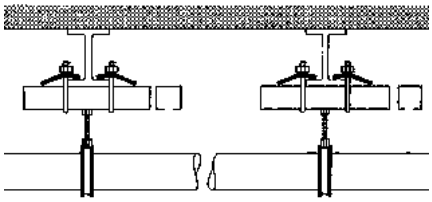
- Attachment to supporting structure without welding or drilling
- Allows subsequent adjustment of the channels along and across the supporting structure
- Suitable for all flange thicknesses of common girders
- Easy to install, pre-assembled kit
- Proper attachment of suspended loads on girders

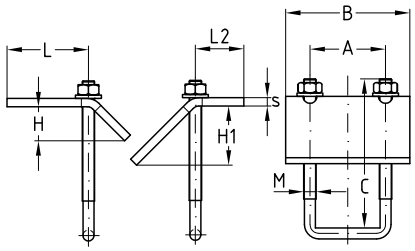




Features

For support channels	Thread [mm]	Max. permitted loading/pair [N]
27/18, 28/30	M6	2,800
38/40, 40/60	M10	10,800





For support channels	Thread [mm]	Spanner width [SW]	Part no. V2A	Part no. V4A	Sales unit	Pack unit	Dimensions [mm] A	B	C	H	H1	L	L2
27/18, 28/30	M6	10	**130282**	**130280**	20	pieces	37	60	80	18.0	29.0	43.8	27.8
38/40, 40/60	M10	15	**130270**	**130271**			50	80	100	18.5	24.5	39.7	30.7

02/19

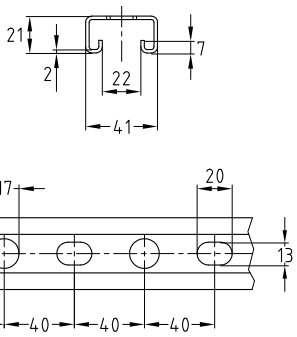
MPR-Support channels

Field of application

- Ideal for pipe installation as support structure for air ducts
- Variety of mounting options in combination with extensive range of system components
- For indoor and outdoor use

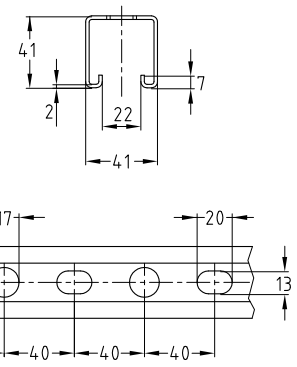
Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- High bending stiffness due to the cross-section design
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- For setting up structures with correctly measured static loads by means of diverse connection components
- Interlocking rail slot for positive locking of attachments
- Clean-cut appearance by the use of MPR-protection caps



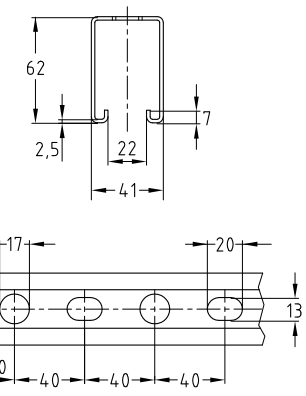


Profile 41/21/2.0





Profile 41/41/2.0





Profile 41/62/2.5

Profile	Length [mm]	Material	**Part no.**	Sales unit	Pack unit
41/21/2.0	2,000	V4A	**154393**	1	pieces
	6,000		**154395**		
41/41/2.0	2,000		**154396**		
	6,000		**154398**		
41/62/2.5			**154404**		

02/19

MPR-Support channels

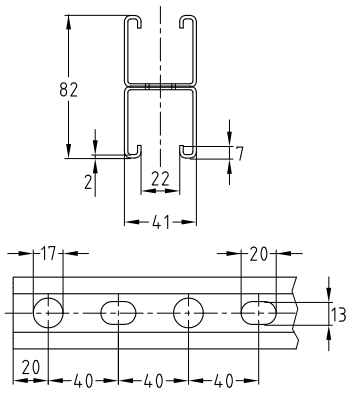
H-Profiles

Field of application

- Ideal for space-saving support of multisection pipeways between ceiling beams
- Ideal for pipe installation and support structure for air ducts
- Variety of mounting options in combination with extensive range of system components
- For indoor and outdoor use

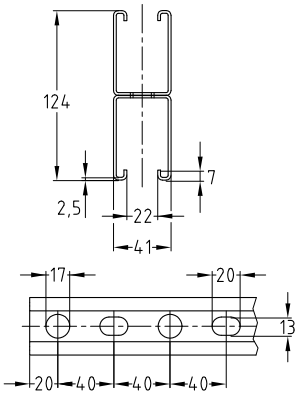
Advantages

- Quick and efficient attachment of pipe sections and multiple pipeways
- Ideal combination of high bending stiffness and ease of installation
- Channel slots on both sides allow simple and quick alignment of all suspended and floor-mounted pipe supports
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPR-Protection caps
- Interlocking rail slot for positive locking of attachment parts





Profile 41/82/2.0





Profile 41/124/2.5

Profile	Length [mm]	Material	**Part no.**	Sales unit	Pack unit
41/82/2.0	6,000	V4A	**154406**	1	pieces
41/124/2.5			**154407**		

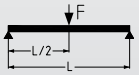
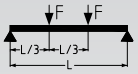
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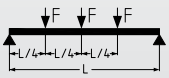
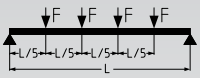
MPR-Support channels

Technical data of profiles:

Profile 	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available threaded plates*	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
41/21/2.0	V4A	149	M8, M10, M12	1.45	1.62	0.8894	4.5246	0.839	2.207
41/41/2.0				2.08	2.42	4.9736	7.5692	2.451	3.692
41/62/2.5				3.38	3.98	17.2090	12.9297	5.671	6.307
41/82/2.0 H-Profile				4.16	4.83	30.6876	15.1385	7.485	7.385
41/124/2.5 H-Profile				6.76	7.96	111.7528	25.8595	18.025	12.614

Load bearing capacities of profiles for bending around the y-axis [N]:

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
41/21/2.0	995	418	176	89	–	–	741	246	104	52	–	–
41/41/2.0	2,895	1,450	960	571	98	–	2,141	1,085	612	335	58	–
41/62/2.5	6,659	3,358	2,230	1,659	433	105	4,891	2,508	1,668	1,187	254	62
41/82/2.0 H-Profile	6,541	4,425	2,943	2,191	819	256	3,271	3,261	2,200	1,640	481	150
41/124/2.5 H-Profile	13,612	10,625	7,096	5,309	2,557	1,241	6,806	6,790	5,292	3,963	1,871	729

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
41/21/2.0	495	176	74	37	–	–	412	138	58	29	–	–
41/41/2.0	1,430	723	439	241	41	–	1,186	602	345	189	32	–
41/62/2.5	3,267	1,670	1,112	828	182	44	2,700	1,389	926	669	143	35
41/82/2.0 H-Profile	2,181	2,174	1,467	1,094	345	108	1,635	1,630	1,221	911	271	85
41/124/2.5 H-Profile	4,538	4,527	3,528	2,643	1,278	532	3,403	3,395	2,933	2,200	1,054	411

* Please note additional information on the catalog pages of threaded plates/hammer head fasteners.

The determined loads apply for static loads. Calculation based on Eurocode (EC3).
The safety coefficient γ = 1.54 takes into account the partial and combination coefficients as well as the safety factor of the material.
For the given values, the permissible steel stress and the maximum permissible deflection $L_{/200}$ are not exceeded, taking the deadweight into consideration.

02/19

MPR-Support channels

Permissible buckling loads for profiles in [N]:

Buckling length Lk [mm]	MPR 41/21/2.0	MPR 41/41/2.0	MPR 41/62/2.5	MPR 41/82/2.0	MPR 41/124/2.5
200	23,392	36,132	59,486	72,188	118,971
300	22,034	35,800	59,486	72,188	118,971
400	20,452	34,820	58,648	71,487	117,930
500	18,561	33,795	57,360	70,480	116,306
600	16,395	32,699	56,027	69,412	114,589
700	14,139	31,509	54,626	68,258	112,739
800	12,028	30,203	53,137	66,989	110,713
900	10,198	28,769	51,540	65,572	108,459
1,000	8,676	27,209	49,820	63,972	105,924
1,100	7,430	25,543	47,965	62,152	103,048
1,200	6,413	23,810	45,977	60,078	99,778
1,300	5,580	22,062	43,865	57,731	96,077
1,400	4,894	20,349	41,655	55,115	91,944
1,500	4,323	18,715	39,382	52,268	87,422
1,600	3,844	17,187	37,088	49,261	82,612
1,700	3,439	15,780	34,819	46,184	77,649
1,800	3,094	14,498	32,612	43,129	72,677
1,900	2,797	13,337	30,499	40,171	67,825
2,000	2,541	12,290	28,499	37,363	63,188
2,100	2,319	11,348	26,625	34,737	58,826
2,200	2,124	10,500	24,882	32,304	54,767
2,300	1,952	9,736	23,268	30,067	51,020
2,400	1,801	9,048	21,778	28,017	47,576
2,500	1,666	8,426	20,407	26,142	44,421
2,600	1,546	7,863	19,145	24,431	41,534
2,700	1,438	7,353	17,985	22,868	38,893
2,800	1,341	6,889	16,918	21,439	36,477
2,900	1,254	6,466	15,937	20,133	34,265
3,000	1,175	6,080	15,032	18,936	32,237
3,100	1,103	5,727	14,199	17,838	30,376
3,200	1,038	5,403	13,429	16,830	28,664
3,300	978	5,106	12,718	15,902	27,088
3,400	923	4,832	12,060	15,046	25,635
3,500	873	4,579	11,449	14,256	24,292
3,600	826	4,345	10,883	13,525	23,050
3,700	784	4,129	10,356	12,848	21,899
3,800	744	3,928	9,866	12,220	20,830
3,900	707	3,741	9,409	11,636	19,836
4,000	673	3,567	8,982	11,092	18,910
4,100	642	3,405	8,584	10,585	18,047
4,200	612	3,254	8,210	10,111	17,241
4,300	585	3,112	7,861	9,669	16,487
4,400	559	2,980	7,532	9,254	15,781
4,500	535	2,855	7,224	8,865	15,119
4,600	513	2,739	6,934	8,500	14,498
4,700	492	2,629	6,661	8,157	13,913
4,800	472	2,526	6,404	7,835	13,363
4,900	453	2,428	6,161	7,530	12,845
5,000	436	2,336	5,931	7,244	12,356
5,100	419	2,250	5,714	6,973	11,895
5,200	404	2,168	5,509	6,717	11,458
5,300	389	2,090	5,314	6,474	11,045
5,400	375	2,016	5,130	6,245	10,654
5,500	362	1,947	4,955	6,027	10,283
5,600	349	1,880	4,788	5,821	9,932
5,700	337	1,818	4,630	5,625	9,597
5,800	326	1,758	4,480	5,439	9,280
5,900	315	1,701	4,336	5,261	8,978
6,000	305	1,647	4,200	5,093	8,690

02/19

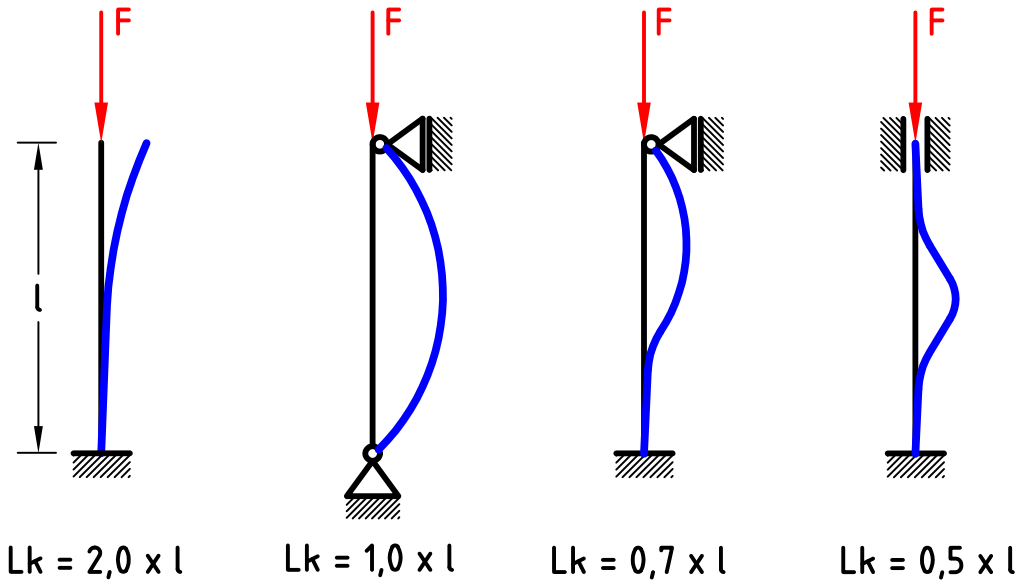
MPR-Support channels

Buckling loads as per DIN EN 1993-1-1 sections 6.2 and 6.3.
The values in the table apply for fully bearing cross-sections and central load transmission!
The potentially lower slenderness parameter for buckling and lateral torsional buckling must be examined separately!

Buckling about the z-axis and the y-axis was considered.
The least favourable buckling load is documented in the table.

The safety coefficient γ = 1.54 takes into account the safety and combination coefficients as well as the safety factor of the material.

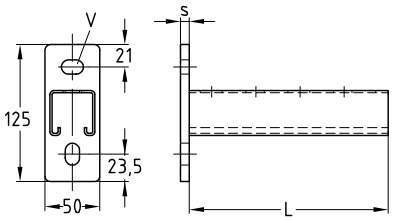
Determine the authoritative buckling length Lk depending on the storage conditions and the rod length l, as shown in the figure.
Read off the buckling load F as Lk from the table.



MPR-Wall hanger brackets

Field of application

- Ideal as cantilever support structure of multisection pipeways
- Applicable as cantilever bracket for air ducts
- Applicable in combination with saddle support and channel support brackets as a cross-beam for pipe attachments in shafts and ducts
- Solid wall bracket for valves and equipment
- For indoor and outdoor use





Advantages

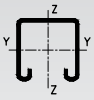
- The strong base plate ensures a high load carrying capacity
- Elongated- and cross-hole for flexible attachment to the building structure
- Variety of lengths covers all construction requirements
- Clean-cut appearance by the use of MPR-Protection caps

Profile	Length L [mm]	Material	**Part no.**	Sales unit	Pack unit	Dimensions [mm]	
						s	V
41/41/2.0	160	V4A	**154435**	1	pieces	8	13.5 x 20
	240		**154436**				
	320		**154437**				
	400		**154438**				
	480		**154439**				
	560		**154440**				
	640		**154441**				

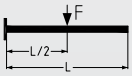
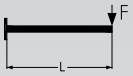
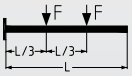
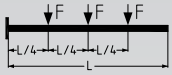
02/19

MPR-Wall hanger brackets

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]
41/41/2.0	125 x 50 x 8	V4A	143	V4A	149

Load bearing capacities of brackets for bending around the y-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]				
			Max. allowable load [N]			
41/41/2.0	242,069	160	3,025	1,512	1,512	1,008
		240	2,017	1,008	1,008	672
		320	1,512	756	756	504
		400	1,210	605	605	403
		480	1,008	504	504	336
		560	864	432	432	288
		640	756	378	378	252

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.54$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L_{/150}$ are not exceeded, taking the deadweight into consideration.

The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

02/19

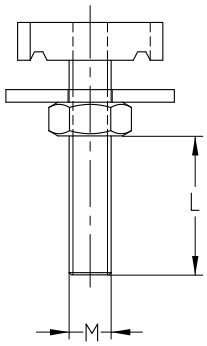
MPR-Hammer head fasteners

Field of application

- For time-saving, efficient attachment of pipe clamps to MPR-Support channels
- For indoor and outdoor use

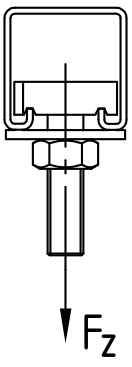
Advantages

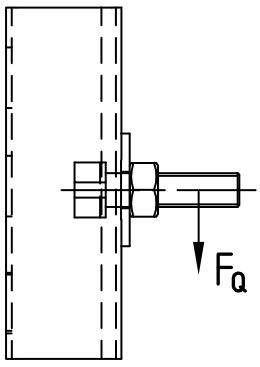
- Easy and fast assembly in the rail slot
- Lateral adjustment at any time, allows perfect alignment of the pipeline after installation
- Various lengths and thread diameters can be combined within the same channel
- Interlocking threaded plate for secure positive connection in the rail slot of the MPR-Support channels





For support channels	Connecting thread	Length [mm]	Usable thread length L [mm]	Material	Part no.	Sales unit	Pack unit
41/21/2.0, 41/41/2.0, 41/62/2.5, 41/82/2.0, 41/124/2.5	M8	35	10	V4A	**154413**	25	pieces
		50	25		**154415**		
	M10	35	8		**154418**		
	M12	40	9		**154424**		





For support channels Material thickness [mm]	MPR-Hammer head fasteners			
	Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ [N]	For a tightening torque of [Nm]
2.0	M8	7,000	1,500	10
	M10		2,300	20
	M12		3,300	30
2.5	M8	12,000	2,500	10
	M10		3,300	20
	M12		4,000	30

02/19

MPR-Threaded plates

Field of application

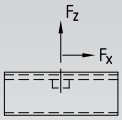
- For fixing of attachment parts in the rail slot of the MPR-Support channels
- For indoor and outdoor use

Advantages

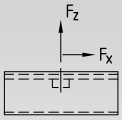
- Interlocking threaded plate for secure positive connection in the rail slot of the MPR-Support channels



For support channels	Thread	Material	Part no.	Sales unit	Pack unit	Dimensions [mm]		
						l	b	s
41/21/2.0, 41/41/2.0, 41/62/2.5, 41/82/2.0, 41/124/2.5	M8	V4A	**154409**	25	pieces	34.5	19.5	8.0
	M10		**154069**					9.0
	M12		**154411**					



Max. permissible load values of MPR-Threaded plates (channel 2.0 mm)					
	Transverse load Fx in rail slot direction with washer 40 x 3 mm		Transverse load Fx in rail slot direction with hexagon wood screw A70 and clamp bracket heavy-duty		Tensile load Fz with threaded pin A70 and washer 40 x 3 mm
Size	Tightening torque [Nm]	[N]	Tightening torque [Nm]	[N]	[N]
M8	10	1,500	20	3,500	7,000
M10	20	2,300	42	5,000	
M12	30	3,300	60	5,500	



Max. permissible load values of MPR-Threaded plates (channel 2.5 mm)					
	Transverse load Fx in rail slot direction with washer 40 x 3 mm		Transverse load Fx in rail slot direction with hexagon wood screw A70 and clamp bracket heavy-duty		Tensile load Fz with threaded pin A70 and washer 40 x 3 mm
Size	Tightening torque [Nm]	[N]	Tightening torque [Nm]	[N]	[N]
M8	10	2,500	20	4,000	12,000
M10	20	3,300	42	5,500	
M12	30	4,000	60	6,000	

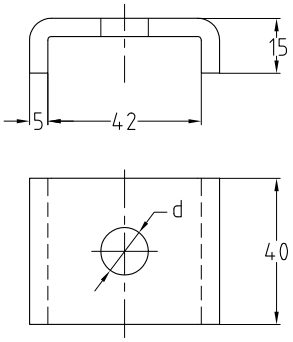
MPR-Clamp brackets

Field of application

- For safe force transmission when installing MPR-Support channels together with threaded rods, anchor plugs and screws

Advantages

- Heavy-duty type for transferring large forces
- Safe, folded edge prevents expansion of the rail slot





Heavy-duty version

Design	For support channels	For thread	Material	Part no.	Sales unit	Pack unit	Dimensions d [mm]
Heavy-duty version	41/21/2.0, 41/41/2.0, 41/62/2.5, 41/82/2.0, 41/124/2.5	M10	V4A	**154450**	10	pieces	11
		M12		**155638**			13

MPR-Protection caps

Field of application

- Plastic protection cap for mounting on open ends of the MPR-Support channels

Advantages

- Visually clean finish of the MPR-Support channels protects from injury
- Weather-resistant plastic material for long service life



For support channels	Part no.	Sales unit	Pack unit
41/21	**151076**	100	pieces
41/41, 41/82	**151077**	50	
41/62, 41/124	**151078**	25	

Washers

for MPR-Support channels

For thread	Outer diameter [mm]	Thickness [mm]	Material	Part no.	Sales unit	Pack unit
M8	40	3	V4A	**154454**	100	pieces
M10				**154455**		
M12				**154456**		



02/19

DÄMMGULAST® Channel sections

for MPR-Profiles

Field of application

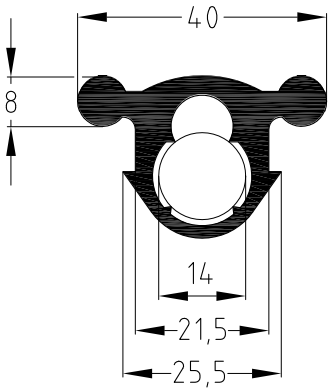
- Ideal for the decoupling of traverses for air duct fixtures
- For secure vibration-decoupling of MPR-Support channels

Advantages

- Easy installation by inserting into MPR-Support channels and/or screwing onto threaded rods
- Prevents structure-borne noise coupling by avoiding contact between the air duct and the threaded rods
- Interlocking profile prevents channel section being pushed out
- Prevents fluttering and other vibration noises in the air ducts
- Small contact surface, large absorption mass







Design	For support channels	Suitable for	Part no.	Sales unit	Pack unit
DÄMMGULAST® Channel section roll of 20 m	41/21–41/124	Channels with slot widths of 22 mm, M8 and M10 threaded rods	**151189**	1	roll
DÄMMGULAST® Channel sections section of 50 mm			**155366**	200	pieces

When installing air conditioning and ventilation equipment, MPR-Support channels can be used as load-bearing traverses. Structure-borne vibration coupling bridges resulting from direct metal contact between the air duct and the traverse or threaded rods can be prevented by the use of DÄMMGULAST® Channel section as intermediate layer.

The DÄMMGULAST® Channel section was developed especially for these application areas and provides the optimum solution from a practical installation point of view.

02/19

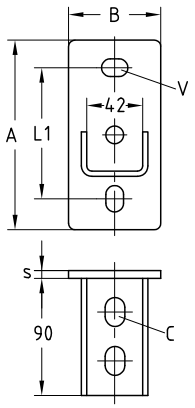
MPR-Saddle supports

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor and outdoor use

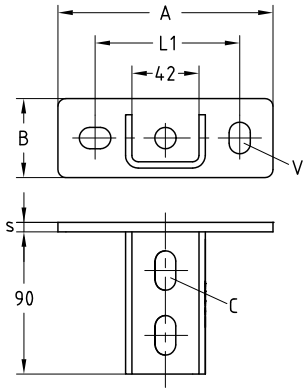
Advantages

- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions
- Type for 41/82 and 41/124 profiles with rotation-free bearing due to clamping on both sides by the MPR-Support channels



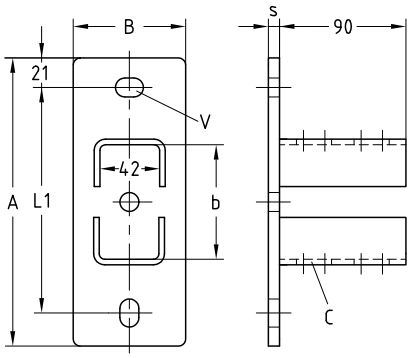


MPR-Saddle support, lengthwise





MPR-Saddle support, crosswise





MPR-Saddle support, lengthwise for profiles 41/82 and 41/124

Design	For support channel	Material	Part no.	Sales unit	Pack unit	Dimensions [mm]						
						A	B	b	L1	s	C	V
Crosswise	41/21–41/62	V4A	**156826**	5	pieces	136	50	–	91.5	6	13 x 25	13.5 x 20
Lengthwise			**156825**			144	70		100			
	41/82		**155641**	1		205	80	83	160	8		
	41/124		**155642**			245		125	200			

02/19

MPR-VARIO-Saddle support

Field of application

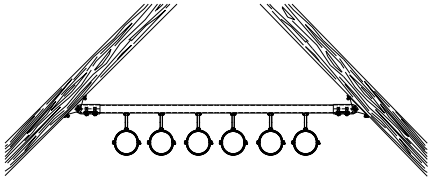
- Ideal for attachment to inclined roof trusses, vaults and in round cable shafts

Advantages

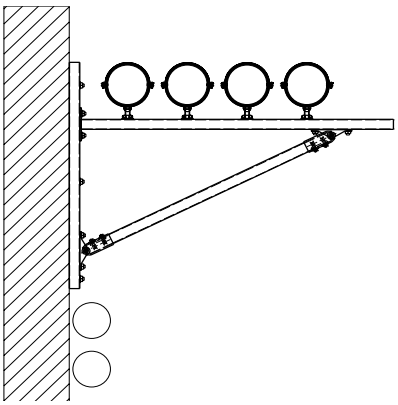
- Variable angle adjustment possible during installation
- Simple and quick installation due to pre-installed srews and MPR-Threaded plate
- Attachment to the slot of support channels 41/41 possible in all directions
- Positive-fit joining due to interlocking MPR-Support channels and MPR-Threaded plates



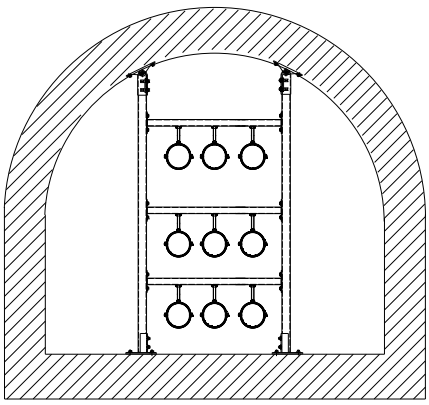




Attachment of a pipe run to an inclined roof truss

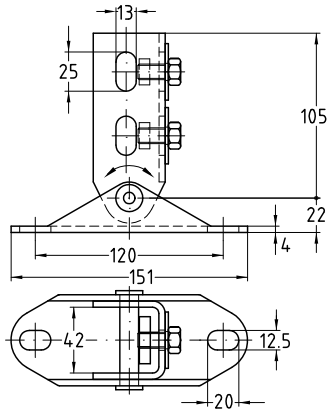


Pipes installed on a wall hanger with diagonal strut



Installation of brackets in vaults or round cable ducts and shafts

Completely pre-assembled:
1 MPR-VARIO-Saddle support
2 MPR-Threaded plates M10
2 Hexagonal head bolts M10
2 Washers



For support channels	Minimum angle [°]	Material	**Part no.**	Sales unit	Pack unit
41/21–41/62	20	V4A	**160008**	1	pieces

02/19

MPR-Mounting angle 45°

for MPR-Support channel 41/41

Field of application

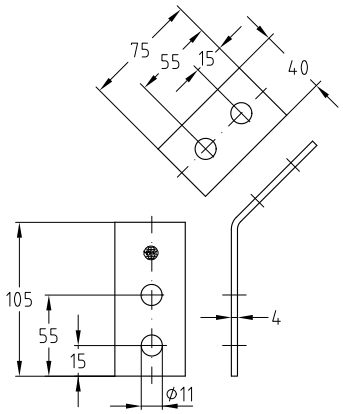
- Solid fixing element for constructions of wall-mounted installations, shelves as well as channel constructions for pipeline attachments and air ducts without welding
- Also applicable for direct mounting on walls, ceilings or floors

Advantages

- Variable mounting options
- Versatile in use, e.g. as:
  - Angular support bracket
  - Angular load-bearing bracket
  - Connection element
- Multi-purpose component for professional, practical installation solutions



For support channel	Material	**Part no.**	Sales unit	Pack unit
41/41	V4A	**159471**	10	pieces



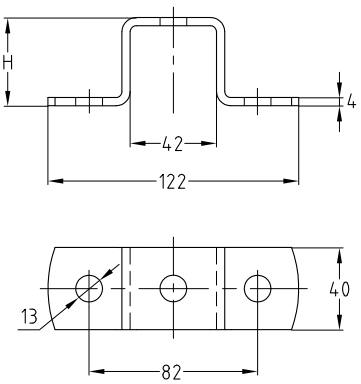
MPR-Cross channel connectors

Field of application

- For cross-connections e.g. in shelves made from MPR-Support channels
- For indoor and outdoor use

Advantages

- Easy-to-install connection element for setting up structures with correctly designed static loads using MPR-Support channels
- Greater flexibility when setting up structures made from channels
- For rotation-resistant attachment to building structure





For support channels	Material	**Part no.**	Sales unit	Pack unit	Dimensions H [mm]
41/41	V4A	**155634**	10	pieces	43
41/62		**155637**			64

02/19

MPR-Girder cleats

Field of application

- Attachment of MPR-Support channels to steel girders without drilling or welding
- For indoor and outdoor use

Advantages

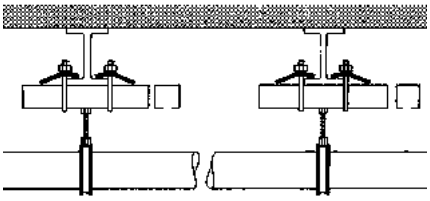
- Ideal solution for attachment of MPR-Support channels to steel girders
- Allows subsequent adjustment of the channels along and across the supporting beam
- Suitable for all flange thicknesses of common support profiles (≤ 24.5 mm)
- Easy to install, pre-assembled kit
- Proper attachment of suspended loads on girders

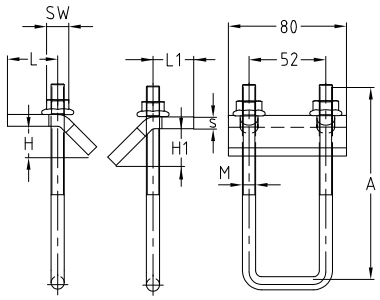




Features

For support channels	Thread U-brackets	Max. permitted loading/pair [N] with hammer head fasteners		
		M8	M10	M12
41/21/2.0 41/41/2.0	M10	7,000	7,000	7,000
41/62/2.5		12,000	12,000	12,000
41/82/2.0		7,000	7,000	7,000





For support channels	Thread	Spanner width [SW]	Material	Part no.	Sales unit	Pack unit	Dimensions [mm]					
							A	H	H1	L	L1	s
41/21, 41/41	M10	15	V4A	**154445**	10	pieces	90	18.5	24.5	34	30	8
41/62, 41/82				**154446**			130					

02/19

Channel connector

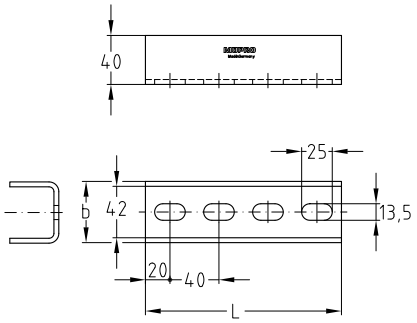
heavy-duty version

Field of application

- Quick butt-joint connection forMPC- and MPR-Support channels

Advantages

- Enables exact alignment of the channels
- Four bolts provide a frictional joint
- Form-locking connection between channel and connector (passthrough installation)









For support channels	Material	**Part no.**	Sales unit	Pack unit	Dimensions [mm]	
					b	L
38/40, 40/60, 41/21–41/124	V4A	**159475**	1	pieces	50	160

02/19

Reinforcement angles

Field of application

- Support for MPC- and MPR-Wall hanger brackets where transverse forces occur
- Further mounting facilities for angle and joint connection of MPC- and MPR-Support channels

Advantages

- Suitable for wall, ceiling and floor mounting
- Various applications in many different constructions

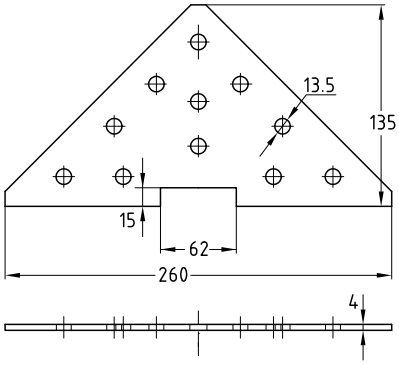








Part no.		Sales unit	Pack unit
V2A	**V4A**		
159434	**159435**	1	pieces



Suitable add-on parts for MPC-Support channels 38/40, 40/60

	Material	Part no.	Sales unit	Pack unit
Hexagonal head bolt, M10 x 20 mm	V2A	**105553**	100	pieces
	V4A	**105555**		
MPC-Rail nut, M10	V2A	**117962**		
	V4A	**117965**		

Suitable add-on parts for MPR-Support channels 41/21–41/124

	Material	Part no.	Sales unit	Pack unit
Hexagonal head bolt, M10 x 20 mm	V4A	**105555**	100	pieces
MPR-Threaded plate, M10		**154069**	25	

02/19

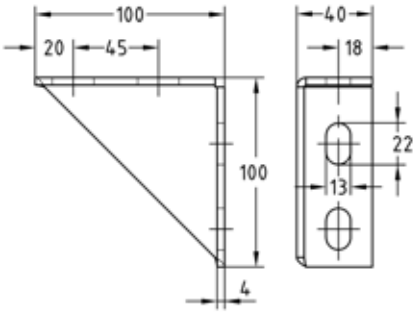
Cantilever brackets

Field of application

- Can be attached to ceiling, wall and floor, free-standing or in a shaft
- Strong support bracket for water meters, distributing batteries, pumps and many other items

Advantages

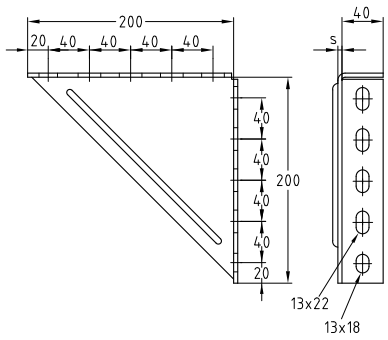
- Variety of mounting possibilities when used with MPC- and MPR-Support channels
- Reinforces and increases the load bearing capacity of channel structures and cross-beams
- Even greater strength values can be achieved by bolting two cantilever brackets together





Cantilever bracket 100 x 100







Cantilever bracket 200 x 200

Design	Type	For support channels	Size [mm]	Part no.		Sales unit	Pack unit
				V2A	V4A		
100 x 100	–	38/40, 40/60, 41/21–41/124	100 x 100 x 4	**167128**	**–**	20	pieces
200 x 200	1		200 x 200 x 4	**113616**	**113619**	1	

Cantilever brackets 100 x 100 made of V4A stainless steel are available upon request.

For further information please refer to chapter "Technical information".

02/19

Supporting angles

Field of application

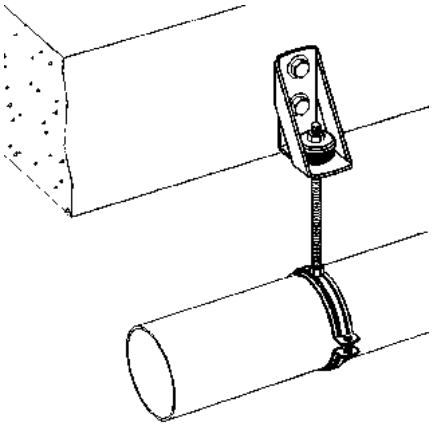
- For lateral suspension of pipelines on reinforced concrete beams
- As substructure for the attachment of fittings, e.g. water meters

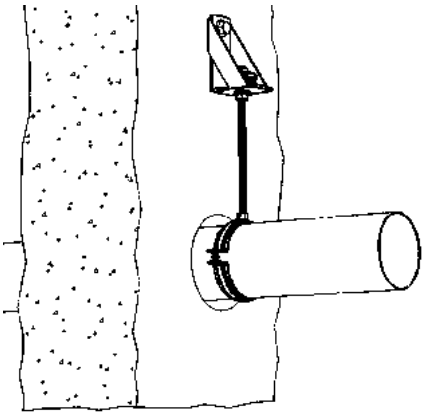
Advantages

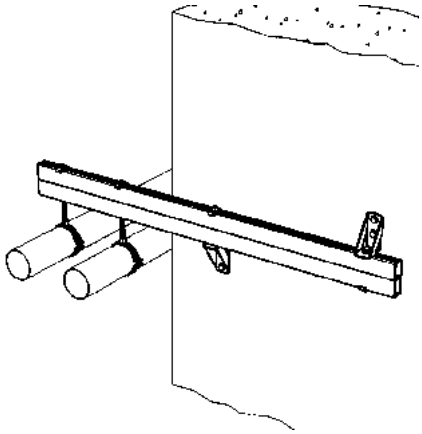
- Angle element in cases of higher requirements for the stability of mounting structures
- With high-quality vibration control due to the DÄMMGULAST® Resilient pad
- Usable as bracket for supporting heavy loads close to a wall
- Construction component for cross-beams in confined spaces

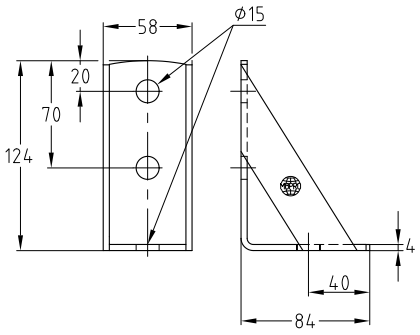


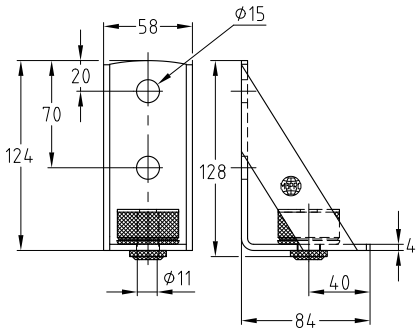












Features

Type	Max. recommended load [N]	Average vibration reduction [dB(A)]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
With DÄMMGULAST® Resilient pad	1,000	17	**127786**	**127783**	10	pieces
Without DÄMMGULAST® Resilient pad	1,650	–	**127795**	**127798**		

02/19

Construction bracket

Field of application

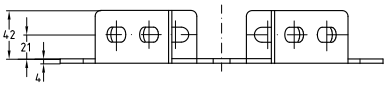
- Ideal connecting element for the construction of cross-beams, frames and shelving systems
- For direct mounting on ceilings, walls and floors or for installation with MPC- and MPR-Support channels used as:
  - Angular support bracket
  - Angular load-bearing bracket
  - Basic prop
  - Angle bracket
  - Cross connection
  - Transverse support angle
  - Support angle
  - Connection element
  - Angular bracket

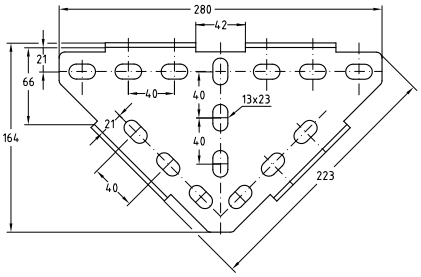
Advantages

- Great variety of mounting possibilities when used with MPC- and MPR-Support channels
- Results in rigid junction and angle connections
- For any direction of channel opening



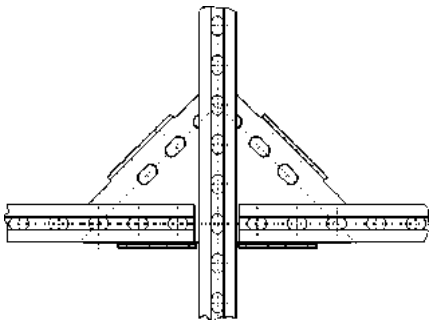
Size [mm]	For support channels	Material	**Part no.**	Sales unit	Pack unit
280 x 164 x 4	38/40, 40/60, 41/21–41/124	V2A	**113595**	1	pieces



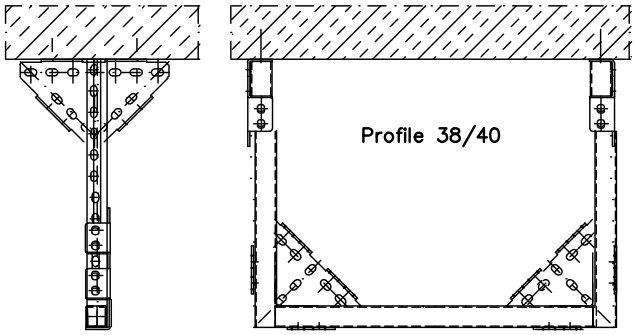


02/19

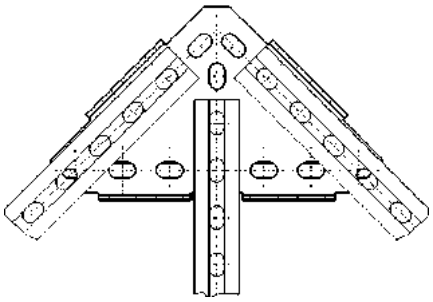
Construction bracket

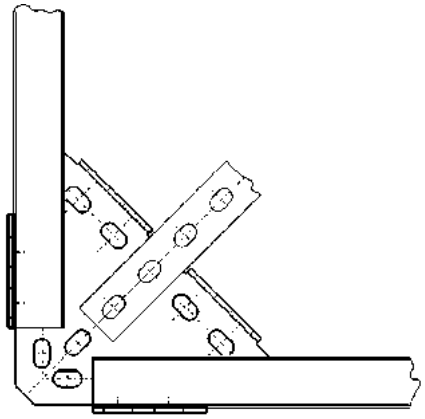


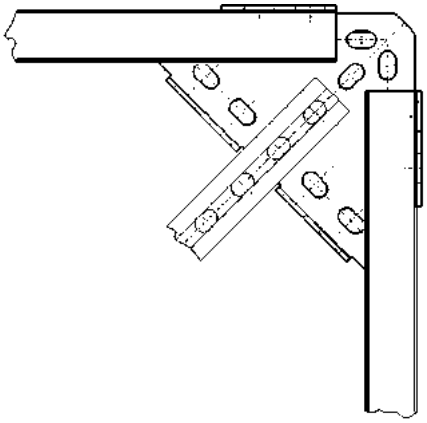
As a cross-connection, also realizable with continuous MPC-Support channels



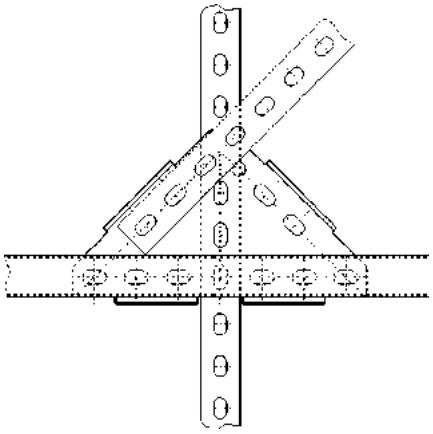
As transverse support; for additional lateral rigidity

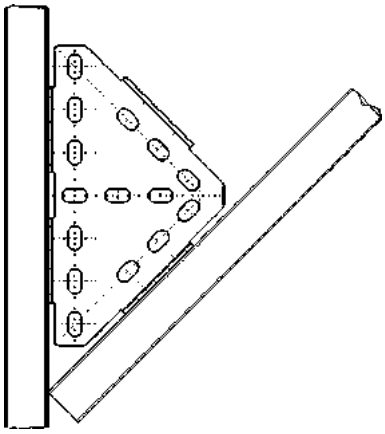


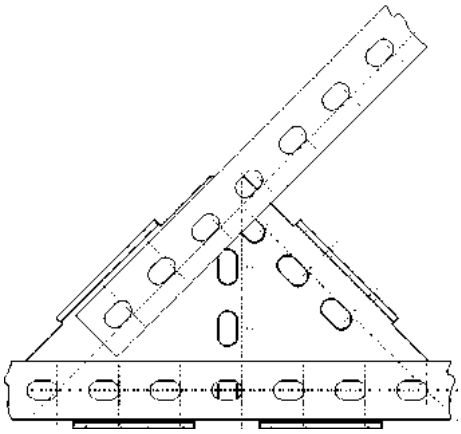




As junction plate; as the mounting slot of the MPC-Support channels can be aligned in any position, is guaranteed a variety of mounting arrangements for an optimum solution to any problem.







As 45° support; optional attachment with internally or externally positioned MPC-Support channel

02/19

Mounting angles

Field of application

- Connection element for construction of wall-mounted installations, shelves as well as channel constructions for mountings of pipelines and air ducts without welding
- Applicable for direct mounting on walls, ceilings or floors
- For MPC- and MPR-Support channels

Advantages

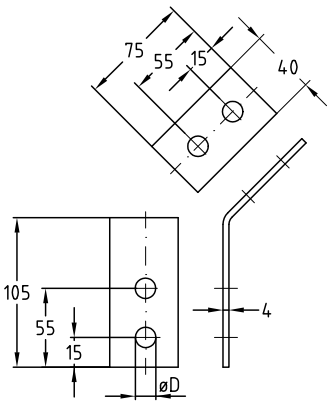
- Versatile applicability due to oblong holes, e.g. as:
  - Angular support bracket
  - Angular load-bearing bracket
  - Connection element
  - Angular bracket
- Multi-purpose component for professional, practical installation solutions

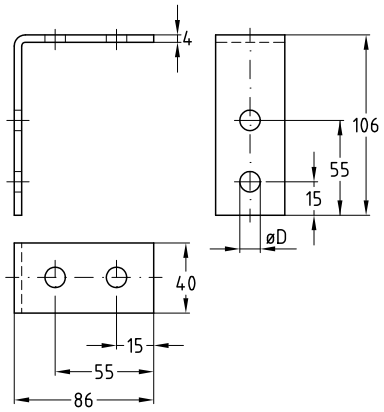












Type	For support channels	Hole diameter D [mm]	Part no.		Sales unit	Pack unit
			V2A	V4A		
45°	38/40, 40/60, 41/21–41/124	11.0	**118757**	**118773**	25	pieces
		13.5	**–**	**159471**		
90°		11.0	**118824**	**118858**		

02/19

Mounting angle

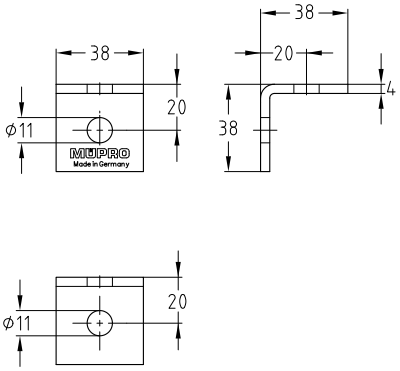
short

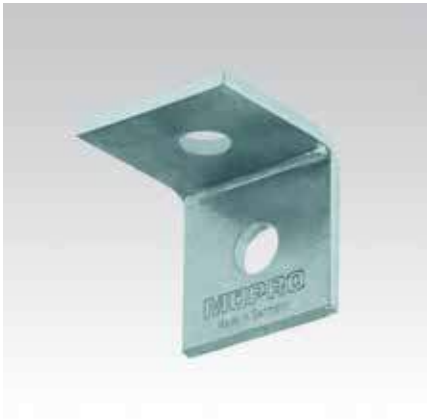
Field of application

- Strong and good value connecting element for the construction of frames, shelves and supports for pre-wall installations

Advantages

- Creation of rigid structures without welding
- High flexibility and easy mounting
- Good adjustment to the widths of MPC- and MPR-Support channels









For support channels	Material	**Part no.**	Sales unit	Pack unit
38/40, 40/60, 41/21–41/124	V2A	**118854**	25	pieces

02/19

Angle- and T-connection plates

Field of application

- Strong connection elements for frames and pre-wall installations using the MPC- and MPR-System components

Advantages

- Simple and quick connection of **corner-** and **T-connections**
- The mounting plates facilitate frame construction in one plane, in which the channel slots have the same alignment
- Hole spacings allow pass-through mounting using the MPC- and MPR-Support channels



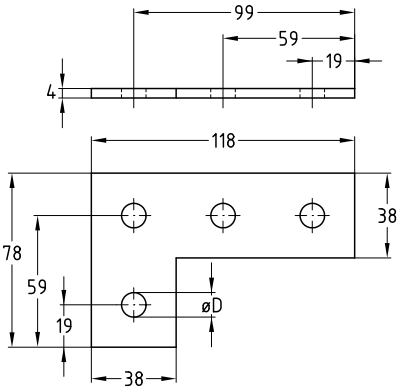
Angle plate

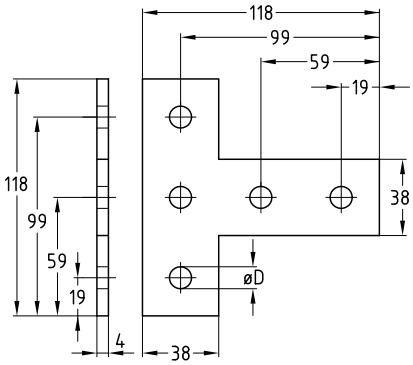


T-connection plate









	For support channels	Hole diameter D [mm]	Material	**Part no.**	Sales unit	Pack unit
Angle plate	38/40, 40/60, 41/21–41/124	11.0	V2A	**127843**	1	pieces
		13.5	V4A	**159473**		
T-connection plate		11.0	V2A	**130298**		
		13.5	V4A	**159474**		

02/19

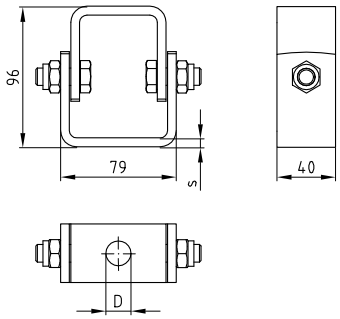
Joint brackets

Field of application

- Joint bracket for suspensions and anchorings, e.g. for fixed points or fastenings of bridge drainage systems

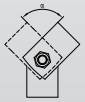
Advantages

- Large swivel range for a wide variety of installation situations
- Additional materials / surfaces available upon request





Features

Size	Tensile load at swivel angle 0° [N] 	Tensile load at swivel angle 45° [N] 	Max. recommended swivel angle [°] 
40 x 6	8,000	5,000	90

Size	For thread	Surface	Diameter D [mm]	Thickness s [mm]	**Part no.**	Sales unit	Pack unit
40 x 6 LG 13	M12	V4A	13	6	**139140**	1	pieces
40 x 6 LG 17	M16		17		**130702**		

Order-related manufacturing, price and delivery time available upon request.

02/19

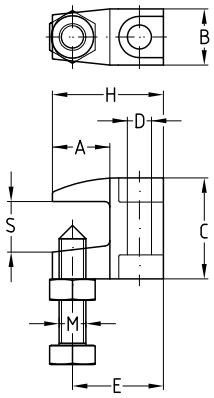
Girder clamps

Field of application

- For attachment of pipelines, air ducts and sprinkler systems on steel girders without welding or drilling

Advantages

- Attachment on girder without welding or drilling
- Subsequent alignment on the girder possible
- Quick, subsequent height adjustment of the threaded rods at the non-threaded through-hole
- High loading capacity
- For suspension of threaded pins and threaded rods for the attachment of pipe clamps or crossbeams made with MPC-Support channels





Features

Size of clearance hole for	Max. recommended load [N]
M8	1,200
M10	2,500
M12	3,500

Size of clearance hole for	Clamping ranges [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit	Dimensions [mm] A	B	C	D	E	H	M
M8	0–16	**130246**	**130245**	15	pieces	21.5	21	38	9	34	41.5	M10
M10		**130235**	**130249**						11			
M12		**130239**	**130254**						13			

02/19

Slide guides

Field of application

- Attachment of pipes with temperature affected, axial expansion
- A variety of installation possibilities (floor-mount, ceiling-mount, wall-mount)
- Expansion point attachment for standing and suspended pipes
- Expansion point attachment as cross connection for pipe movement in axial and lateral directions

Advantages

- Flat, compact design for secure mounting in cramped mounting situations
- Large slide travel of up to 76 mm
- High-level application flexibility due to triple connection facilities for pipe clamps
- One or two pipe clamps can be mounted depending on the application

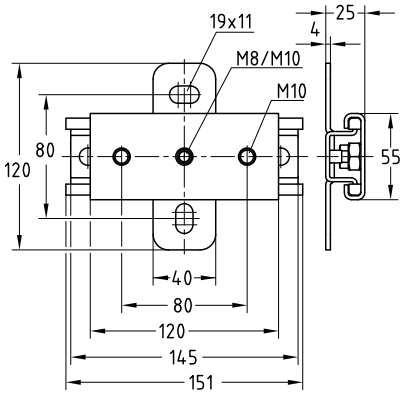




Ceiling installation with steel anchors M8



Upright installation of two slide guides in crisscross arrangement, on a MPC-Support channel



Features

Connecting thread 1x	Connecting thread 2x	Temperature resistance	Max. recommended loading [N]	Max. slide travel [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
M8/M10	M10	–40 °C to +100 °C	1,750	76	**148349**	**148345**	25	pieces

02/19

Duct fixing angles

with insulator

Field of application

- Easy to install suspension for air ducts

Advantages

- Incorporated highly-elastic vibration-isolating element
- Excellent alignment and height adjustment via the threaded rods
- Design as angle and twin angle
- Various attachment options to air duct with rivets or self-drilling screws
- Direct attachment to building structure possible
- Average vibration reduction of 17 dB(A)



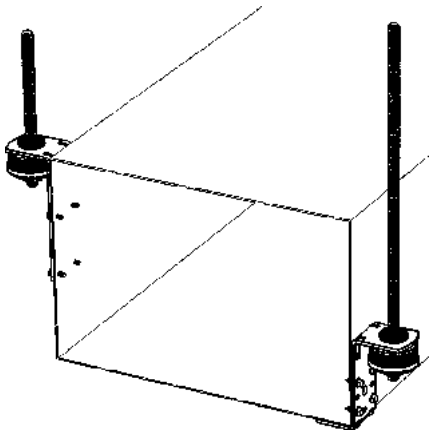
Duct fixing angles

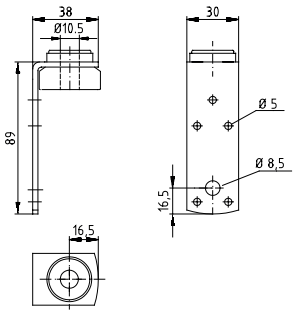


Duct fixing twin-angles

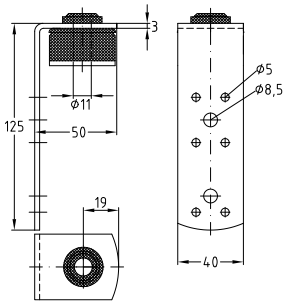
Features

Type	Max. recommended load [N]	Average vibration reduction [dB(A)]
I	230	16
II	800	17

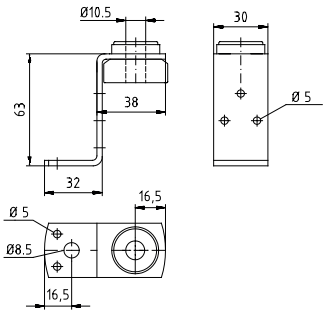




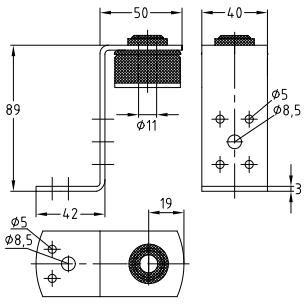
Duct fixing angles
Type I



Duct fixing angles
Type II



Duct fixing twin-angles
Type I



Duct fixing twin-angles
Type II

	Type	Part no. V2A	Part no. V4A	Sales unit	Pack unit
Duct fixing angles	I	**116626**	**116632**	25	pieces
	II	**116651**	**116534**		
Duct fixing twin-angles	I	**116537**	**116540**		
	II	**116561**	**116531**		

02/19

Trapezoid-sheet hangers

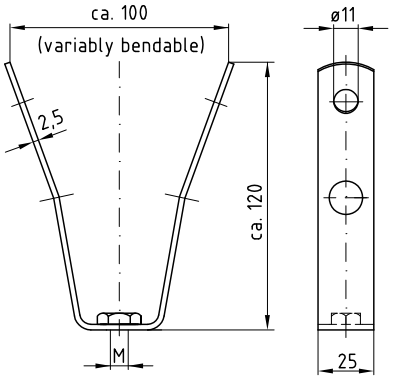
with welded-on nut

Field of application

- For the professional attachment of installations to trapezoidal sheets

Advantages

- Easy to adapt to different trapezoidal sheet sections due to predetermined bending points
- Round holes at the ends of the legs also enable a pass-through-mounting of M8 or M10 threaded rods





Features

Max. recommended load [N]	1,300

	Part no.		Sales unit	Pack unit
	V2A	V4A		
M8	**130198**	**130199**	25	pieces
M10	**130196**	**130197**		

Refer to chapter „Tools“ for trapezoid-sheet pliers used for attachment.

02/19

Threaded pins



Thread	Length [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
M8	25	114160	114163	100	pieces
	30	114175	114181		
	40	114202	114205		
	50	114217	114220		
	60	114235	114238		
	70	114247	114250		
	80	114256	114259		
	90	114265	114268		
	100	114105	114112		
	120	114122	114125		
	140	114131	114134		
M10	25	113756	113759	50	
	30	113771	113774		
	40	113798	113801		
	50	113807	113810		
	55	113816	113819		
	60	113831	113834		
	70	113846	113849		
	80	113852	113855		
	90	113864	113867		
	100	113687	113690		
	120	113708	113711		
	140	113717	113720		
M12	25	113936	113939		
	60	113986	113989		
	80	113995	113998		
	100	113873	113876		
	110	113888	113891		

Threaded rods



Thread	Length [m]	Part no. V2A	Sales unit	Pack unit	Part no. V4A	Sales unit	Pack unit
M6	1	113594	25	pieces	113597	25	pieces
M8		113621			113624		
	2	113645			113648		
M10	1	113455			113458	10	
	2	113476			113479		
M12	1	113501	20		113504		
	2	113519			113522	5	
M16	1	113537	5		113540		
	2	113555			113558		

02/19

Round connectors

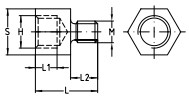
for extension of fastening threads

Thread	Length [mm]	Part no.	Outer diameter [mm]	Part no. V4A	Outer diameter [mm]	Sales unit	Pack unit
M8	30	**113262**	11	**113266**	11	100	pieces
	40	**113277**		**113280**			
M10	30	**113169**	13	**113172**	13	50	
	40	**113178**		**113181**			
M12	30	**113199**	15	**113202**	15		
	40	**113208**		**–**	–		
M16		**113227**	22	**113230**	25	25	



Reducers

Outer thread	Internal thread	Spanner size S [mm]	Material	Part no.	Sales unit	Pack unit	Dimensions [mm] L	L1	L2
M8	M10	13	V2A	**113500**	100	pieces	23	7	8
M10	M8			**113465**			21		
	M12	17		**113453**			25	8	10
M12	M10	13		**113471**			23		





Bolt screws

for fastening to wooden ceilings or for use with nylon plugs

Connecting thread	Total length [mm]	Wood thread	Wood thread length [mm]	Metric thread length [mm]	Spanner size [mm]	Material	Part no.	Sales unit	Pack unit
M8	50	H8	27	20	–	V2A	**129713**	100	pieces
	60		37				**129716**		
	80			30	6		**129723**		
	100		47	40			**129697**		
	120			50			**129701**		
	140						**129705**		
	160						**129707**		
M10	60	H10	37	20	8		**129677**		
	80		47				**129679**		
	100		57	30			**129665**		
	120			40			**129667**	50	
	140						**129669**		
	160						**129671**		
	180						**129673**		
M12	80	H12		20	10		**129684**		



02/19

Hexagonal nuts
DIN 934

Thread	Nut height [mm]	Spanner size [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
M6	5.0	10	**105477**	**105479**	100	pieces
M8	6.5	13	**105486**	**105488**		
M10	8.0	17	**105423**	**105425**		
M12	10.0	19	**105439**	**105441**		
M16	13.0	24	**105453**	**105455**		
M20	16.0	30	**105465**	**105467**	50	
M24	19.0	36	**105470**	**105472**	25	



Washers
DIN 125

For thread	Outer diameter [mm]	Thickness [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
M6	12	1.6	**127301**	**127304**	100	pieces
M8	16		**127313**	**127272**		
M10	20	2.0	**127269**	**127283**		
M12	24	2.5	**127280**	**127292**		
M16	30	3.0	**127289**	**127275**		



Washers
for MPC-Support channels

For thread	Outer diameter [mm]	Thickness [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
M8	24	2.0	**127190**	**127199**	100	pieces
	30		**127204**	**127207**		
M10		2.5	**127097**	**127103**		
	35		**127106**	**127112**		
M12	37	3.0	**127160**	**127163**		



Washers
for MPR-Support channels

For thread	Outer diameter [mm]	Thickness [mm]	Material	Part no.	Sales unit	Pack unit
M8	40	3	V4A	**154454**	100	pieces
M10				**154455**		
M12				**154456**		



02/19

Hexagon head bolts

DIN 933



Thread	Length [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
M8	16	**105754**	**105755**	100	pieces
	20	**105760**	**105761**		
	25	**105765**	**105767**		
	30	**105772**	**105774**		
	35	**105778**	**105780**		
	45	**105785**	**105786**		
	55	**105791**	**105792**		
M10	20	**105553**	**105555**		
	25	**105561**	**105562**		
	30	**105568**	**105570**		
	35	**105577**	**105579**		
	40	**105586**	**105588**	50	
	55	**105597**	**105598**		
	60	**105601**	**105602**		
	80	**105607**	**105608**		
	100	**105541**	**105540**		
M12	25	**105618**	**105619**	100	
	30	**105622**	**105624**		
	35	**105627**	**105629**	50	
	50	**105640**	**105641**		
	60	**105644**	**105645**		
	70	**105649**	**105650**		
M16	30	**105666**	**105667**		
	35	**105669**	**105670**		
	40	**105672**	**105673**		
	45	**105674**	**105675**		
M20	50	**105708**	**105709**	25	
M24	60	**105717**	**105718**		

Allen bolts

with metric thread for the attachment of MPC-Support channels with steel anchors



Thread	Thread length [mm]	Allen bolt spanner width [mm]	Material	Part no.	Sales unit	Pack unit
M8	16	6	V2A	**121048**	100	pieces
M10		8		**121010**		
	30			**121033**		

02/19

Hexagon wood screws

DIN 571

Thread	Total length [mm]	Wood thread length [mm]	Spanner size [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
H8	50	33	13	105392	105394	100	pieces
	60	40		105398	105399		
	70	45		105402	105403		
	100	60		105378	105412		
H10	70	50	17	105334	105335	50	
	80	60		105337	105393		



Cylinder head screws

DIN 84

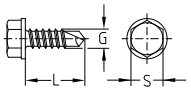
Thread	Length [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
M8	25	121139	121142	100	pieces
	30	121147	121151		



Self-drilling screws

DIN 7504, with hexagonal head, for the attachment of air pipes, ducts, spiral-seam pipes, etc. without pre-drilling

Sheet thread [mm]	Length [mm]	Screw head Ø [mm]	Spanner size S [mm]	Material	Part no.	Sales unit	Pack unit
4.2	13	8.5	7	V2A	106660	500	pieces
	16				106699		
	19				106664		

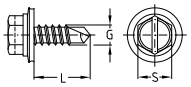




Self-drilling screw

with building supervision approval, with sealing ring made of EPDM, for attachment on trapezoidal sheets in accordance with aproval Z-14.1-4

Sheet thread [mm]	Length [mm]	Screw head Ø [mm]	Sealing ring ∅ [mm]	Spanner size S [mm]	Material	Part no.	Sales unit	Pack unit
4.8	20	10.5	14	8	V2A	147873	100	pieces





Hanger sockets

with round hole

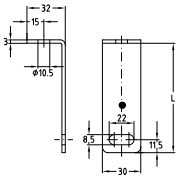
Thread	Hole diameter [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
M8	8.5	106396	106590	50	pieces
M10	11.0	106393	106588		
M12	13.0	106394	106589		



02/19

Distance angles

Leg length L [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
50	**106029**	**106031**	50	pieces

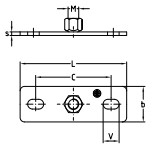




Base plates with nut

with two oblong holes

Size L x b x s [mm]	Connection socket	Oblong holes V [mm]	Hole-centre distance C [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
Size 1 (80 x 30 x 3)	M8	9 x 16	54	**112405**	**112379**	10	pieces
	M10			**112393**	**112373**		
	M12			**112399**	**112377**		
Size 2 (120 x 40 x 4)	M8	11 x 19	80	**112465**	**112427**		
	M10			**112449**	**112415**		
	M12			**112457**	**112421**		
	M16			**112461**	**112425**		

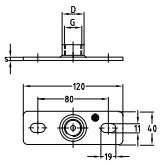




Base plates with connection socket

welded around, with two oblong holes

Size L x b x s [mm]	Connection socket	Oblong holes V [mm]	Hole-centre distance C [mm]	Part no. V2A	Part no. V4A	Sales unit	Pack unit
Size 2 (120 x 40 x 4)	½"	11 x 19	80	**112431**	**112411**	10	pieces
	¾"			**112441**	**112413**		
	1"			**112429**	**112409**		





Punched tapes

straight edges

Width [mm]	Hole diameter [mm]	Hole spacing [mm]	Length of roll [m]	Material	Part no.	Sales unit	Pack unit
17	6.5	11.5	10	V2A	**114792**	1	roll
			50		**114795**		



50 metre long rolls are supplied in a practical dispenser case.

Threaded pipes

Thread	Length [m]	Material	Part no.	Sales unit	Pack unit
½	1	V4A	**105145**	1	pieces
¾			**113417**		
1			**113369**		



02/19

Steel anchors

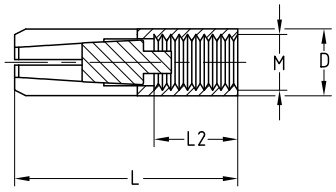
Field of application

- For anchorages of medium-weight loads in concrete and natural stone (hard) in dry interiors of buildings, in damp rooms as well as outdoor
- Versatilely applicable for attachment with screws or threaded rods in all plumbing, heating and ventilation installations

Advantages

- Secure grip due to controlled splaying as the taper is driven in
- Only small drilling depth required
- Flush finish with surface of the building material
- Secure expansion force even when the mounting screw is loosened
- European Technical Assessment (ETA) for non-cracked and cracked concrete (reduced loads)
- When using the setting tool for check marking, the load test (proof load) of the anchor is not necessary





Features

									Multiple attachment of non-load bearing systems ETA assessment		Non-cracked concrete, centrally tensile loaded ETA assessment	
Connecting thread	Overall length [mm]	Material	**Part no.**	Sales unit	Pack unit	Drill-∅ D [mm]	Usable thread length [mm]	FM	Drilled hole depth h_0 [mm]	Approved load [1] [kN]	Drilled hole depth h_0 [mm]	Approved load [2] [kN]
M6	30	V4A	**129086**	100	pieces	8	13		30	1.2	30	3.9 [3]
M8			**129087**			10				1.7		
M10	40		**129082**	50		12	20	●	40	2.0	40	6.1
M12	50		**129083**			15	18	●	50	2.4	50	8.5
M16	65		**129084**	25		20	23	●	65	6.3	65	12.6

[1] Use as multiple attachment of non-load-bearing systems. The overall safety coefficient according to ETAG is taken into consideration. The European Technical Assessment 05/0161 shall be observed for dimensioning.
[2] The approved loading applies for single anchors in concrete strength class ≥ C20/25 (B25) for axially applied tension without the influence of axial and edge spacings. The safety coefficient according to ETAG is included. The European Technical Assessment 05/0160 shall be observed for dimensioning.
[3] Only for use in statically indeterminate systems.

Setting tools for steel anchors

	Connecting thread	**Part no.**	Sales unit	Pack unit
Setting tools, hardened	M6 x 30	**123117**	1	pieces
Setting tools, hardened for check marking	M8 x 30	**123104**		
	M10 x 40	**123092**		
	M12 x 50	**123096**		
	M16 x 65	**123113**		



For further setting tools for steel anchors please refer to chapter „Anchor plugs".

02/19

MÜPRO

Through anchors

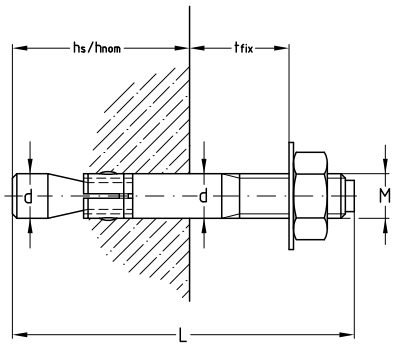
Field of application

- For anchorages of medium-weight loads in non-cracked concrete
- Attachment of metal and wood constructions, handrails, shelves, cable ducts and ventilation
- Also applicable in hard natural pipes stone

Advantages

- **Quick handling:** Simply insert and tighten
- Practical through-fitting
- Splaying controlled by the tightening torque
- High security due to increasing splaying with increase in load
- European Technical Assessment (ETA) for non-cracked concrete





Features

			Uncracked concrete with central tensile load ETA assessment	
Type	Drill-∅ D [mm]	Drilled hole depth [mm]	Setting depth h_s [mm]	Approved load [1] [kN]
St 8–45	8	65	55	5.7
St 10–10	10	70	60	7.6
St 10–20				
St 10–50				
St 12–65	12	90	80	11.9
St 16–30	16	110	98	17.2

[1] The approved loading applies for single anchors in concrete strength class ≥ C20/25 (B25) for axially applied tension without the influence of axial and edge spacings. The safety coefficient according to ETAG is included. The European Technical Assessment shall be observed for dimensioning.

Type	Connecting thread	Clamping thickness t_{fix} [mm]	Overall length [mm]	Material	**Part no.**	Sales unit	Pack unit
St 8–45	M8	45	110	V4A	**129518**	100	pieces
St 10–10	M10	10	85		**129489**	50	
St 10–20		20			**129494**		
St 10–50		50	125		**129492**		
St 12–65	M12	65	160		**129504**	25	
St 16–30	M16	30	150		**129488**	20	

02/19

BZ Heavy-duty anchors

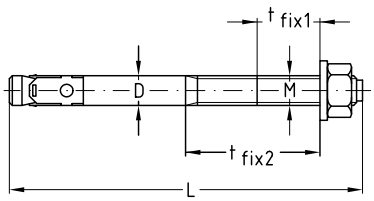
Field of application

- For anchorages of medium-weight and heavy loads in cracked and non-cracked concrete
- Attachment of wall hanger brackets, support channels, ground plates, constructions made of metal and wood, cable ducts, etc.
- Also applicable in hard natural stone

Advantages

- Secure anchorage due to slit splaying sleeve with serrations
- Force-controlled splaying from the tightening torque
- Secure splaying due to taper with slide coating
- European Technical Assessment (ETA) for cracked concrete (tensile zone) and non-cracked concrete (compression zone)
- Higher loading possible when used in the compression zone
- Two effective anchorage depths for greater flexibility (maximum anchor length 210 mm)
- Approved for seismic loads, performance categories C1 and C2 (maximum anchor length 210 mm)
- Also available in HCR upon request





Standard anchorage depth:

Type	Connecting thread	Clamping thickness t_{fix1} [mm]	Drill hole-∅ x depth [mm]	Setting depth h_{nom} [mm]	Anchoring depth h_{ef} [mm]	Seismic	Anchor length L [mm]	Material	**Part no.**	Sales unit	Pack unit
BZ 8-30-41/95	M8	30	8 x 60	52	46	–	95	V4A	**162179**	100	pieces
BZ 8-50-61/115		50					115		**162180**		
BZ 10-10-30/90	M10	10	10 x 75	68	60	C1/C2	90		**162181**	50	
BZ 10-30-50/110		30					110		**162182**		
BZ 10-50-70/130		50					130		**162183**		
BZ 12-15-35/110	M12	15	12 x 90	80	70		110		**162184**	25	
BZ 12-50-70/145		50					145		**162185**		
BZ 12-85-105/180		85					180		**162186**		

Reduced anchorage depth:

Type	Connecting thread	Clamping thickness t_{fix2} [mm]	Drill hole-∅ x depth [mm]	Setting depth $h_{nom\ red}$ [mm]	Anchoring depth $h_{ef\ red}$ [mm]	Anchor length L [mm]	Material	**Part no.**	Sales unit	Pack unit
BZ 8-30-41/95	M8	41	8 x 49	41	35	95	V4A	**162179**	100	pieces
BZ 8-50-61/115		61				115		**162180**		
BZ 10-10-30/90	M10	30	10 x 55	48	40	90		**162181**	50	
BZ 10-30-50/110		50				110		**162182**		
BZ 10-50-70/130		70				130		**162183**		
BZ 12-15-35/110	M12	35	12 x 70	60	50	110		**162184**	25	
BZ 12-50-70/145		70				145		**162185**		
BZ 12-85-105/180		105				180		**162186**		

02/19

BZ Heavy-duty anchors

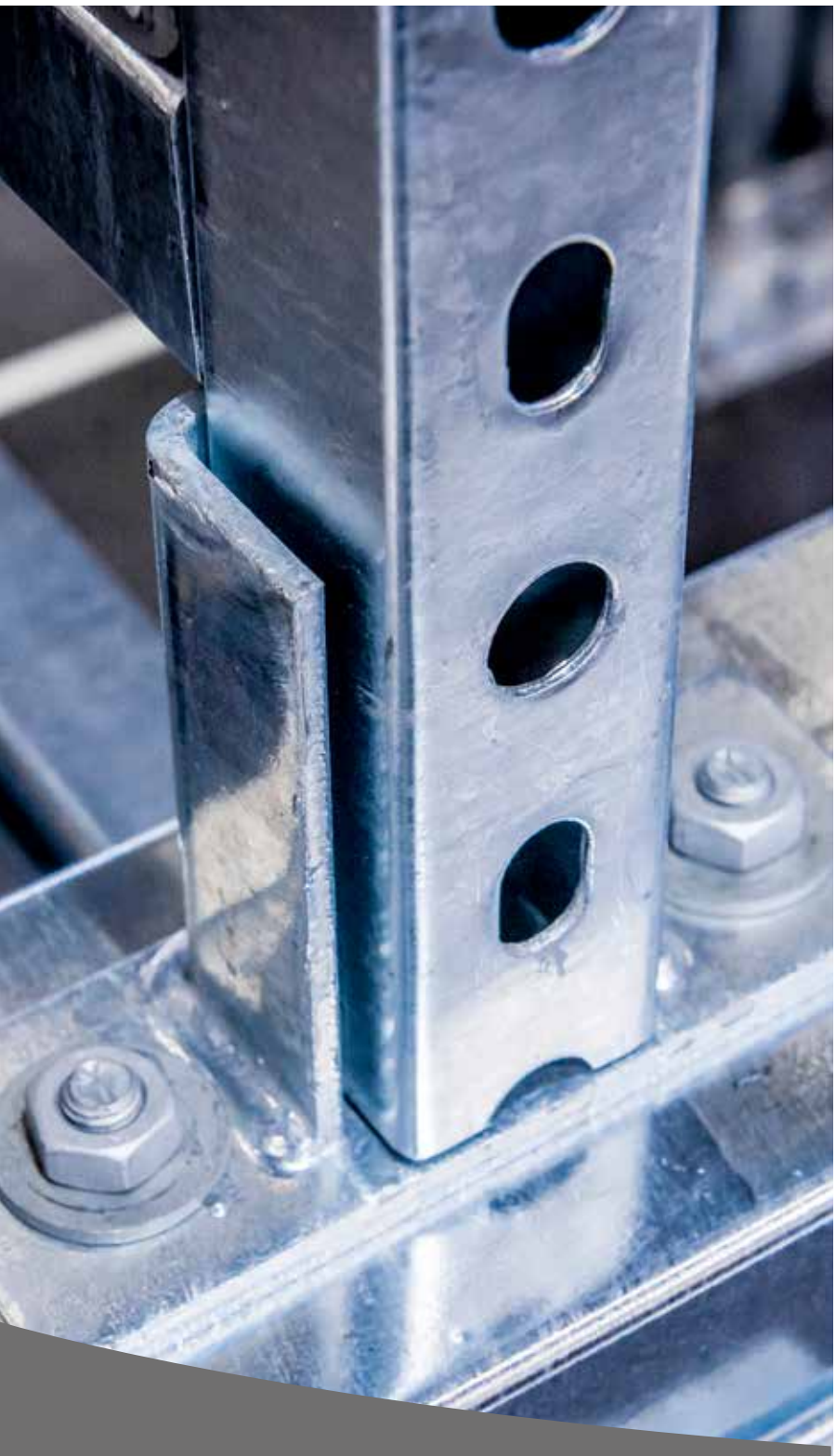
Features

Type	FM	Standard anchorage depth			Reduced anchorage depth		
		Anchoring depth h_{ef} [mm]	Permissible tensile load [1] cracked concrete C20/25 [kN]	Permissible tensile load [1] uncracked concrete C20/25 [kN]	Anchoring depth $h_{ef\ red}$ [mm]	Permissible tensile load [1] cracked concrete C20/25 [kN]	Permissible tensile load [1] uncracked concrete C20/25 [kN]
BZ 8-30-41/95		46	2.4	5.7	35	2.4	3.6
BZ 8-50-61/115							
BZ 10-10-30/90	●	60	4.3	7.6	40	3.6	4.3
BZ 10-30-50/110	●						
BZ 10-50-70/130	●						
BZ 12-15-35/110	●	70	7.6	11.9	50	6.1	8.5
BZ 12-50-70/145	●						
BZ 12-85-105/180	●						

[1] The approved loading applies for single anchors in concrete strength class ≥ C20/25 (B25) for axially applied tension without the influence of axial and edge spacings. The safety coefficient according to ETAG is included. The European Technical Assessment ETA-05/0158 shall be observed in dimensioning.

Please refer to chapter "Technical information" for additonal characteristic values of plugs.

02/19



Hot-dip galvanised

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

MÜPRO

MPC-System components

 MPC-Support channels 12/1–12/5

 MPC-Wall hanger brackets 12/6–12/8

 MPC-Wall hanger supports 12/9

 MPC-Diagonal strut 12/10

 MPC-Rail nuts 12/11

 MPC-Double rail nut 12/11

 MPC-Clamp brackets 12/11

 MPC-Protection caps 12/11

 Washers 12/11, 12/60

 DÄMMGULAST® Channel sections 12/12

 MPC-Saddle supports 12/13

 MPC-VARIO-Saddle support 12/14

 MPC-Lateral angles 12/15

 MPC-Cross channel connectors 12/16

MPR-System components

 MPR-Support channels 12/17–12/22

 MPR-Wall hanger brackets 12/23–12/24

 MPR-Hammer head fasteners 12/25–12/26

 MPR-Threaded plates 12/27

 MPR-Clamp brackets 12/28

 MPR-Protection caps 12/29

 Washers 12/29, 12/60

 DÄMMGULAST® Channel sections 12/30

 MPR-Saddle supports 12/31

 MPR-VARIO-Saddle support 12/32

 MPR-Cross channel connectors 12/33

 MPR-Girder cleats 12/34

MPR-System components type S+

 MPR-Quick fasteners type S+ 12/35

 MPR-Slide nuts type S+ 12/36

 MPR-Connection lock type S+ 12/37

 MPR-Diagonal struts type S+ 12/38

 MPR-Channel connector type S+, heavy-duty version 12/38

 MPR-Saddle supports type S+ 12/39

 MPR-Saddle support crosswise type S+ 12/40

 MPR-Saddle support crosswise type S+ for channel support fitting 12/41

 MPR-Construction bracket type S+ 12/42

 MPR-Mounting angles type S+ 12/43–12/44

 MPR-Angle connectors type S+ 12/45–12/47

 MPR-Connection plates type S+ 12/48

 MPR-3D-Connectors type S+ 12/49

 MPR-Cross channel connector type S+ 12/50

Products for usage with MPC-/MPR-System components

 Channel connectors, heavy-duty version 12/51–12/52

 Reinforcement angle 12/53

 Cantilever brackets 12/54

 Mounting angles 12/55–12/56

 Angle- and T-connection plates 12/57

Further hot-dip galvanised products

 Mounting base for flat roofs 12/58

 Hexagon head bolts 12/59

 Hexagonal nuts 12/59

 Threaded rods 12/59

 Threaded pins 12/60

 Turnbuckles 12/60

 Washers 12/60

 Link chain 12/60

 Supporting angle 12/61

 Trapezoid-sheet hanger 12/62

 Joint brackets 12/63

 STATO® Brackets 12/64–12/65

 Box-section heavy slide guide 12/66

 Duct fixing angle 12/67

VIDEO TIP

MÜPRO support channel system: the video presents our comprehensive range of support channels and shows the various processing and installation options.

MPC-Support channels

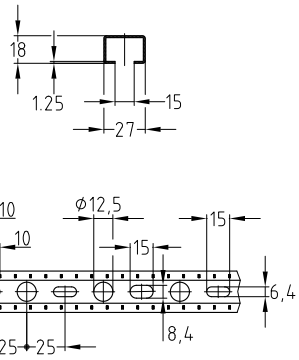
hot-dip galvanised

Field of application

- Ideal for pipe installation as support structure for air ducts
- Variety of mounting options for wall-mounted installations and shelves in combination with extensive range of system components
- Suitable for outdoor use

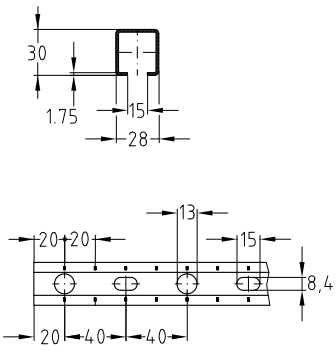
Advantages

- Quick and efficient attachment of pipe sections and pipeways
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during the installation and facilitate the measuring and cutting to length of the profiles on site
- For secure fixing that is adjustable laterally and vertically
- High bending stiffness due to the good cross-section design
- For setting up structures with correctly measured static loads by means of diverse connection components
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPC-protection caps



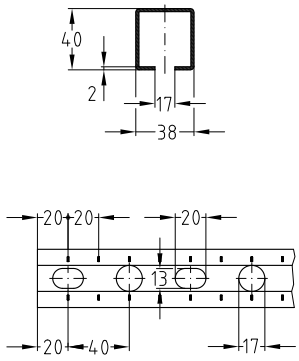


Profile 27/18





Profile 28/30





Profile 38/40

Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
27/18	2,000	**129909**	10	pieces
	6,000	**130004**	1	
28/30		**118990**		
38/40	2,000	**129916**	4	
	6,000	**130008**	1	

For further technical information please refer to chapter "Technical information".

02/19

MÜPRO

MPC-Support channels

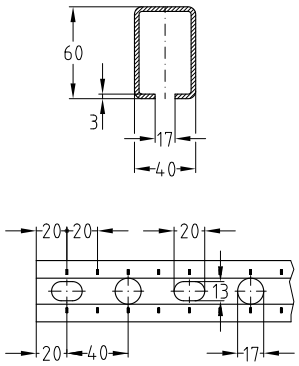
hot-dip galvanised

Field of application

- Ideal for pipe installation as support structure for air ducts
- Variety of mounting options for wall-mounted installations and shelves in combination with extensive range of system components
- Suitable for outdoor use

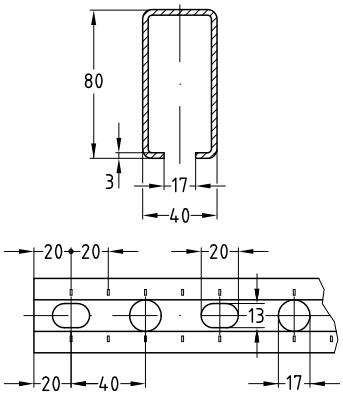
Advantages

- Quick and efficient attachment of pipe sections and pipeways
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during the installation and facilitate the measuring and cutting to length of the profiles on site
- For secure fixing that is adjustable laterally and vertically
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- For setting up structures with correctly measured static loads by means of diverse connection components
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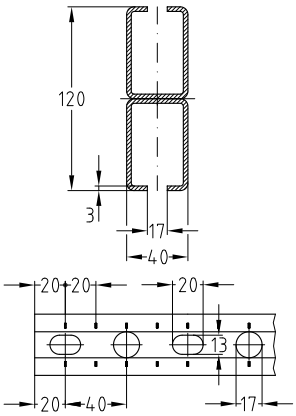


Profile 40/60





Profile 40/80





Profile 40/120

Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
40/60	2,000	**129920**	1	pieces
	6,000	**130019**		
40/80		**130022**		
40/120	6,640	**130033**		

For further technical information please refer to chapter "Technical information".

02/19

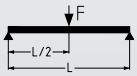
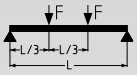
MPC-Support channels

hot-dip galvanised

Technical data of profiles:

Profile 	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available MPC-Rail nuts	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
27/18	S235 DD11 DC01	hot-dip galvanised	153	M8, M10	0.60	0.69	0.2911	0.9554	0.310	0.707
28/30					1.15	1.36	1.3999	2.0551	0.911	1.467
38/40				M8, M10, M12, M16	1.82	2.21	4.3286	6.1000	2.164	3.210
40/60					3.50	4.44	17.5426	13.3946	5.847	6.697
40/80					4.68	5.64	37.9390	17.5106	9.484	8.755
40/120 H-Profile					7.00	8.88	115.0004	26.7890	19.166	13.394

Load bearing capacities of profiles for bending around the y-axis [N]:

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
27/18	376	143	60	29	–	–	280	84	35	17	–	–
28/30	1,099	549	303	162	–	–	814	410	178	95	–	–
38/40	2,609	1,308	867	523	92	–	1,927	979	559	307	54	–
40/60	7,019	3,537	2,349	1,748	467	117	5,157	2,643	1,758	1,272	274	69
40/80	11,311	5,733	3,815	2,844	1,080	359	8,246	4,274	2,852	2,128	634	211
40/120 H-Profile	22,447	11,542	7,711	5,765	2,785	1,353	16,040	8,554	5,749	4,307	2,026	794

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
27/18	187	60	25	12	–	–	156	47	20	–	–	–
28/30	544	274	128	68	–	–	451	228	100	54	–	–
38/40	1,287	652	401	220	39	–	1,067	542	315	173	30	–
40/60	3,444	1,760	1,172	873	197	49	2,848	1,464	976	717	154	39
40/80	5,508	2,847	1,901	1,420	455	151	4,541	2,365	1,582	1,182	357	119
40/120 H-Profile	10,711	5,697	3,833	2,873	1,391	570	8,763	4,723	3,186	2,391	1,141	447

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.54$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

MÜPRO

MPC-Support channels

hot-dip galvanised

Permissible buckling loads for profiles [N]:

Buckling length Lk [mm]	MPC 27/18	MPC 28/30	MPC 38/40	MPC 40/60	MPC 40/80	MPC 40/120
200	10,105	20,698	33,744	67,749	86,061	135,498
300	9,403	19,911	33,405	67,749	86,061	135,498
400	8,553	19,069	32,478	66,660	84,785	134,144
500	7,531	18,133	31,508	65,155	82,904	132,242
600	6,416	17,068	30,469	63,593	80,954	130,223
700	5,355	15,861	29,338	61,946	78,904	128,040
800	4,444	14,529	28,095	60,190	76,721	125,636
900	3,705	13,132	26,730	58,302	74,378	122,951
1,000	3,116	11,749	25,245	56,263	71,852	119,914
1,100	2,648	10,451	23,663	54,064	69,128	116,455
1,200	2,273	9,278	22,023	51,706	66,208	112,513
1,300	1,970	8,243	20,374	49,209	63,109	108,052
1,400	1,722	7,343	18,765	46,605	59,869	103,084
1,500	1,517	6,565	17,237	43,942	56,545	97,686
1,600	1,346	5,893	15,813	41,274	53,199	91,997
1,700	1,203	5,312	14,506	38,652	49,897	86,189
1,800	1,080	4,809	13,317	36,121	46,695	80,436
1,900	976	4,370	12,244	33,712	43,636	74,879
2,000	886	3,987	11,278	31,448	40,748	69,614
2,100	807	3,651	10,409	29,336	38,047	64,696
2,200	739	3,355	9,628	27,380	35,539	60,148
2,300	679	3,092	8,925	25,576	33,219	55,968
2,400	626	2,859	8,292	23,916	31,082	52,141
2,500	579	2,651	7,720	22,392	29,115	48,645
2,600	537	2,464	7,203	20,993	27,308	45,454
2,700	499	2,297	6,735	19,709	25,647	42,540
2,800	465	2,145	6,309	18,530	24,121	39,879
2,900	435	2,008	5,921	17,447	22,718	37,446
3,000	407	1,884	5,567	16,451	21,425	35,217
3,100	382	1,771	5,243	15,533	20,234	33,174
3,200	359	1,667	4,946	14,686	19,135	31,297
3,300	339	1,573	4,674	13,904	18,120	29,569
3,400	320	1,486	4,422	13,181	17,180	27,977
3,500	302	1,406	4,191	12,511	16,309	26,507
3,600	286	1,332	3,977	11,890	15,501	25,148
3,700	271	1,264	3,778	11,312	14,750	23,888
3,800	257	1,202	3,594	10,775	14,051	22,719
3,900	245	1,143	3,423	10,274	13,399	21,632
4,000	233	1,089	3,264	9,807	12,791	20,621
4,100	222	1,038	3,116	9,370	12,222	19,678
4,200	212	991	2,977	8,962	11,690	18,797
4,300	202	948	2,847	8,579	11,192	17,974
4,400	193	906	2,726	8,220	10,724	17,203
4,500	185	868	2,612	7,883	10,285	16,480
4,600	177	832	2,505	7,565	9,872	15,801
4,700	170	798	2,405	7,267	9,483	15,163
4,800	163	766	2,310	6,986	9,116	14,563
4,900	157	736	2,221	6,720	8,770	13,998
5,000	151	708	2,137	6,469	8,443	13,464
5,100	145	681	2,058	6,232	8,134	12,961
5,200	139	656	1,983	6,008	7,841	12,485
5,300	134	632	1,912	5,795	7,564	12,034
5,400	129	610	1,844	5,594	7,302	11,608
5,500	125	588	1,780	5,403	7,052	11,203
5,600	121	568	1,720	5,221	6,815	10,819
5,700	116	549	1,662	5,048	6,590	10,455
5,800	112	531	1,608	4,884	6,376	10,109
5,900	109	513	1,556	4,727	6,172	9,779
6,000	105	497	1,506	4,578	5,977	9,466

02/19

MPC-Support channels

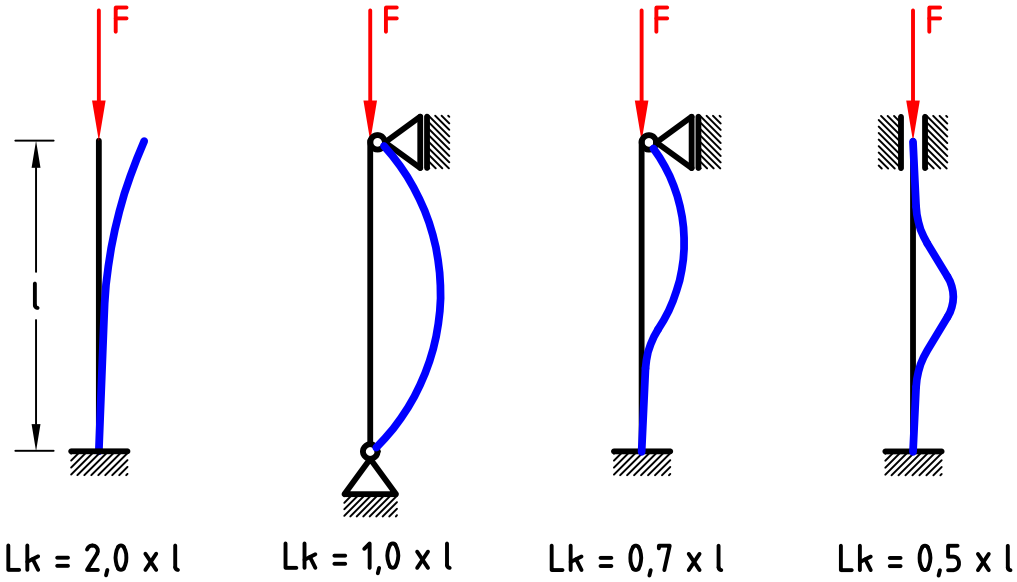
hot-dip galvanised

Buckling loads as per DIN EN 1993-1-1 sections 6.2 and 6.3.
The values in the table apply for fully bearing cross-sections and central load transmission!
The potentially lower slenderness parameter for buckling and lateral torsional buckling must be examined separately!

Buckling about the z-axis and the y-axis was considered.
The least favourable buckling load is documented in the table.

The safety coefficient $\gamma = 1.54$ takes into account the safety and combination coefficients as well as the safety factor of the material.

Determine the authoritative buckling length Lk depending on the storage conditions and the rod length l, as shown in the figure.
Read off the buckling load F as Lk from the table.



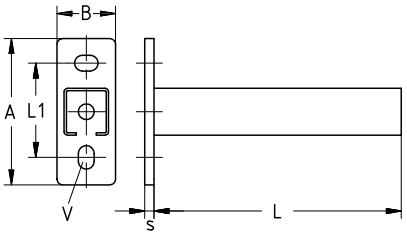
02/19

MPC-Wall hanger brackets

hot-dip galvanised

Field of application

- Applicable as cantilever support structure for pipeways
- Applicable as cantilever bracket for air ducts and cable trays
- Applicable in combination with MPC-Saddle support and MPC-Channel support brackets as a cross-beam for pipe attachments in shafts and ducts
- Solid wall bracket for valves and equipment
- Profile 38/80 is ideally suitable for double-sided installation of pipe sections due to double channel slots
- Suitable for outdoor use





Advantages

- The strong base plate ensures a high load carrying capacity
- The vertical and horizontal holes in the base plate allow easy height adjustment of the bracket
- Variety of lengths covers all construction requirements
- Clean-cut appearance by the use of MPC-protection caps

Profile	Length L [mm]	**Part no.**	Sales unit	Pack unit	Dimensions [mm]				
					A	B	L1	s	V
27/18	300	**156731**	1	pieces	120	40	80	4	11 x 19
38/40	240	**156732**			125	50		8	13.5 x 20
	320	**156733**							
	400	**156734**							
	480	**156735**							
	560	**156736**							
	640	**156737**							
	800	**156738**							
	1,040	**156739**							
40/60	560	**156740**			165	60	120		
	800	**156741**							
	1,040	**156742**							

For further technical information please refer to chapter "Technical information".

02/19

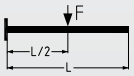
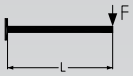
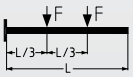
MPC-Wall hanger brackets

hot-dip galvanised

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]
27/18	120 x 40 x 4	S355MC	231	DC01	153
38/40	125 x 50 x 8	S235	162	DD11	
40/60	165 x 60 x 8	S355MC	231		

Load bearing capacities of brackets for bending around the y-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]				
			Max. allowable load [N]			
27/18	52,255	300	311	156	156	104
38/40	260,845	240	2,173	1,086	1,086	724
		320	1,630	815	815	543
		400	1,304	652	652	434
		480	1,086	543	543	362
		560	931	465	465	310
		640	815	407	407	271
		800	652	279	326	217
		1,040	501	161	242	156
40/60	514,741	560	1,838	919	919	612
		800	1,286	643	643	428
		1,040	989	494	494	329

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient γ = 1.54 takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L_{/150}$ are not exceeded, taking the deadweight into consideration.

The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

02/19

MPC Wall hanger bracket

for the attachment on support channels, hot-dip galvanised

Field of application

- Wall hanger bracket with solid, rounded-edge base plate for the attachment on support channels
- Solid cantilever construction due to support from diagonal strut

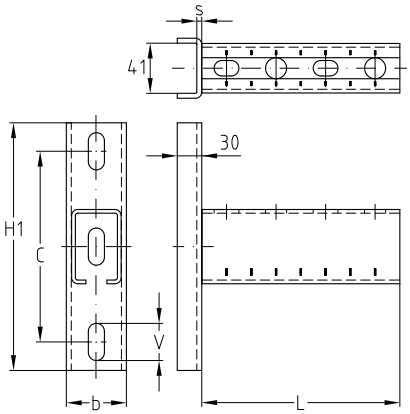
Advantages

- Clip-over edges of the base plate for good appearance
- Variety of set lengths covers all constructional requirements
- Simple height adjustment when mounted in the channel slot
- Clean-cut appearance by the use of MPC-protection caps





For support channels	Length L [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]				
					H1	b	s	C	V
40/60	800	**139505**	1	pieces	200	49	4	154	13 x 30



See MPC-Wall hanger bracket profile 40/60 for load-bearing capacities.
When mounted in the channel slots, the max. recommended shear and tensile loads for the accessories (e.g. MPC-Hammer head bolts) must be observed.

02/19

MPC-Wall hanger supports

with vibration control, hot-dip galvanised

Field of application

- **For the vibration dampened attachment** of equipment such as ventilation and air conditioning devices, pumps, household water tanks, etc. on walls

Advantages

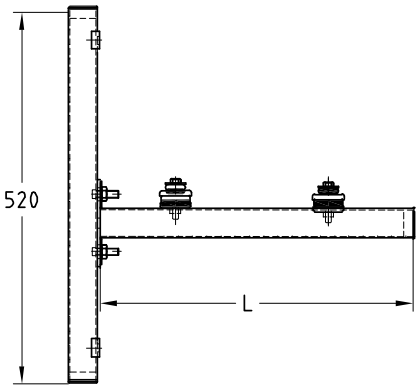
- Efficient mounting due to preassembled parts
- MPC-Support channels cut-to length and with holes on the rear side including MPC-Protection caps
- Various bracket lengths available (depending on device type)
- Simple height adjustment of the brackets due to sliding MPC-Hammer head bolts
- Variable adjustment of the mounting spaces on the bracket due to MPC-Rail nuts
- **Average vibration reduction of 17 dB(A) due to DÄMMGULAST® Resilient pads**



Features

Max. recommended load (set) [N]
1,500

Complete kit consists of:
2 MPC-Support channels 38/40, length 520 mm
2 MPC-Wall hanger brackets 38/40
4 DÄMMGULAST® Resilient pads 43 x 11 mm
6 6 MPC-Protection caps for profile 38/40
4 MPC-Hammer head bolts M10/30
4 DÄMMGULAST® Washers 8.5 x 28 mm
4 Washers 8.5 x 28 x 1 mm
4 MPC-Rail nuts M8 for profile 38/40
4 Hexagon head bolts M8/55
4 MPC-Clamp brackets M10 for profile 38/40





Length L [mm]	Part no.	Sales unit	Pack unit
480	**113526**	1	pieces
560	**113529**		
640	**113532**		

02/19

MÜPRO

MPC-Diagonal strut

hot-dip galvanised

Field of application

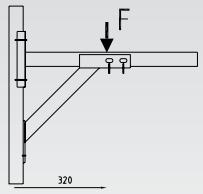
- Diagonal strut for the direct wall-mounting of wall hanger brackets, for channel support and for wall hanger brackets with baseplate
- Suitable for outdoor use

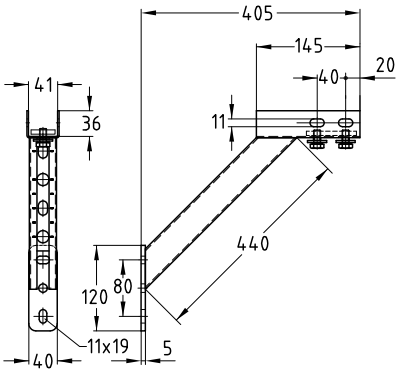
Advantages

- Quick mounting due to preinstalled double rail nuts
- With clip-over edges for the wall hanger bracket
- Oblong holes at the side allow the positioning of MPC-Support channels 38/40 with slot at the side





	Length L [mm]	Mounting of bracket and diagonal strut in the support channel slot max. recommended load F [N]	Through fitting attachment max. recommended load F [N]
	440	2,500	6,000



For support channels	**Part no.**	Sales unit	Pack unit
38/40–40/120	**129789**	1	pieces

02/19

MPC-Rail nuts

for MPC-Support channels and wall hanger brackets, high-temperature galvanised

For support channels	Thread	Length [mm]	Width [mm]	Height [mm]	Part no.	Sales unit	Pack unit
38/40–40/120	M8	32.8	23	6	**153226**	100	pieces
	M10	33.0			**139500**		
	M12				**139260**		



MPC-Double rail nut

for MPC-Support channels and wall hanger brackets, high-temperature galvanised

For support channels	Thread	Part no.	Sales unit	Pack unit
38/40–40/120	M10	**152171**	1	pieces



MPC-Clamp bracket

for MPC-Support channels and wall hanger brackets, hot-dip galvanised

For support channels	For thread	Part no.	Sales unit	Pack unit
38/40	M10	**114444**	100	pieces



MPC-Clamp bracket

heavy-duty version, for MPC-Support channels and wall hanger brackets, to transfer large forces, hot-dip galvanised

For support channels	For thread	Part no.	Sales unit	Pack unit
39/52, 40/60, 40/80, 40/120	M12	**114554**	25	pieces



MPC-Protection caps

for MPC-Support channels and wall hanger brackets

For support channels	Part no.	Sales unit	Pack unit
27/18	**106000**	100	pieces
28/30	**106002**		
38/40, 38/80	**106006**	50	
40/60, 40/120	**106008**	25	
40/80	**106009**		



Washers

for MPC-Support channels, hot-dip galvanised

For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit
M10	30	2.5	**132832**	100	pieces



02/19

MÜPRO

DÄMMGULAST® Channel sections

for MPC-Profiles

Field of application

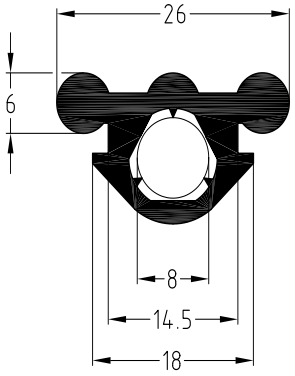
- Ideal for the decoupling of traverses for air duct fixtures
- For secure vibration-decoupling of MPC-Support channels

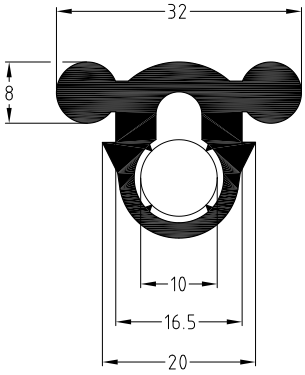
Advantages

- Easy installation by inserting into MPC-Support channels and/or screwing onto threaded rods
- Prevents structure-borne noise coupling by avoiding contact between the air duct and the threaded rods
- Interlocking profile prevents channel section being pushed out
- Prevents fluttering and other vibration noises in the air ducts
- Small contact surface, large absorption mass









Features

Design	For support channels	Suitable for	Part no.	Sales unit	Pack unit
DÄMMGULAST® Channel section roll of 30 m	27/18, 28/30	Channels with slot widths of 13–16 mm, M8 threaded rods	**107689**	1	roll
	38/24–40/120	Channels with slot widths of 15–18 mm, M8 and M10 threaded rods	**107690**		
DÄMMGULAST® Channel sections section of 50 mm			**107691**	300	pieces
DÄMMGULAST® Channel sections section of 100 mm			**107686**	200	

When installing air conditioning and ventilation equipment, MPC-Support channels can be used as load-bearing traverses. Structure-borne vibration coupling bridges resulting from direct metal contact between the air duct and the traverse or threaded rods can be prevented by the use of DÄMMGULAST® Channel section as intermediate layer.

The DÄMMGULAST® Channel section was developed especially for these application areas and provides the optimum solution from a practical installation point of view.

02/19

MPC-Saddle supports

hot-dip galvanised

Field of application

- Simple assembly of strong cross-beams using MPC-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- Suitable for outdoor use

Advantages

- The vertical and horizontal holes in the base plate enable simple alignment of the MPC-Saddle support
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions



MPC-Saddle support, crosswise



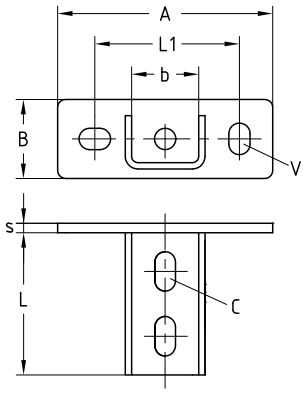
MPC-Saddle support, lengthwise



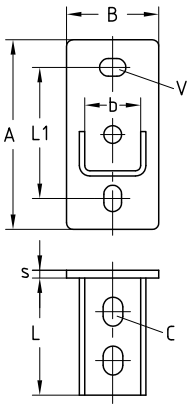
MPC-Saddle support, lengthwise pre-assembled with double rail nut



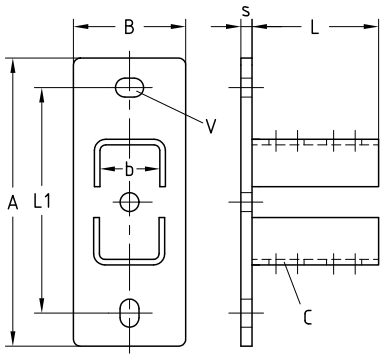
MPC-Saddle support, lengthwise for profiles 38/80, 40/80 and 40/120



MPC-Saddle support, crosswise



MPC-Saddle support, lengthwise



MPC-Saddle support, lengthwise for profiles 38/80, 40/80 and 40/120

Design	For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm] A	B	b	L	L1	s	C	V
Crosswise	38/40, 40/60	**156820**	25	pieces	136	50	42	90	91.5	6	13 x 25	13.5 x 20
Lengthwise		**156819**			144	70			100			
	38/80, 40/80	**160982**	1		205	80			160	8		
	40/120	**153774**			245				200			

Part no. 160982 and 153774 available upon request.

02/19

MPC-VARIO-Saddle support

hot-dip galvanised

Field of application

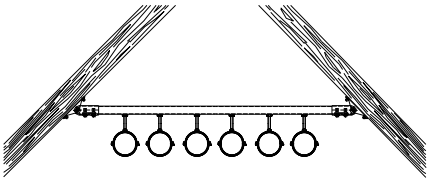
- Ideal for attachment to inclined roof trusses, vaults and in round cable shafts
- Suitable for outdoor use

Advantages

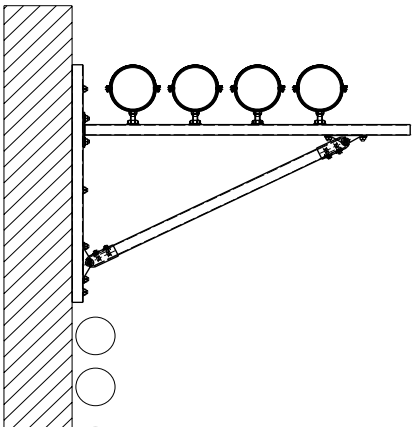
- Variable angle adjustment possible during installation
- Simple and quick installation due to pre-installed double rail nut
- Attachment to the slot of support channels 38/40 possible in all directions



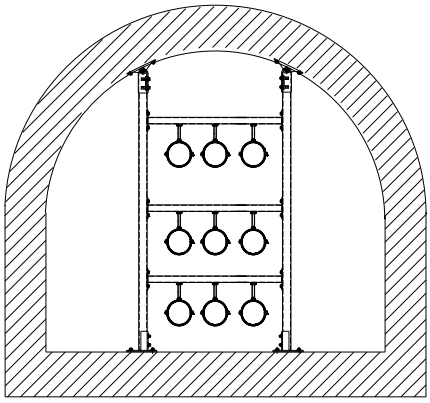




Attachment of a pipe run to an inclined roof truss

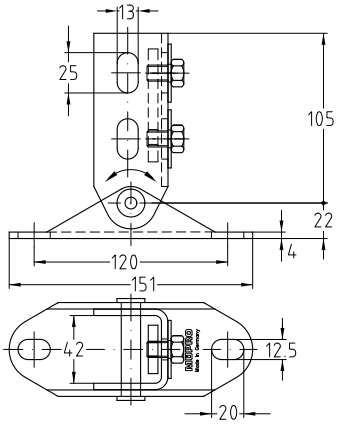


Pipes installed on a MPC-Wall hanger bracket with diagonal strut



Installation of brackets in vaults or round cable ducts and shafts

Completely pre-assembled:
1 MPC-VARIO-Saddle support
1 Double rail nut
2 Hexagonal head bolts M10
2 Washers



For support channels	Minimum angle [°]	**Part no.**	Sales unit	Pack unit
38/40–40/120	20	**129647**	1	pieces

02/19

MPC-Lateral angles

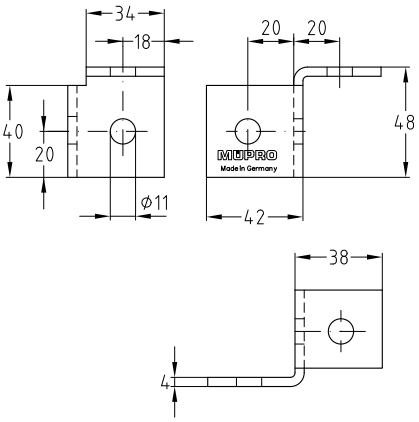
hot-dip galvanised

Field of application

- Connecting elements for the construction of frames, shelves and wall-mounted installations using MPC-Support channels

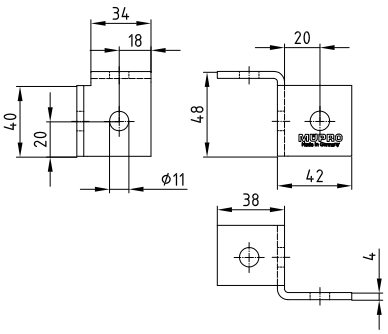
Advantages

- Creation of solid constructions without welding
- Various mounting options for stable joint and angle connections with MPC-Support channels
- Appropriate combination of elements allows junctions with up to four exit directions
- Great flexibility – a large variety of connections can be made with only a few components
- Quick and simple attachment in combination with MPC-Quick fastener for angle mounting



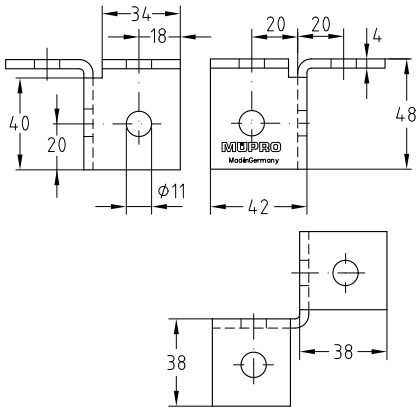


MPC-Lateral angle, right





MPC-Lateral angle, left





MPC-Lateral angle, double-sided

Alignment	Angle [°]	For support channels	Part no.	Sales unit	Pack unit
Double-sided	90	38/40–40/120	**123044**	25	pieces
Left			**123056**		
Right			**123064**		

Stainless steel version available upon request.

02/19

MPC-Cross channel connectors

hot-dip galvanised

Field of application

- For cross-connections in pre-wall installations and for shelves made from MPC-Support channels
- Suitable for outdoor use

Advantages

- Easy-to-install connection elements for setting up structures with the correctly measured static loads using MPC-Support channels
- Greater flexibility when setting up structures made from channels
- Multiple punching allows the profile slots to be aligned in 4 directions
- For rotation-resistant attachment to building structure



For profile 38/40

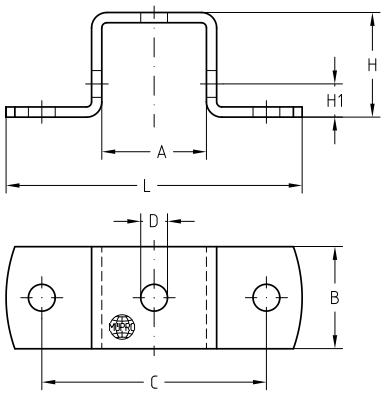


For profiles 40/60, 40/80 and 40/120

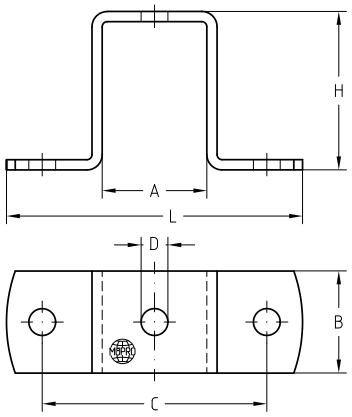








For profile 38/40



For profiles 40/60, 40/80 and 40/120

For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]						
				A	B	C	D	H	H1	L
38/40	**118132**	25	pieces	41	40	80	10.5	41	18	110
40/80	**118272**							82	–	
40/60	**118308**							62		
40/120	**118135**							122		

02/19

MPR-Support channels

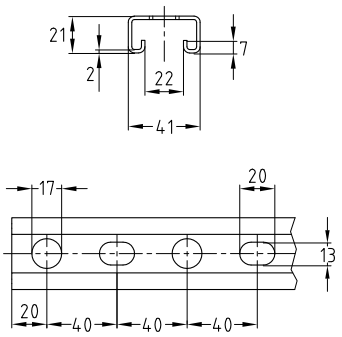
hot-dip galvanised

Field of application

- Ideal for pipe installation as support structure for air ducts in interiors and exteriors
- Variety of mounting options e.g. for shelves in combination with extensive range of system components

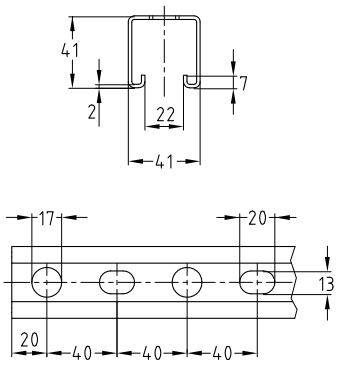
Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- High bending stiffness due to the cross-section design
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- For setting up structures with correctly measured static loads by means of diverse connection components
- Interlocking rail slot for positive locking of attachments
- Clean-cut appearance by the use of MPR-protection caps



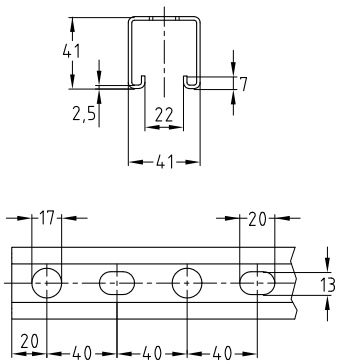


Profile 41/21/2.0





Profile 41/41/2.0





Profile 41/41/2.5

Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
41/21/2.0	2,000	**154173**	1	pieces
	6,000	**154175**		
41/41/2.0	2,000	**154176**		
	6,000	**154178**		
41/41/2.5		**154181**		

02/19

MPR-Support channel

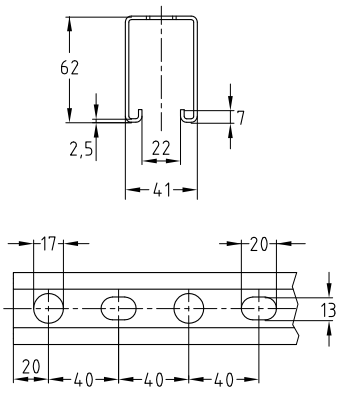
hot-dip galvanised

Field of application

- Ideal for pipe installation as support structure for air ducts in interiors and exteriors
- Variety of mounting options e.g. for shelves in combination with extensive range of system components

Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- High bending stiffness due to the cross-section design
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- For setting up structures with correctly measured static loads by means of diverse connection components
- Interlocking rail slot for positive locking of attachments
- Clean-cut appearance by the use of MPR-protection caps





Profile 41/62/2.5

Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
41/62/2.5	6,000	**154184**	1	pieces

02/19

MPR-Support channels

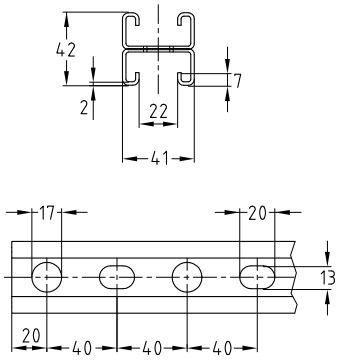
H-Profiles, hot-dip galvanised

Field of application

- Ideal for space-saving support of multisection pipeways between ceiling beams
- Ideal for pipe installation as support structure for air ducts in interiors and exteriors
- Variety of mounting options e.g. for shelves in combination with extensive range of system components

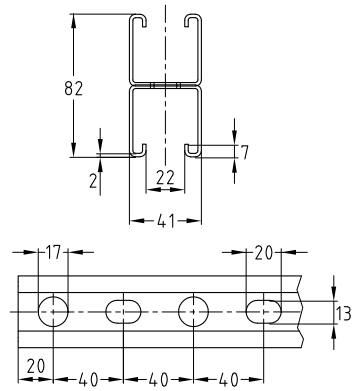
Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Ideal combination of high bending stiffness and ease of installation
- Channel slots on both sides allow simple and quick alignment of all suspended and floor-mounted pipe supports
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPR-Protection caps
- Interlocking rail slot for positive locking of attachment parts



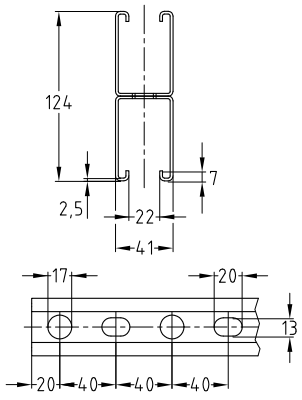


Profile 41/42/2.0





Profile 41/82/2.0





Profile 41/124/2.5

Profile	Length [mm]	**Part no.**	Sales unit	Pack unit
41/42/2.0	6,640	**154185**	1	pieces
41/82/2.0		**154186**		
41/124/2.5		**154187**		

02/19

MÜPRO

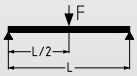
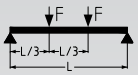
MPR-Support channels

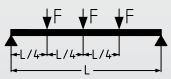
hot-dip galvanised

Technical data of profiles:

Profile 	Material	Surface	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available threaded plates*	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
41/21/2.0	S235	hot-dip galvanised	162	M8, M10, M12, M16	1.45	1.62	0.8894	4.5246	0.839	2.207
41/41/2.0					2.08	2.42	4.9736	7.5692	2.451	3.692
41/41/2.5					2.53	3.08	5.8103	9.0333	2.839	4.406
41/62/2.5					3.38	3.98	17.2090	12.9297	5.671	6.307
41/42/2.0 H-Profile					2.90	3.24	5.2844	9.0492	2.516	4.414
41/82/2.0 H-Profile					4.16	4.83	30.6876	15.1385	7.485	7.385
41/124/2.5 H-Profile					6.76	7.96	111.7528	25.8595	18.025	12.614

Load bearing capacities of profiles for bending around the y-axis [N]:

Profile	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
41/21/2.0	1,086	439	186	94	–	–	813	258	109	55	–	–
41/41/2.0	3,178	1,581	1,046	601	106	–	2,379	1,187	643	353	62	–
41/41/2.5	3,681	1,831	1,210	701	121	–	2,755	1,375	750	411	71	–
41/62/2.5	7,357	3,666	2,430	1,808	459	117	5,506	2,752	1,823	1,248	270	68
41/42/2.0 H-Profile	3,066	1,620	1,068	630	95	–	1,533	1,216	679	370	56	–
41/82/2.0 H-Profile	6,562	4,840	3,210	2,389	865	277	3,271	3,261	2,407	1,791	508	162
41/124/2.5 H-Profile	13,613	11,671	7,753	5,786	2,794	1,316	6,806	6,790	5,815	4,337	1,969	772

Profil	L [m] 						L [m] 					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
41/21/2.0	543	185	78	40	–	–	453	145	61	31	–	–
41/41/2.0	1,589	791	461	253	44	–	1,324	659	362	199	35	–
41/41/2.5	1,840	916	538	295	51	–	1,534	763	423	232	40	–
41/62/2.5	3,678	1,833	1,215	896	193	49	3,065	1,527	1,013	703	152	39
41/42/2.0 H-Profile	1,022	810	487	265	40	–	766	675	383	208	32	–
41/82/2.0 H-Profile	2,181	2,174	1,605	1,175	364	116	1,635	1,630	1,337	995	286	91
41/124/2.5 H-Profile	4,538	4,527	3,877	2,893	1,397	554	3,403	3,395	3,231	2,411	1,109	435

* Please note additional information on the catalog pages of threaded plates/hammer head fasteners.

The determined loads apply for static loads. Calculation based on Eurocode (EC3).
The safety coefficient $\gamma = 1.54$ takes into account the partial and combination coefficients as well as the safety factor of the material.
For the given values, the permissible steel stress and the maximum permissible deflection $L/200$ are not exceeded, taking the deadweight into consideration.

02/19

MPR-Support channels

hot-dip galvanised

Permissible buckling loads for profiles [N]:

Buckling length Lk [mm]	MPR 41/21/2.0	MPR 41/41/2.0	MPR 41/41/2.5	MPR 41/62/2.5	MPR 41/42/2.0	MPR 41/82/2.0	MPR 41/124/2.5
200	25,378	39,273	49,092	64,658	52,573	78,466	129,317
300	23,868	38,858	48,434	64,658	51,488	78,466	129,317
400	22,098	37,772	47,023	63,651	49,827	77,628	128,065
500	19,980	36,633	45,537	62,224	48,054	76,510	126,262
600	17,564	35,413	43,935	60,743	46,113	75,321	124,350
700	15,076	34,083	42,179	59,184	43,958	74,032	122,285
800	12,776	32,620	40,241	57,523	41,561	72,610	120,014
900	10,803	31,013	38,108	55,738	38,929	71,016	117,480
1,000	9,173	29,266	35,797	53,811	36,114	69,209	114,618
1,100	7,846	27,407	33,354	51,733	33,212	67,146	111,362
1,200	6,766	25,482	30,854	49,505	30,336	64,793	107,652
1,300	5,884	23,553	28,379	47,143	27,586	62,131	103,454
1,400	5,157	21,675	26,005	44,678	25,032	59,172	98,774
1,500	4,553	19,895	23,781	42,154	22,706	55,971	93,681
1,600	4,048	18,241	21,736	39,620	20,617	52,615	88,300
1,700	3,620	16,724	19,878	37,127	18,755	49,209	82,792
1,800	3,256	15,348	18,205	34,714	17,102	45,855	77,321
1,900	2,944	14,106	16,703	32,416	15,636	42,632	72,022
2,000	2,674	12,989	15,359	30,251	14,336	39,593	66,992
2,100	2,439	11,986	14,156	28,230	13,181	36,764	62,286
2,200	2,234	11,084	13,078	26,356	12,153	34,155	57,927
2,300	2,054	10,273	12,112	24,626	11,236	31,763	53,916
2,400	1,894	9,543	11,243	23,033	10,415	29,577	50,241
2,500	1,752	8,884	10,460	21,569	9,678	27,583	46,881
2,600	1,626	8,289	9,754	20,225	9,014	25,765	43,812
2,700	1,512	7,749	9,114	18,991	8,415	24,107	41,010
2,800	1,411	7,258	8,534	17,857	7,872	22,594	38,448
2,900	1,319	6,812	8,006	16,815	7,380	21,211	36,106
3,000	1,235	6,404	7,525	15,856	6,931	19,946	33,960
3,100	1,160	6,031	7,084	14,973	6,522	18,785	31,992
3,200	1,091	5,689	6,681	14,158	6,148	17,720	30,183
3,300	1,028	5,375	6,311	13,405	5,804	16,740	28,519
3,400	970	5,086	5,970	12,709	5,488	15,837	26,985
3,500	917	4,820	5,656	12,063	5,197	15,004	25,568
3,600	869	4,573	5,366	11,465	4,929	14,233	24,257
3,700	824	4,345	5,097	10,908	4,680	13,519	23,043
3,800	782	4,133	4,848	10,391	4,450	12,857	21,916
3,900	744	3,936	4,617	9,908	4,237	12,241	20,869
4,000	708	3,753	4,401	9,458	4,038	11,668	19,893
4,100	675	3,582	4,201	9,037	3,853	11,134	18,984
4,200	644	3,423	4,013	8,643	3,680	10,635	18,135
4,300	615	3,274	3,838	8,274	3,518	10,169	17,341
4,400	588	3,134	3,674	7,928	3,367	9,732	16,597
4,500	563	3,003	3,520	7,603	3,226	9,323	15,900
4,600	539	2,880	3,376	7,297	3,093	8,939	15,246
4,700	517	2,765	3,240	7,010	2,968	8,577	14,630
4,800	496	2,656	3,113	6,738	2,851	8,238	14,051
4,900	476	2,554	2,992	6,482	2,740	7,918	13,506
5,000	458	2,457	2,879	6,241	2,636	7,616	12,991
5,100	441	2,366	2,772	6,012	2,537	7,331	12,506
5,200	424	2,279	2,670	5,796	2,444	7,061	12,046
5,300	409	2,198	2,574	5,591	2,356	6,806	11,612
5,400	394	2,120	2,484	5,396	2,273	6,565	11,200
5,500	380	2,047	2,397	5,212	2,193	6,336	10,810
5,600	367	1,977	2,316	5,037	2,118	6,119	10,440
5,700	354	1,911	2,238	4,870	2,047	5,913	10,089
5,800	342	1,848	2,164	4,712	1,980	5,717	9,755
5,900	331	1,788	2,094	4,561	1,915	5,530	9,437
6,000	320	1,731	2,027	4,417	1,854	5,353	9,134

02/19

MPR-Support channels

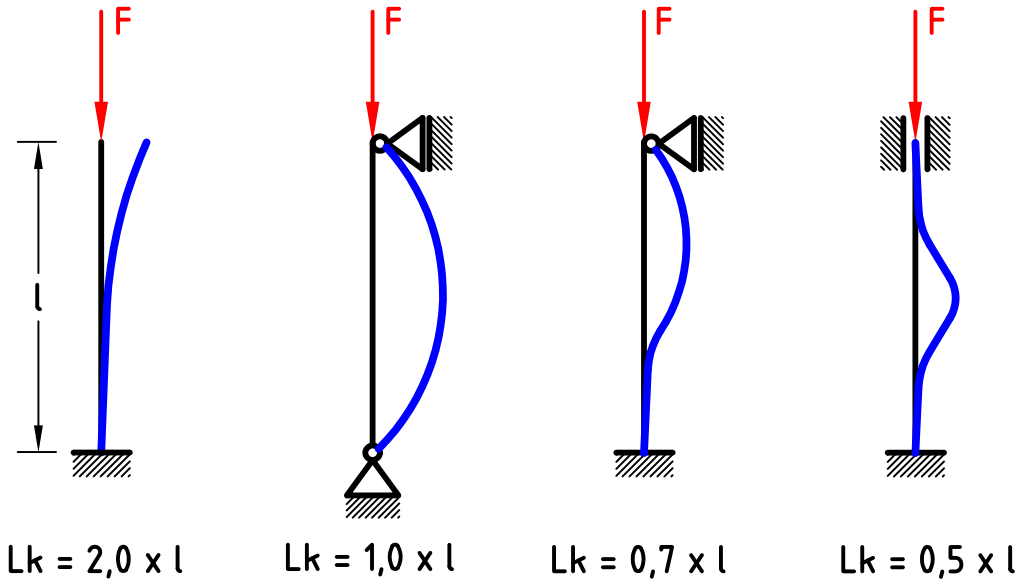
hot-dip galvanised

Buckling loads as per DIN EN 1993-1-1 sections 6.2 and 6.3.
The values in the table apply for fully bearing cross-sections and central load transmission!
The potentially lower slenderness parameter for buckling and lateral torsional buckling must be examined separately!

Buckling about the z-axis and the y-axis was considered.
The least favourable buckling load is documented in the table.

The safety coefficient γ = 1.54 takes into account the safety and combination coefficients as well as the safety factor of the material.

Determine the authoritative buckling length Lk depending on the storage conditions and the rod length l, as shown in the figure.
Read off the buckling load F as Lk from the table.



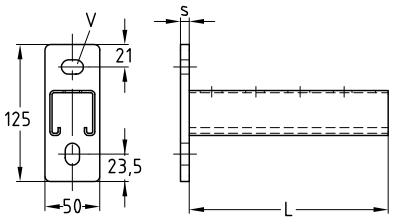
02/19

MPR-Wall hanger brackets

hot-dip galvanised

Field of application

- Ideal as cantilever support structure of multisection pipeways
- Applicable as cantilever bracket for air ducts and cable trays
- Applicable in combination with saddle support and channel support brackets as a cross-beam for pipe attachments in shafts and ducts
- Solid wall bracket for valves and equipment
- For indoor and outdoor use





Advantages

- The strong base plate ensures a high load carrying capacity
- Elongated- and cross-hole for flexible attachment to the building structure
- Variety of lengths covers all construction requirements
- Clean-cut appearance by the use of MPR-Protection caps

Profile	Length L [mm]	**Part no.**	Sales unit	Pack unit	Dimensions [mm]	
					s	V
41/21/2.0	160	**154211**	1	pieces	6	13.5 x 20
	240	**154212**				
	320	**154213**				
	400	**154214**				
41/41/2.0	160	**154215**			8	
	240	**154216**				
	320	**154217**				
	400	**154218**				
	480	**154219**				
	560	**154220**				
	640	**154221**				
	720	**154222**				
	800	**154223**				
	1,040	**154224**				

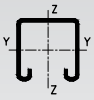
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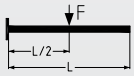
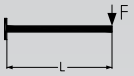
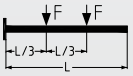
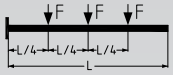
MPR-Wall hanger brackets

hot-dip galvanised

Technical data of brackets:

Profile	Base plate			Support channel	
	Dimensions H x W x D [mm]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]
41/21/2.0	125 x 50 x 6	S235	162	S235	162
41/41/2.0	125 x 50 x 8				

Load bearing capacities of brackets for bending around the y-axis:

Profile	Base plate $M_{max.}$ [Nmm]	Length L [mm]				
			Max. allowable load [N]			
41/21/2.0	112,154	160	1,400	700	700	467
		240	931	466	466	311
		320	696	348	348	232
		400	555	231	278	185
41/41/2.0	275,080	160	3,435	1,717	1,717	1,145
		240	2,287	1,144	1,144	762
		320	1,713	856	856	571
		400	1,367	684	684	456
		480	1,136	568	568	379
		560	971	485	485	324
		640	847	423	423	282
		720	749	375	375	250
		800	671	336	336	224
		1,040	508	185	254	169

The determined loads apply for static loads. Calculation based on Eurocode (EC3).

The safety coefficient $\gamma = 1.54$ takes into account the partial and combination coefficients as well as the safety factor of the material.

For the given values, the permissible steel stress and the maximum permissible deflection $L_{/150}$ are not exceeded, taking the deadweight into consideration.

The load-carrying values refer to the console support. Fastening elements such as plugs and screws, must be choosen in accordance with the loads.

02/19

MPR-Hammer head fasteners

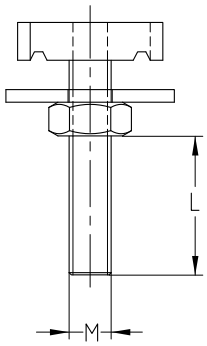
zinc lamella coating

Field of application

- For time-saving, efficient attachment of pipe clamps to MPR-Support channels
- For indoor and outdoor use

Advantages

- Easy and fast assembly in the rail slot
- Lateral adjustment at any time, allows perfect alignment of the pipeline after installation
- Various lengths and thread diameters can be combined within the same channel
- Interlocking threaded plate for secure positive connection in the rail slot of the MPR-Support channels



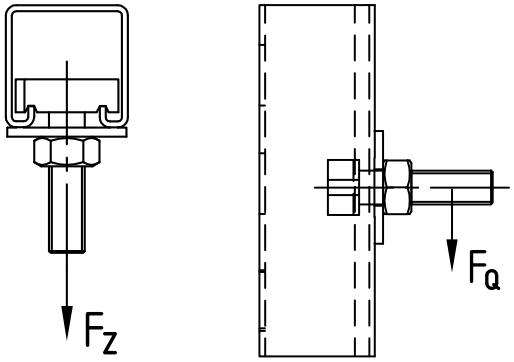


For support channels	Connecting thread M	Length [mm]	Usable thread length L [mm]	**Part no.**	Sales unit	Pack unit
41/21/2.0, 41/41/2.0, 41/41/2.5, 41/62/2.5, 41/42/2.0, 41/82/2.0, 41/124/2.5	M8	35	10	**154193**	25	pieces
		40	15	**154194**		
		50	25	**154195**		
		80	55	**154196**		
		100	75	**154197**		
	M10	35	8	**154198**		
		40	13	**154199**		
		55	28	**154200**		
		60	33	**154201**		
		80	53	**154202**		
		100	73	**154203**		
41/21/2.0, 41/41/2.0, 41/41/2.5, 41/62/2.5, 41/82/2.0, 41/124/2.5	M12	40	9	**154204**		
		55	24	**154205**		
		60	29	**154206**		
		80	49	**154207**	10	
		100	69	**154208**		
41/41/2.0, 41/41/2.5, 41/62/2.5, 41/82/2.0, 41/124/2.5	M16	65	30	**154209**		
		100	65	**154210**		

02/19

MPR-Hammer head fasteners

zinc lamella coating



For support channels Material thickness [mm]	MPR-Hammer head fasteners			
	Connecting thread	Max. recommended tensile load Fz [N]	Max. recommended transverse load FQ [N]	For a tightening torque of [Nm]
2.0	M8	4,500	1,400	9
	M10		1,750	17
	M12			29
	M16			
2.5	M8		1,400	9
	M10	5,000	2,000	17
	M12		2,800	29
	M16			

02/19

MPR-Threaded plates

hot-dip galvanised

Field of application

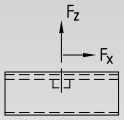
- For fixing of attachment parts in the rail slot of the MPR-Support channels
- For indoor and outdoor use

Advantages

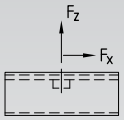
- Interlocking threaded plate for secure positive connection in the rail slot of the MPR-Support channels



For support channels	Thread	Part no.	Sales unit	Pack unit	Dimensions [mm]		
					l	b	s
41/21/2.0, 41/41/2.0, 41/41/2.5, 41/62/2.5, 41/42/2.0, 41/82/2.0, 41/124/2.5	M8	**154189**	50	pieces	34.5	19.5	8.0
	M10	**154190**					
	M12	**154191**	25				9.0
41/41/2.0, 41/41/2.5, 41/62/2.5, 41/82/2.0, 41/124/2.5	M16	**154192**	10				12.0



Max. permissible load values of MPR-Threaded plates (channel 2.0 mm)					
	Transverse load Fx in rail slot direction with threaded pin 4.6 and washer 40 x 3 mm		Transverse load Fx in rail slot direction with hexagon wood screw 8.8 and clamp bracket heavy-duty		Tensile load Fz with threaded pin 4.6 and washer 40 x 3 mm
Size	Tightening torque [Nm]	[N]	Tightening torque [Nm]	[N]	[N]
M8	9	1,400	20	2,100	4,500
M10	17	1,750	30		
M12	29		40		
M16					



Max. permissible load values of MPR-Threaded plates (channel 2.5 mm)					
	Transverse load Fx in rail slot direction with threaded pin 4.6 and washer 40 x 3 mm		Transverse load Fx in rail slot direction with hexagon wood screw 8.8 and clamp bracket heavy-duty		Tensile load Fz with threaded pin 4.6 and washer 40 x 3 mm
Size	Tightening torque [Nm]	[N]	Tightening torque [Nm]	[N]	[N]
M8	9	1,400	20	2,800	4,500
M10	17	2,000	30	3,150	5,000
M12	29	2,800	40		
M16					

02/19

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MPR-Clamp brackets

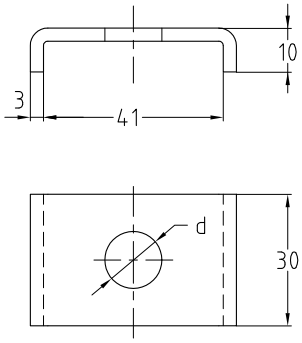
hot-dip galvanised

Field of application

- For safe force transmission when installing MPR-Support channels together with threaded rods

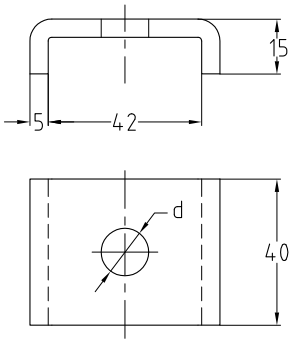
Advantages

- Two versions available
- Heavy-duty type available for transferring large forces
- Safe, folded edge prevents expansion of the rail slot





Standard version





Heavy-duty version

Design	For support channels	For thread d	Part no.	Sales unit	Pack unit
Standard version	41/21–41/124	M10	**154238**	50	pieces
		M12	**154237**		
Heavy-duty version		M8	**154234**	10	
		M10	**154235**		
		M12	**154803**		
		M16	**154236**		

02/19

MPR-Protection caps

Field of application

- Plastic protection cap for mounting on open ends of the MPR-Support channels

Advantages

- Clean end of the MPR-Support channels protects from injury
- Weather-resistant plastic material for long service life



For support channels	Part no.	Sales unit	Pack unit
41/21, 41/42	**151076**	100	pieces
41/41, 41/82	**151077**	50	
41/62, 41/124	**151078**	25	

Washers

for MPR-Support channels, mechanically galvanised

For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit
M8	40	3	**154239**	100	pieces
M10			**154240**		
M12			**154241**		
M16			**154242**	50	



02/19

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DÄMMGULAST® Channel sections

for MPR-Profiles

Field of application

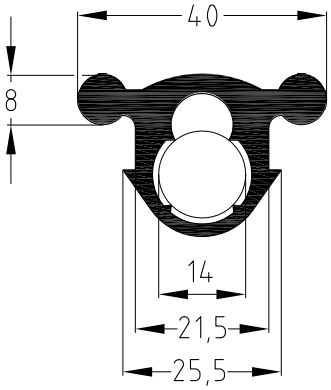
- Ideal for the decoupling of traverses for air duct fixtures
- For secure vibration-decoupling of MPR-Support channels

Advantages

- Easy installation by inserting into MPR-Support channels and/or screwing onto threaded rods
- Prevents structure-borne noise coupling by avoiding contact between the air duct and the threaded rods
- Interlocking profile prevents channel section being pushed out
- Prevents fluttering and other vibration noises in the air ducts
- Small contact surface, large absorption mass







Features

Design	For support channels	Suitable for	Part no.	Sales unit	Pack unit
DÄMMGULAST® Channel section roll of 20 m	41/21–41/124	Channels with slot widths of 22 mm, M8 and M10 threaded rods	**151189**	1	roll
DÄMMGULAST® Channel sections section of 50 mm			**155366**	200	pieces

When installing air conditioning and ventilation equipment, MPR-Support channels can be used as load-bearing traverses. Structure-borne vibration coupling bridges resulting from direct metal contact between the air duct and the traverse or threaded rods can be prevented by the use of DÄMMGULAST® Channel section as intermediate layer.

The DÄMMGULAST® Channel section was developed especially for these application areas and provides the optimum solution from a practical installation point of view.

02/19

MPR-Saddle supports

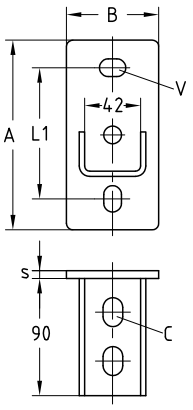
hot-dip galvanised

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor and outdoor use

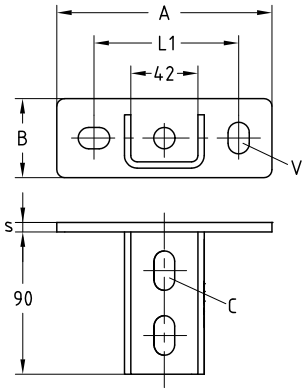
Advantages

- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions
- Type for 41/82 and 41/124 profiles with rotation-free bearing due to clamping on both sides by the MPR-Support channels



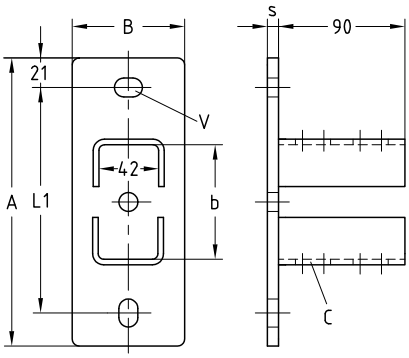


MPR-Saddle support, lengthwise





MPR-Saddle support, crosswise





MPR-Saddle support, lengthwise for profiles 41/82 and 41/124

Design	For support channel	Part no.	Sales unit	Pack unit	Dimensions [mm]						
					A	B	b	L1	s	C	V
Crosswise	41/21–41/62	**156820**	25	pieces	136	50	–	91.5	6	13 x 25	13.5 x 20
Lengthwise		**156819**			144	70		100			
	41/82	**159100**	1		205	80	83	160	8		
	41/124	**159099**			245		125	200			

02/19

MPR-VARIO-Saddle support

hot-dip galvanised

Field of application

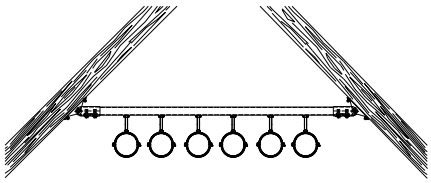
- Ideal for attachment to inclined roof trusses, vaults and in round cable shafts
- Suitable for outdoor use

Advantages

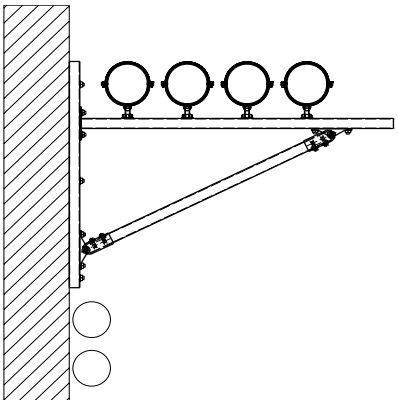
- Variable angle adjustment possible during installation
- Simple and quick installation due to pre-installed screws and MPR-Threaded plate
- Attachment to the slot of support channels 41/41 possible in all directions
- Positive-fit joining due to interlocking MPR-Support channels and MPR-Threaded plates



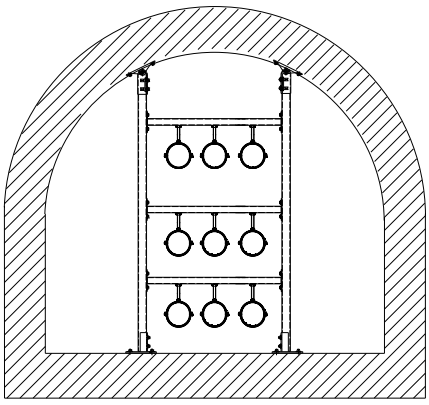




Attachment of a pipe run to an inclined roof truss

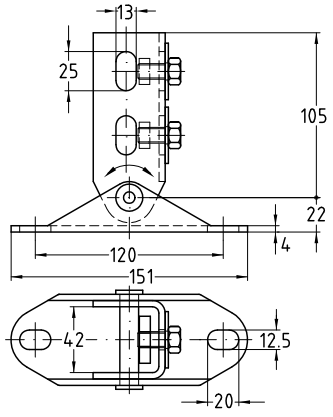


Pipes installed on a wall hanger with diagonal strut



Installation of brackets in vaults or round cable ducts and shafts

Completely pre-assembled:
1 MPR-VARIO-Saddle support
2 MPR-Threaded plates M10
2 Hexagonal head bolts M10
2 Washers



For support channels	Minimum angle [°]	**Part no.**	Sales unit	Pack unit
41/21–41/62	20	**160007**	1	pieces

02/19

MPR-Cross channel connectors

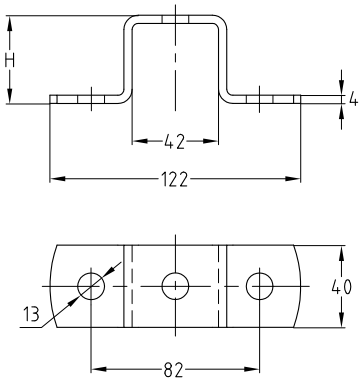
hot-dip galvanised

Field of application

- For cross-connections e.g. in shelves made from MPR-Support channels
- Connection of MPR-Support channels to constructions of MPT-Support profiles
- For indoor and outdoor use

Advantages

- Easy-to-install connection element for setting up structures with correctly designed static loads using MPR-Support channels
- Greater flexibility when setting up structures made from channels
- For rotation-resistant attachment to building structure





For support channels	Part no.	Sales unit	Pack unit	Dimension H [mm]
41/21	**154225**	10	pieces	23
41/41, 41/42	**154226**			43
41/62	**154229**			64
41/82	**154227**			84
41/124	**154228**			126

02/19

MPR-Girder cleats

hot-dip galvanised

Field of application

- Attachment of MPR-Support channels to steel girders without drilling or welding
- For indoor and outdoor use

Advantages

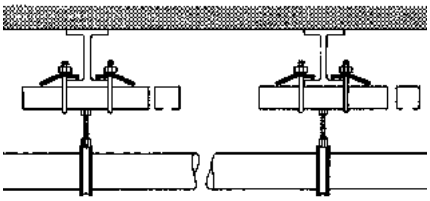
- Ideal solution for attachment of MPR-Support channels to steel girders
- Allows subsequent adjustment of the channels along and across the supporting beam
- Suitable for all flange thicknesses of common support profiles (≤ 24.5 mm)
- Easy to install, pre-assembled kit
- Proper attachment of suspended loads on girders

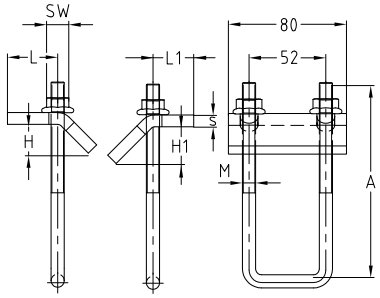




Features

For support channels	Thread U-brackets	Max. permitted loading/pair [N] with hammer head fasteners			
		M8	M10	M12	M16
41/21/2.0 41/41/2.0 41/42/2.0	M8	4,500	4,500	4,500	4,500
41/41/2.5			5,000	5,000	5,000
41/21/2.0 41/41/2.0 41/42/2.0	M10		4,500	4,500	4,500
41/41/2.5			5,000	5,000	5,000
41/62/2.5					
41/82/2.0			4,500	4,500	4,500
41/124/2.5			5,000	5,000	5,000





For support channels	Thread	Spanner width [SW]	Part no.	Sales unit	Pack unit	Dimensions [mm] A	H	H1	L	L1	s
41/21, 41/41, 41/42	M8	13	**154232**	10	pieces	90	18.5	24.5	34	30	6
	M10	15	**154230**								8
41/62, 41/82			**154231**			130					
41/124			**154233**			170					

02/19

MPR-Quick fasteners type S+

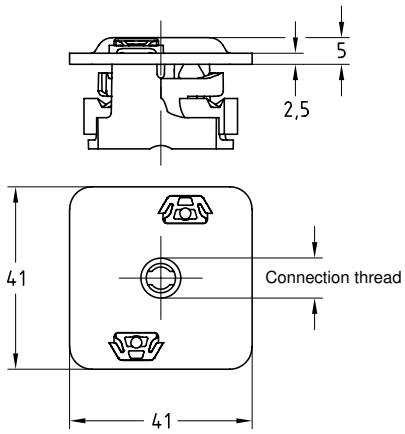
zinc-nickel

Field of application

- For safe and fast connecting of pipe clamps and mounting parts in the rail slot of MPR-Support channels
- For indoor and outdoor use

Advantages

- Simply screw into the rail slot – done
- Safely retained after screwing in, alignable until screw is tightened
- Secure interlocking design for a positive connection with the MPR-Support channels
- No shifting even on vertical rail slots



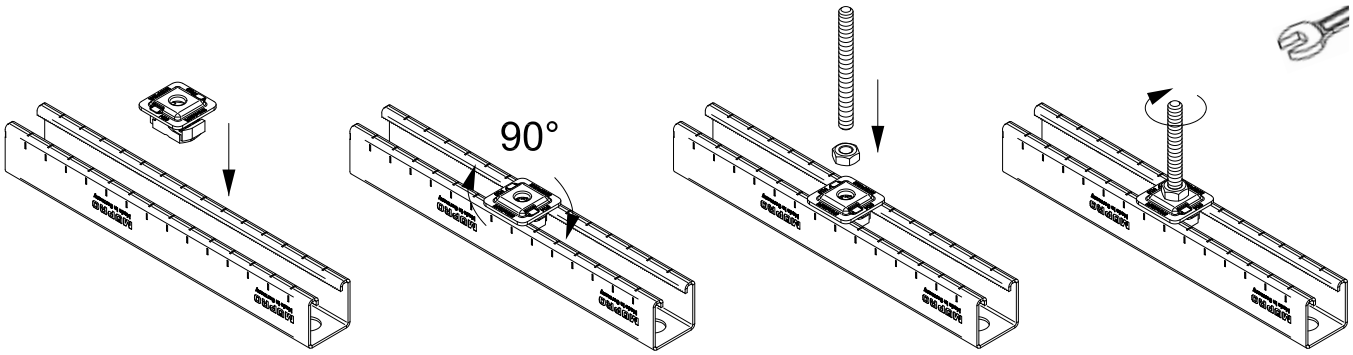


For support channels	Connecting thread	Part no.	Sales unit	Pack unit
41/21–41/124	M8	**165904**	25	pieces
	M10	**165905**		
	M12	**165906**		

Features

F_1	Max. recommended load F_1 [N]			Tightening torque [Nm]		
	M8	M10	M12	M8	M10	M12
MPR-Support channels 2.0 mm	4,500	4,500	4,500	9	17	29
MPR-Support channels 2.5 mm		5,000	5,000			

Mounting instructions



02/19

MPR-Slide nuts type S+

hot-dip galvanised

Field of application

- For fast and safe fastening of flush mounting parts such as installation brackets in the rail slot of MPR-Support channels
- For indoor and outdoor use

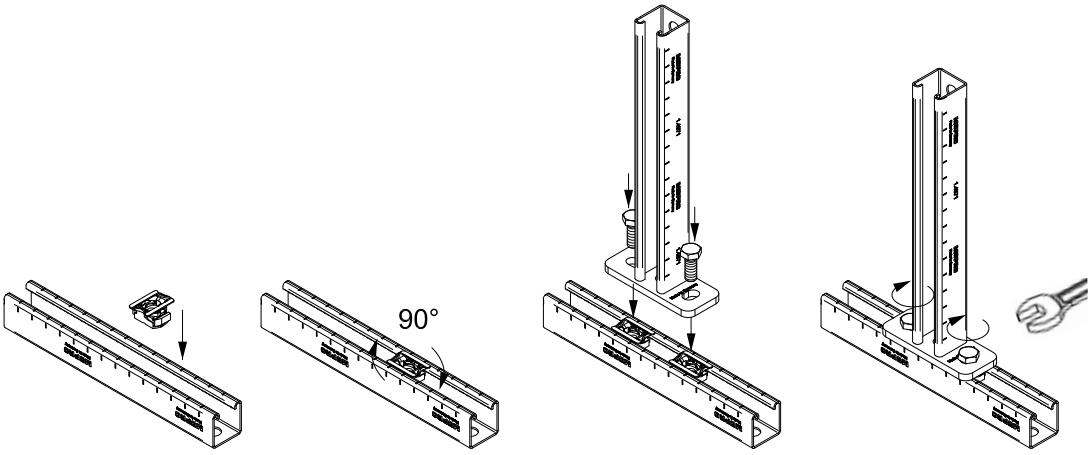
Advantages

- Simply screw into the rail slot – done
- Safely retained after screwing in, alignable until screw is tightened
- No shifting even on vertical rail slots
- Flush-mounted, tensionally locked connection of accessories to the MPR-Support channels



For support channels	Thread	Part no.	Sales unit	Pack unit
41/21–41/124	M8	**166310**	25	pieces
	M10	**166311**		
	M12	**166312**		

Mounting instructions



02/19

MPR-Connection lock type S+

zinc-nickel

Field of application

- For connecting type S+ mounting parts with MPR-Support channels
- For indoor and outdoor use

Advantages

- Time-saving – fast and powerful frictional connection of type S+ mounting parts with MPR-Support channels
- Easy – simply slot into the type S+ mounting part and tighten the connection lock by turning 90°
- Secure interlocking design for a positive connection with the MPR-Support channels
- No wrench or auxiliary tool needed to hold in place
- No confusion – one size fits all type S+ mounting parts

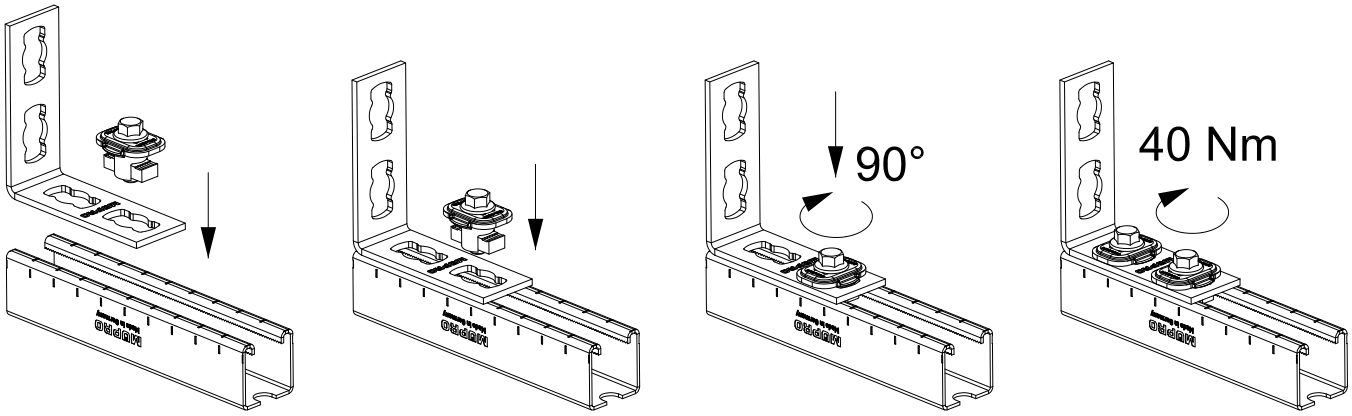


For support channels	Thread	Spanner width [SW]	**Part no.**	Sales unit	Pack unit
41/21–41/124	M10	17	**166348**	25	pieces

Features

	Max. recommended tensile load [N]	Max. recommended transverse load [N]	Tightening torque [Nm]
MPR-Support channels 2.0 mm	4,500	2,000	40
MPR-Support channels 2.5 mm	5,000		

Mounting instructions



02/19

MPR-Diagonal struts type S+

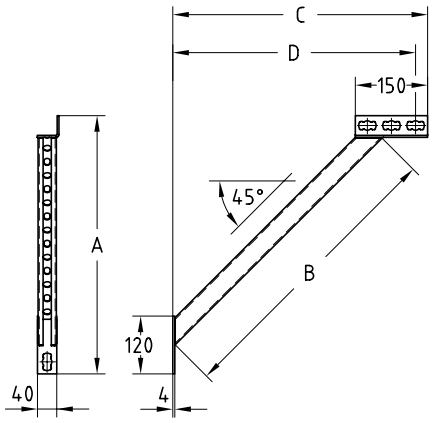
hot-dip galvanised

Field of application

- Supporting strut for reinforcement of corner joints in structures made of MPR-Support channels and MPR-Connection lock type S+
- For indoor and outdoor use
- Also suitable for lateral support of consoles, e.g. for use with fixed points

Advantages

- Easily connected with the MPR-Support channels due to installation with the MPR-Connection lock type S+
- Various lengths available for different on-site installation conditions





For support channels	Length [mm]	Part no.	Sales unit	Pack unit	Dimensions [mm]			
					A	B	C	D
41/21–41/124	440	**165866**	1	pieces	395	440	380	355
	900	**165868**			741	900	734	709

MPR-Channel connector type S+

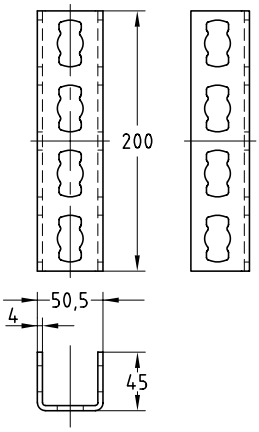
heavy-duty version, hot-dip galvanised

Field of application

- Fast butt-joining of MPR-Support channels and MPR-Connection lock type S+
- For indoor and outdoor use

Advantages

- Enables exact alignment of the channels
- Frictional connection via 4 connection locks type S+
- Easy handling thanks to installation with connection lock type S+





For support channels	Part no.	Sales unit	Pack unit
41/41–41/124	**165897**	1	pieces

02/19

MPR-Saddle supports type S+

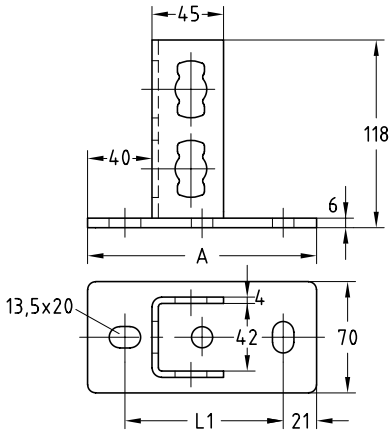
hot-dip galvanised

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor and outdoor use

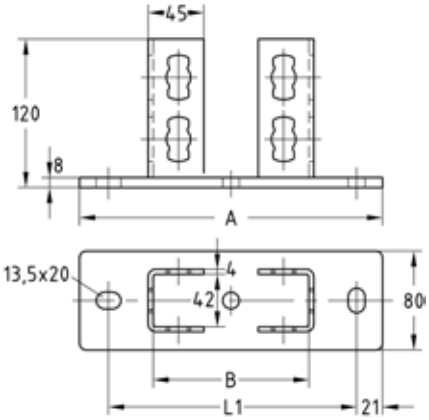
Advantages

- Easily connected with the MPR-Support channels due to installation with the MPR-Connection lock type S+
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions
- Type for 41/82 and 41/124 profiles with rotation-free bearing due to clamping on both sides by the MPR-Support channels





MPR-Saddle support type S+ for profiles 41/41 and 41/62





MPR-Saddle support type S+ for profiles 41/82 and 41/124

For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]		
				A	B	L1
41/41, 41/62	**165872**	1	pieces	144	–	100
41/82	**165873**			205	83	160
41/124	**165874**			245	125	200

02/19

MPR-Saddle support crosswise type S+

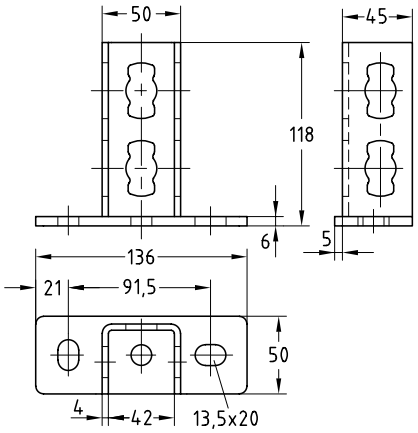
hot-dip galvanised

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor and outdoor use

Advantages

- Easily connected with the MPR-Support channels due to installation with the MPR-Connection lock type S+
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions especially of support channels 41/41
- Elongated- and cross-holes for direct attachment to the building structure





For support channels	Part no.	Sales unit	Pack unit
41/21–41/124	**165875**	1	pieces

02/19

MPR-Saddle support crosswise type S+

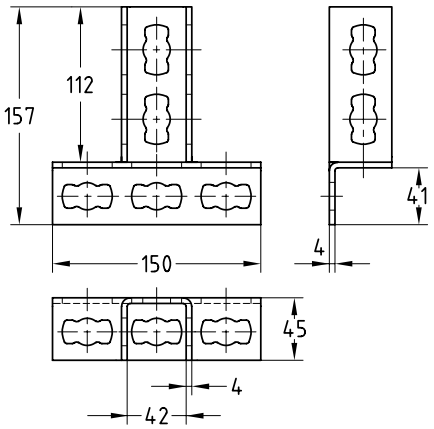
for channel support fitting, hot-dip galvanised

Field of application

- Simple assembly of strong cross-beams using MPR-Support channels
- Applicable for cramped installation conditions in shafts and ducts
- For indoor and outdoor use

Advantages

- Easily connected with the MPR-Support channels due to installation with the MPR-Connection lock type S+
- Good load transfer due to the high bending stiffness of the saddle connection
- Ideal connecting element for channel constructions especially of support channels 41/41





For support channels	Part no.	Sales unit	Pack unit
41/21–41/124	**165871**	1	pieces

02/19

MPR-Construction bracket type S+

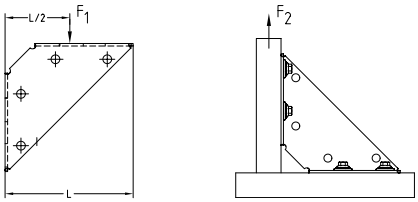
hot-dip galvanised

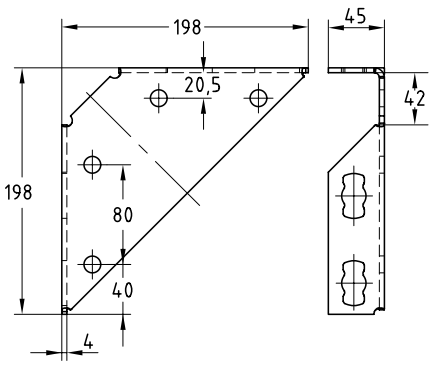
Field of application

- Ideal connecting element for the construction of cross-beams, frames and shelving systems when used with MPR-Support channels
- For indoor and outdoor use

Advantages

- A wide variety of installation options in MPR-Support channels and with the connection lock type S+
- Ensures stable corner joints







Features

Admissible load F_1 [N]	Admissible load F_2 (material thickness of support channel 2.0 mm) [N]	Admissible load F_2 (material thickness of support channel 2.5 mm) [N]
2,250	4,000	4,000

Size [mm]	**Part no.**	Sales unit	Pack unit
198 x 198	**165914**	1	pieces

02/19

MPR-Mounting angles 90° type S+

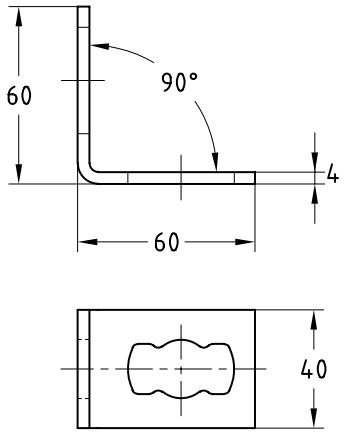
hot-dip galvanised

Field of application

- Solid fixing element for construction of pre-wall installations and shelves as well as for channel constructions for attachments of pipelines and air ducts without welding
- For indoor and outdoor use

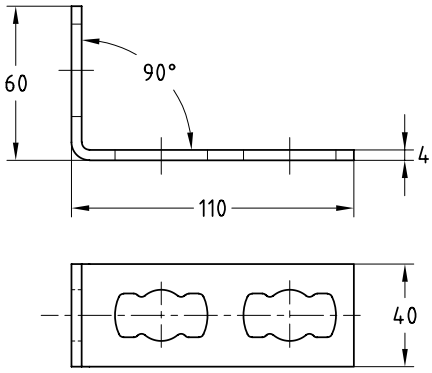
Advantages

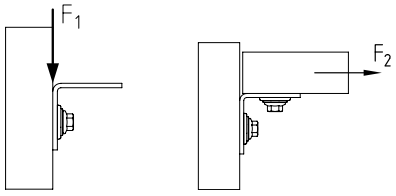
- Fast and simple installation of 90° corner joints with the MPR-Connection lock type S+
- Flexible use due to up to 4 connection locks depending on the design
- Increased load transfer when using 2 connection locks per leg





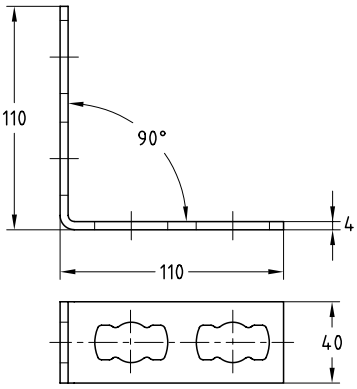
MPR-Mounting angle 90° 1+1 type S+







MPR-Mounting angle 90° 1+2 type S+





MPR-Mounting angle 90° 2+2 type S+

Features

Design	Admissible load F_1 [N]	Admissible load F_2 [N]
1+1	2,000	2,500
1+2		
2+2	4,000	

Design	For support channels	Part no.	Sales unit	Pack unit
1+1	41/21–41/124	**165888**	10	pieces
1+2		**165889**		
2+2		**165890**		

02/19

MPR-Mounting angles 135° type S+

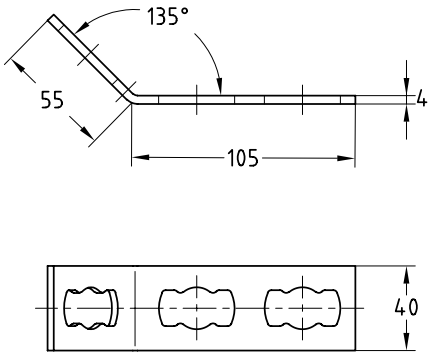
hot-dip galvanised

Field of application

- Solid fixing element for construction of pre-wall installations and shelves as well as for channel constructions for attachments of pipelines and air ducts without welding
- For indoor and outdoor use

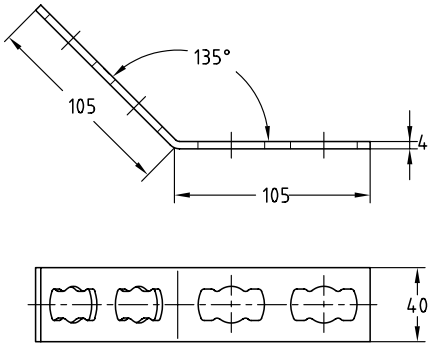
Advantages

- Fast and simple installation of angled joints with the MPR-Connection lock type S+
- Flexible use due to up to 4 connection locks depending on the design
- Increased load transfer when using 2 connection locks per leg



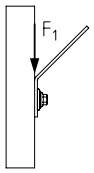


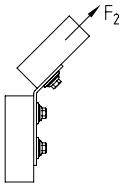
MPR-Mounting angle 135° 1+2 type S+





MPR-Mounting angle 135° 2+2 type S+





Features

Design	Admissible load F_1 [N]	Admissible load F_2 [N]
1+2	2,000	1,500
2+2	4,000	3,000

Design	For support channels	Part no.	Sales unit	Pack unit
1+2	41/21–41/124	**165891**	10	pieces
2+2		**165892**		

02/19

MPR-Angle connector 45° type S+

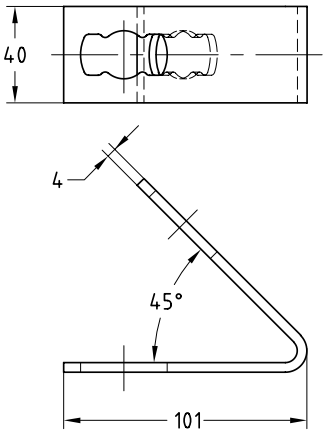
hot-dip galvanised

Field of application

- Connecting element for on-the-wall installations, shelves and rail constructions, preferably by using the MPR-Support channel 41/41

Advantages

- Fast and simple installation of angled joints in combination with the MPR-Connection lock type S+





Design	For support channels	**Part no.**	Sales unit	Pack unit
1+1	41/21–41/124	**165880**	10	pieces

02/19

MPR-Angle connectors 90° type S+

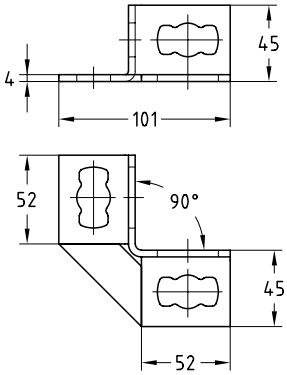
hot-dip galvanised

Field of application

- Connecting element for on-the-wall installations, shelves and rail constructions, preferably by using the MPR-Support channel 41/41
- For indoor and outdoor use

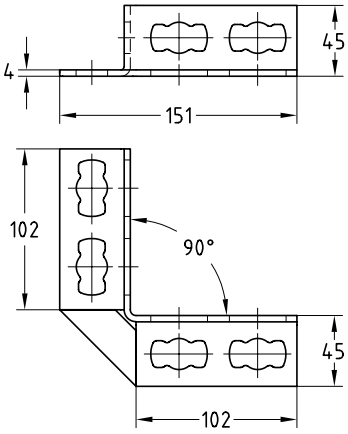
Advantages

- Fast and simple installation of angled joints with the MPR-Connection lock type S+
- Flexible use due to up to 4 connection locks depending on the design
- Increased load transfer when using 2 connection locks per leg
- Flexible connections in 2 directions with MPR-Support channels 41/41



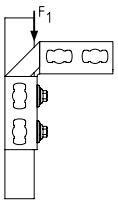


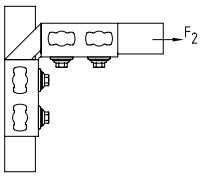
MPR-Angle connector 90° 2+2 type S+





MPR-Angle connector 90° 4+4 type S+





Features

Design	Admissible load F_1 [N]	Admissible load F_2 [N]
2+2	2,000	2,000
4+4	4,000	4,000

Design	For support channels	Part no.	Sales unit	Pack unit
2+2	41/21–41/124	**165881**	1	pieces
4+4		**165882**		

02/19

MPR-Angle connectors 135° type S+

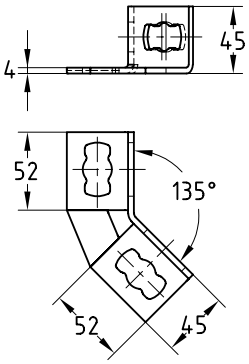
hot-dip galvanised

Field of application

- Connecting element for on-the-wall installations, shelves and rail constructions, preferably by using the MPR-Support channel 41/41
- For indoor and outdoor use

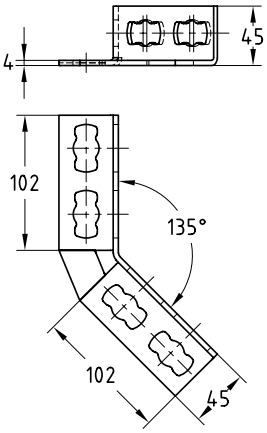
Advantages

- Fast and simple installation of angled joints with the MPR-Connection lock type S+
- Flexible use due to up to 4 connection locks depending on the design
- Increased load transfer when using 2 connection locks per leg
- Flexible connections in 2 directions with MPR-Support channels 41/41



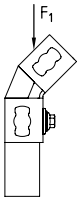


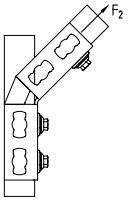
MPR-Angle connector 135° 2+2 type S+





MPR-Angle connector 135° 4+4 type S+





Features

Design	Admissible load F_1 [N]	Admissible load F_2 [N]
2+2	2,000	1,500
4+4	4,000	2,500

Design	For support channels	Part no.	Sales unit	Pack unit
2+2	41/21–41/124	**165883**	1	pieces
4+4		**165884**		

02/19

MPR-Connection plates type S+

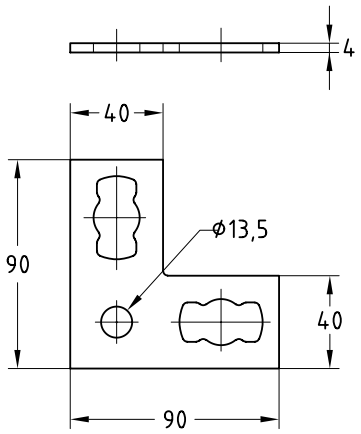
hot-dip galvanised

Field of application

- Strong connection elements for frames and pre-wall installations using the MPR-System components
- For indoor and outdoor use

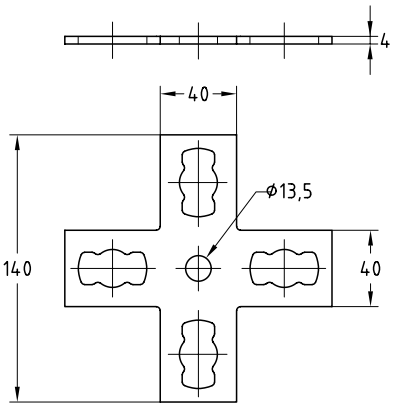
Advantages

- Simple and quick connection of **angle connections, cross connections and T-connections**
- The mounting plates enable frame construction in one plane in which the channel slots have the same alignment
- Good adaptation to channel widths; the corners remain free in frame constructions
- Quick and simple attachment in combination with the MPR-Connection lock type S+



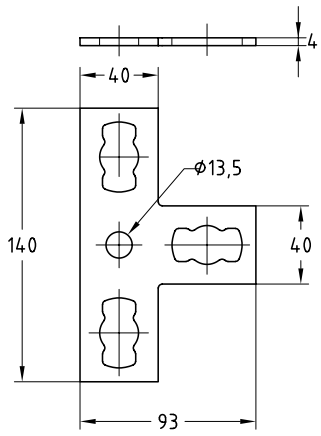


MPR-Angle plate 90° type S+





MPR-T-connection plate type S+





MPR-Cross connection plate type S+

	For support channels	Part no.	Sales unit	Pack unit
Angle plate 90°	41/21–41/124	**165879**	10	pieces
T-connection plate		**165877**		
Cross connection plate		**165878**		

02/19

MPR-3D-Connectors type S+

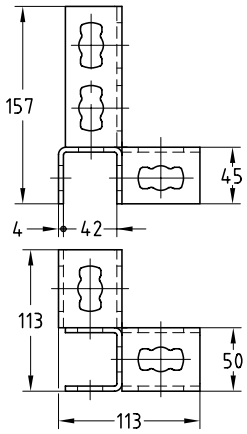
hot-dip galvanised

Field of application

- Fasteners for three-dimensional structures in on-the-wall installations, shelves and rail constructions
- For indoor and outdoor use

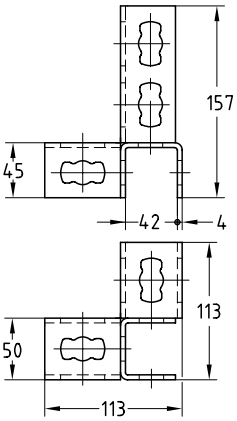
Advantages

- Fast and simple and installation of 3-dimensional connections joints in combination with the MPR-Connection lock type S+
- Flexible arrangement of the rail slot on MPR-Support channels 41/41 with middle or corner connectors type S+
- Versatile designs options using three different connector designs



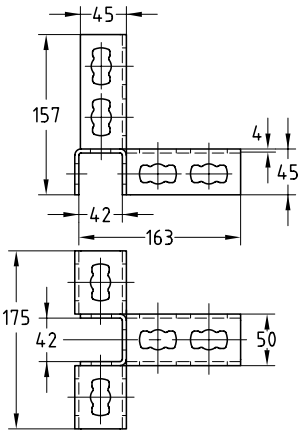


MPR-Corner connector left type S+





MPR-Corner connector right type S+





MPR-Mid connector type S+

	For support channels	Part no.	Sales unit	Pack unit
Corner connector left	41/21–41/124	**165885**	1	pieces
Corner connector right		**165886**		
Mid connector		**165887**		

02/19

MPR-Cross channel connector type S+

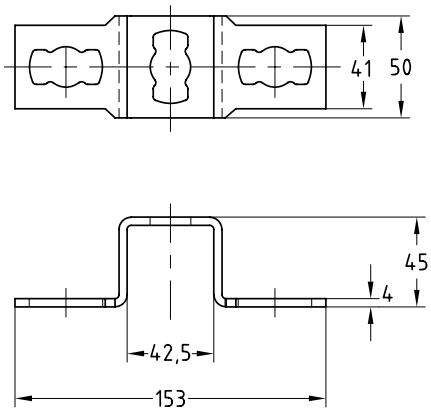
hot-dip galvanised

Field of application

- For cross connections in on-the-wall installations and shelves made of MPR-Support channels in combination with the MPR-Connection lock type S+
- For indoor and outdoor use

Advantages

- Easy-to-install connection element for setting up structures with correctly designed static loads using MPR-Support channels
- More flexibility in creating rail constructions in combination with the MPR-Connection lock type S+





For support channels	Part no.	Sales unit	Pack unit
41/41, 41/42	**165899**	10	pieces

02/19

Channel connector

heavy-duty version, hot-dip galvanised

Field of application

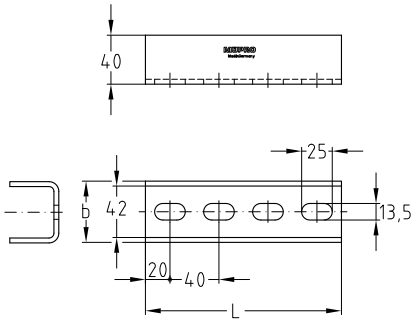
- Quick butt-joint connection of MPC- and MPR-Support channels
- Suitable for outdoor use

Advantages

- Enables exact alignment of the channels
- Four bolts provide a frictional joint
- For highly load-bearing connections:
  - form-locking connection of through fitting attachments by means of threaded pins or hexagon head bolts and hexagonal nuts
  - with 4 oblong holes, adapted to the hole pattern of the MPC-Support channels
- Also available in double length for heavy-duty connections









For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]	
				b	L
38/40–40/120, 41/21–41/124	**120140**	1	pieces	50	160

02/19

MÜPRO

Channel connector

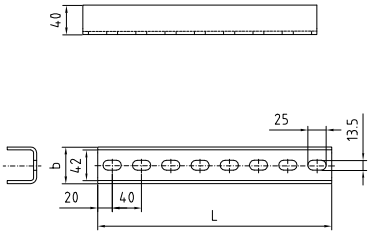
heavy-duty version, double length, hot-dip galvanised

Field of application

- Channel connector in heavy, stable design for secure connection of MPC- and MPR-Support channels

Advantages

- Form-locking connection due to max. eightfold screw connection
- Especially long guidance of the connected MPC- and MPR-Support channels ensures a high level of protection against lateral deflection
- Oblong holes in the channel connector compensate tolerances when installing





For support channels	Part no.	Sales unit	Pack unit	Dimensions [mm]	
				b	L
38/40–40/120, 41/21–41/124	**142839**	1	pieces	50	320

02/19

Reinforcement angle

hot-dip galvanised

Field of application

- Support for MPC- and MPR-Wall hanger brackets where transverse forces occur

Advantages

- Suitable for wall, ceiling and floor mounting
- Further mounting facilities for angle and joint connection of MPC- and MPR-Support channels

- **Suitable for:**
  - Support of wall hanger brackets 38/40, 40/60, 41/21, 41/41
  - Applicable as angle and joint connection of all MPC- and MPR-Support channels

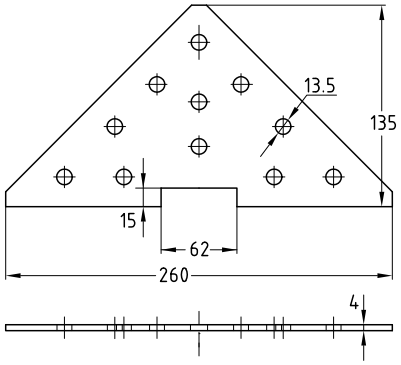








For support channels	Part no.	Sales unit	Pack unit
38/40–40/120, 41/21–41/124	**159437**	1	pieces



Suitable add-on parts for MPC-Support channels 38/40–40/120

	Part no.	Sales unit	Pack unit
Hexagon head bolt, M10 x 20 mm, hot-dip galvanised	**105558**	100	pieces
MPC-Slide nut, M10, hot-dip galvanised	**139500**		

Suitable add-on parts for MPR-Support channels 41/21–41/124

	Part no.	Sales unit	Pack unit
Hexagon head bolt, M10 x 20 mm, hot-dip galvanised	**105558**	100	pieces
MPR-Threaded plate, M10, hot-dip galvanised	**154190**	50	

02/19

MÜPRO

Cantilever brackets

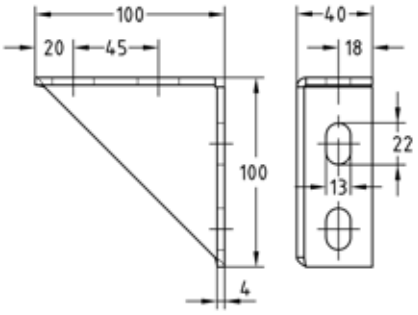
hot-dip galvanised

Field of application

- For attachment to ceiling, wall and floor, free-standing or in a shaft
- Strong support bracket for water meters, distributing batteries, pumps and many other items
- Suitable for outdoor use

Advantages

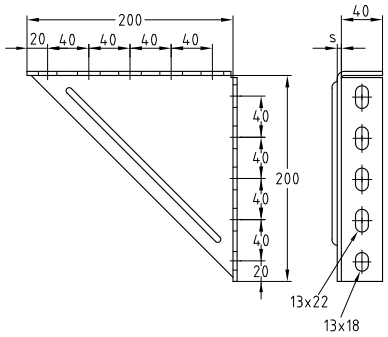
- Variety of mounting possibilities when used with MPC- and MPR-Support channels
- Reinforces and increases the load capacity of channel structures and cross-beams
- Even greater strength values can be achieved by bolting two equal-sided cantilever brackets together





Cantilever bracket 100 x 100







Cantilever bracket 200 x 200

Design	Type	For support channels	Size [mm]	**Part no.**	Sales unit	Pack unit
100 x 100	–	38/40–40/120, 41/21–41/124	100 x 100 x 4	**167127**	20	pieces
200 x 200	2		200 x 200 x 6	**113634**	1	

For further information please refer to chapter "Technical information".

02/19

Mounting angles

hot-dip galvanised

Field of application

- Solid fixing element for construction of pre-wall installations and shelves as well as for channel constructions for attachments of pipelines and air ducts without welding
- Also applicable for direct mounting on walls, ceilings or floors
- Suitable for outdoor use

Advantages

- Versatile in use due to oblong holes e.g. as:
  - Angular support bracket
  - Angular load-bearing bracket
  - Connection element
  - Angular bracket
- Multi-purpose component for professional, practical installation solutions



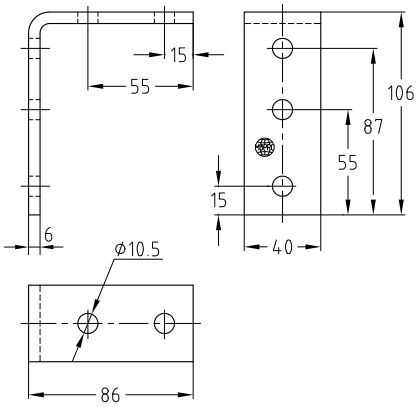
Mounting angle 90˚

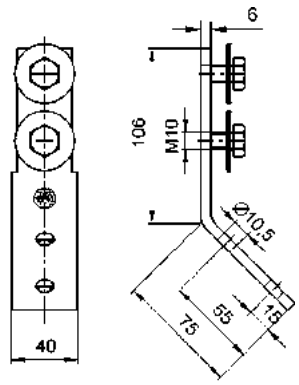


MPC-Mounting angle 45˚









Angle [°]	Accessories	For support channels	**Part no.**	Sales unit	Pack unit
45	2 Washers, 2 hexagon head bolts M10	38/40–40/120	**118777**	25	pieces
90	–	38/40–40/120, 41/21–41/124	**118846**		

02/19

Mounting angle 90°

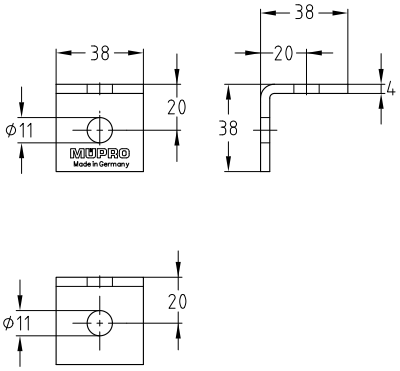
short, hot-dip galvanised

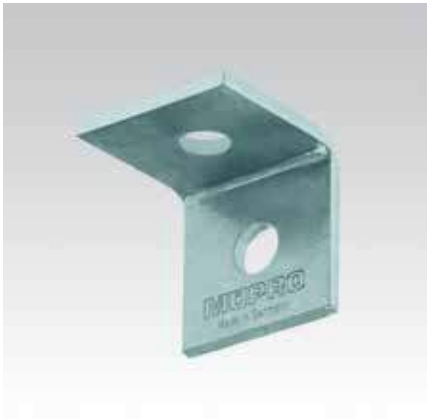
Field of application

- Strong and good value connecting element for the construction of frames, shelves and supports for pre-wall installations
- Suitable for outdoor use

Advantages

- Creation of rigid structures without welding
- High flexibility and easy mounting
- Good adjustment to the widths of MPC- and MPR-Support channels









For support channels	Part no.	Sales unit	Pack unit
38/40–40/120, 41/21–41/124	**118862**	25	pieces

02/19

Angle- and T-connection plates

hot-dip galvanised

Field of application

- Strong connection elements for frames and pre-wall installations using the MPC- and MPR-System components
- Suitable for outdoor use

Advantages

- Simple and quick connection of angles and T-connections
- The mounting plates allow frame construction in one plane, in which the channel slots have the same alignment
- Good adaptation to channel widths; the corners remain free in frame constructions
- Quick and simple attachment in combination with the MPC-Quick fastener for angled mounting
- Hole spacings allow pass-through mounting using the MPC- and MPR-Support channels



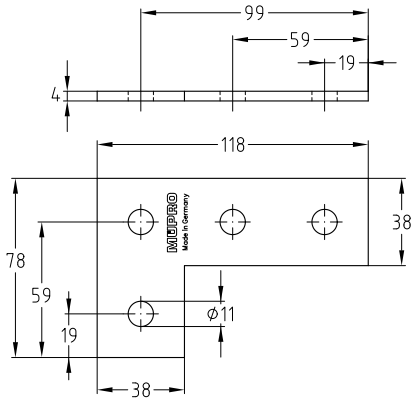
Angle plate

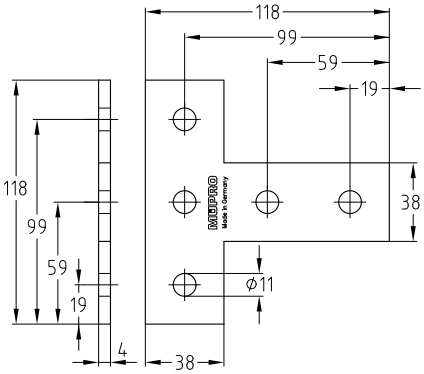


T-connection plate









	For support channels	Part no.	Sales unit	Pack unit
Angle plate	38/40–40/120, 41/21–41/124	**127849**	25	pieces
T-connection plate		**130299**		

02/19

Mounting base

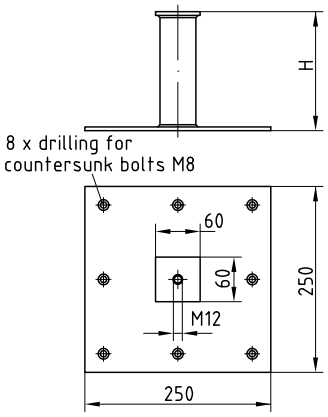
for flat roofs, hot-dip galvanised

Field of application

- Mounting base for attachments on flat roofs

Advantages

- Stable square base plate for uniform load distribution
- Hot-dip galvanised for a long life cycle in outdoor applications





Height H [mm]	**Part no.**	Sales unit	Pack unit
150	**118721**	1	pieces

Further heights available upon request.

02/19

Hexagon head bolts

DIN 933, hot-dip galvanised

Thread	Length [mm]	Part no.	Sales unit	Pack unit
M8	20	**105745**	100	pieces
	30	**105746**		
	45	**105747**		
M10	16	**105551**		
	20	**105558**		
	30	**105573**		
	35	**105581**		
	55	**105599**	50	
	60	**105604**		
	100	**105542**		
M12	25	**105620**		
	35	**105631**		
	40	**105636**		
	50	**105642**		
	60	**105646**		
M16	45	**105676**		
	60	**105680**		
M20	50	**105710**	25	
M24	60	**105719**		



Hexagonal nuts

DIN 934, hot-dip galvanised

Thread	Part no.	Sales unit	Pack unit
M8	**105497**	100	pieces
M10	**105431**		
M12	**105445**		
M16	**105459**		
M20	**105468**	25	
M24	**105473**		



Threaded rods

DIN 976, hot-dip galvanised

Thread	Length [mm]	Part no.	Sales unit	Pack unit
M10	1,000	**113452**	25	pieces
	2,000	**113483**	10	
M12	1,000	**113510**	20	
	2,000	**147921**	1	
M16	1,000	**113546**	10	
M20		**113576**	5	



02/19

Threaded pins

DIN 976, hot-dip galvanised

Connecting thread	Length [mm]	Part no.	Sales unit	Pack unit
M12	100	**113879**	100	pieces
	150	**113912**		
	200	**113924**	50	
	250	**113945**		
	300	**113951**		



For threaded pins with left-hand and right-hand thread please refer to chapter „Accessories“.

Turnbuckles

DIN 1480, hot-dip galvanised

Connecting thread	Overall length [mm]	Adjustment range [mm]	Part no.	Sales unit	Pack unit
M12	125	80	**125010**	25	pieces
M16	170	110	**125016**		



Washers

DIN 125, hot-dip galvanised

For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit
M8	16	1.6	**127346**	100	pieces
M10	20	2.0	**127318**		
M12	24	2.5	**127325**		
M16	30	3.0	**127328**		



Washers

for MPC-Support channels, hot-dip galvanised

For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit
M10	30	2.5	**132832**	100	pieces



Washers

for MPR-Support channels, mechanically galvanised

For thread	Outer diameter [mm]	Thickness [mm]	Part no.	Sales unit	Pack unit
M8	40	3	**154239**	100	pieces
M10			**154240**		
M12			**154241**		
M16			**154242**	50	



Link chain

DIN 763, hot-dip galvanised

Size [mm]	Length [m]	Part no.	Sales unit	Pack unit
4 x 32	30	**112096**	1	pieces



02/19

Supporting angle

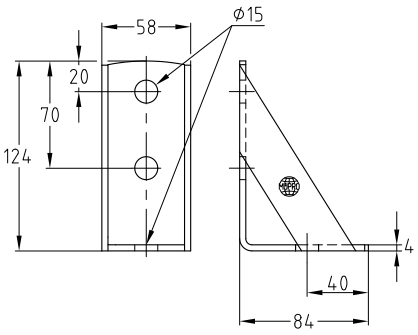
hot-dip galvanised

Field of application

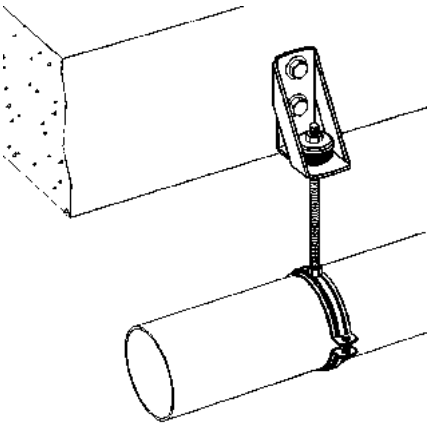
- For lateral suspension of pipelines on reinforced concrete beams
- As substructure for the attachment of fittings, e.g. water meters

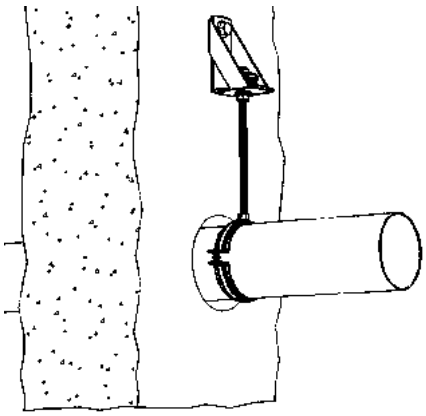
Advantages

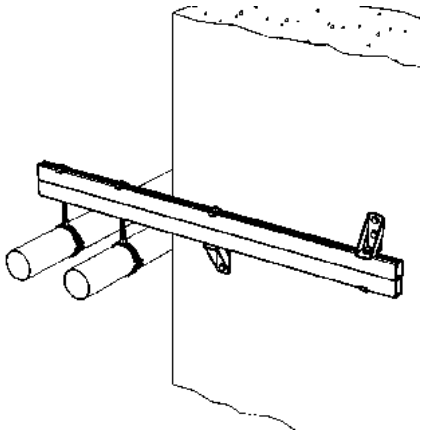
- Angle element for higher requirements for stability of mounting structures
- As bracket for supporting heavy loads close to a wall
- For supporting cross-beams in confined spaces











Max. recommended load [N]	Part no.	Sales unit	Pack unit
1,650	**127801**	25	pieces

02/19

Trapezoid-sheet hanger

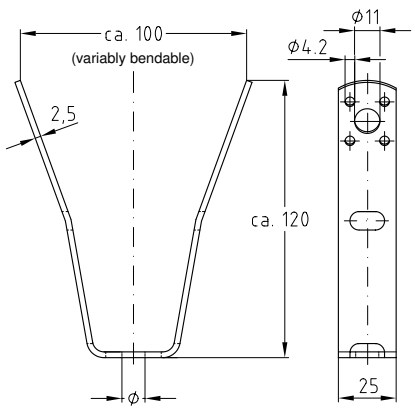
with clearance hole, hot-dip galvanised

Field of application

- For the professional attachment of installations to trapezoidal sheets

Advantages

- Attachment using sealing rivets or self-drilling screws to the stays of the corrugations
- Easy to adapt to different trapezoidal sheet sections due to predetermined bending points





Features

Max. recommended load [N]
1,300

For attachment on trapezoidal sheet metal according to building inspection approval Z-14.1-4 sealing rivets of Ø 4.0 mm AlMg 5 (DIN 1725) or drilling screws of Ø 4.2 mm made of case hardened steel are to be used. The max. permitted load according to the approval depends on thickness of particular trapezoidal sheet metal.
Please refer to chapter “Ventilation” for approved drilling screws.

Type	Part no.	Sales unit	Pack unit
M10	**130195**	100	pieces

Please refer to chapter "Tools" for trapezoid-sheet pliers used for attachment.

02/19

Joint brackets

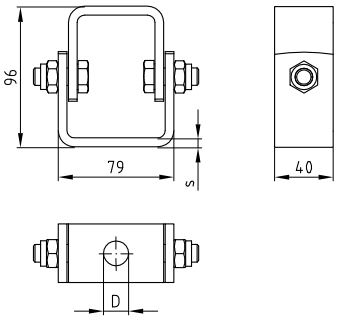
hot-dip galvanised

Field of application

- Joint bracket for suspensions and anchorings, e.g. for fixed points or fastenings of bridge drainage systems

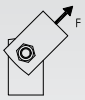
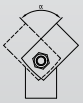
Advantages

- Large swivel range for a wide variety of installation situations
- Standard compliant hot-dip galvanising for outdoor use
- Additional materials / surfaces available upon request





Features

Size	Tensile load at swivel angle 0° [N] 	Tensile load at swivel angle 45° [N] 	Max. recommended swivel angle [°] 
40 x 6	8,000	5,000	90

Size	For thread	Diameter D [mm]	Thickness s [mm]	**Part no.**	Sales unit	Pack unit
40 x 6 LG 13	M12	13	6	**139133**	1	pieces
40 x 6 LG 17*	M16	17		**139151**		

*Order-related manufacturing, price, and delivery time upon request.

02/19

MÜPRO

STATO® Brackets

hot-dip galvanised

Field of application

- Stable support system with high load-bearing capacity for pipe installations
- **Ideal pipe anchor point in combination with STATO® Clamps without lining**
- Ideal as height adjustable subframe for anchor and expansion assemblies
- Ideal as an **anchor point for insulated chilled water pipes in combination with MÜPRO® Wooden blocks and STATO® Clamps**

Advantages

- Continuously adjustable in height and slope
- As height adjustment for waste water pipes or to compensate for unevennesses
- Can be fitted with up to 3 STATO® Clamps in case of heavy loads
- Especially suitable for heavy pipes with large wall clearances
- Can be used as a bearing block, adjustable in height and slope

The complete kit consists of:

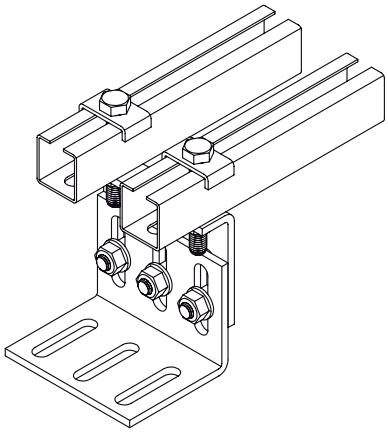
4 STATO® Angle pieces
6 Coach bolts M12
6 Hex. nuts M12
6 Washers for M12

All parts are hot-dip galvanised.

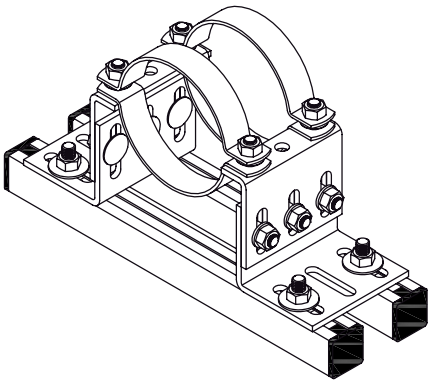




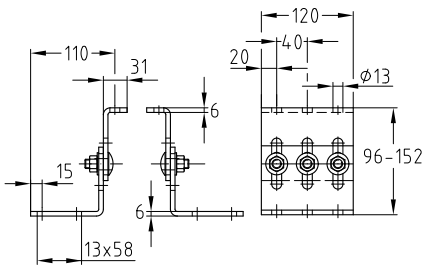
STATO® Clamps with adjustable STATO® Bracket



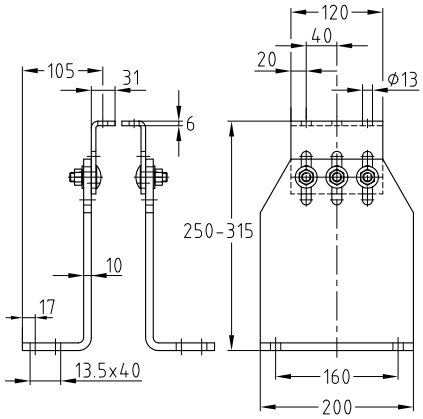
Height adjustable sub-frame for anchor and expansion assemblies



Free slidable elevation



Standard version



Heavy-duty version, larger distance from structure

Design	Overall height [mm]		Adjustment range [mm]	**Part no.**	Sales unit	Pack unit
	min.	max.				
Standard version	96	152	56	**129168**	5	pieces
Heavy-duty version	250	315	65	**129172**	1	

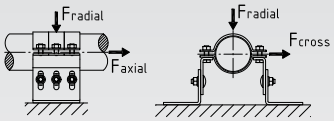
STATO® Clamps in hot-dip galvanised version upon request.

02/19

STATO® Brackets

hot-dip galvanised

Features

Type		Standard version	Heavy-duty version	Tightening torque [Nm] (valid for M12, steel pipes without coating)
Max. recommended load [N]	axial	5,500 per clamp	5,500 per clamp	75
	cross	min. overall height		
		8,000	7,000	
		max. overall height		
		6,000	7,000	
	radial	25,000	25,000	

VIDEO TIP

Installation of anchor points with MÜPRO STATO® brackets: the video shows the installation options in industrial settings and plant design and explains the individual installation steps.

02/19

MÜPRO

Box-section heavy slide guide

hot-dip galvanised

Field of application

- Suitable for wall fixing with horizontal or vertical pipes
- Attachment of pipes with temperature affected, axial expansion
- Variety of installation possibilities (floor-mount, ceiling-mount, wall-mount, rail-mount, cross stay)
- Expansion point attachment for standing and suspended pipes

Advantages

- Smooth-running slide guide for heavy loads
- With long slide travel up to 125 mm for pipelines with large changes in length
- Tilt-proof load distribution in standing and suspended installations
- Variable, height-adjustable pipe clamp attachments using threaded pins
- Two pipe clamps prevent jamming and misalignment
- Connection holes for M12 and M16





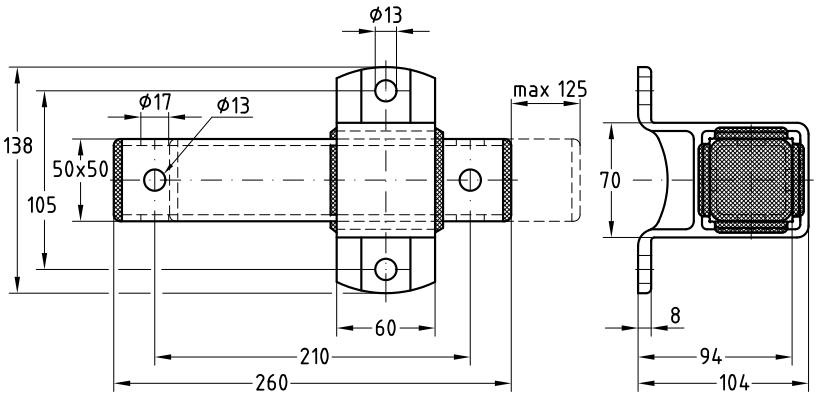




Features

fire protection certified

Max. recommended load [N]	7,800



Max. sliding length [mm]	**Part no.**	Sales unit	Pack unit
125	**133184**	1	pieces

Also available in stainless steel version upon request.

02/19

Duct fixing angle

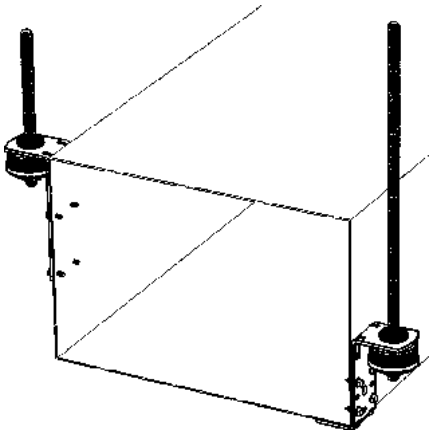
with insulator, hot-dip galvanised

Field of application

- Easy to install suspension for air ducts

Advantages

- Incorporated highly-elastic vibration-isolating element
- Excellent alignment and height adjustment via the threaded rods
- Design as angle and twin angle
- Various attachment options to air duct with rivets, self-drilling screws or bolts up to M8 in the oblong hole
- Direct attachment to air duct possible
- Average vibration reduction of 17 dB(A)



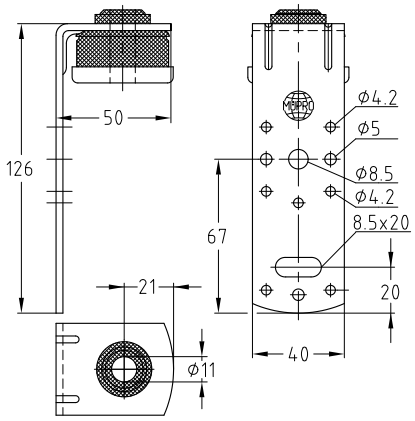


Features

Max. recommended load [N]	800
Average vibration reduction [dB(A)]	17

Type	Part no.	Sales unit	Pack unit
II	**116642**	25	pieces

Duct fixing angle is also available in other lengths.



Duct fixing angles
Type II

02/19



Anchor plugs

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

MÜPRO

 Steel anchors 13/2

 Setting tools for steel anchors 13/3

 Setting tools for steel anchors with gloves 13/3

 Machine-setting tools for steel anchors 13/3

 Headed drills with SDS chuck for steel anchors 13/3

 Plug-in setting tools for steel anchors 13/3

 Through anchors 13/4–13/5

 Heavy-duty anchors BZ 13/6–13/7

 Under cut anchors 13/8

 Setting tools for under cut anchors 13/8

 Claw anchors® 13/9

 Screws for concrete 13/10–13/13

 Nail anchors 13/14–13/15

 MPC-Mounting anchor with external thread 13/16–13/17

 MPC-Headed drill and setting tool 13/16

 MPC-Mounting anchor with internal thread 13/18–13/19

 MPC-Headed drill and setting tool 13/18

 Hollow-core slab ceiling anchors 13/20

 Cavity plugs 13/21

 Tension bolts 13/22

 Installation pliers 13/22

 Cavity plugs box 13/23–13/24

 Toggle plugs 13/25

 Sink fastener Toilet fastener 13/26

 Nylon plugs 13/27

 Ventilated-brick plugs 13/28

 Multi-purpose plugs 13/29

 Plasterboard plugs 13/30

 Nail plugs 13/30

 Bolt screw plugs 13/31

 MÜPRO-PHONEX® Anchors 13/32

 Zykon steel hammerset anchors FZEA 13/33

 Bits for Zykon steel hammerset anchors FZEA 13/34

 Impact mandrels for Zykon steel hammerset anchors FZEA 13/34

 Chemical reaction anchors VBA 13/35–13/36

 Steel wire brushes for chemical reaction anchors VBA 13/36

 Injection anchors XV Plus 13/37–13/42

 Injection anchor XV Plus assortment case 13/43

 Drill hole cleaning kit 13/44

 Cartridge guns 13/44

 Steel wire brushes for injection anchor XV Plus 13/44

 Nails for pipe clips 15/11

 Setting tool for nails 15/11

Anchor plug selection

Load specifications

Unless otherwise indicated, all load specifications in the MÜPRO product data sheets refer to single anchor plugs under central tensile load.

Approval

In case the use of plugs, approved by the construction supervisory authorities and/or European technical assessment authority, is required, the installation specifications of the approval must be observed as well.

Application of anchor plugs

Field of application	Type																		
	Steel anchors	Through anchor	Heavy-duty anchor	Under cut anchor	Claw anchor®	Screws for concrete	Nail anchor	MPC-Mounting anchor	Cavity plug	Hollow-core slab ceiling anchor	Toggle plug	Nylon plug	Ventilated-brick plug	Multi-purpose plug	Nail plug	Bolt screw plug	PHONEX® Anchor	Chemical reaction anchor	Injection anchor XV Plus	Zykon steel hammerset anchor
Concrete cracked	◉[1]		◉		●	◉	◉[1]	◉[1]		●		●		●	●	●	●			◉
Concrete non-cracked	◉	◉	◉		●	◉	◉[1]	◉[1]		●		●		●	●	●	●	◉	◉	◉
Lime sand brick					●	●						●		●	●	●	●		◉	
Solid brick					●	●						●		●	●	●	●		◉	
Natural stone (hard)	●	●	●			●	●	●		●		●			●	●	●		●	●
Perforated brick					●							●	●	●			●		◉	
Gas concrete				◉	●								●	●						
Pumice					●									●						
Plasterboard									●		●			●						
Solid gypsum brick					●							●	●	●	●					
Chipboard									●		●			●						
Wood					●												●			
Trapezoidal sheet ceilings									●		●									
Prestressed concrete hollow core slab ceilings										◉										
Vibration control																	●			

◉ Approved by building supervisory authorities / European Technical Assessment

[1] Approval only for multiple attachment according to ETAG.

02/19

Steel anchors

galvanised

Field of application

- For anchorages of medium-weight loads in concrete and natural stone (hard) in dry interiors of buildings
- Versatile and suitable for attachment with screws or threaded rods in all plumbing, heating and ventilation installations
- Anchors with a length of 25 mm are admitted as multiple attachment of non-load bearing systems for use in prestressed concrete hollow core slab ceilings

Advantages

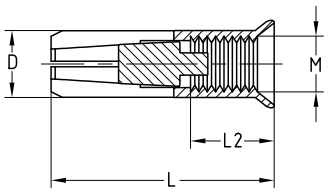
- Secure grip due to controlled splaying as the taper is driven in
- Requires only small drilling depth
- Flush finish with surface of the building material
- Secure expansion force even when the mounting screw is loosened
- European Technical Assessment (ETA) for non-cracked and cracked concrete (reduced loads)
- If used the setting tools for check marking, test loading of the anchor is not required

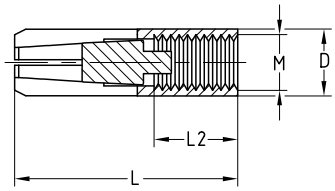


Steel anchor with collar



Steel anchor





- Efficient and effortless mounting due to headed drill and plug-in setting tool

Features

									Multiple attachment of non-load bearing systems ETA assessment		Non-cracked concrete, centrally tensile loaded ETA assessment	
	Connecting thread	Anchor length L [mm]	**Part no.**	Sales unit	Pack unit	Drill-∅ D [mm]	Usable thread length [mm]	FM	Drilled hole depth h_0 [mm]	Approved load [1] [kN]	Drilled hole depth h_0 [mm]	Approved load [2] [kN]
Steel anchor	M6	30	**129092**	100	pieces	8	13		30	1.2	30	3.3 [3]
	M8		**129093**			10				1.7		2.8 [3]
		40	**129088**				20		40	2.0	40	3.6
	M10		**129089**			12	15	●				5.1
	M12	50	**129090**	50		15	18	●	50	2.4	50	7.1
	M16	65	**129091**	25		20	23	●	65	6.3	65	10.5
Steel anchor with collar	M8	25	**167194**	100		10	12		25	1.9	–	–
		30	**149067**				13		30	1.7	30	2.8 [3]
		40	**150703**				20		40	2.0	40	3.6 [3]
	M10	25	**167195**			12	12		25	2.1	–	–
		30	**149068**					●	30	2.0	30	3.3 [3]
		40	**149325**				15	●	40		40	5.1
	M12	25	**167196**	50		15	12		25	2.1	–	–
		50	**150704**				18	●	50	2.4	50	7.1

[1] Use as multiple attachment of non-load-bearing systems according to ETAG 001, part 6. The overall safety coefficient according to ETA is taken into consideration (γM und γF). The max. permitted load for each attachment point can be below the permitted load of the anchor, depending on national regulations. The permitted loads for each attachment point are regulated by ETAG 001, part 6 for the different countries. The European Technical Assessment 05/0161 shall be observed for dimensioning.

[2] The admissible loads apply for single anchors in concrete strength class ≥ C20/25 (B25) for axially applied tension without the influence of axial and edge spacings. The safety coefficient according to ETA is included. The European Technical Assessment 05/0160 shall be observed for dimensioning.

[3] Only for use in statically indeterminate systems.

For the stainless steel version please refer to chapter „Stainless steel“.
For additional characteristic values of plugs, for use in areas with requirements on the duration of fire resistance and for use in prestressed concrete hollow core slab ceilings, please refer to the „Technical information“ chapter.

02/19

Setting tools for steel anchors

	Connecting thread	Part no.	Sales unit	Pack unit
Setting tools, hardened	M6 x 30	**123117**	1	pieces
	M8 x 25	**166897**		
	M10 x 25	**166898**		
Setting tools, for check marking, hardened	M8 x 30	**123104**		
	M8 x 40	**123100**		
	M10 x 40	**123092**		
	M12 x 50	**123096**		
	M16 x 65	**123113**		



Setting tools for steel anchors

with gloves, to set control markings

Connecting thread	Part no.	Sales unit	Pack unit
M8 x 25	**166899**	1	pieces
M8 x 30	**151706**		
M8 x 40	**151707**		
M10 x 25	**166900**		
M10 x 30	**149401**		
M10 x 40	**150682**		
M12 x 25	**167191**		
M12 x 50	**151708**		
M16 x 65	**151709**		



Machine-setting tools for steel anchors

to set control markings

Connecting thread	Part no.	Sales unit	Pack unit
M8 x 30	**151674**	1	pieces
M10 x 30	**151676**		
M10 x 40	**151677**		
M12 x 50	**151696**		



When inserting the plug with the setting tool the swivel function of the hammer drill must be switched off.

Headed drills with SDS chuck for steel anchors

Size	For plug	Drill-∅ [mm]	Drilling depth [mm]	Part no.	Sales unit	Pack unit
10 x 25	M8 x 25	10	25	**167182**	1	pieces
10 x 30	M8 x 30		30	**166901**		
10 x 40	M8 x 40		40	**166902**		
12 x 25	M10 x 25	12	25	**167183**		
12 x 30	M10 x 30		30	**166903**		
12 x 40	M10 x 40		40	**166904**		
15 x 25	M12 x 25	15	25	**167184**		
15 x 50	M12 x 50		50	**166905**		



Plug-in setting tools for steel anchors

including headed drill with SDS chuck

Size	For plug	Suitable headed drill	Part no.	Sales unit	Pack unit
8 x 25	M8 x 25	10 x 25	**167192**	1	pieces
8 x 30	M8 x 30	10 x 30	**166906**		
8 x 40	M8 x 40	10 x 40	**166907**		
10 x 25	M10 x 25	12 x 25	**167193**		
10 x 30	M10 x 30	12 x 30	**166908**		
10 x 40	M10 x 40	12 x 40	**166909**		



02/19

Through anchors

galvanised

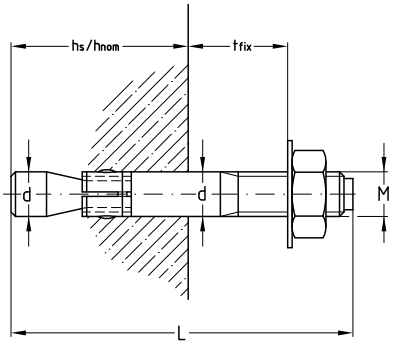
Field of application

- For anchorages of medium-weight loads in non-cracked concrete
- Attachment of metal and wood constructions, handrails, shelves and cable ducts
- Also applicable in hard natural stone

Advantages

- Quick handling: simply insert and tighten
- Practical through-fitting
- Splaying controlled by the tightening torque
- High security due to increasing splaying with increase in load
- European Technical Assessment (ETA) for non-cracked concrete





Features

APPROVED for M10–M12

Type	Connecting thread	Clamping thickness t_{fix} [mm]	Overall length L [mm]	**Part no.**	Sales unit	Pack unit
St 6–10	M6	10	67	**129513**	100	pieces
St 6–25		25	82	**129514**		
St 8–10	M8	10	75	**129516**		
St 8–20		20	85	**129517**		
St 8–45		45	110	**129519**		
St 10–10	M10	10	85	**129490**	50	
St 10–20		20	95	**129491**		
St 10–50		50	125	**129493**		
St 12–20	M12	20	115	**129499**	25	
St 12–30		30	125	**129502**		
St 12–65		65	160	**129505**		
St 12–85		85	180	**129506**		
St 12–105		105	200	**129495**	20	
St 12–145		145	240	**129496**	15	
St 12–160		160	255	**129497**		
St 12–190		190	285	**129498**		
St 12–230		230	325	**129500**		
St 12–260		260	355	**129501**		
St 16–30	M16	30	150	**129511**	10	
St 16–80		80	200	**129512**		
St 16–100		100	220	**129507**		

Please refer to chapter "Stainless steel" for the stainless steel version.

02/19

Through anchors

galvanised

			Uncracked concrete with central tensile load ETA assessment		
Type	Drill diameter d [mm]	Drilled hole depth [mm]	Standard anchoring depth h_{ef} [mm]	Setting depth h_s [mm]	Approved load [1] [kN]
St 6–10	6	55	40	49	4,1
St 6–25					
St 8–10	8	65	44	56	5,7
St 8–20					
St 8–45					
St 10–10	10	70	48	62	7,6
St 10–20					
St 10–50					
St 12–20	12	90	65	82	12,6
St 12–30					
St 12–65					
St 12–85					
St 12–105					
St 12–145					
St 12–160					
St 12–190					
St 12–230					
St 12–260					
St 16–30	16	110	82	102	17,8
St 16–80					
St 16–100					

[1] The admissible loads apply for single anchors in concrete strength class ≥ C20/25 for axially applied tension without the influence of axial and edge spacings. The safety coefficient according to ETA is included. The European Technical Assessment shall be observed for dimensioning.
Reduced setting depth possible at reduced loads; see please the European Technical Assessment 05/0162

Please refer to chapter "Technical information" for additonal characteristic values of plugs.

Heavy-duty anchors BZ

galvanised

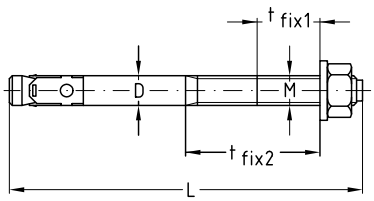
Field of application

- For anchorages of medium-weight to heavy loads in cracked and non-cracked concrete
- Attachment of wall hanger brackets, support channels, base plates, constructions made of metal and wood, cable trays, railings, etc.
- Also applicable in hard natural stone

Advantages

- Secure anchorage due to slit splaying sleeve with serrations
- Force-controlled splaying from the tightening torque
- Secure splaying due to taper with slide coating
- European Technical Assessment (ETA) for cracked concrete (tensile zone) and non-cracked concrete (compression zone)
- Higher loading possible when used in the compression zone
- Two effective anchorage depths for greater flexibility (maximum anchor length 210 mm)
- Approved for seismic loads, performance categories C1 and C2 (maximum anchor length 210 mm)





Standard anchorage depth:

Type	Connecting thread	Clamping thickness t_{fix1} [mm]	Drill hole-∅ x depth [mm]	Setting depth h_{nom} [mm]	Anchoring depth h_{ef} [mm]	Seismic	Overall length L [mm]	**Part no.**	Sales unit	Pack unit
BZ 8-30-41/95	M8	30	8 x 60	52	46	–	95	**162169**	100	pieces
BZ 8-50-61/115		50					115	**162170**		
BZ 10-10-30/90	M10	10	10 x 75	68	60	C1/C2	90	**162171**	50	
BZ 10-30-50/110		30					110	**162172**		
BZ 10-50-70/130		50					130	**162173**		
BZ 10-75-95/155		75					155	**162174**		
BZ 12-15-35/110	M12	15	12 x 90	80	70		110	**162175**	25	
BZ 12-50-70/145		50					145	**162176**		
BZ 12-65-85/160		65					160	**162177**		
BZ 12-125/220		125				–	220	**116712**		
BZ 16-140/260	M16	140	16 x 110	97	85		260	**116737**	10	

Reduced anchorage depth:

Type	Connecting thread	Clamping thickness t_{fix2} [mm]	Drill hole-∅ x depth [mm]	Setting depth $h_{nom\ red}$ [mm]	Anchoring depth $h_{ef\ red}$ [mm]	Overall length L [mm]	**Part no.**	Sales unit	Pack unit
BZ 8-30-41/95	M8	41	8 x 49	41	35	95	**162169**	100	pieces
BZ 8-50-61/115		61				115	**162170**		
BZ 10-10-30/90	M10	30	10 x 55	48	40	90	**162171**	50	
BZ 10-30-50/110		50				110	**162172**		
BZ 10-50-70/130		70				130	**162173**		
BZ 10-75-95/155		95				155	**162174**		
BZ 12-15-35/110	M12	35	12 x 70	60	50	110	**162175**	25	
BZ 12-50-70/145		70				145	**162176**		
BZ 12-65-85/160		85				160	**162177**		
BZ 12-125/220		–	–	–	–	220	**116712**		
BZ 16-140/260	M16					260	**116737**	10	

Also available in stainless steel.

02/19

Heavy-duty anchors BZ

galvanised

Features

Type	FM	Standard anchorage depth			Reduced anchorage depth		
		Anchoring depth h_{ef} [mm]	Permissible tensile load [1] cracked concrete C20/25 [kN]	Permissible tensile load [1] uncracked concrete C20/25 [kN]	Anchoring depth $h_{ef\ red}$ [mm]	Permissible tensile load [1] cracked concrete C20/25 [kN]	Permissible tensile load [1] uncracked concrete C20/25 [kN]
BZ 8-30-41/95		46	2.4	5.7	35	2.4	3.6
BZ 8-50-61/115							
BZ 10-10-30/90	●	60	4.3	7.6	40	3.6	4.3
BZ 10-30-50/110	●						
BZ 10-50-70/130	●						
BZ 10-75-95/155	●						
BZ 12-15-35/110	●	70	7.6	11.9	50	6.1	8.5
BZ 12-50-70/145	●						
BZ 12-65-85/160	●						
BZ 12-125/220	●				–	–	–
BZ 16-140/260	●	85	11.9	16.7			

[1] The admissible loads apply for single anchors in concrete strength class ≥ C20/25 for axially applied tension without the influence of axial and edge spacings. The safety coefficient according to ETA is included. The European Technical Assessment ETA-05/0158 shall be observed for dimensioning.

Please refer to chapter "Technical information" for additonal characteristic values of plugs.

Under cut anchors

galvanised

Field of application

- For anchorages in lightweight concrete panels and walls in dry interiors of buildings

Advantages

- Anchoring without splaying pressure, immediately loadable
- High load-bearing capacity due to pronounced undercut
- Simple setting by driving in the tapered bolt and the splaying sleeve without pilot drilling
- Approved by the building authorities





Type	Type	Connecting thread	**Part no.**	Sales unit	Pack unit
With external thread	GBH A M8/20	M8	**111264**	25	pieces
	GBH A M10/20	M10	**111262**		
With internal thread	GBH I M8	M8	**111270**		
	GBH I M10	M10	**111266**		
	GBH I M12	M12	**111268**		

Features

Connecting thread	Thread length [mm]		Minimum building element thickness [cm]	Admissible loads [kN] (uncracked gas concrete, compression zone)				Admissible loads [kN] (cracked gas concrete, tensile zone)	
	External thread-clamping thickness [mm]	Internal thread screw-in depth [mm]		G2	G4	GB3.3	GB4.4	GB3.3	GB4.4
M8	20	8–13	17.5	0.4	0.8	0.6	0.8	0.6	0.8
M10		10–18		0.6	1.2	0.8	1.2	0.8	1.2
M12	–	12–18							

Please refer to chapter "Technical information" for additional characteristic values of plugs.

Setting tools for under cut anchors

	Suitable for	Type	For anchor type	**Part no.**	Sales unit	Pack unit
Setting tools	Hammer drill with SDS chuck	EWG A 8 x 20	GBH A M8/20	**107908**	1	pieces
		EWG A 10 x 20	GBH A M10/20	**107907**		
Manual hammers	Hammer weight ≥ 800 g	HWG A 8 x 20	GBH A M8/20	**115373**		
		HWG A 10 x 20	GBH A M10/20	**115370**		
		HWG I 8	GBH I M8	**115379**		
		HWG I 10/12	GBH I M10 + M12	**115376**		





02/19

Claw anchors®

in plastic box, galvanised

Field of application

- For anchorages in aerated and lightweight concrete, pumice masonry, lime sand brick, perforated brick, concrete and solid gypsum brick

Advantages

- Absolutely secure anchoring of wood screws in masonry due to claw design
- Can be used with bolt screws and shoulder screws as well as with all screws with wood thread
- Predrilling is not necessary if used in aerated concrete
- Easy to insert and precise guidance of the screws due to the preformed thread
- Can be used in accordance with TRGI (Technical Rules for Gas Installations)





Anchor-∅ [mm]	Anchor length [mm]	Screw-∅ [mm]	**Part no.**	Sales unit	Pack unit	Content [pieces]
6	32	5,5–6,0	**113709**	1	box	400
8	38	7,0–8,0	**113715**			300
	60		**113718**			200
10		9,0–10,0	**113703**			

Anchor-∅ [mm]	Anchor length [mm]	Drilling depth min. [mm]	Drilled hole-Ø [mm]	
			Gas concrete G2	Gas concrete G4
6	32	40	4.0	4.0
8	38	50	6.0	6.0
10	60	70	8.0	8.0

Features

Anchor-∅ [mm]	Anchor length [mm]	Load values [N]	
		Gas concrete G2 max. recommended load	Gas concrete G4
6	32	200	475
8	38	500	975
	60	650	1,100
10		1,275	1,575

The respective screw must be selected in its length so that it fully penetrates the anchor and extends at least to their own diameter from the plug tip.

02/19

Screws for concrete MMS-plus

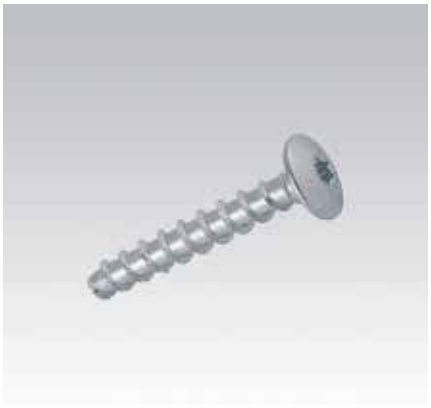
type Multi-Monti®-plus, galvanised

Field of application

- For anchorages free of expansion pressure in cracked and non-cracked concrete
- Direct mounting of attachment parts, such as brackets, support channels, base plates, etc.
- Also applicable in lime sand brick, solid brick, clinker and natural stone

Advantages

- More than 25 % reduction of assembly time per attachment point
- Versatile use in concrete and other solid building materials
- High security, no splaying effect – thus can be placed close to the edge and to other screws
- High load capacity due to form lock
- Easy to withdraw, facilitates corrections during installation
- No additional mounting or setting tools required
- European Technical Assessment for cracked and uncracked concrete
- Fire protection in concrete
- Suitable for the installation of gas mains according to the TRGI (Technical Rules for Gas Installations)
- Two effective anchorage depths for greater flexibility



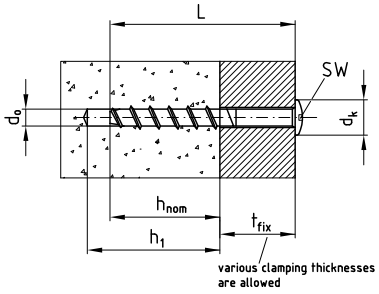
Screw for concrete with panhead (large) type MS

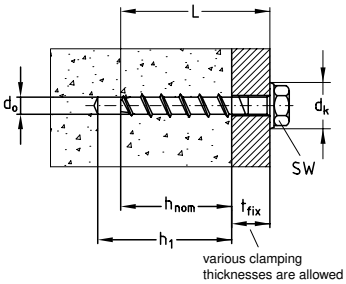


Screw for concrete with panhead (small) type P



Screw for concrete with hexagonal head and pressed washer type SS





Design	Thread-∅ [mm]	Length L [mm]	Washer–Ø dk [mm]	Head-∅ dk [mm]	**Part no.**	Sales unit	Pack unit
With hexagonal head and pressed washer type SS	7.5	40	14.0	–	**166632**	100	pieces
		50			**166633**	50	
		60			**166634**		
		80			**166635**		
		100			**166636**		
	10.0	70	19.0		**166637**	25	
		100			**166638**		
		120			**166639**		
With panhead (small) type P	7.5	40	–	14.0	**166646**	100	
		50			**166647**		
		60			**166648**	50	
With panhead (large) type MS		40		17.0	**166640**	100	
		50			**166641**		

02/19

Screws for concrete MMS-plus

type Multi-Monti®-plus, galvanised

Standard anchorage depth:

Features

Design	Thread-∅ [mm]	Length L [mm]	Spanner width [SW]	Clamping thickness t_{fix} [mm]	Head-∅ d_K [mm]	Drilled hole-∅ d_0 [mm]	Drilling depth h_1 [mm]	Anchoring depth h_{nom} [mm]	Admissible loads [kN] acc. to ETA assessment	
									cracked concrete [1]	uncracked concrete [1]
With hexagonal head type SS	7.5	40	10	5	14.0	6	40	35	1.0	2.0
		50		15						
		60		5			65	55	2.0	4.4
		80		25						
		100		45						
	10.0	70	13	5	19.0	8	75	65	4.4	7.9
		100		35						
		120		55						
With panhead (small) type P	7.5	40	T30	5	14.0	6	40	35	1.0	2.0
		50		15						
		60		5			65	55	2.0	4.4
With panhead (large) type MS		40			17.0		40	35	1.0	2.0
		50		15						

Reduced anchorage depth:

Features

Design	Thread-∅ [mm]	Length L [mm]	Spanner width [SW]	Clamping thickness t_{fix} [mm]	Head-∅ d_K [mm]	Drilled hole-∅ d_0 [mm]	Drilling depth h_1 [mm]	Anchoring depth h_{nom} [mm]	Admissible loads [kN] acc. to ETA assessment	
									cracked concrete [1]	uncracked concrete [1]
With hexagonal head type SS	7.5	60	10	25	14.0	6	40	35	1.0	2.0
		80		45						
		100		65						
	10.0	70	13	20	19.0	8	60	50	3.0	5.9
		100		50						
		120		70						
With panhead (small) type P	7.5	60	T30	25	14.0	6	40	35	1.0	2.0

[1] The admissible loads apply for single anchors, concrete strength class ≥ C20/25 (B25), for central load without influence of axial spacing and edge spacing in cracked and uncracked concrete.
The European Technical Assessment ETA-15/0784 shall be observed for dimensioning.

Please refer to chapter „Technical information“ for further installation parameters.
For fitting tools please refer to chapter „Tools“.

02/19

Screws for concrete MMS-plus

type Multi-Monti®-plus, galvanised

Field of application

- For anchorages free of expansion pressure in cracked and non-cracked concrete
- Direct mounting of attachment parts, such as brackets, support channels, base plates, etc.
- Also applicable in lime sand brick, solid brick, clinker and natural stone

Advantages

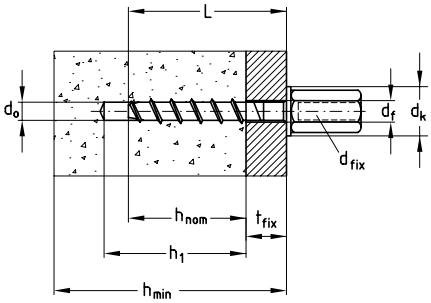
- More than 25 % reduction of assembly time per attachment point
- Versatile use in concrete and other solid building materials
- High security, no splaying effect – thus can be placed close to the edge and to other screws
- High load capacity due to form lock
- Easy to withdraw, facilitates corrections during installation
- No additional mounting or setting tools required
- European Technical Assessment for cracked and uncracked concrete
- Fire protection in concrete
- Suitable for the installation of gas mains according to the TRGI (Technical Rules for Gas Installations)
- Two effective anchorage depths for greater flexibility

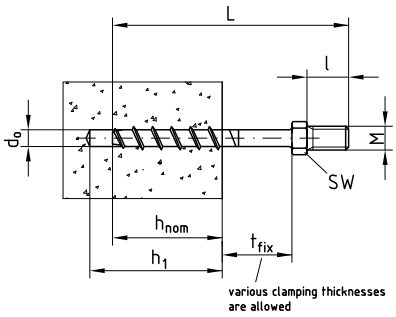


Screw for concrete with internal thread anchor type I



Screw for concrete with stud type ST





Design	Thread-∅ [mm]	Length L [mm]	Connecting thread	Thread length l [mm]	**Part no.**	Sales unit	Pack unit
With stud type ST	7.5	70	M8	14	**166642**	50	pieces
		80			**166643**		
		100			**166644**		
	10.0	75	M10	11	**166645**	25	
		100			**106530**	100	
		120			**106528**		
With internal thread anchor type I	7.5	40	M8/M10	23	**166649**	40	
		60	M8	12	**166650**	50	
			M8/M10	23	**166651**	40	
	10.0	75	M10	13	**166652**	25	

Articles 106530 and 106528 according to European Technical Assessment ETA-05/0010.

02/19

Screws for concrete MMS-plus

type Multi-Monti®-plus, galvanised

Standard anchorage depth:

Features

Design	Thread-∅ [mm]	Length L [mm]	Spanner width [SW]	Clamping thickness t_{fix} [mm]	Head-∅ d_K [mm]	Drilled hole-∅ d_0 [mm]	Drilling depth h_1 [mm]	Anchoring depth h_{nom} [mm]	Admissible loads [kN] acc. to ETA assessment	
									cracked concrete [1]	uncracked concrete [1]
With stud type ST	7.5	70	10	15	10.0	6	65	55	2.0	4.4
		80		25						
		100		45						
	10.0	75	13	10	13.0	8	75	65	4.4	7.9
		100		35					3.7 [2]	4.9 [2]
		120		55						
With internal thread anchor type I	7.5	40		5	14.5	6	40	35	1.0	2.0
		60					65	55	2.0	4.4
	10.0	75	17	10	19.5	8	75	65	4.4	7.9

Reduced anchorage depth:

Features

Design	Thread-∅ [mm]	Length L [mm]	Spanner width [SW]	Clamping thickness t_{fix} [mm]	Head-∅ d_K [mm]	Drilled hole-∅ d_0 [mm]	Drilling depth h_1 [mm]	Anchoring depth h_{nom} [mm]	Admissible loads [kN] acc. to ETA assessment	
									cracked concrete [1]	uncracked concrete [1]
With stud type ST	7.5	70	10	35	10.0	6	40	35	1.0	2.0
		80		45						
		100		65						
	10.0	75	13	25	13.0	8	60	50	3.0	5.9
With internal thread anchor type I	7.5	60			14.5	6	40	35	1.0	2.0
	10.0	75	17		19.5	8	60	50	3.0	5.9

[1] The admissible loads apply for single anchors, concrete strength class ≥ C20/25 (B25), for central load without influence of axial spacing and edge spacing in cracked and uncracked concrete.
The European Technical Assessment ETA-15/0784 shall be observed for dimensioning.

[2] The admissible loads apply for single anchors, concrete strength class ≥ C20/25 (B25), for central load without influence of axial spacing and edge spacing in cracked and uncracked concrete.
The European Technical Assessment ETA-05/0010 shall be observed for dimensioning.

Please refer to chapter „Technical information“ for further installation parameters.
For fitting tools please refer to chapter „Tools“.

02/19

Nail anchors

galvanised

Field of application

- Anchoring in concrete, strength class C12/15 to C50/60
- For the anchoring of roof suspensions, pipelines, cladding, cable channels

Advantages

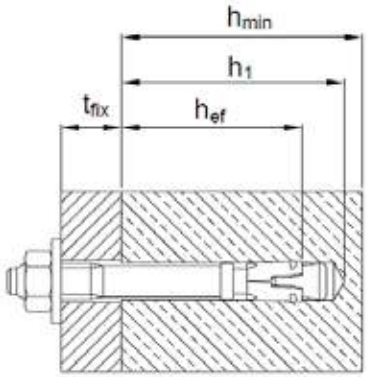
- European technical assessment for multiple fastenings of non-bearing systems in concrete
- Fast, easy assembly: Driving is sufficient
- Reduced anchor plug depth of 25 mm for reduced drilling
- Very small edge and axis spacing
- Three different versions available:
  - Nail head N-K
  - External thread N
  - Combination internal thread N-M



Nail anchor N



Nail anchor N-M





Nail anchor N-K

Type	Head-∅ dk [mm]	Connecting thread	Total length [mm]	**Part no.**	Sales unit	Pack unit
N-K 6-0-5/39	13	–	39	**149287**	200	pieces
N-K 6-5-10/44			44	**151804**		
N-K 6-30-35/69			69	**149043**		
N-K 6-50-55/89			89	**150819**	100	
N 6-0-5/44	–	M6	44	**151813**	200	
N-M 6-25 M8/M10		M8/M10	58	**151818**	100	
N-M 6-30 M8/M10			63	**151819**		

Additional dimensions as well as stainless steel plugs available on request.

02/19

Nail anchors

galvanised

Features					
Type	Drilled hole depth [mm]	Drill-∅ D [mm]	Anchoring depth h_{ef} [mm]	Admissible loads acc. to ETA Assessment [kN]	Clamping thickness t_{fix} [mm]
N-K 6-0-5/39	40	6	30	2,81	0–5
N-K 6-5-10/44					5–10
N-K 6-30-35/69					30–35
N-K 6-50-55/89					50–55
N 6-0-5/44					5
N-M 6-25 M8/M10	35		25	2,14 [1)]	–
N-M 6-30 M8/M10	40		30	2,81 [1)]	

Excerpt from the usage conditions of assessment ETA-11/0240.
Use as a multiple fastening of non-bearing systems in accordance with ETAG 001, part 6 for anchoring in concrete C20/25-C50/60.
Overall safety coefficient factored in according to ETAG 001 (γ_M and γ_F).

[1)] In the version N-M, verification for the transverse load with lever must be provided with the presence of transverse force.

Reduced embedment depths with reduced permissible loads as well as anchor plugs in concrete with strength class C12/15 possible. For this purpose, see the anchor characteristics in the chapter "Technical information".

MPC-Mounting anchor

with external thread, galvanised

Field of application

- Secure and quick mounting of MPC-Support channels and other fastening elements such as wall hanger brackets, wall hanger supports, etc.
- Also applicable in hard natural stone

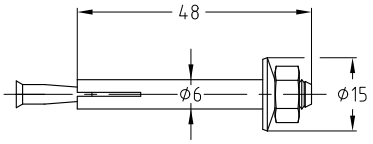
Advantages

- All components are matched to each other to form a system
- Mistakes in mounting are nearly excluded
- Precise drilling depth due to headed drill – drilling only as deep as necessary

1 MPC-Mounting anchor set consists of:
200 MPC-Mounting anchors
1 MPC-Headed drill

- The setting tool and the anchor to be driven-in are simply placed on the headed drill. The headed drill rotates within the setting tool and the MPC-Mounting anchor is driven into the structure by the blows of the hammer drill. This enables quick and efficient work
- European Technical Assessment (ETA)
- Multiple fixing for non-load-bearing systems





Features

	Drill-∅ D [mm]	Drilling depth [mm]	Admissible load [1] Multiple anchoring of non-load bearing systems in concrete [kN]	**Part no.**	Sales unit	Pack unit
MPC-Mounting anchor with external thread M6, galvanised	6	42	1.45	**118167**	100	pieces
MPC-Mounting anchor set				**118170**	1	set

[1] The admissible loads apply for concrete strength class ≥ C20/25 for axially applied tension, lateral load and inclined load and only when using the MPC-Headed drill.

Please refer to chapter "Technical information" for additonal characteristic values of plugs.

MPC-Headed drill and MPC-Setting tool

	Drill bit size Ø [mm]	Overall length [mm]	Usable length [mm]	**Part no.**	Sales unit	Pack unit
MPC-Headed drill	6	120	42	**106993**	1	pieces
MPC-Setting tool	–	60	–	**123084**		





02/19

MPC-Mounting anchors

with external thread, galvanised



Drill with the MPC-Headed drill

Drill until the head is flush with the surface – do not drill through the element to be fixed. Clean out the hole after drilling.



Drive in the MPC-Mounting anchor

Stick anchor through the element to be mounted, e.g. MPC-Support channel or other element up to a max. thickness of 4 mm, and drive in with hammer drill or hand hammer and setting tool. **Anchor and hanger must be flush with the surface of the concrete.**

Attention: Do not dismantle nut and washer during the installation.



When using support channels a **min.** slot width of 15 mm is required, e.g. MPC-Support channels 27/18 and 28/30.

MPC-Mounting anchor

with internal thread, galvanised

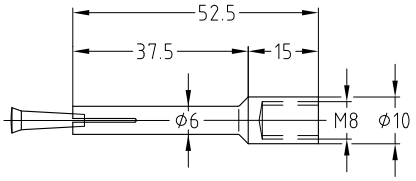
Field of application

- For multiple fixings in concrete, single attachments of pipe lines and air ducts, etc.
- Also applicable in hard natural stone
- For the suspension of air ducts by means of threaded rods

Advantages

- All components are matched to each other to form a system
- Mistakes in mounting are nearly excluded
- Precise drilling depth due to headed drill – drills only as deep as necessary
- The setting tool and the anchor to be driven-in are simply placed on the headed drill. The headed drill rotates within the setting tool and the MPC-Mounting anchor is driven into the structure by the blows of the hammer drill. This enables quick and efficient work
- European Technical Assessment (ETA)
- Multiple fixing for non-load-bearing systems
- Easy to withdraw, facilitates corrections during installation





Features

	Connecting thread	Drill-∅ D [mm]	Drilling depth [mm]	Admissible load [1] Multiple anchoring of non-load-bearing systems in concrete [kN]	**Part no.**	Sales unit	Pack unit
MPC-Mounting anchor with internal M8 thread, galvanised	M8	6	42	1.45	**118161**	100	pieces

[1] The admissible loads apply for concrete strength class ≥ C20/25 for axially applied tension, lateral load and inclined load and only when using the MPC-Headed drill.

Please refer to chapter "Technical information" for additional characteristic values of plugs.

MPC-Headed drill and MPC-Setting tool

	Drill bit size Ø [mm]	Overall length [mm]	Usable length [mm]	**Part no.**	Sales unit	Pack unit
MPC-Headed drill	6	120	42	**106993**	1	pieces
MPC-Setting tool	–	95	–	**123088**		





02/19

MPC-Mounting anchors

with internal thread, galvanised



Drill with the MPC-Headed drill

Drill until the head is flush with the surface – do not drill through the element to be fixed. Clean out the hole after drilling.



Drive in the MPC-Mounting anchor

Drive in the anchor using a hammer. **Anchor must be flush with the surface of the concrete.**



Attach threaded rod

After having driven in the anchor do not increase the torque on the anchor.

02/19

Hollow-core slab ceiling anchors

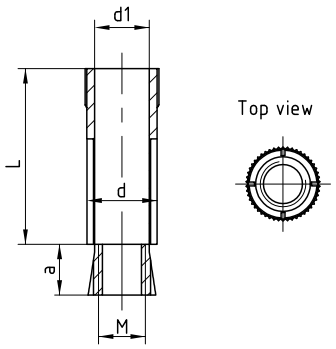
type Easy for anchoring in prestressed concrete hollow-core slab ceilings

Field of application

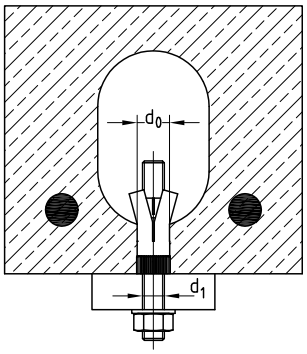
- Special anchor for suspension in prestressed concrete hollow-core slab ceilings

Advantages

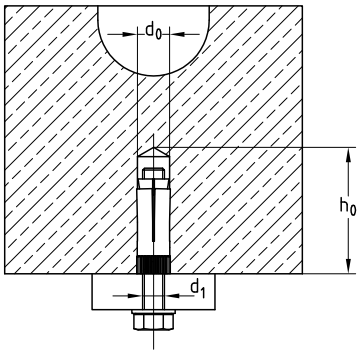
- Flexible application in combination with threaded rods or hexagon head bolts
- Approved by the building authorities
- Secured function in the hollow core and in the solid material
- Quick and easy to install
- Flush with the surface of the building component
- For material thicknesses of up to 50 mm
- Approved by the VdS (Verband der Schadenversicherer) / Association of Indemnity Insurers







Application of the hollow-core slab ceiling anchor in the hollow core of the prestressed concrete ceiling slab



Application of the hollow-core slab ceiling anchor in the solid material of the prestressed concrete ceiling slab

Features

VdS G 4070019

Connecting thread	Sleeve length L [mm]	Drilled hole-∅ d0 [mm]	Drilled hole depth h0 [mm]	**Part no.**	Sales unit	Pack unit	Max. allowable load [1] [kN] for material thickness			
							25 [mm]	30 [mm]	40 [mm]	50 [mm]
M8	35	12	55	**116773**	50	pieces	0.7	0.9	2.0	3.6
M10	40	16	60	**116767**			0.9	1.2	3.0	
M12	45	18	70	**116770**	25		1.0			4.3

[1] The admissible loads apply for single anchors in prestressed concrete hollow-core slab ceilings of strength class C45/55 for axially applied tension, lateral load and inclined load at any angle without the effect of axial and edge clearances. The safety coefficient according to ETAG is included.
The construction approval of the building inspectorate DIBt shall be observed for dimensioning.

02/19

Cavity plugs

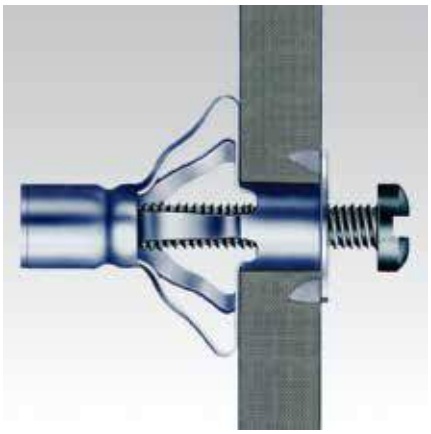
galvanised

Field of application

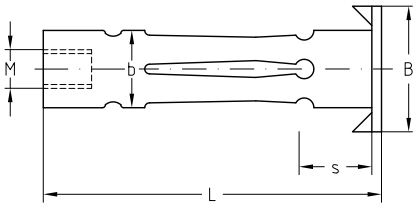
- For mounting on cavity panels and drywall plasterboards made of gypsum, fiber metal sheets, chip-boards and sheet metal

Advantages

- Ideal solution for attachment to thin-walled panels
- Even all-round splaying ensures load distribution at the attachment point
- Large supporting surface for high loading capacity
- Can also be used in small cavities
- Available in a handy case with fitting tools







Type	Connecting thread	Clamping thickness S [mm]	Drilling hole-∅ b [mm]	Length [mm]	B [mm]	Matching tension bolt	**Part no.**	Sales unit	Pack unit
4–3–14/32	M4	3–14	8	32	13.0	M4 x 40	**116997**	100	pieces
4–16–20/45		16–20		45		M4 x 55	**117000**		
5–6–12/35	M5	6–12	12	35	16.0	M5 x 45	**117003**		
5–3–16/50		3–16		50		M5 x 60	**117009**		
5–16–32/60		16–32		60		M5 x 70	**117015**		
6–1–5/16	M6	1–5		16		M6 x 25	**116994**		
6–3–16/50		3–16		50	17.5	M6 x 60	**117021**		
6–16–32/60		16–32		60		M6 x 70	**117030**		
8–3–16/50	M8	3–16	13	50		M8 x 60	**117036**		
8–16–32/60		16–32		60		M8 x 75	**117042**		

Features

Size	Max. recommended tensile load [N]		
	Plasterboard	Wood panels	Cement fibre slabs
M4	160	210	360
M5	190	260	410
M6	210	290	430
M8		310	460

For suitable bolts please refer to chapter „Accessories“.

02/19

Tension bolts

for cavity plugs, galvanised

Size	Screw	For type	Part no.	Sales unit	Pack unit
M4 x 40	Oval head	4–3–14/32	**128585**	1	pieces
M4 x 55		4–16–20/45	**128587**		
M5 x 45		5–6–12/35	**128589**		
M5 x 60		5–3–16/50	**128591**		
M5 x 70		5–16–32/60	**128593**		
M6 x 60		6–3–16/50	**128597**		
M6 x 70		6–16–32/60	**128599**		
M6 x 25	Pozidriv head	6–1–5/16	**128595**		



Installation pliers

for cavity plugs including tension bolts M4-M8

Part no.	Sales unit	Pack unit
118922	1	pieces



02/19

Cavity plugs box

Field of application

- Complete set including installation tools for use on the construction site
- For mounting on cavity panels and drywall plasterboards made of gypsum, fibre metal sheets, chip-boards and sheet metal

Advantages

- Practical assortment of plugs in a handy craftsman‘s box
- The cavity plugs are preassembled for quick and easy installation
- Box made of shock-resistant plastic
- Compact box dimensions of 21 x 40 x 30 cm
- Installation pliers, for reliable splaying of the plugs, are included in the box
- 32 parts bit set with all marketable sizes
- Lightweight, comfortable safety glasses
- SDS hammer drill, to the usual high-quality MÜPRO standard









	Clamping thickness S [mm]	Drill-∅ [min]	**Part no.**	Sales unit	Pack unit
Box M4–M6			**149520**	1	Set
100 Cavity plugs type 4–3–14/32, premounted (Oval head screws M4 x 45)	3–14	8			
100 Cavity plugs type 5–3–16/50, premounted (Oval head screws M5 x 70)	3–16	12			
100 Cavity plugs type 6–1–5/16, premounted (Oval head screws M6 x 30)	1–5	12			
100 Cavity plugs type 6–3–16/50, premounted (Oval head screws M6 x 70)	3–16	12			
100 Cavity plugs type 6–16–32/60, premounted (Oval head screws M6 x 80)	16–32	12			
1 Installation plier					
1 ProfiBit-Toolbox					
1 Protective goggles					
1 Hammer drill with nut, SDS 8 x 110/60					
1 Hammer drill with nut, SDS 12 x 160/110					

02/19

Cavity plugs box

	Clamping thickness S [mm]	Drill-∅ [min]	**Part no.**	Sales unit	Pack unit
Box M8 100 Cavity plugs type 8–3–16/50, premounted (Hexagon head bolts M8 x 65) 100 Cavity plugs type 8–16–32/60, premounted (Hexagon head bolts M8 x 75) 1 Installation plier 1 ProfiBit-Toolbox 1 Protective goggles 2 Hammer drills with nut, SDS 13 x 160/110 1 Screwdriver bit, SW 13 (Hexagon head bolts)	3–16 16–32	13 13	**149523**	1	set

02/19

Toggle plugs

galvanised

Field of application

- For attachment on drywalls and roofs

Advantages

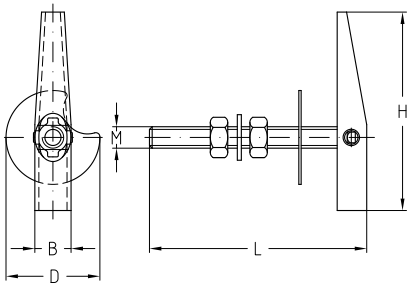
- Ideal for the attachment of supporting structures, e.g. MPC-Support channels, to partition walls, cavity walls, service shafts or trapezoidal metal sheeting
- Very good load distribution due to large supporting surface of the toggle
- Variable due to the adjustable thread length
- The M10/180 design gives very high load-bearing capacity, e.g. for the fixing of washbasins, wall-mounted toilettes, boilers and all types of equipment



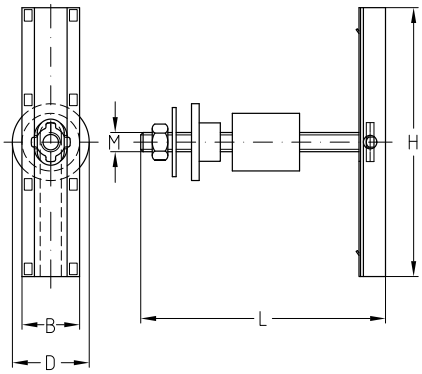
M6 to M8 version



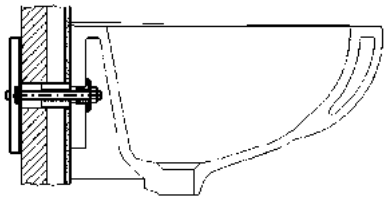
M10 version



M6 to M8 version



M10 version



Sink fixture using a M10 toggle

Size	Connecting thread	Part no.	Sales unit	Pack unit	Max. recommended load [N]	Dimensions [mm]			
						B	D	H	L
M6/100	M6	**113112**	100	pieces	500	14	30	70	100
M8/70	M8	**113118**			650	15	36	74	70
M8/100		**113115**							100
M10/180	M10	**113109**	50		1,700	30	38	140	180

02/19

Sink fastener

Field of application
- Ready to use set for sink fixtures

Advantages
- Solid, high load-bearing plugs and screws
- Complete with washer to protect ceramics

1 set consists of:
2 Plastic plugs
2 Bolt screws M10/140
2 Protection washers for ceramics
2 Steel nuts
2 Washers



Size	Connecting thread	**Part no.**	Sales unit	Pack unit
M10/140	M10	**127579**	10	pieces

Toilet fastener

Field of application
- Ready to use set for toilet fixing

Advantages
- Solid, high load-bearing plugs and screws
- Complete with washer to protect ceramics

1 set consists of:
2 Plastic plugs
2 Hexagon wood screws 6 x 85
2 Plastic protective rings
2 Plastic cover caps



Size	Screw length [mm]	**Part no.**	Sales unit	Pack unit
6 x 85	85	**127592**	50	pieces

02/19

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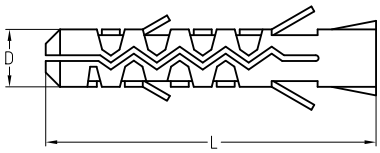
Nylon plugs

Field of application

- For anchorages in concrete, lime sand brick, solid brick, natural stone (hard), gypsum full brick

Advantages

- Excellent screw guidance, no breaking out at the side
- Design prevents premature splaying
- Plugs do not buckle
- Staggered tooth profile provides high extraction force
- High-quality nylon – no recycled material used
- Also available in solid plastic case





Anchor diameter D [mm]	Anchor length L [mm]	Screw-∅ [mm]	**Part no.**	Sales unit	Pack unit
5	25	2,6–4,0	**107366**	100	pieces
6	30	3,5–5,0	**107367**		
	50		**107374**		
7	35	4,5–5,0	**107369**		
8	40	4,5–6,0	**107370**		
	65	4,5–8,0	**107375**	50	
10	50	6,0–8,0	**107359**		
12	60	8,0–10,0	**107361**	25	
14	70	10,0–12,0	**107363**	20	

Features

Anchor diameter D [mm]	Load values [N] Concrete B25 max. recommended load	Solid brick max. recommended load	lightweight concrete (gas concrete, aerated concrete, pumice) max. recommended load
5	350	200	40
6	600	400	60
7	700	550	70
8	850	600	90
10	1,400	800	200
12	1,800	1,000	400
14	2,600	1,300	500

Screw type wood-/chipboard screw ∅ mm 2.6–4.
Screw type metric ∅ mm M3.

Nylon plugs

in stackable plastic box with lid

Anchor diameter D [mm]	Anchor length L [mm]	Screw-∅ [mm]	**Part no.**	Sales unit	Pack unit	Content [pieces]
6	30	3,5–5,0	**107368**	1	box	5,600
8	40	4,5–6,0	**107371**			2,800
10	50	6,0–8,0	**107360**			1,400
12	60	8,0–10,0	**107362**			700
14	70	10,0–12,0	**107364**			560



02/19

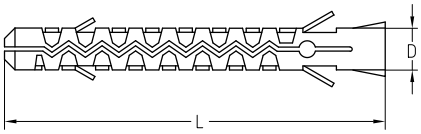
Ventilated-brick plugs

Field of application

- Particularly suitable for anchorages in ventilated bricks and soft building materials (gas concrete, plaster, etc.)

Advantages

- Can be used with wood screws, chipboard screws or metric screws
- Design prevents premature splaying when making a through-fitting
- Side barbs prevent the plug rotating in hole when screw is driven in
- The M-ridges keep the screw in the centre





Type	Plug/drill-∅ [mm]	Anchor length L [mm]	Screw-∅ [mm]	**Part no.**	Sales unit	Pack unit
10/90	10	90	7	**114876**	100	pieces
10/120		120		**114874**		
14/90	14	90	10/M10	**114883**		
14/120		120		**114879**		

Features

Anchor-∅ [mm]	Load values [N]		
	Ventilated brick [1]	Ventilated lime sand block [1]	lightweight concrete [1] (gas concrete, aerated concrete, pumice)
	max. recommended load	max. recommended load	max. recommended load
10	800	800	400
14	1,000	1,000	600

[1] wood screw with max. diameter

Screw type wood-/chipboard screw ∅ mm 10.
Screw type metric ∅ mm M10.

02/19

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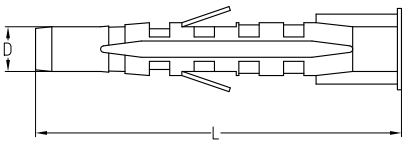
Multi-purpose plugs

Field of application

- Suitable for anchorages in concrete, plaster, gas concrete, solid brick, lime sand brick, ventilated brick, plaster board, etc.

Advantages

- Ideal for bolt screws, shoulder screws and other wood screws
- Pointed end facilitates insertion
- Design prevents premature splaying of the plug during insertion
- Side barbs and pretensioning prevent the plug rotating in hole when screw is driven in
- Secure knotting of the plug in cavity materials
- Collar breaks off itself in case of a through-installation
- Can be used for various of building materials
- Also available in solid plastic case





Plug/drill-∅ [mm]	Anchor length L [mm]	Screw-∅ [mm]	**Part no.**	Sales unit	Pack unit
6	45	3.0–4.0	**119008**	100	pieces
8	50	4.5–6.0	**119020**		
10	60	6.0–8.0	**118988**		
12	70	8.0–10.0	**118996**		

Features

Anchor-∅ [mm]	Load values [N]				
	Concrete B25	Plasterboard [1]	Perforated block	Chipboard [1]	lightweight concrete (gas concrete, aerated concrete, pumice)
	max. recommended load	max. recommended load	max. recommended load	max. recommended load	max. recommended load
6	600	150	200	400	50
8	800	180	300	450	100
10	1,200	200	400	600	200
12	1,700	–	600	–	300

[1] chipboard screw, wood screw with max. diameter

Screw type wood-/chipboard screw ∅ mm 3.0–4.0.
Screw type metric ∅ mm M4.

Multi-purpose plugs

in stackable plastic box with lid

Plug/drill-∅ [mm]	Anchor length L [mm]	Screw-∅ [mm]	**Part no.**	Sales unit	Pack unit	Content [pieces]
6	45	3,0–4,0	**119012**	1	box	2,800
8	50	4,5–6,0	**119004**			1,400
10	60	6,0–8,0	**118992**			700
12	70	8,0–10,0	**119000**			560



02/19

Plasterboard plugs
for pre-insert mounting

Material	Screw-∅ [mm]	Part no.	Sales unit	Pack unit
Metal	3.9–4.5–M4	**112024**	100	pieces
Plastic	3.9–4.5	**112022**	200	





The plasterboard plug can be mounted without pre-drilling.

Nail plugs

Field of application
- Suitable for attachment in concrete, natural stone, plaster, lime sand brick, solid brick, etc.

Advantages
- Long spread zone for optimum grip
- Robust design of nail screw and plug withstands high impact forces
- Countersunk design of nail allows surface-flush installation
- Pozidriv nail head allows removal at any time
- Delivery pre-assembled prevents nail loss



Anchor-∅ [mm]	Anchor length L [mm]	Max. useable fixture thickness [mm]	Part no.	Sales unit	Pack unit
6	35	5	**119166**	100	pieces
	50	20	**119170**		
	60	30	**119174**		
	70	40	**119178**		
8	80		**119194**		
	100	60	**119182**		
	120	80	**119186**		

Features

Anchor-∅ [mm]	Load values [N]		
	Concrete 25 max. recommended load	Solid brick max. recommended load	Lime-sand brick max. recommended load
6	300	250	200
8	400	300	250

02/19

Bolt screw plugs

in stackable plastic box

Field of application

- The lightning-fast insertion of bolt screws into concrete, natural stone, solid brick and sand-lime brick

Advantages

- No screwing, simply hammer into the drill hole
- Time-saving due to pre-mounted fitting bolt screw
- Impaction collar to prevent screw being hammered in too deep
- Hexagonal head permits the accurate adjustment of the bolt screw
- Delivered in a stackable plastic box





Plug		Bolt screw			Max. recommended load [N]	Tightening value	Part no.	Sales unit	Pack unit	Content [pieces]
Anchor-∅ [mm]	Anchor length [mm]	Thread	Screw length [mm]	Usable thread length [mm]						
10	50	M8	80	27	430	3,000	**129664**	1	box	100
			100	40			**129661**			
			120				**129663**			

MÜPRO-PHONEX® Anchors

Field of application

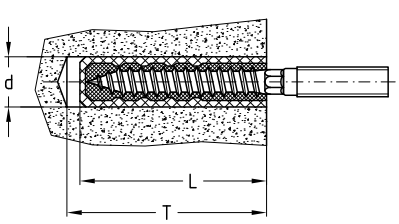
- Suitable for structure-borne noise decoupling anchorages in concrete, natural stone, solid brick, lime sand brick, ventilated brick, wood

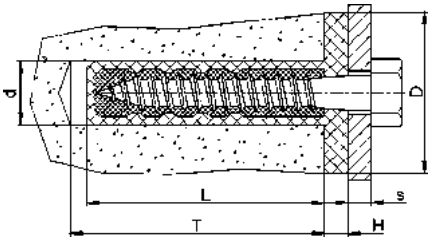
Advantages

- Structure-borne noise isolation already integrated into the anchor
- No additional construction space required for vibration control elements
- Sound level reduction by up to 16 dB(A)
- Suitable for all types of wood screws, e.g. bolt screws and shoulder screws
- The version with vibration collar prevents structure-borne noise transmission even on wall-mounted objects
- Excellent screw guidance, no breaking out at the side
- Suitable for wall-mounted heaters









Features

Type	Anchor-∅ d [mm]	Anchor length L [mm]	Collar-∅ x depth D x H [mm]	Wood screw-∅ [mm]	**Part no.**	Sales unit	Pack unit
With collar	10	30	22 x 5	3.5–5.0	**120239**	100	pieces
	12	40	30 x 5	4.5–6.0	**120243**		
	14	50	34 x 6	6.0–8.0	**120247**	50	
	16	60	42 x 7	8.0–10.0	**120251**		
	18	70		10.0–12.0	**120255**		
Without collar	10	30	–	3.5–5.0	**120259**	100	
	12	40		4.5–6.0	**120263**		
	14	50		6.0–8.0	**120268**	50	
	16	60		8.0–10.0	**120272**		
	18	70		10.0–12.0	**120276**		

Anchor-∅ d [mm]	Drilling depth T [mm]	Screwing depth without collar [mm]	Screwing depth with collar [mm]	Load values [1] [N]	
				max. recommended tensile load	max. recommended lateral load
10	40	30	34 + S	150	350
12	50	40	45 + S	300	500
14	60	50	55 + S	500	1,000
16	70	60	66 + S	800	1,200
18	80	70	75 + S	1,200	1,400

[1] Load values apply for concrete strength class ≥ B25 based on max. screw diameter according to table above and use of anchors according to the mounting instructions below (the recommended loads take a safety factor v = 5 into account).

With all frictional and chemical plug and anchor connections, the load-bearing capability of the plug is influenced decisively by the cleanliness of the drilled hole. Residues such as drill dust reduce the effectiveness of the fixture. For this reason, blow or brush out the hole to free it from dust before inserting the plug (see drill hole cleaning kit).

02/19

Zykon steel hammerset anchors FZEA

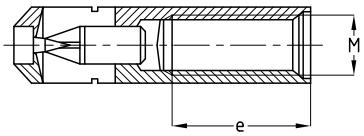
galvanised and stainless steel

Field of application

- For form-locking anchoring in undercut of cracked and non-cracked concrete
- Also applicable for hard natural stone

Advantages

- European Technical Assessment for cracked and non-cracked c oncrete
- Form-locking in the undercut for additional security
- Only low anchoring depth required
- Almost splay-free function permits low axial spacing and edge spacing
- Easy visual inspection of correct anchor set through impact embossing with the setting tool
- Single-stage drilling procedure with simultaneous production of the undercut saves installation time
- Also available in highly corrosion resistant material HCR (1.4529)







Features

Type	Connecting thread	Part no. galva-nised	Part no. V4A	Sales unit	Pack unit	Drill-∅ D [mm]	Anchoring depth h_{ef} [mm]	Screw-in depth e_{min} [mm]	Screw-in depth e_{max} [mm]	Admissible load [1] [kN] cracked concrete	Admissible load [1] [kN] uncracked concrete
10 x 40 M8	M8	**107868**	**107869**	100	pieces	10	40	11	17	1.6	3.6
12 x 40 M10	M10	**107871**	**107870**			12		13	19	3.0	
14 x 40 M12	M12	**107872**	**107873**	50		14		15	21	3.6	

[1] The admissible loads apply for single anchors at concrete strength class > C20/25 (B25) for axial tension, without edge banding; that is without axis and edge distance. The European Technical Assessment requirements must be considered for dimensioning.

These products are manufactured upon request. Delivery time depends on clarification of details and order quantity.

02/19

Bits

for Zykon steel hammerset anchors FZEA

Field of application

- Special bit for the Zykon steel hammerset anchor FZEA for drilling bores that complies with approval specifications

Advantages

- Easy and fast production of a bore with undercut
- Carbide cutting edges for high-performance cutting in a variety of building materials



Type	For hammerset anchor [size]	Drill-∅ D [mm]	**Part no.**	Sales unit	Pack unit
FZUB 10X40	M8	10	**106648**	1	pieces
FZUB 12X40	M10	12	**106649**		
FZUB 14X40	M12	14	**106650**		

Impact mandrels

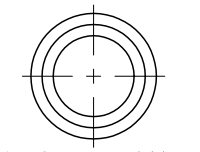
for Zykon steel hammerset anchor FZEA

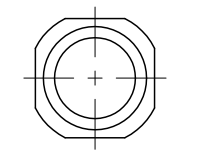
Field of application

- For easy and quick setting of the hammerset anchor FZEA

Advantages

- Marks hammerset anchor with four imprints for checking the correct placement







Type	For hammerset anchor [size]	**Part no.**	Sales unit	Pack unit
FZEB 10 x 40	M8	**107556**	1	pieces
FZEB 12 x 40	M10	**107554**		
FZEB 14 x 40	M12	**107555**		

These products are manufactured upon request. Delivery time depends on clarification of details and order quantity.

02/19

Chemical reaction anchors VBA

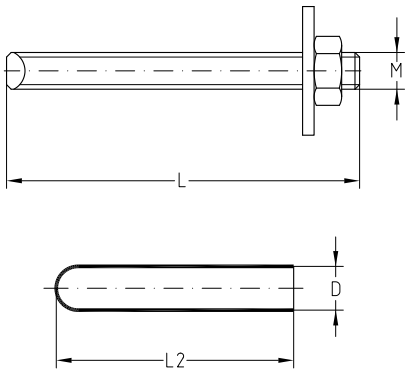
type MKT chemical reaction anchor V

Field of application

- For splay-free anchoring in uncracked concrete approved

Advantages

- Safety anchor for transmission of heavy loads
- Splay-free anchoring enables low axial and edge distances when fastening
- European Technical Assessment for anchorings in uncracked concrete
- Can also be used in damp concrete
- Homogenous secure connection between anchor rod and structural element, after hardening
- Anchor rods in other dimensions and stainless steel also available upon request





Features

	Size	Drill-∅ D [mm]	∅ mortar cartridge D [mm]	Length of mortar cartridge L2 [mm]	**Part no.**	Sales unit	Pack unit
Mortar cartridge for chemical reaction anchors VBA	M8	10	9	80	**135516**	10	pieces
	M10	12	11		**135517**		
	M12	14	13	95	**135518**		
	M16	18	17		**135547**		

Features

	Size	Length L [mm]	Effective anchoring depth [mm]	For mortar cartridge	**Part no.**	Sales unit	Pack unit
Anchor rods for chemical reaction anchors VBA	M8	110	80	VBA M8	**135521**	10	pieces
	M10	130	90	VBA M10	**135522**		
	M12	160	110	VBA M12	**135523**		
	M16	165	125	VBA M16	**135548**		

Features

	Type	**Part no.**		Permissible tensile load in C20/25 (B25) [1] [kN]
		of the anchor rod	**of the mortar cartridge**	
Chemical reaction anchors VBA	M8	**135521**	**135516**	7.9
	M10	**135522**	**135517**	11.9
	M12	**135523**	**135518**	15.9
	M16	**135548**	**135547**	19.8

[1] The admissible loads apply for single anchors in concrete strength class C20/25 (B25) for axial tension without the influence of axial spacing and edge spacing. The safety coefficient according to ETA is included.
All the specifications of the European Technical Assessment must be considered for dimensioning.

02/19

Chemical reaction anchors VBA

type MKT chemical reaction anchor V

Features

Temperature in bore hole [°C]	Hardening time [min]	
	Dry concrete	Damp concrete
–5	300	600
0		
+5	60	120
+10		
+20	20	40
+30	10	20
+35		

Please refer to chapter "Technical information" for additional characteristic values of plugs.

Steel wire brushes

for chemical reaction anchors VBA

Size	Suitable for drilled hole [mm]	∅ Brush [mm]	**Part no.**	Sales unit	Pack unit
M8	10	11	**135571**	1	pieces
M10	12	13	**135572**		
M12	14	16	**135573**		
M16	18	20	**135574**		



The load-bearing capability of the plug at all frictional and chemical plug and anchor connections is influenced decisively by the cleanliness of the drilled hole. Residues such as drill dust reduce the effectiveness of the connection. For this reason, blow or brush out the hole with the steel wire brush to free it from dust before inserting the mortar cartridges and anchor rods.

Injection anchors XV Plus

type MKT injection system VMU Plus, for solid and perforated blocks

Field of application

- For anchorages free of expansion pressure in solid brick, sand-lime brick, perforated sand-lime brick and vertically perforated brick

Advantages

- European Technical Assessment for anchorages in solid and perforated blocks
- Styrene-free two-component vinylester mortar
- Applicable in combination with perforated sleeve in perforated blocks
- Approved for customary threaded rods with strength verification (inspection certificate 3.1), available upon request
- Mortar cartridge available in two versions: in double cartridge and for conventional cartridge guns
- Clean working and controlled mixing using the mixer (can also be ordered separately)
- Exact dosing of injection mortar due to graduated scale on the mortar cartridge
- High-quality two-component mortar for many mounting applications
- Highly corrosion resistant anchor rods in stainless steel HCR upon request
- Fire protection certified for anchorages in solid blocks



Injection mortar XV Plus
for conventional cartridge guns



Injection mortar XV Plus
in double cartridge

Features

Storage temperature	+5 °C to +25 °C
Storage	at least +5°C cool and dry
Temperature range	–40 °C to +120 °C
Working temperature	+20 °C (optimal)
Usability certification	ETA-13/0909

Temperature in the anchoring foundation [°C]	Processing time [min]	Cartridge temperature while processing [C°]	Hardening time	
			dry anchoring base	damp anchoring base
–10 to –6	90.0	+ 5 to +40	24 h	48 h
–5 to –1			14 h	28 h
0 to +4	45.0		7 h	14 h
+5 to +9	25,0		2 h	4 h
+10 to +19	15.0		80 min	160 min
+20 to +29	6.0		45 min	90 min
+30 to +34	4.0		25 min	50 min
+35 to +39	2.0		20 min	40 min
+40	1.5	+15 to +40	15 min	30 min

The drilled hole must be made directly before setting the plug and must be cleaned.

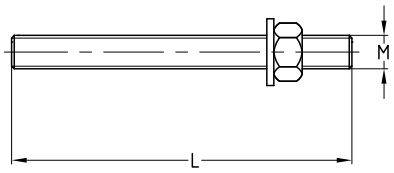
Accessories for the cleaning of drilled holes can be found on page 13/44.

	Cartridge filling [ml]	**Part no.**	Sales unit	Pack unit
Injection mortar XV Plus, with 2 mixer	280	**162363**	1	pieces
Injection mortar XV Plus, with mixer	345	**162364**		
Mixer, for 2-component systems (XV Plus and 2K-NE)	–	**117460**	10	
Mixerextension, for 2-component systems (XV Plus and 2K-NE)		**127418**	1	

02/19

Anchor rods for injection anchors XV Plus

for solid and perforated blocks





Anchor rod for solid and perforated blocks type VMU-A, strength class 5.8

Features

Size	Type	Solid block without perforated sleeve		Solid or perforated block with perforated sleeve		External thread M	Total length L [mm]	Part no.		Sales unit	Pack unit
		Drill hole-∅ x depth [mm]	Clamping thickness t_{fix} [mm]	Drill hole-∅ x depth [mm]	Clamping thickness t_{fix} [mm]			Galvanised	V4A		
M8 x 100	VMU-A	10 x 80	10	12 x 80	10	M8	100	**106277**	**106276**	10	pieces
M8 x 130			40		40		130	**106281**	**106280**		
M10 x 110		12 x 90	10	16 x 85	15	M10	110	**106253**	**106252**		
M10 x 150			50		55		150	**106257**	**106256**		
M10 x 165			65		70		165	**106259**	**106258**		
M12 x 135		14 x 90	20	20 x 85	35	M12	135	**163163**	**163165**		
M12 x 175			60		75		175	**163164**	**163166**		

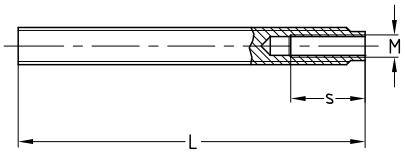
Anchor rods in additional dimensions, threaded rods type VM-A with inspection certificate 3.1 according to EN 10204 as well as highly corrosion resistant threaded rods in stainless steel HCR available upon request.

Please refer to chapter "Technical information" for load values and consumption quantities for mortar when used in solid and perforated blocks.

02/19

Anchor rods with internal thread for injection anchors XV Plus

for solid and perforated blocks





Anchor rod for solid and perforated blocks type VMU-IG, strength class 5.8

Features

Size	Type	Solid block without perforated sleeve Drill hole-∅ x depth [mm]	Solid and perforated block with perforated sleeve Drill hole-∅ x depth [mm]	Internal thread M	Screw-in depth s [mm]	Total length L [mm]	Outer diameter [mm]	Part no. Galvanised	Part no. V4A	Sales unit	Pack unit
M8 x 80	VMU-IG	–	20 x 85	M8	8–20	80	12	**167100**	**167099**	10	pieces
M8 x 100		14 x 100	–			100		**167102**	**167101**		

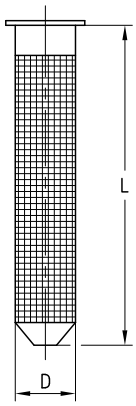
Anchor rods in additional dimensions, threaded rods type VM-A with inspection certificate 3.1 according to EN 10204 as well as highly corrosion resistant threaded rods in stainless steel HCR available upon request.

Please refer to chapter "Technical information" for load values and consumption quantities for mortar when used in solid and perforated blocks.

02/19

Perforated sleeves for injection anchors XV Plus

for solid and perforated blocks





Features

Size [mm]	Drilled hole depth [mm]	Drill hole-∅ D [mm]	Anchor rod	Total length L [mm]	**Part no.**	Sales unit	Pack unit
12 x 80	80	12	M8	80	**167103**	10	pieces
16 x 85	85	16	M10		**167104**		
20 x 85		20	M8 IG M12		**167105**		

For combination of anchor rod / perforated sleeve size as well as for further technical data please refer to chapter „Technical information".

Further perforated sleeves and anchor rods available upon request.

02/19

Injection anchors XV Plus

type MKT injection system VMU Plus, for concrete

Field of application

- For anchorages free of expansion pressure in cracked and uncracked concrete

Advantages

- European Technical Assessment for anchorages in concrete
- Styrene-free two-component vinylester mortar
- Approved for customary threaded rods with strength verification (inspection certificate 3.1), available upon request
- Mortar cartridge available in two versions: in double cartridge and for conventional cartridge guns
- Clean working and controlled mixing using the mixer (can also be ordered separately)
- Exact dosing of injection mortar due to graduated scale on the mortar cartridge
- High-quality two-component mortar for many mounting applications
- Highly corrosion resistant anchor rods in stainless steel HCR upon request
- Approved for use in damp concrete and flooded bore holes



Injection mortar XV Plus
for conventional cartridge guns

Features

Storage temperature	+5 °C to +25 °C
Storage	at least +5°C cool and dry
Temperature range	–40 °C to +120 °C
Working temperature	+20 °C (optimal)
Usability certification	ETA-11/0415



Injection mortar XV Plus
in double cartridge

Temperature in the anchoring foundation [°C]	Processing time [min]	Cartridge temperature while processing [C°]	Hardening time	
			dry anchoring base	damp anchoring base
–10 to –6	90.0	+ 5 to +40	24 h	48 h
–5 to –1			14 h	28 h
0 to +4	45.0		7 h	14 h
+5 to +9	25,0		2 h	4 h
+10 to +19	15.0		80 min	160 min
+20 to +29	6.0		45 min	90 min
+30 to +34	4.0		25 min	50 min
+35 to +39	2.0		20 min	40 min
+40	1.5	+15 to +40	15 min	30 min

The drilled hole must be made directly before setting the plug and must be cleaned.

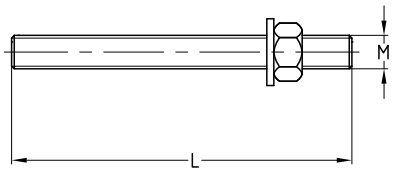
Accessories for the cleaning of drilled holes can be found on page 13/44.

	Cartridge filling [ml]	Part no.	Sales unit	Pack unit
Injection mortar XV Plus, with 2 mixer	280	**162363**	1	pieces
Injection mortar XV Plus, with mixer	345	**162364**		
Mixer, for 2-component systems (XV Plus and 2K-NE)	–	**117460**	10	
Mixerextension, for 2-component systems (XV Plus and 2K-NE)		**127418**	1	

02/19

Anchor rods for injection anchor XV Plus

for concrete





Anchor rod for concrete type VMU-A, strength class 5.8

Features

Size	Type	Use in cracked concrete	Use in uncracked concrete	External thread M	Drill hole-∅ x depth [mm]	Clamping thickness t_{fix} [mm]	Total length L [mm]	Part no. Galvanised	Part no. V4A	Sales unit	Pack unit
M8 x 100	VMU-A	x	x	M8	10 x 80	10	100	**106277**	**106276**	10	pieces
M8 x 130		x	x			40	130	**106281**	**106280**		
M10 x 110		x	x	M10	12 x 90	10	110	**106253**	**106252**		
M10 x 150		x	x			50	150	**106257**	**106256**		
M10 x 165		x	x			65	165	**106259**	**106258**		
M12 x 135		x	x	M12	14 x 90	20	135	**163163**	**163165**		
M12 x 175		x	x			60	175	**163164**	**163166**		

Anchor rods in additional dimensions, threaded rods type VM-A with inspection certificate 3.1 according to EN 10204 as well as highly corrosion resistant threaded rods in stainless steel HCR available upon request.

Please refer to chapter "Technical information" for additional plug characteristic values.

02/19

Injection anchor XV Plus assortment case

Field of application

- Complete set for use on construction site
- Splay-free anchoring for solid brick, sand-lime brick, vertically perforated brick, perforated sand-lime brick, hollow block made of lightweight concrete as well as from concrete
- Splay-free anchoring in uncracked concrete
- Also applicable in hard natural stone

Advantages

- All necessary components in one case; no single parts lying around loose
- Compact case size 450 x 360 x 123 mm
- Practical and robust plastic case for a long service life
- Complete set including cartridge gun, hammer drill and steel wire brush



1 set consists of:
1 Cartridge gun
2 x 345 ml Injection mortar XV Plus
5 Mixer
10 Perforated sleeves 12 x 80
20 Perforated sleeves 16 x 85
10 Anchor rods M8 x 10, length 100 mm
10 Anchor rods M10 x 50, length 150 mm
10 Anchor rods M10 x 65, length 165 mm
1 Steel wire brush d = 12 mm
1 Steel wire brush d = 16 mm
1 Hammer drill ∅ 12 mm
1 Hammer drill ∅ 16 mm

Part no.	Sales unit	Pack unit
117431	1	set

For respective application areas relevant approvals need to be considered. The European Technical Approval needs to be taken into account for usage in non-cracked concrete, as well as the general building authority approvals in case of usage in perforated and full brick.

02/19

Drill hole cleaning kit

Field of application

- Combination kit for cleaning of drilled holes

Advantages

- Suitable for dry and clamp holes
- Kit is a precondition for achieving the maximum anchor load-bearing capability of both frictional and chemical plug bonds



Part no.	Sales unit	Pack unit
106654	1	set

The load-bearing capability of the plug at all frictional and chemical plug bonds and anchor connections is influenced decisively by the cleanliness of the drilled hole. Residues such as drill dust reduce the effectiveness of the fixture. For this reason, blow or brush out the hole to free it from dust before inserting the plug.

Further accessories



Cartridge gun



Cartridge gun Profi



Steel wire brush

	Suitable for drilled hole [mm]	∅ brush [mm]	Part no.	Sales unit	Pack unit
Cartridge gun, for injection anchor XV Plus	–	–	**130594**	1	pieces
Cartridge gun Profi, for injection anchor XV Plus			**130595**		
Steel wire brush, for injection anchor XV Plus	10	11	**135571**		
	12	13	**135572**		
	14	16	**135573**		
	16	18	**167106**		
	20	22	**167107**		

The load-bearing capability of the plug at all frictional and chemical plug and anchor connections is influenced decisively by the cleanliness of the drilled hole. Residues such as drill dust reduce the effectiveness of the fixture. For this reason, blow or brush out the hole with a brush to free it from dust before inserting the sieve sleeve or the anchor rods.

02/19



Nameplates

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

 Plastic signs 14/1–14/3

 Text strips 14/4

 Laminated plastic signs 14/5

 Mounting bases 14/6–14/7

 Universal nameplate supports 14/8

 ML-Fastening plates 14/9

 ML-Strap clamps 14/10

 ML-Clamping bodies 14/11

 ML-Clamping straps 14/11

 Clamping sets 14/12

MÜPRO

Plastic signs

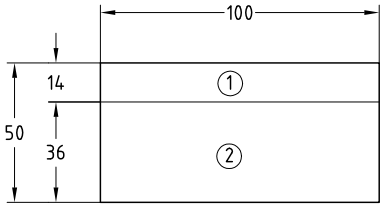
full area print

Field of application

- Basic sign for full area printing for identification of pipelines, fittings, etc.

Advantages

- Wide range of background colours available for the sign
- Standard sign size 100 x 50 mm suitable for mounting base with protective cover
- Maximum printable area is 100 x 50 mm
- Wear-resistant
- Sign with high-quality waterproof print of company address and/or equipment nameplate texts
- Ideal advertising medium for company address or service telephone number
- Your business card after the installation is completed
- Further colours available upon request
- Also available with self-adhesive reverse side or with drilled holes



Printing of signs



	Colour of the sign	Number of print colours	Part no.	Sales unit	Pack unit
Plastic signs, for all-over printing, printable area: 100 x 50 mm	white	–	**119297**	100	pieces
	blue		**119733**		
	red		**119781**		
	yellow		**119745**		
	green		**119757**		
	grey		**140566**		
Printing of rows of text (Print area 2)	–		**107355**	1	
Digitisation of design specified by customer (to be ordered one-time only, with first order)			**132267**		
Printing of plastic signs, with company logo 100 x 14 mm (Print area 1)		1	**139987**	100	
		2	**139988**		
		3	**139989**		
		4	**139990**		

For a full printed sign as shown in the illustration, the order must include the plastic sign, the printing with company logo and text lines. Please provide always the corresponding part numbers for each of these items.

02/19

Plastic signs

for text strips

Field of application

- Printed basic sign with pre-mounted plastic text strips for marking of pipelines, fittings etc. in heating, air-conditioning and ventilation control rooms

Advantages

- Wide range of background colours available for the sign
- Standard sign size 100 x 50 mm, suitable for mounting base with protective cover
- Company details can be printed on each sign, above the text strips
- Maximum printable area is 100 x 14 mm
- Sign can be fitted with 3 text strips
- Ideal advertising medium for company address or service telephone number
- Your business card after the installation is completed
- If fewer than three lines of print are necessary, blank strips can be inserted to give the sign an uniform appearance
- Further colours available upon request



	Colour of the sign	Number of print colours	Part no.	Sales unit	Pack unit
Plastic signs, for text strips	white	–	**119694**	100	pieces
	blue		**119670**		
	red		**119686**		
	yellow		**119679**		
	green		**119761**		
	grey		**119769**		
Digitisation of design specified by customer (to be ordered one-time only, with first order)	–		**132267**	1	
Printing of plastic signs, for text strip, with company logo 100 x 14 mm		1	**140530**	100	
		2	**140531**		
		3	**140532**		
		4	**140533**		

02/19

Plastic signs

with pre-mounted text strips

Field of application

- Printed basic sign with pre-mounted plastic text strips for marking of pipelines, fittings etc. in heating, air-conditioning and ventilation control rooms

Advantages

- Wide range of background colours available for the sign
- Standard sign size 100 x 50 mm, suitable for mounting base with protective cover
- Company details can be printed on each sign, above the text strips
- Maximum printable area is 100 x 14 mm
- Signs are pre-assembled with 3 text strips
- Ideal advertising medium for company address or service telephone number
- Your business card after the installation is completed
- Further colours available upon request



	Colour of the sign	Number of print colours	Part no.	Sales unit	Pack unit
Plastic signs, with pre-mounted text strips	white	–	**119968**	100	pieces
	blue		**119972**		
	red		**119961**		
	yellow		**119945**		
	green		**119949**		
	grey		**119953**		
Printing of plastic signs, with pre-mounted text strips, with company logo 100 x 14 mm	–	1	**139991**		
		2	**139992**		
		3	**139993**		
		4	**139994**		

02/19

Text strips

Field of application

- High-quality text strips made of plastic for customising of plastic signs

Advantages

- Snap fasteners make them quick to install and easy to exchange
- Weatherproof printing or engraving for durable labelling
- Customised labels can be created by writing on blank strips with the writing pen



	Part no.	Sales unit	Pack unit
Text strip, for engraving	**140565**	100	pieces
Text strip, engraved	**121611**	1	
Text strip, for printing	**114431**	100	
Text strip, printed	**137965**	1	
Writing pen, smudge-proof, for writing on text strips	**121326**	10	

02/19

MÜPRO

Laminated plastic signs

Field of application

- High quality laminated plastic signs for marking of pipelines, fittings etc. meeting the high resistance requirements of the sign

Advantages

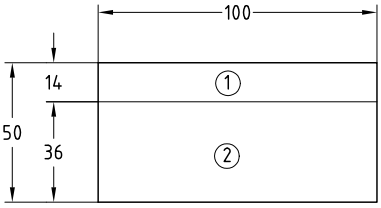
- Wide range of background colours available for the sign
- Standard sign size 100 x 50 mm suitable for the mounting base with protective cover
- Fire performance corresponds to fire class B2 (DIN 4102)
- Applicable outdoors
- Water resistant
- High resistance to chemicals
- Light-fast
- High-quality surface finish (approx. 500 N/mm² micro Vickers hardness)
- High gloss
- Printed according to individually styled specifications
- With engraved text according to customer specifications
- Also available with self-adhesive reverse side or with drilled holes



Terms and texts, engraved
Individual terms and texts can be engraved on the laminated plastic signs according to customer requirements



Alternatively with full print
Text according to customer specification in combination with individual logo in company's colours is imprinted on the laminated-plastic sign with a robust carrier foil



Printing of signs

Features

Temperature range	long-term: –40 °C to + 80°C, short-term: up to +180 °C
Standard text height	7 mm (20 characters per line, maximum, and 4 lines, maximum)

	Colour of the sign	Number of print colours	Number of engraved lines	Part no.	Sales unit	Pack unit
Laminated plastic signs, printable area: 100 x 50 mm	white/black	–	–	**119361**	100	pieces
	red/white			**119377**		
	green/white			**119373**		
	blue/white			**119369**		
	yellow/black			**119353**		
	grey/black			**119357**		
	black/white			**119381**		
Printing of rows of text (Print area 2)	–			**107355**	1	
Digitisation of design specified by customer (to be ordered one-time only, with first order)				**132267**		
Engraving of lines of writing			1	**112841**		
			2	**112843**		
			3	**112845**		
			4	**112847**		
Printing of laminated plastic signs, with company logo 100 x 14 mm (Print area 1)		1	–	**139995**	100	
		2		**139997**		
		3		**139998**		
		4		**139999**		

02/19

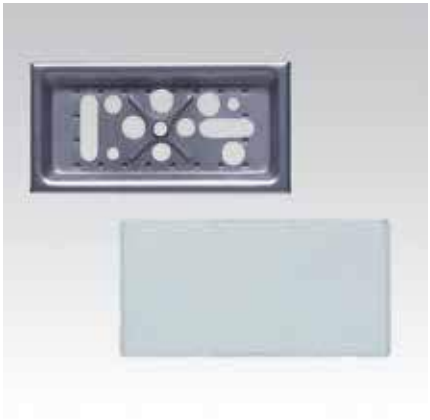
Mounting bases

Field of application

- For attachment of plastic signs and laminated plastic signs on building structure

Advantages

- Versatile mounting due to the multi-hole pattern in the mounting base
- Versatile attachment options, e.g.:
  - Can be mounted to any round, oval or rectangular cross-section, regardless of size, by means of universal nameplate support and mounting strap (see pages 14/8 for examples of attachments)
  - Can be mounted to the building structure using plugs, threaded pins or bolt screws
  - Attachment to MPC-Support channels
  - Can be mounted to pipes using pipe clamps
- Adjustment pimples for exact alignment with MPC-Support channels and universal nameplate supports
- Also available with welding pins
- Also available in stainless steel (V2A) for outdoor use with UV-resistant protective cover





Mounting base with welding pin

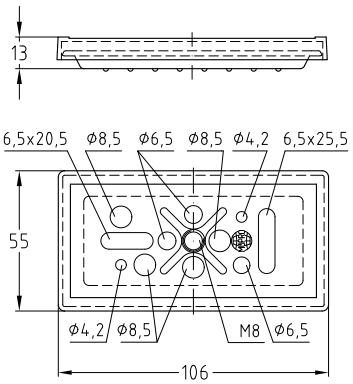




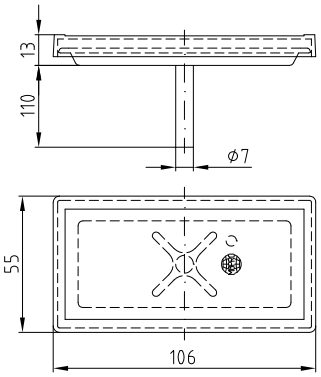
Adjustment pimples on the rear side ensure exact alignment of the linear mounted bases on a MPC-Support channel



Welding pin



Mounting base with threaded connection



Mounting base with welding pin

	Connecting thread	Part no.	Sales unit	Pack unit
Mounting base, with threaded connection, with protective cover, galvanised	M8	**112618**	50	pieces
Mounting base, with threaded connection, with UV-resistant protective cover, V2A		**112620**		
Mounting base, with welding pin, 110 mm length, with protective cover	–	**112624**		
Protective cover, for mounting base		**105877**		
Protective cover, UV-resistant, for mounting base		**162140**		
Welding pin, 110 mm length	M8	**106332**	100	

02/19

Mounting base

fastened with a hook & loop strip

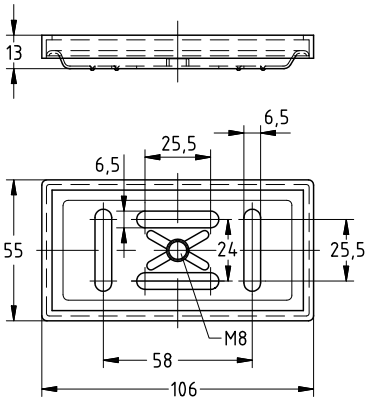
Field of application

- To clearly label pipes in buildings and industrial situations, when installing piping and equipment
- For attachment of plastic signs and laminated plastic signs on pipe clamps by using hook & loop tape
- For indoor use

Advantages

- Efficient fastening solution suitable for trade use, providing clear labelling of pipes
- Hook & loop fastening tape for any diameter of pipe and for round, oval or rectangular cross-sections
- Installation is quick and easy as there is no drilling or welding – just cut the hook & loop strip from a roll and, depending on the alignment of the mounting base (horizontal or vertical), thread it through the holes and firmly attach to the pipe
- There are various fixing options due to the range of holes in the mounting base, e.g. it can be mounted directly on the wall, on an installation rail or on a pipe
- Suitable for all pipe materials





Mounting base with threaded connection



Hook & loop strip

	Connecting thread	Part no.	Sales unit	Pack unit
Mounting base, with threaded connection and with protective cover fastened with a hook & loop strip, galvanised	M8	**154643**	50	pieces
Protective cover, for mounting base	–	**105877**		
Hook & loop strip, 20 mm width, roll of 25 m		**153051**	1	roll

02/19

Universal nameplate supports

Field of application

- Attachment of mounting bases with the plastic or laminated plastic sign and protective cover as well as for mounting of straps on pipe clamps

Advantages

- Efficient and practical attachment
- Fits all pipe sizes
- No drilling, no welding
- Suitable for all pipe materials
- Attaches directly to the pipe
- Twist-free installation of the mounting base, positionable longitudinally and laterally to the pipe axis
- Clamping strap made of steel band or made of stainless steel
- Temperature resistant up to 140 °C
- Also available with stainless-steel screw (V2A)



Mounting strap



Universal nameplate support



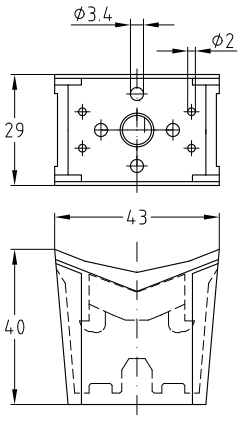
1. Cut the mounting strap from the roll, lay it tightly around the pipe and latch the strap ends onto the two pegs



2. Insert the screw through the mounting base into the hole of the tensioning element and tighten



3. Attach the plastic or laminated plastic sign together with protective cover to the mounting base



	Part no.	Sales unit	Pack unit
Universal nameplate support, complete with screw	**130380**	50	pieces
Universal nameplate support, complete with stainless steel (V2A) screw	**130379**		
Mounting strap, 15 metre-roll, nickel plated	**124940**	1	roll
Mounting strap, 15 metre-roll, stainless steel (V2A)	**124922**		

02/19

ML-Fastening plates

for pipework signposting according to DIN, hot-dip galvanised

Field of application

- Ideal attachment of signs for long-distance gas pipelines, local gas distribution pipework, fire-alarm and extinguishing systems, water supply lines and sewage systems, according to DIN

Advantages

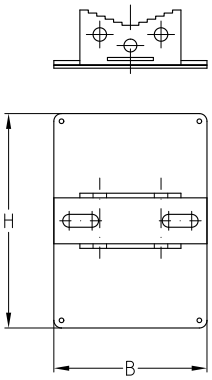
- Variable attachments due to varied hole pattern of the base plate
- Can be adapted to any size of post when combined with the clamping strap
- Includes welded-on ML-clamping body type 701 for M8 clamping set
- Surface is hot-dip galvanised



Installation with ML-Strap clamps



For channels 38/24 to 40/120



Type	Field of application	For DIN	Size B x H [mm]	**Part no.**	Sales unit	Pack unit
801	Long-distance gas lines, heating systems, water lines, gas lines	4064, 4065, 4067, 4069	100 x 140	**106473**	1	pieces
802	Long-distance gas lines, water lines, gas lines, fire-fighting systems, waste water lines	4065, 4066, 4067, 4068, 4069	140 x 200	**106474**		
804	Fire-fighting systems	4066	250 x 200	**106476**		

02/19

ML-Strap clamps

Field of application

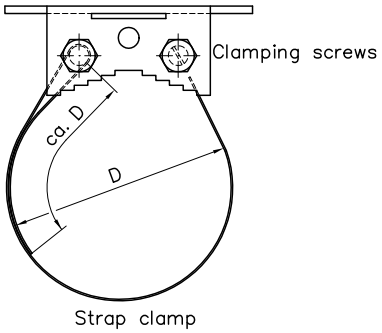
- For attachment of all kinds of signs, e.g. traffic signs, street name signs, signals, posters, timetable display cases etc.

Advantages

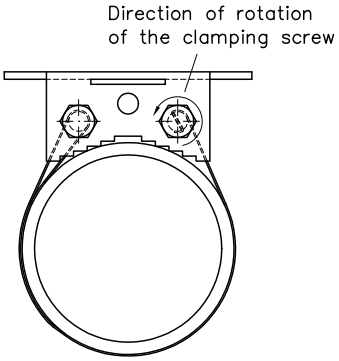
- Suitable for posts of any shape and size
- Simple, quick and rigid mounting
- Weatherproof
- Can be dismantled at any time and re-used
- High breaking strength up to 1.0 kN



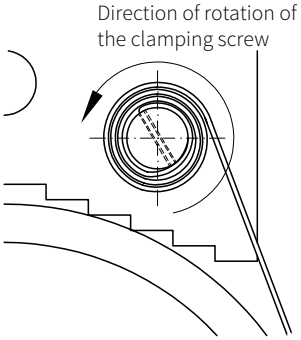




Lay steel strap around the unslotted screw. The length of the shorter end must be roughly equal to a third of the pipe circunference, however 100 mm, at least. Cut long end of the strap to size and cut end to a point. The mounting length depends on the circunference of the mast.



Insert the pointed end of the strap into the slotted screw, then turn the head anti-clockwise. The steel strap wraps around the clamping screw and the strap clamp is tightened.



Strap band must be wrapped around the clamping screw at least 3 times. To prevent loosening, tighten the nut firmly.

ML-Strap clamps include a hot-dip galvanised clamping body with a clamping screw set as well as a mounting strap in galvanised or stainless steel version.

02/19

ML-Clamping body no. 701

without clamping set and clamping strap, hot-dip galvanised, for ML-Strap clamps

For clamping set	Hole spacing [mm]	**Part no.**	Sales unit	Pack unit
M8	60–80	**124969**	100	pieces



ML-Clamping body no. 702

without clamping set and clamping strap, hot-dip galvanised, for ML-Strap clamps

For clamping set	Hole spacing [mm]	**Part no.**	Sales unit	Pack unit
M10	70/100	**124975**	100	pieces



ML-Clamping body no. 704

without clamping set and clamping strap, for welding, raw, for ML-Strap clamps

For clamping set	**Part no.**	Sales unit	Pack unit
M10	**124993**	100	pieces



ML-Clamping straps

for ML-Strap clamps, in dispenser

Type	Material	Width [mm]	Thickness [mm]	Length [m]	**Part no.**	Sales unit	Pack unit
No. 706	V2A	29	0.6	25	**118398**	1	roll
No. 707	galvanised				**118402**		



02/19

Clamping sets
for ML-Clamping body no. 701

Consisting of:
1 Clamp screw M8 with slot
1 Clamp screw M8 without slot
2 Hexagon nuts M8



	Size	Part no.	Sales unit	Pack unit
Clamping screw no. 708-1	M8 x 45 mm with slot	**125034**	100	pieces
Clamping screw no. 708-2	M8 x 45 mm without slot	**121155**		
Hexagon nuts	M8	**105498**		

Clamping sets
for ML-Clamping body no. 702

Consisting of:
1 Clamp screw M10 with slot
1 Clamp screw M10 without slot
2 Hexagon nuts M10



	Size	Part no.	Sales unit	Pack unit
Clamping screw no. 709-1	M10 x 45 mm with slot	**125037**	100	pieces
Clamping screw no. 709-2	M10 x 45 mm without slot	**125040**		
Hexagon nuts	M10	**105433**		



Insulation

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

 MypoTHERM® PE protection sleeves 15/3

 MypoTHERM® Insulation sleeves 15/4

 MypoTHERM® Insulation sleeve ECO 15/5

 MypoTHERM® Insulating wraps 15/6

 MypoTHERM® Insulating wrap, self-adhesive 15/7

 MypoTHERM® Butt joint tape 15/7

 MypoTHERM® Insulation tubes 15/8

 Adhesive for MypoTHERM® Insulation tube 15/8

 MypoTHERM® Insulation tubes, with red protecting film 15/9

 MypoTHERM® Kompakt floor tube 15/10

 Pipe clips 15/11

 Nails 15/11

 Setting tool 15/11

 MypoTHERM® Caoutchouc 15/12–15/13

 MypoTHERM® Caoutchouc in dispender box 15/14

 Adhesive for MypoTHERM® Caoutchouc/Caoutchouc Plus 15/14

 MypoTHERM® Caoutchouc Plus 15/15–15/17

 MypoTHERM® Caoutchouc for chilled water pipes in dispenser box 15/18

 MypoTHERM® Caoutchouc tapes 15/19

 Mineral wool pipe jackets with aluminium facing 15/20–15/21

 Pure aluminium self-adhesive tapes 15/22

 Felt tapes 15/22

 Nealed wire 15/22

 Installation plug set 15/23

Selecting the insulation

Making the right choice

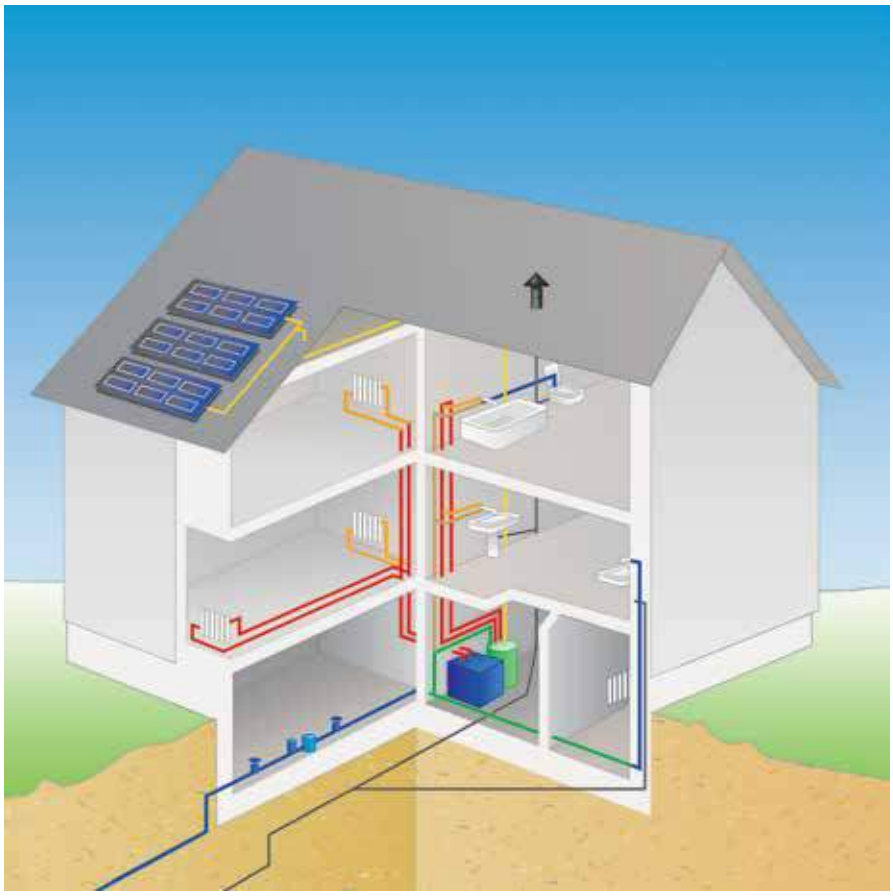
According to the applicable regulations, pipes and fittings for heating systems, service water and drinking water in all buildings have to be equipped with thermal insulation.

In order to avoid heat losses, the **energy saving decree (EnEV)** prescribes the insulation thickness for heating and service water pipes for all heating systems with a nominal thermal rating of more than 4 kW.

For **drinking water pipes, DIN 1988, Part 2** indicates the corresponding insulation thicknesses for the protection of pipes against heating up, water condensation and corrosion.

In addition to thermal insulation, the pipe insulating layer also reduces the radiation of structure-borne noise from the pipework and protects the pipes against acoustic bridges through plaster and mortar.

The assignment of insulation thickness is according to the installation circumstances of the pipes and the relevant regulations is shown in the following overview:



		Heating (according to the EnEV energy saving decree 2009)	**Hot water** (according to the EnEV energy saving decree 2009)	**Cold water** (according to DIN 1988, part 2)
Insulation thickness 100 %	MypoTHERM® Insulation tube MypoTHERM® Caoutchouc MypoTHERM® Kompakt floor tube	■ In unheated rooms and cellars ■ In outer walls ■ In parts of buildings next to unheated rooms and soil ■ In shafts and channels ■ Distribution pipes for supply of several users	■ In unheated rooms and cellars ■ In outer walls ■ In parts of buildings next to unheated rooms and soil ■ In shafts and channels ■ Distribution pipes for supply of several users	–
Insulation thickness 50 %	MypoTHERM® Insulation tube MypoTHERM® Caoutchouc	■ In breakthroughs in walls and ceillings, in crossover regions of pipes, at pipe junctions, at central pipe network distributors ■ In parts of buildings between heated rooms for several users	■ In breakthroughs in walls and ceillings, in crossover regions of pipes, at pipe junctions, at central pipe network distributors ■ In parts of buildings between heated rooms for several users	

Selecting the insulation

		Heating (according to the EnEV energy saving decree 2009)	Hot water (according to the EnEV energy saving decree 2009)	Cold water (according to DIN 1988, part 2)
Insulation thickness 13 mm	MypoTHERM® Insulation tube MypoTHERM® Caoutchouc	–	–	In channels, in wall cut-outs, on concrete ceiling next to hot water pipes
Insulation thickness ≥ 9 mm	MypoTHERM® Insulation tube MypoTHERM® Caoutchouc MypoTHERM® Kompakt floor tube	Pipes in floor constructions between heated rooms for various users	Pipes in floor constructions between heated rooms for various users	For free pipe laying in heated rooms
Insulation thickness 4 mm	MypoTHERM® Insulating wrap MypoTHERM® Insulation sleeve MypoTHERM® PE protection sleeve	–	–	■ For free pipe laying in unheated rooms ■ In channels, in masonry slits on concrete ceilings, not adjacent to hot water supply pipes
Without requirements*	MypoTHERM® Insulating wrap MypoTHERM® Insulation sleeve MypoTHERM® PE protection sleeve MypoTHERM® Insulation tube MypoTHERM® Caoutchouc MypoTHERM® Floor tube	Pipes that can be closed off in heated rooms or in parts of buildings between heated rooms of an user	Pipes up to an inside diameter of 22 mm without circulation and without trace heating in habitations	–

* Must be fitted with insulation, although not required by the EnEV, for the following reasons:
Corrosion protection, avoidance of cracking noises, structure-borne vibration in hot water pipes.
In general, the following applies: retrofitting obligation for non-insulated, freely accessible pipes in old buildings.

■	MypoTHERM® Insulating wrap MypoTHERM® Insulation sleeve MypoTHERM® PE protection sleeve	Waste water
■	MypoTHERM® Caoutchouc for chilled water pipes	Refrigerant pipelines

02/19

MypoTHERM® PE protection sleeves

with vapour and mortar barrier

Field of application

- Use for protection against corrosion and condensation as well as a protection sleeve to avoid plaster and mortar contact when laying pipelines
- For insulating straight or bent pipes prior to their installation

Advantages

- Fast and cost-effective solution for long pipe sections
- Very good dimensional stability
- Closed-cell polyethylene
- Tear-resistant and high strength due to the durable foil cladding
- Reliable protection against condensation and corrosion
- Inner sliding film guarantees easy pulling onto the pipe and prevents cutting into the insulation material
- Prevents acoustic bridges through plaster and mortar
- Economical due to efficient and low-cost application straight from the roll



Features

Temperature range	–30 °C to +105 °C
Fire classification (according to DIN 4102)	B2
Thermal conductivity	λ = 0.041 W/mK

Insulation thickness [mm]	Nominal size	For pipe outer diameter [mm]	Suitable up to connector diameter [mm]	**Part no.**	Sales unit	Pack unit	Contents
4	12 mm	12–15	17	**122170**	1	sack	20 rolls of 10 m
	⅜"	16–18	21	**122189**			
	½"	20–22	25	**122162**			
	¾"	25–28	31	**122178**			
	1"	32–35	39	**122134**			10 rolls of 10 m
	1¼"	38–43	45	**122150**			
	1½"	44.5–49	50	**122142**			
	DN 50	58–63.5	64	**122225**			
	DN 70	76.1–78	89	**122237**			
	DN 90	88.9–100	105	**122249**			
	DN 100	110–114.3	126	**122197**			

02/19

MypoTHERM® Insulation sleeves

with vapour and mortar barriers

Field of application

- Use for protection against corrosion and condensation as well as a protection sleeve to avoid plaster and mortar contact when laying pipelines
- For insulating straight or bent pipes prior to their installation

Advantages

- Fast and cost-effective solution for long pipe stretches
- Made from high-quality MÜPROGON fibres, without chemical binders
- 100 % synthetic
- No aggressive adhesives used
- Protects pipes against corrosion
- Vapour barrier protects against moisture and aggressive building materials
- Highly durable and tear resistant
- Protects the pipes against acoustic bridges through plaster and mortar
- Easy to fit, even to tight bends, due to the high flexibility of the material
- Flame resistant (fire classification B1 acc. to DIN 4102)



Features

Material	Polyester fleece with PE protecting film
Vapour barrier permeability	2 g/m² within 24 h acc. to DIN 53122
Tearing resistance, lengthwise	220 N/5 cm acc. to DIN EN 29073
Tearing resistance, crosswise	300 N/5 cm acc. to DIN EN 29073
Temperature range	–60 °C to +220 °C inside face
Fire classification (according to DIN 4102)	B1
Thermal conductivity	λ = 0.033 W/mK at +10°C, λ = 0.036 W/mK at +40°C

Insulation thickness [mm]	Nominal size	For pipe outer diameter [mm]	Suitable up to connector diameter [mm]	**Part no.**	Sales unit	Pack unit	Contents
4	12 mm	12–15	17	**167603**	1	sack	20 rolls of 12.5 m
	⅜"	16–18	21	**167604**			
	½"	20–22	25	**167605**			
	¾"	25–28	31	**167606**			
	1"	32–35	39	**167607**			
	1¼"	38–43	45	**167608**			
	1½"	44.5–49.0	50	**167609**			
	DN 50	58.0–63.5	64	**167610**			
	DN 70	76.1–78.0	89	**167611**			4 rolls of 12.5 m
	DN 90	88.9–100.0	109	**167612**			
	DN 100	110.0–114.3	126	**167613**			

Insulation thickness of 9 mm also available upon request.

02/19

MypoTHERM® Insulation sleeve ECO

with vapour barrier

Field of application

- Protection against corrosion and condensation, use as protection sleeve to avoid contact plaster and mortar with pipelines
- Insulation of straight or bent pipes prior to their installation

Advantages

- Highly flexible and tearproof, hereby easy and quickly to lay
- Protects pipes against acoustic bridges trasferred through paster and mortar
- 100 % synthetic and recyclable
- Tested for harmful substances in accordance with Eco-Tex Standard 100
- Protects the pipes against corrosion
- Moisture barrier protects against wetness and aggressive building materials
- Fire classification B2, normal flammability according to DIN 4102
- Aging resistant



Features

Material	Polyester fleece with PE protecting film
Vapour barrier permeability	2 g/m² within 24 h acc. to DIN 53122
Tearing resistance, lengthwise	70 N / 5 cm
Tearing resistance, crosswise	100 N / 5 cm
Temperature range	–60 °C to +180 °C inside face
Fire classification (according to DIN 4102)	B2
Thermal conductivity	λ = 0,031 W/mK at +10 °C, λ = 0,036 W/mK at +40 °C

Insulation thickness [mm]	Nominal size	For pipe outer diameter [mm]	Suitable up to connector diameter [mm]	**Part no.**	Sales unit	Pack unit	Contents
4	12 mm	12–15	17	**167633**	1	sack	20 rolls of 12.5 m
	⅜"	16–18	21	**167634**			
	½"	20–22	25	**167635**			
	¾"	27-28	31	**167636**			
	1"	32–35	39	**167637**			
	1¼"	38–43	45	**167638**			
	1½"	44.5–49.0	50	**167639**			
	DN 50	58.0–63.5	64	**167640**			
	DN 70	76.1–78.0	89	**167641**			4 rolls of 12.5 m
	DN 90	88.9–100.0	109	**167642**			
	DN 100	110.0–114.3	126	**167643**			

02/19

MypoTHERM® Insulating wraps

Field of application

- For insulating before, during and after pipe installation

Advantages

- Particularly suitable for wrapping to create different insulation thicknesses
- Made from high-quality MÜPROGON fibres, without chemical binders
- 100 % synthetic
- No aggressive adhesives used
- Protects pipes against acoustic bridges through plaster and mortar
- Protects the pipework against corrosion
- Noise dampening and reduction of structure-borne vibration transfer on pipes laid in walls and floors



Without vapour barrier



With vapour and mortar barrier

Table of insulation wrap usage

Pipe dimensions		Required insulation wrap of 70 mm width as per running metre of pipe [m]
Nominal size [inch]	Outer-∅ [mm]	
⅜	17.2	2.0
½	21.3	2.2
¾	26.9	2.8
1	33.7	3.4
1¼	42.4	4.2
1½	48.3	4.6
2	60.3	5.8

Features

Tearing resistance, lengthwise	9,500 N
Tearing resistance, crosswise	8,700 N
Temperature range	–60 °C to +220 °C
Thermal conductivity	λ = 0.036 W/mK

The above table was calculated on the basis of 50 % overlap of the insulating wrap. Therefore a wrap thickness of 2 mm results in an insulation of 4 mm.

Type	Width [mm]	Insulation thickness [mm]	**Part no.**	Sales unit	Pack unit	Contents
Without vapour barrier	70	2	**167666**	1	sack	100 rolls of 5 m
With vapour barrier			**167667**			

02/19

MypoTHERM® Insulating wrap

with vapour barrier, self-adhesive

Field of application

- For insulating before, during and after pipe installation

Advantages

- Particularly suitable for wrapping to create different insulation thicknesses
- Made from high-quality MÜPROGON fibres, without chemical binders
- 100 % polyester
- High corrosion protection
- Self-adhesive foil allows easy fixing
- Vapour barrier protects against moisture and aggressive building materials
- Temperature resistant up to +220 °C



Width [mm]	Insulation thickness [mm]	**Part no.**	Sales unit	Pack unit	Contents
70	2	**167665**	1	sack	100 rolls of 5 m

MypoTHERM® Butt joint tape

Field of application

- Suited to joining the butt joints and seams of pipe insulation sleeves

Advantages

- Suitable for insulation sleeves with and without vapour barrier
- Self-adhesive
- Made from high-quality MÜPROGON fibres, without chemical binders
- 100 % polyester
- High corrosion protection
- Easy to cut
- Vapour barrier protects against moisture and aggressive building materials
- Temperature resistant up to +220 °C



Width [mm]	Insulation thickness [mm]	**Part no.**	Sales unit	Pack unit	Contents
70	2	**167668**	1	sack	10 rolls à of 10 m

02/19

MypoTHERM® Insulation tubes

Field of application

- Thermal insulation of hot water supply pipes

Advantages

- Protects heating pipes and hot water pipes against heat losses
- Insulation thicknesses meet the requirements of the energy saving-decree (EnEV) and DIN 1988, part 2 and 7
- Prevents undesirable condensation on cold water pipes
- Closed-cell polyethylene
- Retains its shape even when cut open
- Resistant to building chemicals
- Easily to cut and handle
- Reduces noise levels
- Protects the pipes against acoustic bridges through plaster and mortar
- Hardly flammable, no flaming droplets, little to no smoke(material class B_L–S_1–d_0)



Features

Material	Closed-cell polyethylene
Temperature range	–45 °C to +100 °C
Building material class EN 13501-1	B_L–S_1–d_0
Thermal conductivity	λ_{10} = 0,036 W/mK, λ_{40} = 0,040 W/mK, λ_{90} = 0,053 W/mK
Water vapour diffusion resistance	μ = 16,000
EG-certificate of Conformity	BC1-571-4133-0001-01

	Insulation thickness [mm]	Acc. to EnEV 2009	Nominal size [inch]	For pipe outer diameter [mm]	**Part no.**	Sales unit	Pack unit	Contents [m/carton]
MypoTHERM® Insulation tubes for copper, steel and boiler pipes as well as for pipes made of plastic, composite materials and stain-less steel 2-metre-long tubular sections	9	Table 1 Appendix 5 Line 7	¼	12–15	**112241**	1	carton	380
			⅜	16–18	**112317**			330
			½	20–22	**112370**			250
			¾	25–28	**112422**			190
			1	32–35	**112468**			150
	13	50 %	¼	12–15	**112229**			256
			⅜	16–18	**112307**			220
			½	20–22	**112360**			180
			¾	25–28 Fe	**112410**			140
			1	32–35	**112460**			120
	20	50 %	½	20–22	**112364**			108
			¾	25–28 Cu	**112416**			96
			1	32–35 Fe	**112466**			70
			1¼	38–43 Fe	**112488**			60
	25	100 %	¼	12–15	**112235**			90
			⅜	16–18	**112313**			
			½	20–22	**112368**			70
			¾	25–28 Fe	**112420**			66

Fe: Classification according to EnEV only valid for steel pipes.
Cu: Classification according to EnEV for copper pipes.

Adhesive for MypoTHERM® Insulation tube

250 ml, with brush

Part no.	Sales unit	Pack unit
113215	1	pieces



02/19

MÜPRO

MypoTHERM® Insulation tubes

with red protecting film

Field of application

- Thermal insulation of hot water supply pipes with high demands on the mechanical strength of the insulation

Advantages

- Protects heating pipes and hot water pipes against heat losses
- Insulation thicknesses meet the requirements of the energy saving decree (EnEV) for the protection of cold pipes according to DIN 1988, part 2
- Closed-cell polyethylene, stable shape even when cut open
- Easily to cut and handle
- Reduces noise levels
- Red polyethylene vapour barrier
- Protects the pipes against mechanical damage, condensation and corrosion
- Insulation does not contain PVC



Features

Material	Closed-cell polyethylene
Temperature range	0 °C to +100 °C
Building material class EN 13501	E
Thermal conductivity	λ_{10} = 0,036 W/mK, λ_{40} = 0,040 W/mK, λ_{90} = 0,053 W/mK
Water vapour diffusion resistance	μ = 16,000
EG-certificate of Conformity	NMC-0,037

	Insulation thickness [mm]	Acc. to EnEV 2009	Nominal size [inch]	For pipe outer diameter [mm]	**Part no.**	Sales unit	Pack unit	Contents [m/carton]
MypoTHERM® Insulation tubes with red protective film for copper, steel and boiler pipes as well as for pipes made of plastic, composite materials and stainless steel Insulation thickness 4 mm: Roll of 10 m Insulation thickness 9–25 mm: 2-metre-long tubular section	4		¼	15	**112237**	1	carton	200
			⅜	18	**112335**			180
			½	22	**112386**			160
			¾	28	**112442**			140
			1	35	**112482**			110
	9	Table 1 Appendix 5 Line 7	¼	15	**112283**			120
			⅜	18	**112337**			
			½	22	**112388**			100
			¾	28	**112444**			90
			1	35	**112484**			60
			1¼	42	**112514**			48
	13	50 %	¼	15	**112277**			100
			⅜	18	**112331**			96
			½	22	**112382**			80
			¾	28 Fe	**112436**			64
			1	35	**112476**			48
			1¼	42	**112506**			40
	20	50 %	¾	28 Cu	**112438**			
			1	35	**112478**			32
			1¼	42 Fe	**112510**			24
	25	100 %	¼	15	**112279**			40
			⅜	18	**112333**			38
			½	22	**112384**			36
			¾	28	**112440**			30
			1	35	**112480**			26
			1¼	42	**112512**			24

Fe: Classification according to EnEV only valid for steel pipes.
Cu: Classification according to EnEV for copper pipes.

02/19

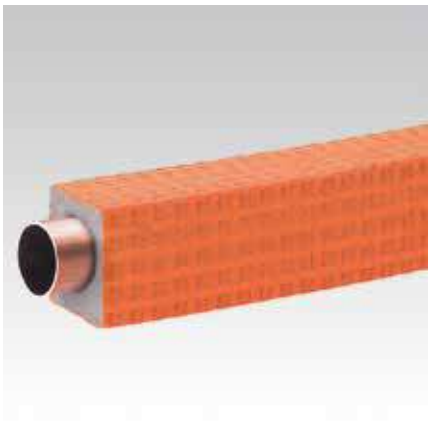
MypoTHERM® Kompakt floor tube

Field of application

- For insulation of pipe work for flooring constructions, e.g. screed

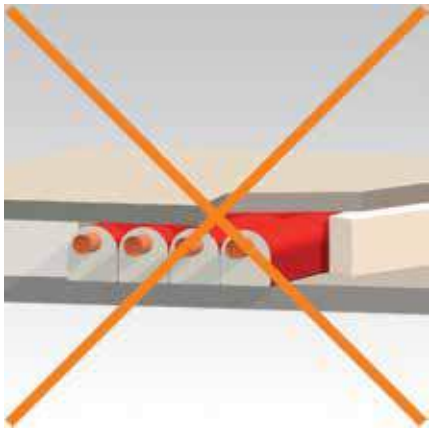
Advantages

- Space-saving overall height
- Rectangular pipe insulation made of polyethylene
- Meets the requirements of the energy saving decree (EnEV)
- Floor/wall insulation with protecting film as vapour barrier
- High damping of structure borne noise
- High vapour diffusion resistance
- Rectangular construction to avoid needless spaces within the screed
- Dioxin-free in case of fire
- Non-ageing and non-putrescible

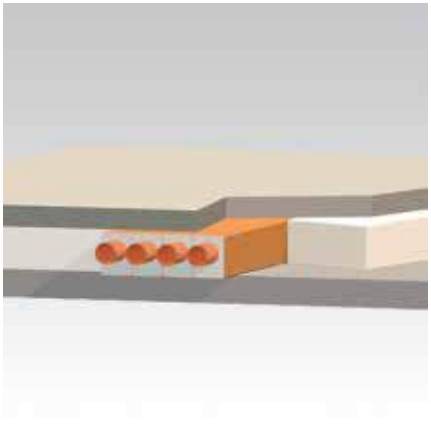




Insulation tube:
large floor height required



Eccentric floor tube:
low floor height possible



MypoTHERM® Kompakt floor tube:
least floor height possible

Features

Thermal conductivity	λ_{10} = 0,036 W/mK, λ_{40} = 0,040 W/mK, λ_{90} = 0,053 W/mK, insulation thickness 9 mm λ_{10} = 0,038 W/mK, λ_{40} = 0,042 W/mK, λ_{90} = 0,055 W/mK, insulation thickness 25 mm
Water vapour diffusion resistance	μ ≥ 16,000
Temperature range	–45 °C to +100 °C
Footfall acoustic insulation (DIN 4109)	up to dB(A) 32 acc. to Frauenhofer Institut, supplementary sheet 2 acc. to DIN 4109
Building material class EN 13501-1	E
EG-certificate of Conformity	NMC-0038

Insulation thickness (below pipe) [mm]	Iso-type	Acc. to EnEV 2009	For pipe outer-∅ Copper Cu DN	[mm]	Steel FE DN	[mm]	Plastic MSV & PEX [mm]	Overall height [mm]	Part no.	Sales unit	Pack unit	Contents [m/carton]	Customization
9	15–9	Appendix 5 Line 7	10	15	8	13.5	–	31.0	**140319**	1	carton	170	2-metre-long tubular sections
	18–9		15	18	10	17.2	16	34.0	**140320**			120	
	22–9		20	22	15	21.3	20	38.0	**140321**			110	
	28–9		25	28	20	26.9	25	46.5	**140322**			70	
	35–9		32	35	25	33.7	32	52.5	**140323**			58	
25	15–25	100 %	10	15	8	13.5	–	52.0	**140324**			100	
	18–25		15	18	10	17.2	16	55.0	**140325**			84	
	22–25		20	22	15	21.3	20	59.0	**140326**			72	
	28–25	100 % FE	25	28	20	26.9	25	64.0	**140327**			58	
38	35–38	100 %	32	35	25	33.7	32	83.0	**153857**			32	
46	42–46		40	42	32	42.4	40	104.0	**170835**			20	

02/19

Pipe clips

for MypoTHERM® Kompakt floor tube, galvanised

Dimensions [mm]			Iso-type	Part no.	Sales unit	Pack unit
B	H	L				
28	30.0	52.4	15–9	**142920**	100	pieces
31	33.0	55.4	18–9	**142921**		
35	37.0	59.4	22–9	**142922**		
45	44.5	69.4	28–9	**142923**		
51	51.5	75.4	35–9	**142924**		
31	50.0	55.4	15–25	**142925**		
38	53.0	62.4	18–25	**142926**		
39	57.0	63.4	22–25	**142927**		
49	62.0	73.4	28–25	**142928**		



Nails

for pipe clips, hardened

Shaft length [mm]	Max. thickness of fixing material [mm]	Part no.	
		200 pieces	Carton of 3,000 pieces
14	2	**107886**	**107887**
18	6	**107890**	**107891**
22	10	**107893**	**107894**



Setting tool

for nails

Part no.	Sales unit	Pack unit
123137	1	pieces



MypoTHERM® Caoutchouc

Field of application

- For insulating pipes in heating systems

Advantages

- Meets the requirements of the energy saving decree (EnEV) and DIN 1988, part 2 and 7
- Material possesses enormous flexibility and form stability
- Easy to work because of its smooth inner surface, especially in pipe bends and heavily twisted pipes
- Closed-cell structure prevents the absorption of condensate, oil and other aggressive fluids
- Good vibration damping properties prevent transmission of structure borne vibration and reduce flow and pressure noises in the pipe
- Smooth and robust outer skin ensures a long working life
- With general approval from the building inspectorate



Features

Material	Closed-cell insulation material on a synthetic rubber basis
Colour	grey
Temperature range	to +110 °C
Thermal conductivity	Insulation thickness ≤ 13 mm: λ = 0,035 W/mK at +40 °C, Insulation thickness 13 ≤ 25 mm: λ = 0,031 W/mK at –20 °C, λ = 0,033 W/mK at 0 °C, λ = 0,035 W/mK at +20 °C, λ = 0,037 W/mK at +40 °C, Insulation thickness > 25 mm: λ = 0,034 W/mK at –20 °C, λ = 0,036 W/mK at 0 °C, λ = 0,038 W/mK at +20 °C, λ = 0,040 W/mK at +40 °C
Building material class	B–S_3–d_0 acc. to EN 13501-1

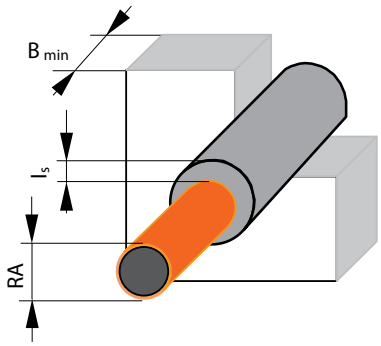
	Insulation thickness [mm]	Acc. to EnEV 2009	Nominal size [inch]	For pipe outer diameter [mm]	Part no.	Sales unit	Pack unit	Contents [m/carton]
MypoTHERM® Caoutchouc for copper, steel and boiler pipes as well as for pipes made of plastic, composite materials and stainless steel 2-metre-long tubular sections	9	Table 1 Appendix 5 Line 7	1	32–35	**112458**	1	carton	80
			1¼	40–42	**112500**			70
	10		¼	12–15	**167657**			150
			⅜	16–18	**167658**			130
			½	20–22	**167659**			100
			¾	25–28	**167660**			80
	13	50 %	¼	12–15	**112251**			112
			⅜	16–18	**112287**			108
			½	20–22	**112341**			84
			¾	25–28 Fe	**112400**			72
	20		1	32–35 Fe	**112325**			32
			1¼	40–42 Fe	**112448**			28
	25–27		1½	45–48 Fe	**112518**			24
		100 %	¼	12–15	**112263**			40
			⅜	16–18	**112301**			
			½	20–22	**112354**			36
			¾	25–28 Fe	**112404**			32
	36–38		1	32–35	**112452**			16
			1¼	40–42	**112494**			12

Fe: Classification according to EnEV only valid for steel pipes.

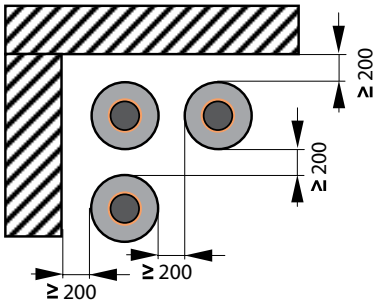
02/19

MypoTHERM® Caoutchouc

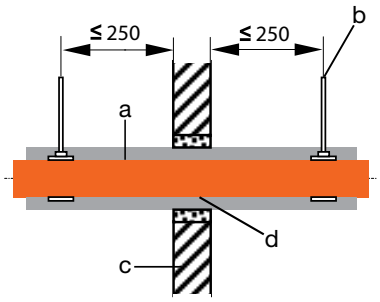
Part no.	Wall thickness B_{min} [mm]	Fire resistance duration acc. to DIN 4102-11 **for copper pipes**	Fire resistance duration acc. to DIN 4102-11 **for steel pipes**	Ceiling thickness B_{min} [mm]	Fire resistance duration acc. to DIN 4102-11 **for copper pipes**	Fire resistance duration acc. to DIN 4102-11 **for steel pipes**
112458	≥ 150	R60	R120	≥ 150	R120	R120
112500					R90	R90
167657					R120	R120
167658						
167659						
167660						
112251						
112287						
112341						
112400						
112325						
112448					R90	
112518						
112263		R90			R120	
112301						
112354						
112404						
112452						
112494						



Insulation of entire pipe using MypoTHERM® Caoutchouc



Installation situation for the group arrangement of pipes



a) Pipes of steel, stainless steel, copper or cast iron
b) Pipe clamp with DÄMMGULAST® lining fastened on a threaded rod and metal plug
c) Walls made of masonry, concrete, reinforced concrete or porous concrete slabs, ceilings of concrete, reinforced concrete or porous concrete
d) Complete sealing with mortar of mortar groups 2, 2a or 3

02/19

MypoTHERM® Caoutchouc

in dispenser box

Field of application

- For insulating pipe lines in heating systems

Advantages

- Material possesses enormous flexibility and form stability
- Easy to work because of its smooth inner surface, especially in pipe bends and heavily twisted pipes
- Closed-cell structure prevents the absorption of condensate, oil and other aggressive fluids
- Good vibration damping properties prevent transmission of structure-borne vibration and reduce flow and pressure noises in the pipe
- With general approval from the building inspectorate



Features

Material	Closed-cell insulation material on a synthetic rubber basis
Colour	grey
Corrosion risk	pH-neutral acc. to DIN 1988/7
Temperature range	to +110 °C
Thermal conductivity	λ = 0,035 W/mK at +40 °C
Building material class	B–S_3–d_0 acc. to EN 13501-1

	Insulation thickness [mm]	Nominal size [mm]	For pipe outer diameter [mm]	**Part no.**	Sales unit	Pack unit	Contents [m/box]
MypoTHERM® Caoutchouc In dispenser box for copper, steel and boiler pipes as well as for pipes made of plastic, composite materials and stainless steel	10	12	13–14	**167652**	1	carton	40
		15	15–17	**167653**			35
		18	17–20	**167654**			30
		22	20–22	**167655**			25
		28	28–30	**167656**			20
	13	12	13–14	**112221**			22
		15	15–17	**112253**			20
		18	17–20	**112319**			18
		22	20–22	**112374**			16
		28	28–30	**112426**			12

Adhesive for MypoTHERM® Caoutchouc/Caoutchouc Plus

250 ml, with brush

Part no.	Sales unit	Pack unit
113206	1	pieces



02/19

MypoTHERM® Caoutchouc Plus

Field of application

- For the insulation of refrigerant pipes

Advantages

- Material possesses enormous flexibility and form stability
- Easy to work because of its smooth inner surface, especially in pipe bends and heavily twisted pipes
- Low thermal conductivity and highly resistant to water vapour diffusion
- Closed-cell structure prevents the absorption of condensate, oil and other aggressive fluids
- Euro fire class BL-S3-d0, dioxin-free in the event of fire
- Free of formaldehyde



Features

Material	Closed-cell insulation material on a synthetic rubber basis
Colour	black
Water vapour diffusion resistance	μ > 10,000 at insulation thickness ≤ 25 mm μ > 7,000 at insulation thickness > 25 mm
Temperature range	–40 °C to +110 °C
Thermal conductivity	Insulation thickness ≤ 25 mm: λ = 0,037 W/mK at +40 °C, λ = 0,035 W/mK at +20 °C, λ = 0,033 W/mK at 0 °C, λ = 0,031 W/mK at –20 °C, Insulation thickness > 32 mm: λ = 0,040 W/mK at +40 °C, λ = 0,038 W/mK at +20 °C, λ = 0,036 W/mK at 0 °C, λ = 0,034 W/mK at –20 °C
Building material class	B_L–S_3–d_0 acc. to EN 13501-1
EG-certificate of Conformity	CPD.002.0-1/2012

For copper pipes

Insulation layer thickness [mm]	Insulation thickness [mm]	Nominal size [mm]	For pipe outer diameter [mm]	**Part no.**	Sales unit	Pack unit	Contents [m/carton]
ST-1	7	4	6*	**137857**	1	carton	352
		6	8*	**137858**			300
		8	10*	**137859**			266
		10	12*	**137860**			234
			15*	**137861**			192
		15	18*	**137862**			166
		20	22*	**137863**			132
			25*	**137864**			108
		25	28*	**137865**			96
			30*	**137866**			
		32	35*	**137867**			70
			38*	**137868**			
		40	42*	**137915**			60
ST-2	13	4	6*	**136745**			200
		6	8*	**137934**			
		8	10	**136764**			172
		10	12	**137935**			162
			15	**137936**			136
		15	18	**137937**			118

02/19

MypoTHERM® Caoutchouc Plus

For copper pipes

Insulation layer thickness [mm]	Insulation thickness [mm]	Nominal size [mm]	For pipe outer diameter [mm]	**Part no.**	Sales unit	Pack unit	Contents [m/carton]
ST-2	13	20	22	**137938**	1	carton	96
			25*	**137939**			80
		25	28	**137940**			78
			30*	**137941**			72
		32	35	**136773**			60
		40	42	**136746**			40
ST-4	19	8	10	**137992**			98
		10	12*	**136747**			88
			15	**137993**			78
		15	18	**137994**			72
		20	22	**137995**			64
			25*	**137996**			50
		25	28	**137998**			48
			30*	**138000**			40
		32	35	**136936**			
		40	42	**138001**			32
ST-5	25	15	18	**138024**			50
		20	22*	**138025**			42
		25	28	**138027**			40
		32	35	**138028**			24
ST-6	32	15	18	**138065**			32
		20	22	**138066**			
		25	28	**138067**			24
		32	35	**138070**			22
		40	42	**136775**			16

* Delivery time upon request - no storage items

For steel pipes:

Insulation layer thickness [mm]	Insulation thickness [mm]	Nominal size [inch]	Pipe outside-∅ [mm]	**Part no.**	Sales unit	Pack unit	Contents [m/carton]
ST-1	7	⅛	10,2*	**137859**	1	carton	266
		¼	13,5*	**137861**			192
		⅜	17,2*	**137862**			166
		½	21,3*	**137863**			132
			25,0*	**137864**			108
		¾	26,9*	**137865**			96
			30,0*	**137866**			
		1	33,7*	**137867**			70
			38,0*	**137868**			
		1¼	42,4*	**137915**			60
			44,5*	**137916**			56
		1½	48,3*	**137917**			50
			54,0*	**137918**			40
			57,0*	**137919**			
		2	60,3*	**137920**			36
			63,5*	**137921**			32
			70,0*	**137922**			
		2½	76,1*	**137923**			24
ST-2	13	⅛	10,2	**136764**			172
		¼	13,5	**137936**			136
		⅜	17,2	**137937**			118

02/19

MypoTHERM® Caoutchouc Plus

For steel pipes:

Insulation layer thickness [mm]	Insulation thickness [mm]	Nominal size [inch]	Pipe outside-∅ [mm]	**Part no.**	Sales unit	Pack unit	Contents [m/carton]
ST-2	13	½	21,3	**137938**	1	carton	96
			25,0*	**137939**			80
		¾	26,9	**137940**			78
			30,0*	**137941**			72
		1	33,7	**136773**			60
		1¼	42,4	**136746**			40
			44,5*	**137942**			
		1½	48,3	**137943**			
			54,0	**136699**			32
			57,0	**137944**			
		2	60,3	**137945**			
			63,5	**137946**			28
			70,0	**137948**			
		2½	76,1	**137950**			
ST-4	19	⅛	10,2	**137992**			98
		¼	13,5	**137993**			78
		⅜	17,2	**137994**			72
		½	21,3	**137995**			64
			25,0*	**137996**			50
		¾	26,9	**137998**			48
			30,0*	**138000**			40
		1	33,7	**136936**			
		1¼	42,4	**138001**			32
			44,5*	**138002**			28
		1½	48,3	**138003**			24
			54,0	**138004**			
			57,0*	**138005**			20
		2	60,3	**138006**			
			63,5	**138007**			18
			70,0	**138008**			16
		2½	76,1	**138009**			
ST-5	25	⅜	17,2	**138024**			50
		½	21,3	**138025**			42
		¾	26,9	**138027**			40
			33,7	**138028**			24
		1½	48,3	**138055**			18
			54,0	**138056**			16
		2	60,3	**138057**			12
			63,5	**138058**			
			70,0	**138059**			
		2½	76,1	**138060**			10
ST-6	32	⅜	17,2	**138065**			32
		½	21,3	**138066**			
		¾	26,9	**138067**			24
		1	33,7	**138070**			22
		1¼	42,4	**136775**			16
		1½	48,3	**138073**			12
		2	60,3	**138075**			10
			70,0	**138078**			8
		2½	76,1	**138079**			

* Delivery time upon request - no storage items

Information regarding firewall / ceiling lead-through available upon request.

02/19

MypoTHERM® Caoutchouc for chilled water pipes

in dispenser box

Field of application

- For the insulation of refrigerant pipes

Advantages

- Low thermal conductivity and high vapour diffusion resistance
- Rolled as an endless tube, no 2-metre remainders
- Saving working time due to fewer glued joints
- Cutting to length is made easier by measuring scale on the carton
- Space-saving, tidy storage in the dispenser box
- Easy transport in any vehicle
- Box dimensions 50 x 50 x 20 cm



Features

Material	Closed-cell insulation material on a synthetic rubber basis
Colour	black
Corrosion risk	pH-neutral acc. to DIN 13468
Temperature range	–40 °C to +110 °C
Water vapour diffusion resistance	μ > 10,000
Building material class	B–S3–d0 acc. to EN 13501-1
EG-certificate of Conformity	CPD.002.0-1/2012

Average temperature [°C]	Thermal conductivity [W/mK]
40	0.037
20	0.035
0	0.033
–20	0.031

	Insulation thickness [mm]	Pipe outer diameter-Ø [mm]	[inches]	Part no.	Sales unit	Pack unit	Contents [m/box]
MypoTHERM® Caoutchouc for chilled water pipes in dispenser box	6	6	¼	**112542**	1	carton	50
		8	5/16	**112554**			48
		10	⅜	**112212**			46
		12	½	**112225**			40
		15	⅝	**112265**			38
		18	¾	**112327**			30
		22	⅞	**112378**			23
		28	1⅛	**112432**			20
	9	6	¼	**112154**			40
		8	5/16	**112192**			37
		10	⅜	**111981**			34
		12	½	**112012**			31
		15	⅝	**112041**			27
		18	¾	**112059**			23
		22	⅞	**112073**			19
		28	1⅛	**112091**			14
	13	6	¼	**112150**			26
		8	5/16	**112152**			
		10	⅜	**111979**			23
		12	½	**112008**			18
		15	⅝	**112035**			17
		18	¾	**112051**			15
		22	⅞	**112063**			14
		28	1⅛	**112081**			10

02/19

MypoTHERM® Caoutchouc tapes

Field of application

- For insulation of fittings, valves and branch pipes, as well as for additional protection of junctions and seams of caoutchouc tubes

Advantages

- Easy to work and good fixing due to self adhesive surface
- For insulation after the pipes have been installed
- Flame resistant, self-extinguishing (fire class B1)
- Various thicknesses by wrapping around the pipe
- Design for heating, refrigeration and solar technology available



	Material	Colour	Temperature resistance	Fire classification (acc. to DIN 4102)	Thickness [mm]	Length [m]	Width [mm]	**Part no.**	Sales unit	Pack unit
MypoTHERM® Caoutchouc tapes	Closed-cell insulation material on a synthetic caoutchouc basis (elastomer)	grey	up to +105 °C	B1	3	15	50	**112927**	1	roll
MypoTHERM® Caoutchouc tapes for chilled water pipes		black						**113133**		
MypoTHERM® Solar caoutchouc tapes			up to +150 °C	B2				**112979**		

02/19

Mineral wool pipe jackets with aluminium facing

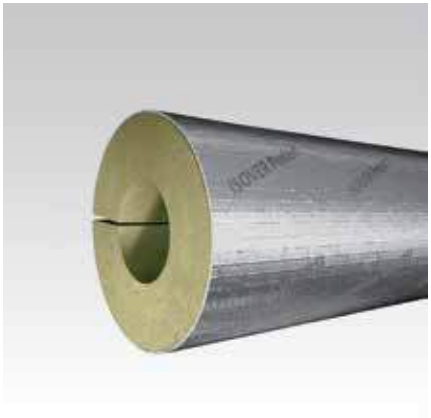
U-Protect Pipe Section Alu 2

Field of application

- For thermal insulation of non-flammable pipes as well as for application areas, where non-flammable building material is required
- For use as pipe partition when routing through solid ceilings, and solid and lightweight partition walls

Advantages

- Slit on one side for simple and quick fitting onto the pipe
- No acoustic bridges between pipe and building structure
- Pipe insulation meets the requirements of the energy saving decree (EnEV)
- No change in the insulation material between section insulation and component feed-through
- The 2-in-1 pipe section – heat and fire protection for piping in a single product
- Efficient to use due to low weight



Features

CE

Material	Mineral wool pipe jackets with aluminium facing
Effective density	68–88 kg/m³
Thermal conductivity	λ_R = 0,035 W/mK acc. to EnEV (40 °C)
Fire classification	A2L-s1-d0 acc. to EN 13501
Temperature range	Upper application limit temperature +620 °C max. +100 °C on the facing acc. to EN 14303
Melting point	1,000 °C
Length of jacket section	1.2 meter
General building authority test certificate	No: P-3084/259/12-MPA BS
Working temperature	≥ +5 °C

Additions to fire behaviour:
Non-flammable acc. to IMO-Resolution MSC.61(67) - (FTP-Code) IMO MSC/Circ.1120.
Approved for use in shipbuilding acc. to EC type-examination certificate no. 114.504 and USCG no. 164.109/EC0736/114.504.

Insulation thickness [mm]	Acc. to EnEV [2] 50%	Acc. to EnEV [2] 100%	Nominal size DN	For pipe outer diameter [mm]	Part no.	Sales unit	Pack unit	Contents [m/carton]
20		●	12	15	**157250**	1	carton	57.6
30[1]					**157263**			30.0
20		●	15	18	**157251**			50.4
30[1]					**157264**			28.8
20		●	20	22	**157252**			43.2
30					**157265**			24.0
40					**157277**			14.4
20	●		25	28	**157253**			36.0
30		●			**157266**			19.2
40					**157278**			
20	●		32	35	**157254**			30.0
30		●			**157267**			19.2
40					**157279**			10.8
50					**157288**			

[1] Delivery time available upon request – no storage items. Additional dimensions available on request.

[2] Required minimum insulation thickness acc. to EnEV for copper pipes acc. to DIN EN 1057 or steel pipes acc. to DIN EN 10255 (middle row). In case of doubt, it has to be checked whether the requirements of EnEV can be fulfilled with the specified insulation thicknesses.

02/19

Mineral wool pipe jackets with aluminium facing

U-Protect Pipe Section Alu 2

Insulation thickness [mm]	Acc. to EnEV [2] 50%	Acc. to EnEV [2] 100%	Nominal size DN	For pipe outer diameter [mm]	Part no.	Sales unit	Pack unit	Contents [m/carton]
20	●		40	42	157255	1	carton	24.0
30					157268			14.4
40		●			157280			10.8
50					157289			
20[1]				48	157256			19.2
30[1]	●				157269			24.0
40					157281			9.6
50		●			157290			10.8
20			50	54	157257			28.8
30	●				157270			19.2
40					157282			10.8
50		●			157291			
20			60	60	157258			27.6
30	●				157271			19.2
40[1]					157283			10.8
50					157292			9.6
60		●			157299			4.8
20[1]				64	157259			24.0
30[1]	●				157272			10.8
40[1]					157284			
50[1]					157293			9.6
60[1]		●			157300			4.8
70[1]					157305			
20[1]				70	157260			19.2
30[1]					157273			14.4
40[1]	●				157285			10.8
50[1]					157294			9.6
60[1]					157301			4.8
70[1]		●			157306			
20			65	76	157261			19.2
30					157274			14.4
40	●				157286			10.8
50[1]					157295			4.8
60[1]					157302			6.0
70		●			157307			4.8
80[1]					165523			
20			80	89	157262			16.8
30[1]					165734			10.8
60[1]					157303			4.8
80[1]					165524			3.6
90[1]					157308			1.2
100		●			157309			

[1] Delivery time available upon request – no storage items. Additional dimensions available on request.

[2] Required minimum insulation thickness acc. to EnEV for copper pipes acc. to DIN EN 1057 or steel pipes acc. to DIN EN 10255 (middle row). In case of doubt, it has to be checked whether the requirements of EnEV can be fulfilled with the specified insulation thicknesses.

02/19

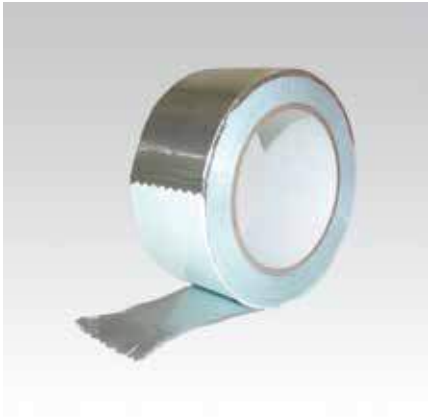
Pure aluminium self-adhesive tapes

Field of application

- For adhesion of butt-joints of mineral wool pipe jackets with aluminium facing

Advantages

- Good adhesion on foils and laminations of aluminium
- Good adhesion even at low ambient temperatures up to 0 °C
- Can be taken simply and quickly from the roll



Features

Material	Pure aluminium self-adhesive tape
Size	30 µm
Fire classification (according to DIN 4102)	B1
Temperature range	–40 °C to +80 °C up to +100 °C in the short term
Storage	20–25 °C max. 65 % air humidity
Vapour barrier permeability	< 1 g/m² in 24 hours
Adhesive force (steel)	8 N/cm
Tearing strength	12 N/cm
Tear expansion	2%

Width [mm]	Length [m]	**Part no.**	Sales unit	Pack unit
50	100	**141537**	1	roll
75		**113554**		

Felt tapes

self-adhesive

Width [mm]	Thickness [mm]	Length of roll [m]	**Part no.**	Sales unit	Pack unit
20	3	10	**108835**	1	roll
24			**108837**		
30			**108839**		
40			**108840**		
70			**108841**		
100			**108834**		



Nealed wire

on wooden stick, 25 pieces of 100 g

Part no.	Sales unit	Pack unit
106549	1	carton



02/19

Installation plug set

for tube insulation

Field of application

- Plastic installation plugs for simple and quick installation of tube insulation

Advantages

- Various mounting options, e.g. for foam pipe insulation, PE insulation tube or protection sleeves
- Tapered shaft to compensate for variations in pipe diameter
- The designation of the pipe size is stamped on the side for easy identification and classification of the plugs
- Made of a lightweight, wear-resistant polypropylene material



Size [mm]	**Part no.**	Sales unit	Pack unit	Contents
15–35	**118741**	1	set	2 pieces



Sealing and protection materials

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

 Silicone BB 16/1

 Silicone NO 16/2

 Acrylic joint sealers A 16/3

 PU-Foams 16/4

 PU-Cleaner 16/4

 Color-Marker 16/5

 Cartridge gun 16/5

 Zinc spray 16/6

 Mounting adhesive tapes 16/6

 Textile tapes 16/7

 PVC-Self-adhesive tapes 16/8

Silicone BB

acid reticulating, cartridge à 310 ml

Field of application

- Suitable for sealing and connections in bathrooms, kitchens, damp rooms, cool rooms and in industrial areas
- Also suitable for sealing building joints and joints around air ducts

Advantages

- High-quality, ready-to-use sealant for many applications
- Excellent adhesion even on glass, glazed tiles, enamel, porcelain and ceramics
- Excellent temperature resistance
- Remains permanently elastic for joints up to 30 mm
- Acetic acid reticulating
- High UV resistance



Features

Temperature range	–50 °C to +180 °C
Break expansion	650 % according to DIN 53504
Joint width min./max.	4 mm/25 mm
Painting properties	not to be painted over
Working temperature	+5 °C to +40 °C
Frost resistant (during transport)	till –15 °C
Skin over time (23 °C/55 % relative humidity)	10 min

Colour	Cartridge filling [ml]	**Part no.**	Sales unit	Pack unit
grey	310	**140138**	12	pieces
transparent		**140139**		
white		**140140**		

Refer to chapter „Tools“ for cartridge guns.

02/19

Silicone NO

neutrally reticulating, cartridge à 310 ml

Field of application

- Connection joints between pre-cast concrete parts and masonry, window connecting joints and facade joints, glass sealant, connection joints of washbasins and shower trays as well as for usage in industrial sector

Advantages

- Neutral reticulating, high-quality sealant
- Acid-free, almost odourless
- Fungus-inhibiting additives
- Remains permanently elastic over a wide temperature range
- Excellent adhesion even to galvanised steel, stainless steel, brass and plastics such as PVC, polyester, ABS and polystyrene



Features

Temperature range	–50 °C to +120 °C
Break expansion	400 % according to DIN 53504
Joint width min./max.	4 mm/25 mm
Painting properties	not to be painted over
Working temperature	+5 °C to +40 °C
Frost resistant (during transport)	till –15 °C
Skin over time (23 °C/55 % relative humidity)	6 min

Colour	Cartridge filling [ml]	**Part no.**	Sales unit	Pack unit
grey	310	**140134**	12	pieces
transparent		**140135**		
white		**140136**		

Refer to chapter „Tools“ for cartridge guns.

02/19

MÜPRO

Acrylic joint sealers A

cartridge à 310 ml

Field of application

- For sealing connection joints between wood and metal, concrete and masonry
- For indoor and outdoor use

Advantages

- Can be painted over
- Not corrosive on metal



Features

Temperature range	–20 °C to +75 °C
Working temperature	+5 °C to +40 °C
Frost resistant (during transport)	till –15 °C
Skin over time (23 °C/55 % relative humidity)	5 min
Joint movement capability	±12,5 %
Break expansion	300 % according to DIN 53504
Joint width min./max.	4 mm/25 mm

Colour	Filling cartridge [ml]	**Part no.**	Sales unit	Pack unit
grey	310	**140132**	12	pieces
white		**140133**		

02/19

PU-Foams

can à 750 ml

Field of application

- For filling of cable bushings, hollow spaces in walls, floors or ceilings, for assembling of joinery as well as for sealing of joints / fugues

Advantages

- Environmentally friendly, single-component foam, moisture-curing, CFC-free
- Good adhesion and adhesive strength to all building materials
- Easy to work and quickly hardening
- Low water absorption due to largely closed-cell foam
- Very good thermal insulation
- Fire classification B2 acc. to DIN 4102
- When used with a cartridge gun, the PU-Foam can still be used without any problem after the cartridge has been opened (use PU-Cleaner to clean the nozzle)



Features

Temperature range	permanent: –40 °C to +100 °C short-term: –40 °C to +130 °C
Thermal conductivity	0.04 W/mK
Water absorption	0.03 Vol.%
Fire classification (according to DIN 4102)	B2
Application	not sticky after 10 min can be cut after 40 min
Working temperature	+5 °C to +35 °C
Cleaning	remove fresh foam with PU-Cleaner

Type	Contents [ml]	Expanded volume [cm³]	**Part no.**	Sales unit	Pack unit
PU-Foam	750	approx. 40	**140143**	12	pieces
PU-Foam for cartridge gun			**140141**		

PU-Cleaner

can à 500 ml

Field of application

- For the removal of fresh spatters of PU-Foam
- For the cleaning of not-yet-hardened PU-Foam from tools

Advantages

- Also suitable for the removal of wax, grease, oil and paint spatterings
- With a combi-adapter for cleaning the PU cartridge gun



Contents [ml]	**Part no.**	Sales unit	Pack unit
500	**140262**	12	pieces

02/19

Color-Marker

marking spray, can à 500 ml

Field of application

- Universal implementation on asphalt, concrete, wood and soil

Advantages

- Easy hand operation
- Fast and clean application due to safety twist cap
- Safety catch prevents unintentional spraying
- Dries quickly, does not agglomerate
- High-yield application due to a high proportion of pigment
- Bright colour, highly visible
- Minimum durability: approx. 4 years



Colour	Contents [ml]	Part no.	Sales unit	Pack unit
luminous yellow	500	**136321**	12	pieces
luminous blue		**142855**		
luminous red		**142856**		

Protects from direct sunlight and temperatures exceeding 50 °C.

Cartridge gun

Field of application

- For the clean and cost-efficient application of PU-Foam

Advantages

- Handy, lightweight PU gun
- Adjustment screw on the gun allows accurate foam feed control; no dripping afterwards



Type	Part no.	Sales unit	Pack unit
SPU Eco	**130601**	1	pieces

02/19

Zinc spray

can à 400 ml

Field of application

- Ideal for the patching of zinc coatings
- Suitable as zinc protection for welding points
- Subsequent zinc coating of cutting edges on channels

Advantages

- Layer thicknesses of up to 20 µm per working pass gives excellent corrosion protection
- Effective corrosion protection due to over 70 % zinc percentage in a dry film
- Also suitable for coating hot parts up to a temperature of 300 °C



Contents [ml]	Part no.	Sales unit	Pack unit
400	**128579**	1	pieces

Mounting adhesive tapes

Field of application

- Particularly suited for metals, glass, hard PVC, polycarbonate and ABS

Advantages

- Double-sided installation tape for the most rigorous requirements, with outstanding final bonding strength
- Weatherproof
- Plexiglas-compatible
- Resistant to softening agents
- Compatible with mirror lacquer



Features

Carrier	PE-Foam
Adhesive	Pure acrylate
Temperature range	–40 °C to +70 °C
Working temperature	+15 °C to +30 °C

Colour	Width [mm]	Length [m]	Thickness [mm]	Part no.	Sales unit	Pack unit
white	19	10	1	**118450**	1	roll

02/19

Textile tapes

textile reinforced

Field of application

- Sealing of pipes, fixing of covering materials, general marking works and painting
- For bonding to wood, plaster and masonry
- For connection of junction points

Advantages

- Can be worked in a supple manner
- High initial adhesive force, even on rough surfaces
- High mechanical strength due to textile reinforcement
- Waterproof due to PE coating
- Easy to tear off



Features

Temperature range	+66 °C for short periods
Working temperature	not below +5 °C

Colour	Width [mm]	Length [m]	**Part no.**	Sales unit	Pack unit
grey	48	50	**111906**	1	roll
red	50		**111908**		

02/19

PVC-Self-adhesive tapes

Field of application

- Versatile – can be used for fixing and insulating

Advantages

- Prevents contact corrosion between pipe and clamps without DÄMMGULAST® lining
- Can be used as mounting aid
- Suitable for electrical insulation work
- Fire classification B1 according to DIN 4102, non-flammable and self-extinguishing
- Usable temperature range from –10 °C to +90 °C
- Largely resistant to dilute acids and alkalis



Colour	Width [mm]	Length [m]	Thickness [mm]	Part no.	Sales unit	Pack unit
ivory	19	10	0.15	**123464**	32	roll
	25			**123484**	24	
	30			**123497**	20	
	50			**123509**	12	
black	19			**123476**	32	
	30			**123505**	20	
	50			**123517**	12	
grey	30			**123501**	20	
	50			**123513**	12	
red				**123521**		

02/19



Tools

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
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11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

 Laser distance meter 17/1

 Pipe cutters 17/2–17/5

 Threaded rod cutters 17/6

 Trapezoid-sheet pliers 17/6

 Hole punches 17/7

 Cartridge guns 17/7

 Ratchet box 17/8

 Socket spanners 17/9

 Hexagon head chucks 17/9

 Quick-change adapters 17/9

 Screw-in chucks 17/9

 Screwdriver bits 17/10

 ProfiBit-Toolbox 17/11

 Hammer drills 17/11–17/15

 Metal twist drills 17/16

 Chisel for SDS chucks 17/17

 Cutting-off and rough scrub wheels 17/18

 Saw blades 17/18

 Screwdriver 17/19

 Wire brush 17/19

 Universal cutter knife 17/19

 Profi cutter knife 17/19

 Manual fixing tool 17/19

 Allen key 17/19

 Torque wrench 17/20

 Protective goggles nylon 17/20

 Protective goggles UVEX 17/20

 Fine dust masks 17/20

 Gloves 17/21

 Hand washing paste 17/21

 Garbage bags 17/21

 Paper rolls 17/22

 Plumbers case S 17/22

 Polyboxes 17/22

 Rotary stacking container 17/23

 Craftsman boxes 17/23

MÜPRO

Laser distance meter

LD 320

Field of application

- Ideal laser distance meter for indoor use
- Provided with all basic functions (length, area, volume, tracking permanent measure, Pythagoras with two meter points)

Advantages

- High measurement accuracy, measure up to 60 m with laser precision
- Large figures and backlit display
- Calculates distance values within one second
- Different measure references on the frontside and backside of the housing
- Belt bag for comfortable transportation
- Robust structure with resistant box for challenging use on construction sites
- Simple, self-explanatory handling
- Secure and fast measuring on hard to reach locations



Features

Measuring accuracy at 10 m	± 1.5 mm
Min. measuring distance	0.05 meter
Max. measuring distance	60 meter
Laser class	635 nm, Class 2
Measuring functions	Single and permanent measurement
Computational functions	Length, area, volume, tracking (permanent measure), Pythagoras with 2 and 3 meter points
Protection class	IP 40
Life cycle of alkaline batteries	Up to 3,000 measurements
Dimensions (LxH)	100 x 54 x 30 mm
Weight	0.100 kg

Type	Scope of supply	**Part no.**	Sales unit	Pack unit
LD 320	Belt bag, alkaline batteries	**142404**	1	pieces

02/19

Pipe cutter

MRS 1

Field of application

- Pipe cutter for plastic and composite pipes

Advantages

- Quick to adjust to the pipe diameter using the ratchet facility of the spindle
- Quick-opening due to the spring-loaded release function of the spindle
- Precise cut due to the exact pipe guidance
- Integrated pipe deburring
- Rotary, metal grip with large diameter for handy setting
- Robust, support rollers with grooves for cuts close to the flange





Quick adjustment of the spindle



Guide rollers with groove



Integral pipe deburring knife MRS 1

	Suitable for	For pipes [mm]	Part no.	Sales unit	Pack unit
Pipe cutter MRS 1–67	Plastic pipes, composite pipes	6–67	**115164**	1	pieces
Pipe cutter MRS 1–140		50–140	**115167**		
Cutting wheels for pipe cutter MRS 1–67		6–67	**120590**		
Cutting wheels for pipe cutter MRS 1–140		50–140	**120587**		

02/19

MÜPRO

Pipe cutter

MRS 2

Field of application

- Pipe cutter for plastic and composite pipes

Advantages

- Handy pistol form
- Low manual force required due to ratchet conversion ratio
- Quick retraction of the cutting blade
- Precise pipe seating for square cut
- Cutting knife guidance on both sides
- Cutting knife easy to replace
- Rugged metal housing for hard use





Ratchet conversion ratio



Quick-retraction head



2 screws for replacing cutting knife

	Suitable for	For pipes [mm]	Part no.	Sales unit	Pack unit
Pipe cutter MRS 2	Plastic pipes, composite pipes	6–35	**115161**	1	pieces
Cutting blades for pipe cutter MRS 2			**120576**		

02/19

Pipe cutter

MRS 3

Field of application

- Pipe cutter for copper and aluminium pipes

Advantages

- Innovative ratchet mechanism
- For cutting pipes in confined spaces – even when the pipe is already fitted
- Feed motion of cutter using the non-slip hand wheel
- Easy-to-replace cutting wheel
- Integrated pipe deburring





Opened pipe cutter



Start of cutting



Ratchet mechanism

	Suitable for	For pipes [mm]	Part no.	Sales unit	Pack unit
Pipe cutter MRS 3–28	Copper pipes, aluminium pipes	8–28	**115158**	1	pieces
Pipe cutter MRS 3–35		15–35	**115155**		
Cutting wheels for pipe cutter MRS 3	Stainless steel pipes	–	**148363**		
Cutting wheels for pipe cutter MRS 3 Set of 2 pieces	Copper pipes, aluminium pipes		**120594**		set

02/19

Pipe cutter

MRS 4

Field of application

- Pipe cutter for cutting of copper, aluminium, plastic and thin-walled steel pipes

Advantages

- Innovative ratchet mechanism
- For cutting pipes in confined spaces – even when the pipe is already fitted
- Easy-to-replace cutting wheel
- Stable design and hardened counterpressure rollers ensure accurate alignment on the pipe and a long service life
- Fast and easy adjustment of the work area by means of a thumb wheel



Pipe cutter MRS 4–10
with plastic housing



Pipe cutter MRS 4–28
with plastic housing



Pipe cutter MRS 4–28M
with metal housing and plastic grip

	Suitable for	For pipes [mm]	Part no.	Sales unit	Pack unit
Pipe cutter MRS 4–10	Copper, aluminium, plastic and thin-walled steel pipes	4–10	**155474**	1	pieces
Pipe cutter MRS 4–28M		6–28	**155477**		
Pipe cutter MRS 4–28			**155478**		
Cutting wheels for MRS 4–10		4–10	**155481**		
Cutting wheels for MRS 4–28 and MRS 4–28M		6–28	**155483**		

02/19

Threaded rod cutters

Field of application

- Very simple cutting of threaded rods on site

Advantages

- Cuts galvanised threaded rods in the qualities 4.6 and 5.8
- No reworking of the threaded rods necessary
- Clean cut allows the nuts to be screwed on directly
- Cutting without electric power
- Easy to transport





	For threaded rods	Part no.	Sales unit	Pack unit
Threaded rod cutters	M8	**113681**	1	pieces
	M10	**113678**		
Cutter inserts	M6	**130215**		
	M8	**130216**		
	M10	**130214**		

Trapezoid-sheet pliers

Field of application

- Punching plier for trapezoidal sheets of up to 1.25 mm thickness
- For screwing on trapezoidal sheet hangers
- Jaws open up to 100 mm

Advantages

- The long handle enables easy punching of holes for subsequent fixing
- Exchangeable punching pliers increase the life cycle of the trapezoid-sheet plier



Trapezoid-sheet pliers L



Trapezoid-sheet pliers

Type	Jaw opening [mm]	Part no.	Sales unit	Pack unit
Trapezoid-sheet pliers	from 78 to 10	**130206**	1	pieces
Trapezoid-sheet pliers L	from 100 to 10	**130208**		

02/19

Hole punches
for trapezoid-sheet pliers

For type	Trapezoidal sheet thickness [mm]	Diameter [mm]	Part no.	Sales unit	Pack unit
Trapezoid-sheet pliers	1.25	10	**114886**	1	set
Trapezoid-sheet pliers L	1.20		**114889**		



Hole punches for trapezoid-sheet pliers L



Hole punches for trapezoid-sheet pliers

Cartridge gun, HPS 12
suitable for 310-ml cartridges

Type	Part no.	Sales unit	Pack unit
HPS 12	**130600**	1	pieces



Cartridge gun, DPS 12 S
suitable for 310-ml cartridges

Type	Part no.	Sales unit	Pack unit
DPS 12 S	**130598**	1	pieces



Cartridge gun, DPS 14
suitable for 310-ml cartridges

Type	Part no.	Sales unit	Pack unit
DPS 14	**130599**	1	pieces



02/19

Ratchet box

Field of application

- For screw-mounting in industrial and handcraft sector

Advantages

- 96-pieces ratchet box with high-quality chrome-vanadium steel components
- Massive professional ratchet spanner enables tightening with the highest torques
- Ergonomic anti-slip hand grip for a secure hold
- Socket ejection at the touch of a button
- One-finger switchover between tightening and unscrewing
- Comprehensive accessory pack
- Robust and well laid-out plastic case











Scope of supply ¼"	1 x Reversible ratchet 1 x Universal joint 1 x 100 mm extension with T-adapter 1 x Screwdriver with socket fitting	1 x Clamping ring holder for bits ¼" 8 x Socket SW 4–SW 9 8 x Long socket SW 6–SW 13 7 x Socket with Torx E 4–E 11
Scope of supply ½"	1 x Reversible ratchet 1 x Universal joint 1 x Clamping ring holder for bits SW 10 1 x 125 mm extension 1 x 250 mm extension with T-adapter	16 x Socket with hex SW 10–SW 32 5 x Long socket SW 14–SW 22 7 x Socket with Torx E 12–E 24 3 x Torx with internal hole T 50–T 60 2 x Sparking plug socket SW 16 + SW 21
Scope of supply Bits (SW10)	2 x Cross PZ 3 + PZ 4 2 x Cross PH 3 + PH 4 3 x Slot 8–12	2 x Hex 6 + 8 mm 2 x Torx with internal hole T 40 + T 45
Scope of supply Bits (¼")	2 x Cross PZ 1 + PZ 2 2 x Cross PH 1 + PH 2 1 x Slot 6.5	2 x Hex 4 + 5 mm 6 x Torx T 10–T 30 6 x Torx with internal hole T 10–T 30

Scope of supply	**Part no.**	Sales unit	Pack unit
96 pieces, carrying case	**124505**	1	pieces

02/19

Socket spanners

½"

Spanner width [SW]	Part no.	Sales unit	Pack unit
8	**129572**	1	pieces
10	**106525**		
12	**129564**		
13	**106526**		
16	**106527**		
17	**129567**		
18	**129568**		
19	**129569**		
21	**129570**		
24	**129571**		



Hexagon head chucks

with magnet, for screwing in hexagonal head screws

Spanner width [SW]	Part no.	Sales unit	Pack unit
7	**106572**	1	pieces
8	**106573**		
10	**106569**		
12	**106570**		
13	**106571**		



Hexagon head chucks

for concrete screws

Spanner width [SW]	Connection for	Part no.	Sales unit	Pack unit
10	¼"-hex	**106550**	1	pieces
13		**106551**		



Quick-change adapter

for screwdriving tools with hexagonal head or socket

Connection for	Part no.	Sales unit	Pack unit
Hexagon 6 mm	**120978**	1	pieces



Screw-in chucks

for power driver to tighten bolt screws and shoulder screws

Size	Part no.	Sales unit	Pack unit
M8	**107842**	1	pieces
M10	**107840**		



02/19

Screwdriver bits
¼"-hex

Size/length [mm]	Part no.	Sales unit	Pack unit
PZ1/50	121349	1	pieces
PZ2/50	121353		
PZ3/50	121357		



Pozidriv screwdriver bits
for screws with cross-head

Size	Part no.	Sales unit	Pack unit
1	106584	1	pieces
2	106585		
3	106586		



Screwdriver bits
for screws with hex socket head

Spanner width [SW]	Part no.	Sales unit	Pack unit
5	106553	1	pieces
6	106552		



Screwdriver bits “TX”
for screws with TX-drive

Size	Part no.	Sales unit	Pack unit
TX10/25	121365	1	pieces
TX15/25	121373		
TX20/25	121380		
TX27/25	121396		
TX30/25	106581		
TX25/25	106580		
TX40/25	106582	5	
TX10/70	121369	1	
TX15/70	121376		
TX20/70	121384		
TX25/70	121392		
TX30/70	121404		
TX40/70	121412		



Screwdriver bit
for screws with slotted head

Size [mm]	Part no.	Sales unit	Pack unit
1.0 x 7.0	106554	1	pieces



02/19

MÜPRO

ProfiBit-Toolbox

Field of application

- For various screw application with PH, PZ, flat head Philips, hexagon socket and Torx drive

Advantages

- 32 pieces set with all common metrics
- Color guidance system with clear bit selection for a quick locating of the suitable bit
- Automatic system bit holder ¼" including lock and quick release of the bits
- Non-breakable plastic box for storage
- Including belt clip



Scope of supply	1 x Automatic bit holder ¼" with lock and quick release of bits 1 x Socket adapter ¼" square drive with ¼" hexagon socket drive 30 x bit, 25 mm length 4 x Philips PH1, PH2, PH2, PH3 4 x Pozidriv PZ1, PZ2, PZ2, PZ3 4 x Flat head 3, 4, 5, 6 mm 4 x Hexagonal socket 3, 4, 5, 6 mm 7 x Torx T10, T15, T20, T25, T27, T30, T40 7 x Torx with inside drilled hole T10, T15, T20, T25, T27, T30, T40

Part no.	Sales unit	Pack unit
142490	1	pieces

Hammer drill set SDS-plus

with 2-blade technology, 7 pieces

Field of application

- For fitting in SDS plus chucks
- For rapid drilling in concrete, masonry and natural stone

Advantages

- Hammer drill set in robust metal case
- SDS hammer drill bits of proven MÜPRO quality
- High-quality hard-metal cutting edges
- Case including sizes 5, 6, 8 x 110 mm and 6, 8, 10, 12 x 160 mm



Drill bit sizes (∅ x overall length in mm)	Part no.	Sales unit	Pack unit
5, 6, 8 x 110 6, 8, 10, 12 x 160	**114960**	1	set

02/19

Hammer drills SDS-plus

with 3-blade technology

Field of application

- For fitting in SDS-plus chucks
- For fast drilling in concrete C20/C25, natural stone, lightweight concrete, solid bricks and sand-lime bricks

Advantages

- Solid, hard-metal head for robustness and a long service life
- Optimised drill head with 3-blade technology for a clean, fast and constant drilling process
- User-friendly operation is guaranteed thanks to the perfect balance between dust removal and effective power transmission from the hammer drill to the drill bit
- The increased core diameter provides greater resilience and stability and thus extends the service life of the drill bit
- Great drilling results, no snagging in case of reinforcement steel impact, thanks to 3-blade cutting technology and spiral geometry



Drill bit size Ø [mm]	Total length [mm]	Usable length [mm]	**Part no.**	Sales unit	Pack unit
5	110	50	**155760**	1	pieces
	160	100	**155761**		
6	110	50	**155762**		
	160	100	**155763**		
	210	150	**155764**		
	260	200	**155765**		
8	110	50	**155766**		
	160	100	**155767**		
	210	150	**155768**		
	260	200	**155769**		
	310	250	**155770**		
	460	400	**155771**		
10	160	100	**155772**		
	210	150	**155773**		
	260	200	**155774**		
	310	250	**155775**		
	460	400	**155776**		
12	160	100	**155777**		
	210	150	**155778**		
	260	200	**155779**		
	310	250	**155780**		
	460	400	**155781**		
14	160	100	**155996**		
	210	150	**155997**		
	260	200	**155998**		
	310	250	**155999**		
	460	400	**156010**		
15	210	150	**156011**		
16			**156012**		
	260	200	**156013**		
	310	250	**156014**		
	460	400	**156015**		
18	210	150	**156016**		
	260	200	**156017**		
	310	250	**156018**		
	460	400	**156019**		
20	260	200	**156020**		
	310	250	**156021**		
	460	400	**156022**		

02/19

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Hammer drills SDS-plus

with 3-blade technology

	Drill bit size Ø [mm]	Total length [mm]	Usable length [mm]	**Part no.**	Sales unit	Pack unit	Content [pieces]
Hammer drills SDS-plus, 3-bladed, in plastic box	5	110	50	**156023**	1	box	12
		160	100	**156024**			
	6	110	50	**156025**			
		160	100	**156026**			
		210	150	**156027**			
	8	110	50	**156028**			
		160	100	**156029**			
		210	150	**156030**			
		260	200	**156031**			
	10	160	100	**156032**			
		210	150	**156033**			
		260	200	**156034**			
	12	160	100	**156035**			
		210	150	**156036**			
		260	200	**156037**			
	14	160	100	**156038**			
		210	150	**156039**			
		310	250	**156040**			
	16	260	200	**156041**			

02/19

Hammer drills SDS-plus

with 2-blade technology

Field of application

- For fitting in SDS-plus chucks
- For rapid drilling in concrete, masonry and natural stone

Advantages

- SDS hammer drill bits of proven MÜPRO quality
- High-quality hard-metal cutting edges



Drill bit size Ø [mm]	Total length [mm]	Usable length [mm]	**Part no.**	Sales unit	Pack unit
5	110	55	**114845**	1	pieces
	160	105	**114848**		
6	110	55	**114851**		
	160	105	**114854**		
	210	155	**114857**		
7	160	105	**114860**		
8	110	55	**114863**		
	160	105	**114866**		
	210	155	**114869**		
	260	205	**114872**		
9	160	105	**114875**		
10	110	50	**114713**		
	160	105	**114716**		
	210	155	**114719**		
	260	205	**114722**		
	350	310	**133236**		
	450	405	**114728**		
12	160	105	**114734**		
	210	155	**114737**		
	260	205	**114740**		
	460	405	**114743**		
	600	555	**114746**		
13	160	105	**114749**		
	210	155	**114752**		
	260	205	**114755**		
14	160	105	**114758**		
	210	155	**114761**		
	260	205	**114764**		
	310	255	**114767**		
	460	405	**114770**		
15	160	105	**114773**		
	260	205	**114776**		
	450	405	**114779**		
16	160	105	**114782**		
	210	155	**114785**		
	250	205	**114788**		
	300	255	**114791**		
	450	405	**114794**		
	600	555	**114797**		
18	210	155	**114800**		
	300	255	**114803**		
	450	405	**114806**		

02/19

MÜPRO

Hammer drills SDS-plus

with 2-blade technology

Drill bit size Ø [mm]	Total length [mm]	Usable length [mm]	**Part no.**	Sales unit	Pack unit
20	210	155	**114809**	1	pieces
	310	255	**114812**		
	450	405	**114815**		
22			**114824**		
25	250	205	**114830**		
	450	405	**114833**		

Hammer drills SDS-max

with 4-blade technology

Field of application

- For fitting in SDS plus chucks
- For rapid drilling in concrete, masonry and natural stone

Advantages

- Four-cutting-edge drill bit for good centring in the drill hole
- Good removal of drill dust due to the generously dimensioned helix
- Minimised friction in the hole due to the optimised helix
- Two secondary cutting edges protect the main cutting edge against contact with steel reinforcements



Four-cutting-edge head



Hammer drills

Drill bit size Ø [mm]	Total length [mm]	**Part no.**	Sales unit	Pack unit
12	340	**114881**	1	pieces
14		**114884**		
16		**114890**		
18		**114893**		
20	320	**114899**		
	520	**114901**		
22	320	**114904**		
	520	**114907**		
24	320	**114910**		
25	520	**114919**		
28	370	**114922**		
	570	**114925**		
30	370	**114928**		
	570	**114931**		
32	370	**114935**		
	570	**114939**		
35	370	**114942**		
	570	**114945**		
38	370	**114948**		
	570	**114951**		
40	370	**114954**		
	570	**114957**		

02/19

Metal twist drills HSS

DIN 338, bit with long life cycle, right-hand cutting, for steel and cast steel



Drill bit size Ø [mm]	Total length [mm]	Usable length [mm]	Part no.	Sales unit	Pack unit
2.0	49	24	**126354**	10	pieces
2.5	57	30	**126356**		
3.0	61	33	**126358**		
3.5	70	39	**126368**		
3.8	75	43	**126370**		
4.0			**126372**		
4.1			**126374**		
4.2			**126376**		
4.5	80	47	**126378**		
4.8	86	52	**126380**		
4.9			**126382**		
5.0			**126390**		
5.1			**126384**		
5.2			**126386**		
5.5	93	57	**126388**		
6.0			**126394**		
6.5	101	63	**126392**		
7.0	109	69	**126396**		
7.5			**126398**		
8.0	117	75	**126402**		
8.5			**126400**		
9.0	125	81	**126404**		
9.5			**126406**		
10.0	133	87	**126334**	5	
10.5			**126336**		
11.0	142	94	**126338**		
11.5			**126340**		
12.0	151	101	**126342**		
12.5			**126344**		
13.0			**126346**		
14.0	160	108	**126348**		
15.0	169	114	**126350**	1	
16.0	178	120	**126352**		

02/19

Chisels for SDS chucks

Field of application

- For working in concrete, masonry and natural stone

Advantages

- Chisel made of high-quality heat-treated steel
- Special hardening process for good durability
- Low notch sensitivity



Pointed and flat chisels

Type	Suitable for	Width [mm]	Length [mm]	**Part no.**	Sales unit	Pack unit
Pointed chisel	SDS plus	–	250	**152690**	1	pieces
	SDS max		400	**126436**		
Flat chisel	SDS plus	20	250	**152658**		
		40		**152659**		
	SDS max	25	400	**108854**		

Cutting-off and rough scrub wheels

Field of application

- For machining various materials
- Can be used on building site as well as in the factory

Advantages

- Long lifetime
- High resistance to fracture and side loading
- Low heating up of the material

- High cutting performance
- Max. peripheral speed 80 m/sec
- Manufactured according to EN 12413



Cutting-off disc for metal	Formed steel, cast iron, pipes, steel sheet
Rough grinding disc for metal	Chamfering, rough and smooth grinding of grey cast iron, welding seams, non-alloyed steel, steel castings surfaces
Diamond cutting-off disc	For general masonry work, e.g. B. floor tiles, brickwork, artificial stone slabs

Type	Dimensions [mm]	Type	Suitable for	Part no.	Sales unit	Pack unit
Cutting-off discs	115 x 1.0 x 22	straight	metal	**130221**	50	pieces
	115 x 2.5 x 22	offset		**130223**	25	
	115 x 2.5 x 22		metal and stone	**130226**		
	125 x 1.0 x 22	straight	metal	**130220**	50	
	125 x 2.5 x 22	offset		**130222**	25	
	180 x 3.0 x 22	straight		**130224**		
	230 x 3.0 x 22			**130225**		
Rough grinding discs	115 x 6.0 x 22	offset		**122009**	10	
	125 x 6.0 x 22			**122005**		
	230 x 6.0 x 22			**122013**	25	
Diamond cutting-off discs	230 x 2.1 x 22	straight	stone	**107141**	1	
Cutting-off discs	115 x 1.0 x 22		metal	**166541**		
value pack with 50 pieces	125 x 1.0 x 22			**166542**		

Recipro-saw blades HSS

bi-metallic, hardened teeth

Application	Teeth/inch	Length [mm]	Thickness [mm]	Width [mm]	Part no.	Sales unit	Pack unit
All steel types	24	300	0.6	13	**117323**	10	pieces



Recipro-saw blades

bi-metallic, for sheet metal, steel and non-ferrous metals up to 8 mm thickness

Application	Type	Teeth/inch	Length [mm]	Part no.	Sales unit	Pack unit
Steel and non-ferrous metals	P-04911	14	150	**113416**	5	pieces
from 3 to 8 mm	P-04927		200	**113419**		
Sheet metal and sectional steel	P-04896	24	100	**113410**		
from 1.2–2 mm	P-04905		150	**113413**		
Steel, non-ferrous metals and sections up to 1 mm	P-04955	32		**113422**		



02/19

Screwdriver

Type	Part no.	Sales unit	Pack unit
With cross-head	**121256**	1	pieces



Wire brush

removes rust, fouling and paint residues

Part no.	Sales unit	Pack unit
107325	1	pieces



Universal cutter knife

	Length [mm]	Blade width [mm]	Part no.	Sales unit	Pack unit
Cutter knife	130	9	**107065**	1	pieces
Replacement blades 10 pieces box			**108012**		



Profi cutter knife

	Length [mm]	Blade width [mm]	Part no.	Sales unit	Pack unit
Cutter knife	100	18	**151306**	1	pieces
Replacement blades 10 pieces box			**150712**		



Manual fixing tool

for screwing of bolt screws, shoulder screws and threaded pins

For thread	Part no.	Sales unit	Pack unit
M10	**115361**	1	pieces



Allen key

Spanner width [SW]	Part no.	Sales unit	Pack unit
8	**117223**	1	pieces



02/19

Torque wrench

Drive [inches]	Workspace [Nm]	**Part no.**	Sales unit	Pack unit
¼	10–50	**150989**	1	pieces



Protective goggles nylon

Part no.	Sales unit	Pack unit
122029	1	pieces



Protective goggles UVEX

Part no.	Sales unit	Pack unit
149504	1	pieces



Fine dust mask FFP1, in accordance with EN 149-2001

without breathing valve, protection against solid and aqueous particles up to 4x the MAK value

Part no.	Sales unit	Pack unit
108596	15	pieces



Fine dust masks FFP2, in accordance with EN 149-2001

Protection against toxic fine dust, smoke and aerosols up to 10x the MAK value

Type	**Part no.**	Sales unit	Pack unit
Fine dust masks with breathing valve	**108598**	15	pieces
Protecting mask without breathing valve	**119032**	50	



Fine dust masks FFP2, in accordance with EN 149-2001

without breathing valve, protection against solid and aqueous particles up to 10x the MAK value

Part no.	Sales unit	Pack unit
108597	15	pieces



02/19

Disposable gloves
elastic, tear-resistant, interior surface lightly powdered

Part no.	Sales unit	Pack unit
107935	100	pieces



Work gloves
with rubber pads, cotton/polyester, knitted glove, sure-grip, non-slip

Part no.	Sales unit	Pack unit
106340	12	pair



Work gloves
leather

Part no.	Sales unit	Pack unit
106341	12	pair



Work gloves
MAXIFLEX Ultimate, breathable and silicone-free

Size	Part no.	Sales unit	Pack unit
8	**160455**	1	pair
10	**151740**		
12	**154675**		



Hand washing paste
500 ml

Part no.	Sales unit	Pack unit
115438	1	pieces



Garbage bags
volume approx. 120 litres

Size	Part no.	Sales unit	Pack unit	Contents
45 µm	**118982**	1	roll	roll with 25 pieces
68 µm	**167365**			roll with 15 pieces



Paper rolls, white

extremely absorbent material, tear-resistant, absolutely solvent-resistant, lint-free soft material, 2-ply, perforated, sheet format: L 37 cm x B 32 cm, length approx. 380 m

Part no.	Sales unit	Pack unit
120121	1	pieces



Plumbers case S

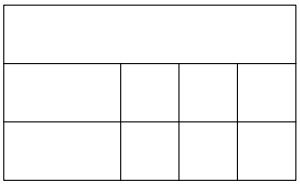
Field of application

- For the clearly arranged storage of tools, consumables, auxiliary materials and accessories
- Ideal and safe transport, as well as long-term, packaging

Advantages

- Compact case dimensions 100 x 550 x 350 mm
- Robust practical steel case for long service life cycle

- Cup-lock enables easy and quick opening of the case
- 9-compartment insert for easy equipping and overview





Height [mm]	Width [mm]	Depth [mm]	Part no.	Sales unit	Pack unit
100	550	350	**118458**	1	pieces

Polyboxes

Field of application

- For organised storage of your products

Advantages

- Robust, dimensionally stable plastic box for long service life
- Flexible application due to different sizes
- Easy filling and quick emptying

- Stackable – thus space saving
- Even inner walls for easy cleaning
- Obvious identification via label insert strip



Type	Length [mm]	Width [mm]	Height [mm]	Part no.	Sales unit	Pack unit
Large	500/450	300	180	**121019**	1	pieces
Medium	350/300	200	150	**121031**		
Small	230/200	140	130	**121027**		

02/19

Rotary stacking container

Field of application

- Dimensionally stable and robust plastic container for storage and transport of materials and tools

Advantages

- Reinforced edge as perimeter carrying grip
- Flexible application
- Easy filling and quick emptying
- Due to 180° rotation, containers are stackable inside each other or on top of each other, thus they save space
- Even inner walls; easy to clean



Height [mm]	Width [mm]	Depth [mm]	**Part no.**	Sales unit	Pack unit
250	600	400	**138605**	1	pieces

Craftsman boxes

Field of application

- Dimensionally stable and robust plastic box for storage and transport of materials and tools

Advantages

- The box sizes correspond to euro-pallet sizes and are ideally suited for stacking
- Suitable for roller conveyors
- Flexible application due to removable lid
- Hinged cover with slide closure
- Made of polypropylene; satisfies the requirements of the German Food Law





Box	Height Outside [mm]	Height Inside [mm]	Width Outside [mm]	Width Inside [mm]	Depth Outside [mm]	Depth Inside [mm]	**Part no.**	Sales unit	Pack unit
5 l	145	133	300	252	300	152	**138147**	1	box
20 l	210	200	400	356	300	255	**138146**		

02/19



Radiator fastening

MÜPRO
1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information


Expander for finished floors 18/1


Expander for unfinished floors 18/2


Wall hanger brackets for radiator without lugs 18/3


Stand bracket set US for finished floors 18/4


Stand bracket set UF for finished floors, types 20, 22, 33 18/5


Stand bracket set US for unfinished floors 18/6


Separate drill-in bracket FF for radiators with lugs 18/7


Drill-in bracket FFU2 set for radiators without lugs 18/8

MÜPRO

Expander

for finished floors

Field of application

- Can be used for free-standing installation of radiators
- Suitable for indoor installation of radiators directly on the finished floor

Advantages

- Installation-friendly expander for radiators for fast installation directly on the finished floor
- Installation-friendly, can be assembled without special tools
- Base plate with reinforcing seam for the sturdy fastening on the finished floor
- Infinitely variable ground clearance
- Suitable for radiators with an installation height of up to 900 mm
- Set comprised of two support feet and fastening material
- For radiator mounts fulfilling VDI Directive 6036



Type	Colour	Part no.	Sales unit	Pack unit
58–70	white	**149533**	1	set
79–91		**149534**		
85–97		**149535**		

	Type 58–70	Type 79–91	Type 85–97
APOLLO / IMAS	/	22 / 22DK / 33-3K	/
BAXI	21 / 21H	22 / 22H	/
BIASI	PAP (21)	PAAP (22)	/
BORPAN	/	/	22PKKP / 33PKKP / 20 / 22 / 30 / 33
BRÖTJE	/	/	22 / 33
BRUGMAN	/	20 / 21 / 22 / 33	/
BUDERUS	/	22 / 33	/
CETRA	/	DK (22) / DKEK (33)	/
CONCEPT	/	22 / 33	/
CONCEPT CLASSIC	/	/	22 / 33
COPA	/	/	22 / 33
DEF	/	/	22 / 33
DELONGHI	/	/	21 / 22 / 33
DEMRAD	/	22-DK / 33-DKEK	/
DIANORM	/	/	22 / 33
DIATHERM GALANT	20 / 21	/	22 / 33
DURA / THOR	/	/	22 / 33
ELBA	/	/	PKKP (22) / PKKPKP (33)
EUROTHERM	/	22 / 33	/
FERROLI	/	/	/
FINIMETAL	21VM	/	20S / 22S / 22H / 33S / 33H 22I / 22C / 33I / 33C / 22VM
KERMI	/	21 / 22 / 33	/
HENRAD / STELRAD	20 / 21	22 / 33	/
IMA	/	/	/
KORAD	/	22K/VK/VKS/H, 33K/VK/VKS/H	/
KORADO	/	22 / 33 / 22VKM / 33VKM	/
MANAUT	/	DK (22) / DK-V (22KV) DKEK (33) / DKEK-V (33KV)	/
PURMO	/	21 / 22 / 33	/
RADSON	/	21 / 22 / 33	/
SANICA	/	/	PKKP (22) / PKKPKP (33)
SCHÄFER	/	/	/
SUPERIA	20 / 21	/	22 / 33
THERMOPLUS	/	/	21 / 22 / 33
THERMOTECH	/	20PP / 22-PKKP / 33-PKKPKP	/
THERMRAD	/	22 / 33	/
VOGEL & NOOT	21K-S / 20 / 20VM	/	22K / 33K / 30 / 30VM
QUINN (VEHA)	/	/	22 / 33

02/19

Expander

for unfinished floors

Field of application

- Can be used for free-standing installation of radiators
- Suitable for indoor installation of radiators directly on the unfinished floor

Advantages

- Installation-friendly expander for radiators for fast installation directly on the unfinished floor
- Installation-friendly, can be assembled without special tools
- Base plate with reinforcing seam for the sturdy fastening on the unfinished floor
- Support foot individually adjustable to the screed height
- Infinitely variable ground clearance
- Suitable for radiators with an installation height of up to 900 mm
- Set comprised of two support feet and fastening material
- For radiator mounts fulfilling VDI Directive 6036



Type	Colour	Part no.	Sales unit	Pack unit
58–70	white	**149537**	1	set
79–91		**149538**		
85–97		**149539**		

	Type 58–70	Type 79–91	Type 85–97
APOLLO / IMAS	/	22 / 22DK / 33-3K	/
BAXI	21 / 21H	22 / 22H	/
BIASI	PAP (21)	PAAP (22)	/
BORPAN	/	/	22PKKP / 33PKKP / 20 / 22 / 30 / 33
BRÖTJE	/	/	22 / 33
BRUGMAN	/	20 / 21 / 22 / 33	/
BUDERUS	/	22 / 33	/
CETRA	/	DK (22) / DKEK (33)	/
CONCEPT	/	22 / 33	/
CONCEPT CLASSIC	/	/	22 / 33
COPA	/	/	22 / 33
DEF	/	/	22 / 33
DELONGHI	/	/	21 / 22 / 33
DEMRAD	/	22-DK / 33-DKEK	/
DIANORM	/	/	22 / 33
DIATHERM GALANT	20 / 21	/	22 / 33
DURA / THOR	/	/	22 / 33
ELBA	/	/	PKKP (22) / PKKPKP (33)
EUROTHERM	/	22 / 33	/
FERROLI	/	/	/
FINIMETAL	21VM	/	20S / 22S / 22H / 33S / 33H 22I / 22C / 33I / 33C / 22VM
KERMI	/	21 / 22 / 33	/
HENRAD / STELRAD	20 / 21	22 / 33	/
IMA	/	/	/
KORAD	/	22K/VK/VKS/H, 33K/VK/VKS/H	/
KORADO	/	22 / 33 / 22VKM / 33VKM	/
MANAUT	/	DK (22) / DK-V (22KV) DKEK (33) / DKEK-V (33KV)	/
PURMO	/	21 / 22 / 33	/
RADSON	/	21 / 22 / 33	/
SANICA	/	/	PKKP (22) / PKKPKP (33)
SCHÄFER	/	/	/
SUPERIA	20 / 21	/	22 / 33
THERMOPLUS	/	/	21 / 22 / 33
THERMOTECH	/	20PP / 22-PKKP / 33-PKKPKP	/
THERMRAD	/	22 / 33	/
VOGEL & NOOT	21K-S / 20 / 20VM	/	22K / 33K / 30 / 30VM
QUINN (VEHA)	/	/	22 / 33

02/19

MÜPRO

Wall hanger brackets

for radiator without lugs, galvanised

Field of application

- Top mount for side fastening in the cover sheet on the weld seam

Advantages

- Sturdy design of high-quality galvanised steel sheet with all screws, anchor plugs and sound insulation clip
- Safe and easy installation
- Set comprised of: brackets, mounts, screws and anchor plugs



Colour	Part no.	Sales unit	Pack unit
white	**149544**	1	set

02/19

Stand bracket set US

for finished floors

Field of application

- Can be used for free-standing installation of radiators on the finished floor
- Suitable for indoor installation of all multi-row plate radiators

Advantages

- Installation-friendly stand brackets for panel radiators for fast installation directly on the finished floor
- Suitable for all radiator brands, for all installation heights, even 900 mm and for the types 20, 21, 22 and 33
- Installation-friendly, can be assembled without special tools
- No disassembly of the side panels required, not fastened on the convector sheet
- Completely pre-assembled for a short installation time
- Base plate with reinforcing seam for the sturdy fastening on the floor
- Set comprised of: stand brackets, screws, anchor plugs, caps and sound insulation clips
- With a large cover collar for installation on the finished floor



Type	Design	Colour	**Part no.**	Sales unit	Pack unit
Universal	300 mm	white	**149542**	1	set

02/19

MÜPRO

Stand bracket set UF

for finished floors, types 20, 22, 33

Field of application

- Can be used for free-standing installation of radiators

Advantages

- Installation-friendly stand brackets for panel radiators for fast installation directly on the floor
- Suitable for radiator types 20, 22 and 33 with a plate spacing between 84 and 98 mm
- Base plate with reinforcing seam for the sturdy fastening on the floor
- Infinitely variable ground clearance
- Set comprised of: stand brackets, screws, anchor plugs and caps



Type	Plate spacing [mm]	Colour	**Part no.**	Sales unit	Pack unit
20, 22, 33	84–98	white	**149543**	1	set

02/19

Stand bracket set US

for unfinished floors

Field of application

- Can be used for free-standing installation of radiators
- Suitable for indoor installation of all multi-row plate radiators on unfinished floors

Advantages

- Installation-friendly stand brackets for panel radiators for fast installation directly on the unfinished floor
- Suitable for all radiator brands, for all installation heights, even 900 mm and for the types 20, 21, 22 and 33
- Support foot individually adjustable to the screed height
- Installation-friendly, can be assembled without special tools
- No disassembly of the side panels required, not fastened on the convector sheet
- Completely pre-assembled for a short installation time
- Base plate with reinforcing seam for the sturdy fastening on the floor
- Set comprised of: stand brackets, screws, anchor plugs, caps and sound insulation clips
- No cover collar for installation on the unfinished floor



Type	Design	Colour	**Part no.**	Sales unit	Pack unit
Universal	300 mm	white	**149541**	1	set

02/19

MÜPRO

Separate drill-in bracket FF

for radiators with lugs

Field of application

- Suitable for safe installation of radiators with lugs

Advantages

- Sturdy galvanised metal housing with plastic wedge for safe installation in suitable masonry
- With eccentric heat for subsequent adjustment of the radiator



Features

Length [mm]	Load values [N] Lime-sand brick, vertically perforated brick, gas concrete, concrete C20/25		Max. wall distance [mm]
	Cross force F_Q	Drag force F_Z	
130	1,000	500	50
160	600		80
200	500		100

Diameter [mm]	Length [mm]	Colour	**Part no.**	Sales unit	Pack unit
18	130	white	**149528**	1	pieces
	160		**149529**		
	200		**149530**		

02/19

Drill-in bracket FFU2 set

for radiators without lugs

Field of application

- Suitable for safe installation of radiators without lugs

Advantages

- Combination of drill-in brackets and wall brackets with special lift-out safeguard
- Sturdy galvanised drill-in bracket housing with plastic wedge for safe installation in suitable masonry

- Set comprised of two bottom drill-in brackets on which the radiator rests and two upper brackets which hold the radiator in place



Type	Diameter [mm]	Length [mm]	Colour	**Part no.**	Sales unit	Pack unit
9	18	160	white	**149531**	1	set
10				**149532**		

Suitable for radiator

Type	9	10
Radiator	Baxi Copa Demrad Finimetal Henrad Korado Purmo Radson Starpan Stelrad	Dianorm Elba Eurotherm Imas Manaut Schäfer-fix Superia

02/19



Technical information

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1. Vibration control
2. Fire protection
3. Pipe clamps
4. Support channels
5. Accessories
6. Anchor points/ expansion points
7. Heavy-duty pipe support
8. MPT-Support system
9. Ventilation
10. Pipe connectors
11. Stainless steel
12. Hot-dip galvanised
13. Anchor plugs
14. Nameplates
15. Insulation
16. Sealing and protection materials
17. Tools
18. Radiator fastening
19. Technical information

Pipelines pipe weights and distances between supports	19/1–19/4
Pipelines linear expansion	19/5
Swivel hanger expansion compensation and dislocation	19/6
Air ducts reference values for air ducts weights	19/7
Spiral-seam pipes reference values for pipe weights	19/8
Cantilever bracket max. load capacities	19/9–19/10
Bracket structures max. load capacities	19/11
Construction bracket max. load capacities	19/12
MPC-Saddle support	19/13
MPC-Channel support bracket	19/13
Base plates	19/13
MPC-Girder cleat	19/14
Girder clamp	19/14
Supporting angle	19/14
MPC-VARIO-Saddle support	19/14
MPC-Quick fastener	19/15
Threaded rods max. allowable bending load	19/16
Threaded pipes max. allowable bending load	19/16
Fasteners with VdS approval	19/17
Fasteners with FM approval	19/18
PHONOLYT® Pipe anchor points dB(A) 27 load chart	19/19
PHONOLYT® Pipe anchor points dB(A) 40 load chart	19/20
Characteristic values for MPC-Mounting anchors	19/21
Plug characteristic values for chemical reaction anchor VBA	19/22
Plug characteristic values for injection anchor XV Plus	19/23–19/26
Plug characteristic values for steel plugs, galvanised	19/27–19/29
Plug characteristic values for steel plugs, stainless steel	19/30–19/31
Plug characteristic values for through anchors, galvanised	19/32
Plug characteristic values for through anchors, stainless steel	19/33
Plug characteristic values for heavy-duty anchors BZ, galvanised	19/34–19/35
Plug characteristic values for heavy-duty anchors BZ, stainless steel	19/36–19/37
Plug characteristic values for gas concrete under cut anchor	19/38–19/40
Plug characteristic values for Zykon steel hammerset anchor FZEA	19/41
Plug characteristic values for screws for concrete MMS	19/42
Plug characteristic values for screws for concrete MMS-plus	19/43
Plug characteristic values for nail anchors N, N-K and N-M	19/44
Plug characteristic values for hollow-core slab ceiling anchor	19/45–19/46
Units and conversion factors	19/47–19/50

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Pipelines

pipe weights and distances between supports

Maximum recommended fastening distances for pipelines with single bossed clamps and DÄMMGULAST® vibration control lining

Steel piping DIN EN 10220			Pipe weights			Maximum spacing [m]
DN [NW]	DN [inch]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	Water-filled + insulated [kg/m]	
10	3/8	17.2	0.68	0.83	1.5	1.4
15	1/2	21.3	0.95	1.19	2.0	1.6
20	3/4	26.9	1.40	1.79	2.7	1.9
25	1	33.7	1.99	2.64	3.7	2.2
32	1 1/4	42.4	2.69	3.90	5.2	2.6
40	1 1/2	48.3	2.93	4.39	6.3	2.7
46		51.0	3.10	4.76	6.8	2.8
50		57.0	3.87	5.93	8.1	3.1
50	2	60.3	4.11	6.44	8.8	3.1
57		63.5	4.33	6.95	9.4	3.2
65	2 1/2	76.1	5.24	9.12	12.0	3.6
76		82.5	6.26	10.81	14.7	3.8
80	3	88.9	6.76	12.11	16.3	3.9
94		101.6	8.70	15.70	20.5	4.3
100		108.0	9.27	17.25	22.3	4.4
100	4	114.3	9.83	18.84	24.2	4.6
		127.0	12.13	23.26	29.3	4.9
125		133.0	12.73	25.00	31.4	5.0
125	5	139.7	13.39	27.01	33.8	5.1
		152.4	16.41	32.57	40.0	5.5
150		159.0	17.15	34.82	42.7	5.6
150	6	168.3	18.18	38.11	46.6	5.7
		177.8	21.31	43.43	52.5	6.0
		193.7	25.08	51.35	61.4	6.0
200	8	219.1	31.02	64.78	76.7	6.0
		267.0	40.50	91.34	107.0	6.0
250	10	273.0	41.44	94.70	110.9	6.0

Threaded pipes DIN EN 10255		Pipe weights			Maximum spacing [m]
DN [inch]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	Water-filled + insulated [kg/m]	
1/4	13.5	0.65	0.71	1.3	1.2
3/8	17.2	0.86	0.99	1.7	1.4
1/2	21.3	1.22	1.42	2.2	1.7
3/4	26.9	1.58	1.96	2.8	1.9
1	33.7	2.44	3.03	4.1	2.2
1 1/4	42.4	3.14	4.16	5.4	2.6
1 1/2	48.3	3.61	4.99	6.9	2.8
2	60.3	5.10	7.31	9.6	3.2
2 1/2	76.1	6.52	10.24	13.1	3.7
3	88.9	8.47	13.61	17.8	4.1
4	114.3	12.19	20.90	26.3	4.7
5	139.7	16.13	29.41	36.1	5.3
6	165.1	19.17	38.14	46.4	5.8

Any relevant information from the pipe manufacturer is to be taken into account.

02/19

Pipelines

pipe weights and distances between supports

Maximum recommended fastening distances for pipelines with single bossed clamps and DÄMMGULAST® vibration control lining

Copper piping DIN EN 1057 and DIN EN 12449/12451		Pipe weights			Maximum spacing [m]
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	Water-filled + insulated [kg/m]	
10	10	0.25	0.30	0.4	0.6
12	12	0.30	0.39	0.5	1.0
15	15	0.39	0.52	0.8	1.1
18	18	0.47	0.68	1.0	1.3
22	22	0.58	0.90	1.3	1.3
28	28	1.10	1.59	2.4	1.5
35	35	1.39	2.20	3.1	1.6
42	42	1.68	2.88	4.4	1.7
54	54	2.88	4.84	7.3	2.0
64	64	3.43	6.26	9.8	2.0
70	70	3.76	7.19	12.9	2.0
76	76	3.98	7.83	13.5	2.0
80	80	4.31	8.85	14.7	2.0
104	104	5.64	13.50	25.5	2.5
125	125	10.12	21.25	33.5	2.5
131	131	10.62	22.89	35.0	2.5

Cast iron (SML) drainage pipes with graphite in lamella form		Pipe weights		Maximum spacing [m]
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	
50	58	4.3	6.4	1.5–2.0 Manufacturer specifications state that each pipe section must be supported at least twice.
70	78	5.9	9.9	
80	83	6.1	10.6	
100	110	8.4	16.7	
125	135	11.8	24.5	
150	160	14.1	32.2	
200	210	23.1	54.5	
250	274	33.3	87.6	
300	326	43.2	120.6	

Drain pipes GA DIN 19500		Pipe weights		Maximum spacing [m]
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	
50	60	5.30	7.51	0.6
70	80	7.10	11.29	0.8
100	112	10.30	18.80	1.2
125	137	13.70	26.77	1.4
150	162	17.30	35.45	1.6
200	212	32.70	64.12	2.0

Any relevant information from the pipe manufacturer is to be taken into account.

02/19

MÜPRO

Pipelines

pipe weights and distances between supports

Maximum recommended fastening distances for pipelines with single bossed clamps and DÄMMGULAST® vibration control lining

PE drain pipes (GEBERIT)		Pipe weights		Spacings acc. to manufacturer [m]
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	fastening horizontal/vertical
25	32	0.27	0.81	0.8
32	40	0.35	1.26	0.8
40	50	0.45	1.97	0.8
50	56	0.50	2.47	0.8
70	75	0.68	4.43	0.8
80	90	0.96	6.37	0.9
100	110	1.44	9.52	1.1
125	125	1.86	12.29	1.3
200	200	3.79	31.44	2.0
250	250	5.96	49.12	2.0
300	315	9.44	77.98	2.0

Silent PP drain pipes (GEBERIT)		Pipe weights		Spacings acc. to manufacturer [m]	
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	fastening horizontal	fastening vertical
30	32	0.2	0.8	0.50	1.5
40	40	0.3	1.3	0.60	1.5
50	50	0.3	2.0	0.75	1.5
70	75	0.7	4.5	1.10	2.0
90	90	1.0	6.5	1.35	2.0
100	110	1.4	9.7	1.65	2.0
125	125	1.8	12.5	1.85	2.0
150	160	2.9	20.5	2.40	2.0

Silent db20 drain pipes (GEBERIT)		Pipe weights		Spacings acc. to manufacturer [m]	
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	fastening horizontal	fastening vertical
56	56	0.90	2.83	0.80	1.5
70	75	1.37	4.97	0.80	1.5
90	90	2.48	7.38	0.90	1.5
100	110	3.33	10.87	1.10	1.7
125	135	4.13	16.00	1.40	1.9
150	160	5.80	22.50	1.70	2.4

Any relevant information from the pipe manufacturer is to be taken into account.

02/19

Pipelines

pipe weights and distances between supports

Maximum recommended fastening distances for pipelines with single bossed clamps and DÄMMGULAST® vibration control lining

PP drain pipes DIN 8077 (HT pipes)		Pipe weights		Reference values for spacings
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	[m]
40	40	0.23	1.26	0.8
50	50	0.29	1.91	1.0
70	75	0.49	4.37	1.2
100	110	0.97	9.48	1.5
125	125	1.30	12.37	1.6
150	160	2.16	20.34	1.8

Pressure piping of unplasticised PVC DIN 8062		Pipe weights		Reference values for spacings
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	[m]
40	50	0.42	2.12	0.8
50	63	0.56	3.32	1.0
70	75	0.78	4.77	1.2
100	110	1.64	10.24	1.5
125	125	2.13	13.22	1.6
150	160	3.44	21.64	1.8

Pressure pipes: PP pipes DIN 8077 PE pipes DIN 8072		Pipe weights		Reference values for spacings
DN [NW]	Outer Ø [mm]	Empty [kg/m]	Water-filled [kg/m]	[m]
12	16	0.10	0.20	0.6
15	20	0.16	0.30	0.7
20	25	0.25	0.47	0.8
25	32	0.42	0.77	0.8
32	40	0.64	1.21	0.9
40	50	1.01	1.88	1.0
50	63	1.59	2.98	1.2
63	75	2.26	4.23	1.3
80	90	3.25	6.08	1.4
90	110	4.87	9.08	1.6
100	125	6.29	11.73	1.7

Maximum recommended pipe clamp spacings for composite and plastic pipes

Outer Ø [mm]	Composite pipes reference values for spacings [m]	VPE (PE-X) pipes DIN 16892 reference values for spacings [m]	PB pipes DIN 16968 reference values for spacings [m]	PVC-C DIN 8080 guidance values for spacings [m]
14	1.2			
16	1.2	0.8	0.5	0.8
18	1.5			
20	1.5	0.9	0.6	0.95
25	1.5	1.0	0.7	1.05
26	1.5			
32	1.5	1.0	0.8	1.2
40	1.5	1.2	1.0	1.3
50	1.5	1.2	1.2	1.5
63	1.5	1.2	1.4	1.7

Any relevant information from the pipe manufacturer is to be taken into account.

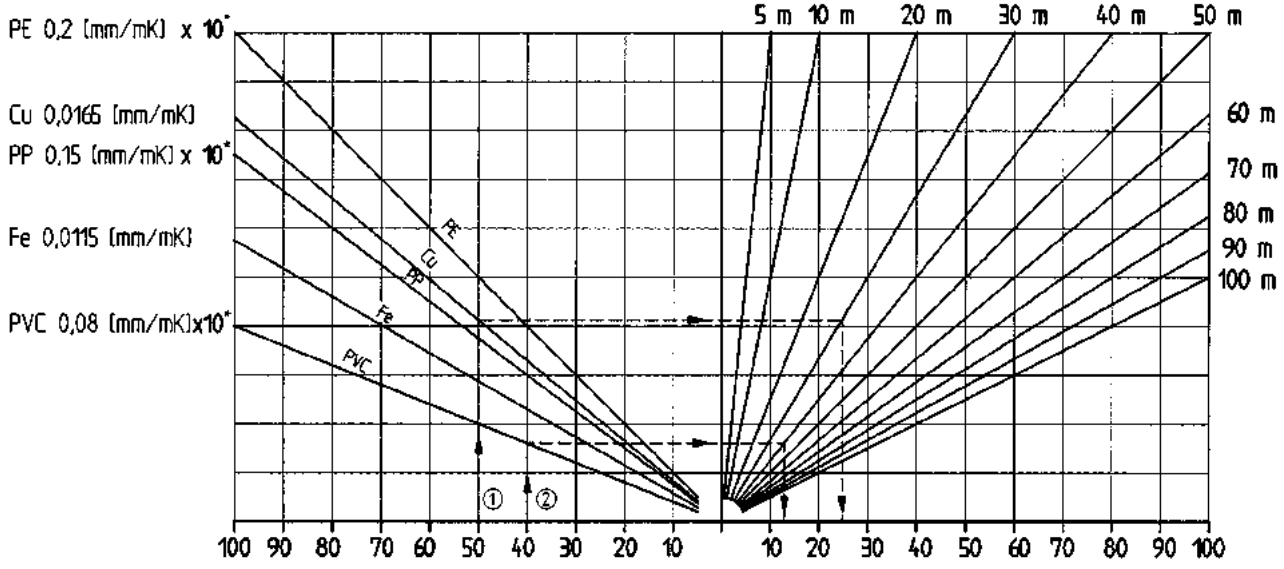
02/19

Pipelines

linear expansion

Expansion chart for various pipe types

Metals and plastics contract with cold and expand with heat. This must be taken into account particularly with pipes in heating systems where thermostat control causes continual temperature fluctuations. Appropiate pipe supports, that are able to swing or slide, prevent tensile forces.



Temperature difference ΔT [K]

Linear expansion ΔL [mm]

Example: ① Copper pipe, Cu, length of the pipe section 30 m
Temperature difference ΔT = 50 K
Linear expansion ΔL = 24.75 mm

② PVC pipe, length of pipe section L = 40 m
Temperature difference ΔT = 40 K
Linear expansion ΔL = 128 mm

In the case of plastic pipes (PE, PP, PVC) the linear expansion displayed in the chart has to be multiplied by a factor of 10.

Linear expansion ΔL [mm]

Calculation formula for linear expansion

$\Delta L = L \cdot \Delta T \cdot \alpha$

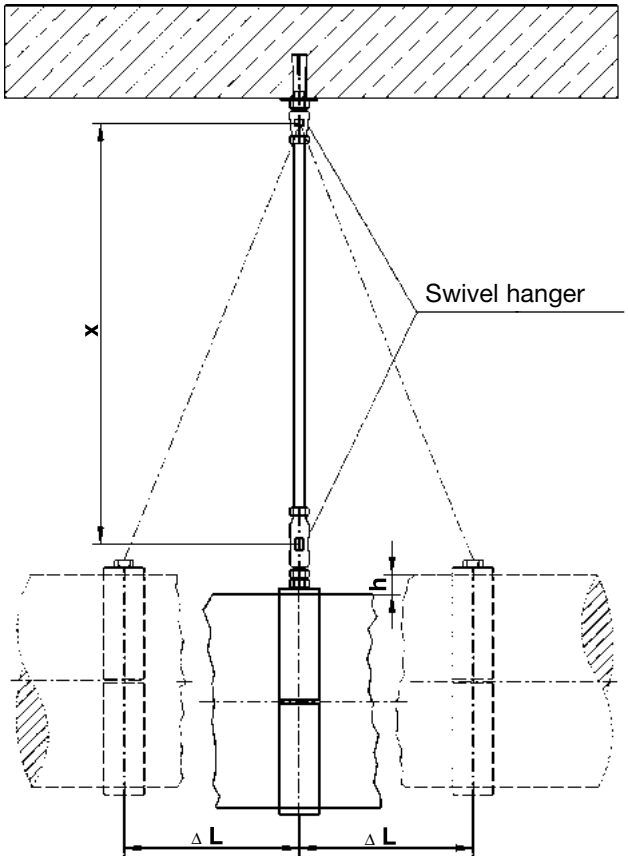
[mm] [m] [K] [mm/m K]

ΔL = linear expansion
L = length of the pipeline/pipe section
ΔT = temperature difference
α = linear expansion coefficient

02/19

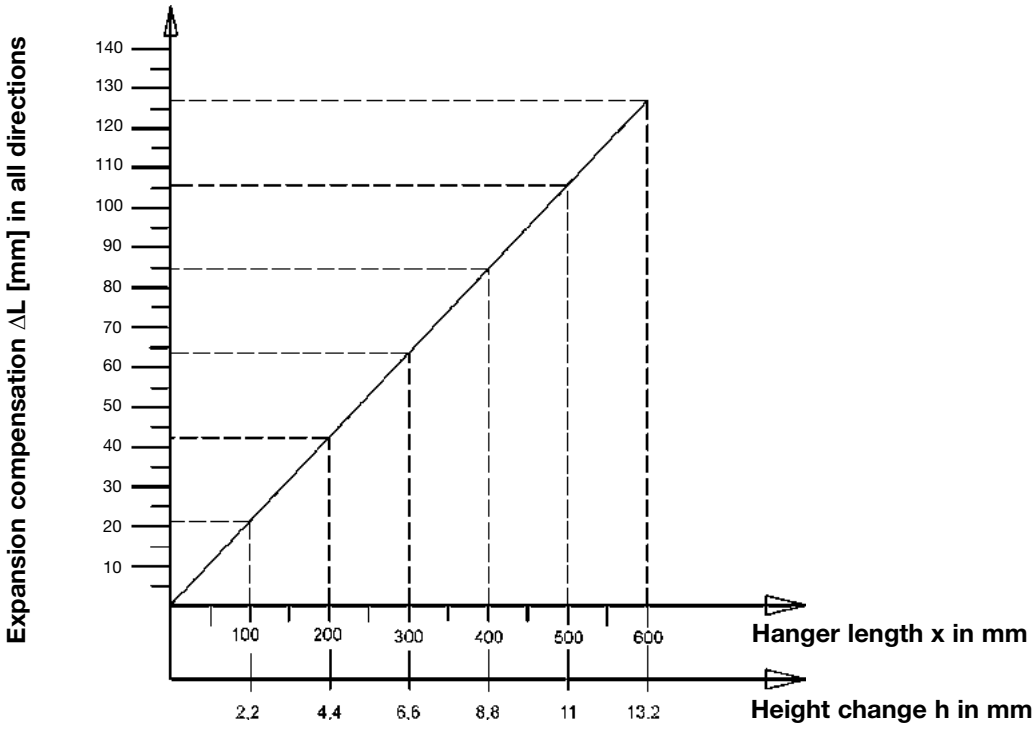
Swivel hanger

expansion compensation and dislocation



Axial and lateral pipeline expansion or dislocation will cause a height change in suspension hangers.

The magnitude of this change can be obtained from the chart below.



02/19

Air ducts

reference values for air duct weights

Weights of air ducts in kg/m without insulation

Sheet thickness 0.88 mm
Duct dimensions width x height in mm

	280	315	355	400	450	500
280	9.5	10.1	10.7	11.5	12.3	13.2
315		10.6	11.3	12.1	12.9	13.8
355			12.0	12.8	13.6	14.4
400				13.5	14.4	15.2
450					15.2	16.1
500						16.9

Sheet thickness 1.00 mm
Duct dimensions width x height in mm

	560	630	710	800	900	1,000
560	21.5	22.8	24.4	26.1	28.0	30.0
630		24.2	25.7	27.5	29.4	31.3
710			27.3	29.0	30.9	32.8
800				30.7	32.6	34.6
900					34.6	36.5
1,000						38.4

Sheet thickness 1.13 mm
Duct dimensions width x height in mm

	1,120	1,250	1,400	1,600	1,800	2,000
710	39.7	42.5	45.8	50.1	54.5	58.8
800	41.7	44.5	47.7	52.1	56.4	60.7
900	43.8	46.6	49.9	54.2	58.6	62.9
1,000	46.0	48.8	52.1	56.4	60.7	65.1
1,120	48.6	51.4	54.7	59.0	63.4	67.7
1,250	51.4	54.2	57.5	61.8	66.2	70.5
1,400	54.7	57.5	60.7	65.1	69.4	73.8
1,600	59.0	61.8	65.1	69.4	73.8	78.1
1,800	63.4	66.2	69.4	73.8	78.1	82.4
2,000	67.7	70.5	73.8	78.1	82.4	86.8
2,240	72.9	75.7	79.0	83.3	87.7	92.0
2,500	78.5	81.4	84.6	89.0	93.3	97.6
2,800	85.0	87.9	91.1	95.5	99.8	104.1
3,150	92.6	95.5	98.7	103.1	107.4	111.7

Sheet thickness 1.25 mm
Duct dimensions width x height in mm

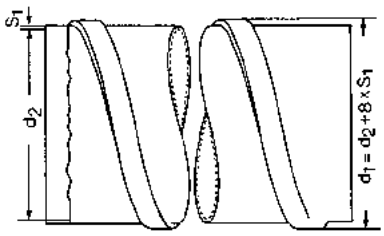
	2,240	2,500	2,800	3,150	3,350	3,550
710	82.6	89.9	98.3	108.1	113.7	119.3
800	85.1	92.4	100.8	110.6	116.2	121.8
900	87.9	95.2	103.6	113.4	119.0	124.6
1,000	90.7	98.0	106.4	116.2	121.8	127.4
1,120	94.1	101.4	109.8	119.6	125.2	130.8
1,250	97.7	105.0	113.4	123.2	128.8	134.4
1,400	101.9	109.2	117.6	127.4	133.0	138.6
1,600	107.5	114.8	123.2	133.0	138.6	144.2
1,800	113.5	120.4	128.8	138.6	144.2	149.8
2,000	118.7	126.0	134.4	144.2	149.8	155.4
2,240	125.4	132.7	141.1	150.9	156.5	162.1
2,500	132.7	140.0	148.4	158.2	163.8	169.4
2,800	141.1	148.4	156.8	166.6	172.2	177.8
3,150	150.9	158.2	166.6	176.4	182.0	187.6

The above mentioned weights [kg/m] are guide values. The weights may differ depending on the material thickness and the type of flange.

02/19

Spiral-seam pipes

reference values for pipe weights



Nominal diameters and dimensions according to DIN 24145

Nominal size [mm]	d_1 [mm]	d_2 [mm]	Sheet thickness S_1 [mm]	Weight [kg/m]
71	74.2	71	0.4	0.77
80	83.2	80	0.4	0.87
90	93.2	90	0.4	0.98
100	104.8	100	0.6	1.69
112	116.8	112	0.6	1.89
125	129.8	125	0.6	2.11
140	144.8	140	0.6	2.36
160	164.8	160	0.6	2.70
180	184.8	180	0.6	3.07
200	204.8	200	0.6	3.38
224	228.8	224	0.6	3.78
250	254.8	250	0.6	4.22
280	284.8	280	0.6	4.73
315	321.4	315	0.8	7.09
355	361.4	355	0.8	7.99
400	406.4	400	0.8	9.00
450	456.4	450	0.8	10.13
500	506.4	500	0.8	11.25
560	566.4	560	0.8	12.60
630	638.0	630	1.0	17.70
710	718.0	710	1.0	19.97
800	808.0	800	1.0	22.50
900	908.0	900	1.0	25.32
1,000	1.009.6	1.000	1.2	34.42
1,120	1.129.6	1.120	1.2	38.55
1,250	1.259.6	1.250	1.2	43.03
1,400	1.412.0	1.400	1.5	55.10
1,600	1.612.0	1.600	1.5	62.90
1,800	1.812.0	1.800	1.5	70.80
2,000	2.012.0	2.000	1.5	78.60

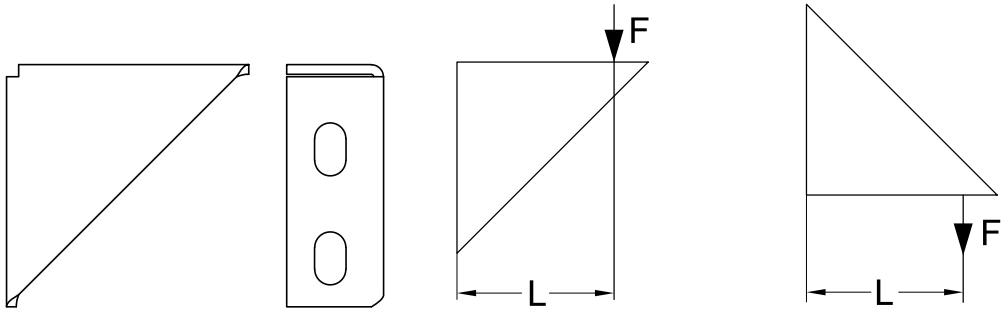
Cantilever bracket

design 100 x 100, max. load capacities

Allowable loading values

(in consideration of fixing screws)

Cantilever bracket 100 x 100, equal-sided



Material thickness	L = 85 mm
4 mm	2.2 kN

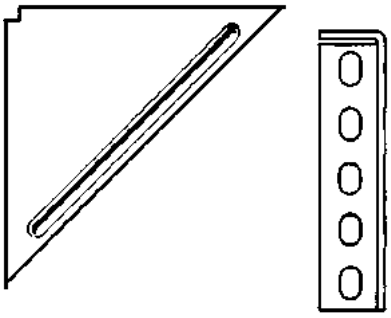
02/19

Cantilever bracket

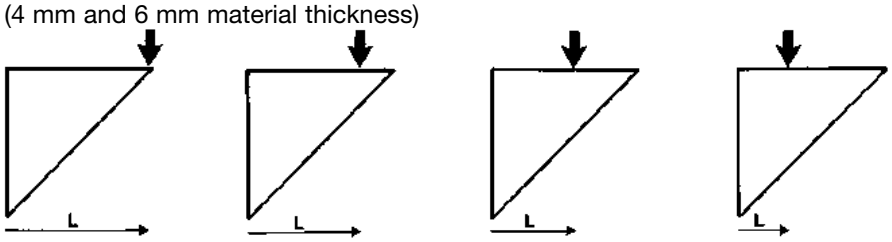
design 200 x 200, max. load capacities

Allowable loading values

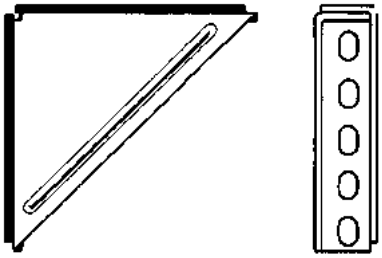
(in consideration of fixing screws)



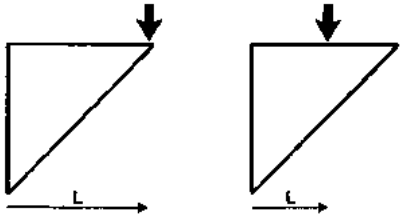
Cantilever bracket 200 x 200, equal-sided
(4 mm and 6 mm material thickness)



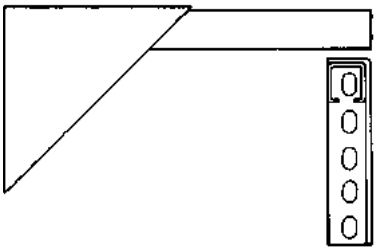
Material thickness	L = 180 mm	L = 140 mm	L = 100 mm	L = 60 mm
4 mm	2.0 kN	3.5 kN	5.0 kN	7.0 kN
6 mm	3.3 kN		6.0 kN	



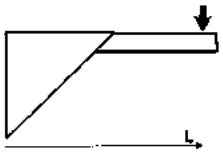
Cantilever bracket 200 x 200, equal-sided,
double



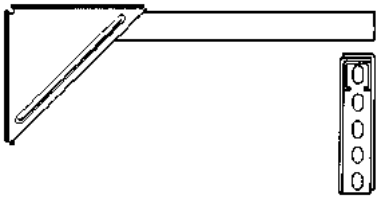
Material thickness	L = 180 mm	L = 100 mm
4 mm	4.4 kN	5.5 kN
6 mm	6.7 kN	7.0 kN



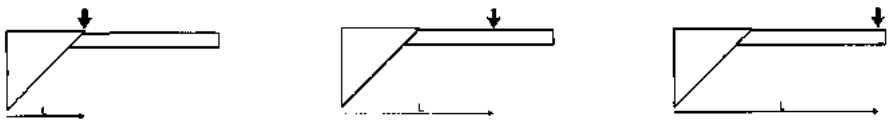
Cantilever bracket 200 x 200, equal-sided,
with a single MPC-Support channel 38/40 section



Material thickness	L = 330 mm
4 mm	1.35 kN



Cantilever bracket 200 x 200, equal-sided,
double with MPC-Support channel 38/40 section



Material thickness	L = 180 mm	L = 350 mm	L = 470 mm
4 mm	4.4 kN	1.5 kN	1.2 kN

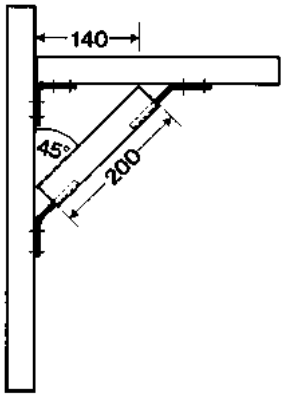
02/19

Bracket structures

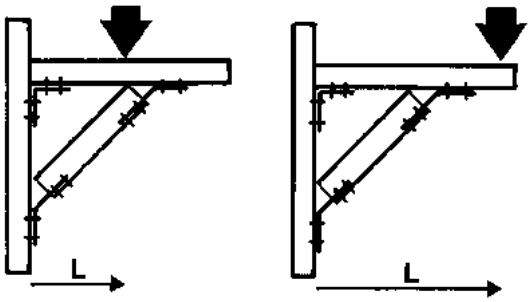
max. load capacities

Allowable loading values

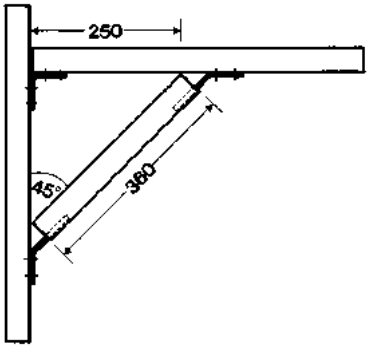
(in consideration of fixing screws)



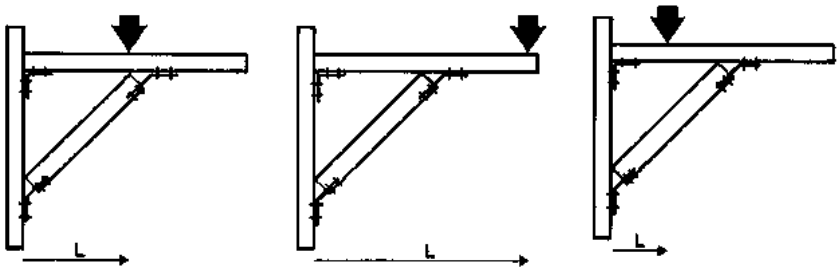
Bracket structures assembled from MPC-Support channel section 38/40 and mounting angles



L = 140 mm	L = 280 mm
3.9 kN	1.7 kN



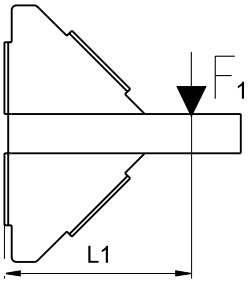
Bracket structures assembled from MPC-Support channel section 38/40 and mounting angles



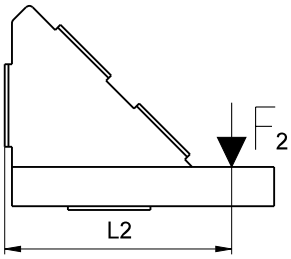
L = 250 mm	L = 470 mm	L = 125 mm
3.9 kN	1.4 kN	2.4 kN

Construction bracket

max. load capacities



	Size [mm]	L1 [mm]	Max. recommended load F [N]
Type 1	200 x 125 x 4	180	1,500
Type 2	280 x 164 x 4	225	1,000



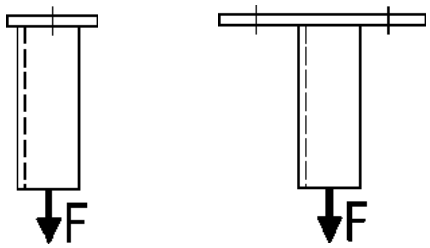
	Size [mm]	L2 [mm]	Max. recommended load F [N]
Type 1	200 x 125 x 4	130	1,000
Type 2	280 x 164 x 4	170	750

02/19

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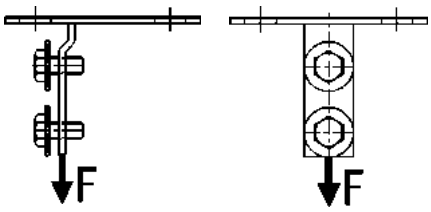
MPC-Saddle support

Max. recommended load F [N]	2,000

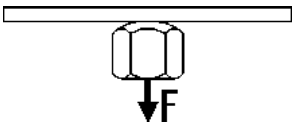


MPC-Channel support bracket

Max. recommended load F [N]	1,750



Base plates

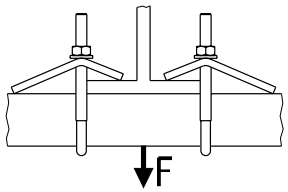


	Size	Dimensions [mm]	Connecting thread	Max. recommended load F [N]
Metric thread	1	80 x 30 x 3	M8	1,900
	1	80 x 30 x 3	M10	2,200
	1	80 x 30 x 3	M12	3,000
	2	120 x 40 x 4	M8	1,900
	2	120 x 40 x 4	M10	2,000
	2	120 x 40 x 4	M12	2,800
	2	120 x 40 x 4	M16	2,800
	1	80 x 30 x 3	M8/M10	2,200
Pipe thread	1	80 x 30 x 3	1/2"	4,600
	2	120 x 40 x 4	1/2"	5,000
	2	120 x 40 x 4	3/4"	5,500
	3	100 x 60 x 4	1/2"	6,300
	3	100 x 60 x 4	3/4"	8,300
	3	100 x 60 x 4	1"	8,300

02/19

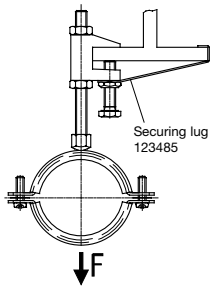
MPC-Girder cleat

For channel section	Thread	Max. permitted load F/pair [N]
27/18, 28/30	M6	2,800
38/24, 38/48	M8	2,200
38/40	M8	5,000
39/52	M8	6,700
40/60	M8	8,300
38/40, 38/80	M10	5,000
39/52	M10	6,700
40/60, 40/80, 40/120	M10	8,300



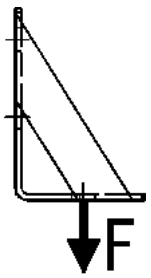
Girder clamp

For size	Max. allowable load F [N]
M8	1,200
M10	2,500
M12	3,500



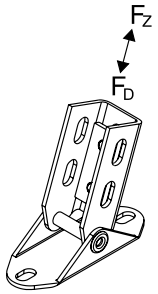
Supporting angle

	Max. allowable load F [N]
With DÄMMGULAST® Resilient pad	1,000
Without DÄMMGULAST® Resilient pad	5,000



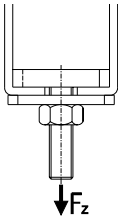
MPC-VARIO-Saddle support

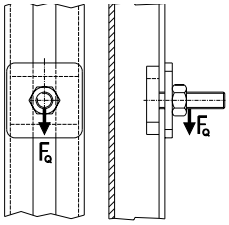
	Max. allowable load F [N]	
	Directly mounted	Friction fit with double rail nut (tightening torque 50 Nm)
Tensile force F_Z	7,500	2,500
Compression F_D	7,500	2,500



02/19

MPC-Quick fastener

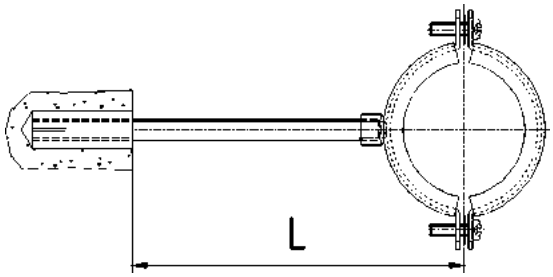


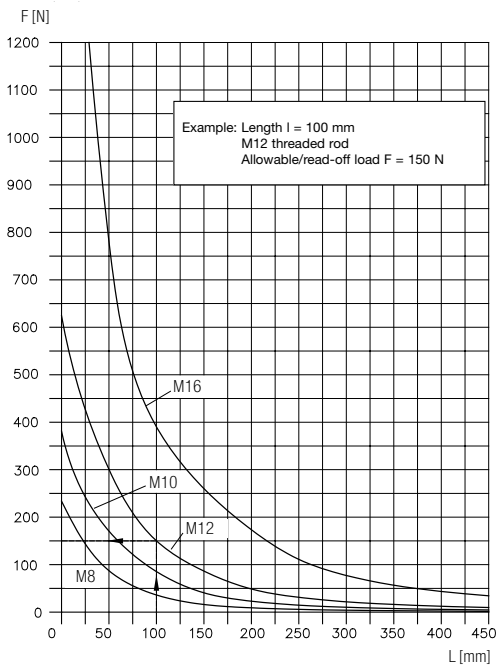


MPC-Support channels	Connection thread	Max, recommended tensile load Fz [N]	Max, recommended transverse load FQ (displacement) [N]	At tightening torque [Nm]
38/40	M8	2,800	1,000	20
38/40	M10	2,800	1,000	25
38/60	M8	3,000	800	25
38/60	M10	3,000	800	30
40/60	M8	4,000		20
40/80	M10	4,000		25
40/120	M8	4,000		20
40/120	M10	4,000		25

Threaded rods/threaded pipes

Max. allowable bending load for threaded rods

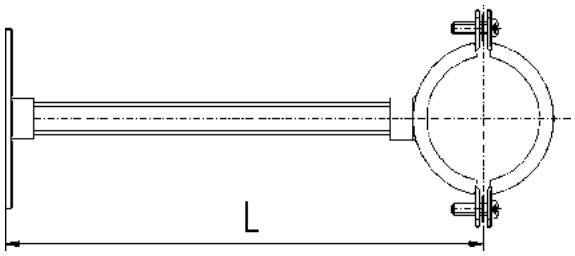


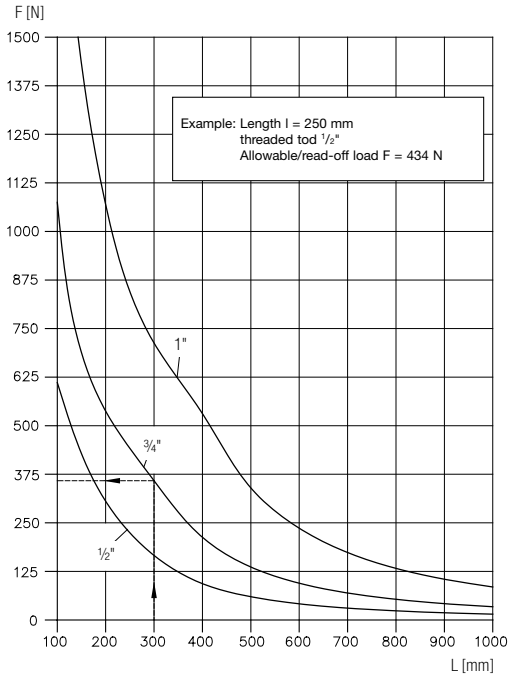


Maximum deflection: $f_{max} = L/150$
Admissible stress in steel: $\sigma_{adm} = 160\ N/mm^2$ (threaded rods)

Connecting thread	Distance L to pipe axis [mm]					
	50	100	150	200	250	300
	Max. allowable bending load F [N]					
M8	85	36	16	9	6	4
M10	171	85	41	23	15	10
M12	301	150	86	49	31	22
M16	782	391	260	174	111	77

Max. allowable bending load for threaded pipes





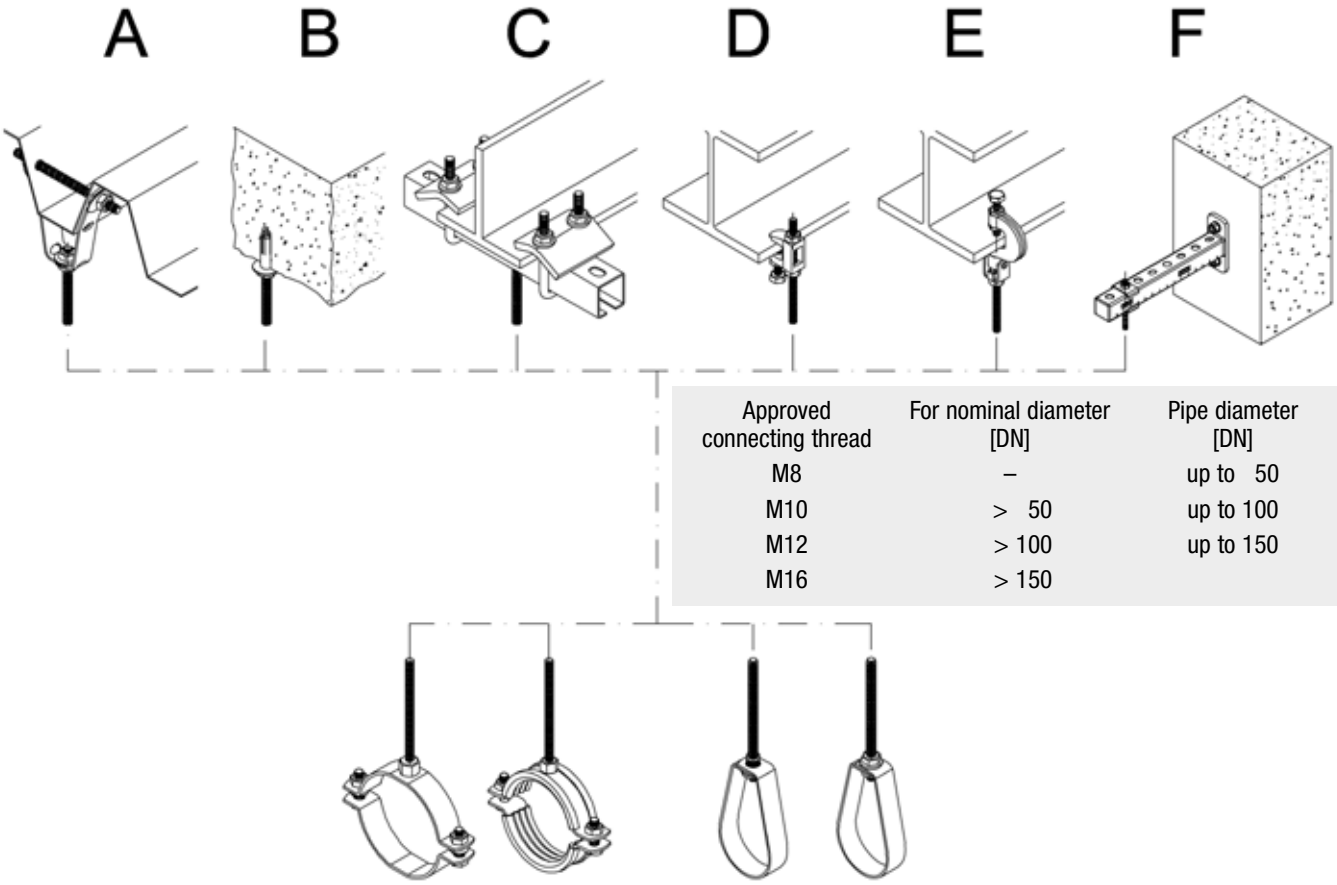
Maximum deflection: $f_{max} = L/150$
Admissible stress in steel: $\sigma_{adm} = 160\ N/mm^2$ (threaded rods)

Connecting thread	Distance L to pipe axis [mm]					
	50	100	150	200	250	300
	Max. allowable bending load F [N]					
1/2"	1,223	611	408	306	239	166
3/4"	2,151	1,075	717	538	430	358
1"	4,277	2,139	1,426	1,069	855	777

02/19

Fasteners with VdS approval

Overview of approved fasteners for sprinkler systems



Approved connecting thread	For nominal diameter [DN]	Pipe diameter [DN]
M8	–	up to 50
M10	> 50	up to 100
M12	> 100	up to 150
M16	> 150	

All MÜPRO components approved by VdS (corresponding approval reports are available) can be combined into the various arrangements shown above.
Reference to the VdS approval can be found on the respective catalogue pages.

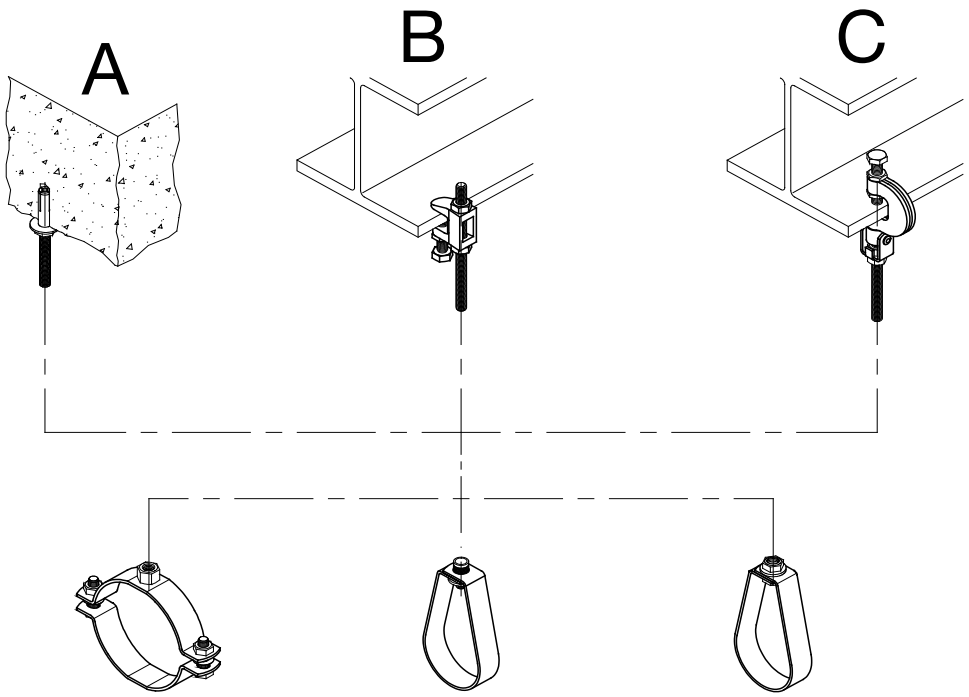
A	B	C	D	E	F
Trapezoidal sheet hanger with welded-on nut and threaded rod M8 for up to DN 50	Through anchor M8, M10	Girder cleat M8 + MPC-Support channel 38/40 + hammer head fastener M8	Girder clamp with M8 or M10 internal thread (for DN 65 and larger with securing lug) + threaded rod M8 or M10	Girder clamp with joint M8 or M10 + threaded rod M8 or M10 (when fastening pipes bigger than DN 65, a safety steel strip must be used)	MPR-Wall hanger bracket 41/41/2.5 or 41/62/2.5 + threaded rod M8, M10 or M12 + MPR-Clamp bracket M8, M10 or M12
	Heavy duty anchor BZ M8, M10, M12 or M16				
Trapezoidal sheet hanger with clearance hole and threaded rod M8 or M10 for up to DN 50	Gas concrete under cut anchor porous concrete plug type M8, M10	Girder Cleat M8 or M10 + MPC-Support channel 40/60 + hammer head fastener M8 **or** hammer-head bolt M8, M10 or M12	Girder clamp with clearance hole for M8, M10 or M12 (for DN 65 and larger with securing lug) + threaded rod M8, M10 or M12		

Filbow clamp, pear-shaped **DN 25–DN 200**
or single bossed clamp, heavy-duty type, **DN 10 –DN 150**

02/19

Fasteners with FM approval

Overview of approved fasteners for sprinkler systems



Single bossed clamp, heavy-duty type without lining

Approved connection thread	For nominal diameter/pipe diameter
M10	3/4"–4"
M12	3/4"–6"

Filbow clamp (pear-shaped)

Approved connection thread	For nominal diameter/pipe diameter
M10	3/4"–4" (steel anchor, girder clamp)
M10	3/4"–101.6 mm (girder cleat)
M12	> 4"–6" (= 168.3 mm)

All MÜPRO components approved by FM (Factory Mutual – corresponding approval reports are available) can be combined into the various arrangements shown above.

Reference to the FM approval can be found on the respective catalogue pages.

A

Steel anchor M10 or M12
threaded rod M10 or M12
with
filbow clamp, pear-shaped
3/4"–4"
or
Single bossed clamp,
heavy-duty type without lining, M10 or M12
3/4"–4"

Steel anchor M12
M12 threaded rod
with
filbow clamp, pear-shaped
> 4"–168.3 mm
or
single bossed clamp,
heavy-duty type without lining, M12
> 4"– 6"

B

Girder clamp with M10 internal thread
or
girder clamp with clearance hole
for M10 or M12
threaded rod M10 or M12
with
filbow clamp, pear-shaped
3/4"–4"
or
single bossed clamp,
heavy-duty type without lining, M10 or M12
3/4"–4"

Girder clamp with clearance hole
for M12
M12 threaded rod
with
filbow clamp, pear-shaped
> 4"–168.3 mm
or
single bossed clamp,
heavy-duty type without lining, M12
> 4"–6"

C

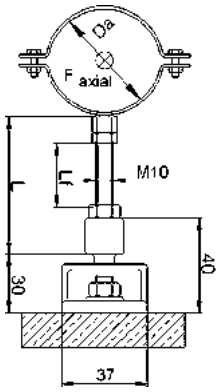
Girder clamp with joint M10
threaded rod M10
with
filbow clamp, pear-shaped
3/4"–4"
or
single bossed clamp, heavy-duty type
without lining M10
3/4"–4"

02/19

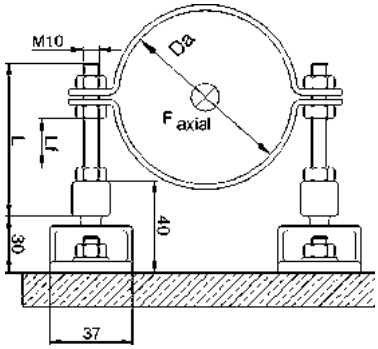
MÜPRO

Load chart

for PHONOLYT® Pipe anchor points dB(A) 27 with pipe clamps



PHONOLYT® Pipe anchor points, single kit dB(A) 27.



PHONOLYT® Pipe anchor points, double kit dB(A) 27.

Lf – Free length of threaded pin

L – Length of threaded pin

– Ordering size
L = Lf + scre-in depth at top + screw-in depth at bottom

Da – Pipe outside diameter

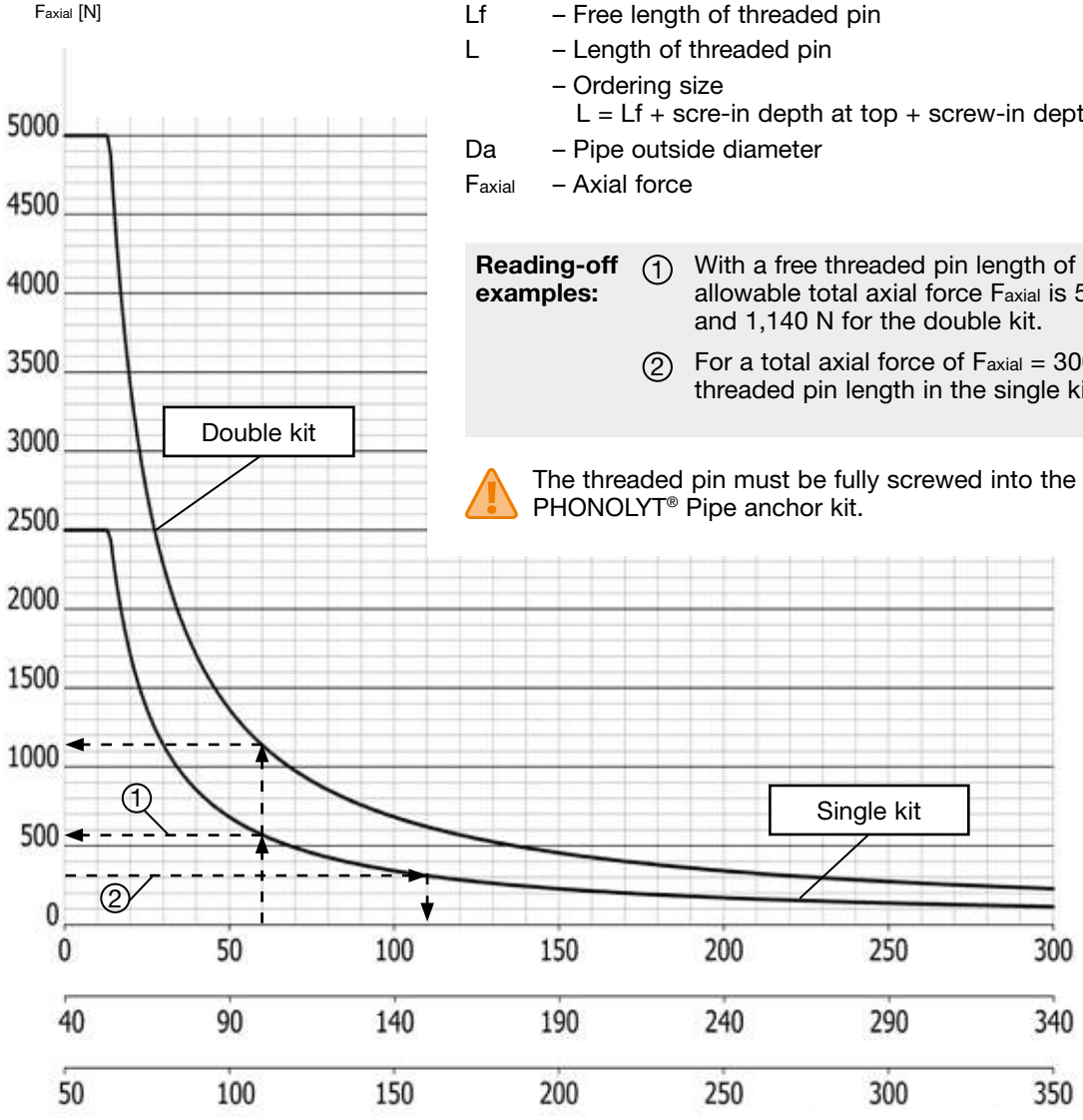
F_{axial} – Axial force

Reading-off examples:

① With a free threaded pin length of 60 mm, the maximum allowable total axial force F_{axial} is 570 N for the single kit and 1,140 N for the double kit.

② For a total axial force of F_{axial} = 300 N, the max. free threaded pin length in the single kit is 112 mm.

The threaded pin must be fully screwed into the threaded hole of the PHONOLYT® Pipe anchor kit.

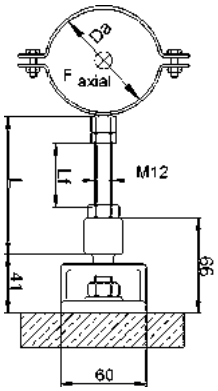


f_{max} = L/150, $s_{perm.}$ = 160 N/mm²

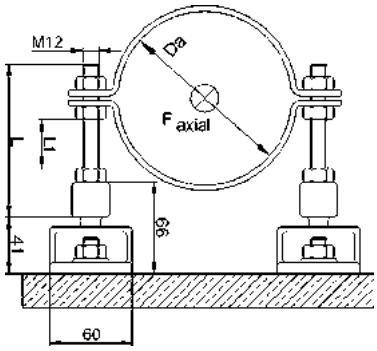
02/19

Load chart

for PHONOLYT® Pipe anchor points dB(A) 40 with pipe clamps



PHONOLYT® Pipe anchor points, single kit dB(A) 40.



PHONOLYT® Pipe anchor points, double kit dB(A) 40.

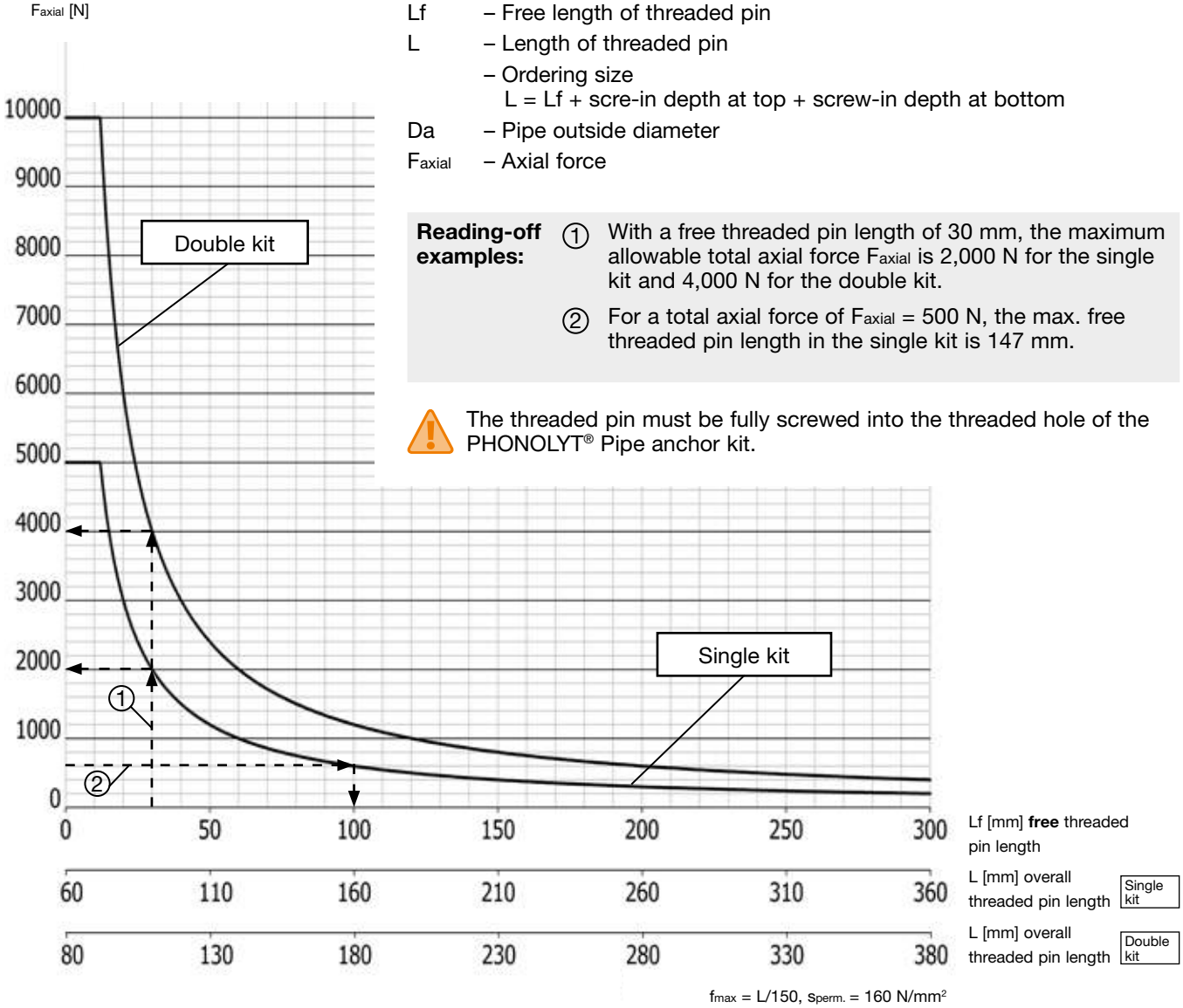
Lf – Free length of threaded pin
L – Length of threaded pin
– Ordering size
L = Lf + scre-in depth at top + screw-in depth at bottom
Da – Pipe outside diameter
F_{axial} – Axial force

Reading-off examples:

① With a free threaded pin length of 30 mm, the maximum allowable total axial force F_{axial} is 2,000 N for the single kit and 4,000 N for the double kit.

② For a total axial force of F_{axial} = 500 N, the max. free threaded pin length in the single kit is 147 mm.

The threaded pin must be fully screwed into the threaded hole of the PHONOLYT® Pipe anchor kit.



f_{max} = L/150, $s_{perm.}$ = 160 N/mm²

02/19

Characteristic values for MPC-Mounting anchors

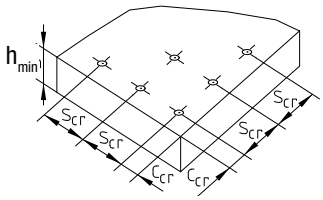
external thread M6 type K6L, internal thread M8 type K6L, galvanised

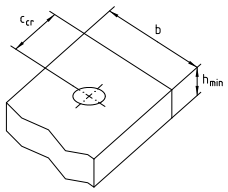
Permissible loads, plug characteristic values and component dimensions for multiple anchoring of non-loadbearing elements in concrete, strength class C20/25 to C50/60

			MPC-Mounting anchor	MPC-Mounting anchor set
Permissible loads*		[kN]	1.45	1.45
Headed drill			MPC-Headed drill SDS 2	MPC-Headed drill SDS 2
Drill diameter		d_o [mm]	6	6
Drilled hole depth		h_1 [mm]	42	42
Anchoring depth		h_{ef} [mm]	36	36
Axial spacing a for single plugs		s_{cr} [mm]	≥ 200	≥ 200
Spacing between two plugs	for plug pairs	[mm]	≥ 60	≥ 60
	for groups of four plugs	[mm]	≥ 100	≥ 100
Edge spacing a_r for single plug		c_{cr} [mm]	≥ 150	≥ 150
Component thickness d		h_{min} [mm]	80	80
Max. length of use		[mm]	4	4
Max. torque		T_{inst} [Nm]	5	5

* The overall safety coefficient according to ETAG is taken into consideration. (γ_m and γ_F)

Plug arrangement and component dimensions





Permissible loads (strength class ≥ C20/25) for use as multiple fastening of non-bearing systems in concrete under fire stress

Fire resistance class	Anchor size		K6+K6L
R 30	Characteristic resistance	$F_{Rk, fi(30)}$ [kN]	0.60
R 60	Characteristic resistance	$F_{Rk, fi(60)}$ [kN]	0.50
R 90	Characteristic resistance	$F_{Rk, fi(90)}$ [kN]	0.30
R 120	Characteristic resistance	$F_{Rk, fi(120)}$ [kN]	0.20
R 30 up to R120	Axial spacing	$s_{cr} = s_{min}$ [mm]	200
	Edge spacing under fire stress from one side	$c_{cr} = c_{min}$ [mm]	150
	Edge spacing under fire stress from more than one sides	$c_{cr} = c_{min}$ [mm]	300

Plug characteristic values for chemical reaction anchor VBA

type MKT chemical reaction anchor V for anchoring in non-cracked concrete

Permissible loads of single plugs in non-cracked concrete, concrete strength class (C20/25 (B25) in accordance with ETA Assessment ETA-05/0231

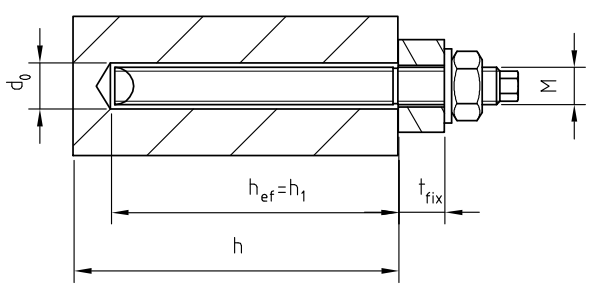
			Galvanised, steel 5.8	Galvanised, steel 5.8	Galvanised, steel 5.8	Galvanised, steel 5.8
Plug, thread		Dim.	M8	M10	M12	M16
Permissible tensile load	perm. N	kN	7.9	11.9	15.9	19.8
Permissible transverse load	perm. V	kN	5.1	8.0	12.0	22.3
Permissible bending moment	perm. M	kN	10.9	21.1	37.1	94.9
Effective anchoring depth	h_{ef}	mm	80	90	110	125
Characteristic axial spacing	$s_{cr,N}$	mm	240	180	220	250
Characteristic edge spacing	$c_{cr,N}$	mm	120	90	110	125
Minimum axial spacing	s_{min}	mm	40	45	55	65
Minimum edge spacing	c_{min}	mm	40	45	55	65
Minimum component thickness	h_{min}	mm	110	120	140	160

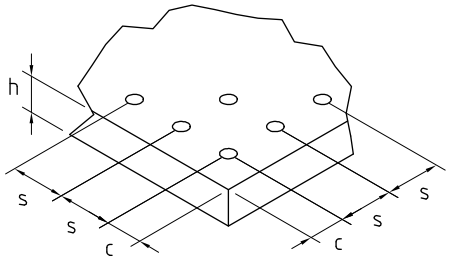
Loads are for single plugs without the effects of axial and edge spacing.
The safety coefficient in accordance with ETAG 001 is included (γ_M and γ_F).

Installation and plug characteristic values

		Dim.	M8	M10	M12	M16
Drilled hole depth	h_o	mm	80	90	110	125
Nominal drill diameter	d_o	mm	10	12	14	18
Bit cutting diameter	d_{cut}	mm	10.5	12.5	14.5	18.5
Torque when anchoring (tightening torque)	T_{inst}	Nm	10	20	40	80
Spanner width	SW	mm	13	17	19	24
Spanner width hexagon insert bit	SW_{HEX}	mm	5	6	8	12
Clearance hole in the add-on part	d_f	mm	9	12	14	18
Brush diameter	D	mm	11	13	16	20

See the European Technical Assessment for additional installation and plug characteristic values.





02/19

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Characteristic values for injection anchor XV Plus

Type MKT injection system VMU Plus for perforated blocks with perforated sleeve

Loads for injection system VMU Plus with anchor rods VMU-A/IG/VM-A, galvanised, A4 and HCR for masonry in accordance with European Technical Assessment ETA-13/0909.

Characteristic values for perforated blocks with perforated sleeve							
Anchor rods: Steel ≥ FKL 5.8, A4, HCR ≥ FKL 70				M8	M10	M12	IG-M8
Perforated sleeves: VM-SH				12 x 80	16 x 85	20 x 85	20 x 85
Perforated brick Porotherm Homebric acc. to EN 771-1, bulk density: 0.7 kg/dm³, minimum format: 500 x 200 x 299 mm (e.g. Wienerberger)							
Anchoring depth		h_{ef}	mm	80	85	85	85
Axial spacing parallel to horizontal joint		$s_{cr,II}$	mm	500	500	500	500
Axial spacing vertical to horizontal joint		$s_{cr,\perp}$	mm	300	300	300	300
Minimum axial spacing		s_{min}	mm	100	100	100	100
Edge spacing		c_{cr}	mm	100	100	120	120
Minimum edge spacing		c_{min} [1]	mm	100	100	120	120
Minimum component thickness (masonry)		h_{min}	mm	115	115	115	115
Permissible tensile load for compressive strength	$f_b \geq 4$ N/mm²	perm. N	kN	0.26	0.26	0.26	0.26
	$f_b \geq 6$ N/mm²	perm. N	kN	0.26	0.26	0.26	0.26
	$f_b \geq 10$ N/mm²	perm. N	kN	0.34	0.34	0.34	0.34
Permissible transverse load for compressive strength	$f_b \geq 4$ N/mm²	perm. V	kN	0.57	0.57	0.71	0.71
	$f_b \geq 6$ N/mm²	perm. V	kN	0.71	0.71	0.86	0.86
	$f_b \geq 10$ N/mm²	perm. V	kN	0.86	0.86	1.14	1.14
Vertically perforated brick HLz-16-DF acc. to EN 771-1, bulk density: 0.8 kg/dm³, minimum format: 497 x 240 x 238 mm (e.g. Unipor)							
Anchoring depth		h_{ef}	mm	80	85	85	85
Axial spacing parallel to horizontal joint		$s_{cr,II}$	mm	497	497	497	497
Axial spacing vertical to horizontal joint		$s_{cr,\perp}$	mm	238	238	238	238
Minimum axial spacing		s_{min}	mm	100	100	100	100
Edge spacing		c_{cr}	mm	100	100	120	120
Minimum edge spacing		c_{min} [1]	mm	100	100	120	120
Minimum component thickness (masonry)		h_{min}	mm	115	115	115	115
Permissible tensile load for compressive strength	$f_b \geq 6$ N/mm²	perm. N	kN	0.71	0.71	0.71	0.71
	$f_b \geq 8$ N/mm²	perm. N	kN	0.86	0.86	0.86	0.86
	$f_b \geq 12$ N/mm²	perm. N	kN	1.00	1.00	1.00	1.00
	$f_b \geq 14$ N/mm²	perm. N	kN	1.14	1.14	1.14	1.14
Permissible transverse load for compressive strength	$f_b \geq 6$ N/mm²	perm. V	kN	0.71	1.29	1.43	1.43
	$f_b \geq 8$ N/mm²	perm. V	kN	0.86	1.57	1.71	1.71
	$f_b \geq 12$ N/mm²	perm. V	kN	1.14	1.86	2.00	2.00
	$f_b \geq 14$ N/mm²	perm. V	kN	1.14	1.86	2.00	2.00
Perforated brick Doppio Uni acc. to EN 771-1, bulk density: 0.9 kg/dm³, minimum format: 250 x 120 x 120 mm (e.g. Wienerberger)							
Anchoring depth		h_{ef}	mm	80	85	85	85
Axial spacing parallel to horizontal joint		$s_{cr,II}$	mm	250	250	250	250
Axial spacing vertical to horizontal joint		$s_{cr,\perp}$	mm	120	120	120	120
Min. Axial spacing parallel to horizontal joint		$s_{min,II}$	mm	100	100	100	100
Min. Axial spacing vertical to horizontal joint		$s_{min,\perp}$	mm	120	120	120	120
Edge spacing		c_{cr}	mm	100	100	120	120
Minimum edge spacing		c_{min} [1]	mm	60	60	60	60
Minimum component thickness (masonry)		h_{min}	mm	115	115	115	115
Permissible tensile load for compressive strength	$f_b \geq 10$ N/mm²	perm. N	kN	0.17	0.17	0.17	0.17
	$f_b \geq 16$ N/mm²	perm. N	kN	0.21	0.21	0.21	0.21
	$f_b \geq 20$ N/mm²	perm. N	kN	0.26	0.26	0.26	0.26
	$f_b \geq 28$ N/mm²	perm. N	kN	0.34	0.34	0.34	0.34
Permissible transverse load for compressive strength	$f_b \geq 10$ N/mm²	perm. V	kN	0.43	0.43	0.43	0.43
	$f_b \geq 16$ N/mm²	perm. V	kN	0.57	0.57	0.57	0.57
	$f_b \geq 20$ N/mm²	perm. V	kN	0.57	0.57	0.57	0.57
	$f_b \geq 28$ N/mm²	perm. V	kN	0.71	0.71	0.71	0.71
Ventilated lime sand block KSL-3DF acc. to EN 771-2, bulk density: 1.4 kg/dm³, minimum format: 240 x 175 x 113 mm (e.g. Wemding)							
Anchoring depth		h_{ef}	mm	80	85	85	85
Axial spacing parallel to horizontal joint		$s_{cr,II}$	mm	240	240	240	240
Axial spacing vertical to horizontal joint		$s_{cr,\perp}$	mm	120	120	120	120
Minimum axial spacing		s_{min}	mm	120	120	120	120
Edge spacing		c_{cr}	mm	100	100	120	120
Minimum edge spacing		c_{min}	mm	60	60	60	60
Minimum component thickness (masonry)		h_{min}	mm	115	115	115	115
Permissible tensile load for compressive strength	$f_b \geq 8$ N/mm²	perm. N	kN	0.43	0.43	1.29	1.29
	$f_b \geq 12$ N/mm²	perm. N	kN	0.57	0.57	1.71	1.71
	$f_b \geq 14$ N/mm²	perm. N	kN	0.71	0.71	1.86	1.86
Permissible transverse load for compressive strength	$f_b \geq 8$ N/mm²	perm. V	kN	0.71	1.14	1.14	1.14
	$f_b \geq 12$ N/mm²	perm. V	kN	0.86	1.29	1.29	1.29
	$f_b \geq 14$ N/mm²	perm. V	kN	1.00	1.71	1.71	1.71

[1] For $V_{Rk,c}$: c_{min} according to ETAG 029, annex C.

Permissible loads without the effects of axial and edge spacing to component edges.
Vertical and horizontal joints are mortared. The safety coefficient in accordance with ETAG is included (γ_M and γ_F).
Temperature range +24 °C/+40 °C – use category dry/dry.

Characteristic values for injection anchor XV Plus

Type MKT injection system VMU Plus for perforated blocks with perforated sleeve

Loads for injection system VMU Plus with anchor rods VMU-A/IG/VM-A, galvanised, A4 and HCR for masonry in accordance with European Technical Assessment ETA-13/0909.

Characteristic values for perforated blocks with perforated sleeve							
Anchor rods: Steel ≥ FKL 5.8, A4, HCR ≥ FKL 70				M8	M10	M12	IG-M8
Perforated sleeves: VM-SH				12 x 80	16 x 85	20 x 85	20 x 85
Ventilated lime sand block KSL-12DF acc. to EN 771-2, bulk density: 1.4 kg/dm³, minimum format: 498 x 175 x 238 mm (e.g. Wemding)							
Anchoring depth		h_{ef}	mm	80	85	85	85
Axial spacing parallel to horizontal joint		$s_{cr,II}$	mm	498	498	498	498
Axial spacing vertical to horizontal joint		$s_{cr,\perp}$	mm	238	238	238	238
Minimum axial spacing		s_{min}	mm	120	120	120	120
Edge spacing		c_{cr}	mm	100	100	120	120
Minimum edge spacing		c_{min}	mm	100	100	120	120
Minimum component thickness (masonry)		h_{min}	mm	115	115	115	115
Permissible tensile load for compressive strength	$f_b \geq 10$ N/mm²	perm. N	kN	0.17	0.17	0.43	0.43
	$f_b \geq 12$ N/mm²	perm. N	kN	0.21	0.21	0.43	0.43
	$f_b \geq 16$ N/mm²	perm. N	kN	0.26	0.26	0.57	0.57
Permissible transverse load for compressive strength	$f_b \geq 10$ N/mm²	perm. V	kN	0.71	1.57	1.57	1.57
	$f_b \geq 12$ N/mm²	perm. V	kN	0.86	1.86	1.86	1.86
	$f_b \geq 16$ N/mm²	perm. V	kN	1.00	2.29	2.29	2.29
Perforated block of lightweight concrete Bloc creux B40 acc. to EN 771-3, bulk density: 0.8 kg/dm³, minimum format: 494 x 200 x 190 mm (e.g. Sepa)							
Anchoring depth		h_{ef}	mm	80	85	85	85
Axial spacing parallel to horizontal joint		$s_{cr,II}$	mm	494	494	494	494
Axial spacing vertical to horizontal joint		$s_{cr,\perp}$	mm	190	190	190	190
Minimum axial spacing		s_{min}	mm	100	100	100	100
Edge spacing		c_{cr}	mm	100	100	120	120
Minimum edge spacing		c_{min}	mm	100	100	120	120
Minimum component thickness (masonry)		h_{min}	mm	115	115	115	115
Permissible tensile load for compressive strength	$f_b \geq 4$ N/mm²	perm. N	kN	0.34	0.34	0.34	0.34
Permissible transverse load for compressive strength	$f_b \geq 4$ N/mm²	perm. V	kN	0.86	0.86	0.86	0.86

Permissible loads without the effects of axial and edge spacing to component edges.
Vertical and horizontal joints are mortared. The safety coefficient in accordance with ETAG is included (γ_M and γ_F).
Temperature range +24 °C/+40 °C – use category dry/dry.

Installation and plug characteristic values

Characteristic values for perforated blocks with perforated sleeve			M8	M10	M12	IG-M8
Anchor rods: Steel ≥ FKL 5.8, A4, HCR ≥ FKL 70			M8	M10	M12	IG-M8
Perforated sleeves: VM-SH			12 x 80	16 x 85	20 x 85	20 x 85
Drilled hole diameter	d_o	mm	12	16	20	20
Drilled hole depth	h_o	mm	85	90	90	90
Clearance hole in the add-on part	$d_f \leq$	mm	9	12	14	9
Brush diameter	$d_b \geq$	mm	14	18	22	22
Torque when anchoring	$T_{inst,max}$	Nm	2	2	2	2
Amount of mortar per drill hole		ml	11.2	24.9	41.1	41.1
Drill holes per cartridge VMU Plus 280		piece	21	9	5	5
Drill holes per cartridge VMU Plus 345		piece	27	12	7	7
Drilling method			rotary drilling			

02/19

Characteristic values for injection anchor XV Plus

Type MKT injection system VMU Plus for solid blocks without perforated sleeve

Loads for injection system VMU Plus with anchor rods VMU-A/IG/VM-A, galvanised, A4 and HCR for masonry in accordance with European Technical Assessment ETA-13/0909.

Characteristic values for solid blocks without perforated sleeve[1)]							
Anchor rods[1)]: Steel ≥ FKL 5.8, A4, HCR ≥ FKL 70				M8	M10	M12	IG-M8
Building bricks Mz-DF acc. to EN 771-1, bulk density: 1.6 kg/dm³, minimum format: 240 x 115 x 55 mm (e.g. Unipor)							
Anchoring depth		h_{ef}	mm	80	90	100	100
Axial spacing		s_{cr}	mm	240	270	300	300
Minimum axial spacing		s_{min}	mm	120	120	120	120
Edge spacing		c_{cr}	mm	120	135	150	150
Minimum edge spacing		c_{min}	mm	60	60	60	60
Minimum component thickness (masonry)		h_{min}	mm	110	120	130	130
Permissible tensile load for compressive strength	$f_b \geq 10$ N/mm²	perm. N	kN	1.00	1.00	1.14	1.14
	$f_b \geq 20$ N/mm²	perm. N	kN	1.29	1.57	1.71	1.71
	$f_b \geq 28$ N/mm²	perm. N	kN	1.57	1.71	1.94	1.94
Permissible transverse load for compressive strength	$f_b \geq 10$ N/mm²	perm. V	kN	1.00	1.00	1.00	1.00
	$f_b \geq 20$ N/mm²	perm. V	kN	1.43	1.43	1.43	1.43
	$f_b \geq 28$ N/mm²	perm. V	kN	1.57	1.57	1.57	1.57
Lime-sand brick KS-NF acc. to EN 771-2, bulk density: 2.0 kg/dm³, minimum format: 240 x 115 x 71 mm (e.g. Wemding)							
Anchoring depth		h_{ef}	mm	80	90	100	100
Axial spacing		s_{cr}	mm	240	270	300	300
Minimum axial spacing		s_{min}	mm	120	120	120	120
Edge spacing		c_{cr}	mm	120	135	150	150
Minimum edge spacing		c_{min}	mm	60	60	60	60
Minimum component thickness (masonry)		h_{min}	mm	110	120	130	130
Permissible tensile load for compressive strength	$f_b \geq 10$ N/mm²	perm. N	kN	1.29	1.29	1.29	1.29
	$f_b \geq 20$ N/mm²	perm. N	kN	1.71	1.71	1.71	1.71
	$f_b \geq 27$ N/mm²	perm. N	kN	2.00	2.00	2.00	2.00
Permissible transverse load for compressive strength	$f_b \geq 10$ N/mm²	perm. V	kN	0.71	0.86	0.71	0.71
	$f_b \geq 20$ N/mm²	perm. V	kN	1.14	1.29	1.14	1.14
	$f_b \geq 27$ N/mm²	perm. V	kN	1.29	1.57	1.29	1.29
Solid block of lightweight concrete LAC acc. to EN 771-3, bulk density: 0.6 kg/dm³, minimum format: 300 x 123 x 248 mm (e.g. Bisotherm)							
Anchoring depth		h_{ef}	mm	80	90	100	100
Axial spacing		s_{cr}	mm	240	270	300	300
Minimum axial spacing		s_{min}	mm	120	120	120	120
Edge spacing		c_{cr}	mm	120	135	150	150
Minimum edge spacing		c_{min}	mm	60	60	60	60
Minimum component thickness (masonry)		h_{min}	mm	110	120	130	130
Permissible tensile load for compressive strength	$f_b \geq 6$ N/mm²	perm. N	kN	0.86	0.86	1.00	1.00
Permissible transverse load for compressive strength	$f_b \geq 6$ N/mm²	perm. V	kN	0.86	0.86	0.86	0.86

[1)] Anchoring with perforated sleeve is permitted; technical data, see European Technical Assessment ETA-13/0909.

Permissible loads without the effects of axial and edge spacing to component edges.
Vertical and horizontal joints are mortared. The safety coefficient in accordance with ETAG is included (γ_M and γ_F).
Temperature range +24 °C/+40 °C – use category dry/dry.

Characteristic values for injection anchor XV Plus

Type MKT injection system VMU Plus solid blocks without perforated sleeve

Loads for injection system VMU Plus with anchor rods VMU-A/IG/VM-A, galvanised, A4 and HCR for masonry in accordance with European Technical Assessment ETA-13/0909.

Characteristic values for solid blocks without perforated sleeve[1)]							
Anchor rods[1)]: Steel ≥ FKL 5.8, A4, HCR ≥ FKL 70				M8	M10	M12	IG-M8
Aerated concrete AAC6 acc. to EN 771-4, bulk density: 0.6 kg/dm³, minimum format: 499 x 240 x 249 mm (e.g. Porit)							
Anchoring depth		h_{ef}	mm	80	90	100	100
Axial spacing		s_{cr}	mm	240	270	300	300
Minimum axial spacing		s_{min}	mm	100	100	100	100
Edge spacing		c_{cr}	mm	120	135	150	150
Minimum edge spacing		$c_{min,N}$	mm	75	75	75	75
		$c_{min,v,II}$[2)]	mm	75	75	75	75
		$c_{min,v,_I_}$[3)]	mm	120	135	150	150
Minimum component thickness (masonry)		h_{min}	mm	110	120	130	130
Permissible tensile load for compressive strength	$f_b \geq 2$ N/mm²	perm. N	kN	0.89	1.43	1.79	1.79
Permissible transverse load for compressive strength	$f_b \geq 2$ N/mm²	perm. V	kN	2.14	3.57	3.57	3.57

[1)] Anchoring with perforated sleeve is permitted; technical data, see European Technical Assessment ETA-13/0909.
[2)] Minimum edge spacing $C_{min,v,II}$ for transverse load parallel to free edge.
[3)] Minimum edge spacing $C_{min,v,_I_}$ for transverse load vertical to free edge.

Permissible loads without the effects of axial and edge spacing to component edges.
Vertical and horizontal joints are mortared. The safety coefficient in accordance with ETAG is included (γ_M and γ_F).
Temperature range +24 °C/+40 °C – use category dry/dry.

Installation and plug characteristic values

Characteristic values for solid blocks without perforated sleeve						
Anchor rods[1)]: Steel ≥ FKL 5.8, A4, HCR ≥ FKL 70			M8	M10	M12	IG-M8
Drilled hole diameter	d_o	mm	10	12	14	14
Drilled hole depth	h_o	mm	80	90	100	100
Clearance hole in the add-on part	$d_f \leq$	mm	9	12	14	9
Brush diameter	$d_b \geq$	mm	12	14	16	16
Torque when anchoring	$T_{inst,max}$	Nm	2 (14 for building bricks Mz-DF)			
Amount of mortar per drill hole		ml	4.1	6.6	10	10
Drill holes per cartridge VMU Plus 280		piece	58	36	24	24
Drill holes per cartridge VMU Plus 345		piece	74	46	30	30

[1)] Anchoring with perforated sleeve is permitted; technical data, see European Technical Assessment ETA-13/0909.

02/19

Plug characteristic values for steel plugs

with and without collar, galvanised

Permissible loads of single plugs in non-cracked concrete, concrete strength class C20/25 B25 in accordance with ETA Assessment

Plug (thread)	Dim.	M6[1)]	M8[1)]	M8 x 40	M10	M10 x 30[1)]	M12	M16
Permissible loads per plug at tensile force	perm. N [kN]	3.3	3.3	3.6	5.1	3.3	7.1	10.5
Permissible loads per plug at transverse force[2)]	perm. V [kN]	2.1	3.9	3.9	4.1	4.0	9.0	16.8
Permissible bending moment[2)]	perm. M [Nm]	3.3	8.1	8.1	15.8	15.8	27.8	71.0
Effective anchoring depth	h_{ef} [mm]	30	30	40	40	30	50	65
Characteristic axial spacing	$s_{cr,N}$ [mm]	90	90	120	120	90	150	195
Characteristic edge spacing	$c_{cr,N}$ [mm]	45	45	60	60	45	75	97.5
Minimum axial spacing	s_{min} [mm]	55	60	80	100	100	120	150
Minimum edge spacing	c_{min} [mm]	95	95	95	135	115	165	200
Minimum component thickness	h_{min} [mm]	100	100	100	120	120	130	160

[1)] Only for application of statically indetermined systems.

[2)] With screw, strength class 5.6

Loads are for single plugs without the effects of axial and edge spacing.

The safety coefficient according to ETAG is included.

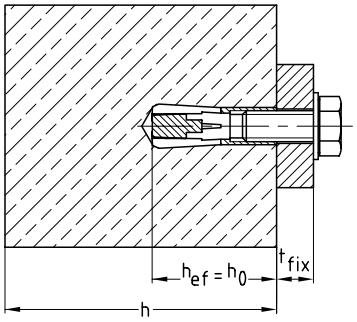
All the specifications in the European Technical Assessment ETA-05/0160 need to be taken into account.

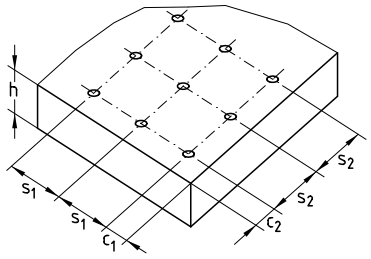
Installation and plug characteristic values

Plug (thread)	Dim.	M6	M8	M8 x 40	M10	M10 x 30	M12	M16
Drilled hole depth	$h_1 \geq$ [mm]	30	30	40	40	30	50	65
Nominal drill diameter	$d_0 =$ [mm]	8	10	10	12	12	15	20
Bit cutting diameter	$d_{cut} \leq$ [mm]	8.45	10.45	10.45	12.5	12,5	15.5	20.55
Torque for anchoring	$T_{inst} =$ [Nm]	4	8	8	15	15	35	60
Clearance hole in the add-on part	$d_f \leq$ [mm]	7	9	9	12	12	14	18
Minimum screwing depth	L_{sd} [mm]	7	9	9	11	10	13	18
Maximum screwing depth	L_{th} [mm]	13	13	20	15	12	18	23

See the European Technical Assessment for additional installation and plug characteristic values.

Plug arrangement and component dimensions





02/19

Plug characteristic values for steel plugs

with and without collar, galvanised

Permissible loads for the use of multiple fastening of non-load bearing systems in concrete, strength class C20/25 (B25) in accordance with Assessment ETA-05/0161

Plug (thread)	Dim.	M6 x 30	M8 x 25	M8 x 30	M8 x 40	M10 x 25	M10 x 30	M10 x 40	M12 x 25	M12 x 50	M16 x 65
Permissible tensile load[1)]	perm. N [kN]	1.2	1.9	1.7	2.0	2.1	2.0	2.0	2.1	2.4	6.3
Permissible bending moment[1)]	perm. M [Nm]	2.6	6.4	6.4	6.4	12.8	12.8	12.8	22.2	22.2	56.9
Effective anchoring depth	h_{ef} [mm]	30	25	30	40	25	30	40	25	50	65
Characteristic pitch	$s_{cr,N}$ [mm]	130	75	180	210	75	230	170	75	170	400
Characteristic edge clearance	$c_{cr,N}$ [mm]	65	38	90	105	38	115	85	38	85	200
Min. pitch	s_{min} [mm]	55	50	60	80	60	100	100	100	120	150
Min. edge clearance	c_{min} [mm]	95	100	95	95	100	115	135	110	165	200
Min. building element thickness	h_{min1} [mm]	100	80	100	100	80	120	120	80	130	160
Standard building element thickness	h_{min2} [mm]	100	100	100	100	100	120	120	100	130	160

[1)] With screw, strength class 4.6

Installation and plug characteristic values

Plug (thread)	Dim.	M6 x 30	M8 x 25	M8 x 30	M8 x 40	M10 x 25	M10 x 30	M10 x 40	M12 x 25	M12 x 50	M16 x 65
Nominal drill diameter	d_0 [mm]	8	10	10	10	12	12	12	15	15	20
Drilled hole depth	$h_1 \geq$ [mm]	30	25	30	40	25	30	40	25	50	65
Torque for anchoring	T_{inst} [Nm]	4	8	8	8	15	15	15	35	35	60
Clearance hole in the add-on part	d_f [mm]	7	9	9	9	12	12	12	14	14	18
Minimum screwing depth	L_{sd} [mm]	7	8	9	9	10	10	11	12	13	18
Maximum screwing depth	L_{th} [mm]	13	12	13	20	12	12	15	12	18	23

Use as multiple fastening of non-load bearing systems according to ETAG 001, part 6.
The total safety coefficient (γ_M and γ_F) in accordance with ETAG is included.

The max. permitted load for each attachment point can be below the permitted load of the anchor, depending on national regulations. The permitted loads for each attachment point are regulated by ETAG 001, part 6 for the different countries.

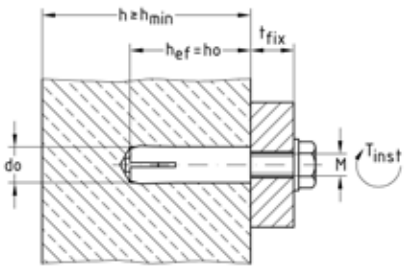
All the specifications in the European Technical Assessment ETA-05/0161 need to be taken into account.

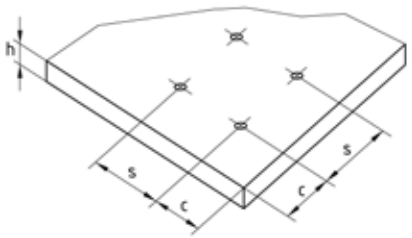
Loads under fire exposure (C20/25 to C50/60)

Plug (thread)	Dim.	M6 x 30	M8 x 25	M8 x 30	M8 x 40	M10 x 25	M10 x 30	M10 x 40	M12 x 25	M12 x 50	M16 x 65
Permissible loads R30	perm. F [kN]	0.4	0.6	0.9	1.1	0.6	0.9	1.5	0.6	1.5	4.0
Permissible loads R60	perm. F [kN]	0.3	0.6	0.9	0.9	0.6	0.9	1.5	0.6	1.5	4.0
Permissible loads R90	perm. F [kN]	0.3	0.6	0.6	0.6	0.6	09	1.1	0.6	1.5	3.0
Permissible loads R120	perm. F [kN]	0.3	0.5	0.5	0.5	0.5	0.7	0.9	0.5	1.2	2.4
Characteristic pitch	$s_{cr,Fi}$ [mm]	130	100	180	210	100	170	170	100	200	400
Characteristic edge clearance	$c_{cr,Fi}$ [mm]	65	50	90	105	50	85	85	50	100	200

Loads apply for screws, strength class ≥ 4.6.

Plug arrangement and component dimensions





02/19

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Plug characteristic values for steel plugs

with and without collar, galvanised

Permissible loads for the use of multiple fastening of non-load bearing systems in prestressed concrete hollow core slab ceilings, concrete strength class ≥ C30/37 in accordance with Assessment ETA-05/0161

Plug (thread)	Dim.	M8 x 25	M10 x 25	M12 x 25
Material thickness	d_b [mm]	35 (30)[1]	35 (30)[1]	35 (30)[1]
Permissible tensile load[2]	perm. N [kN]	1.9	2.1	2.1
Permissible bending moment[2]	perm. M [Nm]	6.4	12.8	22.2
Pitch	$s_{cr} = s_{min}$ [mm]	200	200	200
Edge clearance	$c_{cr} = c_{min}$ [mm]	150	150	150

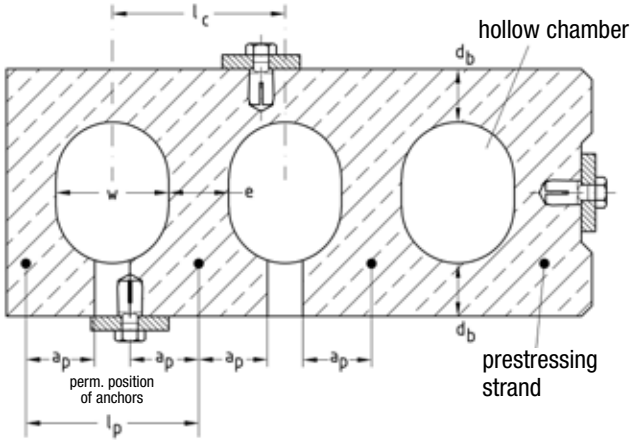
[1] Drill hole must not cut hollow chamber

[2] With screw / threaded rod, strength class ≥ 4.6

Installation and plug characteristic values

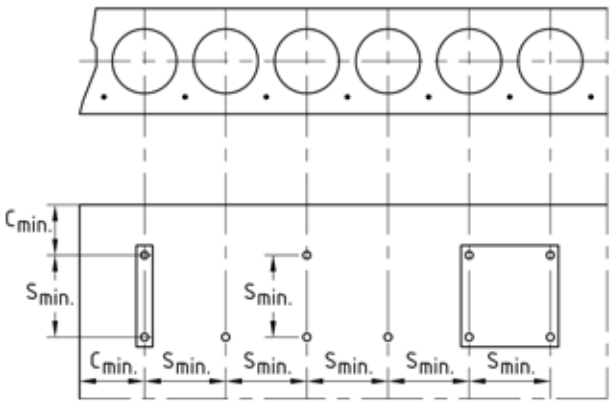
Plug (thread)	Dim.	M8 x 25	M10 x 25	M12 x 25
Nominal drill diameter	do [mm]	10	12	15
Drilled hole depth	$h_o \geq$ [mm]	25	25	25
Clearance hole in the add-on part	d_f [mm]	9	12	14
Torque when anchoring	$T_{inst} \leq$ [Nm]	8	15	35

Permissible anchor positions
for prestressed concrete hollow core slab ceilings



w/e ≤ 4.2
w = Width of hollow
e = Space between holes

Min. pitch and edge clearance
for prestressed concrete hollow core slab ceilings



Min. pitch $s_{min} \geq 200$ mm
Min. edge clearance $c_{min} \geq 150$ mm

Distance between hollow axes $l_c \geq 100$ mm
Distance between prestressing strands $l_p \geq 100$ mm
Distance between prestressing strand and drill hole $a_p \geq 50$ mm

02/19

Plug characteristic values for steel plugs

stainless steel

Permissible loads of single plugs in non-cracked concrete, concrete strength class C20/25 B25 in accordance with ETA Assessment

Plug (thread)	Dim.	M6[1)]	M8[1)]	M10	M12[2)]	M16[2)]
Permissible loads per plug at tensile force	perm. N [kN]	3.9	3.9	6.1	8.5	12.6
Permissible loads per plug at transverse force	perm. V [kN]	3.2	4.9	6.1	11.5	19.2
Permissible bending moment	perm. M [Nm]	5.0	11.9	23.8	42.1	106.7
Effective anchoring depth	h_{ef} [mm]	30	30	40	50	65
Characteristic axial spacing	$s_{cr,N}$ [mm]	90	90	120	150	195
Characteristic edge spacing	$c_{cr,N}$ [mm]	45	45	60	75	97.5
Minimum axial spacing	s_{min} [mm]	50	60	100	120	150
Minimum edge spacing	c_{min} [mm]	80	95	135	165	200
Minimum component thickness	h_{min} [mm]	100	100	130	140	160
Minimum screwing depth	L_{sd} [mm]	7	9	11	13	18
Maximum screwing depth	L_{fh} [mm]	13	13	15	18	23

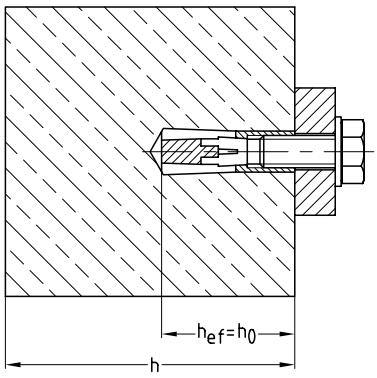
[1)] Only for application of statically indetermined systems.
[2)] Applied to stainless steel A4.
Loads for single plugs without the effects of axial and edge spacing.
The safety coefficient according to ETAG is included.
All the specifications in the European Technical Assessment ETA-05/0160 need to be taken into account.

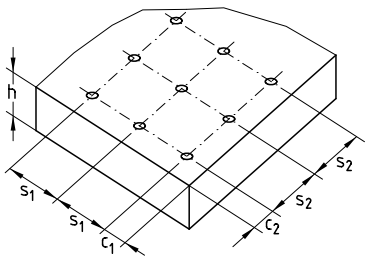
Installation and plug characteristic values

Plug (thread)	Dim.	M6	M8	M10	M12	M16
Drilled hole depth	$h_1 \geq$ [mm]	30	30	40	50	65
Nominal drill diameter	$d_0 =$ [mm]	8	10	12	15	20
Bit cutting diameter	$d_{cut} \leq$ [mm]	8.45	10.45	12.5	15.5	20.55
Torque for anchoring	$T_{inst} =$ [Nm]	4	8	15	35	60
Clearance hole in the add-on part	$d_f \leq$ [mm]	7	9	11	13	18

See the European Technical Assessment for additional installation and plug characteristic values.

Plug arrangement and component dimensions





02/19

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Plug characteristic values for steel plugs

stainless steel

Permissible loads for the use of multiple fastening of non-load bearing systems in concrete, strength class C20/25 (B25) in accordance with ETA Assessment

Plug (thread)	Dim.	M6	M8	M10	M12	M16
Permissible loads per plug at tensile force	perm. N [kN]	1.2	1.7	2.0	2.4	6.3
Permissible bending moment	perm. M [Nm]	5.0	11.9	23.8	42.1	106.7
Effective anchoring depth	h_{ef} [mm]	30	30	40	50	65
Characteristic axial spacing	$s_{cr,N}$ [mm]	130	180	170	170	400
Characteristic edge spacing	$c_{cr,N}$ [mm]	65	90	85	85	200
Minimum axial spacing	s_{min} [mm]	50	60	100	120	150
Minimum edge spacing	c_{min} [mm]	80	95	135	165	200
Minimum component thickness	h_{min} [mm]	100	100	130	140	160
Minimum screwing depth	L_{sd} [mm]	7	9	11	13	18
Maximum screwing depth	L_{fh} [mm]	13	13	15	18	23

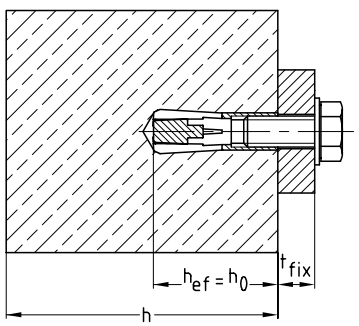
Use as multiple fastening of non-load systems in cracked and non-cracked concrete.
The total safety coefficient (γ_M and γ_F) in accordance with ETAG is included.
All the specifications in the European Technical Assessment ETA-05/0161 need to be taken into account.

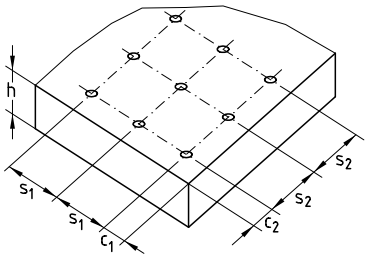
Installation and plug characteristic values

Plug (thread)	Dim.	M6	M8	M10	M12	M16
Drilled hole depth	$h_1 \geq$ [mm]	30	30	40	50	65
Nominal drill diameter	$d_0 =$ [mm]	8	10	12	15	20
Bit cutting diameter	$d_{cut} \leq$ [mm]	8.45	10.45	12.5	15.5	20.55
Torque for anchoring	$T_{inst} =$ [Nm]	4	8	15	35	60
Clearance hole in the add-on part	$d_f \leq$ [mm]	7	9	12	14	18

See the European Technical Assessment for additional installation and plug characteristic values.

Plug arrangement and component dimensions





02/19

Anchor characteristic values for through anchors

galvanised

Permissible loads of single plugs in non-cracked concrete, concrete strength class C20/25 B25 in accordance with ETA Assessment

Plug (thread)	Dim.	M6	M8	M10	M12	M16
Permissible loads per plug at tensile force	perm. N [kN]	4.1	5.7	7.6	12.6	17.8
Permissible loads per plug at transverse force	perm. V [kN]	2.9	6.3	8.0	14.3	23.6
Permissible bending moment	perm. M [Nm]	5.1	13.1	25.7	44.6	99.9
Effective anchoring depth	h_{ef} [mm]	40	44	48	65	82
Characteristic axial spacing	$s_{cr,N}$ [mm]	120	132	144	195	246
Characteristic edge spacing	$c_{cr,N}$ [mm]	60	66	72	98	123
Minimum axial spacing	s_{min} [mm]	35	40	55	75	90
Minimum edge spacing	c_{min} [mm]	40	45	65	90	105
Minimum component thickness	h_{min} [mm]	100	100	100	130	170

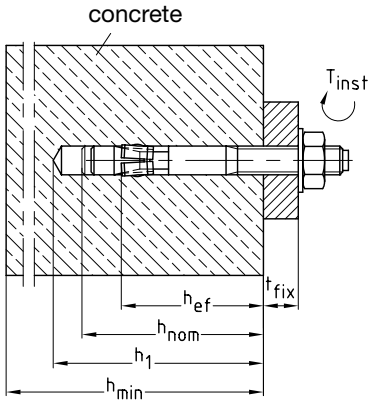
Loads are for single plugs without the effects of axial and edge spacing.
The safety coefficient according to ETAG is included.
All the specifications in the European Technical Assessment (ETA) need to be taken into account when dimensioning.
Permissible loads at reduced setting depth available upon request.

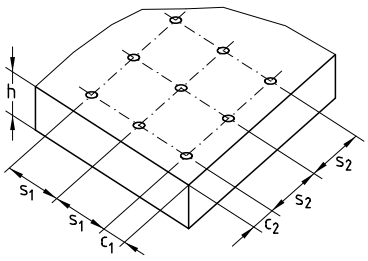
Installation and plug characteristic values

Plug (thread)	Dim.	M6	M8	M10	M12	M16
Drilled hole depth	$h_1 \geq$ [mm]	55	65	70	90	110
Setting depth	h_{nom} [mm]	49	56	62	82	102
Nominal drill diameter	$d_0 =$ [mm]	6	8	10	12	16
Bit cutting diameter	$d_{cut} \leq$ [mm]	6.40	8.45	10.45	12.50	16.50
Torque for anchoring	$T_{inst} =$ [Nm]	8	15	30	50	100
Clearance hole in the add-on part	$d_f \leq$ [mm]	7	9	12	14	18

See the European Technical Assessment for additional installation and plug characteristic values.

Plug arrangement and component dimensions





02/19

Anchor characteristic values for through anchors

stainless steel

Permissible loads of single plugs in non-cracked concrete, concrete strength class C20/25 B25 in accordance with ETA Assessment

Plug (thread)	Dim.	M8	M10	M12	M16
Permissible loads per plug at tensile force	perm. N [kN]	5.7	7.6	11.9	17.2
Permissible loads per plug at transverse force	perm. V [kN]	6.9	8.0	15.4	28.6
Permissible bending moment	perm. M [Nm]	13.7	28.0	48.6	113.7
Effective anchoring depth	h_{ef} [mm]	44	48	65	82
Characteristic axial spacing	$s_{cr,N}$ [mm]	132	144	195	240
Characteristic edge spacing	$c_{cr,N}$ [mm]	66	72	97.5	120
Minimum axial spacing	s_{min} [mm]	35	45	60	80
	for c ≥ [mm]	65	70	100	120
Minimum edge spacing	c_{min} [mm]	45	55	70	80
	for s ≥ [mm]	110	80	100	140
Minimum component thickness	h_{min} [mm]	100	100	130	160

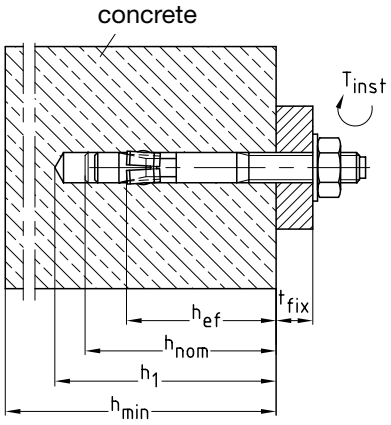
Loads are for single plugs without the effects of axial and edge spacing.
The safety coefficient according to ETAG is included.
All the specifications in the European Technical Assessment (ETA) need to be taken into account when dimensioning.
Permissible loads at reduced setting depth available upon request.

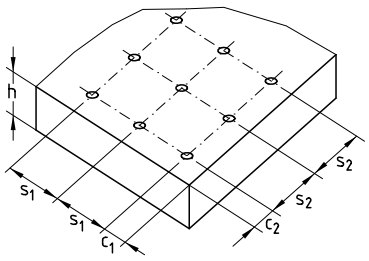
Installation and plug characteristic values

Plug (thread)	Dim.	M8	M10	M12	M16
Drilled hole depth	$h_1 \geq$ [mm]	65	70	90	110
Setting depth	h_{nom} [mm]	55	60	80	98
Nominal drill diameter	d_0 = [mm]	8	10	12	16
Bit cutting diameter	$d_{cut} \leq$ [mm]	8.45	10.45	12.50	16.50
Torque for anchoring	T_{inst} = [Nm]	15	30	50	100
Clearance hole in the add-on part	$d_f \leq$ [mm]	9	12	14	18

See the European Technical Assessment for additional installation and plug characteristic values.

Plug arrangement and component dimensions





02/19

Plug characteristic values for heavy-duty anchors BZ

galvanised

Permissible loads of single plugs in non-cracked concrete, concrete strength class C20/25 B25 in accordance with ETA Assessment

Plug (thread)	Dim.	Standard anchorage depth				Reduced anchorage depth			
		M8	M10	M12	M16	M8	M10	M12	M16
Permissible loads per plug at tensile force	perm. N [kN]	5.7	7.6	11.9	16.7	3.6	4.3	8.5	12.6
Permissible loads per plug at transverse force	perm. V [kN]	7.0	11.5	17.1	31.4	7.0	11.5	17.1	30.2
Permissible bending moment	perm. M [Nm]	13.1	26.9	46.9	123.4	13.1	26.9	46.9	123.4
Anchorage depth	$h_{ef}/h_{ef\ red}$ [mm]	46	60	70	85	35	40	50	65
Characteristic axial spacing	$s_{cr,N}$ [mm]	138	180	210	255	105	120	150	195
Characteristic edge spacing	$c_{cr,N}$ [mm]	69	90	105	127.5	52.5	60	75	97.5
Standard thickness of concrete slab	$h_{min\ 1}$ [mm]	100	120	140	170	–	–	–	–
Minimum spacing/for edge distance [1]	$s_{min/c}$ [mm]	40/80	45/70	60/120	65/120	–	–	–	–
Minimum edge distance/for spacing [2]	$c_{min/s}$ [mm]	50/100	50/100	75/150	80/150	–	–	–	–
Minimum thickness of concrete slab	h_{min} [mm]	80	100	120	140	80	80	100	140
Minimum spacing/for edge distance [1]	$s_{min/c}$ [mm]	40/80	60/140	60/120	80/180	50/60	50/100	50/160	65/170
Minimum edge distance/for spacing [2]	$c_{min/s}$ [mm]	50/100	90/140	75/150	90/200	40/185	65/180	100/185	170/65

Loads are for single plugs without the effects of axial and edge spacing.
The safety coefficient according to ETAG is included.
All the specifications in the European Technical Assessment (ETA) must be taken into consideration when dimensioning.
[1] In order to anchor the minimum spacing “s“ an edge spacing of “e“ must be maintained, reduce permissible loads!
[2] In order to anchor the minimum spacing “e“ an axial spacing of “s“ must be maintained, reduce permissible loads!

Permissible loads of single plugs in cracked concrete, concrete strength class C20/25 (B25) in accordance with ETA Assessment

Plug (thread)	Dim.	Standard anchorage depth				Reduced anchorage depth			
		M8	M10	M12	M16	M8	M10	M12	M16
Permissible loads per plug at tensile force	perm. N [kN]	2.4	4.3	7.6	11.9	2.4	3.6	6.1	9.0
Permissible loads per plug at transverse force	perm. V [kN]	7.0	11.5	17.1	31.4	7.0	10.4	14.5	21.6
Permissible bending moment	perm. M [Nm]	13.1	26.9	46.9	123.4	13.1	26.9	46.9	123.4
Anchorage depth	$h_{ef}/h_{ef\ red}$ [mm]	46	60	70	85	35	40	50	65
Characteristic axial spacing	$s_{cr,N}$ [mm]	138	180	210	255	105	120	150	195
Characteristic edge spacing	$c_{cr,N}$ [mm]	69	90	105	127.5	52.5	60	75	97.5
Standard thickness of concrete slab	$h_{min\ 1}$ [mm]	100	120	140	170	–	–	–	–
Minimum spacing/for edge distance [1]	$s_{min/c}$ [mm]	40/70	45/70	60/100	60/100	–	–	–	–
Minimum edge distance/for spacing [2]	$c_{min/s}$ [mm]	40/80	45/90	60/140	60/180	–	–	–	–
Minimum thickness of concrete slab	h_{min} [mm]	80	100	120	140	80	80	100	140
Minimum spacing/for edge distance [1]	$s_{min/c}$ [mm]	40/70	45/90	60/100	70/160	50/60	50/100	50/160	65/170
Minimum edge distance/for spacing [2]	$c_{min/s}$ [mm]	40/80	50/115	60/140	80/180	40/185	65/180	65/250	100/250

Loads are for single plugs without the effects of axial and edge spacing.
The safety coefficient according to ETAG is included.
All the specifications in the European Technical Assessment (ETA) must be taken into account when dimensioning.
[1] In order to anchor the minimum spacing “s“ an edge spacing of “e“ must be maintained, reduce permissible loads!
[2] In order to anchor the minimum spacing “e“ an axial spacing of “s“ must be maintained, reduce permissible loads!

02/19

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Plug characteristic values for heavy-duty anchors BZ

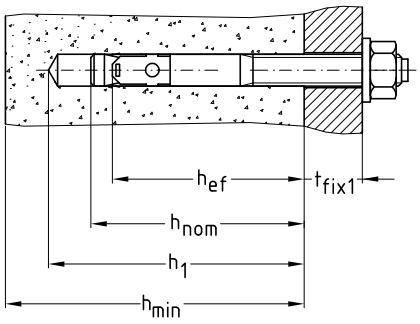
galvanised

Installation and plug characteristic values

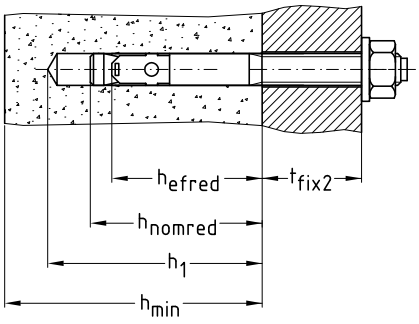
Plug (thread)	Dim.	Standard anchorage depth				Reduced anchorage depth			
		M8	M10	M12	M16	M8	M10	M12	M16
Nominal drill diameter	d_0 = [mm]	8	10	12	16	8	10	12	16
Clearance hole in the add-on part	$d_f \leq$ [mm]	9	12	14	18	9	12	14	18
Drilled hole depth	$h_1 \geq$ [mm]	60	75	90	110	49	55	70	90
Torque for anchoring	T_{inst} = [Nm]	20	25	45	90	20	25	45	90
Spanner width	SW = [mm]	13	17	19	24	13	17	19	24

See the European Technical Assessment ETA-05/0158 for additional installation and plug characteristic values.

Plug arrangement and component dimensions



Standard anchorage depth



Reduced anchorage depth

Permissible tensile loads under fire stress in accordance with DIN 4102-2 in cracked and non-cracked concrete according to ETA Assessment

Plug (thread)	Dim.	M8	M10	M12	M16
Fire resistance class					
R 30	$F_{RK,fi}$ [1] [kN]	1.4	2.2	3.2	6.0
R 60	$F_{RK,fi}$ [1] [kN]	1.1	1.8	2.8	5.2
R 90	$F_{RK,fi}$ [1] [kN]	0.8	1.4	2.4	4.4
R 120	$F_{RK,fi}$ [1] [kN]	0.7	1.2	2.2	4.0

[1] If there are no applicable national regulations, a partial safety coefficient for the load capacity under fire stress of $\gamma_{M,fi}$ = 1.0 is recommended.

All the specifications in the European Technical Assessment (ETA) must be taken into account when dimensioning.

See European Technical Assessment ETA-05/0158 for additional installation and anchor characteristic values.

Plug characteristic values for heavy-duty anchor BZ

stainless steel

Permissible loads of single plugs in non-cracked concrete, concrete strength class C20/25 B25 in accordance with ETA Assessment

Plug (thread)	Dim.	Standard anchorage depth			Reduced anchorage depth		
		M8	M10	M12	M8	M10	M12
Permissible loads per plug at tensile force	perm. N [kN]	5.7	7.6	11.9	3.6	4.3	8.5
Permissible loads per plug at transverse force	perm. V [kN]	7.4	11.4	17.1	7.4	11.4	17.1
Permissible bending moment	perm. M [Nm]	14.9	29.7	52.6	14.9	29.7	–
Anchorage depth	$h_{ef}/h_{ef\ red}$ [mm]	46	60	70	35	40	50
Characteristic axial spacing	$s_{cr,N}$ [mm]	138	180	210	105	120	150
Characteristic edge spacing	$c_{cr,N}$ [mm]	69	90	105	52.5	60	75
Standard thickness of concrete slab	$h_{min\ 1}$ [mm]	100	120	140	–	–	–
Minimum spacing/for edge distance [1]	$s_{min/c}$ [mm]	40/80	50/75	60/120	–	–	–
Minimum edge distance/for spacing [2]	$c_{min/s}$ [mm]	50/100	60/120	75/150	–	–	–
Minimum thickness of concrete slab	h_{min} [mm]	80	100	120	80	80	100
Minimum spacing/for edge distance [1]	$s_{min/c}$ [mm]	40/80	60/140	60/120	50/160	50/100	50/160
Minimum edge distance/for spacing [2]	$c_{min/s}$ [mm]	50/100	90/140	75/150	40/185	65/180	100/185

Loads are for single plugs without the effects of axial and edge spacing.
The safety coefficient according to ETAG is included.
All the specifications in the European Technical Assessment (ETA) must be taken into consideration when dimensioning.
[1] In order to anchor the minimum spacing “s“ an edge spacing of “e“ must be maintained, reduce permissible loads!
[2] In order to anchor the minimum spacing “e“ an axial spacing of “s“ must be maintained, reduce permissible loads!

Permissible loads of single plugs in cracked concrete, concrete strength class C20/25 (B25) in accordance with ETA Assessment

Plug (thread)	Dim.	Standard anchorage depth			Reduced anchorage depth		
		M8	M10	M12	M8	M10	M12
Permissible loads per plug at tensile force	perm. N [kN]	2.4	4.3	7.6	2.4	3.6	6.1
Permissible loads per plug at transverse force	perm. V [kN]	7.4	11.4	17.1	7.4	10.4	14.5
Permissible bending moment	perm. M [Nm]	14.9	29.7	52.6	14.9	29.7	–
Anchorage depth	$h_{ef}/h_{ef\ red}$ [mm]	46	60	70	35	40	50
Characteristic axial spacing	$s_{cr,N}$ [mm]	138	180	210	105	120	150
Characteristic edge spacing	$c_{cr,N}$ [mm]	69	90	105	52.5	60	75
Standard thickness of concrete slab	$h_{min\ 1}$ [mm]	100	120	140	–	–	–
Minimum spacing/for edge distance [1]	$s_{min/c}$ [mm]	40/70	50/75	60/100	–	–	–
Minimum edge distance/for spacing [2]	$c_{min/s}$ [mm]	40/80	55/90	60/140	–	–	–
Minimum thickness of concrete slab	h_{min} [mm]	80	100	120	80	80	100
Minimum spacing/for edge distance [1]	$s_{min/c}$ [mm]	40/70	45/90	60/100	50/60	50/100	50/160
Minimum edge distance/for spacing [2]	$c_{min/s}$ [mm]	40/80	50/115	60/140	40/185	65/180	65/250

Loads are for single plugs without the effects of axial and edge spacing.
The safety coefficient according to ETAG is included.
All the specifications in the European Technical Assessment (ETA) must be taken into account when dimensioning.
[1] In order to anchor the minimum spacing “s“ an edge spacing of “e“ must be maintained, reduce permissible loads!
[2] In order to anchor the minimum spacing “e“ an axial spacing of “s“ must be maintained, reduce permissible loads!

Plug characteristic values for heavy-duty anchors BZ

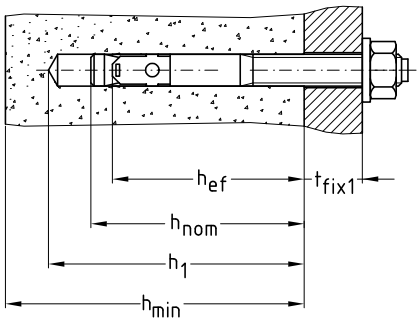
stainless steel

Installation and plug characteristic values

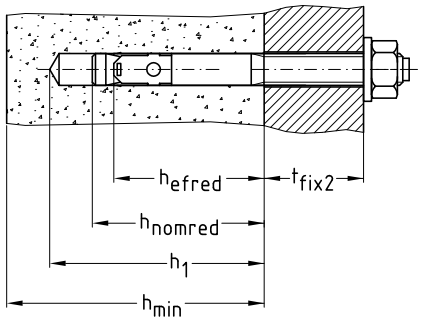
Plug (thread)	Dim.	Standard anchorage depth			Reduced anchorage depth		
		M8	M10	M12	M8	M10	M12
Nominal drill diameter	d_0 = [mm]	8	10	12	8	10	12
Clearance hole in the add-on part	$d_f \leq$ [mm]	9	12	14	9	12	14
Drilled hole depth	$h_1 \geq$ [mm]	60	75	90	49	55	70
Torque for anchoring	T_{inst} = [Nm]	20	35	50	20	35	50
Spanner width	SW = [mm]	13	17	19	13	17	19

See the European Technical Assessment for additional installation and plug characteristic values.

Plug arrangement and component dimensions



Standard anchorage depth



Reduced anchorage depth

Permissible tensile loads under fire stress in accordance with DIN 4102-2 in cracked and non-cracked concrete acc. to ETA Assessment

Plug (thread)	Dim.	M8	M10	M12
Fire resistance class				
R 30	$F_{RK,fi}$ [1] [kN]	1.3	2.3	4.0
R 60	$F_{RK,fi}$ [1] [kN]	1.3	2.3	4.0
R 90	$F_{RK,fi}$ [1] [kN]	1.3	2.3	4.0
R 120	$F_{RK,fi}$ [1] [kN]	1.0	1.8	3.2

[1] If there are no applicable national regulations, a partial safety coefficient for the load capacity under fire stress of $\gamma_{M,fi}$ = 1.0 is recommended.

All the specifications in the European Technical Assessment (ETA) must be taken into account when dimensioning.

See European Technical Assessment ETA-05/0158 for additional installation and anchor characteristic values.

Plug characteristic values for gas concrete under cut anchor

according to building inspection approval

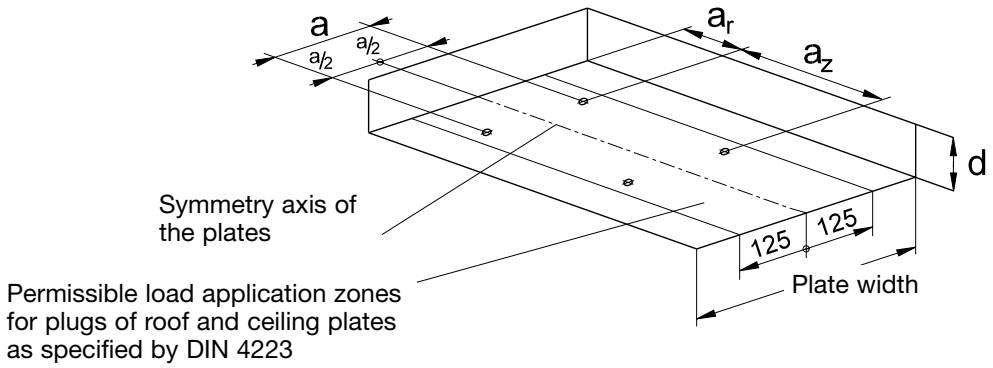
Cracked aerated concrete

Permissible load (perm. F) of plug[1] for central load, transverse load and inclined load at each angle

Plug types			GBH A M8/20 and GBH I M8	GBH A M10 GBH I M10 and M12
Single plug		perm. F = [kN]		
	GB 3.3		0.6	0.8
	GB 4.4		0.8	1.2
Plug pairs	Axial spacing	a ≥ [cm]	10.0	10.0
		perm. F per plug pair [kN]		
	GB 3.3		0.6	0.8
	GB 4.4		0.8	1.2
	Axial spacing	a ≥ [cm]	20.0	20.0
		perm. F per plug pair [kN]		
	GB 3.3		0.8	1.1
	GB 4.4		1.1	1.7

[1] The shear stress in the roof and ceiling panels determined by the plug load should not exceed the value 0.4 x perm. "t" as specified in accordance with DIN 4223, see approval.

Plug arrangement and component dimensions



Plug types		GBH A and GBH I
Edge spacing to the edge of the component and to butt joints	$a_r \geq$ [cm]	15
Edge spacing to bed joints	$a_{rL} \geq$ [mm]	5
Minimum intermediate spacing between plug groups	$a_z \geq$ [mm]	60
Axial spacing within plug pairs[2]	a ≥ [mm]	10/20
Minimum component thickness	d = [mm]	17.5

Plug type/threaded bolt		M8	M10	M12
Torque when fastening	MD [Nm]	5	8	8

[2] See the table above for associated load values.

02/19

Plug characteristic values for gas concrete under cut anchor

according to building inspection approval

Non-cracked aerated concrete

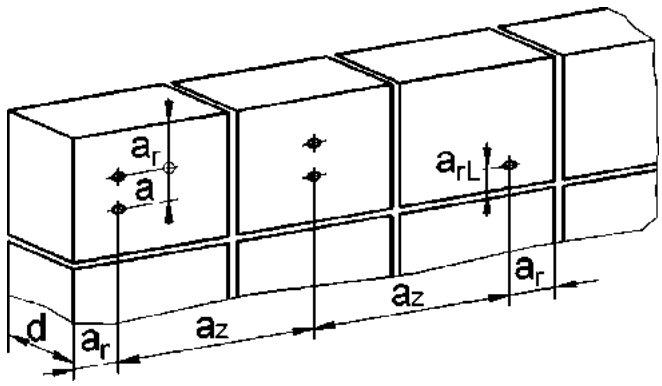
Permissible load (perm. F) of plug[1] for central load transverse load and inclined load at each angle

Plug types			GBH A M8/20 and GBH I M8	GBH A M10 GBH I M10 and M12
Single plug		perm. F = [kN][2]		
		G 2	0.4	0.6
		≥ G 4	0.8	1.2
	Wall panels	GB 3.3	0.6	0.8
		GB 4.4	0.8	1.2
Plug pairs	Axial spacing	a ≥ [cm]	10.0	10.0
		perm. F per plug pair [kN]		
		G 2	0.4	0.6
		≥ G 4	0.8	1.2
	Wall panels	GB 3.3	0.6	0.8
		GB 4.4	0.8	1.2
	Axial spacing	a ≥ [cm]	20.0	20.0
		perm. F per plug pair [kN]		
		G 2	0.6	0.8
		≥ G 4	1.1	1.7
	Wall panels	GB 3.3	0.8	1.1
		GB 4.4	1.1	1.7

[1] Anchoring of the plugs is only permissible in non-plastered and non-coated masonry walls.

[2] For masonry consisting of small-format aerated concrete blocks and lightweight masonry mortar, for single plugs and plug pairs the permissible load (perm. F) must be reduced using the factor 0.6 if there is tensile stress.

Plug arrangement and component dimensions



Plug types		GBH A and GBH I
Edge spacing to the edge of the component and to butt joints	a_r ≥ [cm]	15
Edge spacing to bed joints	a_{rL} ≥ [mm]	5
Minimum intermediate spacing between plug groups	a_z ≥ [mm]	60
Axial spacing within plug pairs[3]	a ≥ [mm]	10/20
Minimum component thickness	d ≥ [mm]	17.5

Plug type/threaded bolt		M8	M10	M12
Torque when fastening	M_D [Nm]	5	8	8

[3] See the table above for associated load values.

02/19

Plug characteristic values for gas concrete under cut anchor

Permissible loads under fire stress in accordance with DIN 4102-2 in aerated concrete, strength class ≥ P 3.3 in the intermediate area of lightweight ceiling cladding and false ceilings in accordance with DIN 18168

Plug (size)		Dim.	M8	M10	M8	M10	M12
Fire resistance class	For all load directions		GBH A	GBH A	GBH I	GBH I	GBH I
R 30	Permissible load	F_{perm} [kN]	0.45	0.80	0.45	0.80	0.80
R 60	Permissible load	F_{perm} [kN]	0.45	0.80	0.45	0.80	0.80
R 90	Permissible load	F_{perm} [kN]	0.45	0.80	0.45	0.80	0.80
R 120	Permissible load	F_{perm} [kN]	0.35	0.75	0.35	0.75	0.75
R 30 to 120	Minimum component thickness	$h_{min} \geq$ [mm]	175	175	175	175	175
	Minimum intermediate spacing	$a_{min} \geq$ [mm]	600	200	600	600	600
	Minimum axial spacing	$s_{min} \geq$ [mm]	100	100	100	100	100
	Minimum edge spacing	$c_{min} \geq$ [mm]	150	150	150	150	150

All information specified in the DIBt general technical approval must be taken into consideration for dimensioning.
See general technical approval Z-21.1-1525 for additional installation and plug characteristic values.

02/19

Plug characteristic values for Zykon steel hammerset anchor FZEA

Permissible loads, plug characteristic values and component dimensions of a plug for central load, transverse load, and inclined load at any angle in concrete, strength class > C20/25 (B25) as specified by DIBt approval

Plug	Dim.		FZEA 10 x 40 M8	FZEA 12 x 40 M10	FZEA 14 x 40 M12
Approved load[1)]	kN	F_{perm}	1.5	1.5	1.5
Permissible bending moment (screw steel 5.6)	Nm	M_b	8.0	16	28.1
Permissible bending moment (screw steel 8.8)	Nm	M_b	17.1	29.6	24.1
Permissible bending moment (screw A4-70)	Nm	M_b	12.1	24.1	42.1
Anchoring depth	mm	h_v	40	40	40
Axial spacing[2)]	mm	a >	160	160	160
Edge spacing[2)]	mm	a_r >	100	100	100
Intermediate spacing (min)	mm	a_z	240	240	240
Component width[2)]	mm	B >	200	200	200
Minimum component thickness	mm	h_{min}	100	100	100

[1)] Values apply for cracked and non-cracked concrete for single plugs; for plug groups the verification in Appendix 6, Table 7 of the approval document must be complied with.

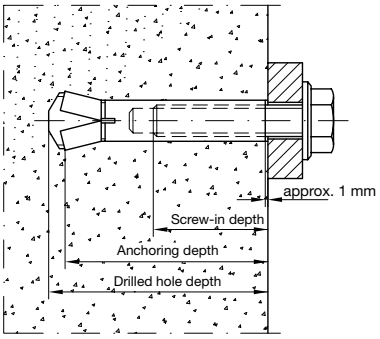
[2)] The spacing specified above a or a_r and the component width B can be underranged to a minimum value of min a = 50 mm or a_r = 50 mm and min B = a_r, if the permissible loads as specified in Appendix 7 of the approval document are reduced. Loads for single plugs without influence of axial spacing and edge spacing.

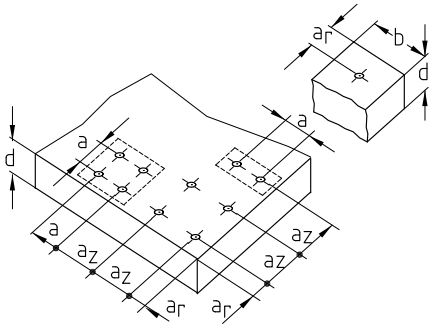
Installation and plug characteristic values

Plug	Dim.		FZEA 10 x 40 M8	FZEA 12 x 40 M10	FZEA 14 x 40 M12
Clearance hole in the component that will be connected	mm	d <	9	11	13.5
Connection thread		M	M8	M10	M12
Screw-in depth (min)	mm	e_{min}	11	13	15
Screw-in depth (max)	mm	e_{max}	17	19	21
Drilled hole depth	mm	t <	43	43	43
Torque for mounting and checking the anchoring	Nm	T_{inst}	8.5	15	30

See the European Technical Assessment DIBt for additional installation and plug characteristic values.

Plug arrangement and component dimensions





Plug characteristic values for screws for concrete

type Multi-Monti® MMS for fastenings in concrete, galvanised

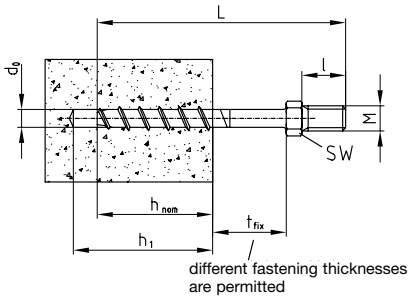
Permissible loads of single plugs in cracked and non-cracked concrete, concrete strength class C20/25 (B25) in accordance with European Technical Assessment ETA-05/0010

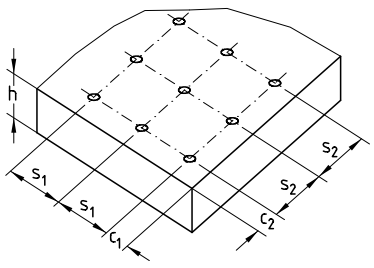
Characteristic values	Dim.	Screw for concrete with stud	
Size		10.0	
Length	L [mm]	100	120
Connection thread		M10	M10
Permissible tensile load of cracked concrete	N_{perm} [kN]	3.7	3.7
Permissible tensile load of non-cracked concrete	N_{perm} [kN]	4.9	4.9
Permissible transverse load of cracked concrete	V_{perm} [kN]	7.9	7.9
Permissible transverse load of non-cracked concrete	V_{perm} [kN]	7.9	7.9
Permissible bending moment	M_{perm} [kN]	18.7	18.7
Total anchoring depth	h_{nom} [mm]	65	65
Effective anchoring depth (mathematical)	h_{ef} [mm]	47.5	47.5
Minimum axial spacing	s_{min} [mm]	50	50
Minimum edge spacing	c_{min} [mm]	50	50
Component width	h_{min} [mm]	115	115

Installation and plug characteristic values

Size		10.0	
Drilled hole depth	h_o [mm]	75	75
Nominal drill diameter	d_o [mm]	8	8
Recommended torque for anchoring	T_{inst} [Nm]	40	40
Spanner width	SW [mm]	13	13
Clearance hole in the add-on part	d_f [mm]	–	–

Loads are for single plugs without the effects of axial and edge spacing.
See the European Technical Assessment ETA-05/0010 for additional installation and plug characteristic values.
Partial safety coefficient γ = 1.35





02/19

Plug characteristic values for screws for concrete

type Multi-Monti®-plus MMS for fastenings in concrete, galvanised

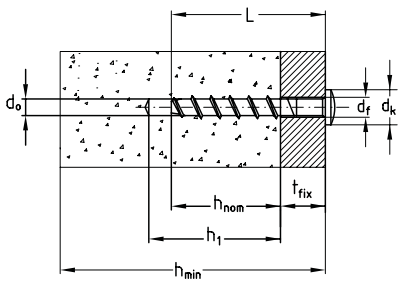
Permissible loads of single plugs in cracked and non-cracked concrete, concrete strength class C20/25 (B25) in accordance with European Technical Assessment ETA-15/0784

Characteristic values	Dim.				
Size		7.5		10.0	
Anchoring depth	h_{nom} [mm]	35	55	50	65
Permissible tensile load of cracked concrete	N_{perm} [kN]	1.0	2.0	3.0	4.4
Permissible tensile load of non-cracked concrete	N_{perm} [kN]	2.0	4.4	5.9	7.9
Permissible transverse load of cracked concrete	V_{perm} [kN]	2.4	3.6	3.8	6.3
Permissible transverse load of non-cracked concrete	V_{perm} [kN]	3.4	3.6	5.4	8.1
Permissible bending moment	M_{perm} [kN]	8.4	8.4	20.4	20.4
Effective anchoring depth (mathematical)	h_{ef} [mm]	26	43	36	50
Total anchoring depth	h_{nom} [mm]	35	55	50	65
Minimum axial spacing	s_{min} [mm]	40	40	40	50
Minimum edge spacing	c_{min} [mm]	40	40	40	50
Component width	h_{min} [mm]	100	100	100	115

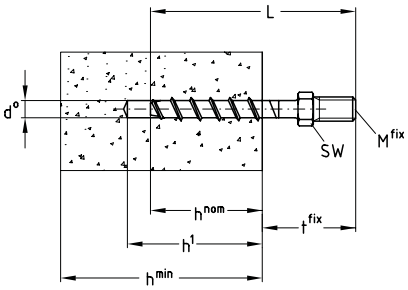
Installation and plug characteristic values

Size		7.5		10.0	
Drilled hole depth	h_o [mm]	40	65	60	75
Nominal drill diameter	d_o [mm]	6.0	6.0	8.0	8.0
Recommended torque for anchoring	T_{inst} [Nm]	20	20	40	40
Clearance hole in the add-on part	d_f [mm]	9	9	12	12

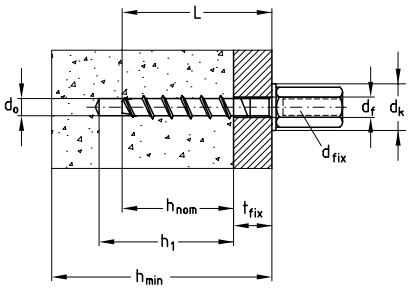
Loads are for single plugs without the effects of axial and edge spacing.
See the European Technical Assessment ETA-15/0784 for additional installation and plug characteristic values.
Partial safety coefficient γ = 1.35



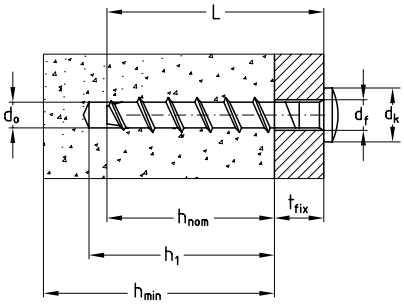
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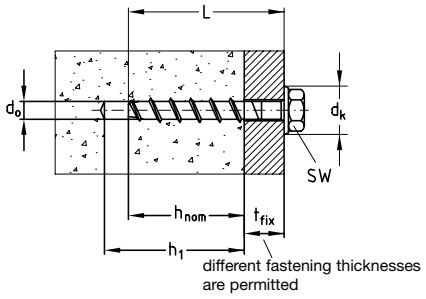
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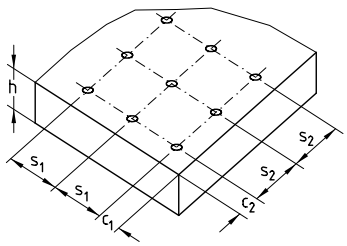
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02/19

fire protection certified F90

Plug characteristic values for nail anchors N, N-K and N-M

for anchoring in concrete

Permissible loads, plug characteristic values and component dimensions for multiple anchoring of non-loadbearing elements in concrete, strength class C12/15–C50/60

Nail anchor steel, galvanised		Dim.	N		N-K		N-M	
Anchoring depth		h_{ef} [mm]	25	30	25	30	25	30
Permissible loads (Drawing 1)	C12/15	perm. F [kN]	1.43	1.90	1.43	1.90	1.43[1)]	1.90[1)]
	C20/25–C50/60	perm. F [kN]	2.14	2.81	2.14	2.81	2.14[1)]	2.81[1)]
Permissible loads (Drawing 2)	C12/15	perm. F [kN]	0.71	0.95	0.71	0.95	0.71[1)]	0.95[1)]
	C20/25–C50/60	perm. F [kN]	0.95	1.19	0.95	1.19	0.95[1)]	1.19[1)]
Permissible bending moment		perm. M [Nm]	5.3	5.3	7.3	7.3	7.3	7.3
Minimum component thickness		h_{min} [mm]	80	80	80	80	80	80

Excerpt from the usage conditions of assessment ETA-11/0240.
Use as a multiple fastening of non-bearing systems in accordance with ETAG 001, part 6 for anchoring in concrete C12/15-C50/60.
Overall safety coefficient factored in according to ETAG 001 (γ_M and γ_F).

[1)] In the version N-M, verification for the transverse load with lever must be provided with the presence of transverse force.

Installation and plug characteristic values

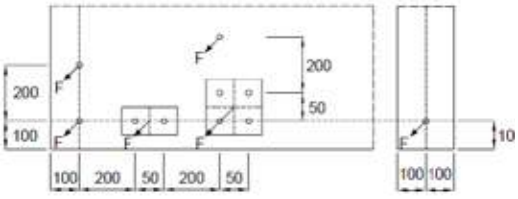
Nail anchor steel, galvanised	Dim.	N		N-K		N-M	
Anchoring depth	h_{ef} [mm]	25	30	25	30	25	30
Drilled hole diameter	d_0 = [mm]	6	6	6	6	6	6
Clearance hole in the add-on part	$d_f \leq$ [mm]	7	7	7	7	7	7
Nail head diameter		–	–	13	13	–	–
Drilled hole depth	h_1 [mm]	35	40	35	40	35	40
Torque when anchoring	$\leq T_{inst}$ [Nm]	4	4	–	–	–	–
Threaded sleeve length		–	–	–	–	25	25
M8/M10 threaded sleeve width across		–	–	–	–	SW 13	SW 13
M10 thread usable length		–	–	–	–	10	10
M8 thread usable length		–	–	–	–	7	7

Excerpt from the usage conditions of assessment ETA-11/0240.
Use as a multiple fastening of non-bearing systems in accordance with ETAG 001, part 6 for anchoring in concrete C12/15-C50/60.
Overall safety coefficient factored in according to ETAG 001 (γ_M and γ_F).

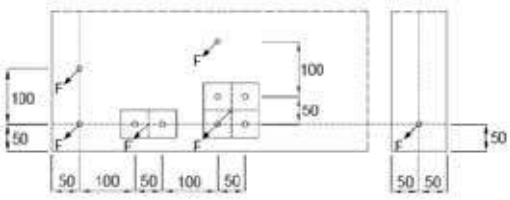
[1)] In the version N-M, verification for the transverse load with lever must be provided with the presence of transverse force.

Corresponding axis and edge distances

Drawing 1)
Maximum bearing capacity

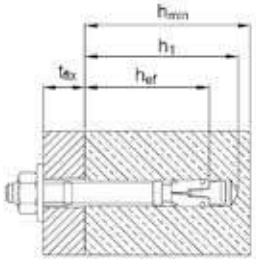


Drawing 2)
Reduced loads with minimal axis and edge spacing



The permissible resistance F applies for a fastening point.
A fastening point can be:
- A single anchor,
- A pair of anchors with spacing s > 50 mm or
- A group of four with s > 50 mm.

If the axis spacing of the anchors in one fastening point is greater than or equal to the corresponding axis spacing between the fastening points, the characteristic resistances apply for each individual anchor.



02/19

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Plug characteristic values for hollow-core slab ceiling anchor

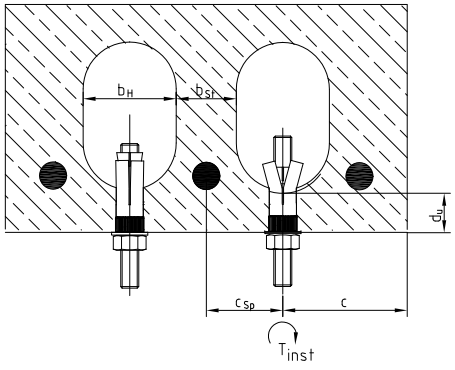
type Easy for anchoring in prestressed concrete hollow-core slab ceilings

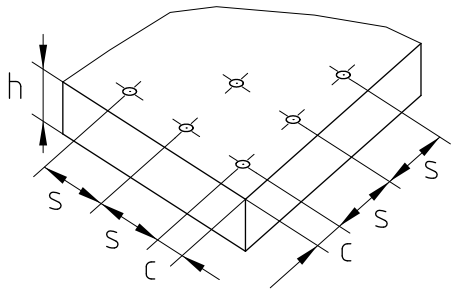
Approved loadings of single plugs [kN] for axially applied tension, lateral load and inclined load at any angle in prestressed concrete hollow-core slab ceilings of strength class ≥ C45/55

Size		Dim.	M8				M10				M12			
Material thickness		mm	25	30	40	50	25	30	40	50	25	30	40	50
Loads and characteristic values for single anchor														
Recommended load for c≥cr	F	kN	0.70	0.90	2.00	3.60	0.90	1.20	3.00	3.60	1.00	1.20	3.00	4.30
Recommended load[1] for c_{min}	F[1]	kN	0.35	0.80	1.80	3.00	0.80	1.00	2.70	3.00	0.80	1.00	2.70	3.60
Axial distance to the tensioning wire	c_{SP}	mm	50											
Characteristic edge clearance	$c_{cr1,2}$	mm	150											
Characteristic pitch	$s_{cr1,2}$	mm	300											
Min. edge clearance	$c_{min1,2}$	mm	100											
Min. pitch	s_{min}	mm	70	80	100	100	70	80	100	100	70	80	100	100
Allowable bending moments														
Size		Dim.	M8				M10				M12			
Threaded rod/bolt, steel 5.8		Nm	10.7				21.4				37.4			
Threaded rod/bolt, steel 8.8		Nm	17.1				34.2				59.8			
Mounting data														
Sleeve length	L	mm	35				40				45			
Requd. steel strength of bolts/ threaded rods			5.6											
Drill hole diameter	d_0	mm	12				16				18			
Drill hole depth	h_0	mm	55				60				70			
Bolt length	min l_S	mm	47 + t_{fix}				55 + t_{fix}				61 + t_{fix}			
Length of threaded bolt	min l_B	mm	53 + t_{fix}				63 + t_{fix}				71 + t_{fix}			
Clearance hole in the add-on part	d_f	mm	9				12				14			
Torque when anchoring (tightening torque)	T_{inst}	Nm	20				30				40			

[1] For edge clearances cmin<c<cr, the recommended loads can be determined by linear interpolation. Loads are for single anchors without effects of pitch distance and edge clearances.

The safety coefficient according to ETAG is included.
The construction approval of the building inspectorate. DIBt shall be observed for all information relating to dimensioning.





02/19

Plug characteristic values for hollow-core slab ceiling anchor

type Easy for anchoring in prestressed concrete hollow-core slab ceilings

Approved loads (allowable F) in [kN] under fire exposure for axially applied tension, lateral load and inclined load at each angle in prestressed concrete hollow-core slab ceilings of strength class ≥ C45/55

Size			Dim.	M8	M10		M12	
Material thickness			mm	30	30	40	30	40
Loads and characteristic values for single anchor								
Fire resistance duration	min.							
	30	all. F	kN	0.9	1.2	1.5	1.2	1.5
	60	all. F	kN	0.9	1.2	1.5	1.2	1.5
	90	all. F	kN	0.7	1.2	1.2	1.2	1.5
	120	all. F	kN	0.4	1.0	1.0	1.2	1.2
Axial distance to tensioning wiree		c_{SP}	mm	50				
Characteristic edge clearance		c_{cr}	mm	150				
Characteristic pitch		c_{cr}	mm	300				
Min. edge clearance		c_{min}	mm	150				

The construction approval of the building inspectorate DIBt shall be observed for all information relating to dimensioning. For fire resistance duration requirements, the threaded rods, nuts and bolts that are used in combination with the anchor must be of property class 5.8 in accordance with EN ISO 898-1.

02/19

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Units and conversion factors

SI units (international system of units)

As specified in the German law concerning legal units of measurement of 07/02/1969 and the implementing ordinance of 06/26/1970 in official as well as commercial transactions, only the SI units should be used. The basic units, derived units and the definition of the international basic units are specified in DIN 1301 Part 1 (October 2010).

SI basic unit			
		SI basic unit	
Basic value	Symbol	Name	
Length	l	Metre	m
Mass	m	Kilogram	kg
Time	t	Second	s
Electric current strength	I	Ampere	A
Thermodynamic temperature	T	Kelvin	K

Overview of the most important legal units

Size	Symbol	Legal units			Conversion
		Unit name	Symbol		
			SI	Other	
Area	A	Square metre	m^2		
Cross section		Ar		a	1 a = 100 m^2
		Hectare		ha	1 ha = 10000 m^2
Volume	V	Cubic metre	m^3		1 m^3 = 1000 l
Nominal volume	V_n	Litre		l	1 l = 0.001 m^3 = 1 dm^3
Density	ρ	Kilogram	kg/m^3		
Standard density	$ρ_n$	Divided by cubic metre			
Force	F	Newton	N		$1\ N = \frac{1}{9.81}\ kp = 0.102\ kp,$ $1\ kp = 9.81\ N = 9.81\ kg\ \frac{m}{s^2}$
Velocity	v	Metres divided by seconds	m/s		
Frequency	f	Hertz	Hz		1 Hz = $^1/_s$
Volume flow	$\dot{V}$	Cubic metres divided by seconds	m^3/s		
Standard volume flow	$\dot{V}_n$	Litres divided by seconds		l/s	1 l/s = 1 dm^3/s = 0.001 m^3/s
Setting value	$\dot{V}_E$	Litres divided by minutes		l/min	1 l/s = 60 l/min
Connected load	$\dot{V}_A$	Cubic metres divided by hour		m^3/h	1 l/s = 3.6 m^3/h
Pressure	p	Newton divided by square metres	N/m^2,		1 Pa = 1 N/m^2
Absolute pressure	p_{abs}	Pascal	Pa		$= 1\ \frac{kgm}{s^2}\ \frac{1}{m^2} = 1\ \frac{kgm^2}{s^2m}$
Atmospheric pressure	p_{atm}	Bar		bar	1 bar = 100 000 Pa = N/cm^2
Excess pressure	$p_ü$	Millibar		mbar	1 bar = 1000 mbar
Underpressure	p_u				
Pressure differential	Δp				
Nominal pressure	pn				
Energy, work	W	Joule	J		1 J = 1 Nm = 1 Ws $= 1\ \frac{kgm^2}{s^2}\ m = 1\ \frac{kgm^2}{s^2}$
Heat quantity	Q				
		Kilojoule		kJ	1 kJ = 1000 J
		Megajoule		MJ	1 MJ = 10^6 J
		Watt second		Ws	
		Kilowatt hour		kWh	1 kWh = 3.6 MJ

Units and conversion factors

Size	Symbol	Legal units			Conversion
		Unit name	Symbol		
			SI	Other	
Power	P	Watt	W		1 W 1 J/s = 1 Nm/s $= 1 \frac{kg\ m}{s^2} m \frac{1}{s}$ $= 1 \frac{kg\ m^2}{s^3}$
Energy flux Heat flux Heat load Nominal heat load Heat output Nominal heat output	$\dot{Q}$, Φ $\dot{Q}_B$, Φ_B $\dot{Q}_{NB}$, Φ_{NB} $\dot{Q}_L$, Φ_L $\dot{Q}_{NL}$, Φ_{NL}	Kilowatt Megawatt		kW MW	1 kW = 1,000 W 1 MW = 10^6 W
Efficiency	η				
Calorific value (Nominal calorific value) Thermal value Net heating value	 Ho,n Hu, H_{uB}	Joule Divided by cubic metre Megajoule Divided by cubic metre	 J/m^3	 MJ/m^2	 1 J/m^3 = 1 Ws/m^3 1 MJ/m^3 = 106 J/m^3 1kcal/m^3 = 4.1868 · 10^{-3} MJ/m^3
Temperature Nominal temperature	T t, ϑ Tn, tn, ϑn	Kelvin Degrees Celsius	K	 °C	1 K = 1 °C T = t + 273.15 K
Temperature differential	Δ T δ τ	Kelvin Degrees Celsius	K	 °C	

Decimal multiples and decimal parts of units

Greater or smaller units can be formed through prefixes.

Multiple

Prefix	Symbol	Factor
Deca	da	10 = 10^1
Hecto	h	100 = 10^2
Kilo	k	1,000 = 10^3
Mega	M	1,000,000 = 10^6
Giga	G	1,000,000,000 = 10^9
Tera	T	1,000,000,000,000 = 10^{12}

Parts

Prefix	Symbol	Factor	
Deci	d	0.1	= 10^{-1}
Centi	c	0.01	= 10^{-2}
Milli	m	0.001	= 10^{-3}
Micro	µ	0.000 001	= 10^{-6}
Nano	n	0.000 000 001	= 10^{-9}
Pico	p	0.000 000 000 001	= 10^{-12}
Femto	f		= 10^{-15}
Atto	a		= 10^{-18}

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Units and conversion factors

Dimensions and conversion factors for lengths, areas, volumes and weights

Lengths

Unit	m	dm	cm	mm
1 metre [m]	1	10	100	1,000
1 decimetre [dm]	0.1	1	10	100
1 centimetre [cm]	0.01	0.1	1	10
1 millimetre [mm]	0.001	0.01	0.1	1

Areas

Unit	m^2	dm^2	cm^2	mm^2
1 square metre [m^2]	1	100	10,000	1,000,000
1 square decimetre^2]	0.01	1	100	10,000
1 square centimetre [cm^2]	0.000 1	0.01	1	100
1 square millimetre [mm^2]	0.000 001	0.000 1	0.01	1

1 km^2 = 100 ha = 10,000 a = 1,000,000 m^2
1 ha = 100 a = 10.000 m^2; 1 a = 100 m^2

Volume

Unit	m^2	dm^2	cm^2	mm^2
1 square metre [m^3]	1	1,000	1,000,000	10^9
1 cubic decimetre [dm^3]	0.001	1	1,000	1,000,000
1 cubic centimetre [cm^3]	0.000 001	0.001	1	1,000
1 cubic millimetre [mm^3]	10^{-9}	0.000 001	0.001	1
	m^3	hl	l	dl
1 square metre [m^3]	1	10	1,000	10,000
1 hectolitre [hl]	0.1	1	100	1,000
1 litre [l]	0.001	0.01	1	10
1 decilitre [dl]	0.000 1	0.001	0.1	1

Mass (weight)

Unit	m	kg	g	mg
1 ton [t]	1	1,000	1,000,000	10^9
1 kilogramme [kg]	0.001	1	1,000	1,000,000
1 gram [g]	0.000 001	0.001	1	1,000
1 milligramme [mg]	10^{-9}	0.000 001	0.001	1

Volume flow

Unit	l/s	l/min	l/h
m^3/s	1,000	60,000	$3.6 \cdot 10^6$
m^3/min	16.67	1,000	60,000
m^3/h	0.278	16.67	1,000

02/19

Units and conversion factors

Pressure

Pressure	$N/m^2 = Pa$	bar	mbar = hPa	mm WS	kp/cm^2 = at	Torr	atm
1 N/m^2 = 1 Pa =	1	10^{-5} 0.000 01	10^{-2} 0.01	0.102	1.02 x 10^{-5} 0.000 010 2	7.5 x 10^{-3} 0.007 5	9.87 x 10^{-4} 0.000 009 87
1 bar =	10^5 100,000	1	10^3 1,000	1.02 x 10^{-4} 10,200	1.020	7.5 x 10^2 750	0.987
1 mbar = 1 hPa =	10^2 100	10^3 0.001	1	10.20	1.02 x 10^{-3} 0.001 02	0.750	9.87 x 10^{-4} 0.000 987
1 mm WS =	9.81	9.81 x 10^{-5} 0.000 098 1	9.81 x 10^{-2} 0.098 1	1	10^{-4} 0.000 1	7.355 x 10^{-2} 0.073 55	9.68 x 10^{-5} 0.000 096 8
1 kp/cm^2 = 1 at =	9.81 x 10^4 98.100	0.981	9.81 x 10^2 981	10^4 10,000	1	7.355 x 10^2 735.5	0.986
1 torr =	1.333 x 10^2 133.3	1.333 x 10^{-3} 0.001 333	1.333	13.6	1.36 x 10^{-3} 0.001 36	1	1.32 x 10^{-3} 0.001 32
1 atm =	1.013 x 10^5	1.013	1.013 x 10^3 1,013	1.033 x 10^4 10,330	1.033	7.6 x 10^2 760	1

The following can be calculated with sufficient precision: 1 mbar = 10 mm WS.

Thermal output (power, energy flux, heat flux)

Heat quantity	kWh	MJ	J = Ws	cal	kcal	Mcal
1 KW =	1	3.6	3.6 x 10^6 3,600,000	8.6 x 10^5 860,000	8.6 x 10^2 860	0.860
1 MJ =	0.277 8	1	10^{-6} 1,000,000	2.388 x 10^5 238,800	2.388 x 10^2 238.8	0.238 8
1 J = 1 Ws =	2.778 x 10^{-7} 0.000 000 277 8	10^{-6} 0.000 001	1	0.2388	2.388 x 10^{-4} 0.000 238 8	2.388 x 10^{-7} 0.000 000 238 8
1 cal =	1.163 x 10^{-4} 0.000 001 163	4.186 8 x 10^{-3} 0.004 186 8	4.186 8	1	10^{-3} 0.001	10^{-5} 0.000 001
1 kcal =	1.163 x 10^{-3} 0.001 163	4.186 8 x 10^{-6} 0.000 004 186 8	4.186 8 x 10^3 4186.8	10^3 1,000	1	10^{-3} 0.001
1 Mcal =	1.163	4.186 8	4.1868 x 10^6 4,186,800	10^6 1,000,000	10^3 1,000	1

Thermal output (power, energy flux, heat flux)

Heat quantity	kW	J/s = W	MJ/h	kcal/min	kcal/h
1 KW =	1	10^3 1,000	3.6	14.33	8.6 x 10^2 860
1 J/s = 1 Ws =	10^{-3} 0.001	1	3.6 x 10^{-3} 0.003 6	1.433 x 10^{-2} 0.014 33	0.860
1 MJ/h =	0.277 8	2.778 x 10^2 277.8	1	3.98	2.388 x 10^2 238.8
1 kcal/min =	6.976 8 x 10^{-2} 0.069 768	69.768	0.251 2	1	60
1 kcal/h =	1.163 x 10^{-3} 0.001 163	1.163	4.186 8 x 10^{-3} 0.004 186 8	1.667 x 10^{-2} 0.016 67	1

02/19

LIST OF REFERENCES

Australia
Victorian Railway, Melbourne
Launceton Hospital, Launceton
Government Building, Perth
Curtin University, Perth

Austria
Federal Railways, Head-Office Vienna
UNO-City, Vienna
Reconstruction of University, Salzbourg
Technical University, Vienna
University, Innsbruck
University of Economy, Vienna
Multistoried building Neue Donau, Vienna
IZD-Tower, Vienna
Gasometer, Vienna
Office building McHenry, Vienna
Europlaza, Vienna
Campus 21, Brunn am Gebirge
Airport Vienna-Schwechat
Thermenhotel, Loipersdorf
Thermenhotel, Bad Tatzmannsdorf

Bahrain
Salmania Medical Center, Manama
Airport, Al Muharraq
Ministry Buildings, Manama
Bank of Bahrain and Kuwait, Manama
Museum Jiddah Island
Bahrain Specialist Hospital

Belgium
Palais de Congres, Bruxelles
University, Leuven

Cyprus
Elma House, Nicosia
Popular Bank Building, Nicosia
Hotel Marathon, Limassol

Czech Republik
Matoni Drink Water Plant, Karlovy Vary
Skoda Auto, Mladá Boleslav
Airport, Prague - Ruzyne
Kaufland Centralstore, Pague-Modletice
Philips Hranice na Morave
Infineon, Trutnov
Siemens, Frenštát pod Radhoštem
Schowa-Aluminium, Kladno
Valeo, Žebrák
Tesco, Havírov
Schwarze Wiese, Ostrava

Denmark
T.V. Station, Odense
IBM Headquarters, Kopenhagen
University, Aalborg

Egypt
Nasser Institute, Cairo
Metro, Cairo

Finnland
Airport, Helsinki
Metro, Helsinki
Concert Hall, Kuopio
Shopping Centre, Tampere

France
Eiffel Tower, Paris
Louvre, Paris
Centre Culturel Pompidou, Paris
Euro-Disneyland, Marne la Vallee
Bastille Opera, Paris
University Hospitals, Strasbourg
Technology Centre Renault, Guyancourt
Japanese Embassy, Paris
Museum La Villette, Paris
Banque de France, Paris
Europaen Parliament, Strasbourg
European Hospital G. Pompidou
Cité de L'Europe, Calais
Alcatel Câbles de Lyon, Lens
Railway Station TGV Nord, Saint Denis
Parfums Christian Dior, Orléans
Moët et Chandon, Epernay
Cuverie Piper Heidsieck Reims
Piscine Sea Club, Monaco
Hotel Le Méridien, Paris Montparnasse
Prison d'Elsau, Strasbourg
Citroën Car Factory, Rennes
Musée de la Mer, Biarritz
Rhône Poulenc, Aubervilliers
L'Oréal, Aulnay/Bois
CERN Nuclear Power Plant, Genève
Hôpital Bouillante, Guadeloupe
Coca-Cola, Dunkerque

Germany
Radio Tower, Frankfurt
Dresdner Bank AG, Frankfurt
Bank für Gemeinwirtschaft AG, Frankfurt
Alte Oper (reconstruction), Frankfurt
Staatstheater Wiesbaden, Wiesbaden
Cargo Plant Airport, Frankfurt
Deutsche Börse, Frankfurt
Deutsche Bundesbank, Frankfurt
Hessischer Rundfunk Radiostation, Frankfurt
European Patent Office, Munich
Bayrische Hypo-Bank AG, H.-O. Munich
Congress-Centrum, Berlin
IKEA, Düsseldorf
Hotel Kempinski Frankfurt, Gravenbruch
Hotel Maritim, Gelsenkirchen, Kiel, Lübeck
Hospital Münster
Hospital Augsburg
Lufthansa AG, Head-Office, Cologne
Maintanance Hall, Flughafen, Cologne-Wahn
Administration Office, Airport Tegel, Berlin
Broadcasting Corporation Hessen, Kassel
Sheraton-Hotel, Frankfurt
Radio Tower „Colonius", Cologne
Reconstruction Land Parliament, Düsseldorf
Steigenberger-Hotel, Berlin
Interconti-Hotel, Berlin
Hospital Neukölln, Berlin
Humboldt-Hospital, Berlin
Schering AG, Berlin
Adlon-Hotel, Berlin
RTL Television Studio, Cologne
Test-Centre Ford-plant, Cologne
Daimler-Benz Administration Office, Stuttgart
Daimler-Benz Development Centre, Sindelfingen
Sevage Works (reconstruction), Heilbronn
VW factory, Mosel
Opera Building, Chemnitz
Heating Power Station University, Konstanz

Great Britain
BBC, London
Lloyds, London
The Cascades, London
Tennis Court No.1, Wimbledon
Moorfields Eye Hospital, London
Marks and Spencers Supermarkets, several locations in GB

Greece
IKEA, Athens
Metro, Athens
Music Hall, Athens
University Hospital and Research Centre, Heraklion
Hellenic Refinery, Aspropygros
Hospitals of Jannina, Heraklion, Athens, Xanthi
Dairy Plants Delta, Ebga, Fage

Hungary
US-Embassy, Budapest
Penta Hotel, Budapest
Ministry of Finance, Budapest
Szabadság Hotel, Budapest
Opel construction plant, Szentgotthárd
Korona Hotel, Budapest
Tesco Supermarket, Szekszárd, Budapest, Siofok,
Flextronics, Zalaegerszeg
OBI Center, Miskolc
OBI Center, Eger
Industrial hall, Kunszentmárton
Montragon industrial hall, Budapest

Iceland
Hotel Saga, Reykjavik
Airport, KevlavikHospital, Reykjavik
Kringlan Centre, Reykjavik

Ireland
Coca Cola Factory, Droghenda
Wheatfield Prison, Clondalkin
Newport Chemicals, Baldoyle
Trinity University, Dublin
Wyeths Medical, Newbridge
Intel Corporation, Leixlip

Italy
Ministery of Post and Telegraph, Rome
IBM Italia, Milan
Linate Airport, Milan
Boehringer Chemicals, Monza

Jordan
Royal Hospital, Amman
Television Studios, Amman

Lebanon
Airport, Beirut
Chronic Care Center, Hazmieh
Faqra Project, Beirut
Gardenia Building, Beirut
Meridien Hotel, Beirut
University, Beirut
St. Joseph Hospital Beirut, Lebanon
Government University Hospital, Beirut
Beirut Municipality Stadium, Beirut
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02/19

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Hôpital Kirchberg, Luxembourg-Kirchberg
Hôptial St. Louis, Ettelbrück
State Street Bank, Kirchberg
Chambre de Commerce, Kirchberg
Codic Bank, Kirchberg

Netherlands
Stopera, Amsterdam
University Maastricht
KLM, Amsterdam
Arena Stadion Amsterdam
Parkstad Stadion, Kerkrade
Philips High Tech Campus, Eindhoven
Luchthaven Schiphol, Amsterdam
Ziekenhuis Gelderse Vallei, Ede
Academisch Medisch Centrum, Amsterdam
Global Switch Amsterdam
Villa Arena Amsterdam
ASLM Veldhoven
De Zilveren Toren, Den Haag
Rijnstate Ziekenhuis Arnhem
Interpolis Tilburg
Feyenoord Stadion Rotterdam
Mondriaan Toren, Amsterdam
Ovale Toren Amsterdam
Technische Universität, Delft
World Trade Center Rotterdam, Amsterdam
Gelredome Arnhem
Cisco Amsterdam

Norway
Storting (Houses of Parliament), Oslo
National Bank, Oslo
Central Hospital, Kristiansand
Mineral Oil Authorities, Stavanger

Oman
Sultan Qaboos Mosque, Muscat
Hospital, Nizwa
Oman Aviation Catering Center, Muscat
New Guest Palace, Barkah
Health Centre, Dibba
Oman Medical Collage Building, Muscat
Youth Centres, Ibri, Sur
Qalhat Housing Complex, Sur
New Dining Hall, Sultan Qaboos University, Muscat
Hotel Development, Ghubra
Khoula Hospital, Muscat

Poland
Hochland dairy, Katy Wroclawskie
Proctor & Gamble, Warsaw
Brewery Lech, Poznan
Opel production plant, Gliwice
Volkswagen, Polkowice
Volkswagen, Poznan
Metropolitan Centre, Warsaw

Portugal
US-Embassy, Lisbon
Auto-Europa (Ford/Volkswagen), Palmela
Hospitals, Lisbon
Portugal Bank, Carregado
Republic of KoreaMariott Hotel, Seoul
Samsung Dokok Tower Palace, Seoul
Inchon International Airport

Romania
Eurocenter, Bucharest
Hotel National, Bucharest
Bank Ion Tiriac, Bucharest
Commercial Romanian Bank, Bucharest
Astra Company Head-Off., Bucharest
Toma Caragiu Theatre, Bucharest
Romanian Chamber of Commerce, Bucharest
Holiday Inn, Otopeni
Romanian Peasant Museum, Bucharest
Romtelecom Headquarter, Bucharest
Romanian Data Soft Co., Bucharest

Russia
Petrowski-Passage, Moscow
Hospitals, Moscow
Duma Parliament Building, Moscow
Borisow Housing Program, Borisow
Krasnodar Housing Program, Krasnodar
Hotel Cosmos, Moscow
Gazprom Administrative Centre, Moscow
Michelin Warehouse, Davidovo
Mayor Office, Moscow
Philip Morris Cigarettes Plant, St. Petersburg
METRO Hypermarkets, several locations in Moscow
City Star Shopping & Entertainment Complex, Moscow
Oncological Hospital, Moscow
Business & Trading Centre Rublyovskoye sh., Moscow
Bottle Factory, Gorokhovets
Pokrovsky Hills Villas, Moscow
Crédit Lyonnais, St Petersburg
Conversbank, Moscow

South Africa
Prisons, Kokstad (Natal), Pietermaritzburg (Natal), Umtata (Eastern Cape), Louis Trichard (North West), Diepkloof (Gauteng), Leeukop (Gauteng)
Ceasars Casino (Gauteng)
Gloden Horse Shoe Casino, Pietermaritzburg
Flamingo Casino, Kimberly
La-Lucia Mall, Natal
Durban International Airport
Acedemic Hospital, Cato Manor (Natal)
Umtata Hospital, UmtataUnitas Hospital (Gauteng)
Bedford Hospital (Eastern Cape)
St Barnabas Hospital (Eastern Cape)
Unileaver Head Office, Umhlanga Rocks (Natal)
Japanees Embasy
Werkmas Office Block (Gauteng)
Herretige Site (Gauteng)
MTN Office, Cape Town
Cape Technicon, Cape Town
Health & Raquet, Bloemfontein
Standard Bank, Bloemfontein

Saudi Arabia
University, Riyadh
King Khaled Airport, Riyadh
Al Ali Hospital, Riyadh

Slovenia
Remats Recycling Plant, Ljubljana
Lek pharmaceutic industry, Ljubljana
Intercity shopping, Maribor
Renault-Revoz motorcar factory, Novo mesto
LECLERC Supermarket, Ljubljana
Gorenje production plant, Velenje
Nuclear power plant, Krško
OBI Centres, Maribor, Ljubljana
Merkator, Ljubljana, Maribor, Koper
Super Nova, Koper
Merkur, Kranj, Celje, Ljubljana, Maribor
Hotel Sion, Ljubljana
Electric Power Plant, Šoštanj
Interspar, Celje
Electric Power Plant, Brestanica
Unitech Ljubljana
BSH, Nazarje
Brewery Union,Brewery Laško
Krka, Novo Mesto

Spain
Insalud Hospital, Madrid
Banco de España, Gran Canaria
Hospital, Gran Canaria
Hotel Europa, Tenerife
Iberotel, Lanzarote
Mercamadrid, Madrid
Fabrica Tafime, Madrid
Fabrica Rockwool, Pamplona
Centro Comercial Diagonal Mar, Barcelona
Hipercor Supermarkets, Barcelona, Las Palmas, Tenerife, Alcalá, CádizHotel AC, Madrid
Fabrica Ford, Valencia
Fabrica Seat, Barcelona
Fabrica Mercedes, Vitoria
Corte Ingles Hypermarket, Barcelona

Sweden
Vasa-Terminals, Stockholm
Volvo Head-Office, Göteborg
Globen, Stockholm

Switzerland
Television Studios, Zurich
University Hospital, Zurich
Swiss Technical University, Zurich

United Arab Emirates
International Airports, Dubai, Abu Dhabi
Shaikh Ahmed Bin Maktoum Palace, Dubai
Park Plaza Hotel and Towers, Dubai
Grand Hyatt Hotel, Dubai
Royal Mirage Beach Resort Phase II, Dubai
Al Raha Beach Resort, Dubai
Madinat Jumeirah Port Al Salaam, Dubai
Sheraton Plaza Hotel & Towers, Dubai
Ministry of Education, Dubai
Dubai MarinaPort of Entry Hotels & Towers, Dubai

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