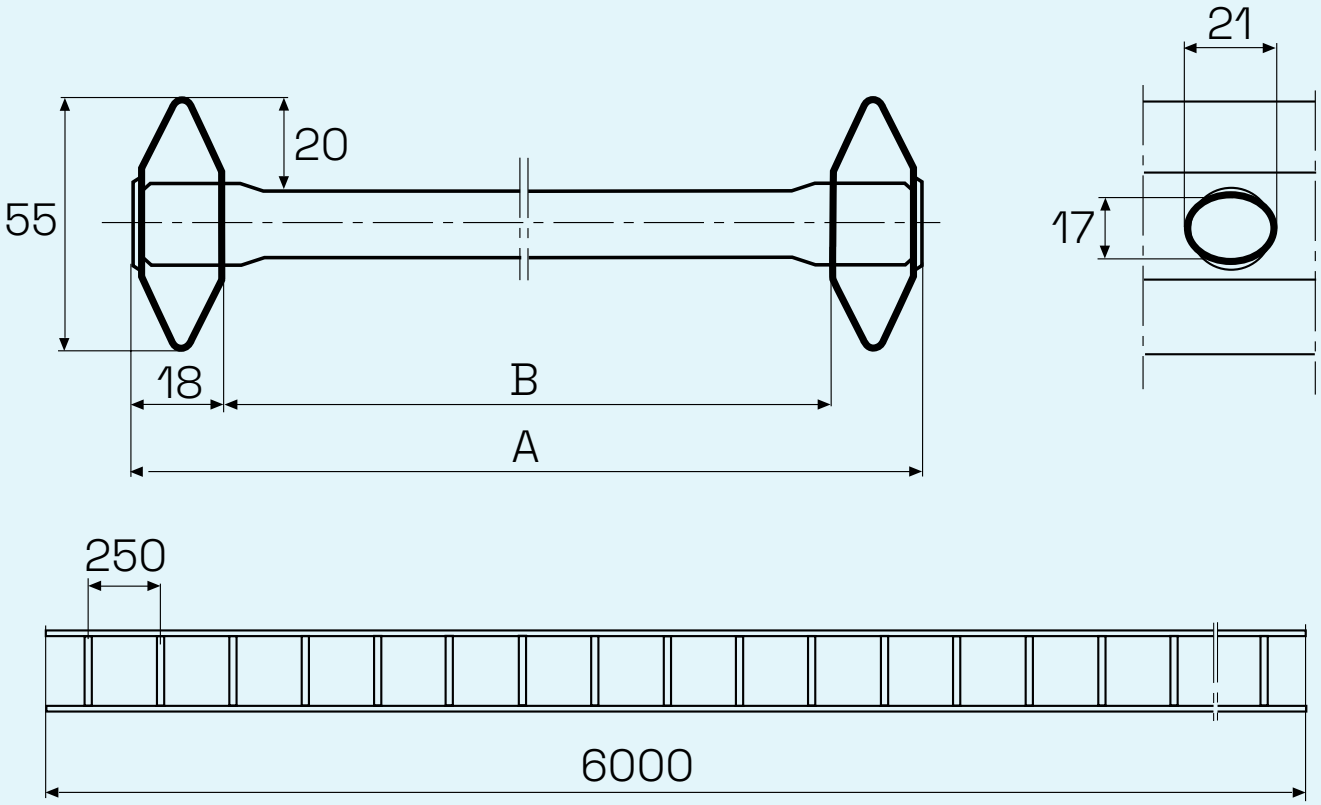
WIBE CABLE LADDERS CATALOGUE 2024

The spine of an exceptional infrastructure

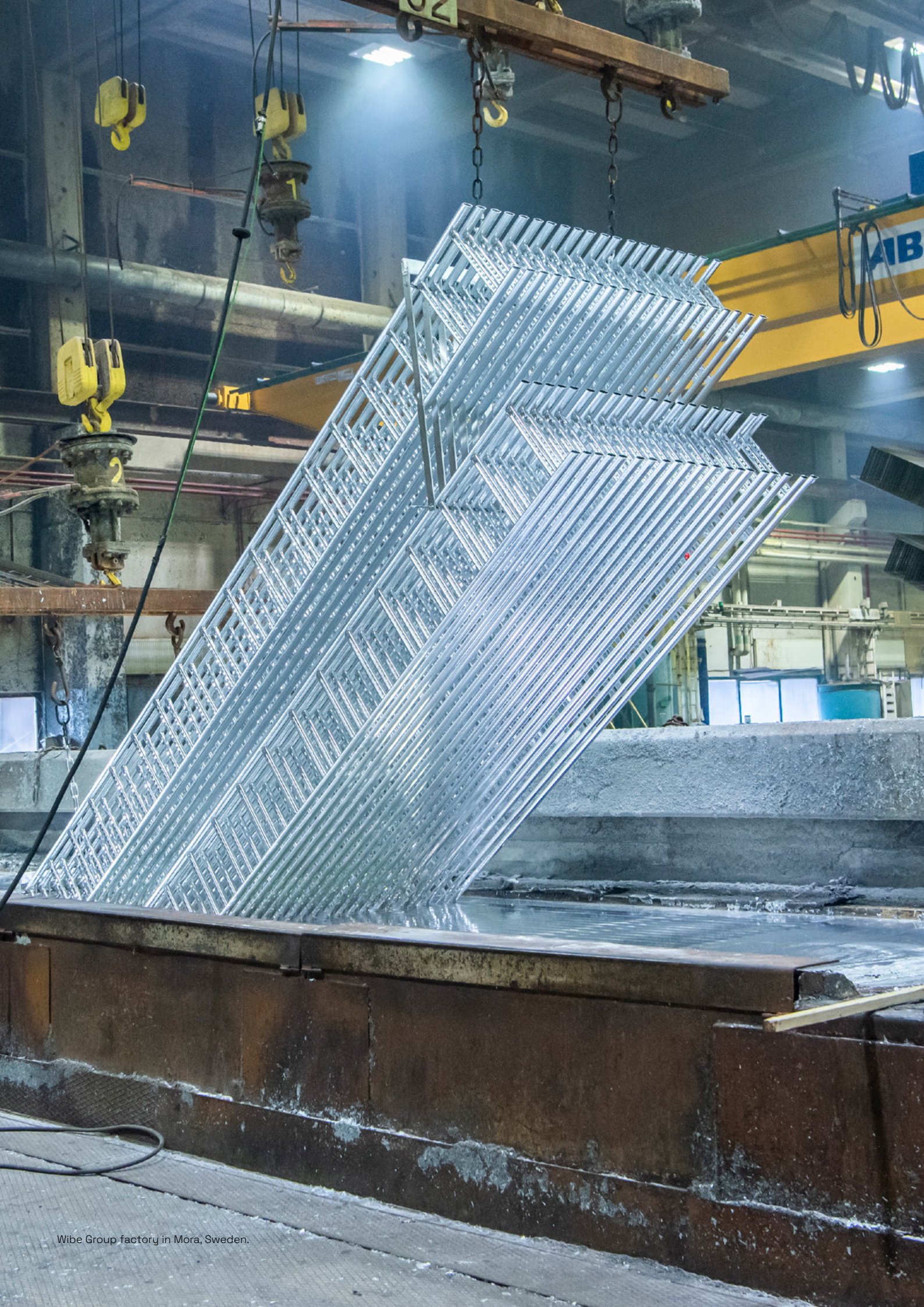


wibe®

Creating clever, uplifting solutions, together with our clients for almost 100 years. Reimagined in June 2021 – for the coming century.

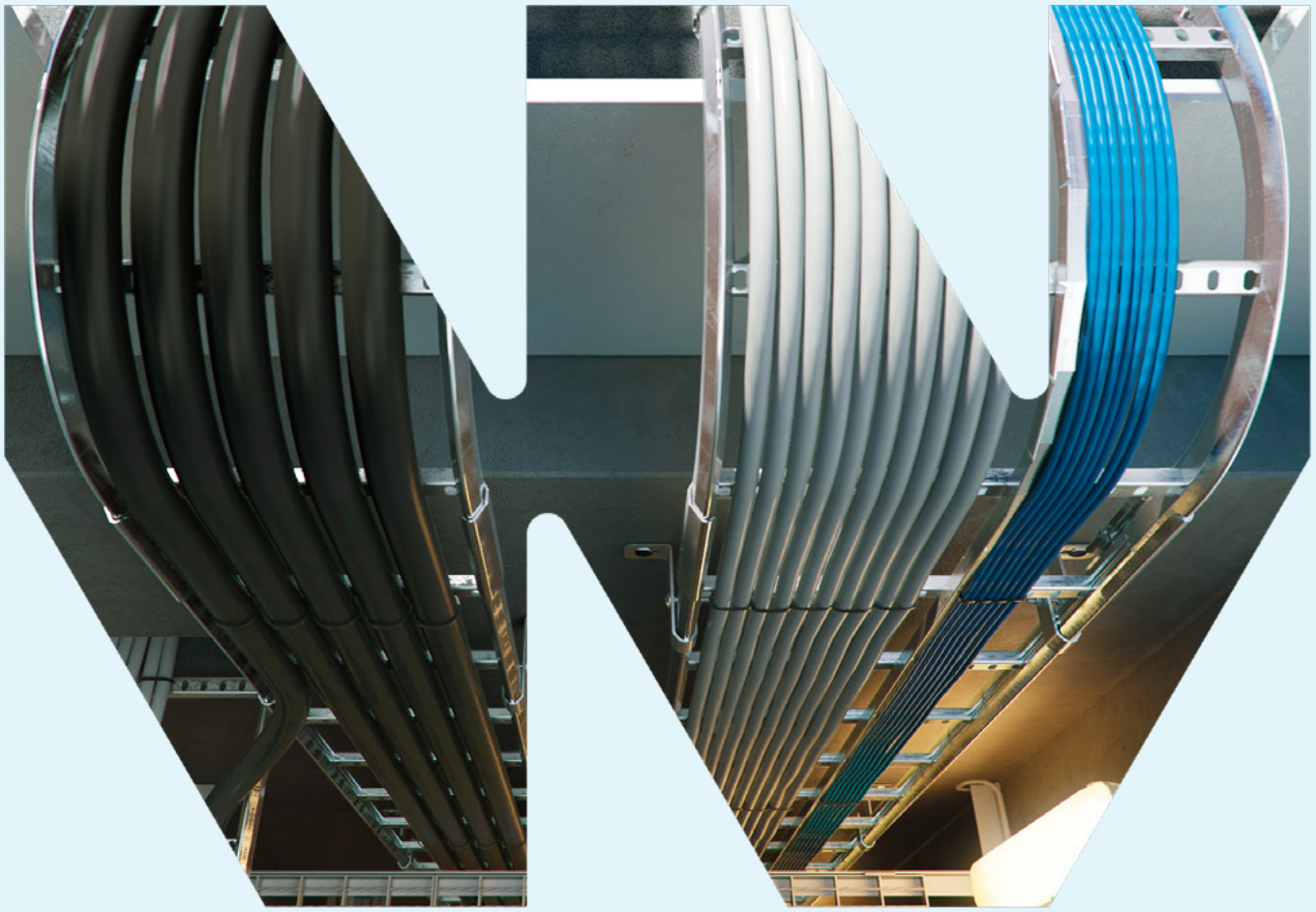
Looking ahead to the next century, we are reinventing ourselves – as Wibe Group – bringing together four of the world's leading cable management brands as a new independent company to offer a complete, innovative range of cable ladders, cable trays and mesh trays – for applications ranging from commercial buildings to extreme demanding industrial environments.

wibe® group



Wibe Group factory in Mora, Sweden.

Content



The spine of an exceptional infrastructure

The cable support system is as essential for the building's infrastructure as the bone structure for the body. The Wibe Cable Ladders are robust and functional, enabling the same ladder to be used both horizontally and vertically. Add to that the extensive range of accessories as well as the wide variety of surface treatments – and you will have a safe and easily maintained solution that can be mounted in any direction or angle to fit round bends and curves in any environment.

Light, strong and endurable

A product with the right properties fit for purpose will meet the high demands on performance, reliability and cost-efficiency. That is why a thorough analysis of the environment in terms of corrosion, pollution, humidity and salt is crucial before deciding on material and surface treatment. Whether you need a ladder for sheltered, dry indoor applications or the harshest offshore environments, we will find the solution for you. Just take a look at our offer.

Wibe KHZ

Cable ladder with round rungs

Length: 6 m.
Width: 150 - 600 mm
Corrosion class: C3 to C5
Surface treatment: Hot-dip galvanized, Zinkpox®

Wibe KHZV

Reinforced cable ladder with round rungs

Length: 6 m.
Width: 200-600 mm
Corrosion class: C3 to C5
Surface treatment: Hot-dip galvanized, Zinkpox®

Wibe covers all corrosion classes

C1

Electro-galvanized

For heated facilities with low exposure to corrosion, such as hotels and offices.

C2

Pre-galvanized

For partly outdoor environments with low exposure to corrosion, for example warehouses and parking garages.

C3

Hot-dip galvanized

For urban and light industrial areas with average environmental corrosion, such as breweries and dairies.

C4

Hot-dip galvanized

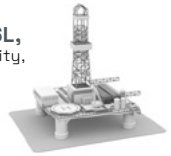
For areas with high levels of environmental corrosion, humidity and airborne pollution such as industrial and coastal areas, chemical plants, dockyards.

C5

Stainless steel AISI 304, Zinkpox®, Industrial areas with high humidity and aggressive atmosphere, and coastal areas with high salinity.

CX

Stainless steel AISI 316L, Offshore areas with high salinity, industrial areas with extreme humidity, and aggressive atmospheres, subtropical or tropical atmospheres.



For more information regarding surface treatments and corrosion classes, please see from page 106

Wibe KHZSP / KHZSPZ+

Cable ladder with open profile and perforated rungs

KHZSP
Length: 3, 4 and 6 m. Width: 200-600 mm
Corrosion class: C2 to CX
Surface treatment: Pre-galvanized, Stainless steel AISI 316L

KHZSPZ+
Length: 4 and 6 m. Width: 200-600 mm
Corrosion class: C3 to C4
Surface treatment: Zink+

Wibe KHZP / KHZPS

Cable ladder with perforated rungs

KHZPS
Length: 6 m. Width: 150-1000 mm
Corrosion class: C2
Surface treatment: Pre-galvanized

KHZP
Length: 3 and 6 m. Width: 150-1000 mm
Corrosion class: C3 to CX
Surface treatment: Hot-dip galvanized, Zinkpox®, Stainless steel AISI 316L

Wibe KHZPV

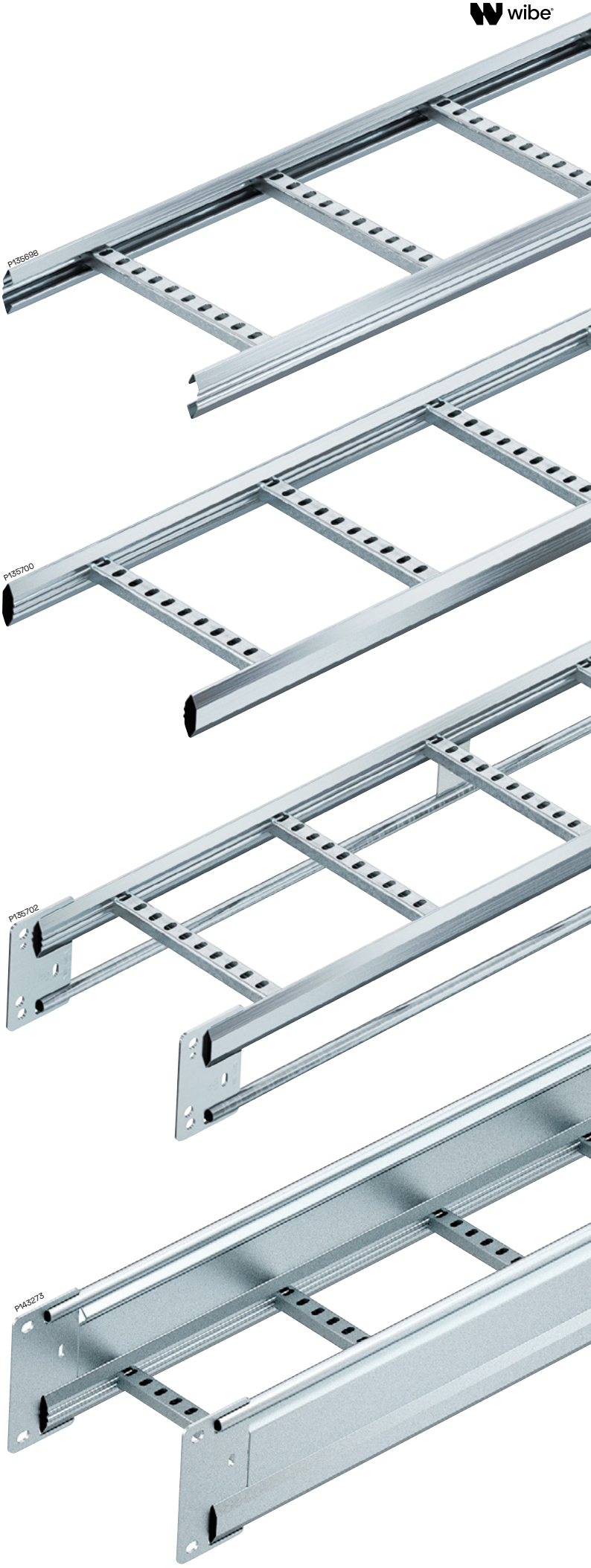
Reinforced cable ladder with perforated rungs

Length: 6 m.
Width: 200-1000 mm
Corrosion class: C3 to CX
Surface treatment: Hot-dip galvanized, Zinkpox®, Stainless steel AISI 316L

Wibe KHZP 20C

High-sided reinforced cable ladder with perforated rungs

Length: 6 m.
Width: 200-1000 mm
Corrosion class: C3 to C4, C5 Zinkpox® on special order
Surface treatment: Hot-dip galvanized, Zinkpox® on special order



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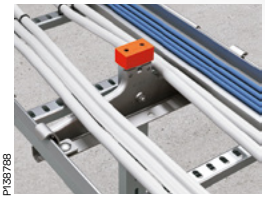


P138788

Support bracket

Sturdy support bracket for centre support of cable ladders on pendant/fixing rails and vertical pieces.

P138787

Coupling 22

Versatile joint for horizontal or vertical branches in any angle. Suitable for 90 bend, T- or X-junctions, or as a riser.

P135711

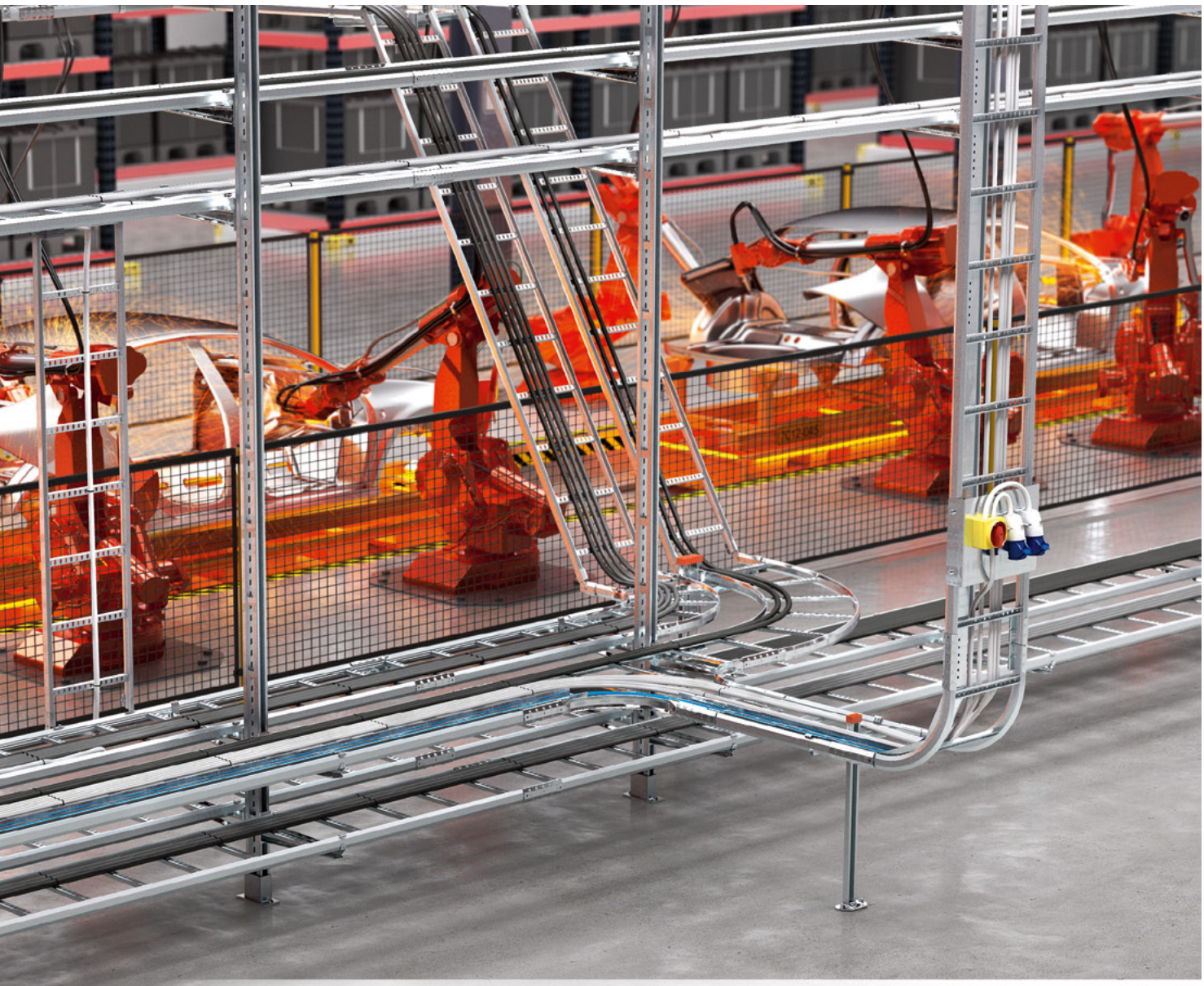
Installation plate

Mounted on vertical cable ladders and used for terminal boxes, contact breakers etc.

P135711

Vertical piece

Multipurpose support, either used from the ceiling or from the floor. Ready for either cantilever arms or support brackets.



Organised and ready for constant change

In a high-tech industry the infrastructure needs to be modular and flexible, minimizing the risk of costly downtime when shifting to a new design or model. This is why the Wibe Cable Ladder system must be agile enough to be completely reconfigured in a matter of days.

An advanced industrial environment can really put a strain on the power and network infrastructure. For Wibe cable ladders, there is no application too complicated. Our cable ladder offer includes a wide range of dimensions and accessories like bends, raisers, cantilever arms, brackets, joints, couplings and much more, making the entire solution flexible and adjustable enough to take on any challenging task.

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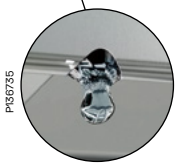
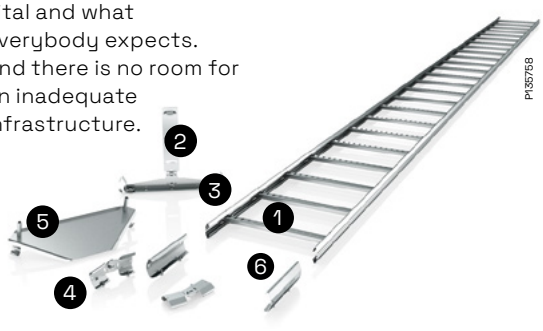
The challenge
A typical urban environment. Thousands of people commuting every day. It is busy and crowded. Departures and arrivals on time are vital and what everybody expects. And there is no room for an inadequate infrastructure.



P136735

A smart feature is the drainage holes placed at the top and bottom of the open profiles of the KHZSP stainless steel ladder, preventing moisture from filling up.



P135758

The solution
This installation includes only a few parts:
1. KHZSP Cable ladder in stainless steel
2. Round bar fixing for ceiling
3. Support bracket 3
4. Coupling 22
5. Angle plate 33
6. Joint 21

On track with the future

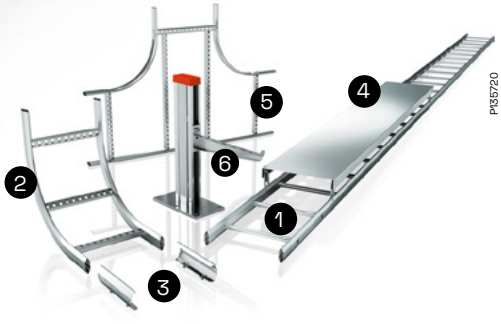
Today we constantly meet increasing expectations on performance, flexibility and sustainability. Advanced constructions require top quality in every detail and keeping up with technical development is a challenging task. Our goal is to prosper business performance while conserving environmental resources.

The monorail train illustrates a modern, technological city infrastructure, but the idea of an elevated train on a single track actually dates back to the beginning of the 20th century.
Today the monorail trains are often used as fast intercity connections, running through tunnels and open landscapes, exposed to rain, ice and snow – at a speed often exceeding 300 km/h.

Yet the journey is smooth, comfortable and quiet. Accentuating demands on capacity and comfort have spurred the development of advanced technique and sophisticated design. With the comprehensive offer that is constantly refined and improved, Wibe Cable Ladders match all the requirements by far.

P135703

The challenge
Heavy industrial environment with a lot of pollution. Uptime is crucial, no room for costly production shutdowns.



P135720

The solution
These are the only parts needed:
1. KHZ Cable ladder in hot-dip galv
2. Riser 18
3. Joint 21
4. Cover plate
5. T-junction 16
6. Vertical piece 20FS, Cantilever arm 50, End cap

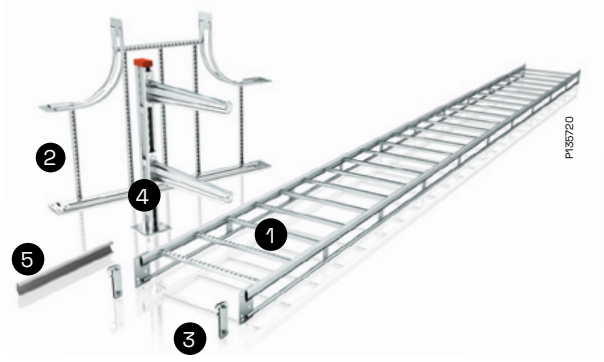
Breaking ground for heavy-duty applications

No environment is too tough or too dirty. With the appropriate material and ideal surface treatment of the cable support solutions, reliable power and network supply is secured.

It is noisy, busy and very harsh contidions. Maintaining continuous production is top priority, and any malfunctions will jeopardize both safety of the staff and the all important profitability. Here the cable support solution is really put to the test. The standing vertical pieces can carry several layers of ladders on top of each other, securing easy maintenance and service. Details like round rungs and cover plates protect the installation from dirt and damage.

P1357704

The challenge
An environment like a huge sports arena calls for extra strong solutions – both in terms of safety and easy maintenance in odd spaces.



Few but strong
The installation above is assembled with a limited number of parts:

1. KHZPV Cable ladder in hot-dip galv
2. T-junction 56
3. Take-off hook 47
4. Vertical piece 20F
   Cantilever arm 50F
   End cap
5. Profile protection

Safety and dependable operation in focus

Tens of thousands of people, roaring, cheering, all eyes on the game. High above is the headlight system, sustained by an extensive infra-structure of cable support solutions. Downright performance is what everybody expects. And what they can count on.

If the task is to support error-free, reliable lighting for the field and the audience, along with power and network supply for broadcasting, only the strongest is good enough. Wibe reinforced ladder KHZPV has an impressive distribution load of 150 kg/m (at 4 m support distance), backed up by sturdy vertical pieces, cantilever arms, junctions etc. Another good feature is the profile protection, allowing safe tap-offs with secured maximum bend radius anywhere on the ladder. Equipped with a label, the profile protection can also be used for clear marking and identification.

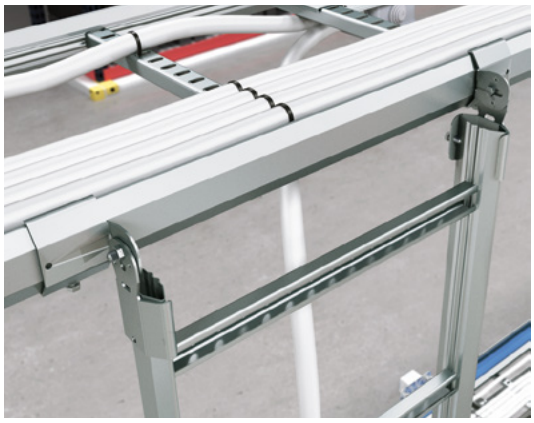
Accessories and benefits

Screwless joint

When joining two ladders the screwless joint is very handy. Just snap it in place. The joint is suitable for fitting of 90° bends, T- and X-junctions and vertical mounting.
No extra earthing is necessary.

Coupling 22

This ingenious coupling allows mounting of horizontal or vertical branches at any desired angle. It can be used for 90° bends, T-junctions, X-junctions, or as a riser.
In the section Use and installation in this catalogue you will find a lot of installation examples.



Take-off hooks

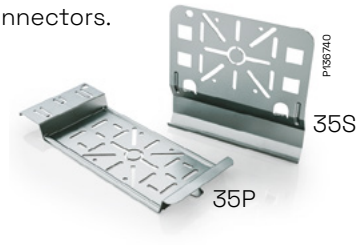
Convenient hooks for use on ladders to make 90° branches. Just hook on and take off at any place on the ladder. Equipped with an extra hole for earthing or when vertical locking of the ladder is needed.

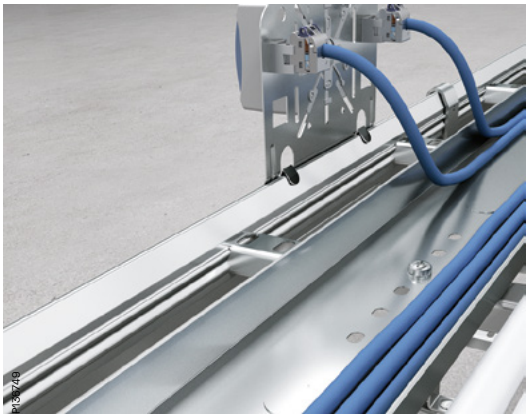
T-bolt 26U

This clever bolt has a metal spring which allows it to remain anywhere in the fixing rail before it is even fixed. Just apply the T-bolt in the desired position, adjust it if necessary and then fix it in place by tightening the nut.

Junction box plates

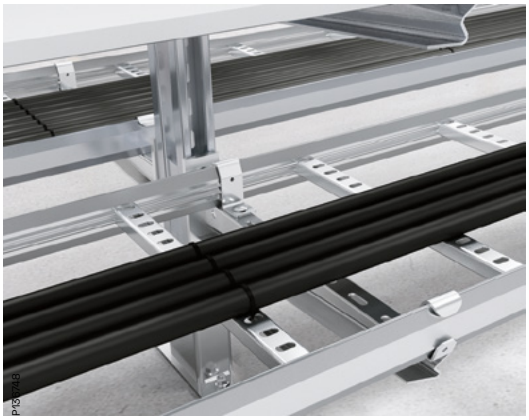
The multi-purpose junction box plate 35S can be mounted in standing or hanging positions on the side sections of the cable ladder. The pre-defined hole pattern fits both LexCom and Actassi connectors. The junction box plate 35P is intended to be mounted between the rungs of the cable ladder.





Tele-conduit

Keep the entire installation tidy and well organized – the tele-conduit enables the ladder to carry both power cables and network cables.

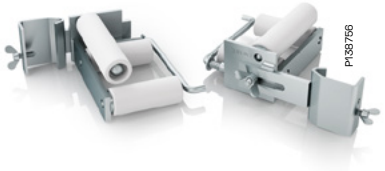


Support

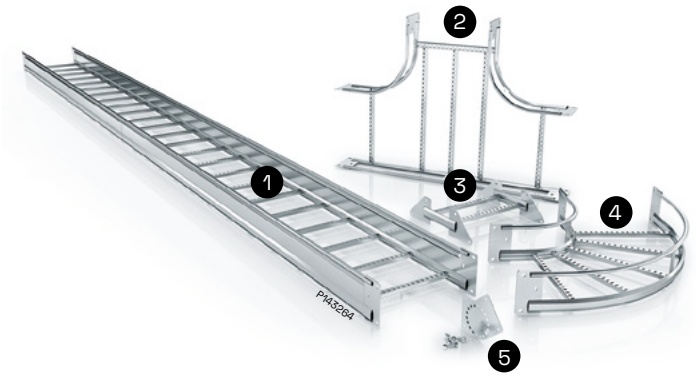
The different supports like vertical pieces, fixing rails, cantilever arms and brackets are delivered in numerous sizes, offering swift flexibility as well as strength and organizational qualities to any complex installation.

Cable roller

The cable rollers simplify pulling of cables. The rollers are adjustable in height to allow cables to pass underneath. Suitable for 90° bends, T- and X-junctions as well as risers.



The challenge:
To meet the toughest requirements of extra heavy load and wide support dist-ances in the most critical industrial environments.



Few but strong
The installation above is assembled with a limited number of parts:
1. KHZP 20C Cable ladder in hot-dip galv
2. T-junction 20C
3. Riser coupling 20C
4. 90° Bend 20C
5. Vertical coupling 20C

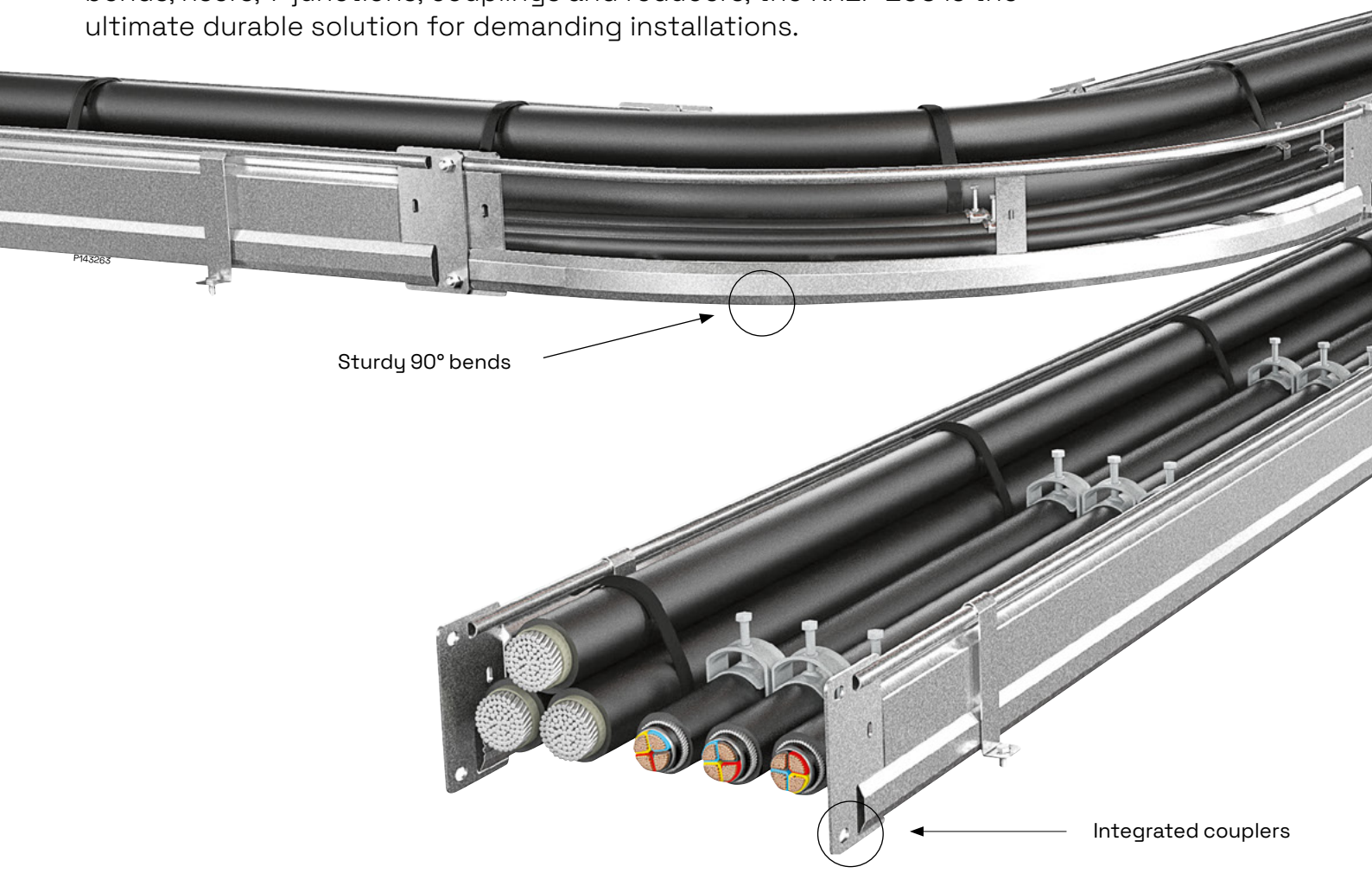
When conditions call for extreme loads and the widest support spans

Over the years, the Wibe Cable Ladder system from Wibe Group has been developed to tackle all kinds of harsh environments, such as Oil & Gas and chemical industries. Now the range has been further reinforced.

The latest and most powerful addition to our cable ladder portfolio is KHZP 20C – a strong, high-sided ladder with excellent properties. Meeting the NEMA 20C SWL standard, 149 kg/m at 6-metre span/safety, this new range offers long spans with heavy-load qualities. Nevertheless, the KHZP 20C range enables fast and easy installation. For example, the couplers are integrated into the ladder sides, providing much faster mounting time than conventional systems requiring splice plates and multiple nuts and bolts. All in all, the KHZP 20C is a solution that contributes heavily to a safe, easily maintained and long lasting installation.

Based on proven expertise and continuous refinement

The KHZP 20C has evolved from many years of renowned development. With impressive dimensions and easy-to-apply accessories, such as bends, risers, T-junctions, couplings and reducers, the KHZP 20C is the ultimate durable solution for demanding installations.



Width 200–1000 mm

Adjustable vertical coupling

Robust T-junctions

6 m support distance

Riser 20C for internal or external bends

Wibe KHZP 20C is reinforced all the way

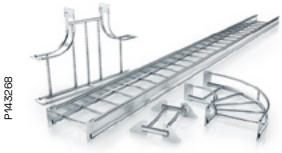
All the accessories are dedicated and tested to meet the high load requirements.

Install anywhere at any angle

Fixed angle couplings or couplings that can be adjusted to any angle on the horizontal or vertical plane.

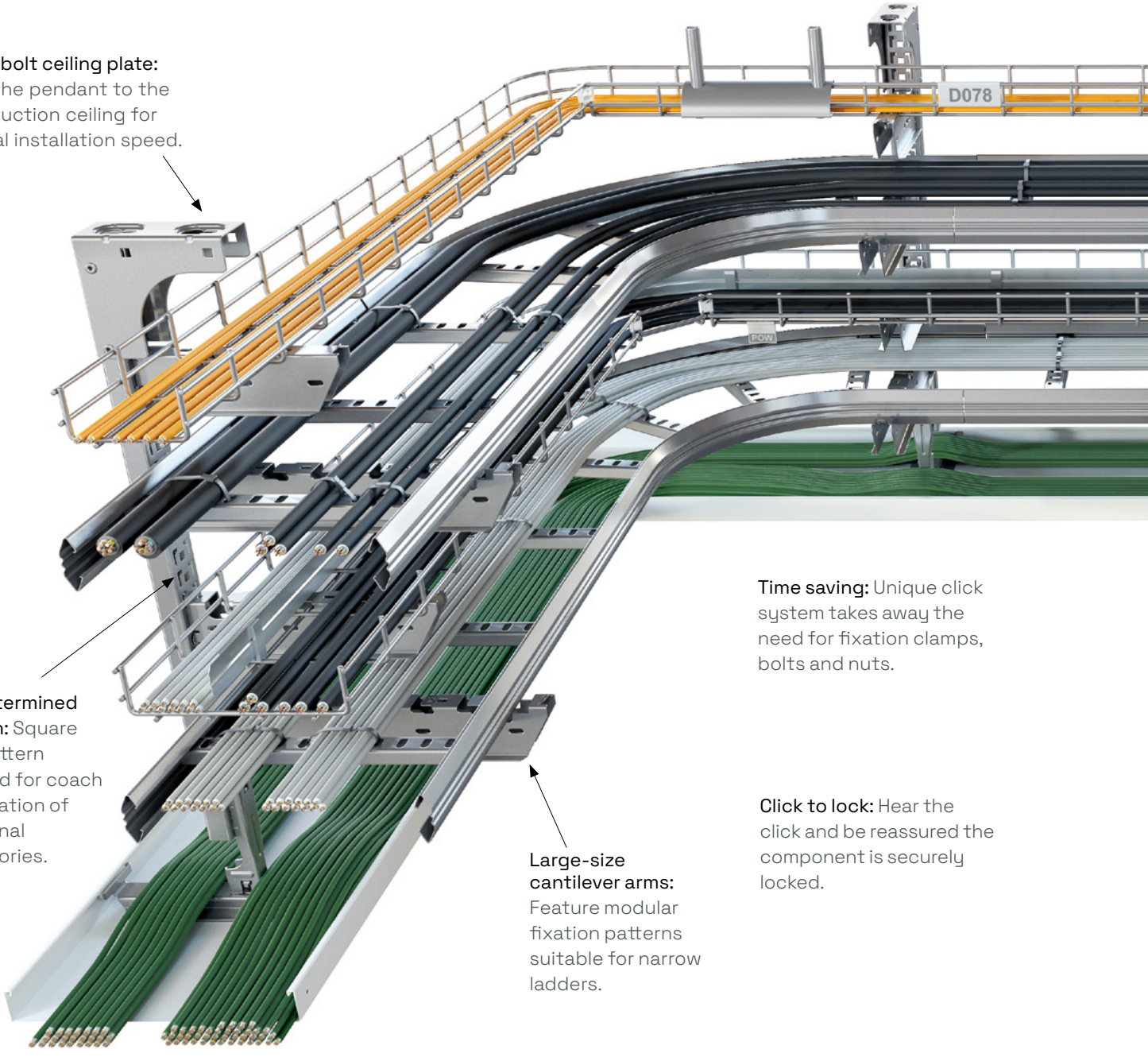
Easy to reduce and expand

Increase or decrease the routing of cables from a wide to a narrow cable ladder.



Engineered to set the standard in commercial building installations.

Modern commercial buildings feature cable routing installations that demand flexibility and efficiency. The revolutionary CLX3 support system is ideal regardless of the cable support required, because it is specifically developed to be smoothly and effectively integrated to the same support system.
CLX3 incorporates a set of unique benefits to deliver the most smart, lean and simple cable routing management.



Single bolt ceiling plate: Fixes the pendant to the construction ceiling for optimal installation speed.

Time saving: Unique click system takes away the need for fixation clamps, bolts and nuts.

Pre-determined fixation: Square hole pattern adapted for coach bolt fixation of additional accessories.

Click to lock: Hear the click and be reassured the component is securely locked.

Large-size cantilever arms: Feature modular fixation patterns suitable for narrow ladders.

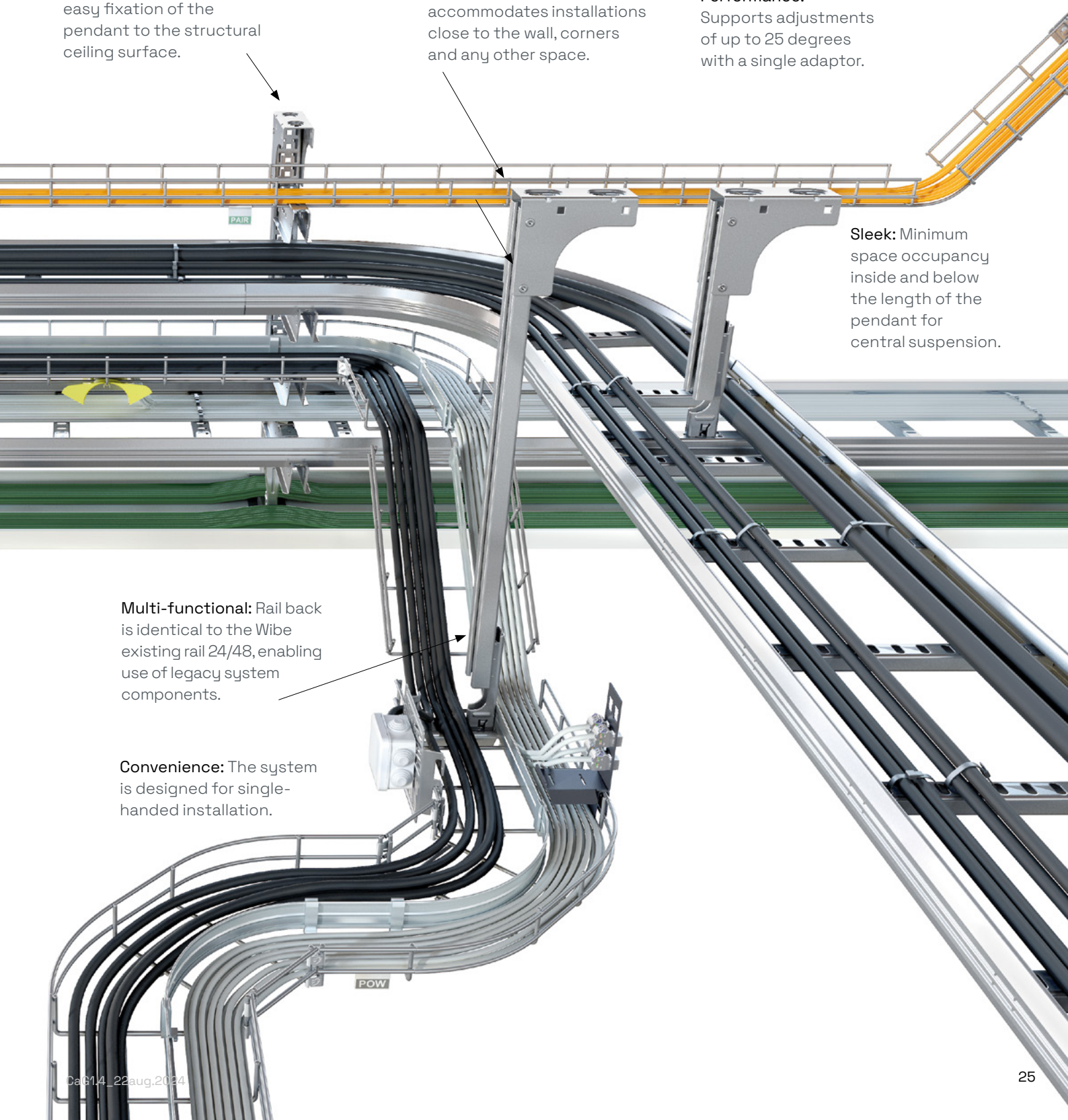
Robust design: Capable of bearing distances up to 4m, requiring less supports to be installed.

Lean: Fewer components needed, leading to more efficiency all along the process from BIM design through ordering, storage and installation.

Key hole fixation: Smart design to facilitate easy fixation of the pendant to the structural ceiling surface.

Flexible: The pendant accommodates installations close to the wall, corners and any other space.

Performance: Supports adjustments of up to 25 degrees with a single adaptor.



Sleek: Minimum space occupancy inside and below the length of the pendant for central suspension.

Multi-functional: Rail back is identical to the Wibe existing rail 24/48, enabling use of legacy system components.

Convenience: The system is designed for single-handed installation.

Certified according to DIN4102-12 for fire resistance E30, E60 and E90

The longer the installation is resistant to fire, the longer the electric system will be able to operate normally. Wibe products with E30, E60 and E90 certification help to protect life and property in the event of a fire. The well-proven, reliable system will prolong the access to critical emergency services, such as fire suppression systems, emergency lighting, ventilation and other basic installations.

The Wibe cable ladders meet the toughest product standards:
IEC 61537
DIN 4102-12 for fire resistance classes E30, E60 and E90

The Wibe cable ladder system is also approved by Det Norske Veritas (DNV) for offshore and shipyard use.

The Wibe cable ladder system is also approved according to UL E212854 for use in the US and Canada.

About the test

A selection of the Wibe products have proven excellent fire resistance properties. You can feel confident when installing Wibe cable ladders in environments requiring either E30, E60 or E90 certification.
The cable ladders with supporting system and Dätwyler Pyrofil KERAM E30, E60 and E90 cables were tested for 90 minutes in a temperature of up to 1000°C without collapsing, with the electrical performance still remaining intact.

For installation specification please see the Technical part in this catalogue.

Our Configuration tool – the right choice

The smartest way to be efficient and profitable, is to cut down on costs. Material that is either insufficient or oversized, means actually money down the drain. Our configuration tool helps you calculate the dimensions you need, eliminating waste of your time, money and effort.

Make your specification accurate, flexible and up-to-date

The Wibe/Defem configuration tool is a unique and user-friendly assistant to specifiers, wholesalers and installers. The tool is free of charge and perfect for optimizing the amount of material for any given installation. No previous experience is necessary – all you need is a standard web browser and a personal login (provided from Wibe Group), and you are ready to go.

Make the right choice

It is all about making the right choice. Just specify your requirements regarding environment/corrosion class, load and support distances etc and you will have a customized selection for your installation. Your calculations are saved, so you can adjust them at any time. The configuration tool is automatically updated as products are launched or replaced, enabling accurate and exact configurations. You can also easily have the BOM (Bill of Material) transferred to Excel, to be used as your shopping list.

Today the configuration tool is available in English, Russian and Swedish, but more versions are under development.

3.2 million metres manufactured each year.

Wibe Cable Ladders form the backbone of the modern infrastructure.

Experience and knowledge take you higher

Creating shared value

Throughout the years we have stacked up an outstanding amount of knowledge and skills as part of our resources for continuous product development.
Another essential contribution to this is the experience of our customers. Together we investigate the needs of today and tomorrow in our common goal towards finding even more effective, sustainable and future-proof solutions. Our close cooperation brings increased knowledge and stronger competitiveness to both parties, resulting in successful projects that draw attention all over the world.

The Wibe cable ladder system handles routing of power, data and control cables. All with outstanding conditions for high performance and problem-free maintenance.

Burj Khalifa, Dubai. The world's tallest building stretches close to 830 m into the air. As a comparison, the Sears Tower in Chicago reaches 442 m and the Empire State Building in New York comes in at 381 m. Increasing demands on longer, taller and wider constructions call for kilometres of cables – and an infrastructure backbone of comprehensive cable support solutions. As the only approved supplier of cable support to the Hyder Consultant with Emaar, Wibe Group Electric delivered 1,500 pcs of KHZP Cable Ladders (9,000 metres).

P129702

Wibe Cable Ladders KHZ and KHZP installed at Borealis Stenungsund.
Borealis in Sweden supports customers with speciality plastics for some of the largest energy supply, oil and water pipeline projects in the world.


P129687

Wibe Cable Ladder KHZV installed at Outokumpu Stainless steel, Avesta Sweden.


P126020

Wibe Cable Ladder KHZP installed at a Nuclear power station in Russia.

P136521

Wibe Cable Ladder KHZP installed at Lukoil sleetproof mooring line Varandei, Barents Sea Russia.


P129687

Wibe Cable Ladders KHZ installed at SSAB Borlänge Steel plant, Sweden.


P129702

Wibe Cable Ladder KHZP installed at BP/ARCO/Technip – Al Rayyan Development, Qatar.

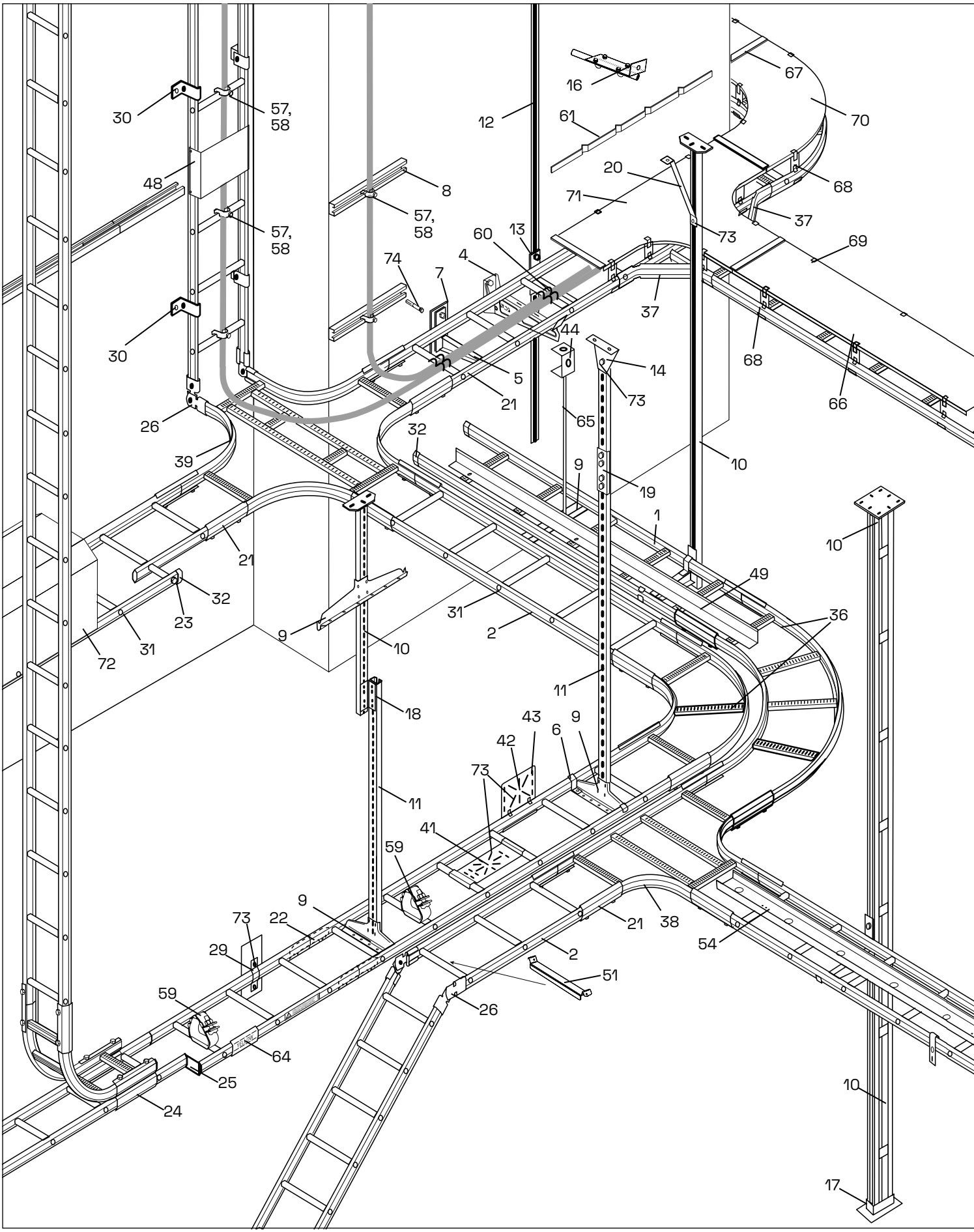

P129698

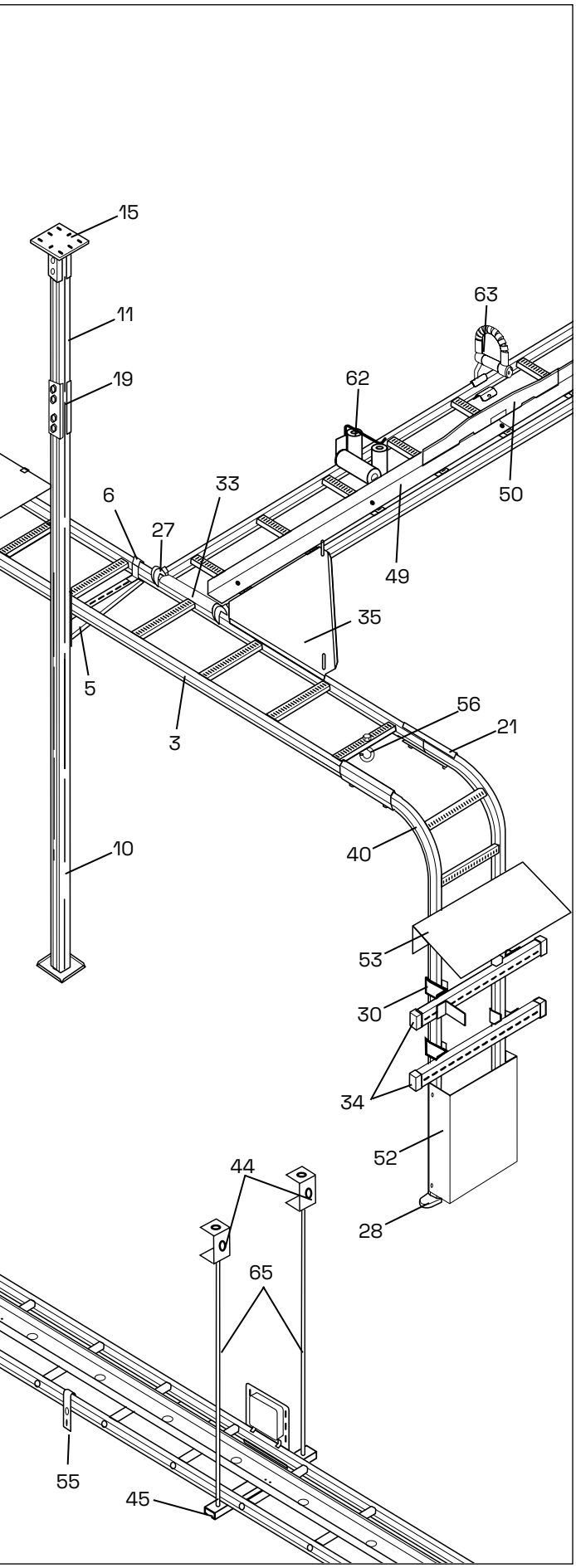
Wibe Cable Ladder KHZP installed at Kista Science Center, Sweden.


P129750

Wibe Cable Ladder KHZV installed at Gärdstaverken, Sweden.

Installation summary - KHZSP, KHZSPZ+, KHZPS, KHZ, KHZP

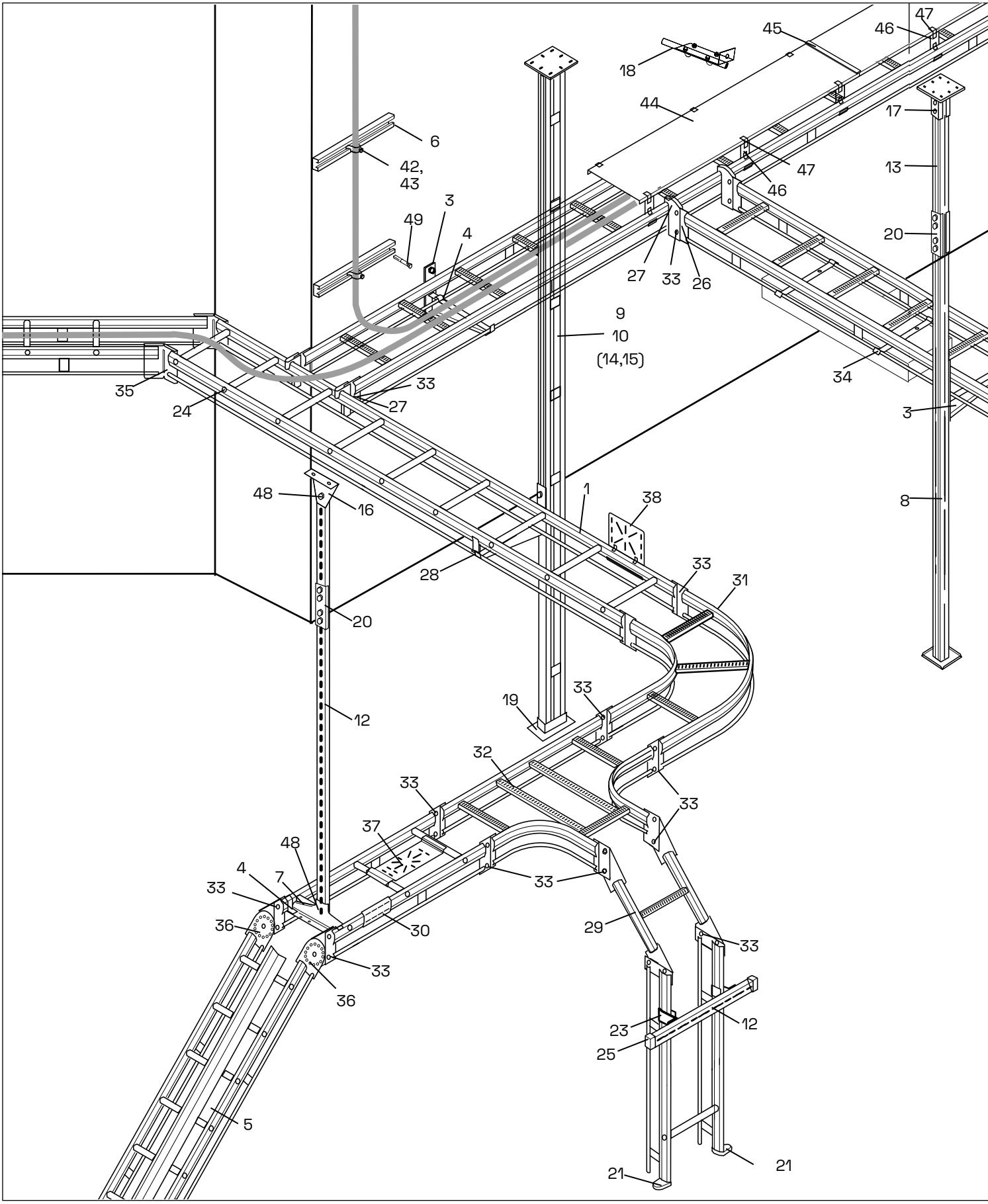


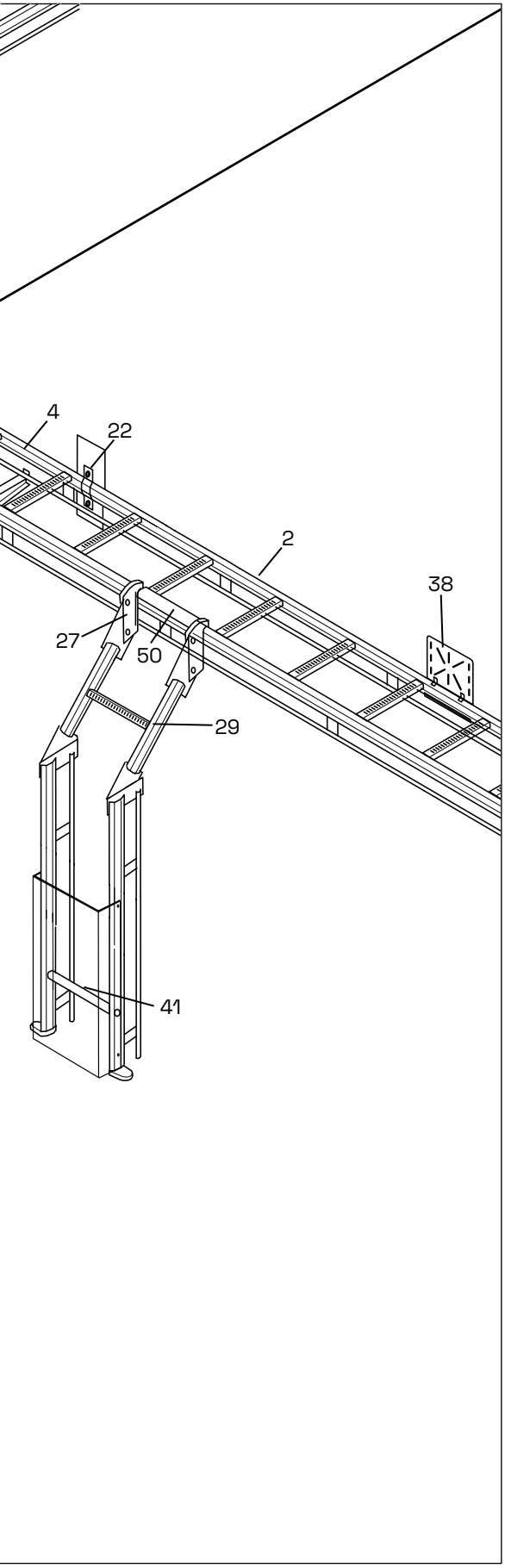


Components

1 Cable ladder KHZSP, KHZSPZ+
2 Cable ladder KHZ
3 Cable ladder KHZPS, KHZP
4 Cantilever arm 50i
5 Cantilever arm 50, 50F
6 Profile clamp 42
7 Back plate 40
8 Mounting rail 40
9 Support bracket 3, Support bracket 6
10 Vertical pieces
11 Pendant/Fixing rails
12 Fixing rail 24/26x53 for casting-in
13 T-bolt 26U
14 Ceiling bracket 5
15 Pendant base plate 520
16 Round bar fixings(ceiling,wall,floor)
17 Rail fixing support 24/20F, 24/20FS
18 End bracket HT-11
19 Pendant joint 2J, 2FJ, 20J
20 Pendant bar 1
21 Joint 21
22 Joint 9
23 Intermediate connection bolt 29
24 Dropper joint 32
25 Reducer 31
26 Coupling 22
27 Fixed take-off hook 4
28 End connection 10
29 Profile clamp 41
30 Wall bracket 11/25, 11/75
31 Cross member plug 27
32 End plug 28, 28i
33 Profile protection 28P, Profile protection plate
34 End plug 28E, 28D, 28C, 28F
35 Angle plate 33/1, 33/2, Corner inner radius
36 90° bend 15
37 Junction coupling 14
38 T-junction 16
39 X-junction 17
40 Riser 18
41 Junction box plate 35P
42 Junction box plate 35S
43 Earth clamp W79
44 Ceiling bracket TF10 and TF16
45 Support bracket HS0
48 Installation plate 61
49 Dividing strip 39
50 Distance piece W39
51 Rung reinforcement
52 Cover plate 65
53 Junction box cover
54 Tele-conduit 36
55 Clamp 12
56 Hook 8
57 Cable clamp ARX
58 Insert piece EM
59 Cable clamp ER
60 Lashing wire
61 Mounting rail, WMS25L
62 Cable roller S
63 Cable roller 38 Rig´n roll/Cable roller set 66
64 Marking plate 93
65 Threaded rod W76 M10
66 Cover W5
67 Cover joint
68 Profile support piece 37
69 Cover clamp
70 Cover 90° bend
71 Cover T-junction
72 Protecting cover
73 Screw sets
74 Expansion bolts

Installation summary / KHZV, KHZPV

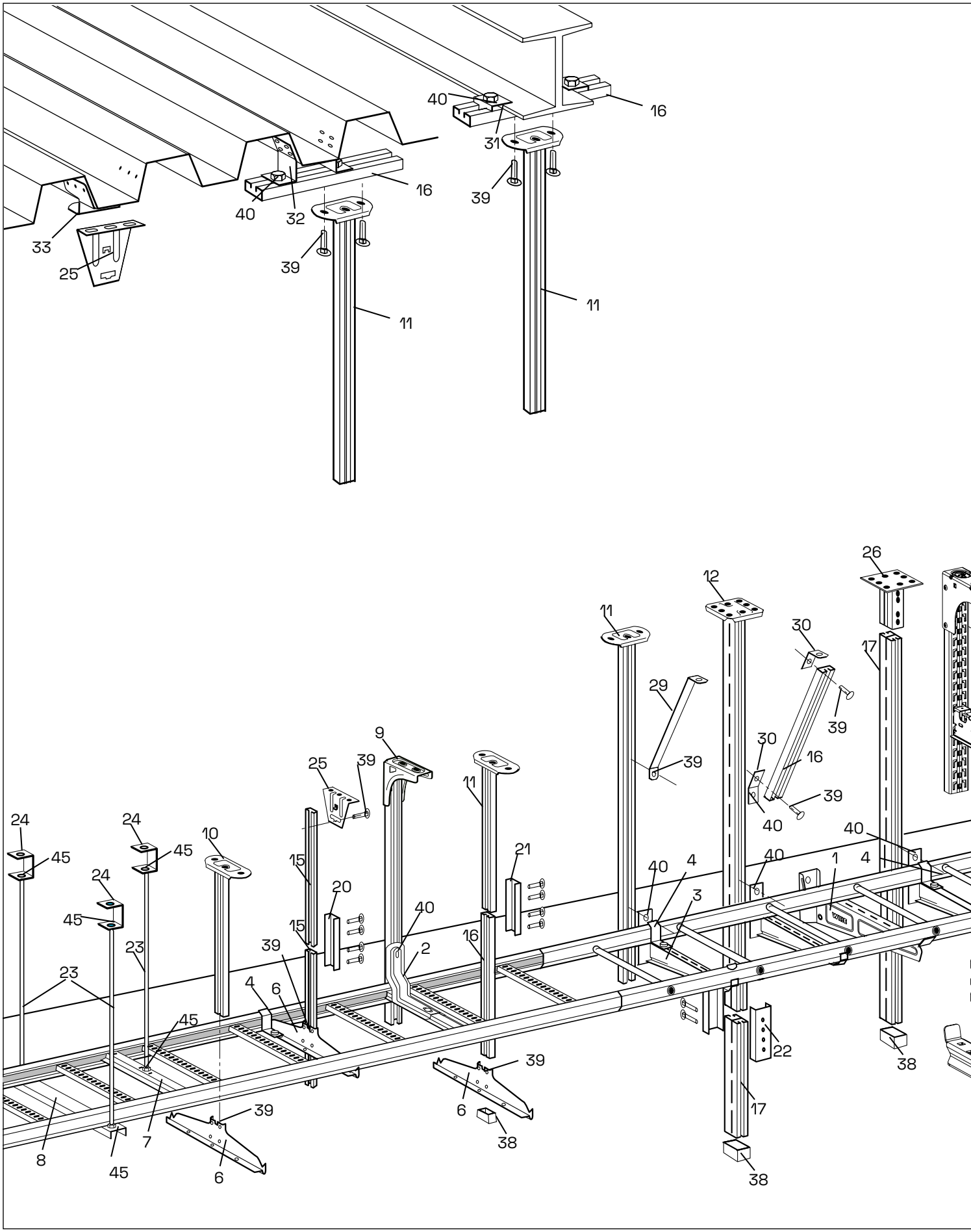


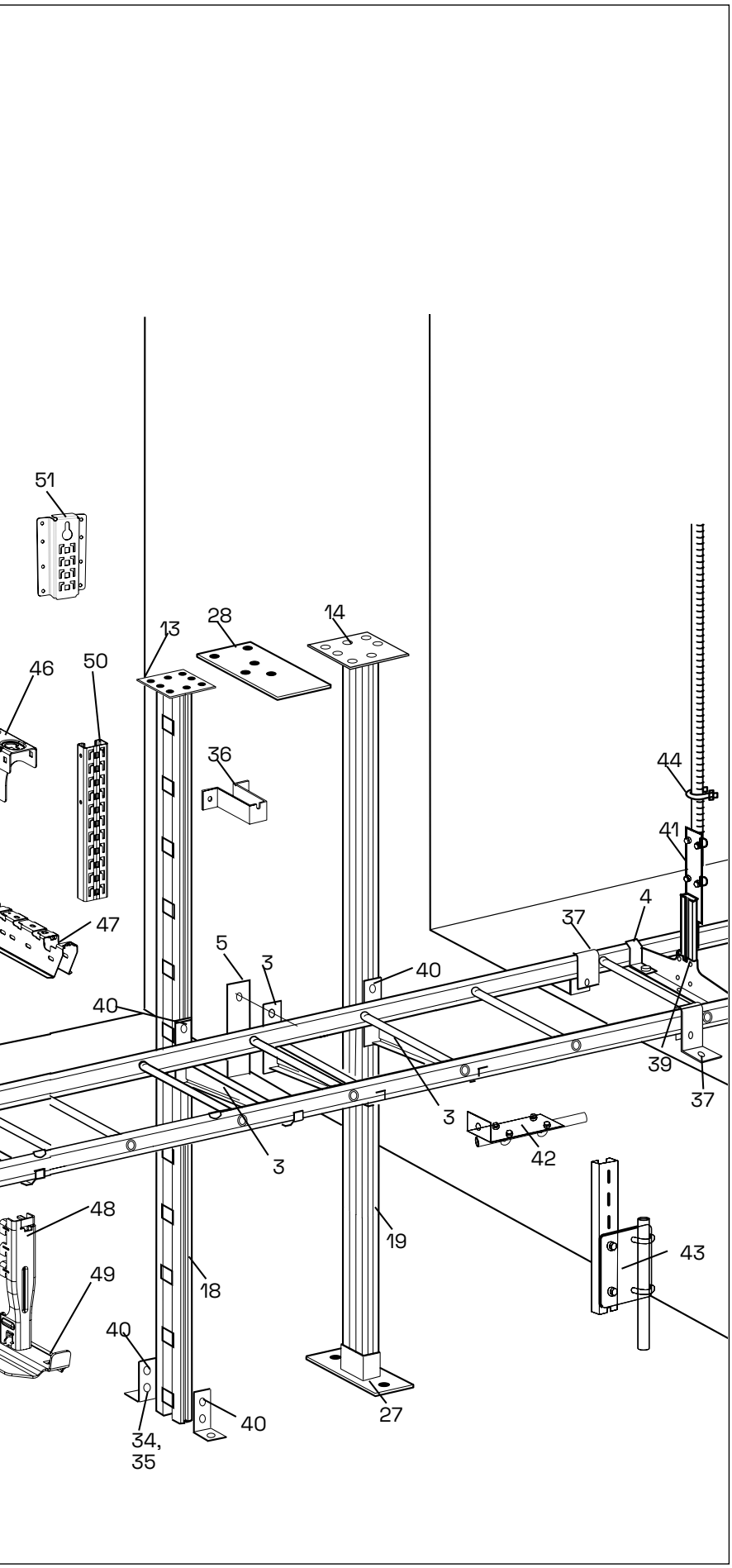


Components

1 Cable ladder KHZV
2 Cable ladder KHZPV
3 Cantilever arm 50F
4 Profile clamp 42,43
5 Dividing strip 39
6 Mounting rail 40
7 Support bracket 3
8 Vertical piece 20
9 Vertical piece 20F
10 Vertical piece 20FS
12 Pendant/Fixing rail 24/48
13 Pendant/Fixing rail 24/20
14 Pendant/Fixing rail 24/20F
15 Pendant/Fixing rail 24/20FS
16 Ceiling bracket 5
17 Pendant base plate 520
18 Round bar fixings (ceiling, wall, floor)
19 Rail fixing support 24/20F, 24/20FS
20 Pendant joint 2J, 2 FJ, 20J
21 End connection 10
22 Profile clamp 41
23 Wall bracket 11/25, 11/75
24 Cross member plug 27
25 End plug 28E, 28D, 28C, 28F
26 Joint 45
27 Take-off hook 47
28 Profile support piece 46
29 Riser coupling 49
30 Marking plate 93
31 90° bend 55
32 T-junction 56
33 Screw set M12
34 Lighting bracket 200
35 Coupling 44
36 Coupling 51
37 Junction box plate 35P
38 Junction box plate 35S
41 Cover plate 65
42 Cable clamp ARX
43 Insert piece EM
44 Cover W5
45 Cover joint
46 Profile support piece 37
47 Cover clamp
48 Screw sets
49 Expansion bolts
50 Profile protection 28P

Suspension components / KHZSP, KHZSPZ+, KHZPS, KHZ, KHZP, KHZV, KHZPV





Suspension

1 Cantilever arm 50i
2 Cantilever arm 30
3 Cantilever arm 50, 50F
4 Profile clamp 42
5 Back plate 40
6 Support bracket 3
7 Support bracket 6
8 Support bracket HS0
9 Vertical piece 2Fi
10 Vertical piece 2
11 Vertical piece 2F
12 Vertical piece 20
13 Vertical piece 20F
14 Vertical piece 20FS
15 Pendant/Fixing rail 24/34
16 Pendant/Fixing rail 24/48
17 Pendant/Fixing rail 24/20
18 Pendant/Fixing rail 24/20F
19 Pendant/Fixing rail 24/20FS
20 Pendant joint 2J
21 Pendant joint 2FJ
22 Pendant joint 20J
23 Threaded rod W76 M10
24 Ceiling bracket TF-10, TF-16
25 Ceiling bracket 5
26 Pendant base plate 520
27 Rail fixing support 24/20F, 24/20FS
28 Ceiling plate 20F, 20FS
29 Pendant bar 1
30 Bracket 60/40
31 Beam clamp 5BK
32 Ceiling bracket 5TP
33 Ceiling bracket 5TPA
34 Angle bracket 5L
35 Angle bracket 5LS
36 Wall bracket 20, 20F
37 Wall bracket 11/25, 11/75
38 End plug 28E, 28D, 28C, 28F, 28J
39 Screw set 2S, 22S
40 T-bolts
41 Round bar fixing for ceilings
42 Round bar fixing for walls
43 Round bar fixing for floors
44 Clamp set M6
45 Nut M10
46 CLX³ Pendant 24/48
47 CLX³ Cantilever arm
48 CLX³ Central suspension adapter
49 CLX³ Central suspension bracket, Ladder KHZSP
50 CLX³ Rail 24/48
51 CLX³ Wall bracket

Pre-galvanized - Corrosion class C2

Cable ladders

P140324

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZSP				
Cable ladder for indoor applications in dry environments. With open side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, pre-galvanized.				
KHZSP-200	55/198/3000 55/198/4000 55/198/6000	198	7321677831555 7321677185726 7321677344888	**783155** **718572** **734488**
KHZSP-300	55/298/3000 55/298/4000 55/298/6000	217	7321677831562 7321677185733 7321677344895	**783156** **718573** **734489**
KHZSP-400	55/398/3000 55/398/4000 55/398/6000	237	7321677831579 7321677185740 7321677344901	**783157** **718574** **734490**
KHZSP-500	55/498/3000 55/498/4000 55/498/6000	257	7321677831586 7321677185757 7321677344918	**783158** **718575** **734491**
KHZSP-600	55/598/3000 55/598/4000 55/598/6000	277	7321677831593 7321677185764 7321677344925	**783159** **718576** **734492**
Cable ladders KHZPS				
Cable ladder for indoor applications in dry environments. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, pre-galvanized.				
KHZPS-150	55/147/6000	225	7321677253500	**725350**
KHZPS-200	55/197/6000	235	7321677253517	**725351**
KHZPS-300	55/297/6000	255	7321677253524	**725352**
KHZPS-400	55/397/6000	275	7321677253531	**725353**
KHZPS-500	55/497/6000	300	7321677253548	**725354**
KHZPS-600	55/597/6000	315	7321677253555	**725355**
KHZPS-800	55/797/6000	410	7321677810994	**781099**
KHZPS-1000	55/997/6000	490	7321677253562	**725356**

P140330

Dimension table

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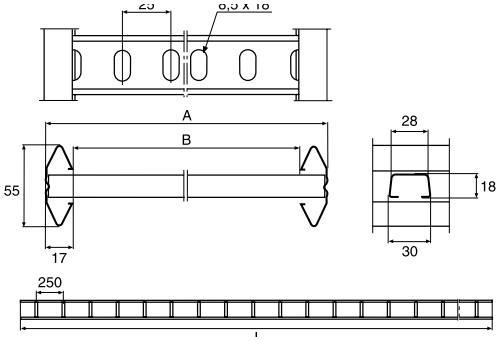
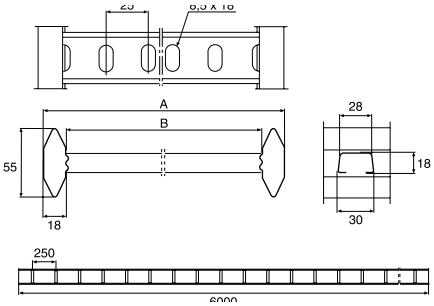


Type	A mm	B mm	L mm	Ref. No.
KHZSP-200	198	164	3000 4000 6000	783155 718572 734488
KHZSP-300	298	264	3000 4000 6000	783156 718573 734489
KHZSP-400	398	364	3000 4000 6000	783157 718574 734490
KHZSP-500	498	464	3000 4000 6000	783158 718575 734491
KHZSP-600	598	564	3000 4000 6000	783159 718576 734492

B223675



KHZPS-150	147	111	6000	725350
KHZPS-200	197	161	6000	725351
KHZPS-300	297	261	6000	725352
KHZPS-400	397	361	6000	725353
KHZPS-500	497	461	6000	725354
KHZPS-600	597	561	6000	725355
KHZPS-800	797	761	6000	781099
KHZPS-1000	997	961	6000	725356

Joints

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
	Joint 21				
P140020 	Joint to be used for rigid joining of cable ladders, bends, junctions and risers. Snap-on and fixed by two screws. It also reduces the transition resistance and prevents the ladders from slipping apart. M6 screws included. Material: Steel, Zinc+.				
	21	64/22/300	46	3606480574856	**CSU795051**
P139654 	Joint to be used for rigid joining of cable ladders, bends, junctions and risers. Snap-on and fixed by bending the hooks with a screw driver. It also reduces the transition resistance and prevents the ladders from slipping apart. Material: Steel, Zinc+.				
	21	64/32/200	33	3606480574849	**CSU795050**
	Joint 9				
P140336 	Joint to be used for straight joining of cable ladders KHZ, KHZP and KHZPS. The teeth of the joint should face downwards. Under load, the ladders are prevented from slipping apart. If the joint is above a bracket, the teeth should face upwards. Material: Steel, pre-galvanized.				
	9	52/4/200	16	7321677211159	**721115**

Couplings

	Coupling 22				
P140337 	Coupling to be used for horizontal or vertical branches at any desired angle. M6 screws included. Material: Steel, pre-galvanized.				
	22	60/24/150	21	7321677211227	**721122**
	Junction coupling 14				
P140338 	Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths. M6 screws included. Material: Steel, pre-galvanized.				
	14	65/73/350	49	7321677232123	**723212**

Clamps

	Profile clamp 42				
P151014 	Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, pre-galvanized.				
	42	55/55/30	50	3606485410326	**CSU795240**
	Profile clamp 42 for fire resistance installations E30 - E90				
P140339 	Profile clamp fire resistant certified according to DIN 4102-12. Classification E30 - E90. Specifically to be used to fix the cable ladder KHZPS to cantilever arm 50 or support bracket HS0 in fire resistant certified installation configurations. Screw M8 and nut included. Material: Steel, pre-galvanized.				
	42	55/55/30	50	3606485410319	**CSU795239**
	Profile clamp 41				
P140340 	Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile. Material: Steel, pre-galvanized.				
	41	125/16/30	10	7321677253630	**725363**

Cantilever arms

	Cantilever arm 30				
P140088 	Cantilever arm for installation inside cable ladder KHZSP. Material: Steel, pre-galvanized.				
	30-200	185/184/80	90	7321677277773	**727777**
	30-300	185/284/80	110	7321677277780	**727778**
	30-400	185/384/80	120	7321677277797	**727779**
	30-500	185/484/80	140	7321677277803	**727780**
	30-600	185/584/80	160	7321677277810	**727781**

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Cantilever arms

P138932

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Cantilever arm 50i				
Cantilever arm to be used for mountings on walls, vertical pieces or pendant/fixing rails. Material: Steel, pre-galvanized.				
50i-200	85/250/43	29	7321677914135	**791413**
50i-300	110/350/43	46	7321677914142	**791414**
50i-400	115/450/44	83	7321677914159	**791415**
50i/500	130/580/50	160	3606480911354	**CSU795322**
50i/600	130/680/50	186	3606480911361	**CSU795323**

Wall and support brackets

P140341
P140342

Wall bracket 11/25 and 11/75				
Wall bracket to be used for vertical or horizontal installations of cable ladders against a wall. Maximum loads for vertical mounting: 300 kg (3 kN). For mounting against a rung the max. load is 500 kg (5 kN) for 11/25. Maximum loads for horizontal mounting: 11/25 250 kg (2.5 kN), 11/75 100 kg (1 kN). Material: Steel, pre-galvanized.				
11/25	85/71/40	24	7321677211050	**721105**
11/75	135/71/40	30	7321677211067	**721106**

P140343

Support bracket 3				
Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces. Material: Steel, pre-galvanized.				
3-200	92/57/200	33	7321677218691	**721869**
3-300	92/57/300	58	7321677218707	**721870**
3-400	92/57/400	78	7321677218714	**721871**
3-500	92/57/500	120	7321677218721	**721872**
3-600	92/57/600	145	7321677218738	**721873**

P140091

Support bracket 6				
Support bracket to be used for centre installation of cable ladders KHZSP. Material: Steel, pre-galvanized.				
6-200	37/80/184	27	7321677275823	**727582**
6-300	37/80/284	45	7321677275830	**727583**
6-400	37/80/384	63	7321677275847	**727584**
6-500	37/80/484	81	7321677275854	**727585**
6-600	37/80/584	99	7321677275861	**727586**

Vertical pieces

P140092

Vertical piece 2Fi				
Vertical piece to be used for lighter mountings with Cantilever arm 50i and Cable ladder KHZSP. Material: Steel, pre-galvanized.				
2Fi-300	272/134/54	97	7321677927234	**792723**
2Fi-500	497/134/54	137	7321677927241	**792724**
2Fi-750	722/134/54	177	7321677927258	**792725**
2Fi-1000	922/134/54	225	7321677927265	**792726**

Pendant/Fixing rails

P140344

Pendant/Fixing rail 24/34				
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, pre-galvanized.				
24/34	293/16/42	23	7321677253579	**725357**
24/34	383/16/42	31	7321677253586	**725358**
24/34	495/16/42	40	7321677253593	**725359**
24/34	698/16/42	56	7321677253609	**725360**
24/34	990/16/42	80	7321677253616	**725361**
24/34	2970/16/42	240	7321677211029	**721102**

Pendant/Fixing rails

P140345

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Pendant/Fixing rail 24/48				
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, pre-galvanized.				
24/48	1000/26/48	175	3606481317858	**CSU795564**
24/48	2970/26/48	520	7321677317172	**731717**
24/48	5940/26/48	1120	7321677317219	**731721**

Pendant bars

P140346

Pendant bar 1				
Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt. Material: Steel, pre-galvanized.				
1-300	362/–/40	35	7321677927272	**792727**
1-500	568/–/40	53	7321677927289	**792728**
1-800	880/–/40	82	7321677927296	**792729**

Pendant joint

P140347
P139860

Pendant joint 2J and 2FJ				
Pendant joint to be used for joining pendant/fixing rails and vertical pieces. Screw M8x16 and nuts included. Material: Steel, pre-galvanized.				
2J	200/48/18	43	7321677211197	**721119**
2FJ	200/18/55	46	3606480911385	**CSU795325**

Ceiling brackets

P140348

Ceiling bracket 5				
Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48. Screw not included. Material: Steel, pre-galvanized.				
5	100/135/40	35	7321677211012	**721101**

P140349

Ceiling bracket 5TPA				
Ceiling bracket with telescopic function, to be used for mounting of various sizes of trapezoid plates. Including screw MVBF 8x16 and nut M6MF8. Breaking load: 150 kg without deformation. Material: Steel, pre-galvanized.				
5TPA	50/76/79-118	14	7321677321773	**732177**

P140350

Ceiling bracket 5TP				
Ceiling bracket to be used in trapezoidal sheeting for installations of Pendant/Fixing rail 24/48. Material: Steel, pre-galvanized.				
5TP	71/35/50	12	7321677253623	**725362**

P140093

Ceiling bracket 2Fi				
Ceiling bracket to be used on Pendant/fixing rail 24/48 to achieve the desired length of vertical pieces. Material: Steel, pre-galvanized.				
2Fi	131/134/54	50	7321677925544	**792554**

Wall support

P143288
P143290

Wall support 550				
Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation. When mounting cantilever arm on support, use screw set 25S (M8). Material: Steel, pre-galvanized.				
Wall support 550 mm	20/100/550	105	3606485405476	**CSU795220**
Wall support 550 mm white	20/100/550	107	3606485405469	**CSU795221**

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Threaded rod

P140075

P140155

P140154

P140094

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Threaded rod W76				
Threaded rod to be used for installations of cable ladders and lighting trunking. Joint nuts are used for the joining of Threaded rods W76. Material: Steel, electro-galvanized.				
W76 M8-1000	M8/1000	32	7321677250790	**725079**
W76 M10-2000	M10/2000	100	7321677167920	**716792**
W76 M10-3000	M10/3000	150	7321677167937	**716793**
Joint nut M8	40/15/13	5.6	7321677250837	**725083**
Joint nut M10	40/18.5/16	7.2	7321677248063	**724806**
Flange nut B43				
Flange nut to be mounted onto Threaded rod W76 in order to lock it to the Support hook and the Ceiling fittings. Package of 50 pcs. Material: Steel, electro-galvanized.				
B43/M8	17/17/8	0.68	7321677888474	**1149405**
B43/M10	20/20/15	1.12	7332227014649	**1149464**
Thread lock B50				
Thread lock to be used when joining Threaded rods. Material: Steel, electro-galvanized.				
B50/M8	10/20/35	1	7332227014564	**1149456**
B50/M10	12/24/35	2	7332227014663	**1149466**

Take-off hook, end connection

P139857

P139964

Fixed take-off hook 4				
Fixed take-off hook to be used for 90° horizontal branches. Material: Aluminium.				
4	71/19/86	8	7321677090174	**709017**
End connection 10				
End connection to be used for the connection of a ladder vertically to a floor, or horizontally to a wall. Material: Aluminium.				
10	60/55/60	8	7321677090181	**709018**

Fittings for mesh trays

P140021

P140022

Combi-fittings B21				
Combi-fitting to be used when mounting mesh trays onto cable ladders. Material: Steel, electro-galvanized.				
B21	250/50/20	44	7332227011594	**1149159**
B21 90 degrees	120/50/135	44	7332227011914	**1149191**

Installation and box plates

P140351

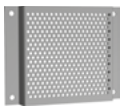
Installation plate 61				
Installation plate to be used on vertical cable ladder installations for mounting of terminal boxes, contact breakers, etc. Material: Steel, pre-galvanized.				
61-200	310/70/200	100	7321677324866	**732486**
61-300	310/70/300	140	7321677324873	**732487**
61-400	310/70/400	170	7321677324880	**732488**
61-500	310/70/500	240	7321677324897	**732489**
61-600	310/70/600	270	7321677324903	**732490**

P140352

P140465

Junction box plate 35S				
Junction box plate, holed or unholed, to be installed upright or hanging from the profile. Locked with locking tabs. For junction boxes, electric light fittings, etc. Material: Steel, pre-galvanized.				
35S holed	164/20/170	22	7321677112050	**711205**
35S unholed	164/20/170	23	7321677302451	**730245**

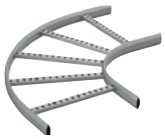
Installation and box plates

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Junction box plate 35P				
P140353  Junction box plate with holes, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc. Material: Steel, pre-galvanized.				
35P	21/106/250	28	7321677186181	**718618**
Junction box plate 12xRJ45 Actassi S-One				
P151244  Junction box plate suitable for direct mounting of 12 RJ45 LexCom DPM & S-One RJ45 connectors. Delivered flat, to be bended on site. Additional optional fixation to the cable ladder beam with self-drilling screws. Material: Steel, pre-galvanized.				
12xRJ45 DPM	300/1/168	30	3606480916762	**CSU795353**
Box plate 62				
B224626  Box plate to be used for mounting of outlets and junction boxes on walls, ceilings or floors. Material: Steel, pre-galvanized.				
62-100	100/15/130	12	7321677834600	**783460**
62-200	200/15/130	24	7321677834617	**783461**

Outlet and junction box sets

Outlet				
P132522  Outlet, 2-way, enclosed IP44, mounted on a Junction box plate 35S. Material: Steel, pre-galvanized.				
35S	164/64/170	35	7321677342259	**734225**
P132523  Outlet, 2-way, unenclosed IP21, mounted on a Junction box plate 35S. Material: Steel, pre-galvanized.				
35S	164/58/170	33	7321677342266	**734226**
Junction box				
P132521  Junction box, IP65, mounted on a Junction box plate 35S. Material: Steel, pre-galvanized.				
35S With junction box MP	164/56/170	34	7321677319626	**731962**
35S With junction box UP	164/56/170	32	7321677319619	**731961**
 Junction box, AP9, mounted on a Junction box plate 35S. Material: Steel, pre-galvanized.				
Box AP9 + Plate 35S	165/51/170	35	7321677958641	**CSU795864**
Earth clamp W79				
B223222  Earth clamp to be used when protective earthing of the junction box plate is required. Material: Steel, pre-galvanized.				
W79	Screw M4/–/4.5	0.2	7321677166404	**716640**

Bends

90° bend 15, interior				
P140354  Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Inner radius 268 mm. Material: Steel, pre-galvanized.				
15-200	55/597/597	240	7321677230617	**723061**
15-300	55/697/697	290	7321677230624	**723062**
15-400	55/797/797	340	7321677230631	**723063**
15-500	55/897/897	390	7321677230648	**723064**
15-600	55/997/997	440	7321677230655	**723065**

Tele-conduits

Tele-conduit 36				
P140355  Tele-conduit to be used where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cables to pass through. Material: Steel, pre-galvanized.				
36-50	24/50/2000	94	7321677250653	**725065**
36-100	24/100/2000	142	7321677250660	**725066**
36-200	24/200/2000	238	7321677250677	**725067**

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Dividers

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Dividing strip 39				
Dividing strip to be used to separate low-tension and high-tension cables. Material: Steel, pre-galvanized.				
39/24	24/24/1750	46	7321677188352	**718835**
39/55	55/24/1750	73	7321677257850	**725785**
Distance piece W39				
Distance piece to be used for the joining of Dividing strips 39. Material: Plastic, natural coloured.				
W39	37/–/330	3	7321677168248	**716824**

P140356

P140044

Covers/Cover plates

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Cover W5				
Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun. Suitable for all cable ladders. Material: Steel, pre-galvanized.				
W5-70	11/73/2000	100	7321677322145	**732214**
W5-100	11/103/2000	140	7321677322152	**732215**
W5-150	11/153/2000	190	7321677322169	**732216**
W5-200	11/203/2000	250	7321677322176	**732217**
W5-300	11/303/2000	360	7321677322183	**732218**
W5-400	11/403/2000	680	7321677322190	**732219**
W5-500	11/503/2000	840	7321677322206	**732220**
W5-600	11/603/2000	700	7321677322213	**732221**
W5-1000	11/1003/2000	1150	7321677322220	**732222**
Cover 90° interior bend				
Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, pre-galvanized.				
150	10/420/420	65	7321677323227	**732322**
200	10/470/470	91	7321677323234	**732323**
300	10/570/570	143	7321677323241	**732324**
400	10/670/670	221	7321677323258	**732325**
500	10/770/770	299	7321677323265	**732326**
600	10/870/870	390	7321677323272	**732327**
800	10/1070/1070	460	7321677818020	**781802**
1000	10/1270/1270	871	7321677323289	**732328**
Cover T-junction				
Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, pre-galvanized.				
150	11/400/651	182	7321677323456	**732345**
200	11/450/701	221	7321677323463	**732346**
300	11/550/801	312	7321677323470	**732347**
400	11/650/901	416	7321677323487	**732348**
500	11/750/1001	533	7321677323494	**732349**
600	11/850/1101	676	7321677323500	**732350**
800	11/1050/1301	710	7321677818037	**781803**
1000	11/1240/1501	1352	7321677323517	**732351**
Profile support piece 37				
Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers. Material: Steel, pre-galvanized.				
37	136/20/50	6	7321677292172	**729217**
Cover clamp				
Cover clamps to be used when installing a cover on a Profile support piece 37. Material: Steel, Zink+.				
Cover clamp	32/10.5/20	1.5	3606489699413	**CSU795598**

P140357

P140358

P140359

P140360

P140361

Covers/Cover plates

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Cover joint				
Cover joint to be inserted between covers. Material: Steel, pre-galvanized.				
150	4/100/125	10	7321677126392	**712639**
200	4/100/175	20	7321677126408	**712640**
300	4/100/275	30	7321677126422	**712642**
400	4/100/375	40	7321677126439	**712643**
500	4/100/475	50	7321677126446	**712644**
600	4/100/575	60	7321677126453	**712645**
Protecting cover				
Cover to be used to protect the cable runs against ice and snow. Suitable for all cable ladder widths 300 and 400 respectively. Material: Steel, pre-galvanized.				
300	280/300/1000	880	7321677867387	**786738**
400	280/400/1000	990	7321677867394	**786739**
Cover plate 65				
Cover plate to be used on vertical cable ladder installations as protection of cables near the floor. To be mounted in the side profile with self-tapping screw ST4.2. Material: Steel, pre-galvanized.				B223191
65-200	1000/120/200	930	7321677324750	**732475**
65-300	1000/120/300	1140	7321677324767	**732476**
65-400	1000/120/400	1350	7321677324774	**732477**
65-500	1000/120/500	1560	7321677324781	**732478**
65-600	1000/120/600	1780	7321677324798	**732479**

Angle plates

Angle plate 33				
Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders. Material: Steel, pre-galvanized.				
33/1	28/150/290	50	7321677687336	**768733**
33/2	25/195/490	90	7321677211142	**721114**

Clamps ARX with accessories

Cable clamp type ARX1				
Cable clamp for fastening of one cable on Pendant/Fixing rail 24/48 and on cable ladders KHZ, KHZV, KHZSP, KHZSPZ+, KHZSP85, KHZPS, KHZP and KHZPV, in combination with Insert piece EM. Material: Steel, Zink+.				
CABLE CLAMP ARX1-12 Z+	45/17/30	5.5	3606489726966	**CSU795600**
CABLE CLAMP ARX1-16 Z+	49/21/30	6.3	3606489726973	**CSU795601**
CABLE CLAMP ARX1-22 Z+	55/27/30	7.4	3606489726980	**CSU795602**
CABLE CLAMP ARX1-28 Z+	61/33/30	8.5	3606489726997	**CSU795603**
CABLE CLAMP ARX1-36 Z+	69/41/30	11.1	3606489727000	**CSU795604**
CABLE CLAMP ARX1-44 Z+	77/49/30	12.7	3606489727017	**CSU795605**
CABLE CLAMP ARX1-52 Z+	85/57/30	14.2	3606489727024	**CSU795606**
CABLE CLAMP ARX1-60 Z+	93/65/30	15.5	3606489727031	**CSU795607**
CABLE CLAMP ARX1-70 Z+	105/75/30	18.4	3606489727048	**CSU795608**
Cable clamp type ARX2				
Cable clamp for fastening of two cables on Pendant/Fixing rail 24/48 and on cable ladders KHZ, KHZV, KHZSP, KHZSPZ+, KHZSP85, KHZPS, KHZP and KHZPV, in combination with Insert piece EM. Material: Steel, Zink+.				
CABLE CLAMP ARX2-12 Z+	58/17/30	6.8	3606489727055	**CSU795609**
CABLE CLAMP ARX2-16 Z+	66/21/30	7.9	3606489727062	**CSU795610**
CABLE CLAMP ARX2-22 Z+	78/27/30	9.6	3606489727079	**CSU795611**
CABLE CLAMP ARX2-28 Z+	90/33/30	11.3	3606489727086	**CSU795612**
CABLE CLAMP ARX2-36 Z+	106/41/30	14.5	3606489727093	**CSU795613**
CABLE CLAMP ARX2-44 Z+	122/49/30	17.0	3606489727109	**CSU795614**
CABLE CLAMP ARX2-52 Z+	138/57/30	19.2	3606489727116	**CSU795615**
CABLE CLAMP ARX2-60 Z+	154/65/30	21.4	3606489727123	**CSU795616**

Pre-galvanized - Corrosion class C2

Clamps ARX acessories

P140101

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Insert piece EM				
Insert piece to be used in order to prevent pressure on the cable. The insert piece is placed between the cable and the rung from the same side where the clamp has been fastened to the rung. Material: PE.				
EM-12 for cable -12	5/15/39	0.2	7321677090501	**709050**
EM-16 for cable 13-16	5/19/39	0.2	7321677090518	**709051**
EM-22 for cable 17-22	5/25/39	0.3	7321677090525	**709052**
EM-28 for cable 23-28	5/31/39	0,3	7321677090532	**709053**
EM-36 for cable 29-36	5/39/39	0.5	7321677090549	**709054**
EM-44 for cable 37-44	5/46/39	0.7	7321677090556	**709055**
EM-52 for cable 45-52	5/55/39	0.8	7321677090563	**709056**
EM-60 for cable 53-60	5/62/39	0.9	7321677090570	**709057**
EM-70 for cable 61-70	5/72/39	1.0	7321677090587	**709058**
Lashing wire				
Lashing wire to be used for lashing of wires on cable ladders. Material: Stainless steel, PVC.				
HTR-2303, white PVC	Ø1.25	1.3/100 m	7321677136865	**713686**
HTR-2313, black PVC	Ø1.25	1.3/100 m	7321677136872	**713687**
Lashing wire to be used for lashing of wires on cable ladders. Material: PVC.				
HT-2304, white	Ø1.5	1.8/100 m	7321677136841	**713684**
HT-2314, black	Ø1.5	1.8/100 m	7321677136858	**713685**

P140226
P140225

P140226
P140225

Installation system HT

P140099

Carrying sling HT-51				
Carrying sling for cables, to be used in combination with steel wires. Material: Steel, pre-galvanized.				
HT-51	65/15/49	6	7321677136766	**713676**

P140100
P140623

Carrying bracket HT-33/34				
Carrying bracket to be used for ceiling installations. To be installed with Expansion bolt or concrete screw. Material: Steel, pre-galvanized.				
HT-33	19.5/15/25	1	7321677136742	**713674**
HT-34	43.5/15/25	2	7321677136759	**713675**

P140227

Steel wire				
Steel wire to be installed as carrier of one or more cables. Breaking loads, see below. Material: Available in several qualities.				
HT-2309, galvanized, soft, breaking load 700 kg	Ø5.0	15.5/100 m	7321677136797	**713679**
HT-2311, 7x diam. 1.71=16 mm^2 coated, grey, breaking load 970 kg	Ø6.15	13.5/100 m	7321677136889	**713688**
HTR-2322 stainless, hard, breaking load 450 kg	Ø2.5	3.9/100 m	7321677136810	**713681**
HTR-2323 stainless, hard, breaking load 700 kg	Ø3.0	5.6/100 m	7321677136827	**713682**
HTR-2324 stainless, hard, breaking load 1200 kg	Ø4.0	10.0/100 m	7321677136834	**713683**

Profile protection

P140063

Profile protection 28P				
Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder. Material: PVC, grey.				
28P	60/28/2000	80	7321677321513	**732151**

End plugs

End plug 28/28i

End plug to be mounted on ladder ends for sealing or protection.
Material: PP/TPE.

P140064

28, red	59/25/22	0.8	7321677090198	**709019**

P140065
P140066

28i, white 28i, red	54/14/19	0.4	7321677354467 7321677319947	**735446** **731994**

End plug 28C, D, E, F and J

End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous.
Material: PP/TPE, orange.

P140067

28C for Vertical piece 2 and Pendant/fixing rail 24/34	25/19/46	0.5	7321677898756	**789875**

P140068

28D for Vertical piece 20 and Pendant/fixing rail 24/20	25/52/58	1	7321677090204	**709020**

P140069

28E for Vertical piece 2F and pendant/fixing rail 24/48 and CLX³ pendant fixing rail 24/48	24/30/52	0.5	7321677090211	**709021**

P140070

28F for Vertical piece 20FS and Pendant/fixing rail 24/20FS	30/53/110	4	7321677898763	**789876**

P138758

28J for Vertical piece 20F and Pendant/Fixing rail 24/20F	27/53/95	2.1	3606480457531	**CSU794520**

Cross member plug 27

P140071

Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk.
Material: PE, grey.

27	Ø20/10	0.15	7321677266685	**726668**

Screws and bolts

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.

T-bolt 26U

T-bolt single-08

T-bolt to be used for mounting with all vertical pieces except Vertical piece 2 and with Pendant/fixing rail 24/48.
Material: Steel, hot-dip galvanized.

26U M8 x30	44/50/18	6.8	3606489579777	**CSU795595**
26U M10 x30	44/50/18	6.8	3606489579715	**CSU795589**

Screw set W34

P140156

Screw set to be used for fastening of dividing strips on cable ladders KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV. Set including screw MSCS 6x12 and nut M6MF 6. Package of 100 pcs.
Material: Steel, electro-galvanized.

W34	10/10/16	0.8	7321677184736	**718473**

Marking plate

Marking plate 93

B223240

Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder. Five different colours are available.
Material: Sheet steel.

93, yellow	103/0.7/100	5	7321677377046	**737704**
93, orange	103/0.7/100	5	7321677377053	**737705**
93, blue	103/0.7/100	5	7321677377060	**737706**
93, green	103/0.7/100	5	7321677377077	**737707**
93, black	103/0.7/100	5	7321677377084	**737708**

Marking label, equipotential

P138944

Label to be used to show that a construction is equipotentially bonded. Available in Swedish (other languages on request).
Printed on self-adhesive yellow vinyl, 250 labels per roll.
Material: Self-adhesive vinyl.

Marking label	25/–/86	–	7321677868605	**786860**

Reliable, functional and flexible. CLX³ is optimized to deliver for a range of applications.

Central cable ladder support

- Occupies minimum space below the ladder. This is beneficial especially when space beneath the cable routing track is limited.
- Developed on the well established Central Suspension Bracket 6 platform.
- The smooth and rounded design helps prevent damage to cables.

Cantilever arm support

- Slim design to minimize occupied space.
- Integrated click for both Cable ladder and Defem mesh tray in the same product.
- Boltless fixation to the rail

CLX³ Suspension system - Corrosion class C2

Vertical piece

PTCSU-181

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
CLX³ pendant 24/48				
Vertical piece/pendant to be used for ceiling suspended mounting. Perforated pattern to be used with CLX³ cantilever arm or CLX³ central suspension adapter. Open side can be used with T-bolt. Material: Steel, pre-galvanized.				
CLX³ pendant-300	295/145/53	90.6	3606489904937	**CSU795632**
CLX³ pendant-400	395/145/53	107.5	3606489904944	**CSU795633**
CLX³ pendant-500	495/145/53	124.4	3606489904951	**CSU795634**
CLX³ pendant-700	695/145/53	158.1	3606489904968	**CSU795635**
CLX³ pendant-1000	995/145/53	208.7	3606489904975	**CSU795636**
CLX³ pendant-1500	1495/145/53	294.2	3606481828323	**CSU795638**
CLX³ pendant rail 24/48				
Pendant rail to be used for direct wall mounting or for vertical piece/pendants extentions. To be connected to the vertical piece/pendant together with the pendant joint CSU795325. Perforated pattern to be used with CLX³ cantilever arm. Open side can be used with T-bolt. Material: Steel, pre-galvanized.				
CLX³ rail 24/48 300	280/48/26	47.2	3606481828330	**CSU795640**
CLX³ rail 24/48 1000	980/48/26	165.1	3606481828347	**CSU795641**
CLX³ rail 24/48 3000	2980/48/26	502	3606489904982	**CSU795637**

PTCSU-186

Adjustable ceiling plate

PTCSU-187

CLX³ adjustable ceiling plate				
Adjustable ceiling plate. To be used for angular adjustment of pendant vs ceiling. Adjustment between 0-25°. Adjustable ceiling plate is to be mounted to the CLX³ pendant. To be assembled with 4 screw set 22S (713694), need to be ordered separately. Tightening force of the screw set minimum torque 20 N.m. Material: Steel, pre-galvanized.				
CLX³ adjustable ceiling plate	150/100/59	49.8	3606489904999	**CSU795639**

Cantilever arms

PTCSU-191

CLX³ Cantilever arm				
Cantilever arm to be used for mounting on vertical pieces or pendant/fixing rails. The cantilever arm is designed for fast click fixation of ladder type KHZSP, Defem mesh tray height 60/110 and Stago tray KG281/KB184/KB284 height 60. Stago trays need to be fastened with the fast fixing clamp (CSU08490100). Material: Steel, pre-galvanized.				
CLX³ cantilever arm 200[1] [2]	62/280/49	42.8	7321677958733	**CSU795873**
CLX³ cantilever arm 300[1] [2]	62/380/49	60.5	7321677958740	**CSU795874**
CLX³ cantilever arm 400[1]	92/480/49	90.9	3606489905040	**CSU795649**
CLX³ cantilever arm 400[2]	92/480/49	90.9	7321677958757	**CSU795875**
CLX³ cantilever arm 500[1]	92/580/49	106.6	3606489905057	**CSU795650**
CLX³ cantilever arm 500[2]	92/580/49	106.6	7321677958764	**CSU795876**
CLX³ cantilever arm 600[1]	92/680/49	119.7	3606489905064	**CSU795651**
CLX³ cantilever arm 600[2]	92/680/49	119.7	7321677958771	**CSU795877**

1) Can be used for installation of Defem mesh trays
2) Can be used for installation of Performa mesh trays

Central suspensions

PTCSU-202

CLX³ central suspension bracket, ladder KHZSP				
Central suspension bracket be used for mounting Wibe cable ladders type KHZSP on vertical pieces. The central suspension bracket shall first be assembled together with the CLX³ central suspension adapter (CSU795700) to be able to click in the perforation pattern on the vertical piece. Material: Steel, pre-galvanized.				
200	37/78/185	33.4	3606489905101	**CSU795655**
300	37/78/285	53.1	3606489905118	**CSU795656**
400	37/78/385	72	3606489905125	**CSU795657**
500	37/78/485	90.1	3606489905132	**CSU795658**
600	37/78/585	109	3606489905149	**CSU795659**

(*) the central suspension bracket shall first be assembled together with the CLX³ central suspension adapter (CSU795700) to be able to click in the perforation pattern on the vertical piece.

PTCSU-211

CLX³ central suspension adapter				
Central suspension adapter to be first clicked to a CLX³ central suspension bracket of choice. The adaptor fits to all types of CLX³ central suspension brackets; ladder, tray and mesh. In a second step the adaptor with the central suspension bracket mounted is clicked in the perforation pattern in the rail or the pendant. Material: Steel, pre-galvanized.				
CLX³ CSB adapter	166/31/39	17.7	3606489905248	**CSU795700**

Wall bracket

Wall bracket for CLX³ cantilevers.				
To be used for direct fixation to wall. Single bolt fixation in keyhole, alternatively multi-bolt fixation in lateral holes for softer walls. Bolts are not included. Material: Steel, pre-galvanized.				
Wall bracket for CLX³ cantilevers	163/101/26	34	7321677958047	**CSU795804**

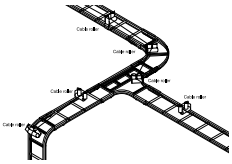
Pre-galvanized - Corrosion class C2

Tools

P129977

Cable roller S

Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 90° bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller.
Material: Steel, electro-galvanized.



S	230/80/204	230	7321677186600	**718660**

P149449

Cable roller 38 Rig'n roll

Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches.
Material: Stainless steel AISI316L (cable roller).

38 Rig'n roll	220/50/130	48	7321677359981	**735998**

P149452

Bag	375/160/460	230	7321677801862	**780186**
Set 66 (1 bag + 10 Cable rollers roll)	375/160/460	710	7321677801879	**780187**

Demo kit

Wibe ladder demo kit consisting of: KHZ 150 HDG L=0,35m, KHZP 150 HDG L=0,35m, KHZSP 200 pre-galv L=0,35m, cantilever arm 50 150 HDG, cantilever arm 50i 200, joint 21 click, coupler 22 HDG, VP 2F /280, end plug 28E, end plug 28, end plug 28i, T-bolt M10-30 HDG, profile clamp 42 HDG, wall bracket 11/25, angle bracket 5L, take off hook 4.
Material: Steel

Wibe Ladder Demo Kit	290/375/580	640	3606480738401	**CSU795180**

Demo kit, length material

Wibe ladder length material demo kit consisting of: KHZ 150 HDG, KHZP 150 HDG, KHZSP 200 pre-galv, KHZSP 200 thermoplastic, KHZ 150 zinkpox, KHZSP 200 316L, KHZP 150 316L. Lenghts = 0,35 m each.
Material: Steel

Wibe Ladder Demo kit Length Material	290/375/580	640	3606480738418	**CSU795181**

Zink+ - Corrosion class C3, C4

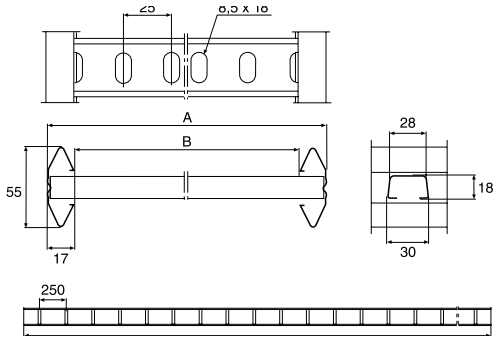
Cable ladders

P139619

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZSPZ+				
Cable ladder for indoor or outdoor industrial applications. With open side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, Zink+				
KHZSPZ+-200	55/198/4000	198	3606480692802	**CSU795122**
	55/198/6000		3606480692819	**CSU795127**
KHZSPZ+-300	55/298/4000	217	3606480692826	**CSU795123**
	55/298/6000		3606480692833	**CSU795128**
KHZSPZ+-400	55/398/4000	237	3606480692840	**CSU795124**
	55/398/6000		3606480692857	**CSU795129**
KHZSPZ+-500	55/498/4000	257	3606480692864	**CSU795125**
	55/498/6000		3606480692871	**CSU795130**
KHZSPZ+-600	55/598/4000	277	3606480692888	**CSU795126**
	55/598/6000		3606480692895	**CSU795131**

Dimension table

B223678



Type	A mm	B mm	L mm	Ref. No.
KHZSPZ+-200	198	164	4000 6000	**CSU795122** **CSU795127**
KHZSPZ+-300	298	264	4000 6000	**CSU795123** **CSU795128**
KHZSPZ+-400	398	364	4000 6000	**CSU795124** **CSU795129**
KHZSPZ+-500	498	464	4000 6000	**CSU795125** **CSU795130**
KHZSPZ+-600	598	564	4000 6000	**CSU795126** **CSU795131**

L

Hot Dip-galvanized - Corrosion class C3, C4

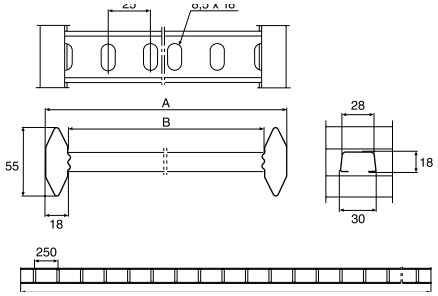
Cable ladders

P139625

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZP				
Cable ladder for indoor or outdoor industrial applications. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, hot-dip galvanized.				
KHZP-150	55/147/3000 55/147/6000	260	7321677835164 7321677185627	**783516** **718562**
KHZP-200	55/197/3000 55/197/6000	270	7321677835171 7321677185634	**783517** **718563**
KHZP-300	55/297/3000 55/297/6000	290	7321677835188 7321677185641	**783518** **718564**
KHZP-400	55/397/3000 55/397/6000	315	7321677835195 7321677185658	**783519** **718565**
KHZP-500	55/497/3000 55/497/6000	340	7321677835201 7321677185665	**783520** **718566**
KHZP-600	55/597/3000 55/597/6000	360	7321677835218 7321677185672	**783521** **718567**
KHZP-800	55/797/3000 55/797/6000	490	7321677835225 7321677219605	**783522** **721960**
KHZP-1000	55/997/3000 55/997/6000	560	3606480535598 7321677185689	**783523** **718568**

Dimension table

B223677



Type	A mm	B mm	L mm	Ref. No.
KHZP-150	147	111	3000 6000	783516 718562
KHZP-200	197	161	3000 6000	783517 718563
KHZP-300	297	261	3000 6000	783518 718564
KHZP-400	397	361	3000 6000	783519 718565
KHZP-500	497	461	3000 6000	783520 718566
KHZP-600	597	561	3000 6000	783521 718567
KHZP-800	797	761	3000 6000	783522 721960
KHZP-1000	997	961	3000 6000	783523 718568

Hot Dip-galvanized - Corrosion class C3, C4

Cable ladders

P1396633

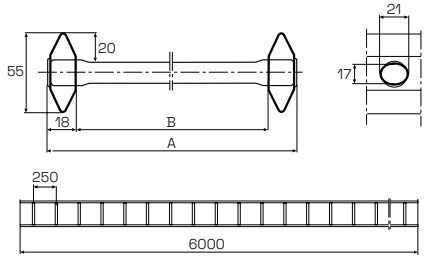
Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZ				
Cable ladder for indoor or outdoor industrial applications. With closed side profiles and round rungs. Must not be used as walkway. Material: Steel, hot-dip galvanized.				
KHZ-150	55/147/6000	270	7321677680016	**768001**
KHZ-200	55/197/6000	280	7321677680023	**768002**
KHZ-300	55/297/6000	300	7321677680047	**768004**
KHZ-400	55/397/6000	320	7321677680054	**768005**
KHZ-500	55/497/6000	340	7321677680061	**768006**
KHZ-600	55/597/6000	360	7321677680078	**768007**

P1396639

Cable ladder for indoor or outdoor industrial applications. With closed side profiles and round rungs that do not penetrate the outer side of the side profile. Must not be used as walkway. Material: Steel, hot-dip galvanized.				
KHZ-150	55/147/6000	270	7321677264162	**726416**
KHZ-200	55/197/6000	280	7321677264179	**726417**
KHZ-300	55/297/6000	300	7321677264193	**726419**
KHZ-400	55/397/6000	320	7321677264209	**726420**
KHZ-500	55/497/6000	340	7321677264216	**726421**
KHZ-600	44/597/6000	360	7321677264223	**726422**

Dimension table

B223589



Type	A mm	B mm	L mm	Ref. No.
KHZ-150	147	111	6000	768001 726416
KHZ-200	197	161	6000	768002 726416
KHZ-300	297	261	6000	768004 726419
KHZ-400	397	361	6000	768005 726420
KHZ-500	497	461	6000	768006 726421
KHZ-600	597	561	6000	768007 726422

L

Hot Dip-galvanized - Corrosion class C3, C4

Cable ladders

P139645

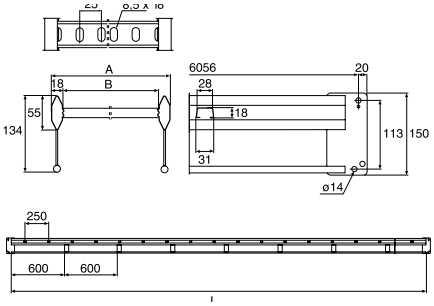
Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZPV				
Reinforced cable ladder for indoor or outoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, hot-dip galvanized.				
KHZPV-200	134/197/6000	426	7321677179824	**717982**
KHZPV-300	134/297/6000	448	7321677179831	**717983**
KHZPV-400	134/397/6000	470	7321677179848	**717984**
KHZPV-500	134/497/6000	493	7321677179855	**717985**
KHZPV-600	134/597/6000	515	7321677179862	**717986**
KHZPV-1000	134/997/6000	703	7321677164004	**716400**

P139651

Cable ladders KHZV				
Reinforced cable ladder for indoor or outoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and round rungs. Must not be used as walkway. Material: Steel, hot-dip galvanized.				
KHZV-200	134/197/6000	440	7321677120154	**712015**
KHZV-300	134/297/6000	460	7321677120178	**712017**
KHZV-400	134/397/6000	480	7321677120192	**712019**
KHZV-500	134/497/6000	500	7321677120185	**712018**
KHZV-600	134/597/6000	530	7321677120208	**712020**

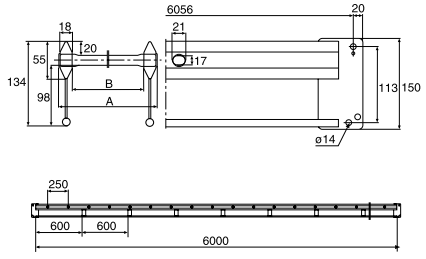
Dimension table

B226376



Type	A mm	B mm	L mm	Ref. No.
KHZPV-200	197	161	6000	**717982**
KHZPV-300	297	261	6000	**717983**
KHZPV-400	397	361	6000	**717984**
KHZPV-500	497	461	6000	**717985**
KHZPV-600	597	561	6000	**717986**
KHZPV-1000	997	961	6000	**716400**

B223553



KHZV-200	197	161	6000	**712015**
KHZV-300	297	261	6000	**712017**
KHZV-400	397	361	6000	**712019**
KHZV-500	497	461	6000	**712018**
KHZV-600	597	561	6000	**712020**

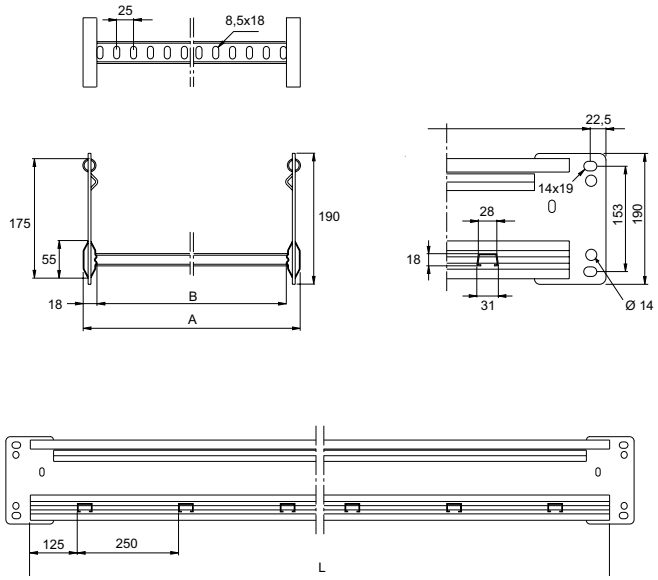
Hot Dip-galvanized - Corrosion class C3, C4

Cable ladders

P143117

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZP 20C				
Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. Fullfills NEMA 20C classification. With closed side profiles and profile-shaped rungs. Must not be used as a connection walkway. Material: Steel, hot-dip galvanized.				
KHZP 20C-200	190/200/6100	867	3606480739224	**CSU795138**
KHZP 20C-300	190/300/6100	900	3606480739231	**CSU795139**
KHZP 20C-400	190/400/6100	933	3606480739248	**CSU795140**
KHZP 20C-500	190/500/6100	967	3606480739255	**CSU795141**
KHZP 20C-600	190/600/6100	1000	3606480739262	**CSU795142**
KHZP 20C-800	190/600/6100	1033	3606480739279	**CSU795143**
KHZP 20C-1000	190/1000/6100	1067	3606480739286	**CSU795144**

Dimension table



Type	A mm	B mm	L mm	Ref. No.
KHZP 20C-200	197	161	6000	CSU795138
KHZP 20C-300	297	261	6000	CSU795139
KHZP 20C-400	397	361	6000	CSU795140
KHZP 20C-500	497	461	6000	CSU795141
KHZP 20C-600	597	561	6000	CSU795142
KHZP 20C-800	797	761	6000	CSU795143
KHZP 20C-1000	997	961	6000	CSU795144

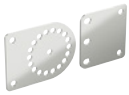
Hot Dip-galvanized - Corrosion class C3, C4

Joints

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
	Joint 21				
P140020 	Joint to be used for straight, rigid joining of cable ladders, bends, junctions and risers. It also reduces the transition resistance and prevents the ladders from slipping apart. M6 screws included. Material: Steel, hot-dip galvanized.				
	21	64/22/300	46	7321677911998	**791199**
P140020 	Joint to be used for rigid joining of cable ladders, bends, junctions and risers. Snap-on and fixed by two screws. It also reduces the transition resistance and prevents the ladders from slipping apart. M6 screws included. Material: Steel, Zinc+.				
	21Zinc+	64/22/300	46	3606480574856	**CSU795051**
P139654 	Joint to be used for rigid joining of cable ladders, bends, junctions and risers. Snap-on and fixed by bending the hooks with a screw driver. It also reduces the transition resistance and prevents the ladders from slipping apart. Material: Steel, Zinc+.				
	21 Zinc+	64/32/200	33	3606480574849	**CSU795050**
	Joint 9				
P139917 	Joint to be used for straight joining of cable ladders KHZ, KHZP and KHZPS. The teeth of the joint should face downwards. Under load, the ladders are prevented from slipping apart. If the joint is above a bracket, the teeth should face upwards. Material: Steel, hot-dip galvanized.				
	9	52/4/200	16	7321677053049	**705304**
	Dropper joint 32				
P139918 	Dropper joint used to form vertical branches in centre posision under/on top of cable ladders. Screw M6 included. Material: Steel, hot-dip galvanized.				
	32	130/22/200	75	7321677347131	**734713**
	Joint 45				
P139919 	Joint to be fitted as a joining plate in a cut KHZV/KHZPV ladder. Screws M8 and M12 + nuts are included. Material: Steel, hot-dip galvanized.				
	45	150/4/95	50	7321677076093	**707609**

Hot Dip-galvanized - Corrosion class C3, C4

Couplings

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
	Coupling 22				
P139656 	Coupling to be used for horizontal or vertical branches at any desired angle. M6 screws included. Material: Steel, hot-dip galvanized.				
	22	60/24/150	21	7321677184095	**718409**
	Junction coupling 14				
P139920 	Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths. M6 screws included. Material: Steel, hot-dip galvanized.				
	14	65/73/350	49	7321677250967	**725096**
	Coupling 44				
P139921 	Coupling to be used for horizontal coupling of cable ladders KHZV/KHZPV. Also to be used for branches and as an end connection against a wall. Four screws M8x30 and nuts are included. Material: Steel, hot-dip galvanized.				
	44	135/–/120	50	7321677208159	**720815**
	Horizontal coupling for bending 20C				
P143550 	Coupling to be used for horizontal connection of cable ladders KHZP 20C range.Also to be used for branches and as an end connection against a wall. Four screws M8x30 and nuts are inlcluded. Material: Steel, hot-dip galvanized.				
	For Bending 20C	180/15/120	55	3606480739583	**CSU795210**
	Horizontal coupling 20C				
P143551 	Coupling to be used for horizontal connection of cable ladders KHZP 20C range.Four screws M8x30 and nuts are inlcluded. Material: Steel, hot-dip galvanized.				
	20C	180/15/120	94	3606480739590	**CSU795211**
	Coupling 51				
P139922 	Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screws M12 and nuts are included. Material: Steel, hot-dip galvanized.				
	51	150/–/193+138	150	7321677318377	**731837**
	Vertical coupling				
P143552 	Coupling to be used as a self-supporting vertical coupling of cable ladders KHZP 20C range. Adjustable from 10° to 90° gradually in steps of 20°. Two screws M12 and nuts are included. Material: Steel, hot-dip galvanized.				
	20C	190/4/250	221	3606480739538	**CSU795205**

Clamps, support piece

	Profile clamp 42				
P151015 	Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, hot-dip galvanized.				
	42	55/55/30	56	3606485410340	**CSU795242**
P151014 	Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, Zinc+.				
	42 Zinc+	55/55/30	56	3606485410333	**CSU795241**
	Profile clamp 43				
P139924 	Profile clamp to be used for installations where the cable ladders KHZV and KHZPV are to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, hot-dip galvanized.				
	43	21/43/30	5	7321677075119	**707511**

Hot Dip-galvanized - Corrosion class C3, C4

Clamps, support piece

P139925
P139926

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Clamp 12				
Clamp to be used on the side profile of the cable ladder for installation of accessories. Bolt and nut included. Material: Steel, hot-dip galvanized.				
12/70	125/25/40	19	7321677286539	**728653**
12/120	175/25/40	24	7321677286546	**728654**

P143147

Profile clamp 20C				
Profile clamp for KHZP 20 range to be used for installations where the cable ladder is to be fixed to cantilever arms, I-beams, etc. Material: Steel, hot-dip galvanized.				
20C	190/57/40	26	3606480739521	**CSU795168**

P139927

Profile clamp 41				
Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile. Material: Steel, hot-dip galvanized.				
41	125/16/30	10	7321677208241	**720824**

P139928

Profile support piece 46				
Profile support piece to be fitted between the ladder and the vault pipe when a support bracket is positioned between existing profile support pieces. For cable ladders KHZV and KHZPV. Material: Steel, hot-dip galvanized.				
46	72/18/30	15	7321677080014	**708001**

Cantilever arms

P139932

Cantilever arm 50i				
Cantilever arm to be used for lighter mountings on walls, vertical pieces or pendant/fixing rails. Material: Steel, hot dip galvanized..				
50i/100	120/180/40	42	3606480911293	**CSU795316**
50i/200	120/280/40	55	3606480911309	**CSU795317**
50i/300	120/380/40	68	3606480911316	**CSU795318**
50i/400	142/480/40	86	3606480911323	**CSU795319**
50i/500	130/580/50	160	3606480911330	**CSU795320**
50i/600	130/680/50	186	3606480911347	**CSU795321**

P140019

Cantilever arm 50 and 50F				
Cantilever arm for mounting on walls, pendant/fixing rails or vertical pieces. Material: Steel, hot-dip galvanized.				
50-100	85/150/40	24	7321677234325	**723432**
50-150	85/200/40	28	7321677234332	**723433**
50-200	85/250/40	34	7321677234349	**723434**
50-250	105/300/40	52	7321677234356	**723435**
50-300	105/350/40	60	7321677234363	**723436**
50-400	120/450/50	228	7321677234370	**723437**
50-500	140/550/50	172	7321677234387	**723438**
50-600	150/650/50	215	7321677234394	**723439**
50-700	150/750/50	270	7321677271252	**727125**
50-800	160/850/50	310	7321677271269	**727126**
50-900	160/950/50	350	7321677271276	**727127**
50-1000	170/1050/50	390	7321677271283	**727128**
50F-200	148/245/50	95	7321677186242	**718624**
50F-300	175/345/50	125	7321677186259	**718625**
50F-400	175/445/50	170	7321677186266	**718626**
50F-500	180/547/50	220	7321677186273	**718627**
50F-600	180/647/50	250	7321677186280	**718628**
50F-1000	240/1052/60	770	7321677124657	**712465**

Hot Dip-galvanized - Corrosion class C3, C4

Wall and support brackets

P139929

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Support bracket 3				
Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces. Material: Steel, hot-dip galvanized.				
3-150	92/57/150	26	7321677207619	**720761**
3-200	92/57/200	33	7321677207626	**720762**
3-300	92/57/300	58	7321677207633	**720763**
3-400	92/57/400	78	7321677207640	**720764**
3-500	92/57/500	120	7321677207657	**720765**
3-600	92/57/600	145	7321677207664	**720766**

P139931

P140025

Support bracket HS0				
Support bracket to be mounted together with Threaded rod M10 or M16 for the installation of cable ladders. Material: Steel, hot-dip galvanized.				
HS0-150 M10	26/48/210	39	7321677910632	**791063**
HS0-200 M10	26/48/260	48	7321677910649	**791064**
HS0-300 M10	26/48/360	66	7321677910656	**791065**
HS0-400 M16	26/48/460	84	7321677910663	**791066**
HS0-500 M16	26/48/560	103	7321677910670	**791067**
HS0-600 M16	26/48/660	121	7321677910687	**791068**

P139932

Washer HS0 M16				
Washer to be used for centered mounting with Support bracket HS0 M16 and Threaded rod M16. Package of 10. Material: Steel, hot-dip galvanized.				
HS0 M16	5/50/50	8.7	7321677910922	**791092**

P139934
P139933

Wall bracket 11/25 and 11/75				
Wall bracket to be used for vertical or horizontal installations of cable ladders against a wall. Maximum loads for vertical mounting: 300 kg (3 kN). For mounting against a rung the max. load is 500 kg (5 kN) for 11/25. Maximum loads for horizontal mounting: 11/25 250 kg (2.5 kN), 11/75 100 kg (1 kN). Material: Steel, hot-dip galvanized.				
11/25	85/71/40	24	7321677132041	**713204**
11/75	135/71/40	30	7321677132034	**713203**

P139935

Wall bracket 20				
Wall bracket to be used at installation of Pendant/fixing rail 24/20 to ceiling beam or wall. Material: Steel, hot-dip galvanized.				
20	50/59/154	47	7321677234509	**723450**

P139936

Wall bracket 20F				
Wall bracket to be used at installation of Pendant/fixing rail 20F to ceiling beam or wall. Material: Steel, hot-dip galvanized.				
20F	50/93/150	69	7321677234516	**723451**

P143289

Wall support 550				
Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation. When mounting cantilever arm on support, use screw set 25S (M8). Material: Steel, hot-dip galvanized.				
Wall support 550 mm	20/100/550	105	3606480985287	**CSU795365**

Hot Dip-galvanized - Corrosion class C3, C4

Vertical pieces

P139937

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Vertical piece 2				
Vertical piece to be used for installation of Support bracket 3, symmetrical loading. Not suitable for cable ladders KHZV and KHZPV. Can be joined to Pendant/fixing rail 24/34 with Pendant joint 2J. Material: Steel, hot-dip galvanized.				
2-300	279/80/135	52	7321677171910	**717191**
2-400	392/80/135	62	7321677171927	**717192**
2-500	504/80/135	72	7321677171934	**717193**
2-700	729/80/135	93	7321677171941	**717194**
2-1000	1022/80/135	120	7321677171958	**717195**

P139938

Vertical piece 2F				
Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ. Material: Steel, hot-dip galvanized.				
2F-280	280/80/135	80	7321677171965	**717196**
2F-370	370/80/135	100	7321677171972	**717197**
2F-505	505/80/135	130	7321677171989	**717198**
2F-640	640/80/135	150	3606480410000	**CSU794202**
2F-730	730/80/135	170	7321677171996	**717199**
2F-865	865/80/135	200	3606480410017	**CSU794203**
2F-1000	1000/80/135	220	7321677172009	**717200**
2F-1500	1495/80/135	290	7321677872763	**787276**

P139942

Vertical piece 20				
Vertical piece, two-sided, to be used for vertical installation together with Cantilever arm 50, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall. Material: Steel, hot-dip galvanized.				
20-280	280/155/150	165	3606480409967	**CSU794204**
20-370	370/155/150	198	3606480409974	**CSU794205**
20-500	505/155/150	243	7321677157235	**715723**
20-640	640/155/150	293	3606480409981	**CSU794206**
20-700	730/155/150	324	7321677157242	**715724**
20-865	865/155/150	372	3606480409998	**CSU794207**
20-1000	1000/155/150	458	7321677157259	**715725**
20-1500	1495/155/150	652	7321677157266	**715726**
20-2000	1990/155/150	799	7321677157273	**715727**
20-3000	2980/155/150	1177	7321677157280	**715728**

P139943

Vertical piece 20F				
Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for rather heavy loads. Material: Steel, hot-dip galvanized.				
20F-1000	995/160/160	590	7321677182497	**718249**
20F-1500	1490/160/160	790	7321677182503	**718250**
20F-2000	1985/160/160	990	7321677182510	**718251**
20F-3000	2980/160/160	1240	7321677097999	**709799**

P139944

Vertical piece 20FS				
Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for very heavy loads. Material: Steel, hot-dip galvanized.				
20FS-1500	1495/270/150	1460	7321677187188	**718718**
20FS-2000	1990/270/150	1810	7321677187195	**718719**
20FS-2500	2485/270/150	2160	7321677187201	**718720**
20FS-3000	2980/270/150	2520	7321677187218	**718721**

Hot Dip-galvanized - Corrosion class C3, C4

Pendant/Fixing rails

Pendant/Fixing rail 24/34

P139945

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Steel, hot-dip galvanized.

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
24/34	2970/16/42	240	7321677158799	**715879**

Pendant/Fixing rail 24/48

P139946

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Steel, hot-dip galvanized.

24/48	1000/26/48	175	3606481317865	**CSU795565**
24/48	2970/26/48	520	7321677050932	**705093**
24/48	5940/26/48	1120	7321677317196	**731719**

Pendant/Fixing rail 24/20

P139947

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Steel, hot-dip galvanized.

24/20	2970/55/48	1130	7321677097951	**709795**

Pendant/Fixing rail 24/20F

P139948

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Steel, hot-dip galvanized.

24/20F-3000	2970/89/48	1160	7321677097982	**709798**
24/20F-6000	5940/89/48	2370	7321677188086	**718808**

Pendant/Fixing rail 24/20FS

P139949

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Steel, hot-dip galvanized.

24/20FS	5940/106/48	4200	7321677090310	**709031**

Fixing rail 24/26x53 for casting-in

P139950

Fixing rail for casting-in in wall and ceilings.
Material: Steel, hot-dip galvanized.

24/26x53	4000/26/48	970	7321677680634	**768063**

Hot Dip-galvanized - Corrosion class C3, C4

Vertical pieces for I-beam fixation

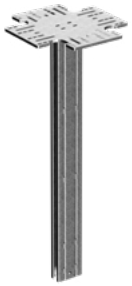
CSU795894

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Vertical piece BM20 - Beam pendant				
Vertical piece, two-sided, to be used for vertical installation from I-beams together with Cantilever arm 50. Used together with Beam clamp 6BK and bolt kits for Beam clamp, sold separately. Material: Steel, hot-dip galvanized.				
Vertical piece BM20-505 HDG	380/380/498	740	7321677958948	**CSU795894**
Vertical piece BM20-1000 HDG	380/380/993	900	7321677958955	**CSU795895**
Vertical piece BM20-1500 HDG	380/380/1488	1050	7321677958962	**CSU795896**
Vertical piece BM20-2000 HDG	380/380/1983	1220	7321677958979	**CSU795897**
Vertical piece BM20-3000 HDG	380/380/2973	1540	7321677958986	**CSU795898**
Vertical piece BM20-4000 HDG	380/380/4008	1880	7321677958993	**CSU795899**
Vertical piece BM20-5000 HDG	380/380/4998	2200	7321677959006	**CSU795900**
Vertical piece BM20-6000 HDG	380/380/5943	2500	7321677959013	**CSU795901**

CSU795902

Vertical piece BM20F - Beam pendant				
Vertical piece, two-sided, to be used for for vertical installation from I-beams. Suitable for rather heavy loads. Used together with Beam clamp 6BK and bolt kits for Beam clamp, sold separately. Material: Steel, hot-dip galvanized.				
Vertical piece BM20F-1000 HDG	380/380/993	920	7321677959020	**CSU795902**
Vertical piece BM20F-1500 HDG	380/380/1488	1090	7321677959037	**CSU795903**
Vertical piece BM20F-2000 HDG	380/380/1983	1260	7321677959044	**CSU795904**
Vertical piece BM20F-3000 HDG	380/380/2973	1590	7321677959051	**CSU795905**
Vertical piece BM20F-4000 HDG	380/380/4008	1940	7321677959068	**CSU795906**
Vertical piece BM20F-5000 HDG	380/380/4998	2270	7321677959075	**CSU795907**
Vertical piece BM20F-6000 HDG	380/380/5943	2600	7321677959082	**CSU795908**

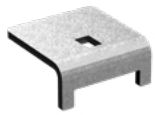
CSU795909



Vertical piece BM20FS - Beam pendant				
Vertical piece, two-sided, to be used for vertical installation from I-beams. Suitable for very heavy loads. Used together with Beam clamp 6BK and bolt kits for Beam clamp, sold separately. Material: Steel, hot-dip galvanized.				
Vertical piece BM20FS-1000 HDG	380/380/995	1340	7321677959099	**CSU795909**
Vertical piece BM20FS-1500 HDG	380/380/1490	1640	7321677959105	**CSU795910**
Vertical piece BM20FS-2000 HDG	380/380/1985	1940	7321677959112	**CSU795911**
Vertical piece BM20FS-3000 HDG	380/380/2975	2550	7321677959129	**CSU795912**
Vertical piece BM20FS-4000 HDG	380/380/4010	3190	7321677959136	**CSU795913**
Vertical piece BM20FS-5000 HDG	380/380/5000	3800	7321677959143	**CSU795914**
Vertical piece BM20FS-6000 HDG	380/380/5945	4390	7321677959150	**CSU795915**

Beam clamp, hook

CSU795916



Beam clamp 6BK				
Beam clamp to be used for the installation of Vertical pieces BM20, BM20F or BM20FS on I-beams. For flange thickness max. 13, 20, 30 and 40 mm respectively. Bolt kits to each 6BK clamp size are sold separately. Material: Steel, hot-dip galvanized.				
Beam clamp 6BK-13 HDG	65/70/31	22	7321677959167	**CSU795916**
Beam clamp 6BK-20 HDG	65/70/38	24	7321677959174	**CSU795917**
Beam clamp 6BK-30 HDG	65/70/48	27	7321677959181	**CSU795918**
Beam clamp 6BK-40 HDG	65/70/58	30	7321677959198	**CSU795919**

Screws, bolts and nuts

CSU795920

Bolt-kits for Beam clamp 6BK				
Bolt kit to be used for installation of Beam clamp 6BK to Beam pendants BM20, BM20F or BM20FS. Set including screw MVBFM10, washer BRBM10 and nut M6MF10. Material: Steel, hot-dip galvanized.				
Bolt-kits for Beam clamp 6BK-13 HDG	25/25/50	6	7321677959204	**CSU795920**
Bolt-kits for Beam clamp 6BK-20 HDG	25/25/55	6	7321677959211	**CSU795921**
Bolt-kits for Beam clamp 6BK-30 HDG	25/25/65	7	7321677959228	**CSU795922**
Bolt-kits for Beam clamp 6BK-40 HDG	25/25/75	7	7321677959235	**CSU795923**

Pendant joint for 20FS

CSU795924

Pendant Joint 20FS				
Used for joining pendant/fixing rails 24/20FS and vertical pieces 20FS. Used in pairs. Provided without bolts. The pair is to be fixed to the rail with 8 x M10 T-bolts. Also 2 x Bolt-kit CSU795924 should be used as a pin. Material: Steel, hot-dip galvanized.				
Pendant Joint 20FS HDG	250/55/75	155	7321677959242	**CSU795924**

Hot Dip-galvanized - Corrosion class C3, C4

Ceiling and base plates

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Ceiling plate 20F				
Ceiling plate to be used as a pre-drilled attachment for Vertical piece 20F to a steel member. The ceiling plate is welded in position. Material: Steel, hot-dip galvanized.				
20F	–/160/160	200	7321677188499	**718849**
Ceiling plate 20FS				
Ceiling plate to be used as a pre-drilled attachment for Vertical piece 20FS to a steel member. The ceiling plate is welded in position. Material: Steel, hot-dip galvanized.				
20FS	–/270/150	310	7321677205363	**720536**
Pendant base plate 520				
Pendant base plate to be used as a ceiling or floor base plate for Pendant/Fixing rail 24/20 in any desired length. Four screws MVBF 8x80 and nuts included. Material: Steel, hot-dip galvanized.				
520	278/160/160	400	7321677182534	**718253**

P139939

P139940

P139941

Pendant bar, rail fixing

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Pendant bar 1				
Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt. Material: Steel, hot-dip galvanized.				
1-300	362/–/40	35	7321677176403	**717640**
1-500	568/–/40	53	7321677176410	**717641**
1-800	880/–/40	82	7321677176427	**717642**
1-1500	1296/35/50	560	7321677189038	**718903**
Rail fixing support 24/20F, 24/20FS				
Rail fixing support to be used with Pendant/fixing rails 24/20F and 24/20FS respectively, for mounting between floor and ceiling. Material: Steel, hot-dip galvanized.				
24/20F	106/165/80	167	7321677188505	**718850**
24/20FS	106/185/80	190	7321677188512	**718851**

P140023
P140024

P139951

Brackets

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Angle bracket 5L				
Angle bracket to be used for steel wire installation in ceilings. Also used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Material: Steel, hot-dip galvanized.				
5L	70/45/49	15	7321677317912	**731791**
Angle bracket 5LS				
Angle bracket to be used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Material: Steel, hot-dip galvanized.				
5LS	111/71/60	50	7321677098019	**709801**
Combi bracket 53				
Combi bracket to be used for the mounting of cable ladders and trays on seamed roofing sheets, etc. To be combined with plastic insulating plate 54. Material: Steel, hot-dip galvanized.				
53 (bracket)	58/52/60	26	7321677823536	**782353**
54 (plate)	2/70/120	2	7321677872237	**787223**
Bracket 60/40				
Bracket to be used together with Pendant/fixing rail 24/48 to reduce the deflection of long vertical pieces. Material: Steel, hot-dip galvanized.				
60/40	95/23/40	10	7321677189045	**718904**

P139953

P139954

P139955

P139956

Hot Dip-galvanized - Corrosion class C3, C4

Brackets

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Rod bracket 82				
Rod bracket to be used together with Cantilever arm 50, in combination with threaded rod support. Material: Steel, hot-dip galvanized.				
82	60/158/43	360	7321677867684	**786768**

P139957

Pendant joint

Pendant joint 2J, 2FJ and 20J

Pendant joint to be used for joining pendant/fixing rails and vertical pieces. Screws M8x16 (2J and 2FJ) or M8x70 (20J) and nuts included.
Material: Steel, hot-dip galvanized.

2J	200/48/18	43	7321677131778	**713177**
2FJ	200/55/18	46	7321677131785	**713178**
20J	200/55/36	94	7321677131730	**713173**

P139959 P139960 P139958

Ceiling brackets

Ceiling bracket 5

Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48. Screw not included.
Material: Steel, hot-dip galvanized.

5	100/135/40	35	7321677186402	**718640**

P139961

Ceiling bracket 5TPA

Ceiling bracket with telescopic function, to be used for mounting of various sizes of trapezoid plates. Including screw MVBF 8x16 and nut M6MF8. Breaking load: 150 kg without deformation.
Material: Steel, hot-dip galvanized.

5TPA	50/76/79-118	14	7321677334872	**733487**

P139962

Ceiling bracket 5TP

Ceiling bracket to be used for installations of Vertical pieces 2, 2F and 20 in ceilings with a trapezoidal sheet profile.
Material: Steel, hot-dip galvanized.

5TP	75/35/50	12	7321677131532	**713153**

P139963

Ceiling brackets TF-10 and TF-16

Ceiling bracket to be used for installation with Threaded rods. Nut included.
Material: Steel, hot-dip galvanized.

TF-10 (with nut M10)	55/40/45	15	7321677881642	**788164**
TF-16 (with nut M16)	75/50/50	30	7321677881659	**788165**

P139938

P139939

Take-off hook, end connection

Fixed take-off hook 4

Fixed take-off hook to be used for 90° horizontal branches.
Material: Aluminium.

4	71/19/86	8	7321677090174	**709017**

P139957

Take-off hook 47

Take-off hook to be used on cable ladders KHZV and KHZPV to make 90° branches. Screw M12 and nuts are included.
Material: Steel, hot-dip galvanized.

47	155/10/73	27	7321677913503	**791350**

P139958

Take-off hook 20C

Take-off hook to be used on cable ladders KHZP 20C range to make 90° branches. Screw M12 and nuts are included.
Material: Steel, hot-dip galvanized.

20C	205/10/78	40	3606480739576	**CSU795209**

P143549

End connection 10

End connection to be used for the connection of a ladder vertically to a floor, or horizontally to a wall.
Material: Aluminium.

10	60/55/60	8	7321677090181	**709018**

P139964

Hot Dip-galvanized - Corrosion class C3, C4

Fittings for mesh tray


P140021
P140022

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Combi-fittings B21				
Combi-fitting to be used when mounting mesh trays onto cable ladders.Material: Steel, hot-dip galvanized.				
B21	250/50/20	48	7332227012591	**1149259**
B21 90 degrees	120/50/135	46	7332227012911	**1149291**

Beam clamp, hook

P140026

Beam clamp 5BK				
Beam clamp to be used for the installation of Vertical pieces 2, 2F or 20 on I-beams. For flange thickness max. 13 mm and 14-30 mm respectively. Material: Steel, hot-dip galvanized.				
5BK-10 (max. 13 mm)	30/50/45	15	7321677156757	**715675**
5BK-30 (14-30 mm)	50/50/45	18	7321677182435	**718243**

P140027

Hook 8				
Hook to be used for the installation of cables beneath Support bracket 3. Can also be installed in perforated rungs. Material: Steel, hot-dip galvanized.				
8	67/15/40	5	7321677286423	**728642**

Back, installation and box plates

P140029

Back plate 40				
Back plate to be used for installation behind Cantilever arm 50 to reduce the surface pressure on porous walls. Material: Steel, hot-dip galvanized.				
40	150/–/60	55	7321677687381	**768738**

P140030

Installation plate 61				
Installation plate to be used on vertical cable ladder installations for mounting of terminal boxes, contact breakers, etc. Material: Steel, hot-dip galvanized.				
61-200	310/70/200	100	7321677324910	**732491**
61-300	310/70/300	140	7321677324927	**732492**
61-400	310/70/400	170	7321677324934	**732493**
61-500	310/70/500	240	7321677324941	**732494**
61-600	310/70/600	270	7321677324958	**732495**

P132624

Junction box plate 35S				
Junction box plate, holed or unholed, to be installed upright or hanging from the profile. Locked with locking tabs. For junction boxes, electric light fittings, etc. Material: Steel, hot-dip galvanized.				
35S holed	164/20/170	22	7321677317462	**731746**

Outlet				
Outlet, 2-way, enclosed IP44, mounted on a Junction box plate 35S. Material: Steel, hot-dip galvanized.				
35S	165/59/170	36	7321677958665	**CSU795866**
Outlet, 2-way, unenclosed IP44, mounted on a Junction box plate W24/40. Material: Steel, hot-dip galvanized.				
W24/40	161/58/200	37	7321677958719	**CSU795871**

Premounted junction box U56				
Junction box, U56, mounted on a Junction box plate 35S. Material: Steel, hot-dip galvanized.				
35S w T	165/50/170	35	7321677958627	**CSU795862**
35S w/o T	165/50/170	33	7321677958634	**CSU795863**

Premounted junction box AP9				
Junction box, AP9, mounted on a Junction box plate 35S. Material: Steel, hot-dip galvanized.				
35S	165/51/170	35	7321677958658	**CSU795865**

P140031

Junction box plate 35P				
Junction box plate with holes, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc. Material: Steel, hot-dip galvanized.				
35P	–/106/250	28	7321677317455	**731745**

Bends

P140032

Riser 18				
Riser piece to be fitted to the cable ladders by using Joint 21. Material: Steel, hot-dip galvanized.				
18-150	452/147/452	180	7321677181766	**718176**
18-200	452/197/452	190	7321677181773	**718177**
18-300	452/297/452	210	7321677181797	**718179**
18-400	452/397/452	230	7321677181803	**718180**
18-500	452/497/452	250	7321677181810	**718181**
18-600	452/597/452	270	7321677181827	**718182**
18-800	452/897/452	310	7321677219643	**721964**
18-1000	452/1097/452	350	7321677181834	**718183**

Hot Dip-galvanized - Corrosion class C3, C4

Bends

P140033

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Riser coupling 49				
Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screw sets M12 are needed. Material: Steel, hot-dip galvanized.				
49-200	120/197/483	220	7321677163892	**716389**
49-300	120/297/483	230	7321677163908	**716390**
49-400	120/397/483	240	7321677163915	**716391**
49-500	120/497/483	245	7321677205172	**720517**
49-600	120/597/483	250	7321677163922	**716392**
49-1000	120/997/483	280	7321677163939	**716393**

P143138

Riser coupling 20C				
Coupling to be used as a self-supporting vertical coupling of cable ladders KHZP 20C range. Two screw sets M12 are needed. Material: Steel, hot-dip galvanized.				
20C-200	170/200/550	249	3606480739439	**CSU795159**
20C-300	170/330/550	260	3606480739446	**CSU795160**
20C-400	170/400/550	271	3606480739453	**CSU795161**
20C-500	170/500/550	282	3606480739460	**CSU795162**
20C-600	170/600/550	293	3606480739477	**CSU795163**
20C-800	170/800/550	315	3606480739484	**CSU795164**
20C-1000	170/1000/550	386	3606480739491	**CSU795165**
Coupling plate 48				
Angled coupling to be used for cable ladders KHZV/KHZPV range. Material: Steel, hot-dip galvanized.				
48 30°	148/-/156	61	7321677189014	**718901**
48 45°	148/-/190	75	7321677184118	**718411**
48 60°	148/-/ 223	80	7321677189021	**718902**

PTSU-105

Angle plates 20C				
Angled coupling to be used for cable ladders KHZP 20C range. Four screws M12x30 and nuts are included. Material: Steel, hot-dip galvanized.				
20C 60°	180/5/265	111	3606480739545	**CSU795206**
20C 45°	190/5/220	99	3606480739552	**CSU795207**
20C 30°	195/5/180	85	3606480739569	**CSU795208**

P143260

P140034

90° bend 15, interior				
Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Inner radius 268 mm. Material: Steel, hot-dip galvanized.				
15-150	55/547/547	220	7321677160662	**716066**
15-200	55/597/597	240	7321677160679	**716067**
15-300	55/697/697	290	7321677160693	**716069**
15-400	55/797/797	340	7321677160709	**716070**
15-500	55/897/897	390	7321677160716	**716071**
15-600	55/997/997	440	7321677160723	**716072**
15-800	55/1197/1197	640	7321677219612	**721961**
15-1000	55/1397/1397	760	7321677160730	**716073**

P140035

90° bend 15, exterior				
Exterior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Material: Steel, hot-dip galvanized.				
15-150	55/703/703	320	7321677161799	**716179**
15-200	55/933/933	370	7321677161805	**716180**
15-300	55/1133/1133	460	7321677161829	**716182**
15-400	55/1333/1333	550	7321677161836	**716183**
15-500	55/1533/1533	640	7321677161843	**716184**
15-600	55/1733/1733	760	7321677161850	**716185**
15-800	55/2133/2133	1060	7321677230570	**723057**
15-1000	55/2533/2533	1280	7321677232604	**723260**

Hot Dip-galvanized - Corrosion class C3, C4

Bends

P140036

90° bend 55, interior

Interior bend piece to be fitted to cable ladders KHZV and KHZPV, creating a 90° horizontal bend.
Material: Steel, hot-dip galvanized.

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
55-200	150/625/625	510	7321677162413	**716241**
55-300	150/725/725	560	7321677162437	**716243**
55-400	150/825/825	620	7321677162444	**716244**
55-500	150/925/925	680	7321677162451	**716245**
55-600	150/1025/1025	750	7321677162468	**716246**
55-1000	150/1425/1425	1110	7321677162475	**716247**

P143124

90° bend 20C, interior

Interior bend piece to be fitted to cable ladders KHZP 20C range, creating a 90° horizontal bend.
Material: Steel, hot-dip galvanized.

20C-200	190/625/625	517	3606480739293	**CSU795145**
20C-300	190/725/725	568	3606480739309	**CSU795146**
20C-400	190/825/825	619	3606480739316	**CSU795147**
20C-500	190/925/925	671	3606480739323	**CSU795148**
20C-600	190/1025/1025	722	3606480739330	**CSU795149**
20C-800	190/1225/1225	824	3606480739347	**CSU795150**
20C-1000	190/1425/1425	1048	3606480739347	**CSU795151**

P140037

T-junction 16

T-junction piece to be fitted to the cable ladders by using Joint 21.
Material: Steel, hot-dip galvanized.

16-150	55/944/547	300	7321677161935	**716193**
16-200	55/997/597	320	7321677161942	**716194**
16-300	55/1097/697	390	7321677161966	**716196**
16-400	55/1197/797	440	7321677161973	**716197**
16-500	55/1297/897	530	7321677161980	**716198**
16-600	55/1397/997	600	7321677161997	**716199**
16-800	55/1597/1197	750	7321677219629	**721962**
16-1000	55/1797/1397	860	7321677162000	**716200**

P140038

T-junction 56

T-junction piece to be fitted to the cable ladder KHZV or KHZPV by using screw set M12.
Material: Steel, hot-dip galvanized.

56-200	150/1050/625	710	7321677162550	**716255**
56-300	150/1150/725	790	7321677162574	**716257**
56-400	150/1250/825	840	7321677162581	**716258**
56-500	150/1350/925	940	7321677162598	**716259**
56-600	150/1450/1025	1010	7321677162604	**716260**
56-1000	150/1850/1425	1300	7321677162611	**716261**

P143131

T-junction 20C

T-junction piece to be fitted to the cable ladder KHZP 20C range by using screw set M12.
Material: Steel, hot-dip galvanized.

20C-200	190/265/1050	783	3606480739361	**CSU795152**
20C-300	190/725/1150	853	3606480739378	**CSU795153**
20C-400	190/825/1250	900	3606480739385	**CSU795154**
20C-500	190/925/1350	987	3606480739392	**CSU795155**
20C-600	190/1025/1450	1039	3606480739408	**CSU795156**
20C-800	190/1225/1650	1306	3606480739415	**CSU795157**
20C-1000	190/1425/1850	1518	3606480739422	**CSU795158**

Hot Dip-galvanized - Corrosion class C3, C4

Bends

P140039

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
X-junction 17				
X-junction piece to be fitted to the cable ladders by using Joint 21. Material: Steel, hot-dip galvanized.				
17-150	55/547/547	380	7321677162093	**716209**
17-200	55/997/997	400	7321677162109	**716210**
17-300	55/1097/1097	500	7321677162123	**716212**
17-400	55/1197/1197	550	7321677162130	**716213**
17-500	55/1297/1297	600	7321677162147	**716214**
17-600	55/1397/1397	860	7321677162154	**716215**
17-800	55/1597/1597	1070	7321677219636	**721963**
17-1000	55/1797/1797	1220	7321677162161	**716216**

P140040

S-bend 67				
S-bend piece to be used as a transition between cable ladders mounted on different levels. Can be mounted both vertically and horizontally. Material: Steel, hot-dip galvanized.				
67	250/–/893	90	7321677886388	**788638**

Tele-conduits

P140041

Tele-conduit 36				
Tele-conduit to be used where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cables to pass through. Material: Steel, Zink+				
36-50	24/50/2000	94	7321677959341	**CSU795934**
36-100	24/100/2000	142	7321677959358	**CSU795935**
36-200	24/200/2000	238	7321677959365	**CSU795936**

Dividers

P140042

P140043

Dividing strip 39				
Dividing strip to be used to separate low-tension and high-tension cables. Material: Steel, Zink+				
39/24	24/24/1750	46	7321677959327	**CSU795932**
39/55	55/24/1750	73	7321677959334	**CSU795933**

P140044

Distance piece W39				
Distance piece to be used for the joining of Dividing strips 39. Material: Plastic, natural coloured.				
W39	37/–/330	3	7321677168248	**716824**

Covers/Cover plates

P140045

Cover 64				
Cover to be used for vertically mounted cable ladders. Material: Steel, hot-dip galvanized.				
64-150	10/151/2000	290	7321677825615	**WBE782561**
64-200	10/201/2000	370	7321677825622	**WBE782562**
64-300	10/301/2000	540	7321677825639	**WBE782563**
64-400	10/401/2000	710	7321677825646	**WBE782564**
64-500	10/501/2000	1020	7321677825653	**WBE782565**
64-600	10/601/2000	1210	7321677825660	**WBE782566**
64-800	10/801/2000	1660	7321677825677	**WBE782567**
64-1000	10/1001/2000	2000	7321677825684	**WBE782568**

Hot Dip-galvanized - Corrosion class C3, C4

Covers/Cover plates

P140046

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Cover				
Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun. Suitable for all cable ladders. Material: Steel, hot-dip galvanized.				
W5-150	10/151/2000	190	7321677322640	**732264**
W5-200	10/201/2000	250	7321677322657	**732265**
W5-300	10/301/2000	360	3606480535734	**732266**
W5-400	10/401/2000	680	7321677322671	**732267**
W5-500	10/501/2000	880	7321677322688	**732268**
W5-600	10/601/2000	1050	7321677322695	**732269**
W5-800	10/801/2000	1420	7321677822133	**782213**
W5-1000	10/1001/2000	1730	7321677322701	**732270**
Cover 90° bend				
Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, hot-dip galvanized.				
150	10/420/420	65	7321677814336	**781433**
200	10/470/470	91	7321677814343	**781434**
300	10/570/570	143	7321677814350	**781435**
400	10/670/670	221	7321677814367	**781436**
500	10/770/770	299	7321677814374	**781437**
600	10/870/870	390	7321677814381	**781438**
800	10/1070/1070	460	7321677817931	**781793**
1000	10/1270/1270	871	7321677814398	**781439**
Cover T-junction				
Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, hot-dip galvanized.				
150	10/400/651	182	7321677814404	**781440**
200	10/450/701	221	7321677814411	**781441**
300	10/550/801	312	7321677814428	**781442**
400	10/650/901	416	7321677814435	**781443**
500	10/750/1001	533	7321677814442	**781444**
600	10/850/1101	676	7321677814459	**781445**
800	10/1050/1301	710	7321677817962	**781796**
1000	10/1240/1501	1352	7321677814466	**781446**
Profile support piece 37				
Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers. Material: Steel, hot-dip galvanized.				
37	136/20/50	6	7321677301881	**730188**
Cover clamp				
Cover clamps to be used when installing a cover on a Profile support piece 37. Material: Steel, Zink+.				
Cover clamp	32/10.5/20	1.5	3606489699413	**CSU795598**
Cover joint				
Cover joint to be inserted between covers. Material: Steel, hot-dip galvanized.				
150	4/100/125	10	7321677804528	**780452**
200	4/100/175	20	7321677804535	**780453**
300	4/100/275	30	7321677804542	**780454**
400	4/100/375	40	7321677804559	**780455**
500	4/100/475	50	7321677804566	**780456**
600	4/100/575	60	7321677804573	**780457**

P140047

P140048

P138935

P140049

P140050

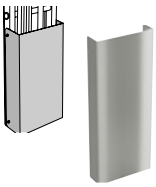
Hot Dip-galvanized - Corrosion class C3, C4

Covers/Cover plates

P140051

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Protecting cover				
Cover to be used to protect the cable runs agains ice and snow. Suitable for all cable ladder widths 300 and 400 respectively. Material: Steel, hot-dip galvanized.				
300	280/300/1000	880	7321677867462	**786746**
400	280/400/1000	990	7321677867479	**786747**

P140052



Cover plate 65				B223191
Cover plate to be used on vertical cable ladder installations as protection of cables near the floor. To be mounted in the side profile with self-tapping screw ST4.2. Material: Steel, hot-dip galvanized.				
65-200	1000/120/200	930	7321677301928	**730192**
65-300	1000/120/300	1140	7321677301935	**730193**
65-400	1000/120/400	1350	7321677301942	**730194**
65-500	1000/120/500	1560	7321677301959	**730195**
65-600	1000/120/600	1780	7321677301966	**730196**

Lighting bracket

P140053

Lighting bracket 200				
Lighting bracket to be used for the installation of lighting fittings beneath cable ladders KHZV and KHZPV 200. Material: Steel, hot-dip galvanized.				
200	24/25/215	16	7321677186433	**718643**

Angle plate

P140054

Angle plate 33				
Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders. Material: Steel, hot-dip galvanized.				
33/2	25/195/490	90	7321677077489	**707748**
Corner inner radius				
Corner plate used to build form pieces for large radius 90°/T-and X shapes. Two versions for min 600mm or min 1000mm cable bending radius. To be fixed with 4 clamps 42 (not included). To be used in combination with profile protection plate. Material: Steel, Zink+				
Corner inner radius max 600	791/386/35	268	7321677958894	**CSU795889**
Corner inner radius max 1000	1151/566/35	534	7321677958900	**CSU795890**

Profile protection plate				
Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder. To be fixed with 2 clamps 42 (not included). To be used in combination of the Corner inner radius. Material: Steel, Zink+				
Profile protection plate 400	581/164/20	86	7321677958917	**CSU795891**
Profile protection plate 500	681/164/20	106	7321677958924	**CSU795892**
Profile protection plate 600	781/164/20	126	7321677958931	**CSU795893**

Installation system HT

P140055

Wall bracket HT-14				
Bracket to be used for wall installations. To be installed with Expansion bolt or concrete screw. Material: Steel, hot-dip galvanized.				
HT-14	30/30/104	18	7321677136711	**713671**

P140056

Carrying bracket HT-31				
Carrying bracket to be used for ceiling installations. To be installed with Expansion bolt or concrete screw. Material: Steel, hot-dip galvanized.				
HT-31	115/4.5/23	2	7321677136728	**713672**

P140057

Carrying bracket HT-152				
Carrying bracket to be used for easy I-beam installations. Material: Steel, hot-dip galvanized.				
HT-152	49/15/65	38	7321677176366	**717636**

P140058

End bracket HT-11				
End bracket to be used for ceiling beam installations. To be installed with Expansion bolt or concrete screw. Material: Steel, hot-dip galvanized.				
HT-11	155/40/40	41	7321677176182	**717618**

P140059

Tightening loop HT				
Tightening loop to be installed at the ends of steel wires. Material: Steel, hot-dip galvanized.				
HT-611	22/22/125	10	7321677136896	**713689**
HT-621	50/50/270	18	7321677136902	**713690**
HT-631	50/50/400	29	7321677136919	**713691**

Hot Dip-galvanized - Corrosion class C3, C4

Installation system HT

P140060

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Pipe HT-68				
Pipe for easy locking of wires. Material: Steel, hot-dip galvanized.				
HT-68	Ø15/25	1.3	7321677136773	**713677**

P140227

Steel wire HT				
Steel wire to be installed as carrier of one or more cables. Breaking loads, see below. Material: Available in several qualities.				
HT-2309, galvanized, soft, breaking load 700 kg	Ø5.0	15.5/100 m	7321677136797	**713679**
HT-2311, 7x diam. 1.71=16 mm² coated, grey, breaking load 970 kg	Ø6.15	13.5/100 m	7321677136889	**713688**
HTR-2322 stainless, hard, breaking load 450 kg	Ø2.5	3.9/100 m	7321677136810	**713681**
HTR-2323 stainless, hard, breaking load 700 kg	Ø3.0	5.6/100 m	7321677136827	**713682**
HTR-2324 stainless, hard, breaking load 1200 kg	Ø4.0	10.0/100 m	7321677136834	**713683**

Mounting rail

P140061

Mounting rail 40				
Mounting rail to be used for wall installation of cantilever arms on porous walls to reduce the surface pressure or to enable height adjustment of cantilever arms. Material: Steel, hot-dip galvanized.				
40	270/26/48	56	7321677170012	**717001**

Reducers

P140062

Reducer 31				
Reducer to be used for transition joining from a wide to a narrower cable ladder. Material: Steel, hot-dip galvanized.				
31-100	48/100/200	43	7321677341719	**734171**
31-200	48/200/200	59	7321677341726	**734172**
31-300	48/300/200	74	7321677341733	**734173**
31-400	48/400/200	89	7321677341740	**734174**

P143145
P143146

Reducer 20C				
Reducer/Expander for transition joining from a wide to a narrower cable ladder of KHZP 20C range. May also be used at centred transition joining. Material: Steel, hot-dip galvanized.				
20C-100	40/200/100	109	3606480739507	**CSU795166**
20C-200	40/200/200	176	3606480739514	**CSU795167**

Rung reinforcement

Wibe ladder rung reinforcement				
The rung reinforcement is an accessory to be put locally on rungs that are exposed to heavy point loads, for instance during cable pulling. The reinforcement will at least double the strength of the rung. Can be used on all Wibe ladders, both with round rung and perforated rung. Can be fixed to the ladder with a self drilling screw (not included). Material: Steel, Zink+				
Rung reinforcement 400	440/38/19	41	7321677958832	**CSU795883**
Rung reinforcement 500	540/38/19	52	7321677958849	**CSU795884**
Rung reinforcement 600	640/38/19	63	7321677958856	**CSU795885**

Perforated rung reinforcement				
The rung reinforcement is an accessory to be put locally on rungs that are exposed to heavy point loads, for instance during cable pulling. The reinforcement will at least double the strength of the rung. Can be used on all ladders with perforated rung. Can be fixed to the ladder with 2 x screwset 22S (not included). Material: Steel, Zink+				
Perforated rung reinforcement 400	353/38/51	41	7321677958863	**CSU795886**
Perforated rung reinforcement 500	453/38/51	52	7321677958870	**CSU795887**
Perforated rung reinforcement 600	553/38/51	63	7321677958887	**CSU795888**

Hot Dip-galvanized - Corrosion class C3, C4

Bar fixings

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
	Round bar fixing				
	Round bar fixing to be used for mounting in underground cavities and tunnels. Material: Steel, hot-dip galvanized.				
P131546	For ceilings	6/60/325	90	7321677928637	**792863**
P131651	For floors	6/140/130	91	7321677928651	**792865**
P131655	For walls	61/60/161	68	7321677928675	**792867**

Lashing wire

	Lashing wire				
	Lashing wire to be used for lashing of wires on cable ladders. Material: Stainless steel, PVC.				
P140226 P140225	HTR-2303, white PVC	Ø1.25	1.3/100 m	7321677136865	**713686**
	HTR-2313, black PVC	Ø1.25	1.3/100 m	7321677136872	**713687**
	Lashing wire to be used for lashing of wires on cable ladders. Material: PVC.				
P140226 P140225	HT-2304, white	Ø1.5	1.8/100 m	7321677136841	**713684**
	HT-2314, black	Ø1.5	1.8/100 m	7321677136858	**713685**

Profile protection

	Profile protection 28P				
	Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder. Material: PVC, grey.				
P140063	28P	60/28/2000	80	7321677321513	**732151**

End plugs

	End plug 28/28i				
	End plug to be mounted on ladder ends for sealing or protection. Material: PP/TPE.				
P140064	28, red	59/25/22	0.8	7321677090198	**709019**
P140065 P140066	28i, white 28i, red	54/14/19	0.4	7321677354467 7321677319947	**735446** **731994**
	End plug 28C, D, E, F and J				
	End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous. Material: PP/TPE, orange.				
P140067	28C for Vertical piece 2 and Pendant/fixing rail 24/34	25/19/46	0.5	7321677898756	**789875**
P140068	28D for Vertical piece 20 and Pendant/fixing rail 24/20	25/52/58	1	7321677090204	**709020**
P140069	28E for Vertical piece 2F and Pendant/fixing rail 24/48	24/30/52	0.5	7321677090211	**709021**
P140070	28F for Vertical piece 20FS and Pendant/fixing rail 24/20FS	30/53/110	4	7321677898763	**789876**
P138758	28J for Vertical piece 20F and Pendant/Fixing rail 24/20F	27/53/95	2.1	3606480457531	**CSU794520**
	Cross member plug 27				
	Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk. Material: PE, grey.				
P140071	27	Ø20/10	0.15	7321677266685	**726668**

Hot Dip-galvanized - Corrosion class C3, C4

Screws, bolts and nuts

T-bolt single-08

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
T-bolt 26U				
T-bolt to be used for mounting with all vertical pieces except Vertical piece 2 and with Pendant/fixing rail 24/48. Material: Steel, hot-dip galvanized.				
26U M8	M8x30	5	3606489579777	**CSU795595**
26U M10	M10x30	5	3606489579715	**CSU795589**
26U M10	M10x40	6	3606489579722	**CSU795590**
26U M10	M10x50	7	3606489579739	**CSU795591**

P140148

Screw set M12				
Screw set to be used for all joints with cable ladders KHZV and KHZPV. Set including four bolts M6S 12x25 and four nuts M6M 12. Material: Steel, hot-dip galvanized.				
M12	—	20	7321677064151	**706415**

PTCLC-274

Screw set 2S				
Screw set to be used for fastening of Support bracket 3 on Pendant/fixing rail 24/20F and Angle bracket 5L to the opening on Pendant rail 24/34 and 24/48. Set including screw MVBF 8x40 and nut M6MF8. Material: Steel, hot-dip galvanized.				
2S	—	2.9	7321677157358	**715735**

PTCLC-271

Screw set 20S				
Screw set to be used for installation of Support bracket 3 on Pendant/fixing rail 24/20 and Vertical piece 20, Angle bracket 5L to the opening on Pendant rail 24/48 and 24/20. Set including screw MVBF 8x60 and nut M6MF8. Material: Steel, hot-dip galvanized.				
20S	—	3,7	7321677157365	**715736**

P140151

Screw set 22S				
Screw set to be used for installation of Support bracket 3 on Vertical piece 2 and 2F, Support bracket 3 and Ceiling bracket 5 on Pendant/fixing rails 24/34 and 24/48, Angle bracket 5L against the back of Pendant/fixing rails, Pendant/fixing rails back to back. Set including screw MVBF 8x16 and nut M6MF8. Material: Steel, hot-dip galvanized.				
22S	—	1.9	7321677136940	**713694**

PTCLC-272

Screw set 25S				
Screw set to be used for installation of Cantiliver arm 30, 50i and 50 on Wall support plate. Set including screw MVBF 8x25 and nut M6MF8. Material: Steel, hot-dip galvanized.				
25S	—	2,2	3606485440897	**CSU795277**

P140156

Screw set W34				
Screw set to be used for the fastening of dividing strips on cable ladders KHZSP, KHZSPZ+, KHZPS and KHZPV. Set including screw MSCS 6x12 and nut M6MF 6. Material: Steel, hot-dip galvanized.				
W34	—	0.8	7321677346462	**734646**

P140152

Spring nut M8				
Spring nut to be used for fastening of accessories (control panels, etc.) on Pendant/fixing rail 24/48. Material: Steel, hot-dip galvanized.				
M8	—	2.7	7321677164073	**716407**

P140153

Back nut M8				
Back nut to be used for fastening of vertical pieces, etc., in the rungs of cable ladders KHZSP, KHZSPZ+, KHZP, KHZPS and KHZPV. Material: Steel, hot-dip galvanized.				
M8	—	2.5	7321677186327	**718632**

P140073

Intermediate connection bolt 29				
Intermediate connection bolt to be used at the transition from a broad to a narrower cable ladder KHZ. Material: Steel, hot-dip galvanized.				
29-200	M10x235 (length)	14	7321677053926	**705392**
29-300	M10x335 (length)	19	7321677053940	**705394**
29-400	M10x435 (length)	24	7321677053957	**705395**
29-500	M10x535 (length)	29	7321677053964	**705396**
29-600	M10x635 (length)	34	7321677053971	**705397**

Hot Dip-galvanized - Corrosion class C3, C4

Marking plate

B223240

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Marking plate 93				
Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder. Five different colours are available.				
93, yellow	103/0.7/100	5	7321677377046	**737704**
93, orange	103/0.7/100	5	7321677377053	**737705**
93, blue	103/0.7/100	5	7321677377060	**737706**
93, green	103/0.7/100	5	7321677377077	**737707**
93, black	103/0.7/100	5	7321677377084	**737708**

Marking label

P138944

Marking label, equipotential				
Label to be used to show that a construction is equipotentially bonded. Available in Swedish (other languages on request). Printed on self-adhesive yellow vinyl, 250 labels per roll. Material: Self-adhesive vinyl.				
Marking label	25/–/86	–	7321677868605	**786860**

Mounting accessories

PTCSU-104

Mounting rail WMS25L				
Mounting rail to be used for installation directly on wall for lashing of cables. Material: Steel, Zink+.				
WMS25L	27/6/2000	35	3606489584955	**CSU795597**

P140075

Threaded rod W76				
Threaded rod for M8 ceiling mounting of cable support. For fixing, use Flange Nut M8 and for extension, Distance nut M8. Material: Steel, hot-dip galvanized.				
W76/M8	8/8/1000 8/8/2000	32 64	3606480483783 3606480483776	**CSU794697** **CSU734698**

P140154

Flange nut				
Flange Nut M8 to be mounted on Threaded rod W76. Intended for ceiling mounting of cable support. Material: Steel, hot-dip galvanized.				
Flange nut M8	17/17/8	1	3606480483806	**CSU794715**

P140155

Distance nut				
Distance nut M8 to be used as an extension and a coupler of Threaded rod W76. Intended for ceiling mounting of cable support. Material: Steel, hot-dip galvanized.				
Distance nut M8	15/15/30	4	3606480483790	**CSU794699**

Hot Dip-galvanized - Corrosion class C3, C4

Paint

Anti-corrosive repair paint

P149450

Anti-corrosive repair paint for the repair of damages on pre-galvanized or hot-dip galvanized ladders and accessories.

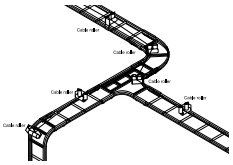
Cold zinc, 0.4 litre can	—	43	7321677176373	**CSU795931**

Tools

Cable roller S

P129977

Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 90° bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller.
Material: Steel, electro-galvanized.



S	230/80/204	230	7321677186600	**718660**

Cable roller 38 Rig'n roll

P149449

Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches.
Material: Stainless steel AISI316L (cable roller).

38 Rig'n roll	220/50/130	48	7321677359981	**735998**

P149452

Bag	375/160/460	230	7321677801862	**780186**
Set 66 (1 bag + 10 Cable rollers 38 Rig'n roll)	375/160/460	710	7321677801879	**780187**

Zinkpox - Corrosion class C5

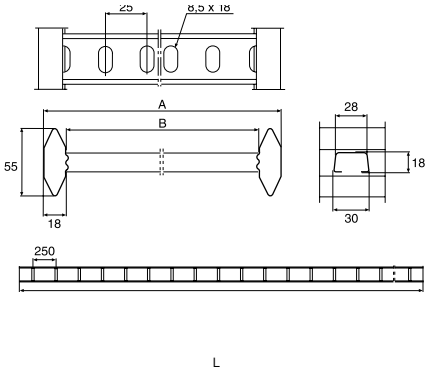
Cable ladders

P140376

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZP				
Cable ladder for indoor or outdoor industrial applications. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, Zinkpox coated white.				
KHZP-150	55/147/3000 55/147/6000	260	7321677835249 7321677185917	**783524** **718591**
KHZP-200	55/197/3000 55/197/6000	270	7321677835256 7321677185924	**783525** **718592**
KHZP-300	55/297/3000 55/297/6000	290	7321677835263 7321677185931	**783526** **718593**
KHZP-400	55/397/3000 55/397/6000	315	7321677835270 7321677185948	**783527** **718594**
KHZP-500	55/497/3000 55/497/6000	340	7321677835287 7321677185955	**783528** **718595**
KHZP-600	55/597/3000 55/597/6000	360	7321677835294 7321677185962	**783529** **718596**
KHZP-800	55/797/3000 55/797/6000	490	7321677835300 7321677280339	**783530** **728033**
KHZP-1000	55/997/3000 55/997/6000	560	7321677835317 7321677185979	**783531** **718597**

Dimension table

B223677



Type	A mm	B mm	L mm	Ref. No.
KHZP-150	147	111	3000 6000	783524 718591
KHZP-200	197	161	3000 6000	783525 718592
KHZP-300	297	261	3000 6000	783526 718593
KHZP-400	397	361	3000 6000	783527 718594
KHZP-500	497	461	3000 6000	783528 718595
KHZP-600	597	561	3000 6000	783529 718596
KHZP-800	797	761	3000 6000	783530 728033
KHZP-1000	997	961	3000 6000	783531 718597

Zinkpox - Corrosion class C5

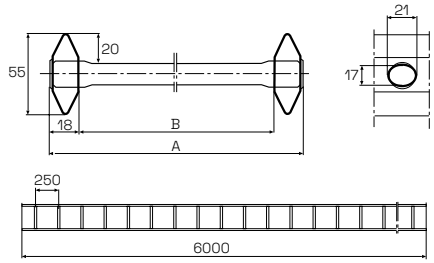
Cable ladders

P140384

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZ				
Cable ladder for indoor or outdoor industrial applications. With closed side profiles and round rungs. Must not be used as walkway. Material: Steel, Zinkpox coated white.				
KHZ-150	55/147/6000	270	7321677140589	**714058**
KHZ-200	55/197/6000	280	7321677140596	**714059**
KHZ-300	55/297/6000	300	7321677140619	**714061**
KHZ-400	55/397/6000	320	7321677140626	**714062**
KHZ-500	55/497/6000	340	7321677140633	**714063**
KHZ-600	55/597/6000	360	7321677140640	**714064**

Dimension table

B223589



Type	A mm	B mm	L mm	Ref. No.
KHZ-150	147	111	6000	**714058**
KHZ-200	197	161	6000	**714059**
KHZ-300	297	261	6000	**714061**
KHZ-400	397	361	6000	**714062**
KHZ-500	497	461	6000	**714063**
KHZ-600	597	561	6000	**714064**

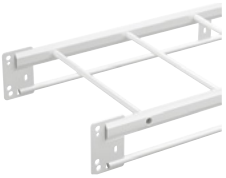
Zinkpox - Corrosion class C5

Cable ladders

P140390

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZPV				
Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Steel, Zinkpox coated white.				
KHZPV-200	150/197/6000	426	7321677233908	**723390**
KHZPV-300	150/297/6000	448	7321677233915	**723391**
KHZPV-400	150/397/6000	470	7321677233922	**723392**
KHZPV-500	150/497/6000	493	7321677233939	**723393**
KHZPV-600	150/597/6000	515	7321677233946	**723394**
KHZPV-1000	150/997/6000	703	7321677164011	**716401**

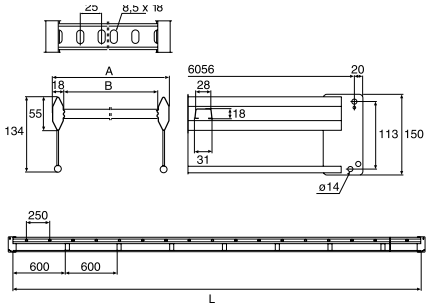
P140397



Cable ladders KHZV				
Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and round rungs. Must not be used as walkway. Material: Steel, Zinkpox coated white.				
KHZV-200	150/197/6000	440	7321677141982	**714198**
KHZV-300	150/297/6000	460	7321677142002	**714200**
KHZV-400	150/397/6000	480	7321677142026	**714202**
KHZV-500	150/497/6000	500	7321677142019	**714201**
KHZV-600	150/597/6000	530	7321677142033	**714203**

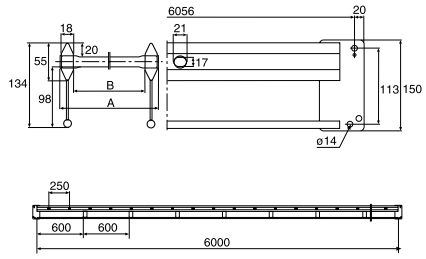
Dimension table

B223676



Type	A mm	B mm	L mm	Ref. No.
KHZPV-200	197	161	6000	**723390**
KHZPV-300	297	261	6000	**723391**
KHZPV-400	397	361	6000	**723392**
KHZPV-500	497	461	6000	**723393**
KHZPV-600	597	561	6000	**723394**
KHZPV-1000	997	961	6000	**716401**

B223553



KHZV-200	197	161	6000	**714198**
KHZV-300	297	261	6000	**714200**
KHZV-400	397	361	6000	**714202**
KHZV-500	497	461	6000	**714201**
KHZV-600	597	561	6000	**714203**

Zinkpox - Corrosion class C5

Joints

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Joint 21				
P140401  Joint to be used for straight, rigid joining of cable ladders, bends, junctions and risers. It also reduced the transition resistance and prevents the ladders from slipping apart. M6 screws included. Material: Steel, Zinkpox coated white.				
21	64/22/300	46	7321677912001	**791200**
Joint 9				
P140402 Joint to be used for straight joining of cable ladders KHZ, KHZP and KHZPS. The teeth of the joint should face downwards. Under load, the ladders are prevented from slipping apart. If the joint is above a bracket, the teeth should face upwards. Material: Steel, Zinkpox coated white.				
9	52/4/200	16	7321677140664	**714066**
Dropper joint 32				
P140403  Dropper joint used to form vertical branches in centre posision under/on top of cable ladders. Screw M6 included. Material: Steel, Zinkpox coated white.				
32	130/22/200	75	7321677808748	**780874**
Joint 45				
P140404  Joint to be fitted as a joining plate in a cut KHZV/KHZPV ladder. Screws M8 and M12 + nuts are included. Material: Steel, Zinkpox coated white.				
45	150/4/95	50	7321677142279	**714227**

Couplings

Coupling 22				
P140405  Coupling to be used for horizontal or vertical branches at any desired angle. M6 screws included. Material: Steel, Zinkpox coated white.				
22	60/24/150	21	7321677184101	**718410**
Junction coupling 14				
P140406  Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths. M6 screws included. Material: Steel, Zinkpox coated white.				
14	65/73/350	49	7321677909063	**790906**
Coupling 44				
P140407 Coupling to be used for horizontal coupling of cable ladders KHZV/KHZPV. Also to be used for branches and as an end connection against a wall. Four screws M8x30 and nuts are included. Material: Steel, Zinkpox coated white.				
44	135/–/120	50	7321677208166	**720816**
Coupling 51				
P140408 Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screws M12 and nuts are included. Material: Steel, Zinkpox coated white.				
51	150/–/193+138	150	7321677319114	**731911**

Clamps

Profile clamp 42				
P151016  Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, Zinkpox coated white.				
42	55/55/30	56	3606485410357	**CSU795243**
Profile clamp 43				
P140410  Profile clamp to be used for installations where the cable ladders KHZV and KHZPV are to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Steel, Zinkpox coated white.				
43	21/43/30	5	7321677141654	**714165**
Clamp 12				
P140411 Clamp to be used on the side profile of the cable ladder for installation of accessories. Bolt and nut included. Material: Steel, Zinkpox coated white.				
12/70	125/25/40	19	7321677329779	**732977**
12/120	175/25/40	24	7321677329786	**732978**

Zinkpox - Corrosion class C5

Clamps

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Profile clamp 41				
Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile. Material: Steel, Zinkpox coated white.				
41	125/16/30	10	7321677219452	**721945**
Profile support piece 46				
Profile support piece to be fitted between the ladder and the vault pipe when a support bracket is positioned between existing profile support pieces. For cable ladders KHZV and KHZPV. Material: Steel, Zinkpox coated white.				
46	72/18/30	15	7321677141791	**714179**

Cantilever arms

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Cantilever arm 50 and 50F				
Cantilever arm for mounting on walls, pendant/fixing rails or vertical pieces. Material: Steel, Zinkpox coated white.				
50-100	85/150/40	24	7321677234400	**723440**
50-150	85/200/40	28	7321677234417	**723441**
50-200	85/250/40	34	7321677234424	**723442**
50-250	105/300/40	52	7321677234431	**723443**
50-300	105/350/40	60	7321677234448	**723444**
50-400	120/450/50	228	7321677234455	**723445**
50-500	140/550/50	172	7321677234462	**723446**
50-600	150/650/50	215	7321677234479	**723447**
50-700	150/750/50	270	7321677277827	**727782**
50-800	160/850/50	310	7321677277834	**727783**
50-900	160/950/50	350	7321677277841	**727784**
50-1000	170/1050/50	390	7321677277858	**727785**
50F-200	148/245/50	95	7321677140213	**714021**
50F-300	175/345/50	125	7321677147007	**714700**
50F-400	175/445/50	170	7321677140220	**714022**
50F-500	180/547/50	220	7321677187935	**718793**
50F-600	180/647/50	250	7321677140237	**714023**
50F-1000	240/1052/60	770	7321677140244	**714024**

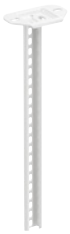
Wall and support brackets

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Support bracket 3				
Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces. Material: Steel, Zinkpox coated white.				
3-150	92/57/150	26	7321677218622	**721862**
3-200	92/57/200	33	7321677218639	**721863**
3-300	92/57/300	58	7321677218646	**721864**
3-400	92/57/400	78	7321677218653	**721865**
3-500	92/57/500	120	7321677218660	**721866**
3-600	92/57/600	145	7321677218677	**721867**
Wall bracket 11/25 and 11/75				
Wall bracket to be used for vertical or horizontal installations of cable ladders against a wall. Maximum loads for vertical mounting: 300 kg (3 kN). For mounting against a rung the max. load is 500 kg (5 kN) for 11/25. Maximum loads for horizontal mounting: 11/25 250 kg (2.5 kN), 11/75 100 kg (1 kN). Material: Steel, Zinkpox coated white.				
11/25	85/71/40	24	7321677132089	**713208**
11/75	135/71/40	30	7321677132072	**713207**
Wall support 550				
Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation. When mounting cantilever arm on support, use screw set 25S (M8). Material: Steel, Zinkpox coated white.				
Wall support 550 mm	20/100/550	1047	3606480985294	**CSU795366**

Zinkpox - Corrosion class C5

Vertical pieces

P140422



Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Vertical piece 2				
Vertical piece to be used for installation of Support bracket 3, symmetrical loading. Not suitable for cable ladders KHZV and KHZPV. Can be joined to Pendant/fixing rail 24/34 with Pendant joint 2J. Material: Steel, Zinkpox coated white.				
2-300	279/80/135	52	7321677162833	**716283**
2-400	392/80/135	62	7321677162840	**716284**
2-500	504/80/135	72	7321677162857	**716285**
2-700	729/80/135	93	7321677162864	**716286**
2-1000	1022/80/135	120	7321677162871	**716287**

P140423

Vertical piece 2F				
Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ. Material: Steel, Zinkpox coated white.				
2F-280	280/80/135	80	7321677172016	**717201**
2F-370	370/80/135	100	7321677172023	**717202**
2F-505	505/80/135	130	7321677172030	**717203**
2F-730	730/80/135	170	7321677172047	**717204**
2F-1000	1000/80/135	220	7321677172054	**717205**
2F-1500	1495/80/135	290	7321677872770	**787277**

P140424

Vertical piece 20				
Vertical piece, two-sided, to be used for vertical installation together with Cantilever arm 50, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall. Material: Steel, Zinkpox coated white.				
20-500	505/155/150	243	7321677162765	**716276**
20-700	730/155/150	324	7321677162772	**716277**
20-1000	1000/155/150	458	7321677162789	**716278**
20-1500	1495/155/150	652	7321677162796	**716279**
20-2000	1990/155/150	799	7321677162802	**716280**
20-3000	2980/155/150	1177	7321677162819	**716281**

P140425

Vertical piece 20F				
Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for rather heavy loads. Material: Steel, Zinkpox coated white.				
20F-1000	995/160/160	590	7321677184842	**718484**
20F-1500	1490/160/160	790	7321677184859	**718485**
20F-2000	1985/160/160	990	7321677184866	**718486**
20F-3000	2980/160/160	1240	7321677162826	**716282**

P140426

Vertical piece 20FS				
Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for very heavy loads. Material: Steel, Zinkpox coated white.				
20FS-1500	1495/270/150	1460	7321677205219	**720521**
20FS-2000	1990/270/150	1810	7321677205226	**720522**
20FS-2500	2485/270/150	2160	7321677205233	**720523**
20FS-3000	2980/270/150	2520	7321677205240	**720524**

Zinkpox - Corrosion class C5

Pendant/Fixing rails

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Pendant/Fixing rail 24/34				
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white.				
24/34	2970/16/42	240	7321677163090	**716309**
Pendant/Fixing rail 24/48				
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white.				
24/48	1000/26/48	175	3606481317896	**CSU795568**
24/48	2970/26/48	520	7321677163069	**716306**
24/48	5940/26/48	1120	7321677317240	**731724**
Pendant/Fixing rail 24/20				
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white.				
24/20	2970/55/48	1130	7321677163076	**716307**
Pendant/Fixing rail 24/20F				
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white.				
24/20F-3000	2970/89/48	1160	7321677163083	**716308**
24/20F-6000	5940/89/48	2370	7321677205257	**720525**
Pendant/Fixing rail 24/20FS				
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc. Material: Steel, Zinkpox coated white.				
24/20FS	5940/106/48	4200	7321677205264	**720526**

P140427

P140428

P140429

P140430

P140431

Base plate

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Pendant base plate 520				
Pendant base plate to be used as a ceiling or floor base plate for Pendant/Fixing rail 24/20 in any desired length. Four screws MVBF 8x80 and nuts included. Material: Steel, Zinkpox coated white.				
520	278/160/160	400	7321677184880	**718488**

P140432

Zinkpox - Corrosion class C5

Pendant bar, rail fixing

P140433
P140434

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Pendant bar 1				
Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt. Material: Steel, Zinkpox coated white.				
1-300	362/–/40	35	7321677176434	**717643**
1-500	568/–/40	53	7321677176441	**717644**
1-800	880/–/40	82	7321677176458	**717645**
1-1500	1296/35/50	560	7321677205301	**720530**

P140435

Rail fixing support 24/20F, 24/20FS				
Rail fixing support to be used with Pendant/fixing rails 24/20F and 24/20FS respectively, for mounting between floor and ceiling. Material: Steel, Zinkpox coated white.				
24/20F	106/165/80	167	7321677205271	**720527**
24/20FS	106/185/80	190	7321677205288	**720528**

Brackets, pendant joint

P140436

Angle bracket 5L				
Angle bracket to be used for steel wire installation in ceilings. Also used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Material: Steel, Zinkpox coated white.				
5L	70/45/49	15	7321677317929	**731792**

P140437

Angle bracket 5LS				
Angle bracket to be used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Material: Steel, Zinkpox coated white.				
5LS	111/71/60	50	7321677205295	**720529**

P140438

Bracket 60/40				
Bracket to be used together with Pendant/fixing rail 24/48 to reduce the deflection of long vertical pieces. Material: Steel, Zinkpox coated white.				
60/40	95/23/40	10	7321677205318	**720531**

P140439
P140440
P140441

Pendant joint 2J, 2FJ and 20J				
Pendant joint to be used for joining pendant/fixing rails and vertical pieces. Screws M8x16 (2J and 2FJ) or M8x70 (20J) and nuts included. Material: Steel, Zinkpox coated white.				
2J	200/48/18	43	7321677163038	**716303**
2FJ	200/55/18	46	7321677163045	**716304**
20J	200/55/36	94	7321677163021	**716302**

Junction box plate 35S white				
Junction box plate, holed or unholed, to be installed upright or hanging from the profile. Locked with locking tabs. For junction boxes, electric light fittings, etc. Material: Steel, pre-galvanized.				
35S unholed	164/20/170	22	7321677302468	**730246**
35S holed	164/20/170	22	7321677163182	**716318**

Junction box plate 35P white				
Junction box plate with holes, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc. Material: Steel, pre-galvanized.				
35P	21/206/150	28	7321677145102	**714510**

Zinkpox - Corrosion class C5

Ceiling brackets

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
P140442	**Ceiling bracket 5**				
	Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48. Screw not included. Material: Steel, Zinkpox coated white.				
	5	100/135/40	35	7321677162932	**716293**
P140443 	**Ceiling bracket 5TP**				
	Ceiling bracket to be used for installations of Vertical pieces 2, 2F and 20 in ceilings with a trapezoidal sheet profile. Material: Steel, Zinkpox coated white.				
	5TP	75/35/50	12	7321677162956	**716295**

Take-off hook

P139657 	**Fixed take-off hook 4**				
	Fixed take-off hook to be used for 90° horizontal branches. Material: Aluminium.				
	4	71/19/86	8	7321677140671	**714067**
P140444 	**Take-off hook 47**				
	Take-off hook to be used on cable ladders KHZV and KHZPV to make 90° branches. Screw M12 nd nuts are included. Material: Steel, Zinkpox coated white.				
	47	155/10/73	27	7321677914012	**791401**

End connection

P139964 	**End connection 10**				
	End connection to be used for the connection of a ladder vertically to a floor, or horizontally to a wall. Material: Aluminium.				
	10	60/55/60	8	7321677140855	**714085**

Lighting bracket

P140445	**Lighting bracket 200**				
	Lighting bracket to be used for the installation of lighting fittings beneath cable ladders KHZV and KHZPV 200. Material: Steel, Zinkpox coated white.				
	200	24/25/215	16	7321677186440	**718644**

Beam clamp

P140446	**Beam clamp 5BK**				
	Beam clamp to be used for the installation of Vertical pieces 2, 2F or 20 on I-beams. For flange thickness max. 13 mm and 14-30 mm respectively. Material: Steel, Zinkpox coated white.				
	5BK-10 (max. 13 mm)	30/50/45	15	7321677162949	**716294**
	5BK-30 (14-30 mm)	50/50/45	18	7321677184873	**718487**

Back plate

P140447	**Back plate 40**				
	Back plate to be used for installation behind Cantilever arm 50 to reduce the surface pressure on porous walls. Material: Steel, Zinkpox coated white.				
	40	150/–/60	55	7321677140299	**714029**

Zinkpox - Corrosion class C5

Bends

Riser 18

P140448

Riser piece to be fitted to the cable ladders by using Joint 21.
Material: Steel, Zinkpox coated white.

18-150	452/147/452	180	7321677181841	**718184**
18-200	452/197/452	190	7321677181858	**718185**
18-300	452/297/452	210	7321677181872	**718187**
18-400	452/397/452	230	7321677181889	**718188**
18-500	452/497/452	250	7321677181896	**718189**
18-600	452/597/452	270	7321677181902	**718190**
18-800	452/897/452	310	7321677280346	**728034**
18-1000	452/1097/452	350	7321677181919	**718191**

Riser coupling 49

P140449

Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screw sets M12 are needed.
Material: Steel, Zinkpox coated white.

49-200	120/197/483	220	7321677163953	**716395**
49-300	120/297/483	230	7321677163960	**716396**
49-400	120/397/483	240	7321677163977	**716397**
49-500	120/497/483	245	7321677205189	**720518**
49-600	120/597/483	250	7321677163984	**716398**
49-1000	120/997/483	280	7321677163991	**716399**

90° bend 15, interior

P140450

Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Inner radius 268 mm.
Material: Steel, Zinkpox coated white.

15-150	55/547/547	220	7321677160747	**716074**
15-200	55/597/597	240	7321677160754	**716075**
15-300	55/697/697	290	7321677160778	**716077**
15-400	55/797/797	340	7321677160785	**716078**
15-500	55/897/897	390	7321677160792	**716079**
15-600	55/997/997	440	7321677160808	**716080**
15-800	55/1197/1197	640	7321677280438	**728043**
15-1000	55/1397/1397	760	7321677160815	**716081**

Zinkpox - Corrosion class C5

Bends

P140451

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
90° bend 15, exterior				
Exterior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Material: Steel, Zinkpox coated white.				
15-150	55/703/703	320	7321677161867	**716186**
15-200	55/933/933	370	7321677161874	**716187**
15-300	55/1133/1133	460	7321677161898	**716189**
15-400	55/1333/1333	550	7321677161904	**716190**
15-500	55/1533/1533	640	7321677161911	**716191**
15-600	55/1733/1733	760	7321677161928	**716192**
15-800	55/2133/2133	1060	7321677280520	**728052**
15-1000	55/2533/2533	1280	7321677280537	**728053**

P140452

90° bend 55, interior				
Interior bend piece to be fitted to cable ladders KHZV and KHZPV, creating a 90° horizontal bend. Material: Steel, Zinkpox coated white.				
55-200	150/625/625	510	7321677162482	**716248**
55-300	150/725/725	560	7321677162505	**716250**
55-400	150/825/825	620	7321677162512	**716251**
55-500	150/925/925	680	7321677162529	**716252**
55-600	150/1025/1025	750	7321677162536	**716253**
55-1000	150/1425/1425	1110	7321677162543	**716254**

P140453

T-junction 16				
T-junction piece to be fitted to the cable ladders by using Joint 21. Material: Steel, Zinkpox coated white.				
16-150	55/944/547	300	7321677162017	**716201**
16-200	55/997/597	320	7321677162024	**716202**
16-300	55/1097/697	390	7321677162048	**716204**
16-400	55/1197/797	440	7321677162055	**716205**
16-500	55/1297/897	530	7321677162062	**716206**
16-600	55/1397/997	600	7321677162079	**716207**
16-1000	55/1797/1397	860	7321677162086	**716208**

P140454

T-junction 56				
T-junction piece to be fitted to the cable ladder KHZV or KHZPV by using screw set M12. Material: Steel, Zinkpox coated white.				
56-200	150/1050/625	710	7321677162628	**716262**
56-300	150/1150/725	790	7321677162642	**716264**
56-400	150/1250/825	840	7321677162659	**716265**
56-500	150/1350/925	940	7321677162666	**716266**
56-600	150/1450/1025	1010	7321677162673	**716267**
56-1000	150/1850/1425	1300	7321677162680	**716268**

P140455

X-junction 17				
X-junction piece to be fitted to the cable ladders by using Joint 21. Material: Steel, Zinkpox coated white.				
17-150	55/547/547	380	7321677162178	**716217**
17-200	55/997/997	400	7321677162185	**716218**
17-300	55/1097/1097	500	7321677162208	**716220**
17-400	55/1197/1197	550	7321677162215	**716221**
17-500	55/1297/1297	600	7321677162222	**716222**
17-600	55/1397/1397	860	7321677162239	**716223**
17-1000	55/1797/1797	1220	7321677162246	**716224**

Zinkpox - Corrosion class C5

Covers/Cover plates

P140456

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Cover 64				
Cover to be used for vertically mounted cable ladders. Material: Steel, Zinkpox coated white.				
64-150	10/2000/151	290	7321677825691	**782569**
64-200	10/2000/201	370	7321677825707	**782570**
64-300	10/2000/301	540	7321677825714	**782571**
64-400	10/2000/401	710	7321677825721	**782572**
64-500	10/2000/501	1020	7321677825738	**782573**
64-600	10/2000/601	1210	7321677825745	**782574**
64-800	10/2000/801	1660	7321677825752	**782575**
64-1000	10/2000/1001	2000	7321677825769	**782576**

P140457

Cover W5				
Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun. Suitable for all cable ladders. Material: Steel, Zinkpox coated white.				
W5-150	10/2000/151	190	7321677823659	**782365**
W5-200	10/2000/201	250	7321677823666	**782366**
W5-300	10/2000/301	360	7321677823673	**782367**
W5-400	10/2000/401	680	7321677823680	**782368**
W5-500	10/2000/501	880	7321677823697	**782369**
W5-600	10/2000/601	1050	7321677823703	**782370**
W5-800	10/2000/801	1420	7321677822140	**782214**
W5-1000	10/2000/1001	1730	7321677823710	**782371**

P140458

Cover 90° interior bend				
Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, Zinkpox coated white.				
150	10/420/420	65	7321677817511	**781751**
200	10/470/470	91	7321677817528	**781752**
300	10/570/570	143	7321677817535	**781753**
400	10/670/670	221	7321677817542	**781754**
500	10/770/770	299	7321677817559	**781755**
600	10/870/870	390	7321677817566	**781756**
800	10/1070/1070	460	7321677817948	**781794**
1000	10/1270/1270	871	7321677817573	**781757**

P140459

Cover T-junction				
Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Steel, Zinkpox coated white.				
150	10/400/651	182	7321677817658	**781765**
200	10/450/701	221	7321677817665	**781766**
300	10/550/801	312	7321677817672	**781767**
400	10/650/901	416	7321677817689	**781768**
500	10/750/1001	533	7321677817696	**781769**
600	10/850/1101	676	7321677817702	**781770**
800	10/1050/1301	710	7321677817979	**781797**
1000	10/1240/1501	1352	7321677817719	**781771**

P140460

Profile support piece 37				
Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers. Material: Steel, Zinkpox coated white.				
37	136/20/50	6	7321677823826	**782382**

P140461

Cover clamp				
Cover clamps to be used when installing a cover on a Profile support piece 37. Material: Steel, Zinkpox coated white.				
Cover clamp	32/10.5/20	1.5	3606489699420	**CSU795599**

Zinkpox - Corrosion class C5

Angle plate

P140462

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Angle plate 33				
Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders. Material: Steel, Zinkpox coated white.				
33/2	25/195/490	90	7321677141685	**714168**

Mounting rail

P140463

Mounting rail 40				
Mounting rail to be used for wall installation of cantilever arms on porous walls to reduce the surface pressure or to enable height adjustment of cantilever arms. Material: Steel, Zinkpox coated white.				
40	270/26/48	56	7321677290451	**729045**

Reducers

P140464

Reducer 31				
Reducer to be used for transition joining from a wide to a narrower cable ladder. Material: Steel, Zinkpox coated white.				
31-100	48/100/200	43	7321677354337	**735433**
31-200	48/200/200	59	7321677354344	**735434**
31-300	48/300/200	74	7321677354351	**735435**
31-400	48/400/200	89	7321677354368	**735436**

Lashing wire

P140226
P140225

Lashing wire				
Lashing wire to be used for lashing of wires on cable ladders. Material: Stainless steel, PVC.				
HTR-2303, white PVC	Ø1.25	1.3/100 m	7321677136865	**713686**
HTR-2313, black PVC	Ø1.25	1.3/100 m	7321677136872	**713687**
Lashing wire to be used for lashing of wires on cable ladders. Material: PVC.				
HT-2304, white	Ø1.5	1.8/100 m	7321677136841	**713684**
HT-2314, black	Ø1.5	1.8/100 m	7321677136858	**713685**

P140226
P140225

Profile protection

P140063

Profile protection 28P				
Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder. Material: PVC, grey.				
28P	60/28/2000	80	7321677321513	**732151**

End plugs

P140064

P140065
P140066

End plug 28/28i				
End plug to be mounted on ladder ends for sealing or protection. Material: PP/TPE.				
28, red	59/25/22	0.8	7321677090198	**709019**
28i, white 28i, red	54/14/19	0.4	7321677354467 7321677319947	**735446** **731994**
End plug 28C, D and E				
End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous. Material: PP/TPE, orange.				
28C for Vertical piece 2 and Pendant/fixing rail 24/34	25/19/46	0.5	7321677898756	**789875**
28D for Vertical piece 20 and Pendant/fixing rail 24/20	25/52/58	1	7321677090204	**709020**
28E for Vertical piece 2F and Pendant/fixing rail 24/48	24/30/52	0.5	7321677090211	**709021**

P140067

P140068

P140069

Zinkpox - Corrosion class C5

End plugs

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
	End plug 28F and J				
	End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous. Material: PP/TPE, orange.				
P140070 	28F for Vertical piece 20FS and Pendant/fixing rail 24/20FS	30/53/110	4	7321677898763	**789876**
P138758 	28J for Vertical piece 20F and Pendant/Fixing rail 24/20F	27/53/95	2.1	3606480457531	**CSU794520**
	Cross member plug 27				
P140071	Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk. Material: PE, grey.				
	27	Ø20/10	0.15	7321677266685	**726668**

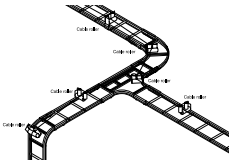
Marking plates

	Marking plate 93				
	Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder. Five different colours are available.				
B223240 	93, yellow	103/0.7/100	5	7321677377046	**737704**
	93, orange	103/0.7/100	5	7321677377053	**737705**
	93, blue	103/0.7/100	5	7321677377060	**737706**
	93, green	103/0.7/100	5	7321677377077	**737707**
	93, black	103/0.7/100	5	7321677377084	**737708**
	Marking label, equipotential				
P138844 	Label to be used to show that a construction is equipotentially bonded. Available in Swedish (other languages on request). Printed on self-adhesive yellow vinyl, 250 labels per roll. Material: Self-adhesive vinyl.				
	Marking label	25/–/86	–	7321677868605	**786860**

Paint

	Repair paint				
B224226 	Repair paint for the repair of minor damages of powder-coated products. Colour white RAL 9003, gloss 30.				
	Spray bottle, 0.4 litres	—	60	7321677397136	**739713**

Tools

	Cable roller S				
P129977 	Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 90° bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller. Material: Steel, electro-galvanized. 				
	S	230/80/204	230	7321677186600	**718660**
	Cable roller 38 Rig'n roll				
P149449 	Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches. Material: Stainless steel AISI316L (cable roller).				
	38 Rig'n roll	220/50/130	48	7321677359981	**735998**
P149452 	Bag	375/160/460	230	7321677801862	**780186**
	Set 66 (1 bag + 10 Cable rollers 38 Rig'n roll)	375/160/460	710	7321677801879	**780187**

Stainless Steel AISI 304 - Corrosion class C5

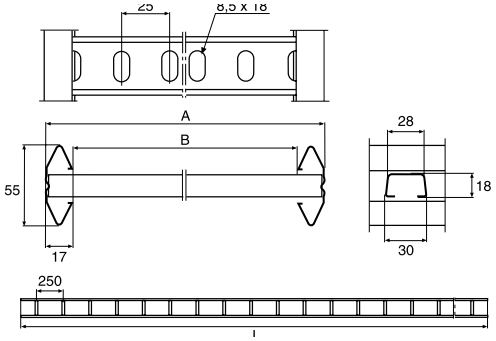
Cable ladders

P139620

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladder KHZSP				
Cable ladder for both indoor and outdoor applications having high demands on corrosion resistance. With open side profiles provided with draining holes and profile-shaped rungs. Material: Stainless steel, AISI304L.				
KHZSP-200	198/164/2995 198/164/5995	198	3606481202512 3606481202567	**CSU795543** **CSU795548**
KHZSP-300	298/264/2995 298/264/5995	217	3606481202529 3606481202574	**CSU795544** **CSU795549**
KHZSP-400	398/364/2995 398/364/5995	237	3606481202536 3606481202581	**CSU795545** **CSU795550**
KHZSP-500	498/464/2995 498/464/5995	257	3606481202543 3606481202598	**CSU795546** **CSU795551**
KHZSP-600	598/564/2995 598/564/5995	277	3606481202550 3606481202604	**CSU795547** **CSU795552**

Dimension table

B224475



Type	A mm	B mm	L mm	Ref. No.
KHZSP-200	198	164	2995 5995	**CSU795543** **CSU795548**
KHZSP-300	298	264	2995 5995	**CSU795544** **CSU795549**
KHZSP-400	398	364	2995 5995	**CSU795545** **CSU795550**
KHZSP-500	498	464	2995 5995	**CSU795546** **CSU795551**
KHZSP-600	598	564	2995 5995	**CSU795547** **CSU795552**

Stainless Steel AISI 316L - Corrosion class CX

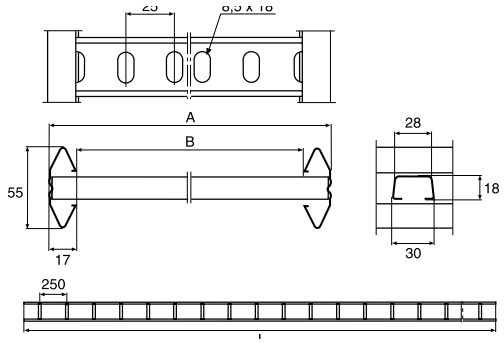
Cable ladders AISI 316L C5-M

P1539619

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladder KHZSP				
Cable ladder for both indoor and outdoor applications having high demands on corrosion resistance. With open side profiles provided with draining holes and profile-shaped rungs. Material: Stainless steel, AISI316L.				
KHZSP-200	198/164/2995 198/164/5995	198	3606480446795 3606480446856	**CSU794439** **CSU794445**
KHZSP-300	298/264/2995 298/264/5995	217	3606480446801 3606480446863	**CSU794440** **CSU794446**
KHZSP-400	398/364/2995 398/364/5995	237	3606480446818 3606480446870	**CSU794441** **CSU794447**
KHZSP-500	498/464/2995 498/464/5995	257	3606480446825 3606480446887	**CSU794442** **CSU794448**
KHZSP-600	598/564/2995 598/564/5995	277	3606480446832 3606480446894	**CSU794443** **CSU794449**

Dimension table

B224475



Type	A mm	B mm	L mm	Ref. No.
KHZSP-200	198	164	2995 5995	**CSU794439** **CSU794445**
KHZSP-300	298	264	2995 5995	**CSU794440** **CSU794446**
KHZSP-400	398	364	2995 5995	**CSU794441** **CSU794447**
KHZSP-500	498	464	2995 5995	**CSU794442** **CSU794448**
KHZSP-600	598	564	2995 5995	**CSU794443** **CSU794449**

Stainless Steel AISI 316L - Corrosion class CX

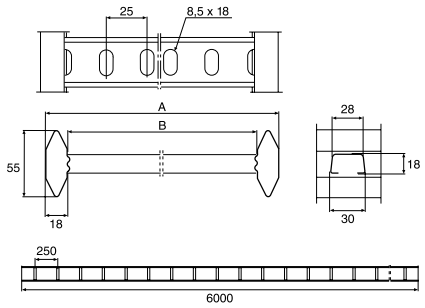
Cable ladders

P1396625

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZP				
Cable ladder for indoor or outdoor industrial applications. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Stainless steel AISI316L.				
KHZP-150	55/147/6000	260	7321677273829	**727382**
KHZP-200	55/197/6000	270	7321677273836	**727383**
KHZP-300	55/297/6000	290	7321677273843	**727384**
KHZP-400	55/397/6000	315	7321677273850	**727385**
KHZP-500	55/497/6000	340	7321677273867	**727386**
KHZP-600	55/597/6000	360	7321677273874	**727387**
KHZP-800	55/797/6000	490	7321677821280	**782128**
KHZP-1000	55/997/6000	560	7321677821297	**782129**

Dimension table

B223677



Type	A mm	B mm	L mm	Ref. No.
KHZP-150	147	111	6000	**727382**
KHZP-200	197	161	6000	**727383**
KHZP-300	297	261	6000	**727384**
KHZP-400	397	361	6000	**727385**
KHZP-500	497	461	6000	**727386**
KHZP-600	597	561	6000	**727387**
KHZP-800	797	761	6000	**782128**
KHZP-1000	997	961	6000	**782129**

Stainless Steel AISI 316L - Corrosion class CX

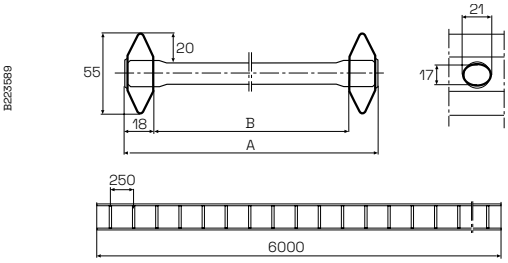
Cable ladders

P1396139

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladder KHZ				
Cable ladder for indoor or outdoor industrial applications. With closed side profiles and round rungs that do not penetrate the outer side of the side profile. Must not be used as walkway. Material: Stainless steel AISI316L.				
KHZ-150	55/147/6000	270	7321677273768	**727376**
KHZ-200	55/197/6000	280	7321677273775	**727377**
KHZ-300	55/297/6000	300	7321677273782	**727378**
KHZ-400	55/397/6000	320	7321677273799	**727379**
KHZ-500	55/497/6000	340	7321677273805	**727380**
KHZ-600	44/597/6000	360	7321677273812	**727381**

Dimension table

B223589



Type	A mm	B mm	L mm	Ref. No.
KHZ-150	147	111	6000	727376
KHZ-200	197	161	6000	727377
KHZ-300	297	261	6000	727378
KHZ-400	397	361	6000	727379
KHZ-500	497	461	6000	727380
KHZ-600	597	561	6000	727381

Stainless Steel AISI 316L - Corrosion class CX

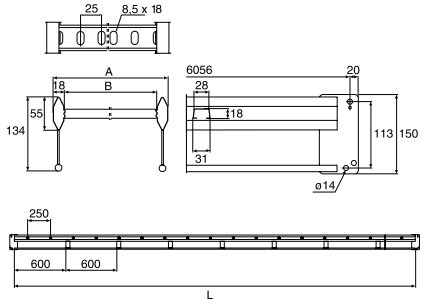
Cable ladders

P1339645

Type	Dimensions A/B/C mm	Weight kg/100 m	EAN code	Ref. No.
Cable ladders KHZPV				
Reinforced cable ladder for indoor or outdoor industrial applications. Designed for extreme support distances and loadings. With closed side profiles and profile-shaped rungs. Must not be used as walkway. Material: Stainless steel AISI316L.				
KHZPV-200	150/197/6000	426	7321677840663	**784066**
KHZPV-300	150/297/6000	448	7321677840670	**784067**
KHZPV-400	150/397/6000	470	7321677840687	**784068**
KHZPV-500	150/497/6000	493	7321677840694	**784069**
KHZPV-600	150/597/6000	515	7321677840700	**784070**
KHZPV-800	150/797/6000	587	7321677840717	**784071**
KHZPV-1000	150/997/6000	703	7321677840724	**784072**

Dimension table

B223676



Type	A mm	B mm	L mm	Ref. No.
KHZPV-200	197	161	6000	**784066**
KHZPV-300	297	261	6000	**784067**
KHZPV-400	397	361	6000	**784068**
KHZPV-500	497	461	6000	**784069**
KHZPV-600	597	561	6000	**784070**
KHZPV-800	797	761	6000	**784071**
KHZPV-1000	997	961	6000	**784072**

Stainless Steel AISI 316L - Corrosion class CX

Joints

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
P139655 	**Joint 21**				
	Joint to be used for straight, rigid joining of cable ladders, bends, junctions and risers. It also reduces the transition resistance and prevents the ladders from slipping apart. M6 screws included. Material: Stainless steel AISI316L.				
	21	64/22/200	37	7321677257515	**725751**
P139619 	**Joint 45**				
	Joint to be fitted as a joining plate in a cut KHZPV ladder. Screws M8 and M12 + nuts are included. Material: Stainless steel AISI316L.				
	45	150/4/95	50	7321677928736	**792873**

Couplings

P139656 	**Coupling 22**				
	Coupling to be used for horizontal or vertical branches at any desired angle. M6 screws included. Material: Stainless steel AISI316L.				
	22	60//24/150	21	7321677257607	**725760**
P139920 	**Junction coupling 14**				
	Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths. M6 screws included. Material: Stainless steel AISI316L.				
	14	65/73/350	49	7321677271955	**727195**
P139921 	**Coupling 44**				
	Coupling to be used for horizontal coupling of cable ladders KHZV/KHZPV. Also to be used for branches and as an end connection against a wall. Four screws M8x30 and nuts are included. Material: Stainless steel AISI316L.				
	44	135/–/120	50	7321677928880	**792888**
P139922 	**Coupling 51**				
	Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screws M12 and nuts are included. Material: Stainless steel AISI316L.				
	51	150/–/193+138	150	7321677319145	**731914**

Clamps, support piece

P139923 	**Profile clamp 42**				
	Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Stainless steel AISI316L.				
	42	54/57/30	11	7321677257638	**725763**
P139924 	**Profile clamp 43**				
	Profile clamp to be used for installations where the cable ladders KHZV and KHZPV are to be fixed to cantilever arms, support brackets, etc. Screw M8 and nut included. Material: Stainless steel AISI316L.				
	43	21/43/30	5	7321677928934	**792893**
P139925 P139926 	**Clamp 12**				
	Clamp to be used on the side profile of the cable ladder for installation of accessories. Bolt and nut included. Material: Stainless steel AISI316L.				
	12/70	125/25/40	19	7321677286515	**728651**
	12/120	175/25/40	24	7321677286522	**728652**
P139927 	**Profile clamp 41**				
	Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile. Material: Stainless steel AISI316L.				
	41	125/16/30	10	7321677833740	**783374**
P139928 	**Profile support piece 46**				
	Profile support piece to be fitted between the ladder and the vault pipe when a support bracket is positioned between existing profile support pieces. For cable ladders KHZV and KHZPV. Material: Stainless steel AISI316L.				
	46	72/18/30	15	7321677928774	**792877**

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Cantilever arms

P140096

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Cantilever arm 50				
Cantilever arm for mounting on walls, pendant/fixing rails or vertical pieces. Material: Stainless steel AISI316L.				
50-100	85/150/40	24	7321677256181	**725618**
50-150	85/200/40	28	7321677256198	**725619**
50-200	85/250/40	34	7321677256204	**725620**
50-250	105/300/40	52	7321677256211	**725621**
50-300	105/350/40	60	7321677256228	**725622**
50-400	120/450/50	228	7321677256235	**725623**
50-500	140/550/50	172	7321677256242	**725624**
50-600	150/650/50	215	7321677256259	**725625**

Wall and support brackets

P140622

Support bracket 3				
Support bracket to be used for centre installation of cable ladders on pendant/fixing rails and vertical pieces. Material: Stainless steel AISI316L.				
3-150	70/39/154	15	7321677264339	**726433**
3-200	70/39/204	20	7321677264346	**726434**
3-300	70/40/306	47	7321677264353	**726435**
3-400	70/40/406	62	7321677264360	**726436**
3-500	70/40/506	103	7321677264377	**726437**
3-600	70/40/606	123	7321677264384	**726438**

P139934
P139933

Wall bracket 11/25 and 11/75				
Wall bracket to be used for vertical or horizontal installations of cable ladders against a wall. Maximum loads for vertical mounting: 300 kg (3 kN). For mounting against a rung the max. load is 500 kg (5 kN) for 11/25. Maximum loads for horizontal mounting: 11/25 250 kg (2.5 kN), 11/75 100 kg (1 kN). Material: Stainless steel AISI316L.				
11/25	85/71/40	24	7321677257744	**725774**
11/75	135/71/40	30	7321677257751	**725775**

P143269

Wall support 550				
Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation. When mounting cantilever arm on support, use screw set 25S (M8). Material: Stainless steel AISI316L.				
Wall support 550 mm	20/100/550	105	3606480985300	**CSU795367**

Brackets

P139953

Angle bracket 5L				
Angle bracket to be used for steel wire installation in ceilings. Also used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Material: Stainless steel AISI316L.				
5L	70/45/49	15	7321677317936	**731793**

P139954

Angle bracket 5LS				
Angle bracket to be used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Material: Stainless steel AISI316L.				
5LS	111/71/60	50	7321677256365	**725636**

P139959
P139960

Pendant joint 2J and 2FJ				
Pendant joint to be used for joining pendant/fixing rails and vertical pieces. Screws M8x16 and nuts included. Material: Stainless steel AISI316L.				
2J	200/48/18	43	7321677264841	**726484**
2FJ	200/55/18	46	7321677264858	**726485**

Ceiling bracket

P139961

Ceiling bracket 5				
Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48. Screw not included. Material: Stainless steel AISI316L.				
5	100/135/40	35	7321677255733	**725573**

Take-off hook

P139958

Take-off hook 47				
Take-off hook to be used on cable ladders KHZV and KHZPV to make 90° branches. Screw M12 nd nuts are included. Material: Stainless steel AISI316L.				
47	155/10/73	27	7321677928750	**792875**

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Vertical pieces

Vertical piece 2

P139937

Vertical piece to be used for installation of Support bracket 3, symmetrical loading. Not suitable for cable ladders KHZV and KHZPV. Can be joined to Pendant/fixing rail 24/34 with Pendant joint 2J.
Material: Stainless steel AISI316L.

2-300	279/80/135	52	7321677255573	**725557**
2-400	392/80/135	62	7321677255580	**725558**
2-500	504/80/135	72	7321677255597	**725559**
2-700	729/80/135	93	7321677255603	**725560**
2-1000	1022/80/135	120	7321677255610	**725561**

Vertical piece 2F

P139938

Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ.
Material: Stainless steel AISI316L.

2F-280	280/80/135	80	7321677255627	**725562**
2F-370	370/80/135	100	7321677255634	**725563**
2F-505	505/80/135	130	7321677255641	**725564**
2F-730	730/80/135	170	7321677255658	**725565**
2F-1000	1000/80/135	220	7321677255665	**725566**
2F-1500	1495/80/135	290	7321677872787	**787278**

Vertical piece 20

P139942

Vertical piece, two-sided, to be used for vertical installation together with Cantilever arm 50, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall.
Material: Stainless steel AISI316L.

20-500	505/155/150	243	7321677255672	**725567**
20-700	730/155/150	324	7321677255689	**725568**
20-1000	1000/155/150	458	7321677255696	**725569**
20-1500	1495/155/150	652	7321677255702	**725570**
20-2000	1990/155/150	799	7321677255719	**725571**
20-3000	2980/155/150	1177	7321677255726	**725572**

Pendant/Fixing rails

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.

Pendant/Fixing rail 24/34

P139945

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Stainless steel AISI316L.

24/34	293/16/42	23	7321677255740	**725574**
24/34	383/16/42	31	7321677255757	**725575**
24/34	495/16/42	40	7321677255764	**725576**
24/34	698/16/42	56	7321677255771	**725577**
24/34	990/16/42	80	7321677255788	**725578**
24/34	2970/16/42	240	7321677255795	**725579**

Pendant/Fixing rail 24/48

P139946

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.
Material: Stainless steel AISI316L.

24/48	1000/26/48	175	3606481317872	**CSU795566**
24/48	2970/26/48	520	7321677285952	**728595**
24/48	5940/26/48	1120	7321677317271	**731727**

Pendant bar 1

P140023

Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.
Material: Stainless steel AISI316L.

1-500	515/166/40	53	3606480911415	**CSU795328**

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Threaded rod

P140075
P140076

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Threaded rod B41				
Threaded rod according to metric standard 6G. Material: Stainless steel AISI316L.				
B41/M8	8/8/1000 8/8/2000	63	7332227015516 7332227015523	**1149551** **1149552**
B41/M10	10/10/1000 10/10/2000	99	7332227015615 7332227015622	**1149561** **1149562**

P140154

Flange nut B43				
Flange nut to be mounted onto Threaded rod B41 in order to lock it to the Support hook and the Ceiling fittings. Package of 50 pcs. Material: Stainless steel AISI316L.				
B43/M8	17/17/8	0.68	7332227015547	**1149554**
B43/M10	20/20/15	1.12	7332227015646	**1149564**

P140155

Distance nut B42				
Distance nut to be used when joining Threaded rods. Material: Stainless steel AISI316L.				
B42/M8	15/15/30	1	7332227015554	**1149555**
B42/M10	20/20/40	2	7332227015653	**1149565**

Clamps

P140102

Cable clamp ER				
Cable clamp for the installation of cables on cable ladders with round or perforated rungs. Material: Stainless steel AISI316.				
ER for cable 23-28 mm	74/50/80	44	7321677364404	**736440**
ER for cable 27-32 mm	81/50/82	45	7321677364411	**736441**
ER for cable 39-35 mm	88/50/82	46	7321677364428	**736442**
ER for cable 33-38 mm	94/50/85	47	3303432467883	**736443**
ER for cable 36-42 mm	101/50/113	60	3303432467586	**736444**
ER for cable 40-46 mm	108/50/115	62	3303437364453	**736445**
ER for cable 44-50 mm	115/50/117	63	3303437364460	**736446**
ER for cable 48-55 mm	129/50/120	64	7321677364473	**736447**
ER for cable 51-58 mm	130/50/121	66	7321677364480	**736448**
ER for cable 55-62 mm	138/50/156	78	7321677364497	**736449**
ER for cable 59-66 mm	146/50/158	79	7321677364503	**736450**
ER for cable 63-70 mm	150/50/160	80	7321677364510	**736451**
ER for cable 67-74 mm	161/50/163	81	7321677364527	**736452**
ER for cable 71-78 mm	168/50/165	85	7321677364534	**736453**
ER for cable 74-82 mm	176/50/167	86	7321677364541	**736454**
ER for cable 77-85 mm	181/50/169	87	7321677364558	**736455**

P140103

Oval rung adaptor, screw set included, to be used when mounting Cable clamp ER on oval rungs on the KHZ range. Material: PP.				
Adaptor	29.5/48/47	12	7321677364565	**736456**

Screw set 74S to be used for the installation of cable clamp ER on perforated rungs. Two screws screw sets are required.
Material: Stainless steel AISI316.

74S	20/19/8	2	7321677371983	**737198**

P140104

Clamp set M6				
Clamp set to be used for the installation of Support bracket 3 directly on a roof bolt. The set includes two clamps and four locking nuts. M6-25 must be used for Support bracket 3 in hot-dip and pre-galvanized surface finish, whereas M6-20 must be used for Support bracket 3 in stainless steel and Installation plate 60 in all surface treatments. Material: Stainless steel AISI316L.				
M6-25	Ø29/M8	5	7321677207862	**720786**
M6-20	Ø24/M6	4	7321677255870	**725587**

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Box plates

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Junction box plate 35S				
Junction box plate, holed, to be installed upright or hanging from the profile. Locked with locking tabs. For junction boxes, electric light fittings, etc. Material: Stainless steel AISI316L.				
35S holed	164/20/170	22	7321677257768	**725776**
Junction box plate 35P				
Junction box plate, unholed, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc. Material: Stainless steel AISI316L.				
35P unholed	21/106/250	28	7321677257775	**725777**

P132524

P140467

Bends

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Riser 18				
Riser piece to be fitted to the cable ladders by using Joint 21. Material: Stainless steel AISI316L.				
18-150	452/147/452	180	7321677273706	**727370**
18-200	452/197/452	190	7321677273713	**727371**
18-300	452/297/452	210	7321677273720	**727372**
18-400	452/397/452	230	7321677273737	**727373**
18-500	452/497/452	250	7321677273744	**727374**
18-600	452/597/452	270	7321677273751	**727375**
Riser coupling 49				
Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screw sets M12 are needed. Material: Stainless steel AISI316L.				
49-200	120/197/483	220	7321677928804	**792880**
49-300	120/297/483	230	7321677928811	**792881**
49-400	120/397/483	240	7321677928828	**792882**
49-500	120/497/483	245	7321677928835	**792883**
49-600	120/597/483	250	7321677928842	**792884**
49-800	120/797/483	265	7321677928859	**792885**
49-1000	120/997/483	280	7321677928866	**792886**
90° bend 15, interior				
Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Material: Stainless steel AISI316L.				
15-150	55/547/547	220	7321677273461	**727346**
15-200	55/597/597	240	7321677273478	**727347**
15-300	55/697/697	290	7321677273485	**727348**
15-400	55/797/797	340	7321677273492	**727349**
15-500	55/897/897	390	7321677273508	**727350**
15-600	55/997/997	440	7321677273515	**727351**
90° bend 15, exterior				
Exterior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Material: Stainless steel AISI316L.				
15-150	55/703/703	320	7321677273522	**727352**
15-200	55/933/933	370	7321677273539	**727353**
15-300	55/1133/1133	460	7321677273546	**727354**
15-400	55/1333/1333	550	7321677273553	**727355**
15-500	55/1533/1533	640	7321677273560	**727356**
15-600	55/1733/1733	760	7321677273577	**727357**

P140032

P140033

P140034

P140035

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Bends

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
90° bend 55, interior				
Interior bend piece to be fitted to cable ladders KHZV and KHZPV, creating a 90° horizontal bend. Material: Stainless steel AISI316L.				
55-200	150/625/625	510	7321677929030	**792903**
55-300	150/725/725	560	7321677929047	**792904**
55-400	150/825/825	620	7321677929054	**792905**
55-500	150/925/925	680	7321677929061	**792906**
55-600	150/1025/1025	750	7321677929078	**792907**
55-800	150/1225/1225	830	7321677929081	**792908**
55-1000	150/1425/1425	1110	7321677929092	**792909**
T-junction 16				
T-junction piece to be fitted to the cable ladders by using Joint 21. Material: Stainless steel AISI316L.				
16-150	55/944/547	300	7321677273584	**727358**
16-200	55/997/597	320	7321677273591	**727359**
16-300	55/1097/697	390	7321677273607	**727360**
16-400	55/1197/797	440	7321677273614	**727361**
16-500	55/1297/897	530	7321677273621	**727362**
16-600	55/1397/997	600	7321677273638	**727363**
T-junction 56				
T-junction piece to be fitted to the cable ladder KHZV or KHZPV by using screw set M12. Material: Stainless steel AISI316L.				
56-200	150/1050/625	640	7321677929207	**792920**
56-300	150/1150/725	710	7321677929214	**792921**
56-400	150/1250/825	760	7321677929221	**792922**
56-500	150/1350/925	850	7321677929238	**792923**
56-600	150/1450/1025	910	7321677929245	**792924**
56-800	150/1650/1225	1050	7321677929252	**792925**
56-1000	150/1850/1425	1170	7321677834846	**783484**
X-junction 17				
X-junction piece to be fitted to the cable ladders by using Joint 21. Material: Stainless steel AISI316L.				
17-150	55/547/547	380	7321677273645	**727364**
17-200	55/997/997	400	7321677273652	**727365**
17-300	55/1097/1097	500	7321677273669	**727366**
17-400	55/1197/1197	550	7321677273676	**727367**
17-500	55/1297/1297	600	7321677273683	**727368**
17-600	55/1397/1397	860	7321677273690	**727369**

P140036

P140037

P140038

P140039

Tele-conduits

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Tele-conduit 36				
Tele-conduit to be used where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cables to pass through. Material: Stainless steel AISI316L.				
36-50	24/50/2000	94	7321677255900	**725590**
36-100	24/100/2000	142	7321677255917	**725591**
36-200	24/200/2000	238	7321677255924	**725592**

P140041

Dividers

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Dividing strip 39				
Dividing strip to be used to separate low-tension and high-tension cables. Material: Stainless steel AISI316L.				
39/24	24/24/1750	46	7321677255931	**725593**
39/55	55/24/1750	73	7321677255948	**725594**

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Dividers

P140044

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Distance piece W39				
Distance piece to be used for the joining of Dividing strips 39. Material: Plastic, natural coloured.				
W39	37/–/330	3	7321677168248	**716824**

Covers/Cover plates

P140045

Cover 64				
Cover to be used for vertically mounted cable ladders. Material: Stainless steel AISI316L.				
64-150	10/151/2000	290	7321677825851	**782585**
64-200	10/201/2000	370	7321677825868	**782586**
64-300	10/301/2000	540	7321677825875	**782587**
64-400	10/401/2000	710	7321677825882	**782588**
64-500	10/501/2000	1020	7321677825899	**782589**
64-600	10/601/2000	1210	7321677825905	**782590**
64-800	10/801/2000	1660	7321677825912	**782591**
64-1000	10/1001/2000	2000	7321677825929	**782592**

P140046

Cover W5				
Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun. Suitable for all cable ladders. Material: Stainless steel AISI316L.				
W5-150	10/151/2000	190	7321677322916	**732291**
W5-200	10/201/2000	250	7321677322923	**732292**
W5-300	10/301/2000	360	7321677322930	**732293**
W5-400	10/401/2000	680	7321677322947	**732294**
W5-500	10/501/2000	840	7321677322954	**732295**
W5-600	10/601/2000	700	7321677322961	**732296**
W5-800	10/801/2000	1420	7321677833757	**783375**
W5-1000	10/1001/2000	1730	7321677322978	**732297**

P140105

Cover 90° interior bend				
Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Stainless steel AISI316L.				
150	10/420/420	44	7321677886395	**788639**
200	10/470/470	62	7321677886401	**788640**
300	10/570/570	105	7321677886418	**788641**
400	10/670/670	223	7321677886425	**788642**
500	10/770/770	310	7321677886432	**788643**
600	10/870/870	408	7321677886449	**788644**
800	10/1070/1070	643	7321677886456	**788645**
1000	10/1270/1270	926	7321677886463	**788646**

P140106

Cover T-junction				
Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint. Material: Stainless steel AISI316L.				
150	10/400/651	95	7321677886470	**788647**
200	10/450/701	126	7321677886487	**788648**
300	10/550/801	196	7321677886494	**788649**
400	10/650/901	394	7321677886500	**788650**
500	10/750/1001	525	7321677886517	**788651**
600	10/850/1101	672	7321677886524	**788652**
800	10/1050/1301	1011	7321677886531	**788653**
1000	10/1240/1501	1414	7321677886548	**788654**

P138835

Profile support piece 37				
Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers. Material: Stainless steel AISI316L.				
37	136/20/50	6	7321677301904	**730190**

Stainless Steel AISI 316L - Corrosion class CX

Covers/Cover plates

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Cover clamp				
Cover clamps to be used when installing a cover on a Profile support piece 37. Material: Stainless steel AISI316L.				
Cover clamp	32/10.5/20	1.5	7321677285860	**728586**
Cover plate 65				
Cover plate to be used on vertical cable ladder installations as protection of cables near the floor. To be mounted in the side profile with self-tapping screw ST4.2. Material: Stainless steel AISI316L.				
65-200	1000/120/200	930	7321677324811	**732481**
65-300	1000/120/300	1140	7321677324828	**732482**
65-400	1000/120/400	1350	7321677324835	**732483**
65-500	1000/120/500	1560	7321677324842	**732484**
65-600	1000/120/600	1780	7321677324859	**732485**

Angle plates

Angle plate 33				
Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders. Material: Stainless steel AISI316L.				
33/1	28/150/290	50	7321677273409	**727340**
33/2	25/195/490	90	7321677271979	**727197**

Fittings for mesh trays

Combi-fittings B21				
Combi-fitting to be used when mounting mesh trays onto cable ladders. Material: Stainless steel AISI316L.				
B21	250/50/20	45	7332227013598	**1149359**
B21 90 degrees	120/50/135	45	7332227013918	**1149391**

Installation system HT

Pipe HTR-68				
Pipe for easy locking of wires. Material: Stainless steel AISI316L.				
HTR-68	Ø15/25	1.3	7321677136780	**713678**
Steel wire HT-2309				
Hard steel wire to be installed as carrier of one or more cables. Breaking loads, see below. Material: Stainless steel.				
HT-2322 Breaking load 450 kg	Dim. 2.5	3.9/100 m	7321677136810	**713681**
HT-2323 Breaking load 700 kg	Dim. 3.0	5.6/100 m	7321677136827	**713682**
HT-2324 Breaking load 1200 kg	Dim. 4.0	10.0/100 m	7321677136834	**713683**

Bar fixings

Round bar fixing				
Round bar fixing to be used for mounting in underground cavities and tunnels. Material: Stainless steel AISI316L.				
For ceilings	6/60/325	90	7321677928644	**792864**
For floors	6/140/130	91	7321677928668	**792866**
For walls	61/60/161	68	7321677928682	**792868**

Stainless Steel AISI 316L - Corrosion class CX

Lashing wire

	Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
	Lashing wire				
P140226 P140225 	Lashing wire to be used for lashing of wires on cable ladders. Material: Stainless steel, PVC.				
	HTR-2303, white PVC	Ø1.25	1.3/100 m	7321677136865	**713686**
	HTR-2313, black PVC	Ø1.25	1.3/100 m	7321677136872	**713687**
P140226 P140225 	Lashing wire to be used for lashing of wires on cable ladders. Material: PVC.				
	HT-2304, white	Ø1.5	1.8/100 m	7321677136841	**713684**
	HT-2314, black	Ø1.5	1.8/100 m	7321677136858	**713685**

Profile protection

	Profile protection 28P				
P140063 	Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder. Material: PVC, grey.				
	28P	60/28/2000	80	7321677321513	**732151**

End plugs

	End plug 28/28i				
	End plug to be mounted on ladder ends for sealing or protection. Material: PP/TPE.				
P140064	28, red	59/25/22	0.8	7321677090198	**709019**
P140065 P140066 	28i, white 28i, red	54/14/19	0.4	7321677354467 7321677319947	**735446** **731994**
	End plug 28C, D, E, F and J				
	End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous. Material: PP/TPE, orange.				
P140067 	28C for Vertical piece 2 and Pendant/fixing rail 24/34	25/19/46	0.5	7321677898756	**789875**
P140068 	28D for Vertical piece 20 and Pendant/fixing rail 24/20	25/52/58	1	7321677090204	**709020**
P140069 	28E for Vertical piece 2F and Pendant/fixing rail 24/48	24/30/52	0.5	7321677090211	**709021**
P140070 	28F for Vertical piece 20FS and Pendant/fixing rail 24/20FS	30/53/110	4	7321677898763	**789876**
P138758 	28J for Vertical piece 20F and Pendant/Fixing rail 24/20F	27/53/95	2.1	3606480457531	**CSU794520**
	Cross member plug 27				
P140071	Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk. Material: PE, grey.				
	27	Ø20/10	0.15	7321677266685	**726668**

Screws, bolts and nuts

	T-bolt 26U				
T-bolt single-08 	T-bolt to be used for the mounting of Cantilever arm 50 on Pendant/Fixing rail 24/48 and all vertical pieces except Vertical piece 2. Material: Stainless steel AISI316.				
	26U M8	M8x30	5	3606489579784	**CSU795596**
	26U M10	M10x30	5	3606489579746	**CSU795592**
	26U M10	M10x50	7	3606489579753	**CSU795593**
	Screw set W34				
P140166 	Screw set to be used for the fastening of dividing strips on cable ladders KHZSP, KHZP and KHZPV. Set including screw MSCS 6x12 and nut M6MF 6. Material: Stainless steel AISI316.				
	W34	—	0.8	7321677255894	**725589**

Stainless Steel AISI 316L - Corrosion class CX

Screws, bolts and nuts

Type	Dimensions A/B/C mm	Weight kg/100 pcs	EAN code	Ref. No.
Screw set M12				
Screw set to be used for all joints with cable ladders KHZPV. Set including four bolts M6S 12x25 and four nuts M6M 12. Material: Stainless steel AISI316.				
M12	–	20	7321677287673	**728767**
Screw set 22S				
Screw set to be used for installation of Support bracket 3 on Vertical piece 2, Support bracket 3 and Ceiling bracket 5 on Pendant/fixing rails 24/34 and 24/48, Angle bracket 5L against the back of Pendant/fixing rails, Pendant/fixing rails back to back. Set including screw MVBF 8x16 and nut M6MF8. Material: Stainless steel AISI316.				
22S	–	1.9	7321677255825	**725582**
Screw set 25S				
Screw set to be used for installation of Cantiliver arm 30, 50i and 50 on Wall support plate. Set including screw MVBF 8x25 and nut M6MF8. Material: Stainless steel AISI316.				
25S	–	2,2	3606489567057	**CSU795587**
Spring nut M10				
Spring nut to be used for fastening of accessories (control panels, etc.) on Pendant/fixing rail 24/48. Material: Stainless steel AISI316.				
M10	–	3.9	7321677286225	**728622**
Screw M10x20				
Screw to be used with Spring nut M10 for the installation of Cantilever arm 50 on Pendant/fixing rail 24/48. Material: Stainless steel AISI316.				
M6S	–	2.2	7321677286492	**728649**

Marking plate

Marking plate 93				
Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder. Five different colours are available.				
93, yellow	103/0.7/100	5	7321677377046	**737704**
93, orange	103/0.7/100	5	7321677377053	**737705**
93, blue	103/0.7/100	5	7321677377060	**737706**
93, green	103/0.7/100	5	7321677377077	**737707**
93, black	103/0.7/100	5	7321677377084	**737708**
Marking label, equipotential				
Label to be used to show that a construction is equipotentially bonded. Available in Swedish (other languages on request). Printed on self-adhesive yellow vinyl, 250 labels per roll. Material: Self-adhesive vinyl.				
Marking label	25/–/86	–	7321677868605	**786860**

Tools

Cable roller S				
Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 90° bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller. Material: Steel, electro-galvanized.				
S	230/80/204	230	7321677186600	**718660**
Cable roller 38 Rig'n roll				
Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches. Material: Stainless steel AISI316L (cable roller).				
38 Rig'n roll	220/50/130	48	7321677359981	**735998**
Bag	375/160/460	230	7321677801862	**780186**
Set 66 (1 bag + 10 Cable rollers 38 Rig'n roll)	375/160/460	710	7321677801879+	**780187**

Technical Information

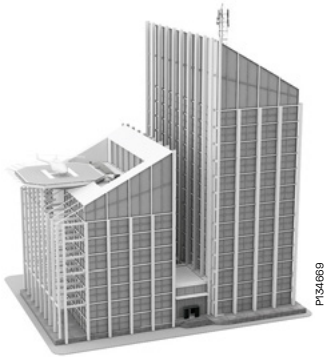
The right surface treatment – crucial for a successful outcome

A cable support installation is considered to be a long-lasting solution and the life expectancy is dependent on the environment in which it is placed. A thorough investigation of the setting in terms of corrosion, pollution, humidity, salt, sanitary regulations etc will help you make the best choice. Our range of cable ladders and accessories covers all types of surface treatments, enabling a reliable, cost-efficient and long-lasting cable support solution.

C1 Electro-galvanized

Indoor environments: Schools, shops, hotels, offices, sports halls etc.

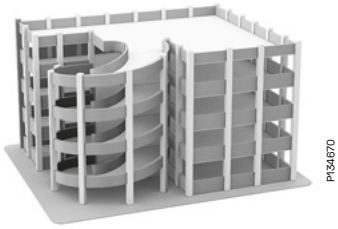
- Very low environmental corrosion.
- Heated areas.
- Arid atmosphere.
- Insignificant quantities of pollutant.
- ISO 2081.



C2 Pre-galvanized

Partly outdoor environments: Industries, sports halls, warehouses, shops, rural outdoor areas etc.

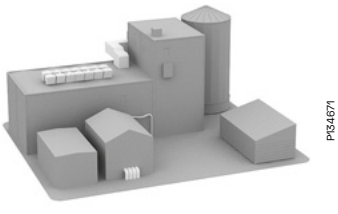
- Low environmental corrosion.
- Non-heated areas with fluctuating levels of temperature and humidity.
- Few instances of condensation and low levels of airborn pollution.
- SS-EN 10346



C3 Hot-dip galvanized

Indoor- and outdoor environments: Urban and light industrial areas, breweries, dairies, laundries etc.

- Average environmental corrosion.
- Areas with average levels of humidity and some airborn pollution caused by production processes.
- Atmospheres containing some salt or average levels of airborne pollution.
- EN-ISO1461/EN 10346 (Z+)



C4 Hot-dip galvanized

Indoor- and outdoor environments: Chemical plants, industrial and coastal areas, swimming pools, farms, dockyards etc.

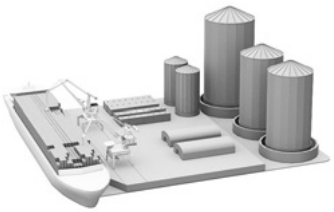
- High environmental corrosion.
- Areas with high levels of humidity and considerable airborn pollution.
- Atmospheres with average salt content or discernible levels of airborne pollution.
- EN-ISO1461

PI534672

C5 Zinkpox® (Hot dip galv. + powder coated) Stainless steel AISI 304

Indoor- and outdoor environments: Chemical and heavy industries, tunnels, swimming pools, dockyards etc.

- Very high (industrial) environmental corrosion.
- Areas with almost permanent condensation, large quantities of airborn pollution, high levels of humidity and aggressive atmospheres
- EN 1.4301 acc. to EN 10088/AISI 304



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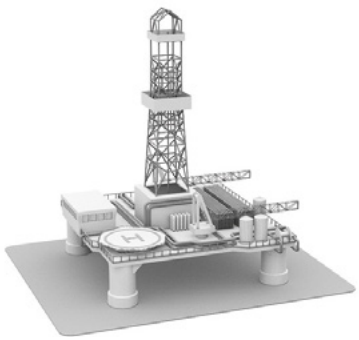
CX Stainless steel AISI 316L

Indoor- and outdoor environments: Heavy industries, coastal and offshore areas, purifying plants etc.

- Very high (marine) environmental corrosion.
- Areas with almost permanent condensation and large quantities of airborn pollution. Atmospheres with high salt content.
- EN 1.4404 acc. to EN 10088/AISI 316L



Corrosion Classes

The life expectancy of a cable support system is dependent on the environment in which it is placed. Therefore, it is important to establish the corrosive properties of an environment to ensure that the right treatment and the right material are chosen. Do not use components finish above of the corrosion class targeted. The table below shows various corrosion classes. As a guide, we have included the surface treatment recommended by Wibe Group for the different classes.

On the next page, we briefly outline the various surface treatments and materials.
As regards environmental corrosion, a steel design component can usually be assigned to one of the corrosion classes (C1 to CX) as shown in table A. Reference values for the average level of corrosion in steel and zinc are given in table B.
The corrosion classes comply with those stipulated in SS-EN ISO 12944-2.

Table A
Corrosion classes as stipulated by SS-EN ISO 12944-2 with atmospheric corrosion levels and examples of the environment in which they are most suitable for use.

Corrosion class	Environmental corrosion	Examples of typical environments in temperate climates (informative)		Wibe Group designation*	
		Outdoors	Indoors		
C1	Very low	–	Heated areas with arid atmosphere and insignificant quantities of pollutant, e.g. offices, shops, schools and hotels.	**Electro-galvanized** DIN 50961/ISO 2081	
C2	Low	Atmospheres with low levels of airborne pollution. Rural areas.	Non-heated areas with fluctuating levels of temperature and humidity. Few in-stances of condensation and low levels of airborne pollution, e.g. sports halls and warehouses.	**Pre-galvanized** Z 275 in accordance with EN 10346	
C3	Average	Atmospheres containing some salt or average levels of air-borne pollution. Urban and light industrial areas. Areas affected by coastal conditions.	Areas with average levels of humidity and some airborne pollution resulting from pro-duction processes, e.g. breweries, dairies, laundries.	**Hot-dip galvanized** after manufacture in accordance with EN-ISO 1461	Zinc+ coating
C4	High	Atmospheres with average salt content or discernible levels of airborne pollution. Industrial and coastal areas.	Areas of high humidity and considerable airborne pollution as the result of production processes, e.g. chemical plants, swimming pools and dockyards.		
C5	Very high (industrial)	Industrial areas with high humidity and aggressive atmosphere, and coastal areas with high salinity.	Buildings with almost permanent condensation and with high pollution.	**Zinkpox**® HDG+powder coating	
				Stainless steel EN 1.4301/AISI 304	
CX	Very high (marine)	Offshore areas with high salinity, industrial areas with extreme humidity, and aggressive atmospheres, sub-tropical or tropical atmospheres.	Industrial buildings with extreme humidity and aggressive atmosphere.	**Stainless steel** EN 1.4404/AISI 316L **GRP****	

*can be modified due to local environment and product life expectancy.
**see catalogue Mita Flex for GRP offer

Table B
Mass losses for steel and zinc in various corrosion classes

Corrosion class	Mass loss per surface unit and thickness reduction (1 year of exposure)[1]	
	Zinc	
	Mass loss (g/m^2)	Thickness reduction (µm)
C1	≤ 0.7	≤ 0.1
C2	> 0.7 to 5	> 0.1 to 0.7
C3	> 5 to 15	> 0.7 to 2.1
C4	> 15 to 30	> 2.1 to 4.2
C5	> 30 to 60	> 4.2 to 8.4
CX	> 60 to 180	> 8.4 to 25

[1] Corrosion speed is generally higher when the material is first exposed

Surface treatments

Wibe Cable Ladders - Technical and material data

Specification	
Cold formed steel: Structural steels:	DX5xD acc. to EN 10346, DC0x acc. to EN 10130, DD1x acc. to EN 10111 S235 and S355 acc. to EN 10025-2 AISI 316L acc. to EN ISO10088-2
Density:	7.7-7.85 kg/m³
Surface treatment:	• Pre galvanized (>20 µm): EN 10346 • Hot-dip galvanized (55-70 µm): EN ISO 1461 • Zinc+ (>25 µm): EN 10346 • Zinkpox, hot-dip galvanized (55-70 µm) + polyester coating, white RAL9010 • Pickled (Stainless steel), except KHZSP ladder range
Resistance to impact:	20 J (IEC 61537)
Temperature range:	From –40°C to +120°C.

Electro-galvanized
Products are manufactured in accordance with ISO 2081. Such products are intended for use only in warm, dry areas with negligible pollutant levels.

Pre-galvanized
Products are manufactured from Z 275 pre-galvanized sheet steel in accordance with SS-EN 10346. Under normal conditions, surface sections created during cutting and drilling will repair themselves, providing superb anti-corrosion protection.

Hot-dip galvanized
Wibe Group has one of the most modern hot-dip galvanization plants in the Nordic countries. The hot-dip process is continuous, guaranteeing a high and even quality. The manufactured products are hot-dip galvanized in accordance with EN-ISO 1461:2009 whilst nuts and bolts are hot-dip galvanized in accordance with SS-EN ISO 10684. This form of galvanization affords very good value-for-money anti-corrosion protection in atmospheres with a pH value of between 6 and 13. However, in acidic environments where pH levels fall below 6 and in alkaline environments where the pH value exceeds 13, the protective zinc layer breaks down relatively quickly. When cuts/perforations or other kind of operation that damage or remove coating in HDG items suitable to be installed in aggressive corrosion class, must be repaired with a zinc rich paint.

Zinc+
Zinc+ surface treatment for some accessories (EN 10346) with a metallic Zinc-based coating containing aluminium and magnesium that offers ultimate corrosion resistance in aggressive environments (e.g. chloride & highly alkaline). In many cases a good alternative to hot-dip galvanization. Excellent surface finish with self-repairing protection of cut edges (galvanic protection).

Zinkpox®
The Zinkpox® method involves applying a homogenous polyester coating to the zinc layer. Besides resisting light-initiated degeneration and weathering, this powder coating has excellent mechanical properties as regards impact resistance and adhesion. It is also resistant to most chemicals. Compared to hot-dip galvanizing, applying a polyester coating to the zinc layer more than doubles the service life of treated components. The zinc layer prevents the development of filiform corrosion. This might otherwise degrade the coating. Consequently, the polyester coating is subject only to atmospheric attack and thus protects the zinc layer. The certified coating plant that treats our components uses a modern and environment-friendly process. Before powder coating, the galvanized components undergo meticulous pre-treatment. This ensures superb adhesion. In addition to extremely good corrosion protection, the Zinkpox® method also offers a choice of colours. Powder coating is a very environment-friendly way of achieving a coloured surface. Because the coating contains no solvents, it has largely replaced solventbased liquid coatings. Where installations are visible, cable ladders and fittings can be finished in a coating that matches the surrounding décor.

Stainless steel
Products manufactured in accordance with AISI 304 acc. to ASTM / 1.4301 acc.to EN 10088-3 or /AISI 316L acc. to ASTM / 1.4404 acc. to EN 10088-3 are designed for use in highly aggressive en-
vironments, either indoors or outdoors, on industrial sites where there are high levels of potent airborne pollution such as in certain chemical industries, cellulose-related industries, refineries or artificial fertilizer factories, high humidity tunnels, etc. Stainless steel products are also ideal for use in environments where special hygiene requirements are in force, such as dairies, abattoirs, other food industries and pharmaceutical factories.

Stainless steel AISI 304 or AISI 316L
The deciding factor in choosing between stainless steel AISI 304 or AISI 316L is the aggressiveness of the environment in which it is to be used, and for this atmospheric chlorine content plays a significant role. Environments with a high chlorine content, coastal areas being a prime example, are aggressive and usually require the use of AISI 316L materials. When assessing the needs of factories, consideration should be given to the materials previously used to suspend equipment such as pipe tubing, and from this determine whether stainless steel AISI 304 or AISI 316L material is required.

To consider when installing Stainless Steel Cable Laddes
1. Transport/handling: Make sure that no iron objects come into contact with the stainless steel products.
2. Storing: Never store stainless steel products close to where iron products are machined, for example close to cutting and grinding operations
3. Welding: Welding during installation should be avoided where possible. If welding must be performed, make sure that only methods suitable for stainless steel are used.
4. Tools: When cutting or grinding, always use cutting wheels and grinding tools which are free from iron. Do not use tools that have been previously used for cutting or grinding products containing iron. When drilling, use an HSS-drill. To maximize the useful life of the drill, employ a cooling fluid during drilling. When installing, conventional assembly tools can be used. However, when using a nut tightener, ensure that the thread is first lubricated to prevent jamming.

Never mix untreated or galvanized products with stainless steel.

5. Measures: If a blue annealing appears when cutting, grinding or drilling, re-move it with pickling paste, making sure that the paste is then carefully washed away with water. If selective corrosion appears it can be removed by:

a) Washing away with water (high-pressure if possible).

b) Polishing with a cleaning cloth or a fine emery paper (wet or dry) and washing with water.

c) Grinding with a fine-grained wheel and washing with water.

d) Pickling with pickling paste, making sure that the pickling paste is then carefully washed away with water.

6. When using pickling paste or similar products, always study the safety code for the product prior to use.

Installation regulations

Installation of cables on a cable ladder
The installation of cables on cable ladders lies within the IEC 60364-5-52 standard for power cable installation only. Because Wibe cable ladders have rungs which occupy less than 10% of the plan area under the cables, the installation is defined as cables in “free air”. Cable spaces do not require any de-rating factor for installation. Cables touching must be de-rated in accordance with the table below.

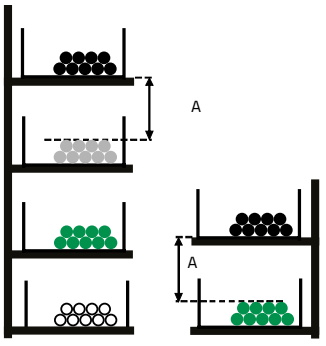
Method of installation	Correction Factor Cg Number of circuits of multicare cables							
	2	3	4	5	6	7	8	9
Single layer multicare touching on ladder supports	0,87	0,82	0,80	0,80	0,79	0,79	0,78	0,78

For installation of a combination of power and communication cables on a cable ladder the separating distances should be according to EN 50174-2, see table below.

Communication cable type	Number of power circuits (1-phase 20A, 230V)									
	1-3	4-6	7-9	10-12	13-15	16-30	31-45	46-60	61-75	>75
	Minimum separation distance (mm), see figure A below this table									
Category 5e/6 unshielded	20	40	60	80	100	200	300	400	500	600
Category $5e/6/6_A$ shielded	10	20	30	40	50	100	150	200	250	300
Category 7_A shielded	2	4	6	8	10	20	30	40	50	60

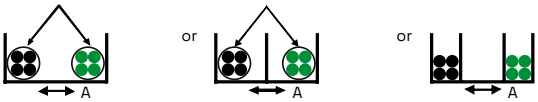
Minimum separation distance (mm), figure A

Recommended cable management



Not recommended

Recommended cable management on common cable ladder



The cables need to be fixed to the ladder or bundled

No fixing or bunlding needed.

- Power cables
- Data cables
- Control cables
- Sensitive cables like instrumentation cables
- A Separation distance

Installation of cable ladder
Full design data is given according to EN 61537 in the Range part in this catalogue showing all maximum and recommended loadings. Graphs are given in this catalogue to show the deflection against loading for various support distances. Any support system which is supported at intervals and loaded will deflect between the support intervals. Test model II is used for all ladder ranges.

Installation recommendations for cable ladders
The cable ladders should be installed in such a way that, as often as possible, the cables can be laid directly in place rather than being pulled through. Ladders for current carrying cables along the ceiling should be installed in such a way that the distance from the top of the ladder to the ceiling is not less than 300 mm. The free vertical distance between parallel ladders shall be at least 200 mm. Ladders near walls should be installed with a minimum free distance of 50 mm to the wall, so that cables can pass between the ladders and the wall. Ladders along partition walls should be installed with a minimum free distance of 100 mm to the wall. Sharp edges and screw ends on ladders should be removed before the cables can be installed. Expansion bolts for the installation of brackets/fixings should be installed with such a distance between them, that the designated load for ladders will not be exceeded. When selecting the distance between cantilever arms or brackets/fixings, the bearing strength and designated load of the ladders must be taken into consideration.

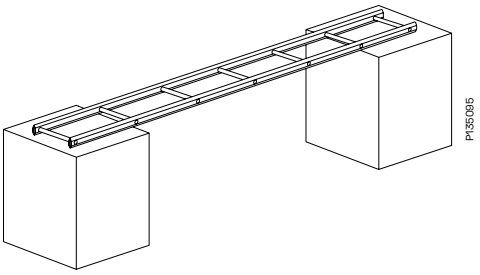
Electro-magnetic compatibility EMC

Electromagnetic Compatibility

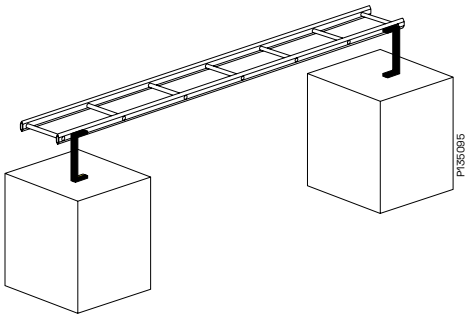
Wibe Group has performed measurements at EMC Services in Gothenburg regarding EMC requirements, report RE-10273-17181.
The results show that the shielding performance of both incoming and emitted fields is good concerning Wibe cable ladders.

When correctly installed Wibe cable ladders products work as a protective earth structure.
This means that Wibe Group products can be used to achieve good engineering practice in accordance with the EMC directive 2004/108/EG.

Recommended installation examples

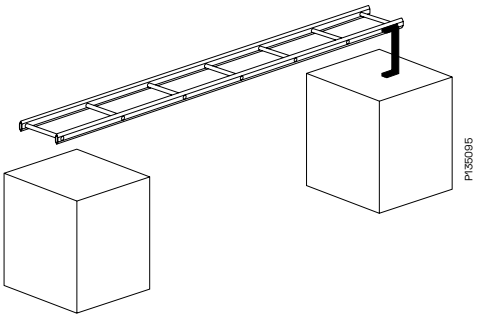


Metal against metal connection
- the ultimate installation

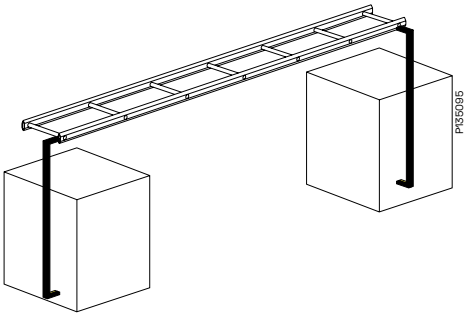


Short double connection
- realistic installation

Not recommended installation examples



Single connection
- poor installation



Long double connection
- in best case EMC neutral

Potential balancing

Electrical continuity and earthing
The standard EN 61537 establishes that for cable ladders with electrical continuity characteristics (metal), this continuity should be guaranteed by means of an equipotential connection and one or several connections to earth in accordance with the use of the ladder system.

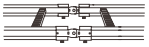
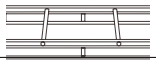
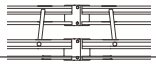
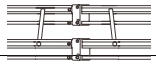
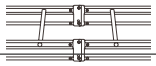
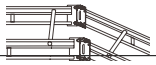
The impedance must not exceed:
- 50 mΩ through the joint.
- 5 mΩ x metre of cable ladders.(*)

(*) Currently this valour is studied through document IEC/SC23A/WG12, CLC/TC213/WG-5 – 765. It will be changed to 50 mΩ x metre.

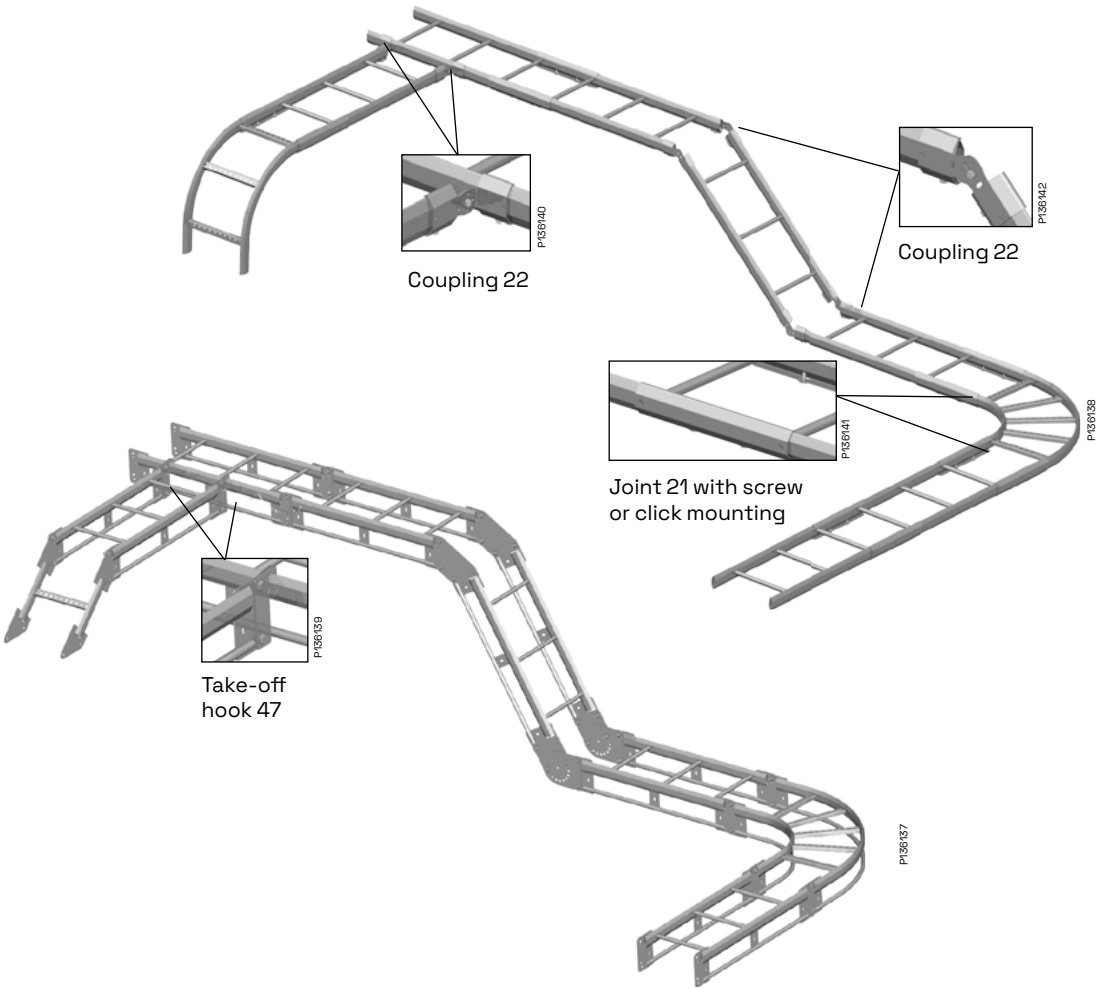
The metre length and joining systems for the different sections that Wibe Group has, as well as the joints of the different accessories supplied, comply with the electrical continuity test established in the aforementioned standard, guaranteeing the impedance established. To guarantee these impedance values tightening torque values of no less than 5 Nm are recommended, always using the joins recommended for each ladder type, and taking sizes into account.

To guarantee a safe installation, Wibe Group recommends a proper earthing of all the elements that make up the system (sections and accessories), using the accessories designed specifically for this purpose.
Ensure that all connections are well fixed and proper values are matching according to local legislation

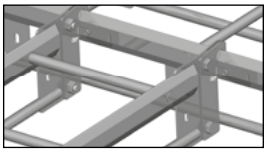
WIBE GROUP RECOMMENDS NOT TO USE THE LADDER AS EARTH OR NEUTRAL CONDUCTORS. Wibe Group IS NOT RESPONSIBLE OF ANY DAMAGE IF YOU USE ACCESSORIES FROM OTHER MANUFACTURERS.

Product		Ohm/m
Cable Ladder KHZSP without joint, pre-galvanized		0.00089
Cable Ladder KHZSP with Joint 21, pre-galvanized		0.00100
Cable Ladder KHZSP with Coupling 22, pre-galvanized		0.00160
Cable Ladder KHZ/KHZP without joint, hot-dip galvanized		0.00050
Cable Ladder KHZ/KHZP with Joint 21, hot-dip galvanized		0.00040
Cable Ladder KHZ/KHZP with Coupling 22, hot-dip galvanized		0.00073
Cable Ladder KHZV without joint, hot-dip galvanized		0.00038
Cable Ladder KHZV joined with Screw set M12, hot-dip galvanized		0.00039
Cable Ladder KHZV with Joint 45, against welded joint, hot-dip galvanized		0.00057
Cable Ladder KHZV with Joint 45, (without welded joint), hot-dip galvanized		0.00083
Cable Ladder KHZV with Coupling 44, hot-dip galvanized		0.00043

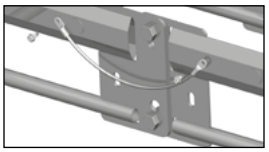
For pre-galv, hot-dip galv and stainless steel AISI 316L
Resistance testing of Wibe Cable Ladders has been performed and approved according to norm IEC61537 for cable ladders in pre-galv, Hot-dip galv and Stainless steel AISI 316L.



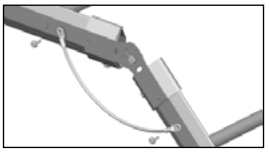
For zinkpox coating
Installation of cable ladders with Zinkpox coating



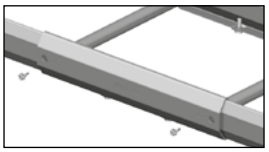
Take-off hook 47 is mounted with self-drilling screw 4.8x13



For installation of joints, couplings, junctions and bends self-drilling screw 4.8x13 and ground wire, cable area ≥10 mm², must be used.

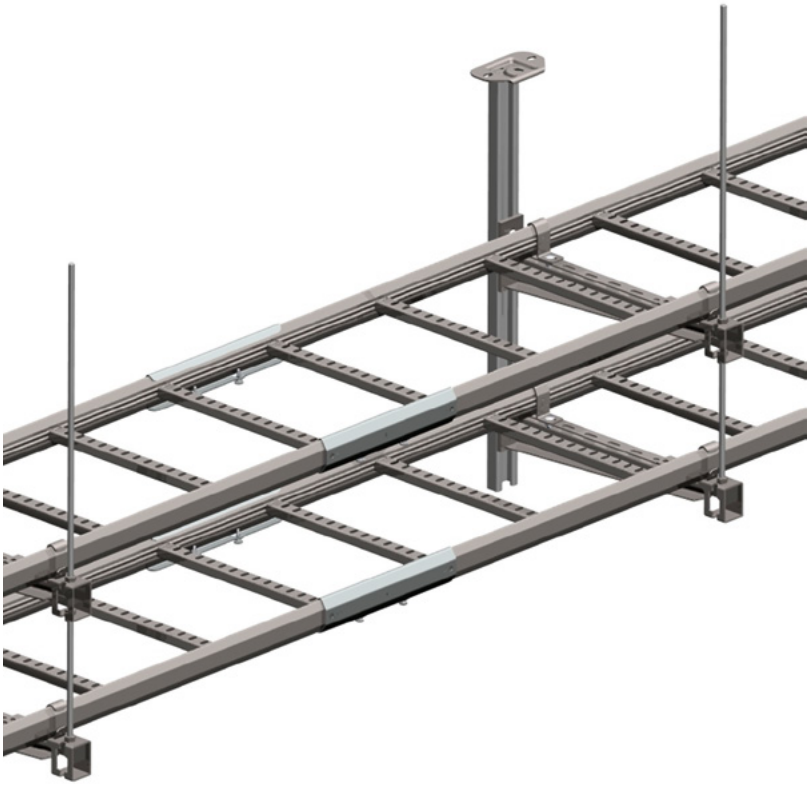


Self-drilling screw 4.8x13 and ground wire, cable area ≥10 mm², are used for installation of Coupling 22.



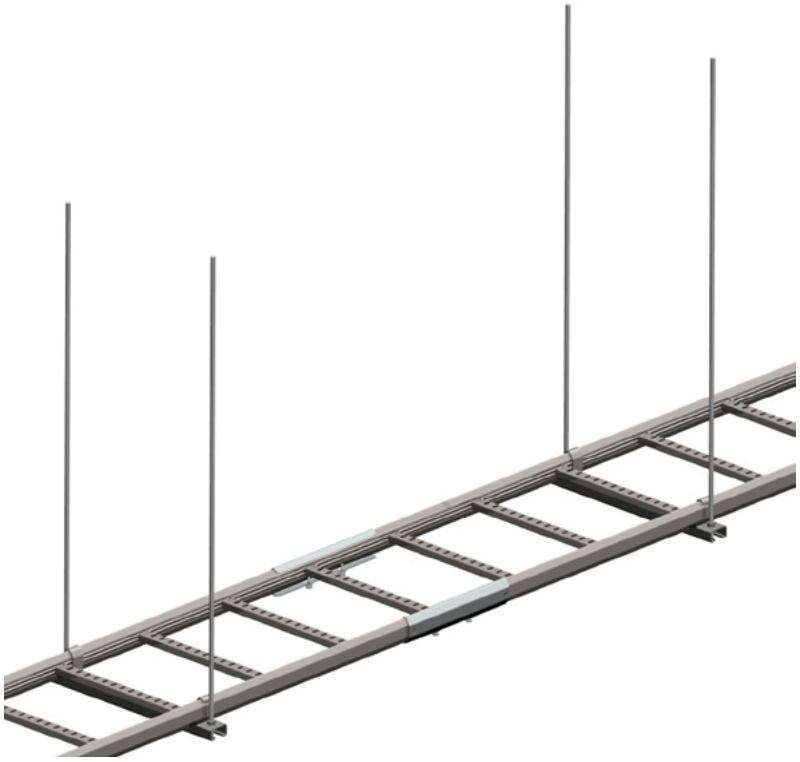
Joint 21 is mounted with self-drilling screw 4.8x13 in the grounding holes. When joining KHZ ladders Joint 21 must be moved approx. 20 mm from centre.

E-30 and E-90 fire test



Ceiling suspended, vertical piece, cantilver arm

Cable ladder KHZPS-150, 6 m	725350
Cable ladder KHZPS-200, 6 m	725351
Cable ladder KHZPS-300, 6 m	725352
Cable ladder KHZPS-400, 6 m	725353
Joint 21	791196
Joint 21 ZM	CSU795051
Cantilever arm 50-150	723433
Cantilever arm 50-200	723434
Cantilever arm 50-300	723436
Cantilever arm 50-400	723437
Profile clamp 42	CSU795240
Vertical piece 2F-280	717196
Vertical piece 2F-370	717197
Vertical piece 2F-505	717198
Vertical piece 2F-640	CSU794202
Vertical piece 2F-730	717199
Rod bracket 82	786768
Threded rod W76-1000	725079
Threded rod W76-2000	716792
Nut M10	723938
Nut M10	1149464
Screw set 22S	713694
Bolt MVBF M8-50	CSU795132
Nut M6MF M8	CSU794715



P1392261

Ceiling suspended, support bracket, threded rod

Cable ladder KHZPS-150, 6 m	725350
Cable ladder KHZPS-200, 6 m	725351
Cable ladder KHZPS-300, 6 m	725352
Cable ladder KHZPS-400, 6 m	725353
Joint 21	791196
Joint 21 ZM	CSU795051
Support bracket HSO-150	791063
Support bracket HSO-200	791064
Support bracket HSO-300	791065
Support bracket HSO-400	791066
Profile clamp 42	CSU795240
Threded rod W76-1000	725079
Threded rod W76-2000	716792
Nut M10	723938
Nut M10	1149464

iBMB MPA TU BRAUNSCHWEIG

Allgemeines bauaufsichtliches Prüfzeugnis

Prüfzeugnis Nummer: P-3233/499/11-MPA BS

Gegenstand: Kabelanlage mit integriertem Funktionserhalt der Funktionserhaltsklasse „E 30" bzw. „E 60" bzw. „E 90" nach DIN 4102-12: 1998-11 entsprechend Bauregelliste (BRL) A, Teil 3, lfd. Nr. 2.9 - Ausgabe 2011/1

Antragsteller: Schneider Electric Sverige AB CMS Product department Tillverkarvägen 2 61129 Nyköping, SCHWEDEN

Ausstellungsdatum: 30. Oktober 2011

Geltungsdauer bis: 30. Oktober 2016

Dieses allgemeine bauaufsichtliche Prüfzeugnis umfasst 11 Seiten und 13 Anlagen.

Test conditions

- E30 and E90 according to DIN 4102-12
- IBMB test institute
- Dätwyler Pyrofil KERAM cables
- Load 20 kg/m
- Support distance 1,5 m

Standards and Quality

Wibe Cable ladder system meets the following standards:

IEC 61537
NEMA VE 1/CSA 22.2
DIN 4102-12 for fire resistance E30-E90

Tests and Certificates	Test made by
Test concerning fire resistance according to E30-E90. Certificate nº: ABP P-3233/499/11-MPA BS. Certificate nº: ABP-2400/702/18-MPA BS.	IBMB, Germany
EMC performance- Shielding test. Report nº RE-10273-17181.	EMC Services Elmiljöteknik AB, Sweden
Seismic load test. Report nº P603276.	SP, Sweden
Short circuit test. Report nº 992531-4 & 20001215-7.	British short circuit testing station BS/F 1265 - 1268
Wibe cable ladder is tested according to Underwriters Laboratories, UL E-212854 Sec.1.	UL, USA & Canada
Wibe cable ladder is approved by Det Norske Veritas (DNV) for offshore and ship-yard use. Certificate nº TAE00000MM.	DNV, Norway

Management system - Quality and Environment
Wibe Group has a third-party certified management system for quality and environment in accordance with OHSASISO 50001:2011, ISO 45001:2018, ISO 9001:2015 and ISO 14001:2015.

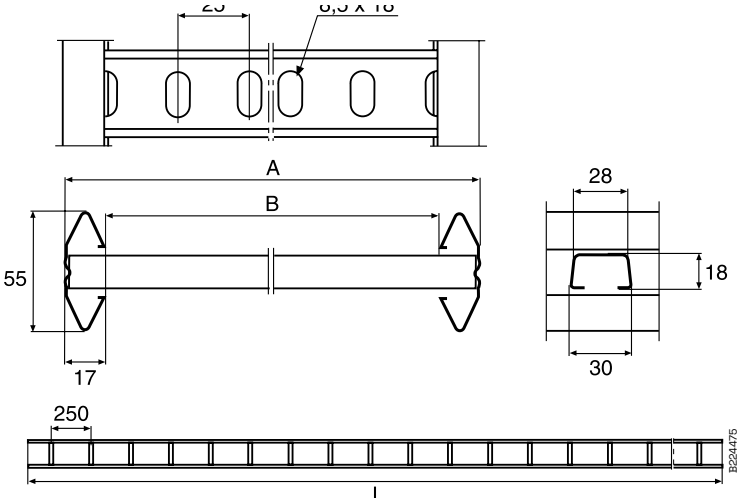
CE-marking of products
The CE-marking of products is placed on the product or on the packing according to “Declaration of Conformity” (DOC), applicable to Wibe Group Cable Support System.

Low voltage directive 2014/35/EU
Wibe Group fullfils the demands according to harmonized standard EN 61537.

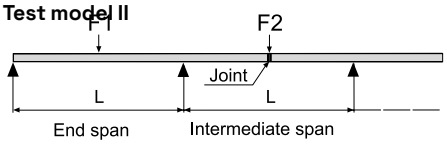
Use and installation

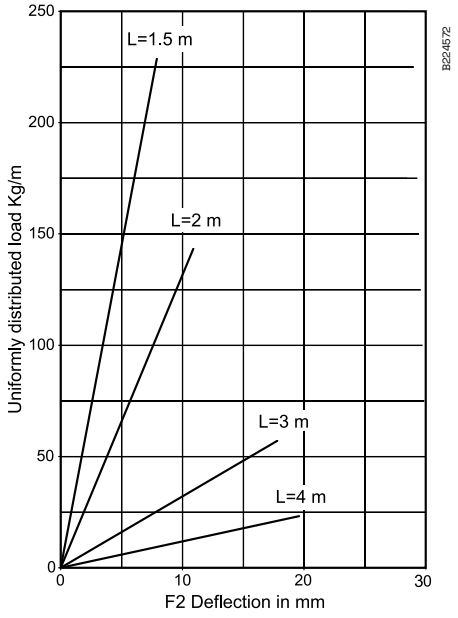
Use and installation

KHZSP/ KHZSPZ+



Test model II





Type	L m	A mm	B mm
KHZSP 200	3, 4, 6	198	164
KHZSP 300	3, 4, 6	298	264
KHZSP 400	3, 4, 6	398	364
KHZSP 500	3, 4, 6	498	464
KHZSP 600	3, 4, 6	598	564
KHZSPZ+ 200	6	198	164
KHZSPZ+ 300	6	298	264
KHZSPZ+ 400	6	398	364
KHZSPZ+ 500	6	498	464
KHZSPZ+ 600	6	598	564

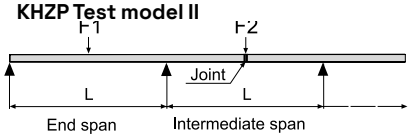
Loadings
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

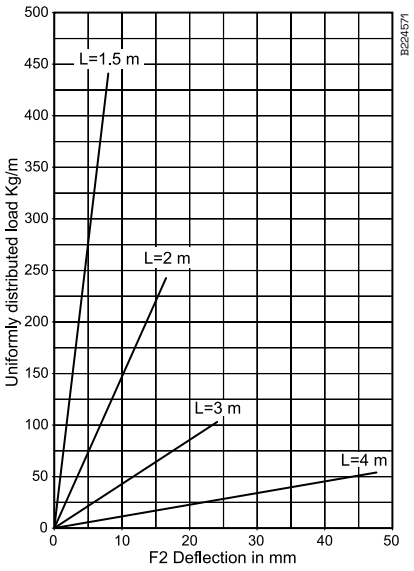
Guaranteed load
Guaranteed uniformly distributed load includes a minimum safety factor of 1.7 towards rupture. The diagram shows the deflection with Joint 21 for all ladder widths.

The cable ladders must not be used as walkways.

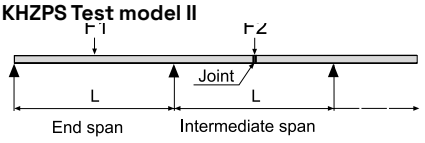
Use and installation

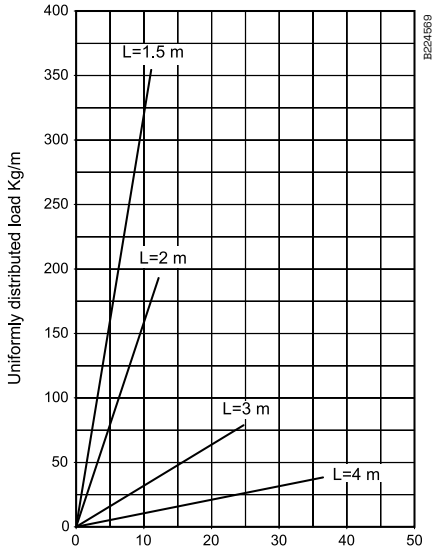
KHZP Test model II



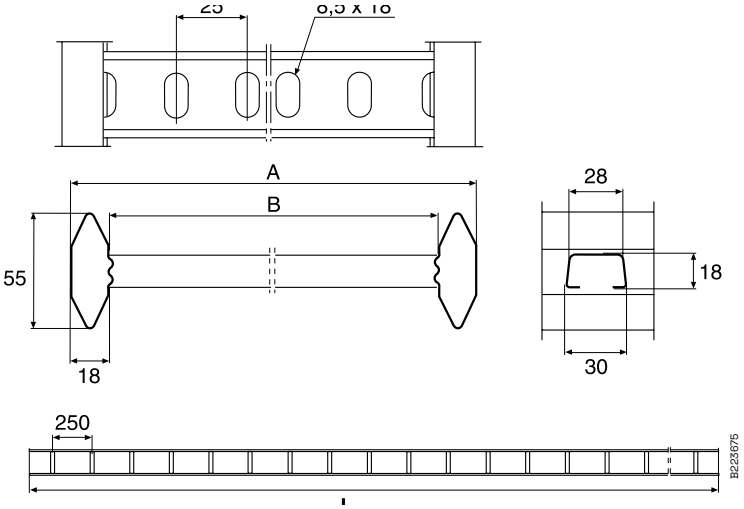


KHZPS Test model II





KHZP / KHZPS



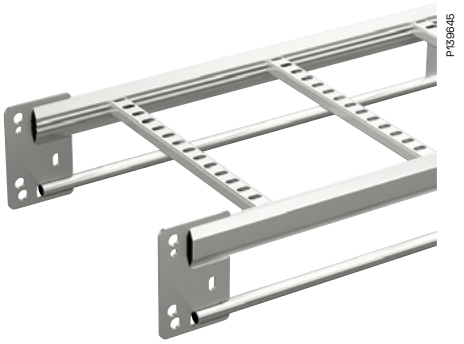
Type	L m	A mm	B mm
KHZP/KHZPS 150	6	147	111
KHZP/KHZPS 200	6	197	161
KHZP/KHZPS 300	6	297	261
KHZP/KHZPS 400	6	397	361
KHZP/KHZPS 500	6	497	461
KHZP/KHZPS 600	6	597	561
KHZP/KHZPS 800	6	797	761
KHZP/KHZPS 1000	6	997	961
KHZP 150	3	147	111
KHZP 200	3	197	161
KHZP 300	3	297	261
KHZP 400	3	397	361
KHZP 500	3	497	461
KHZP 600	3	597	561
KHZP 800	3	797	761
KHZP 1000	3	997	961

Loadings
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

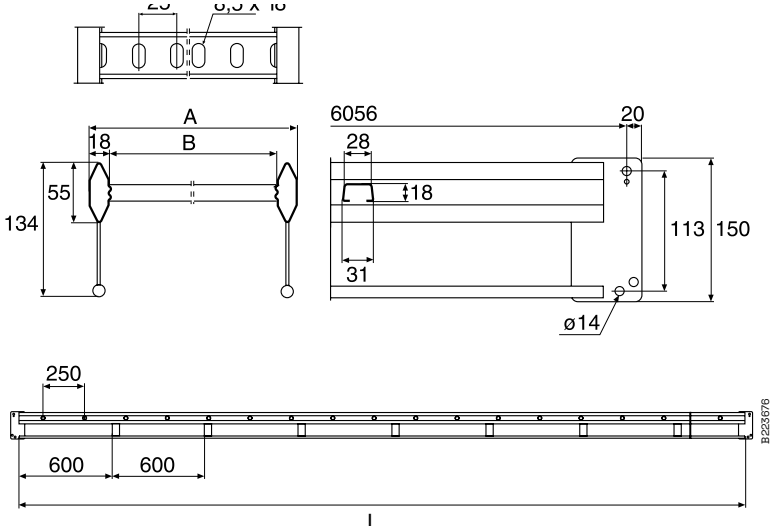
Guaranteed load
Guaranteed uniformly distributed load includes a minimum safety factor of
1.7 towards rupture. The diagrams shows the deflection with Joint 21 for all ladder widths.

The cable ladders must not be used as walkways.

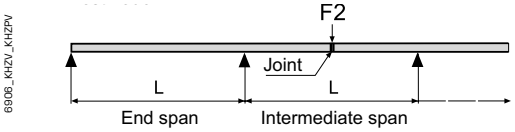
Use and installation

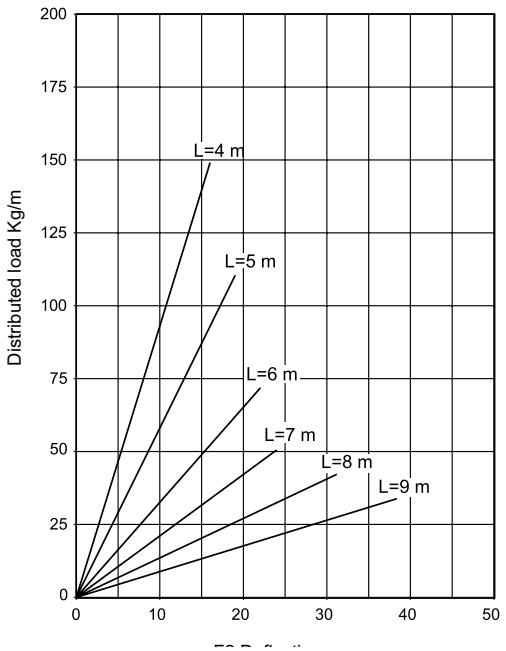


KHZPV



Type	L m	A mm	B mm
KHZPV 200	6	197	161
KHZPV 300	6	297	261
KHZPV 400	6	397	361
KHZPV 500	6	497	461
KHZPV 600	6	597	561
KHZPV 1000	6	997	961





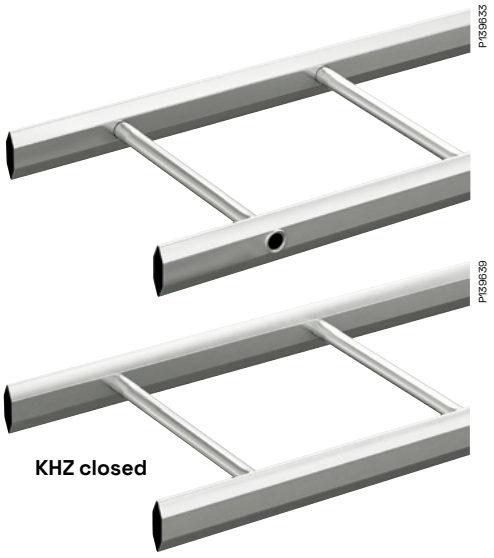
Loadings
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

Guaranteed load
Guaranteed uniformly distributed load includes a minimum safety factor of 1.7 towards rupture. The diagrams shows the deflection for cable ladder widths up to 600 mm.

For widths greater than 600 mm contact Wibe Group or distributor.

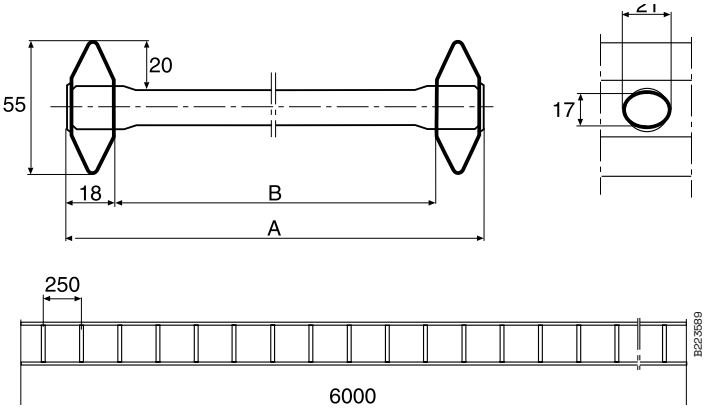
The cable ladders must not be used as walkways.

Use and installation



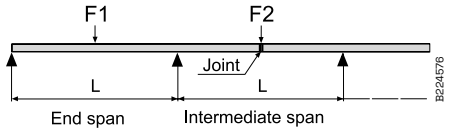
KHZ closed

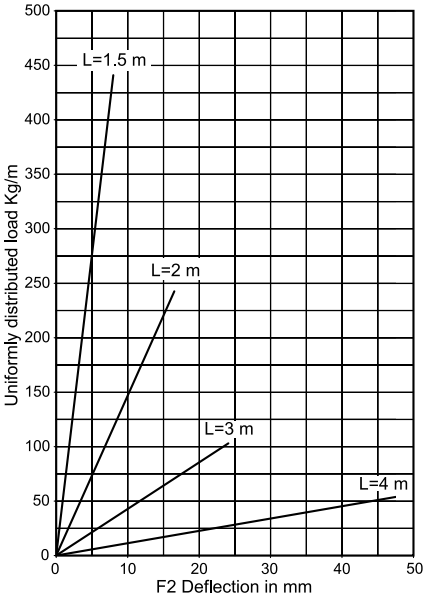
KHZ



Type	L m	A mm	B mm
KHZ 150	6	147	111
KHZ 200	6	197	161
KHZ 300	6	297	261
KHZ 400	6	397	361
KHZ 500	6	497	461
KHZ 600	6	597	561

Test model II





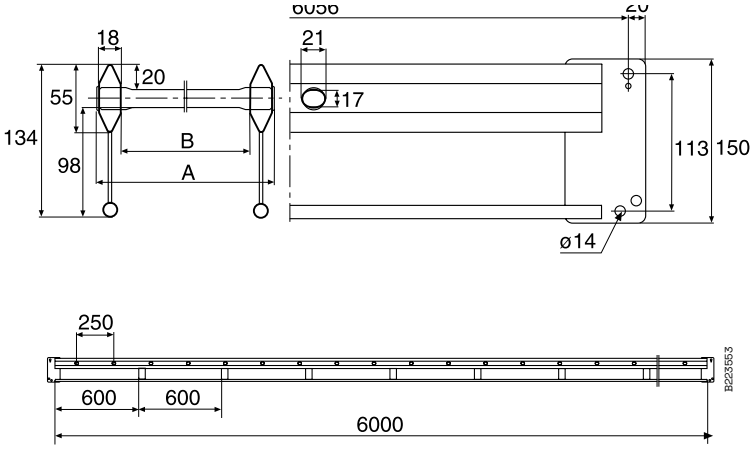
Loadings
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

Guaranteed load
Guaranteed uniformly distributed load includes a minimum safety factor of 1.7 towards rupture. The diagrams shows the deflection with Joint 21 for cable ladder widths up to 600 mm. For widths greater than 600 mm contact Wibe Group or distributor.

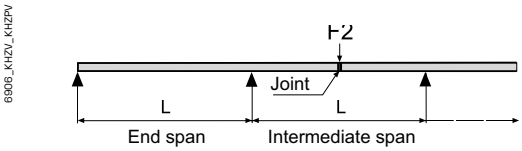
The cable ladders must not be used as walkways.

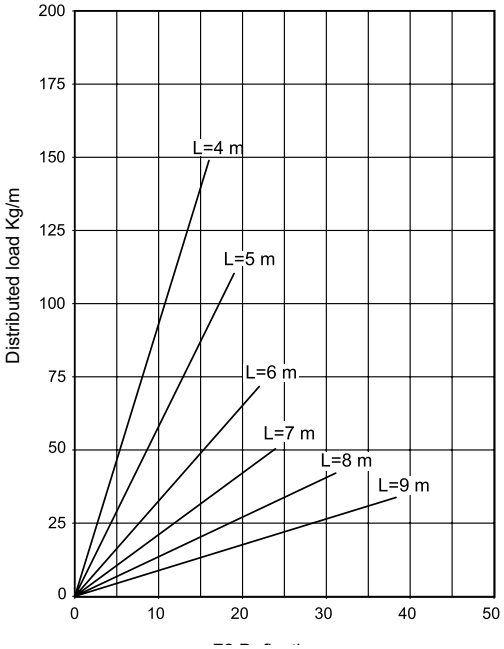
Use and installation

KHZV



Type	L m	A mm	B mm
KHZV 200	6	197	161
KHZV 300	6	297	261
KHZV 400	6	397	361
KHZV 500	6	497	461
KHZV 600	6	597	561





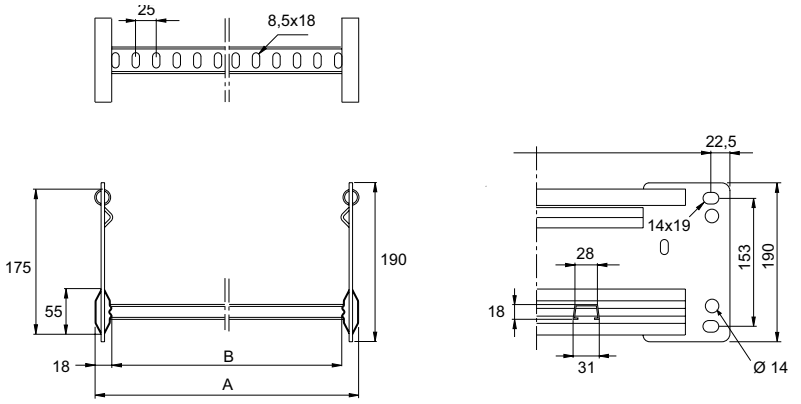
Loadings
The ladders are tested according to IEC 61537, test model II - a joint in the intermediate span (F2).

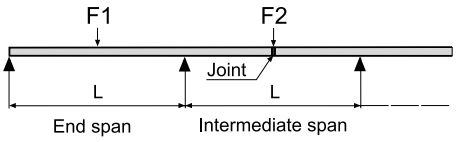
Guaranteed load
Guaranteed uniformly distributed load includes a minimum safety factor of 1.7 towards rupture. The diagrams shows the deflection for cable ladder widths up to 600 mm.

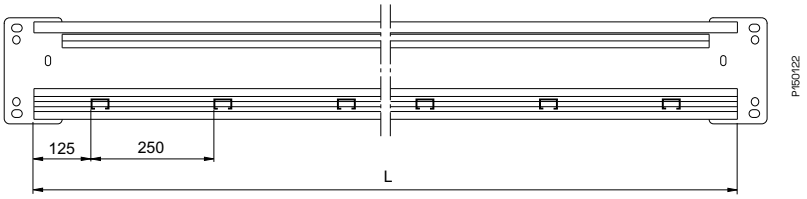
The cable ladders must not be used as walkways.

Use and installation

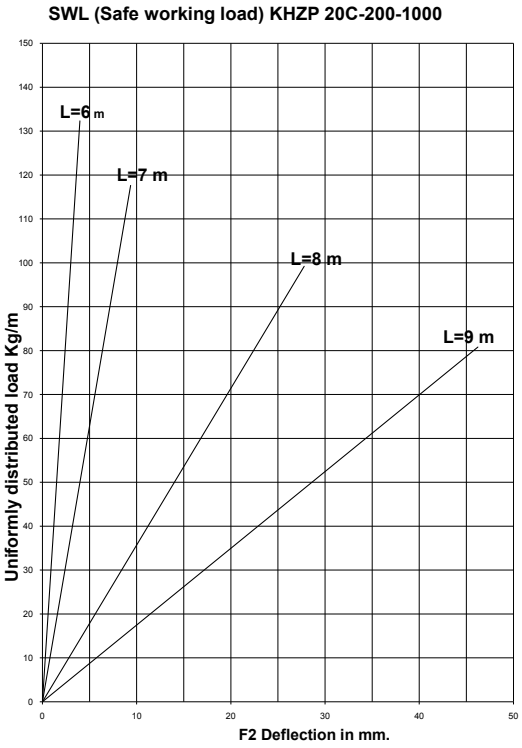
KHZP-20C







Test model II



Type	L m	A mm	B mm
KHZP 20C-200	6	197	161
KHZP 20C-300	6	297	261
KHZP 20C-400	6	397	361
KHZP 20C-500	6	497	461
KHZP 20C-600	6	597	561
KHZP 20C-800	6	797	761
KHZP 20C-1000	6	997	961

To be able to take the load requirements the system shall be supported close to all transition points like Bends, T-junctions, Risers, Take-off hooks, Angle plates and Couplers.

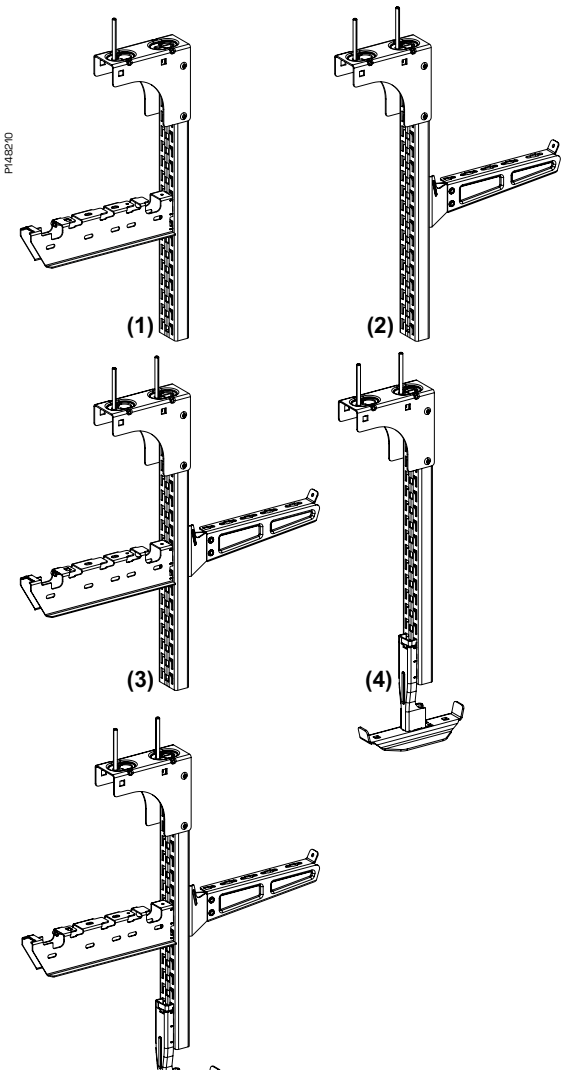
Loadings IEC 61537
The ladders are tested according to IEC 61537, test model II.

Guaranteed load
Guaranteed uniformly distributed load supported includes a minimum safety factor of 1.7 towards rupture. The diagram shows the deflection for ladder widths.

Loadings according NEMA V1 20C
Test result at 6 meter support distance 173 kg/m
(safety factor of 1.5).

The cable ladders must not be used as walkways.

Use and installation CLX³ Click suspension



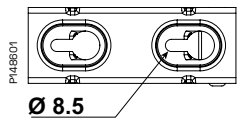
CLX³ General information

Standards
CLX³ installation system is tested and following the classification according to the IEC 61537.

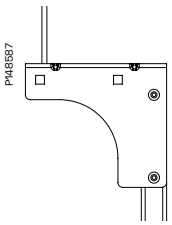
Usage of gloves
According to IEC 61537 it is always recommended to use protective gloves when handling and manipulating cable support systems.

Handling and storage
- Store in dry and covered places.
- Avoid moisture and pollutants.
- Do not remove the packing until installation.
- Take care when storing and handling so that the CLX³ components are well protected from damage.

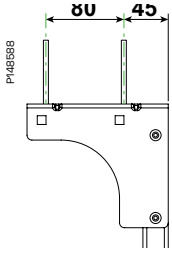
CLX³ Pendant loading configurations
CLX³ pendant is primarily designed for installation of the CLX³ support system, but can also be used for T-bolt installation.
The system can be installed in different configurations:
b Click direction **(1)**: the cantilever and the ceiling plate are in the same direction
b T-bolt direction **(2)**: a cantilever is fixed with a T-bolt to the rail, in the opposite direction of the ceiling plate
b T installation **(3)**: combination of the first 2 installations
b Central suspension **(4)**: the pendant is completed by a central suspension bracket
b T and central suspension **(5)**.



Fixation to the ceiling
Keyhole design
Keyhole design is facilitating easy mounting of the pendant to the ceiling by allowing the bolts to be pre-fixed before finally placing the pendant and tightening the bolts.
For concrete ceiling, use bolts type IMT38051.
For other bolts where bolthead is < 16 mm use washer u 16 mm.



One bolt fixation
For click direction installation of CLX³ Cantilever arm **(1)**, use a single bolt, in the outer hole position on the ceiling plate.



Two bolt fixation
For T-bolt suspension, central suspension, T installation and T and central suspension installation **(2)**, **(3)**, **(4)**, **(5)**, always fix the ceiling plate to the ceiling using 2 bolts.

Use the angle adaptor when the ceiling is not horizontal to level out the suspended pendant.

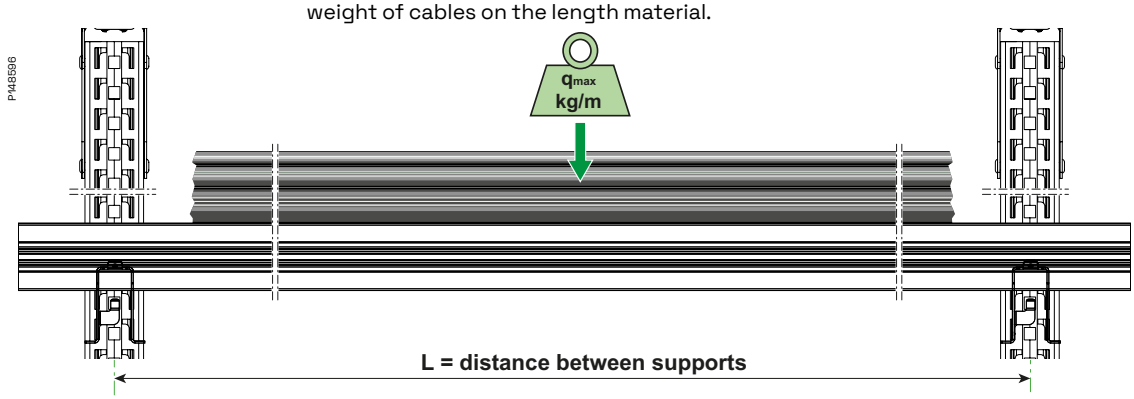
Use and installation CLX³ Click suspension

Pendant load calculation

To verify that the load applied to each pendant is within performance, it is necessary to calculate and consolidate the total **tensile load force** and the total **moment-force** on each pendant and for each cantilever and after that compare the calculated values with the defined loading limitations to ensure a safe installation.

Total tensile force Ft calculation method

This is calculated as the sum of all forces applied to the pendant from the weight of cables on the length material.

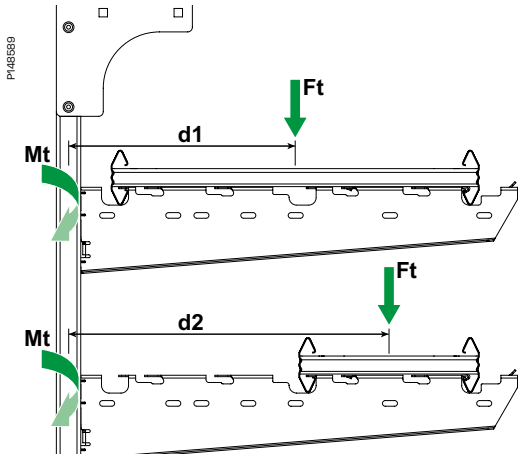


Ft (total load in N) **= L** (span or supports distance in meters) x **qmax** (load in kg/m) **x 10**.

In case of several layers are installed on the pendant then the sum of the Ft tensile load from all layers shall be calculated.

Total momentum force Mt calculation method

This is calculated as the sum of all the torsion forces applied to the pendant from the weight of cables on the length material and the offset distance created by the cantilever arm.



Mt (momentum in N.m) **= Ft** (N) x **d** (distance between axis center and point load in meters)

"d" depends of the position of the length material on the cantilever arm.

The distance **d** can be different depending on installation method.
When the length material is installed on the full width of the cantilever, use **d1**.
For length material that are installed at the outer end of the arm, use **d2**.

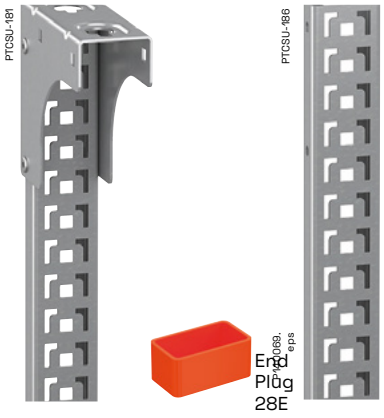
Model	PG	d1 (m)	d2 (m)
CLX³ cantilever arm 200[1 2]	CSU795873	0.140	NA
CLX³ cantilever arm 300[1 2]	CSU795874	0.190	
CLX³ cantilever arm 400[1]	CSU795649	0.240	0.340
CLX³ cantilever arm 400[2]	CSU795875	0.240	0.340
CLX³ cantilever arm 500[1]	CSU795650	0.290	0.440
CLX³ cantilever arm 500[2]	CSU795876	0.290	0.440
CLX³ cantilever arm 600[1]	CSU795651	0.340	0.490
CLX³ cantilever arm 600[1]	CSU795877	0.340	0.490

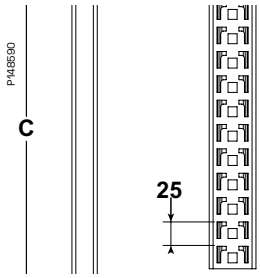
1) Can be used for installation of Defem mesh trays
2) Can be used for installation of Performa mesh trays

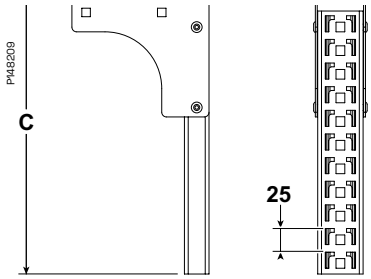
In case of several layers are installed on the pendant then the sum of the Mt momentum force from all layers shall be calculated.

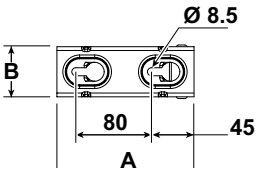
Ensure that the installation is designed so that ΣMt and ΣFt are under the limits.

Use and installation CLX³ Click suspension









CLX³ Pendant 24/48

Vertical piece with a perforated pattern to be used for installation of CLX³ cantilever arms or CLX³ central suspension adapter. The open side of the rail can be used for installation of cantilever arms and brackets together with T-bolt. Can be joined to CLX³ Rail 24/48 with pendant joint 2FJ.

Model	PG	High (mm) A	Width (mm) B	Length (mm) C
CLX³ pendant				
CLX³ pendant 24/48 300 mm PG	CSU795632	145	53	295
CLX³ pendant 24/48 400 mm PG	CSU795633			395
CLX³ pendant 24/48 500 mm PG	CSU795634			495
CLX³ pendant 24/48 700 mm PG	CSU795635			695
CLX³ pendant 24/48 1000 mm PG	CSU795636			995
CLX³ pendant 24/48 1500 mm PG	CSU795638			1495
CLX³ rail				
CLX³ rail 24/48 300 mm PG	CSU795640	26	48	280
CLX³ rail 24/48 1000 mm PG	CSU795641			980
CLX³ rail 24/48 3000 mm PG	CSU795637			2980

Pendants Safe Working Load (SWL)

SWL for bending moment of the pendant Mt.

Model	PG	Moment (N.m) Click side	Deflection (mm)
CLX³ pendant 24/48 300 mm PG	CSU795632	235	2
CLX³ pendant 24/48 400 mm PG	CSU795633		4
CLX³ pendant 24/48 500 mm PG	CSU795634		7
CLX³ pendant 24/48 700 mm PG	CSU795635		15
CLX³ pendant 24/48 1000 mm PG	CSU795636		30
CLX³ pendant 24/48 1500 mm PG	CSU795638	200	30

Tested according to IEC 61537 standard.

SWL bending moment for Adjustable ceiling plate Mt.

Model	PG	Moment (N.m) Click side
CLX³ adjustable ceiling plate	CSU795639	235

SWL pendant tensile strength Ft.

Model	PG	Tensile load SWL (N) 1 bolt CLX³	Tensile load SWL (N) 2 bolts CLX³
CLX³ pendant 24/48 300 mm PG	CSU795632	2000	5000
CLX³ pendant 24/48 400 mm PG	CSU795633		
CLX³ pendant 24/48 500 mm PG	CSU795634		
CLX³ pendant 24/48 700 mm PG	CSU795635		
CLX³ pendant 24/48 1000 mm PG	CSU795636		
CLX³ pendant 24/48 1500 mm PG	CSU795638		

Use and installation CLX³ Click suspension

Pendant limits, torque and deflection

In the diagram below it is possible to check if **ΣMt** is below the momentum limitation of the pendant (end of line). It is also possible to see the deflection on the pendant at max **ΣMt** and all values below.

Calculation example

For a cantilever size 600, full size ladder installation, 3 m span, load of 23 kg/m on a 1000 mm pendant.

1) **ΣF**: 3 m (span) x 23 kg/m (load) x10 = 690 N will be the load for each pendant system.

2) **ΣMt**: 690 (N) x 0.34 (m) = 234 N.m.

ΣF = 690 N ≤ 2000 N and **ΣMt** = 234 Nm ≤ 235 N.m.

3) Drawing of the lines on the graph: for 234 N.m, the deflexion on the pendant is **30 mm**.

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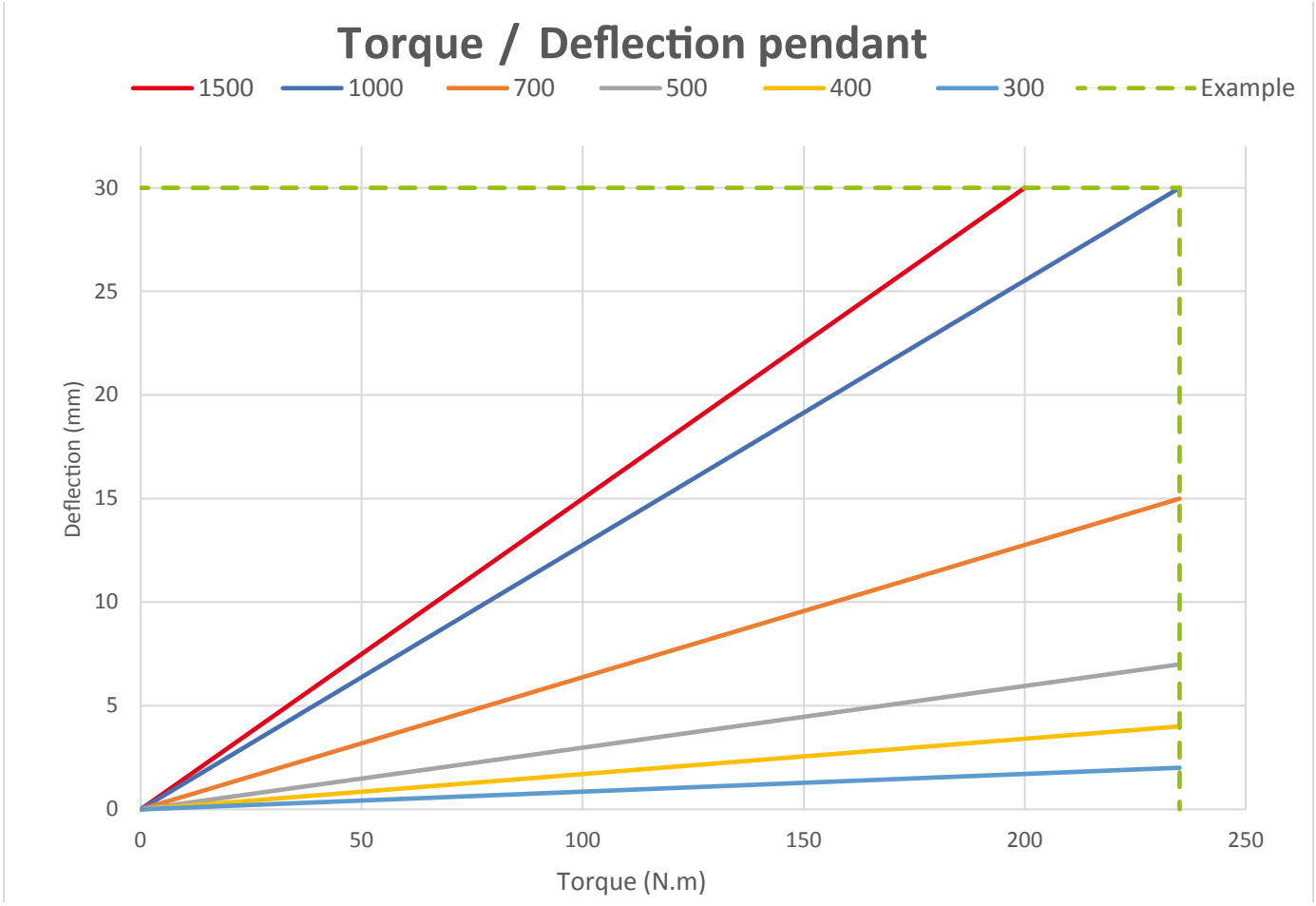
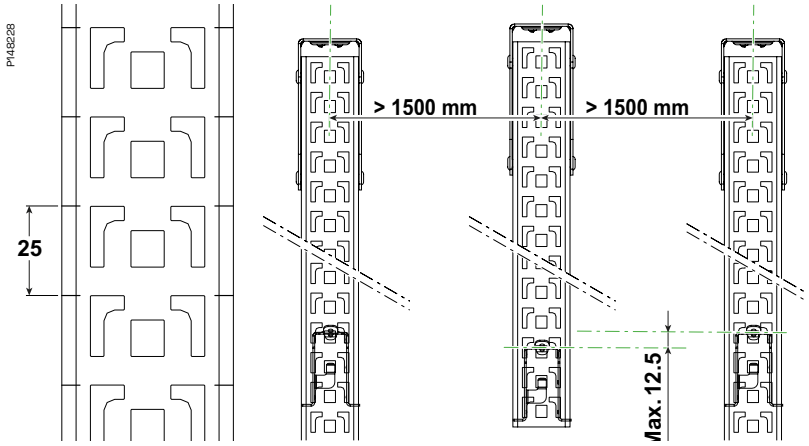
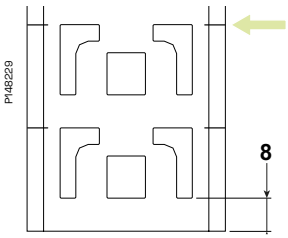


Use and installation CLX³ Click suspension

Distance between rails and offset

CLX³ rail have a pitch between the patterns of 25 mm.
The support distance between the pendants should be at least than 1.5 m. If the length material can't be installed on the exact same level, the length material should be installed on the closest offset- pitch and never at more than 12.5 mm vertically from the previous pattern.



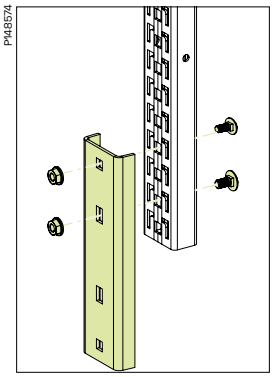


Cutting of the pendant or rail

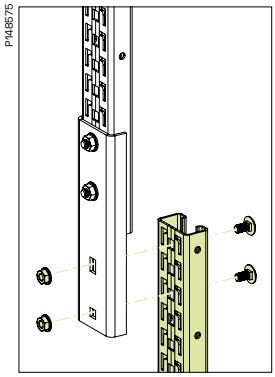
Cutting of the rail or the pendant should be made at 8 mm under the last pattern needed, as the side marks are showing. This to assure that there is enough material below the bottom pattern to secure proper fixation of the cantilever arm.

Installation of the rail joint

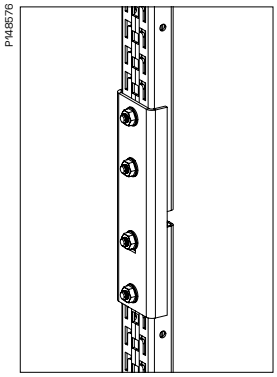
CLX³ rails can be joined together with pendant joint 2FJ.



Place the joint on the rail in place, make sure the 2 top holes are in front of slots to install the included bolts and nuts.



Install the second rail as high as possible and install the other bolts and nuts.



Torque of the nuts **11 N.m.**

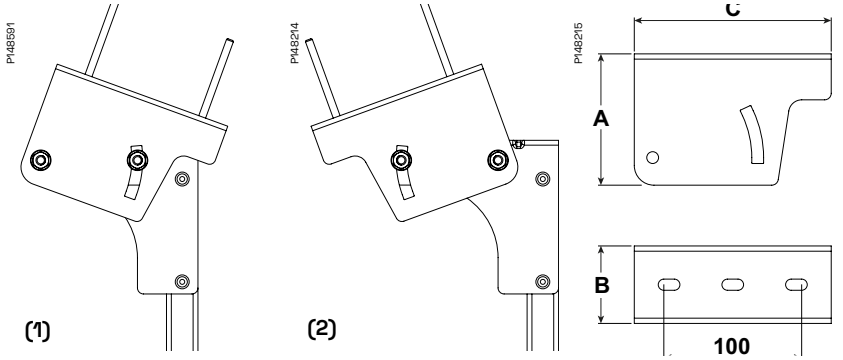
Note: extending the pendant with the rail joint will decrease the load capacity of the pendant. For SWL information when extending the pendants, contact Technical support.

Use and installation CLX³ Click suspension

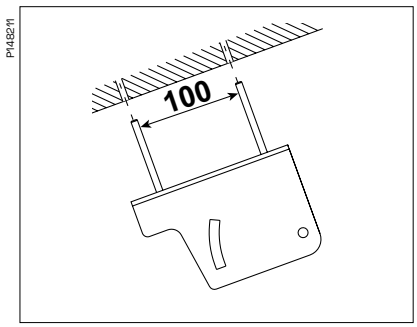
CLX³ Adjustable ceiling plate

Adjustable ceiling plate is used together with CLX³ pendant to allow for angle correction up to 25°. The adjustable ceiling plate is fixed to the CLX³ pendant with 4 screw set 22S to be ordered separately. The pendant can be fixed to the adjustable ceiling plate in both possible directions (**1**) and (**2**).

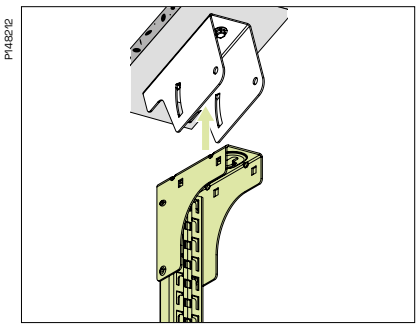
Model	PG	High (mm) A	Width (mm) B	Length (mm) C
CLX³ adjustable ceiling plate PG	CSU795639	100	59	150



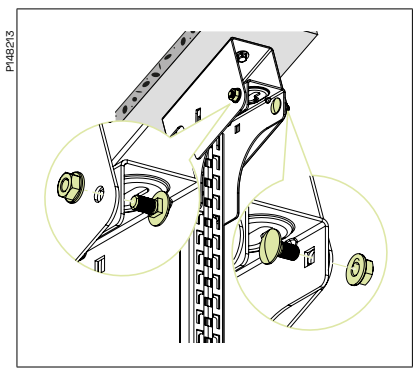
Installation of the adjustable ceiling plate

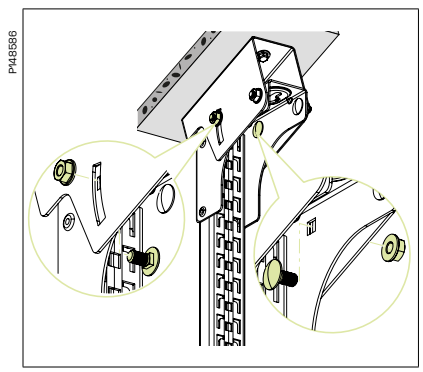


Fix the adjustable ceiling plate to the ceiling with 2 bolts.
(c-c: 100 mm).



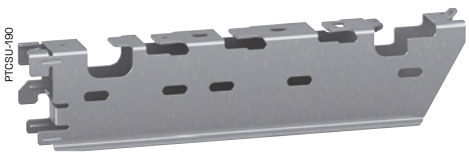
Insert the pendant into the adjustable ceiling plate.





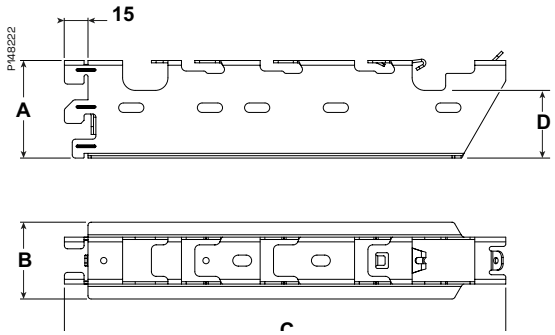
Fix the pendant to the adjustable ceiling plate with 4 bolt sets 22S and align the pendant to the vertical plane before tightening the bolts.
Recommended torque 20 N.m.

Use and installation CLX³ Click suspension



CLX³ Cantilever arm

The CLX³ cantilever arm is a screw-less cantilever that clicks into the pattern in the CLX³ pendant and rail. The cantilever arm is used to fix either the KHZSP ladder, the Defem mesh tray or the Stago height 60 trays. It can also be used for the Performa mesh trays together with fixation bolts.

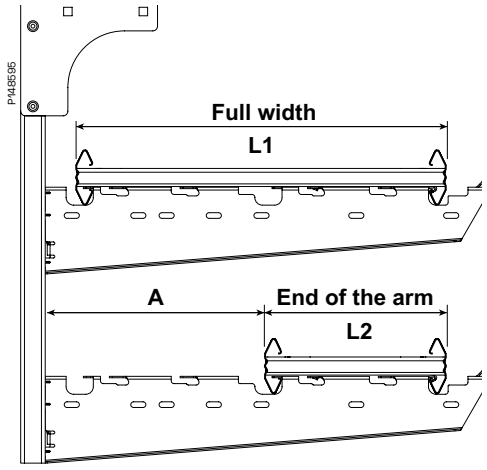


Model	PG	High (mm) A	Width (mm) B	Length (mm) C	Height below ladder (mm) D
CLX³ cantilever arm 200 PG	CSU795647	62	49	280	43
CLX³ cantilever arm 300 PG	CSU795648	62	49	380	43
CLX³ cantilever arm 400 PG	CSU795649	92	49	480	73
CLX³ cantilever arm 500 PG	CSU795650	92	49	580	73
CLX³ cantilever arm 600 PG	CSU795651	92	49	680	73

Cantilever arm size compatibility

The click pattern on the cantilever arm is in some cases fitting more than one ladder width to make it possible to avoid pillars or obstacles on the wall. See the table and illustration below.

The table also clarifies which cantilever arm to use for each with of Defem mesh tray.



Model	PG	Compatible ladder (offset)		Space to the offset ladder (mm)	Defem size compatibility
		L1	L2	A	
CLX³ cantilever arm 200 PG	CSU795647	200	NA	NA	220
CLX³ cantilever arm 300 PG	CSU795648	300	NA	NA	320
CLX³ cantilever arm 400 PG	CSU795649	400	200	232	420
CLX³ cantilever arm 500 PG	CSU795650	500	200	332	520
CLX³ cantilever arm 600 PG	CSU795651	600	300	332	620

Cantilever arms Safe Working Load (SWL)

SWL of the cantilever bracket

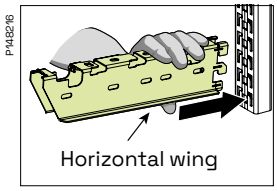
Model	PG	Safety working load as wall bracket (full width) (N)	Safety working load as wall bracket (end of the arm) (N)
CLX³ cantilever arm 200 PG	CSU795647	1800	NA
CLX³ cantilever arm 300 PG	CSU795648	1250	
CLX³ cantilever arm 400 PG	CSU795649	1250	1000
CLX³ cantilever arm 500 PG	CSU795650	1250	750
CLX³ cantilever arm 600 PG	CSU795651	1000	700

Tested according to IEC 61537 standard.

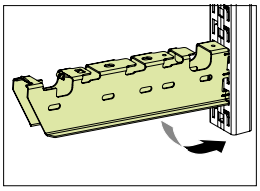
Use and installation CLX³ Click suspension

Installation of cantilever arms

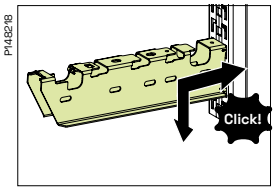
CLX³ cantilever arms are clicked to the CLX³ pendants and rails. Make sure to select a pattern allowing all hooks to grip and the full cantilever back to be supported by the rail. The horizontal wing must touch the rail.



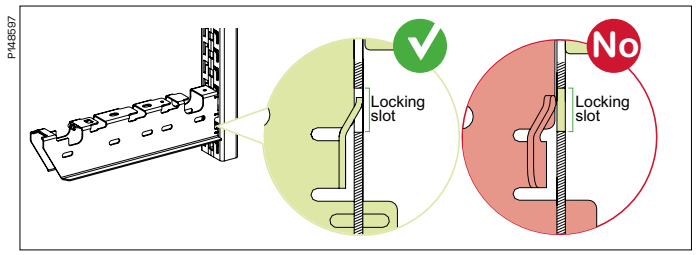
Hold the cantilever close to the hooks and insert the hooks in the rail.



Press the cantilever until the horizontal/top surface touch the rail.



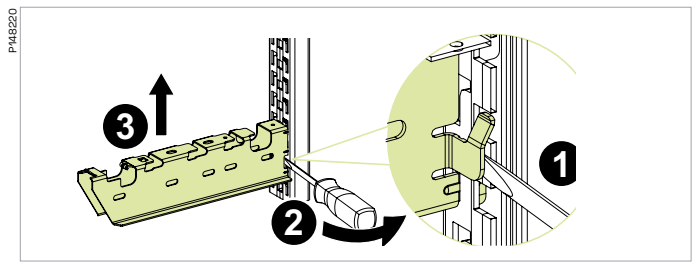
Press against the rail and pull it down until the locking lip go inside the slot in the rail.



Visually check that the cantilever arm is properly positioned and the locking lip is positioned inside of the slot of the CLX³ rail.

Apply caution with unintended upward movements as it can cause the cantilever arm to unlock and therefore be released from the rail.

Uninstallation of CLX³ cantilever arm using screwdriver



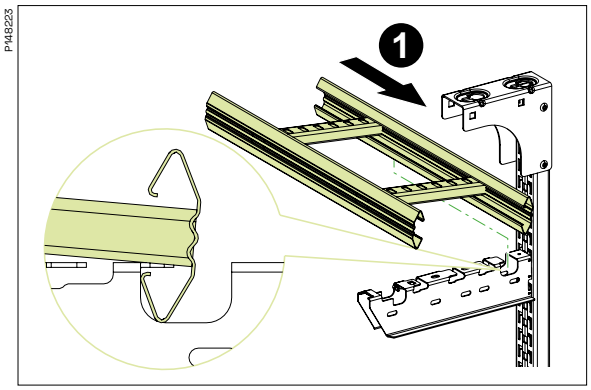
❶ Fit the head of the screwdriver between the rail and the locking lip of the cantilever.
Use the screwdriver as a lever to ❷ push the lip out of the rail. Deform the lip as little as possible and ❸ push the cantilever up to be able to unhook the cantilever arm.

Before reinstalling a cantilever that has been removed after installation, make sure the lip is locking properly. If not, correct the lip to the initial position.

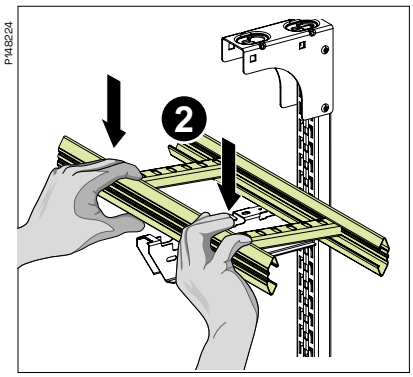
Use and installation CLX³ Click suspension

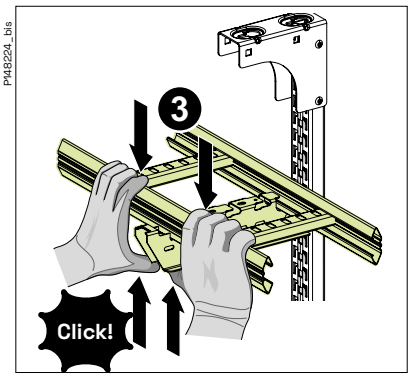
Installation of KHSZP ladders on cantilever arms

CLX³ cantilever arms are designed to fix KHZSP ladders without need of tools or bolts.

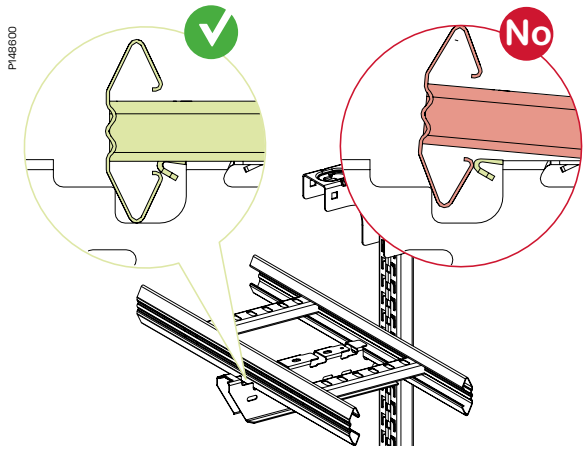


❶ Insert the ladder on the rail side.
Pull it on the outside direction to lock this side in the lip.





❷ Squeeze the free side of the ladder strongly down on the outer end of the cantilever until ❸ the ladder overpasses the locking lip.



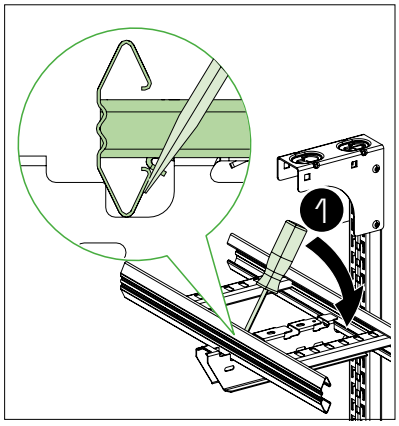
Visually check that the ladder is properly positioned, and the locking lip is positioned inside of the ladder profile.

Use and installation CLX³ Click suspension

Uninstallation of KHSZP ladder of cantilever arms

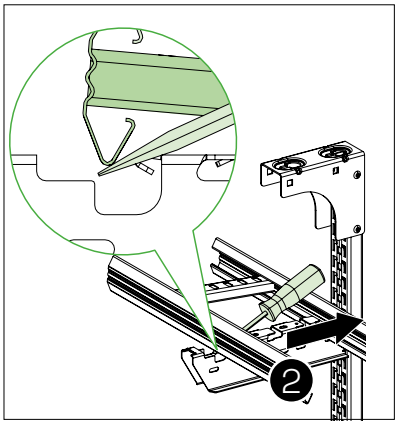
Remove the ladder from the cantilever arm, by using a flat screwdriver.

P148226



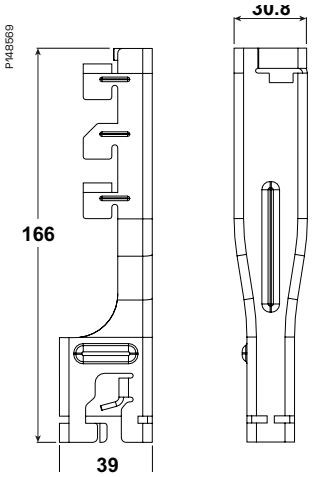
❶ Fit the head of the screwdriver between the ladder and the top surface of the cantilever as in the picture.
Use the screwdriver as a lever to pull out the ladder of the locking lip until the ladder snaps out.

P148227



After releasing the outer side of the ladder, ❷ push the ladder in the direction of the rail to unlock the other side.

Use and installation CLX³ Click suspension



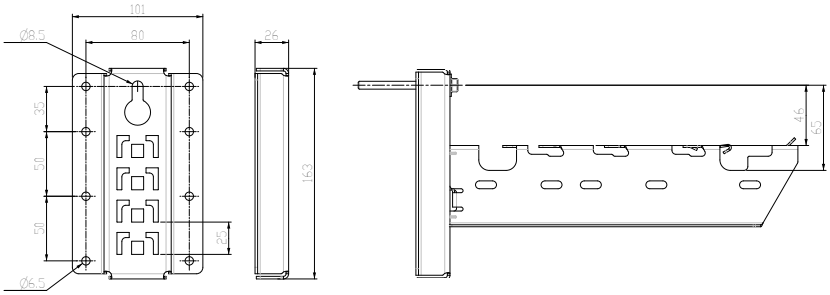
CLX³ Central suspension adapter

The CLX³ central suspension adapter is clicked together with the central suspension brackets to create a central suspension piece that can be clicked to the rail or pendant.

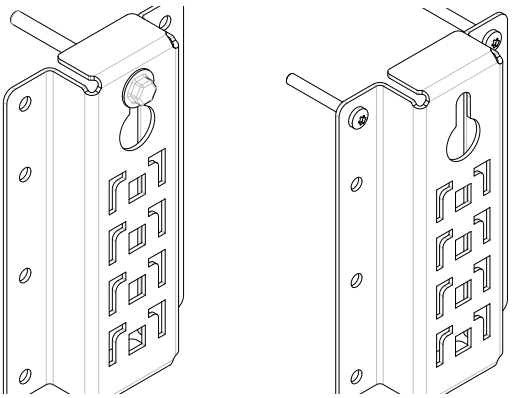
Model	PG	High (mm) A	Width (mm) B	Length (mm) C
CLX³ Central suspension adapter PG	CSU795700	166	31	39

Wall bracket

The Wall bracket is made to directly fix a Cantilever arm to a wall, without using a full-size rail. The Wall bracket doesn't reduce the SWL of the cantilever arm and the distance between the back of the cantilever and the wall is the same as with a rail.



The wall bracket can be fixed in two different ways:
With the keyhole (A) or with the lateral holes (B).



(A) (B)

The keyhole design allows to pre-fix the bolt in the wall, before installing the bracket.
For concrete wall, use bolts IMT38051.
For non-concrete wall, M8 bolts with washer >Ø16 should be used.

For the lateral holes, the bracket should always be fixed with at least the two top Ø6mm holes (same hight as the keyhole). The left and right bolts should be horizontally separated by 80mm (axis to axis).

Use and installation CLX³ Click suspension

PTCSU-202

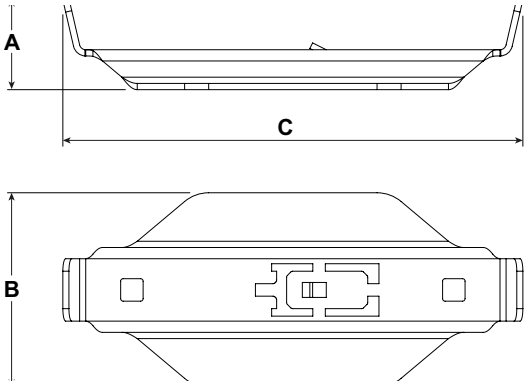
CLX³ KHZSP ladder central suspension bracket

Bracket to be used for central suspension of KHZSP ladders. The bracket shall be used together with the CLX³ central suspension adapter.

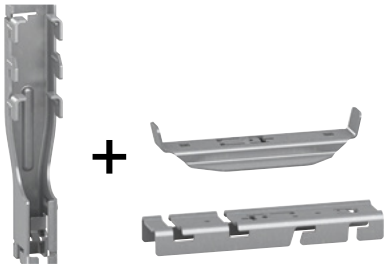
Model	PG	High mm A	Width mm B	Length mm C
CLX³ KHZSP central suspension bracket 200 PG	CSU795655	37	78	185
CLX³ KHZSP central suspension bracket 300 PG	CSU795656	37	78	285
CLX³ KHZSP central suspension bracket400 PG	CSU795657	37	78	385
CLX³ KHZSP central suspension bracket500 PG	CSU795658	37	78	485
CLX³ KHZSP central suspension bracket 600 PG	CSU795659	37	78	585

Central suspension bracket	SWL symmetric load (N)
200	1500
300	1500
400	1500
500	1250
600	1200

PM48238

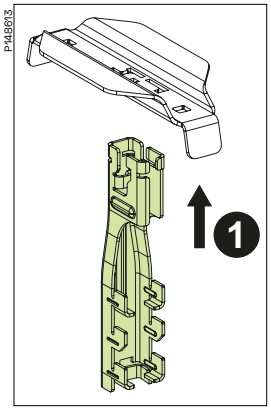


Use and installation CLX³ Click suspension

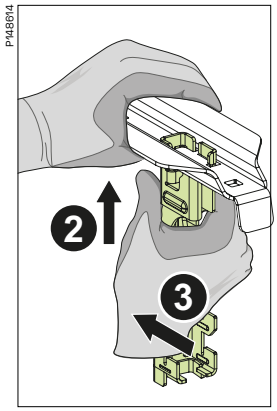


Installation of adaptor to central suspension brackets

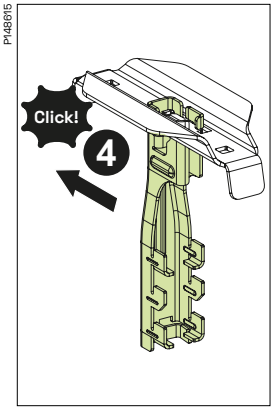
The CLX³ central suspension bracket is installed without tools by clicking it to the central suspension. The method is the same for Central suspension bracket ladder -mesh or -tray. In the illustration below, the CSB for ladder is used.

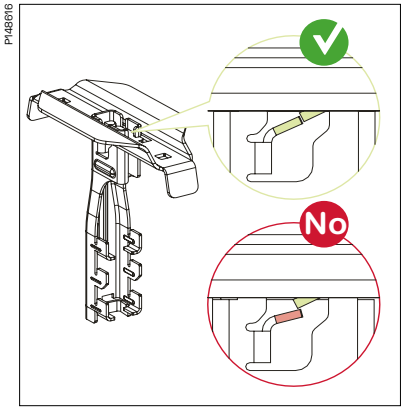


❶ Insert the adaptor in the pattern on the central suspension bracket.



❷ Press the pieces together and ❸ slide the adaptor until the click lip of the adaptor pass over the locking lip of the central suspension bracket with a ❹ click.

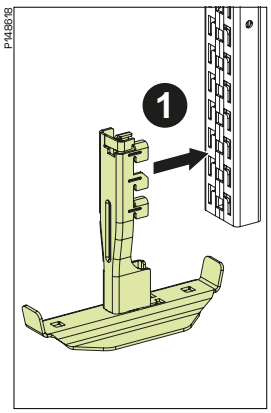




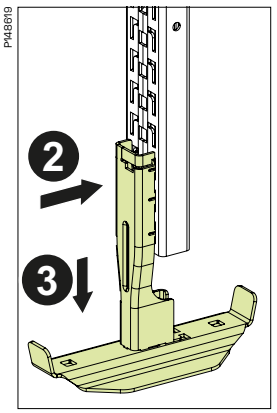
Visually check and secure that the adaptor is properly positioned, and the click lip has overpassed the locking lip.

Installation of central suspension adapters to the CLX³ rail

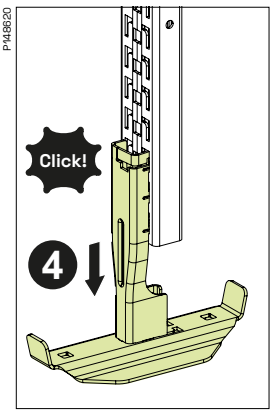
The CLX³ central suspension adaptors is installed to the rail without tools, by clicking. To ensure proper installation a hooks must be inserted in the rail:



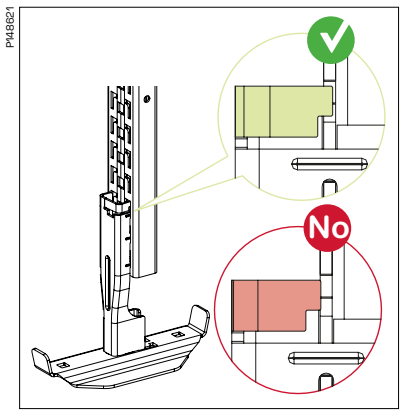
❶ Push the central suspension piece until the hooks are fully inserted in the pattern and the surface touches the rail.



❷ Press towards the rail and ❸ pull down until the click lip.



❹ Pass inside the slot in the rail.



Visually check and secure that the adaptor is properly positioned, and the click lip is properly positioned inside of the slot of the CLX³ rail.

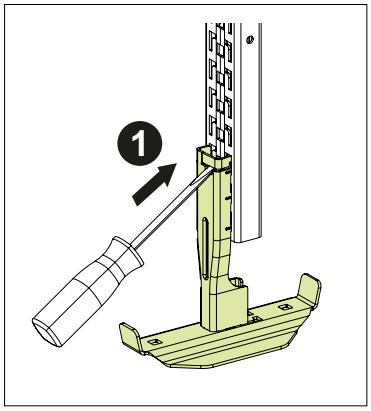
Apply caution with unintended upward movements as it can cause the adaptor to unlock and therefore be released from the rail

Use and installation CLX³ Click suspension

Uninstallation of adapter from the CLX³ rail

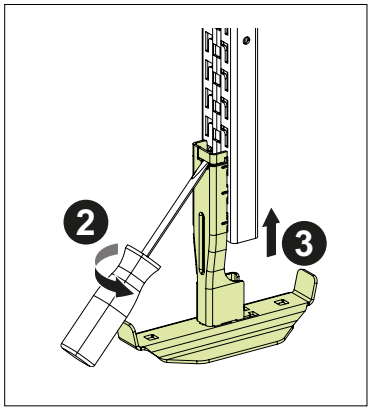
CLX³ central suspension adapters can be removed, by using a flat screwdriver.

P148623



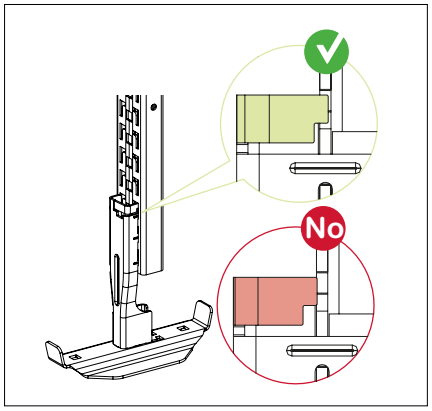
❶ Fit the screwdriver's head in the slot of the adaptor.

P148624



Use the screwdriver as a lever to ❷ gently release the click lip from the rail. Then ❸ push the adaptor up to release the L hooks from the rail.

P148621

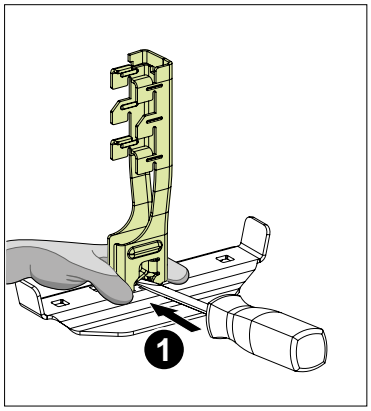


If the adapter needs to be reinstalled, correct the click lip to the initial position and make sure the click lip is locking properly.

Uninstallation of adaptor from central suspension brackets

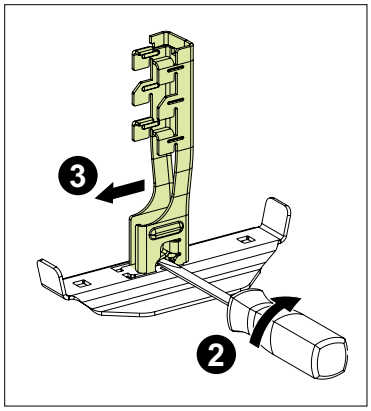
CLX³ central suspension brackets can be removed, by using a flat screwdriver.

P148626



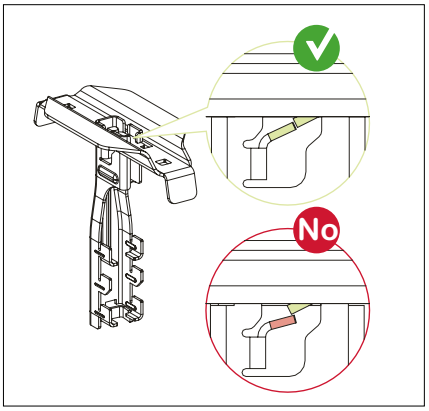
❶ Hold the bracket, fit the screwdriver's head between the adaptor lip and the bracket.

P148627



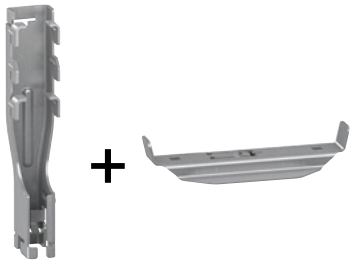
❷ Twist the screwdriver to use it as a lever on the click lip until it passes over the bracket's locking lip and ❸ pull the adaptor sideways to release it.

P148616



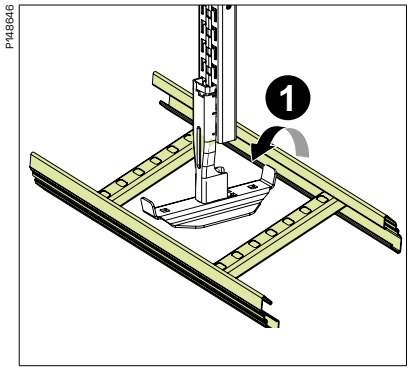
When the bracket needs to be reinstalled, correct the click lip to the initial position and make sure the click lip is locking properly.

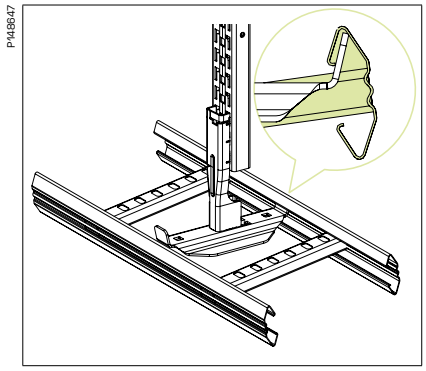
Use and installation CLX³ Click suspension



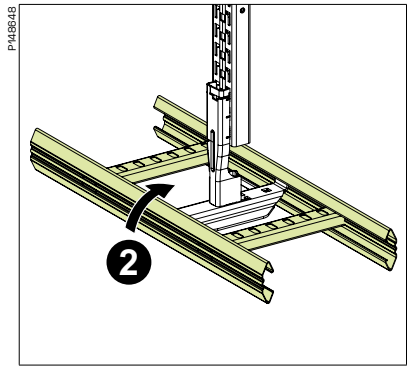
Installation of KHZSP ladders on central suspension brackets

CLX³ brackets are made to fix ladders KHZSP without tool.

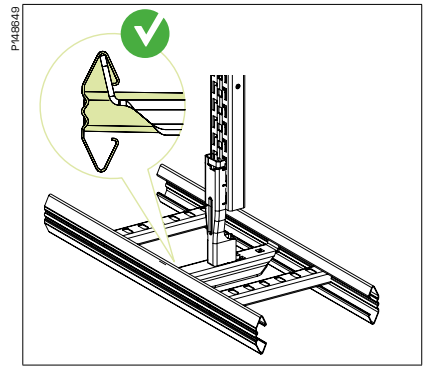




1 Insert one inside side of the ladder on one lips of the bracket.



2 Pull up the other side and snap the ladder on the other lip.

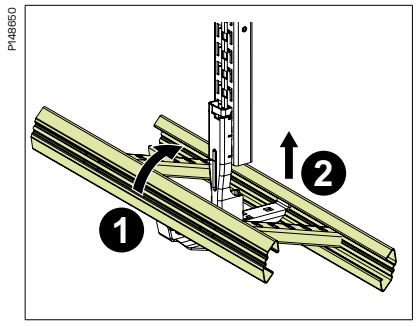


Visually check if the bracket lip is inside the ladder profile.
Profile clamp 43 can be used to fix the cable ladder to the support bracket.

Apply caution with unintended upward movements as it can cause the bracket to unlock and therefore be released from the rail

Uninstallation of KHZSP ladder from the central suspension bracket

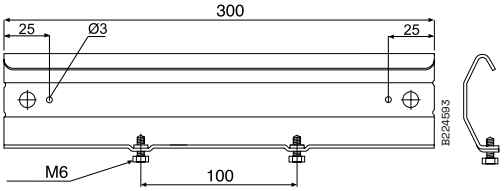
KHZSP ladder can be removed from the bracket.

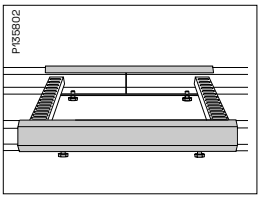


1 Push one side of the ladder up until the ladder leave the lip of the bracket.
2 Release the other side of the ladder from the lip.

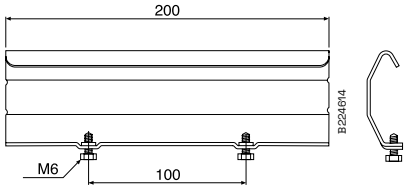
Joint 21, with screws or screwless

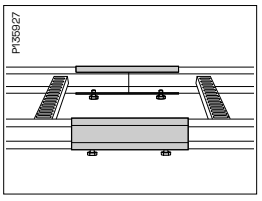
Joint to be used for straight, rigid joining of cable ladders, bends, junctions and risers. No extra earthing needed.



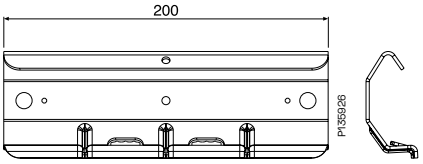


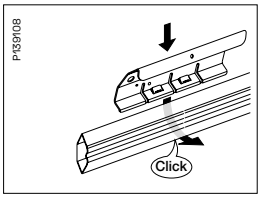
Joint 21 in stainless steel

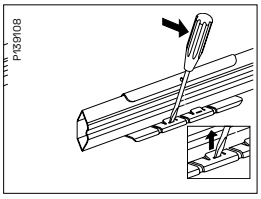


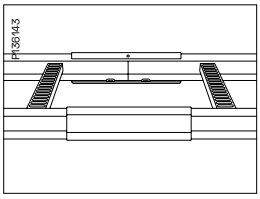


Joint 21 screwless joint



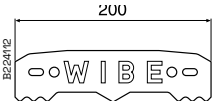


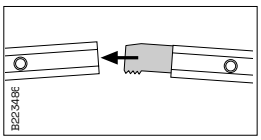




Joint 9

Joint to be used for straight joining of cable ladders KHZ, KHZP and KHZPS. The teeth of the joint should face downwards. Under load, the ladders are prevented from slipping apart. If the joint is above a bracket, the teeth should face upwards.





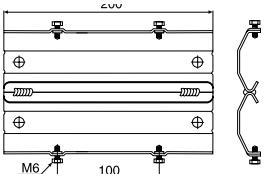
Joint 9 is used in straight joints of KHZ, KHZP and KHZPS.

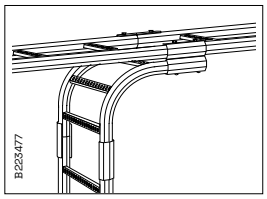
NOTE! The teeth shall face downwards as shown in the figure. Under load, the ladders are prevented from slip- ping apart. If the joint is above a bracket, the teeth should face upwards.

Use and installation

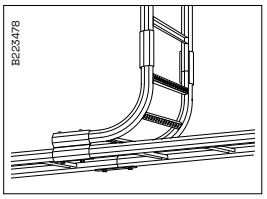
Dropper joint 32

Dropper joint used to form vertical branches in centre posision under/on top of cable ladders.





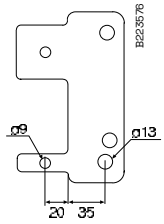
To be used together with Riser 18 to form vertical branches under Cable ladder KHZ, KHZP, KHZSP, KHZSPZ+ and KHZPS.

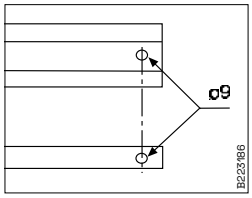


May also be used together with Riser 18 to form vertical branches on top of Cable ladder KHZ, KHZP, KHZSP, KHZSPZ+ and KHZPS.

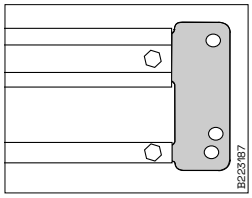
Joint 45

Joint to be fitted as a joining plate in a cut KHZV/KHZPV ladder.

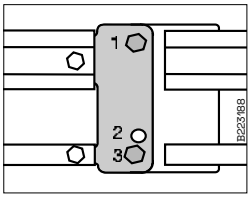




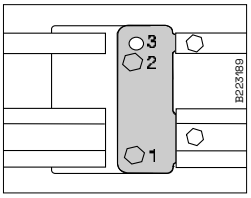
Cable ladders can be joined using separate joints.
- Cut the ends clean.
- Place the joints outside the ladders and mark where the holes shall be drilled.
- Drill 9 mm dia. holes.



- Insert the joint plates into the ladders and bolt them fast.



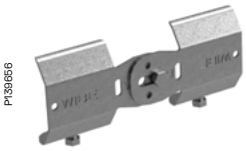
The holes are laterally displaced to avoid play in joints. If the ladders are mounted with arch pipes facing downwards, use holes 1 and 3.

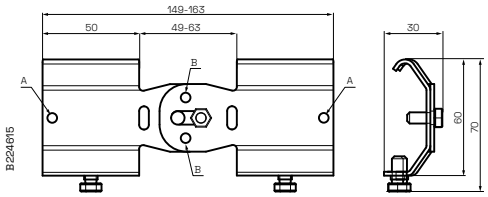


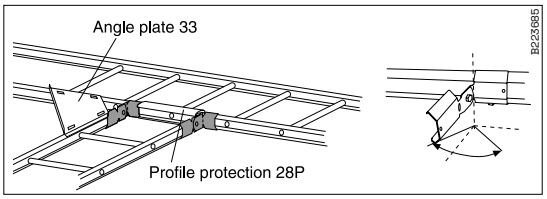
If the ladders are mounted with arch pipes facing upwards, use holes 1 and 2.

Coupling 22

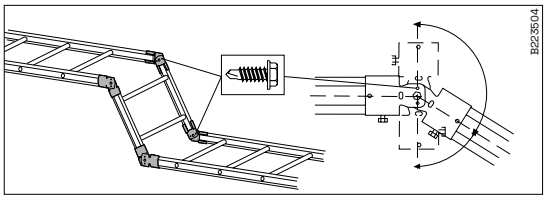
Coupling to be used for horizontal or vertical branches at any desired angle. A self tapping screw can be inserted in holes (A) to lock the position on the side profiles and in holes (B) to lock the desired angle of deflection.



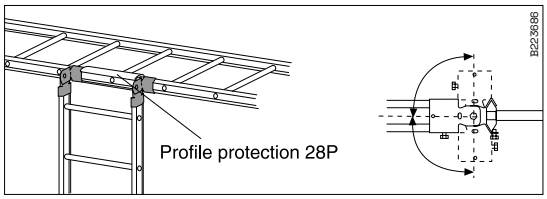




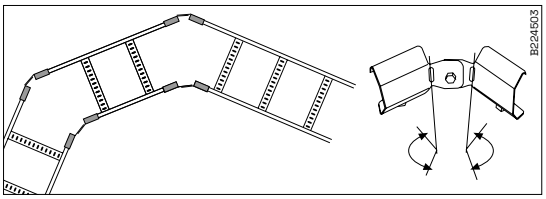
Coupling 22 is used for horizontal branching to the required angle. The cut length of the ladder ends determines the angle. Angle plate 33 is always recommended for horizontal branches. Use Profile protection 28P.



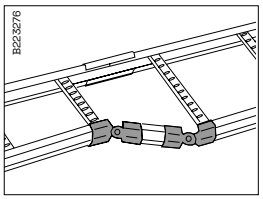
Coupling 22 is used to form vertical angles of the required size. A self tapping screw can be inserted in holes (A) to lock the position on the side profiles and in holes (B) to lock the desired angle of deflection.



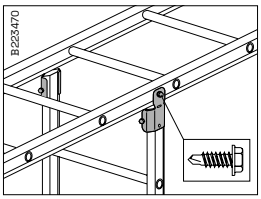
Coupling 22 is used to form vertical branches of the required angle. Mount Profile protection 28P. To be cut when required.



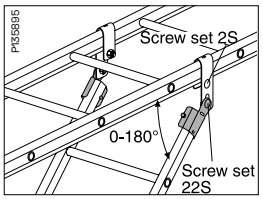
Use 4 Couplings 22 to form a horizontal bend in different angles. The cut lengths of the ladder ends determine the angle.



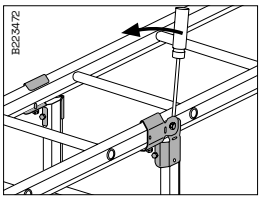
As an alternative at transition joining of KHZSP, KHZPS, KHZ and KHZP use 1 Joint 21 and 2 Couplings 22.



Vertical branching under the cable ladder with one part of Coupling 22 and plate screw.



Clamp 12 and one part of Coupling 22 can be used for branching under the cable ladder – allowing angles from 0 – 180°.

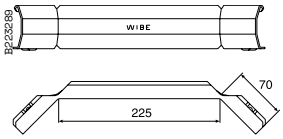


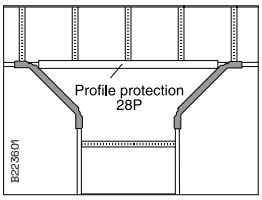
Use 2 Coupling 22 for vertical branching under the cable ladder. **Note!** The screw of Coupling 22 must be turned so that its head will be placed against the side profile of the cable ladder. Bend the coupling with a screwdriver.

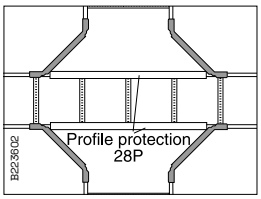
Use and installation

Junction coupling 14

Junction coupling to be used for T- and X-junctions. Suitable for cable ladders KHZ, KHZP, KHZSP and KHZPS, all cable widths.



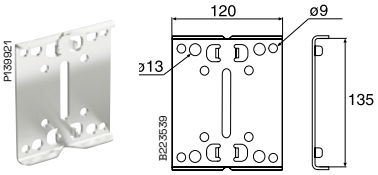


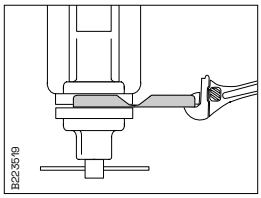


For T-junctions, use 2 Junction couplings 14.
For X-junctions, use 4 Junction couplings 14.
A bracket should be placed under the connecting ladder close to the connection. Profile protection 28P is recommended. To be cut to required length.

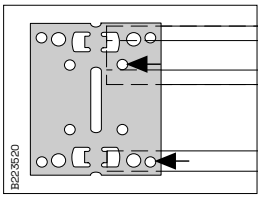
Coupling 44

Coupling to be used for horizontal coupling of cable ladders KHZV/KHZPV. Also to be used for branches and as an end connection against a wall.

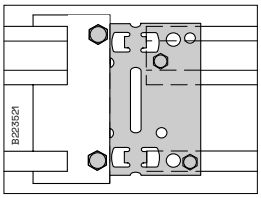




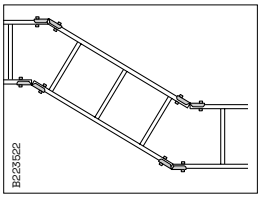
Coupling 44 may be bent to the required angle in a vice, using an adjustable spanner or similar.



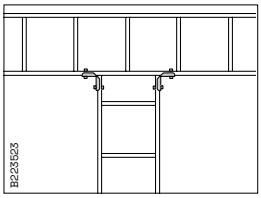
Use Coupling 44 as a drilling pattern on the cut ladder. Drill 9 mm dia. holes.



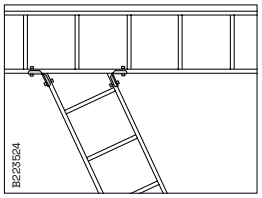
Assemble the cut and drilled ladders using M8x30 mm bolts. If the angle unit is mounted against a fixed joint plate use Screw set M12.



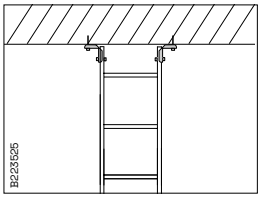
Angled cutting of the ladder ends determines the angle.



Straight branch.



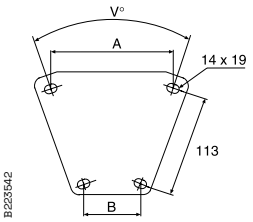
Angled branch.

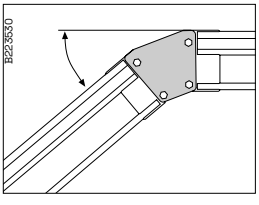


Use Coupling 44 as an end attachment for mounting ladders against walls or floors.

Coupling plate 48

Coupling plate to be used as a self-supporting vertical angle coupling of cable ladders KHZV/KHZPV
Assembled with 2 Screw set M12.



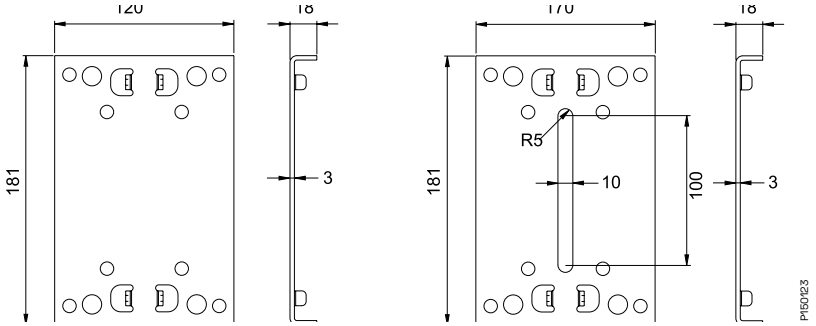


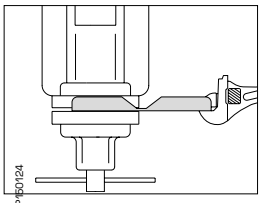
For self-supporting vertical angle adjustment use 2 Coupling plate 48 och 2 Screw set M12
Coupling plate 48/30°=25°-35°
Coupling plate 48/45°=35°-55°
Coupling plate 48/60°=55°-65°

V°	A mm	B mm
30	115	55
45	145	55
60	180	65

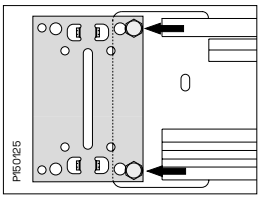
Horizontal coupling 20C / Horizontal coupling bending 20C

Coupling to be used for horizontal connection of cable ladders KHZP 20C range.Four screws M8x30 and nuts are inlcluded.

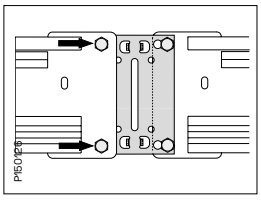




Coupling for Bending 20C may be bent to the required angle in a vice, using an adjustable spanner or similar.

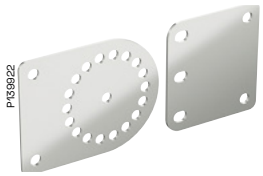


Use Coupling 44 as a drilling pattern on the cut ladder. Drill 9 mm dia. holes.

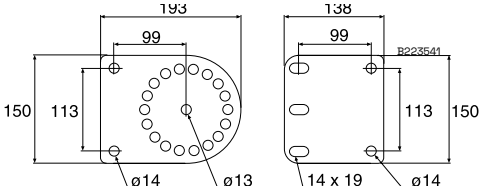


Assemble the cut and drilled ladders using M8x30 mm bolts. If the angle unit is mounted against a fixed joint plate use Screw set M12.

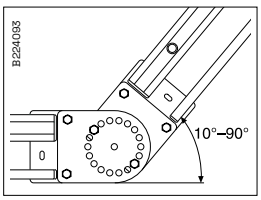
Coupling 51



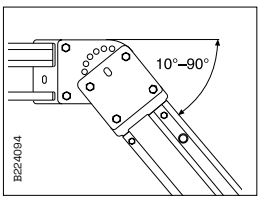
Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/ KHZPV.



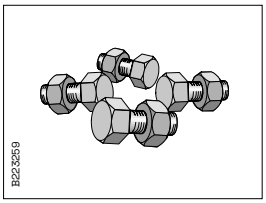
Screw set M12 for installation on the cable ladder is to be ordered separately.



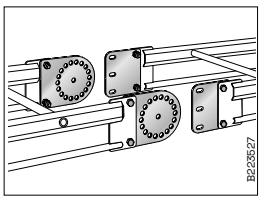
Rising. Adjustable from 10° to 90° gradually in steps of 20°.



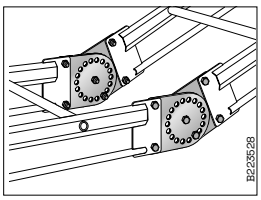
Sloping. Adjustable from 10° to 90° gradually in steps of 20°.



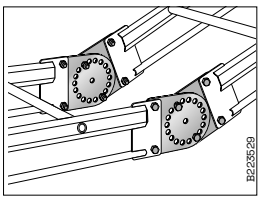
Screw set to be used for all joints with cable ladders KHZV and KHZPV.



1. Install the plates on the ladder with Screw set M12.



2. Assemble the ladders in the centre hole with one of the included screws/ nuts. Adjust to desired angle and fix the installation in one of the outer holes with screw/nut.

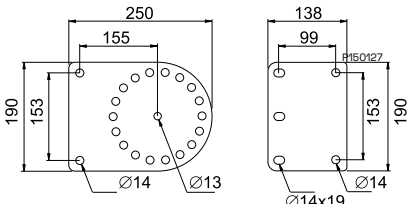


3. Move the nut in the centre hole to the opposite outer hole and tighten.

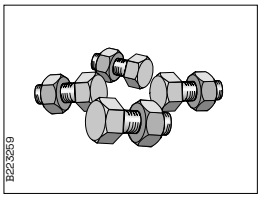
Use and installation

Vertical coupling 20C

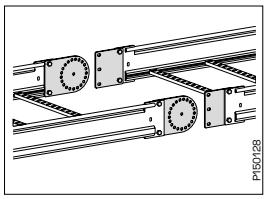
Coupling to be used as a self-supporting vertical coupling of cable ladders KHZP 20C range. Adjustable from 10° to 90° gradually in steps of 20°. Two screws M12 and nuts are included.



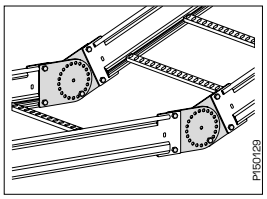
Rising and sloping adjustable from 10° to 90° gradually in steps of 20°.
Screw set M12 for installation on the cable ladder is to be ordered separately..



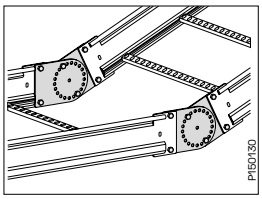
Screw set to be used for all joints with cable ladders KHZP 20C.



1. Install the plates on the ladder with Screw set M12.



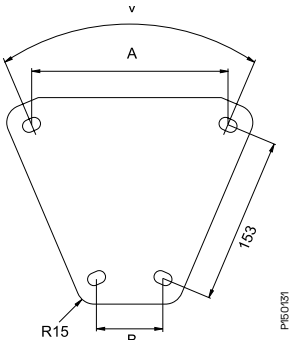
2. Assemble the ladders in the centre hole with one of the included screws/ nuts. Adjust to desired angle and fix the installation in one of the outer holes with screw/nut.

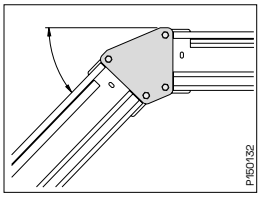


3. Move the nut in the centre hole to the opposite outer hole and tighten.

Angle plate 20C

Angled coupling to be used for cable ladders KHZP 20C range. Four screws M12x30 and nuts are included.

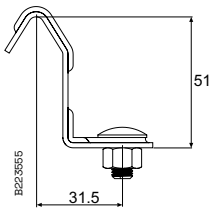


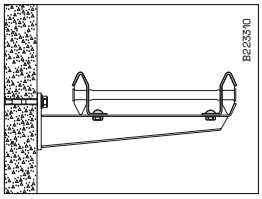


V	A mm	B mm
30	135	56
45	180	62
60	222	69

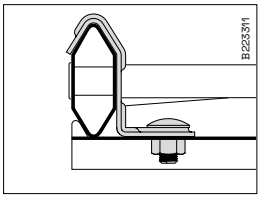
Profile clamp 42

Profile clamp to be used for installations where the cable ladder is to be fixed to cantilever arms, support brackets, etc. For mounting against wall use wall bracket 11.

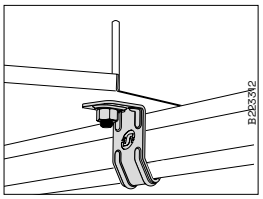




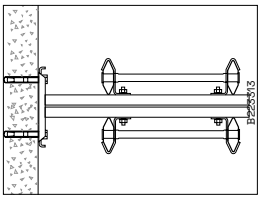
Use Profile clamp 42 for attaching KHZSP, KHZPS, KHZ and KHZP to Canti- lever arm 50 and Support bracket 3.



For installation of KHZSP, KHZPS, KHZ and KHZP on Support bracket 3, Profile clamp 42 is used.



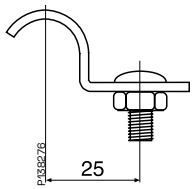
To lock Angle plate 33/2, fit 2 Profile clamp 42.

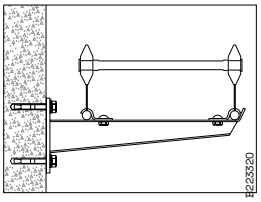


Cable ladders can be mounted directly on Vertical piece 20 or 20F with Profile clamp 42. Use T-bolt for mounting. Convenient at vertical installations in shafts.

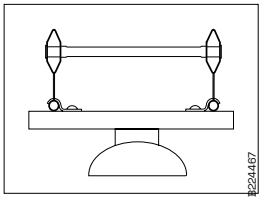
Profile clamp 43

Profile clamp to be used for installations where the cable ladders KHZV and KHZPV are to be fixed to cantilever arms, support brackets, etc.





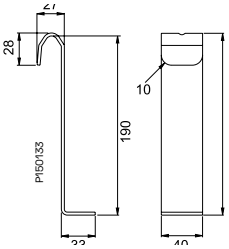
Use Profile clamp 43 to attach KHZV/KHZPV to Cantilever arm 50.

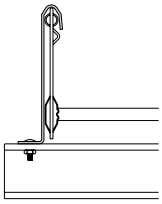


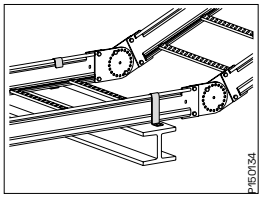
Pendant/Fixing rail 24/48, mounted under Cable ladder KHZV with Profile clamp 43, here used as carrier of lighting fittings.

Profile clamp 20C

Profile clamp for KHZP 20 range to be used for installations where the cable ladder is to be fixed to cantilever arms, I-beams, etc. Slot for screw locking 9 x24 mm.



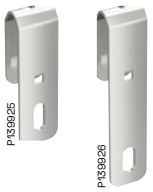


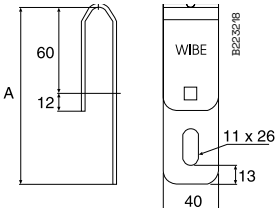


Use and installation

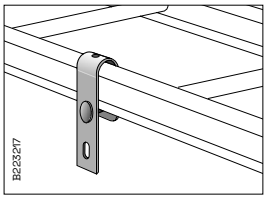
Clamp 12

Clamp to be used on the side profile of the cable ladder for installation of accessories.





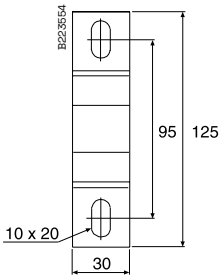
Type	A mm
Clamp12/70	125
Clamp 12/120	175

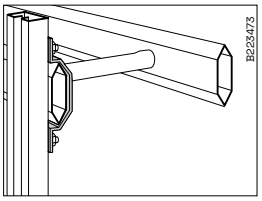


Clamp 12 can be used for installation of antenna brackets, junction boxes and so on. Bolt and nut included.

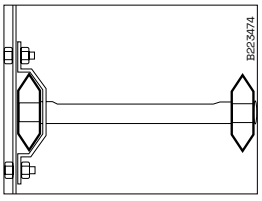
Profile clamp 41

Profile clamp to be used to install a pendant/fixing rail or mounting plate, etc., on the cable ladder profile.

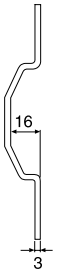


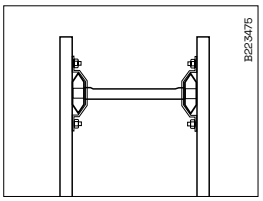


Mounting of pendant/ fixing rail on ladder profile Use Screw set 22S.

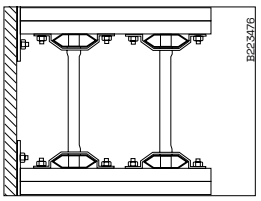


Installation of mounting plate for apparatuses. Use Screw set 22S.





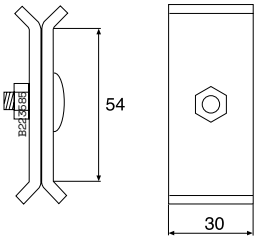
Mounting of cable ladder on floor pendants. Use T-bolts against the opening of the fixing rail.

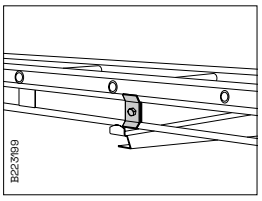


Mounting of cable ladders on wall pendants, such as in shafts. Use T-bolts against the openin of the fixing rail.

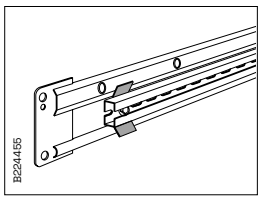
Profile support piece 46

To be fitted between the ladder and the vault pipe when a support bracket is positi- oned between existing profile support pieces. For cable ladders KHZV and KHZPV.





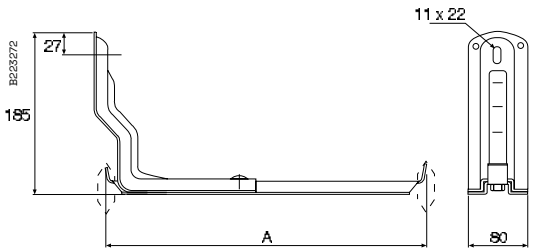
If a support bracket is placed between two profile support pieces, a Profile support piece 46 must be mounted between the arch pipes and the ladder. If the load is half the permitted load, exclude the Profile support piece 46.



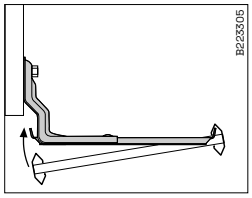
Profile support piece 46 can be installed as a fixing for different applications.

Cantilever arm 30

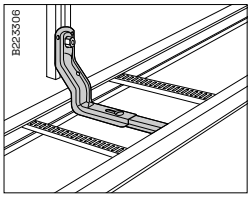
Cantilever arm for installation inside cable ladder KHZSP.



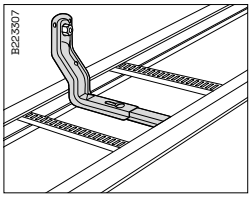
Cantilever arm type	A mm
30/200	184
30/300	284
30/400	384
30/500	484
30/600	584



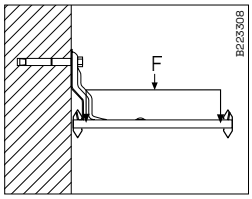
Installation of cable ladder KHZSP. Place the ladder on the outer tab and press it over the inner tab. When necessary, the ladder can be locked with a Profile clamp 43.



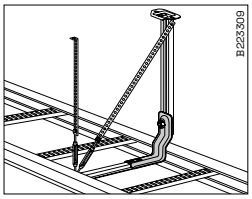
Installation on Vertical piece 2F. Cable ladder KHZSP can be adjusted max 40 mm.



Installation direct on wall. Cable ladder KHZSP is adjustable from 0–15 mm to the wall.



Breaking load for cantilever arm on wall, see table below.



When you mount cable ladders that are 500-600 mm wide it might be necessary with a reinforcement of the outer edge of the cantilever arm Installation band and stretching screw can be used for mounting in the ceiling or on a vertical piece.

Breaking load

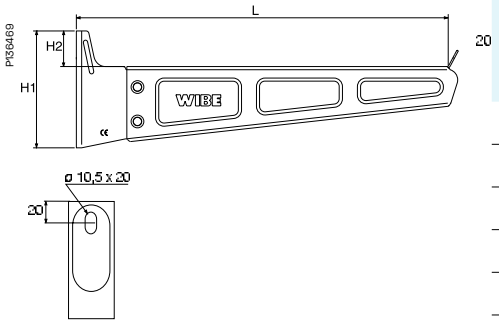
Cantilever arm type	Max. load F on cantilever arm at a deflection of 3° kN	kg	Deflection at 3° deflection of cantilever arm mm	Breaking load kN	kg
30/200	2.0	200	10	2.3	230
30/300	1.9	190	15	3.5	350
30/400	1.2	120	20	3.0	300
30/500	0.8	80	26	2.4	240
30/600	0.6	60	31	2.0	200

3° is equivalent to 1/20xcantilever width, according to IEC 61537.

Use and installation

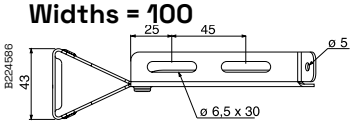
Cantilever arm 50i

Cantilever arm to be used for lighter mountings on walls, vertical pieces or pendant/fixing rails.

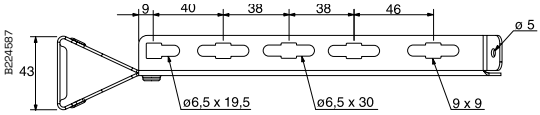


Cantilever arm type	Size L mm	H1 mm	H2 mm
50i-200	250	85	28.5
50i-300	350	110	33.5
50i-400	450	115	31.0
50i-500	550	150	31.0
50i-600	650	150	31.0

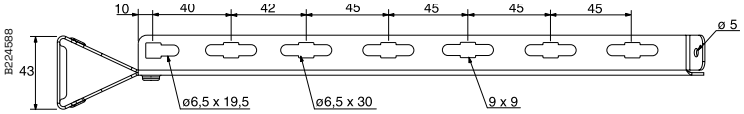
Widths = 100



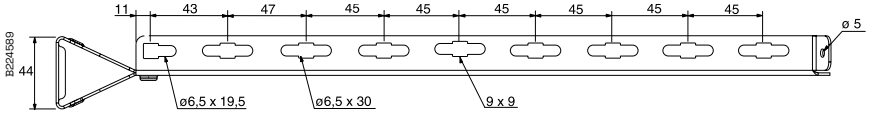
Widths = 200



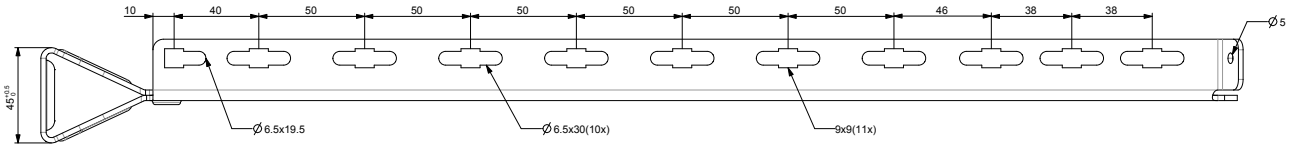
Widths = 300



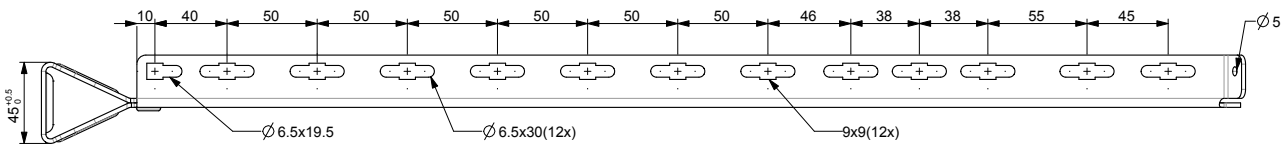
Widths = 400



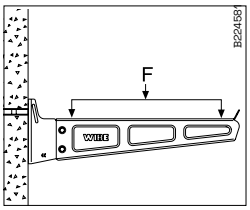
Widths = 500



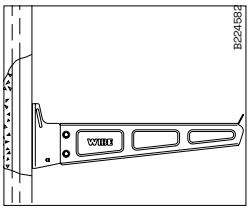
Widths = 600



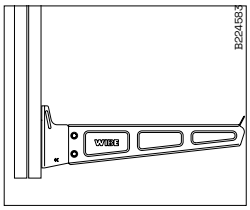
Use and installation



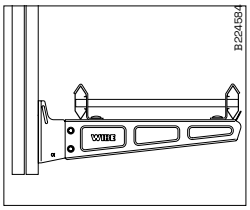
Installation of cantilever arm mounted to wall using Expansion bolt M8. Breaking load - See table below.



Installation of cantilever arm using T-bolt M8 on Fixing rail 24/26 x 53 for casting-in or Pendant/ Fixing rail wall mounted.



Installation of cantilever arm using T-bolt M8 on vertical piece. Check breaking load of the vertical piece.



Cable ladder KHZSP mounted on Cantilever arm 50i, Profile clamp 42 is used.

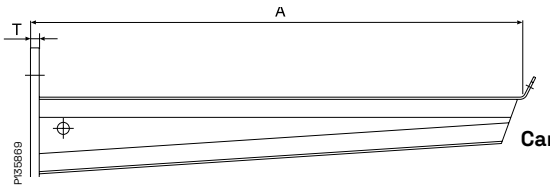
Breaking load F - Mounted on wall		
Type of cantilever arm	**kN**	**kg**
50i-100	2.3	230
50i-200	2.15	215
50i-300	2.2	220
50i-400	2.35	235
50i-500	3.0	300
50i-600	3.0	300

Safe working load according to IEC 61537 is breaking load divided by 1,7.

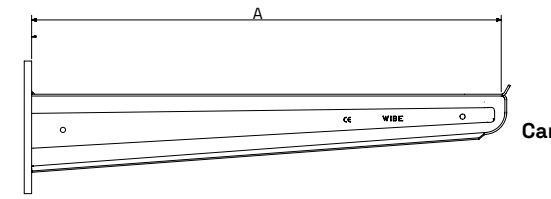
Use and installation

Cantilever arm 50 and 50F

Cantilever arm for mounting on walls, pendant/fixing rails or vertical pieces.

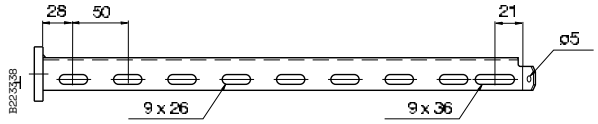


Cantilever arm 50

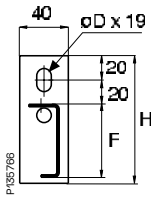


Cantilever arm 50F

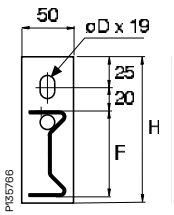
Cantilever arm 50



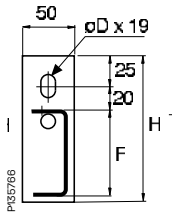
50/100-300



50/400-600

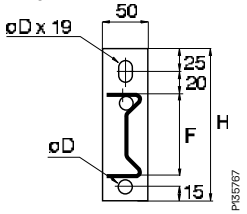


50/700-1000

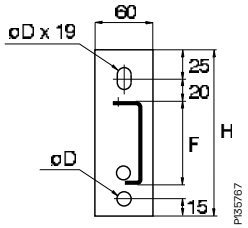


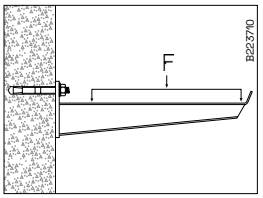
Cantilever arm 50F

50F/200-600

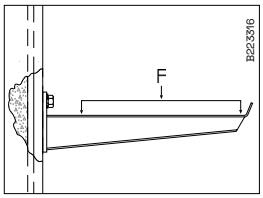


50F/1000

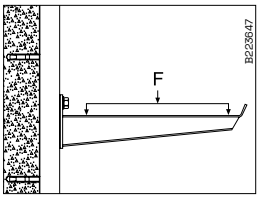




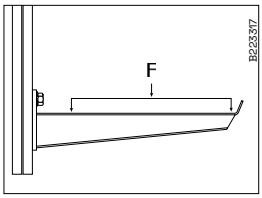
Installation of a cantilever arm to a wall using an Expansion bolt. Breaking load – see on next page.



Installation of a cantilever arm using a T-bolt on a Fixing rail 24/26 x 53 rail for casting-in or Pendant/ Fixing rails mounted on the wall. Breaking load – see on next page.

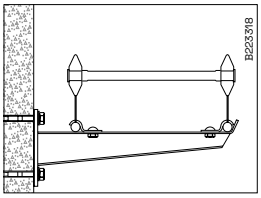


Mounting a cantilever arm using a T-bolt on a Pendant/Fixing rail mounted on a wall.

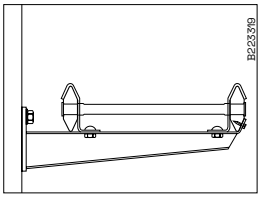


Installation of cantilever arm using T-bolt with vertical pieces. Breaking load – see on next page. Also check breaking load of the vertical piece.

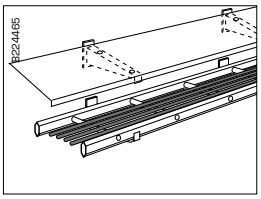
Use and installation



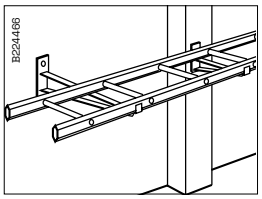
Profile clamp 43 is used for attaching a KHZV onto a Cantilever arm 50F.



For attaching a KHZSP, KHZ, KHZPS or KHZP cable ladder, mount Profile clamp 42. If it is only necessary to fix the cable ladder at the outer end of the bracket, use self-tapping sheet screws or suchlike with 5 mm dia. holes in the bracket and in the side section.

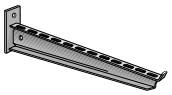


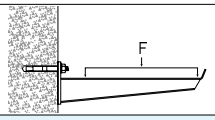
Cantilever arm 50F mounted upside down can be used for installation of tilted protective roofs.

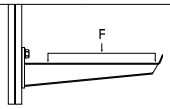


Use Cantilever arm 50/700-1000 as support when cable ladders have to pass columns etc.

Size and Breaking load F







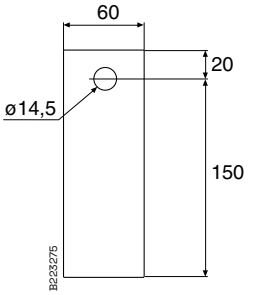
Type	A mm	D mm	F mm	H mm	T mm	Mounted on wall kN	Mounted on wall kg	Mounted on P/F rail 24/48 with T-bolt 26U kN	Mounted on P/F rail 24/48 with T-bolt 26U kg
50/100	150	12	34	85	3	3.0	300	3.0	300
50/150	200	12	36	85	3	3.0	300	3.0	300
50/200	250	12	39	85	3	2.5	250	2.5	250
50/250	300	12	56	105	6(1)	4.0	400	4.0	400
50/300	350	12	60	105	6(1)	4.0	400	4.0	400
50/400	450	12	70	120	8(1)	6.5	650	6.5	650
50/500	550	12	77	140	8(1)	7.0	700	7.0	700
50/600	650	12	84	150	10(1)	7.0	700	7.0	700
50/700	750	12	90	150	10	6.0	600	5.5	550
50/800	850	12	95	160	10	5.5	550	5.2	520
50/900	950	12	100	160	10	5.3	530	4.8	480
50/1000	1050	12	105	170	10	5.0	500	4.2	420
50F/200	245	12	72	148	8	10.0	1000	10.0	1000
50F/300	345	12	79	175	8	10.0	1000	10.0	1000
50F/400	445	12	86	175	8	11.0	1100	9.0	900
50F/500	547	14	93	180	10	10.0	1000	8.0	800
50F/600	647	14	100	180	10	10.0	1000	8.0	800
50F/1000	1052	14	160	240	12	11.0	1100	8.0	800 (2)

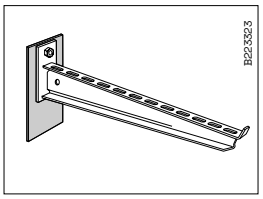
Safe working load according to IEC 61537 is breaking load divided by 1.7.
(1) Stainless steel: 50/250-300 T = 4 mm, 50/400-600 T = 5 mm.
(2) Need to fix the cantilever 50F/1000 with two T-bolts, both upper and lower holes in the backplate.

Use and installation

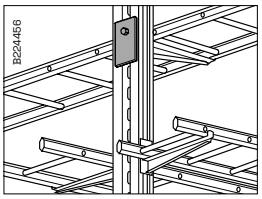
Back plate 40

Back plate to be used for installation behind Cantilever arm 50 to reduce the surface pressure on porous walls.





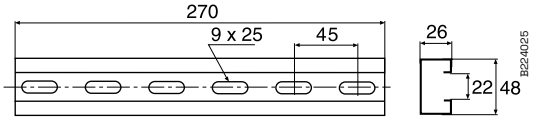
Mount Back plate 40 as shown in the illustration to reduce the surface stress on porous walls.

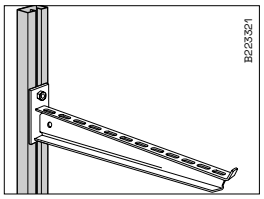


By using Back plate 40, a cantilever arm can be mounted on the side of Vertical piece 20F.

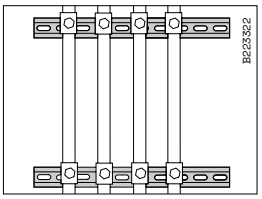
Mounting rail 40

Mounting rail to be used for wall installation of cantilever arms on porous walls to reduce the surface pressure or to enable height adjustment of cantilever arms.





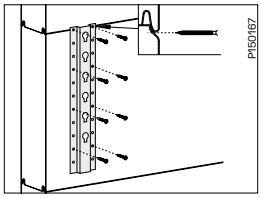
Mounting rails reduce the surface stress on porous walls. Mount the cantile- ver arm using T-bolt, which permits height adjustment.

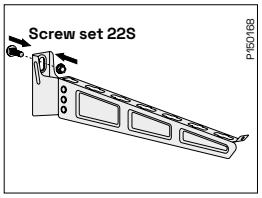


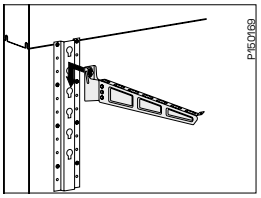
Cables may be mounted on walls using Mounting rail 40 and a suitable Cable clamp ARX.

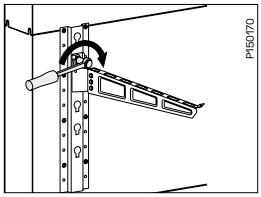
Wall support

Wall support for mounting of cantilever arm on porous walls or sandwich wall blocks, with six keyholes for easy fixation. When mounting cantilever arm on support, use screw set 22S (M8).

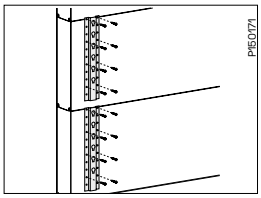


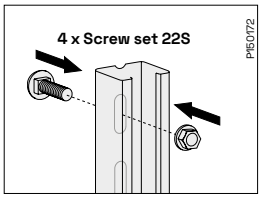


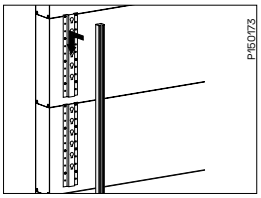


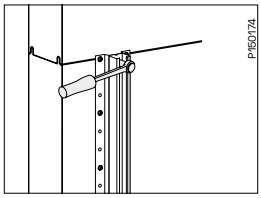


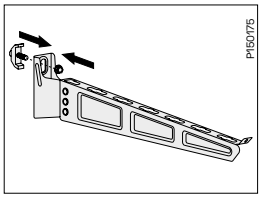
Two wall support plates can be combined with pendent rail 24/48 for extended mounting. for monting of pendent rail use screw set 22S.

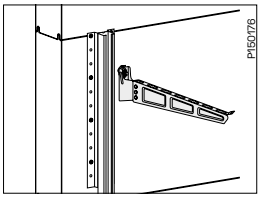


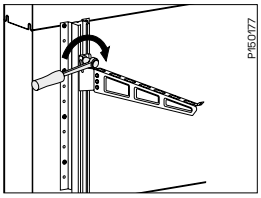










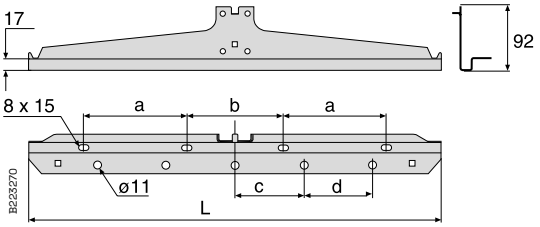


Use and installation

Stainless steel AISI 316L

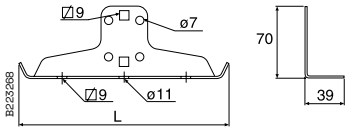
Support bracket 3

Support bracket to be used for centre installation of cable ladders on pendant/ fixing rails and vertical pieces.

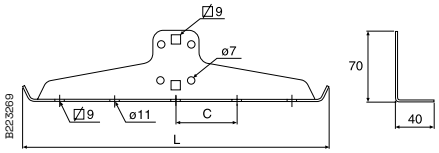


Stainless steel AISI 316L

3/150-200

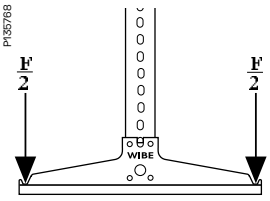


3/300-600



Size

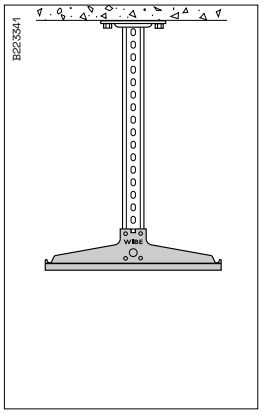
Type	L mm	Stainless steel L mm	a mm	b mm	c mm	d mm
Support bracket 3/150	150	154	–	100	–	–
Support bracket 3/200	200	204	–	100	–	–
Support bracket 3/300	300	306	70	100	–	–
Support bracket 3/400	400	406	70	100	100	–
Support bracket 3/500	500	506	100	140	100	–
Support bracket 3/600	600	606	150	140	100	100



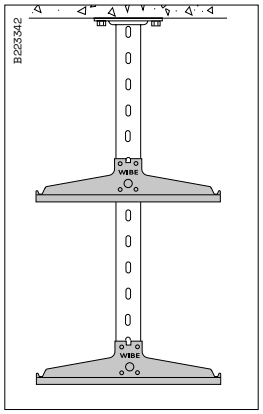
Breaking load for support bracket with symmetrical loading

Type	Breaking load F kN	kg
Support bracket 3/150	16	1600
Support bracket 3/200	16	1600
Support bracket 3/300	16	1600
Support bracket 3/400	12	1200
Support bracket 3/500	12	1200
Support bracket 3/600	10	1000

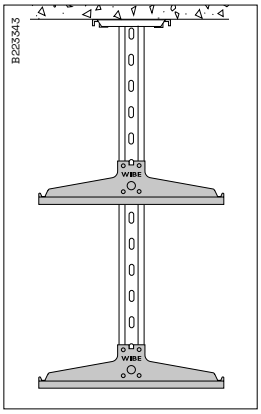
Use and installation



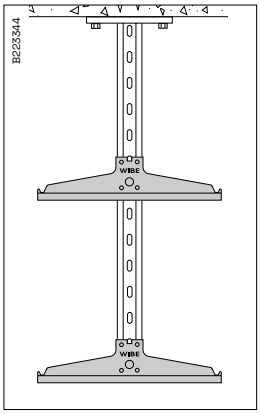
Mount Support bracket 3 on Vertical piece 2 with Screw set 22S.



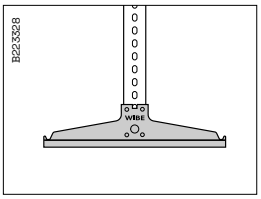
Mount Support bracket 3 on Vertical piece 2F with Screw set 22S.



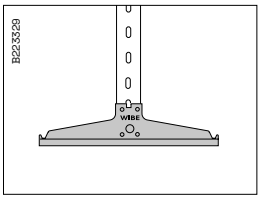
Mount Support bracket 3 on Vertical piece 20 with Screw set 20S.



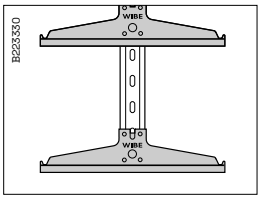
Mount Support bracket 3 on Vertical piece 20F with Screw set 2S.



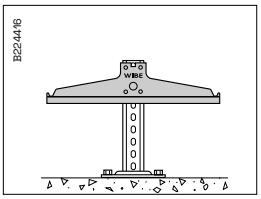
Mount Support bracket 3 on Pendant/ Fixing rail 24/34 with Screw set 22S.



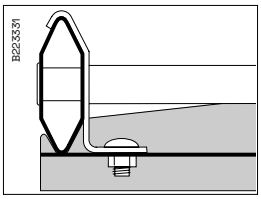
Mount Support bracket 3 on Pendant/Fixing rail 24/20 or 24/48 with Screw set 22S.



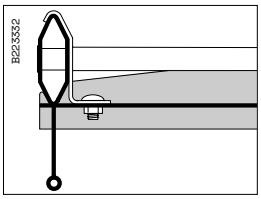
Support bracket 3 installed on Pendant/ Fixing rail 24/20F with Screw set 2S.



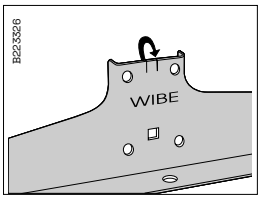
Support bracket 3 can be mounted on floor or under data floor with a suitable vertical piece.



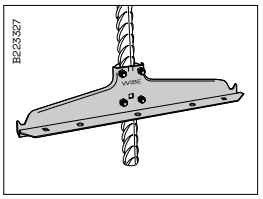
For installation of KHZSP, KHZ, KHZP and KHZPS on Support bracket 3 Profile clamp 42 is used.



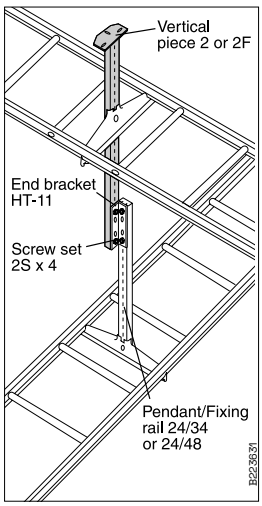
When attaching KHZV/ KHZPV to Support bracket 3, use Profile clamp 42.



When attaching Support bracket 3 using clamp set M6 the tab must be bent up using a hammer or pair of pliers.



Support bracket 3 mounted on a rock bolt with Clamp set M6.

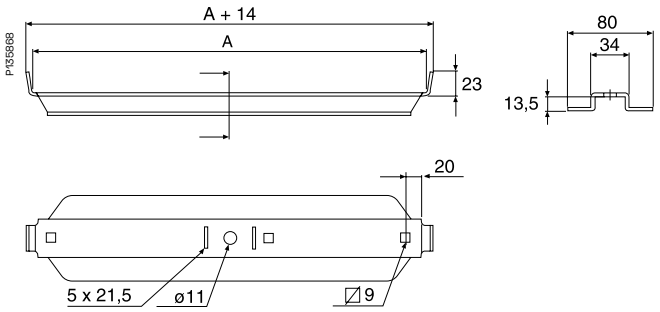


End bracket HT-11 permits the mounting of crossing cable ladders at different levels on the same pendant/fixing rail.

Use and installation

Support bracket 6

Support bracket to be used for centre installation of cable ladders KHZSP.

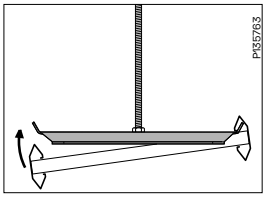


Size

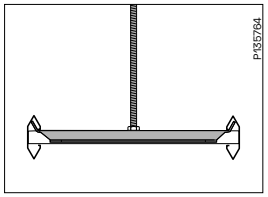
Type	A mm
Support bracket 6/200	170
Support bracket 6/300	270
Support bracket 6/400	370
Support bracket 6/500	470
Support bracket 6/600	570

Breaking load for Support bracket 6 – symmetrical loading

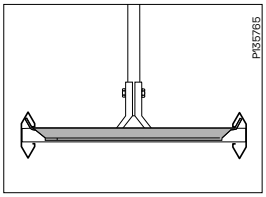
Support bracket	Breaking load with Threaded rod W76 M10		Breaking load with Pendant attachment W21	
	kN	kg	kN	kg
6/200	5.0	500	3.4	340
6/300	4.8	480	3.4	340
6/400	3.0	300	3.0	300
6/500	2.2	220	2.2	220
6/600	1.7	170	1.7	170



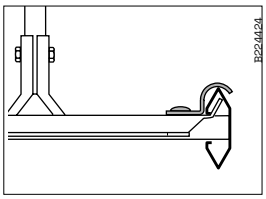
Support bracket 6 must be mounted inside cable ladder KHZSP.



Support bracket 6 mounted with Threaded rod W76 M10. Nut M10 must be used.



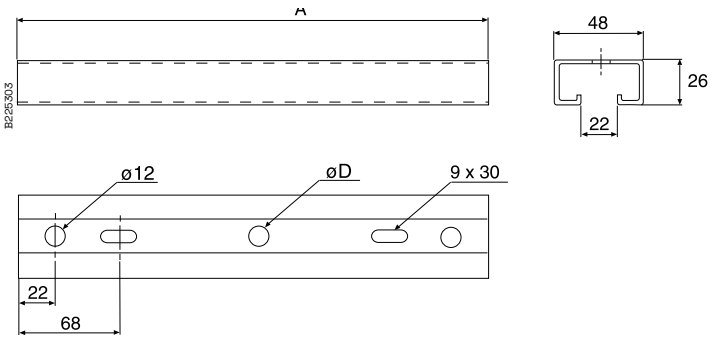
Support bracket 6 mounted with Pendant rail W32, Pendant attachment W21 and Screw set W37 from the Wibe Cable Tray range.



Profile clamp 43 can be used to fix the cable ladder to the support bracket.

Support bracket HSO

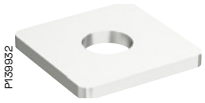
Support bracket to be mounted together with Threaded rod M10 or M16 for the installation of cable ladders.



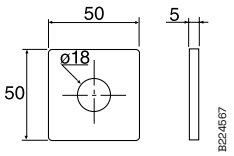
Size

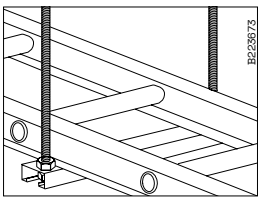
Type	A mm	D mm
Support bracket HSO/150 M10	210	12
Support bracket HSO/200 M10	260	12
Support bracket HSO/300 M10	360	12
Support bracket HSO/400 M16	460	18
Support bracket HSO/500 M16	560	18
Support bracket HSO/600 M16	660	18

Washer HSO M16

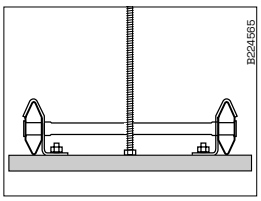


Washer to be used for centered mounting with Support bracket HSO M16 and Threaded rod M16.

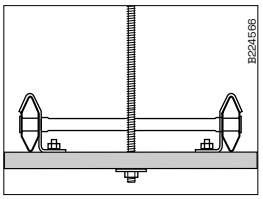




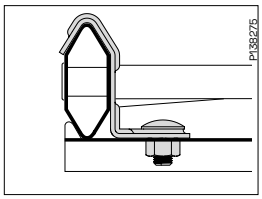
Support bracket HSO M10 installed with Threaded rod W76 M10.



Centered installation with Support bracket HSO M10, widths 150-300, Threaded rod W76 M10 and 2 Nuts M10.



Centered installation with Support bracket HSO M16, widths 400-600, Threaded rod M16, 2 Nuts M16 and Washer HSO M16.

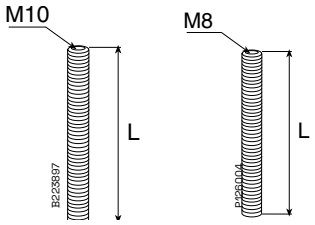


Profile clamp 42 is used to attach the cable ladder to the support bracket.

Use and installation

Threaded rod B41 and W76 M8, M10

Used for installation of light cable ladders.



Diametre and Surface treatment	L= 1000mm	L= 2000mm	L= 3000mm
M8 EZ	W76	-	-
M10 EZ	-	W76	W76
M8 HDG	W76	W76	-
M8 AISI	B41	B41	-
M10 AISI	B41	B41	-

Joint nut M8, M10

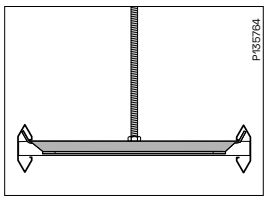
Used for joining of Threaded rod.

Flange nut B43 M8, M10

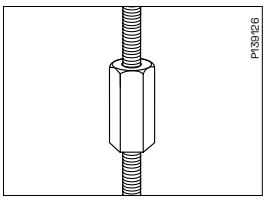
Flange nut is mounted onto Threaded rods in order to lock support brackets and ceiling brackets.

Thread lock B50 M8, M10

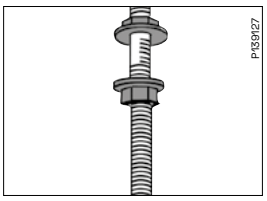
Used for joining of Threaded rod.



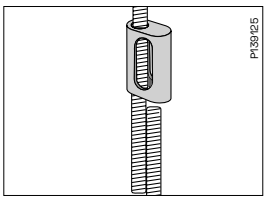
Support bracket 6 mounted with Threaded rod. Flange Nut B43 must be used.



Use Joint nut when joining 2 pieces of Threaded rod.



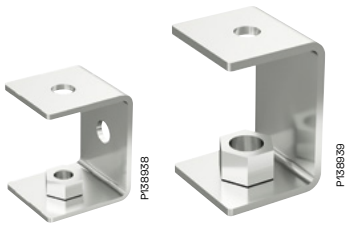
Flange nut B43 is mounted onto Threaded rod in order to lock support brackets and ceiling brackets.

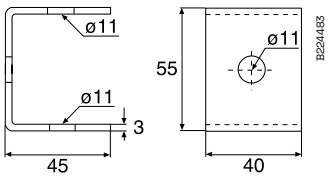


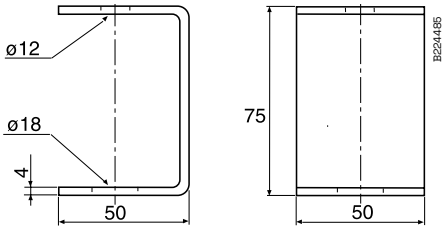
Thread lock B50 is used for the joining of Threaded rod.Max. permitted load=80kg.

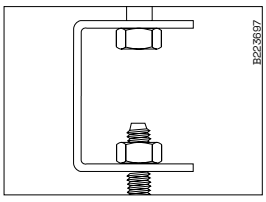
Ceiling bracket TF-10 and TF-16

Ceiling bracket to be used for installation with Threaded rods.





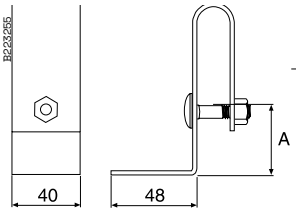




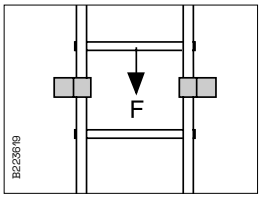
Ceiling bracket TF-10 or TF-16 installed with Threaded rod M10 or M16.

Wall bracket 11/25 and 11/75

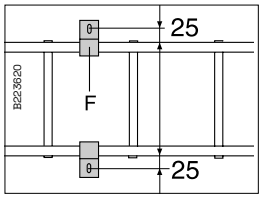
To be used for vertical or horizontal installations of cable ladders against a wall.



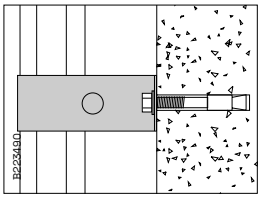
Type	A mm
Wall bracket 11/25	25
Wall bracket 11/75	75



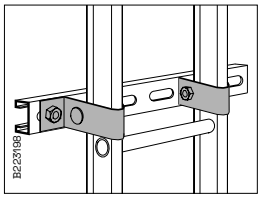
Vertical mounting
(max. load - F)
Wall bracket 11/25:
300 kg (3 kN)
Wall bracket 11/75:
300 kg (3 kN)
When mounting against a rung the max load is 500 kg (5 kN) for wall bracket 11/25.



Horizontal mounting
(max. load - F)
Wall bracket 11/25:
250 kg (2.5 kN)
Wall bracket 11/75:
100 kg (1.0 kN)



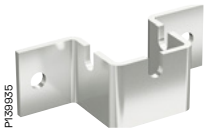
Mount wall brackets against walls using Expansion bolts.

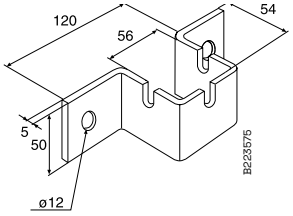


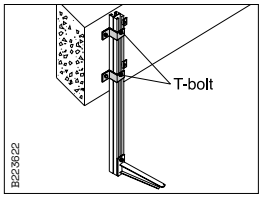
Pendant/fixing rails can be mounted on cable ladders using wall brackets for mounting equipment cubicles etc. Mount wall brackets on Pendant/fixing rails using Screw set 22S.

Wall bracket 20

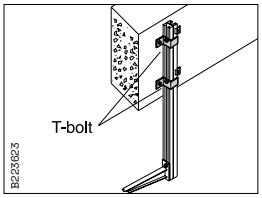
To be used at installation of Pendant/fixing rail 24/20 to ceiling beam or wall.







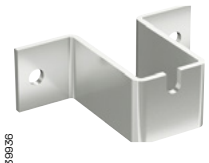
For cable ladder install-ations along a beam. Pendant/Fixing rail 24/20 must be mounted with 2 Wall brackets 20 and 2 T-bolts 26U-30 placed in the centre outlet. This installation is also used for fixing to wall. Max vertical load 700 kg (7 kN).

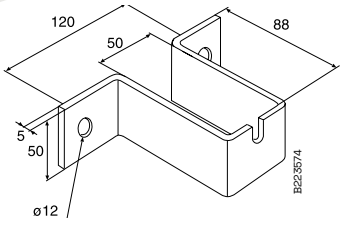


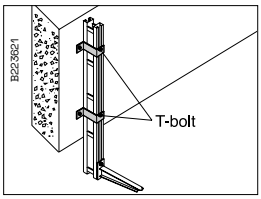
For cable ladder install- ations across a beam. Pendant/Fixing rail 24/20 shall be mounted with 2 Wall brackets 20 and 2 T-bolts 26U-30 in the side-outlets.

Wall bracket 20F

To be used at installation of Pendant/Fixing rail 20F to ceiling beam or wall.



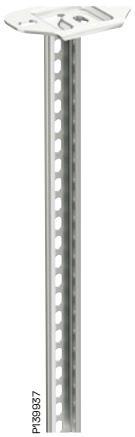




Pendant/Fixing rail 24/20F must be mounted with 2 Wall brackets 20F and 2 T-bolts 26U-30 for cable ladders along beams. This installation is also used for fixing to wall. Max. vertical load 700 kg (7 kN).

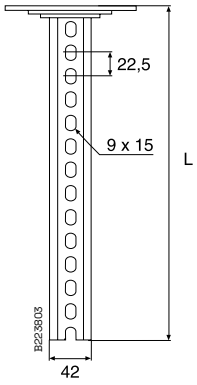
Use and installation

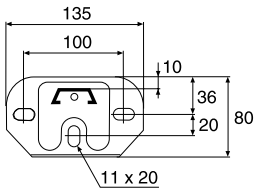
Vertical piece 2



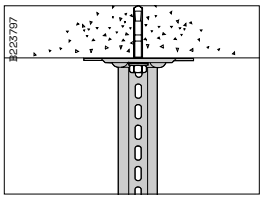
End plug
280

Vertical piece to be used for installation of Support bracket 3, symmetrical loading. Not suitable for cable ladders KHZV and KHZPV. Can be joined to Pendant/fixing rail 24/34 with Pendant joint 2J.

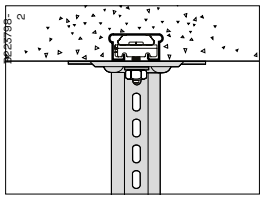




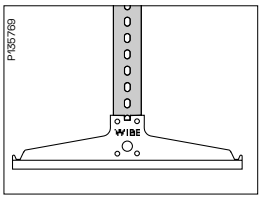
Type	L mm
Vertical piece 2/300	279
Vertical piece 2/400	392
Vertical piece 2/500	504
Vertical piece 2/700	729
Vertical piece 2/1000	1022



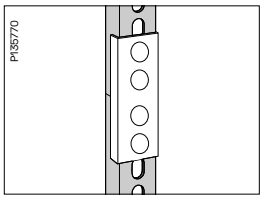
Mount Vertical piece 2 using an Expansion bolt or a concrete screw.



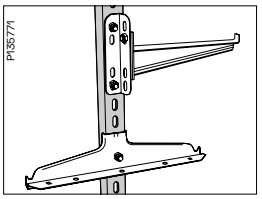
Mount Vertical piece 2 on a Fixing rail 24/26x53 for casting-in using T-bolt 26U.



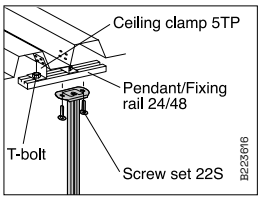
On Vertical piece 2, mount Support bracket 3 using Screw set 22S.



Vertical piece 2 can be joined to achieve the required length using Pendant/Fixing rail 24/34 and Pendant joint 2J.

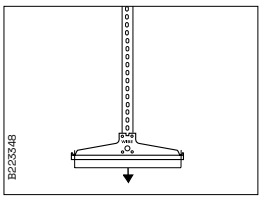


Cantilever arm 50 can, using End bracket HT-11, be mounted at 90° to the pendant/fixing rail. Only for lightweight mounting, such as data cables.

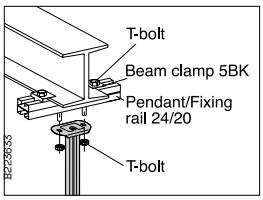


In ceilings with trapezoidal profile sheeting, mount Vertical piece 2 as shown above.

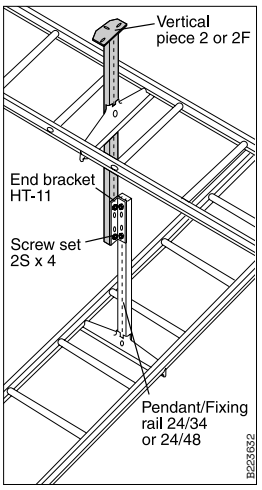
Breaking load



Breaking load for Vertical piece 2 with a symmetrical loading = 1400 kg (14 kN).
See also breaking load for support bracket 3.



On beams in ceilings. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26U/40.
For flange thick- nesses not excee- ding 30 mm use Beam clamp 5BK-30 and T-bolt 26U/50.



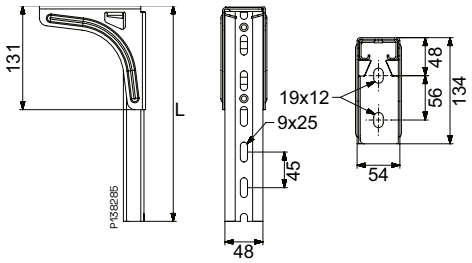
End bracket HT-11 permits the mounting of crossing cable ladders at different levels on the same pendant/fixing rail.

Use and installation

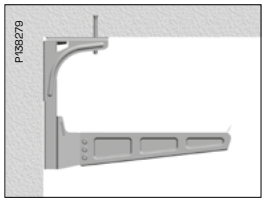
End plug 28E

Vertical piece 2Fi

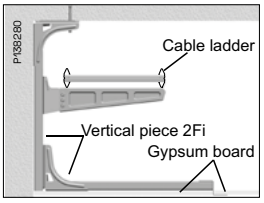
Vertical piece to be used for lighter mountings with Cantilever arm 50i and Cable ladder KHZSP.



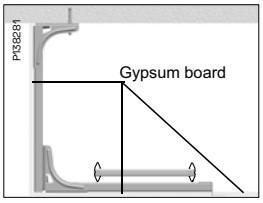
Type	L mm
Vertical piece 2Fi-300	272
Vertical piece 2Fi-500	497
Vertical piece 2Fi-750	722
Vertical piece 2Fi-1000	992



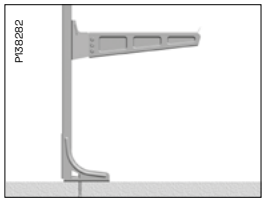
Vertical piece 2Fi can be mounted in ceiling close to wall.



Vertical piece 2Fi can be mounted horizontally on wall and on vertical piece as carrier of gypsum board.

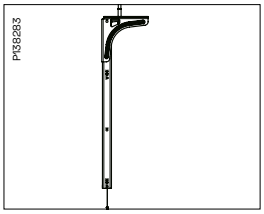


Vertical piece 2Fi can be used as carrier of gypsum boards in order to build in cable ladder passages.

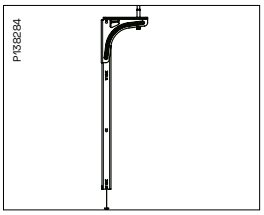


Vertical piece 2Fi is suitable for floor mounting.

Breaking load



Vertical piece 2Fi mounted in the inner hole. Breaking load=500 kg (5 kN) at symmetrical loading.



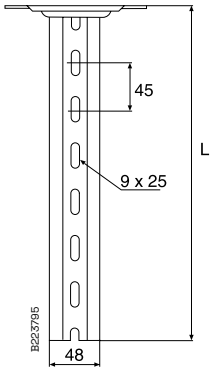
Vertical piece 2Fi mounted in the outer hole. Breaking load=100 kg (1 kN) at symmetrical loading

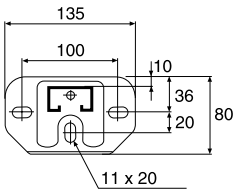
Use and installation

Vertical piece 2F

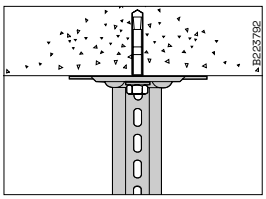
Vertical piece to be used for installation of Support bracket 3 or Cantilever arm 50. Can be joined to Pendant/fixing rail 24/48 with Pendant joint 2FJ. Can be mounted from the ceiling or on the floor . Can also be installed as a cantilever arm on a wall.

End plug
28E

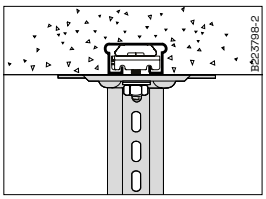




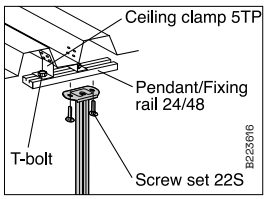
Type	L mm
Vertical piece 2F/280	280
Vertical piece 2F/370	370
Vertical piece 2F/505	505
Vertical piece 2F/640	640
Vertical piece 2F/730	730
Vertical piece 2F/865	865
Vertical piece 2F/1000	1000
Vertical piece 2F/1500	1495



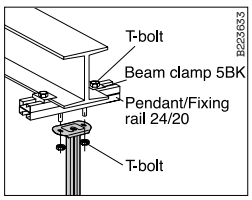
Mount Vertical piece 2F using Expansion bolt alt. Concrete screw.



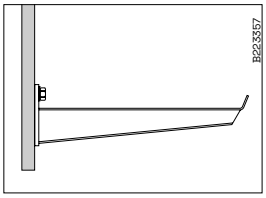
On Fixing rail forcasting-in, mount Vertical piece 2F using T-bolt.



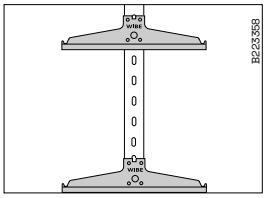
In ceilings with trapezoidal sheeting, mount Vertical piece 2F as shown above.



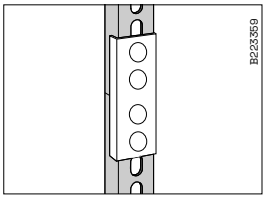
On beams in ceilings, mount Vertical piece 2F as shown in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26U/40.
For flange thicknesses not excee- ding 30 mm use Beam clamp 5BK-30 and T-bolt 26U/50.



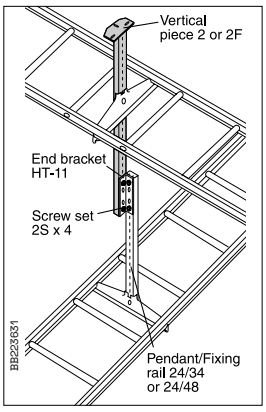
On Vertical piece 2F, mount Cantilever arm 50 using T-bolt.



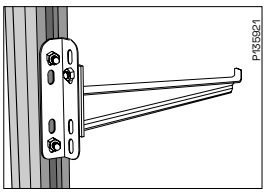
On Vertical piece 2F, mount Support bracket 3 using Screw set 22S.



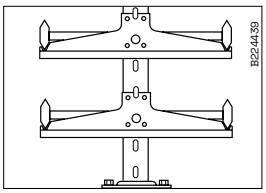
Vertical piece 2F can be joined to achieve the required length using Pendant/Fixing rail 24/48 and Pendant joint 2FJ.



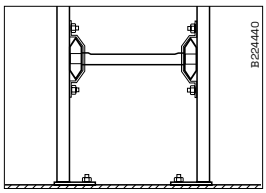
End bracket HT-11 permits mounting of crossing cable ladders on different levels on the same pendant/fixing rail.



Cantilever arm 50 can, using End bracket HT-11, be mounted at 90° to the pendant/fixing rail. Only for lightweight installation of data cable type and suchlike.



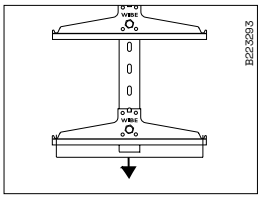
Cable ladders mounted on Vertical piece 2F and Support bracket 3 can be used for cable installations in raised access floors.



For installation on floor the cable ladders can be mounted with Vertical piece 2F, Profile clamp 41 and T-bolt.

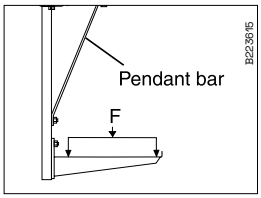
Use and installation

Breaking load symmetrical loading*



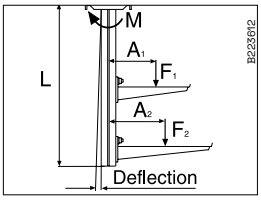
Breaking load for Vertical piece 2F (VP) = 2300 kg (23 kN) at symmetrical loading.

VP + Pendant bar for reduction of deflection

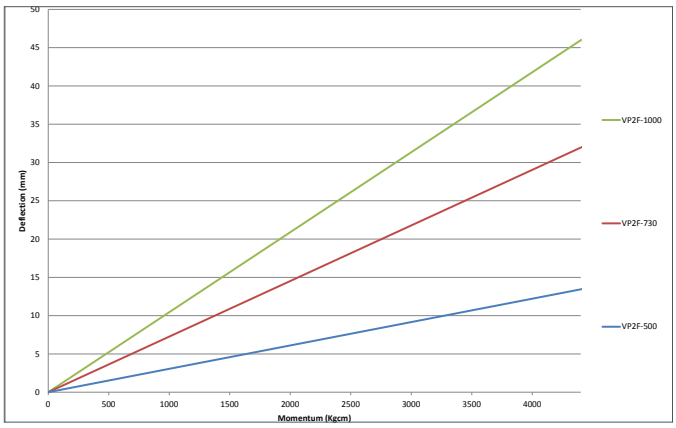


Deflection of Vertical piece 2F is reduced by installing Pendant bar 1. Loadings in accordance with chart below.

Breaking load asymmetrical loading



M = Σ F x A
See also max loading for Cantilever arm 50 installed on pendant/fixing rail, page Cantilever arm 50L, 50 and 50F.



For values outside diagram please contact Wibe Group.

Example
Conditions:
- 2 m support distance.
- 10 kg/m ladder
- Two ladders, 200 and 300 mm
- One-side loading
- VP 2F/730
- Bending?

M = ∑ F x A (kgcm)

$$M = 10 \times 2 \times \left(\frac{20}{2} + 6.5\right) + 10 \times 2 \times \left(\frac{30}{2} + 6.5\right)$$

(F_1) (A_1) (F_2) (A_2)

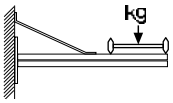
M = 760 kgcm - bending as per diagram, about 5.5 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP centre line (cm)

$$A = \frac{\text{Ladder width}}{2} + 6.5 \text{ cm}$$

L = VP length
Break load torque 6 000 (kgcm)

Loading table for Vertical piece 2F installed as a cantilever arm



Vertical piece 2F with Pendant bar 1/300

Pendant type	2F/700	2F/1000
Ladder width	Breaking load	Breaking load
150	120	75
200	125	80
300	135	90
400	140	100
600	–	120

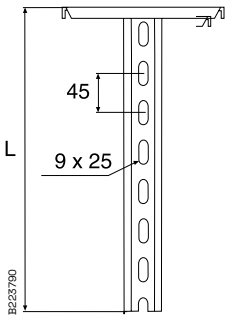
*Safe working load according to IEC 61537 is breaking load divided by 1.7.

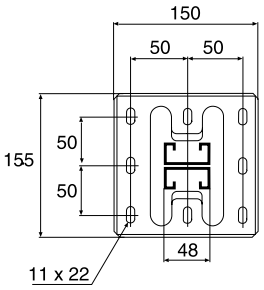
Use and installation

Vertical piece 20

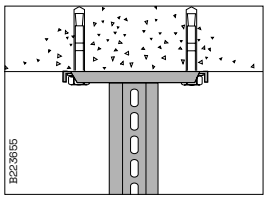
Vertical piece, two-sided, to be used for vertical installation together with Cantilever arm 50, from a ceiling or on a floor. Can also be installed as a cantilever arm on a wall.

End plug 28D

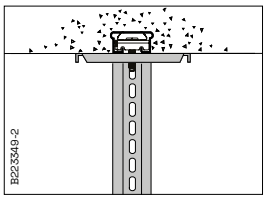




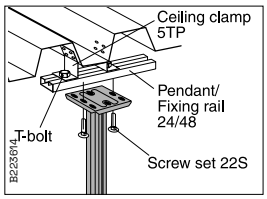
Type	L mm
Vertical piece 20/280	280
Vertical piece 20/370	370
Vertical piece 20/500	505
Vertical piece 20/640	640
Vertical piece 20/700	730
Vertical piece 20/865	865
Vertical piece 20/1000	1000
Vertical piece 20/1500	1495
Vertical piece 20/2000	1990
Vertical piece 20/3000	2980



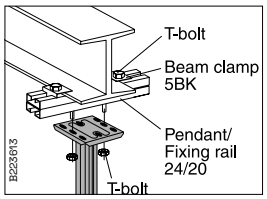
Mount Vertical piece 20 using Expansion bolt.



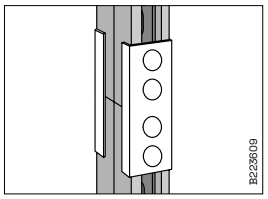
On fixing rail for casting in, mount Vertical piece 20 using T-bolts.



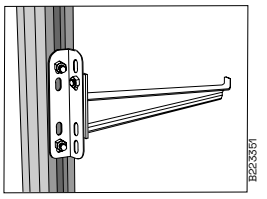
In ceilings with trapezoidal profile sheeting, mount Vertical piece 20 as shown above



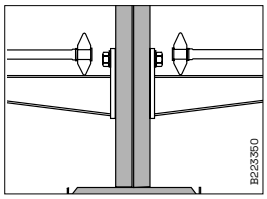
On beams in ceilings, mount Vertical piece 20 as shown in the figure above. When the beam flange thickness does not exceed 13 mm, use Beam clamp 5BK-10 and T-bolt 26U/40. For flange thicknesses not exceeding 30 mm use Beam clamp 5BK-30 and T-bolt 26U/50.



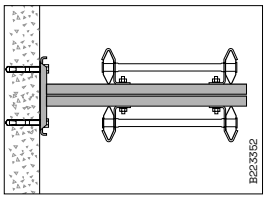
Vertical piece 20 can be joined to achieve the required length using Pendant/Fixing rail 24/20 and Pendant joint 20J.



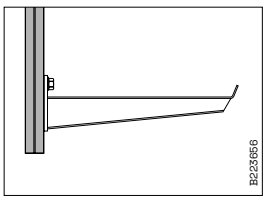
Using End bracket HT-11, Cantilever arm 50 can be mounted at 90° to the pendant/fixing rail. Only for lightweight mounting of data cable type and suchlike



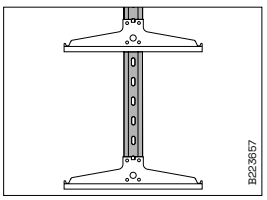
Vertical piece 20 is also suitable for floor mounting



Vertical piece 20 may be used for vertical mounting in a shaft, for example. Mount Wall bracket 11 or Profile clamp 42 using T-bolts. The vertical piece may also be mounted horizontally as a cantilever arm, such as when passing columns.



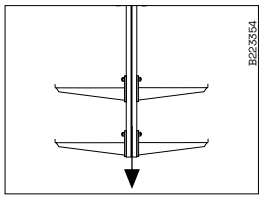
On vertical piece, mount Cantilever arm 50 using T-bolt. For loadings see Cantilever arm 50



On Vertical piece 20, mount Support bracket 3 using Screw set 20S.

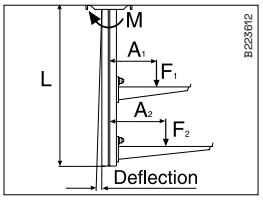
Use and installation

Breaking load symmetrical loading*

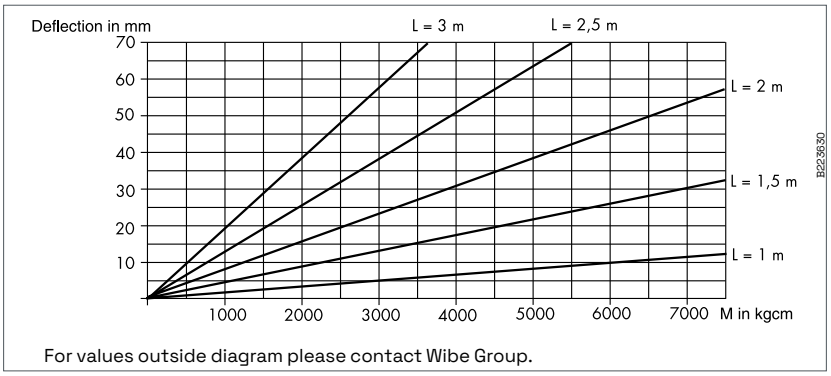


Breaking load for vertical piece (VP) = 3000 kg (30 kN).

Breaking load asymmetrical loading



M = Σ F x A
See also max loading for Cantilever arm 50 installed on pendant/ fixing rail, page Cantilever arm 50L, 50 and 50F.



For values outside diagram please contact Wibe Group.

Example
Conditions:
- 2 m support distance.
- 30 kg/m ladder
- Two ladders, 400 and 600 mm
- One-side loading
- VP 20/1000
- Bending?

M = ∑ F x A (kgcm)

$$M = 30 \times 2 \times \frac{40}{2} + 7.7) + 30 \times 2 \times \frac{60}{2} + 7.7)$$

(F_1) (A_1) (F_2) (A_2)

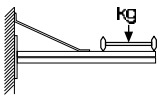
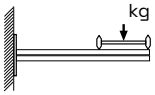
M = 3924 kgcm - bendingas per diagram, about 6 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP centre line (cm)

$$A = \frac{\text{Ladder width}}{2} + 7.7 \text{ cm}$$

L = VP length
Break load torque 19 000 (kgcm)

Loading table for Vertical piece 20 installed as a cantilever arm

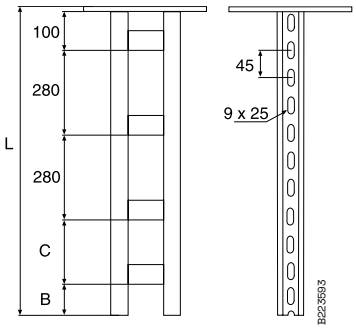
	 Vertical piece 20 with Pendant bar 1/300			 Vertical piece 20 without pendant bar		
Pendant type	**20/700**	**20/1000**	**20/1500**	**20/700**	**20/1000**	**20/1500**
Width Ladder type	**Breaking load**	**Breaking load**	**Breaking load**	**Breaking load**	**Breaking load**	**Breaking load**
150	380	210	155	230	165	115
200	400	240	160	250	170	115
300	425	270	165	280	175	120
400	450	300	170	310	180	125
600	-	320	180	370	190	130

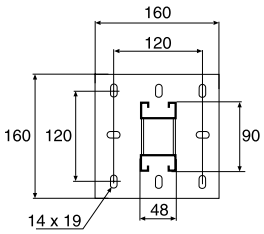
*Safe working load according to IEC 61537 is breaking load divided by 1.7.

Use and installation

Vertical piece 20F

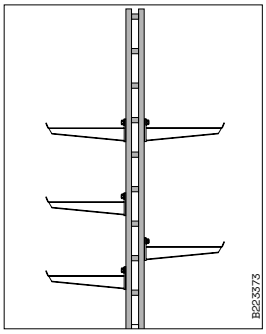
Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for rather heavy loads.



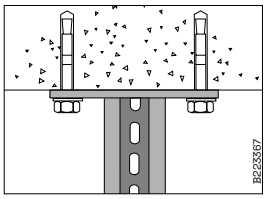


Type	B mm	C mm	L mm
Vertical piece 20F/1000	50	280	995
Vertical piece 20F/1500	70	195	1490
Vertical piece 20F/2000	5	195	1985
Vertical piece 20F/3000	70	280	2980

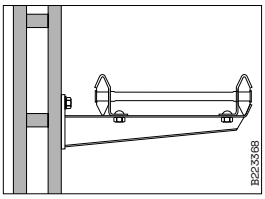
End plug
28J



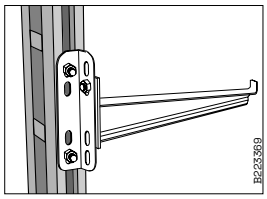
Floor mounting example.



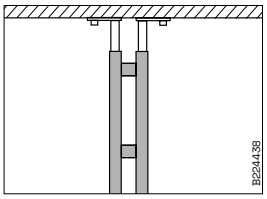
Mount Vertical piece 20F using Expansion bolt alt. Concrete screw.



Cantilever arm 50 can be mounted using T-bolt. For loads on Cantilever arm 50, see Cantilever arm 50L, 50 and 50F.

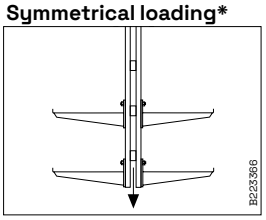


Using End bracket HT-11, Cantilever arm 50 can be mounted at 90° to the vertical piece. Only for lightweight mounting of data cable type or similar.



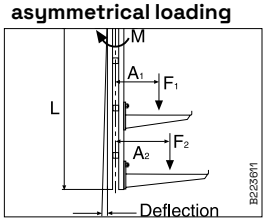
Vertical piece 20F moun- ted on floor can be fixed using Vertical piece 2 as ceiling bracket, adjustable in the pendant.

Breaking load Symmetrical loading*

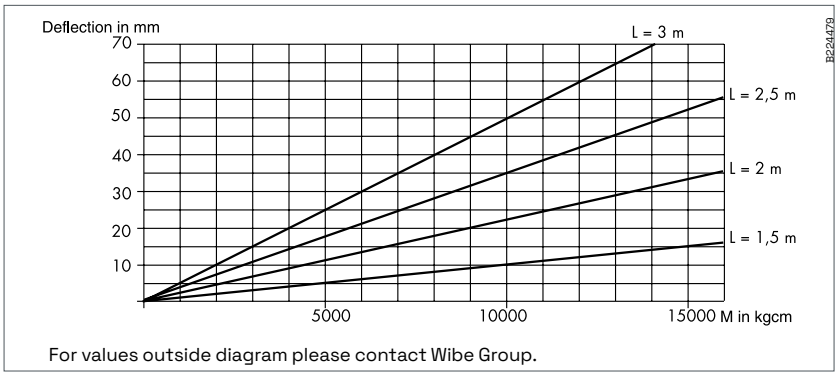


Breaking load for Vertical piece (VP) 20F = 5000 kg (50kN)

Breaking load asymmetrical loading



M = Σ F x A
Vertical piece 20F mounted in ceiling, see diagram.



For values outside diagram please contact Wibe Group.

Example
Conditions:
- 2 m support distance50 kg/m ladder
- Two ladders, 400 and 600 mm
- One-side loading
- VP 20F/1500
- Bending?

M = ∑ F x A (kgcm)

$$M = 50 \times 2 \times \left(\frac{40}{2} + 9.4\right) + 50 \times 2 \times \left(\frac{60}{2} + 9.4\right)$$

(F_1) (A_1) (F_2) (A_2)

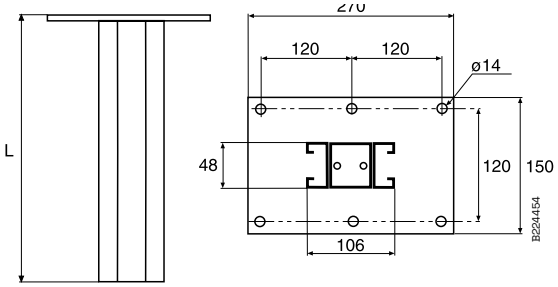
M = 6880 kgcm - bending as per diagram, about 6 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP centre line (cm)
A = $\frac{\text{Ladder width}}{2}$ + 9.4 cm
L = VP length
Break load torque 30 000 (kgcm)

*Safe working load according to IEC 61537 is breaking load divided by 1.7.

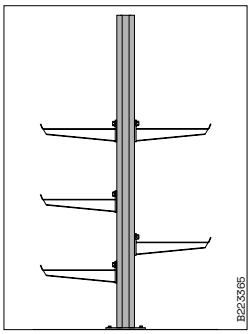
Vertical piece 20FS

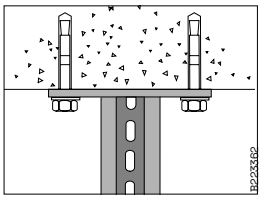
Vertical piece, two-sided, to be used for mounting from the ceiling or on the floor. Suitable for very heavy loads.



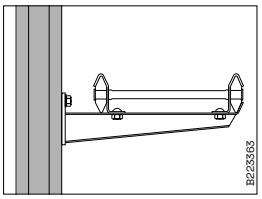
Type	L mm
VP 20FS/1500	1495
VP 20FS/2000	1990
VP 20FS/2500	2485
VP 20FS/3000	2980

End plug 28F

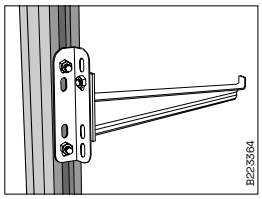




Mount Vertical piece 20FS using Expansion bolt alt Concrete screw.

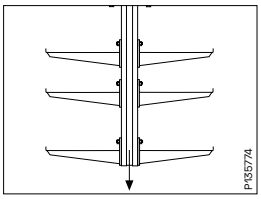


Mount Cantilever arm 50 using T-bolt. For loads on Cantilever arm 50, see Cantilever arm 50L, 50 and 50F.



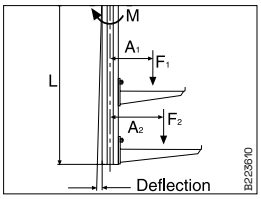
Using End bracket HT-11, Cantilever arm 50 can be mounted at 90° to the vertical piece. Only for lightweight mounting of data cable type or similar.

Breaking load Symmetrical loading

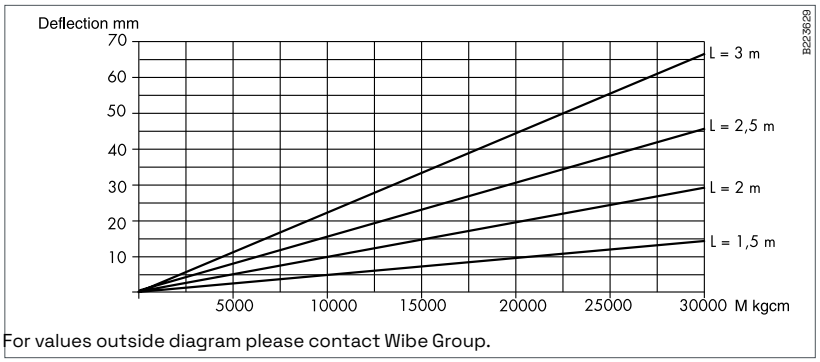


Symmetrical loading
Breaking load for Vertical piece (VP) 20FS = 5000 kg (50 kN)

Breaking load asymmetrical loading



Asymmetrical loading
M = Σ F x A Vertical piece 20FS mounted in ceiling, see diagram.



For values outside diagram please contact Wibe Group.

Example
Conditions:
- 2 m support distance75 kg/m ladder
- Two ladders, 400 and 600 mm
- One-side loading
- VP 20FS/1500
- Bending?

M = ∑ F x A (kgcm)

$$M = 75 \times 2 \times \left(\frac{40}{2} + 10.4\right) + 75 \times 2 \times \left(\frac{60}{2} + 10.4\right)$$

(F_1) (A_1) (F_2) (A_2)

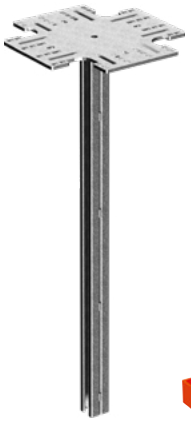
M = 10620 kgcm - bending as per diagram, about 5 mm.

Bending torque M is total sum of F x A (kgcm).
F = Cantilever arm loading (kg)
F = Loading (kg/m) x support distance (m).
A = Distance between loading and VP centre line (cm)
A = $\frac{\text{Ladder width}}{2}$ + 10.4 cm
L = VP length
Break load torque 60 000 (kgcm)

*Safe working load according to IEC 61537 is breaking load divided by 1.7.

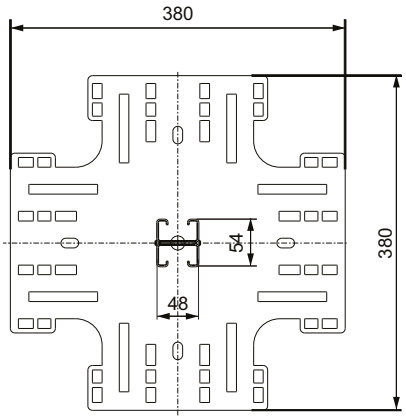
Use and installation

Vertical piece BM20



End plug
28D

Vertical piece, two-sided, to be used for vertical installation from I-beams together with Cantilever arm 50/50F. Used together with Beam clamp 6BK and bolt kits for Beam clamp, sold separately.

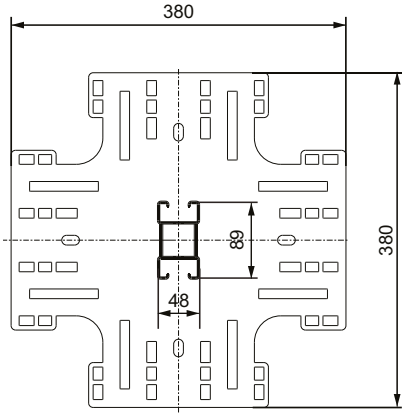


Type	L mm
Vertical piece BM20-505 HDG	498
Vertical piece BM20-1000 HDG	993
Vertical piece BM20-1500 HDG	1488
Vertical piece BM20-2000 HDG	1983
Vertical piece BM20-3000 HDG	2973
Vertical piece BM20-4000 HDG	4008
Vertical piece BM20-5000 HDG	4998
Vertical piece BM20-6000 HDG	5943

Vertical piece BM20F

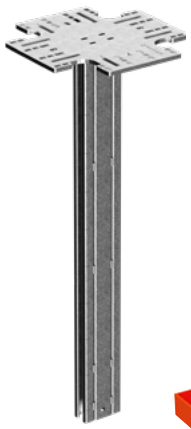
End plug
28J

Vertical piece, two-sided, to be used for vertical installation from I-beams together with Cantilever arm 50/50F. Used together with Beam clamp 6BK and bolt kits for Beam clamp, sold separately.



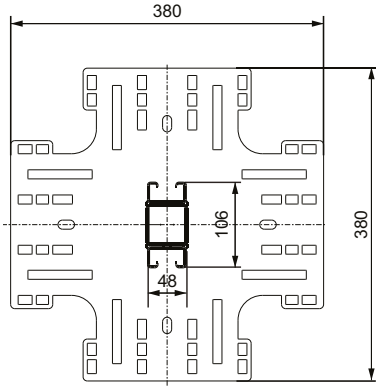
Type	L mm
Vertical piece BM20F-1000 HDG	993
Vertical piece BM20F-1500 HDG	1488
Vertical piece BM20F-2000 HDG	1983
Vertical piece BM20F-3000 HDG	2973
Vertical piece BM20F-4000 HDG	4008
Vertical piece BM20F-5000 HDG	4998
Vertical piece BM20F-6000 HDG	5943

Vertical piece BM20FS



End plug
28F

Vertical piece, two-sided, to be used for vertical installation from I-beams together with Cantilever arm 50/50F. Used together with Beam clamp 6BK and bolt kits for Beam clamp, sold separately.



Type	L mm
Vertical piece BM20FS-1000 HDG	995
Vertical piece BM20FS-1500 HDG	1490
Vertical piece BM20FS-2000 HDG	1985
Vertical piece BM20FS-3000 HDG	2975
Vertical piece BM20FS-4000 HDG	4010
Vertical piece BM20FS-5000 HDG	5000
Vertical piece BM20FS-6000 HDG	5945

Use and installation

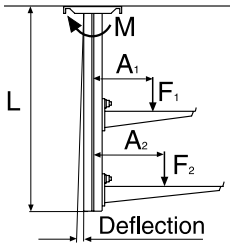
Type	Pendant offset (m) [Po]
Vertical piece BM20	0,077
Vertical piece BM20F	0,094
Vertical piece BM20FS	0,104

Safe working load asymmetrical loading

Bending torque M is total sum of F x A (Nm).

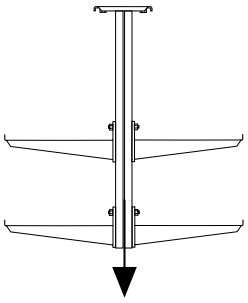
F = Cantilever arm loading (N)
F = Loading (kg/m) x support distance (m) x 9,81 N/kg.

A = Distance between loading and VP centre line (m)
A = Ladder width (m) + Pendant offset [Po] (m)
2

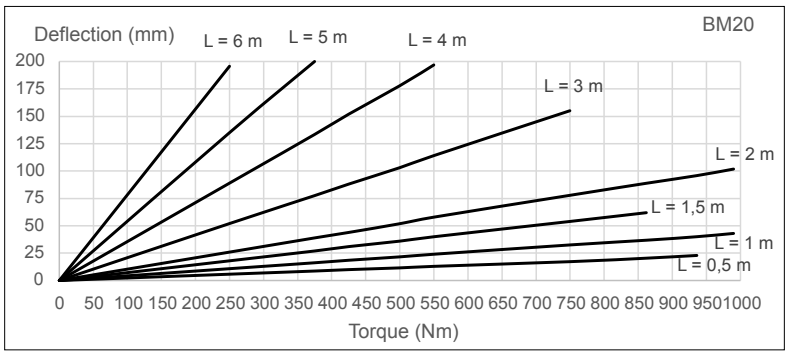


$$M = \sum_{n} F \times A$$

Type	Safe Working Load SWL (kN) Symmetrical loading
Vertical piece BM20	17,6
Vertical piece BM20F	22,0
Vertical piece BM20FS	25,0

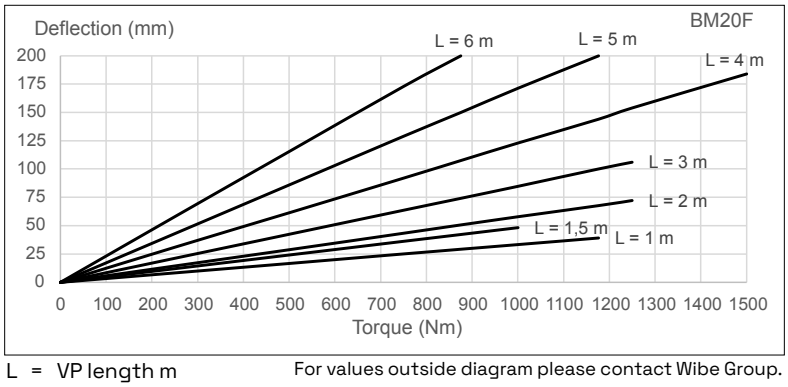


Safe Working load symmetrical loading



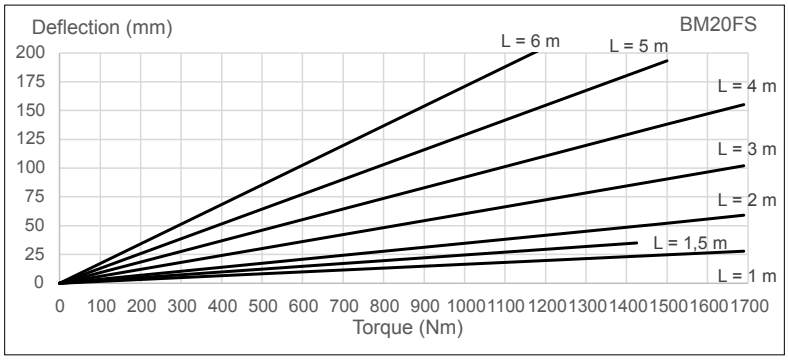
L = VP length m

For values outside diagram please contact Wibe Group.



L = VP length m

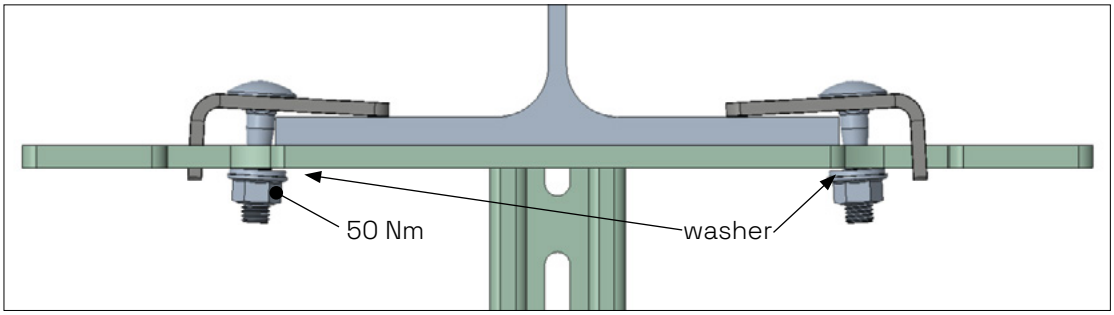
For values outside diagram please contact Wibe Group.



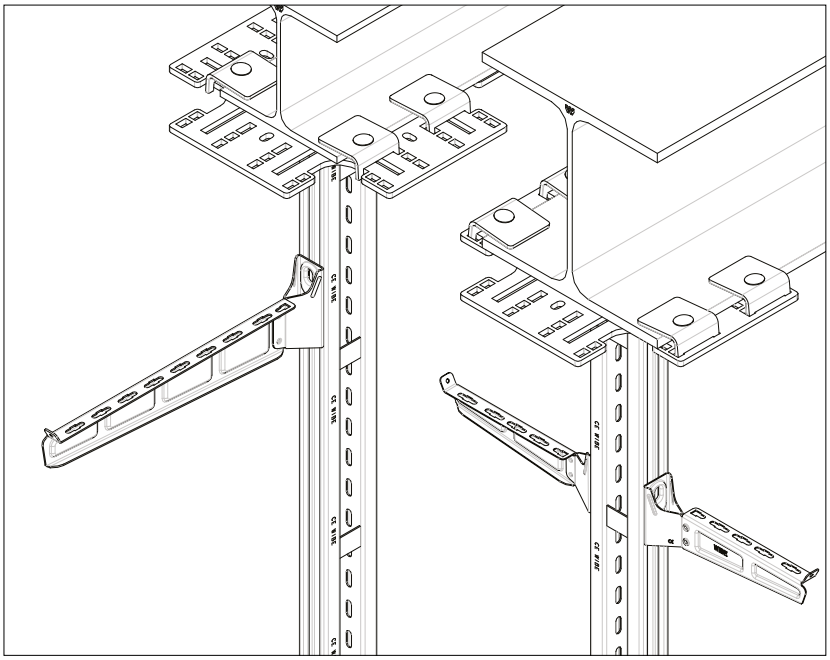
L = VP length m

For values outside diagram please contact Wibe Group.

Use and installation

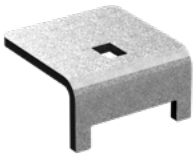


For a correct installation, the pendant need to be in the center of the beam and the bolts need to touch the side of the I-beam. Tightening torque 50Nm.

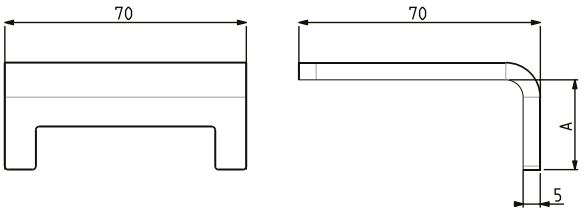


The pendant can be installed on both transversal and longitudinal direction on I-beams ranging from 200 to 300mm wide.

Beam clamp 6BK



Beam clamp to be used for the installation of Vertical pieces BM20, BM20F or BM20FS on I-beams. For flange thickness max. 13, 20, 30 and 40 mm respectively. Bolt kits to each 6BK clamp size are sold separately.

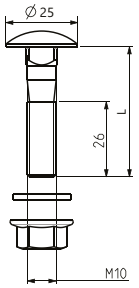


Type	A mm	For beam flange from X to X mm
Beam clamp 6BK-13 HDG	31	0-13
Beam clamp 6BK-20 HDG	38	13-20
Beam clamp 6BK-30 HDG	48	20-30
Beam clamp 6BK-40 HDG	58	30-40

Use and installation

Bolt-kits for Beam clamp 6BK

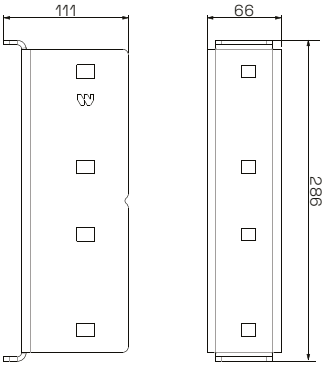
Bolt kit to be used for installation of Beam clamp 6BK to Beam pendants BM20, BM20F or BM20FS.
Set including screw MVBFM10, washer BRBM10 and nut M6MF10.

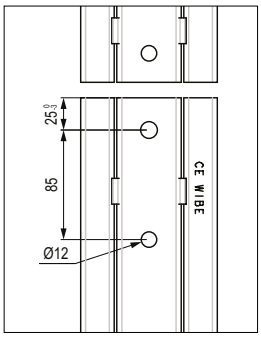


Type	L mm
Bolt-kits for Beam clamp 6BK-13 HDG	45
Bolt-kits for Beam clamp 6BK-20 HDG	50
Bolt-kits for Beam clamp 6BK-30 HDG	60
Bolt-kits for Beam clamp 6BK-40 HDG	70

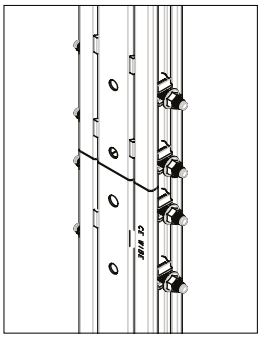
Pendant joint 20FS

Used for joining pendant/fixing rails 20FS and vertical pieces 20FS. Used in pairs. Provided without bolts and T-bolts. The pair is to be fixed to the rail with 8 x M10 T-bolts. Also 4 x Bolt-kit CSU795924 should be used as a pin.

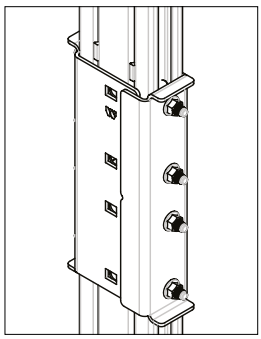




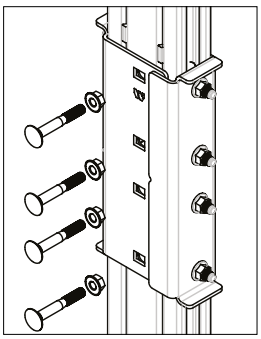
Prepare the pieces to be joined by drilling a Ø12mm hole in the center of the square tube according the drilling pattern dimensions:.



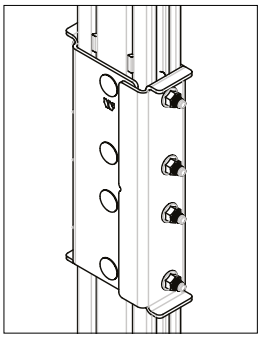
Install the 8 T-bolts M10x30 CSU795589 on the pendant and the additional rail



Place both joints in position and add the nuts. Tighten loosely



Install 4 Bolt-kits for Beam clamp 6BK-40 CSU795923 as pins.

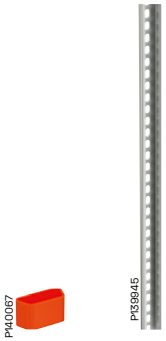


Tighten all the nuts at 25Nm torque.

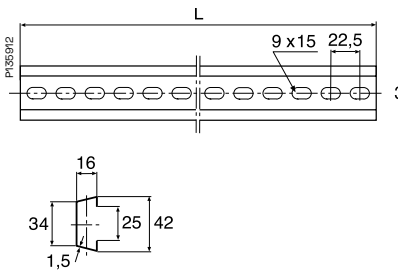
Use and installation

Pendant/Fixing rail 24/34

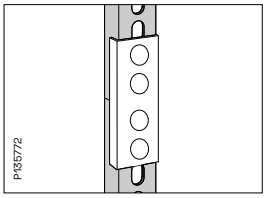
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.



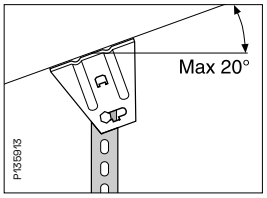
End plug
28C



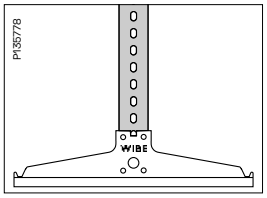
Type	L mm
Pendant/Fixing rail 24/34	292.5
Pendant/Fixing rail 24/34	382.5
Pendant/Fixing rail 24/34	495.0
Pendant/Fixing rail 24/34	697.5
Pendant/Fixing rail 24/34	990.0
Pendant/Fixing rail 24/34	2970.0



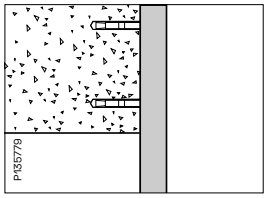
Vertical piece 2 may be joined to Pendant/Fixing rail 24/34 and Pendant joint 2J to achieve a suitable length.



Ceiling bracket 5 and 1 Screw set 22S together provide a vertical piece that can be mounted with up to 20° slope.



Mount Support bracket 3 using Screw set 22S.

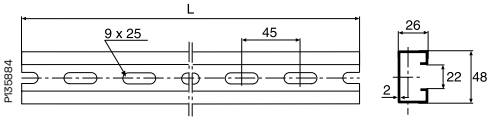


Side mounting of pendant/ fixing rails may be done using 2 Expansion bolts alt. 2 Concrete screws.

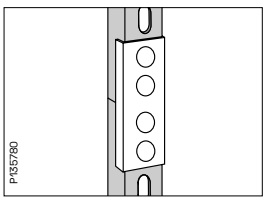
Pendant/Fixing rail 24/48

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.

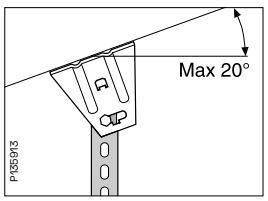
End plug
28E



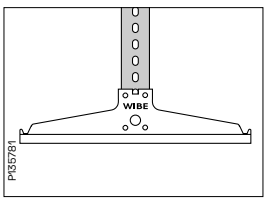
Type	L mm
Pendant/Fix. rail 24/48	1000
Pendant/Fix. rail 24/48	2970
Pendant/Fix. rail 24/48	5940



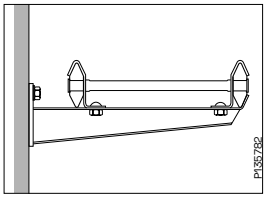
Vertical piece 2F may be joined using Pendant/ Fixing rail 24/48 and Pendant joint 2FJ to achieve the required length.



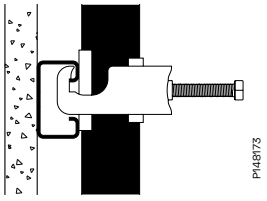
Ceiling bracket 5 and 1 Screw set 22S together provide a vertical piece that can be mounted with up to 20° slope. Only for mounting support brackets.



Mount Support bracket 3 using Screw set 22S.



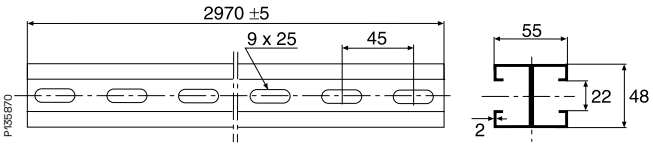
Mount Cantilever arm 50 using T-bolt.



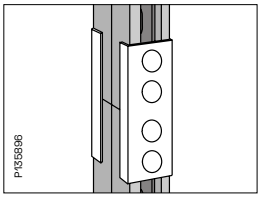
Cables are mounted on a Pendant/Fixing rail 24/48 using cable clamp ARX.

Pendant/Fixing rail 24/20

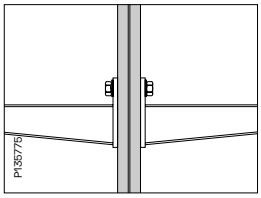
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.



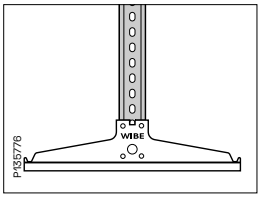
End plug
28D



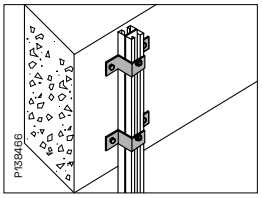
Vertical piece 20 may be joined using Pendant/ Fixing rail 24/20 and Pendant joint 20J. Only for symmetrical loading.



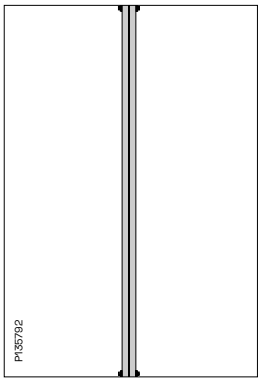
Mount Cantilever arm 50 using T-bolts.



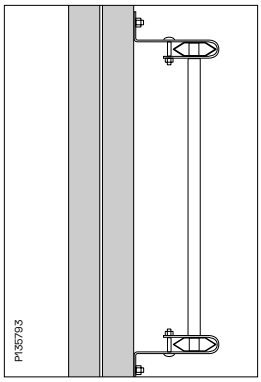
Mount Support bracket 3 using Screw set 20S.



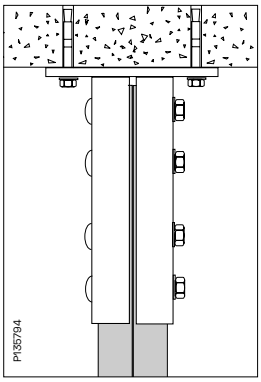
Pendant/Fixing rail can be mounted on beam or wall with Wall bracket 20.



Pendant/Fixing rail 24/20 may be mounted as a riser between the floor and ceiling using 4 Angle brackets 5L and 4 T-bolts.



Cable ladder may be mounted vertically or horizontally on Pendant/ Fixing rail 24/20 using Wall bracket 11/25 or 11/75 and T-bolt.



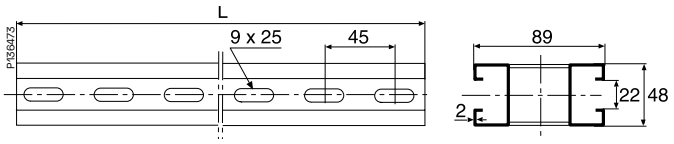
Pendant base plate 520 can be mounted as a ceiling or floor attachment.

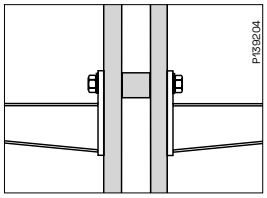
Use and installation

Pendant/Fixing rail 24/20F

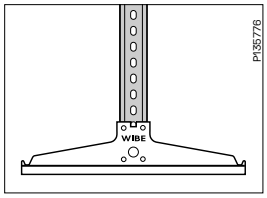
Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.

End plug 28J

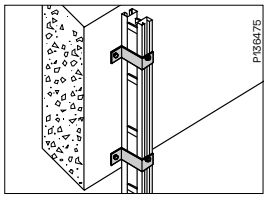




Mount Cantilever arm 50 using T-bolts.

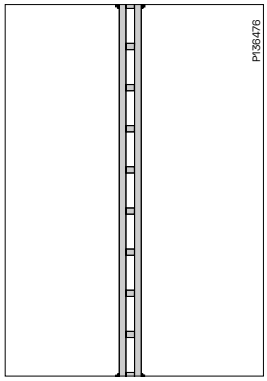


Mount Support bracket 3 using Screw set 2S.

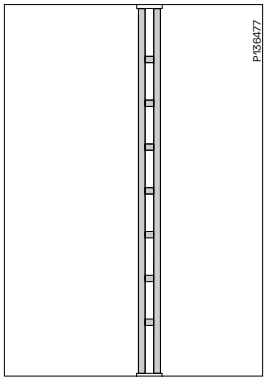


Pendant/Fixing rail 24/20F can be mounted on beam or wall with Wall bracket 20F

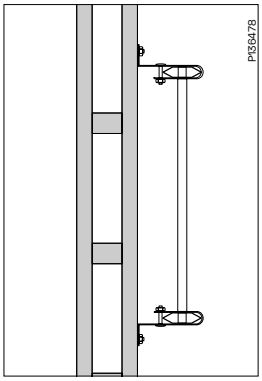
Type	L mm
Pendant/Fixing rail 24/20F-3000	2970
Pendant/Fixing rail 24/20F-6000	5940



Pendant/Fixing rail 24/20F can be mounted as a riser between the ceiling and floor using 4 Angle brackets 5L and 4 T-bolts.



Mount Pendant/Fixing rail 24/20F between a floor and ceiling using 2 Rail fixing supports.

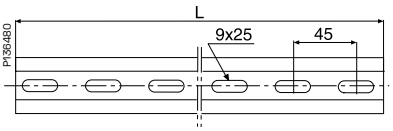


Cable ladder can be mounted vertically or hori- zontally on Pendant/ Fixing rail 24/20F using Wall bracket 11/25 or 11/75.

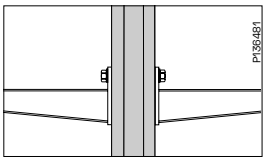
Pendant/Fixing rail 24/20FS

Pendant/Fixing rail for mounting of support brackets, cantilever arms, etc.

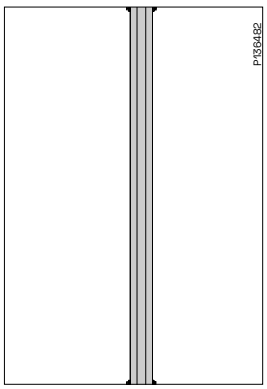
End plug 28F



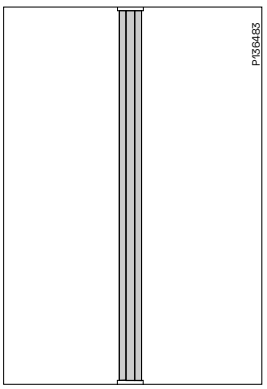
L = 5940 mm



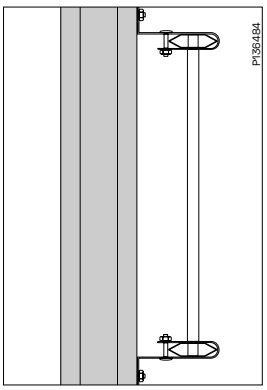
Mount Cantilever arm 50 using T-bolts.



Pendant/Fixing rail 24/ 20FS can be mounted as a riser between the ceiling and floor using 4 Angle brackets 5L and 4 T-bolts.



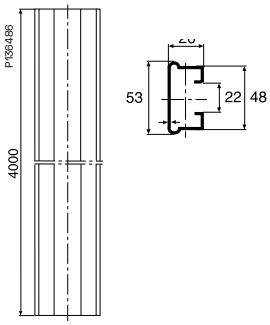
Mount Pendant/Fixing rail 24/20FS between floor and ceiling using 2 Rail fixing supports.

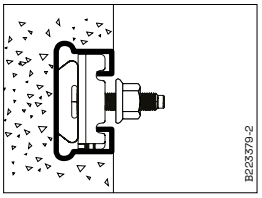


Cable ladders can be mounted vertically or horizontally on Pendant/ Fixing rail 24/20FS using Wall bracket 11/25 or 11/75 and T-bolt.

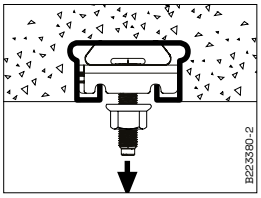
Fixing rail 24/26x53 for casting-in

Fixing rail for casting-in in wall and ceilings.





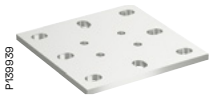
Fixing rail 24/26 x 53 for casting-in in walls and ceilings. Mount cantilever arms with T-bolt 26U.

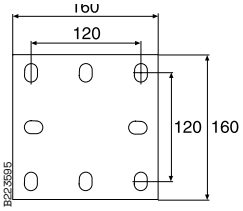


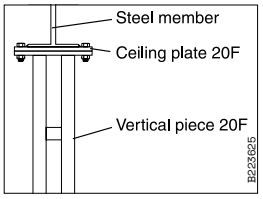
Max. pull-out load: 1000 kg/0.5 m of casting-in fixing rail (Concrete class K200).

Ceiling plate 20F

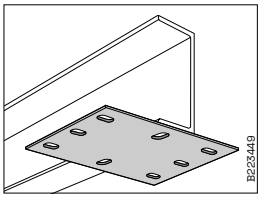
Ceiling plate to be used as a pre-drilled attachment for Vertical piece 20F to a steel member. The ceiling plate is welded in position.







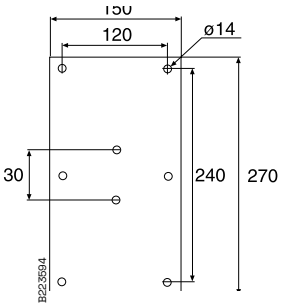
The ceiling plate is weld- ed to the steel member. Permission to weld on the steel member is required. Remove all zinc at the weld. Post- treat using anti-corrosive repair paint.

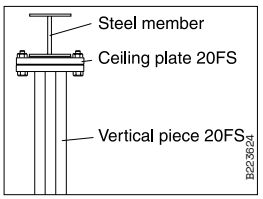


Use Ceiling plate 20F as a fully drilled attachment for Vertical piece 20F against a steel member. Secure the ceiling plate by welding. Remove all zinc at the weld. Post-treat using anti-corrosive repair paint.

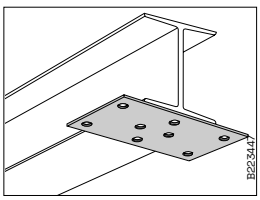
Ceiling plate 20FS

Ceiling plate 20F is used as a pre-drilled attachment for Vertical piece 20F to a steel member. The ceiling plate is welded in position.





The ceiling plate is welded to the steel member. Permission to weld on the steel member is required. Remove all zinc at the weld. Post-treat using anti-corrosive repair paint.

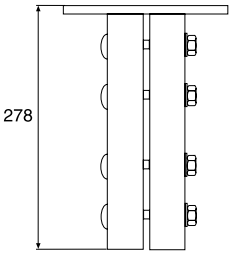


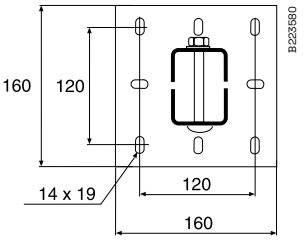
Use Ceiling plate 20FS as a fully drilled attachment for Vertical piece 20FS against a steel member. Secure the ceiling plate by welding. Remove all zinc at the weld. Post-treat using anti-corrosive repair paint.

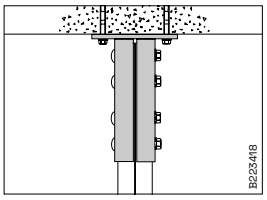
Use and installation

Pendant base plate 520

Pendant base plate to be used as a ceiling or floor base plate for Pendant/Fixing rail 24/20 in any desired length.



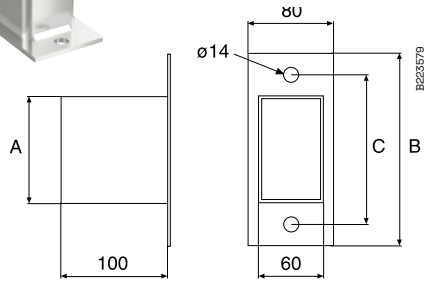


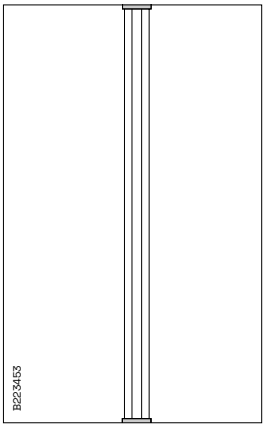


Vertical pieces of the required length can be mounted using Pendant base plate 520 and Pendant/Fixing rail 24/20.

Rail fixing support 24/20F, 24/20FS

Rail fixing support to be used with Pendant/fixing rails 24/20F and 24/20FS respectively, for mounting between floor and ceiling.



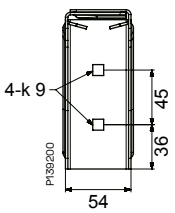


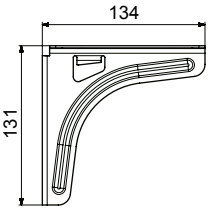
Type	A mm	B mm	C mm
Rail fix. support 24/20F	100	165	135
Rail fix. support 24/20FS	120	185	155

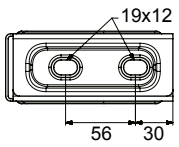
1. Mount one of the rail fixing supports in the ceiling.
2. Adjust the pendant length.
3. Mount the rail fixing support for floor mounting on the pendant.
4. Insert the pendant in the rail fixing support in the ceiling.
5. Attach the bottom rail fixing support securely to the floor.

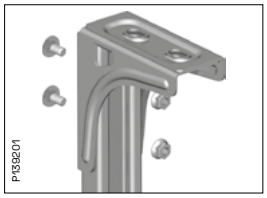
Ceiling bracket 2Fi

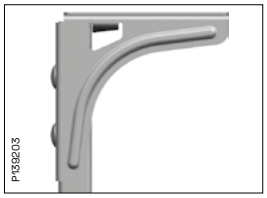
Ceiling bracket to be used on Pendant/fixing rail 24/48 to achieve the desired length of vertical pieces.







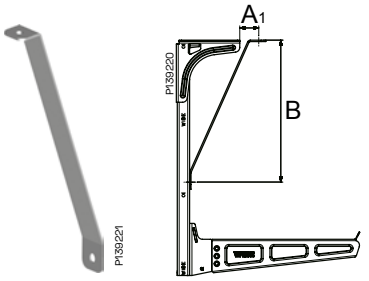




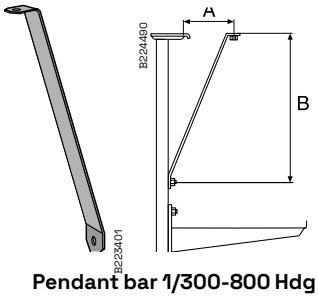
Ceiling bracket 2Fi and Pendant/Fixing rail 24/48, mounted together with 2 Screw sets 22S, are used when other lengths are required than those available for Vertical piece 2Fi.

Pendant bar 1

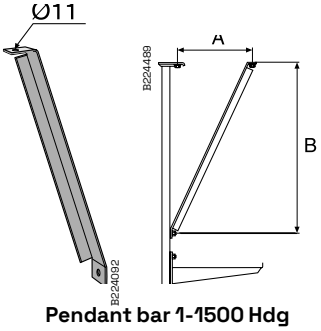
Pendant bar to be installed in order to reduce the deflection of heavily loaded vertical pieces. Installed with T-bolt and Expansion bolt.



Pendant bar 1/300-800 Pre-galv.

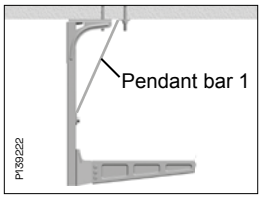


Pendant bar 1/300-800 Hdg

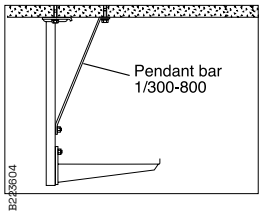


Pendant bar 1-1500 Hdg

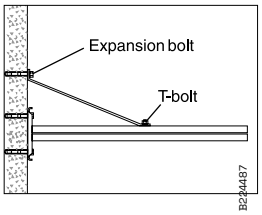
Type	A mm[1]	A mm	B mm
1/300	40	80	300
1/500	40	130	500
1/800	125	215	800
1/1500	Varies	Varies	Varies



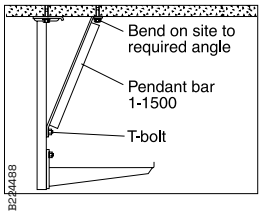
To reduce deflection of Vertical piece 2Fi at heavy loads on Cantilever arm 50i the Pendant bar 1 can be used. Install with T-bolt and Expansion bolt.



To reduce deflection of Vertical piece 2F at heavy loads on Cantilever arm 50 the Pendant bar 1 can be used. Install with T-bolt and Expansion bolt.



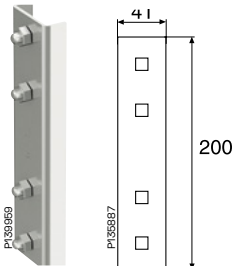
To be mounted to strengthen Vertical piece 20 when mounted horizontally. Use T-bolt and Expansion bolt.



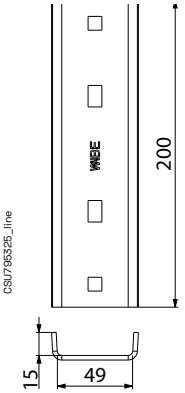
Mount this stay to reduce deflection of long Vertical pieces 2F, 20 and 20F.

Pendant joint 2J, 2FJ and 20J

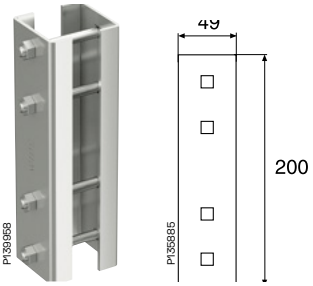
Pendant joint to be used for joining pendant/fixing rails and vertical pieces.



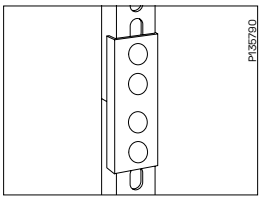
Pendant joint 2J



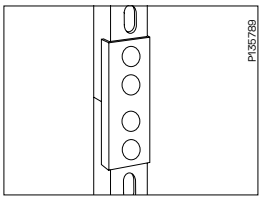
Pendant joint 2FJ



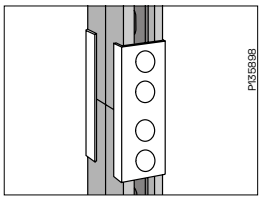
Pendant joint 20J



Pendant joint 2J, used for joining of Vertical piece 2 and Pendant/ Fixing rail 24/34.



Pendant joint 2FJ, used for joining of vertical piece 2F.



Pendant joint 20J, used for joining of Vertical piece 20 and Pendant/ Fixing rail 24/20. Only for symmetrical loading.

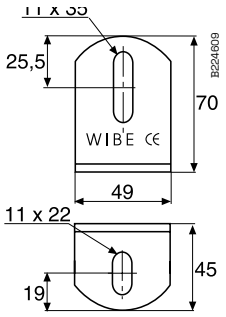
Use and installation

Angle bracket 5L and 5LS

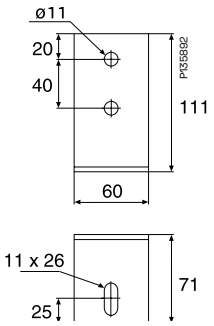
Angle brackets used when assembling pendant/fixing rails to frames for switching cabinets and elecrical control centres and for fixing an upright between floor and ceiling. Assembled with a T-bolt. Angle bracket 5L is also used for steel wire install- ation in ceilings.

Angle bracket 5L

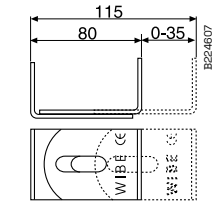
Angle bracket 5LS



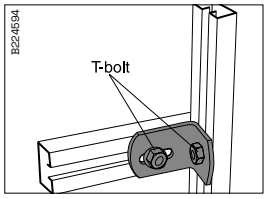
Angle bracket 5L

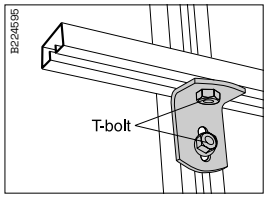


Angle bracket 5LS

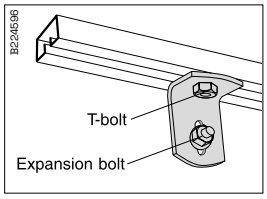


Adjustability 5L

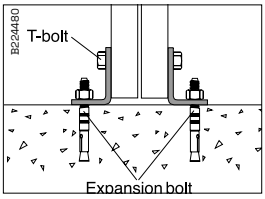




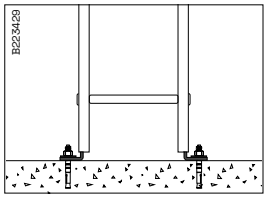
Installation examples for installation of pendant/ fixing rails to different frameworks for installation of control panels, electric distribution boards, etc. Angle bracket **5L** is used.



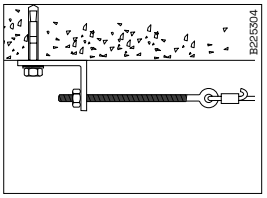
Mounting of a pendant/ fixing rail on a wall. Use Angle bracket **5L** or **5LS**.



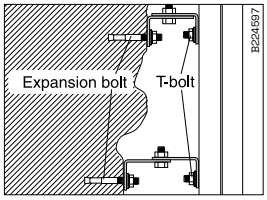
Mounting of a pendant/ fixing rail against floor with Angle bracket **5L** or **5LS**.



Angle bracket **5L** can be mounted inside the ladder profile and thus be used as an end connection against wall or floor.



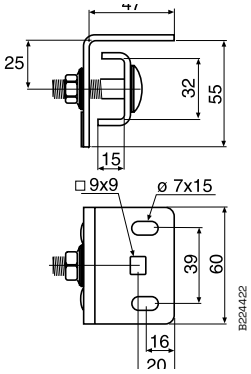
Angle bracket **5L** is installed in ceiling with Expansion bolt or concrete screw. Max. permitted loading 600 kg (6 kN).



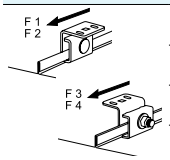
5LS can also be mounted as support behind pen- dant/ fixing rails to com- pensate for irregularities in, for example, con-crete or mountain walls.

Combi bracket 53

Combi bracket to be used for the mounting of cable ladders and trays on seamed roofing sheets, etc. To be combined with plastic insulating plate 54.

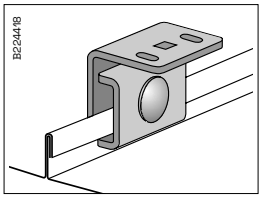


Breaking load*

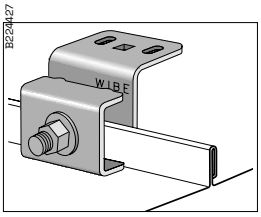
	Type of roofing sheet	Insulating plate	Permitted load
	Bandsheet Prelac	No	F1=100 kg
	Copper sheeting	Yes	F2=50 kg
	Bandsheet Prelac	No	F3=100 kg
	Copper sheeting	Yes	F4=50 kg

* Loading values and fixing of roof sheet - follow the supplier's recommendations

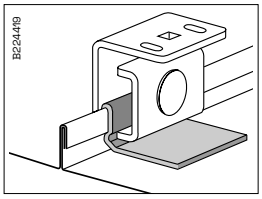
Test have been made of:
Bandsheet Prelaq BLX t=0.6 SSAB tunnplåt Copper sheeting annealed SS 5015-80 t=0.6 Tightening torque at test=60Nm



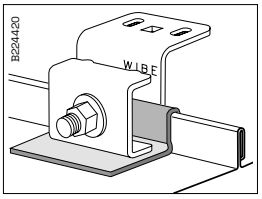
Combi bracket 53 mounted on seamed roofing sheet.



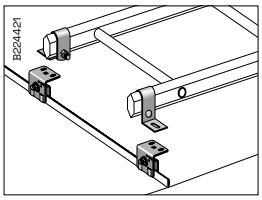
Alternative mounting of Combi bracket 53.



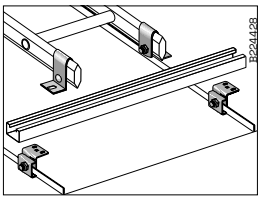
In order to avoid contact between Combi bracket 53 and copper sheeting, Insulating plate 54 must be used.



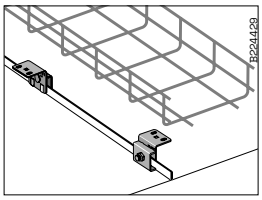
Alternative mounting of Combi bracket 53 and Insulating plate 54.



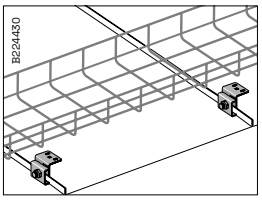
Cable ladder mounted across the seams of the roofing sheets with Combi bracket 53, Wall bracket 11/25 and Screw set 22S.



Cable ladder mounted along the seams of the roofing sheets with Combi bracket 53, Wall bracket 11/25, Screw set 22S, Pendant/ Fixing rail 24/48 and T-bolt 26U.



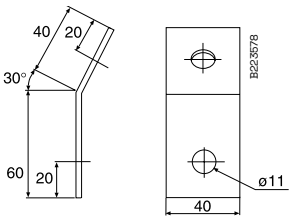
Mesh tray mounted along the seams of the roofing sheets with Combi bracket 53 and accessories from the Mesh tray programme.

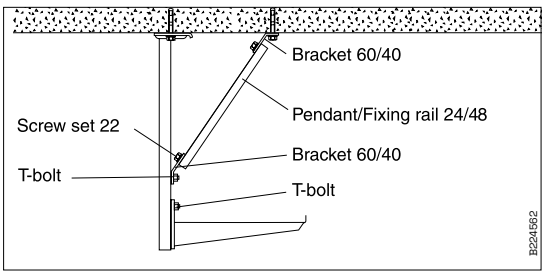


Mesh tray mounted across the seams of the roofing sheets with Combi bracket 53 and accessories from the Mesh tray programme.

Bracket 60/40

Bracket to be used together with Pendant/fixing rail 24/48 to reduce the deflection of long vertical pieces.



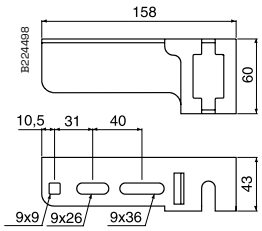


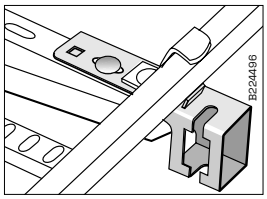
Use Bracket 60/40 together with Pendant/Fixing rail 24/48 to reduce the deflection of long Vertical pieces 2F, 20, 20F or 20FS. Cut the pendant/fixing rail to a suitable length on site.

Use and installation

Rod bracket 82

Rod bracket to be used together with Cantilever arm 50, in combination with threaded rod support.

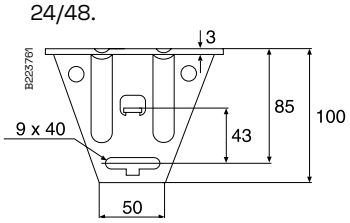


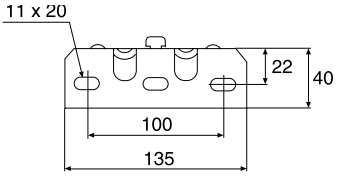


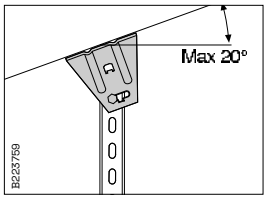
Rod bracket 82 mounted on Cantilever arm 50. Screw set 22S and Profile clamp 42 are to be used.

Ceiling bracket 5

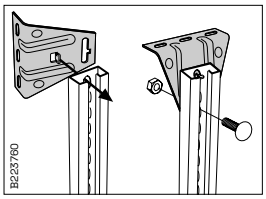
Ceiling bracket to be used for installations with Pendant/Fixing rails 24/34 and 24/48.



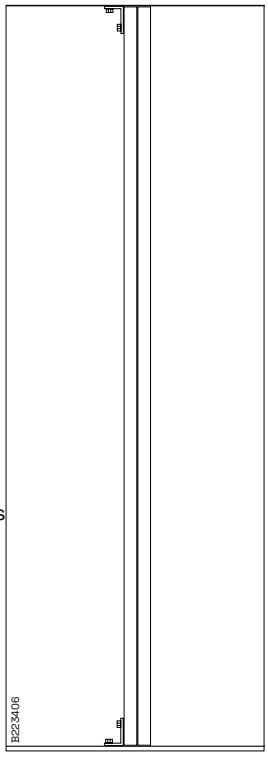




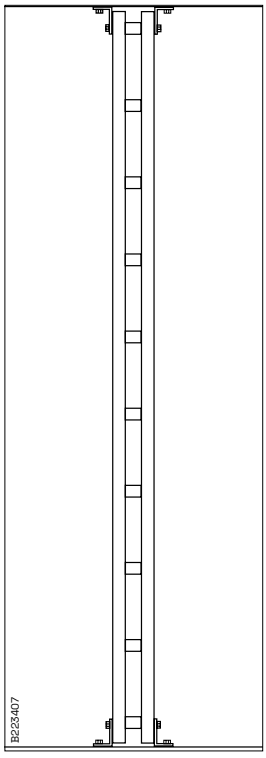
Using Pendant/Fixing rail 24/34 or 24/48, 1 Ceiling bracket 5 and 1 Screw set 22S it is possible to make a vertical piece that can be installed at an angle of up to 20°. Breaking load for rail 34 = 1000 kg (10 kN). Breaking load for rail 48 = 1200 kg (12 kN).



Mount Ceiling bracket 5 to the back of the pendant/ fixing rail by turning the ceiling bracket 90° and inserting the tab into the hole in the rail. Then turn the ceiling bracket back and lock it in the required position using 1 Screw set 22S. When mounting it at a horizontal ceiling, lock the screw in the slot recess for better lateral stability. Ceiling bracket 5 can be tilted max. 20°.



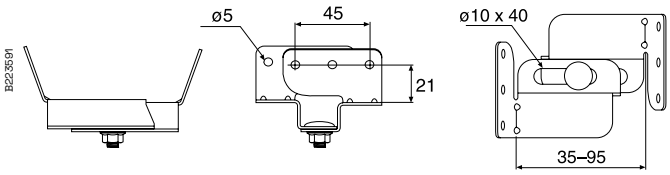
Pendant/Fixing rail 24/20 can, using 2 Ceiling brackets 5 and 2 T-bolts, be mounted between floor and ceiling (see also Angle bracket 5L).

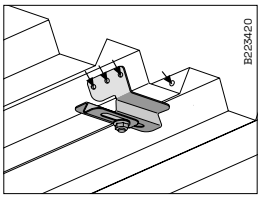


Pendant/Fixing rail 24/20F can, using 4 Ceiling brackets 5 and 4 T-bolts, be mounted between floor and ceiling (see also Angle bracket 5L).

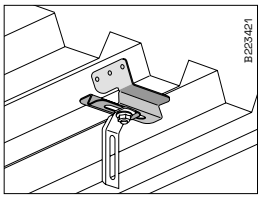
Ceiling bracket 5TPA

Ceiling bracket with telescopic function, to be used for mounting of various sizes of trapezoid plates.

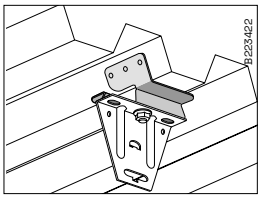




Ceiling bracket 5TPA can be mounted in trapezoid plate with blind rivets or suitable screws. The bracket is adjustable from 35 to 95 mm.

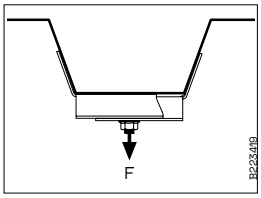


Pendant attachment W21 or Tube pendant attachment W73 (Wibe Cable Tray) can be mounted in Ceiling bracket 5TPA with the existing screw.

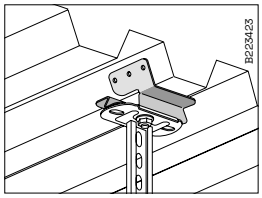


Ceiling bracket 5 or Ceiling attachment W31 can be mounted with the existing screw.

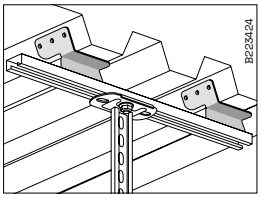
Breaking load



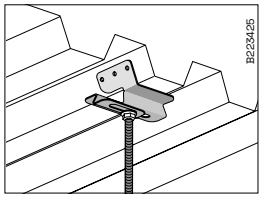
Ceiling bracket 5TPA can be loaded with F=150 kg without deformation. For loading figures for thin plate or fixing elements, follow suppliers recommendations.



Vertical piece 2 or 2F can be mounted with the existing screw.



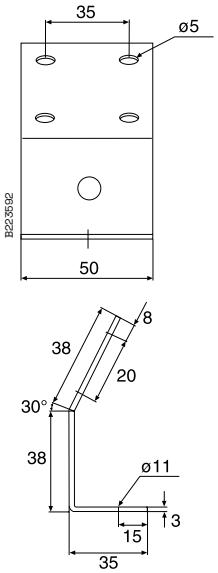
Install Mounting rail 40 between 2 Ceiling brackets 5TPA if the vertical piece must be adjusted sideways.

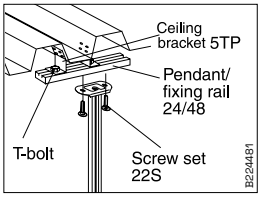


Pendant W76 M8 or M10 installed in Ceiling bracket 5TPA.

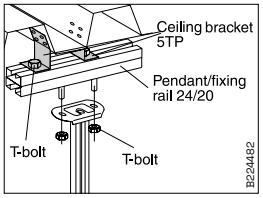
Ceiling bracket 5TP

Ceiling bracket to be used in trapezoidal sheeting for installations of Pendant/ Fixing rail 24/48.





In ceilings with trapezoidal sheeting, mount Vertical piece 2, 2F or 20 using 2 Ceiling brackets 5TP, Pendant/ Fixing rail 24/48, 2 T-bolts and Screw set 22S.

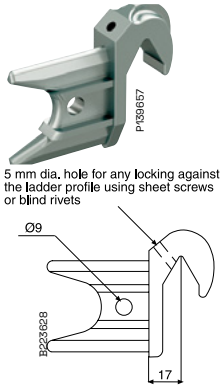


Alternatively Pendant/ Fixing rail 24/20 may be used. This will require the use of 4 T-bolts.

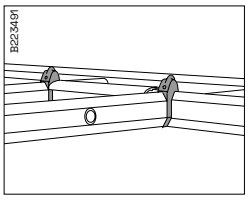
Use and installation

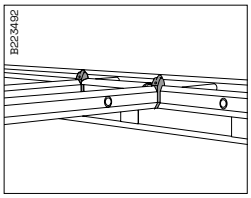
Fixed take-off hook 4

Fixed take-off hook to be used for 90° horizontal branches.

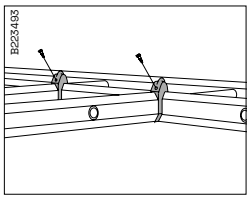


Fixed take-off hook 4 is used at 90° horizontal branches. Coupling 22 can also be used for straight angle formation.

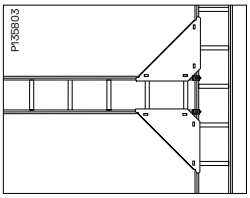




KHZSP, KHZSPZ+, KHZPS, KHZ and KHZP can also be used to form 90° angles from KHZV/KHZPV using Fixed take-off hook 4. Mount Profile protection 28P.



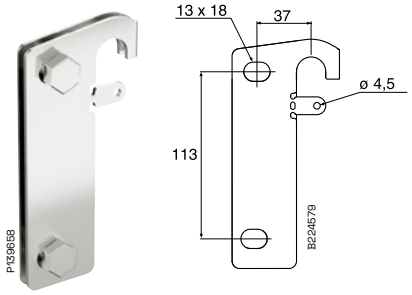
5 mm dia. hole for any locking against the section using sheet screws or blind rivets.

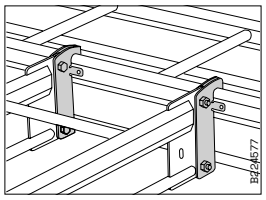


Angle plate 33 is always recommended at horizontal branches.

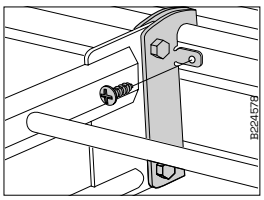
Take-off hook 47

Take-off hook to be used on cable ladders KHZV and KHZPV to make 90° branches.





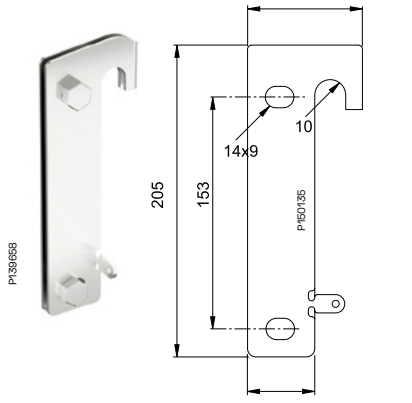
Use Take-off hook 47 to make 90° branches.

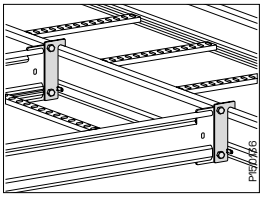


The extra hole, Ø 4.5, is to be used when earthing is demanded or if vertical locking of the ladder is needed. A self-drilling screw must be used.

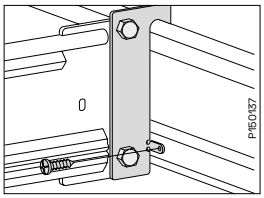
Take-off hook 20C

Take-off hook to be used on cable ladders KHZP 20C range to make 90° branches. Screw M12 and nuts are included.





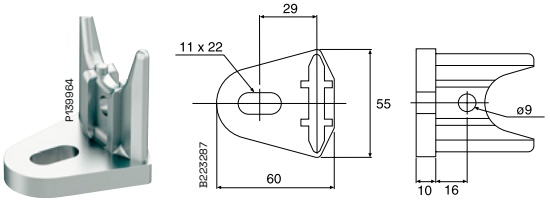
Use Take-off hook 20C to make 90° branches.

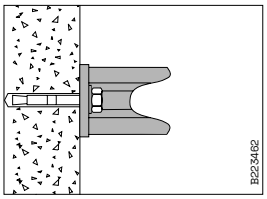


The extra hole, Ø 4.5, is to be used when earthing is demanded or if vertical locking of the ladder is needed. A self-drilling screw must be used.

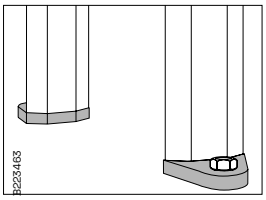
End connection 10

End connection to be used for the connection of a ladder vertically to a floor, or horizontally to a wall.

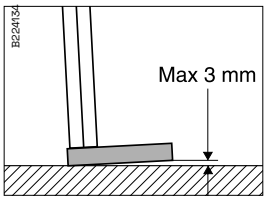




The End connection 10 is mounted at the ladder end vertically against floors or horizontally against walls.



Mount the End connection 10 using Expansion bolts.

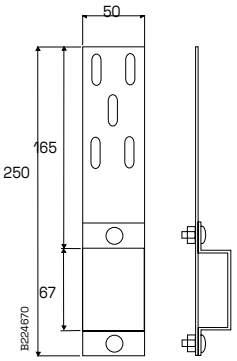


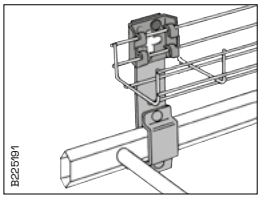
Max. tilt permitted = 3 mm before tightening the screw.

Use and installation

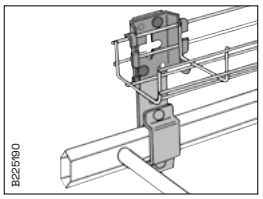
Combi Fitting B21

Combi-fitting to be used when mounting mesh trays onto cable ladders.





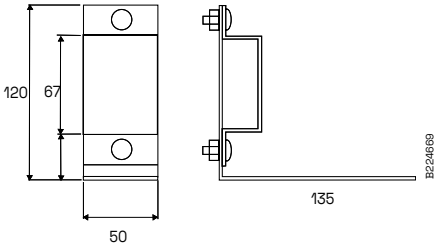
Defen Mesh tray 53 and 75 is mounted onto Combi Fitting B21 with Bracket B4 mini Bolt and Nut B13.

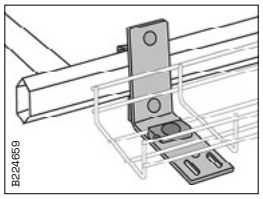


Defem Mesh tray 120 is mounted onto Combi Fitting B21 with Bracket B4 Bolt and Nut B13.

Combi Fitting B21 90 degree

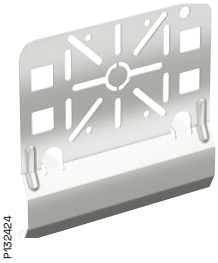
Combi-fitting to be used when mounting mesh trays onto cable ladders.

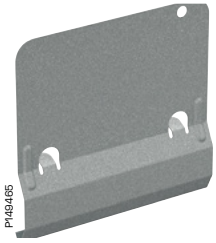




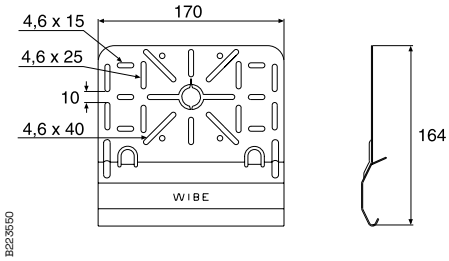
Defem Mesh tray 53, 75 and 120 is mounted onto Combi Fitting B21 90° with 1 Fitting B2.1 Bolt and Nut B13.

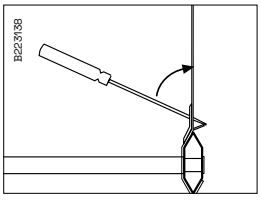
Junction box plate 35S



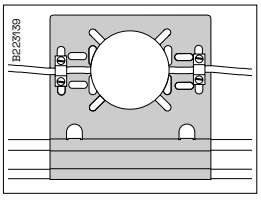


Installed upright or hanging from the profile. Locked with locking tabs.

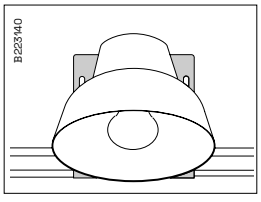




Bend the tab towards the ladder section by using a screwdriver as a lever for mounting junction box plates.



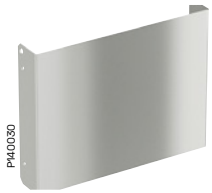
Junction box plates can be mounted in standing or hanging positions on the side sections Strain-relief may be provided using the outermost holes and clamps or strips.



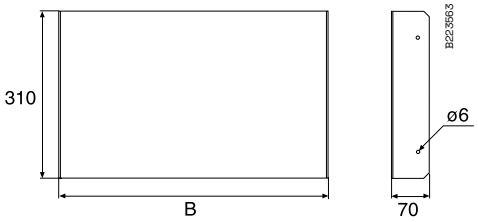
Light fittings can also be mounted on junction box plates.

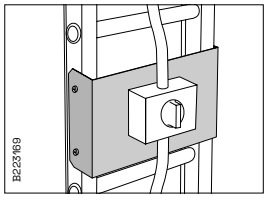
Use and installation

Installation plate 61



Installation plate to be used on vertical cable ladder installations for mounting of terminal boxes, contact breakers, etc.

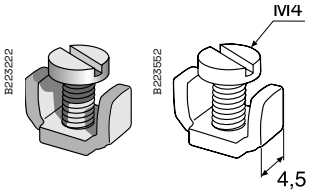




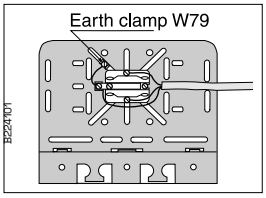
Used on vertical cable ladder installations for mounting of terminal boxes, contact breakers etc. Mount with selftapping screw ST4.2 in the side profile.

Type	B mm
Installation plate 61-200	200
Installation plate 61-300	300
Installation plate 61-400	400
Installation plate 61-500	500
Installation plate 61-600	600

Earth clamp W79



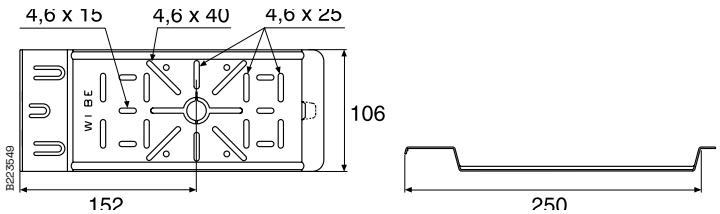
The earth clamp is used when protective earthing of the junction box plate is required.

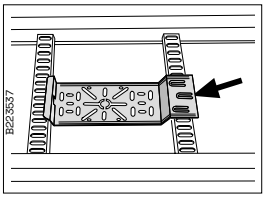


Earth clamps are designed for use when protective earthing of the mounting plate is required for mounting apparatuses as per relevant heavy current directives. The oblong holes in the junction box plate (mounting plate) permit movement of the earth clamp so that it always comes under the casing of the apparatus. If the apparatus's earth clamp is not approved for joining protective earth conductors, it must pass unbroken through the apparatus's earth clamp to the junction box earth clamp (see the fig.).

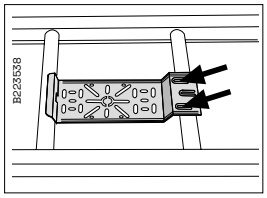
Junction box plate 35P

Junction box plate with holes, to be installed between rungs. Locked with appropriate locking tabs for each ladder. For junction boxes, electric light fittings, etc.



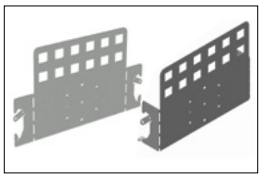


Mount junction box plates between the ladder rungs. On KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV attach junction box plates by bending the central tab into the rung perforation using a screwdriver or suchlike.

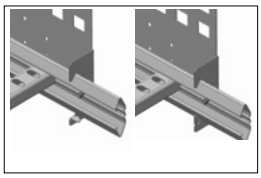


Mount junction box plates on KHZ and KHZV by bending the two outer tabs towards the round rung using a screwdriver or suchlike

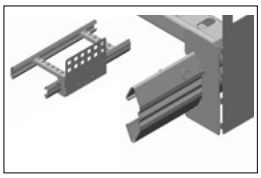
Junction box plate 12xRJ45 Actassi S-one



Junction box plate delivered flat, to be bended on site.



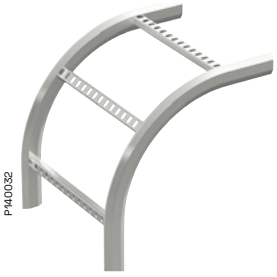
Bend the ladder beam interface part 90° to the inside. Bend the optional fixation lips to the outside to easily position the junction box plate on the ladder beam.

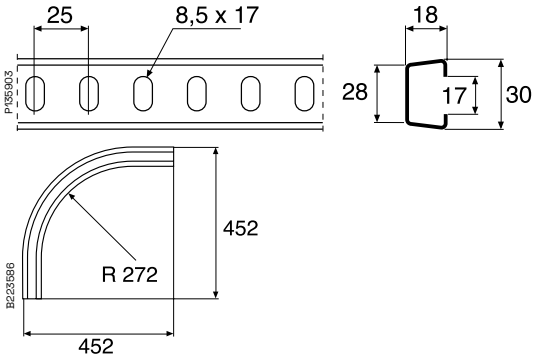


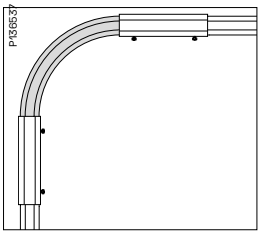
Optional the junction box plate can be fixed to the ladder beam by using self drilling screws.

Riser 18

Riser piece to be fitted to the cable ladders by using Joint 21.



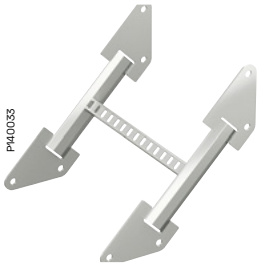


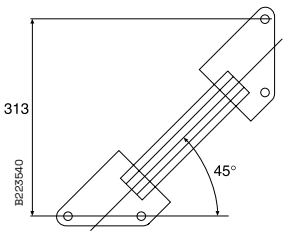


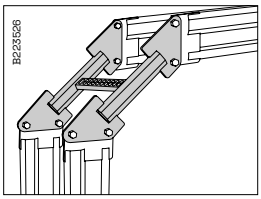
Join the cable ladders to Riser 18 using Joint 21.

Riser coupling 49

Coupling to be used as a self-supporting vertical coupling of cable ladders KHZV/KHZPV. Two screws M12 and nuts are needed.



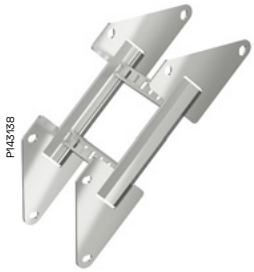


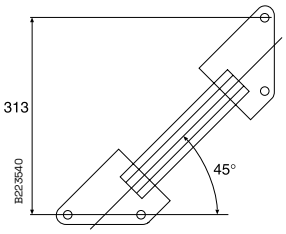


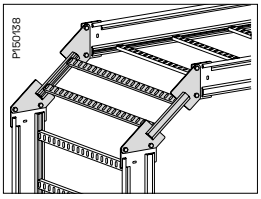
Mount Riser coupling 49 to form a 90° branch on KHZV/KHZPV using 2 Screw sets M12. This provides a large radius for cables.

Riser coupling 20C

Coupling to be used as a self-supporting vertical coupling of cable ladders KHZP 20C range. Two screw sets M12 are needed.

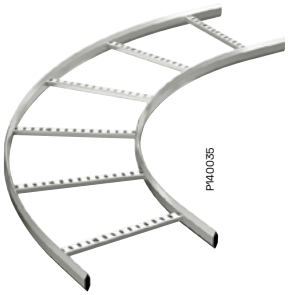






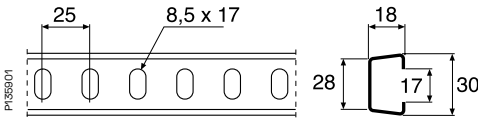
Mount Riser coupling 20C to form a 90° branch on KHZP 20C using 2 Screw sets M12. This provides a large radius for cables.

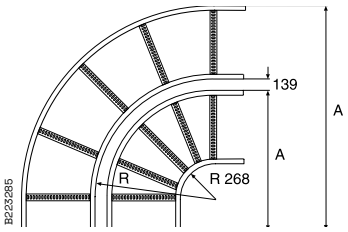
Use and installation

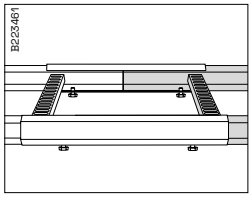


90° bend 15, interior and exterior

Interior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend. Inner radius 268 mm.
Exterior bend piece to be fitted to the cable ladders by using Joint 21, creating a 90° bend.



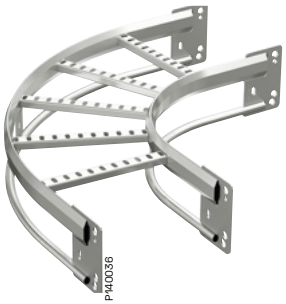




Join cable ladders to 90° bend using Joint 21.

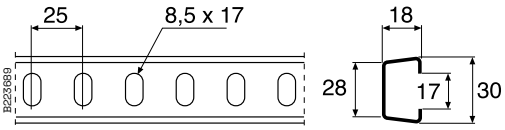
Type	R mm	A mm
Interior		
90° bend 15/150	268	547
90° bend 15/200	268	597
90° bend 15/300	268	697
90° bend 15/400	268	797
90° bend 15/500	268	897
90° bend 15/600	268	997
90° bend 15/800	268	1197
90° bend 15/1000	268	1397

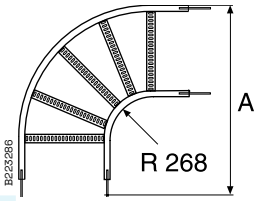
Type	R mm	A mm
Exterior		
90° bend 15/150	554	703
90° bend 15/200	604	933
90° bend 15/300	704	1133
90° bend 15/400	804	1333
90° bend 15/500	904	1533
90° bend 15/600	1004	1733
90° bend 15/800	1204	2133
90° bend 15/1000	1404	2533

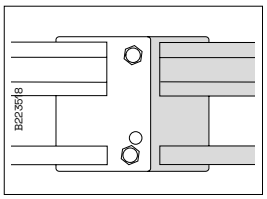


90° bend 55 interior

Interior bend piece to be fitted to cable ladders KHZV and KHZPV, creating a 90° horizontal bend.





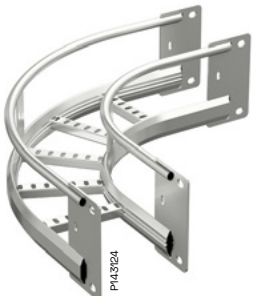


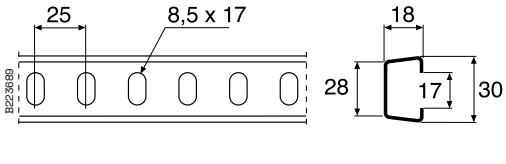
For joining to KHZV and KHZPV, use Screw set M12

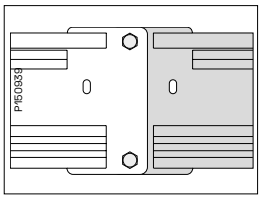
Type	A mm
90° bend 55/200	625
90° bend 55/300	725
90° bend 55/400	825
90° bend 55/500	925
90° bend 55/600	1025
90° bend 55/800	1225
90° bend 55/1000	1425

90° bend 20C, interior

Interior bend piece to be fitted to cable ladders KHZP 20C range, creating a 90° horizontal bend.





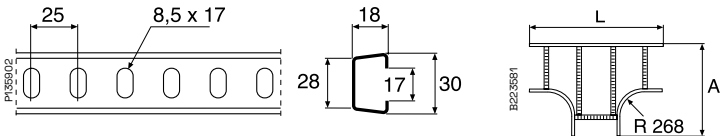


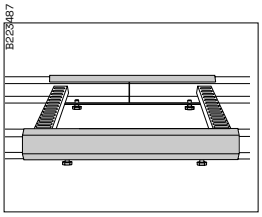
For joining to KHCP 20C/KHZV and KHZPV, use Screw set M12

Type	A mm
90° bend 20C/200	625
90° bend 20C/300	725
90° bend 20C/400	825
90° bend 20C/500	925
90° bend 20C/600	1025
90° bend 20C/800	1025
90° bend 20C/1000	1425

T-junction 16

T-junction piece to be fitted to the cable ladders by using Joint 21.





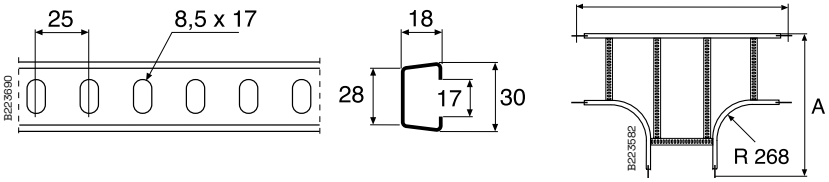
Join the cable ladders to T-junction 16 using Joint 21.

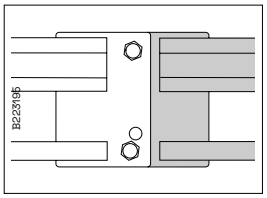
Type	A mm	L mm
T-junction 16/150	547	944
T-junction 16/200	597	997
T-junction 16/300	697	1097
T-junction 16/400	797	1197
T-junction 16/500	897	1297
T-junction 16/600	997	1397
T-junction 16/800	1197	1597
T-junction 16/1000	1397	1797

Use and installation

T-junction 56

T-junction piece to be fitted to the cable ladder KHZV or KHZPV by using screw set M12.



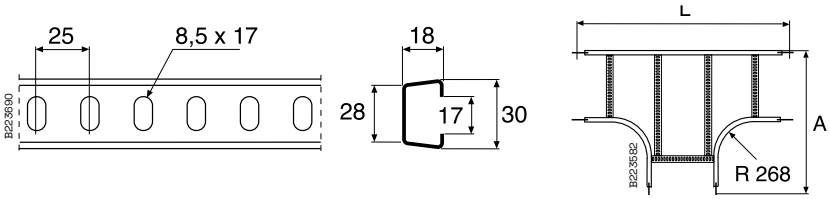


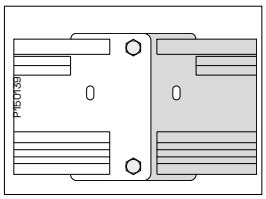
For joining to KHZV and KHZPV, use Screw set M12.

Type	A mm	L mm
T-junction 56/200	625	1050
T-junction 56/300	725	1150
T-junction 56/400	825	1250
T-junction 56/500	925	1350
T-junction 56/600	1025	1450
T-junction 55/800	1225	1650
T-junction 56/1000	1425	1850

T-junction 20C

T-junction piece to be fitted to the cable ladder KHZP 20C range by using screw set M12.

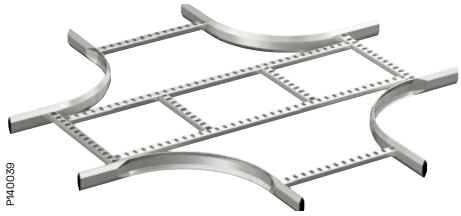




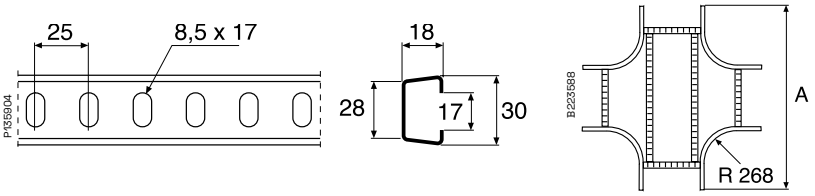
For joining to KHCP 20C/KHZV and KHZPV, use Screw set M12.

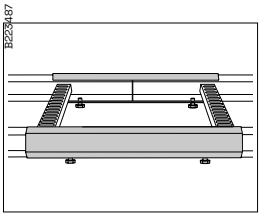
Type	A mm	L mm
T-junction 20C/200	625	1050
T-junction 20C/300	725	1150
T-junction 20C/400	825	1250
T-junction 20C/500	925	1350
T-junction 20C/600	1025	1450
T-junction 20C/800	1225	1650
T-junction 56/1000	1425	1850

X-junction 17



X-junction piece to be fitted to the cable ladders by using Joint 21.



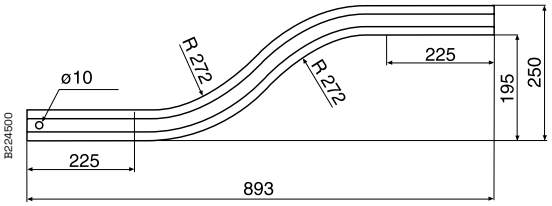


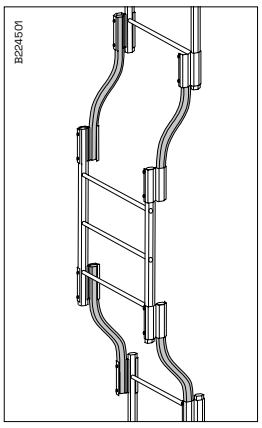
Join the cable ladders to X-junction 17 using Joint 21.

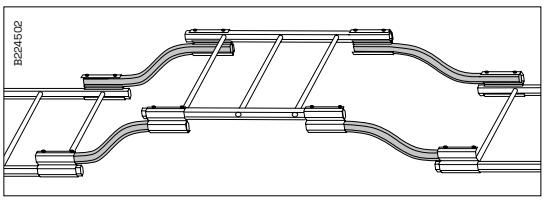
Type	A mm
X-junction 17/150	547
X-junction 17/200	997
X-junction 17/300	1097
X-junction 17/400	1197
X-junction 17/500	1297
X-junction 17/600	1397
X-junction 17/800	1597
X-junction 17/1000	1797

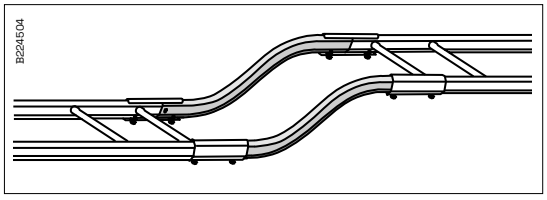
S-bend 67

S-bend piece to be used as a transition between cable ladders mounted on different levels. Can be mounted both vertically and horizontally.

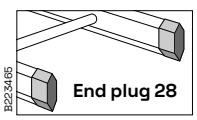








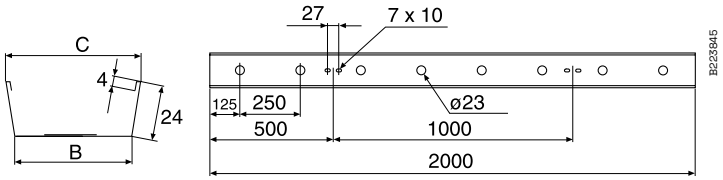
S-bend 67 can be mounted vertically or horizontally between cable ladders by using Dropper joint 32 or Joint 21.



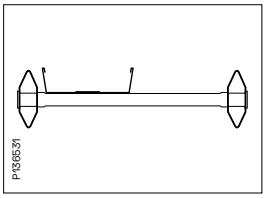
Use and installation

Tele-conduit 36 with knock-out holes

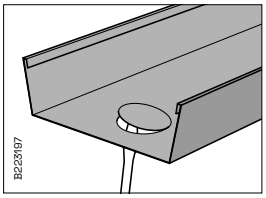
Tele-conduit to be used where a separate tray is required for low-tension cables. Knock-out holes in the bottom of the channel permit the cables to pass through.



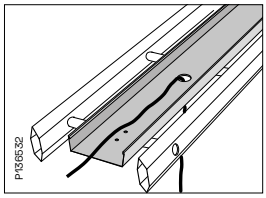
Type	B mm	C mm
Tele-conduit 36/50	42	50
Tele-conduit 36/100	92	100
Tele-conduit 36/200	192	200



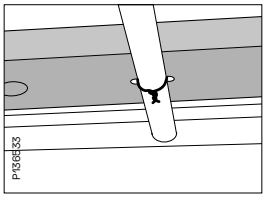
Mount Tele-conduit 36 whenever a special channel is required for low tension lines.



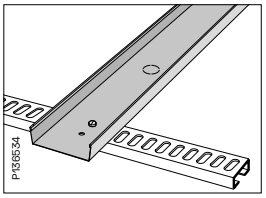
Whenever you wish to make a hole to let a cable through, press the knock- out piece from below using a screwdriver or suchlike



In the event of special needs, a sealing sleeve 22.5 or corresponding may be mounted in the hole.



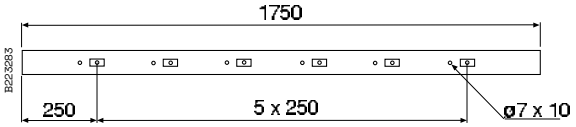
Attach Tele-conduit 36 onto KHZ and KHZV by tying with wire round rungs.

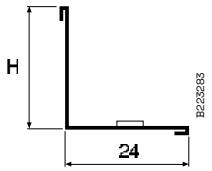


Attach Tele-conduit 36 to KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV using Screw set W34 through the rung perforations.

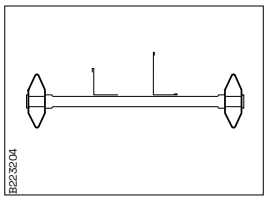
Dividing strip 39

Dividing strip to be used to separate low-voltage and high-voltage cables.

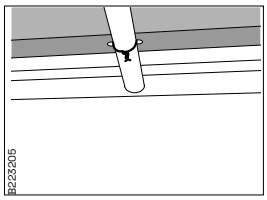




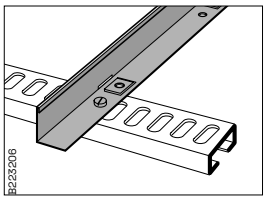
Type	H mm
Dividing strip 39/24	24
Dividing strip 39/55	55



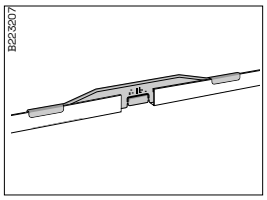
Mount one or more Dividing strips 39 to separate low and high tension cables.



Attach Dividing strip 39 to KHZ and KHZV by lashing around the rungs.



Attach Dividing strip 39 to KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV using Screw set W34 through the rung perforations.

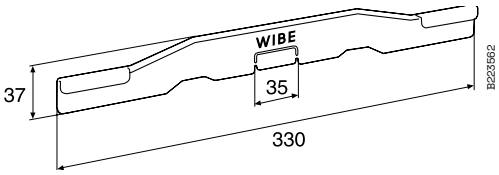


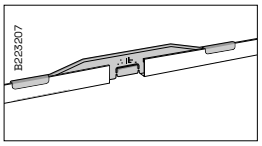
It is advisable to join dividing strips using Distance piece W39.

Use and installation

Distance piece W39

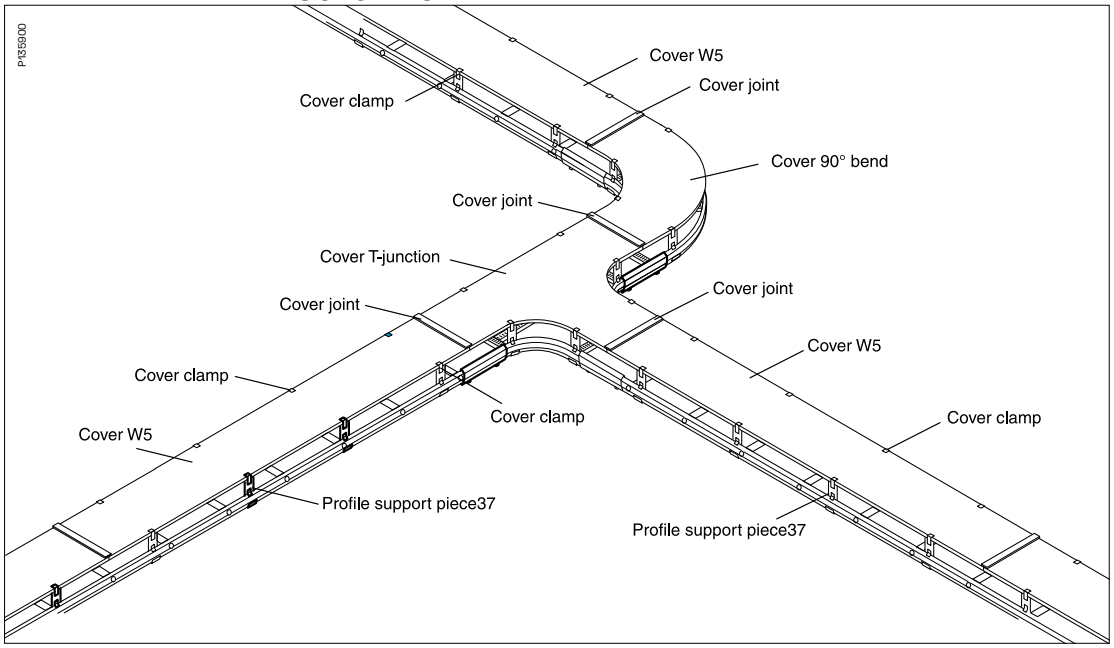
Distance piece to be used for the joining of Dividing strips 39.



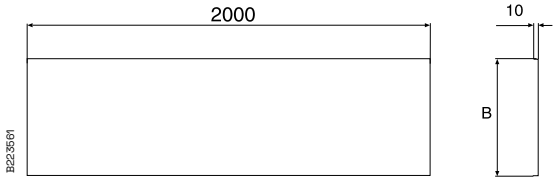


Mount one or more Dividing strips 39 to separate low and high tension cables.

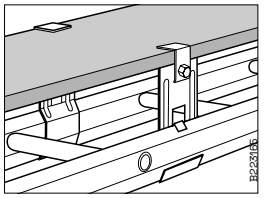
Cover W5



Cover to be used to protect the cable runs from dust, dirt, liquids, etc. Outdoors, it protects against rain and sun. Suitable for all cable ladders.



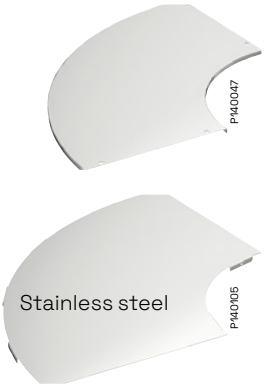
Type	Ladder width mm	B mm
Cover W5 - 150	150	151
Cover W5 - 200	200	201
Cover W5 - 300	300	301
Cover W5 - 400	400	401
Cover W5 - 500	500	501
Cover W5 - 600	600	601
Cover W5 - 800	800	801
Cover W5 - 1000	1000	1001



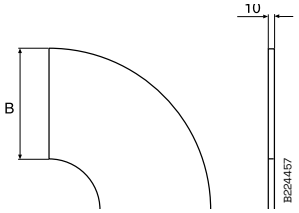
Mount covers to protect the cable routes from dust, waste, liquids, etc. Outdoors, covers protect against rain and sun. All Wibe cable ladders can be fitted with covers. Mount covers using Profile support piece 37 and Cover clamp.

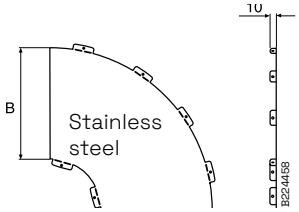
Use and installation

Cover 90° bend



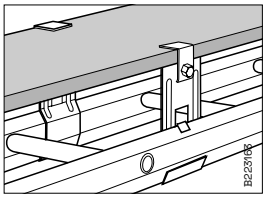
Cover to be used for 90° interior bends. To be installed with a Profile support piece 37, Cover clamp and Cover joint.



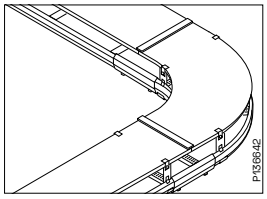


Type	Ladder width mm	B mm
90° bend - 150	150	151
90° bend - 200	200	201
90° bend - 300	300	301
90° bend - 400	400	401
90° bend - 500	500	501
90° bend - 600	600	601
90° bend - 800	800	801
90° bend - 1000	1000	1001

Stainless steel Type	Ladder width mm	B mm
90° bend - 150	150	147
90° bend - 200	200	197
90° bend - 300	300	297
90° bend - 400	400	397
90° bend - 500	500	497
90° bend - 600	600	597
90° bend - 800	800	797
90° bend - 1000	1000	997

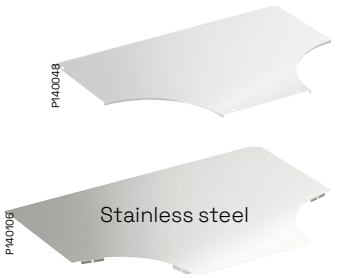


Fasten cover to Profile support piece 37 using Cover clamp.

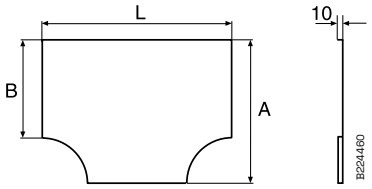


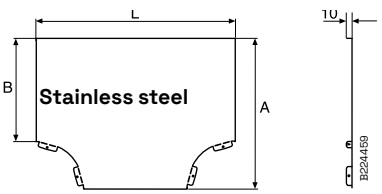
Mount with Profile support pieces 37, Cover clamps and Cover joints.

Cover T-junction



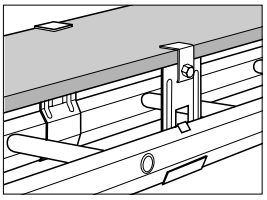
Cover to be used for T-junctions. To be installed with a Profile support piece 37, Cover clamp and Cover joint.



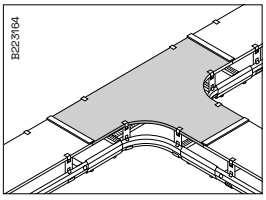


Type + ladder width	A mm	B mm	L mm
T-junction - 150	400	151	651
T-junction - 200	450	201	701
T-junction - 300	550	301	801
T-junction - 400	650	401	901
T-junction - 500	750	501	1001
T-junction - 600	850	601	1101
T-junction - 800	1050	801	1301
T-junction - 1000	1240	1001	1501

Type + ladder width Stainless steel	A mm	B mm	L mm
T-junction - 150	402	147	657
T-junction - 200	452	197	707
T-junction - 300	552	297	807
T-junction - 400	652	397	907
T-junction - 500	752	497	1007
T-junction - 600	852	597	1107
T-junction - 800	1052	797	1307
T-junction - 1000	1242	997	1507



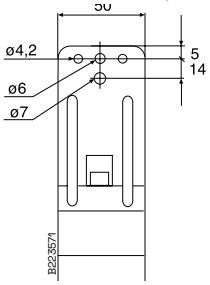
Fasten cover to Profile support piece 37 using Cover clamp.

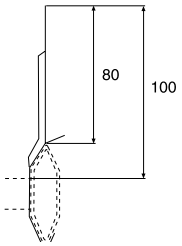


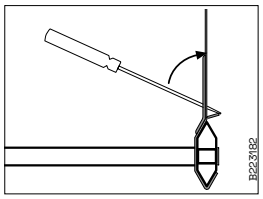
Mount with Profile support pieces 37, Cover clamps and Cover joints.

Profile support piece 37

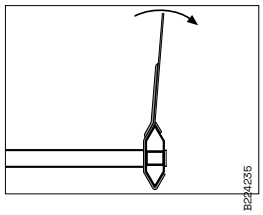
Profile support piece to be used when installing covers. To be mounted on approximately every 0.5 m along both sides of the cable ladder. Used together with cover clamp for locking covers.



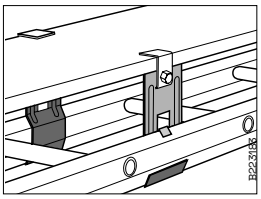




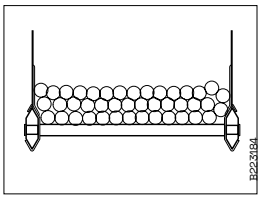
Mount Profile support piece 37 on the inside of the hexagonal section. Bend the tab towards the ladder section using a screwdriver as a lever.



Profile support piece 37 can be bent to fit the cover width.



Lock the cover on the Profile support piece 37 using Cover clamps.

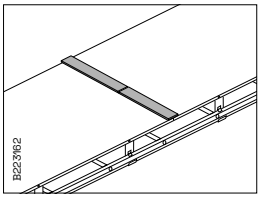


Profile support pieces 37 can be mounted as cable supports. Mount the attachments at about 0.5 m centres on both sides of the ladder.

Cover joint

Cover joint to be inserted between covers.

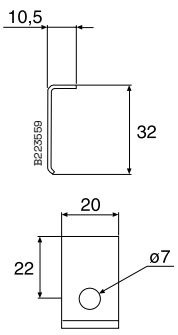
Type	Ladder width mm	B mm
Cover joint 150	10	125
Cover joint 200	200	175
Cover joint 300	300	275
Cover joint 400	400	375
Cover joint 500	500	475
Cover joint 600	600	575

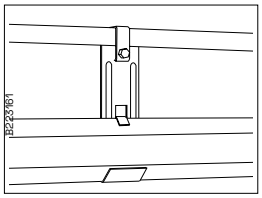


For width 800 or 1000 mm, use a combination of two smaller joints (e.g. 400+ 600 mm). Insert joints between covers.

Cover clamp

Cover clamps to be used when installing a cover on a Profile support piece 37.

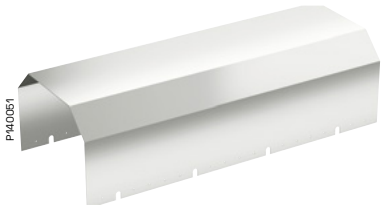




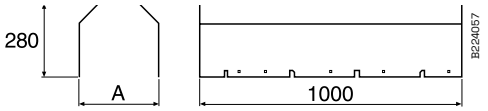
Cover clamps are required for mounting covers on Profile support piece 37.

Use and installation

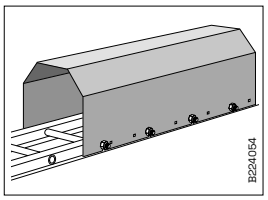
Protecting cover



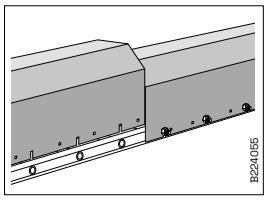
Cover to be used to protect the cable runs agains ice and snow.
Suitable for all cable ladder widths 300 and 400 respectively.



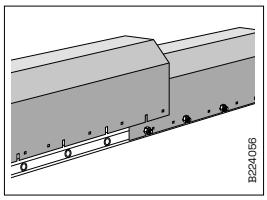
Type	A mm
Protecting cover 300	300
Protecting cover 400	400



To be mounted on ladder KHZ with Intermediate connection bolt 29. When mounted on other ladders or when needed, drilling screw Æ 4.2 is used.



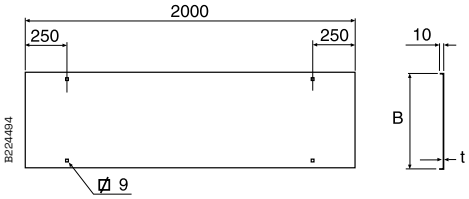
The covers can be mounted edge to edge.



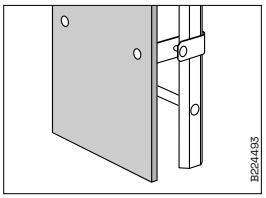
The covers can be mounted with overlap. The assymmetric hole pattern can be used to achieve a good fit.

Cover 64

Cover to be used for vertically mounted cable ladders.



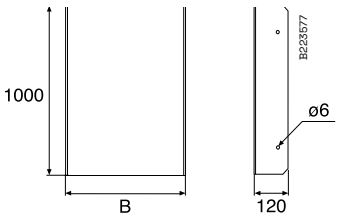
Type	B mm
Cover 64-150	151
Cover 64-200	201
Cover 64-300	301
Cover 64-400	401
Cover 64-500	501
Cover 64- 600	601
Cover 64- 800	801
Cover 64- 1000	1001



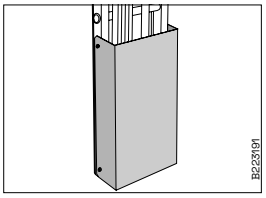
Cover 64 is to be mounted on the cable ladder with Wall bracket 11/25 or Wall bracket 11/75 and Screw set 22S. The covers are to be joined with Cover joints.

Cover plate 65

Cover plate to be used on vertical cable ladder installations as protection of cables near the floor. To be mounted in the side profile with self-tapping screw ST4.2.



Type	B mm
Cover 65-200	200
Cover 65-300	300
Cover 65-400	400
Cover 65-500	500
Cover 65- 600	600

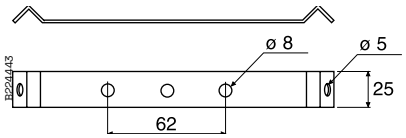


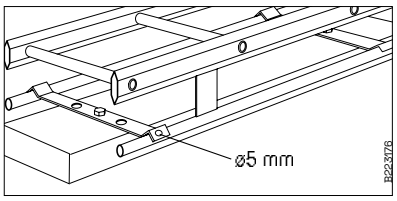
Used on vertical cable ladder installations as protection of cables near the floor.Mounted in the side profile with self-tapping screw ST4.2.

Use and installation

Lighting bracket 200

Lighting bracket to be used for the installation of lighting fittings beneath cable ladders KHZV and KHZPV 200.





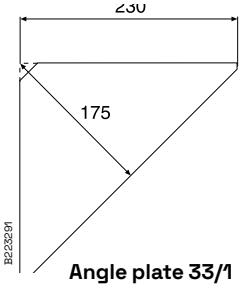
Mount Lighting bracket 200 for KHZV/ KHZPV between the two lower tubes. If necessary, 5 mm dia. holes can be used for locking against the arch tube by means of blind rivets or sheet screws.

Angle plate 33/2

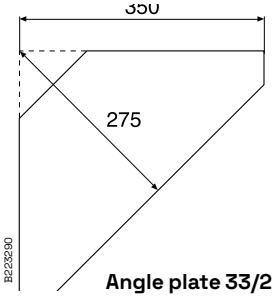
Angle plate 33/1

Angle plate 33/1 and 33/2

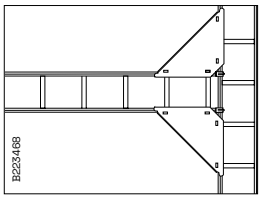
Angle plate to be used together with 90° horizontal T-junctions. Recommended for all cable ladders.



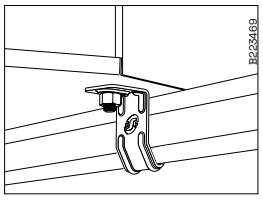
Angle plate 33/1



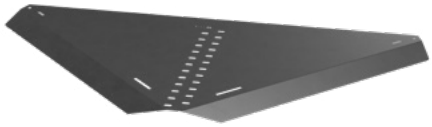
Angle plate 33/2



Angle plates are always recommended at 90° horizontal junctions.

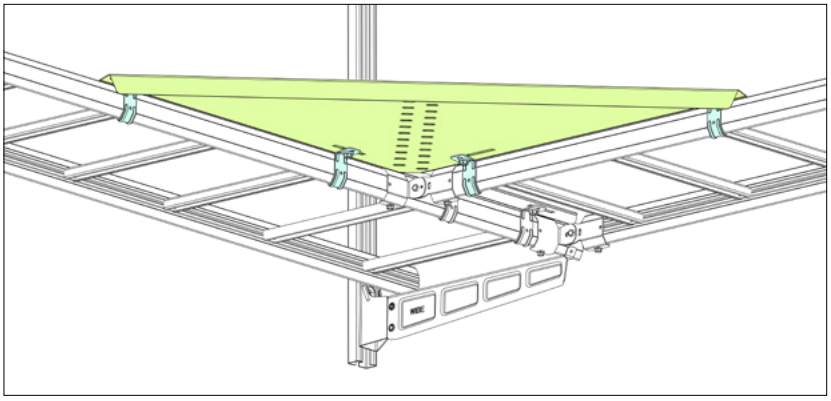


To lock Angle plate 33/2, fit Profile clamp 42.



Corner inner radius

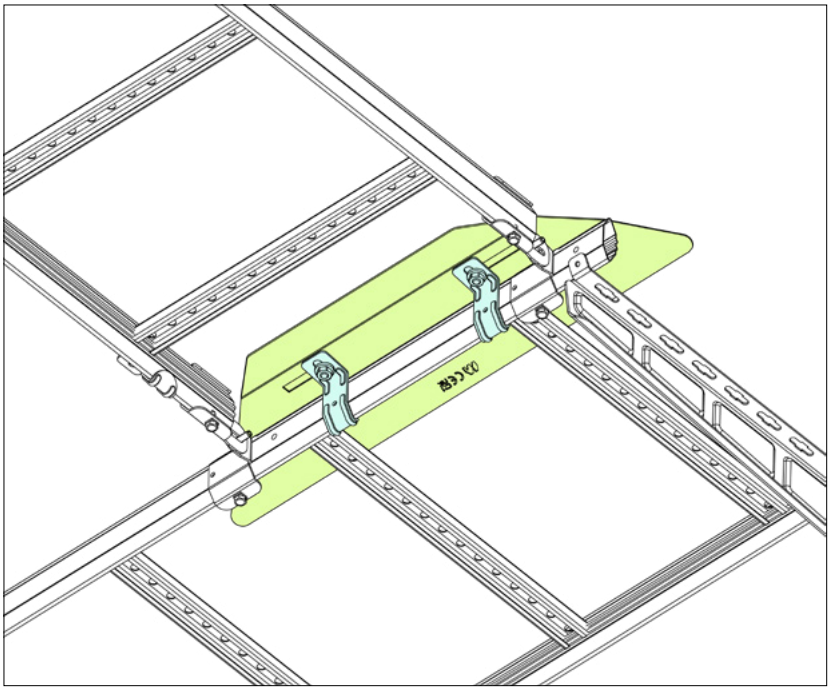
Corner inner radius to be used together with 90° horizontal junctions to allow ≤600mm or ≤1000m radius of the cable. Recommended for all Wibe cable ladders. To be fixed with 4 clamps 42.



Model	Surface Treatment	Weight 100pcs (Kg)
Corner inner radius max 600	Z+	265
Corner inner radius max 1000		516

Profile protection plate

Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder. To be used in combination of the Corner inner radius. To be fixed with 2 clamps 42.

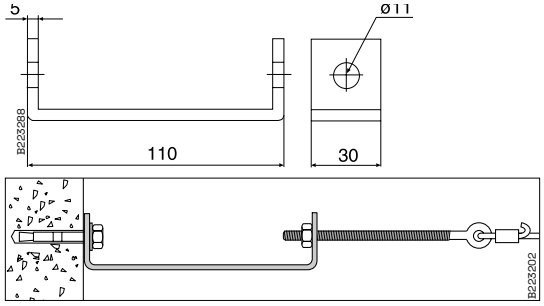


Model	A (mm)	Surface Treatment	Weight 100pcs (Kg)
Profile protection plate 400	532	Z+	78,2
Profile protection plate 500	632		96,4
Profile protection plate 600	732		1,16

Use and installation

Wall bracket HT-14

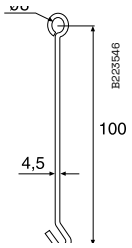
Bracket for wall installation

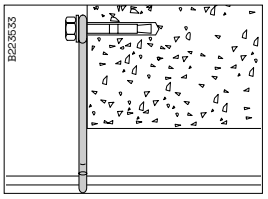


Wall bracket HT-14 is installed on wall with Expansion bolt or concrete screw.

Carrying bracket HT-31

Carrying bracket to be used for ceiling installations. To be installed with Expansion bolt or concrete screw.

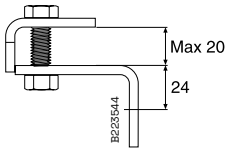


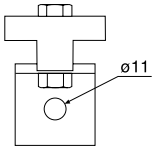


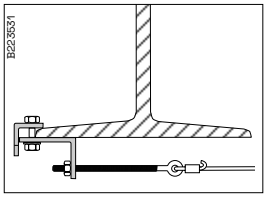
Carrying bracket HT-31 is installed on ceiling beam with Expansion bolt or concrete screw .

Carrying bracket HT-152

Carrying bracket to be used for easy I-beam installations.



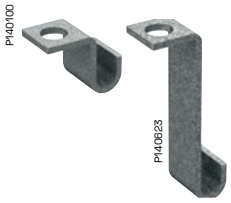




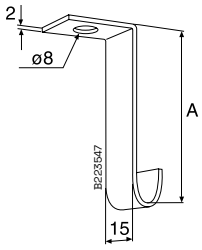
Carrying bracket is easily installed on I-beam.

Use and installation

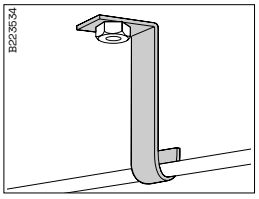
Carrying bracket HT-33/34



Carrying bracket to be used for ceiling installations.
To be installed with Expansion bolt or concrete screw.

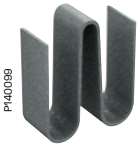


Type	A mm
HT-33	14
HT-34	38

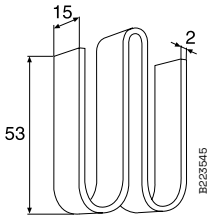


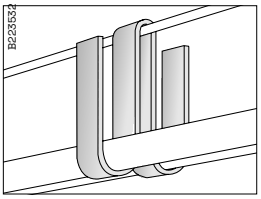
Carrying bracket is in- stalled in ceiling with Expansion bolt or concrete screw.

Carrying sling HT-51



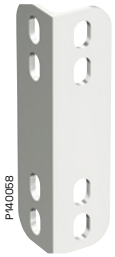
Carrying slings for cables.

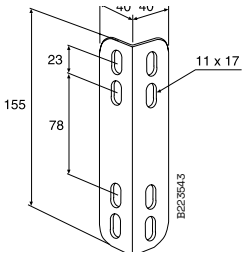




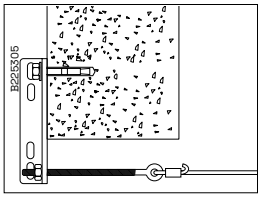
Carrying sling with space for 6 cables max. diam. 16 mm.

End bracket HT-11

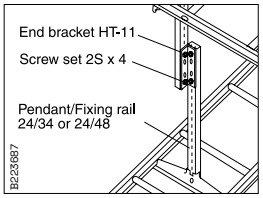




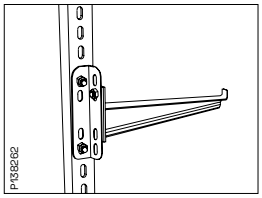
Used for assembling pendant/fixing rails to frames for switching cabinets and electrical control centres. Also suitable for assembling pendant rails for crossing cable runs. Also used as End Bracket for ceiling beam installation.



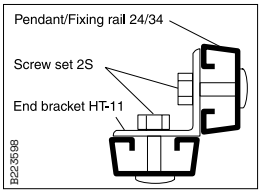
End bracket HT-11 is installed on ceiling beam with Expansion bolt or concrete screw.



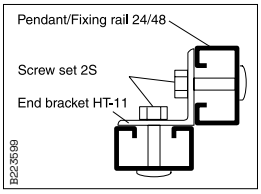
End bracket HT-11 permits mounting of crossing cable ladders in various planes on the same vertical piece.



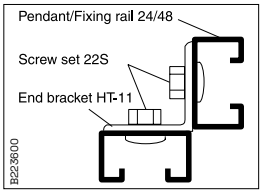
Cantilever arm 50 may, using End bracket HT-11, be mounted at 90° to the vertical piece. Only for lightweight mounting of data cable type or suchlike.



The HT-11 can be used when mounting together 2 Pendant/ Fixing rail 24/34, for example when assembling a stand.

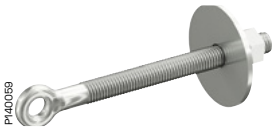


The HT-11 can be used when mounting together 2 Pendant/ Fixing rail 24/48 with the opening towards the attachment, for example when assembling a stand.

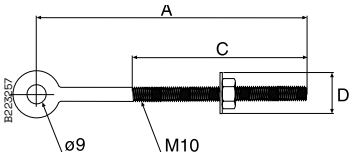


The HT-11 can be used when mounting together 2 Pendant/ Fixing rail 24/48, with the rear towards the attachment.

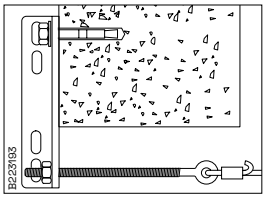
Tightening loop HT



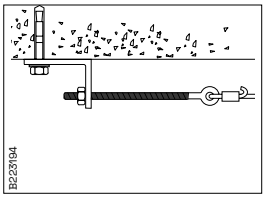
Tightening loop to be installed at the ends of steel wires.



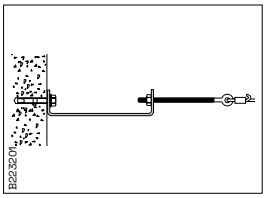
Type	A mm	C mm	D mm
Tightening loop HT-611	125	100	22
Tightening loop HT-621	270	100	50
Tightening loop HT-631	400	150	50



Tightening loop is instal- led in End bracket HT-11 for installation on ceiling beam.



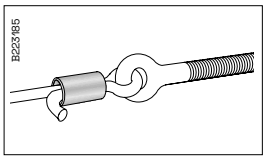
Tightening loop is instal- led in Angle bracket 5L for installation in ceiling.



Tightening loop is instal- led in Wall bracket HT-14 for installation on wall.

Pipe HT-68 and HTR-68

Pipe for easy locking of wires. Ø 15 mm Length 25 mm.

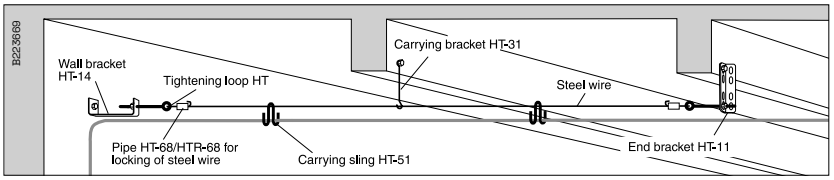


The steel cable is easily locked with the pipe.

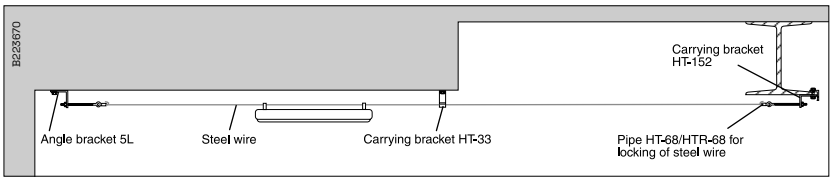
Steel wire

Steel wire to be installed as carrier of one or more cables.

Type	Diam. mm	Breaking load kg
HT-2309	5.00	700
HT-2311	6.15	970
HTR-2322	2.50	450
HTR-2323	3.00	700
HTR-2324	4.00	1200



Steel wire installed in ceiling with beams.

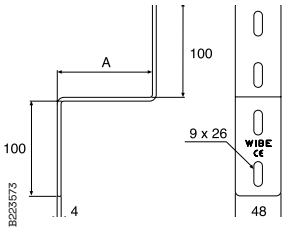


Steel wire installed in ceiling.

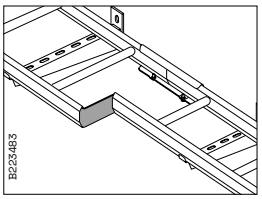
Use and installation

Reducer 31

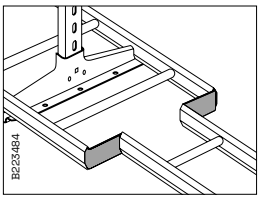
Reducer to be used for transition joining from a wide to a narrower cable ladder.



Type	A mm
Reducer 31/100	100
Reducer 31/200	200
Reducer 31/300	300
Reducer 31/400	400



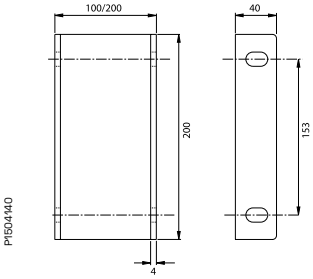
Reducer to be used for transition joining from a wide to a narrower cable ladder.



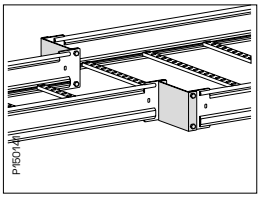
May also be used at centred transition joining

Reducer 20C

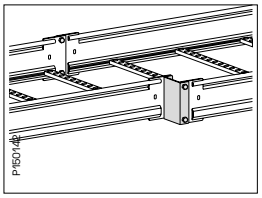
Reducer to be used for transition joining from a wide to a narrower cable ladder.



Type	A mm
Reducer 20C/100	100
Reducer 20C200	200

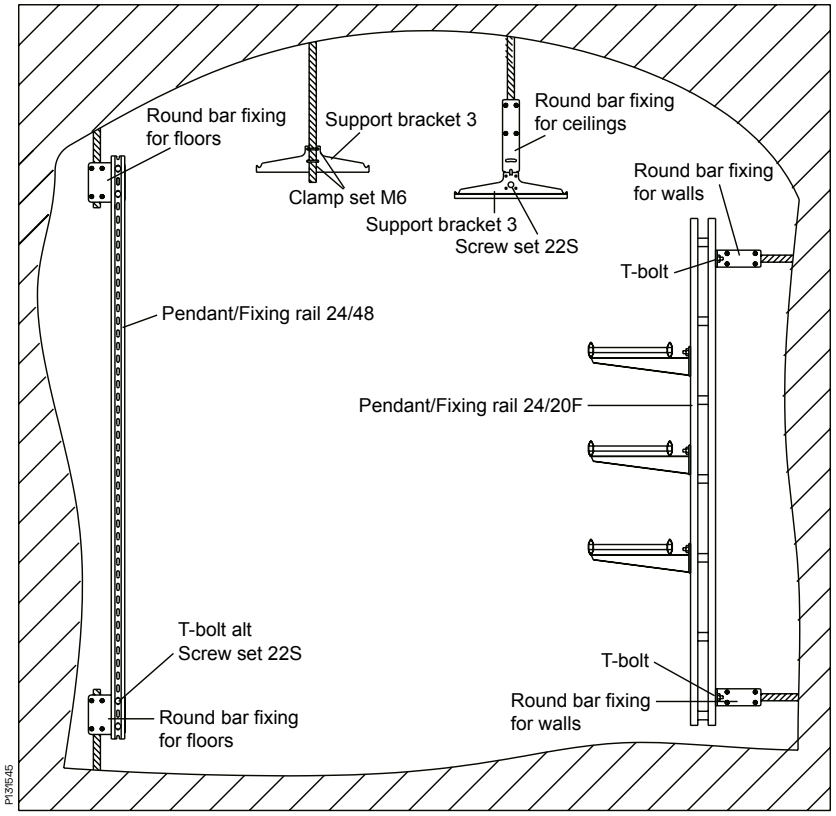


May also be used at centred transition joining



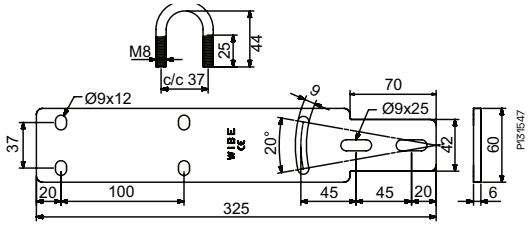
Reducer to be used for transition joining from a wide to a narrower cable ladder.

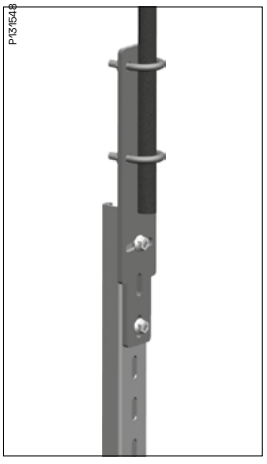
Use and installation



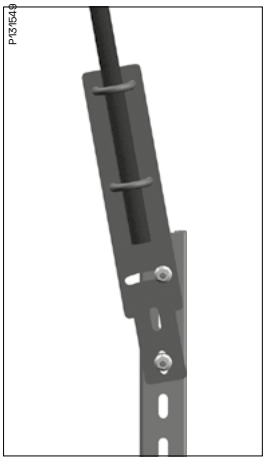
Round bar fixing for ceilings

Round bar fixing to be used for mounting in underground cavities and tunnels.





Round bar fixing for ceilings is mounted on pendant/fixing rail 24/48 with screw set 22S. Support bracket 3 is mounted directly on the fixing with Screw set 22S.

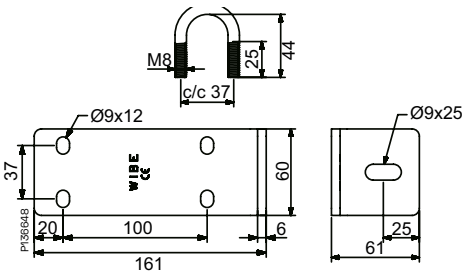


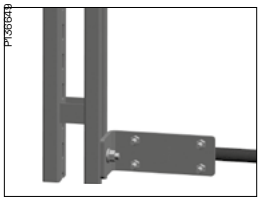
Using round bar fixing for ceilings, pendant/fixing rail 24/48 and screw set 22S it is possible to make a vertical piece that can be installed at an angle of up to 10°.

Use and installation

Round bar fixing for walls

Round bar fixing to be used for mounting in underground cavities and tunnels.

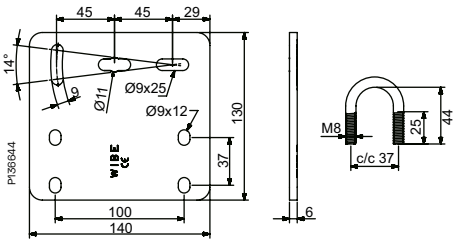


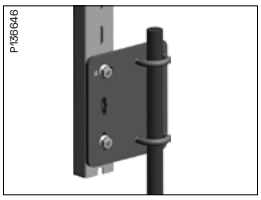


Round bar fixing for walls mounted on Pendant/ fixing rail 24/20F with T-bolt 26U.

Round bar fixing for floors

Round bar fixing to be used for mounting in underground cavities and tunnels.



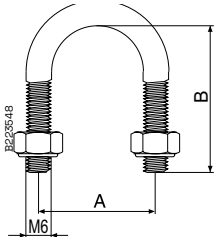


Round bar fixing for floors mounted on Pendant/fixing rail 24/48 with Screw set 22S.

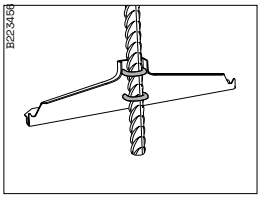
Round bar fixing for floors mounted on Pendant/ fixing rail 24/48 with T-bolt 26U.

Clamp set M6

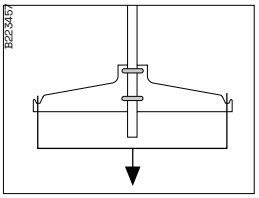
Clamp set to be used for the installation of Support bracket 3 directly on a roof bolt. The set includes two clamps and four locking nuts. M6-25 must be used for Support bracket 3 in hot-dip and pre-galvanized surface finish, whereas M6-20 must be used for Support bracket 3 in stainless steel and Installation plate 60 in all surface treatments.



Type	Ø	A	B
M6-25	29	35	38
M6-20	24	30	33



For installation of Support bracket 3 directly on ribbed bar 16-25 or fully threaded bar M16-M27.



Max. symmetrical loading 300 kg. Make sure the clamps grip the bar in a correct manner.

Cable clamp ARX1 **Cable clamp ARX2**

Cable clamp ARX

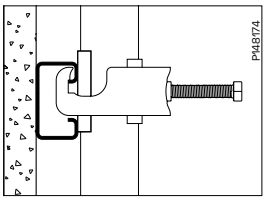
Cable clamp for fastening of cable on Pendant/Fixing rail 24/48 and on cable ladders KHZ, KHZV, KHZSP, KHZSPZ+, KHZSP85, KHZPS, KHZP and KHZPV, in combination with Insert piece EM.

Cable clamp ARX1

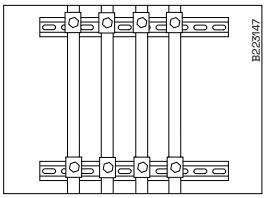
Type	For cable mm
Cable clamp ARX1-12 Z+	- 12
Cable clamp ARX1-16 Z+	13 - 16
Cable clamp ARX1-22 Z+	17 - 22
Cable clamp ARX1-28 Z+	23 - 28
Cable clamp ARX1-36 Z+	29 - 36
Cable clamp ARX1-44 Z+	37 - 44
Cable clamp ARX1-52 Z+	45 - 52
Cable clamp ARX1-60 Z+	53 - 60
Cable clamp ARX1-70 Z+	61 - 70

Cable clamp ARX2

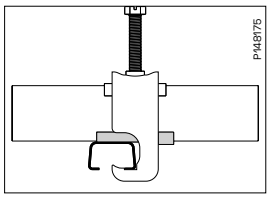
Type	For cable mm
Cable clamp ARX2-12 Z+	- 12
Cable clamp ARX2-16 Z+	13 - 16
Cable clamp ARX2-22 Z+	17 - 22
Cable clamp ARX2-28 Z+	23 - 28
Cable clamp ARX2-36 Z+	29 - 36
Cable clamp ARX2-44 Z+	37 - 44
Cable clamp ARX2-52 Z+	45 - 52
Cable clamp ARX2-60 Z+	53 - 60



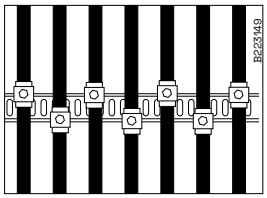
Use Cable clamp ARX to attach cables to Pendant/Fixing rail 24/48. Use Insert piece EM.



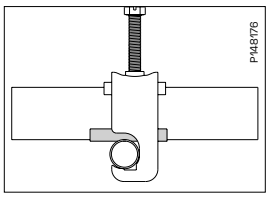
Mounting rail 40 with Cable clamp ARX.



Use Cable clamp ARX to attach cables to cable ladders KHZSP, KHZSPZ+, KHZPS, KHZPV and KHZP. Use Insert piece EM.



In order to avoid torsion of the rung, cable clamps can be mounted opposite each other on the rung.

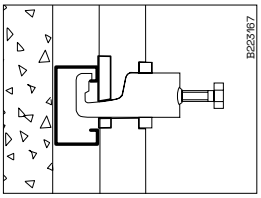


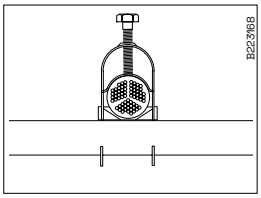
Cable clamp ARX is used for fastening cables on the cable ladders KHZ and KHZV.
Insert piece EM must be installed.

Use and installation

Insert piece EM

Insert piece to be used in order to prevent pressure on the cable. The insert piece is placed between the cable and the rung from the same side where the clamp has been fastened to the rung.





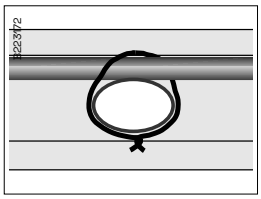
Insert pieces increase the contact area of the cables.

Type	For cable mm
EM - 12	- 12
EM - 16	13 - 16
EM - 22	17 - 22
EM - 28	23 - 28
EM - 36	29 - 36
EM - 44	37 - 44
EM - 52	45 - 52
EM - 60	53 - 60
EM - 70	61 - 70

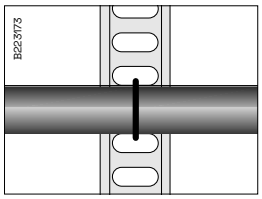
Lashing wire

Lashing wire to be used for lashing of wires on cable ladders.

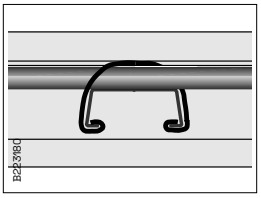
Type		Diam mm	Breaking load kg
HTR - 2303	Lashing wire, stainless steel, white PVC	1.25	92
HTR - 2313	Lashing wire, stainless steel, black PVC	1.25	92
HT - 2304	Lashing wire, white PVC	1.5	25
HT - 2314	Lashing wire, black PVC	1.5	25



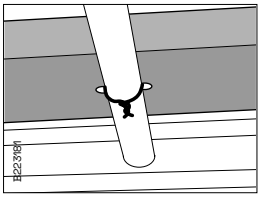
Cables are easily installed by lashing around the rungs of KHZ and KHZV.



Cables are easily installed by lashing through the perforations of the rungs or around the rungs of KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV.



Cables are easily installed on KHZSP, KHZSPZ+, KHZPS, KHZP and KHZPV by lashing in such a way that the lashing wire is pinched around the rung as shown.



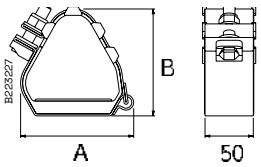
Dividing strips and tele- conduits are attached to the ladder by lashing around the rungs of KHZ and KHZV

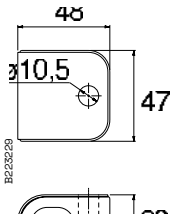
Cable clamp ER

Cable clamp for the installation of cables on cable ladders with round or perforated rungs.

Cable clamp ER

Oval rung adaptor





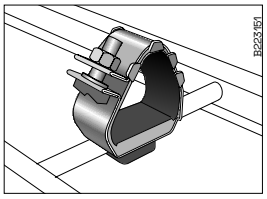
Type	For cable mm	A mm	B mm
Cable clamp ER	23 - 28	80	74
Cable clamp ER	27 - 32	82	81
Cable clamp ER	30 - 35	82	88
Cable clamp ER	33 - 38	85	94
Cable clamp ER	36 - 42	113	101
Cable clamp ER	40 - 46	115	108
Cable clamp ER	44 - 50	117	115
Cable clamp ER	48 - 55	120	129
Cable clamp ER	51 - 58	121	130
Cable clamp ER	55 - 62	156	138
Cable clamp ER	59 - 66	158	146
Cable clamp ER	63 - 70	160	150
Cable clamp ER	67 - 74	763	161
Cable clamp ER	71 - 78	165	168
Cable clamp ER	74 - 82	167	176
Cable clamp ER	77 - 85	169	181

Tested at British short-circuit testing station.
Test report no. BS/F 1265
- Wibe cable ladder KHZ-600, KHZP-300 and KHZP-600. Cable clamp ER mounted on every rung.
- Wibe cable ladder KHZ-300. Cable clamp ER mounted on every other rung.

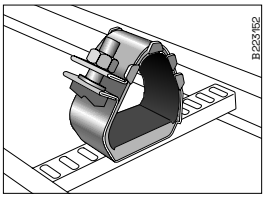
Condition after test
400 volt 58 kA symmetrical current (Peak 140 kA) during 0.1 second:
- All clamps remained secure
- Some slight distorsion of the ladder rungs
- The cables were splayed out between th clamps but otherwise in good order.

Test report no. BS/F 1268
- Wibe cable ladder KHZ-600 and KHZP-600.Cable clamp ER mounted on every other rung

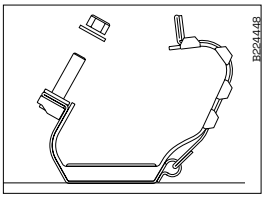
Condition after test
352 volt 64 kA symmetrical current (Peak 140 kA) during 0.1 second:
- All clamps remained secure
- There was distorsion of a number of the ladder rungs
- The cables were splayed out between the clamps but otherwise in good order.



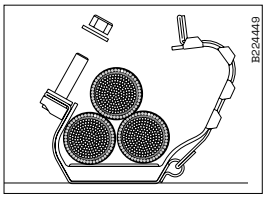
Remove the bottom plate of the clamp and mount it with Oval rung adapter on cable ladders with round rungs - KHZ and KHZV.



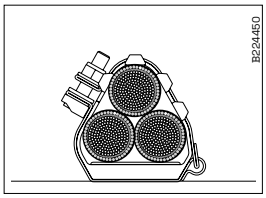
Remove the bottom plate of the clamp and mount it with 2 screw sets 74S on cable ladders with per- forated rungs - KHZP, KHZPS, KHZSP, KHZSPZ+ and KHZPV.



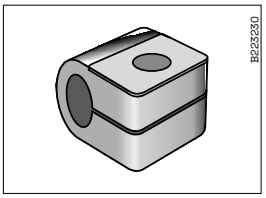
Remove the locking nut. Open the clamp.



Mount the cables.



Lock the clamp with the locking nut. Turn the nut to max. 4-5 Nm. The rubber lining must touch the cables but not so tight that the cables will be deformed

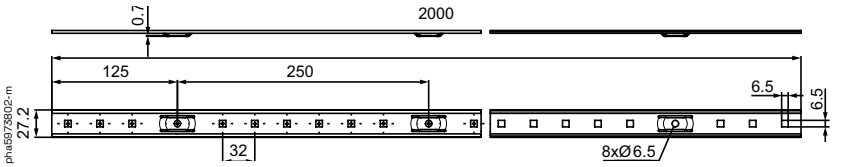


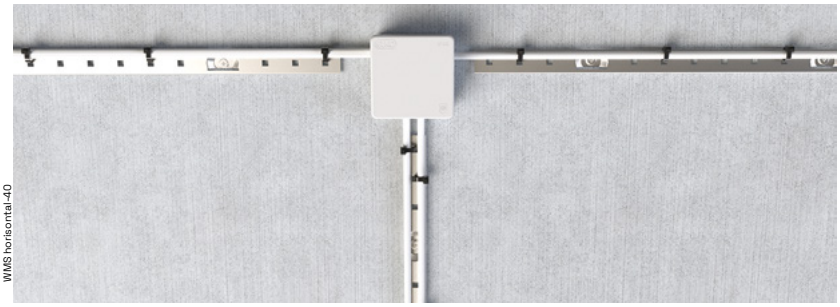
Oval rung adaptor, screw set included, to be used when mounting Cable clamp ER on oval rungs on the KHZ range.

Use and installation

Mounting rail WMS25L

Mounting rail to be used for installation directly on wall for lashing of cables.

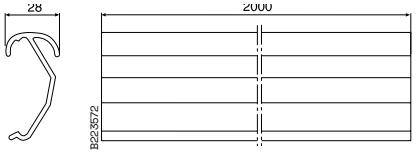


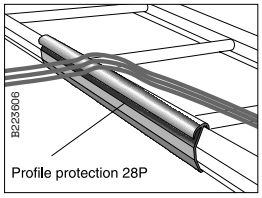


Mounting of cables with lashing wire, strips etc. The mounting rail installed directly onto wall.

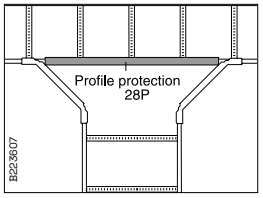
Profile protection 28P

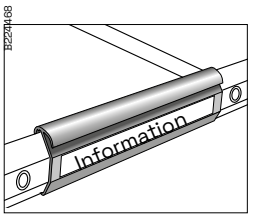
Profile protection to be used to increase the contact surface of the cables, when pulled over the side profile of the ladder.





Mount Profile protection 28P in order to increase the contact surface of the cable, when pulled over the side profile of the ladder. Cut when required.





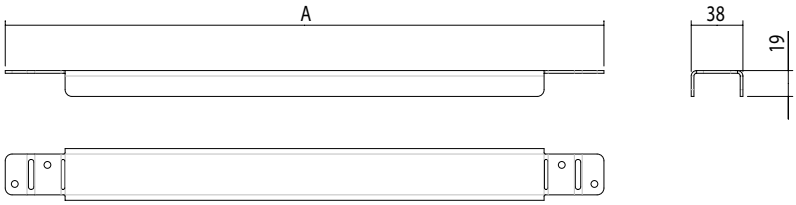
Can be cut in suitable lengths and equipped with an information label. Easy to mount on the ladder side profile.

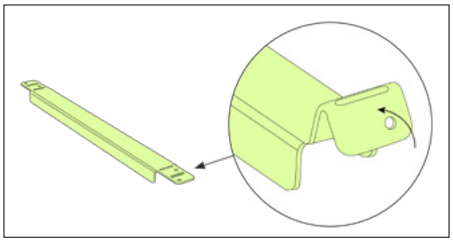
Use and installation

Rung reinforcement

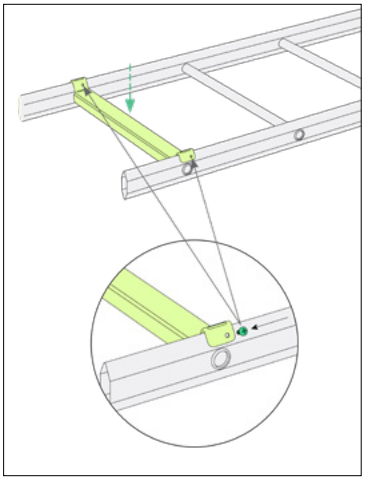
Rung protection are made to strengthen the ladder rung locally for installation cases where a lot of load is concentrated to one rung. Versions available for Wibe profile and for perforated rung (Wibe or LB4000).

Wibe ladder rung reinforcement



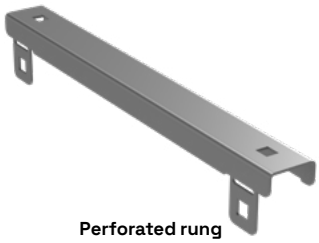


Prepare the rung reinforcement by bending the flaps.

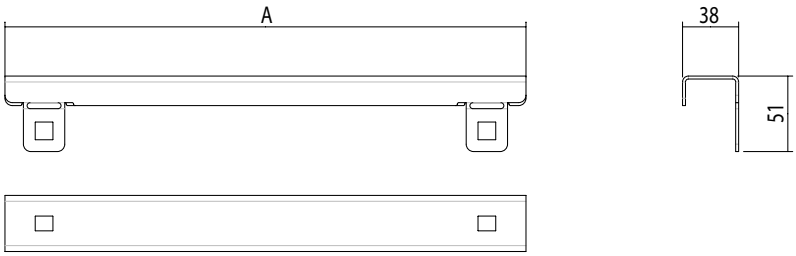


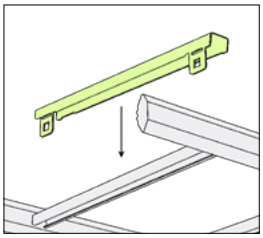
Position the rung reinforcement on top of the targeted rung.

Optional: Lock the rung reinforcement to the rung with 2 selfdrilling screws.

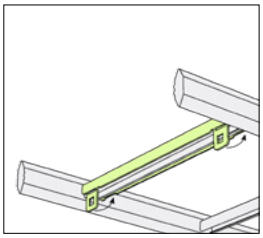


Perforated rung reinforcement

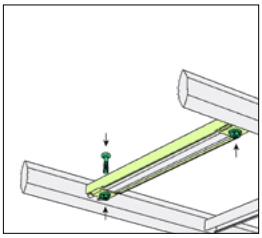




Position the rung reinforcement on top of the targeted rung.



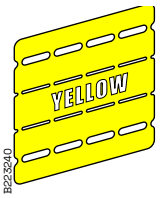
Fix the rung reinforcement in place by bending the flaps.



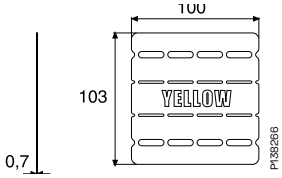
Optional: Lock the rung reinforcement to the rung with 2 screwset 2S.

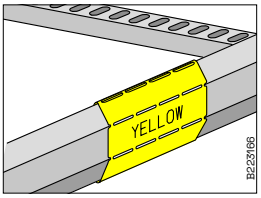
Use and installation

Marking plate 93



Marking plates are part of a colour marking system that is easy to use when you want to mark out the type of cable that is placed on the cable ladder

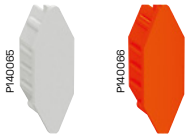




The Marking plate can be bent around the side profile on all Wibe cable ladders.

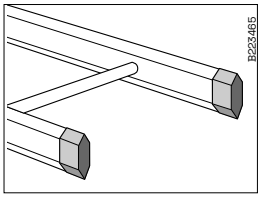
End plug 28 and 28i

End plug 28

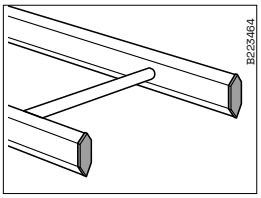


End plug 28i

End plug to be mounted on ladder ends for sealing or protection.



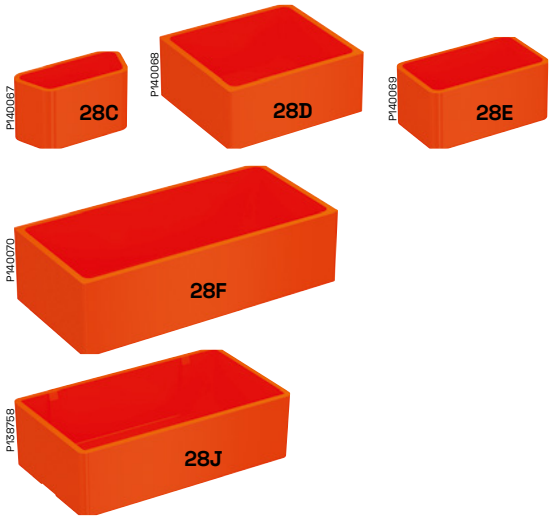
Mount End plug 28 in ladder ends as protection.

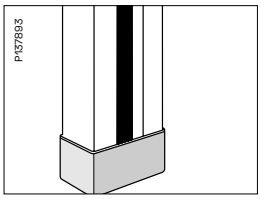


Mount End plug 28i inside the ladder ends for se- aling. Joining with Joint 19 or 21 can be made with End plug 28i left in the ladders ends.

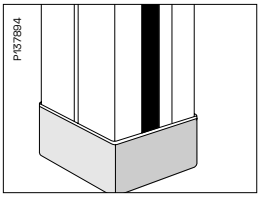
End plug 28C, D, E, F and J

End plug to be mounted on pendant ends to provide protection against personal injury and to make the ends of the profiles more conspicuous.





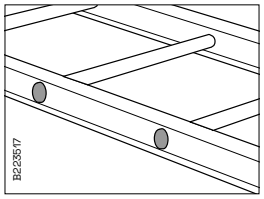
End plug **28C** fits Vertical piece 2 and Pendant/ Fixing rail 24/34.
End plug **28E** fits Vertical piece 2F and Pendant/ Fixing rail 24/48.



End plug **28D** fits Vertical piece 20 and Pendant/ Fixing rail 24/20.
End plug **28F** fits Vertical piece 20FS and Pendant/ Fixing rail 24/20FS.
End plug **28J** for Vertical piece 20F and Pendant/ Fixing rail 24/20F

Cross member plug 27

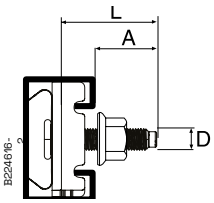
Cross member plug to be installed at the ends of the rungs of KHZ and KHZV. Used in premises with a high corrosion risk.



Mount Cross member plug 27 in KHZ and KHZV rung tube ends in pre- mises with high relative humidity where the risk of corrosion is high

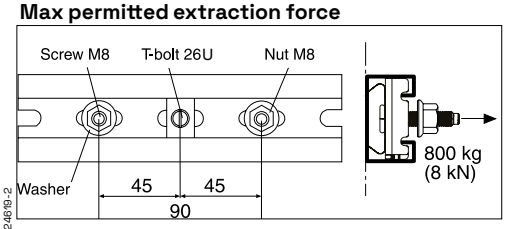
T-bolt 26U

Easy to fit into the fixing rail. It is made to stick which makes it easier to mount and attach compared to a spring nut. It stays in place by itself even before it is fixed with the nut. To be used for the mounting of Cantilever arm 50 on Pendant/ Fixing rail 24/48 and all vertical pieces except Vertical piece 2.

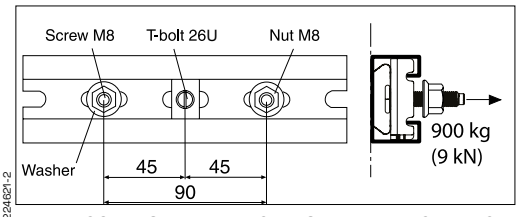


Type	L mm	A mm
M8	34	23
M10	34	23
M10	44	33
M10	54	43

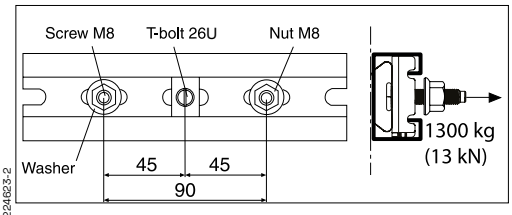
Max permitted extraction force



T-bolt 26U M8/M10 + P/F-rail 24/48 + Washer 8.4x19x1.5



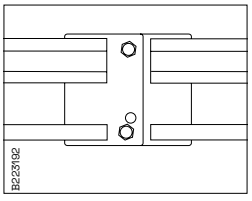
T-bolt 26U M8 + P/F-rail 24/48 + Washer 9x35x2



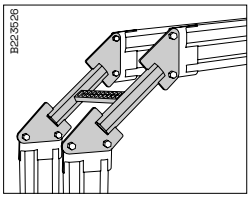
T-bolt 26U M10 + P/F-rail 24/48 + Washer 9x35x2

Screw set M12

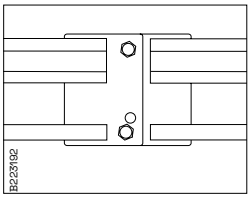
Screw set to be used for all joints with cable ladders KHZV and KHZPV.



For joining ladders.



For joints with Riser coupling 49.



For joints with 90° bend 55 and T-junctions 56.

Use and installation

Screw set 2S

Screw set to be used for fastening of Support bracket 3 on Pendant/fixing rail 24/20F and Angle bracket 5L to the opening on Pendant rail 24/34 and 24/48. Set including screw MVBF 8x40 and nut M6MF8.

Screw set 20S

Screw set to be used for installation of Support bracket 3 on Pendant/fixing rail 24/20 and Vertical piece 20, Angle bracket 5L to the opening on Pendant rail 24/48 and 24/20. Set including screw MVBF 8x60 and nut M6MF8.

Screw set 22S

Screw set to be used for installation of Support bracket 3 on Vertical piece 2 and 2F, Support bracket 3 and Ceiling bracket 5 on Pendant/fixing rails 24/34 and 24/48, Angle bracket 5L against the back of Pendant/fixing rails, Pendant/fixing rails back to back. Set including screw MVBF 8x16 and nut M6MF8.

Screw set W34

Screw set to be used for the fastening of dividing strips on cable ladders KHZSP, KHZSPZ+, KHZPS and KHZPV. Set including screw MSCS 6x12 and nut M6MF 6.

Screw set W37

Screw set including bolt MVBF 8x35 and nut M6MF 8, to be used for the installation of Support bracket 3 on Vertical piece 20F.

Screw set M10 x 20

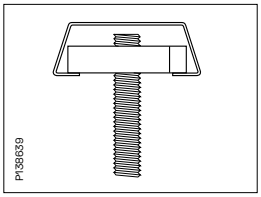
Screw to be used with Spring nut M10 for the installation of Cantilever arm 50 on Pendant/fixing rail 24/48.

Spring nut M8/M10

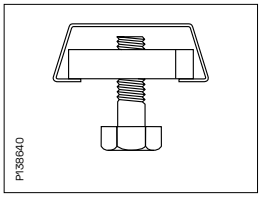
Spring nut to be used for fastening of accessories (control panels, etc.) on Pendant/fixing rail 24/48. M8 for HDG and M10 for stainless.

Back nut M8

Back nut to be used for fastening of vertical pieces, etc., in the rungs of cable ladders KHZSP, KHZSPZ+, KHZP, KHZPS and KHZPV.



Mounting with Threaded rod M8 and Backnut M8 in the cable ladder rungs.



Pendants etc. are mounted with Bolt M8 and Back nut M8 in the rungs.

Flange nut B43 M8, M10

Used for joining of Threaded rod W76 M8 and M10.

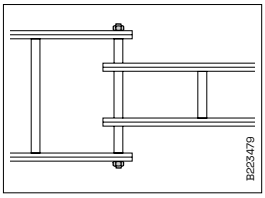
Thread lock B50 M8, M10

Used for joining of Threaded rod W76 M8 and M10.

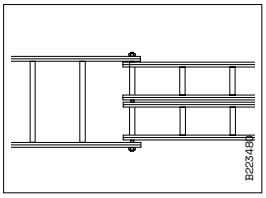
Intermediate connection bolt 29

Intermediate connection bolt to be used at the transition from a broad to a narrower cable ladder KHZ.

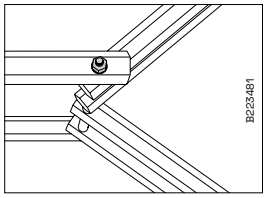
Type	Bolt diam x length mm
Intermediate connection bolt 29/200	M10 x 235
Intermediate connection bolt 29/300	M10 x 335
Intermediate connection bolt 29/400	M10 x 435
Intermediate connection bolt 29/500	M10 x 535
Intermediate connection bolt 29/600	M10 x 635



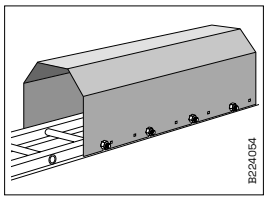
Intermediate connection bolts are used for changing from a broad to a narrower ladder. The broader ladder's last rung is cut to permit the narrower ladder to fit in. The intermediate connection bolt is mounted through the rungs of the KHZ ladder.



Intermediate connection bolts can also be used for transition from one wide ladder to two narrower ones.



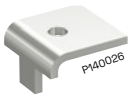
Intermediate connection bolt also permits formation of angles.



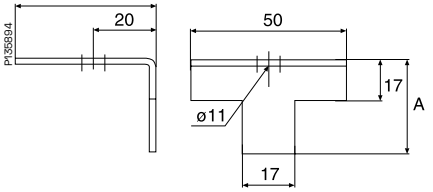
To be mounted on ladder KHZ with Intermediate connection bolt 29.

Use and installation

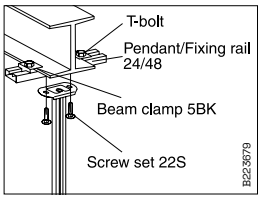
Beam clamp 5BK



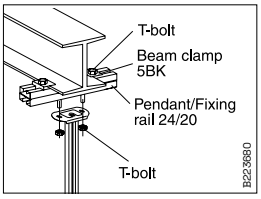
Beam clamp to be used for the installation of Vertical pieces 2, 2F or 20 on I-beams.



Type	A mm
Beam clamp 5BK-10, for flange thickness max 13 mm	30
Beam clamp 5BK-30, for flange thickness max 14–30 mm	50



On ceiling beams, mount Vertical piece 2, 2F or 20 using 2 Beam clamps 5BK, Pendant/ Fixing rail 24/48 and Screw set 22S. For Beam clamp 5BK-10, use T-bolt 26U/40. For Beam clamp 5BK-30, use T-bolt 26U/50.

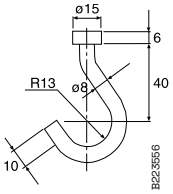


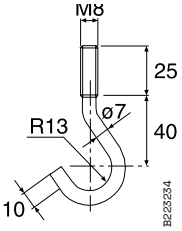
Alternatively, a Pendant/ Fixing rail 24/20 may be used. This will require 4 T-bolts.

Hook 8

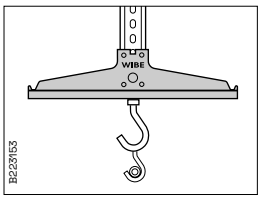
Hot dip galv.

AISI 316L

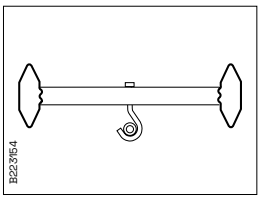




Hook to be used for the installation of cables beneath Support bracket 3. Can also be installed in perforated rungs.



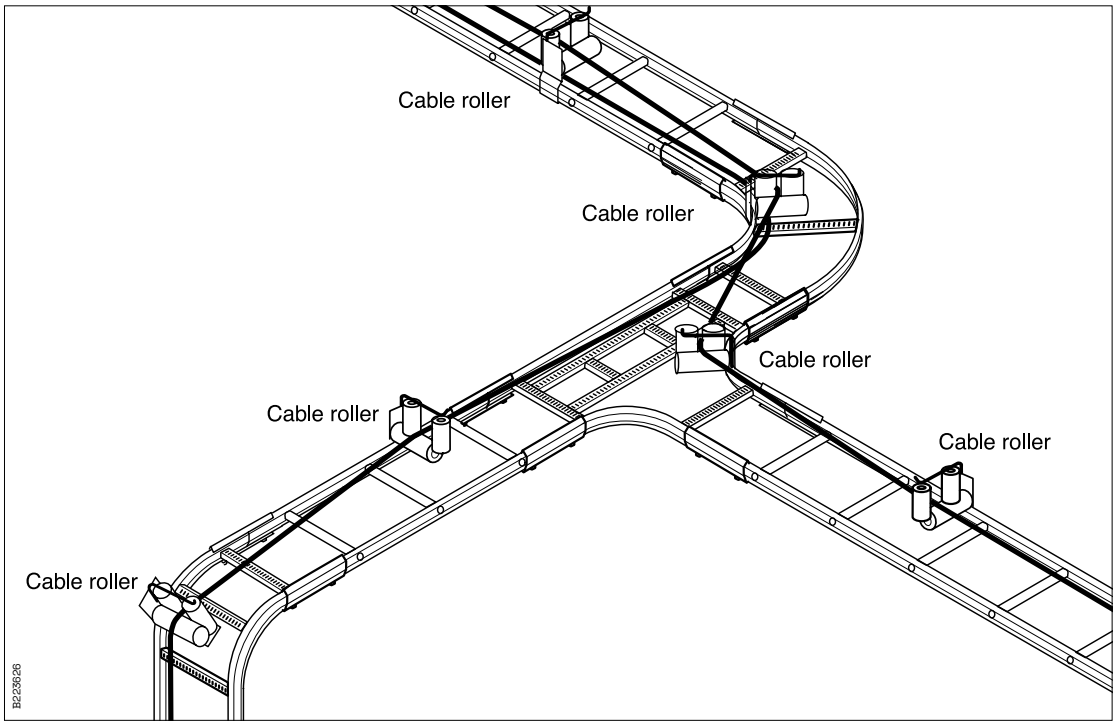
Hook 8 mounted beneath Support bracket 3 for installation of cables.



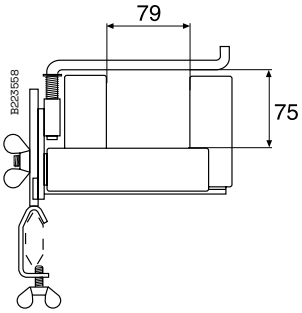
Hook 8 installed in a perforated rung.

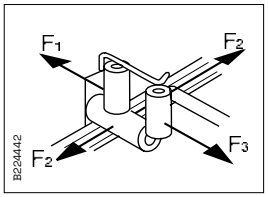
Use and installation

Cable roller S



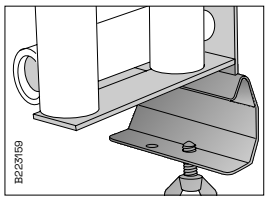
Cable roller used to facilitate the pulling of cables and lines. Easily installed on all Wibe cable ladders except the high-sided WHS ladders (outer mounting hole). Also suitable for external/internal profiles of all 900 bends, T-junctions, X-junctions and risers (inner mounting hole). With a height adjustment of 45 mm to leave room for cables to pass under the roller.



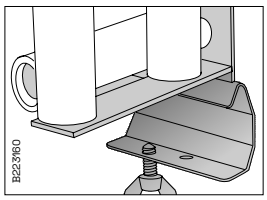


Load

Permitted loading F_1=100 kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)
Permitted loading F_2=125 kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)
Permitted loading F_3=100 kg (KHZ, KHZP, KHZV) 35 kg (KHZSP)



For fitting on 90°, T- and Xjunctions, use the inner mounting hole.

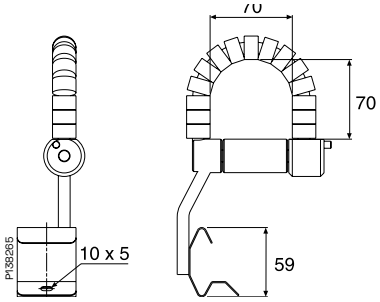


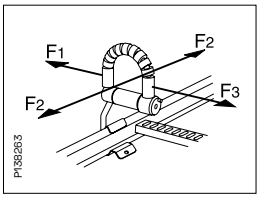
For mounting on ladders, use the outer mounting hole.

Use and installation

Cable roller 38 Rig'n roll

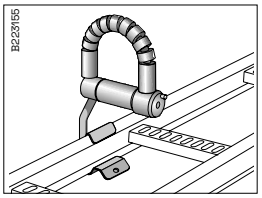
Cable roller used for mounting on Wibe cable ladders with belonging junctions and branches.



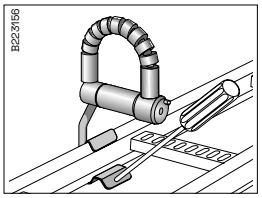


Load

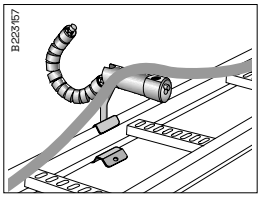
Permitted loading F_1= 20 kg (KHZ, KHZP, KHZV, KHZSP)
Permitted loading F_2= 50 kg (KHZ, KHZP, KHZV, KHZSP)
Permitted loading F_3= 50 kg (KHZ, KHZP, KHZV)
25 kg (KHZSP)



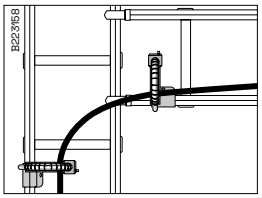
Cable roller 38 is to be mounted on the cable ladder profile.



Use a screw driver when dismantling the cable roller.



Open the cable roller by pressing the locking button and turn the loop aside.



The loop has rollers which make cable pulling over bends and junctions very easy.

Appropriate tightening torque

Part	Application	Tightening torque (Nm)
T-Bolt 26U+2F+Ca50i	Support system	M8: 15/M10: 25
Screw set 2S+Pendant bar1+2F	Support system, front side of 2F	M8: 15/M10: 25
Screw set 2S+Pendant bar1+2F	Support system, back side of 2F	M8: 15/M10: 25
Screw set 20S+2F+(2)Ca50i	Balance application	M8: 15/M10: 25
Screw set 22S+2F+Ca50i	Support system, back side of 2F	M8: 15/M10: 25
2FJ+24/48	Extension application	M8: 15/M10: 25

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