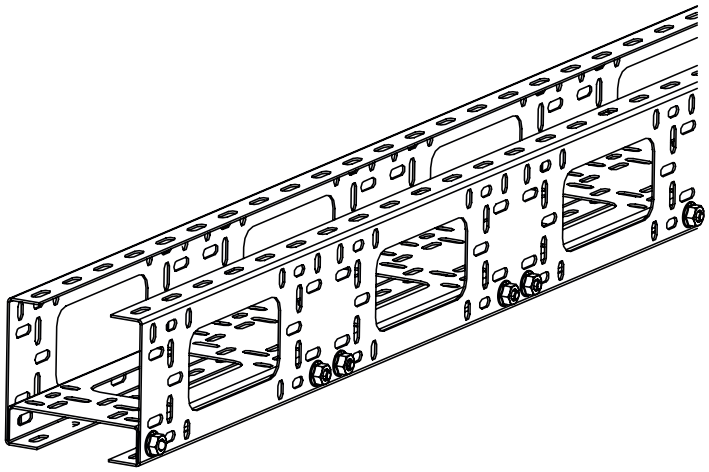
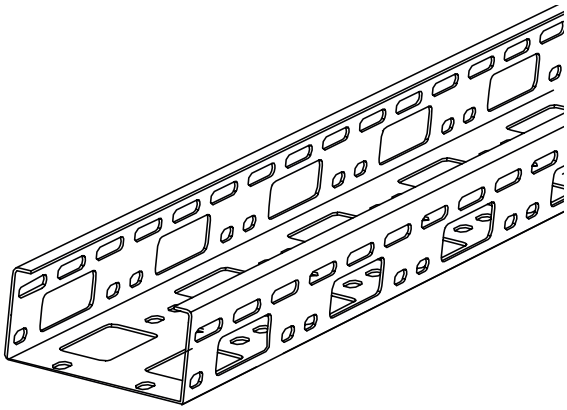
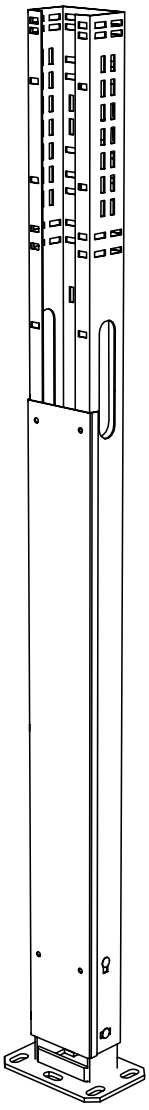
Modular systems

Mounting instructions







Building Connections

Modular systems

Mounting instructions

© 2020 OBO Bettermann Holding GmbH & Co. KG

Reprinting, even of extracts, as well as photographic or electronic reproduction are prohibited!

EN: Table of contents

1 About these instructions 5

1.1 Target group 5

1.2 Using these instructions 5

1.3 Types of safety information 5

1.4 Correct use 5

1.5 Applicable documents 6

1.6 Basic standards and regulations 6

2 General safety information 6

3 System overview 6

3.1 BKK basic profile (BKK) 6

3.2 AZ small duct (AZK) 7

3.3 System accessories 9

4 Mounting the BKK basic profile 11

4.1 Wall and ceiling mounting 11

4.2 Creating a BKK system 11

4.3 Creating a straight connection 13

4.4 Creating a horizontal angle connection 14

4.4.1 Creating a 90° corner with VF AZK straight and angle connectors 14

4.4.2 Creating a bend with SV hinge connectors 15

5 Mounting a AZ small duct 16

5.1 Wall and ceiling mounting 16

5.2 Creating a straight connection 17

5.2.1 With VF AZK straight and angle connectors 17

5.2.2 AZK 050 18

5.3 Creating angle connections 19

5.3.1 Creating a 90° corner with VF AZK straight and angle connectors 19

5.32 AZK 050 20

5.3.3 Creating a vertical adjustable connection 21

5.3.4 Creating a falling 90° vertical bend with SV hinge connectors 22

5.3.5 Rising 90° vertical bend with SV hinge connectors 23

5.4 Creating a T branch 24

5.4.1 With VF AZK angle connectors 24

5.4.2 AZK 050 25

5.5 Creating an cross-over 26

5.6 Mounting the cover 27

5.6.1 Cover fastening with turn buckle 27
5.6.2 Cover fastening with cover clamp 28

5.7 Inserting a cable protection ring 28

5.8 Creating a T branch using the BKK system 29

6 Mounting a motor connection column 30

6.1 Mounting a motor connection column with column foot 30

6.2 Mounting a motor connection column with fixing clamp 31

6.3 Mounting a device plate 31

6.4 Mounting the cover 32

6.5 Connecting a motor connection column to an AZ small duct 32

7 Creating equipotential bonding 33

8 Maintaining a modular system 33

9 Dismantling a modular system 33

10 Disposing of a modular system 33

11 Technical data 34

1 About these instructions

1.1 Target group



These instructions are intended for the following target groups:

– Engineers and architects charged with the planning of modular systems.

– Electrically trained specialists charged with mounting modular systems.

Electrical work may only be carried out by specialist personnel with electrical training.

1.2 Using these instructions

– These instructions are based on the standards valid at the time of compilation (08/2019).

– We will not accept any warranty claims for damage caused through non-observance of these instructions.

– Any images are intended merely as examples. Mounting results may look different.

1.3 Types of safety information

WARNING

Type of risk!
Shows a risky situation. If the safety instruction is not observed, then serious or fatal injuries may occur.

CAUTION

Type of risk!
Shows a risky situation. If the safety instruction is not observed, then medium or minor injuries may occur.

ATTENTION

Type of risk!
Shows a hazardous situation. If the safety instruction is not observed, then damage to the product or the surroundings may occur.

Note! *Indicates important information or assistance.*

1.4 Correct use

The modular system is used for creating customised systems for supporting and routing all types of cables. The AZ small duct can be used to create branches to consumers. Electrical drives and motors are connected to the system using the motor connection column. Depending on the material and corrosion protection used, the modular system can be used indoors and outdoors, as well as in the chemical and food and beverage industries.

The modular system is suitable for use at ambient temperatures of

–20 °C to +120 °C. At temperatures below –20 °C, the material will become brittle and may not be processed further.

The modular system is not designed for any other purpose than the one described here. If the modular system is used for another purpose, any liability, warranty or damage claims shall be rendered null and void.

1.5 Applicable documents

KTS mounting instructions – applicable for all OBO cable support systems:

https://www.obo.de/out/media/04_KTS-V11_2012-06-05_en.pdf

1.6 Basic standards and regulations

The modular system fulfils the requirements of DIN EN 61537 VDE 0639:2007-09 – Cable management – Cable tray systems and cable ladder systems.

The cable tray systems shall be installed in accordance with NEMA BI 50016 or as recommended by the manufacturer.

2 General safety information

Observe the following general safety information on handling the modular system:

– Follow applicable working, accident and environmental protection regulations.

– Protective gloves must be worn during all mechanical mounting work.

– The modular system must be included in the protection measures and/or the equipotential bonding.

– The inclusion in the equipotential bonding of the overall system must be performed by specialist personnel.

– The modular system must be designed according to the loads to be expected.

– The maximum load capacity of the modular system may not be exceeded; the maximum support spacing must be observed.

3 System overview

3.1 BKK basic profile (BKK)

The BKK basic profiles enable the simple creation of individual systems for supporting and routing cables. The basic profiles are available in various dimensions and materials (see “1 About these instructions” on page 5).

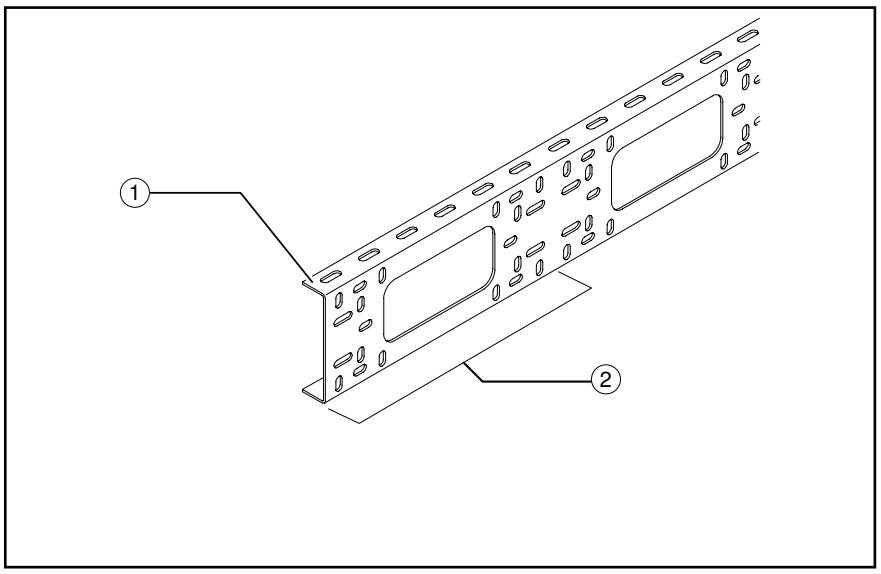


Fig. 1: BKK basic profile

① Profile edge

② Hole pattern

3.2 AZ small duct (AZK)

The AZ small ducts enable the creation of individual branches in various widths and surfaces, for the supply to consumers, for example (see “11 Technical data” on page 34).

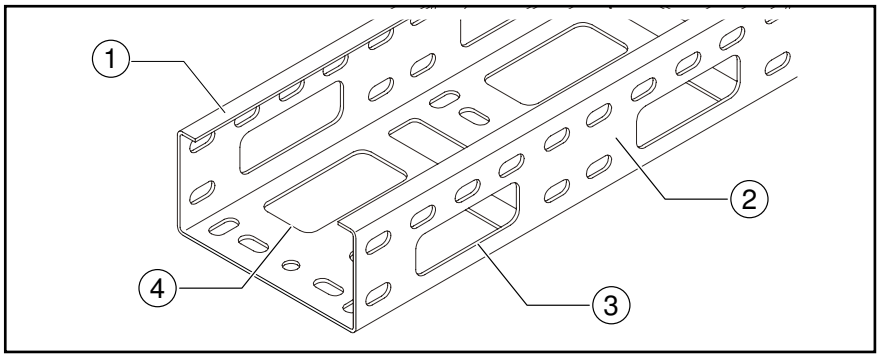


Fig. 2: AZ small duct

① Duct edge

② Side rail

③ Side perforation

④ Base perforation

Note! *The approved load capacity and maximum support spacing of the individual AZ small ducts can be found in the respective load diagrams in the current planner catalogue.*

Motor connection column (MAS)

Consumers, such as motors, can be connected to the modular system using the motor connection column.

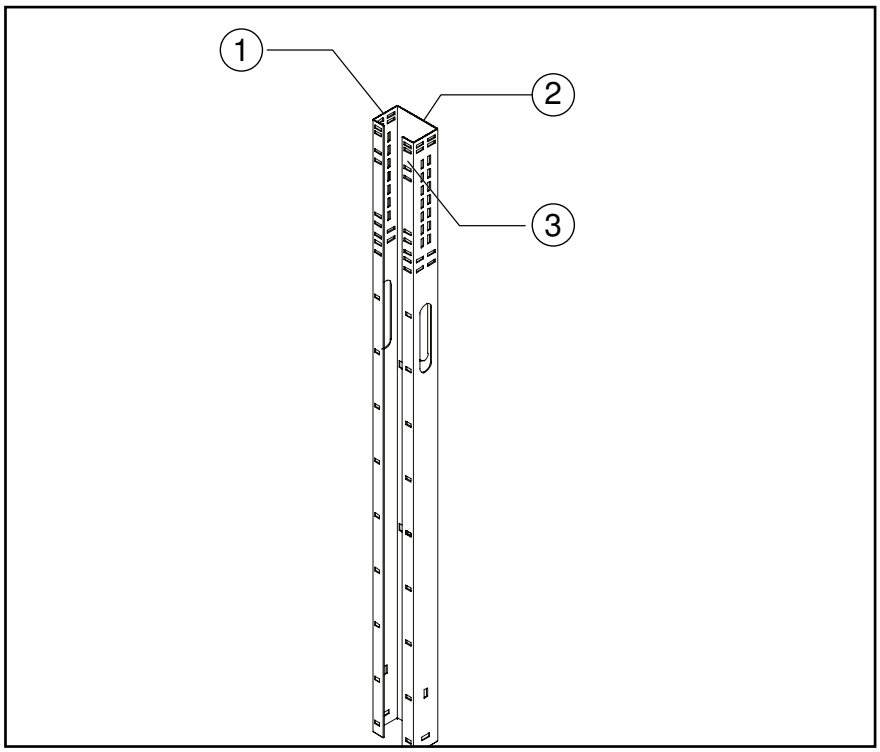


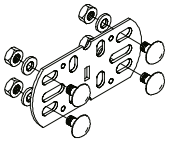
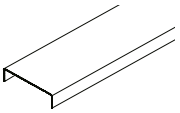
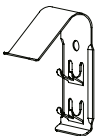
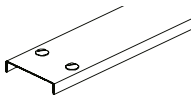
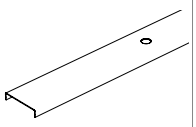
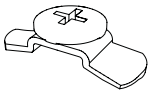
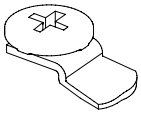
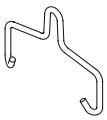
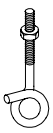
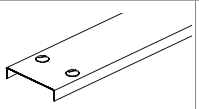
Fig. 3: Motor connection column

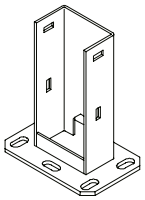
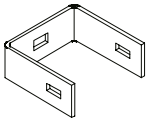
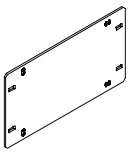
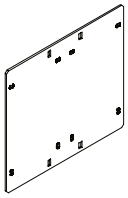
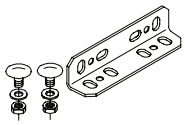
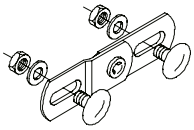
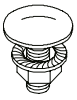
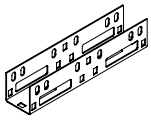
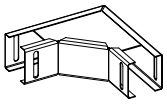
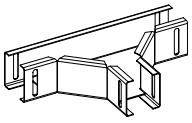
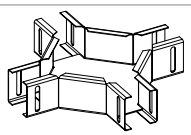
① Side rail

② Rear

③ Column edge

3.3 System accessories

Designation	Figure	Function	BKK	AZK	MAS
VF AZK straight and angle connector		Creating a straight connection, a horizontal angle connection or a vertical angle connection.	X	X	
KSR cable protection ring		Protecting cables when being fed through base or side perforations of AZ small ducts. A range of sizes for different perforations.		X	
Cover Type AZDU		Unperforated cover for AZ small ducts.		X	
Cover clamp, type DKU		Fastening AZDU and AZDG covers to AZ small ducts without screws.		X	
Cover Type AZDMD		Cover with turn buckles for fastening to AZ small ducts.		X	
Cover Type AZDG		Perforated cover for threaded rod mounting.		X	
Turn buckle Type AZDR 50		Turn buckle for installation in the AZK cover with a width of 50 mm.		X	
Turn buckle Type AZDR 100		Turn buckle for installation in the AZK cover with a width from 100 mm.		X	
Suspension bracket Type AHB		Fastening AZ small ducts to a ceiling suspension.		X (50 mm/ 100 mm)	
Ceiling hook Type 948 TG 6		Installing a chain suspension for AZ small ducts.		X	
Suspension chain Type LTK-K		Suspending AZ small ducts.		X	
Cover Type MASD		Cover for the motor connection column.			X

Designation	Figure	Function	BKK	AZK	MAS
Column foot Type SF		Supporting and fastening the motor connection column.			X
Fixing clamp Type BF		Lateral fastening of the motor connection column to bases or on the wall.			X
Device plate Type GP 15		Mounting control units to the motor connection column.			X
Device plate Type GP 31		Mounting control units to the motor connection column.			X
Joint connector Type SSV		Creating a horizontal connection of BKK basic profiles.	X		
Hinge connector Type SV		Creating a horizontal angle connection of BKK basic profiles and vertical angle connections for BKK basic profiles and AZ small ducts.	X	X	
Truss-head bolt Type FRSB		Creating screw connections.	X	X	X
Straight connector type VF AZK 50		Creating a straight connection of AZK 050.		X (only 50 mm)	
90° bend Type LTS B DD		Creating a 90° bend for AZK 050.		X (only 50 mm)	
T piece Type LTS T DD		Creating a T branch for AZK 050.		X (only 50 mm)	
Cross-over LTS K DD		Creating an cross-over for AZK 050.		X (only 50 mm)	

4 Mounting the BKK basic profile

ATTENTION

Cable damage through incorrectly set screw connections!
Sharp-edged threads can damage cables.
Always insert bolts from the inside to the outside and screw on the nut from outside.

4.1 Wall and ceiling mounting

The individually created BKK systems can be mounted using wall and support brackets, for example type AW 15/AS or U supports from the OBO mounting systems range. Detailed information on wall and ceiling mounting can be obtained from the OBO mounting systems area.

Note! *Due to the individual mounting options of the BKK system, there are no general specifications for the permissible load capacity and maximum support spacing. Observe the permissible load capacity and maximum support spacing according to the individual plan.*

4.2 Creating a BKK system

ATTENTION

Cable damage through incorrectly positioned basic profile!
The edges of the basic profile can damage cables.
Always mount floor profiles with the edges facing downwards.

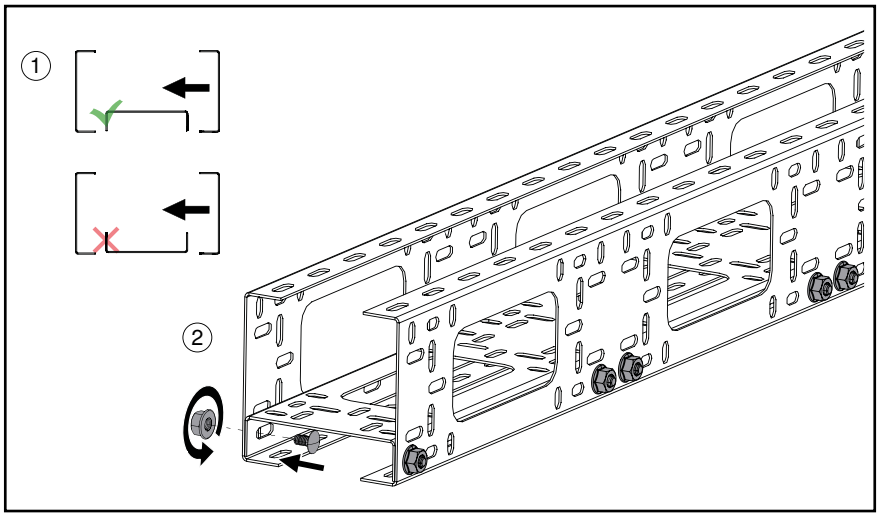


Fig. 4: Mounting a basic profile

1. Push the BKK basic profiles into each other ①.
2. Connect the BKK profiles using truss-head bolts ②.
   The required number of screw connections depends on the length of the BKK system. A total of 48 screw connections are required for 3 metres.

The BKK system can be expanded to suit individual requirements using the BKK basic profiles, for example to form a double BKK system with straight or offset joints:

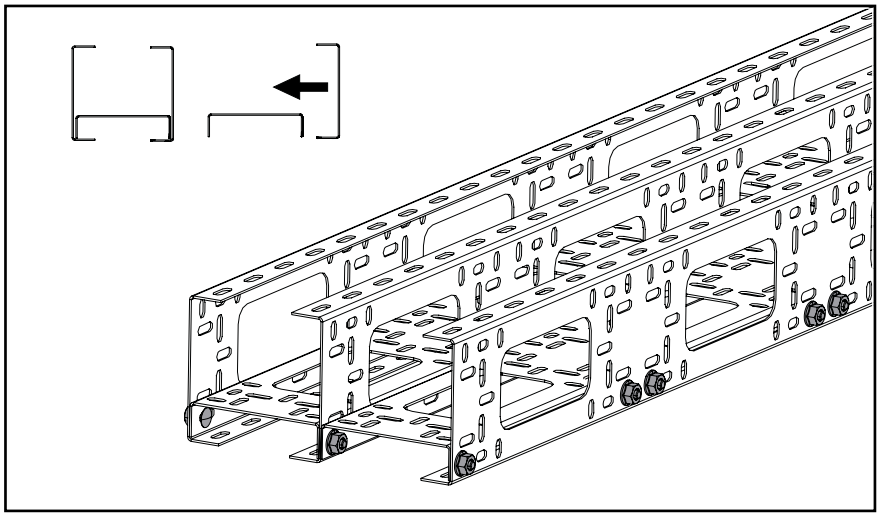


Fig. 5: Mounting variant with straight joint

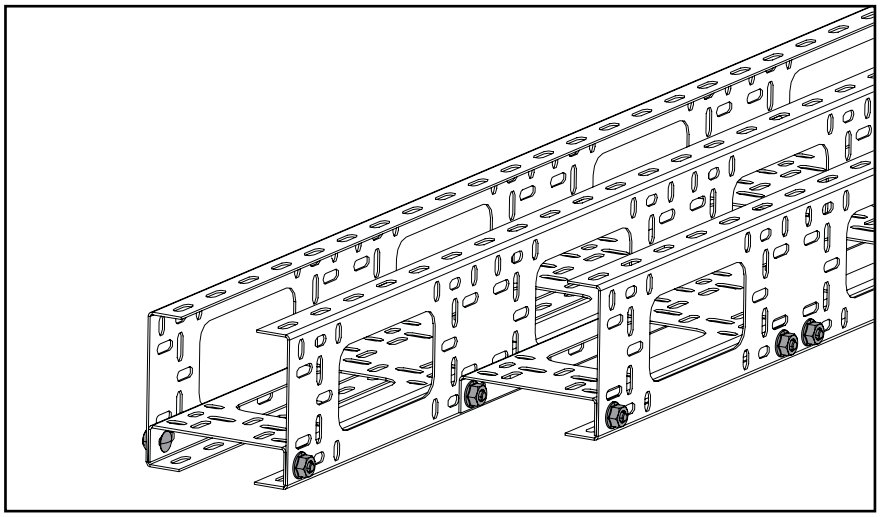


Fig. 6: Mounting variant with offset joint

4.3 Creating a straight connection

To create a straight connection, 4 SSV joint connectors are required:

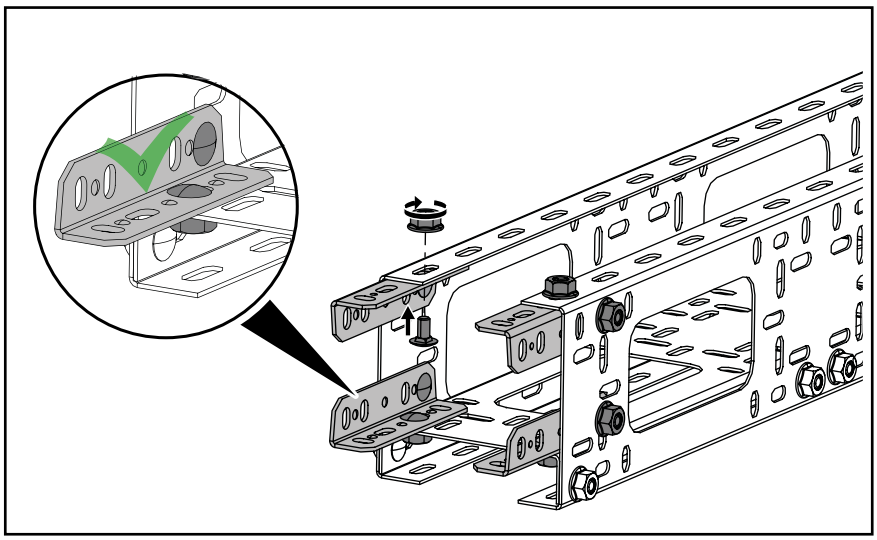


Fig. 7: Mounting joint connectors

1. Push the joint connectors halfway into the corners of a BKK system. Align the joint connectors to the side profiles of the BKK system using the 4 perforations.
2. Fasten the joint connectors to the BKK system with 2 screw connections each. Arrange the screws in an offset manner.

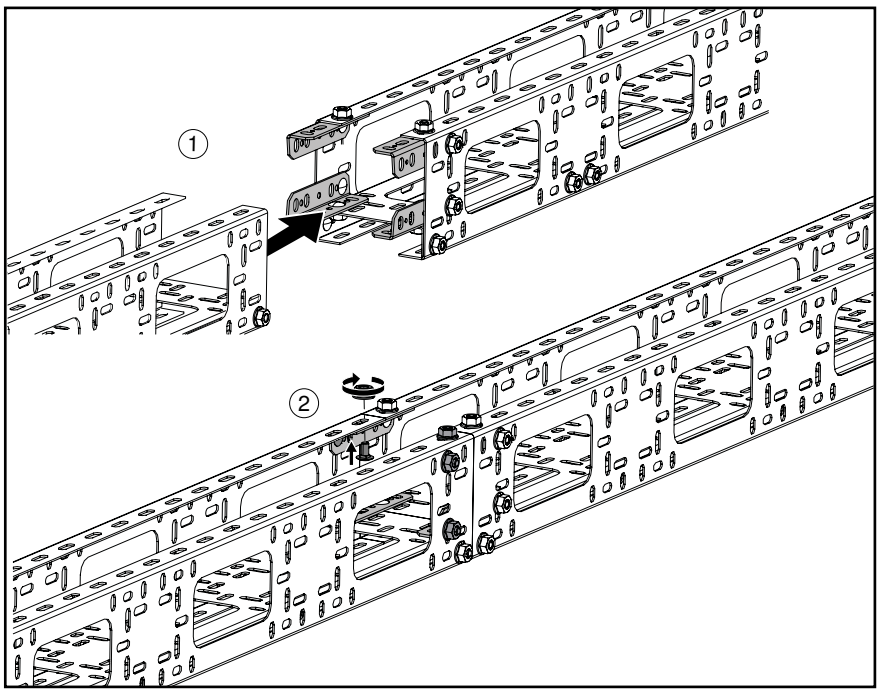


Fig. 8: Mounting a straight connection

3. Push a second BKK system onto the connectors at the joint ①.
4. Fasten the BKK system to the joint connectors with 2 screw connections each. Arrange the screws in an offset manner ②.

4.4 Creating a horizontal angle connection

4.4.1 Creating a 90° corner with VF AZK straight and angle connectors

2 VF AZK connectors are required for a 90° corner. Mount the BKK systems to be connected, each with an offset joint.

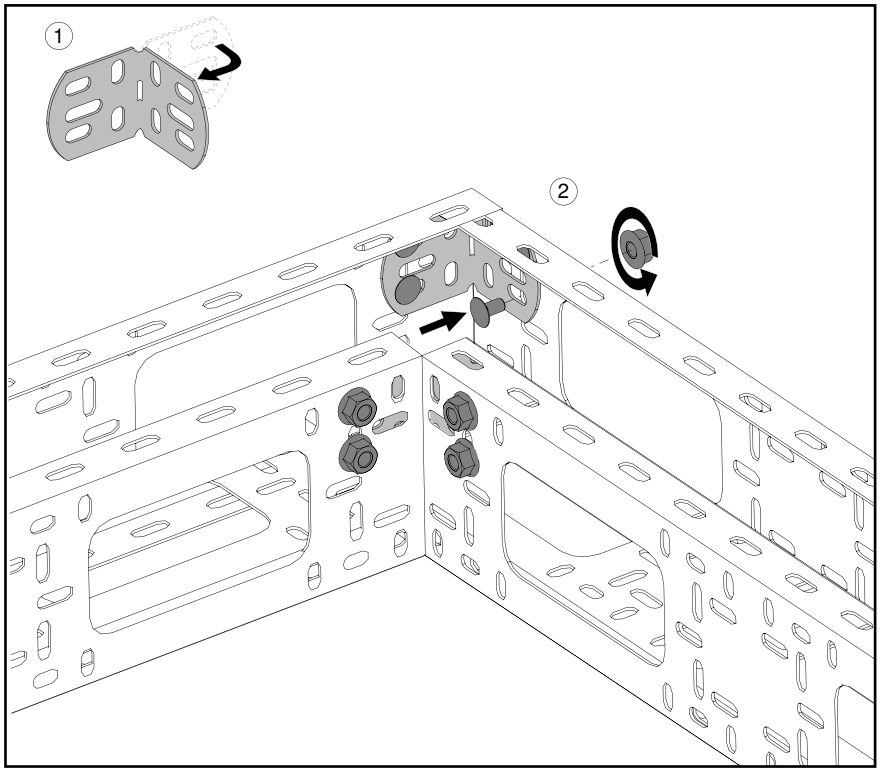


Fig. 9: Creating a 90° corner

1. Bend VF AZK straight and angle connectors in the middle by 90° to create an angle connection ①.
2. Place the angle connectors under the profile edge of the BKK system and mount with 4 screw connections ②.

4.4.2 Creating a bend with SV hinge connectors

4 hinge connectors are required for a hinge connection. 2 hinge connections must be created to form a 90° bend. The profile edges must be cut before mounting:

CAUTION

Risk of cutting!
During cutting work, metal chips or sharp cut edges can cause injuries to eyes and hands!
Wear protective glasses and gloves.

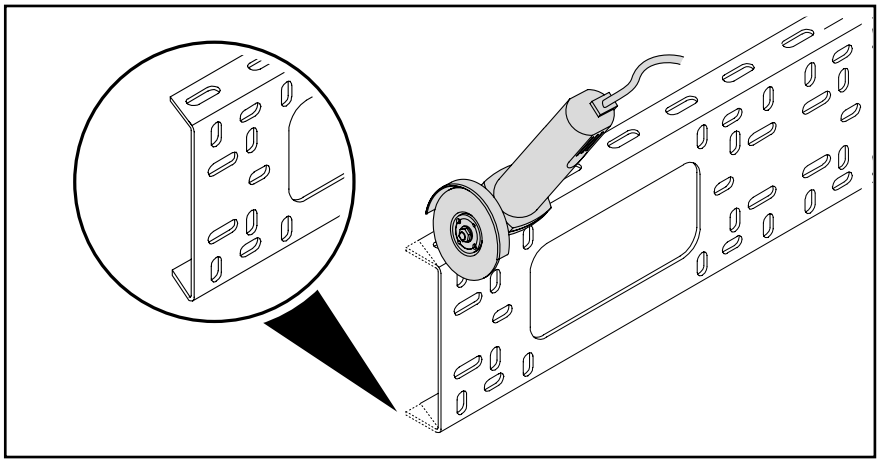


Fig. 10: Cutting side profiles

1. Bevel the profile edges at the joints at an angle of 22.5°. Pay attention to the hole pattern. Deburr cut edges if necessary.

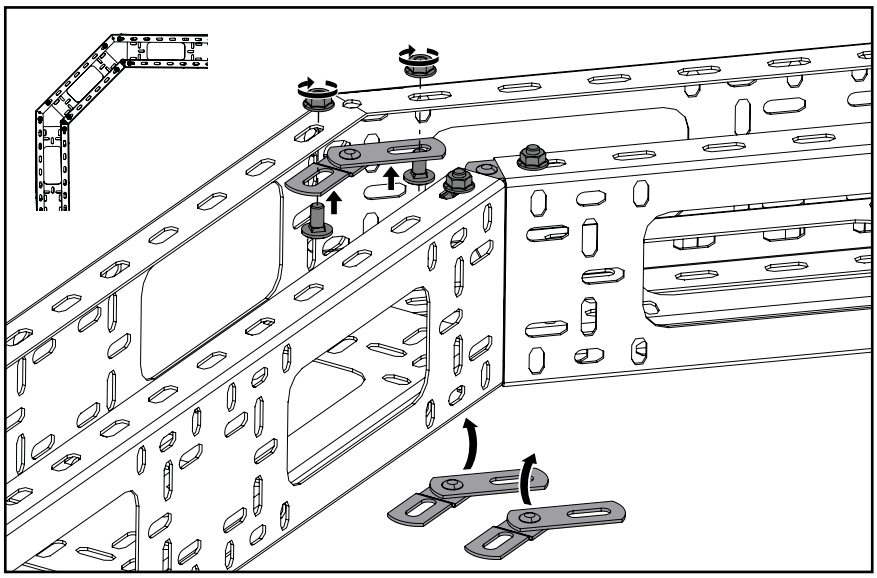


Fig. 11: Creating a bend with hinge connectors

2. Place 2 cut BKK systems at a 45° angle to each other.
3. Place the hinge connectors on the profile edges of the BKK systems from the inside.
4. Mount the hinge connectors with 2 screw connections each.

5 Mounting a AZ small duct

ATTENTION

Cable damage through incorrectly set screw connections!
Sharp-edged threads can damage cables.
Always insert bolts from the inside to the outside and screw on the nut from outside.

5.1 Wall and ceiling mounting

The AZ small ducts can be mounted on the wall using wall and support brackets from the OBO mounting systems range, for example types AW 15 or MWA 12. Detailed information on wall and ceiling mounting can be obtained from the OBO mounting systems area.

Note! *Observe the permissible load capacity and maximum support spacing for the individual AZ small ducts. These can be taken from the respective load diagrams in the current planner catalogue.*

Alternatively, the AZK 050 and AZK 100 small ducts can be mounted on the ceiling using chain suspensions. Select support spacing according to the respective load diagram.

WARNING

Danger due to high working height!
When installing at height, there is a risk of falling and/or that parts may fall. Use fall protection during installation and secure the area beneath the installation site. Wear safety gloves and a helmet.

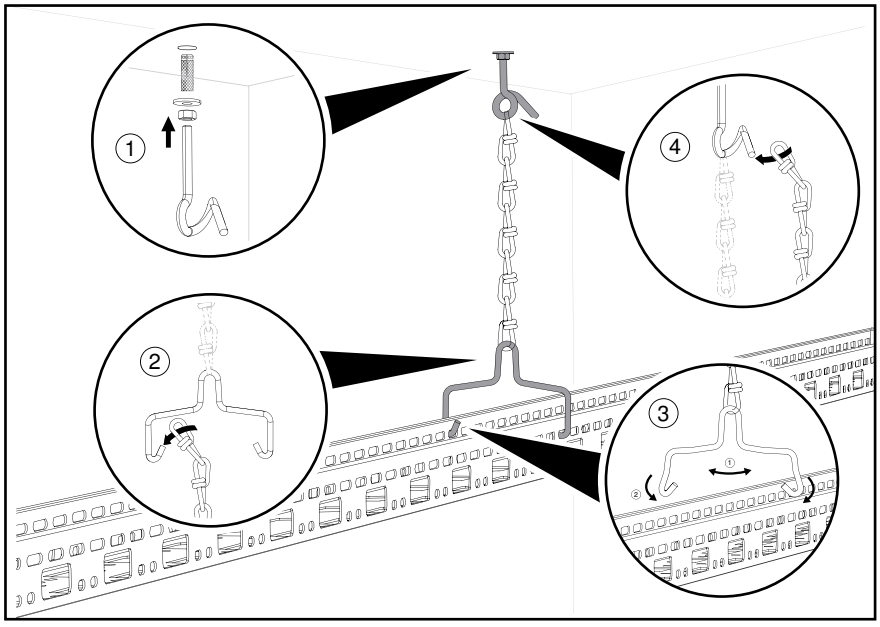


Fig. 12: Mounting chain suspension

1. Fasten a ceiling hook type 948 TG 6 to the ceiling using a suitable anchor (M6) ①.
2. Pull the LTK-K 25 G suspension chain onto the suspension bracket ②.
3. Attach the AHB suspension bracket to the AZ small duct ③.
4. Suspend the suspension chain with bracket and AZ small duct on the ceiling hook ④.

5.2 Creating a straight connection

5.2.1 With VF AZK straight and angle connectors

To create a straight connection, two VF AZK straight and angle connectors are required:

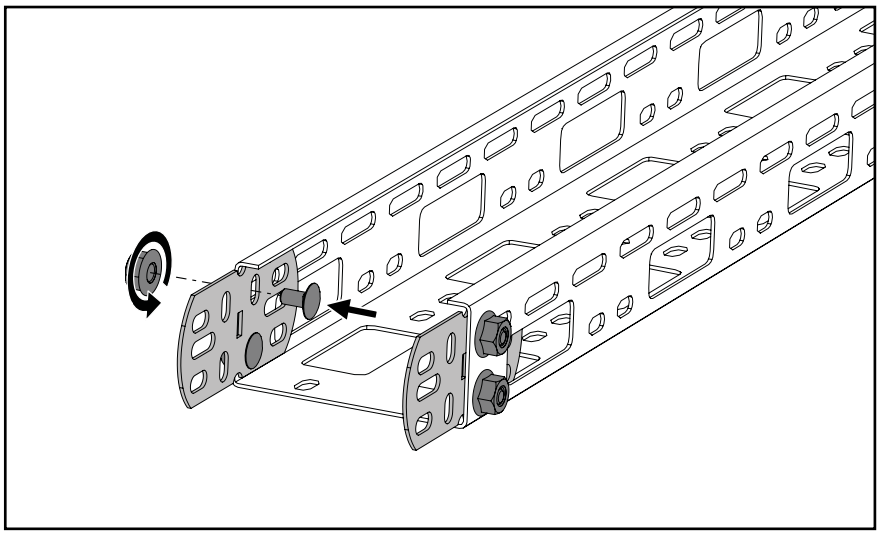


Fig. 13: Mounting straight connectors

1. Place the VF AZK straight and angle connectors up to halfway on the side rails of the AZ small duct from the inside.
2. Mount the straight connectors with 2 screw connections each.

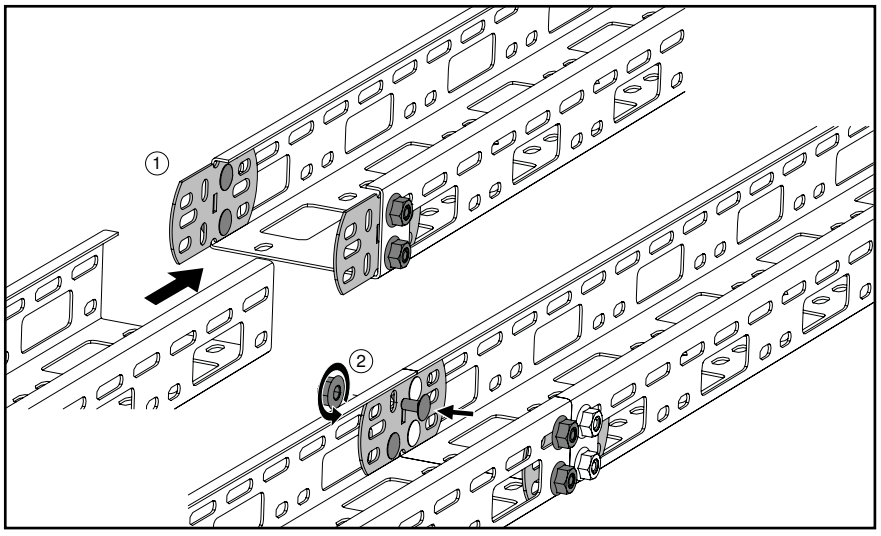


Fig. 14: Connecting AZ small ducts

3. Push the second AZ small duct onto the connectors at the joint ①.
4. Fasten the AZ small duct to the connectors with 2 screw connections each ②.

5.2.2 AZK 050

For the AZ small duct 050, a straight connection can also be created using a VF AZK 50 straight connector:

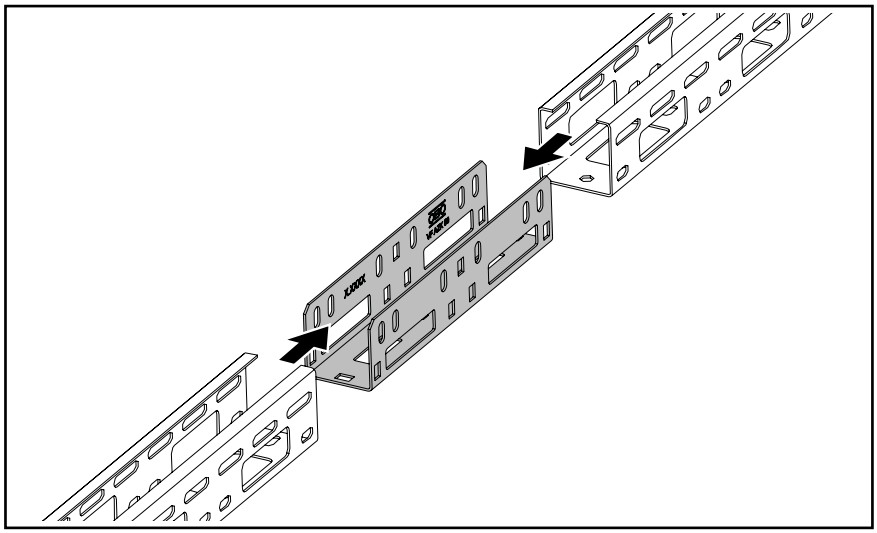


Fig. 15: Positioning a straight connector

1. Push the AZK 050 small ducts to the centre of the straight connector.

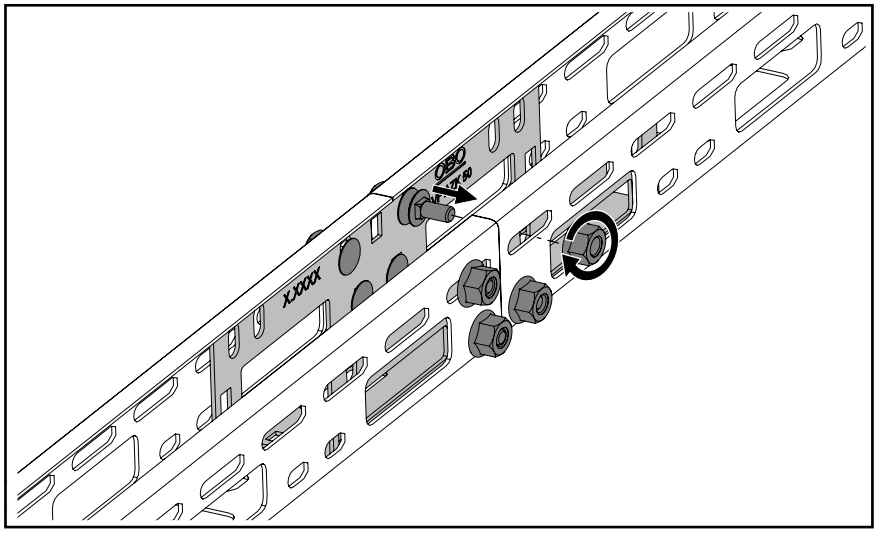


Fig. 16: Mounting a straight connector

2. Mount the AZ small ducts with 4 screw connections each.

5.3 Creating angle connections

5.3.1 Creating a 90° corner with VF AZK straight and angle connectors

To create a 90° corner, 2 VF-AZK straight and angle connectors are required. The AZ small ducts must be cut before mounting:

CAUTION

Risk of cutting!
During cutting work, metal chips or sharp cut edges can cause injuries to eyes and hands!
Wear protective glasses and gloves.

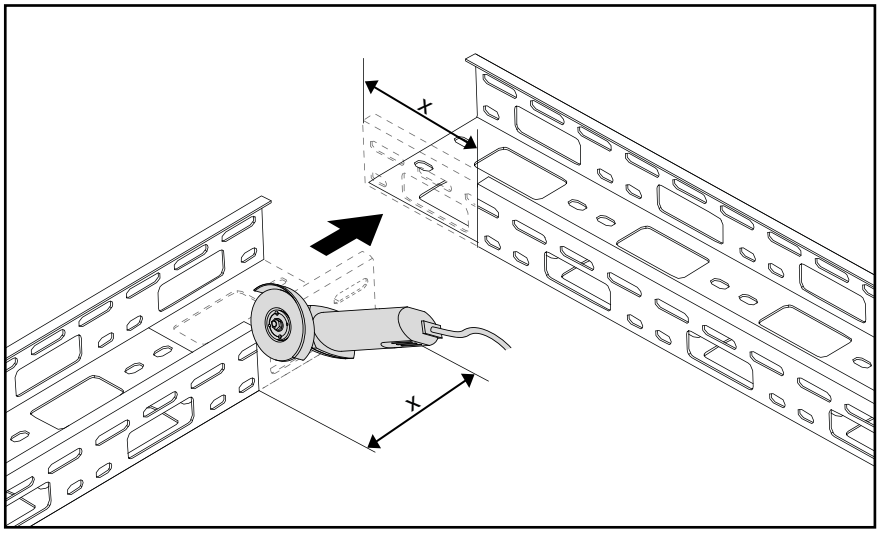


Fig. 17: Cutting the AZ small ducts for a 90° corner.

1. Cut the AZ small ducts. The width X corresponds to the duct width.
2. Position the AZ small ducts together.

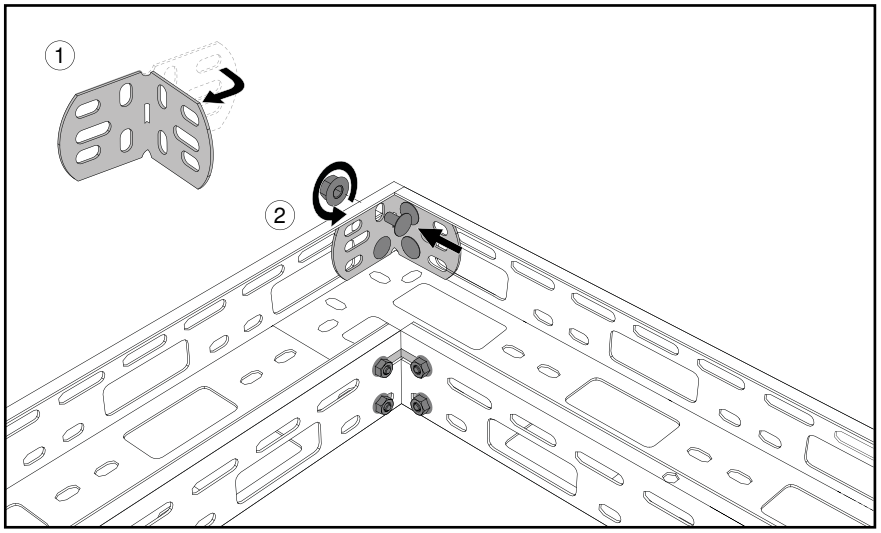


Fig. 18: Mounting a 90° angle.

3. Bend the VF AZK straight and angle connectors by 90° to create an angle connector ①.
4. Place the angle connectors at the joints from the inside ②.
5. Mount the angle connectors with 4 screw connections each.

5.3.2 AZK 050

For the AZ small duct AZK 050, a 90° bend can also be created using a fitting. The AZ small ducts do not need to be cut when using fittings.

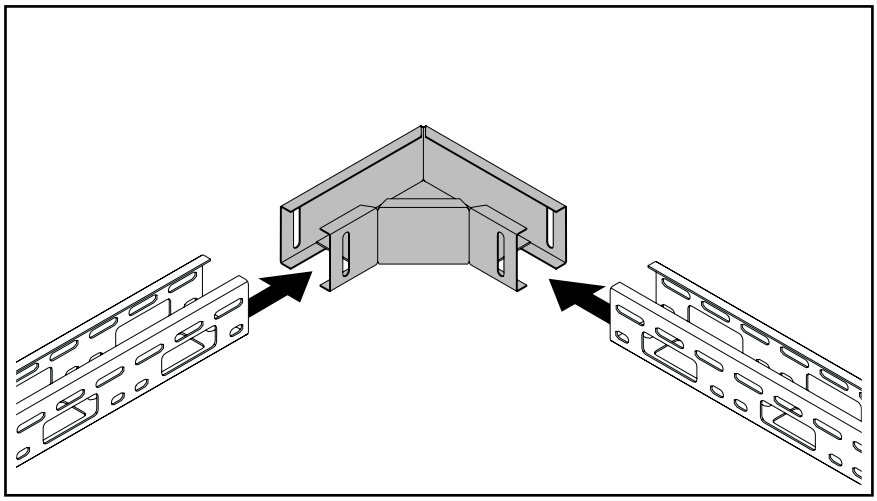


Fig. 19: Positioning a 90° bend

1. Position two AZ small ducts at an angle of 90° to each other.
2. Push the AZ small ducts into the 90° bend fitting, lining up the perforations.

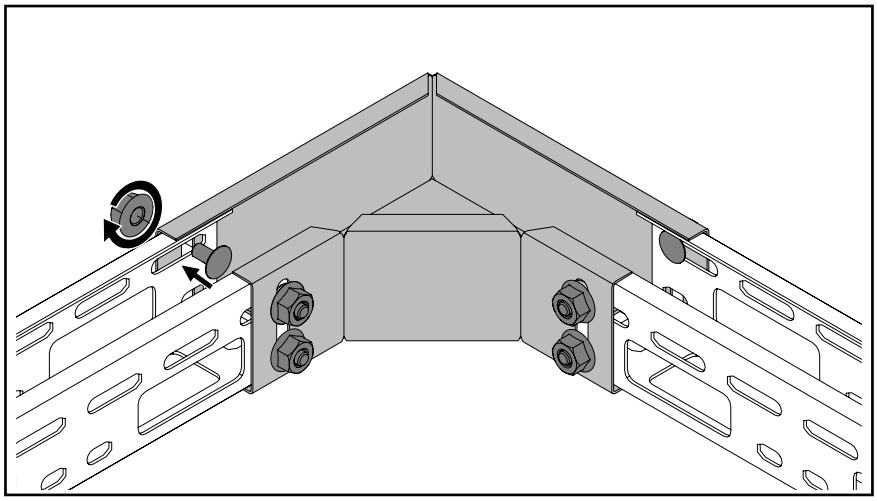


Fig. 20: Mounting a 90° angle

3. Mount the AZ small ducts with 4 screw connections each.

5.3.3 Creating a vertical adjustable connection

2 straight and angle connectors can be combined into one adjustable connector. Rising and falling vertical connections can be created using the adjustable connector:

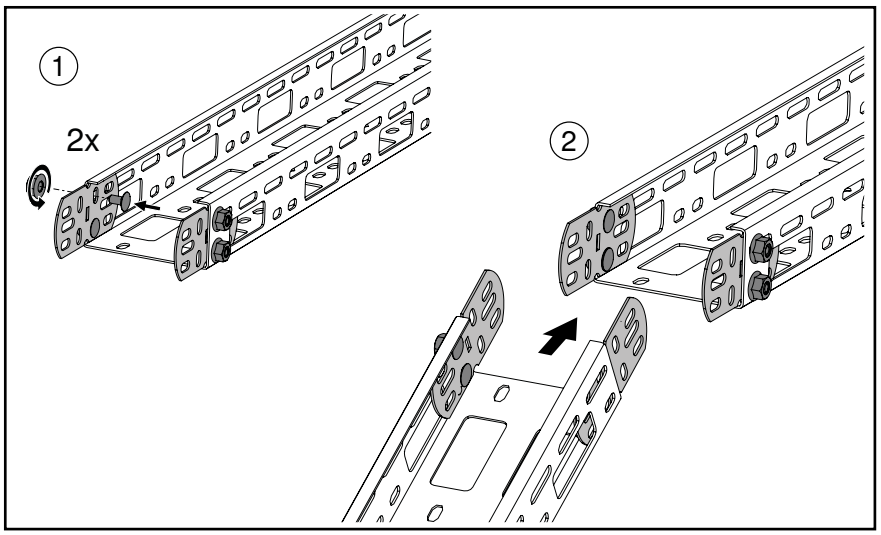


Fig. 21: Mounting straight and angle connectors

1. Place the VF AZK straight and angle connectors up to halfway into the side rails of the AZ small ducts from the inside ①.
2. Mount the straight connectors with 2 screw connections each.
3. Position two AZ small ducts at the desired angle to each other ②.

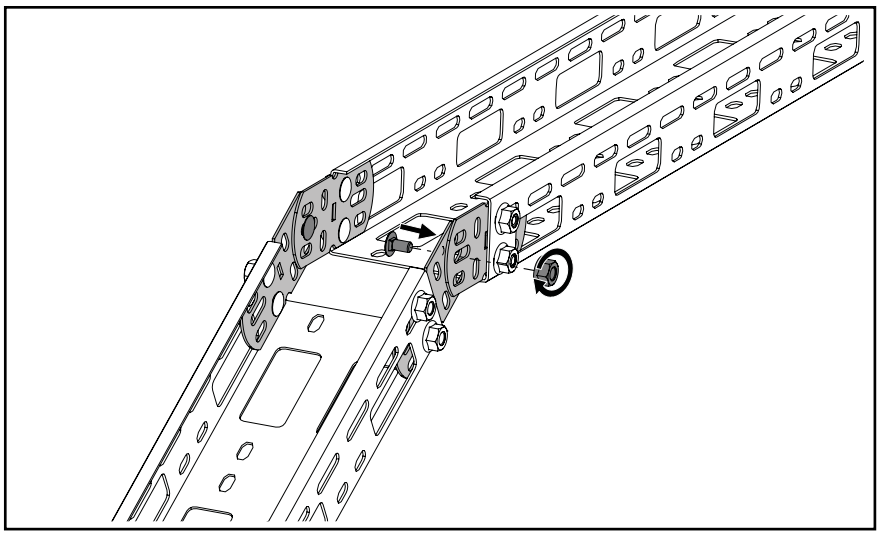


Fig. 22: Mounting an adjustable connection

4. Connect 2 straight connectors to the adjustable connector with one screw connection each.

5.3.4 Creating a falling 90° vertical bend with SV hinge connectors

To create a falling vertical angle connection, 4 SV hinge connectors are required. Before mounting, a connection piece must be cut:

CAUTION

Risk of cutting!
During cutting work, metal chips or sharp cut edges can cause injuries to eyes and hands!
Wear protective glasses and gloves.

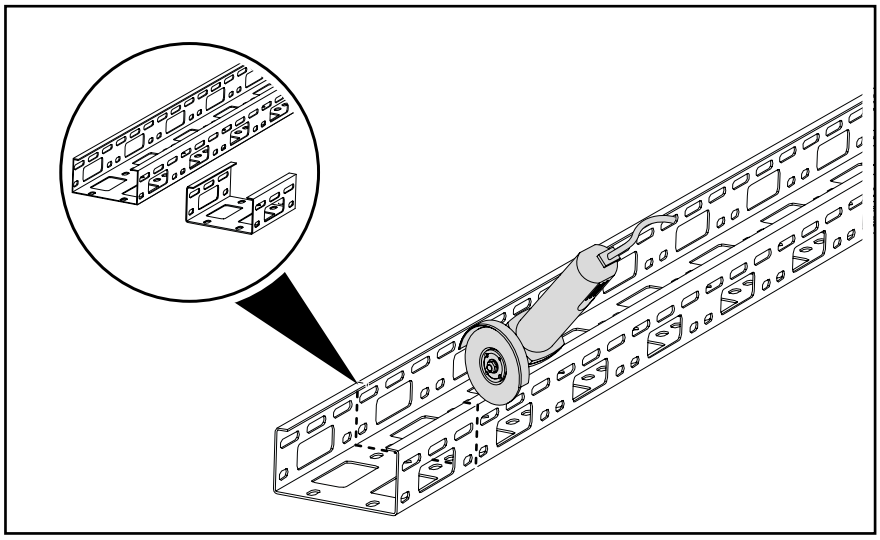


Fig. 23: Cutting an AZ small duct

1. Cut the connection piece using an angle grinder. Pay attention to the perforations. Deburr cut edges if necessary.

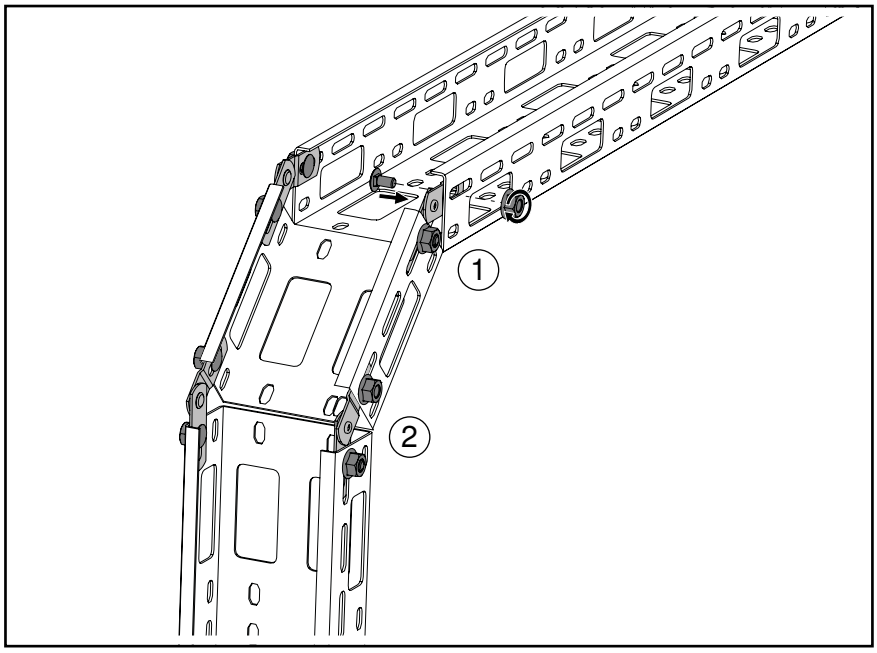


Fig. 24: Mounting hinge connectors

2. Place hinge connectors under the duct edges.
3. Connect the first AZ small duct and the connection piece with 2 hinge connectors at an angle of 45° ①.
4. Connect the connection piece and the second AZ small duct with 2 hinge connectors at an angle of 45° ②.

5.3.5 Rising 90° vertical bend with SV hinge connectors

To create a falling vertical angle connection, 4 SV hinge connectors are required. Before mounting, a connection piece must be cut and the side rails of the AZ small ducts must be bevelled:

CAUTION

Risk of cutting!
During cutting work, metal chips or sharp cut edges can cause injuries to eyes and hands!
Wear protective glasses and gloves.

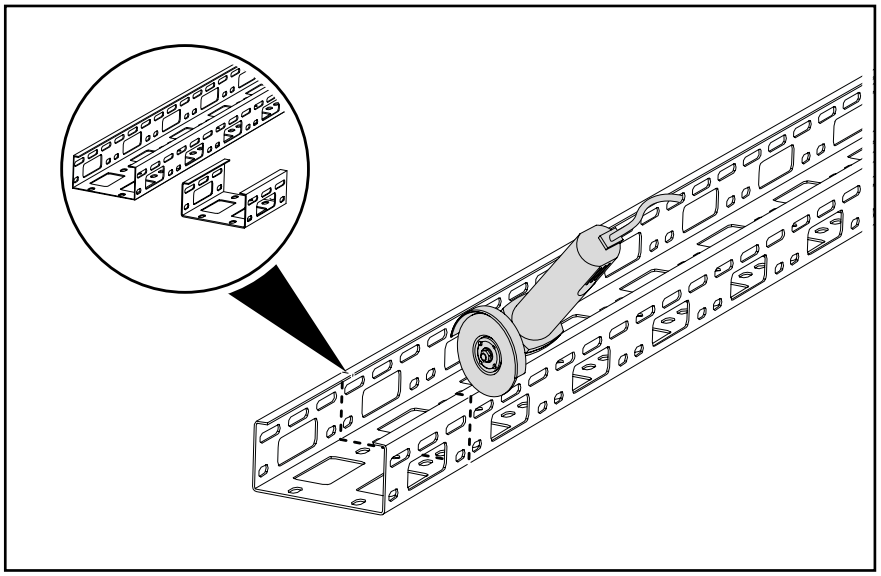


Fig. 25: Cutting an AZ small duct

1. Cut the connection piece using an angle grinder. Pay attention to the perforations. Deburr cut edges if necessary.

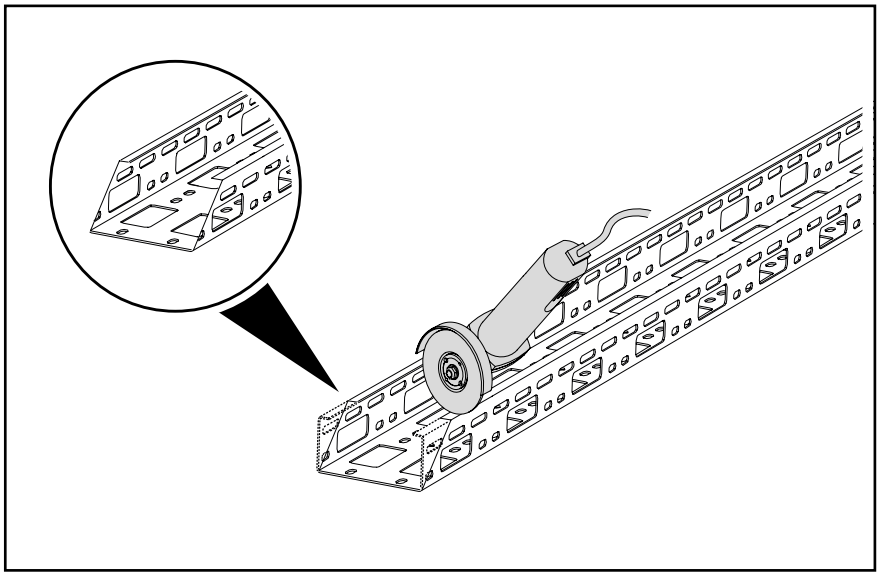


Fig. 26: Cutting the side rails

2. Bevel the side rails of both AZ small ducts and the connection piece at the connection points. Angle: 22.5°.
   Deburr cut edges if necessary.

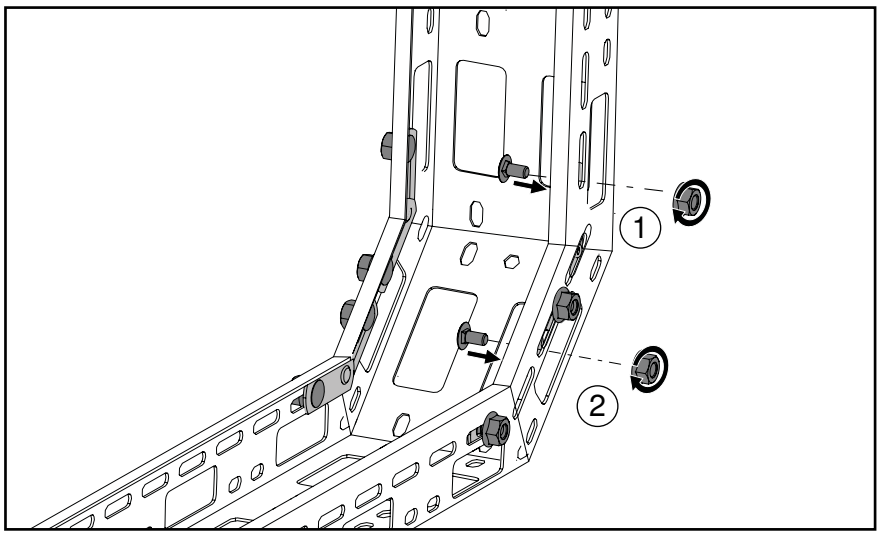


Fig. 27: Mounting hinge connectors

3. Place hinge connectors under the duct edges.
4. Connect the first AZ small duct and the connection piece with 2 hinge connectors at an angle of 45° ①.
5. Connect the connection piece and the second AZ small duct with 2 hinge connectors at an angle of 45° ②.

5.4 Creating a T branch

5.4.1 With VF AZK angle connectors

To create a T branch, 2 VF-AZK straight and angle connectors are required. Before mounting, the side rail of the first AZ small duct must be cut:

CAUTION

Risk of cutting!
During cutting work, metal chips or sharp cut edges can cause injuries to eyes and hands!
Wear protective glasses and gloves.

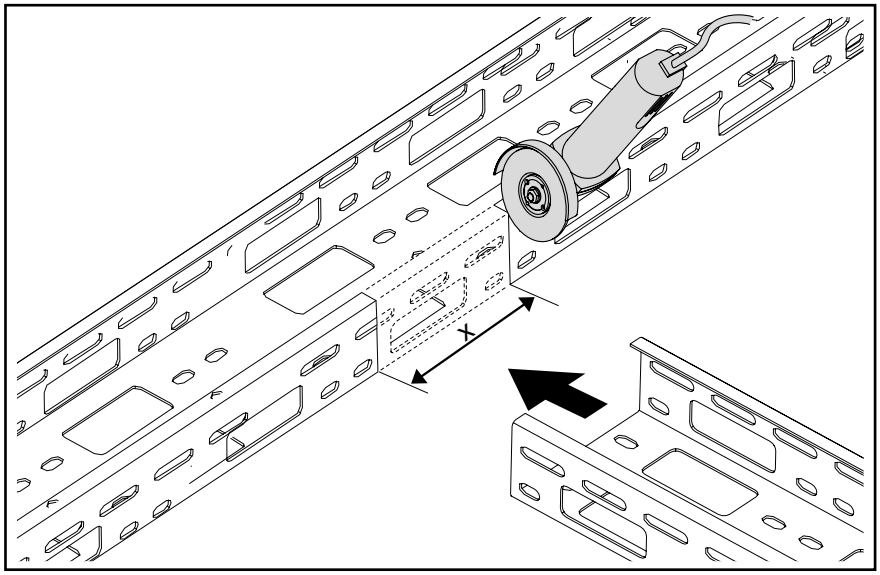


Fig. 28: Cutting an AZ small duct

1. Cut out the side rail of the first AZ small duct to the width of the second AZ small duct. Deburr cut edges if necessary.

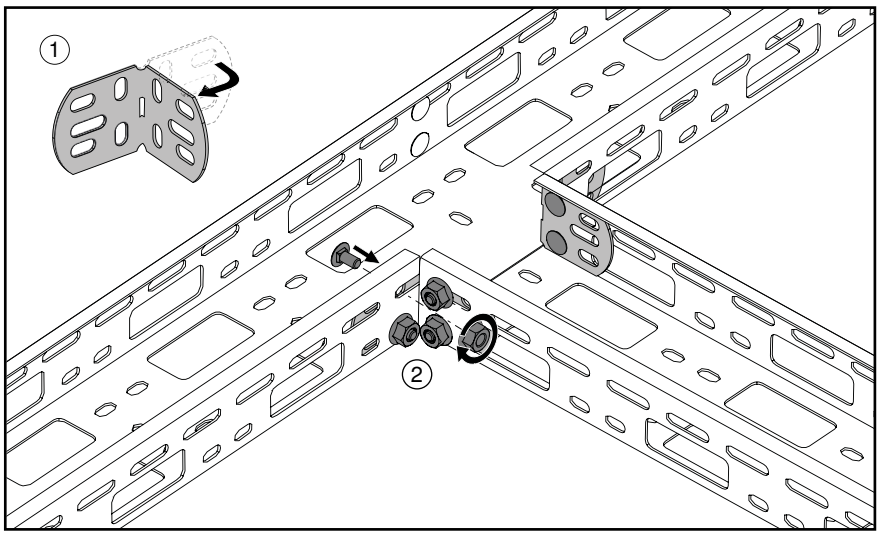


Fig. 29: Mounting a T branch

2. Place the second AZ small duct flush against the mounting site.
3. Bend the VF AZK straight and angle connectors by 90° to create an angle connector ①.
4. Place the angle connectors on the side rails of the AZ small ducts from the inside.
5. Mount the angle connectors with 4 screw connections each ②.

5.4.2 AZK 050

For the AZ small duct AZK 050, a T branch can also be created using a fitting T piece. The AZ small ducts do not need to be cut when using fittings.

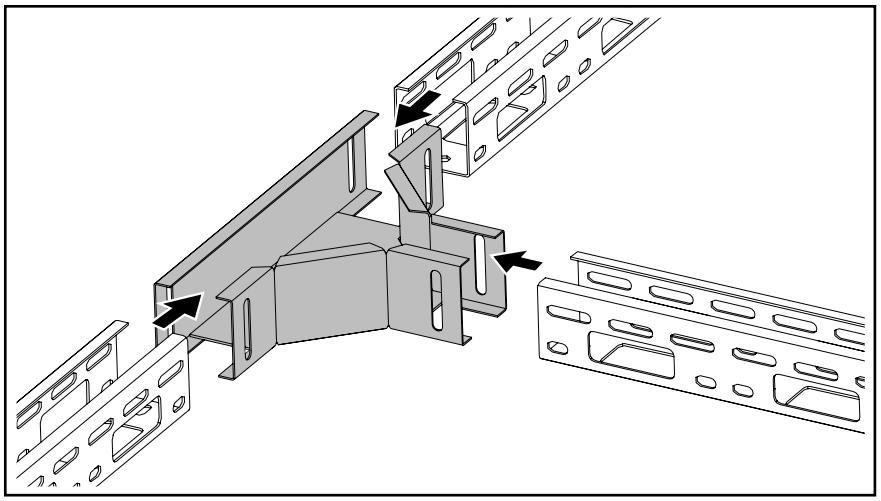


Fig. 30: Positioning the AZ small ducts

1. Push the AZ small ducts into the T piece, lining up the perforations.

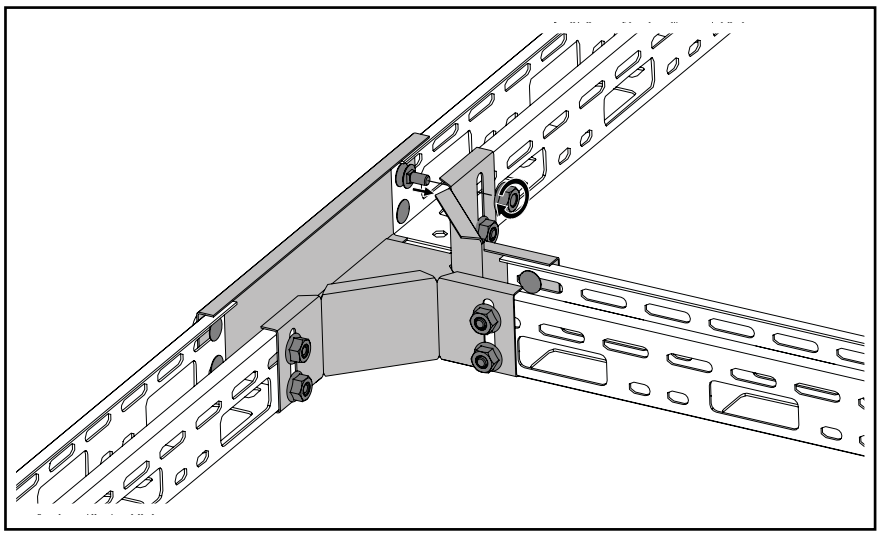


Fig. 31: Mounting a T piece fitting

2. Mount the AZ small ducts with 4 screw connections each.

5.5 Creating an cross-over

AZK 050

For the AZ small duct AZK 050, an cross-over can also be created using a fitting. The AZ small ducts do not need to be cut when using fittings.

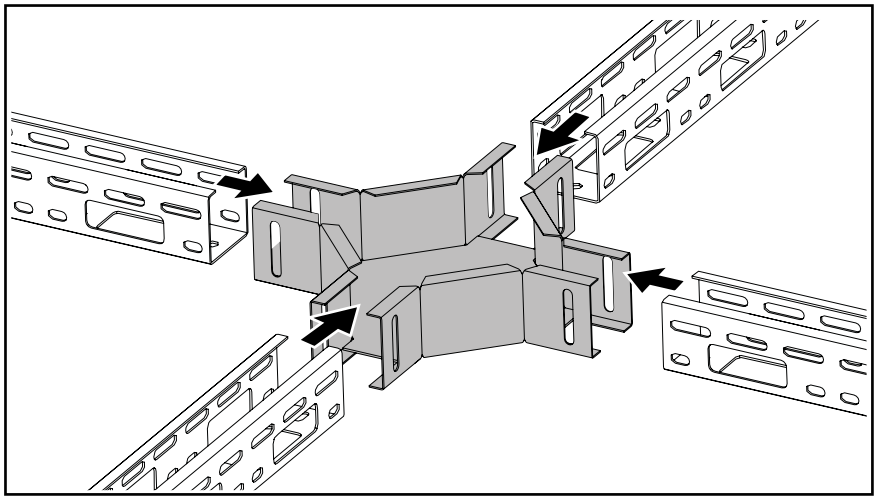


Fig. 32: Positioning the AZ small ducts

1. Push the AZ small ducts into the cross-over fitting, lining up the perforations.

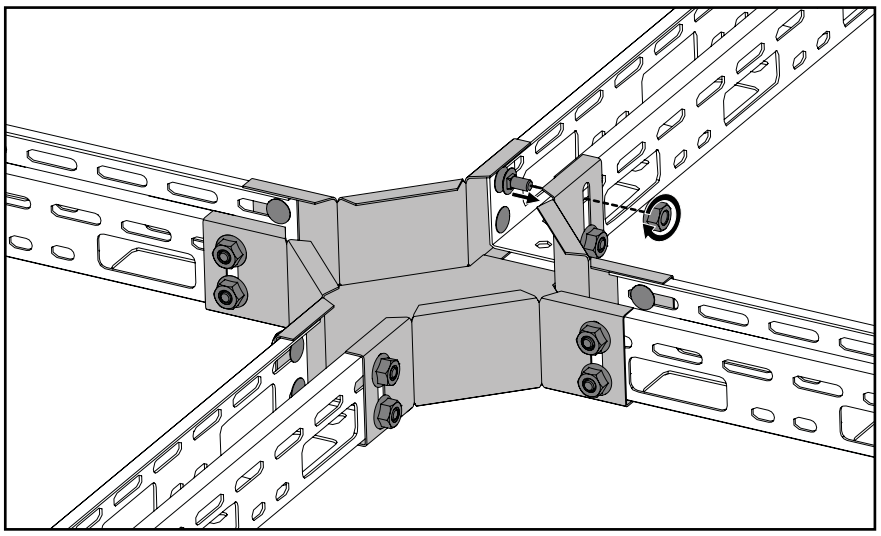


Fig. 33: Mounting an cross-over fitting

2. Mount the AZ small ducts with 4 screw connections each.

5.6 Mounting the cover

5.6.1 Cover fastening with turn buckle

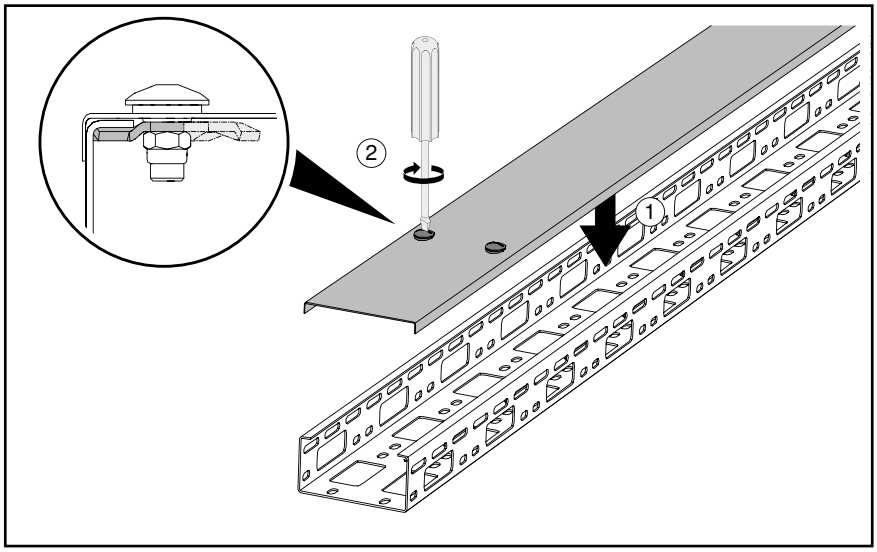


Fig. 34: Mounting a cover with turn buckle

1. Lay the cover on the AZ small duct ①.
2. Using a screwdriver, lock the turn buckle in a clockwise direction ②.

5.6.2 Cover fastening with cover clamp

Depending on the duct width, 4–6 cover clamps are required for secure fastening of a 3 metres cover.

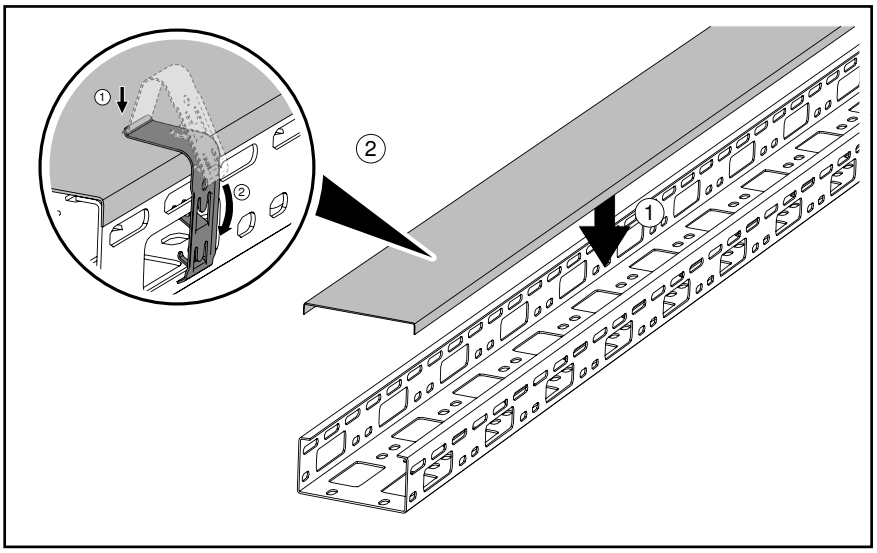


Fig. 35: Mounting the cover with cover clamp

1. Lay the cover on the AZ small duct ①.
2. Fasten the cover with cover clamps ②.

5.7 Inserting a cable protection ring

If cables are fed through side or base perforations in the AZ small ducts, cable protection rings must be used to prevent cable damage.

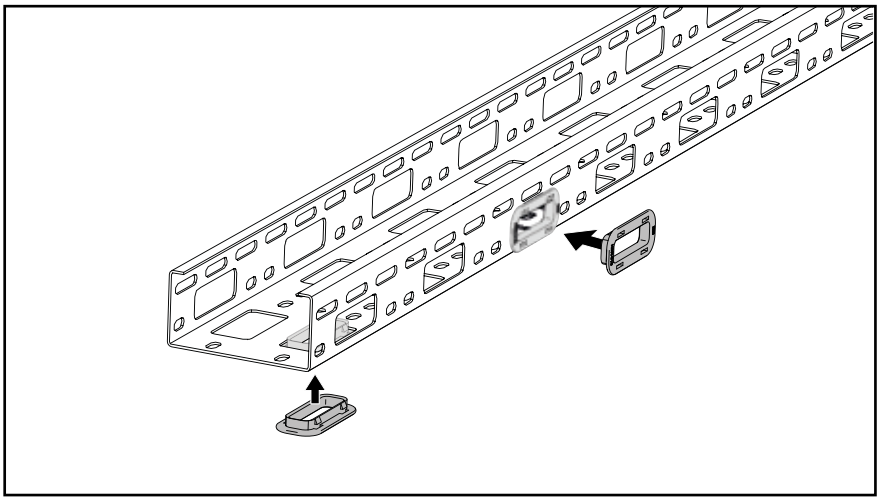


Fig. 36: Inserting a cable protection ring

1. Select the appropriate cable protection ring for the perforation.
2. Insert the cable protection ring in the base or side perforation.

5.8 Creating a T branch using the BKK system

To create a T branch using the BKK system, the side profiles of the BKK system must be mounted with distance X from each other. Distance X corresponds to the AZ small duct width:

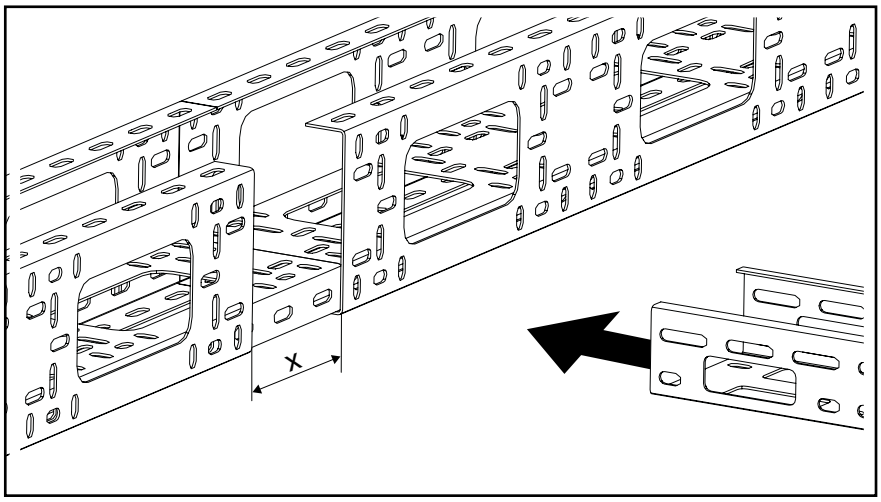


Fig. 37: Positioning the AZ small duct

1. Place the AZ small duct at the branch point.

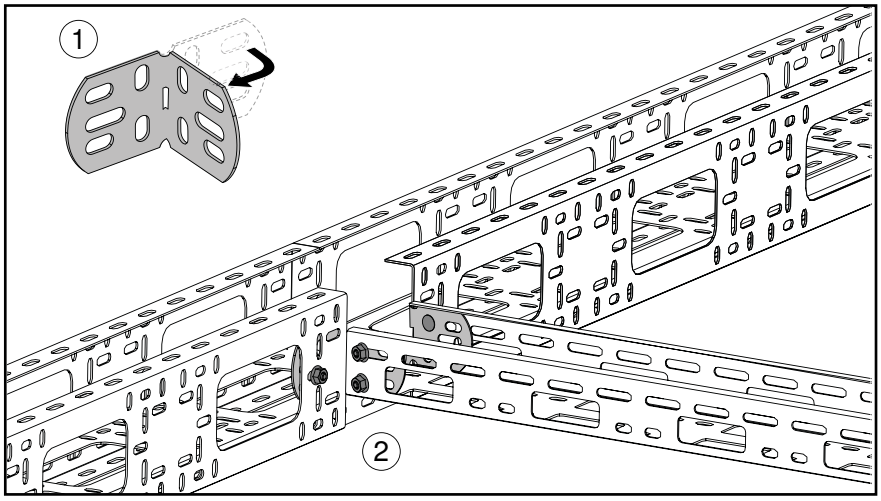


Fig. 38: Creating a T branch

2. Bend the VF AZK straight and angle connectors by 90° to create an angle connector ①.
3. Place the angle connectors on the side rails of the AZ small ducts from the inside.
4. Mount the angle connectors with 3 screw connections each ②.

6 Mounting a motor connection column

ATTENTION

Cable damage through incorrectly set screw connections!
Sharp-edged threads can damage cables.
Always insert bolts from the inside to the outside and screw on the nut from outside.

6.1 Mounting a motor connection column with column foot

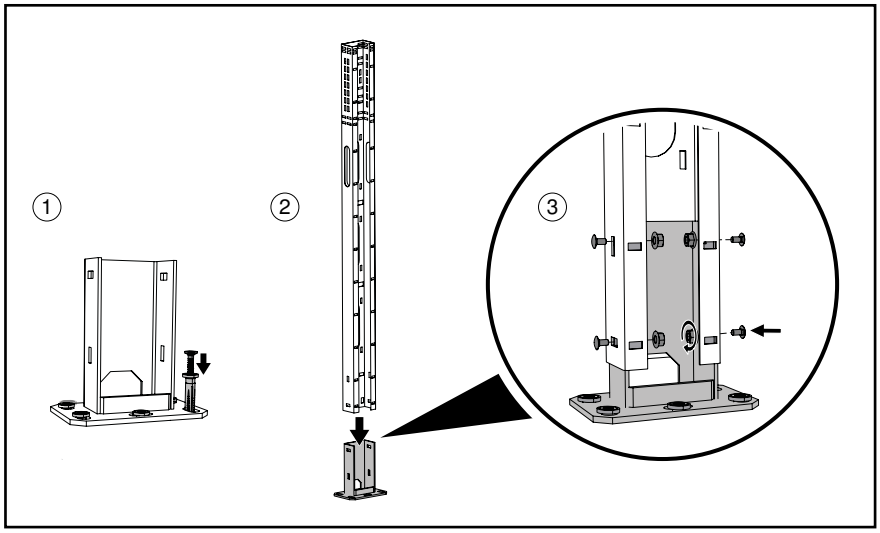


Fig. 39: Mounting a column foot

1. Anchor the column foot in the ground using suitable fastening material ①.
2. Place the motor connection column on the column foot from above ②.
3. Mount the motor connection column with 4 screw connections ③.

6.2 Mounting a motor connection column with fixing clamp

1. Mount 2 fixing clamps, one above the other, on the wall using suitable fastening material. Distance: 100 mm.

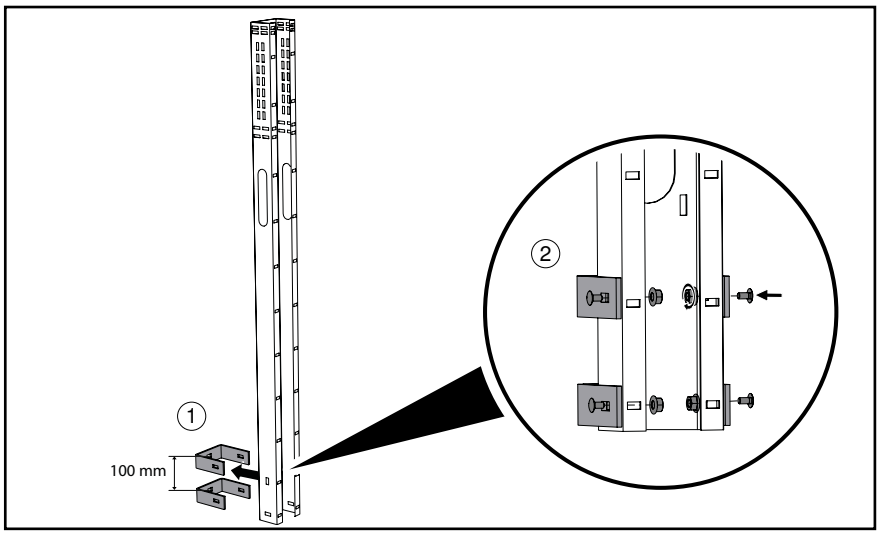


Fig. 40: Mounting fixing clamps

2. Push the motor connection column from the front into the fixing clamps ①.
3. Mount the motor connection column with 2 screw connections each ②.

6.3 Mounting a device plate

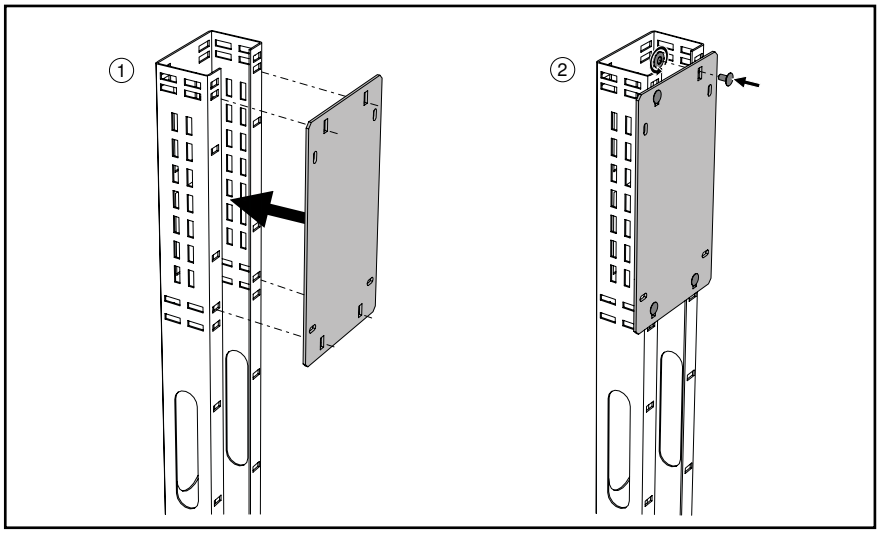


Fig. 41: Mounting a device plate

1. Place the device plate on the front of the motor connection column ①.
2. Mount the device plate with 4 screw connections ②.

Devices and control units can now be mounted on the device plate, using the perforations.

6.4 Mounting the cover

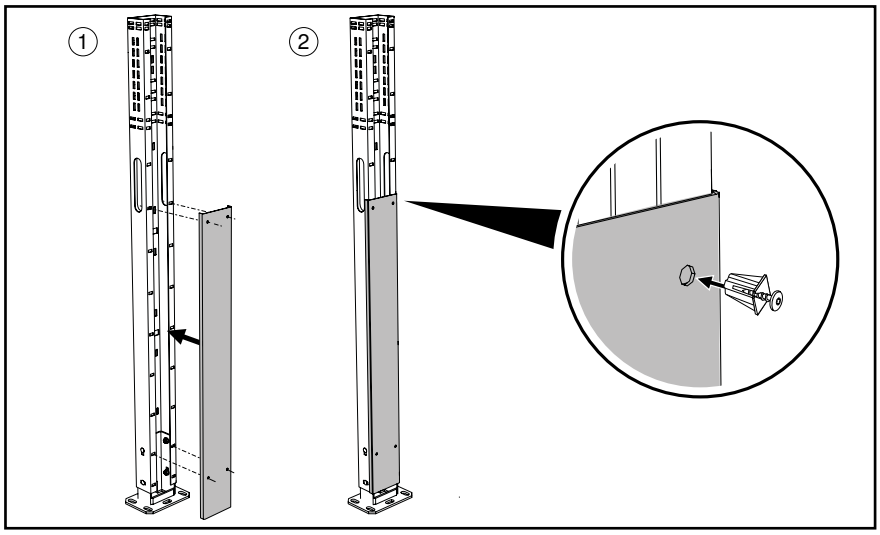


Fig. 42: Mounting the cover

1. Place the cover on the front of the motor connection column ①.
2. Mount the cover using 4 self-tapping screws with expansion nuts ②.

6.5 Connecting a motor connection column to an AZ small duct

The motor connection column can be connected directly to the modular system using a AZ small duct AZK 100. To create the connection, 4 screw connections are required:

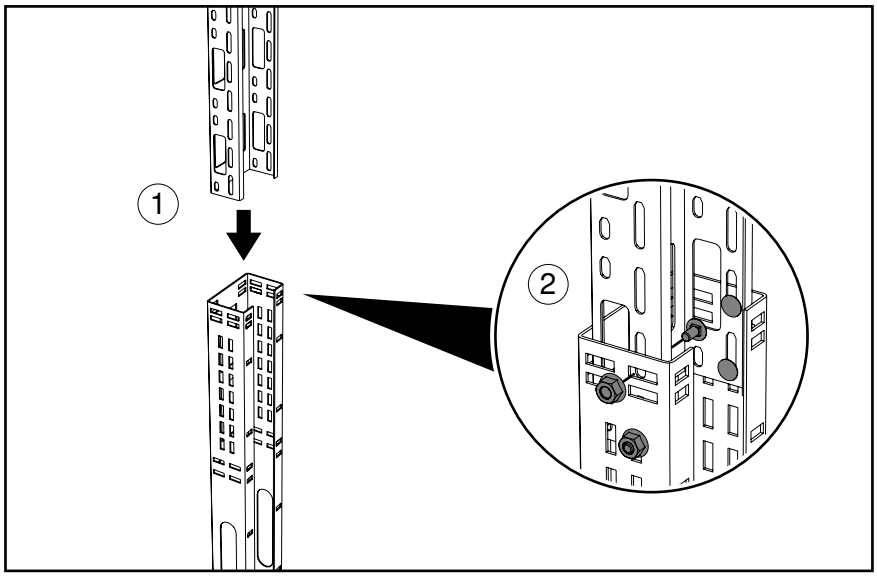


Fig. 43: Connecting a motor connection column to an AZ small duct

1. Push the AZ small duct into the motor connection column from above ①.
2. Mount the AZ small duct with 4 screw connections ②.

7 Creating equipotential bonding

Note! *When mounting the system components, the screw connections automatically create continuous equipotential bonding of the entire modular system. The system must be connected to the equipotential bonding of the overall system at least once.*

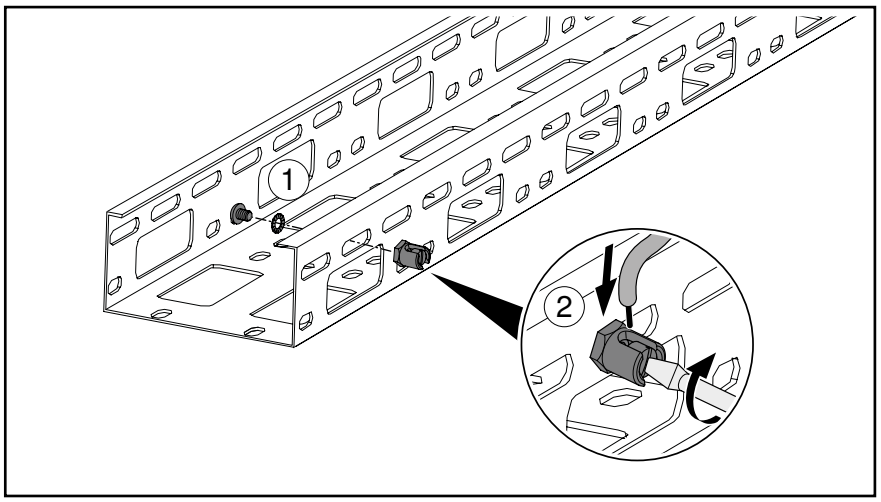


Fig. 44: Mounting the earthing terminal

1. Screw the earthing terminal to the side rail ①.
2. Electrically connect the earthing terminal to the overall equipotential bonding ②.

8 Maintaining a modular system

The stability and function of the modular system can be impaired by external influences, such as damage or machine vibrations.

Loose connection elements must be retightened and damaged parts replaced. In addition, the connection to the overall equipotential bonding must be checked regularly.

9 Dismantling a modular system

Dismantling of all the elements of the modular system takes place in the reverse order to mounting.

10 Disposing of a modular system

– Metallic parts: As scrap metal

– Packaging: As household waste

Comply with the local waste disposal regulations.

11 Technical data

Designation	Type	Plate thickness	Dimensions (mm)	Material	Item no.
BKK basic profile	BKK 104 FT	1.5 mm	104 x 25 x 3,000	FT	6070248
BKK basic profile	BKK 104 VA4301	1.5 mm	104 x 25 x 3,000	V2A	6070779
BKK basic profile	BKK 150 FT	1.5 mm	150 x 25 x 3,000	FT	6070345
BKK basic profile	BKK 200 FT	1.5 mm	200 x 25 x 3,000	FT	6070442
BKK basic profile	BKK 200 VA4301	1.5 mm	200 x 25 x 3,000	V2A	6070795
AZ small duct	AZK 050 FS	1.5 mm	3,000 x 50 x 50	FS	6075096
AZ small duct	AZK 050 FT	1.5 mm	3,000 x 50 x 50	FT	6075142
AZ small duct	AZK 050 VA4301	1.5 mm	3,000 x 50 x 50	V2A	6075150
AZ small duct	AZK 050 VA4571	1.5 mm	3,000 x 50 x 50	V4A	6075152
AZ small duct	AZK A 050 FT	1.5 mm	3,000 x 50 x 50	FT	6076149
AZ small duct	AZK 100 FS	1.5 mm	3,000 x 100 x 50	FS	6075231
AZ small duct	AZK 100 FT	1.5 mm	3,000 x 100 x 50	FT	6075258
AZ small duct	AZK 100 VA4301	1.5 mm	3,000 x 100 x 50	V2A	6075304
AZ small duct	AZK A 100 FT	1.5 mm	3,000 x 100 x 50	FT	6076246
AZ small duct	AZK 150 FS	1.5 mm	3,000 x 150 x 50	FS	6075320
AZ small duct	AZK 150 FT	1.5 mm	3,000 x 150 x 50	FT	6075325
AZ small duct	AZK 150VA4301	1.5 mm	3,000 x 150 x 50	V2A	6075330
AZ small duct	AZK 200 FS	1.5 mm	3,000 x 200 x 50	FS	6075345
AZ small duct	AZK 200 FT	1.5 mm	3,000 x 200 x 50	FT	6075350
AZ small duct	AZK 200 VA4301	1.5 mm	3,000 x 200 x 50	V2A	6075355
AZ small duct	AZK 300 FS	1.5 mm	3,000 x 300 x 50	FS	6075370
AZ small duct	AZK 300 FT	1.5 mm	3,000 x 300 x 50	FT	6075375
Motor connection column	MAS 140 10 FT	1.5 mm	66 x 108 x 1,400	FT	6356311

Accessories

Designation	Type	F (kN)	Dimensions (mm)	Material	Item no.
Straight connector	VF AZK 50 FS	-	220 x 46 x 46.5	FS	6066615
Straight connector	VF AZK 50 VA4301	-	220 x 46 x 46.5	V2A	6066629
Straight connector	VF AZK 50 DD	-	220 x 46 x 46.5	DD	6066623
Straight and angle connector	VF AZK FT	-	100 x 1.5 x 45	FT	6066550
Straight and angle connector	VF AZK VA4301	-	100 x 1.5 x 45	V2A	6066569
Suspension bracket	AHB 50 D4 FT	0.35	82.3 x 62.8 x 3.8	F	6066505
Suspension bracket	AHB 50 D4 VA4401	0.35	82.3 x 62.8 x 3.8	V4A	6066508
Suspension bracket	AHB 100 D5 FT	0.6	114.9 x 83.9 x 4.9	F	6066510
Suspension bracket	AHB 100 D5 VA4401	0.6	114.9 x 83.9 x 4.9	V4A	6066508
Cable protection ring	KSR-915 PE	-	28 x 58	PE	6066704
Cable protection ring	KSR-915 PE	-	20 x 58	PE	6066712
Cable protection ring	KSR-920	-	62 x 62	PE	6066696
Cable protection ring	KSR-925 PE	-	105 x 62	PE	6066688
Cover, unperforated	AZDU 50 DD	-	3,000 x 53 x 10	DD	6080158
Cover, unperforated	AZDU 100 DD	-	3,000 x 103 x 10	DD	6080239
Cover clamp, universal	DKU VA4310	-	20 x 47	V2A	6065600
Cover with turn buckle	AZDMD 50 FS	-	3,000 x 53 x 10	FS	6080138
Cover with turn buckle	AZDMD 100 FS	-	3,000 x 103 x 10	FS	6080227

Designation	Type	F (kN)	Dimensions (mm)	Material	Item no.
Cover with turn buckle	AZDMD 150 FS	-	3,000 x 153 x 10	FS	6080860
Cover with turn buckle	AZDMD 200 FS	-	3,000 x 203 x 10	FS	6080885
Cover with turn buckle	AZDMD 300 FS	-	3,000 x 303 x 10	FS	6080910
Cover with turn buckle	AZDMD 50 DD	-	3,000 x 53 x 10	DD	6080154
Cover with turn buckle	AZDMD 100 DD	-	3,000 x 103 x 10	DD	6080235
Cover with turn buckle	AZDMD 150 FT	-	3,000 x 153 x 10	FT	6080865
Cover with turn buckle	AZDMD 200 FT	-	3,000 x 203 x 10	FT	6080890
Cover with turn buckle	AZDMD 300 FT	-	3,000 x 303 x 10	FT	6080915
Cover with turn buckle	AZDMD 50 VA4301	-	3,000 x 53 x 10	V2A	6080197
Cover with turn buckle	AZDMD 100 VA4301	-	3,000 x 103 x 10	V2A	6080294
Cover with turn buckle	AZDMD 150 VA4301	-	3,000 x 153 x 10	V2A	6080870
Cover with turn buckle	AZDMD 200 VA4301	-	3,000 x 203 x 10	V2A	6080895
Cover for threaded rod mounting	AZDG 50 FS	-	3,000 x 53 x 10	FS	6080960
Cover for threaded rod mounting	AZDG 100 FS	-	3,000 x 103 x 10	FS	6080979
Turn buckle, double	AZDR 50 FT	-	-	FT	6065112
Turn buckle, double	AZDR 50 VA4301	-	-	V2A	6065309
Turn buckle, single	AZDR 100 FT	-	-	FT	6065104
Turn buckle, single	AZDR 100 VA4301	-	-	V2A	6065317
Cover for motor connection column	MASD 90 FT	-	900 x 112 x 15	FT	6356915
Column foot	SF 14011 FT	-	180 x 120 x 195	FT	6356397
Fixing clamp	BF 140 11 FT	-	119 x 110 x 40	FT	6356362
Mounting plate	GP 15 28 FT	-	280 x 150	FT	6357008
Mounting plate	GP 31 28 FT		280 x 310	FT	6357016
Joint connector	SSV FT	-	100 x 23 x 23	FT	6066046
Joint connector	SSV VA4301	-	100 x 23 x 23	V2A	6066054
Hinge connector	SV DD	-	88 x 19	FT	6066941
Hinge connector	SV VA4301	-	88 x 19	V2A	6066933
Truss-head bolt	FRSB 6x12 F	-	M6 x 12	F	6406122
Truss-head bolt	FRSB 6x15 F	-	M6 x 15	F	6406157
Truss-head bolt	FRSB 6x20 F	-	M6 x 20	F	6406203
Truss-head bolt	FRSB 6x12 A2	-	M6 x 12	V2A	6406138
Truss-head bolt	FRSB 6x16 A2	-	M6 x 16	V2A	6406189
Truss-head bolt	FRSB 6x20 A2	-	M6 x 20	V2A	6406205

St = Steel
FS = Strip galvanised
FT = Hot-dip galvanised
V2A = Stainless steel 1.4301
V4A = Stainless steel 1.4571
DD = Strip galvanised zinc/aluminium, double dip
F = Hot galvanised
PE = Polyethylene

OBO Bettermann Holding GmbH & Co. KG
P.O. Box 1120
58694 Menden
GERMANY

Customer Service Germany
Tel.: +49 (0)2371 7899-2000
Fax: +49 (0)2371 7899-2500
E-mail: export@obo.de

www.obo-bettermann.com

OBORD 190581 Date 09/2026

Building Connections