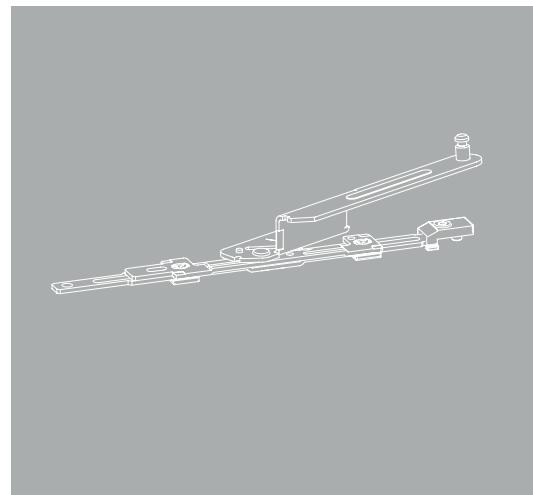
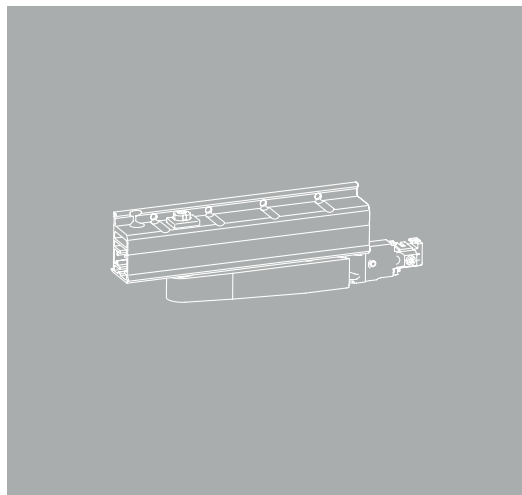
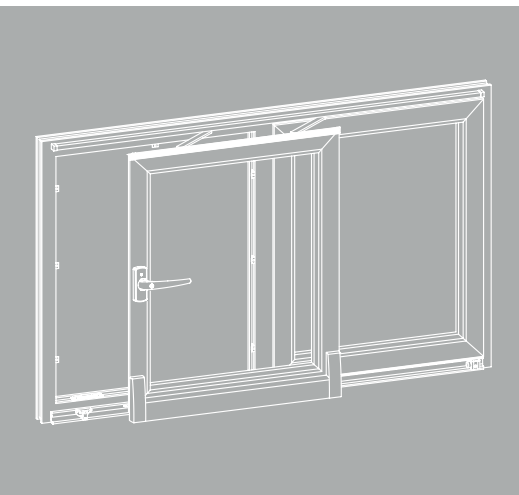


# HAUTAU

## Atrium<sup>®</sup> Alu-HKS

SLIDE-TILT-FITTINGS



### MOUNTING INSTRUCTIONS

ALU-HKS 160 S  
WITHOUT CENTRAL LOCKING

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# Important Information

## General Information

The current version of our General Terms & Conditions can be found on the Hautau website (<https://www.hautau.de/en/>). Retain these assembly instructions for later use and maintenance. Failure to comply with these assembly instructions releases Hautau from any liability. Please note your obligation to inform your customer regarding the operation and maintenance of the system as well as all safety related information.

These instructions specify the installation of fittings in standard version. For further mounting applications and the use of drilling jigs/tools, you need the following additional instructions

"Mounting instructions ATRIUM® Alu-HKS 160 S"	(233596)
"Additional instructions ATRIUM® Alu-HKS 160 S – scheme C"	(241012)
"Additional instructions ATRIUM® Alu-HKS 160 S – displaceable guide block"	(224487)
"Additional instructions ATRIUM® Alu-HKS 160 S – use of drilling jigs/tools"	(236081)

Hautau as a customer-oriented and service-oriented company offers you the

„Maintenance and setting instructions ATRIUM® Alu-HKS 200 Z“	(232780)
„Maintenance and setting instructions ATRIUM® Alu-HKS 160 S, 160 S oV“	(232786)
„Maintenance and setting instructions ATRIUM® Alu-HKS S...(with snapper)“	(131291)

You can find the documents in the download area on **[www.hautau.de/en](http://www.hautau.de/en)** .  
Please hand over the user manual to the end user and ensure they are briefed.

## Target Group

This documentation is intended exclusively for specialist companies and certified specialists. The work-steps described herein may only be carried out by certified specialists.

## Certification

The Hautau hardware mentioned in the assembly instructions are tested and regularly monitored in standardised tests in accordance with EN 13126. The achieved Class H3 standard does not refer to your individual element system. Due to a wide range of influencing factors, individual element systems may experience minor deviations from standardised testing, such as:

- › the influence of processing tolerances
- › the effect of assembly tolerances after installation of the element in the building envelope
- › the use of accessories (e.g. weather seals, seal rails, handles, etc.)
- › the use of attachments (e.g. Aluminium shells, sun protection on the sash, insect protection)
- › environmental influences  
(e.g. humidity, sunlight, high or low temperatures, temperature fluctuations, etc.)
- › room-side influences (moisture, aggressive cleaning agents, etc.)

## Important Information

### General Safety Information

It is important to follow these instructions to ensure people's safety!

When reading this document and the safety instructions, please note the following signs and colours:



This indication indicates a situation that may arise if the instructions are not followed and which can lead to fatal injuries.



This indication indicates a situation that may arise if the instructions are not followed and which can lead to fatal and/or serious injuries.



This indicates a situation that may arise if the instructions are not followed and which can lead to minor injuries.



This note indicates important additional information that is relevant to the error-free assembly / function of the product.

Please pay attention to the VHBE guideline (hardware for windows and balcony doors) of the Gütegemeinschaft Schlösser und Beschläge e.V. (quality assurance association for locks and hardware). This guideline describes all safety-relevant topics for end users for window and balcony door hardware.

## Important Information

### General Safety Information



#### **WARNING**

In order to ensure the long-term functionality and thus the operating safety of windows and balcony doors over their expected service life, the fastening of safety-relevant hardware parts is of particular importance. Hautau indicates explicitly that large sash weights are moved and accelerated during opening and closing. This applies particularly to sliding elements. It is at the discretion and the responsibility of the respective manufacturer (window builder), installers and dealers of windows and balcony doors, in particular of lift&slide doors, to offer corresponding movement restrictors or similar.

Incorrect assembly can lead to serious injuries. The installation must be carried out by personnel who have been instructed according to the state of the art and recognised rules of technology.

Due to overuse or improper operation of the slide and tilt hardware, the sash may jump out of its guide rails, fall out and thereby cause serious injuries.

Due to the high weight of the element, always pay attention to the correct securing of the element during manufacture, transport and assembly on the construction site.



#### **ATTENTION**

If under special circumstances (use in schools, kindergartens, etc.), it is to be expected that the sliding element could be overstressed, this must be prevented by appropriate measures such as moving the stop buffers to reduce the opening width.

Improper handling may lead to crushing. Ensure users are aware of the risk in case of improper handling. This applies particularly to customers with small children.

Injuries may occur in the event of improper handling, in particular if persons or parts of the body are between the frame and the sash when closing or between the sash and the reveal or adjacent components.

## Important Information



### Note

These instructions describe all assembly steps required to set up standard version hardware. The hardware must be greased/oiled before commissioning (see operating and maintenance instructions).

The slid and tilt hardware (SKB) are only intended for use in stationary buildings. They are used for horizontally opening and closing windows and balcony doors. The slide and tilt elements must be installed perpendicular and never in an inclined position.

Handle position middle (1/2 SRH). With a handle position below 1/2 SRH, operational comfort may be affected.

## Important Information

### Intended use

The areas of application mentioned on page 12 apply to the Hautau SKB hardware. Screw-in torque settings are binding and must be followed.

Mount all hardware parts professionally as described in this manual and observe all safety instructions.

To fasten the hardware, use the specified screw sizes! These must reach into the steel reinforcement when using PVC profiles.

Be sure to follow the profile manufacturer's processing policy.

The hardware may not be used for timber with aggressive content / surface treatments.

The hardware parts described in these assembly instructions are made of colourless passivated steel and sealed in accordance with DIN EN 12329. They must not be used in environments with aggressive, corrosive air content. If you are not sure, please ask your Hautau contact person for advice.

The hardware manufacturer shall not be liable for any malfunctions or damage to the hardware or to the windows or balcony doors equipped with them, if they are subject to use of third-party hardware, inadequate tendering, failure to comply with the installation rules or application diagrams.

The fabricator is responsible for compliance with the functional dimensions specified in these assembly instructions as well as for flawless hardware assembly and secure fastening of all components.

In order not to affect the lightness of the hardware, turn the screws straight (unless otherwise indicated) and do not over-tighten!

Fix the screws of the supporting components (e.g. rollers, roller rail and guide rail) in the reinforcement profile. With the spacer-block setting, observe the technical guideline No. 3 of the glazier trade "Blocking of glazing units".

Keep the roller track and all latches free from deposits and dirt to avoid damage to the hardware and ensure optimal functionality. In particular, protect the hardware from cement or plaster residues.

Do not make any constructive changes to the hardware parts.

Always close and lock the window and balcony door sash when windy or drafty. For the purposes of this definition, wind and draught are present if the window or window door sashes located in one of the opening positions are caused to move by air pressure or air suction of their own accord and uncontrollably open or close.



The resistance to wind loads in the closed and locked state depends on the respective construction of the windows and balcony doors. If wind loads in accordance with DIN EN 12210 (in particular test pressure p3) are to be expected, suitable hardware are to be selected and agreed on separately in conjunction with the respective window construction and the frame material.

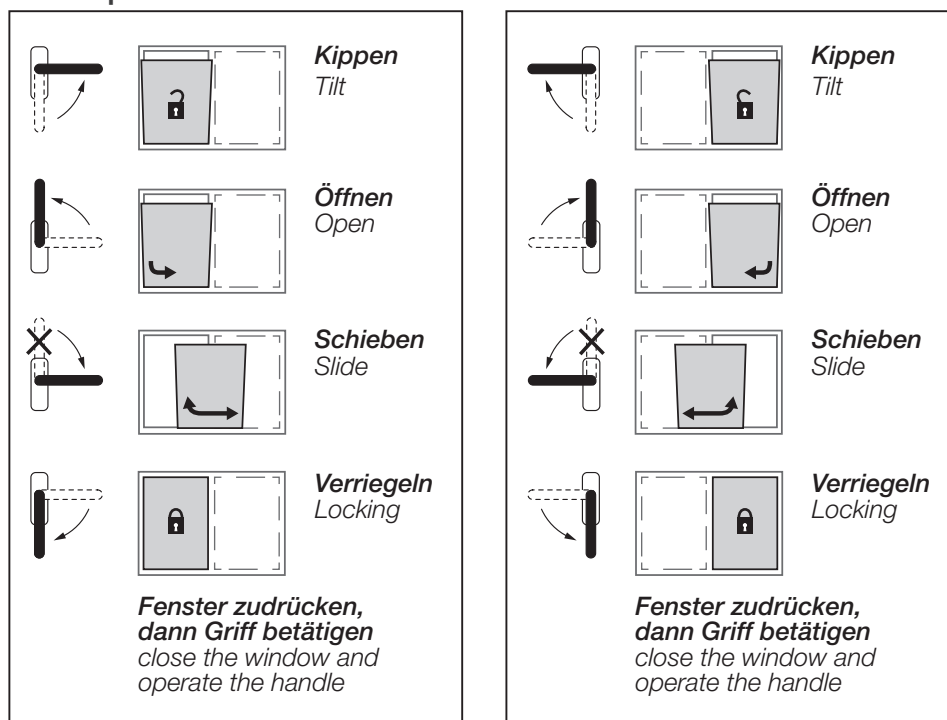
The defined maximum sash weights for the individual hardware designs must not be exceeded. The component with the lowest permissible load capacity determines the maximum sash weight. Application diagrams and component mappings must be observed.

The hardware and the rebate spaces must be sufficiently ventilated, especially during the construction phase, so that they are not exposed to direct moisture or condensation.

The hardware are to be kept free of deposits and contamination by building materials (construction dust, gypsum plaster, cement etc.), therefore windows must be covered accordingly.

The hardware must only be cleaned or polished with mild, pH-neutral detergents in diluted form. Attach the operating label in a clearly visible manner to the built-in lift and slide sash. The operating label is located in the basic box or in the "corner deflection" package.

#### Handle positions



DIN EN 12519 left

DIN EN 12519 right

## Important Information

### **Improper use**

The respective hardware system may only be assembled with hardware components from the Hautau slide hardware range. In the event of improper installation of the hardware and/or the use of non-original or non-factory approved system accessories, no liability will be accepted.

Do not use vinegar-based or acid-curing sealants, as these can lead to corrosion of the hardware parts.

**The lift and slide elements may only be surface treated before the hardware is installed.**

Any subsequent surface treatment may restrict the functionality of the hardware. In this case, no warranty claims against the hardware manufacturer shall be accepted.

Protect the hardware from damage by angular or sharp tools.

**If you are not sure, please ask your Hautau contact person for advice.**

## Important Information

### **Check the following immediately after delivery:**

- › Completeness of delivery (as per the delivery note)
- › Any damage to the packaging
- › Any damage to the materials
- › Improper storage or transport of hardware parts can affect the surface quality. To prevent this, the following points must be observed:
- › It must be ensured that the room air is permanently dry
- › Major temperature fluctuations leading to condensation must be prevented. Condensation on hardware causes the galvanised surfaces to be attacked
- › Avoid aggressive vapours from cleaning agents or assembly aids such as silicone and the like, even for a short time. Vapours from such substances can very quickly lead to corrosion of hardware
- › Salty air polluted by trade and industry also leads to corrosion on galvanised surfaces and is also not suitable for storage areas.

### **Transport**

Finished elements must be stored and transported as follows:

- › Upright
- › Slip and tilt secured on suitable surfaces (e.g. transport frames)
- › Protected from dirt and damage
- › Avoid loads on mechanical connections!
- › Use special transport devices!

### **For intermediate storage outdoors:**

- › ensure elements and hardware are covered or packaged

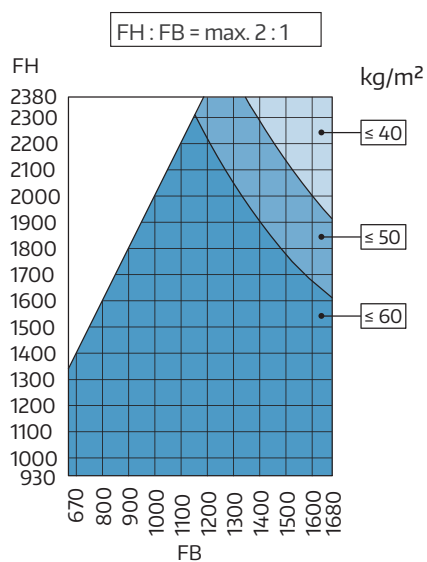
## Applications

The limits of application quoted in these instructions are binding and must not be exceeded.

Please also comply with admissible sizes, manufacturing instructions and processing guidelines given by the profile manufacturer.

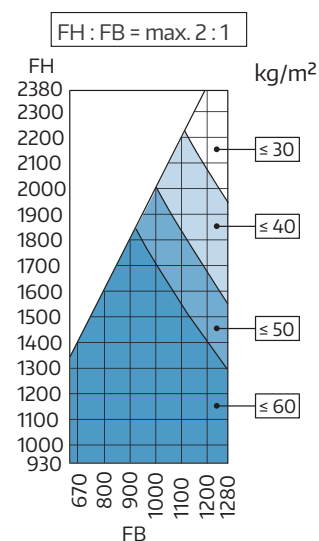
### ATRIUM® Alu-HKS 160 S Sash weight max. 160 kg

Sash width (FB)	[mm]	670 bis 1680
Sash height (FH)	[mm]	930 bis 2380
Sash weight (FG)	[kg]	max. 160



### ATRIUM® Alu-HKS 160 S Sash weight max. 100 kg

Sash width (FB)	[mm]	670 bis 1680
Sash height (FH)	[mm]	930 bis 2380
Sash weight (FG)	[kg]	max. 160

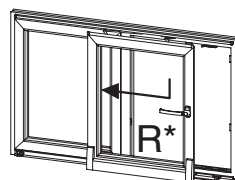
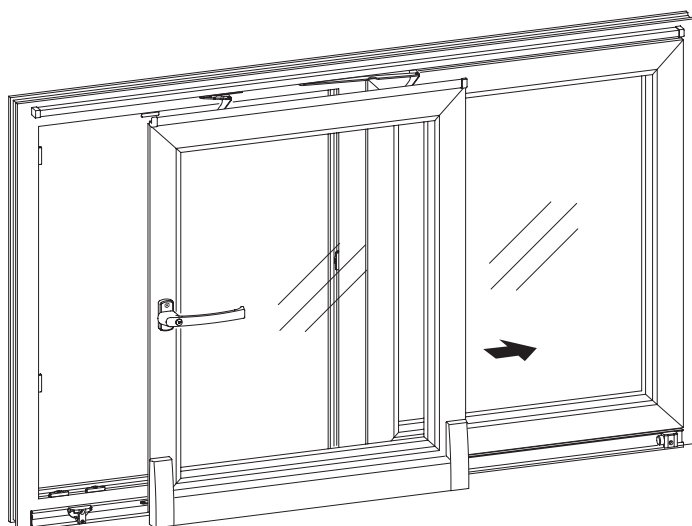


**Fixing screws for fittings** (included in scope of delivery)

for component(s)	number	size	diameter to drill	drive
Bogies ①/②, cover fillet supports ④	12	4.8 x 50	4.2	Tx 15
Bottom track ③⑦, guide track ③⑤	40	3.9 x 45	3.2	Tx 15
Stay connecting profile ③⑧	10	4.2 x 9.5	4.2	Tx 15
Support arms ③	4	M5 x 25	7.1 (for riveting nut)	Tx 25
Handle UG ⑥⑨	2	M5 x 12 DIN 965	-	allen key size 4
Espag EG ②⑨	2	3.9 x 22	-	Tx 15
Espag EG-Pzl + EG-PzIA ③⑩	3	3.9 x 22	-	Tx 15

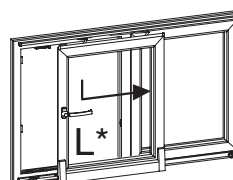
# General Information

## Version



Version right

\* HAUTAU version Left  
= DIN EN 12519 Right  
(right-opening)



Version left

\* HAUTAU version Right  
= DIN EN 12519 Left  
(left-opening)

All figures within this document refer to HAUTAU version Left (DIN EN 12519 Right).

For assembling the HAUTAU versions Right (DIN EN 12519 Left) measures have to be applied mirrored.

## Abbreviations

FA Sash overrebate

FB Sash width

FG Sash weight

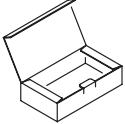
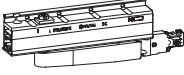
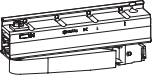









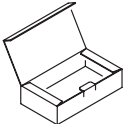



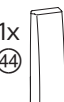




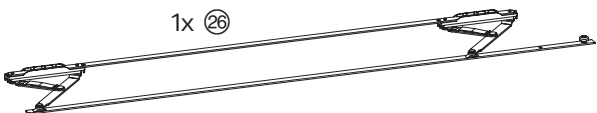

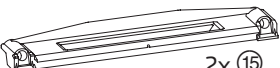
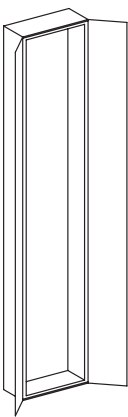




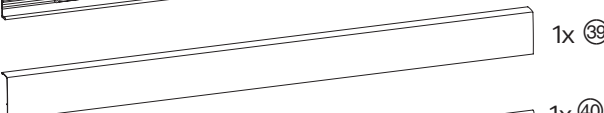











FH Sash height

OKFF Top edge finish-floor level

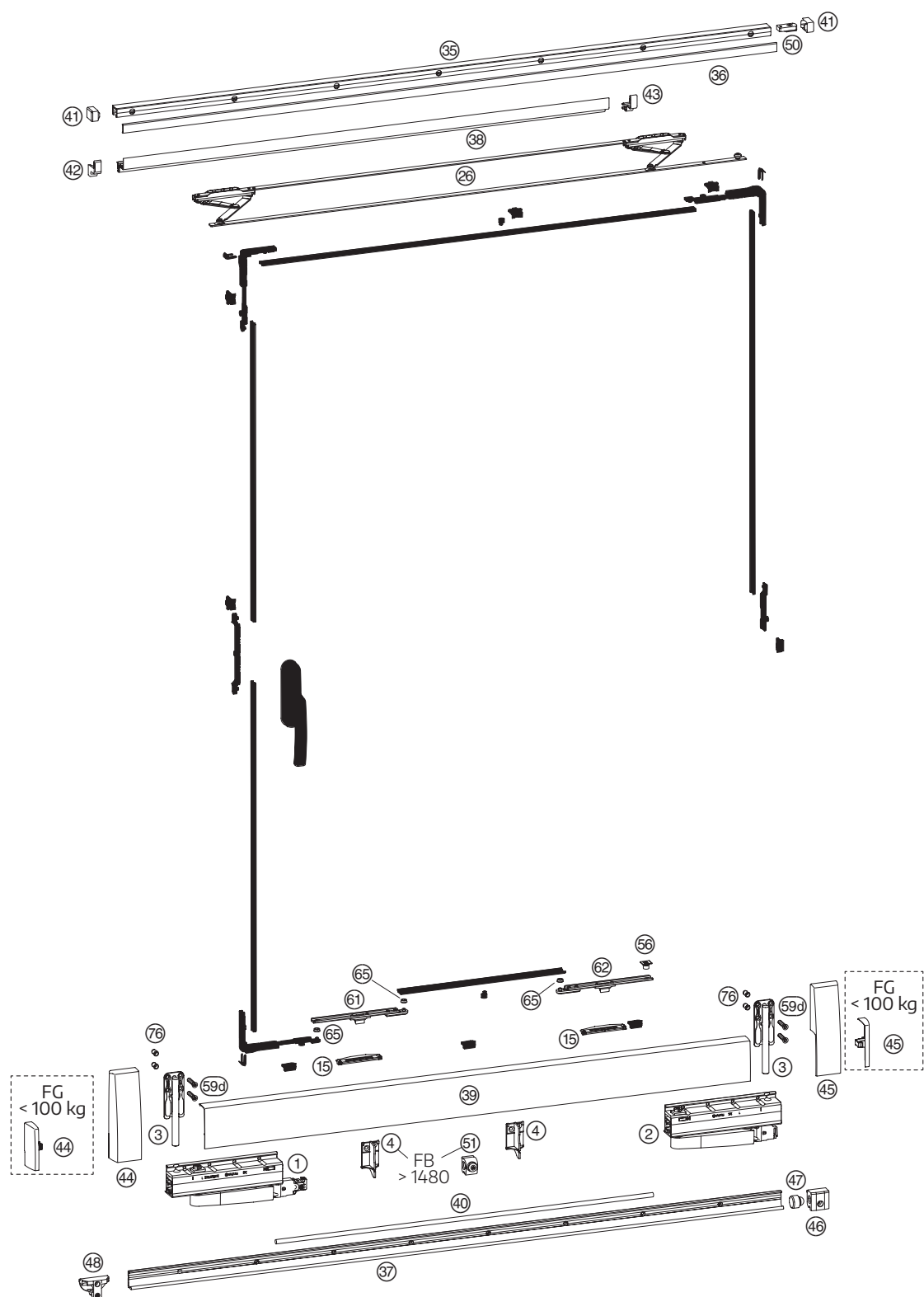
oV Version different central locking

**All measurements in these instructions are indicated in millimetres (mm).**

## Packing units

	1x ①  1x ②  12x ④  4,8 x 50 2x ④ 
	1x ⑥  1x ⑥  2x ⑥  1x ⑥   Instruction sticker  Maintenance and operating instructions
	<div>FG ≥ 100 kg</div> 4x ⑦  2x ③  4x ⑤  M5 x 25 1x ④  1x ④  <div>FG &lt; 100 kg</div> 1x ④  1x ④ 
	1x ② 
	2x ⑤ 
	1x ③  1x ③  1x ③  1x ③  1x ③  1x ③   40x 3,9 x 45 10x 4,2 x 9,5
	 1x ⑦  1x ⑥  1x ⑧  2x ⑨  1x ⑩  1x ⑪  1x ⑪  <div>FB &gt; 1480</div>  1x ⑪

# Fittings





## Fittings

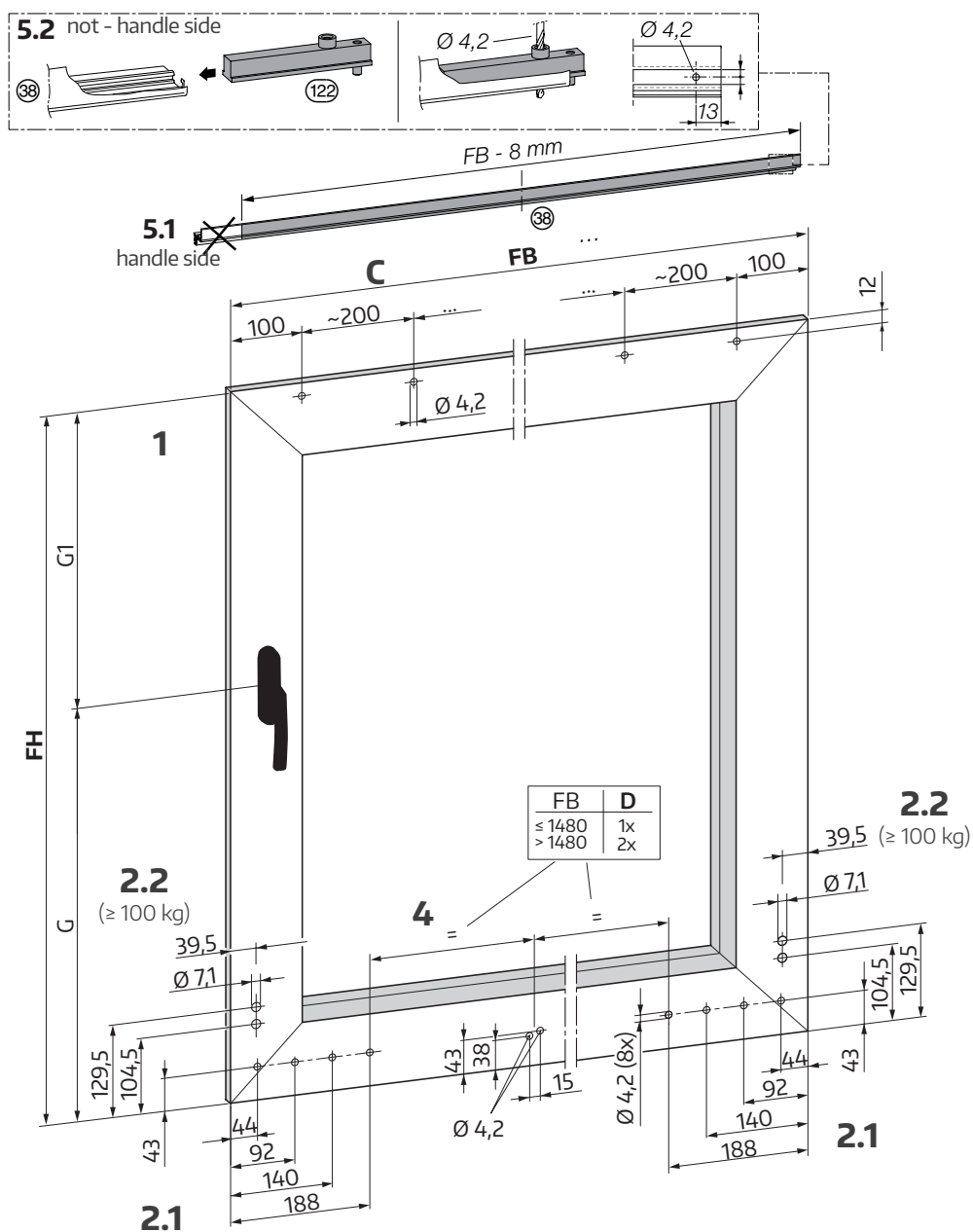
- ① Master bogie
- ② Slave bogie
- ③ Support arm incl. screws (for FG  $\geq$  100 kg)
- ④ Cover fillet support
- ⑮ Tilt lock bearing
- ⑳ Stay system
- ㉓ Guide track
- ㉔ Screw cover profile (PVC)
- ㉕ Bottom track
- ㉖ Stay connecting profile
- ㉗ Cover profile
- ㉘ Connecting rod
- ㉙ Cover cap for guide track
- ㉚ Cover cap for stay connecting profile left
- ㉛ Cover cap for stay connecting profile right
- ㉜ Cover cap bottom left
- ㉝ Cover cap bottom right
- ㉞ Buffer bottom
- ㉟ Rubber part
- ㊱ Guide block
- ㊲ Buffer top
- ㊳ Support block (for FB > 1480 mm)
- ㊴ Insert pin D10
- ㊴a Fixing screw M5 x 25
- ㊴e Fixing screw 4.2 x 9.5 (no fig.)
- ㊵ Snap lock rod left
- ㊶ Snap lock rod right
- ㊷ Reducer 10/6
- ㊸ Riveting nut

## Sash preparation

- (1) Mark dimension G (handle position) and bore hole pattern for handle UG 6a.
- (2) 2.1 Mark bore holes for bogies ①/② and drill.  
2.2 Mark bore holes for support arms ③ (for FG ≥ 100 kg, only) and drill.
- (3) Mark bore holes for stay connecting profile ③③ with a distance of approx. 200 mm.
- (4) Distribute bore holes for cover fillet support(s) ④ equally between bogies.

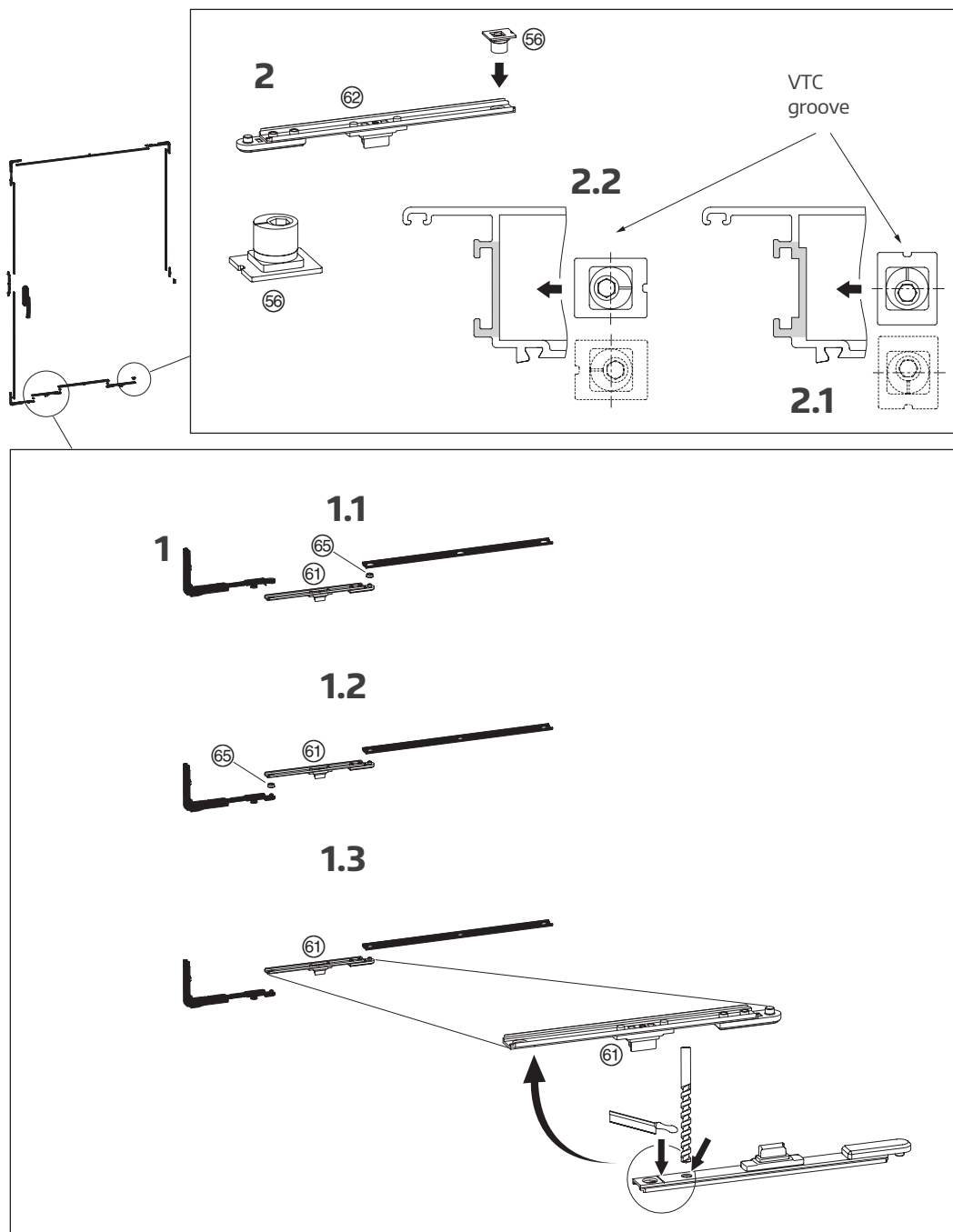
### Mounting of stay connecting profile for stay systems

- (5) (5.1) Cut stay connecting profile ③③ from handle side to size, sash width minus 8 mm. (5.2) Stay connecting profile must be drilled at non handle side for fixation of the stay system (fig 122 Item-Code 243493 or refer to hole pattern). (5.3) Screw stay connecting profile centered to sash 4.2 x 9.5 Torx 15, 1.5 ... 2.5 Nm.



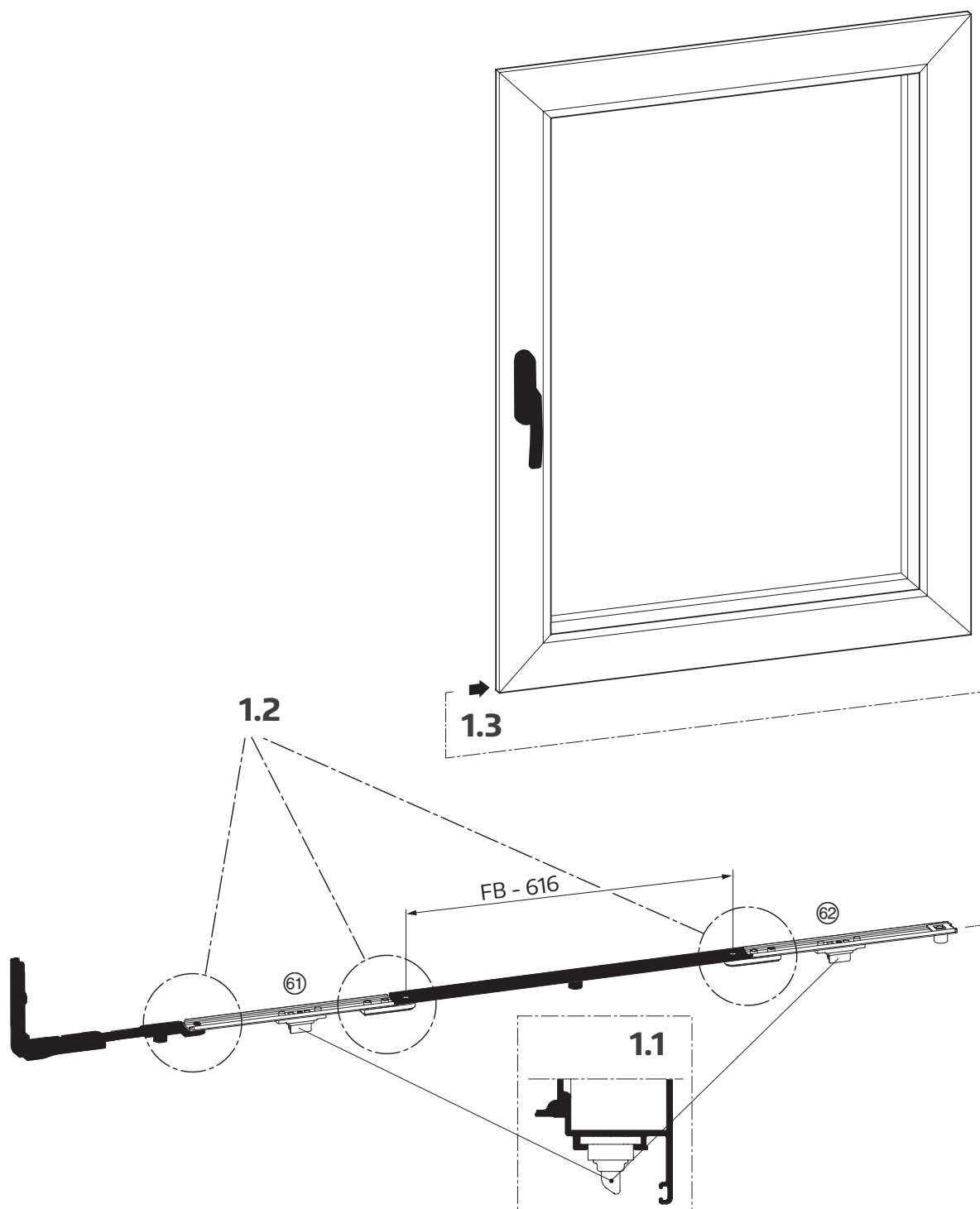
### Preparation of snap locks

- (1) Carry out coupling of snap lock ⑥1 at handle side:
  - 1.1: joint coupling D10
  - 1.2: joint coupling D6
  - 1.3: joint coupling neither D10 nor D6: Shorten snap lock ⑥1 at marking and die-cut hole at required position.
- (2) Orientate insert pin D 10 ⑤6 according to profile groove (B.1) and press it into snap lock ⑥2 (B.2).



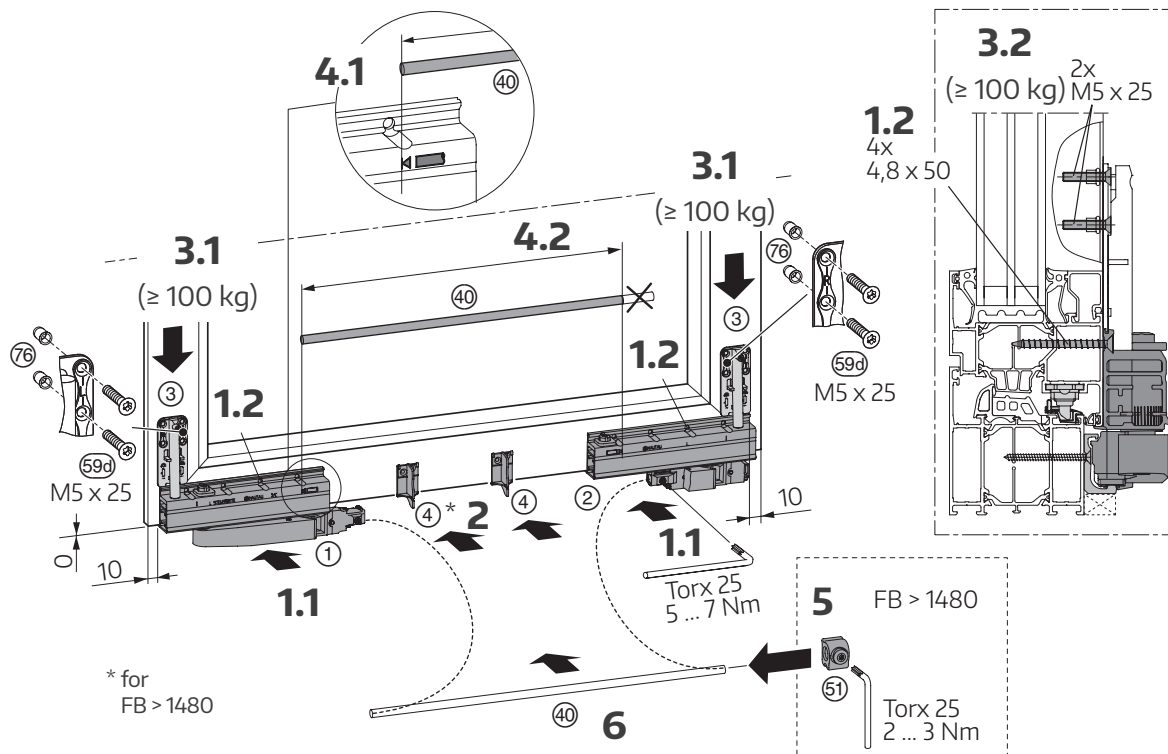
### Installation of snap locks

- Pay attention to correct orientation of snap locks (1.1). Connect the concerning parts of the central locking step-by-step to each other (1.2) and slide them into the profile groove of sash (1.3).



## Mounting of bogies

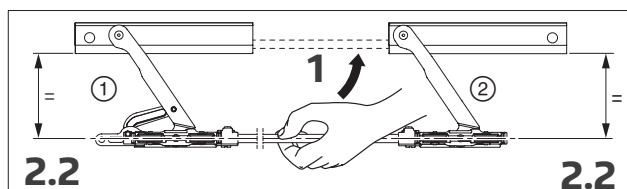
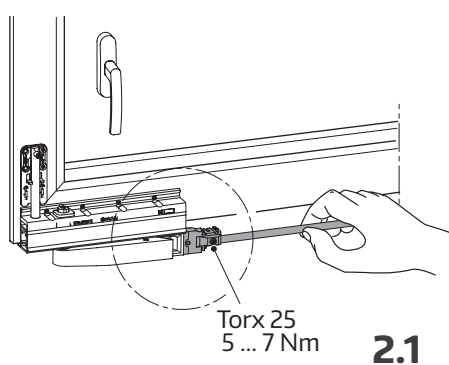
- (1) For bogies ① and ②, keep a lateral distance of 10 mm to sash edges and ensure flush positioning with bottom edge (1.1). Tighten with four screws 4.8 x 50 each at sash (1.2).
- (2) Tighten cover fillet support(s) ④ with two screws 4.8 x 50 each at the designated position(s).
- (3) For  $FG \geq 100$  kg: fix 2 riveting nuts  $\varnothing 7$  mm ⑦⑥ in the designated holes. Tighten support arms ③ with two screws M5 x 25 ⑤⑨d each (3.1/3.2).
- (4) Cut connecting rod ④① to size according to marks on bogies (4.1/4.2).
- (5) For  $FB > 1480$ : move support block ⑤① in centre position of connecting rod. Fasten (Torx 25, 2 ... 3 Nm).
- (6) Insert connecting rod in couplings of bogies ① and ②. Tighten bogie ② on non-handle side with Torx 25 (5 ... 7 Nm).



## Parallel alignment of bogies

(to ensure uniform entry of sash into frame)

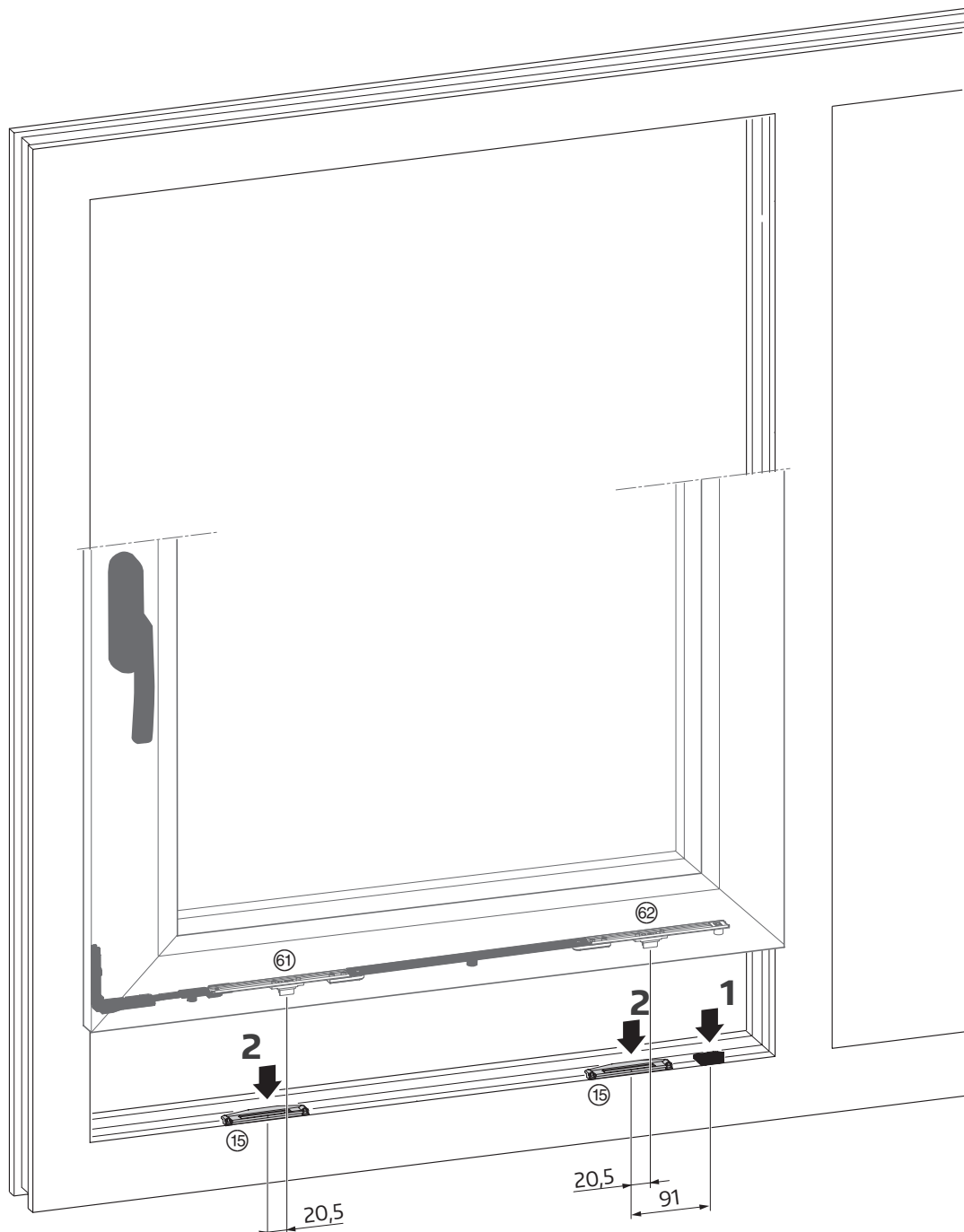
- (1) Grab connecting rod centered and bring it into position "close".
- (2) 2.1: In this position, tighten connecting rod firmly at bogie ① on handle side (Torx 25, 5 ... 7 Nm).  
2.2: Now, both bogies ① + ② have to be parallel in position "open", too.



## Mounting of striker

### Mounting sequence at frame (set central locking in centered position)

- (1) Fix striker ⑬ for insert pin D10 ⑤⑥ that is integrated in snap lock ⑥②.
- (2) Fix tilt lock bearings ⑮.



## Mounting of guide track

### Mounting guide track to frame

- (1) Total length of guide track ③⑤: distance between outer edges of sliding sash and fixed sash minus 8 mm.
- (2) Tighten guide track with screws 3.9 x 45 as shown.
- (3) Shorten cover profile ③⑥ according to size of guide track and clip on guide track.

### Mounting bottom track to frame

- (4) Shorten bottom track ③⑦ (at non-handle side) until it is flush with outer corners of sliding sash and fixed sash.
- (5) Fix bottom track at frame at a distance of 35 +1 mm from bottom edge of bottom track to bottom edges of sashes. Use screws 3.9 x 45 (fig. <sup>1</sup>). In case of visible deformation or unusual (well audible) noise in the area of bottom track, provide continuous lining (on site) at bottom track for load transfer (fig. <sup>2</sup>).

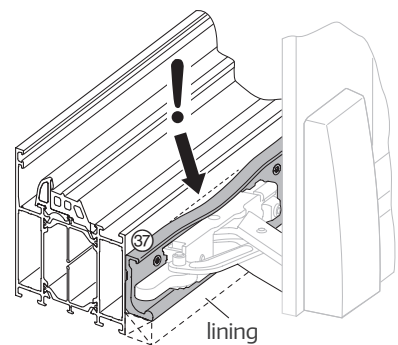
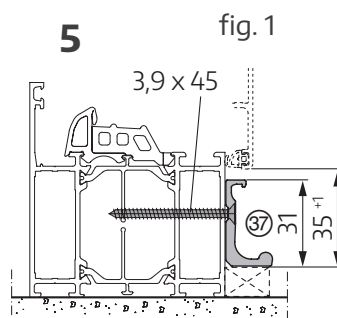
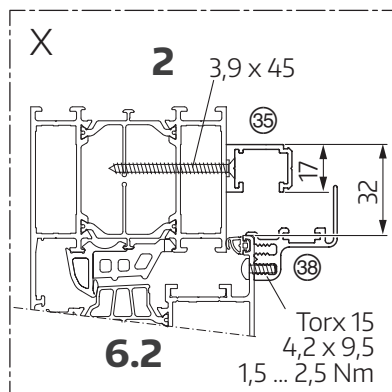
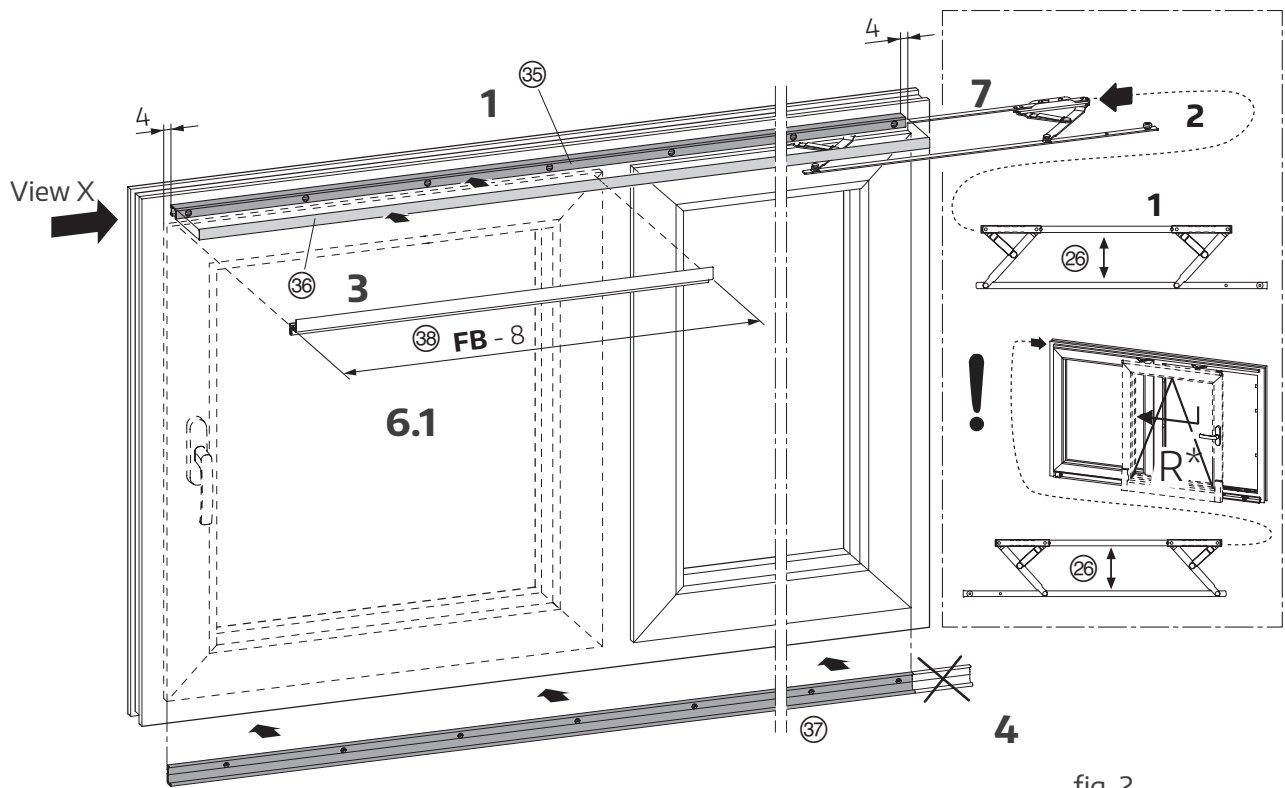
### Mounting stay connecting profile to sash

- (6) Length of stay connecting profile ③⑧: sash width minus 8 mm (F.1). Fix centered to sash with 4.2 x 9.5 Torx 15, 1.5 ... 2.5 Nm (F.2).

### Mounting of stay system in guide track

- (7) Open stay system ②⑥ (1) and push it into guide track as illustrated (2). Take care to choose the right side!





## Hanging sash

### Installing sash onto guide track

- (1) Bring handle in slide position (1.1). Lift sash slightly in oblique position and place it together with bogie rollers on front edge of guide track ③⑦ (A.2). Check position of rolls by sliding the sash and adjust, if necessary.

### Connecting sash with guide track

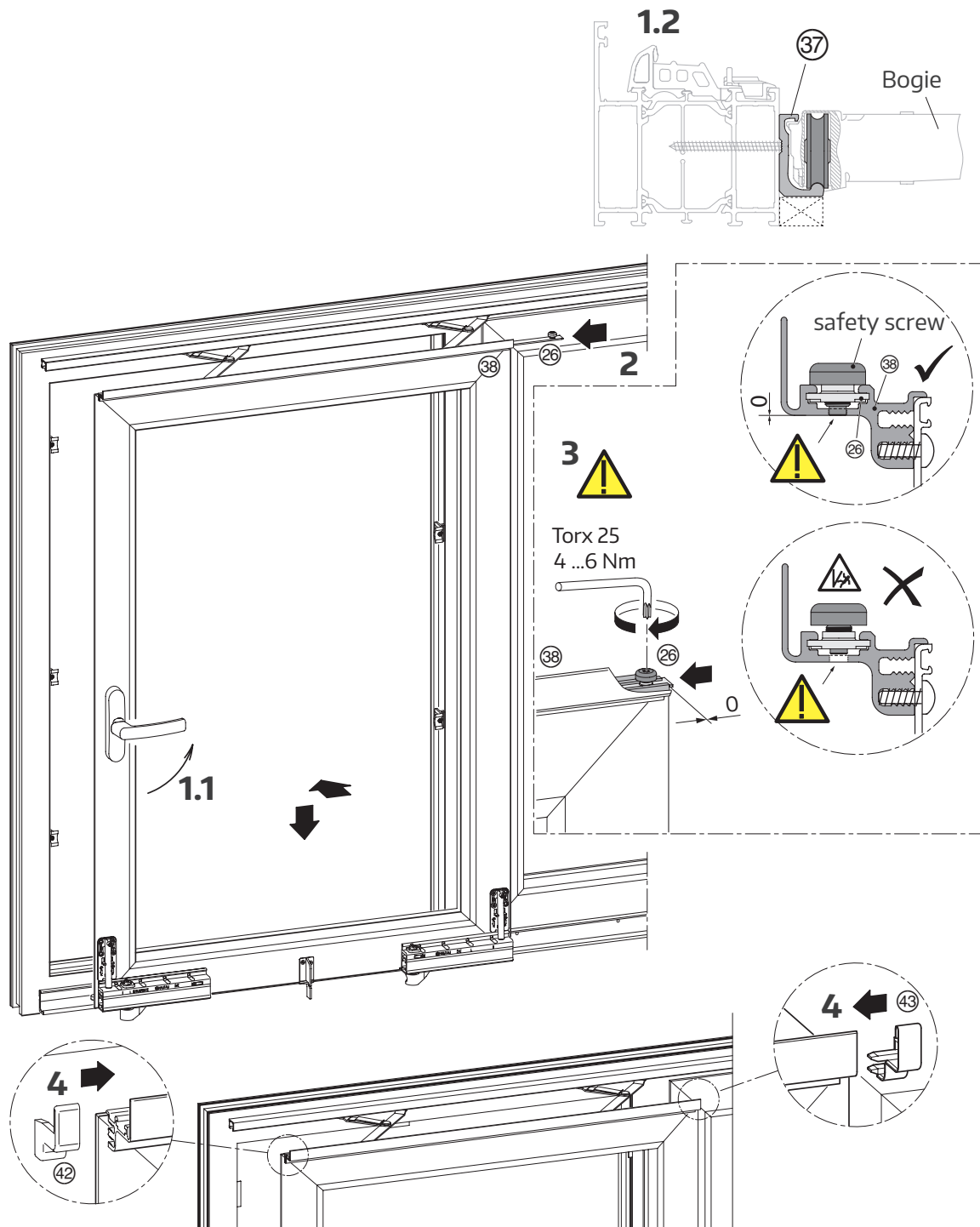
- (2) Push stay system ②⑥ into stay connecting profile ③⑧.
- (3) Put sliding track in flush position with sash and tighten safety screw (Torx 25, 4 ... 6 Nm).



The safety screw must be positive fitted into the hole of the stay connecting profile ③⑧.

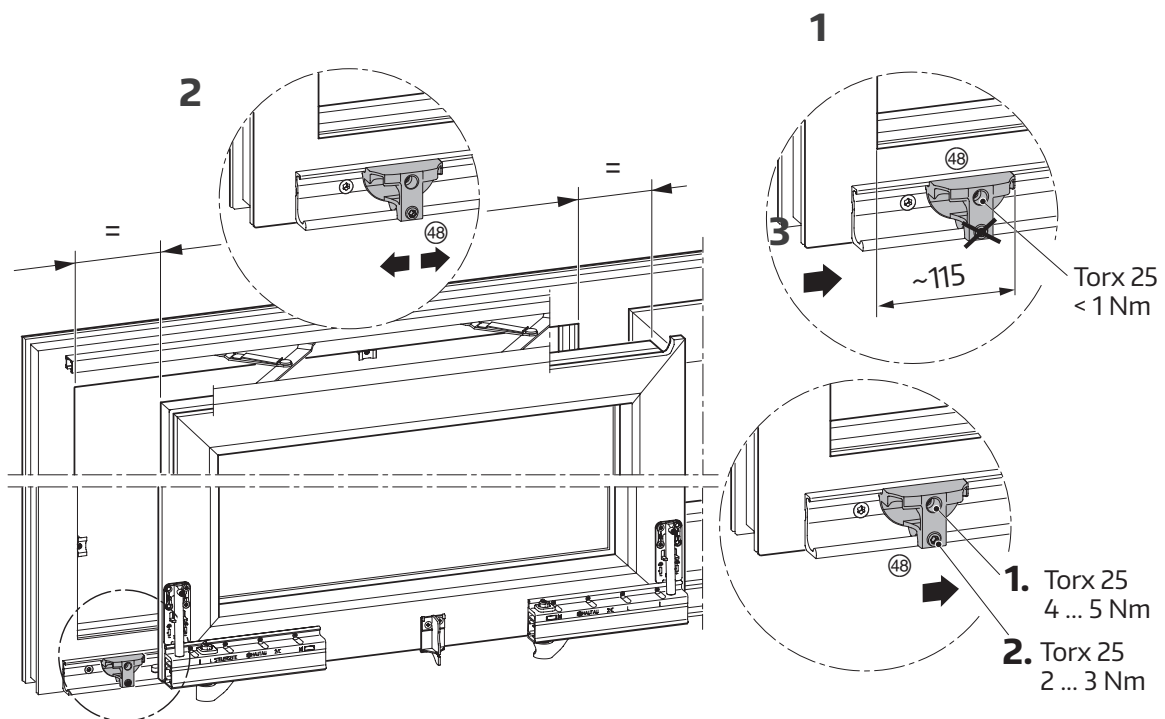
If you could not see the screw, the sash is not sufficiently secured. Severe injuries will be the consequence.

- (4) Attach cover caps left ④② and right ④③ on ends of stay connecting profile.



## Installation of guide block

- (1) Set guide block ④⑧ on handle side at a distance of approx. 115 mm from inner edge of the frame. Tighten it slightly with a screw (Torx 25, < 1 Nm).
- (2) Put sash in tilt position and check fittings cavity on both sides (11.5±0.5 mm). Reset guide block, if necessary.
- (3) 1. Tighten upper screw firmly at guide block (Torx 25, 4 ... 5 Nm).  
2. Then tighten bottom screw (Torx 25, 2 ... 3 Nm).



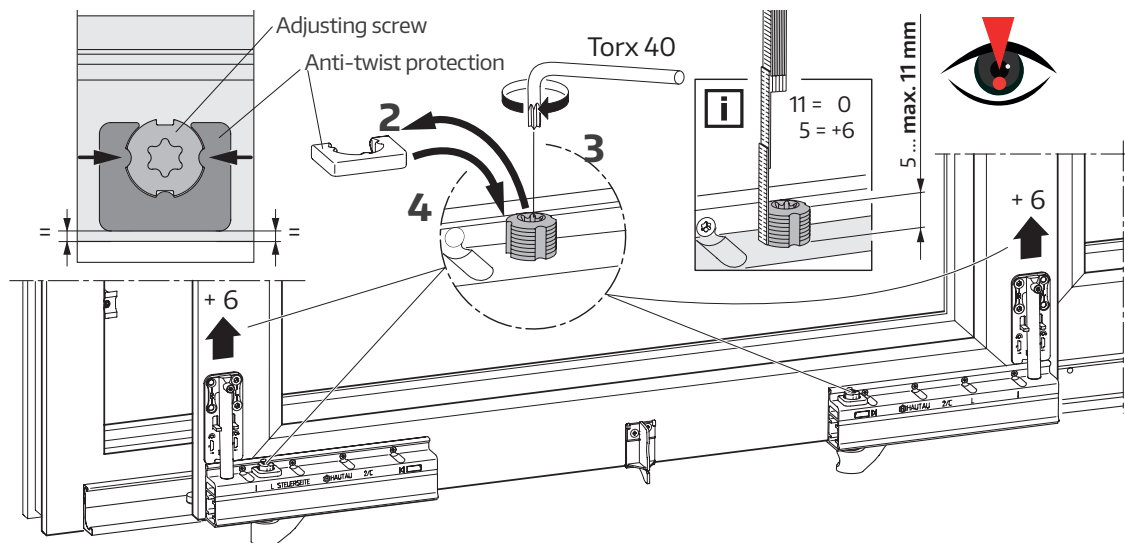
## Horizontal sash alignment

- (1) Check fittings cavity top and bottom on both sides (not shown).
- (2) Remove anti-twist protections.
- (3) Lift bogies (Torx 40) by means of adjusting screws in order to align sash. The adjusting screws are allowed to be turned out max. 11 mm.



**Note:** If the adjusting screws are turned out more than 11 mm, the bogies will be destroyed.

- (4) Put anti-twist protections on adjusting screws; at first, correct orientation of adjusting screws, if necessary. The anti-twist protections have to be positioned parallel to the outer edge of the bogies.



## Alignment of support arms

### Alignment of support arms

(to achieve optimum for easy sash entry into frame)

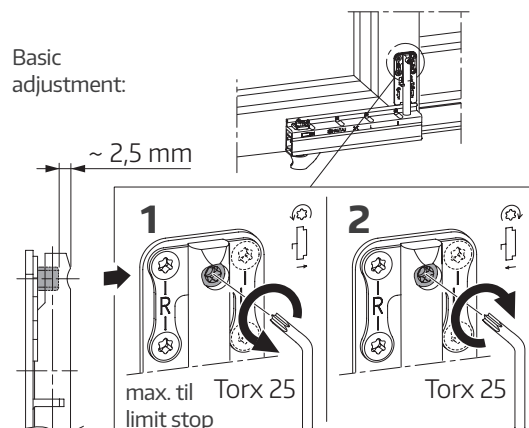
- (1) To ease entry of sash.
- (2) To ease opening of sash.



#### Note:

Both support arms have to be adjusted in the same way in direction **A**, only (coming from basic adjustment).

If adjustment in direction **A** is too heavy, depending on profile and sash weight dragging bogies may occur. In this case both support arms have to be adjusted acc. **B**, until bogies run without dragging.



## Activate bogie safety device

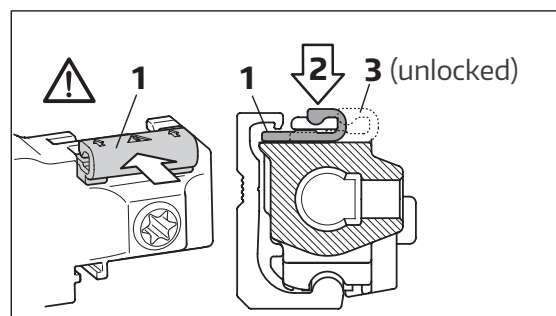
Move bogie safety device (1) of both bogies backwards until they engage in position as shown (2).



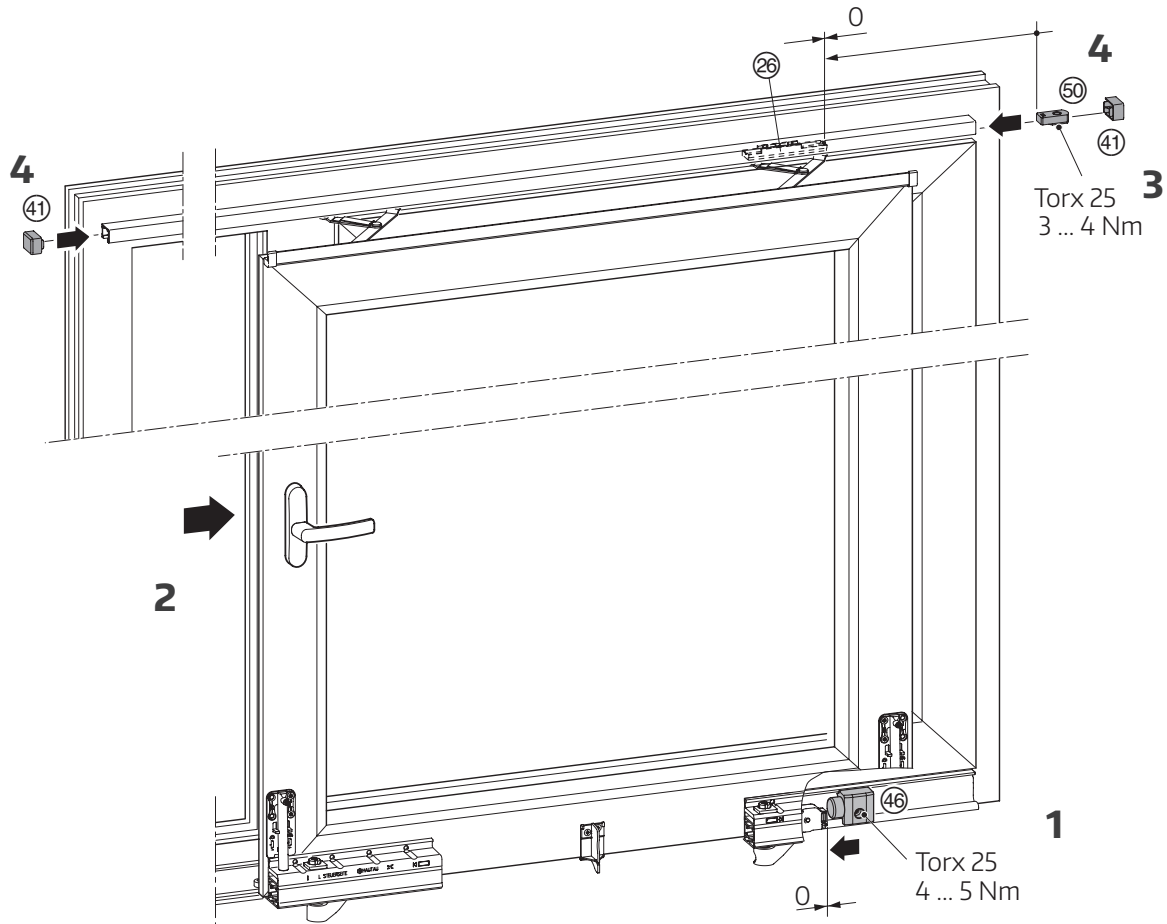
**WARNING**

If the bogie safety device has not locked correctly or not locked at all in position as shown, the sash is not sufficiently secured (3).

**Severe injuries will be the consequence.**



## Buffer installation



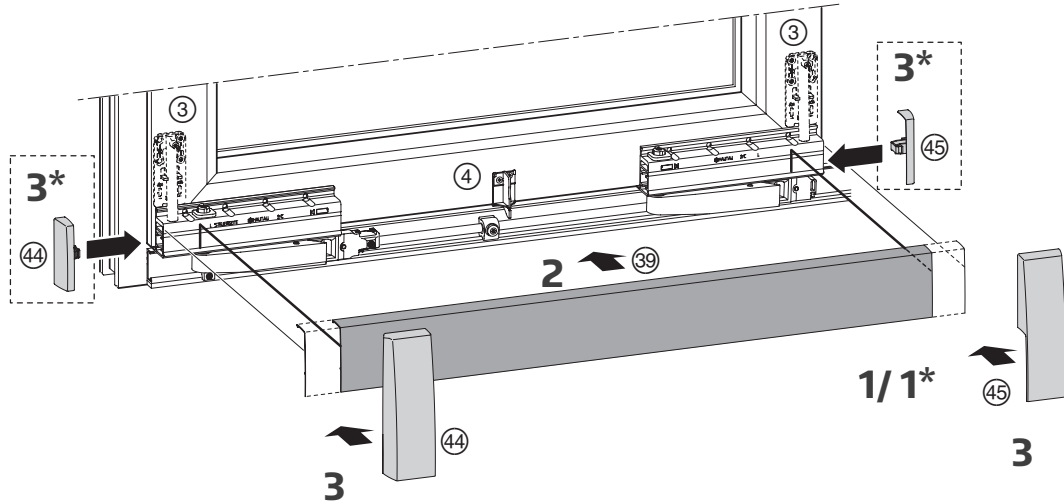
### Installation of buffers

- (1) Screw bottom buffer ④⑥ in required position at bottom track (Torx 25, 4 ... 5 Nm).
- (2) Move sash right to buffer.
- (3) Insert top buffer ⑤① into guide track (until stay system) and tighten it firmly (Torx 25, 3 ... 4 Nm).
- (4) Attach cover caps ④① on ends of guide track.



**Note :** If the window sash does not run simultaneously to upper and lower end stop, material damages will be the consequence.

## Cover installation



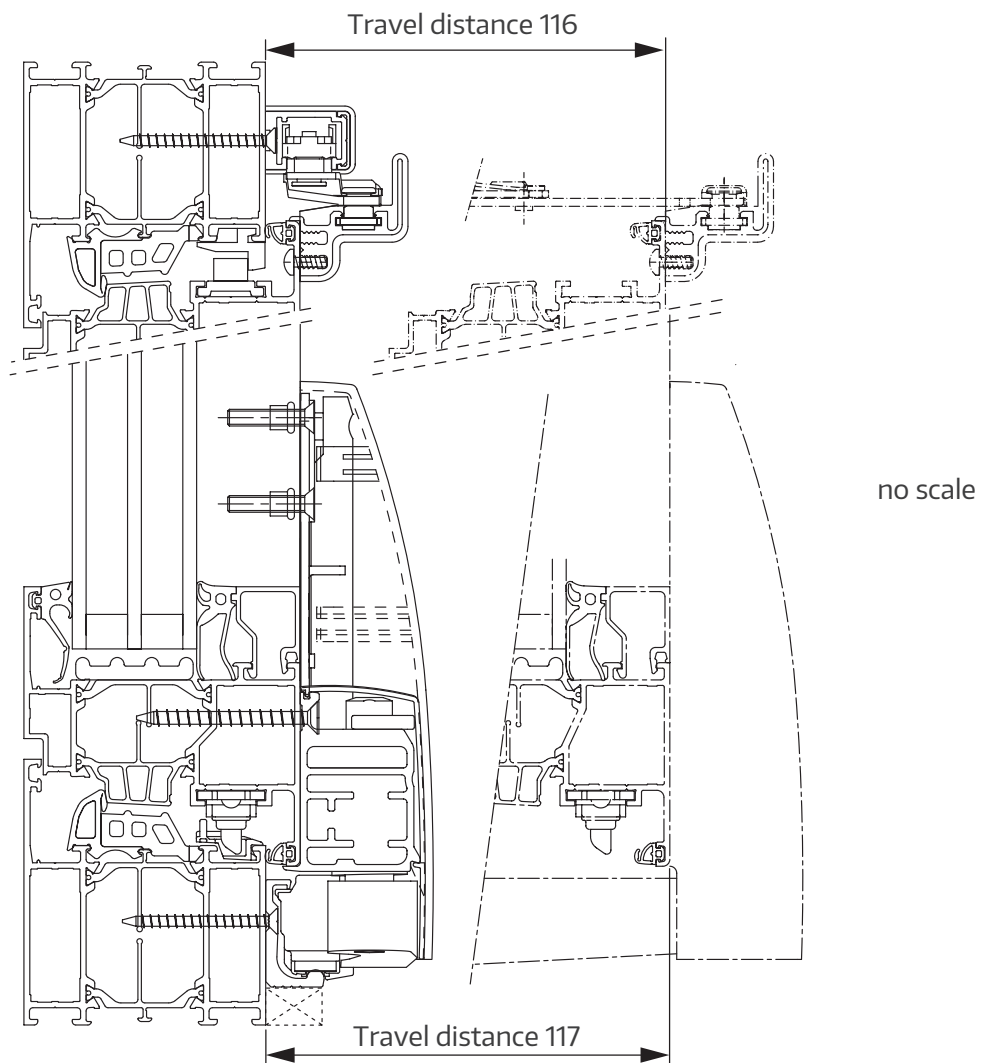
## Assemble covers for bogies

- (1) Cut cover profile ③⑨ to size:  
Sash with support arms ③: acc. to bogie marks,  
\* Sash w/o support arms: acc. to outer edges of bogies.
- (2) Align cover profile acc. to bogie marks (or outer edges of bogies) and clip on the bogie-profiles as well as on the cover fillet support(s) ④.
- (3) Sash with support arms ③: Clip cover cap down left ④④ and cover cap down right ④⑤ to support arms 3.  
\* Sash w/o support arms: Clip cover cap down left ④④ and cover cap down right ④⑤ from the side to cover profile. Clip them into bogie afterwards.

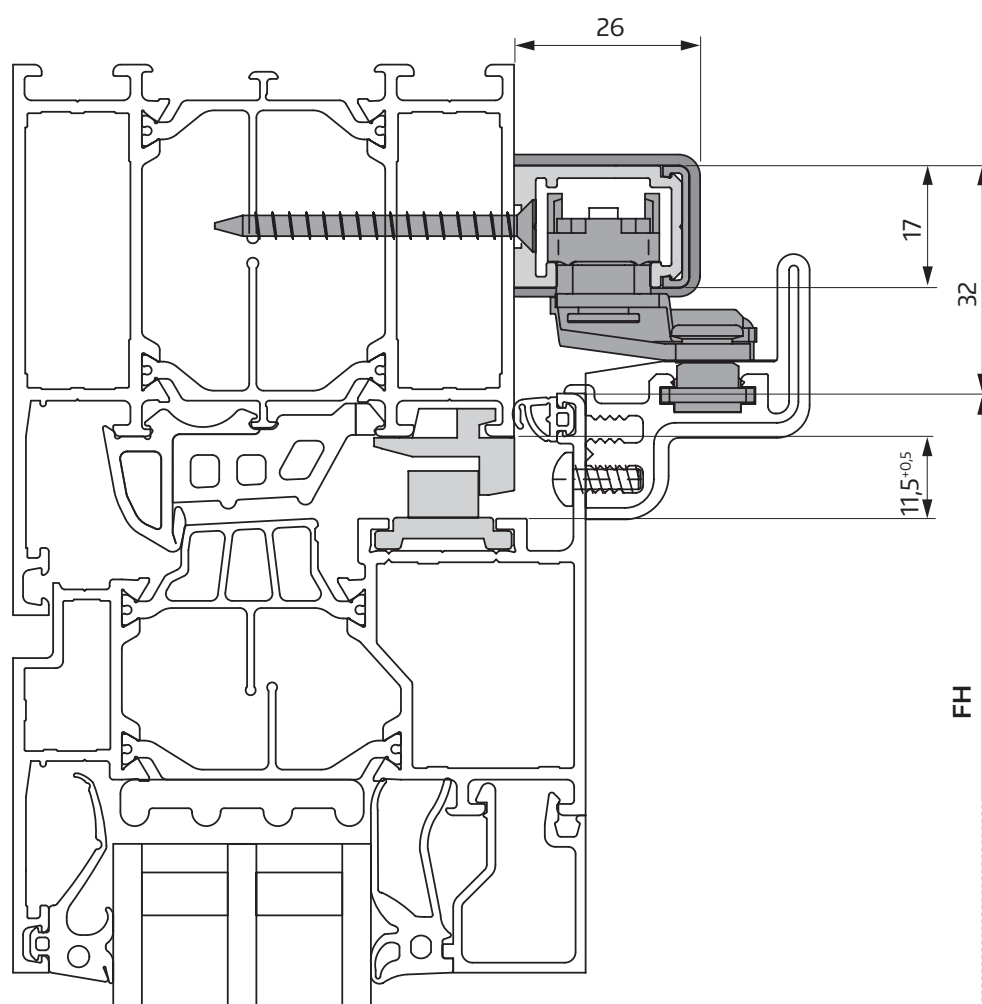


## Sections

### Travel distance

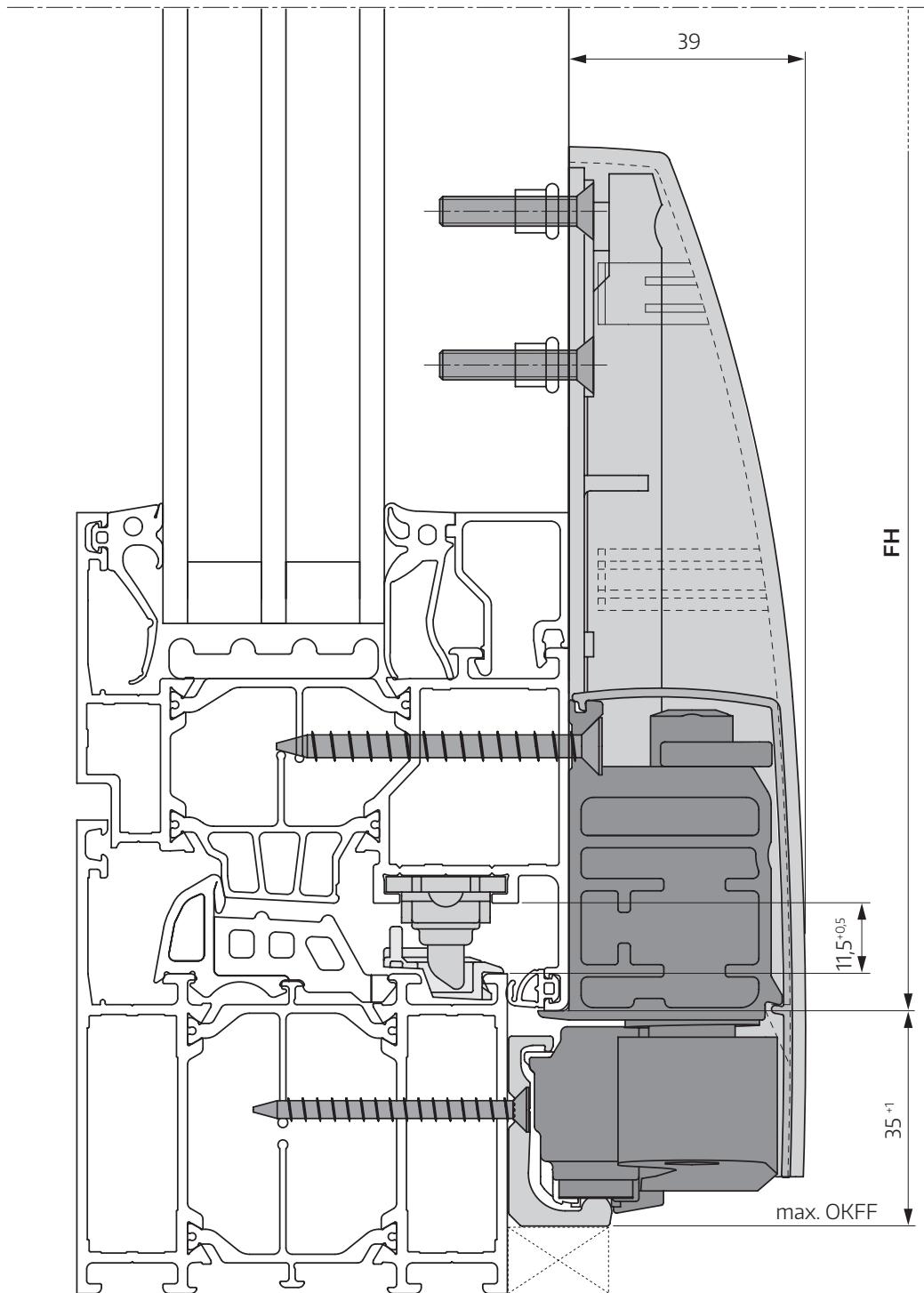


## Vertical section top



Scale 1:1

## Vertical section bottom



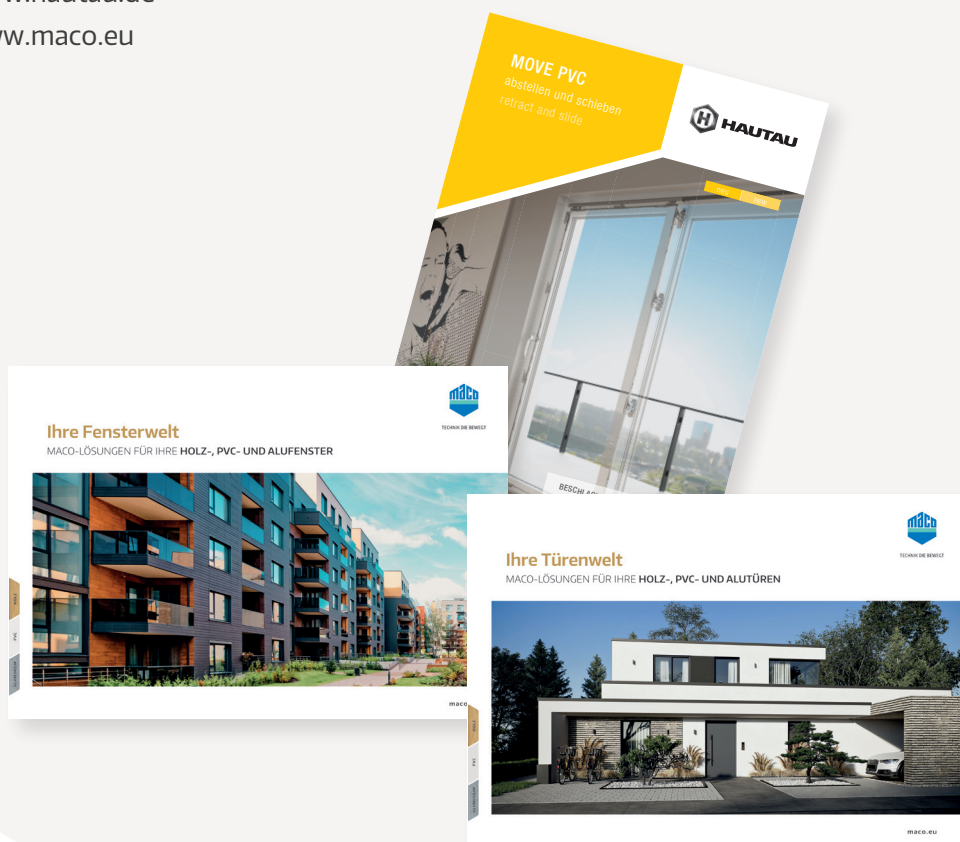
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