Installation and Operation Instruction Manual
2019 - 05
Automatic smoke and fire curtains

1405 SM5
1410 FM1
1411 FPC
1412 FMB

English version. Also available in other languages.

1 About this manual

Please take time to read this instruction manual thoroughly before using the product.
Thank you.

This document forms an integral part of the product and needs to be retained for use at a later time. Its contents are important for anyone who installs, maintains or has the use of automatic curtains. A copy of it needs to be kept near to the control box.

Before you read this document, you need to be sure which product you are installing.

There are four basic types of products that are referred to as automatic curtains (smoke and / or fire curtains).

- FPC to UL10D/UL1784
  - FA/SA smoke or fire curtain
  - SD smoke sealed curtain
  - FAS/SAS fire or smoke curtain with integral smoke seals
- FMB according to BS 8524-1
  - FMB fire curtain
- FM1 according to EN 1634-1 and classified to 13501-2
  - FM1 fire curtain
- SM5 according to EN 12101-1
  - SM5 smoke curtain

In addition, within the certification there is the possibility to use different wall types:

- Bricks (alone or in combination with concrete)
- Concrete
- Aerated concrete
- Masonry
- Drywall

NOTE

- The walls must be such that the role of the automatic curtain in providing protection is not affected. This means that the wall structure is the same quality as or a higher quality than the automatic curtain.

  Example: An E120 fire curtain requires a wall construction rated at F120 or above.

These assembly instructions explain the attachment of a fire curtain to a brick wall. The other products within the same certification and / or options associated with these products can be found at chapter "10 Additional information"

1.1 Associated documents

The following documents also contain important information. If you don’t have them, you can obtain them from your local Colt office.

- Spare parts list
- Installation and Operation Manual of the controls for the complete Colt Installation.

1.2 Documents delivered along with the product

- Assembly drawing
- Packing slip
- Packing list from freight company (in case of export)
- PID label and, where necessary, the label of the certification body

1.3 Explanation of safety symbols

This instruction manual contains important safety symbols. It is necessary to take note of any safety notices in order to avoid damage to equipment and also to ensure that the Colt guarantee cover is maintained. In extreme situations non-observance of safety instructions can lead to injury and even death.

Symbols used in this manual:

⚠ **DANGER**	**indicates a hazardous situation which, if not avoided, will result in death or serious injury.**
⚠ **Warning!**	**indicates a hazardous situation which, if not avoided, could result in death or serious injury.**
⚠ **CAUTION**	**indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.**
NOTE	**describes a situation which may arise if damage occurs, or gives practical tips for installation, operation and maintenance.**

2 Using automatic curtains

2.1 How they work

A**fire curtain** (**FM1/FMB/FA/SA**) is an electrically operated automatic curtain to prevent the breakthrough of flames with a defined fire resistance period.

A **smoke sealed curtain** (**SD**) is an electrically operated automatic curtain designed to close an opening between two areas in the event of fire and to prevent, within prescribed limits, smoke from entering the other area.

A**fire curtain with integrated smoke seals** (**FAS/SAS**) is an electrically operated automatic curtain which has the purpose of sealing off an opening between two areas in case of fire. Primarily it is intended to limit the movement of smoke and secondly to prevent the spread of fire from one area to another.

A **smoke curtain** (**SM5**) is an electrically operated automatic curtain designed to effectively limit and protect against smoke and gases based on the requirements of EN 12101-1. The purpose of smoke curtains is to control the movement of combustion gases within the building by forming a barrier.

Automatic curtains are used where it is desirable that such barriers are only visible in case of operation.

Rolling up and down

After receiving a signal from the fire alarm system, the curtain automatically unrolls either by gravity (gravity fail-safe) or by motor power, depending on the type of product, to its operational position. To roll the curtain up, the controls must be set to normal operation. The controls activate the motor, which itself controls the speed, the overload protection, the switching to the holding current (only for G/H motors), the shut-off and the motor protection function.

Automatic curtains are self-closing

They are tested according to the respective standard.

2.2 Intended applications

Fire curtains are designed to close off an opening between two areas in the event of fire and prevent the fire from spreading from one area to another. Automatic smoke curtains are designed to provide an uninterrupted barrier against smoke in case of fire and prevent the spread of fire from one area to another.

They can be installed in industrial, commercial and public buildings in the following circumstances:

- Ambient temperature -5 °C to 60 °C
- Operation in case of fire according to temperature/time classification
- Maximum humidity allowed 80 %

In case of fire, automatic curtains are operated automatically by the control unit. Manual operation should only take place for maintenance purposes and is to be carried out by trained personnel.

2.3 Improper use

Such automatic curtains may only be used in the manner described on these pages. In particular they are:

- Not suitable to be re-used after a fire.
- Not suitable for use under extreme conditions
  (for example where there are aggressive and/or corrosive substances in the atmosphere).

3 Essential safety information

It is essential to take note of these basic warning signs. There are additional warnings given within other pages of this manual.

⚠ Warning!

Injury as a result of the height of the installed units

- Persons working on the unit at height need to avoid the possibility of tools or building components dropping. This can result in a fatal accident. Those working at height should always observe all applicable health and safety regulations. Those who are installing or working on automatic curtains need to be qualified and trained suitably.

⚠ Warning!

Risk of smoke entering the building

- If the unit is not appropriately installed or commissioned, it is possible that the unit will not function as expected.
- This can cause serious damage, injury or death.
- Automatic curtains need to be installed by trained personnel and also commissioned appropriately. If there are any functional errors, appropriate measures need to be taken to remedy them. An automatic curtain must be regularly inspected, maintained and if necessary, repaired.

⚠ CAUTION

Danger arising from unexpected dropping of the curtain

- It is possible to trap a part of the body if the automatic curtain either drops or rolls up unexpectedly whilst working on it.
- When working on an automatic curtain, it is necessary to ensure that the control system cannot be accessed and that the curtain cannot be controlled in an unexpected manner. It is also suggested that for the same purpose the fire alarm system is disconnected. Those who are installing or working on automatic curtains need to be qualified and trained suitably.

⚠ CAUTION

Damage as a result of high weight

- The product identification (PID) label shows the unit weight. The PID label is attached to the outside of the unit.
- The unit's weight can lead to injury or damage if the unit is not correctly handled.
- If the unit is moved manually sufficient numbers of people must be available. There is Health and Safety guidance which provides information on the correct handling,lifting and carrying of heavy weights.

Please note additional safety warnings within the following chapters of this manual.

4 Labelling

The clear marking of an automatic curtain is given by the PID label.

Figure 4.1: Typical example of a Colt PID label

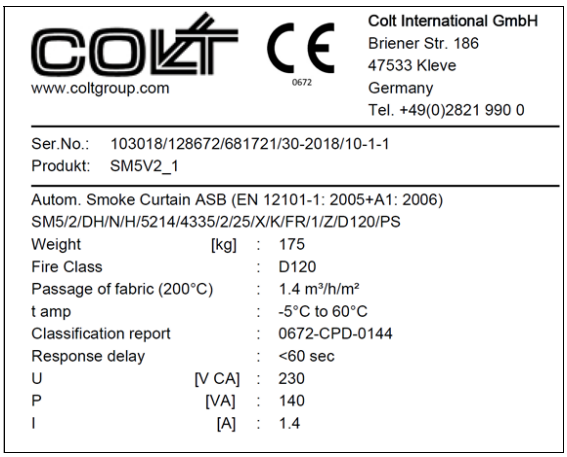


Figure 4.2: Example of our PID label (UL)

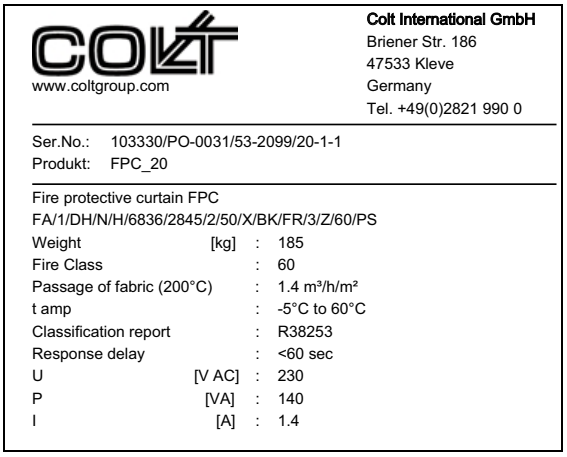
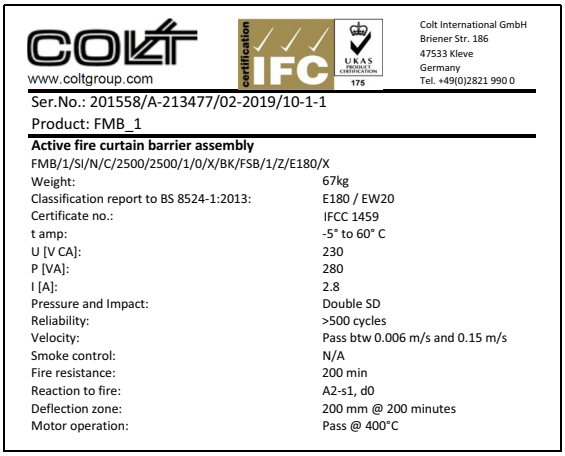


Figure 4.3: UL certification label

Figure 4.4: Example of our PID label (BS)



Only required for UL curtains

A UL label must be applied next to the PID label on a fire protective curtain.

UL labelling only occurs if the size is within certain parameters (see table below).

Labelling	Label text	Max. size	Type
UL certification	**Fire protective curtain**	**3650 x 3040 mm(143-5/8 x 119-3/4”)** **3650 x 3040 mm(143-5/8 x 119-3/4”)**	**Single unit** **Multiple unit**
UL certification	**Oversized fire protective curtain**	**6000 x 12000mm(236.2 x 472.4”)** **18000 x 12000mm(708.6 x 472.4”)**	**Single unit** **Multiple unit**

NOTE

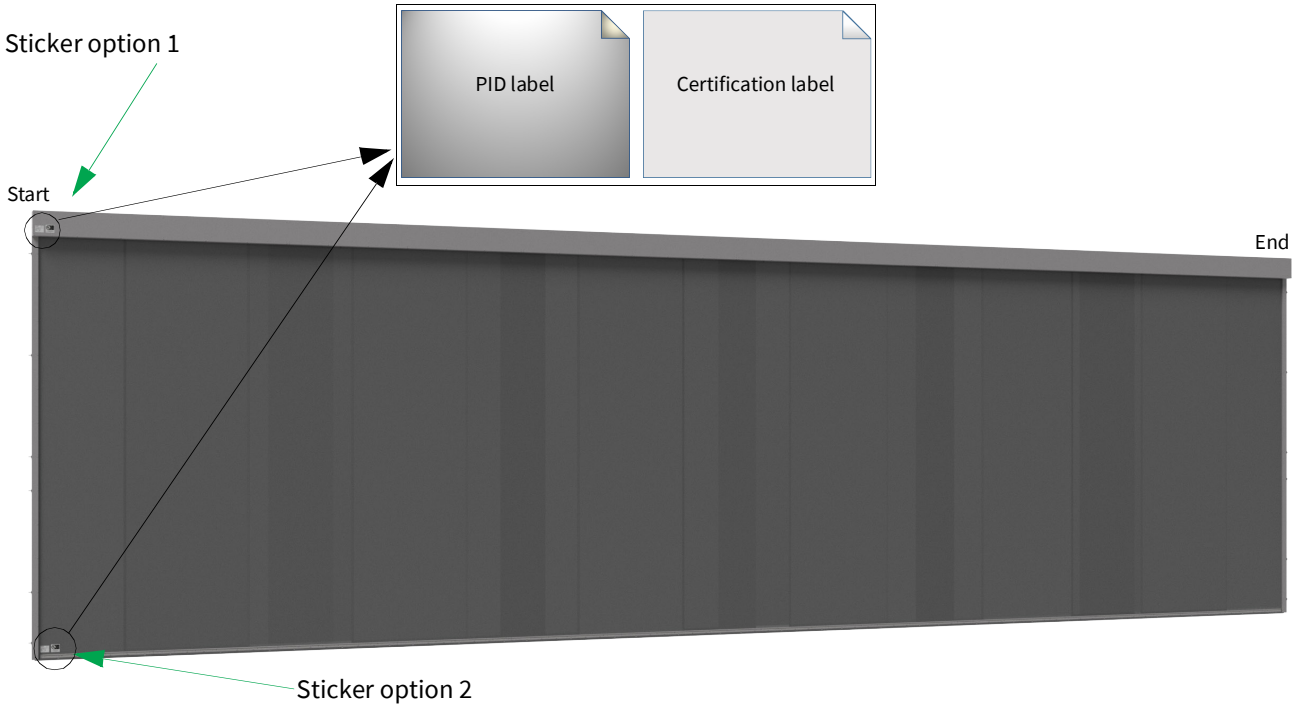
- All other dimensions which are bigger than these sizes have no UL-approval.

NOTE

- The sizes shown in the table are derived from the UL file. In fact, we produce sizes according to our GPTS 1411 - Fire protective curtain FPC.

The labels are supplied with the order and should be attached to the outside of the unit. If the product is not visible (e.g. in a suspended ceiling) the stickers must be applied according to option 2, otherwise option 1 should be used.

Example

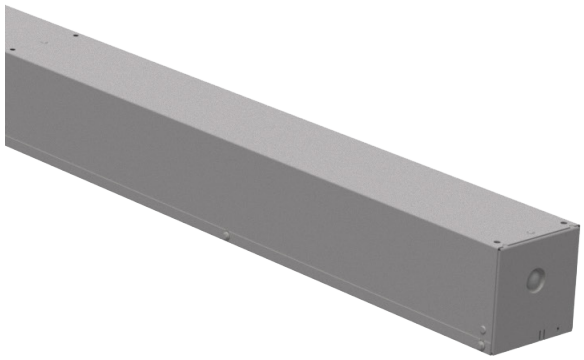


5 Delivery:

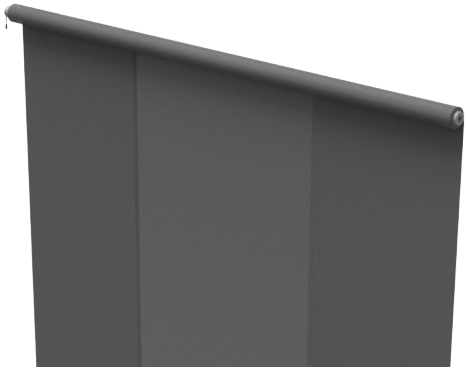
5.1 Individual parts

The automatic curtain is normally supplied in partially pre-assembled units.
Random example of individual components:

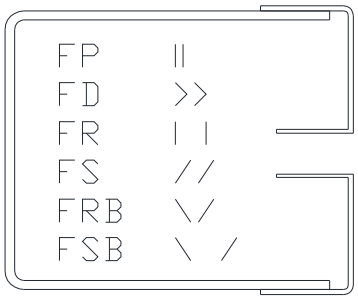
- Headbox, brackets, thermal bracket and end plate



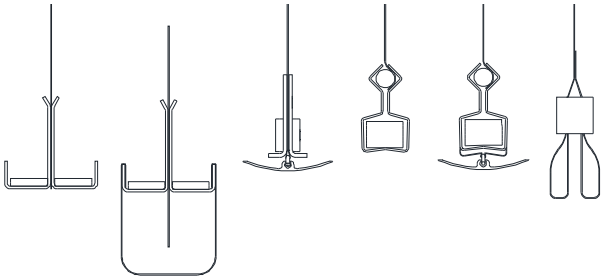
- Roller with pre-attached fire rated cloth



- Side guides



- Bottom bar

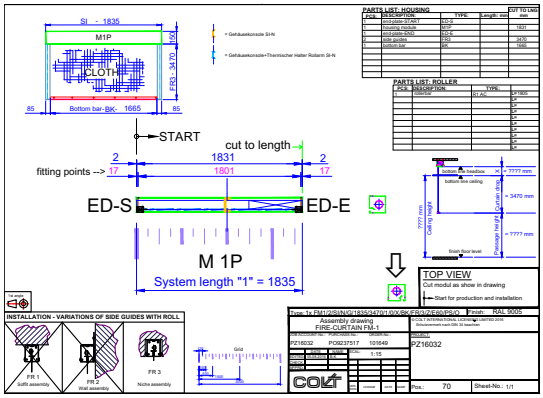


- Control panel (only when ordered)

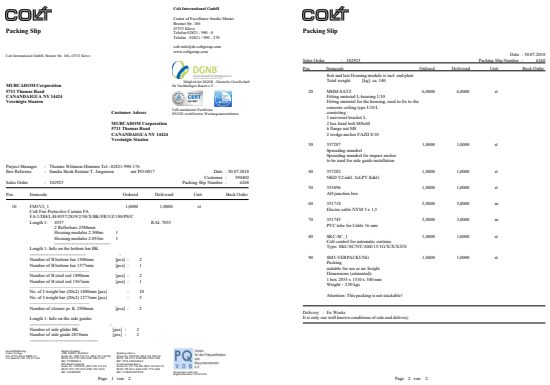
Accessories (only when ordered)

- Fixing materials such as rivets, dowels, etc.
- Wall brackets
- Plastic tubes + cable
- Junction boxes
- Controls elements

- Assembly drawing



- Packing slip



5.2 Standard packaging

The standard packaging is split into two pallets, as shown below.

Variant 1 shows the packaging for delivery in Europe

Variant 2 shows the packaging for Export and overseas

Solution for large systems (open packaging)

Solution for large systems (closed packaging)

Solution for small systems

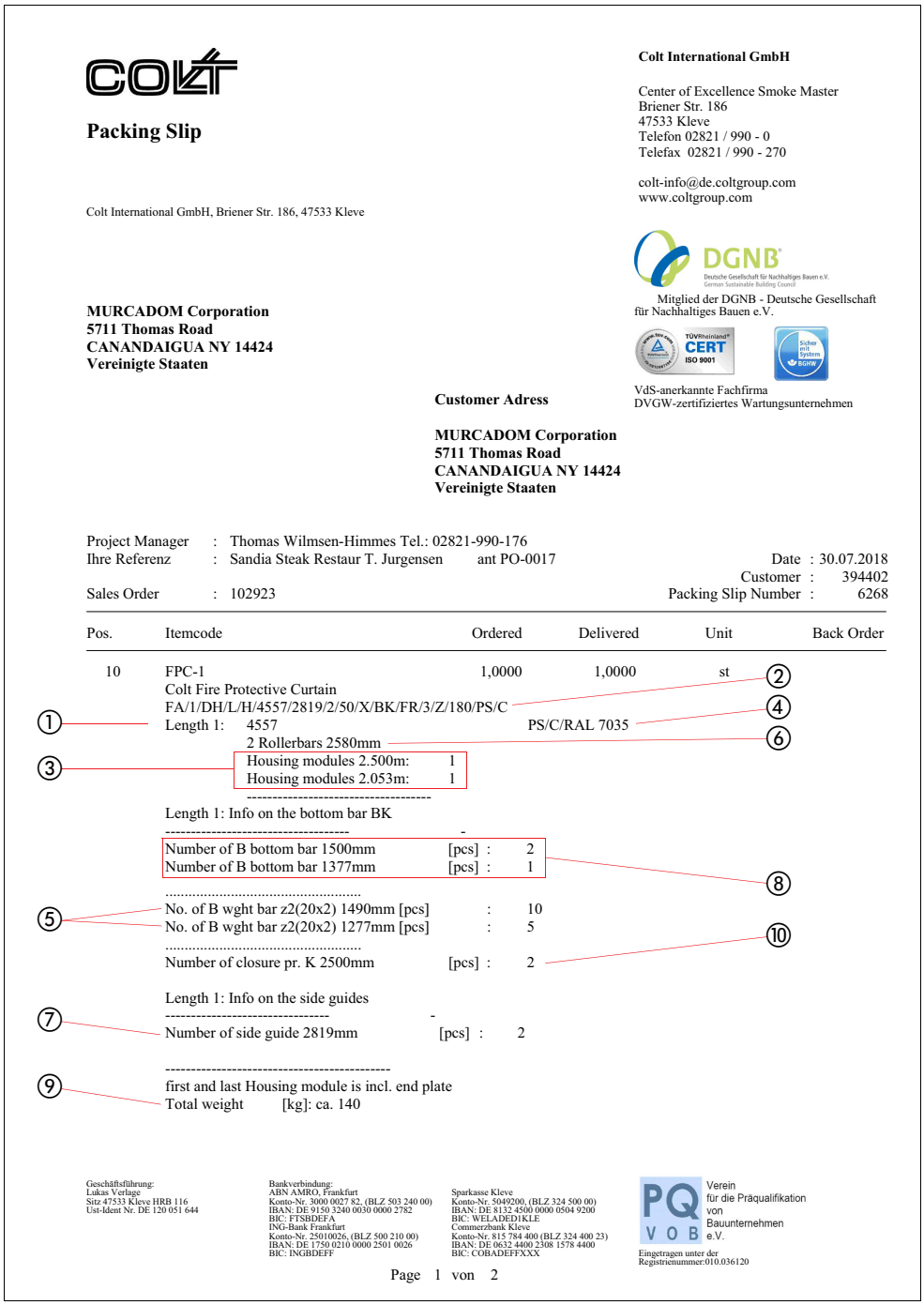
NOTE

- Please make sure that the delivery is complete when unloading. Report any damages or shortages within 2 working days.

NOTE

- Behind the delivery notes you will always find the product drawings in A3-format as well as the PID label.

5.3 Explanation of the delivery note



COLT

Packing Slip

Colt International GmbH, Briener Str. 186, 47533 Kleve

MURCADOM Corporation
5711 Thomas Road
CANANDAIGUA NY 14424
Vereinigte Staaten

Colt International GmbH

Center of Excellence Smoke Master
Briener Str. 186
47533 Kleve
Telefon 02821 / 990 - 0
Telefax 02821 / 990 - 270

colt-info@de.coltgroup.com
www.coltgroup.com

DGNB Deutsche Gesellschaft für Nachhaltiges Bauen e.V. German Sustainable Building Council
Mitglied der DGNB - Deutsche Gesellschaft für Nachhaltiges Bauen e.V.

TÜVRheinland CERT ISO 9001
VdS-anerkannte Fachfirma
DVGW-zertifiziertes Wartungsunternehmen

Customer Adress

MURCADOM Corporation
5711 Thomas Road
CANANDAIGUA NY 14424
Vereinigte Staaten

Project Manager : Thomas Wilmsen-Himmes Tel.: 02821-990-176
Ihre Referenz : Sandia Steak Restaur T. Jurgensen ant PO-0017
Sales Order : 102923

Date : 30.07.2018
Customer : 394402
Packing Slip Number : 6268

Pos.	Itemcode	Ordered	Delivered	Unit	Back Order
10	FPC-1	1,0000	1,0000	st	

Colt Fire Protective Curtain
FA/1/DH/L/H/4557/2819/2/50/X/BK/FR/3/Z/180/PS/C
Length 1: 4557 PS/C/RAL 7035
2 Rollerbars 2580mm
Housing modules 2.500m: 1
Housing modules 2.053m: 1

Length 1: Info on the bottom bar BK
Number of B bottom bar 1500mm [pcs] : 2
Number of B bottom bar 1377mm [pcs] : 1
No. of B wght bar z2(20x2) 1490mm [pcs] : 10
No. of B wght bar z2(20x2) 1277mm [pcs] : 5
Number of closure pr. K 2500mm [pcs] : 2

Length 1: Info on the side guides
Number of side guide 2819mm [pcs] : 2

first and last Housing module is incl. end plate
Total weight [kg]: ca. 140

Geschäftsführung:
Lukas Verlage
Sitz 47533 Kleve HRB 116
Ust-Ident Nr. DE 120 051 644

Bankverbindung:
ABN AMRO, Frankfurt
Konto-Nr. 3000 0027 82, (BLZ 503 240 00)
IBAN: DE 9150 3240 0030 0000 2782
BIC: FTSBDEFA
ING-Bank Frankfurt
Konto-Nr. 25010026, (BLZ 500 210 00)
IBAN: DE 1750 0210 0000 2501 0026
BIC: INGBDEFF

Sparkasse Kleve
Konto-Nr. 5049200, (BLZ 324 500 00)
IBAN: DE 8132 4500 0000 0504 9200
BIC: WELADED1KLE
Commerzbank Kleve
Konto-Nr. 815 784 400 (BLZ 324 400 23)
IBAN: DE 0632 4400 2308 1578 4400
BIC: COBADEFFXXX

PQ VOB Verein für die Präqualifikation von Bauunternehmen e.V.
Eingetragen unter der Registriernummer:010.036120

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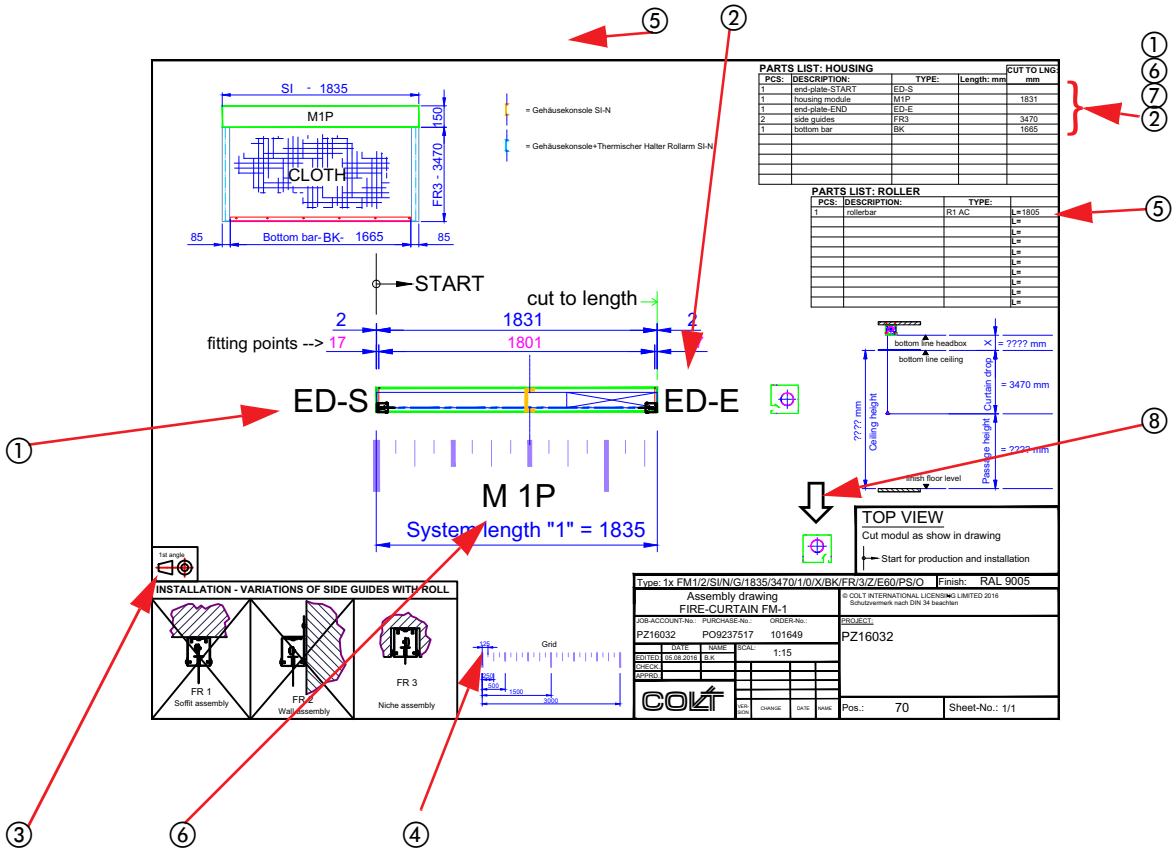
Note:			
①	Length of the product	②	Nomenclature
③	No. of headboxes	④	Coating
⑤	No. of weight bars	⑥	No. of rollers / width of the cloth
⑦	No. of side guides	⑧	No. of bottom bars - individual parts
⑨	Overall weight of the unit	⑩	No. of closure strips - K

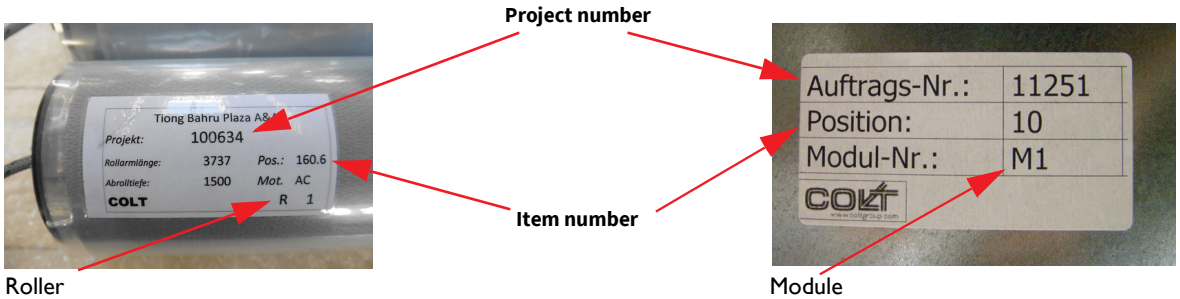
The remainder of the materials that are supplied from item 20 are not shown in this list.

5.4 Explanation of assembly drawing (ZBZ)

Always build the product starting with the end plate - “start” (ED-S) and proceeding to the end plate - “end” (ED-E). The cuts to the material are to be made according to the drawing supplied, provided that the equipment has not been manufactured to the exact dimensions.



Note:			
①	End plate - start (ED-S)	②	End plate - end (ED-E)
③	First angle projection	④	125 mm hole grid (the grid can also be found as notches on the outside of the DV / DH headbox.)
⑤	R1 AC = Roller 1 with anti-clockwise motor	⑥	M1 = headbox module 1
⑦	M2P = headbox pass module 2	⑧	Section: Top view



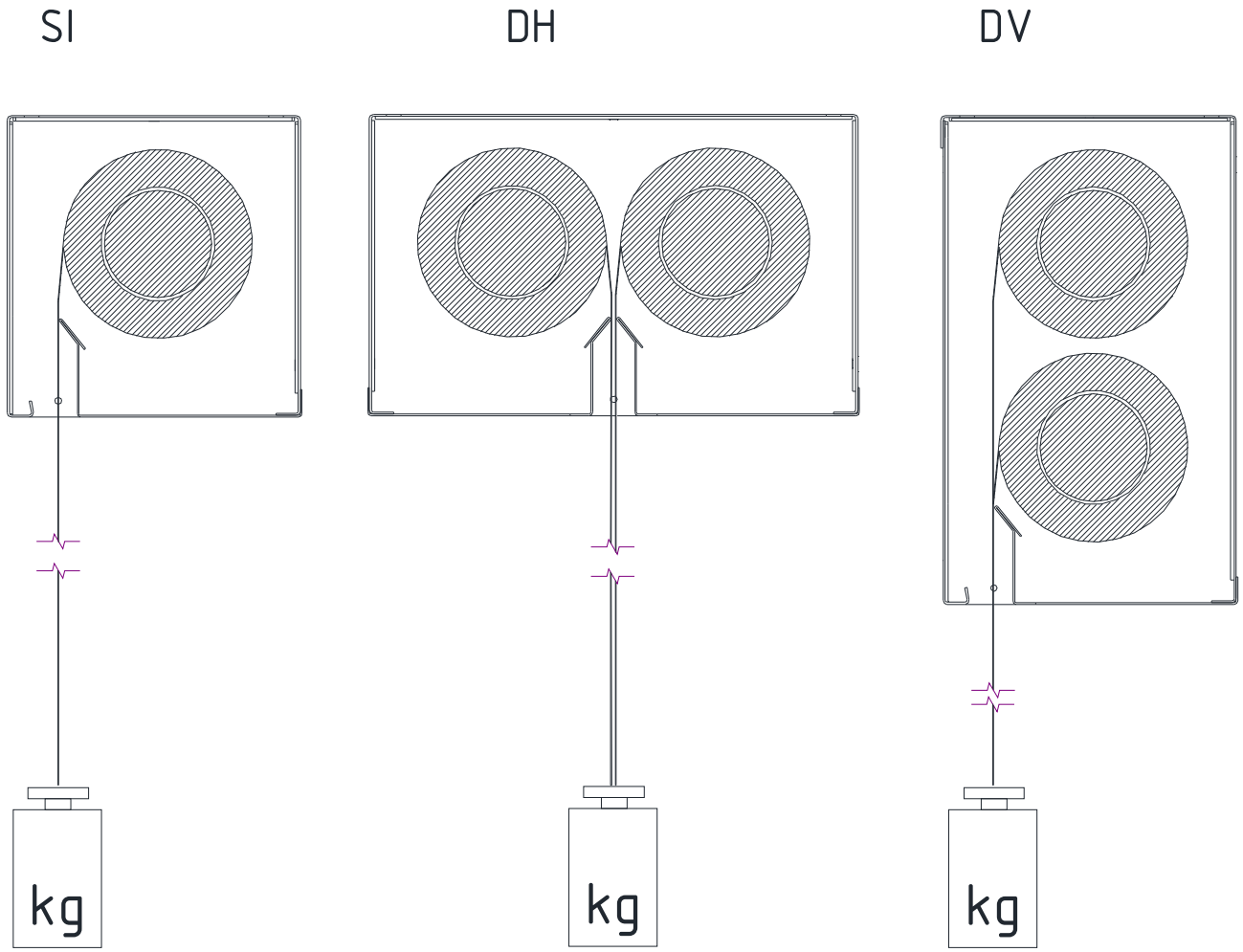
NOTE

Each unit is always a combination of project number, item number and the associated roller and module numbers.
Example: If a project includes several items (positions), the M1 headbox module is supplied in a repeated fashion.

6 Components

Automatic curtains comprise the following components:

- **Headbox**



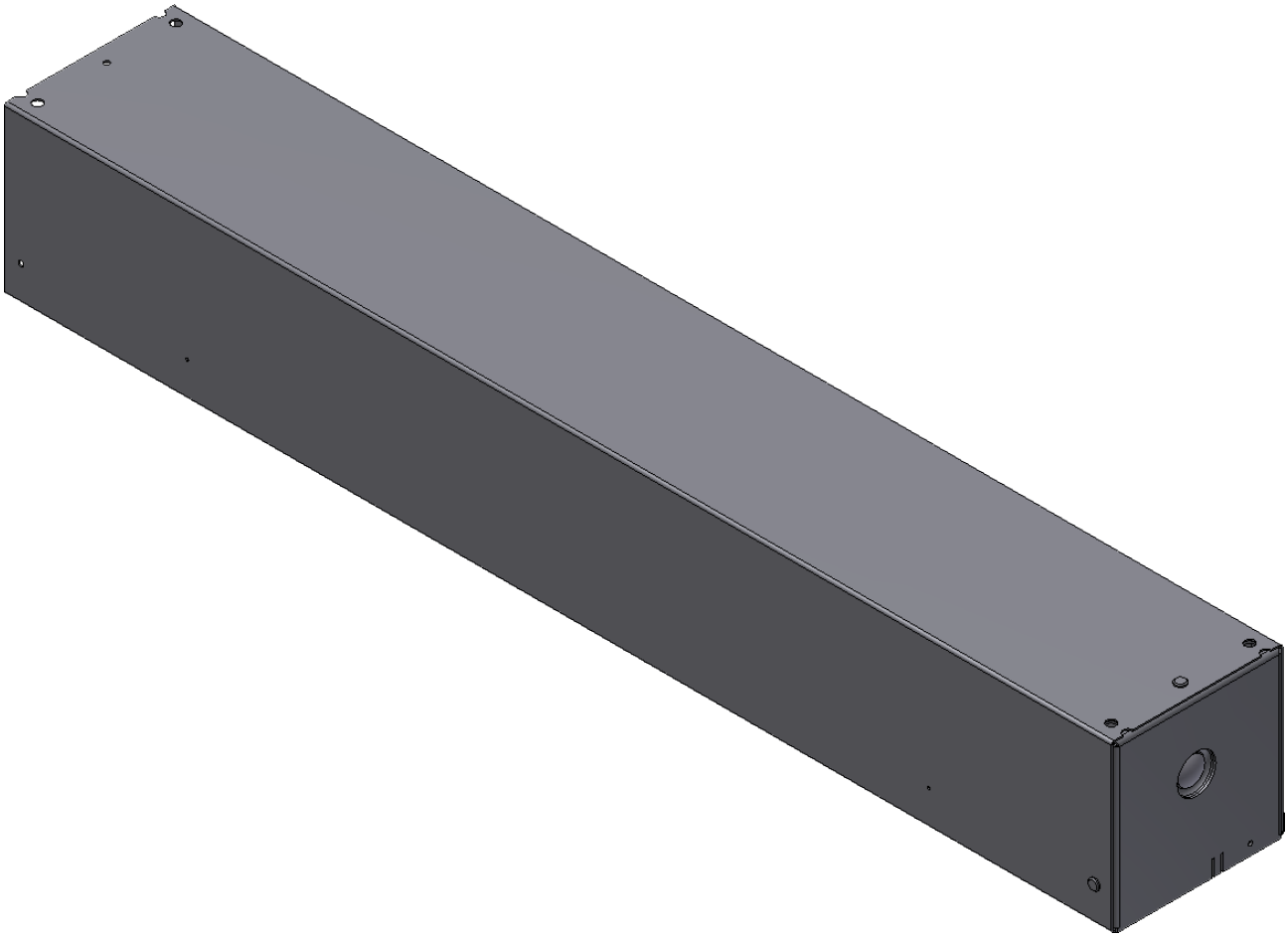
Headbox dimensions

	Width [B]	Height [H]
SI-N	155 mm	150 mm
SI-L	180 mm	185 mm

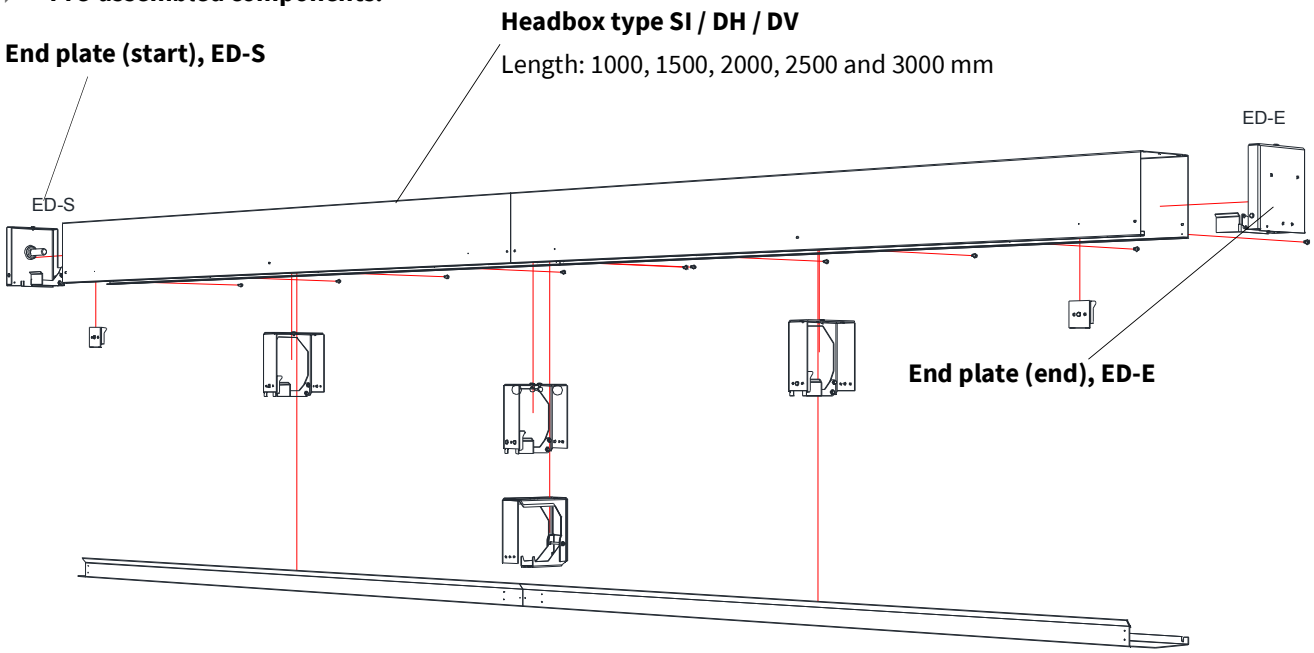
	Width [B]	Height [H]
DH-N	250 mm	150 mm
DH-L	300 mm	185 mm

	Width [B]	Height [H]
DV-N	155 mm	250 mm
DV-L	180 mm	300 mm

- **Headbox and its end plates:** as standard made of galvanized sheet steel



- **Pre-assembled components:**



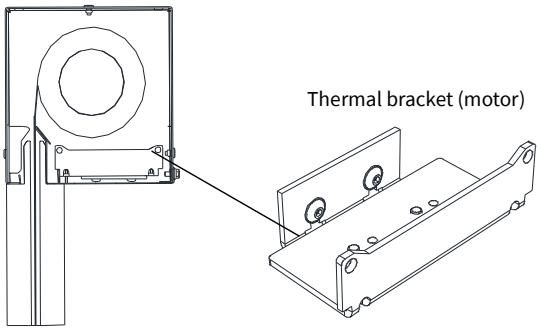
Both the access panels and the end plates are supplied pre-assembled.

NOTE

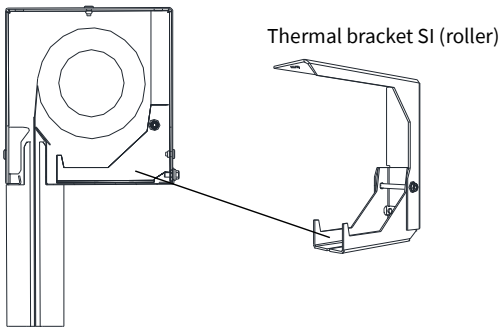
- The headboxes are always supplied with spare rivets (steel-steel).
- All automatic curtains are supplied with thermal brackets with the exception of the smoke curtain which is class D to table 1 of EN 12101-1.

Thermal brackets

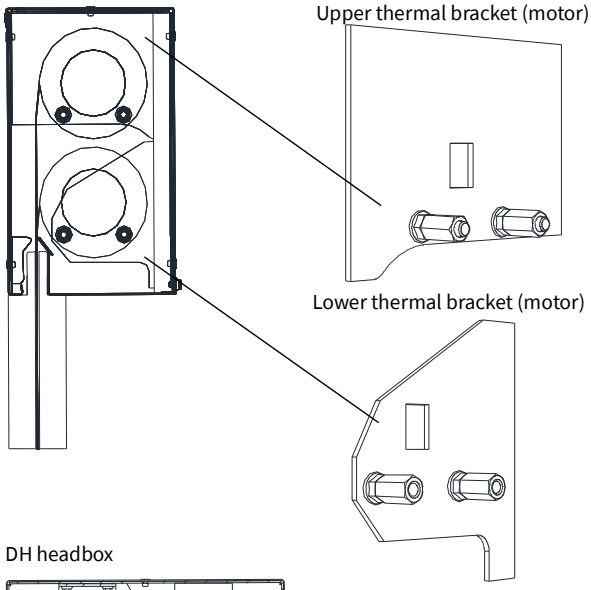
SI headbox



SI headbox

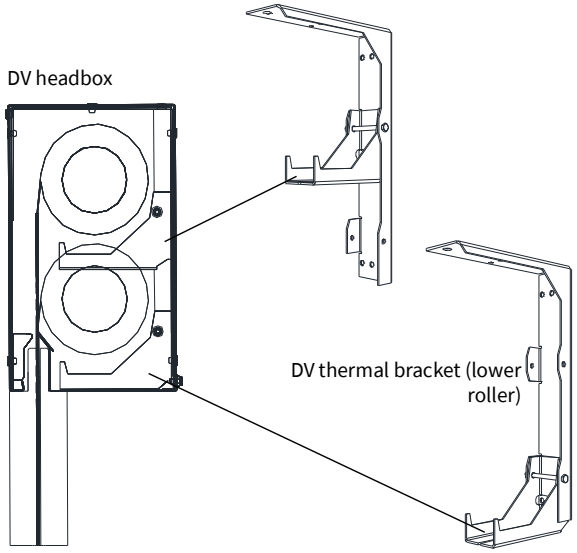


DV headbox

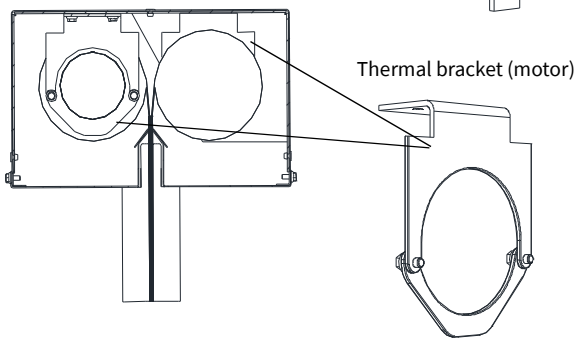


Thermal bracket DV (upper roller)

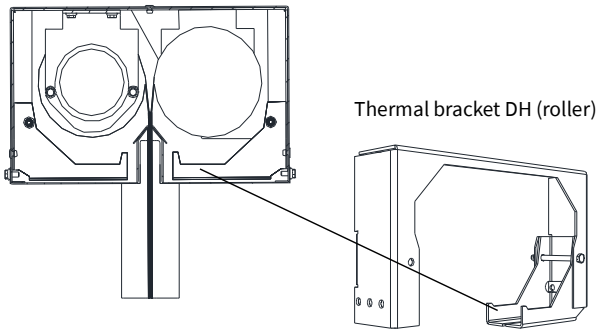
DV headbox



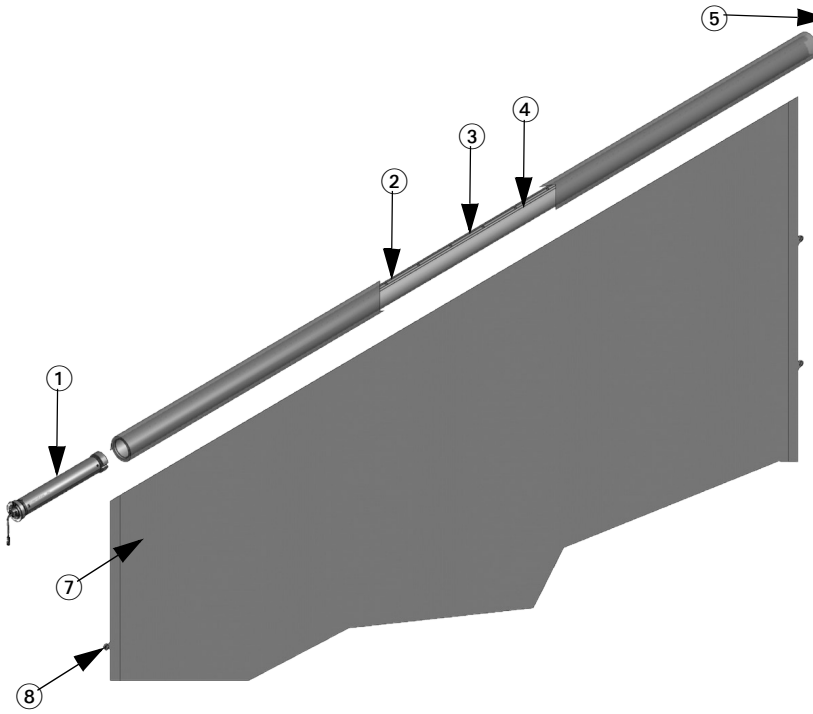
DH headbox



DH headbox



- **Roller with pre-assembled cloth:** The roller is completely pre-assembled with integrated motor and fire-rated cloth.

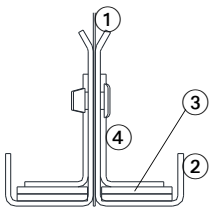


① Actuator
② Galvanised steel tube
③ Cloth fixing strip
④ Rivets
⑤ Bearing support
⑥ Bearing
⑦ Cloth
⑧ FR bearings (only if included in the order)

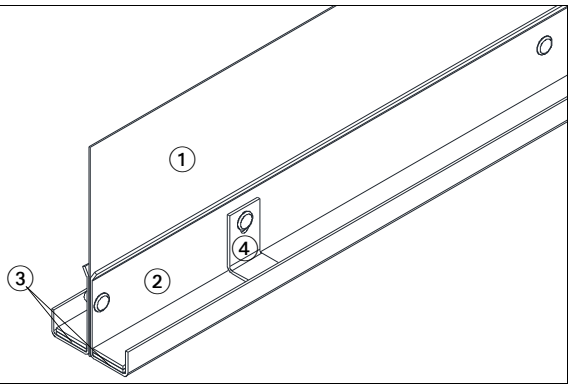
Rollers are delivered wrapped in plastic. Each roller has a sticker indicating the installation position.

- **Bottom bars:**

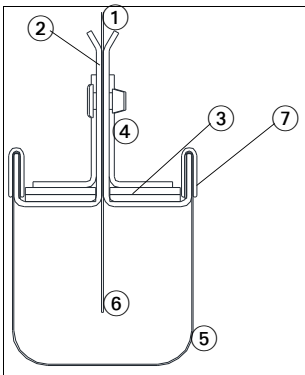
Bottom bar I



Comprising:
① Cloth
② I type bottom bar
③ Additional weight
④ Clamping angle piece

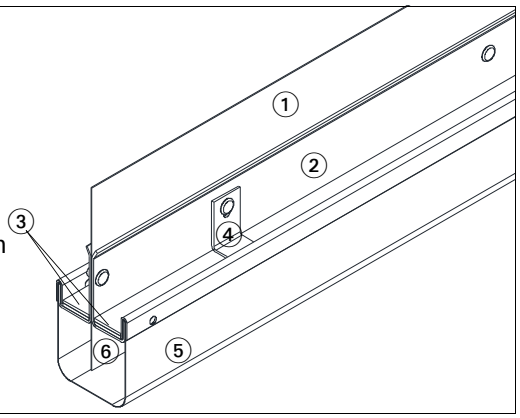


Bottom bar ID

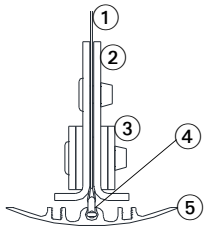


Comprising:

① Cloth
② I type bottom bar
③ Additional weight
④ Clamping angle piece
⑤ Length of hanging cloth loop = 65mm
⑥ Length of protruding cloth = 45mm
⑦ ID clamp profile

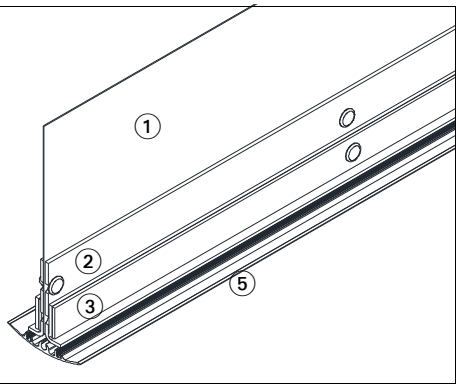


Bottom bar K

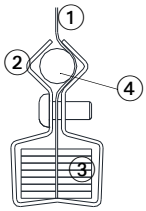


Comprising:

① Cloth
② K bottom bar
③ Additional weight
④ Spring
⑤ Bottom bar K

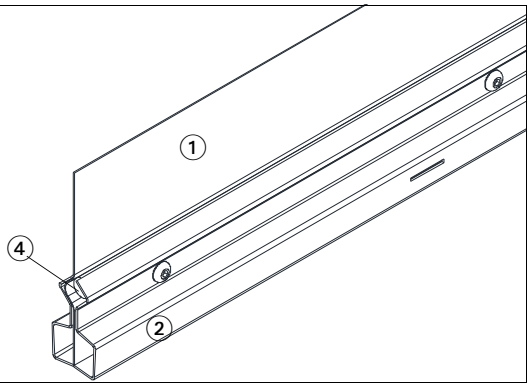


Bottom bar B

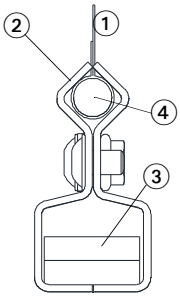


Comprising:

① Cloth
② B type bottom bar
③ Additional weight
④ Ø10 mm round steel

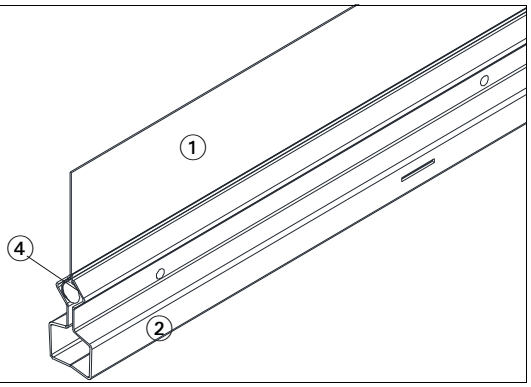


Bottom bar U

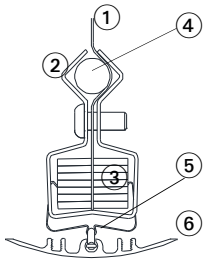


Comprising:

① Cloth
② U bottom bar
③ Additional weight
④ Ø8 mm round steel

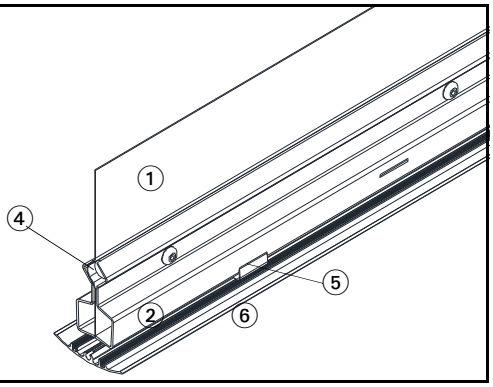


Bottom bar BK

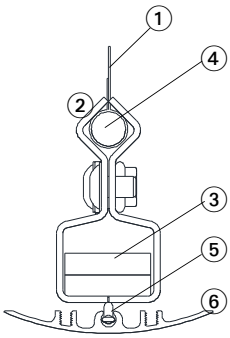


Comprising:

① Cloth
② B type bottom bar
③ Additional weights
④ Ø10 mm round steel
⑤ Spring
⑥ Bottom bar K

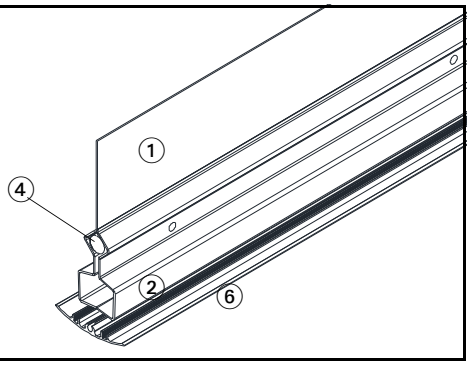


Bottom bar UK

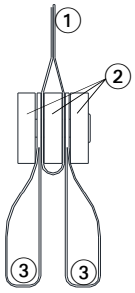


Comprising:

① Cloth
② U bottom bar
③ Additional weights
④ Ø8 mm round steel
⑤ Spring
⑥ Bottom bar K

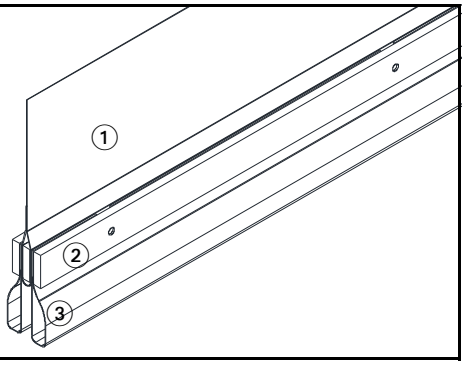


Bottom bar DP



Comprising:

① Cloth
② 20 x 5 mm flat steel profile
③ Cloth loop



NOTE

- The bottom bars are all fastened with steel - steel rivets or M5 screws (depending on the type), which are part of the delivery.

Combination of type of unit and bottom bar

	I	ID	K	B	BK	DP	U	UK
FPC	X	X	X	X	X	X		
FMB	X	X		X	X			
FM1		X					X	X
SM5	X		X					

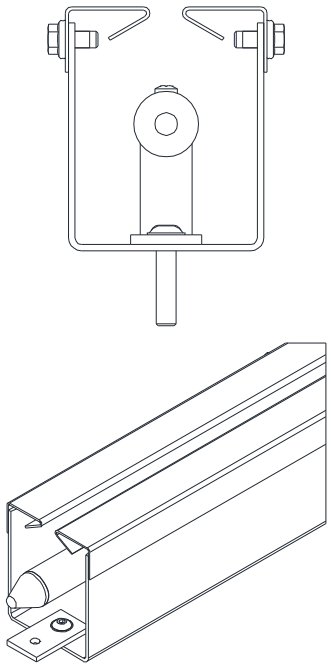
- Bottom bar is pre-designed with additional weights

NOTE

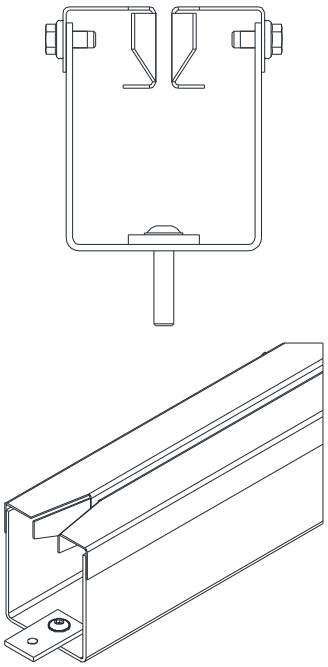
- See the assembly drawing chapter "9.3.6 Installing the bottom bar / closure strip / additional weight" for information on the overall assembly of the product.

- **Side guides:** completely pre-fabricated, made out of galvanized steel plates and rods.

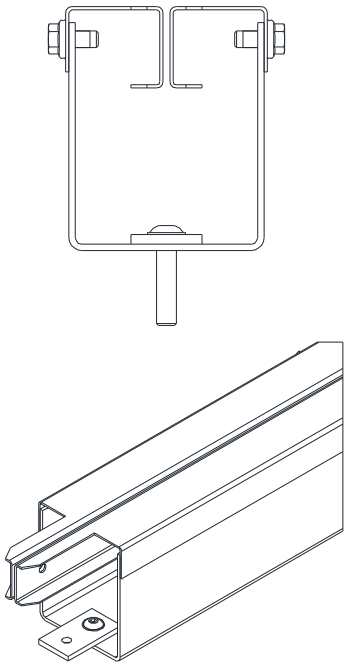
FS side guides



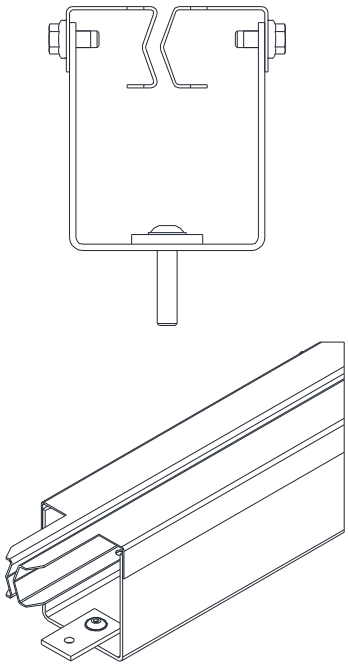
FR side guides



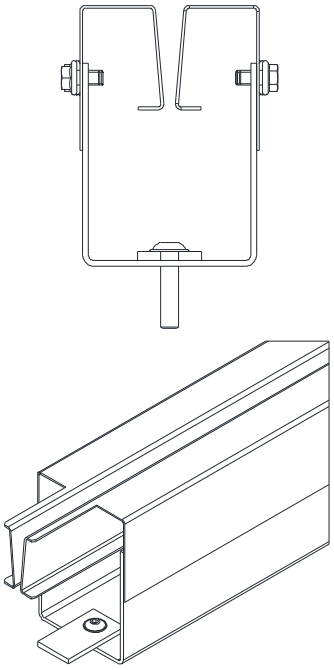
FP side guides



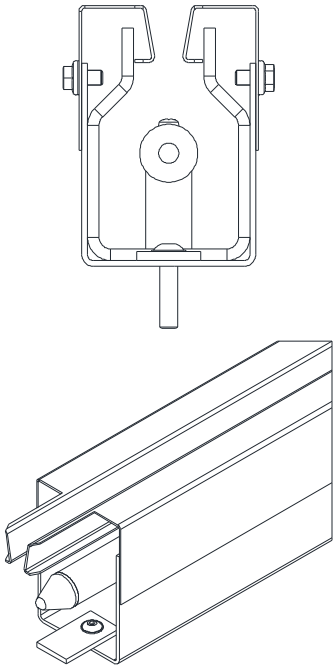
FD side guides



FRB side guides



FSB side guides



Combination of type of side guides and bottom bar

	I	ID	K	B	BK	DP	U	UK
FP				X	X			
FD						X		
FR	X	X	X	X	X		X	X
FS	X	X	X					
FRB				X	X			
FSB	X	X						

NOTE

- See the assembly drawing chapter "9.3.5 Installing the side guides" for information on the overall assembly of the product.

- **Controls:** one motor per roller; 48V DC G or H motor, or 230V AC D motor

NOTE

- Automatic smoke curtains with D motors require 230V AC for the operation of the curtains.

The control panel comes with standard wall mounting elements.

Parts list:

4 screws 6 x 60 mm

4 wall plugs Ø 8 mm

Installation and Operation Instruction Manual

MA line terminating module

Various small parts such as resistors, fuses etc.

- The accessories include the following components (depending on the type of curtain)
  UPS with bracket
  Power supplies for the motors (NKE, NKD or ND)
  Plastic tubes + cable
  possible junction boxes and
  controls

NOTE

- See the CoE Controls Installation and Operation Instruction Manual for further info.

7 Technical data

The automatic curtain is made-to-order. The number of motors used depends on the overall length of the curtain.

7.1 Tubular motors

Type: MO-C28 HS

Data		
Voltage	[V DC]	48
Power	[W]	60
Current	[A]	1
Functional data		
Holding power	[W]	5.8
UP speed	[m/s]	~0.06
DOWN speed	[m/s]	~0.15
Force	[kg]	28
Functional weight	[kg]	4.0 - 20.0
Protection class		IP20

Type: MO-C60 HS

Data		
Voltage	[V DC]	48
Power	[W]	100
Current	[A]	1.2
Functional data		
Holding power	[W]	7
UP speed	[m/s]	~0.06
DOWN speed	[m/s]	~0.15
Force	[kg]	60
Functional weight	[kg]	10 – 20
Protection class		IP20

NOTE

- The technical data for G and H motors are identical.

Type: D type tubular motor

Data		
Voltage	[V DC]	230/50Hz
Power	[W]	110
Current	[A]	1.25
Functional data		
Torque:	[Nm]	12 / 17min^{-1}

7.1.1 Sound emissions

The sound emissions of all drives when opening, closing and holding is < 70 dB (A).

8 Transport and storage

It is necessary to observe all safety warnings.

On-site storage

An automatic curtain must be stored in a clean, dry place and protected from possible damage. The components are delivered on a pallet and with suitable protection. Protection is provided to prevent surface damage. See chapter "5.2 Standard packaging".

Transport to the place of assembly

It is recommended to use either nylon ropes or mechanical lifting equipment for lifting the components to the place of assembly. It is not permitted to use chains or wires without adequate protection.

It is recommended that larger units (where the weight is more than 50 kg) are always picked up by four people.

9 Installation instructions

9.1 Before installation

At the first site visit:

1.) Register with the local contact person(s)

2.) Obtain a safety briefing

3.) Agree installation location and transport routes to it

4.) Get or request a meter level from site management.

Before any work is carried out, ensure that adequate access is available at the place of assembly. Take any appropriate safety precautions in accordance with local safety regulations.

The location of the installation must be chosen so that there is sufficient space to inspect, maintain and repair the unit.

Before beginning installation it is necessary to check the drawing and specifications to ensure that the nature and location of the physical installation are correct and conform to the drawing, including the layout of any power cables.

Variations must be clarified with the site management, or the relevant Colt project manager, prior to installation. Installation can start if there are no variations.

9.2 General installation tips

It is necessary to observe all safety warnings.

The installation of the curtain is to be carried out from a scaffold or mobile platform. Only trained personnel may operate a mobile work platform.

The automatic curtain is certified for various ceiling or wall structures, e.g.:

- Bricks (alone or in combination with concrete)
- Aerated concrete
- Concrete
- Masonry
- Dry wall (only available for UL-certified products)

NOTE

- The walls must be in such a condition that the role of the automatic curtain in providing protection is not affected. This means that the wall structure is the same quality as or a higher quality than the automatic protective curtain.
  Example: An E120 fire curtain requires a wall construction rated at F120 or above.

In the general installation manual we show how to install into brick. See chapter "10 Additional information" for installation into other kinds of walls.

Automatic curtains can be installed in different ways. The most commonly used method is attachment to a brick wall. In addition, you can choose between:

1.) Installation into the suspended false ceiling (headbox not visible)

2.) Installation flush with the suspended false ceiling (underside of headbox visible)

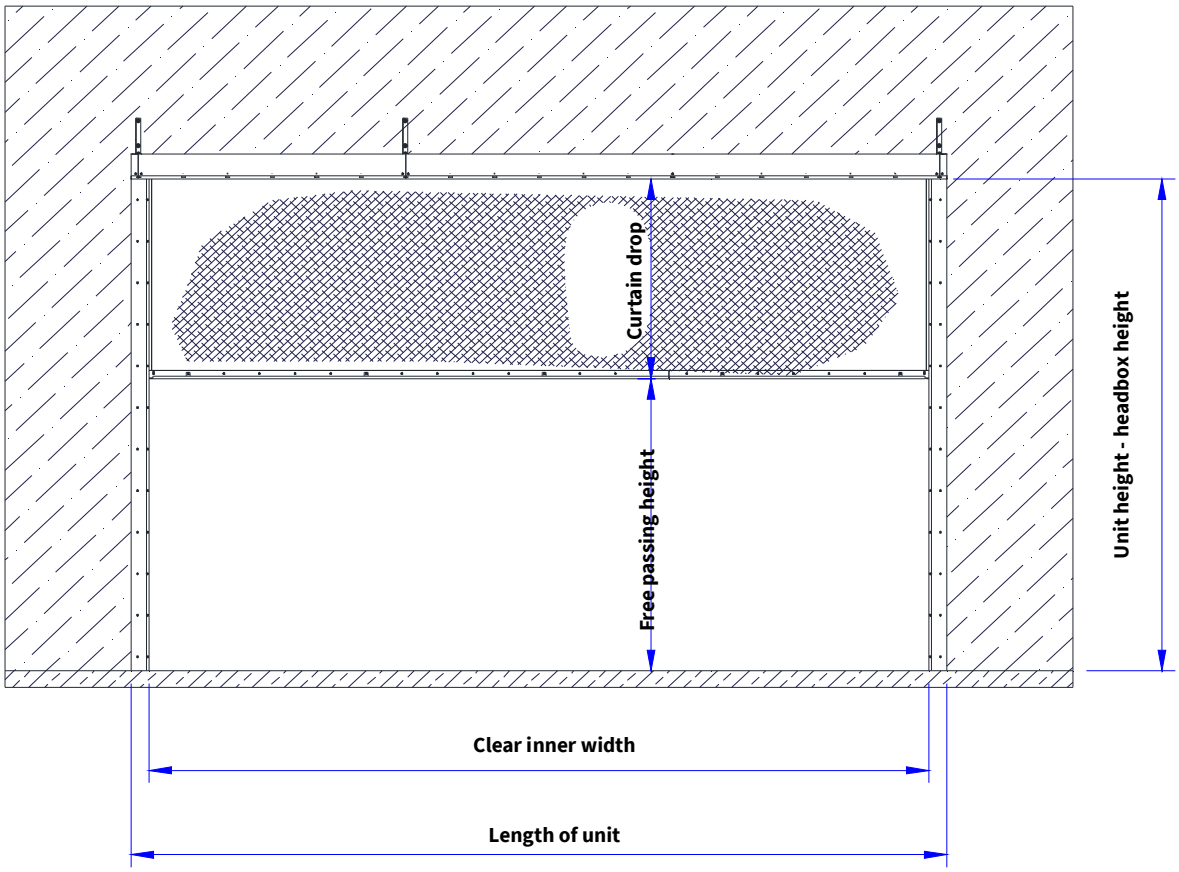
3.) Installation directly under the ceiling (headbox completely visible)

The setting out point is the height specified by the contractor in the building during construction. This level is the base height from which all heights in a building are determined. This is usually the top of the floor, which is at a level equal to zero.

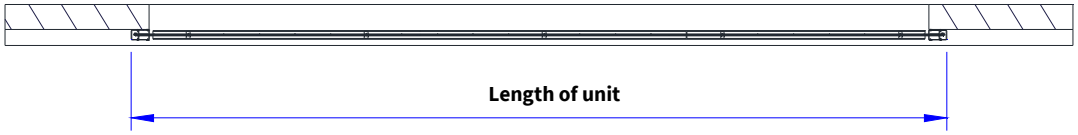
NOTE

- In this chapter 9 we explain the installation onto a brick wall.

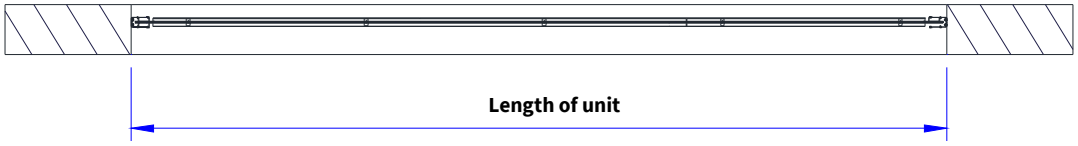
Examples



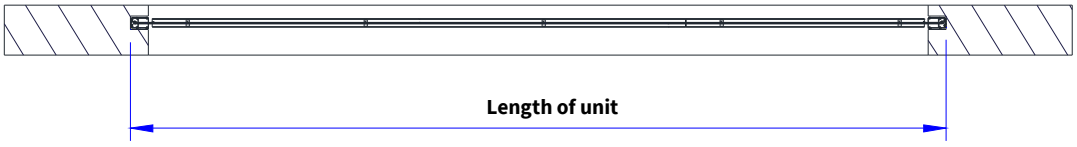
Wall fixing



Soffit fixing

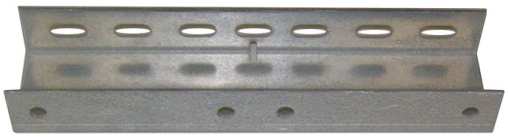


Recessed fixing

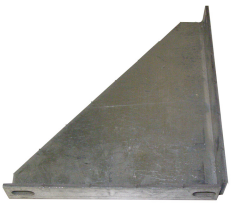


Only use approved parts when installing the curtain. Approved parts are:

- Colt mounting brackets (wall or universal) or approved rail systems from other manufacturers; for alternative fixing materials, see the link on the intranet / extranet: Link.



Universal bracket (U): normally used for concrete ceilings and aerated concrete.

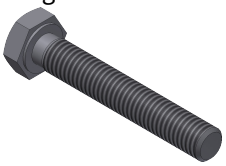


Wall bracket (W): normally used for brick or aerated concrete.

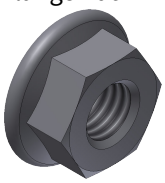
Rail system (M): an alternative to the universal bracket, can also be used with steel framework.

- Anchor bolt fire rated to FAZ II 8/10, supplier: Fischer

- 8.8 galvanized screws, at least M8, DIN 933



- Flange nut NT FLA M8, supplier: Sikla



NOTE

- The mounting height between ceiling and top of the headbox is variable. The mounting aids shown here are for U10, W10 and M10 fixing types.

NOTE

- For plaster walls see chapter "10 Additional information".

9.3 Installation

9.3.1 Attaching the headbox

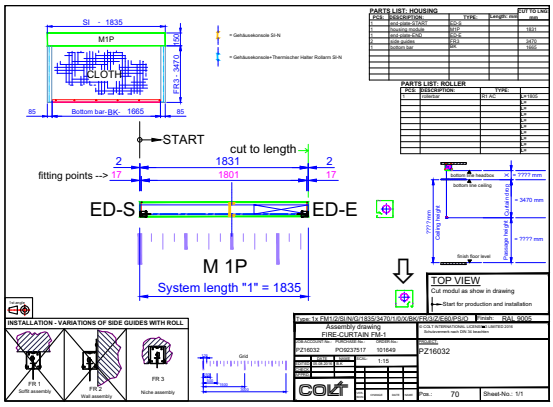
Follow this procedure:

- Measure and mark the fixing points according to the assembly drawing.
- Installation of fixing materials, here: W 10 wall bracket (see assembly drawing).
- Assembly and alignment of the headbox to W 10 wall brackets. Alternatively, the headboxes can be assembled prior to mounting to the wall brackets (only if 1 to 3 headboxes are used together. The overall length should not be too long, otherwise it won't be easy to lift and install the wall brackets.)
- The roller brackets are pre-assembled, pre-designed by (AV) CoE depending on the planned design "X" (excess length) or "Z" (cut to exact length)

  If "X" is designed, the last bracket is stuck in. Having determined the exact length of the system on site, the installer must fix this bracket himself.

  Fire curtains are predominantly designed with "Z" and smoke curtains with "X".

1.) Always check the ZBZ assembly drawing (delivered with the materials) when building the curtain.

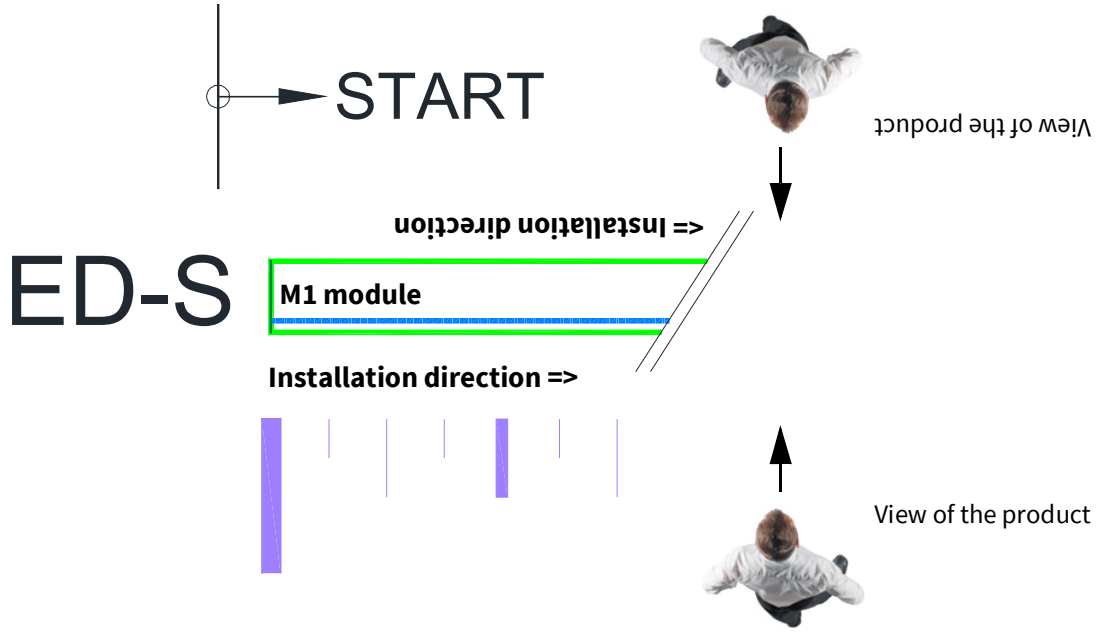


The picture shows a sample unit, see chapter "5.4 Explanation of assembly drawing (ZBZ)".

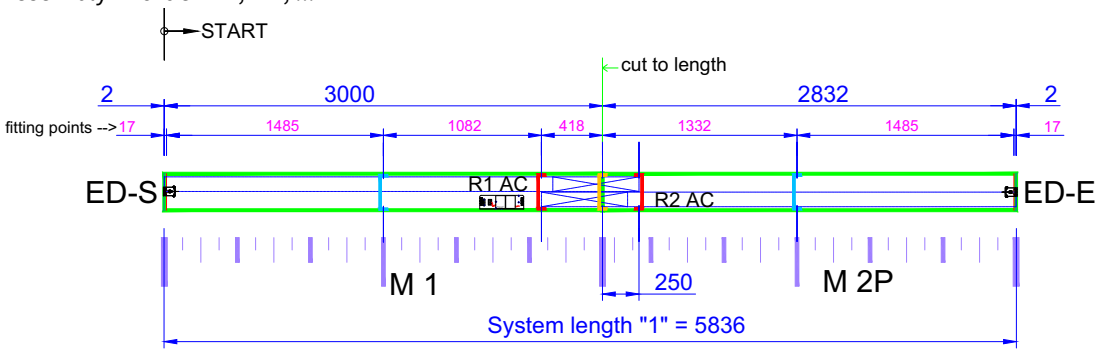
NOTE

- If the drawings do not match the locations, the work should be interrupted and the project manager or Customer Service Curtains be contacted.

2.) The direction of install is defined depending on the product, and is always to be complied with on site.



3.) Assembly in order M1, M2, ... Mx



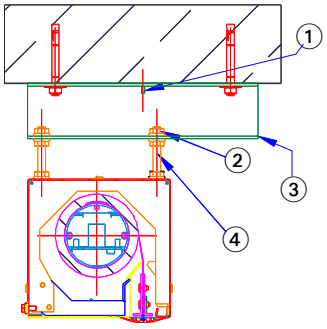
Mounting points start 17 mm from the edge of the headbox (ED-S) and follow the grid spacing according to the assembly drawing. (See above sketch)
(Either installation module by module (M1, M2, ... Mx) to the mounting brackets or, if the length allows it, first connect the headbox and then install to the mounting brackets.)

NOTE ▸ Example: Exact values (X, Y) per product can be found in the matrix below.

4.) Align module M1 and fix it. Do not attach the next module until the module has been completely fixed. The orientation of the headbox can be checked by the connection between the brackets. This should be flush on all sides. If there is a gap on any side, the alignment is incorrect.

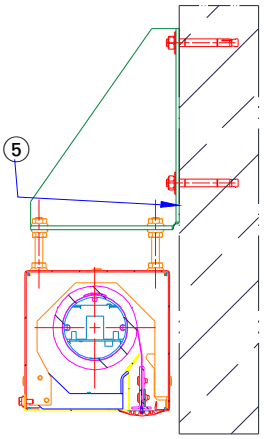
5.) Detail of mounting the headbox to the concrete ceiling / brick wall.

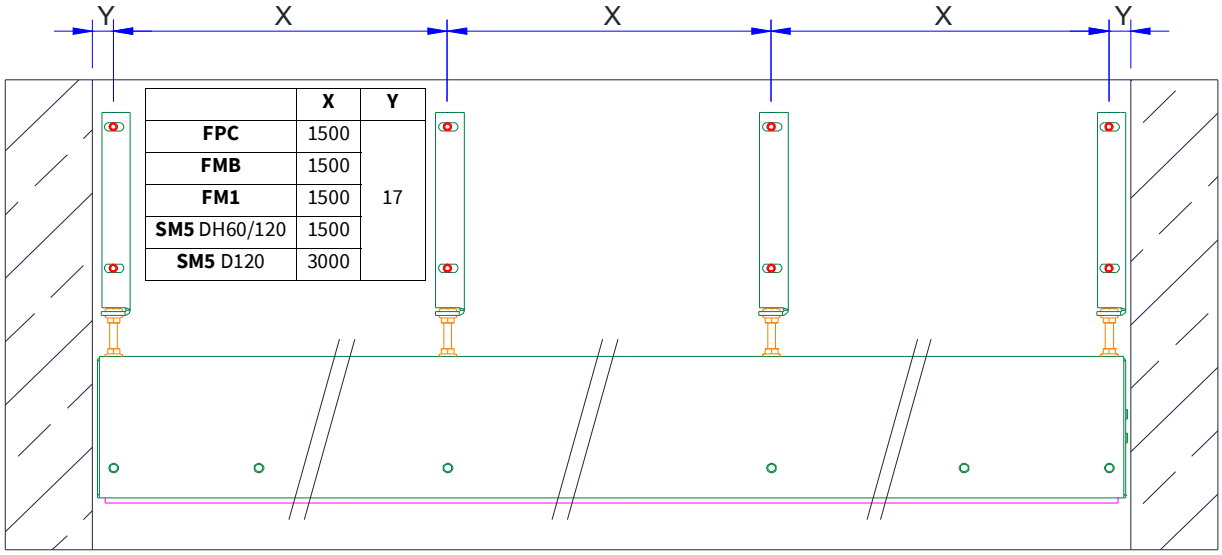
Example: Type SI



Key

① Notch marking the cloth axis
② M8 flange nut
③ Universal bracket with (2x HST M8x75/10, depth 65 mm) or (2x FAZ II, type: 8/10 GS, galvanised steel, depth 65 mm)
④ M8x60 galvanised steel hex screw
⑤ Wall bracket with (2 x HST M8x75/10, depth 65 mm) or (2 x FAZ II, type: 8/10 GS, galvanised steel, depth 65 mm)



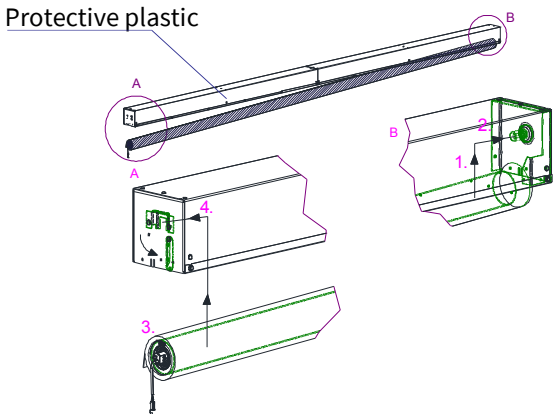


	X	Y
FPC	1500	17
FMB	1500	
FM1	1500	
SM5 DH60/120	1500	
SM5 D120	3000	

NOTE ▸ Various small parts such as rivets for connecting the headbox will be supplied along with the headbox itself.

9.3.2 Fixing the roller

9.3.2.1 Type: SI/DH/DV



Example: Type SI

Now the rollers can be installed, as indicated on the assembly drawing (see above example for SI type).

1.) Starting with R1 and then in ascending order. Depending on the type (SI, DH or DV) the roller 1. Is first installed. See the assembly drawing for the starting position.

2.) When installing rollers 1., always first fit the bearing end 2.

3.) Press the roller 1. against the end of the bearing 2. and fix the motor axle 3. to the motor bracket 4..

NOTE

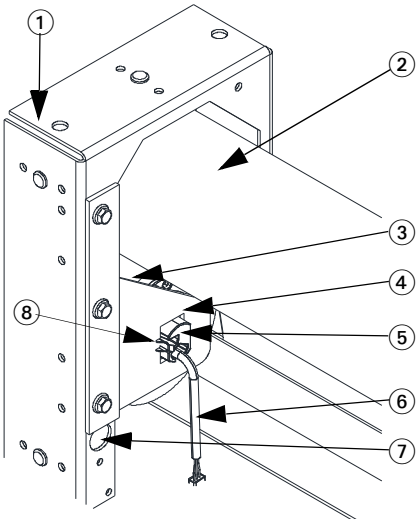
- First, pass the motor cable (see DV example below) through the bracket.
- The complete automatic curtains are equipped with thermal brackets. Rollers which are longer than 3 metres are fiited with additional thermal brackets. An exception to this is when smoke curtains to D class according to EN 12101-1 table 2 are installed. Before the rollers can be installed, the thermal brackets must be dismantled and subsequently installed.

Warning!

Danger through live parts

- Danger of electrocution and death.
- Installation and assembly of electrical components must only be carried out by professionally qualified personnel.

Only for DV and DH units



Example: DV unit

① Motor bracket
② Roller 2 (upper)
③ Roller 1 (lower)
④ Motor plate
⑤ Motor axle
⑥ Motor cable
⑦ Hole for internal cabling
⑧ Motor, locked at motor plate

NOTE

- Guide the cable 6 through the motor plate ④ in such a way that tearing or shearing is avoided.

If the roller ③ is hanging, it can be pushed back in the direction of the motor plate ④ so that the lock ⑧ engages it.

NOTE

▸ Check that the lock ⑧ correctly engages.

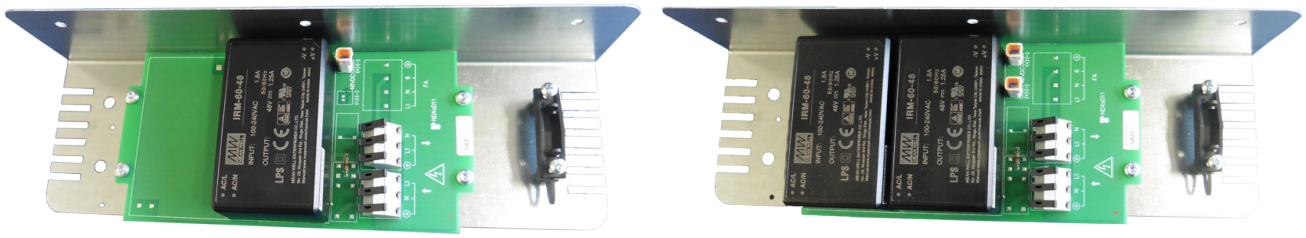
Additional rollers are then installed accordingly.

NOTE

▸ Note that when installing the DV type rollers, all upper rollers must be mounted first before the bottom row can be installed. To install the upper rollers always remove the motor or bearing brackets of the lower rollers, so that the upper rollers can be guided through these brackets.

9.3.3 Fitting the internal cabling

▸ Once the rollers have been fitted, convertor brackets (NKE / NKD) are placed within the headbox.

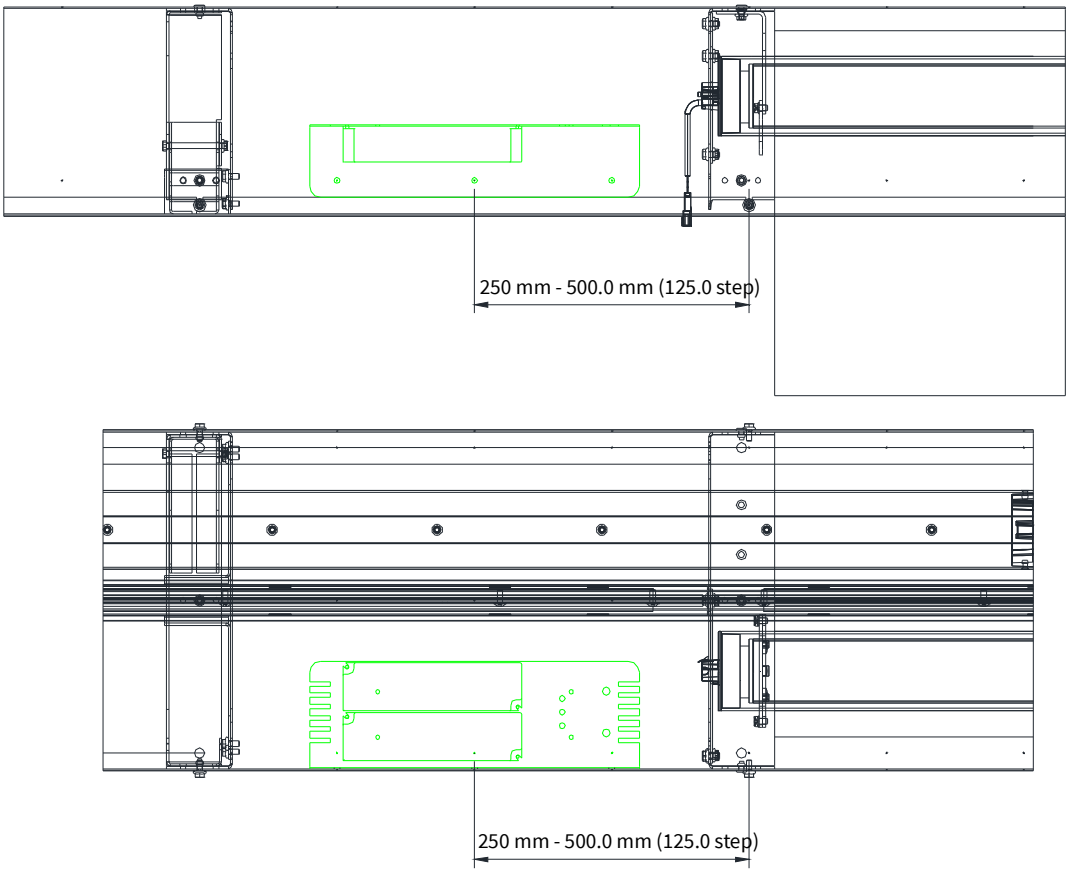


1.) The NKE/NKD are placed in the immediate vicinity of the motors.

NOTE

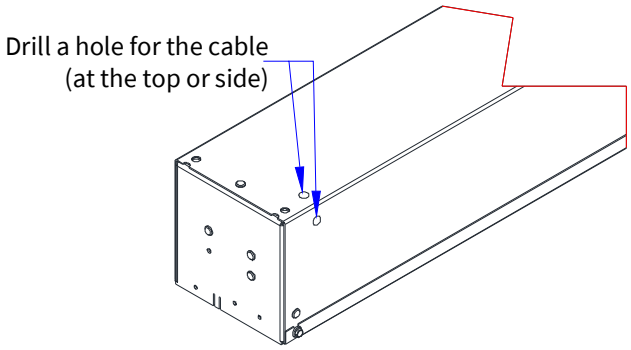
▸ Power supplies for DV units can only be placed at the bottom of the headboxes.

2.) The indentations on the headbox are now drilled with Ø5 mm holes (in the same grid as the NKE/NKD).

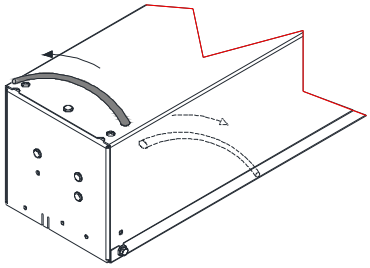


3.) The NKE/NKD is fixed within the headbox using 4.8 x 8mm rivets.

- Lay out the power cable at the start or end of the unit (hole for screw / edge protection).



Shown here: Type SI



Lead the cable through the hole

NOTE

- The internal wiring for DV and DH units is to be carried out as follows.

The internal wiring in DV and DH headboxes is to be carried out as follows:

1.) First, the location is determined at which the cable is to be led out of the headbox. This should be done in consultation with the customer.

2.) Then the cable is cut. The lengths of the rollers determine the lengths of cables.

3.) A plastic tube is slipped over the cable.

4.) Now the wiring kit can be inserted into the headbox. Special holes ⑦ (Ø 20 mm) are punched into the housing brackets. Please see “Only for DV and DH units” on page 31

5.) When all cables have been inserted, the electrical connections can be made.

Alternative: external wiring of the motors

For external cabling, junction boxes ND1 and ND2 are used instead of NKE and NKD

- Measure and create holes for the motor cables.
- Each motor cable is routed separately to the outside and wired into a convertor box (ND 1 or ND 2).
- The customer is responsible for the connection of the individual junction boxes.

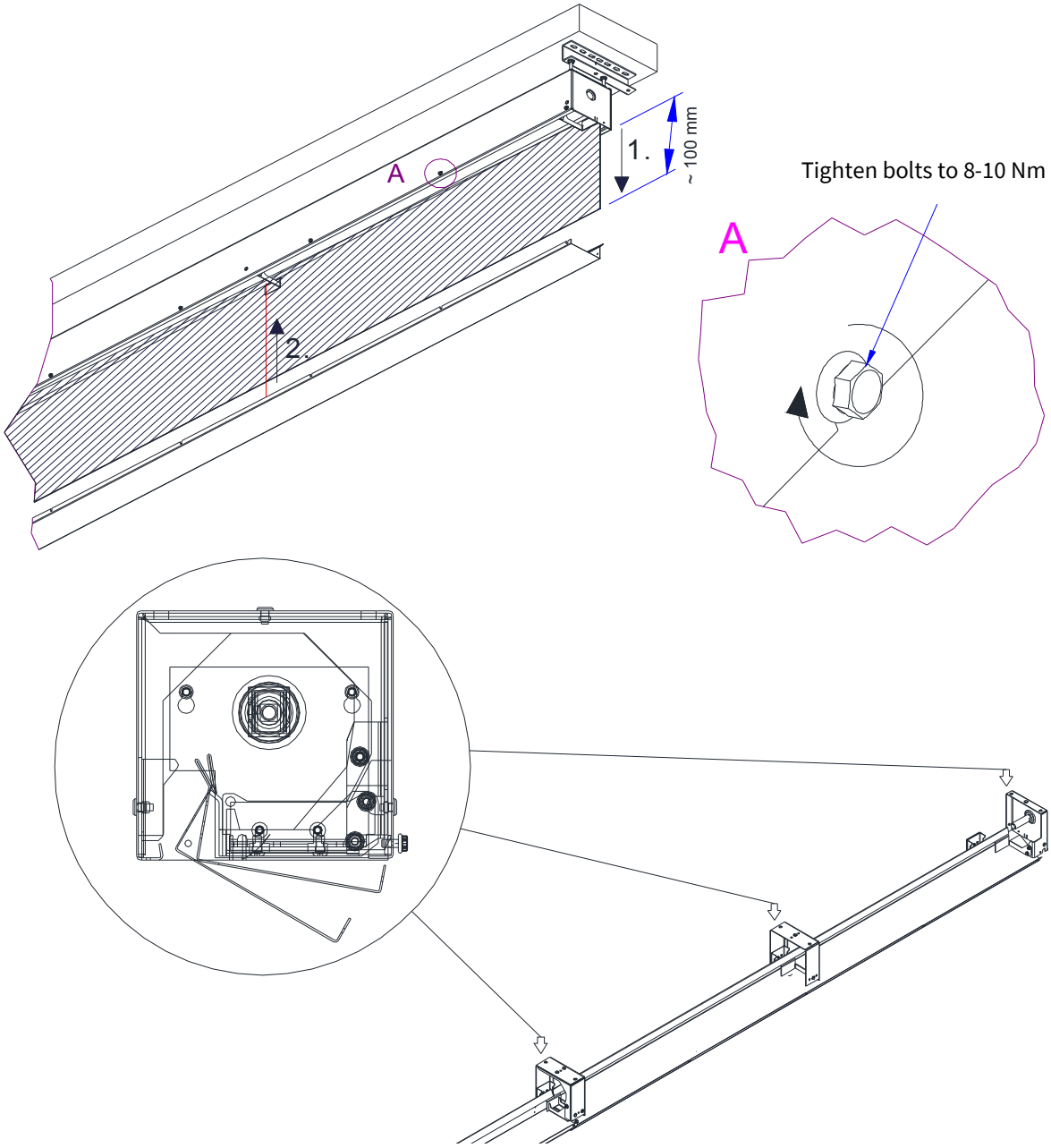
NOTE

- When installing the rollers, avoid damage to the cable.

9.3.4 Close the headbox using the access panels

Procedure:

- Remove packaging film
- Pull the cloth out of the headbox (1.) by approx. 100 mm.
- Install the headbox access panels (2).



NOTE

- Make absolutely sure that the cover plates are correctly positioned at all cover plate angles, so that the panel cannot fall down. Then rotate the access panel by about 90° and secure with screws (see Detail A).

NOTE

- Only when the on-site power supply, including controls, is connected to the curtain, you may start assembling the bottom bar.

9.3.5 Installing the side guides

These assembly instructions are based on an installation on the wall and onto a soffit. The principle is the same for each. For wall installation, an additional mounting bracket is used. When mounting in the wall opening and in a recess an adjusting plate is used. Both versions are explained below.

There are six types of guides:

1.) FS and FSB rod side guide

2.) FR and FRB roller side guide

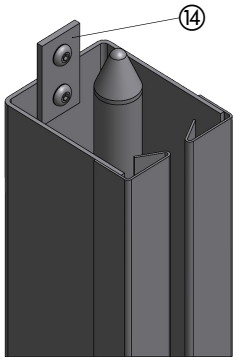
3.) FP pin side guide

4.) FP pin side guide with a labyrinth FD

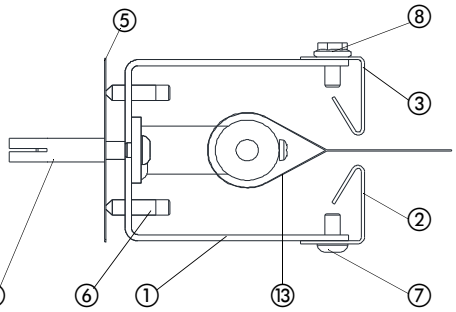
For each type, the following three different ways of installation are possible:

- Soffit fixing
- Wall fixing (two variants)
- Recessed fixing

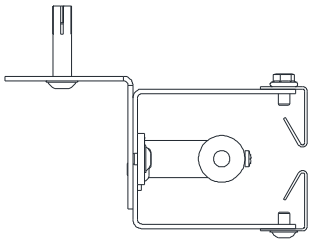
FS rod side guide



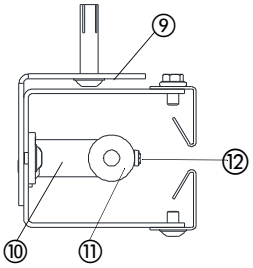
Soffit or recess fixing



Wall fixing, variant A

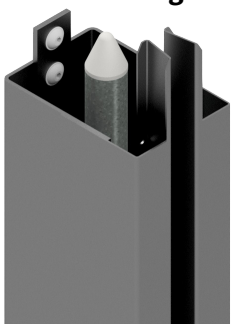


Wall fixing, variant B



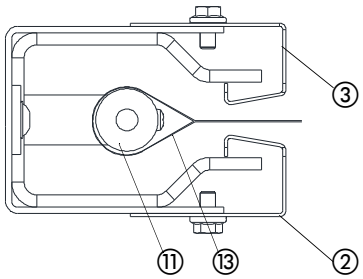
① Base profile
② FS guide rail (front)
③ FS guide rail (rear)
④ Rivet anchor
⑤ Adjusting plate
⑥ Adjusting screw
⑦ Allen screw (with visible fastening)
⑧ Hex bolt (with concealed fixing)
⑨ Angle profile
⑩ Rod bracket
⑪ Rod + tip
⑫ Allen screw
⑬ Cloth loop
⑭ Coupling piece

FSB rod side guide

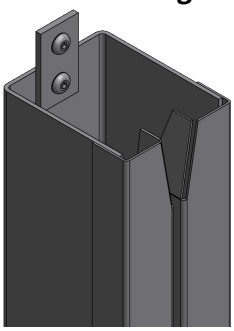


② FSB guide rail (front)
③ FSB guide rail (rear)
⑪ Rod + tip
⑬ Cloth tab

Soffit or recess fixing

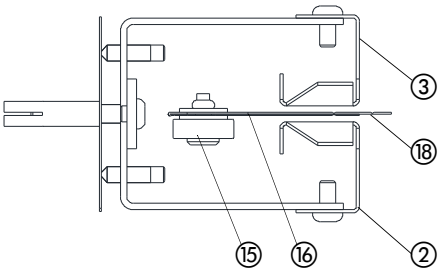


FR roller side guide

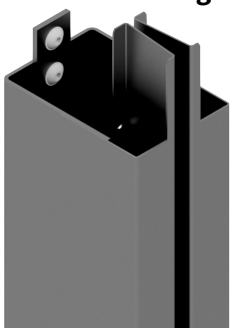


② FR guide rail (front)
③ FR guide rail (rear)
⑮ Bearing at the cloth
⑯ Cloth tab
⑱ Cloth

Soffit or recess fixing

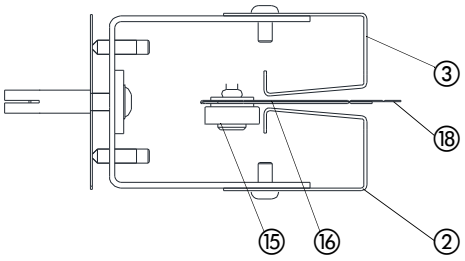


FRB roller side guide

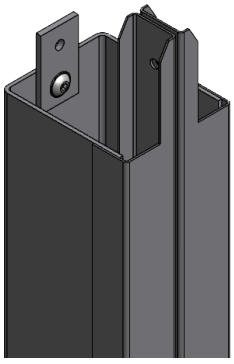


② FRB guide rail (front)
③ FRB guide rail (rear)
⑮ Bearing at the cloth
⑯ Cloth tab
⑱ Cloth

Soffit or recess fixing

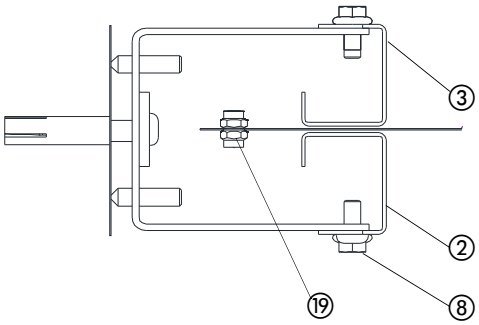


FP pin side guide

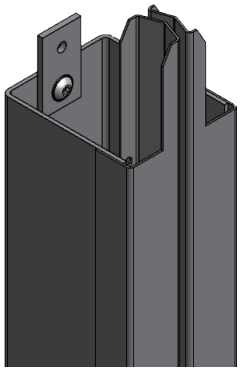


② FP guide rail (front)
③ FP guide rail (rear)
⑧ Hex bolt
⑲ Pin fitted to the cloth

Soffit or recess fixing

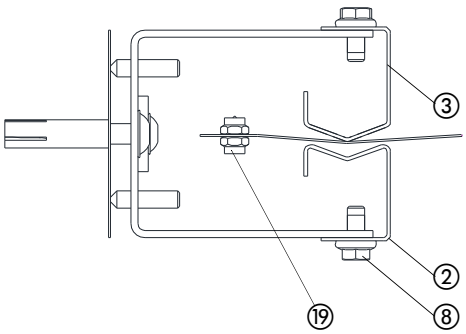


FD pin side guide with a labyrinth



② FD guide rail (front)
③ FD guide rail (rear)
⑧ Hex bolt
⑲ Pin fitted to the cloth

Soffit or recess fixing



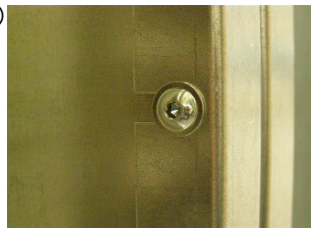
The design and installation is the same for all types of guides, based on base profile, guide rails and angle profile. With the FS rod side guide an additional rod has to be fitted.

NOTE

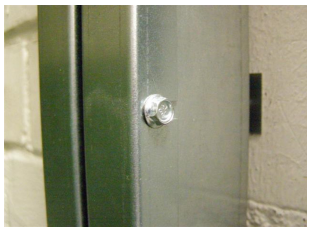
▸ The connector ⑭ (FS pictured above) with the screws is attached separately.

NOTE

▸ The connector ⑭ (pictured above) with the two screws and the rod with the tip ⑪ is added separately.

⑦ 

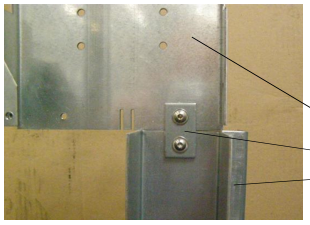
All visible fixings are done with M5x8 Allen screws ⑦.
All invisible fixings are done with M5x8 Hex bolts ⑧.

⑧ 

NOTE

- Both kinds of fixings (⑦ and ⑧) are included in the delivery.

Order of assembly:

1. 

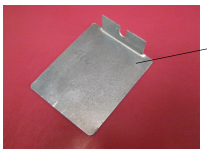
The base profile is connected to the end plate.
Connector (installation aid)
M5 x 5 Allen screw
End plate
Connector (with 2 screws)
Base profile

2. 

When the side guide is longer than 2.8m, it is necessary to make a connection between the base profiles.
Connector (installation aid)
M5 x 5 Allen screw

3. 

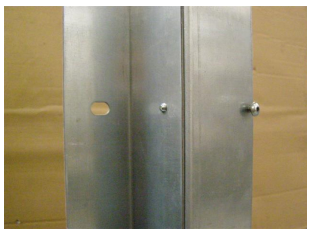
Optional
Mounting the closure piece onto the base profile
M5 x 5 Allen screw



Closure piece

4. 

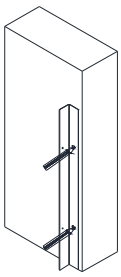
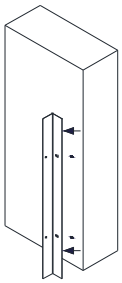
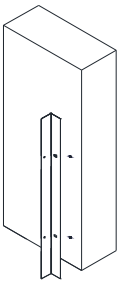
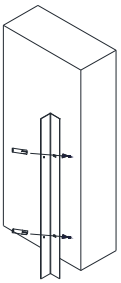
Fastening the base profile to the mounting bracket of the Fx 2 guide (x stands for the type of side guide, whether this be S, SB, R, RB, P or D)
Adjustment for vertical mounting
M6 x 6 screw
6.4 mm washer

5. 

Rear view
Minimum alignment

- Attach angle profile on the wall and align

Variant B

1.)  2.)  3.)  4.)  5.) 

1.) Transfer the holes from the angle profile onto the wall.
2.) Remove the angle profile so as to drill the wall.
3.) Drill Ø8mm holes as specified by the manufacturer of the impact anchor.
4.) Align the angle profile with the holes.
5.) Fix impact anchors using a tool (6.) through the angle profile into the wall.

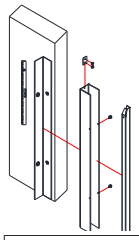
NOTE

- This procedure must be carried out on both sides

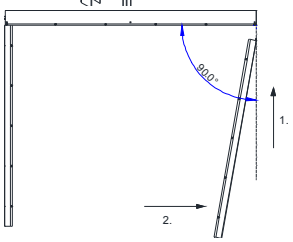
6.) 

Sikla spreading mandrel (for rivet anchor)

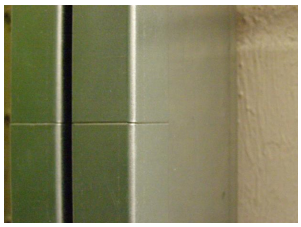
Impact anchors with screw
Type: E M6 x 30
M6 x 25 Allen screw

7.) 

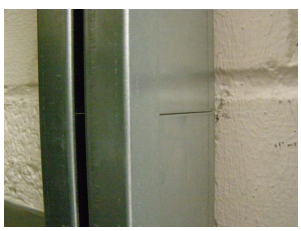
Attach the rear guide rail to the base profile before wall mounting

8.) 

Align the base profile 90° to the underside of the headbox

9.) 

The joint of the guide rails should never overlap with the joint of the base profile. (See example guide rail)

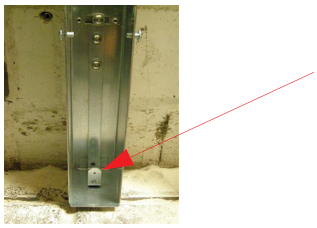
10.) 

The joint of the guide rails should never overlap with the joint of the base profile. (See example base profile)

NOTE

- This procedure must be carried out on both sides.

FS side guide option

11.) 

The rod bracket is supplied pre-assembled

The arrow points to the fixing of the guide rod

12.) 

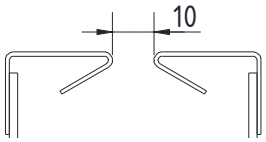
Mounting the rod to the bracket

Fixing with 3.5 x 16 mm self-tapping screws

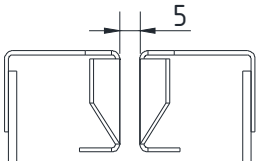
NOTE

After mounting the side guide, the gap needs to be checked. This must be at least X mm over the entire height.

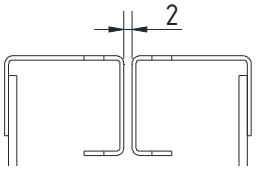
FS version



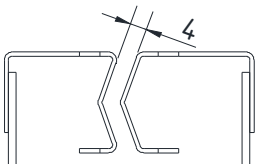
FR version



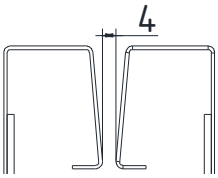
FP version



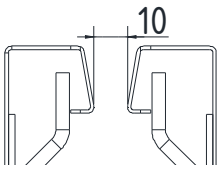
FD version



FRB version



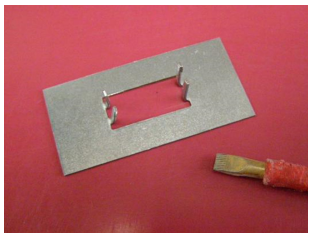
FSB version



Fx side guide option in a soffit or recess

13.) 

Adjustment plate is delivered with 2 loose M5 x 20 set screws (not shown, see 15.)

14.) 

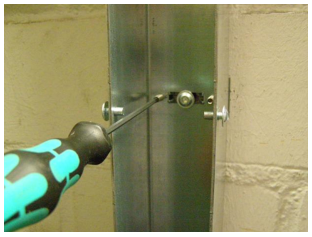
The claws of the adjustment plate must be bent for installation. For this, use a screwdriver, for example.

15.) 

Insert adjusting plate from behind into the base profile and fix so as to ensure that the adjustment plate cannot fall out.

Screw M5x20 Allen screws approximately two turns into the threaded holes of the base profile.

Secure the side guide into the impact anchor using the Allen screw M6x25.

16. 

Adjust the base profile by using hexagon socket set screws, so that the side guide is perpendicular and at right angles to wall and headbox.

17. 

Fixing of the side guide is now complete.

NOTE

- Note: each gap must be closed subsequently with non-flammable material (e.g. Rockwool).

9.3.6 Installing the bottom bar / closure strip / additional weight

Automatic curtains generally drop down to the surface of the floor. When installing the bottom bar prior to the surface of the floor being ready, you must work in accordance with the specified level in the building. Do not cut any material before making sure that all heights correspond to the information given in the project and that the bottom bar is fully installed.

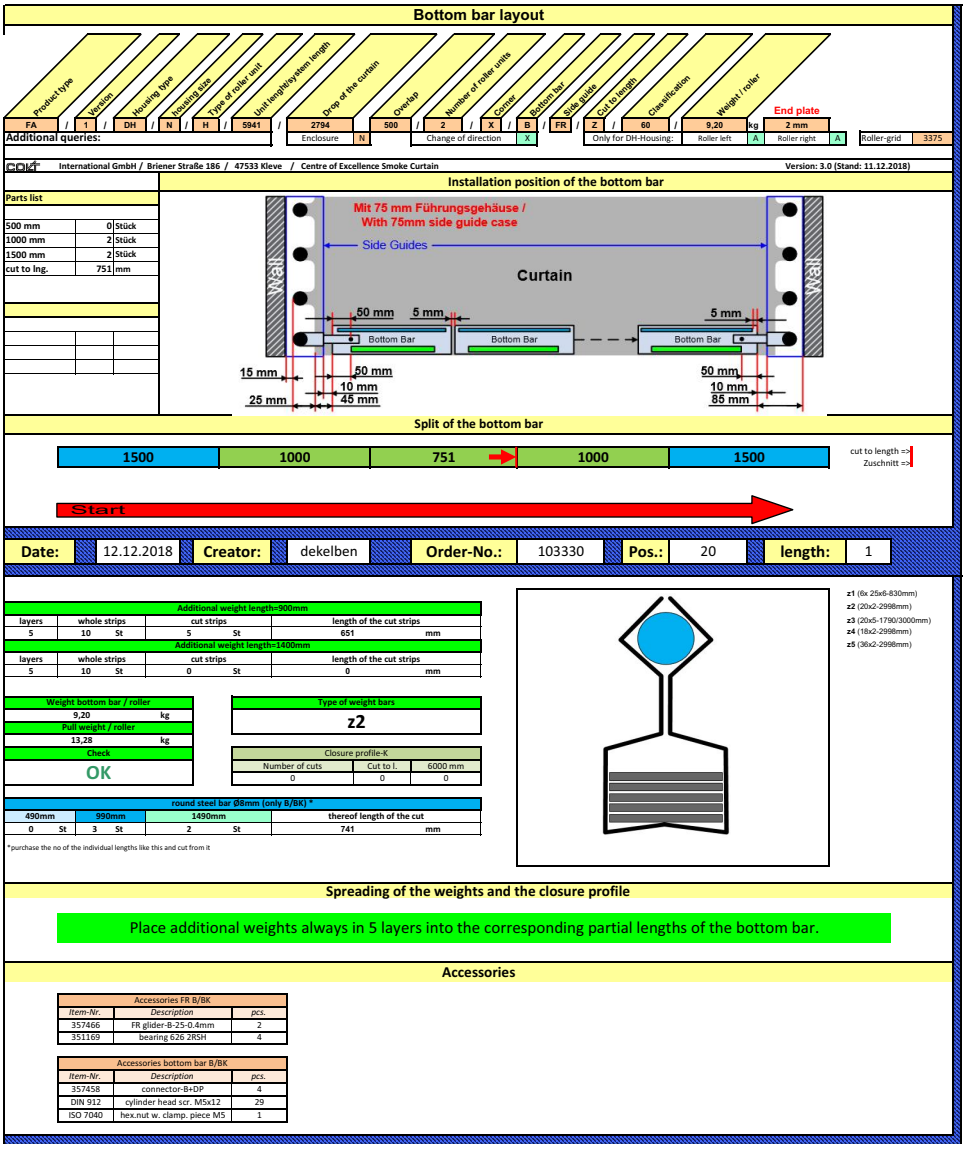
The drop specified in the coding is always measured from the underside of the headbox to the underside of the bottom bar. For automatic curtains, the drop is normally down to the surface of the floor. An exception to this are automatic smoke curtains. These also enable people to pass under them freely and so do not roll down to the ground. That's why it's always important to check the ZBZ assembly drawings before you install a bottom bar.

After checking the drop, the cloth can be unrolled. Ensure that the cloth has been completely unrolled.

Important prerequisites for the assembly of the bottom bar with side guides:

This is achieved by the bottom bar layout, which is usually supplied with the product. (see chapter "5.2 Standard packaging").

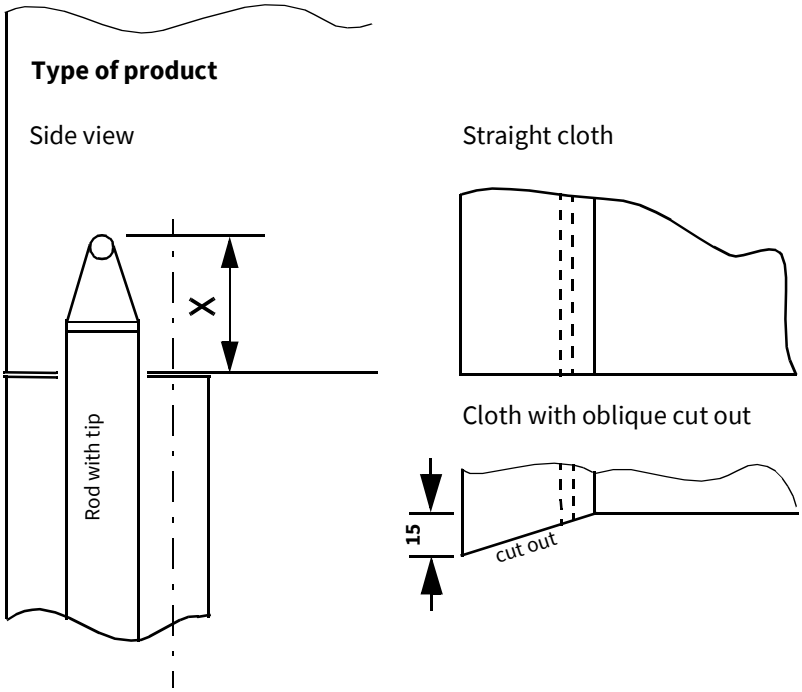
This example shows a BK bottom bar.



Installation Instructions for rod side guide

For automatic protective curtains with rod side guides (FS or FSB):

The dimension **“X”** must be checked during installation and must be adhered to.



Bottom bar	X [mm]	Information
I	30	Straight cloth
K	35	Cloth with oblique cut out
ID	30	Straight cloth
U	35	Cloth with oblique cut out
UK	35	Cloth with oblique cut out

1.) The bottom bar must be 10 mm away from the side guide and end 10 mm in front on the other side.

2.) The gliders supplied must be subsequently riveted to the weight profile, if these are shown in the bottom bar design, otherwise this step is omitted.

3.) The number of additional weights must be fitted as set out in the documentation supplied (see bottom bar layout).

4.) The order of installation of the "**K-profile**" diagram must be observed. This also applies to the "**I-profile**" diagram as well as the ID profile. For U and UK, as well as for B and BK, there is a slightly different method, as well as for the DP bottom bar.

5.) The bottom bar must always be installed horizontally.

NOTE

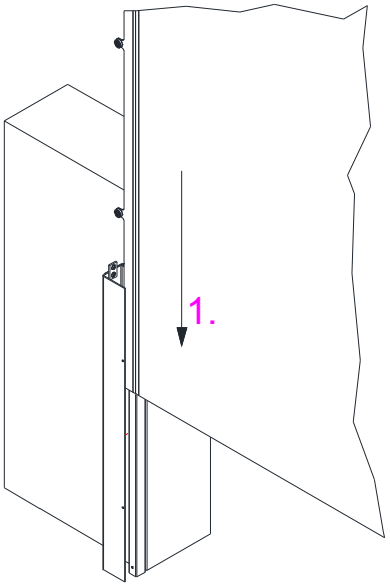
- The bottom bar must have a minimum weight in order to assure the momentum for release.

NOTE

- Any openings and gaps must be closed. When the assembly is complete and the curtain is in its working (down) position, no gaps are allowed.

With the G motor the cloth is pulled down manually. With the D motor the cloth is dropped down by motor power.

Before starting the assembly of the bottom bar, ensure that the cloth has been unrolled to its down position.



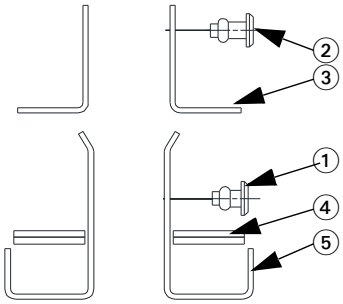
NOTE

- Take care when pulling down the cloth1. that the cloth should not be pulled too forcibly, because otherwise the G / H motor can lock.

General notes relating to bottom bars

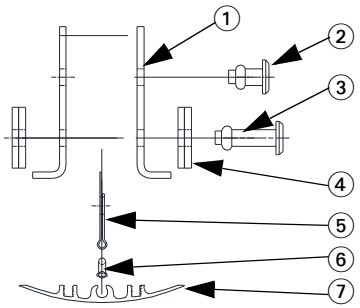
These types are available:

I bottom bar



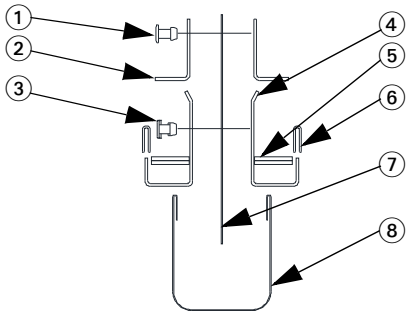
① 4.8 x 8 rivet
② 4.8 x 12 rivet
③ Clamping angle
④ Additional weight
⑤ I bottom bar

K Bottom bar



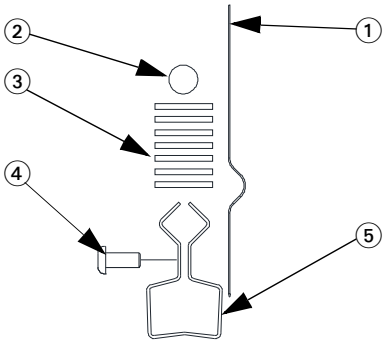
① K bottom bar
② 4.8 x 8 rivet
③ 4.8 x variable rivet (depending on the number of additional weights)
④ Additional weight
⑤ “K” spring clamp
⑥ Spring
⑦ K closure strip

ID bottom bar



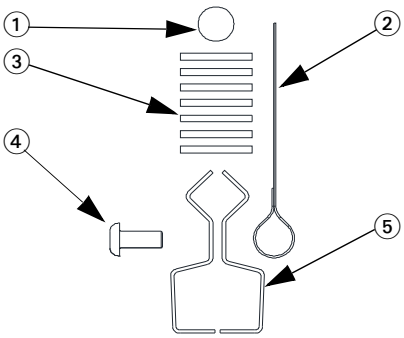
① 4.8 x 12 rivet
② Clamping angle
③ 4.8 x 8 rivet
④ I bottom bar
⑤ Additional weight
⑥ ID clamp profile
⑦ Cloth
⑧ Cloth tab

B bottom bar



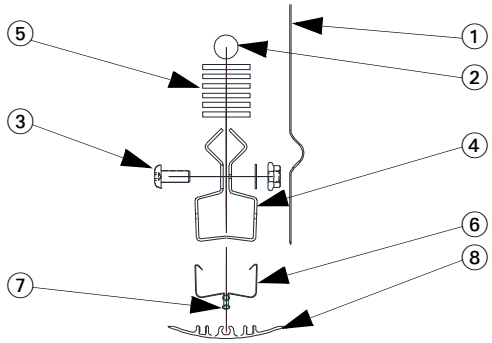
① Cloth
② Ø 10 mm round steel
③ Additional weight
④ M5 x 10 screw
⑤ B bottom bar

U bottom bar



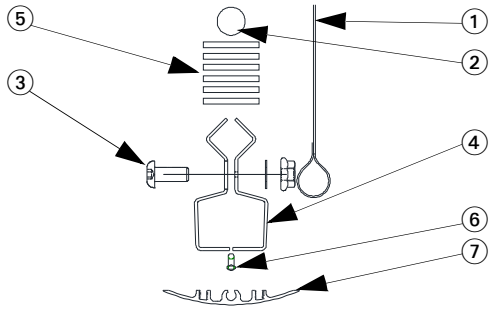
① Ø 8 mm round steel
② Cloth
③ Additional weight
④ M5 x 10 screw
⑤ U bottom bar

BK bottom bar



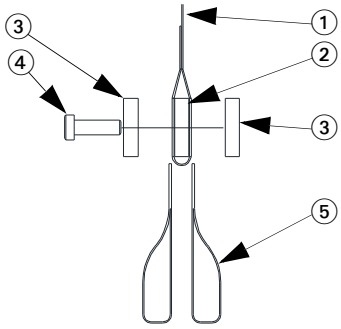
① Cloth
② Ø 10 mm round steel
③ M5 x 10 screw
④ B bottom bar
⑤ Additional weight
⑥ “BK” spring clamp
⑦ Spring
⑧ K closure strip

UK bottom bar



① Cloth
② Ø 8 mm round steel
③ M5 x 10 screw
④ U bottom bar
⑤ Additional weight
⑥ “UK” spring
⑦ K closure strip

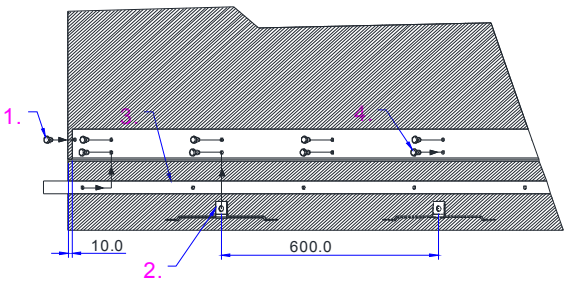
DP bottom bar



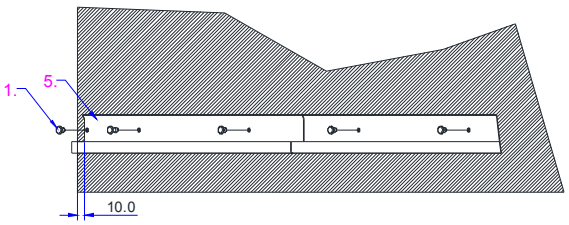
① Cloth
② Bottom bar
③ Additional weights
④ M5 x 16 cylinder-head screw
⑤ Cloth tab

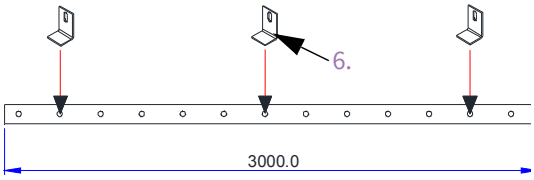
- Fixing of additional weights to the K bottom bar or laying them into the I or ID bottom bar.
- The additional weights are installed onto the B and BK profiles as well as the U and UK bottom bars differently. Here, the weights are inserted after assembly.
- The DP bottom bar is constructed so that no further additional weights are necessary.
- If necessary mount the K closure strip when a K, UK or BK bottom bar is used.
- The bottom bar is fastened to the bottom of the cloth with the rivets or screws provided, depending on the type of bottom bar, and serves:
  - As a weight to drive the cloth down to its working position
  - To ensure that the cloth remains taut when it is rolled down
  - for reducing any lateral movement if there is airflow

K bottom bar



I bottom bar





[Detailed hole pattern of the bottom bar I 5.]

1.) 4.8 x 8 rivet
2.) Spring K complete
3.) Additional weight
4.) 4.8 x variable rivet
5.) I bottom bar
6.) Clamping angle

For the G / H motor, the bottom bar must be pulled up against the headbox. This causes the motor to be switched into the holding power mode by overload. The overload is generated mechanically by the mechanism being blocked.

With the D motor, the upper stop is set electronically. The product has to be adjusted using an auxiliary tool, which is included.

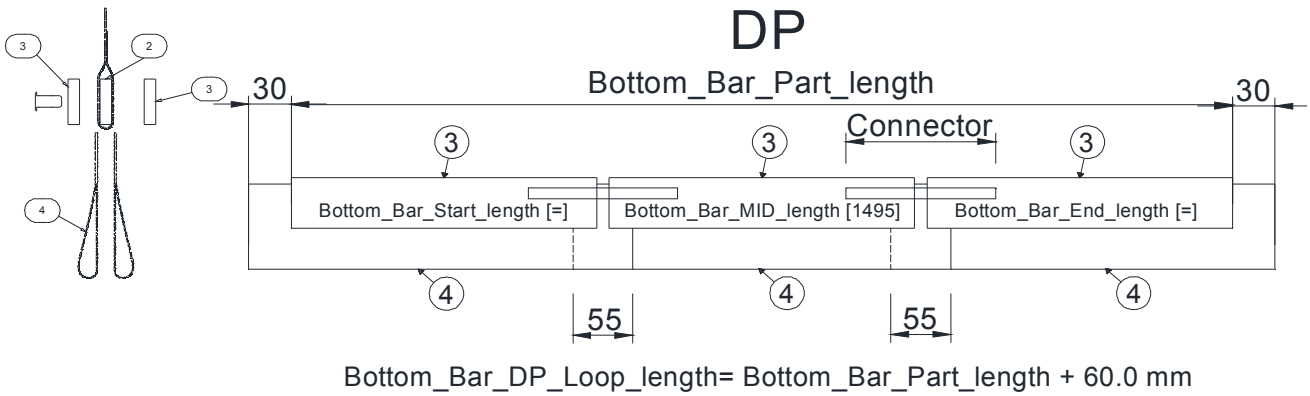
If it is intended that the bottom bar drives against a suspended ceiling, that ceiling must be able to withstand the force which will be applied to it.

9.3.6.1 Arrangement of bottom bars

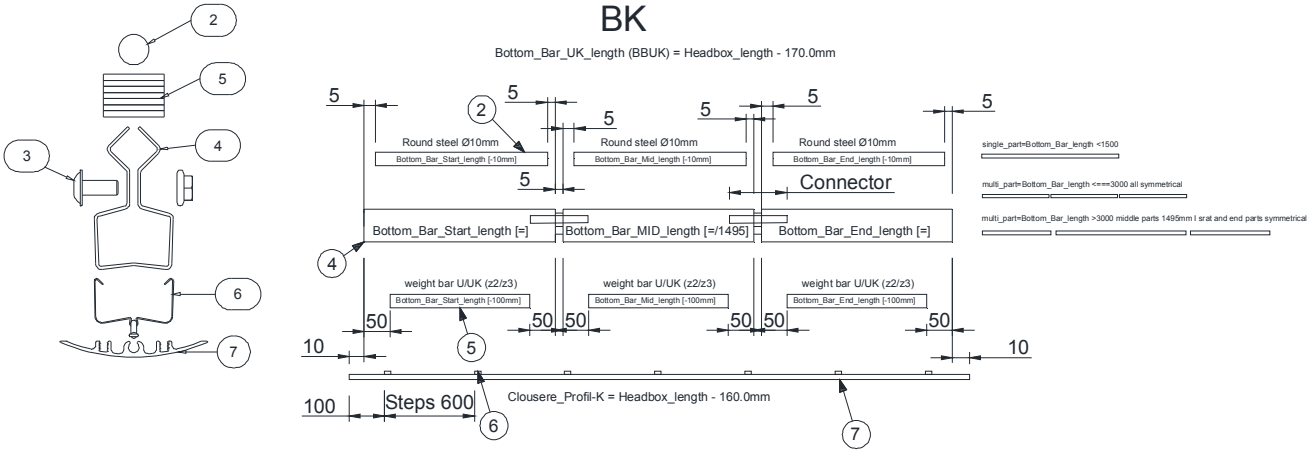
Example of I, ID and K type bottom bars. Overlapping arrangement of profiles. The bottom bar is attached to the bottom of the cloth and thereby holds different cloths together.

2999		Rest
399	2999	Rest

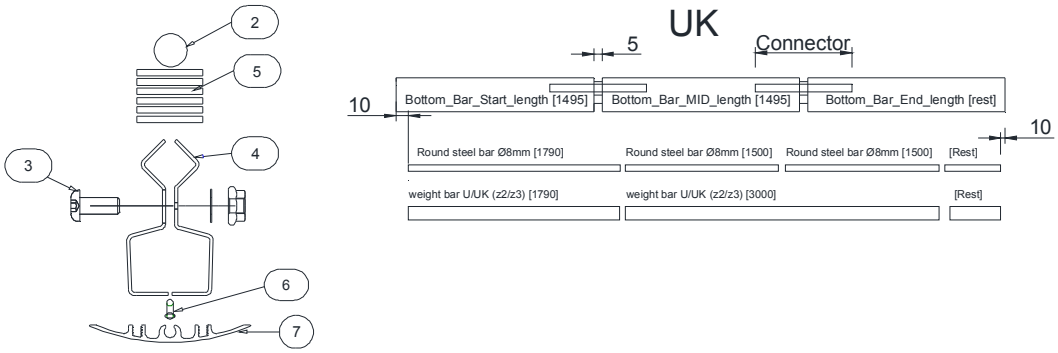
Example of B, U, BK, UK and DP bottom bars with expansion joints of the profiles, for example for DP, BK and UK.



② Bottom bar
③ Additional weights
④ Cloth tab

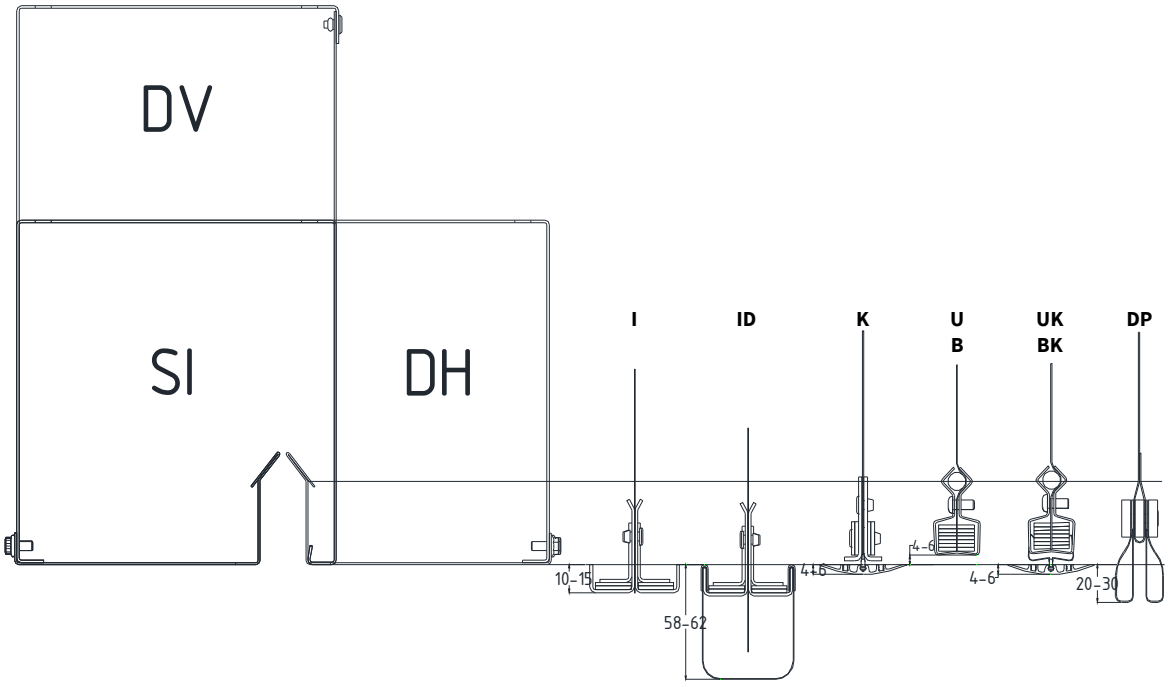


② Ø 10mm round steel
③ M5 x 10 screw
④ B bottom bar
⑤ Additional weight
⑥ “BK” spring clamp
⑦ K closure strip



② Ø 8 mm round steel
③ M5 x 10 screw
④ U bottom bar
⑤ Additional weight
⑥ “UK” spring
⑦ K closure strip

View of bottom bars in their upper (rest) positions



NOTE

- All values in mm. The measurements show how far the bottom bars protrude down from the headbox.

For functional safety and stabilization of the cloth, additional weights (in accordance with the bottom bar layout chapter "9.3.6 Installing the bottom bar / closure strip / additional weight") have to be attached to the bottom bars.

After assembly it is necessary to carry out a functional test.

During this functional test, the following points must be observed:

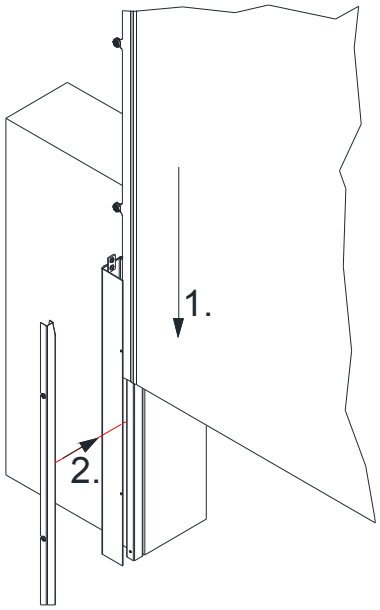
- When raising the curtain, check that the cloth is not seriously wandering out of kilter.
- Check that the cloth has sufficient free space so that it slides smoothly without resistance within the side guides.
- Check that the full surface of the bottom bar over its entire length abuts the headbox.

NOTE

- The additional weight ensures that the curtain rolls down gravity-fail-safe. Therefore, depending on the width of the curtain, different weights are required. For standard systems without side guides and systems with FR side guides, the minimum weight is 4 kg and for FS side guides it is 7 kg. This extra weight cannot be achieved with the standard profiles for very small systems. Therefore, in these cases bigger additional weight is provided to achieve the minimum weight. The exact weight per curtain can be found in the "bottom bar layout" (see chapter "9.3.6 Installing the bottom bar / closure strip / additional weight").

If these requirements are met, where the installation has FS rod side guides, the rod can be placed within the fabric loop and screwed to the rod bracket. This work must be carried out only with a rolled-up curtain. Here, the length of the rod and the cut of the cloth is to be noted. Refer also to "Installation Instructions for rod side guide" on page 42.

- The remaining guide rail must be installed (it is the same operation for all side guide types)



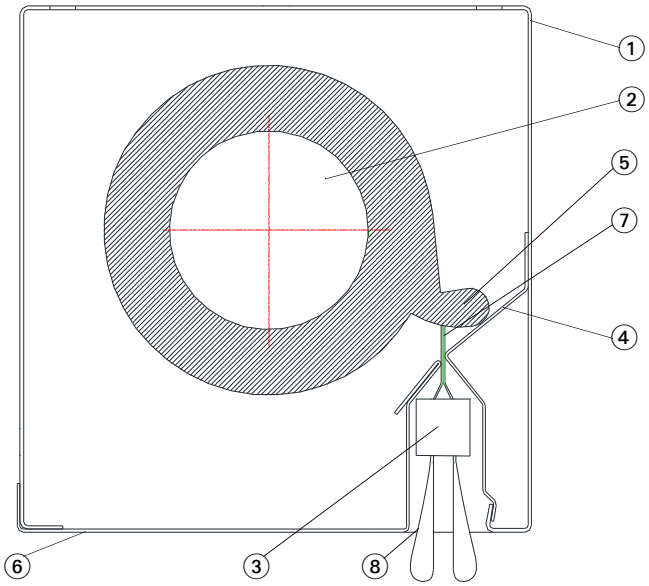
After assembly it is necessary to carry out a functional test.

10 Additional information

Headbox type SD/FAS/SAS

Only for UL certified products.

Depending on the unit height and temperature classes (60 or 180), the headbox type is either **type N** or **type L.**



1. Headbox
2. Roller
3. Bottom bar DP
4. Sheet seal FD
5. Loop seal SD
6. Headbox access panel
7. Cloth
8. Cloth loop DP

Headbox dimensions

	Width [B]	Height [H]
SI-N	155	150
SI-L	180	185

10.1 Drywall installation

Only for UL certified products.

The installation into a drywall requires special attention. First, it is important that the headbox and side guides are always attached to a steel post of the drywall. We also have a 1, 2 and 3 hour classification. In general, there are two options for attachment.

Option 1

The attachment points are matched up to the drywall construction if the wall is not yet erected. Ensure that the drywall builder has a drawing to ensure that internal steel posts are positioned at these attachment points. Agree the drawing with the drywall builder before building the wall.

Option 2

The system is to be attached to an existing drywall. You must now ensure that the attachment points are are positioned at the existing internal steel posts. This may require additional holders or stiffening solutions which have to be discussed with the drywall builder. Ensure that the attachments are just as strong as if fixed to the internal posts.

NOTE

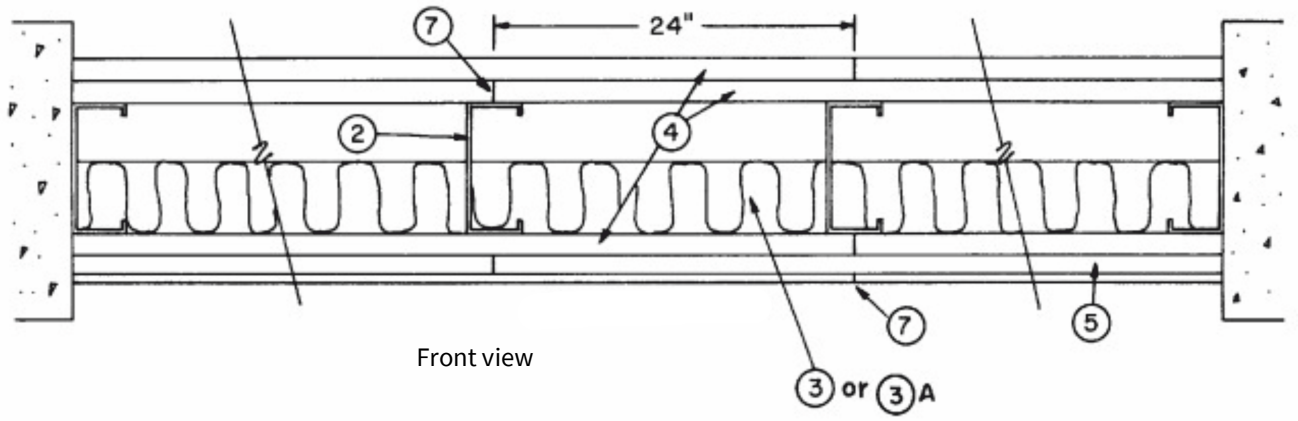
- The attachment just to a drywall is not strong enough in a case of fire.

The attachment described in this manual is based on variant 2, that is to say, an existing drywall.

In this example we show a curtain built into a soffit in a plaster wall.

First, find out where the posts are in the drywall. You must receive this information from the customer. See the random example below for a wall with a 2 hour resistance.

Figure 10.1: Drywall 1



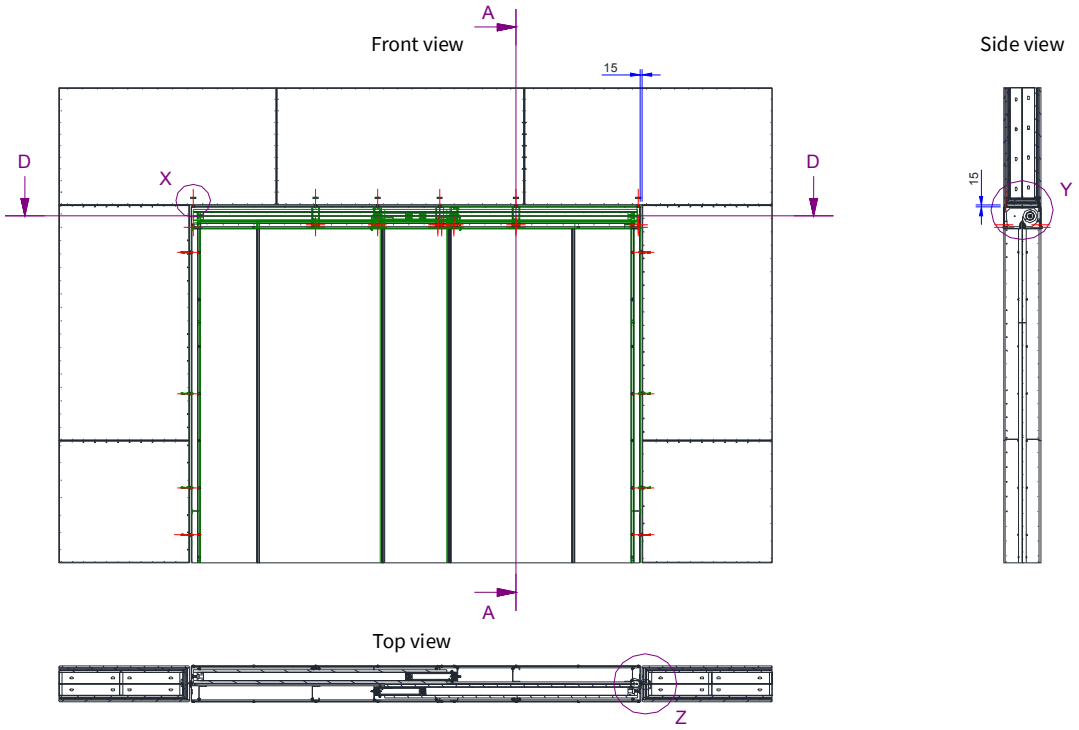
Front view

See also

http://www.marinoware.com/documents/ViperStud%2020S%20&%2020D%20UL%20U403%202%20Hour.pdf

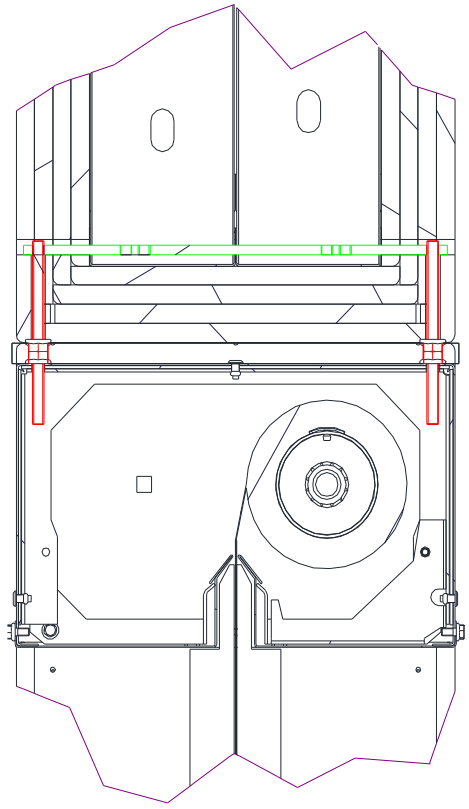
In this example, we explain the details of the installation of the headbox and the side guides when using a gypsum (plasterboard) wall with a fire resistance of 4 hours. The following diagram shows a front view, side view and top view of a typical installation. The first and most important factor is that the opening must be 15 mm larger than the curtain itself. This is necessary to fill the opening with a special insulation material called Sonorock. This insulating material is 50 mm thick and is applied between the product and the gypsum wall to seal the openings after installation. (For further iInformation see “Drywall 2” on page 51 und “Drywall 5” on page 57).

Figure 10.2: Drywall 2



To attach the headbox to the gypsum wall, proceed according to“Drywall 3, side view Y” on page 52.

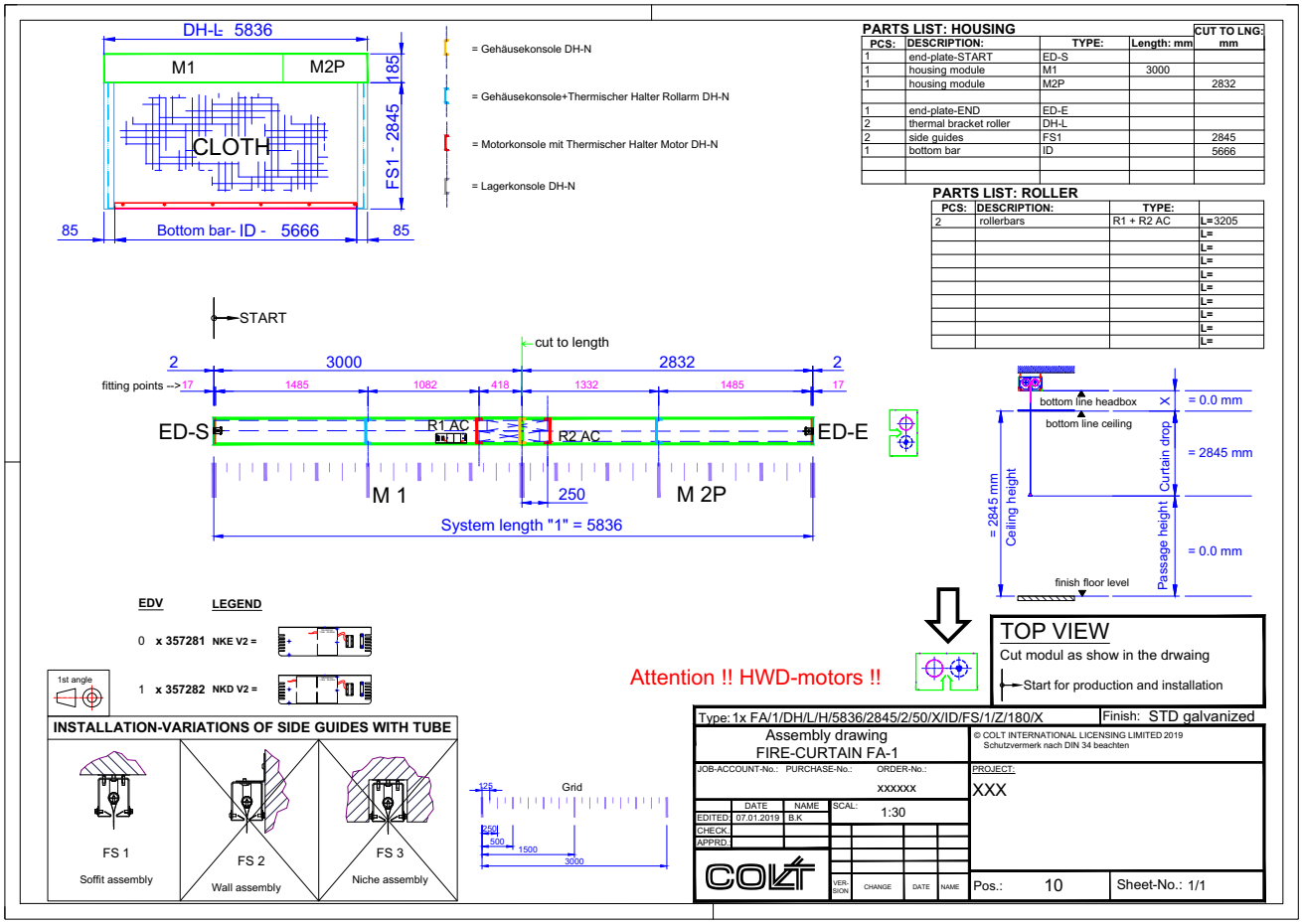
Figure 10.3: Drywall 3, side view Y



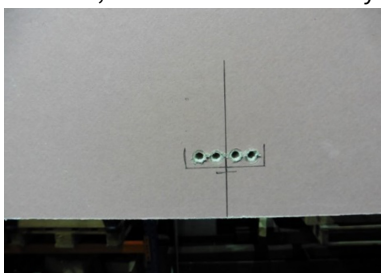
- For each fixing point, a steel fixing strip of 290 x 30 x 6 mm is required, which has pre-drilled holes with an M8 internal thread (the length is according to the type of headbox used. In this example, 290 mm, i.e. size of the headbox - 10 mm)

- Determine the position of the holes in the gypsum wall based on the drawing provided by Colt (see the ZBZ assembly drawing accompanying the order). On this ZBZ assembly drawing you can see the position named "Fitting points".
- Check if the curtain is the right size for the opening, that is to say if the size of the curtain fits into the wall opening with a total clearance of 30 mm.
- At the beginning, add the additional 15 mm for the insulation and mark the point from the ZBZ assembly drawing on the gypsum wall. Leave 15mm at the end of the headbox.
- In this example, 6 points should now be marked on the gypsum wall where the fitting points should be located (see also figure“Drywall 4 (ZBZ assembly drawing from the factory)” on page 53)

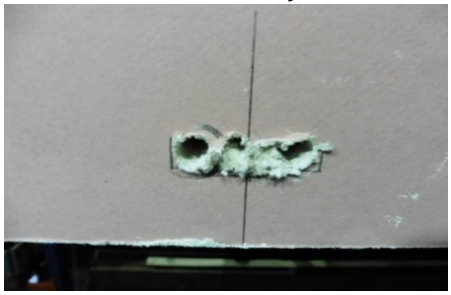
Figure 10.4: Drywall 4 (ZBZ assembly drawing from the factory)



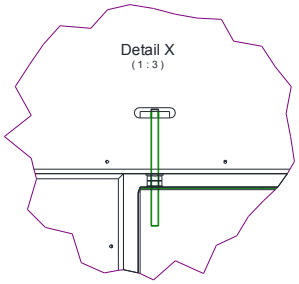
- Based on the information about the wall, for example layers of gypsum, the height at which the gypsum wall must be drilled can be determined, so that the 290 x 30 x 6 mm steel fastening strips can be inserted into the wall, as shown in Figure 3.
- The steel fastening strips measuring 290 x 30 x 6 mm must later lie flush at the bottom of the horizontal profile. In addition, one must work carefully so that the strips are aligned exactly with the headbox.



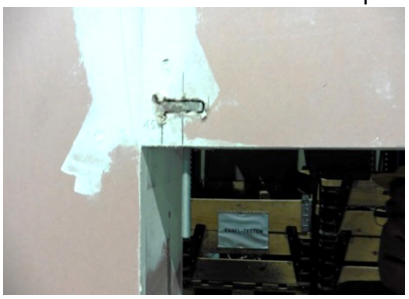
- Mark the exact location of the strips and drill the holes. It can be difficult to drill the holes in the steel structure in a line. We recommend that you use smaller drills first.



- The first step is to use a smaller drill bit. Then drill with a larger one (Ø 10 mm). Moving the drill from one side to the other ensures there will be sufficient space for the strips. Drilling into the gypsum wall first and then expanding the opening provides a better view of the steel structure and allows you to work more accurately while drilling.



- Clean the hole and insert the strip.



- Make sure it is in the middle of the drywall, so that the screws are easier to insert into the internal threads from the bottom of the wall opening. You can now imagine the importance of precise preparatory work. It saves a lot of time later.
- When all fitting points have been made as described, the next step is to mark the attachment points of the headbox at the bottom of the gypsum opening.
- These holes must also be drilled through the plaster layers and the posts using a 10 mm drill bit.
- If all this is done correctly, the headboxes can be installed as shown in Figure 2 and as further described in this document.
- Insert both rods.

- Lift the headbox and insert the threaded rods into the installation holes of the headbox. Secure the headbox to the rods by turning the flange nuts (2 to 3 turns). Then turn the flange nuts until the gap between the headbox and the wall is approximately 50 mm.

- Stick the prepared Sonorock rockwool into the gap along the full length of the curtain.

- Raise the headbox by tightening flange nuts.

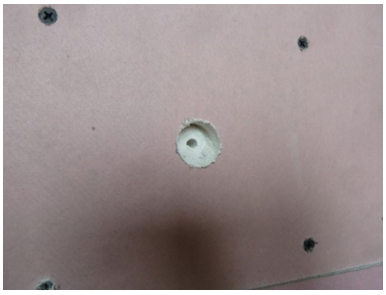
- The rockwool should be compressed to 15 mm.

- Check that the headbox is level in both directions.

For the side guides, the installation in plaster is explained here, but only for making an attachment to the gypsum wall. All other details are identical to the method described in Chapter 9.

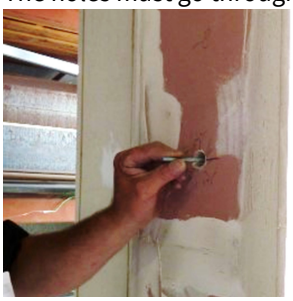
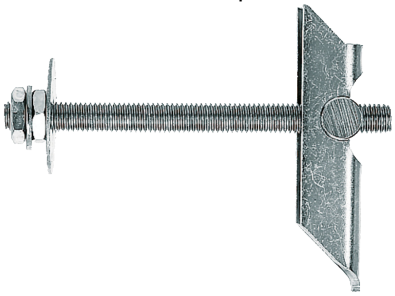
- Fix the side guides to the gypsum wall.
- When the headbox has been installed, you can connect the base profile of the side guide to the headbox.
- This will allow you to see directly where the fixing points for the side guides are located.
- You just have to mark the middle points for drilling the holes into the plaster.
- After marking the drill holes, remove the base profile.

- Using a 26mm drill, drill holes at the marks prepared according to the holes indicated on the side guide.

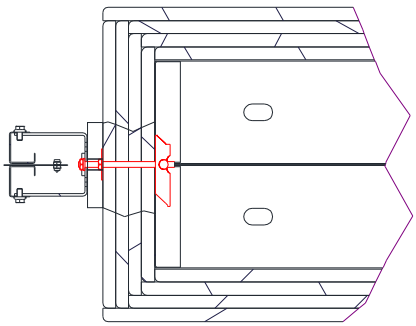



- Due to the wall thickness, the holes should not be drilled all at once. It is better to drill them in several steps and to clean the drill between the drilling operations.

- The holes must go through the plaster as well as the steel posts.

- Insert the toggle bolt for the M6 metal posts (Fischer KD 6) and make sure that the moving part is firmly fixed to the post at the right place.

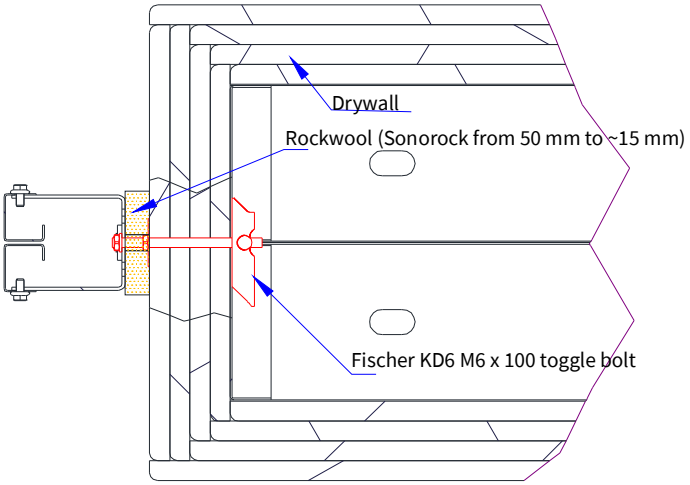
- Fasten the toggle bolt.

- Repeat the procedure for all the installation points of the side guides.

- Install the side guides and sonorock rockwool exactly as with the headboxes.

- Tighten the nuts until the rockwool is compressed to about 15 mm.

Figure 10.5: Drywall 5



- This is how the attachment should look like when properly installed.
- As described in chapter "9 Installation instructions", carry on with the fixing.

11 Commissioning

During commissioning pay attention to all safety warnings.

If there is a long period between the delivery and commissioning of an automatic curtain, it is necessary to carry out a basic inspection and perhaps also a maintenance procedure before commissioning. With regards to service and maintenance, please read the associated chapters of this manual.

This also applies to those situations where units have been taken out of service for a long time and then need to be put back into service.

11.1 Commissioning

For commissioning, the electrical wiring must be complete.

The curtains should be unrolled, or else one should check if the curtain is mechanically locked, as the result of there being no mains power available. Before proceeding any further, the curtain must be unlocked.

⚠ Warning!	**Danger through live parts**
	▸ Danger of electrocution and death. ▸ Installation and assembly of electrical components must only be carried out by professionally qualified personnel.

Isolate the main switch at the control panel.

- Inspect and check if the curtain can freely move.
- When switching on the voltage at the control panel, there must be no obstacles in the area of the curtain.
- Switch on the power at the control panel.
- The curtain should now move up to its rest position and stop there.
- Activate the UPS by pressing its on button.

Functional check

- Carry out reference run of the entire system (bridging the contact of the fire alarm system).
- Ensure that there is a sufficient safety distance from building parts (walls, supports, etc.).
- As soon as the curtain has fully risen, the G or H motor will switch to its holding current after about 10 seconds. The unit is now in its up (rest) position. When a D motor is used, it shuts off when it reaches its final position.
- Check if the bottom bar fits correctly and is flush with the headbox or with the suspended ceiling. If necessary, readjust.
- Move the curtain down to its operating position. As soon as the curtain has reached its operating position (dropped down), check that the curtain moves to the required final position and closes off the area.
  - G motors should allow dropping of the curtain down to its operating position if the power is interrupted.
  - D motors are needed to drive the curtain electrically down to its operating position.
- Check again if the bottom bar is providing proper closure and is completely in its final position. If necessary, readjust.

Check the "fail-safe" function

- Isolate the power supply. Within 4 seconds, there is an acoustic signal from the UPS system, and power is now supplied by the UPS.
- Isolate the electric supply at the UPS by switching it off.
- The curtain immediately drops without needing power if it has a G-type motor.
  - With a D-type motor, the curtain will stop moving at that moment, because a D-type motor can only be driven via the UPS to achieve this process. For D-type motors, the "fail-safe" function must be tested with the UPS.
- Perform another visual inspection of the entire system.
- Restore power supply and switch on the UPS.
- The curtain rises again.

Connect the fire alarm system together with a specialist for that system

⚠ Warning!

Danger through live parts

- Danger of electrocution and death.
- Installation and assembly of electrical components must only be carried out by professionally qualified personnel.

- Isolate the control system from the main power supply.
- Make sure that the UPS is completely disconnected from the control system. Alternatively, ensure that no voltage is being supplied to the control system.
- Remove the bridge of the fire alarm system and reconnect the fire alarm system together with a specialist.
- Check the fire alarm system functions are OK. Carry out a reference run of the entire system (with original connection of the fire alarm system) and check the position of the bottom bar in its rest (up) and operating (down) positions.
- Carry out introduction and commissioning of the entire unit and record everything in the logbook.

NOTE

- Detailed controls connections and possible settings can be found in the IOM of the installed control panel.

12 Operation

Pay attention to all safety warnings when operating the curtain.

Automatic curtains are controlled in accordance with the Controls Instructions which are provided with the control panel.

13 Inspection, maintenance and repair

⚠ Warning! **Danger through live parts**

- Danger of electrocution and death.
- Installation and assembly of electrical components must only be carried out by professionally qualified personnel.

13.1 Inspection

During inspection pay attention to all safety warnings.

The inspection must be carried out regularly at least every 12 months together with a service. This should include the following:

- Check the manual controls on the control panel. Make sure that the controls displays reflect the actual operating status of the system.
- Heat / Smoke detectors
- Check that controls and release mechanisms are working properly. The curtain must be able to move freely.
- Openings must be free and should not be allowed to become dirty. All components must be complete.
- Make sure that power supply is available.
- Check the cloth for damage.

Where necessary, carry out repairs to avoid any further damage and possible danger.

13.2 Maintenance

During maintenance pay attention to all safety warnings.

When necessary switch the controls into automatic mode for the smoke control function.

The following steps must be performed regularly at least every 12 months:

If the curtain is in a particularly dirty or dusty area, maintenance intervals should be reduced.

- The motors have been treated with a special permanent lubrication and are low in maintenance.
- Check that the complete curtain functions correctly. This is achieved by:
  - Changing the control positions on the control panel
  - Activating the curtain (making it move)
- Check that the curtain unrolls completely. Check the moving parts and, if necessary, remove any dirt (e.g. from the smoke detector).
- Check the power supply.
- Check the electrical signals from the sensors. Simulate faults such as wire cut, short circuits and power failure including alarms.

After performing these steps, restore the entire system into operational readiness.

Checklists should be used and the steps clearly documented in a log book.

13.3 Repairs

Pay attention to all safety warnings when operating the curtain.

Maintenance and repair work on automatic curtains may only be carried out by trained personnel.

Only use original equipment spare parts when making repairs.

If the smoke curtain does not roll down or roll up flawlessly, contact your Colt service department.

14 Decommissioning, disassembly and disposal

14.1 De-commissioning

During de-commissioning pay attention to all safety warnings.

Isolate power supplies first. Avoid switching on power unintentionally.

⚠ Warning! **Danger through live parts**

- Danger of electrocution and death. Before working on electrical components, make sure that all power supplies are switched off. Such work may only ever be carried out by qualified personnel.

Observe safety measures on site while de-commissioning automatic curtains.

The decommissioning takes place in two steps:

1.) With electrically operated curtains, remove any emergency batteries.

2.) Remove all cables.

Store batteries suitably until they are disposed of.

14.2 Disassembly

During disassembly pay attention to all safety warnings.

⚠ Warning! **Danger through live parts**

- Before disassembly make sure that the de-commissioning has been completed.

The disassembly takes place in four steps:

1.) Remove side guides.

2.) Take out rollers.

3.) Demount the headbox from the ceiling area and place it in a suitable location.

4.) Transport away the dismantled parts with suitable lifting equipment.

14.3 Disposal

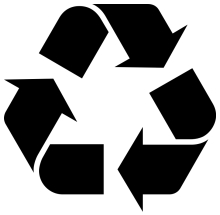
Those who are disposing automatic curtains should wear the appropriate protective gear. This also includes protective gloves and spectacles.

Dispose of primary energy sources in accordance with local regulations. Colt can do this for you.

Motors also need to be disposed of in accordance with local regulations.

The disposal of automatic curtains requires no special measures. The system is made of galvanized steel and the cloth is made of polyurethane-coated fibreglass fabric, so no special requirements have to be met.

The materials used can be recycled.



15 Service and Guarantee

Please contact your local Colt office.
Please go to:
www.coltgroup.com

www.coltgroup.com

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