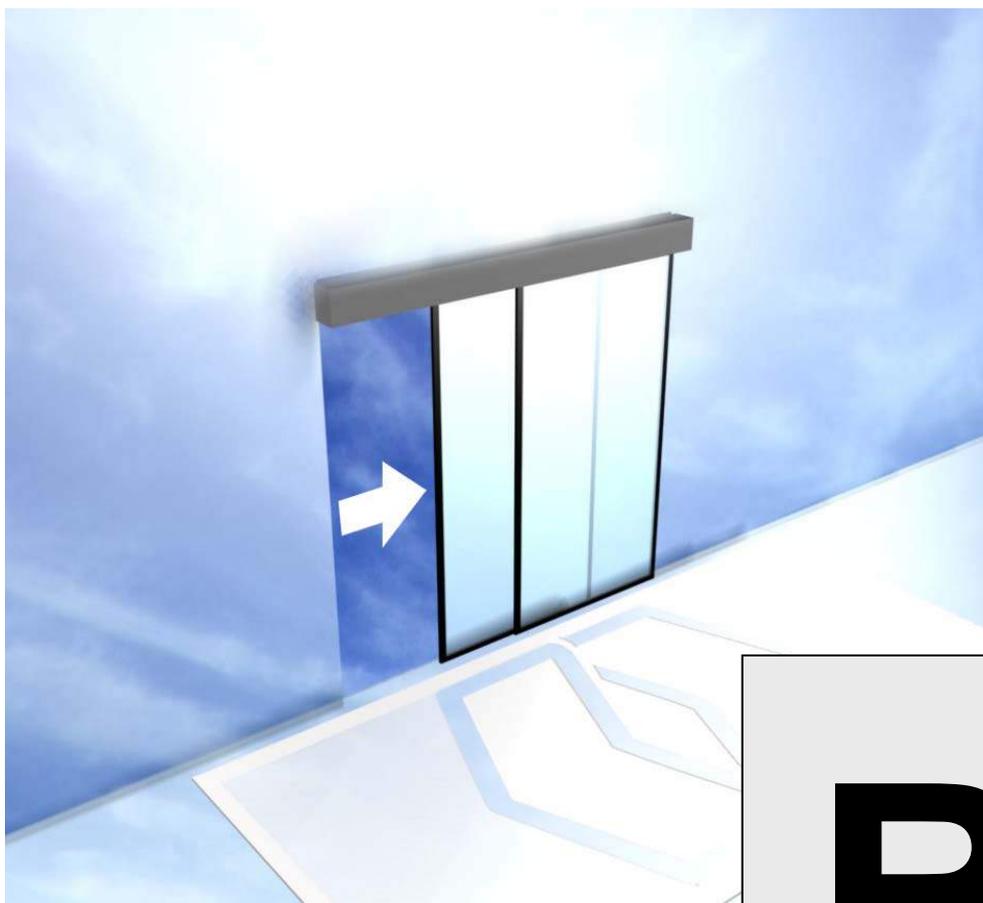


## Assembly STA

### Sliding door system 20



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**B2**

**Manufacturer**  
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CH-8320 Fehraltorf

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**Distributor**

Art. No. 102-020401131

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## 1. General

### 1.1. Document identification

Name: B2\_Assembly\_STA\_SYS20\_EN\_V1.2.doc  
 Version: V1.2  
 Serial no.: 102-020401131

### 1.2. Structure of the documentation

The documentation of the system 20 is divided into different manuals, in order to reduce file size and to simplify the handling.

The structure of the document is as follows (B1 =book 1):

B1\_General

#### **B2\_Assembly STA**

B3\_Assembly TSA

B4\_Assembly TOS

B5\_Options

B6\_Control

B7\_Commissioning

B8\_Annex

B9\_Assembly and Start-Up FTA/FBO

#### 1.2.1. Overview of each chapter

Chapter	Content
B1_General	General Safety instructions Preparations Technical data General plans
<b>B2_Assembly STA</b>	<b>General</b> <b>Installation drive module D-STA/E-STA</b> <b>Installing running gear D-STA/E-STA</b> <b>Installing door leale D-STA/E-STA</b> <b>Installation of the drive unit D-STA/E-STA</b>
B3_Assembly TSA	General Floor tracks / Door leaf guides Profile system D-TSA/E-TSA – Overview Attaching and adjusting carriages Installing slow running plane D-TSA / E-TSA Installing fast running plane D-TSA / E-TSA Attaching drive unit set D-TSA / E-TSA Profile system D-TSA/E-TSA – Overview Installing fast running plane D-TSA / E-TSA

B4_Assembly TOS	General TOS installations – for escape and rescue routes Mounting profile and tracks Mounting and setting the side leaves Locking Electrical connections
B5_Options	General Locking Installation of CO48 Extended function module Battery / Accumulator Operator casing Fanlight Protective screen
B6_Control	General Control module STM 20 Control module STM 20 RED / DUO Control module STM 21 Control module STM 21 RED Control module STM 22 RED / DUO
B7_Commissioning	General Principles for commissioning The CAN-bus BDE-D Operating unit Operating instructions Easy-Programmer EPC 903 Start-Up Commissioning of systems Parameter explanations
B8_Annex	General Module types cladding height 200 mm Drive module Drawings Article list
B9_Assembly and Start-Up FTA/FBO	General Technical Data Elevation/drawing of header FTA/FBO Installation FTA/FBO 20 Parameter Options

### 1.3. Instruction manual

After the system installation, the instructions have to be stored in an accessible and dry place.

## 1.4. Abbreviations

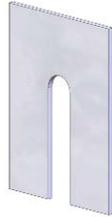
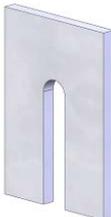
<b>A</b>	<b>A</b>	Width of passage (Opening width)	<b>L</b>	<b>LED</b>	Light-emitting diode (LED)
	<b>AKA</b>	Actuating contact "outside"	<b>M</b>	<b>MOT</b>	Motor
	<b>AKI</b>	Actuating contact "inside"	<b>R</b>	<b>RED</b>	Redundancy module
	<b>ATE</b>	Drive unit	<b>S</b>	<b>SÖK</b>	Safety break contact
	<b>ATM</b>	Drive module		<b>SSA</b>	Slidebar operator
<b>B</b>	<b>BAT</b>	Battery-pack		<b>SSK</b>	Key-operated contact
	<b>BDE</b>	Control unit BDE		<b>STA</b>	Sliding door operator
<b>C</b>	<b>CAN-H</b>	Serial Interface		<b>STG</b>	Control unit STG
	<b>CAN-L</b>	Serial Interface		<b>STM</b>	Control module
	<b>CO48</b>	Special standard in France	<b>T</b>	<b>TOS</b>	Break-out system
<b>D</b>	<b>D-STA</b>	Biparting sliding door operator		<b>TOWA</b>	Automatic door opening width
<b>E</b>	<b>ELS</b>	Photo cell ELS		<b>TSA</b>	Telescopic sliding door operator
	<b>E-STA</b>	Single sliding door operator	<b>U</b>	<b>UMR</b>	Guide pulley
	<b>E-STA-L</b>	Single sliding door operator, opening to left	<b>V</b>	<b>VAK</b>	Lock indicating contact
	<b>E-STA-R</b>	Single sliding door operator, opening to right		<b>VRR</b>	Locking device
<b>F</b>	<b>FEM</b>	Extended functions module			
<b>G</b>	<b>G</b>	Height of passage			
<b>H</b>	<b>HEA</b>	Manual unlocking "from outside"			
	<b>HEI</b>	Manual unlocking "from inside"			

## 2. Installation drive module D-STA / E-STA

### 2.1. Wall mounting 108 / 150 mm – without cladding

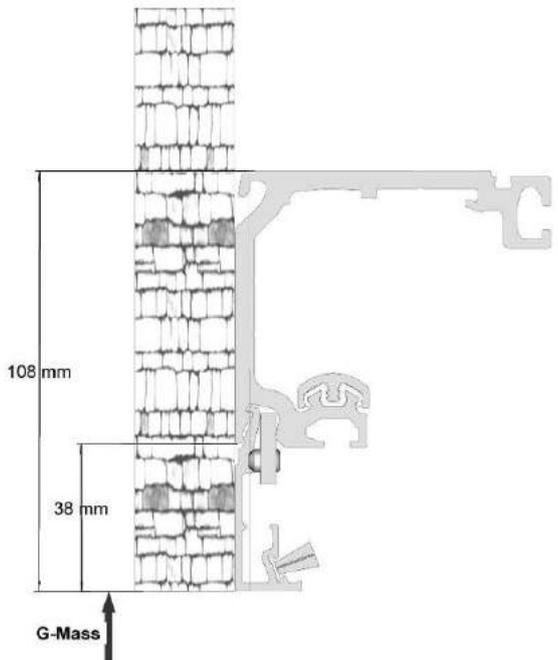
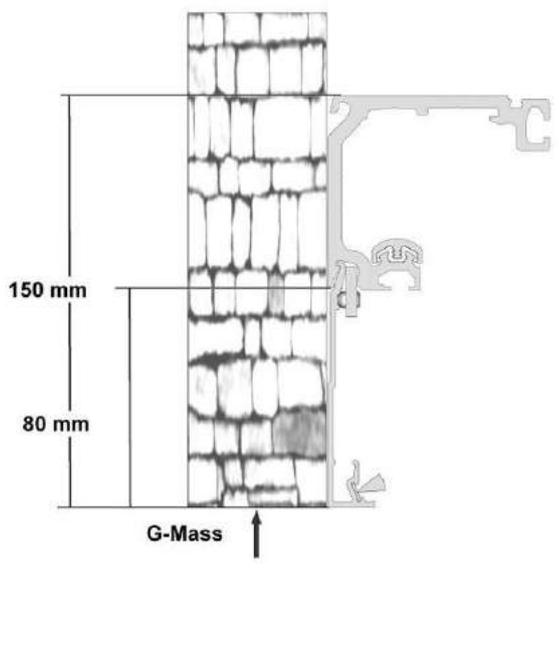
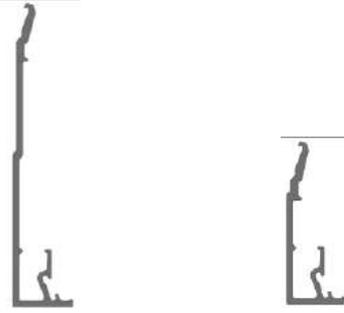


See chapter General plans for further construction variants and cross-section drawings.

Assembly procedure		
<ul style="list-style-type: none"><li>• Position track support profile (P1702) and fix it to the wall<ul style="list-style-type: none"><li>➢ Track support profile must lie horizontally and vertically</li><li>➢ Use pre-perforated holes (on upper groove) – minimum 4 fixing points</li></ul></li><li>• Adjust track support profile with wedges if necessary to compensate for uneven surface of the wall</li><li>• Insert track (P1643) into sealing profile (P1642) (see paragraph Installing track support profile and track)</li></ul>		
<b>PVC spacers</b> <ul style="list-style-type: none"><li>• 2 mm – 102-020110486</li><li>• 5 mm – 102-020110487</li></ul>		

Installation of the track support section according installation and start-up manual

Hinge the sealing profile and fix it by means of tensioning blocks and set screws in a distance of approx. 50 cm each

	
 <p>102-020109403 (150 mm) 102-020109333 (108 mm)</p>	 <p>102-020109354 102-80255 (Gew-Sti I-6kt DIN916 VP M6x8) 102-020109334</p>

**ATTENTION**



- Whenever it is possible, use the **upper** groove to fix the track support profile onto the wall!
- **Screw head height max. 10 mm!**

## 2.2. Wall mounting 108 / 150 mm – with cladding

<b>MS fixing cladding</b> with instruction	102-020808474
<b>MS installation material</b> with instruction	102-020808467

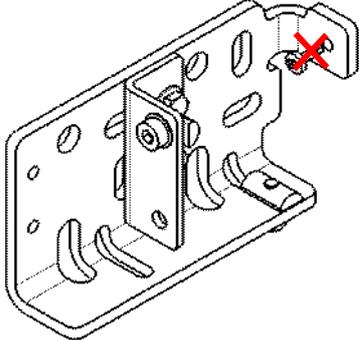
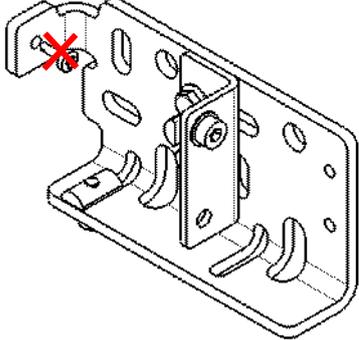
Assembly procedure	
<ul style="list-style-type: none"> <li>• Cut the cladding to length</li> <li>• Mark the door centre on cladding</li> <li>• If using side screens: drill according plan 102-020109929</li> <li>• Use groove train for the mounting holes</li> </ul>	
<b>P1737 (108 mm)</b>	<b>P1743 (150 mm)</b>



For any type of installation, the space to the ceiling must measure at least 20 mm!

## 2.3. Fixing the cladding to the sides 108 / 150mm

<p><b>MS self-supporting installation</b></p> <ul style="list-style-type: none"> <li>• with instruction</li> <li>• with drilling templates (left/right)</li> </ul>	<p><b>102-020808349</b></p>
--	-----------------------------

Left cladding bracket	Right cladding bracket
	



**Wall mounting screws**

Cladding are currently not usable.

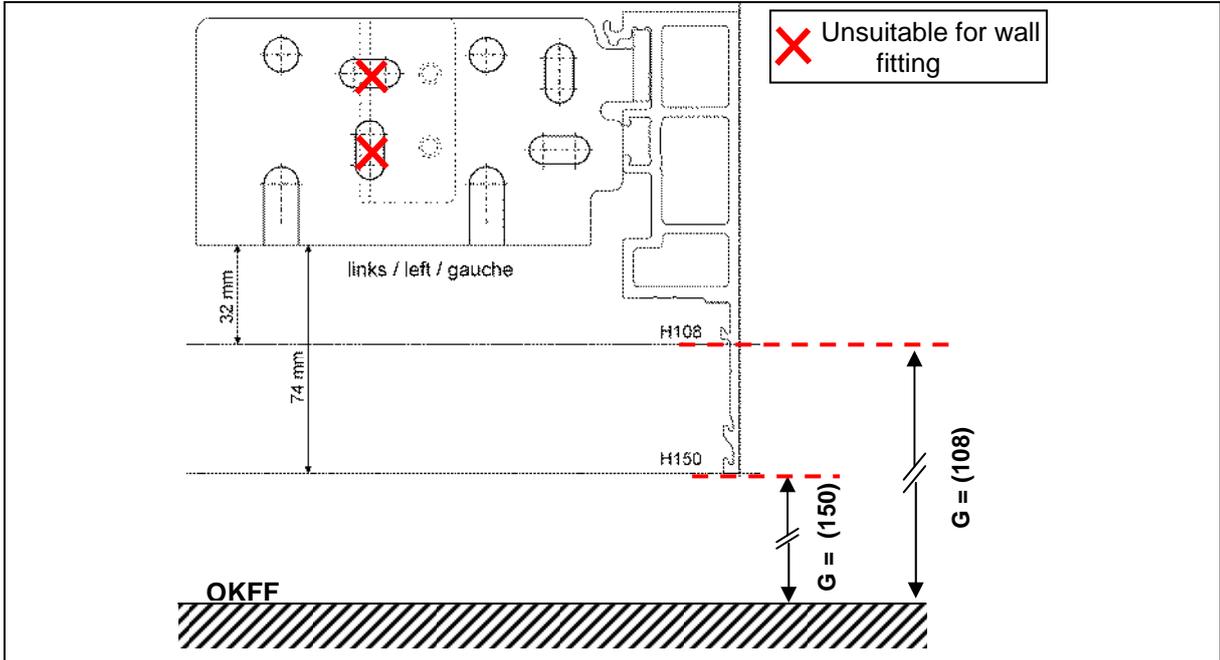
Definition of the installation height of the cladding brackets (use templates)



To mount the protective screens, following wall mounting set have to be used:

102-375808711 left side

102-375808712 right side



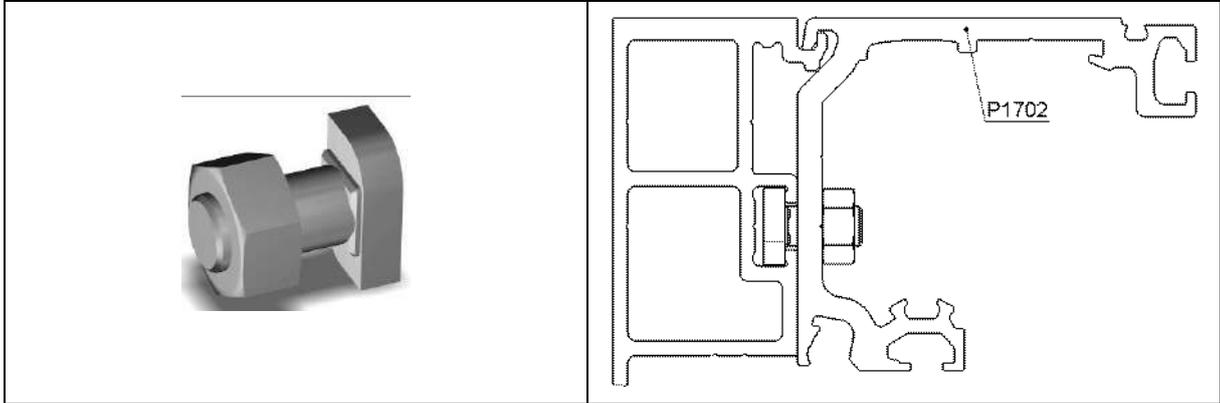
**Assembly procedure**

- Position left and right cladding brackets and screw them to the wall (use appropriate screws)
- Insert cladding, adjust and screw it with safety bolts.

### 2.4. Screw together the support profile (P1702) and the cladding

<b>MS Mounting cladding</b>	<b>102-020808474</b>
<b>DST</b>	<b>Support profile F/2 - 25</b>
<b>EST</b>	<b>Support profile F - 40</b>

**Mount Support profile (P1702) with anchor bolts to cladding**

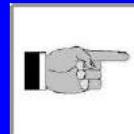


- Screw it on at least 6 different points (regularly spaced fixing points)
- Screw head height: max. 10 mm!

**ATTENTION**

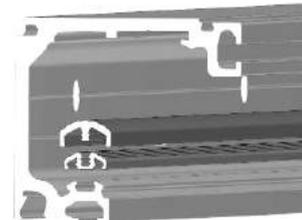
In case of a self-supporting installation, place the fixing bolts as near the ends as possible

### 2.4.1. Inserting track on building site

**HINWEIS**

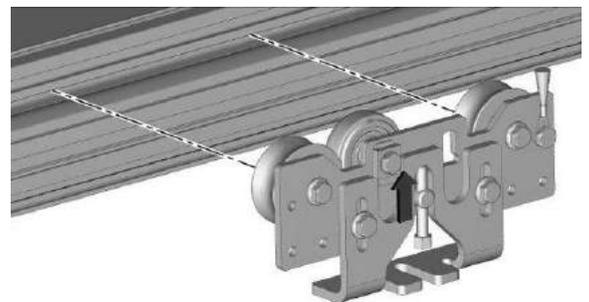
The track is delivered separately on site and is only inserted after the support profile has been fixed. This avoids any damage that could occur to the track while fixing the support profile.

- Moisten rubber profile with soapy water or comparable product
- Insert track at the end and press it in manually over about 20 cm into the profile

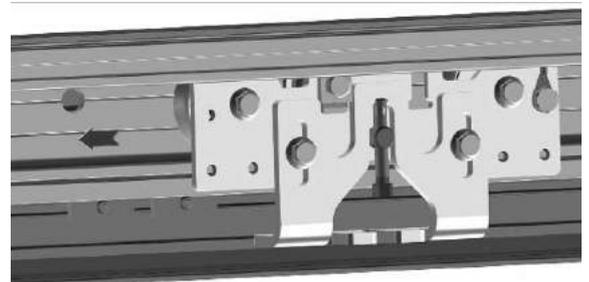


102-020109330  
102-020109004  
102-020109005

- Insert carriages
- Lock stabilizer-wheel in place (towards the top) as much as you can

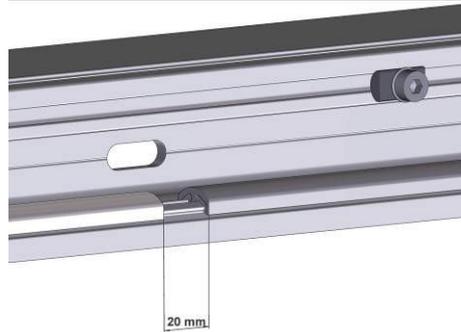


- Slide carriage manually over the whole profile length
- The track is inserted into the track support profile



**NOTE**

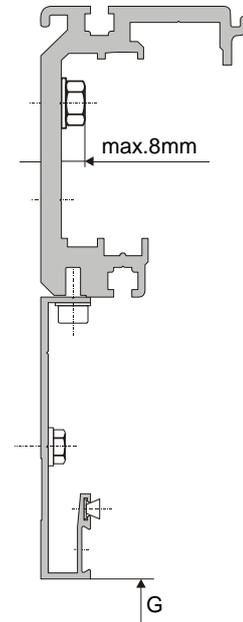
- *One-piece track support profile in event of an installation without cladding or of a self-supporting installation:*  
Guide the cables through the middle of the track support profile. The track is NOT cut, which allows better leading of ELS (light beam)/radar cables.
- *Two-piece track support profile:*  
Leave a 20 mm gap between the two track support sections, in order to lead through the photo cell and sensor cables.



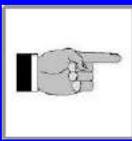
## 2.5. Wall mounting 200 mm – without cladding

### Horizontal sealing profile

- Fix the horizontal sealing profile P1308 temporarily on the Mass G (e.g. with a screw clamp)
- Put 1- or 2- part track support section P1302 on horizontal sub profile and sketch in the mounting holes.
- Fixing art depending on substrate. It is important to ensure, that the profile rest exactly parallel and in aligned
- Fix horizontal sealing profile P1308 on the track support section P1302 with screw M6x12mm.
- Eventually fix sealing profile with 2 -3 screw on lintel

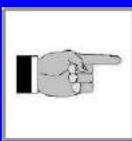


#### HINWEIS



The screw heads may protrude maximum 8mm.

#### HINWEIS



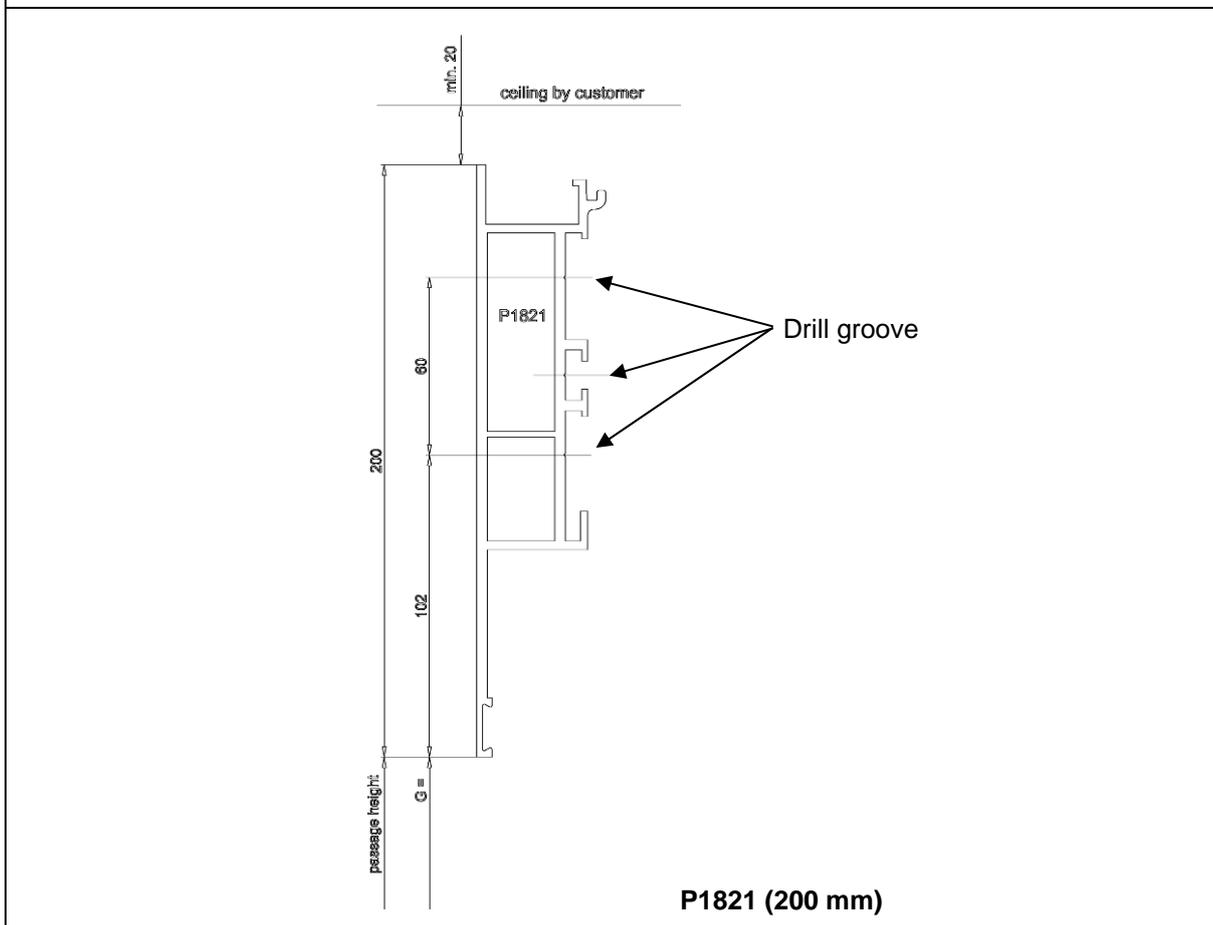
By a wall to wall installation the strip brush can not be replaced later, except the horizontal sealing profile P1308 is cut in two parts, this way if required, 1 part could get dismantled to pull out the brush.

## 2.6. Wall mounting 200 mm – with cladding

<b>MS fixing cladding</b> with instruction	<b>102-020808474</b>
<b>MS installation material</b> with instruction	<b>102-020808467</b>

### Assembly procedure

- Cut the cladding to length
- Mark the door centre on cladding
- Use groove train for the mounting holes



**ATTENTION**

- For any type of installation, the space to the ceiling must measure at least 20 mm!
- The screw heads may protrude maximum 8mm.

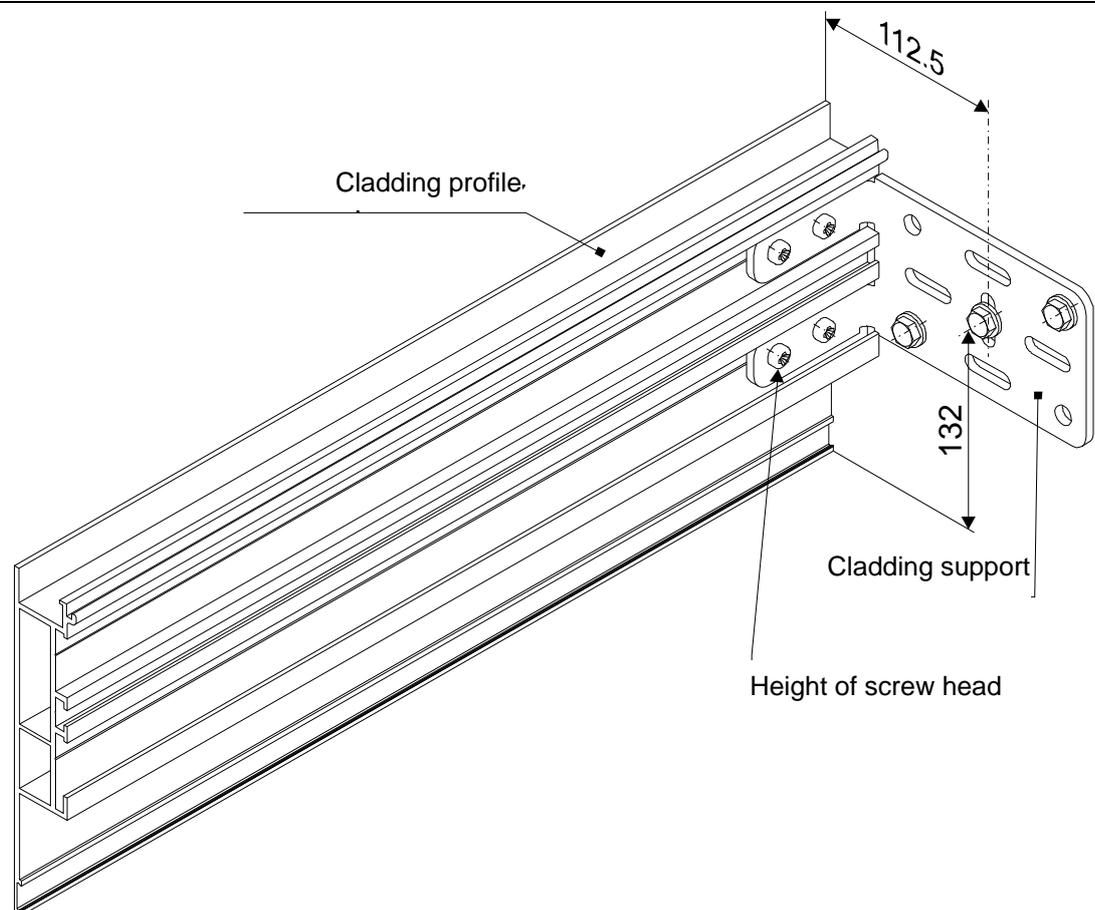
## 2.7. Starting installation with cladding of 200mm

The exact dimensions are shown in the principle assembly drawings, on separate plans or on sketches.

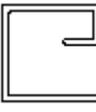
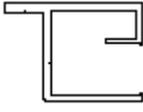
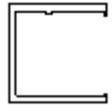
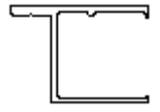
### 2.7.1. Set the cladding profile

#### Installation: Self-supporting

- Installation of the cladding support 102-01600005
- Insertion of the cladding profile
- Screw the cladding profile onto the cladding support with 4 self tapping screws. (contained in 102-016006000)



## 2.8. Mounting wall connection profiles

20 mm profile system		32 mm profile system	
			
Self-supporting <b>P1756</b>	Wall installation	Self-supporting	Wall installation



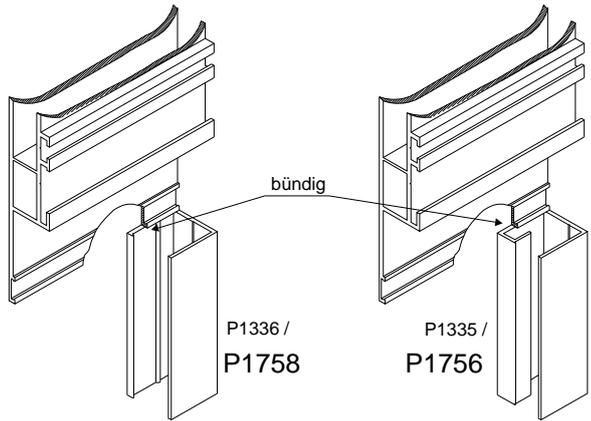
Cut wall connection profile to length (length = G + level correction)



- If the floor is flawless and horizontal, wall connection profiles can be fitted first.
- Then the cladding is laid down on the wall connection profiles.

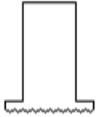
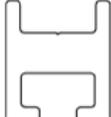
### Side screen

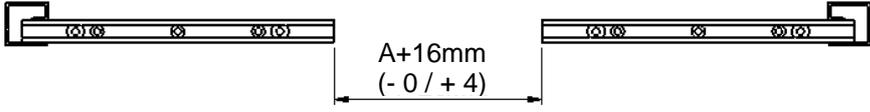
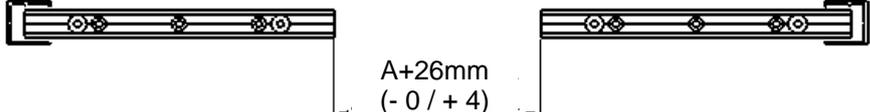
- Measure door centre to floor and transfer it
- Measure and cut wall connecting profile P1758 (32 mm) or P1756 (20 mm)
- Align and fasten.



## 2.9. Installing floor profile

MS 20 mm side screen	102-375808483
MS 32 mm side screen	102-375808502

20 mm: floor profile P1373	32 mm: floor profile P1657
	
<ul style="list-style-type: none"> <li>• Mark <b>door centre</b> and <b>A-dimension</b> on the floor and on the cladding</li> <li>• Set floor profile and align it with chalk line – compensation in case of sloping floor might be necessary</li> <li>• In case of asymmetrical alignment of the holes for the height adjustment screw, the longest part must be orientated towards the wall connection profile</li> </ul>	

<b>Profile system 20/32 with rubber finish</b>  <b>Profile system 20 with alu finish</b>	Reference dimension  $A+16\text{mm}$ $(-0 / +4)$
<b>EXCEPTION!</b>  <b>Profile system 32 with alu finish</b>	Reference dimension  $A+26\text{mm}$ $(-0 / +4)$

**CAUTION**



Damage of the tiles and floor  
Electric shock

- Damage to property
  - Before drilling, check the composition of the floor (e.g. slate or ceramic tiles) and the position of possible floor heating pipes and electric conductors!

## 2.10. Inserting and fixing side screens

**Mounting holes for side screen support with cladding height 108 / 150 mm**

**Mounting holes in bottom view of cladding**

- Minimum dimensions to be respected for drilling the mounting holes in the cladding
- Mounting holes: Ø 11 mm

Grooves for drilling holes		Profile system 32: Adjust side screen directly to cladding	
<p>Profilsystem 20</p>	<p>Profilsystem 32</p>		



- Drill holes (Ø 11 mm) BEFORE inserting the side screen.
- Check that the tension screw is already inserted into the side screen!

MS adapters ceiling (150 mm)	102-020808527
------------------------------	---------------

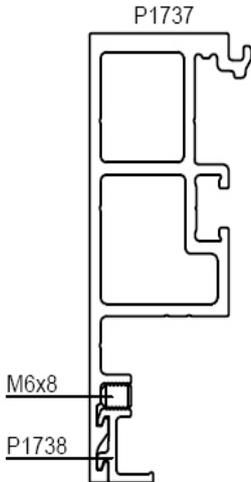
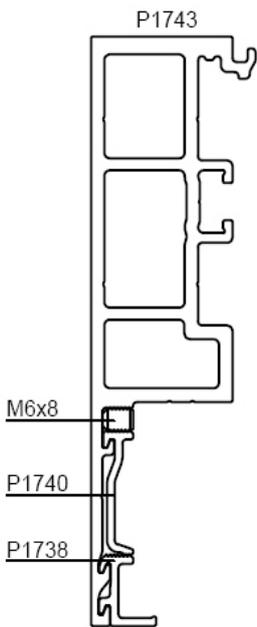
<b>Ceiling P1738 – in the side screen area, cladding height 108 mm, 150 mm</b>

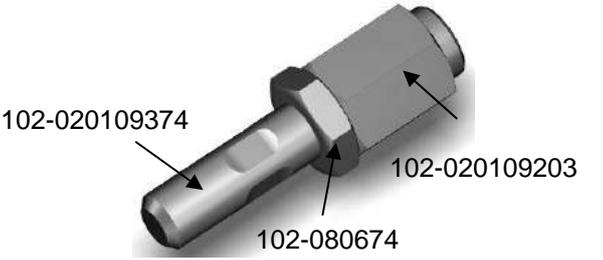
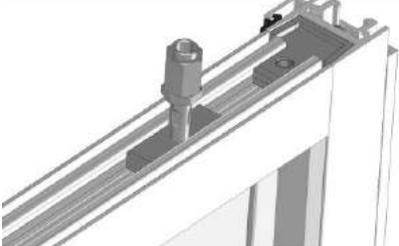
<ul style="list-style-type: none"> <li>With 20 mm profiles, mount ceiling P1738 and temporarily fix it with set screws (M6x8) from the cladding mounting set (102-020808474)</li> </ul>



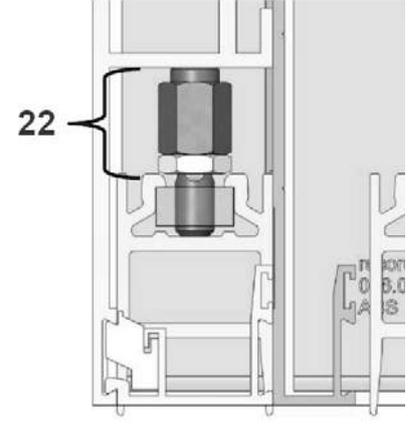
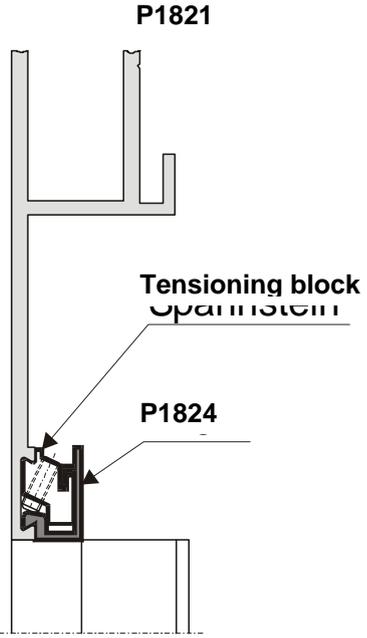
**NOTE**

Adapters P1740 (from MS adapters ceiling) are necessary in case of a cladding height 150 mm.

Cladding height: 108 mm	Cladding height: 150 mm
	

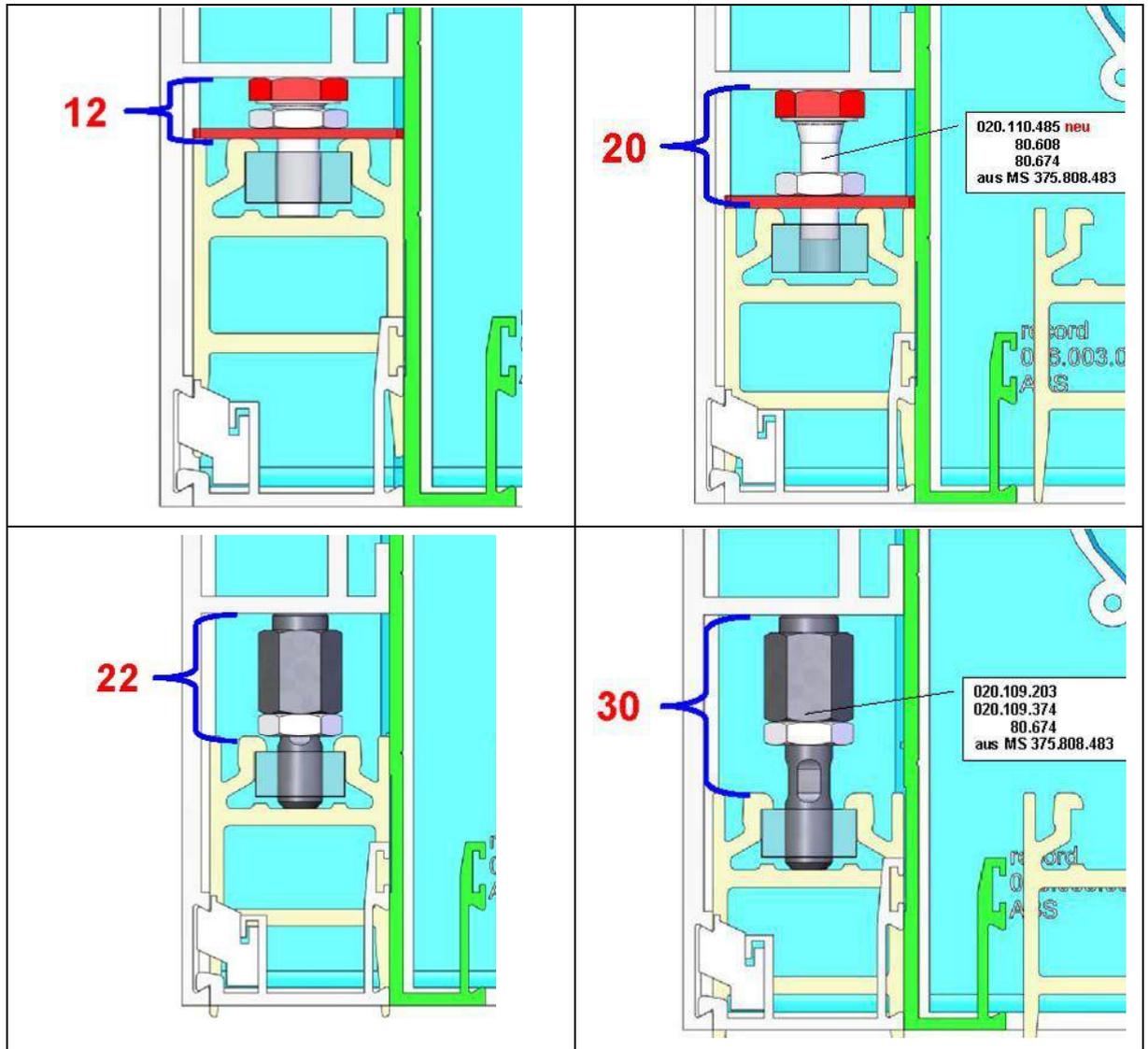
<ul style="list-style-type: none"><li>• Tension screw to fix side screen to the cladding</li></ul>	
<ul style="list-style-type: none"><li>• Screw tension screw into the tongue-nut – which must already be inserted into the side screen!</li></ul>	

## 2.11. STA20 / 22 / 200 Supporting the cladding on the side screen

Side panels for cladding height 200 mm	
<p><b>Recommendation:</b> Support of the cladding profile P1821 on the side screen</p>	
Cladding height 200 mm	
	



When using profile system 20 mm, there must be used a filling profile (P1824) of 12 mm fixed with tensioning blocks (102-020808922) to the cladding profile. Fixing of the tensioning blocks with a pin- Allen key 2mm.

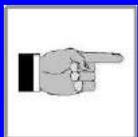


If the gap over the side screen is < 12 mm, the brace support has to be done with shift plates or similar.

## 2.12. Slide in side screens and fasten

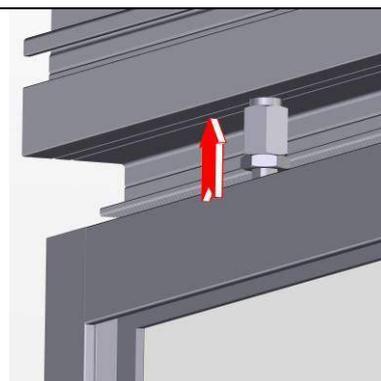
Height adjustment	
Floor profile P1373	Floor profile P1657
<ul style="list-style-type: none"> <li>• With profile system 20 (floor profile P1373) the head screw features a reduced diameter of 13.5 mm</li> <li>• Insert side screen into wall connection profile and floor profile</li> <li>• Adjust side screen vertically to A-dimension</li> </ul>	
<p><b>General situation:</b></p> <p>Finishing profile 20 rubber/alu</p>	<p><b>A + 12 mm (+ 0 / - 2)</b></p>
<p>Finishing profile 32 rubber</p>	<p><b>A + 12 mm (+ 0 / - 2)</b></p>
<p><b>Exception:</b></p> <p>Finishing profile 32 alu</p>	<p><b>A + 24 mm (+ 0 / - 2)</b></p>
<ul style="list-style-type: none"> <li>• Adjust side screen horizontally (with levelling device)</li> </ul>	

- Adjust side screen horizontally

**NOTE**

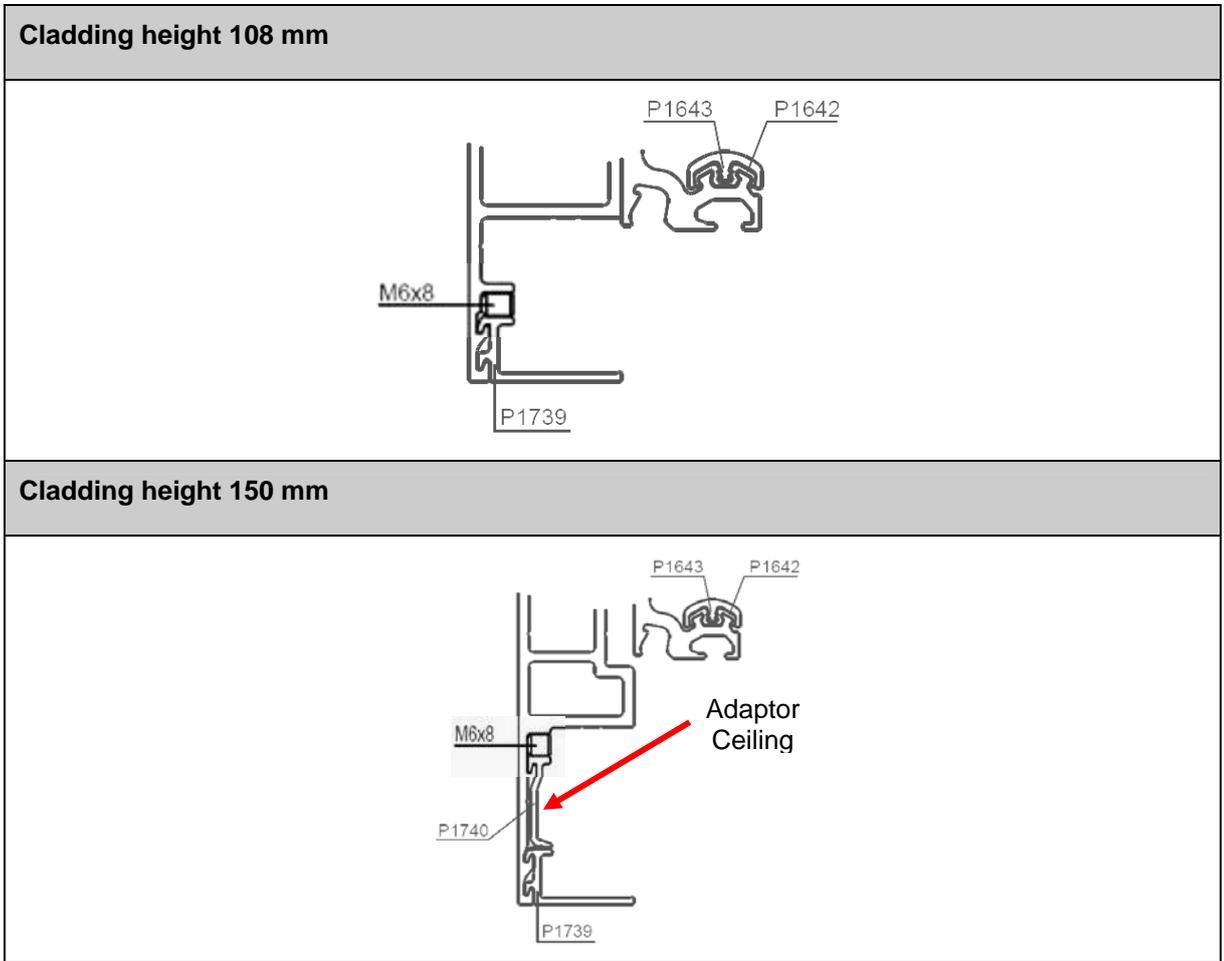
Mounting set for side screen support MS 102-375808483 (20 mm profile)  
Mounting set for side screen support MS 102-375808502 (32 mm profile)

- Screw it to the cladding with fingers
- Secure with key

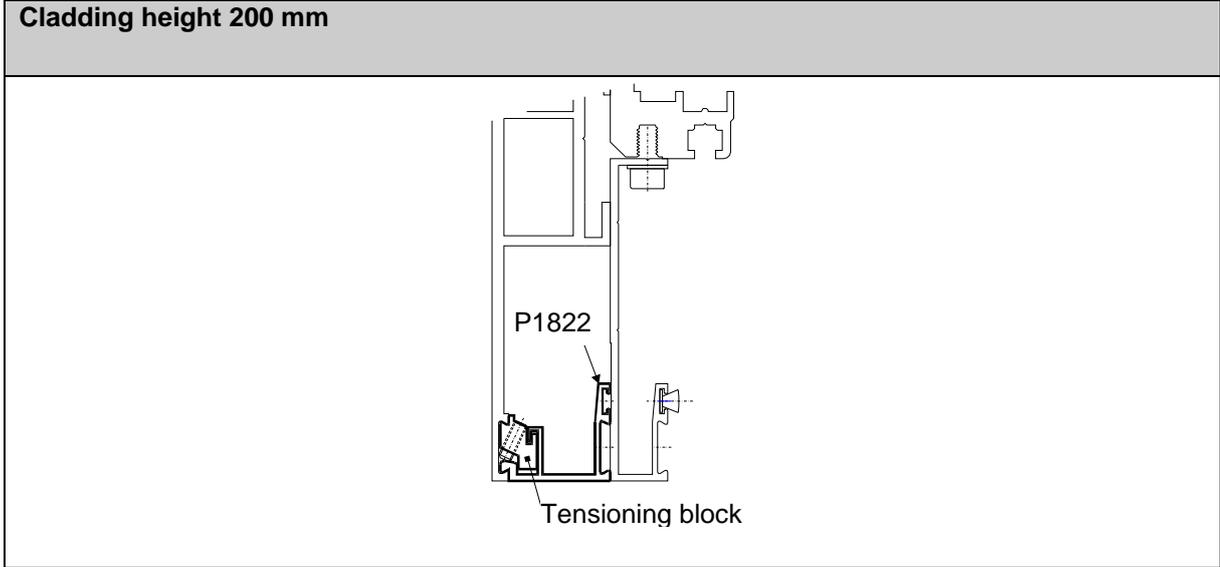
**ATTENTION**

While tightening, make sure the cladding is not lifted!

## 2.13. Installing ceiling in the passage area



Ceiling (P1739) can be used for both profile systems 20 and 32!



Ceiling (P1822) can be used for both profile systems 20 mm and 32 mm!

**Adjusting ceiling by profile system 20**

- Adjust ceiling P1738 (P1311 for 200mm cladding) to cladding P1739 (P1822 for 200mm cladding) (in doorway)
- Both profiles must be flush

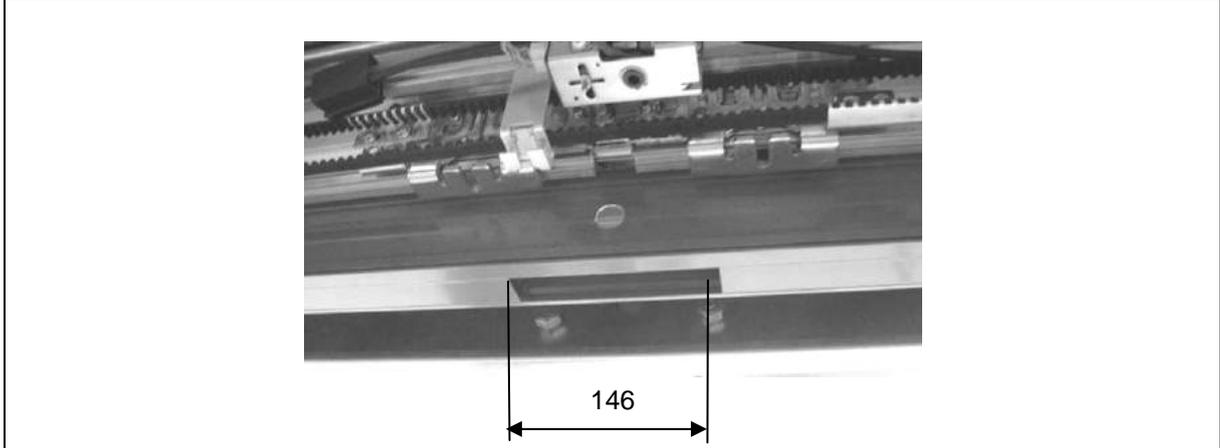
**Adjusting ceiling by profile system 32**

- Adjust ceiling P1739 (P1822 for 200mm cladding) (in doorway) to vertical frame profile



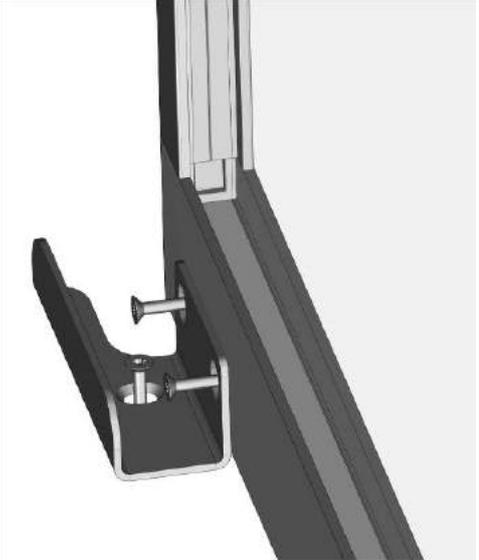
These joints will later be covered by the cover profile.

**Cutting out the ceiling to insert an in-built radar RAD 290 (AKA)**



Sensor RIC 290 is ONLY insertable in the casing as AKI with an operator height of 150 mm and 200mm.

## 2.14. Fixing door leaf guides and side screens

Floor guides and side screens	
<ul style="list-style-type: none"> <li>• Use door leaf guide as template</li> <li>• Drill core hole – Ø 3.5 mm</li> <li>• Fix to floor and to side screen</li> <li>• Improves stability of side screen</li> </ul>	



**NOTE**

Screws for the fixing to the side screen:

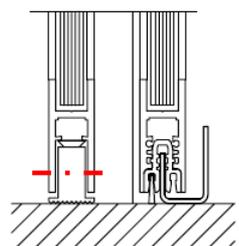
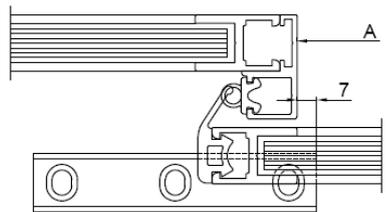
- Thread-grooving, Torx, counter sink screws M4x16
- Contained in mounting set MS side screen
  - 102-375808502 – profile system 32
  - 102-375808483 – profile system 20

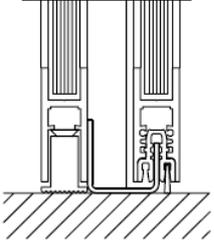
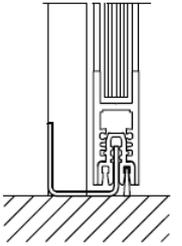
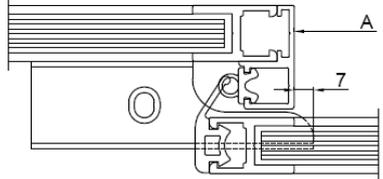
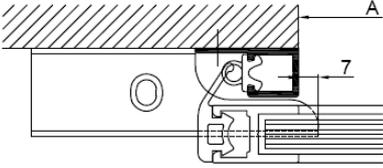
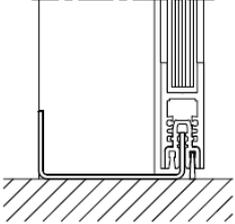
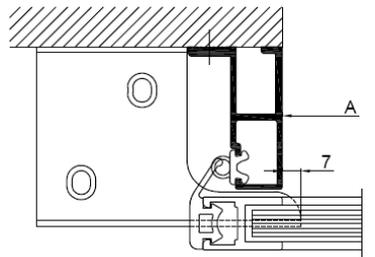
### 2.14.1. Positioning door leaf guides with 20 mm profile system



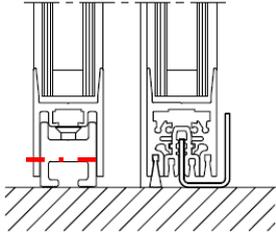
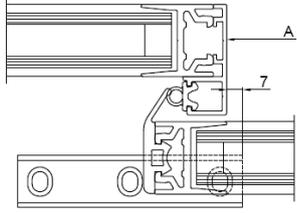
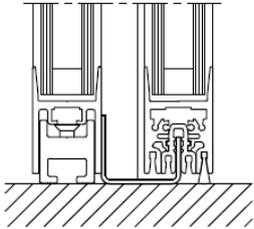
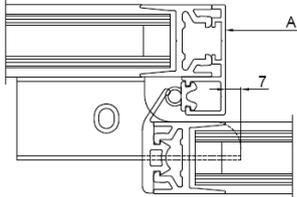
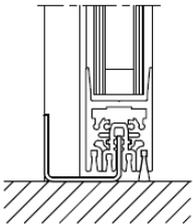
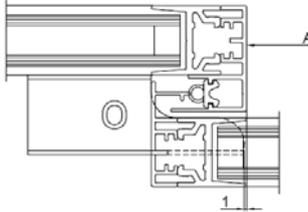
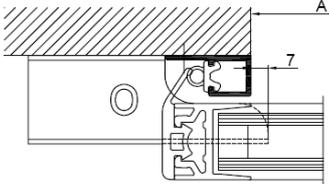
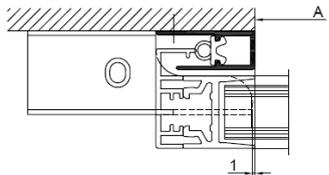
**NOTE**

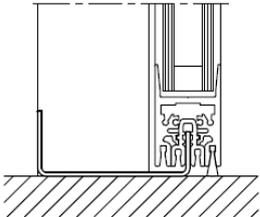
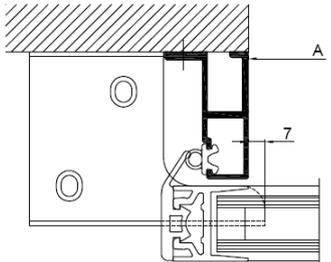
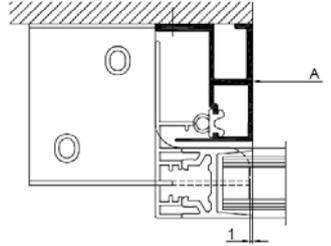
- Determine with accuracy the position of the door leaf guide in comparison with A-dimension.
-  Screwing the bottom rail to floor profile increases the stability of the side screen in the doorway area.

Application	Designation + Art. no.	Fixing left (right: mirror image)
<p>STA with side screen</p> 	<p>Door leaf guide 20 102-375109633</p> 	<p>With rubber or aluminum seal</p> 

<p>STA with side screen</p>  <p>STA w/o side screen w/o cladding</p> 	<p>Door leaf guide STA/TSA left 102-375109672</p> <p>Door leaf guide STA/TSA right 102-375109673</p> 	<p>With rubber or aluminum seal</p>  <p>With rubber or aluminum seal</p> 
<p>STA w/o side screen with cladding</p> 	<p>Door leaf guide STA/TSA 20 left w/o side screen 102-375109634</p> <p>Door leaf guide STA/TSA 20 right w/o side screen 102-375109635</p> 	<p>With rubber or aluminum seal</p> 

## 2.14.2. Positioning door leaf guides with 32 mm profile system

Application	Designation + Art. no.	Fixing left (right: mirror image)
<p>STA with side screen</p> 	<p>Door leaf guide 32 102-375109604</p> 	<p>With rubber or aluminum seal</p> 
<p>STA with side screen</p> 	<p>Door leaf guide STA/TSA 32 left - 102-375109636 Door leaf guide STA/TSA 32 right - 102-375109637</p> 	<p>With rubber seal</p> 
<p>STA w/o side screen w/o cladding</p> 		<p>With aluminum seal</p>  <p>With rubber seal</p>  <p>With aluminum seal</p> 

Application	Designation + Art. no.	Fixing left (right: mirror image)
<p>STA w/o side screen with cladding</p> 	<p>Door leaf guide STA/TSA 32 left w/o side screen 102-375109640</p> <p>Door leaf guide STA/TSA 32 right w/o side screen 105-375109641</p> 	<p>With rubber seal</p>  <p>With aluminum seal</p> 

## 2.15. Installing cover profiles (light barrier profiles)

Floor guides and side screens	
<ul style="list-style-type: none"> <li>• Cut the light barrier profile to the right length</li> <li>• If needed compensate for unevenness of the floor</li> <li>• Clip the light barrier into cover profile</li> <li>• Form a loop with the cable and place it downwards, in order to facilitate later replacement</li> </ul>	
<ul style="list-style-type: none"> <li>• Insert finishing rubber</li> </ul>	

- Insert clips about every 30 cm into groove of the cover profile and rotate 90° with screwdriver to lock them in place
- These clips are to use only once. If the cover profile is dismantled, they must be replaced!



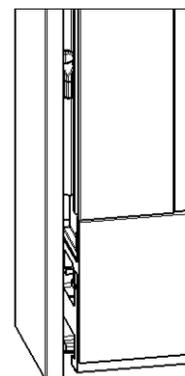
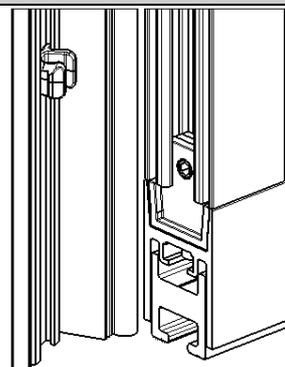
## NOTE



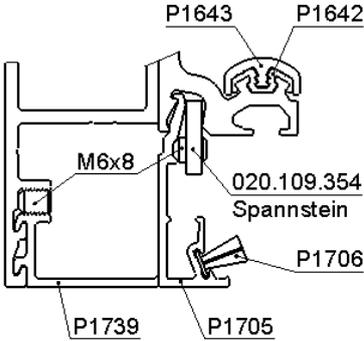
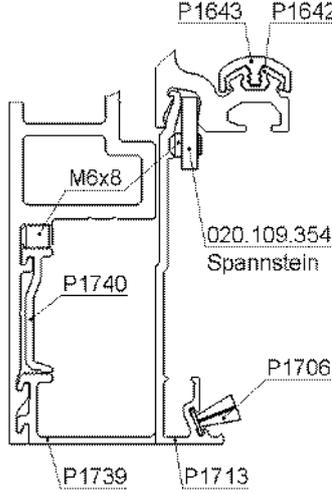
It is **essential** that profiles and clips are **dry** when fitted. Do not use any cleaning agent or washing-up liquid!

## Insert cover profile

- Place cover profile as parallel as possible to side screen and insert with care
- Attention: The position of the clips has to be above the corner connection.



## 2.16. Fitting sealing profile

Cladding height 108 mm Sealing profile P1705 + brush sealing P1706	Cladding height 150 mm Sealing profile P1713 + brush sealing P1706
 <p>102-020109354</p>	 <p>102-020109354</p>

<ul style="list-style-type: none"> <li>Install three-piece sealing profile P1705 (108) or P1713 (150) and fix it with the tensioning blocks pictured aside (contained in MS 102-020808467). (included in mounting kit mounting hardware 102-020808467)</li> </ul>	
<ul style="list-style-type: none"> <li>Slot for photocell (ELS) cable (if applicable)</li> </ul>	

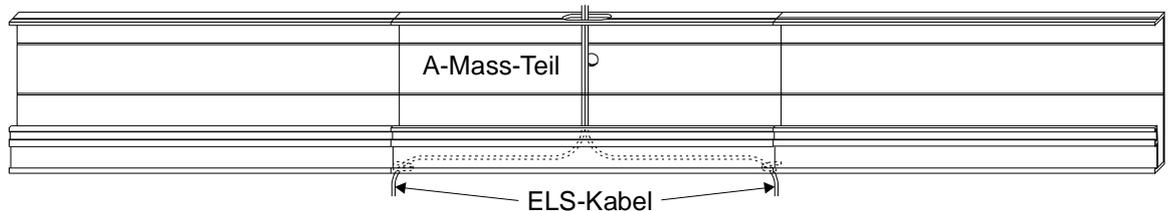
<ul style="list-style-type: none"><li>• Feed photocell (ELS) cable left and right into sealing profile</li><li>• Trap cable with pieces of foam</li></ul>	
<ul style="list-style-type: none"><li>• Insert brush into profile</li></ul>	

**NOTE**

If a three-piece sealing profile applies, first install the two outer sections, then place the brush and finally install the middle section.

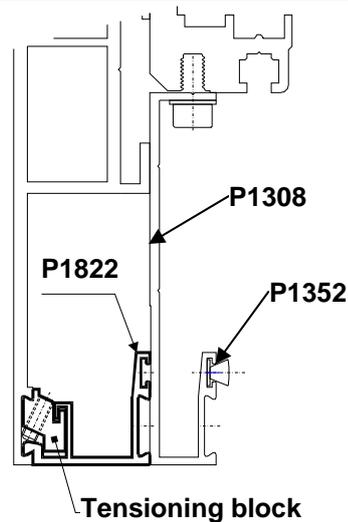
### Horizontal sealing profile and strip brush for cladding height 200 mm

The horizontal sealing profile P1308 with integrated strip brush P1352 is split in 3 parts, in which 1 part has a A-dimension+40 and has on both sides and on the middle top slots to run through the cables.



- Strip brush P1352, also in 3 parts, insert and glue easily.
- Mounting the A-dimension part in the door light and fix it on running rail supporting profile with 2 screws.
- Cut both side screens on dimension and fix it also on running rail profile with screws.

### Cladding height 200 mm

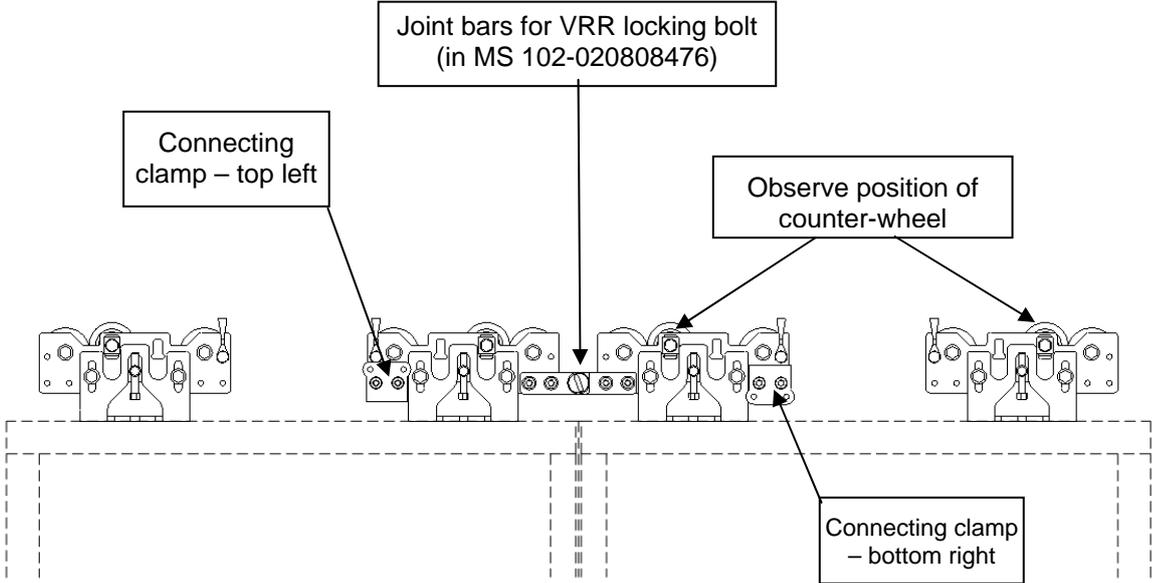


## 3. Installing running gear D-STA / E-STA

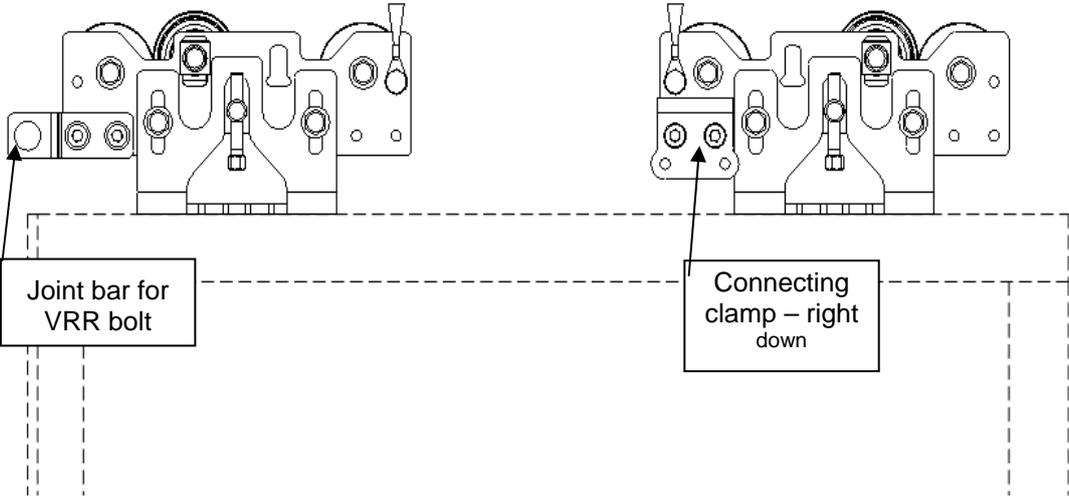
### 3.1. Carriage principle 108 / 150 mm

MS carriages set (for 1 door leaf)	102-020808476
MS carriages set SSA (for 2 door leaves)	102-020808949

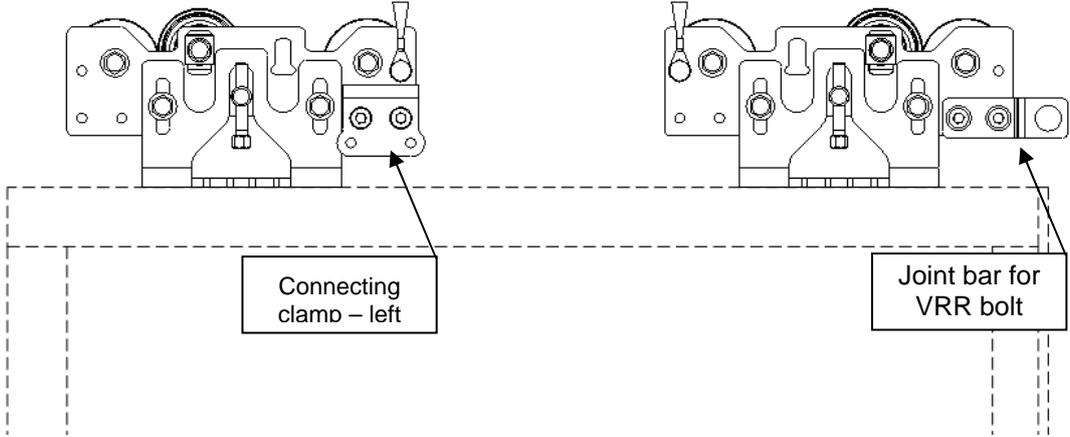
#### 3.1.1. Carriage D-STA



#### 3.1.2. Carriage E-STA – right



### 3.1.3. Carriage E-STA – left



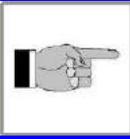
With an E-STA-L (opening to the left) connect carefully jumper JP4 to STM 20.

## 3.2. Preparation of carriages

### 3.2.1. Carriages SSA

Worktable mounting	
Mount the sidebar clamp and the joint bars to the 2 central carriages	
102-020808296	102-020808295
102-020110896	102-020109422
102-80029 (ZK-Schr I-6kt DIN912 VP M6x20)	

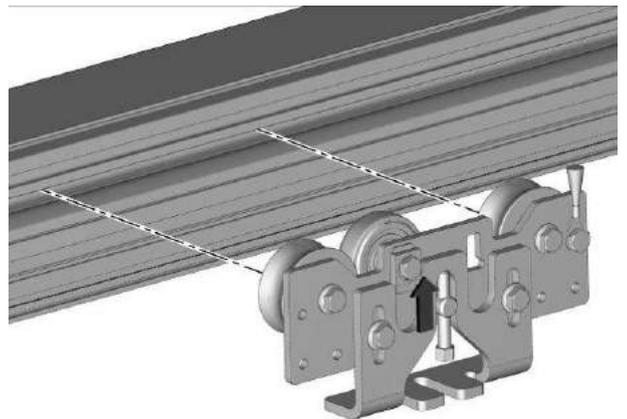
### 3.3. Inserting carriages

**NOTE**

Per carriage max. 45kg

#### Inserting carriages

- Place carriages
- Lock stabilizer-wheel in place

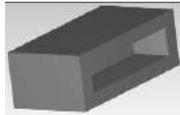


**3.4. Install end stops**

- Install end stops



102-020109353



102-016000011



102-80644 (6kt-Schr DIN933 VP M6x25)

- Mount end-stops temporarily with nuts to support profile



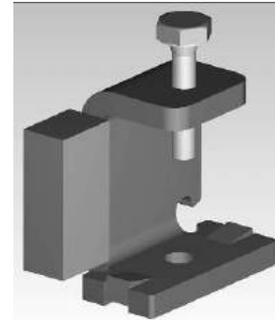
102-020109289



102-85005 (ZK-Schr I-6kt DIN912 VP M6x12)

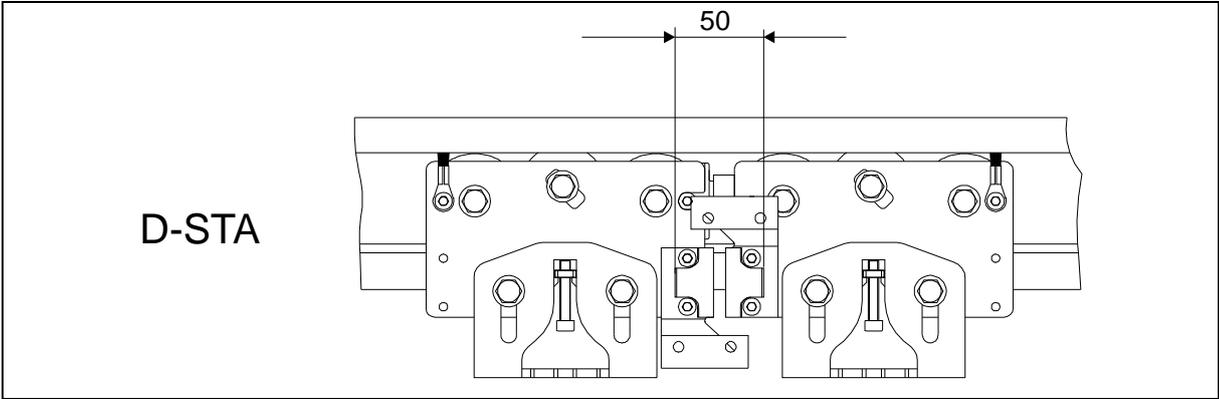
End-stops and mounting hardware are included in:

MS mounting hardware 102-020808467

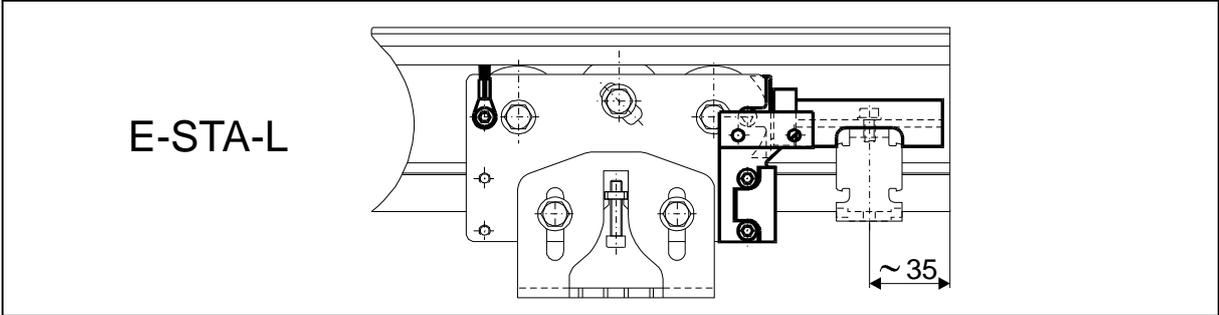


### 3.5. Carriage principle 200 mm

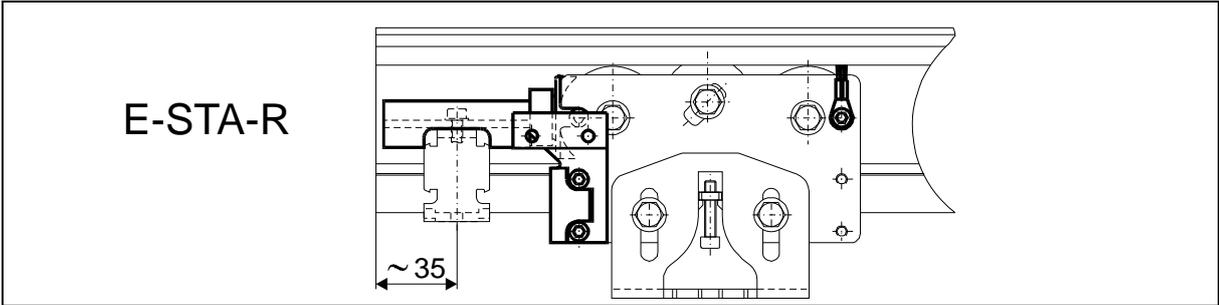
#### 3.5.1. Carriage D-STA



#### 3.5.2. Carriage E-STA – left



#### 3.5.3. Carriage E-STA – right



Distance between the two locking hooks 50 mm (important if a VRR is used). The middle buffer of the left center carriage is used at the same time as a adjustment gauge.

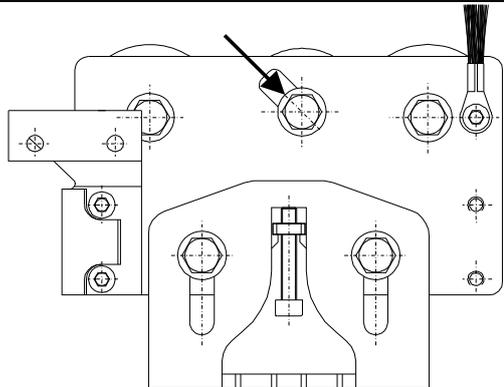
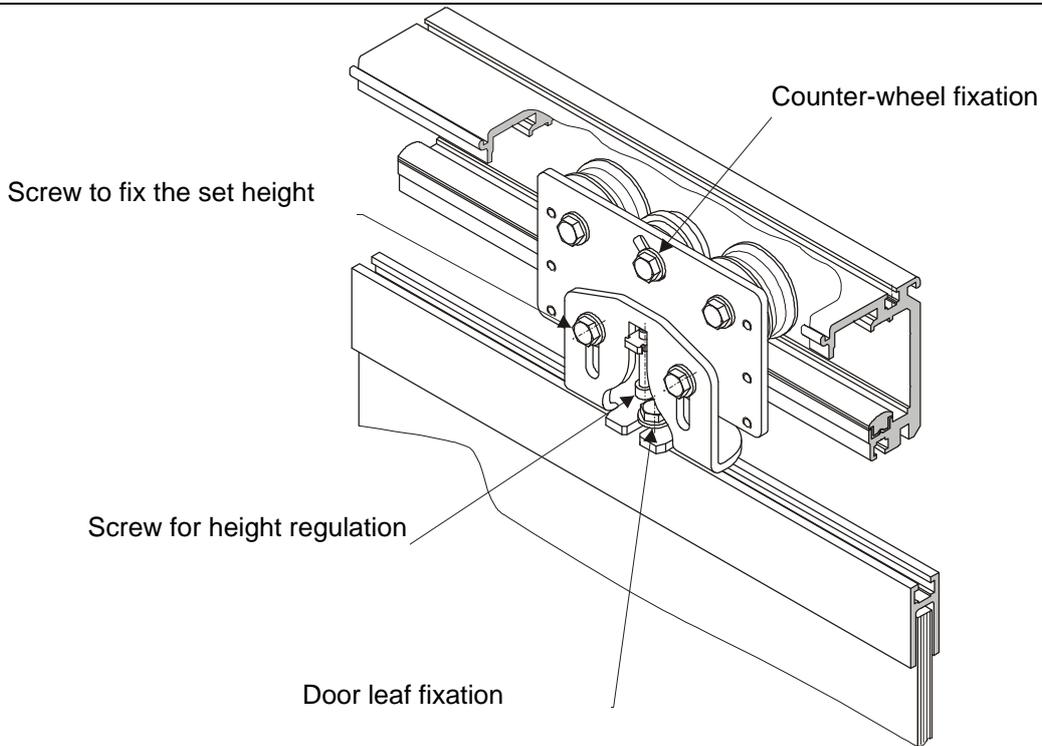


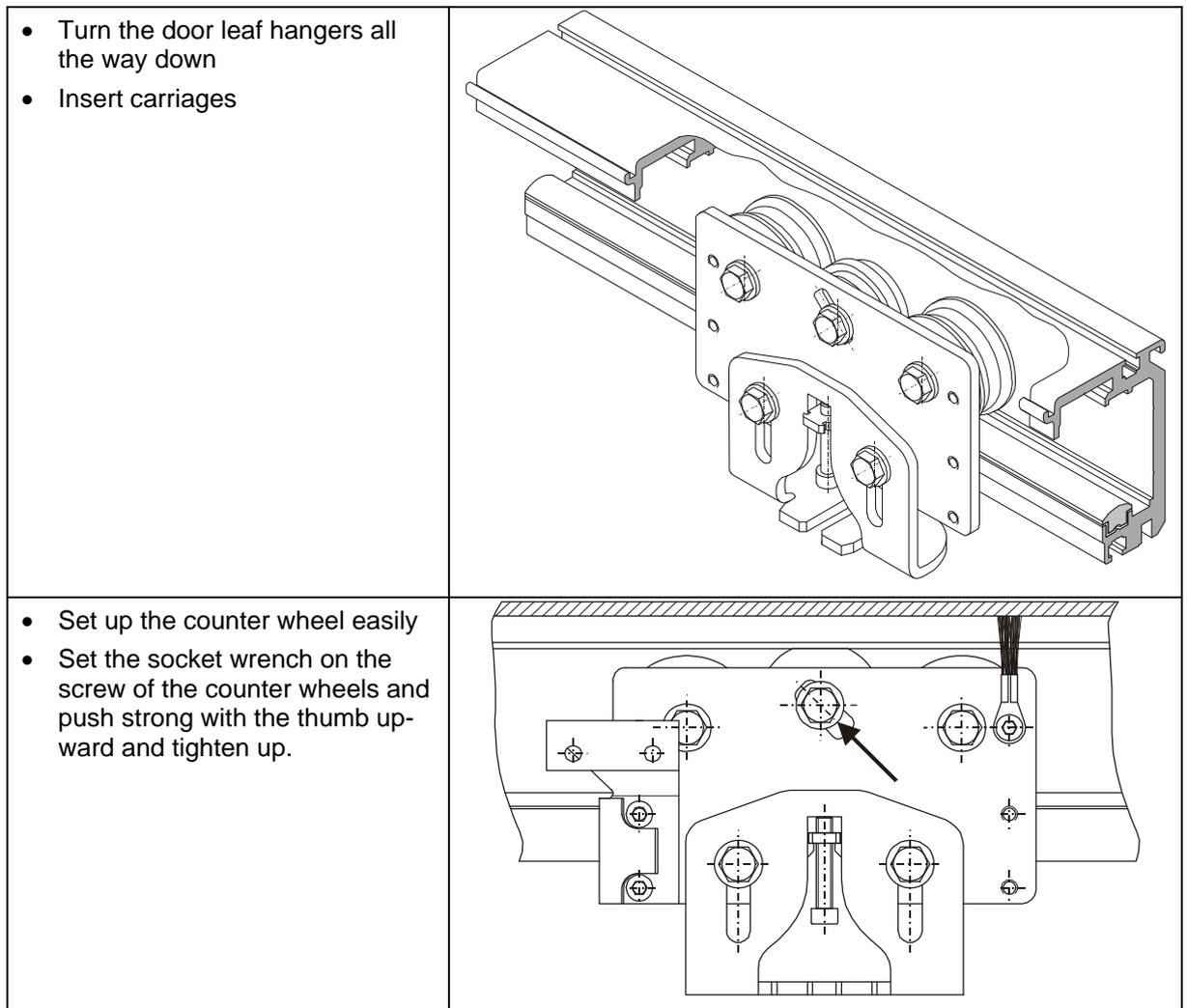
If a locking device is installed on an **E-STA**, the carriage must be moved **50 mm** to the inside

## 3.6. Inserting carriages on profile height 200 mm

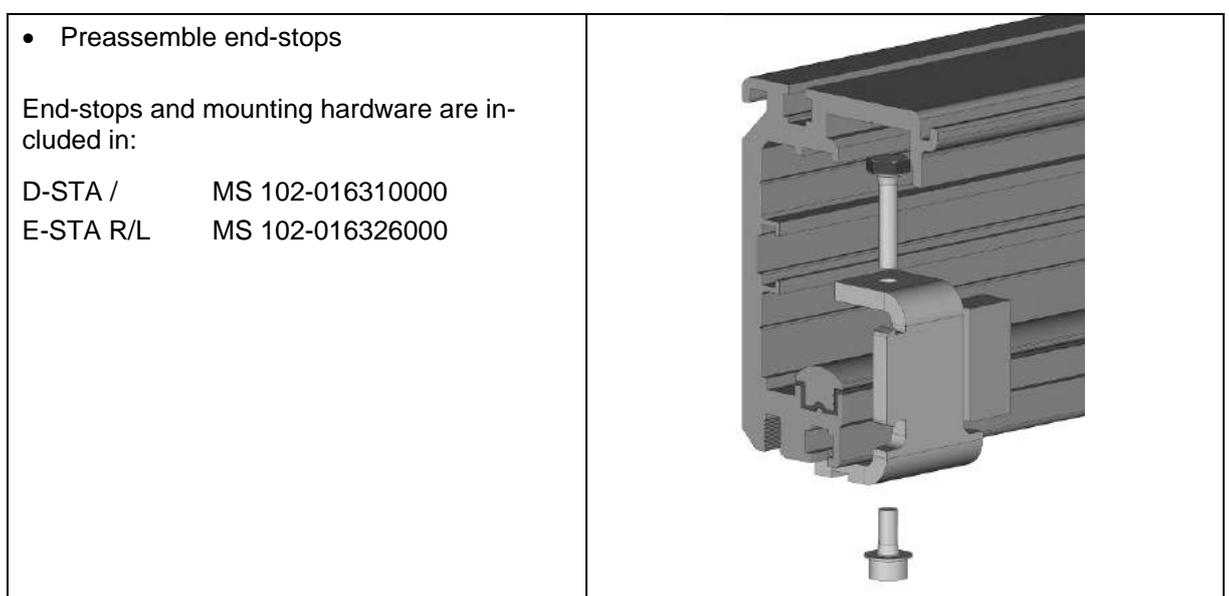


Per carriages max. 67 kg door weight

Inserting carriages	
<ul style="list-style-type: none"><li>• Release counter wheel</li></ul>	
Mounting door leaves panel height 200 mm	
<ul style="list-style-type: none"><li>• Connect the door with the door hangers on carriage</li></ul>	



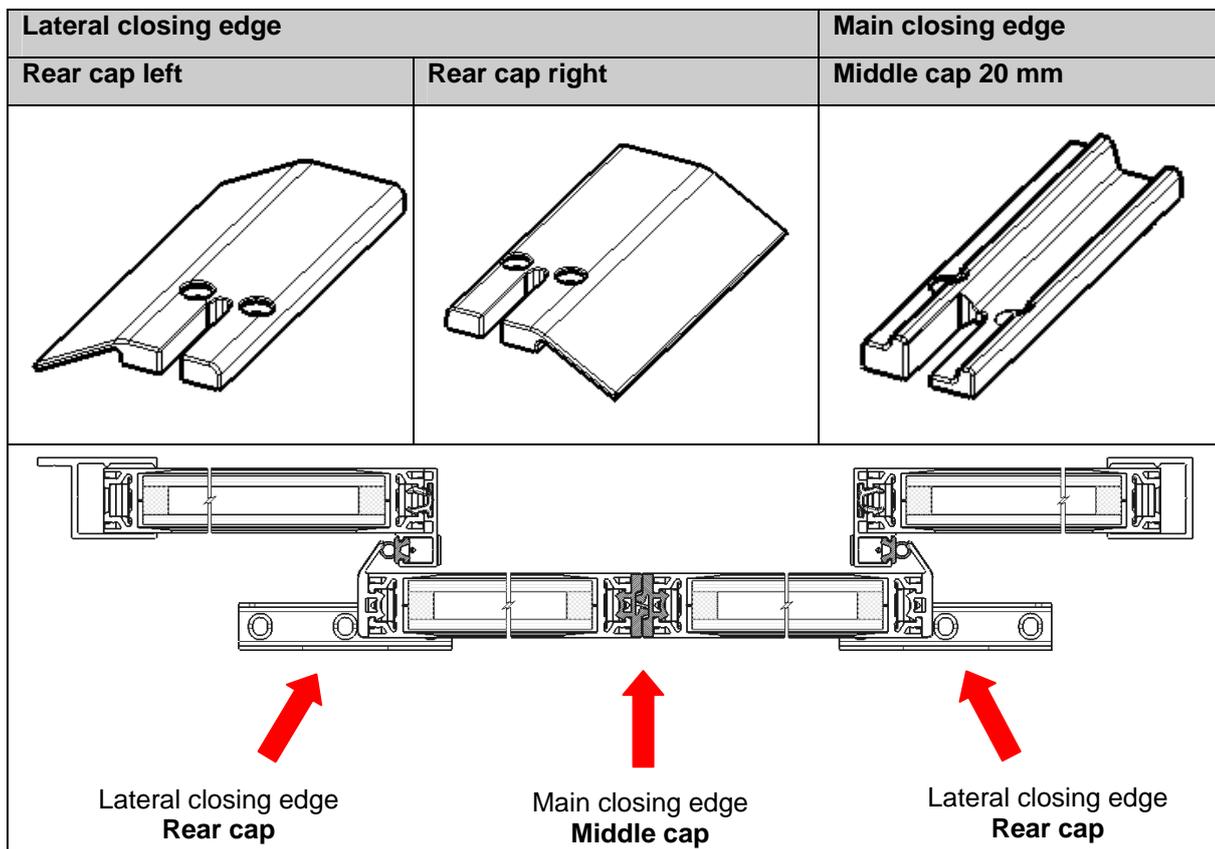
### 3.7. Install end stops on cladding height 200mm



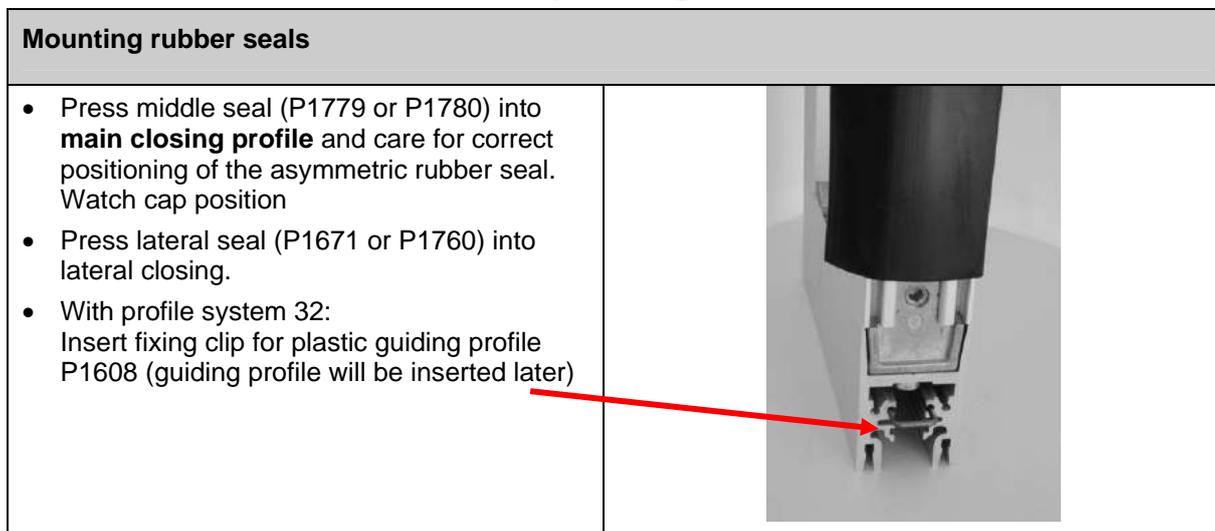
## 4. Installing door leaves D-STA / E-STA

### 4.1. Door leaf caps

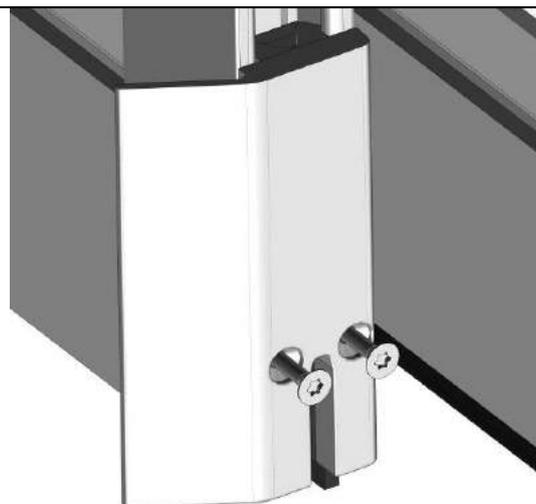
Several mounting sets are available according to side (left or right) and glass thickness.



### 4.2. Rubber seals main and secondary closing



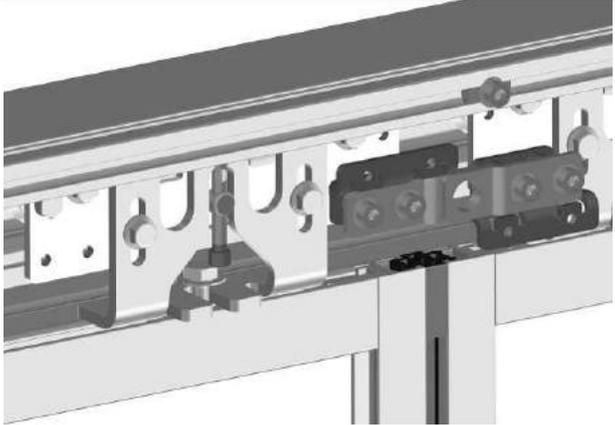
- Fix rear cap with Torx T10 screws

**ATTENTION**

Always mount rubber seals on lateral closing profiles on site. If the fitting takes place at the factory, the rubber edge is often distorted during transport and cannot achieve a proper sealing of the door in the closed position.

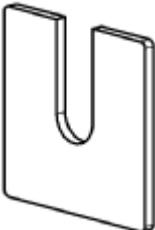
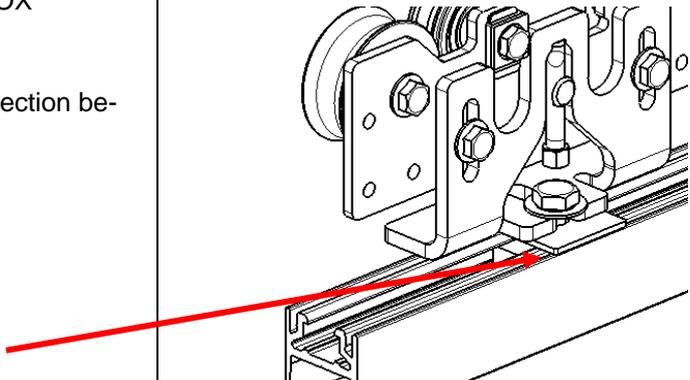
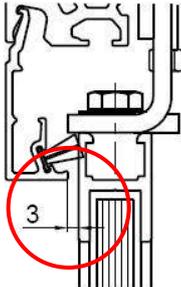
## 4.3. Hanging door leaves

### 4.3.1. Mounting and adjusting door leaves

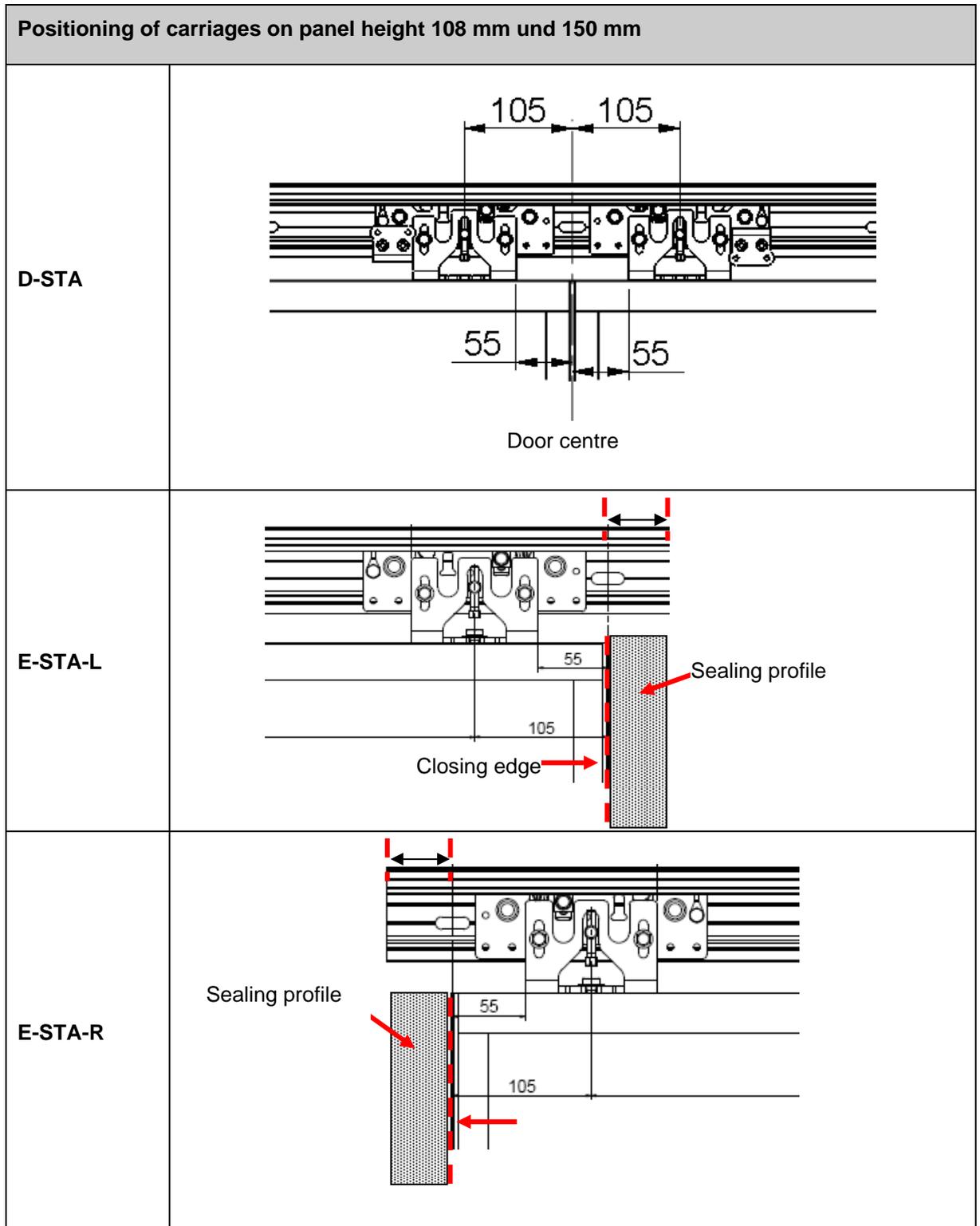
Mounting door leaves panel height 108 mm und 150 mm	
<ul style="list-style-type: none"><li>• The 2 screws M8x17 for the door leaf attachment are contained in the MS carriages</li><li>• Insert door leaves and fix them to the carriages</li></ul>  <p>102-016000017 (Screw M8x17)</p>	



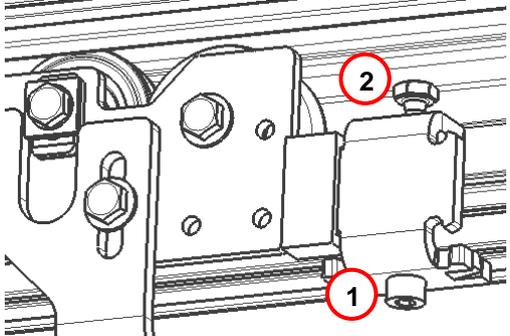
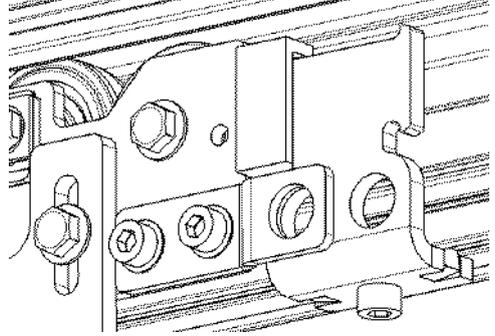
While tightening, take care that the door leaf does not twist. (Carriages and track have to remain parallel).

<ul style="list-style-type: none"><li>• Wedge for door suspension INOX 102-020110485 – 2 mm</li><li>• Application: in the event of insufficient connection between carriage and door leaf</li></ul> 	
<ul style="list-style-type: none"><li>• Leave a 3 mm space between sealing profile and door leaf.</li></ul>	

## 4.3.2. Positioning carriages



### 4.3.3. Positioning of end stops on panel height 108 mm and 150 mm

End stop D-STA (lateral closing edge)	End stop left E-STA (main closing edge with locking strap)
	
<p> <span style="border: 1px solid red; border-radius: 50%; padding: 2px;">1</span> Fixing screw M6x12                  <span style="border: 1px solid red; border-radius: 50%; padding: 2px;">2</span> Earth screw         </p>	



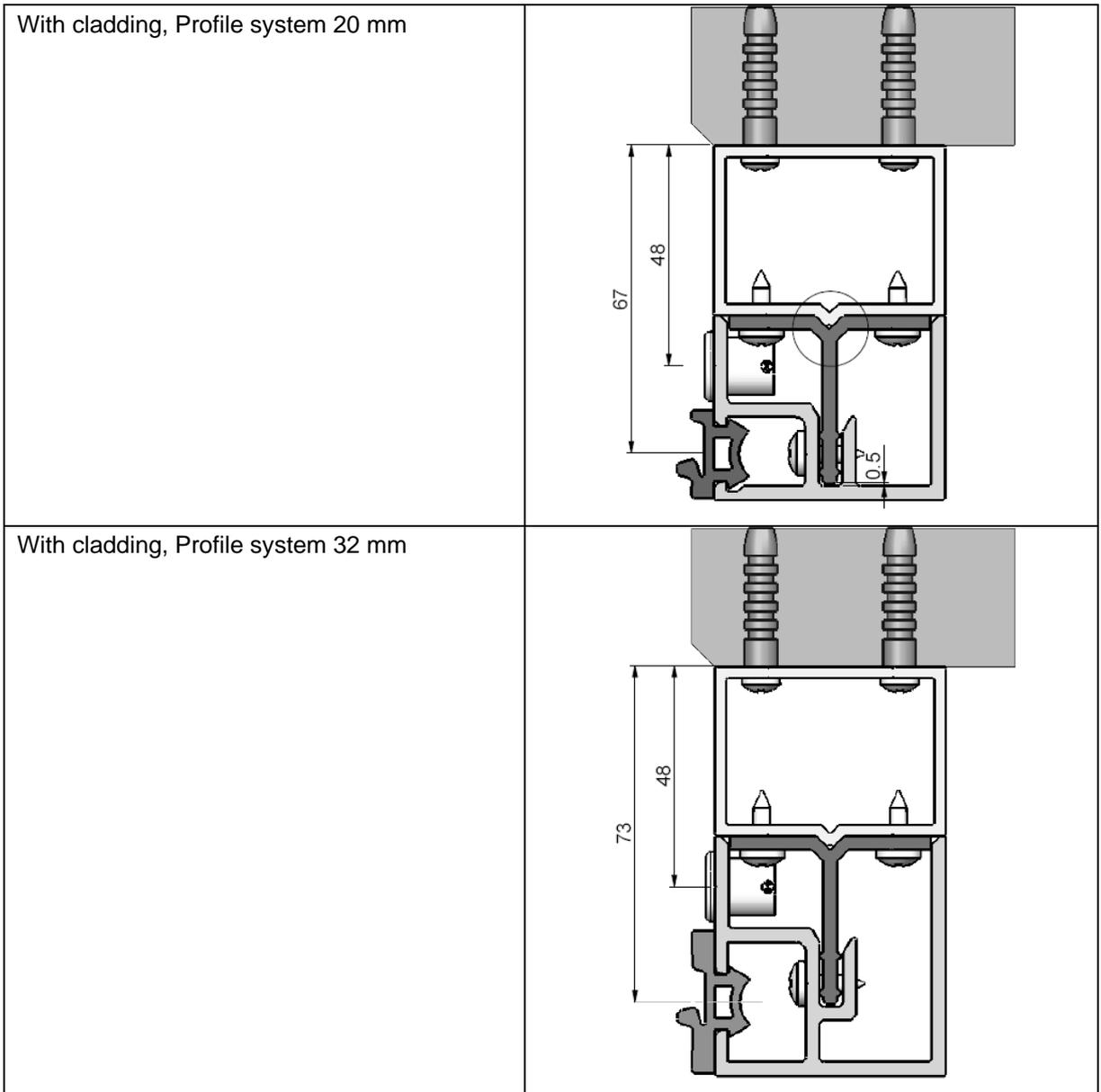
In the event of a **single** door fitted **with a locking device**, the end stop on the closing edge is replaced with:

**MS accessories VRR E-STA 102-020808511**

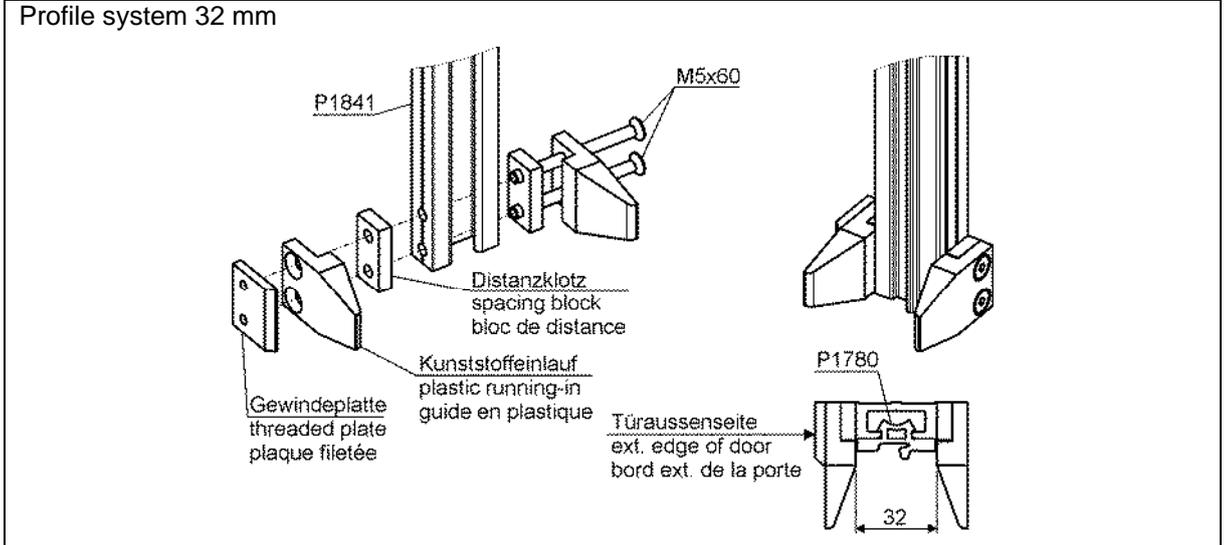


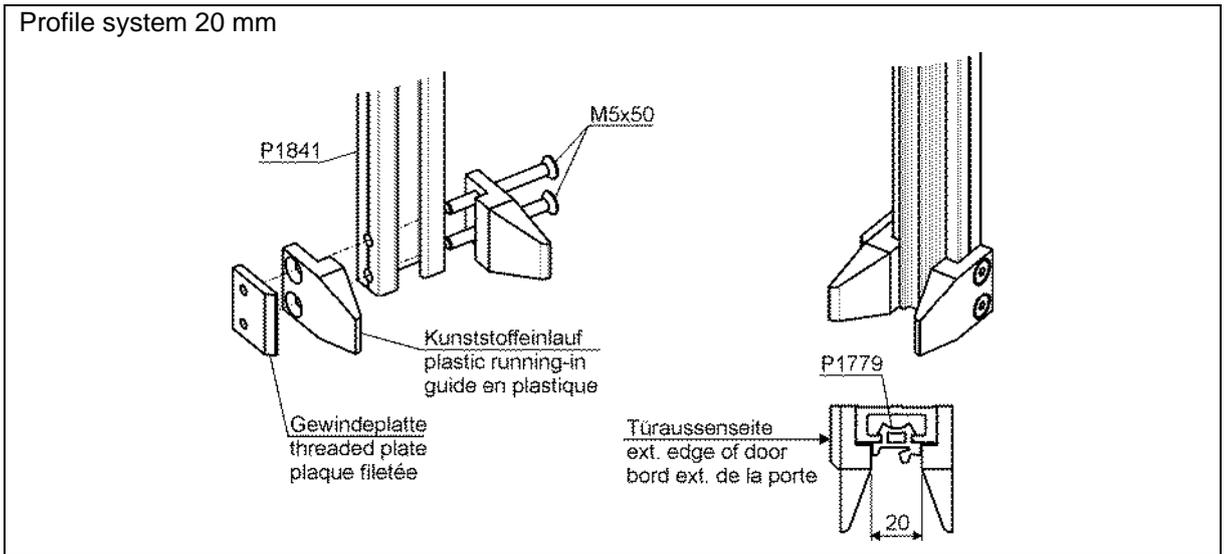
In the case of a single leaf installation, the closing profile should not be used as an end stop.  
The closing forces shall be limited by the end stop fitted on the running gear.

Closing profile for one sided sliding doors Overview E-STA	
<ul style="list-style-type: none"> <li>Make sure that the door is perfectly airtight in the closed position</li> </ul>	<p>81.210 LK-Blechschaube 4.8x13</p> <p>48</p> <p>67</p> <p>P1830 375.110.795 L = G+20</p> <p>P1829 375.110.794 L = G+20</p> <p>P1827 375.110.792 L = G+20 375.110.872 EST links 1 ELS 375.110.873 EST links 2 ELS 375.110.874 EST rechts 1 ELS 375.110.875 EST rechts 2 ELS</p> <p>81.210 LK-Blechschaube 4.8x13</p>
<p>Without cladding, Profile system 20 mm</p>	<p>11</p> <p>30</p> <p>0.25</p> <p>0.4</p> <p>0.5</p>
<p>Without cladding, Profile system 32 mm</p>	<p>11</p> <p>36</p>

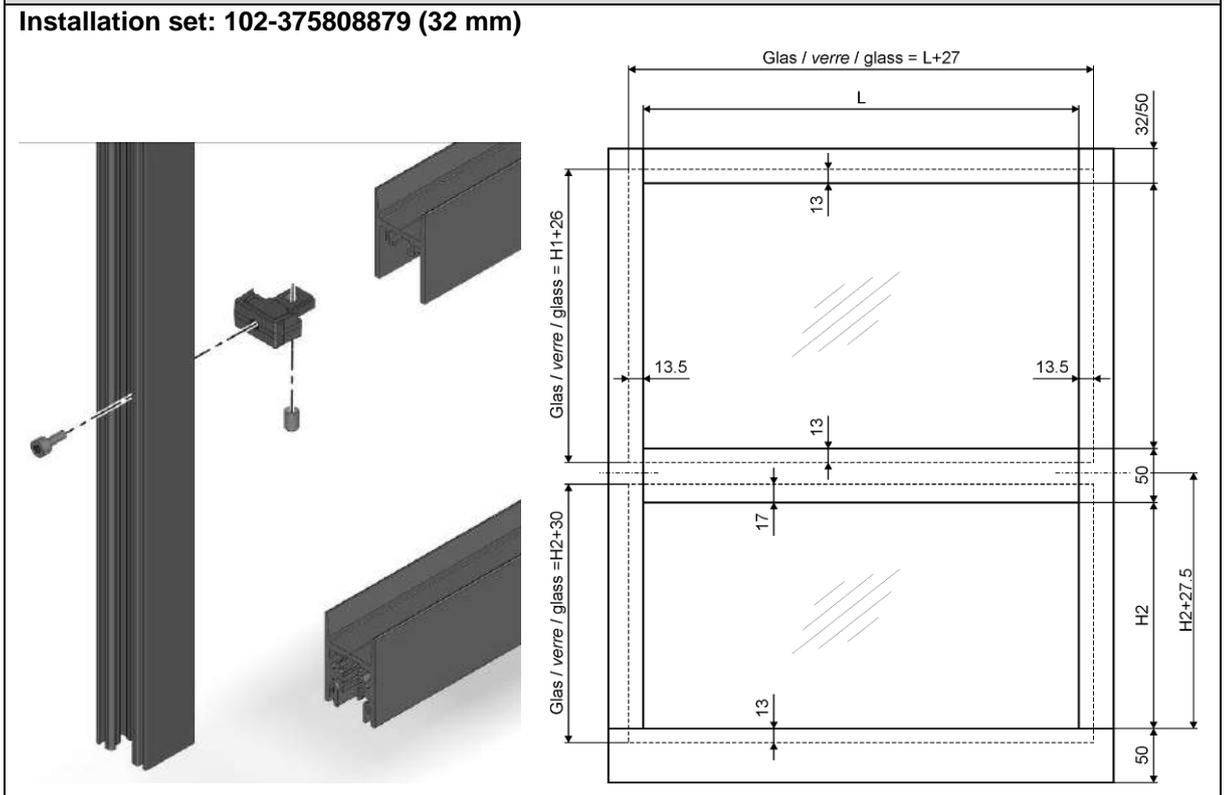


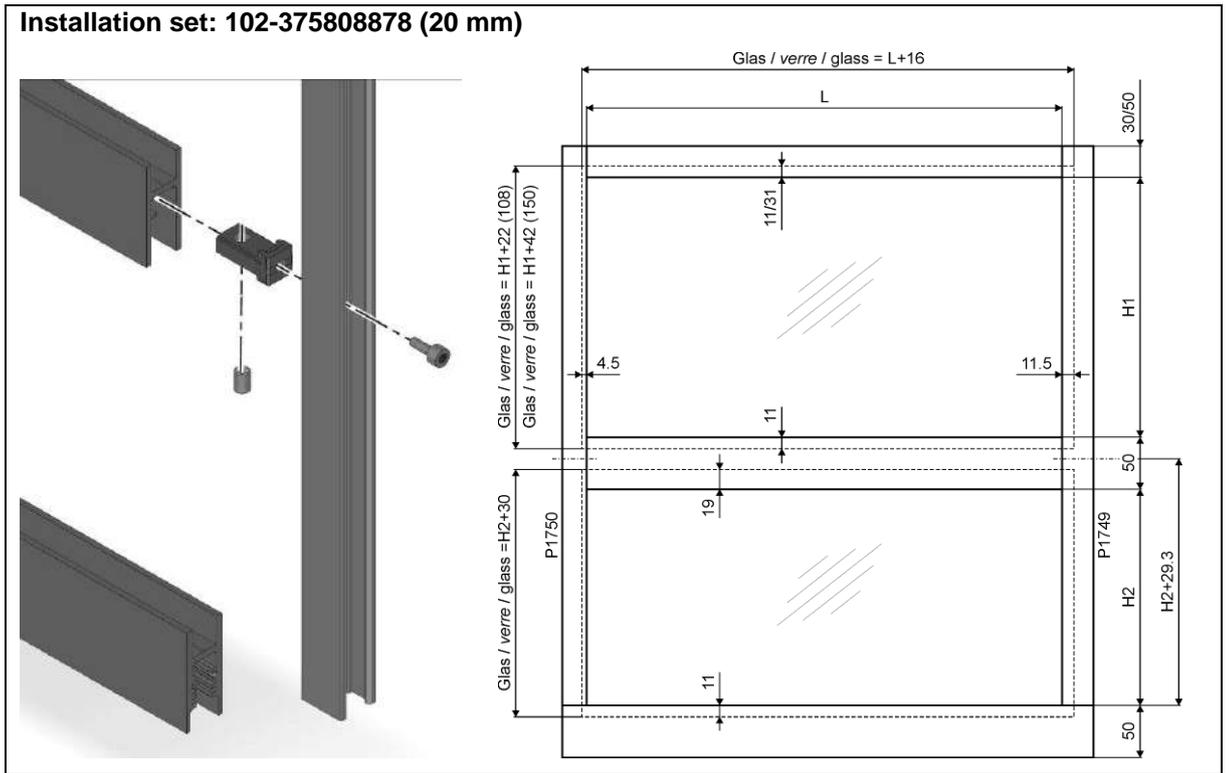
**Running-in profile for profile system 32 mm and 20 mm  
Mounting Set: 102-375810193**



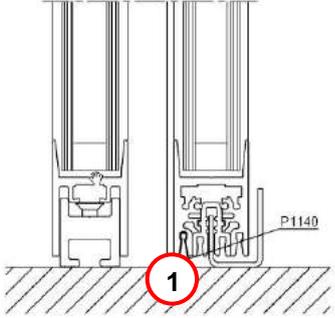
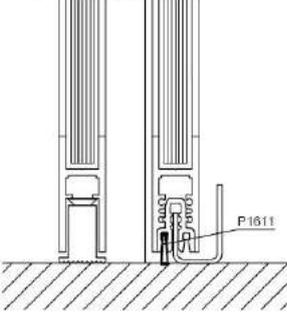
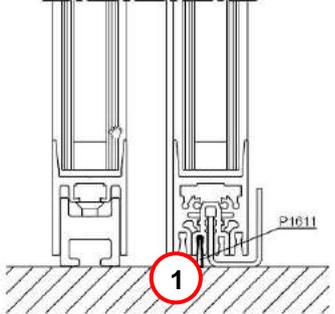


**Installation crossbar profile system 32 mm and 20 mm**



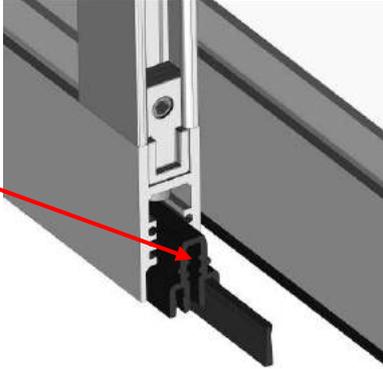


### 4.3.4. Inserting plastic guiding profile

Position of brush	20 mm profile	32 mm profile
<b>In bottom profile</b>	Not possible	
<b>In plastic guiding profile</b> (on opposite side of door leaf guide)		

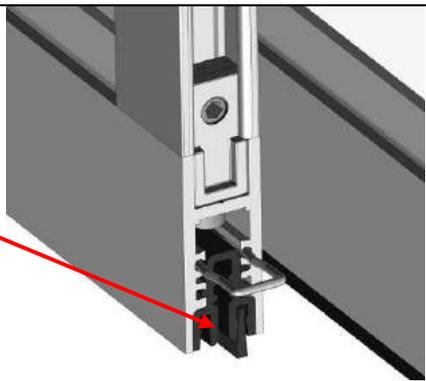
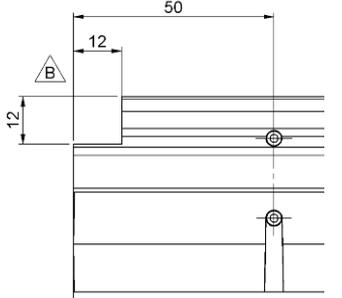
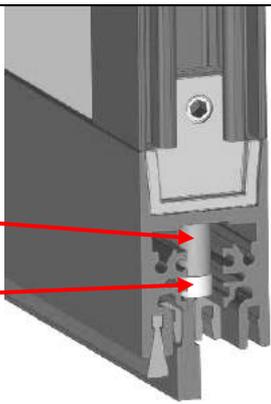
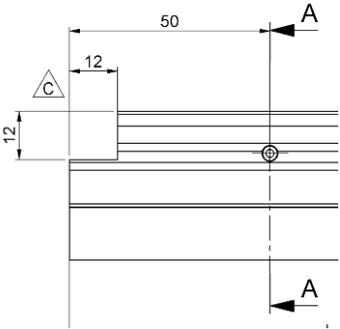
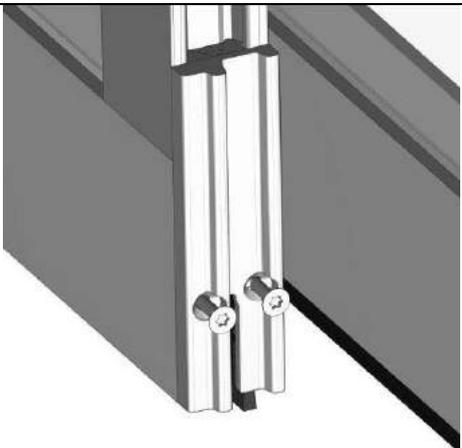


- Brush profile (P1611) → 13 mm (standard)
  - Brush profile (P1140) → 15 mm (also for uneven floors)
  - Observe the difference height of 2 mm as shown below
- 1** (Mounted in bottom rail ← → Assembly in plastic guide profile)

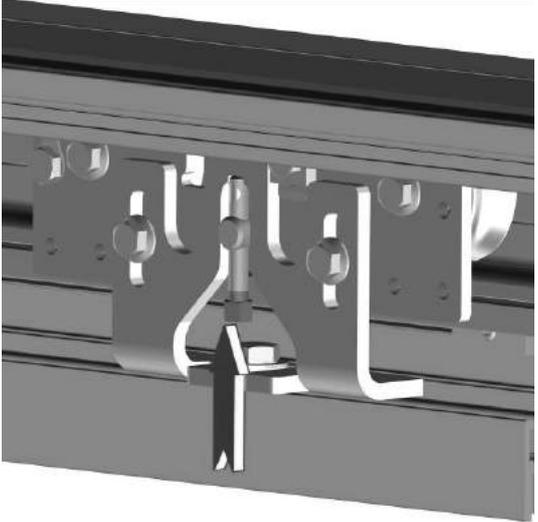
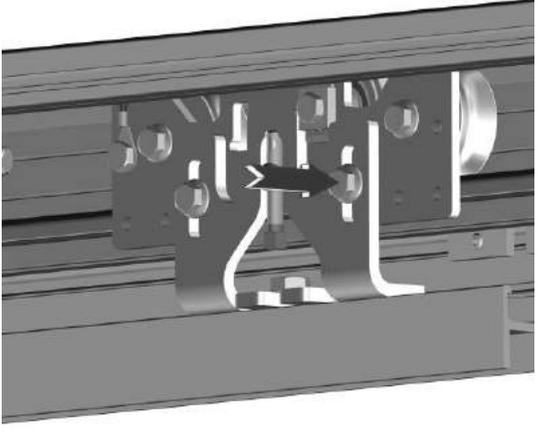
<ul style="list-style-type: none"> <li>• Insert plastic guiding profile (P1608)</li> <li>• Cut both sides away with a cutter (necessary for fixing clip)</li> <li>• Insert brush profile (P1140 or P1611 according to floor)</li> </ul>	
---	---



Always install the brush profile in a way that it does not run over the door leaf guide!

<ul style="list-style-type: none"> <li>With profile system 32: Secure plastic guiding profile with clip</li> </ul>	
<ul style="list-style-type: none"> <li>Alternative version of the guiding profile with bushing and screw locking</li> </ul>  <p>102-020110919</p>  <p>102-080060 ZK-Schr I-6kt DIN912 VP M5x22</p> <p>Adaptation of the blade is therefore necessary</p>  <p>102-375808544</p>	  <p>102-375808751</p>
<ul style="list-style-type: none"> <li>Fix middle cap with Torx T10 screws</li> </ul>	

## 4.3.5. Height leveling and adjustment, cladding height 108 mm, 150 mm

<ul style="list-style-type: none"><li>• Height leveling with Allen key</li></ul>	
<ul style="list-style-type: none"><li>• and tighten safety screws with ratchet</li></ul>	

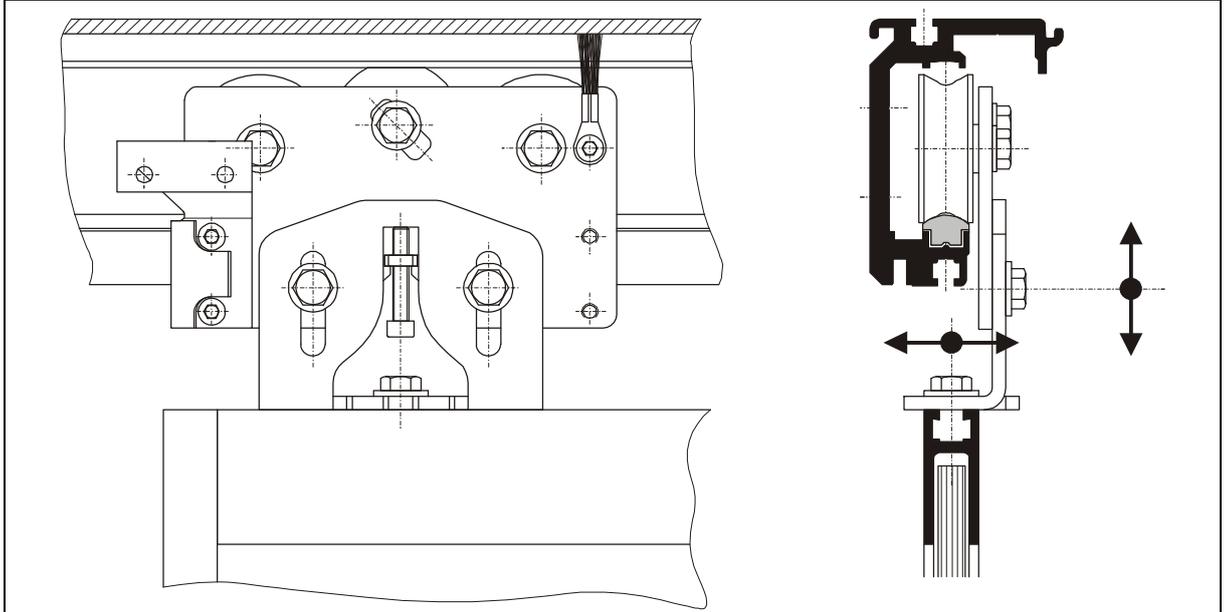


Carriages must be aligned!

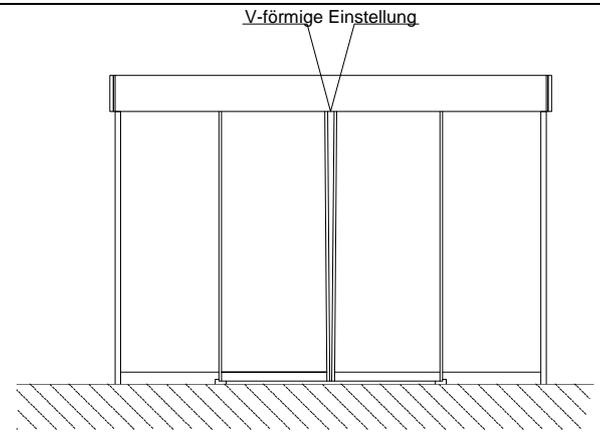
## 4.3.6. Height leveling and adjustment, cladding height 200 mm

## Positioning of carriages on cladding height 200mm

- At first set height level



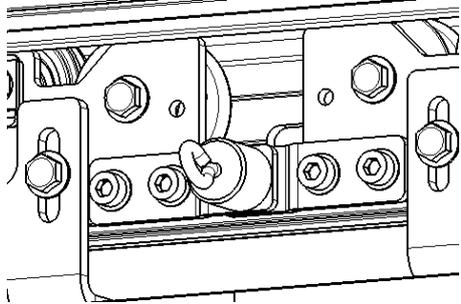
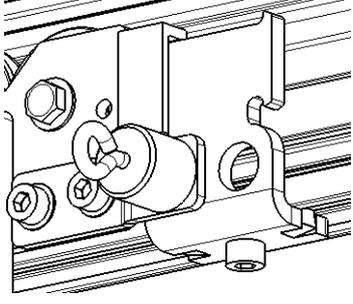
- Align door leaves in a slightly V-shaped angle. When door leaves are adjusted, tighten all screws firmly. **Do not over wind!**
- Move door leaves by hand and check for easy running



## ATTENTION



Stabilizer-wheels must be able to turn easily!

Panel height 108 mm and 150 mm	
D-STA	Left E-STA – closed position (right E-STA – mirror image)
	
<ul style="list-style-type: none"><li>• Check locking straps</li><li>• Manually close door leaves completely</li></ul>	



A 12.5 mm Ø bolt is a suitable setting help for positioning the door.  
(art. no. 102-020808741)

## 5. Installation of the drive unit D-STA / E-STA

Drive unit set STM 20 / 21 / 22

### 5.1. Axle spacing: drive unit / guide pulley (without MPV 20)

**D-STA – A = > 950 – 3000 mm**

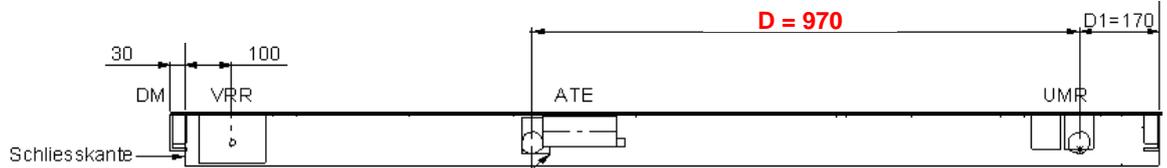
- For doors with **A > 1100** the distance can be increased to 300 (**DO = A/2 + 300**)
- Alternative to define the distance between axes:  
Position ATE or UMR pulley to lateral closing edge (side screen) = **250 mm**
- Total length of toothed belt:  $2A + 1150$  mm (**recommended cut:  $2 \times A + 1250$** )

**D-STA - A = 800 - 950 mm**

- Total length of toothed belt: 3050 mm (recommended cut: 3150)

**E-STA – A = > 820 – 3000 mm**

- Total length of toothed belt:  $2A + 450$  mm (recommended cut:  $2 \times A + 550$ )

**E-STA – A = 800 – 820 mm**

- Total length of toothed belt: 2085 mm (recommended cut: 2150)

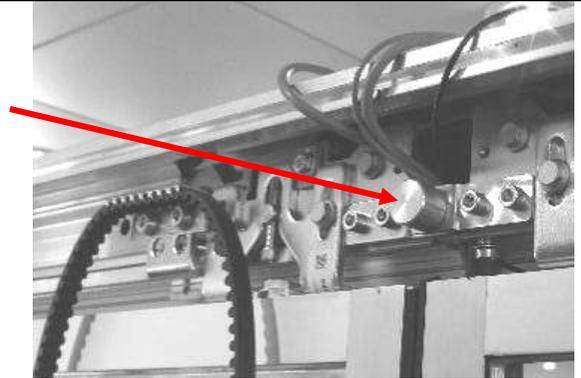
**HINWEIS**

Should a MPV 20 be used, distances from ATE and guide pulley (UMR) must be increased by 100 mm and the toothed belt must be cut about 200 mm longer.

**5.2. Fitting drive unit and toothed belt**

<ul style="list-style-type: none"> <li>• Insert slot-nut 102-020109861 into the upper groove of the track support profile</li> </ul>	
<ul style="list-style-type: none"> <li>• Fix motor (ATE) using tongue-nuts (proceed according to paragraph Axle spacing)</li> <li>• Fit guide pulley support and tongue-nut (positioning according to paragraph Axle spacing)</li> </ul>	
<ul style="list-style-type: none"> <li>• Make sure that the distance of the connecting clamp to the drive and guide pulley is sufficient</li> <li>• Cut toothed belt to length according to specifications or estimate the length required by guiding it over the drive and guide pulley</li> <li>• Connect both belt ends together with a belt clamp</li> <li>• Press together with a pair of pliers</li> </ul>	

- Fix toothed belt on top of left carriage
- Fix door leaves with 12.5 mm bolt
- Lay belt on motor and on guide pulley and tighten it slightly



- Place second belt clamp on the right hand side of the door leaf, press it onto the place set by the connecting clamp and screw it to the carriage



- Insert screwdriver no. 4 or 5 into the gap and tighten toothed belt with a rotating movement
- Tighten screws on guide pulley support
- Check that door leaves are properly centred – i.e. symmetrical to the sealing profiles
- Control manually on the whole sliding section that door leaves are properly adjusted

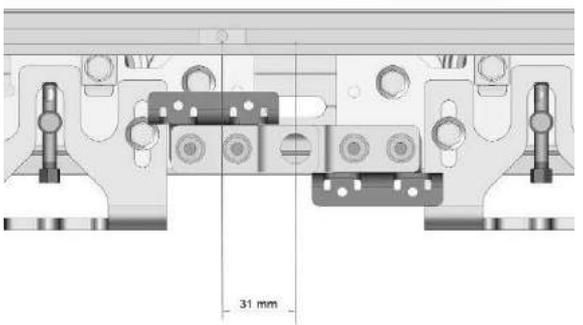
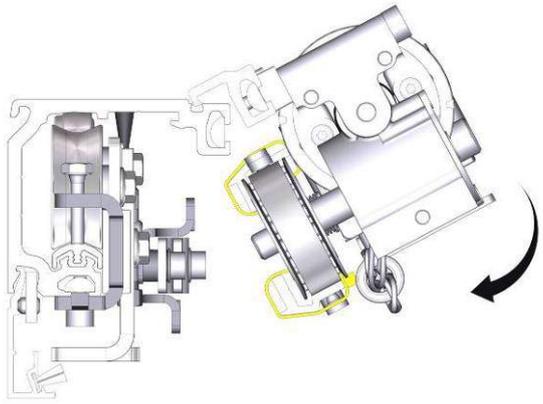
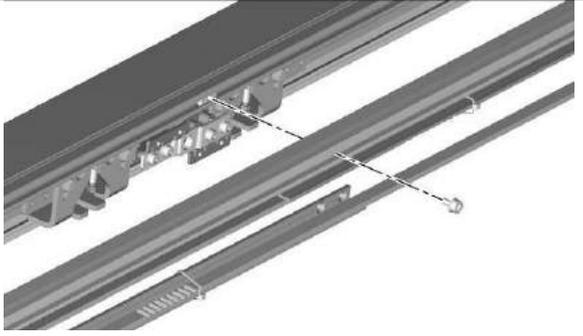


## 5.3. Attachment of the SSA drive module

**ATTENTION**



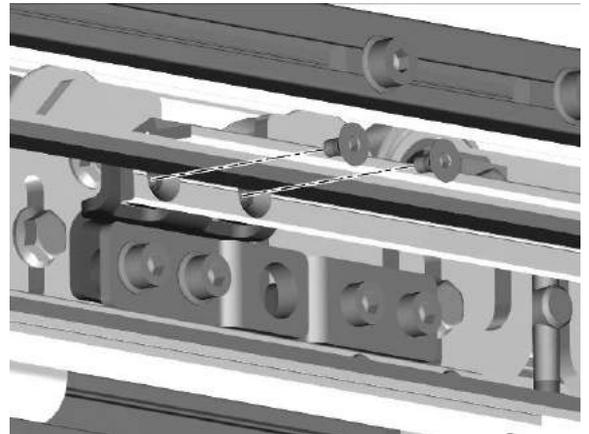
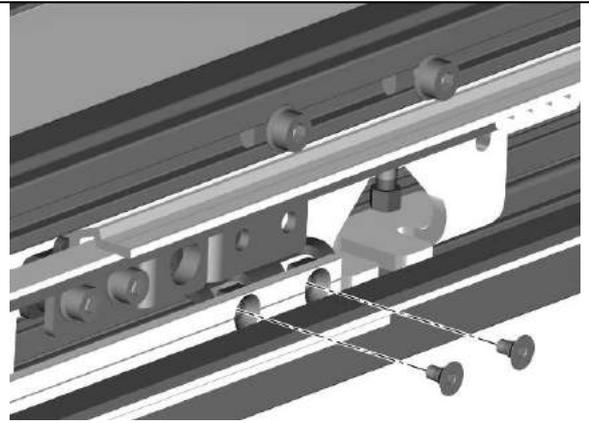
The options are to be mounted on the module support 102-020808950 only  
 The application of a MPV is not possible on a slide bar operator

<ul style="list-style-type: none"> <li>On the measured middle -31mm on left</li> </ul>  <p>102-020109289</p>	
<ul style="list-style-type: none"> <li>Mount the preassembled drive module, align with the centred door leaf and screw them slightly on the middle slot nut</li> </ul>  <p>102-080029          ZK-Schr I-6kt DIN912 VP M6x20</p>	
<ul style="list-style-type: none"> <li>Screw also the drive module slightly on right and left slot nut</li> </ul>	

- Close the door leaf and align it on the middle
- Screw slidebar on the top and on the bottom



102-31123 (SK-Schr I-6kt DIN7991 SV M5x8)

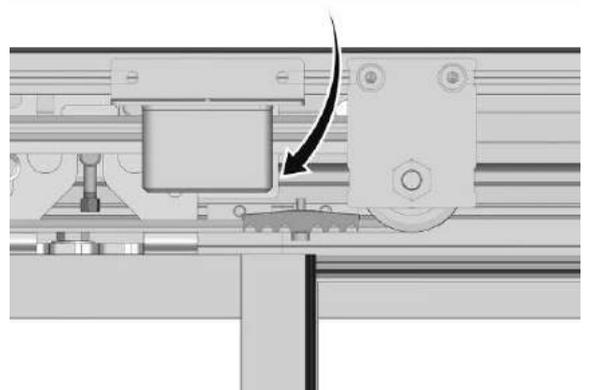


#### NOTE



Options like locking device, battery, FEMO etc. must be screwed on the module support in advance

- Insert screwdriver no. 4 or 5 into the gap and tighten toothed belt with a rotating movement
- Tighten screws on guide pulley support
- Align the drive module
- By closing the door leaves the drive module will move in the optimal position
- Tighten all 3 pre-positioned screws



- Insert 2 in the drive module contained slot nuts with screws in the basic profile, mount the control unit in the pre-assigned position and tighten the screws

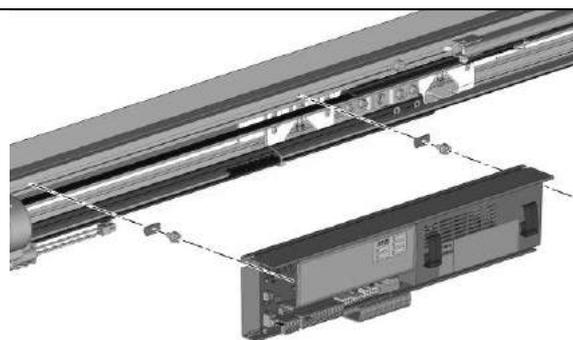


102-020109289



102-108975

ZK-Schr I-6kt BN1392 VP M6x10)

**ATTENTION**

The control unit must be preconfigured to apply the simplified start-up.

## 5.4. Positioning and connecting electric components

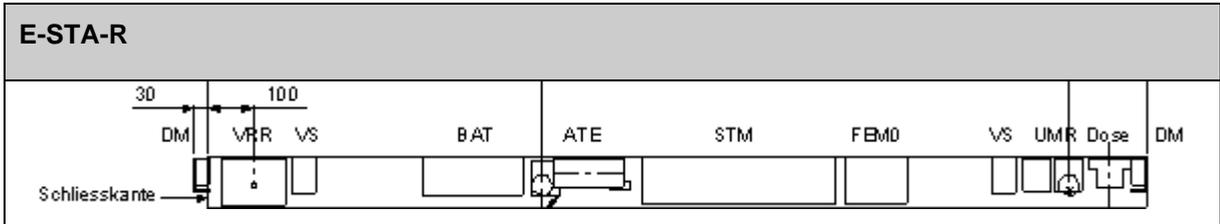
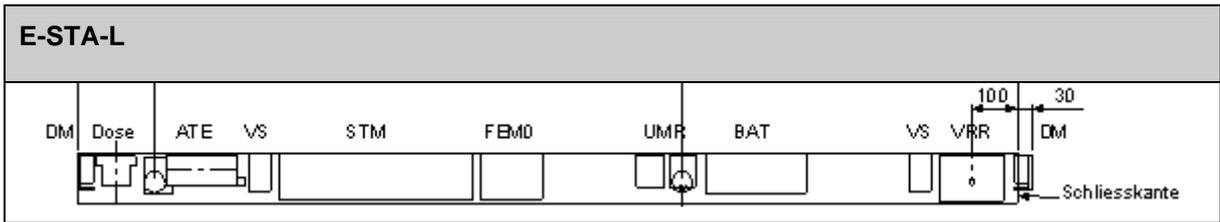
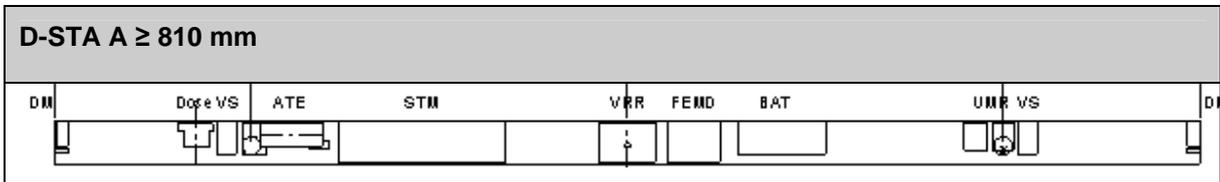


**NOTE**

### Connect Electrical Components

- The according components are included in the power set

- Due to variable width of passage (A-dimension) several cable lengths are available
- The single components can be installed in the following order



**NOTE**

- On the above sketches, position of casing supports has not been taken into consideration
- Especially on installations with narrow opening width, it might be necessary to shift certain elements

Legend	
ATE	Drive unit
BAT	Lead-acid or NiCd battery-pack
DM	Wall console for self-supporting installation
Dose	Mains voltage
FEM-0	Extended functions module for light barriers, other manufacturers' sensors
STM	Control module
UMR	Guide pulley
VRR	Motorized locking device
VS	Casing console

#### 5.4.1. Fitting and connecting single elements

- Mount control module (STM) and fix cable holders
- Mount optional FEM-0 and fix cable holders
- Attach ATE and connect it to STM
- Fit cable holders next to ATE
- Attach optional battery
- Fix socket



#### WARNING



#### Electric Shock

- Shock, burns or the death can be the result
  - Connection to the mains must be performed by an authorized person.

- Guide cables out of operator components through plastic supports
- Tip: if the elements are too loose, wedge in between a piece of round-section cord

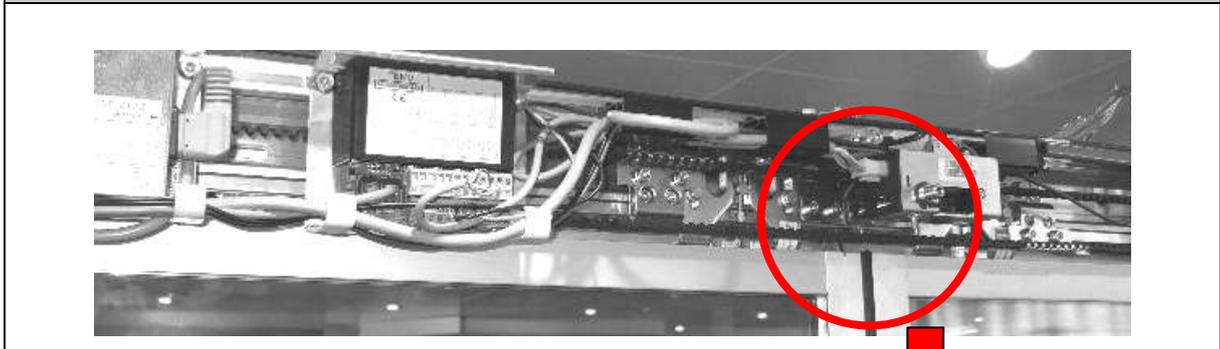




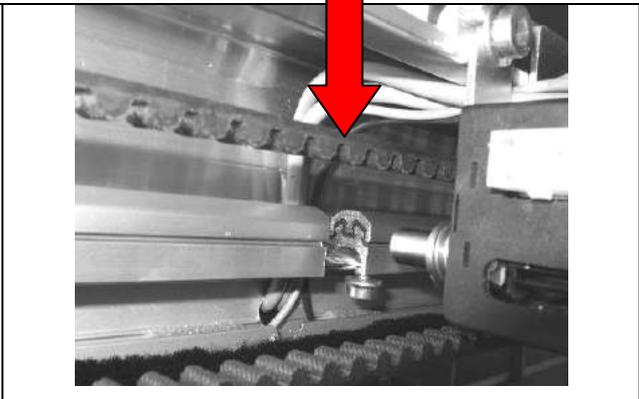
While connecting all components with the supplied cables, care should be taken to avoid any unnecessary cable loops!

## 5.4.2. Leading AKA and ELS cables to control module STM 20

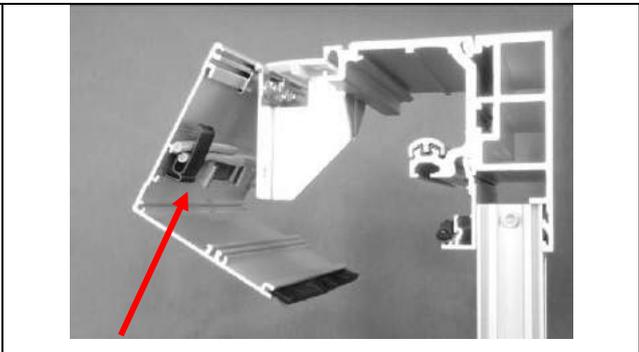
Cable holders are contained in set MS 102-020808477



- Pay attention that cables do not come into contact with toothed belt
- **Variant :**  
Do NOT cut track, which facilitates cable guiding



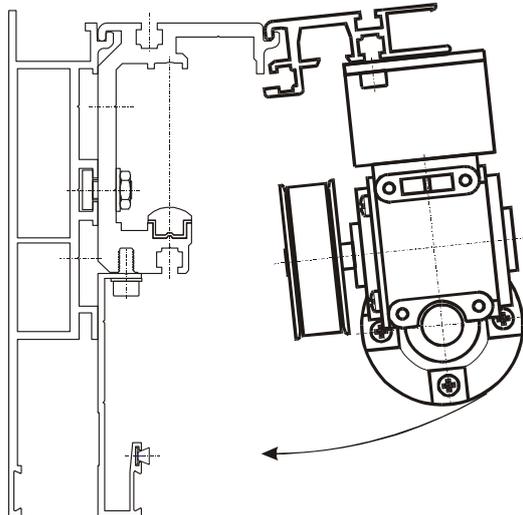
- Lead AKI cable along casing
- Cable holders contained in set 102-020808471



## 5.5. Installation of the 200 mm drive module

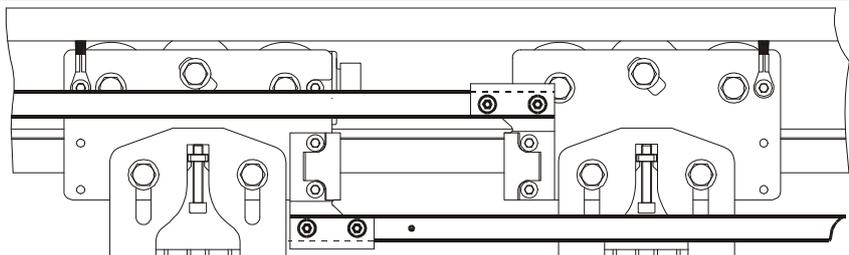
**Mount the drive module**

- Open the door leaf about. 400 mm
- Mount on the drive module

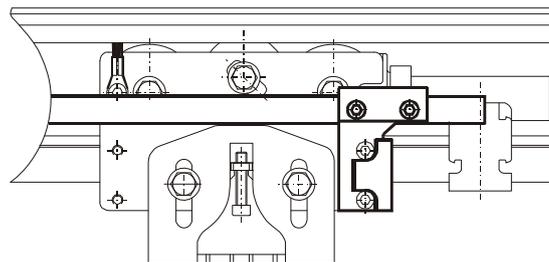


- Centre temporarily the drive module
- Fasten the slide bar, remove the cable ties if necessary, if they disturb the movement

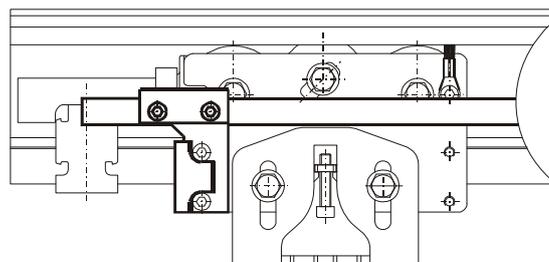
D-STA



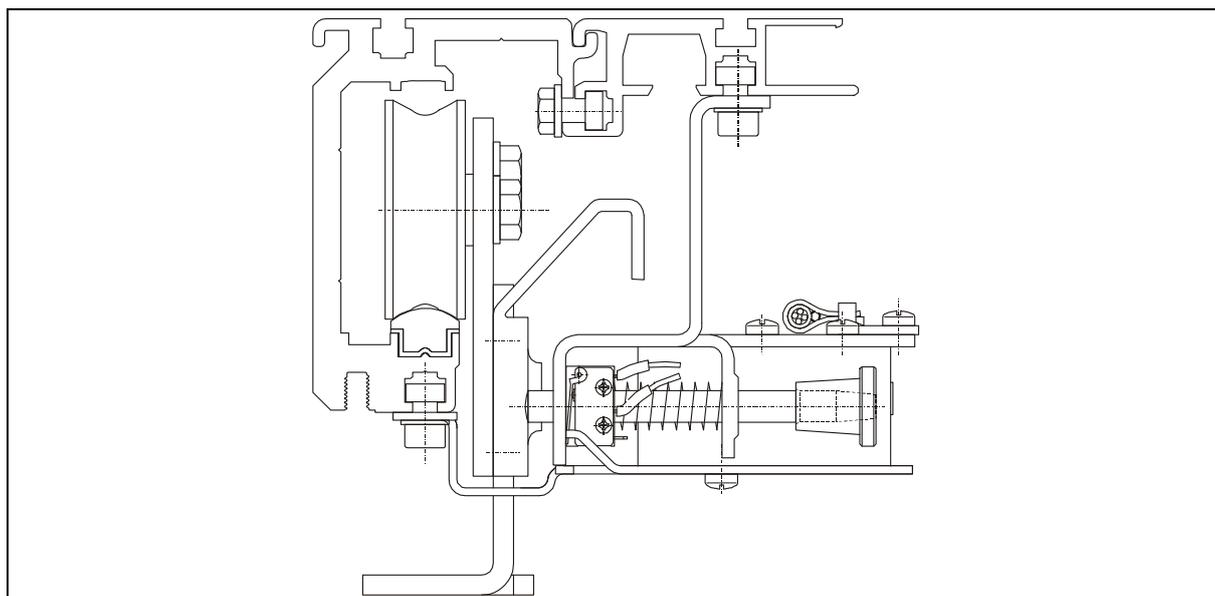
E-STA-L



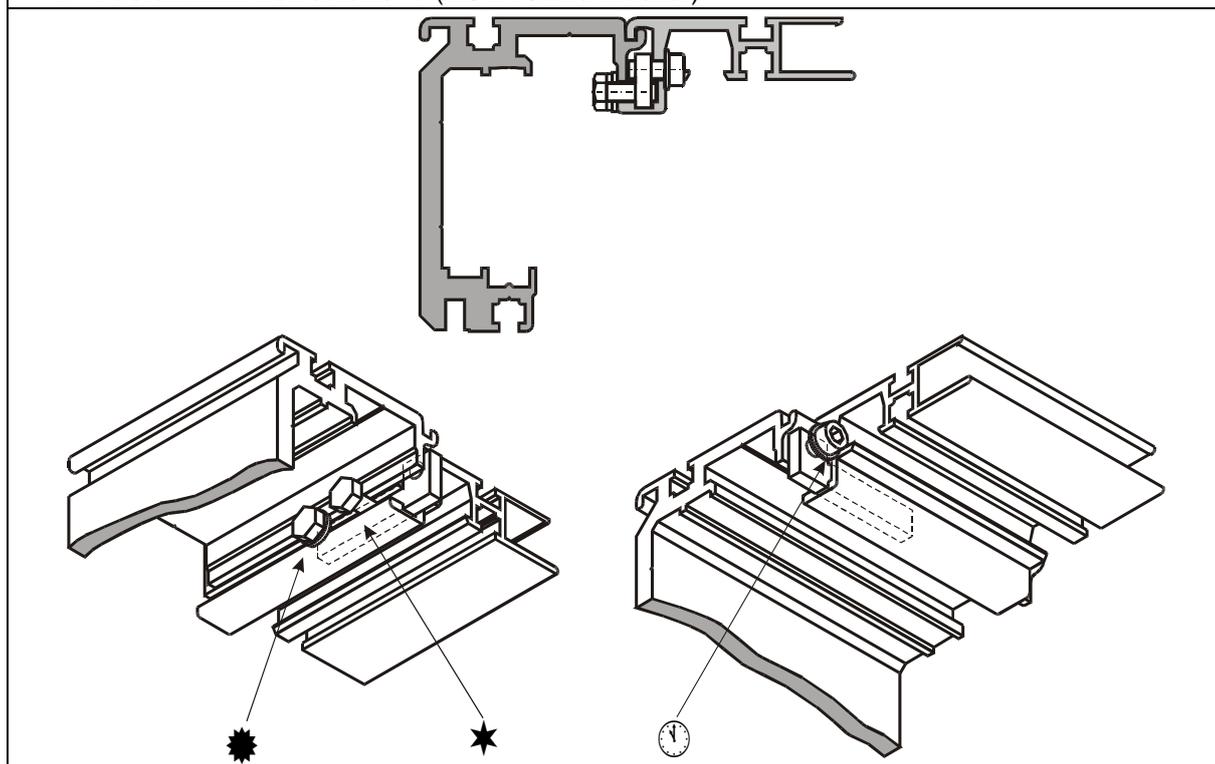
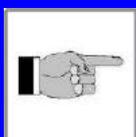
E-STA-R



- Centre the module together with the door leaf compared to the side screens
- If using a locking device, check the engagement of the locking bolt and move the VRR if necessary

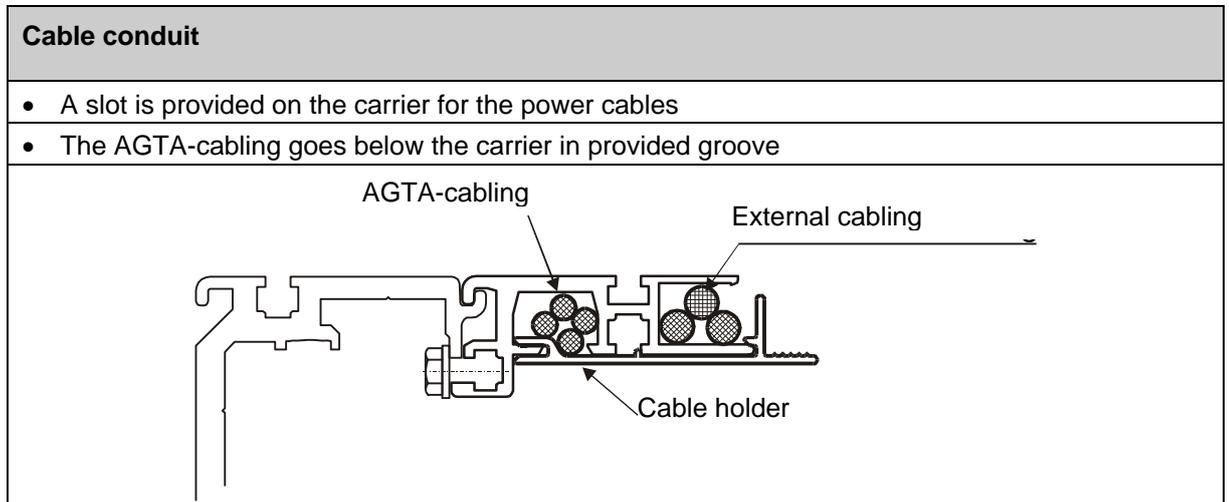


- Fasten the module left and right with slot nut bracket:
  - First tighten the middle screw ← (M6 x 16)
  - Level out with hex. socket screw ↑ (M6 x 12)
  - Fasten with Allen screws → (M6 x 10 and Washer)

**NOTE**

- Check tension of toothed belt and if necessary tighten
  - The guide pulley must be parallel to the running rail (no distortion)
  - Strongly fasten the guide pulley
- Move the door leaf manually and check for easy movement

## 5.5.1. Cable conduit on product line 200 mm

**NOTE****Connect electrical equipment**

- According wiring schematic (AS) BDE, ELS, radar) etc. connect devices and cover cables
- When installing the BDE in multiple combinations the power requirements must be followed!

**NOTE**

- The electrical connection of the 230V, to the power socket on the module support, should be done by an approved electrician on site.