

Instruction Manual

Fire PROtec

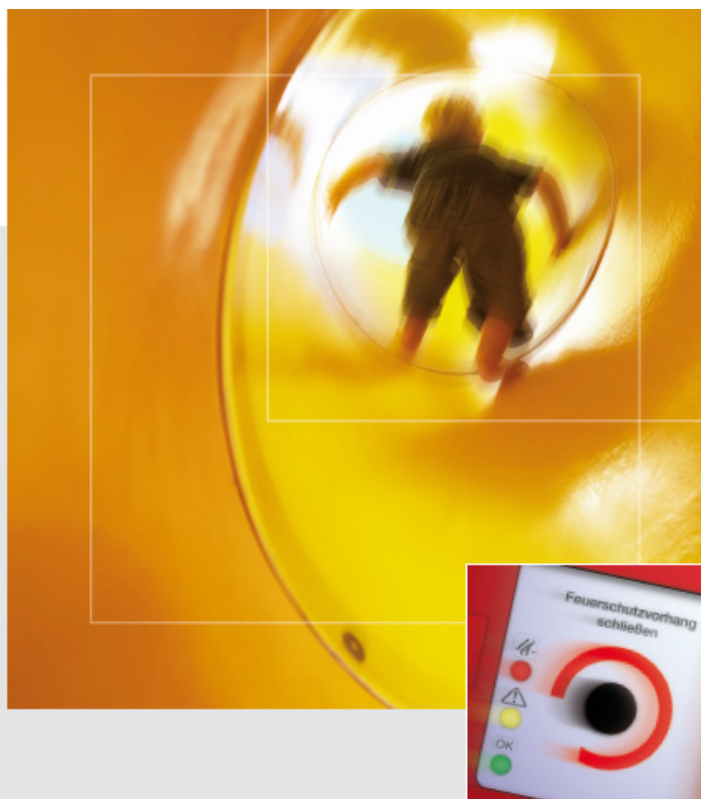


BA_FSV_EN_12

Instruction manual for automatic textile Fire curtains.

Valid for following item numbers:

- FSV 53011
- FSV 53021
- FSV 53031
- FSV 53041



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**Safely Prevent Fires
from Spreading**

Fire PROtec® - Fire Curtains

Table of contents

1. Table of contents	2
2. General	4
2.1 Forward to this manual	4
2.2 Description of product	4
2.3 Intended Use	4
2.4 Technical data	5
2.4.1 Fire curtain	5
3. Safety regulations	5
3.1 Variants	6
4. Figures	7
5. Installation	9
5.1 Installation variants	10
5.1.1 Fixing to the ceiling	10
5.1.2 Fixing to the wall	10
5.2 Install head box	10
5.2.1 Installation of "single-piece" head box	11
5.2.2 Installation of "two-piece" head box	11
5.3 Installing roller assembly	13
5.4 Complete the installation	14
5.5 Install side guides	18
5.6 Installing suspended ceiling stop unit (optional)	22
6. Start up	22
6.1 Attach installation retainer	22
7. Care and maintenance	23
7.1 Functional check	23
7.2 Maintenance	23
7.3 Clean curtain material	23
7.4 Repair and exchange	23
7.5 Warranty conditions	23
7.6 Maintenance check list	24
8. Appendix	25

Table of contents

8.1 Declarations	25
8.1.1 EC Manufacturer's declaration	25
8.1.2 Declaration of conformity	25
8.2 Company addresses	25
8.2.1 Germany:	25
8.2.2 Austria:	25
8.2.3 Switzerland:	25
8.2.4 Hungary	25
8.3 Notes	26

General

2. General

2.1 Forward to this manual

This manual has been created for the purposes of proper operation, installation and maintenance by trained, experienced specialist personnel (e.g. electrician) and/or specialist personnel with knowledge involving the installation of electrical devices.

Read the instruction manual carefully and follow the prescribed sequence. Retain the operating manual for later use/maintenance. Please precisely observe the pin assignment, the minimum and maximum performance data (see „Technical data“) and the installation instructions. Incorrect usage or improper operation/assembly can cause the loss of system functions and result in damage to property and/or persons.

You will find the following symbols in this manual:



INFORMATION

This information provides you with additional tips!



ATTENTION

A warning draws your attention to potential dangers for the product.



DANGER

This warning draws your attention to possible risks to your life or health!



ENVIRONMENTAL WARNING

A warning draws your attention to potential dangers for the environment!

- This is how operating procedures are identified.
- ↘ Consequences are represented this way.
- *Buttons* or *switches* to be activated are indicated in italics.
- "Displays" are placed in quotation marks.

2.2 Description of product

The Fire curtain consists of a high-grade textile glass fabric, which is rolled up in a compact head box and normally not visible. The fire curtains work basically according to the "fail-safe" principle, i.e. in case of failure

of all energy sources, in case of fault or disconnection, the curtain descends in a controlled manner within maximum 60 seconds into the fire alarm position.

Thus the system fulfils highest safety requirements. The weights brought in the bottom bar provide the necessary energy for unwinding by gravitational force. The winding up takes place via a 24 V DC tubular motor. An external electronic system ensures a controlled winding up and down till the relevant end positions. This technology conforms to the highest security level according to DIN EN 4102-18 and EN 12605 respectively.

The Fire curtain Fire PROtec[®] is classified (according to DIN EN 13501-2) as:

E90-C2 and EW 20-C2.

The assembly is provided for load-bearing and not load-bearing walls of brick work, light concrete, solid concrete or cement blocks with a gross density of 1200 kg/m³ ± 400 kg/m³. The wall thickness has to be minimum 240 mm and their fire rating minimum 90 minutes. Other kinds of assemblies have to be synchronised with the responsible building authority.



Pay attention to the installation and usage manual of the control device.

2.3 Intended Use

Fire curtains are used for sealing of openings in inside walls.

Safety regulations

2.4 Technical data

2.4.1 Fire curtain

Table 1: technical data fire curtain

Fabric	One-sided PU-coated glass fabric, 660 g/m ² , color grey, Non –flammable according to DIN 4102-1, A2
Unwind	By force of gravity (gravity fail safe)
Windup	24 V DC motor, integrated into the winding shaft, including 2 m connection cable.
Installation	Ceiling, wall, vertical unwinding
System dimensions	System width ≤ 5960 mm Unwinding length ≤ 6000 mm Proved in real fire test: up to system dimensions 4800 x 3700 mm. Experts reports for bigger system dimensions are available.
Head box	Sheet steel 1.0 mm powder-coated in RAL 7035 ¹
End section	Sheet steel 1.0 mm powder-coated in RAL 7035 ¹ with integrated unwind weights in fabric bag
Classification/Standardization	DIN EN 13501-2/DIN EN 1634-1; DIN 4102-5; DIN 4102-18; DIN EN 12605
Classification	E90-C2 EW 20-C2 (entsprechend DIN EN 13501-2)
Side guides (SFS)	Steel 1.5 mm powder-coated in RAL 7035 ¹ , dimensions (W x D) 50 x 100 mm. In case of use of side guides the curtain material will be delivered with a restraint system. In this way, it prevents the curtain material being pulled out sideways from the tracks in case of deflection by pressurization (e.g. excess pressure by fire):

1. Special color upon request.

3. Safety regulations



DANGER

The VDE 0833 for hazard alarm system, VDE 100 for electrical systems, DIN 18232 for RWA systems, the regulations of the local fire service, the EVU (power company) for the power supply line as well as BGV A3 (Regulation for the Prevention of Industrial Accidents, "Electrical Systems and Equipment") and BG Rule BGR 232 (Directive for Power-driven Windows, Doors and Gates) are to be considered



DANGER

Power supplies and electrical control devices of fire protection systems must be easily accessible.



DANGER

On both sides of the fire curtain you must attach visible signs that the sealing area of the fire curtain has to be kept clear all the time of materials which can obstruct the roll-down.



DANGER

An once started roll-down is only allowed to be stopped for the human safety. The roll-down has to continue by itself after clearing the sealing area. Other requirements of other rules kept inviolate according to the industrial safety and work protection rules.

Safety regulations

3.1 Variants

Figure 1: Fire curtain - box system "single piece"

Box length: 1000 mm up to 2980 mm

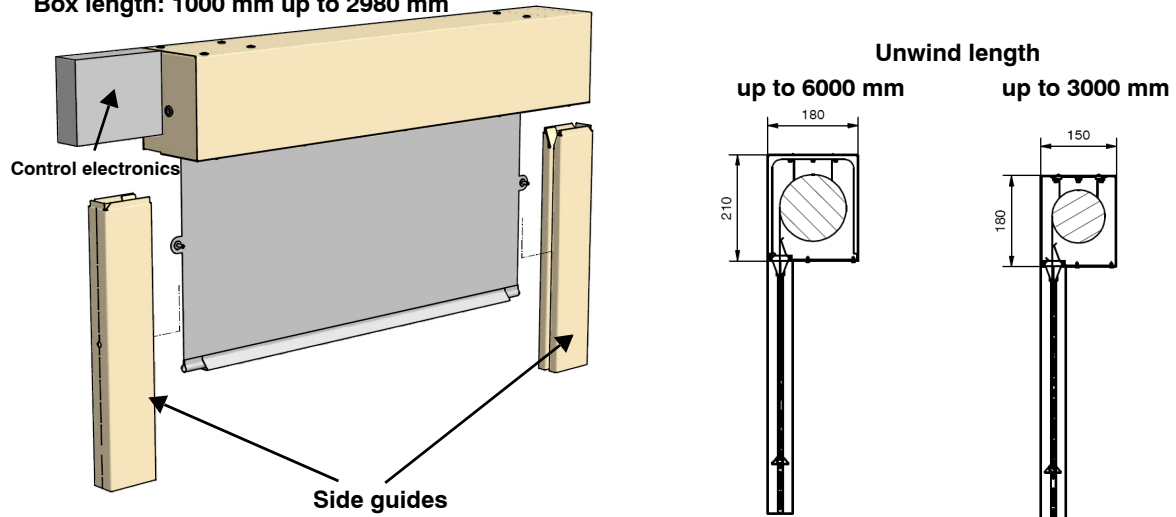
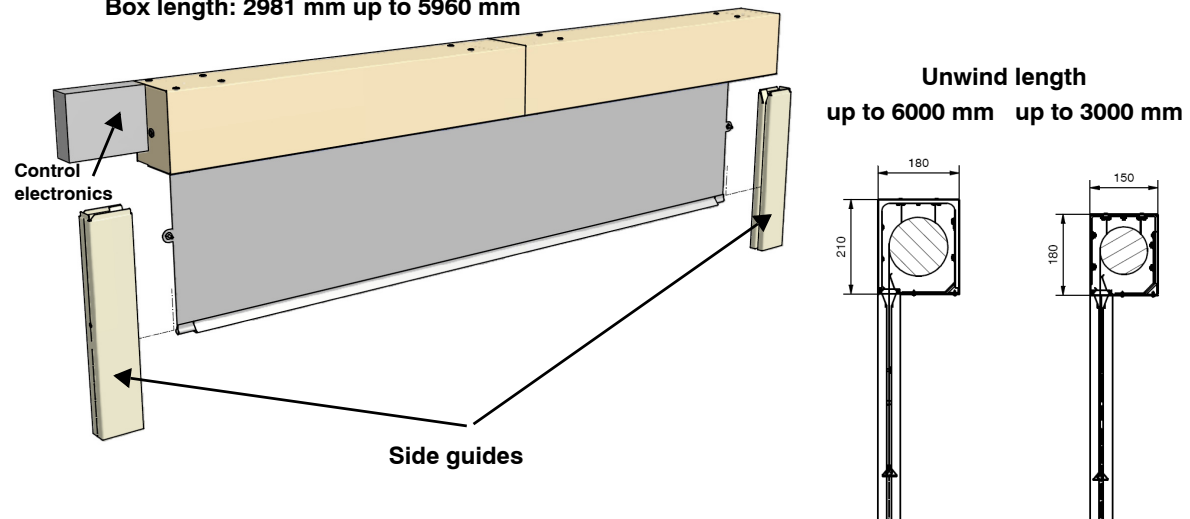


Figure 2: Fire curtain - box system "two-piece"

Box length: 2981 mm up to 5960 mm



Figures

4. Figures

Figure 3: *Box system "single piece"*

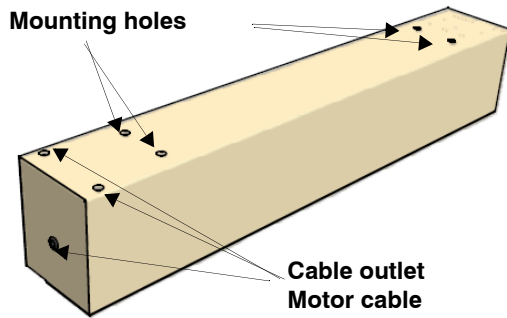


Figure 6: Reinforce angle

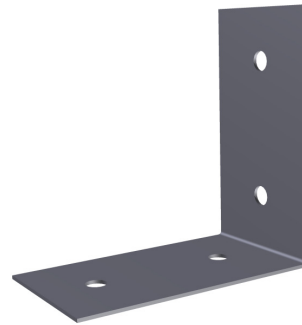


Figure 4: head box "two-piece", to the right

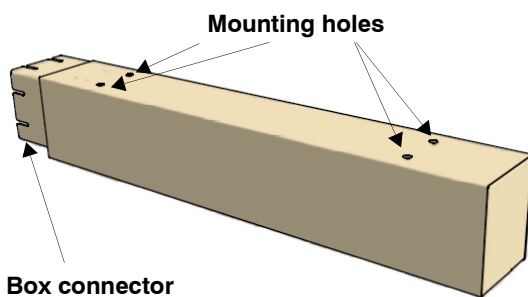


Figure 7: Protection tube

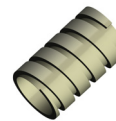


Figure 5: head box "two-piece", to the left

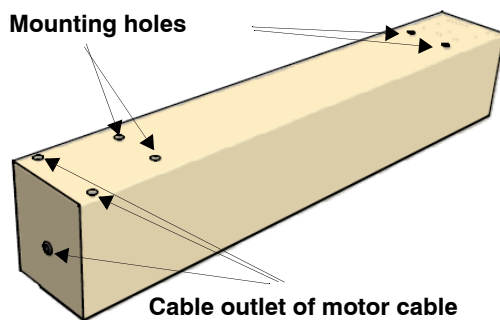
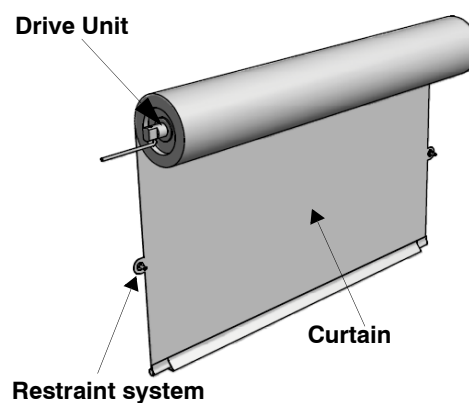


Figure 8: roller assembly



Figures

Figure 9: support bracket

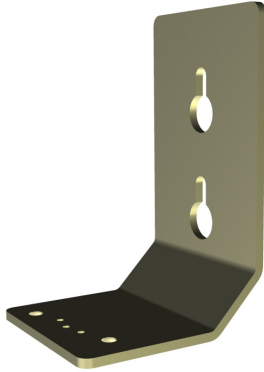


Figure 10: Middle support bracket

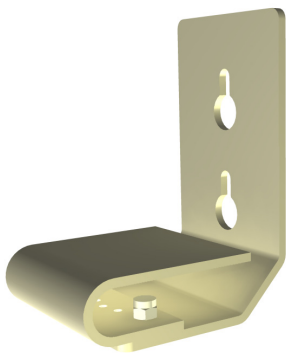
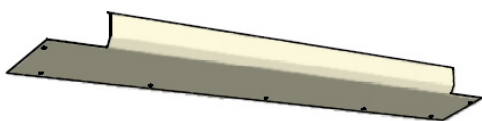
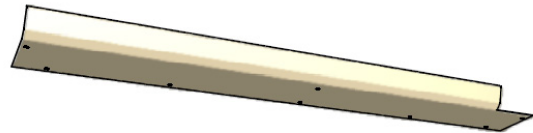


Figure 11: cover plate



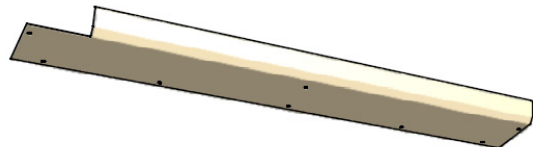
(only at head box „single-piece“)

Figure 12: cover plate on the right



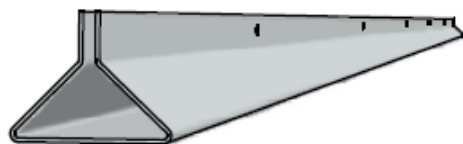
(only at head box „two-piece“)

Figure 13: cover plate on the left



(only at head box „two-piece“)

Figure 14: bottom bar



Installation

Figure 15: installation retainer



Figure 16: side guides (2 pieces)

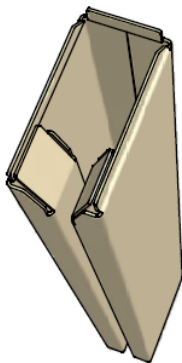
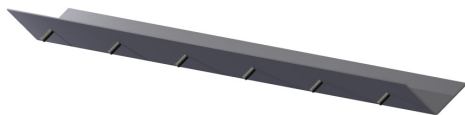


Figure 17: fixing bracket for side guides



5. Installation



DANGER

The installation may be carried out only by competent personnel (qualified electrician according to DIN VDE 1000-10 or BGV A3.)

In case an installation has not been done properly there is a danger of an electrical shock. Comply with the applicable safety regulations at all costs.



ATTENTION

The installation of the smoke curtains requires technical knowledge and adequate care in dealing with movable as well as electronic components by assembly personnel. Depending on installation situation and design the installation steps can differ from one another. In case of doubt you should fall back on the experience of a mechanic of the Simon RWA System GmbH or a qualified dealer authorized and trained by the manufacturer.

Please make sure that the fixings and the structure has the same fire rating as the fire curtain.

The fixing of the head box can take place in different ways (see 5.1 "Installation variants" on page 10).



ATTENTION

Delivery doesn't contain any fixings. The distance of the fixing points must not be changed.

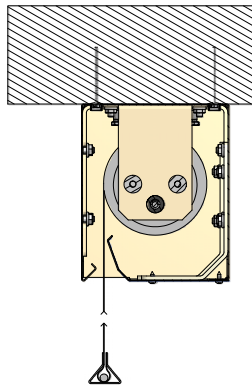
The fixing material is allowed to extend only maximum 15 mm into the head box. Otherwise the material of the smoke curtain comes into contact during wind-up or unwinding process and damaged for this reason.

Installation

5.1 Installation variants

5.1.1 Fixing to the ceiling

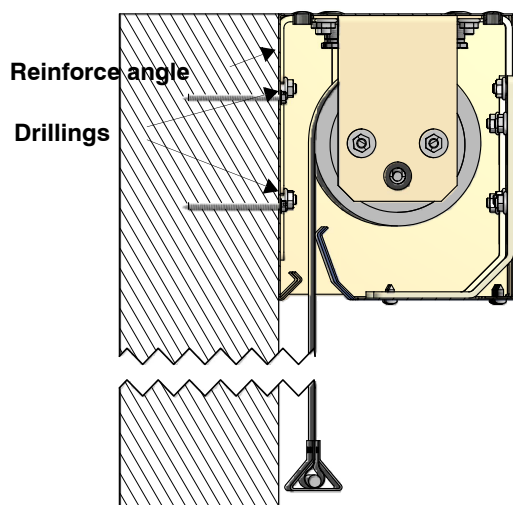
Figure 18: direct fixing to the ceiling



- Holes are provided on the upper side of the head box for direct fixing to a ceiling.

5.1.2 Fixing to the wall

Figure 19: fixing directly to the wall



- For this purpose appropriate holes are to be drilled into the head box. Please make sure that the drillings are at the same position as the reinforce angles. Number and distance of the drillings must correspond to the top drillings.
- The holes on the upper side must be closed in a proper way.

5.2 Install head box

The head box is installed without roller assembly for now. Depending on the design (single piece or two-piece) this can consist of several parts. Box connector, support bracket and associated screws are enclosed with the Fire curtain.

- Check the labels of the individual parts and if necessary the label of the connecting part.



ATTENTION

The making of the fixing holes in the supporting structure must be carried out with greatest caution as otherwise a proper functioning of the curtain is not ensured.

The complete box system must be mounted horizontally and in an alignment. Crookedly mounted boxes or box parts lead to faults and damages to the curtain material!

- Remove the covering caps of the mounting holes
- Mark the drill holes.
- Make the drilling holes.



ATTENTION

Use only fixing material or fixing aids which comply with the regulations. Do not use any impact anchor made of unsuitable materials (e.g. synthetic).

- Attach the fixing material.



ATTENTION

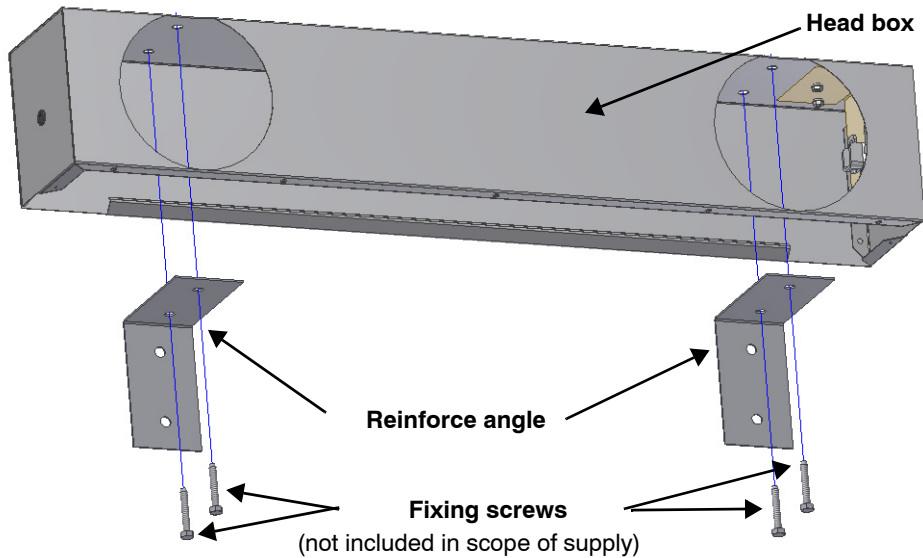
Please remember that the head box is not symmetrical in the cross-section. That means that the curtain material unwinds one side of the head box. The other side is covered with the cover plate from the bottom up. Likewise the outlet port of the connecting cable from the head box is determined from this alignment of the head box. The head box is to be aligned correctly in accordance with these conditions.

- Install the head box with the help of the fixtures provided.

Installation

5.2.1 Installation of "single-piece" head box

Figure 20:



5.2.2 Installation of "two-piece" head box



ATTENTION

The self-locking nuts must be tightened with a torque of 4 Nm. In case of too high torques the welded studs can come off.¹

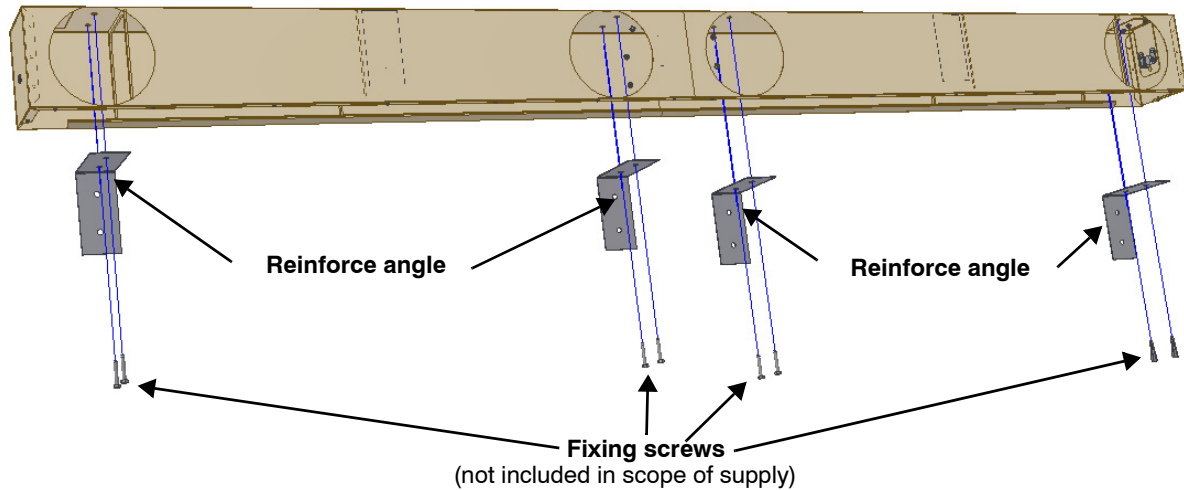
1. Should a welded stud come off at the time of Installation, this can be replaced by a pin contained in the repair kit. (The repair kit is enclosed with the box system)

All individual parts and joints are marked. The individual parts must then be joined together as marked. Optionally the head box can be mounted on the ceiling as complete unit or separately.

- Fit together both head boxes according to the marking.
- Screw them together with one another.
- Mount the complete head box on the ceiling (at least two persons).

Installation

Figure 21: installation of “two-piece” head box (complete)

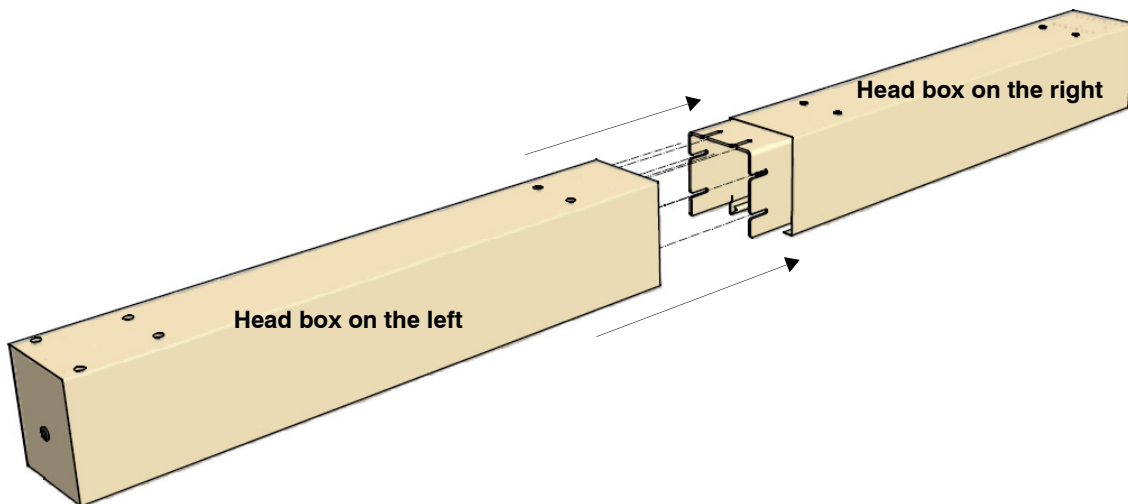


Should the head box be mounted separately on the ceiling, in that case one must start with the side where the box connector is located. (head box to the right)

- Install the right head box on the ceiling.

- Push together the left head box according to the marking and attach it to the ceiling and screw these together with one another.

Figure 22: installation of “two-piece” box system separately



- Align the head boxes horizontally and flush and attach these.

Installation



ATTENTION

Complete the installation of the box system with a check on horizontal and aligned complete installation.

Use the same procedure for the mounting on the wall, as already described (see "Fixing to the ceiling" up to 10).

5.3 Installing roller assembly



ATTENTION

The fire curtain may be operated only connected with the control panel / control unit even during the installation, since otherwise the drive unit may be destroyed.

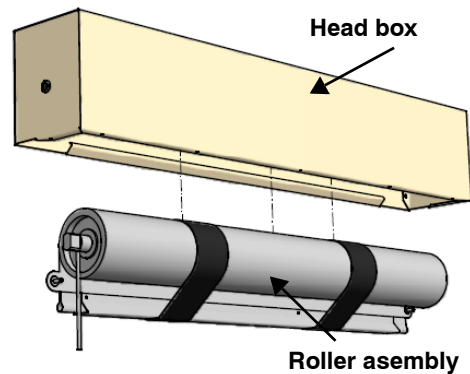


DANGER

The unwind protection (adhesive tape) of the roller assembly must be in place. Only after connection of the control panel / control unit to the mains voltage may the unwind protection be removed. In case of non-observance, the curtain unwinds in an uncontrolled manner and the electronic components are destroyed.

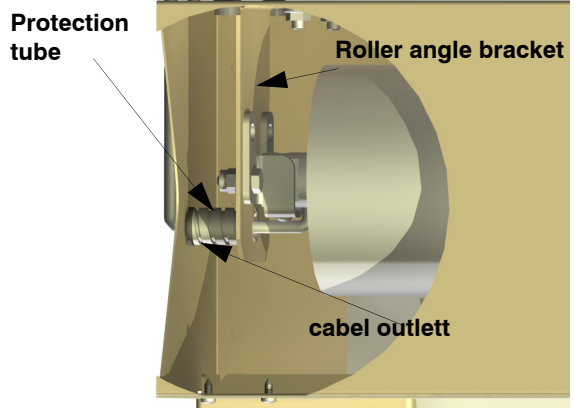
- Insert roller assembly into the head box with the help of a second person (or suitable lifting devices).

Figure 23:



- Remove cable ties of the connecting cable.
- Place the Protection tube between roller angle bracket and housing box.
- Run the cable through the hole of the roller angle bracket, the tube protector, the headbox outside.

Figure 24: Cable routing



ATTENTION

Please make sure that there is no loop in the cable. This could cause problems with the retaining mechanism.

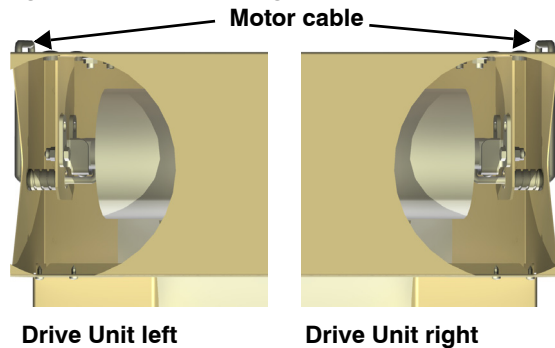


INFO

For bigger curtains two motors are required.

Installation

Figure 25: Cable routing at two Drive Units



5.4 Complete the installation

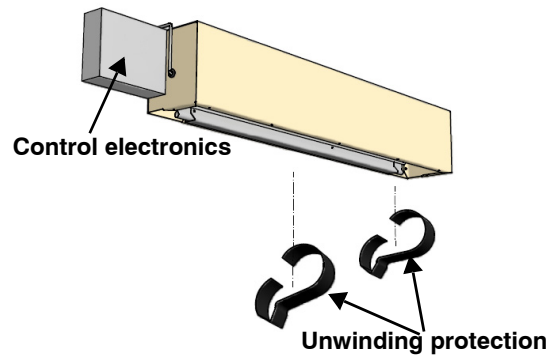


DANGER

Before you remove the installation retainer of the roller assembly the control panel / control unit must be connected and provided with mains voltage or the curtain must be secured against inadvertent unwinding.

- Remove the installation retainer of the roller assembly and allow the curtain to unwind slightly.

Figure 26: removing of unwinding protection



ATTENTION

If the system has two motors it is not allowed to run the cable inside the headbox. Run the cables out of the headbox as described and connect direct to the control panel / control unit.



INFO

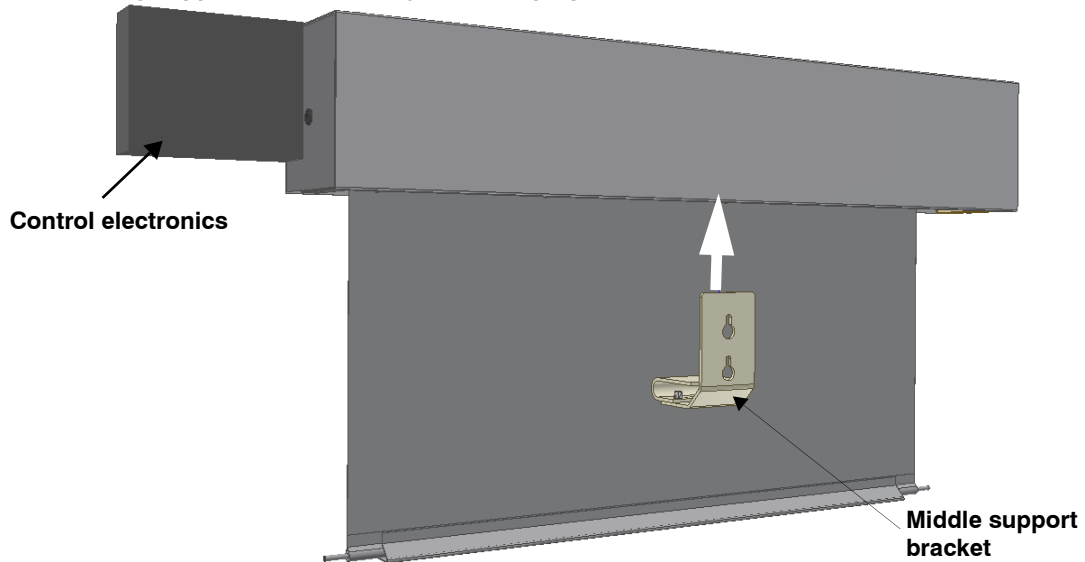
If the system Fire PROtec® is used in the industrial area or in areas with greater interference sources (e.g. large crane installations) there can be cable-related electrical interferences in spite of all in-built protective devices. These interferences of the distribution network via the mains cable cause possibly faulty activations of the system.

- Install the control panel / control unit according to the installation manual

- Mount the middle support bracket according to the marking.

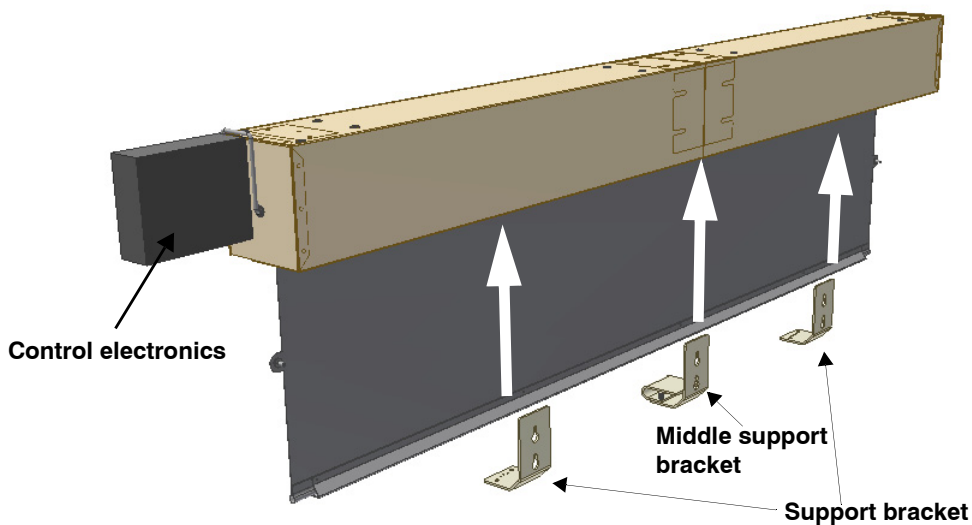
Installation

Figure 27: installing support bracket-box system „single piece“



- In box system "two-piece" now the support bracket must be mounted according to the marking.

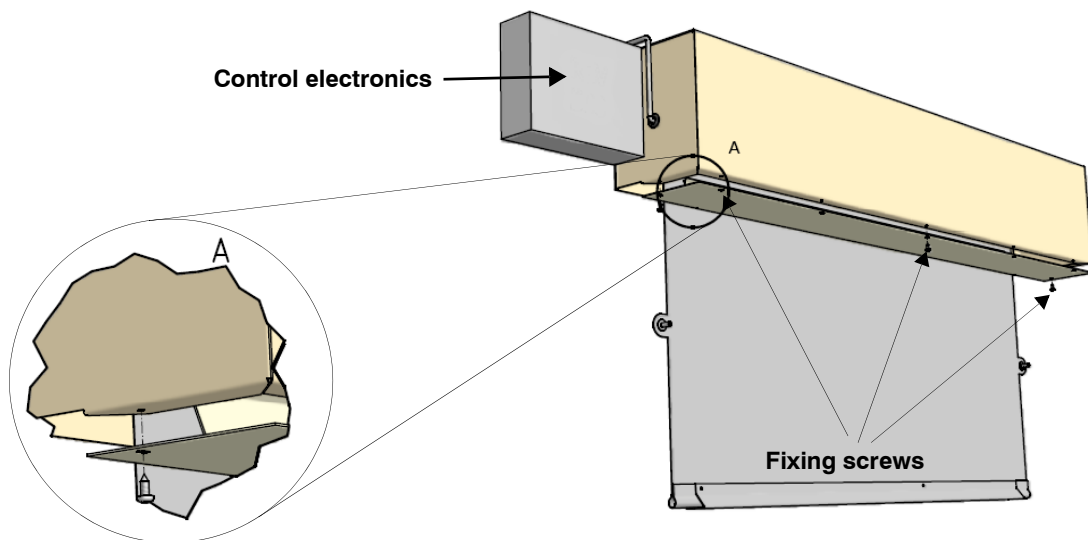
Figure 28: installing support bracket-box system „two pieces“



- After you have adjusted the support bracket tighten up the self-locking nuts with serrated bearing with the torque of 4 Nm.
- Attach the cover plate. The curtain must project out of the opening. Fix first of all the outer screws and the middle screw and finally the screws at the support brackets (Do not tighten as yet).

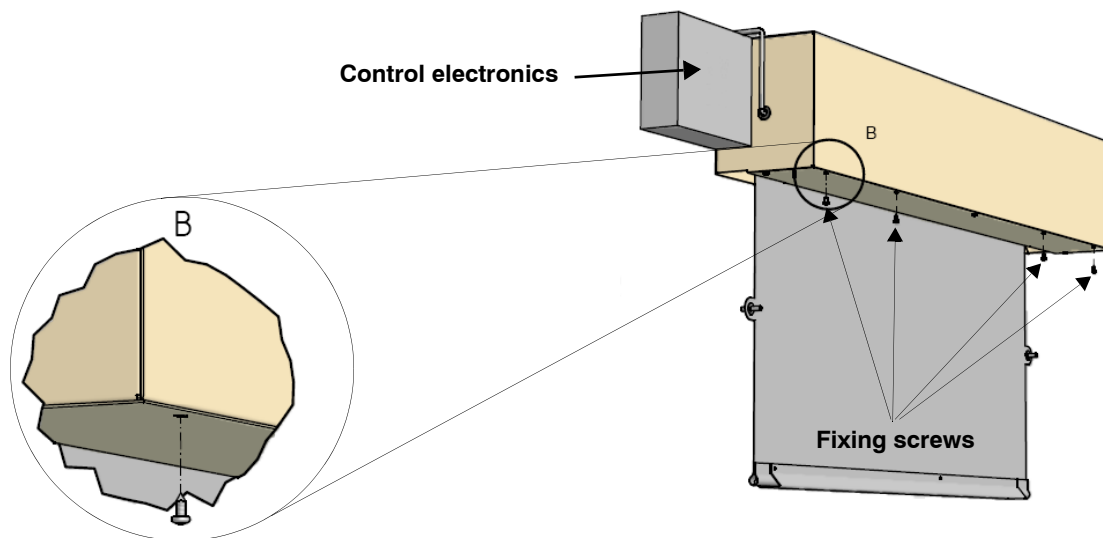
Installation

Figure 29: fix cover plat



- Fix the remaining screws. Align the cover sheet and tighten the screws.

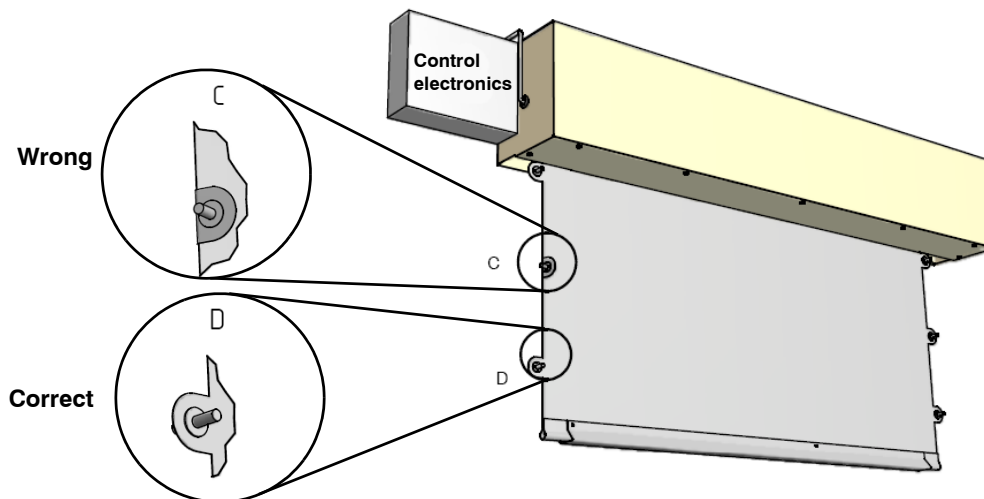
Figure 30: fix cover plate



Installation

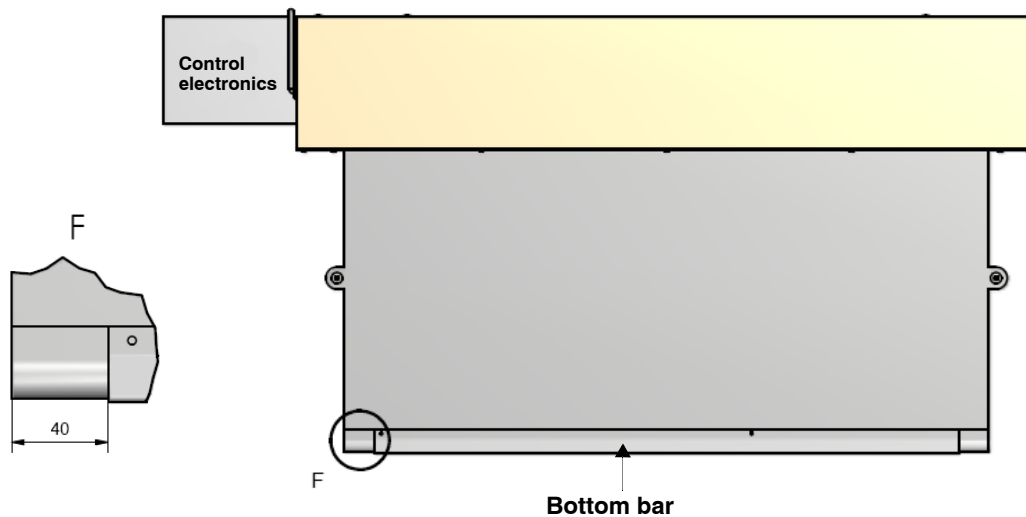
- Allow the curtain to unwind completely and align the plates.

Figure 31: align plates of the restraint system



- Align the bottom bar.

Figure 32: Align the bottom bar



Installation

5.5 Install side guides

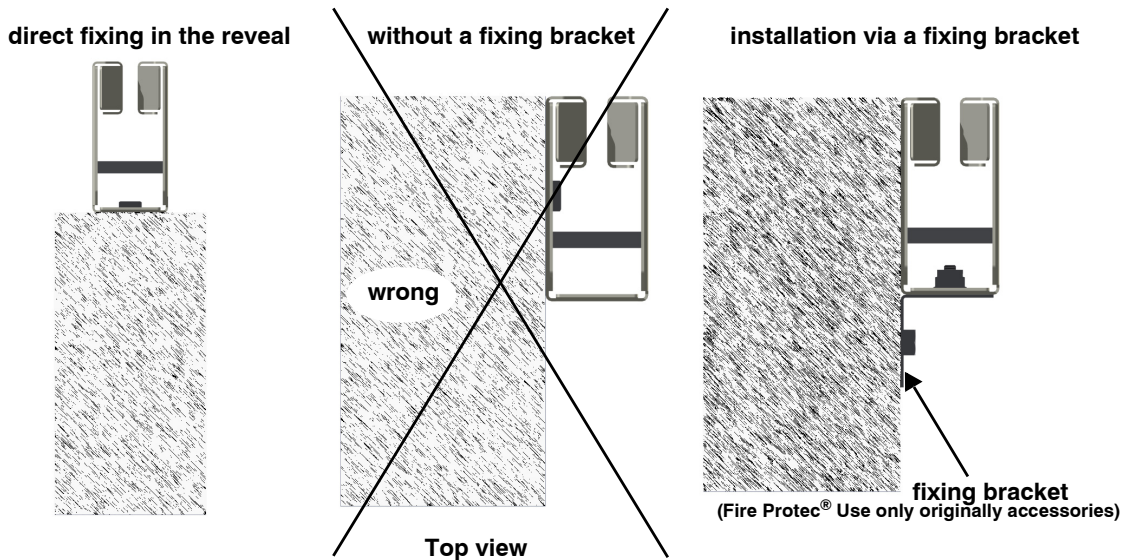
The fixing of the side guides can be done in various ways. For direct fixing in a reveal the existing slots on the back side of the side guides can be used. Likewise the installation can take place indirectly via an angle on a wall. For this optionally fixing bracket are screwed or welded to the side guides.



ATTENTION

It is not allowed to use fixing brackets by others!

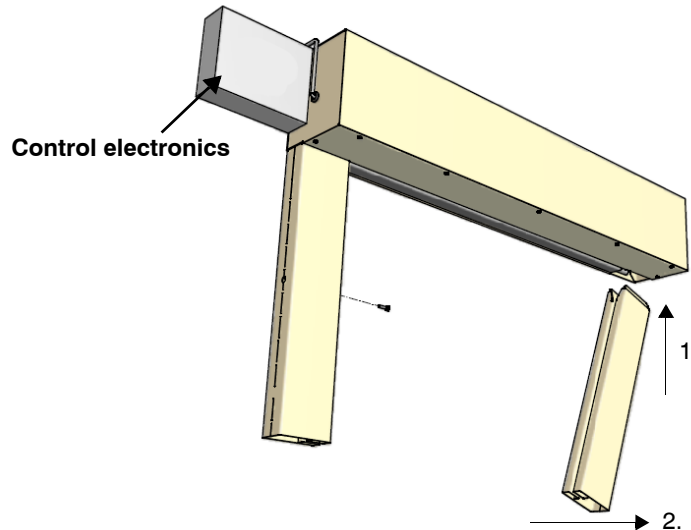
Figure 33: install side guides



- Allow the curtain to roll up fully and install the side guides by inserting the side guides into the head box and then aligning vertically.

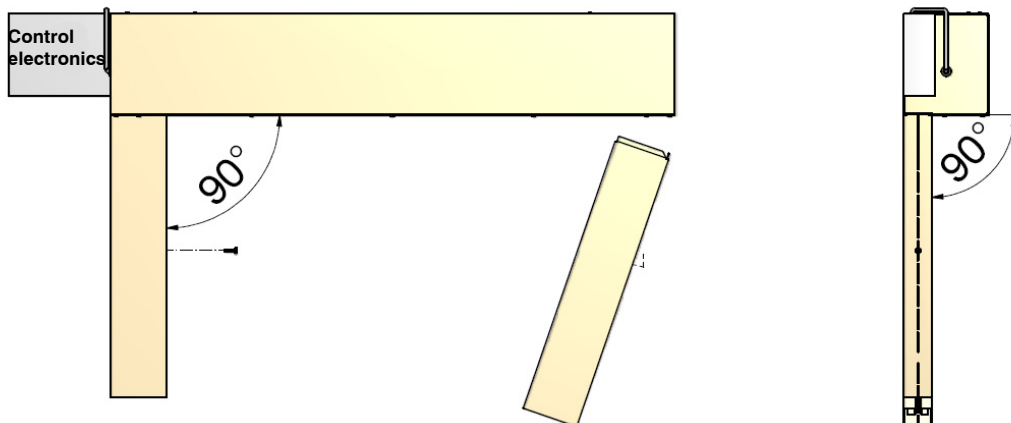
Installation

Figure 34: set side guides



- Align the side guides. The side guides must be lined up flush and at right angle with the edge of the head box and likewise flush and at right angle with the outer ends of the head box.

Figure 35: align side guides



Installation

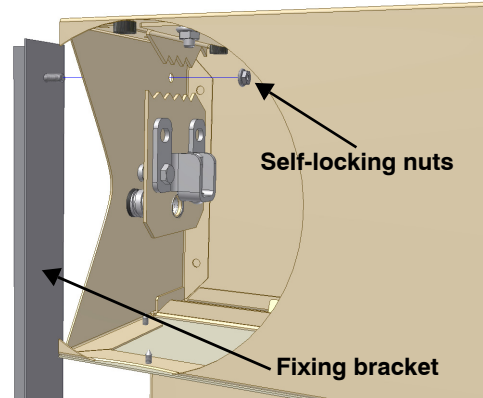
Figure 36: Fixing bracket



ATTENTION

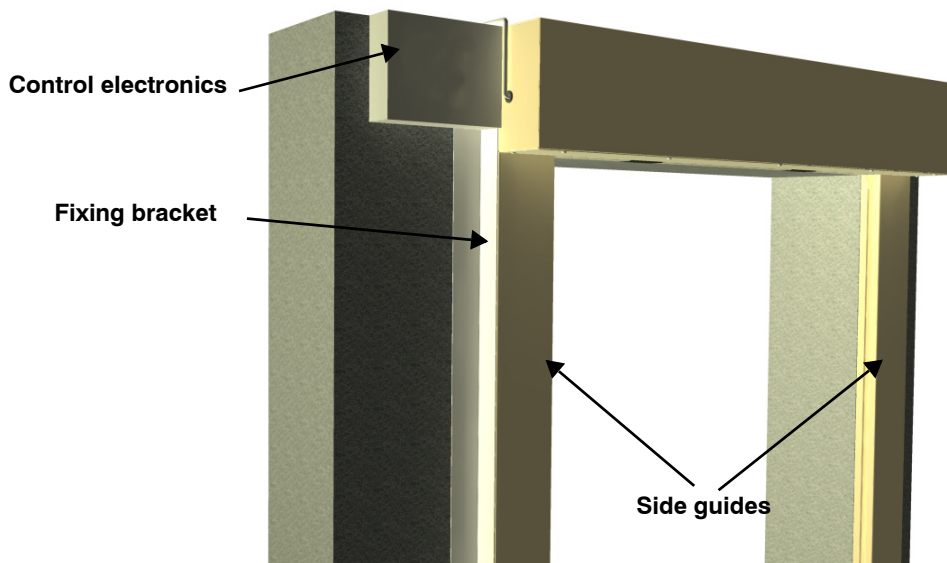
Please fix all screws in accordance to the number of drillings in the side guide.

- Mark the installation holes.
- Make the installation holes.
- Fix the side guides.



- Fixing angle (if part) to be connected to the headbox.

Figure 37: Fire curtain with fixing bracket



ATTENTION

After the installation of the side guides please check that these are aligned absolutely vertically and right angle to the head box. The plates of the restraint system on the curtain can otherwise come off.

Installation

- If necessary adjust the bottom bar again. The bottom bar should have the same distance to both side guides and lock up shortly with the housing box.
- The fixing of the bottom bar takes place at the already existing drill holes. (The curtain material must be perforated at this place).
- Fix the bottom bar with the therefore provided blind rivets (provided in the delivery contents) at the already existing holes. The rivets have to be placed into all existing holes.

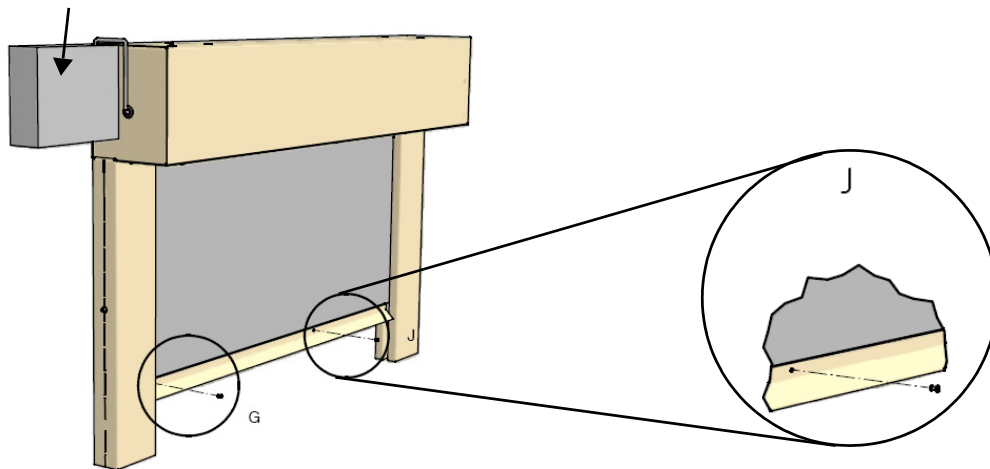


INFO

Please check before attaching the rivets that the bottom bar is lined up precisely with the head box

Figure 38: installing bottom bar

Control electronics



Start up

5.6 Installing suspended ceiling stop unit (optional)



INFO

If no suspended ceiling stop unit has been provided for your curtain system you can skip this point.

See Installation instructions of suspended ceiling stop unit.

6. Start up

- Start the initial operation (according to the installation manual of the control panel / control unit)

6.1 Attach installation retainer

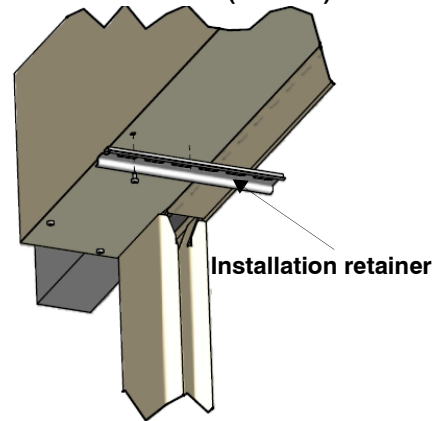


ATTENTION

Until the final putting into operation the curtain has to be secured by the installation retainer. Because the curtain unwinds automatically when power line is switched off, it could be damaged.

- Attach the enclosed installation retainer as shown.

Figure 40: installation retainer (schema)



ATTENTION

The installation retainer must be removed before the final putting into operation of the system.

Figure 39: installation retainer



Care and maintenance

7. Care and maintenance



ATTENTION

In the long run the protective effect of the fire curtain is only secured if it is kept correct state (e.g. no mechanical damage, no dirt, maintenance)

The fire curtain and if required the hold-on device must be kept workable all the time. It must be checked at least once a month in personal responsibility of the owner or his trained staff. The results must be noticed in a test book.

The test book must be stored by the owner and has to be shown when required by the building control authority.

7.1 Functional check

The functioning of the system must be checked regularly by the operator. In case of a possible defect the manufacturing company is to be notified immediately. Damaged parts are to be replaced immediately.

The functioning of the fire curtain should be checked monthly. For this purpose the following steps are necessary:

- Make sure that the unwind area is always free from obstructions.
- Let the curtain unwind via manual trigger button or service button.
- Carry out a visual inspection of the attachments and material.
- Let the curtain wind up again (via reset button of the manual trigger button or service button).
- Check if the curtain winds up properly and remains in this position.

7.2 Maintenance



DANGER

Fire protection equipments serve to protect human lives and must therefore be serviced regularly – at least once a year – by a specialist company authorized by the manufacturer.

The maintenance is done according to a maintenance check list specified by the manufacturer (see 7.6 "Maintenance check list" on page 24). (or download at www.simon-rwa.de).

The annual maintenance for defect free roll-down and working of the fire curtain in combination with the hold-on device must be done by a known special company. All the results has to be noticed in the test book as well.

The test book must be stored by the owner and has to be shown when required by the building control authority.

7.3 Clean curtain material



ATTENTION

The curtain material is washable with mild commercial disinfectant or warm water. The curtain material must not be soaked or washed by machine, since otherwise the backing fabric will be damaged and glass filaments can come off.

7.4 Repair and exchange

The electrical control panel / control unit may be repaired only by the manufacturer. In case of a failure the complete control panel is to be exchanged.

7.5 Warranty conditions

Concerning the warranty please refer to: "General Conditions for the supply of Products and Services of the Electrical and Electronics industry" (Green Terms of Delivery – GL)".

This is available to you on our web site www.simon-rwa.de. We shall be glad to send you a copy on request.

Care and maintenance

7.6 Maintenance check list

Year of maintenance _____
Date _____
Mounting staff _____
Name / Signature _____

Building project _____
System description _____
Kind of mounting (e. g. ceiling / wall) _____
Serial number / year of manufacture _____
Battery year of manufacture⁽¹⁾ _____

(1) The backup battery must be changed every four years!

No.	Check points	Test o.k.	Notes
1.0	Optical inspection		
1.1	Check the fire curtain for damaging, contamination, oxidation	<input type="checkbox"/> yes <input type="checkbox"/> no	
2.0	Electrical inspection		
2.1	Check, if the electrical supply lines are connected properly and fixed well at the actuator	<input type="checkbox"/> yes <input type="checkbox"/> no	
2.2	Check, if the wiring to the actuators has been laid according to the valid VDE-commands and to the manufacturers' instructions (wire cross section, etc.)	<input type="checkbox"/> yes <input type="checkbox"/> no	
3.0	Functional inspection		
3.1	Attention! Check the operating voltage (according to manufacturers' instructions).	<input type="checkbox"/> yes <input type="checkbox"/> no	
3.2	Let the fire curtain move in its alarm position and check if the curtain descends completely. Ensure that the roll-off area is free of obstacles.	<input type="checkbox"/> yes <input type="checkbox"/> no	
3.3	Reset the curtain. Ensure that the curtain moves duly in its end position.	<input type="checkbox"/> yes <input type="checkbox"/> no	
4.0	Inspection of the mechanical parts		
4.1	Check the fastening of the head box and of the side guides	<input type="checkbox"/> yes <input type="checkbox"/> no	
4.2	Check the bearing of the roller assembly.	<input type="checkbox"/> yes <input type="checkbox"/> no	

Appendix

8. Appendix

8.1 Declarations

8.1.1 EC Manufacturer's declaration

We hereby declare that for development and production of the in market product Fire PROtec® all the requirements of DIN EN 13501-2 are fulfilled.

8.1.2 Declaration of conformity



We hereby declare the conformity of the product with the guidelines applicable for it. The declaration of conformity can be examined in the firm and shall be sent to you on request.

Any alteration which may be made without our prior consent will make this declaration invalid.

8.2 Company addresses

8.2.1 Germany:

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D - 94036 Passau
Tel.: +49 (0)851 98870 - 0
Fax: +49 (0)851 98870-70
E-Mail: info@simon-rwa.de
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Fax: +43 (0)2256 64070
E-Mail: info@simon-rwa.at
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8.2.3 Switzerland:

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Fax: +41 (0)44 956 50 40
E-Mail: info@simon-rwa.ch
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8.2.4 Hungary

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Fax: +36 (0)44 822 12 03
E-Mail: info@simon-rwa.com

Appendix

8.3 Notes

General conditions of business and terms of delivery

The currently valid conditions for products and services of the electrical and electronics industry (green delivery terms) apply for deliveries and services, including the supplementary clause "Extended retention of title". These are published by ZVEI Frankfurt. If you are not familiar with these, we would be happy to send them to you. The agreements are also available for download at www.simon-rwa.de.

Passau is the established legal venue.

Your **Simon RWA** partner: