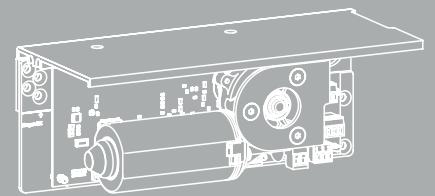
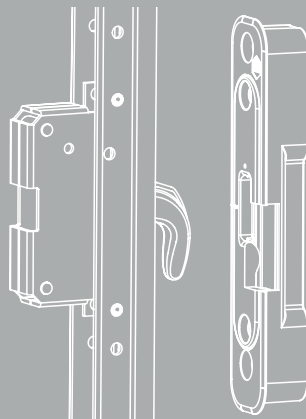
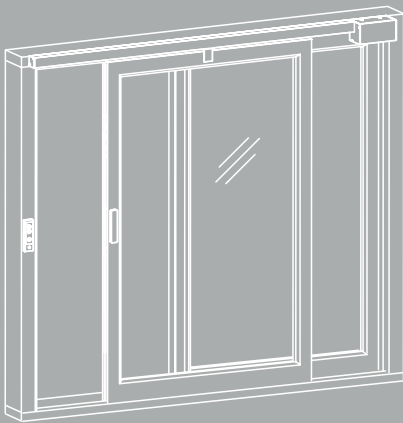


HS Comfort Drive

ELECTROMOTIVE LIFT & SLIDE FITTING



INSTALLATION INSTRUCTIONS

HS Comfort Drive, 24 V DC
wood/wood-aluminium/PVC/aluminium, surface-mounted
Scheme A

Used exclusively for specialist companies.

Copy of the original instructions

Other applicable documents

The following documents apply, depending on the user and the components used:

- Installation instructions for accessories, Scheme A/C
- Installation instructions, inside operation with smartphone, wood/wood-aluminium, Scheme A/C
- Installation instructions, inside operation with operating button, wood/wood-aluminium, Scheme A/C
- Installation instructions, outside operation with key-operated switch, wood/wood-aluminium, Scheme A/C
- Installation instructions, indoor operation with code keypad/fingerprint sensor, wood/wood-aluminium, Scheme A/C
- Maintenance and set-up guide for specialist companies
- Operating and maintenance guide for specialist companies

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Safety instructions and warnings

It is important to observe the following instructions to ensure safety for everyone. Incorrect installation can cause **serious injury**.

Manufacturer's declaration/technical standard

The actuator has been tested and manufactured in line with European directives.

The applicable declaration of incorporation is available for inspection. You may only operate the devices if there is a declaration of conformity for the overall system. The actuator meets the latest technical standards and only qualified technical staff may install, service and carry out any other tasks.

Personnel

Only a **qualified electrician** (certified to DIN VDE 1000-10, for example) may connect the system to the mains. The actuator must be installed by personnel trained to current standards and based on the recognised code of practice.

Intended use

- › Electrical connection: 24V DC mains (power supply unit: 230 V AC).
- › The HS Comfort Drive belongs to the fittings product series for lift and slide windows and patio doors as per EN 13126-16. With horizontal sliding window panels, the power-operated sliding window acts as a side entrance/exit between two areas separated from one another, to interconnect outdoor areas with indoor ones.
- › Use of the HS Comfort Drive only for sashes weighing max. 330 kg (integrated anti-trap guard).



In the case of sashes weighing 330 ... 440 kg additional safety systems such as a light curtain, presence detector or key-operated switch must be fitted as required by the risk assessment.

- › The complete device must be fitted in a vertical position only.
- › All components on the (lift and) slide element must be easily accessible.
- › The sash is lowered into the closed position and locked with locking bolts or latches, depending in the espag design.
- › The lift and slide element must not be used on a fire, smoke control or emergency door.
- › In the case of a design with lift actuator: if there is a power cut, the sliding sash can be raised/lowered using the emergency unlocking device and moved slowly by hand. This allows the sash to be locked/unlocked in the closed position.

Ensure that the required fastening fixture are suitable for the building structure and the stress load. Use



Safety instructions and warnings (continued)

additional materials if necessary. Any fastening fixtures supplied may only meet requirements to a certain extent.

Any use cases or modifications to the actuator that are not in accordance with the intended use are explicitly prohibited. We assume no liability for any injuries or damage to property where there is failure to comply with this requirement.

Please also observe the Specifications and instructions on the product and on liability (VHBH) issued by Gütegemeinschaft Schlösser und Beschläge e.V. (German Association for Quality of Locks and Fittings).

Safe-keeping of documents/orientation

Safeguard these installation instructions for maintenance and use at a later date. Give the operating instructions to the end user and show them how to use the system.

Installation and operation

Before installing: a cut-off device must be provided to ensure all poles can be disconnected from the mains in the final fixed installation.

Inspect lift and slide panels or sliding sashes and safety systems for any damage and replace damaged components. Ensure the sliding panel is intact and moves freely.

All work (installation, setting, etc.) must be performed with the system in a denegized state.

Before fitting the actuator, check whether the specified temperature range is compatible with the surrounding conditions.

Use sufficiently long screws to fasten the fitting parts. They must reach as far as the steel reinforcement in PVC profiles.

When a key-operated switch with a power-off default setting (dead man switch) is activated, no other person may be in the area surrounding the actuator.



WARNING: Never connect the actuator/the control keypad to 230 V.

The actuator may only be operated using a safety extra-low voltage. Failure to do so could result in



Safety instructions and warnings (continued)

loss of life.



Risk of crushing and pinching

A risk assessment as per Directive 2006/42/EC on Machinery must be carried out at the installation location to prevent incorrect use. Safety measures must be implemented as specified in EN 60335-2-103/2016-05.



WARNING

In the case of sashes weighing 330 ... 440 kg additional safety systems such as a light curtain, presence detector or key-operated switch must be fitted as required by the risk assessment.

Limitations to the WLAN function

In dead man mode	In normal mode	
	Sashes weighing \leq 330 kg	Sashes weighing > 330 ... 440 kg
Remote operation not possible via WLAN	Wireless LAN permitted with visual contact with sliding panel	Wireless LAN only permitted with additional safety systems (e.g. light curtain, presence detector or key-operated switch)



The actuator opens and closes sliding sashes automatically. A power cut-off brings it to a stop. However, the compressive force is still strong enough to squash fingers if users and fitters do not take care.

Do **not** reach into the walk-through space or the actuator when it is in operation.

Ensure that no-one and no objects are in the way of the sliding sash.

If the sliding sash panel does not have an additional safety system (light curtain, presence detector), only operate the actuators if you can see the sliding sash. Watch the movements of the sliding sash until it reaches its end position.

Do not pass through the walk-through space until the sliding sash has come to a halt.

Make sure that children do not get hold of remote controls. Ensure only people who have been instructed on how the remote-controlled sliding sash works use it.

The user must maintain visual contact with the sliding sash when using the remote control.

Note that a button on the hand-held transmitter can be pressed accidentally if it is carried in a pocket or handbag, causing the sliding sash to move unintentionally.

Ensure that no-one or no objects are in the way of the sliding sash during its calibration.

Safety instructions and warnings (continued)



There is a risk of injury, especially for children and people with disabilities.

Children aged 8 or over and people with reduced physical, sensory or mental capabilities or lacking in experience and knowledge may only use this device under supervision or if they undergo a suitable briefing on safe usage and they are aware of the associated risks and hazards.

Children must not play with the device.

Children must not carry out cleaning and user maintenance without supervision.



IMPORTANT INFORMATION

If you do not follow the work steps, this will damage the actuator permanently.

Incorrect handling puts the material at risk from damage. Do **not** allow any liquid to penetrate the device interior.

Do not leave any dirt or objects on the sliding track.

Safety



If a remote control is used, the factory access code for the Wifi Box must be changed to a more secure, customised password, using upper and lower case letters with numbers and special characters, for example. A WiFi network should be protected by a password only in accordance with the WPA2 standard. Liability is generally not assumed for damages and manipulation due to integration in open networks and/or use without passwords, or use of weak passwords.

Testing

Check all functions to ensure they operate correctly after installation and after every change to the system.



Note:

Only use original replacement parts if you need replacement parts or wish to expand the system. Using third-party products voids liability, warranty, and service provisions.

You must install/configure the system as specified in this manual to ensure reliable operation and prevent damage and hazards.

Maintenance

Check all devices and cable connections for external damage and dirt. Structural alterations and stored goods must not prevent the control keypad from working properly.

Use a slightly dampened soft cloth to clean the housing parts and the control keypad. Do not use any corrosive chemicals, aggressive cleaning solutions or solvent-based agents for cleaning to prevent any damage to surfaces. Permanently protect the actuator from water and dirt.

Maintenance/servicing

The power supply to the actuator must be disconnected at all poles when cleaning or performing other maintenance work. The system is secured against being switched on again accidentally. The (lift and) slide panel and its actuator(s) must be inspected and serviced once a year to ensure integrity. The actuator must no longer be used if repairs or settings are needed due to an imbalance or signs of wear or damage to parts such as cables, split pins or the entire hardware fitting. Remove any dirt from the actuators. Check securing and terminal screws to ensure they are firmly in position. The toothed belt tension must be checked every year and the toothed belt tightened if necessary (see section on Adjusting the toothed belt tension).

You will find the parts which require checking and the points which require servicing on the maintenance check list (www.hautau.de/en/).

Check the actuator with a test run. Defective actuators may only be repaired in our factory. Use only original replacement parts. You must check operational readiness on a regular basis.

Certificates and declarations

HAUTAU declares that the actuator is a partly completed machine as specified in the European Directive 2006/42/EC on Machinery. Use the QR code to view the declaration of incorporation.



The following statutory regulations have been applied:

- Directive 2006/42/EC on Machinery
- EMC Directive 2014/30/EU
- RoHS Directive 2011/65/EU

The safety objectives of other statutory regulations have been met:

- Low Voltage Directive 2014/35/EU

Warranty

HAUTAU's General Terms and Conditions of Business apply to the actuator (online: www.hautau.de/en/).

Disposal



The crossed-out wheeled bin symbol indicates that you must not dispose of this electrical appliance or electronic device in the household waste at the end of its service life.

You can return it to free collection points for old electrical appliances in your area or to other centres where they accept old appliances for recycling.

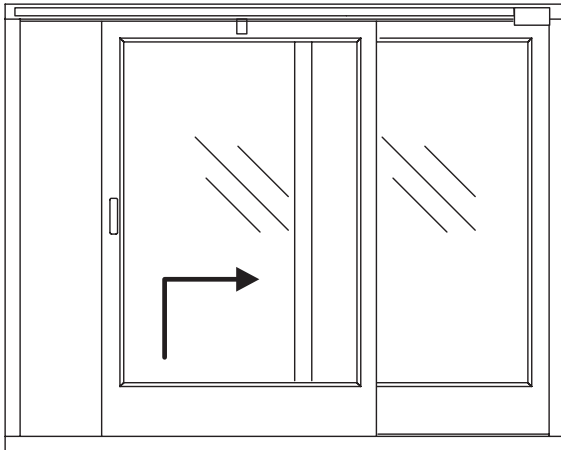
Contact your local council for addresses of collection points and centres. If the electrical appliance or electronic device contains personal data, you yourself are responsible for erasing data before you return it.

You will find more information online at www.weeeologic.com or other websites on the WEEE Directive.

Explanation of terms

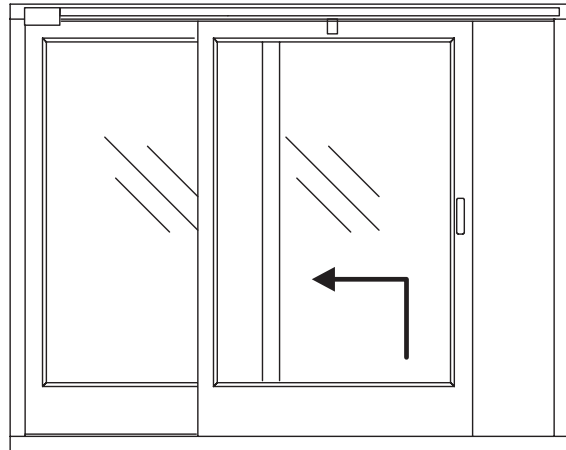
Left-hand version:

Sliding sash opening from left to right



Right-hand version:

Sliding sash opening from right to left



This manual describes a left-hand version (a sash opening to the right) as an example.

Dimensions and work steps for a right-hand configuration (a sash opening to the left) and for Schema C must be adapted accordingly.

Measurements in mm. Diagrams without a scale are **not** necessarily to scale.

Abbreviations

BS Backset

SW Sash weight

SH Sash height

LS/S Lift and slide/slide ...

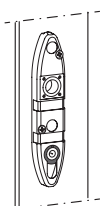
LL Lift actuator length

BO Bogie

FEW Frame exterior width

FH Frame height

Differing diagrams

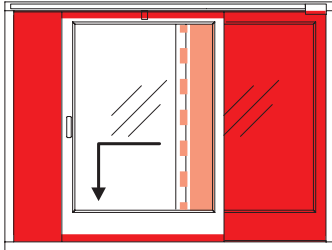


The following diagrams show the installation procedure for the design with handle escutcheons. This is only needed for manual locking/unlocking with a standard cover.

Other product variants may not be explicitly shown, but the steps indicated also apply to them. If there is a distinction between the variants in a given step, it will be highlighted accordingly.

Operation

WARNING



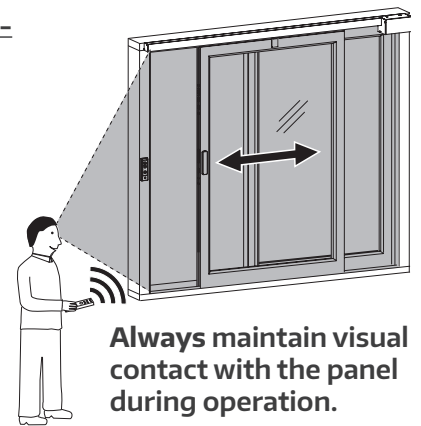
Do not enter the walk-through space while in operation under any circumstances.

Exit the walk-through space as soon as the sliding sash starts moving.

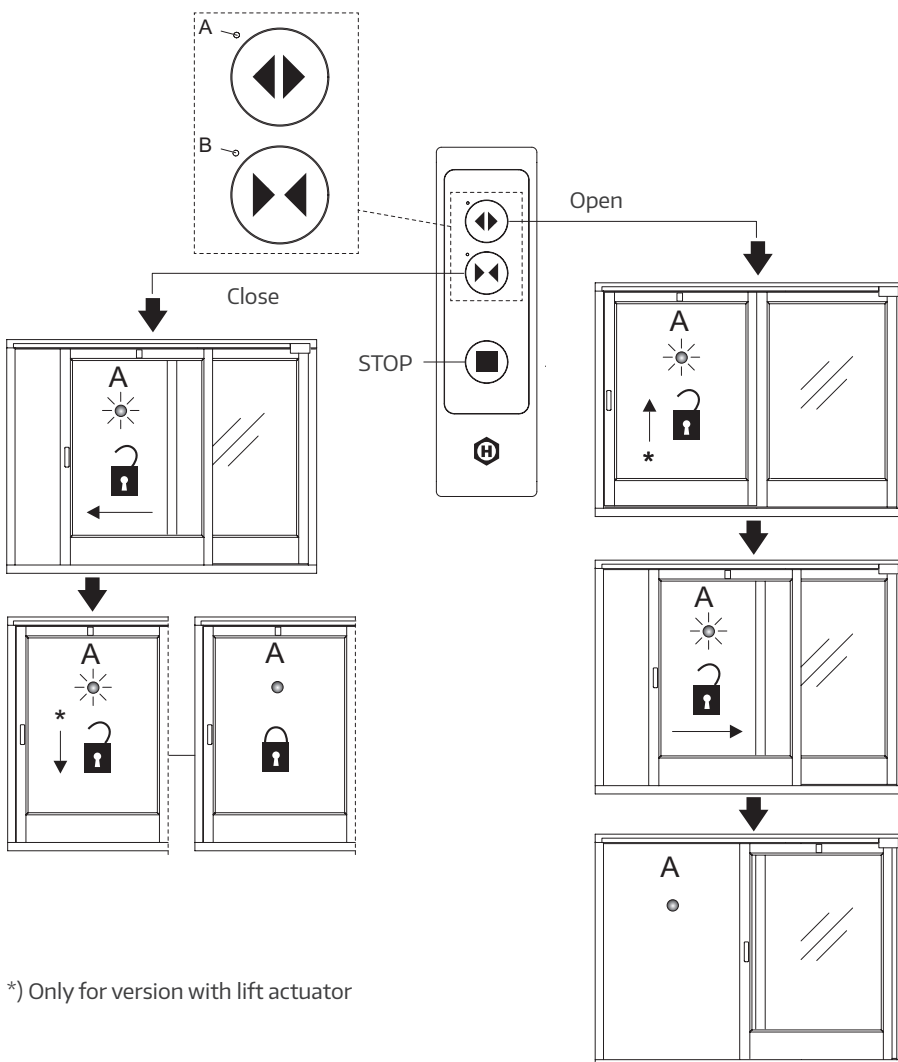
Do not reach into areas where fingers or other objects can be drawn in.

Make sure that no other people, especially children, and no objects are within the walk-through space or at any other critical points (■).

Failure to do so may result in physical injuries and property damage.



Always maintain visual contact with the panel during operation.




A		Green lights up while the lift/slide actuator is moving.
B		Yellow lights up if there is an error.
B		During initialisation mode, yellow flashes: once initiation is complete, the LEDs go out.

*) Only for version with lift actuator

See separate document for other variants of operating controls.

Manual locking/unlocking/emergency unlocking with a defective lift actuator

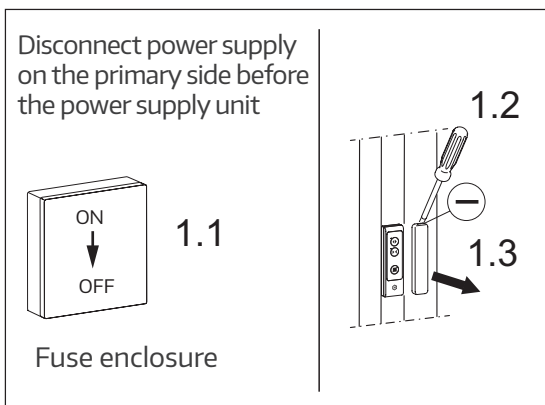
If the lift actuator fails, you can lift and open the sash using the emergency unlocking device (item code 485040) with the help of the emergency unlocking device.

 **Important: However, you should try using the service switch (item code 305882) to lift the sash. Consult the Sections on Service procedure for lift actuator and Bring sash into lifted position in the installation instructions.**

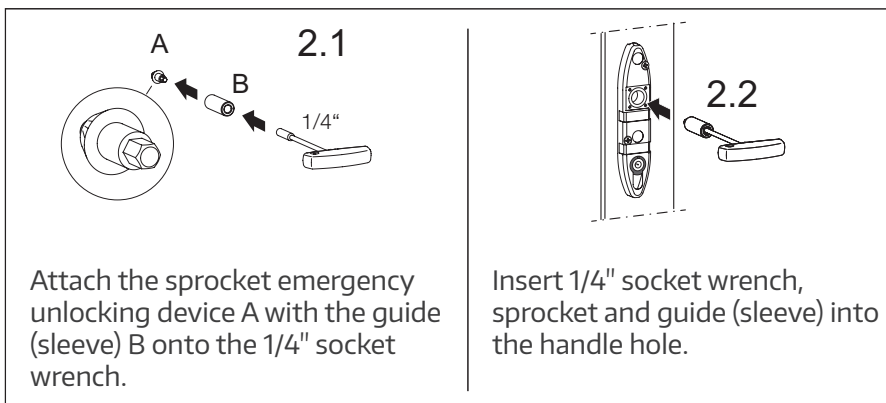
Note: regardless of whether the lift actuator has contact with the power transfer on the frame or not, the service/initial operation switch will function, no matter whether the sash is in the closed or open position.

If lifting the sash using the service/initial operation switch does not work, the sash is emergency-unlocked as follows:

1. Remove cover



2. Fit the sprocket emergency unlocking device with the guide on the espag



Manual locking/unlocking/emergency unlocking with a defective lift actuator (contd.)



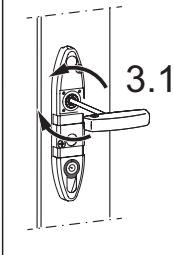
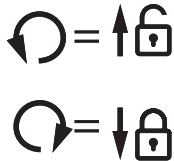
IMPORTANT:

The direction of rotation is always the same as shown here, i.e. **this instruction applies to both the left-hand and right-hand versions.**

3. Emergency unlocking device



Do **not** use a battery-operated screwdriver.

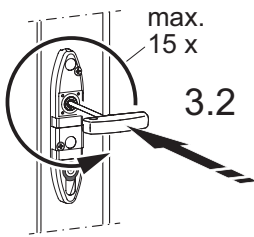


3.1

Important note:

The socket must be fully inserted.

To ensure this is the case, gently turn it back and forth (right/left). The emergency unlocking device has engaged as soon as you feel resistance and hear a whirring sound.



3.2

Recommendation for easier handling: separate from the cam so that you don't need to push against the slide motor. While applying slight pressure towards the sash, turn the emergency unlocking device anti-clockwise up to 15 full turns (applies to sashes opening both to the left and right) until the sash can be moved (try to move it after every few turns). If the emergency unlocking device slips, increase the pressure towards the sash.

4. Detach guide (sleeve) and emergency unlocking device socket

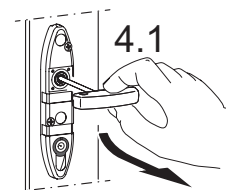


IMPORTANT

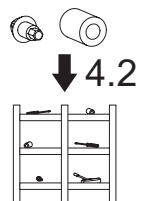
After emergency unlocking, you must remove the guide (sleeve) and the socket from the sash with the 1/4" socket wrench.

If you do not, you may damage the lift actuator.

Guide (sleeve) and socket must be stored away in case the end user needs to use it at a later stage.



4.1



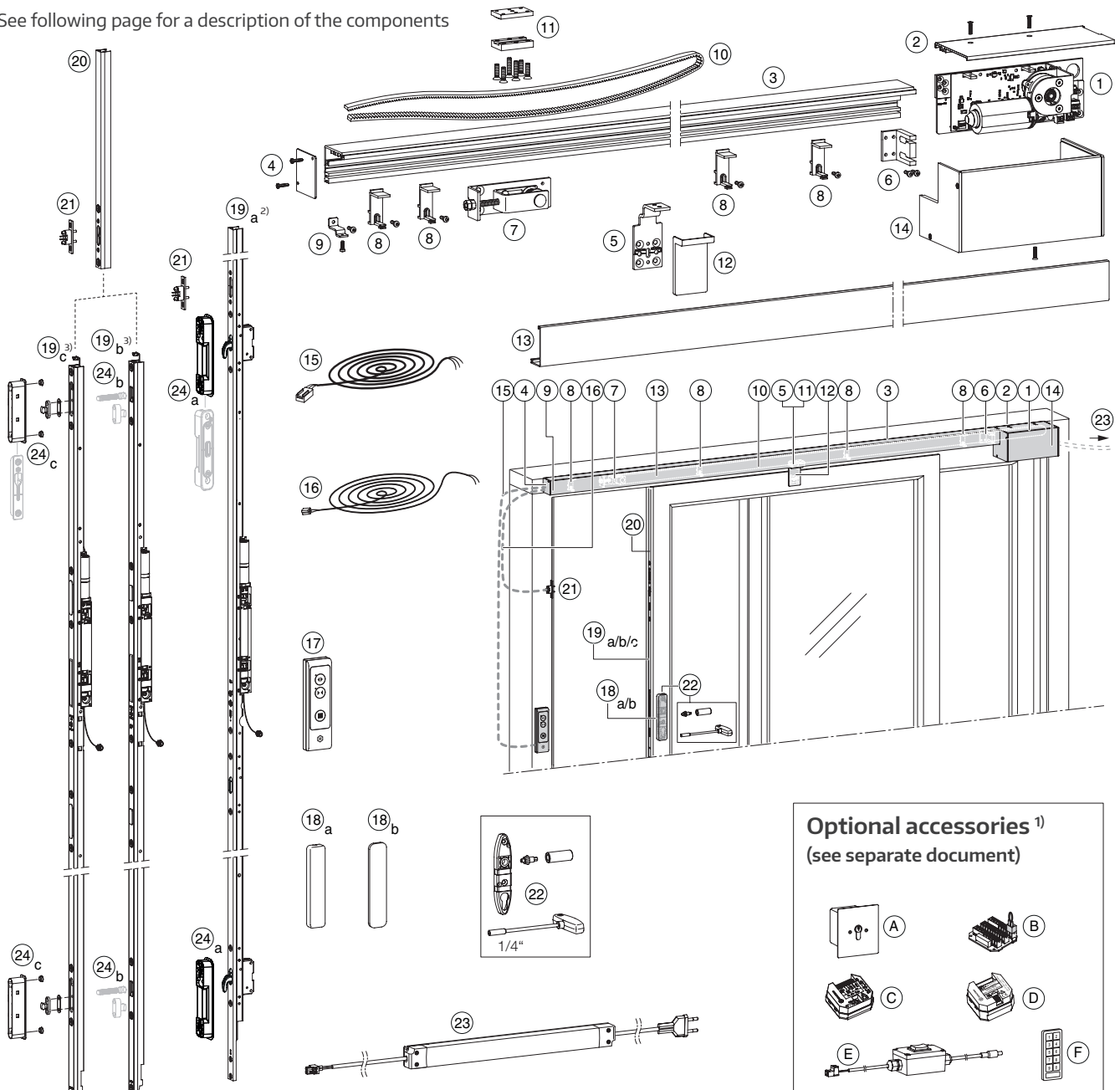
4.2

End user

Parts overview

Example: Sliding sash opening from left to right – view from inside

See following page for a description of the components



¹⁾ Not included in the scope of supply.

²⁾ Installation only possible with bogie variant M1 or M2 (see following page).

³⁾ Installation only possible with bogie variants H1, H2 or H3 (see following page).

Parts overview (continued)

Description of the components

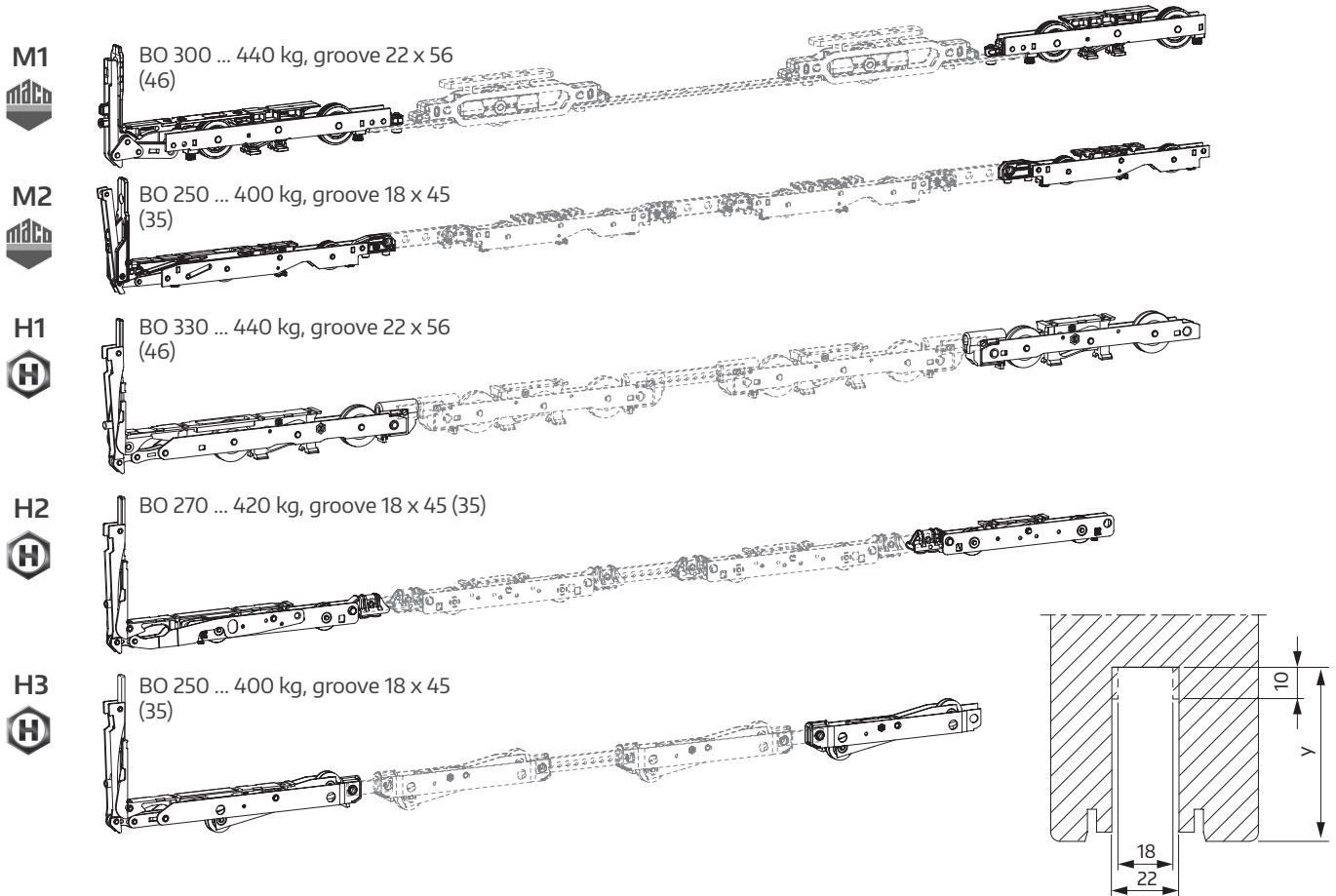
- ① Actuator unit, including circuit board
- ② Actuator unit cover mounting bracket
- ③ Support profile
- ④ End cap
- ⑤ Cam
- ⑥ Toothed belt support
- ⑦ Toothed belt deflector
- ⑧ Support component
- ⑨ Cover profile mounting bracket
- ⑩ Toothed belt
- ⑪ Toothed belt clamping piece
- ⑫ Cam cover
- ⑬ Cover profile
- ⑭ Actuator unit cover
- ⑮ Cable for control keypad
- ⑯ Cable for lift actuator
- ⑰ Control keypad
- ⑱ Cover for manual locking/unlocking device
(a: standard; b: stainless steel)
- ⑲ lift actuator (a: latch espag BS 27.5; b: bolt espag BS 27.5;
c: invisio espag BS 27.5)
- ⑳ Contact transfer
- ㉑ Power transfer component
- ㉒ Emergency unlocking set (socket, guide, handle escutcheon, T-handle)
(in combination with lift actuator)
- ㉓ Power supply unit
- ㉔ Locking part/locking bolt
(a: latch espag; b: bolt espag (wood, PVC/aluminium; c: invisio espag)

Optional accessories (see separate document):

- Ⓐ Key-operated switch
- Ⓑ Connection box
- Ⓒ WiFi Box
- Ⓓ Button box
- Ⓔ Service/initial operation switch
- Ⓕ Code keypad

Parts overview (continued)

Bogie variants (not included in the delivery package)



* = can be used
 - = cannot be used

Bogie variant	Sash weight [mm]							Groove		Only available with ...	
	Single				Tandem			Width x depth y ¹⁾		Latch espag	Bolt/inviso espag
	≤ 250 kg	≤ 270 kg	≤ 300 kg	≤ 330 kg	≤ 400 kg	≤ 420 kg	≤ 440 kg	22 x 56 (46)	18 x 45 (35)		
M1	*	*	*	-	*	*	*	*	-	BS 27.5	-
M2	*	-	-	-	*	-	-	-	*	BS 27.5	-
H1	*	*	*	*	*	*	*	*	-	-	BS 27.5
H2	*	*	-	-	*	*	-	-	*	-	BS 27.5
H3	*	-	-	-	*	-	-	-	*	-	BS 27.5

¹⁾ Standard version with 15 mm sliding track; value in brackets for version with 5 mm sliding track

Preparatory measures



Risk of injury and material damage.

Failure to comply with applicable standards and regulations may result in personal injury and material damage.

Ensuring correct function

To ensure the HS Comfort Drive functions correctly for the long term, you **must** observe the standards and guidelines for installing window and door structures in buildings (e.g. ÖN B 5320, RAL installation guide for windows, SIA 331 or 343, etc.). When installing glazing blocks, please refer to the German Glazing Trade Technical Guideline no. 3 Blocking of glazing units.

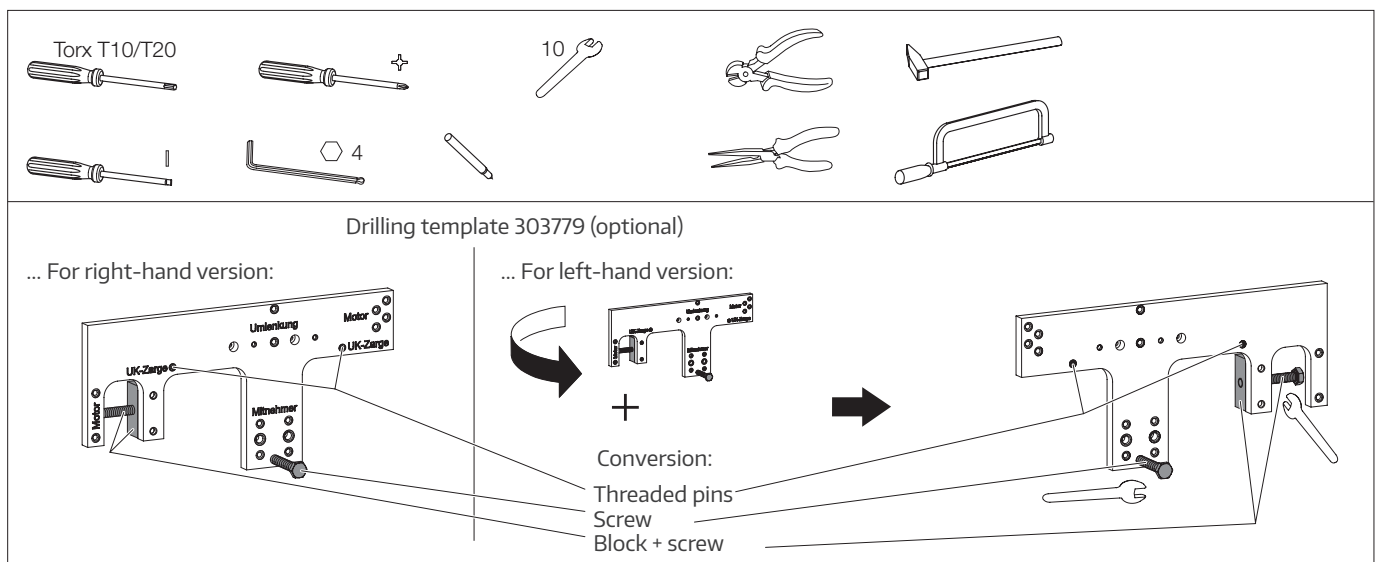
You **must** strictly adhere to the specifications for areas of use, sash weights and processing guidelines provided by profile manufacturers or system providers.

The centre of gravity or position of the glass pane may restrict the areas of use and maximum weights.

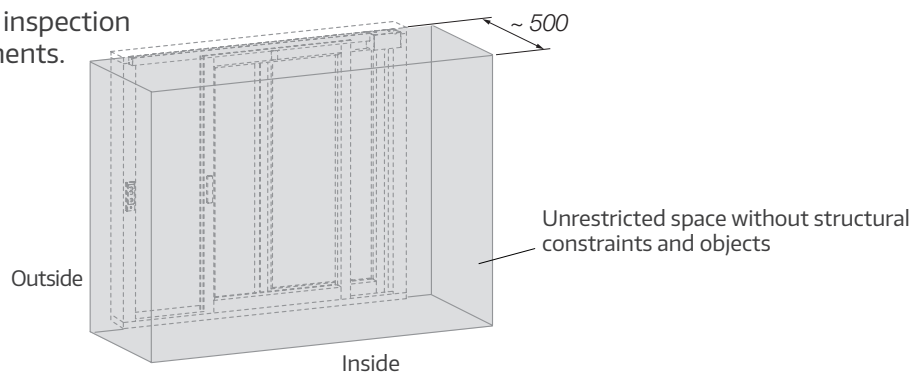
You **must** request such information where necessary.

Verifying the prerequisites for installation

- All screw connections in the frame must engage adequately into the material plus the reinforcement where applicable.
- Check you have all parts and they are intact.
- Any necessary milling must be completed in the workshop.
- Required tool (must be provided as indicated in the manual):

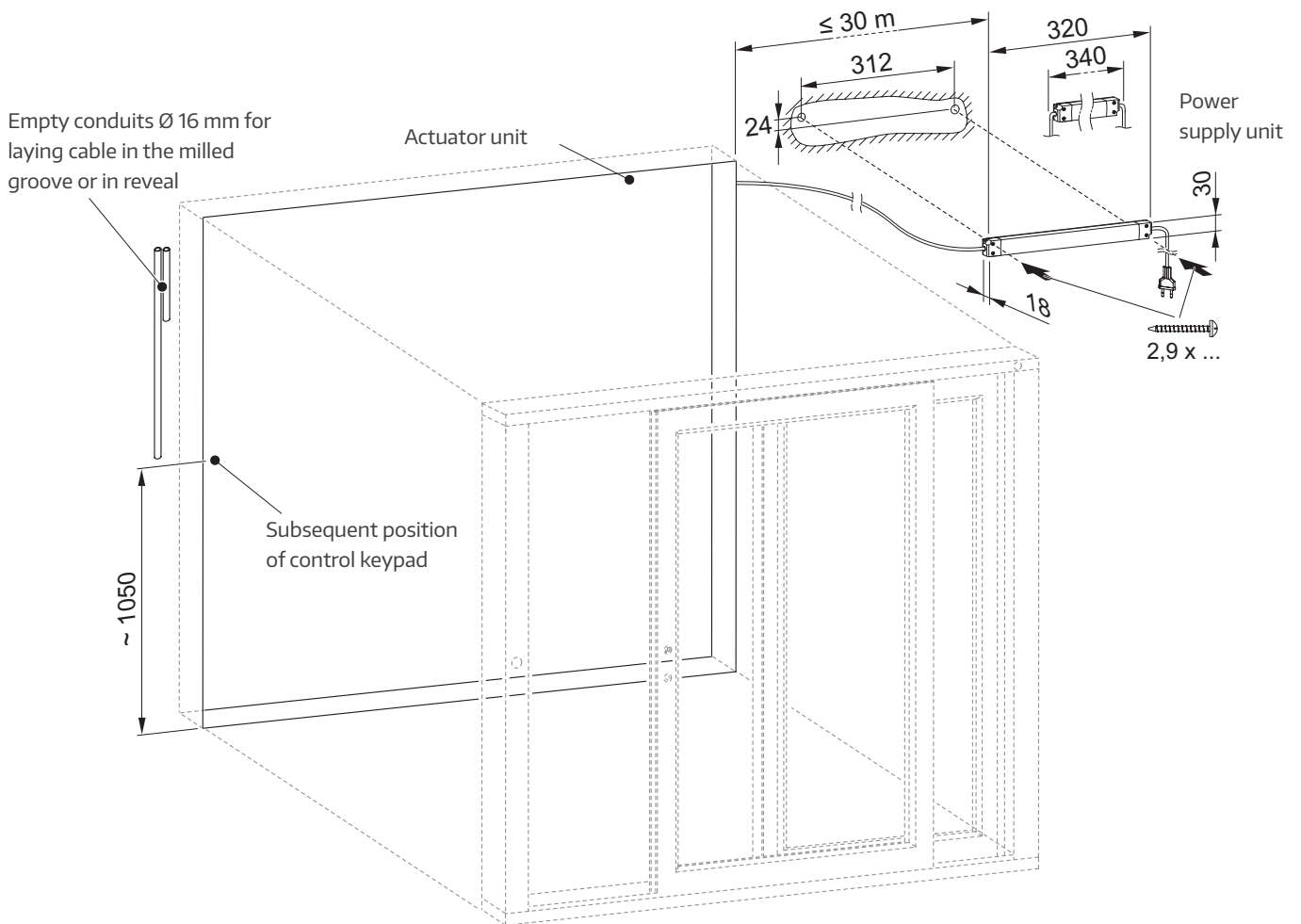


- Allow sufficient clearance for any inspection work and replacement of components.

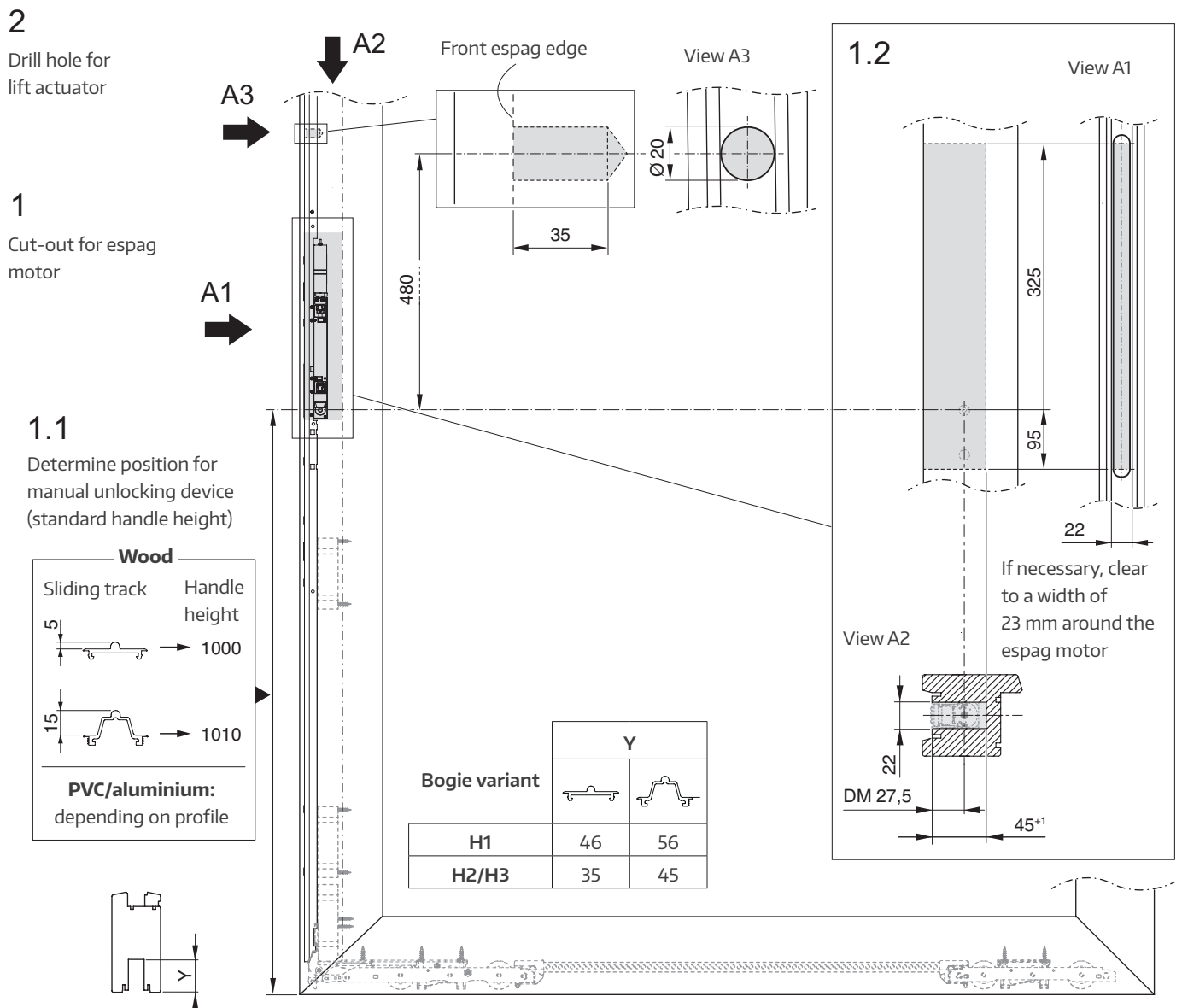
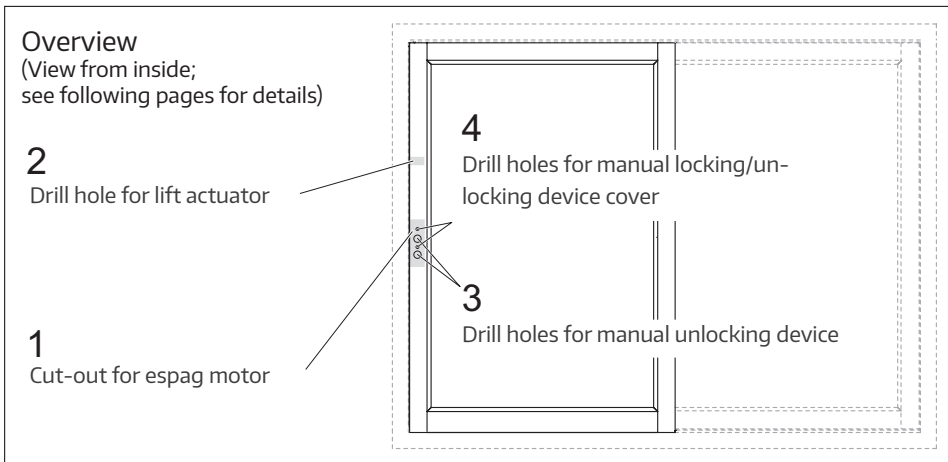


Preparing for electrical connection

Example: Sliding sash opening from left to right – view from inside
 Connection cable, cross section 1.5 mm²

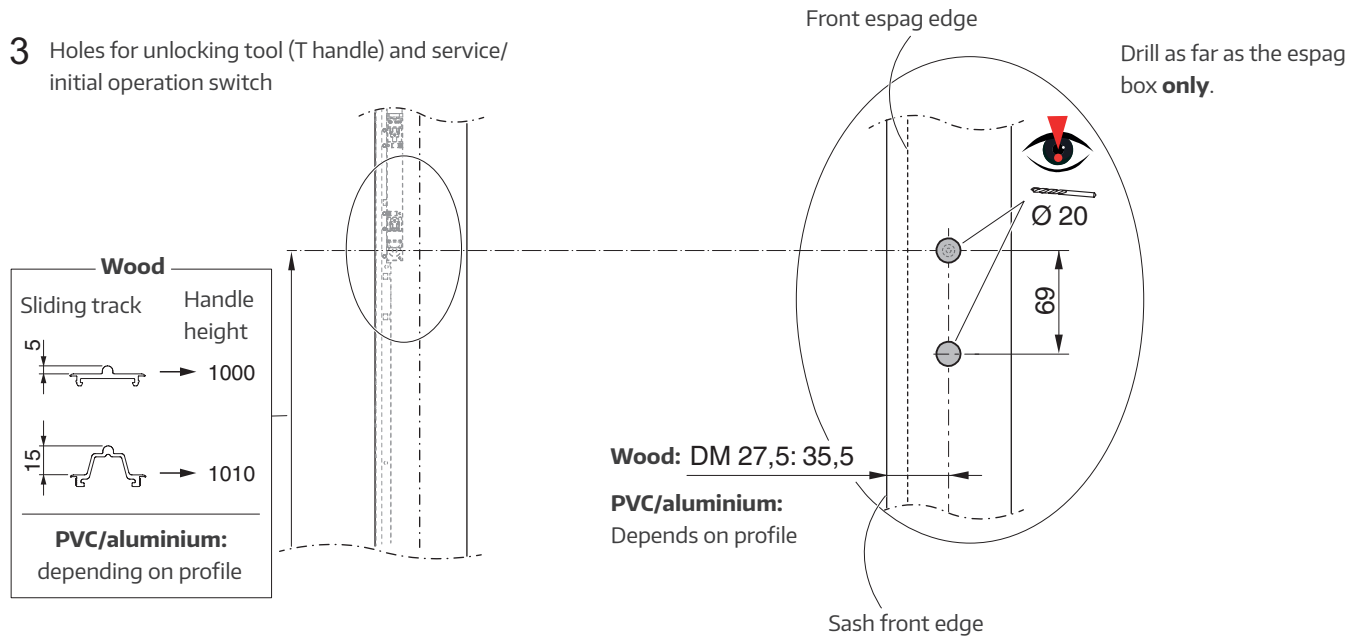


For bolt/inviso espag: Sash cut-outs/drill holes for lift actuator

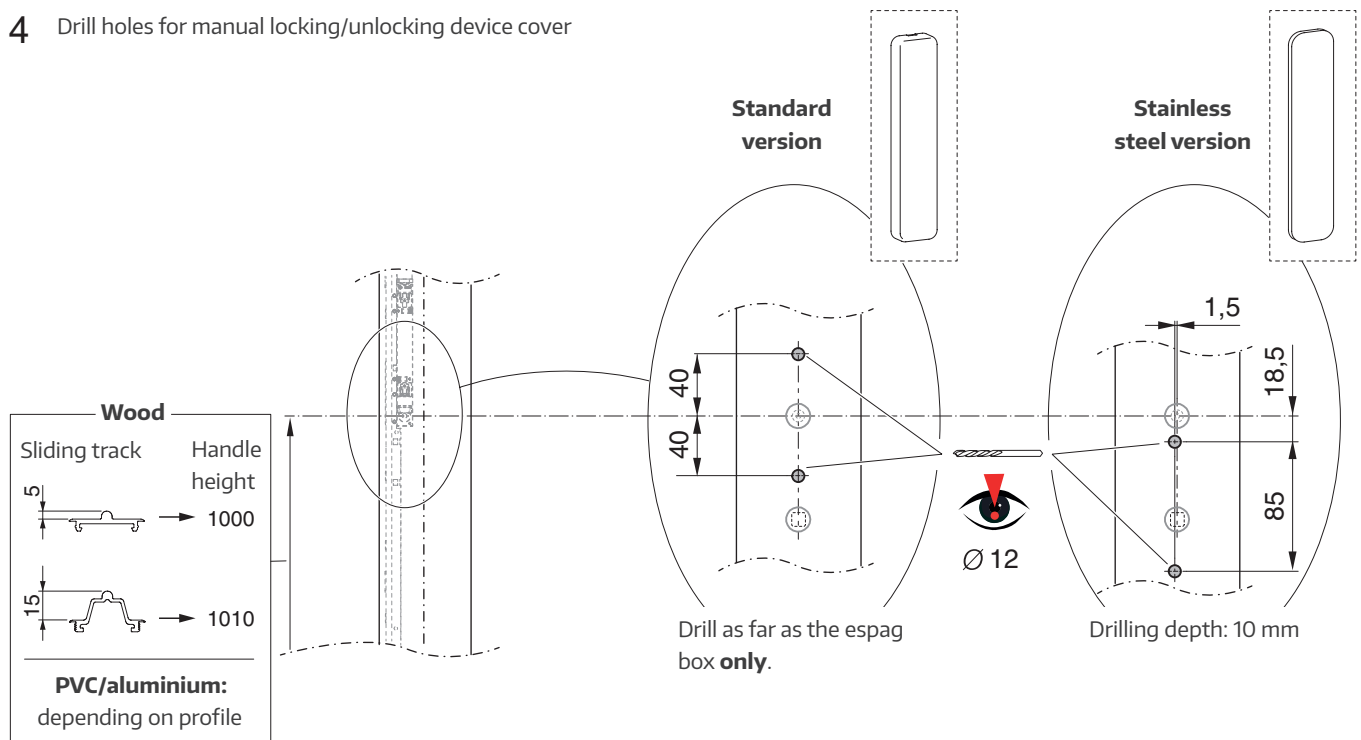


For bolt/inviso espag: Sash cut-outs/drill holes for lift actuator contd.)

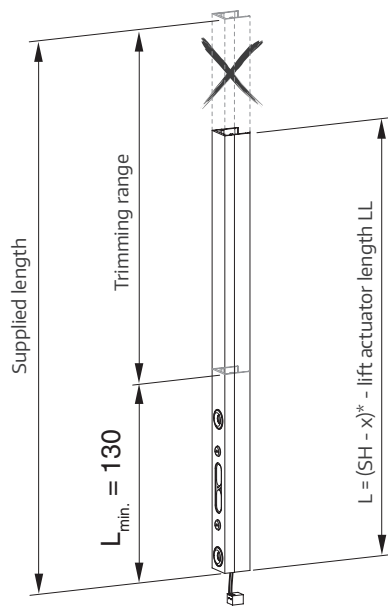
- 3 Holes for unlocking tool (T handle) and service/initial operation switch



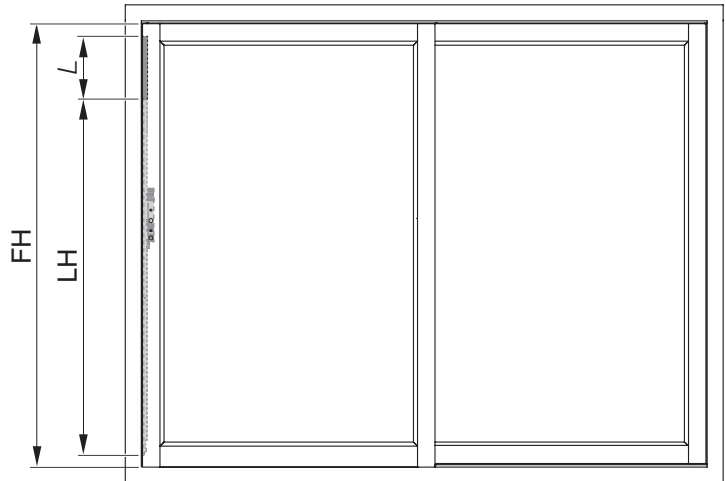
- 4 Drill holes for manual locking/unlocking device cover



For bolt/inviso espag: Cut the contact transfer to size

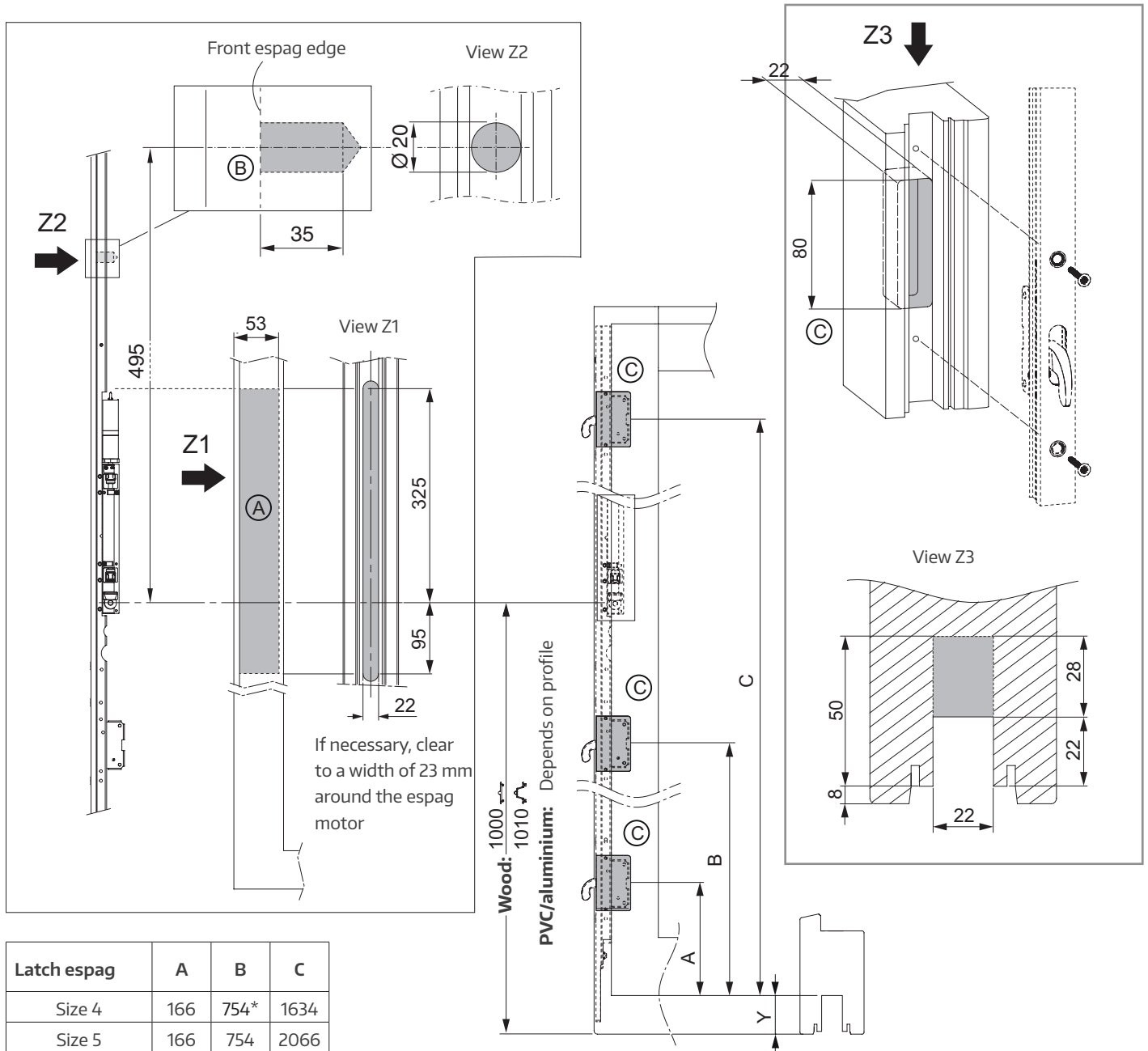


* See profile-related installation instructions



		Lift actuator length LL
Size	210	1625
Size	240	1925
Size	270	2225



For latch espag: Lift actuator cut-out/drill hole (A) (B), latch case cut-out (C)



Latch espag	A	B	C
Size 4	166	754*	1634
Size 5	166	754	2066

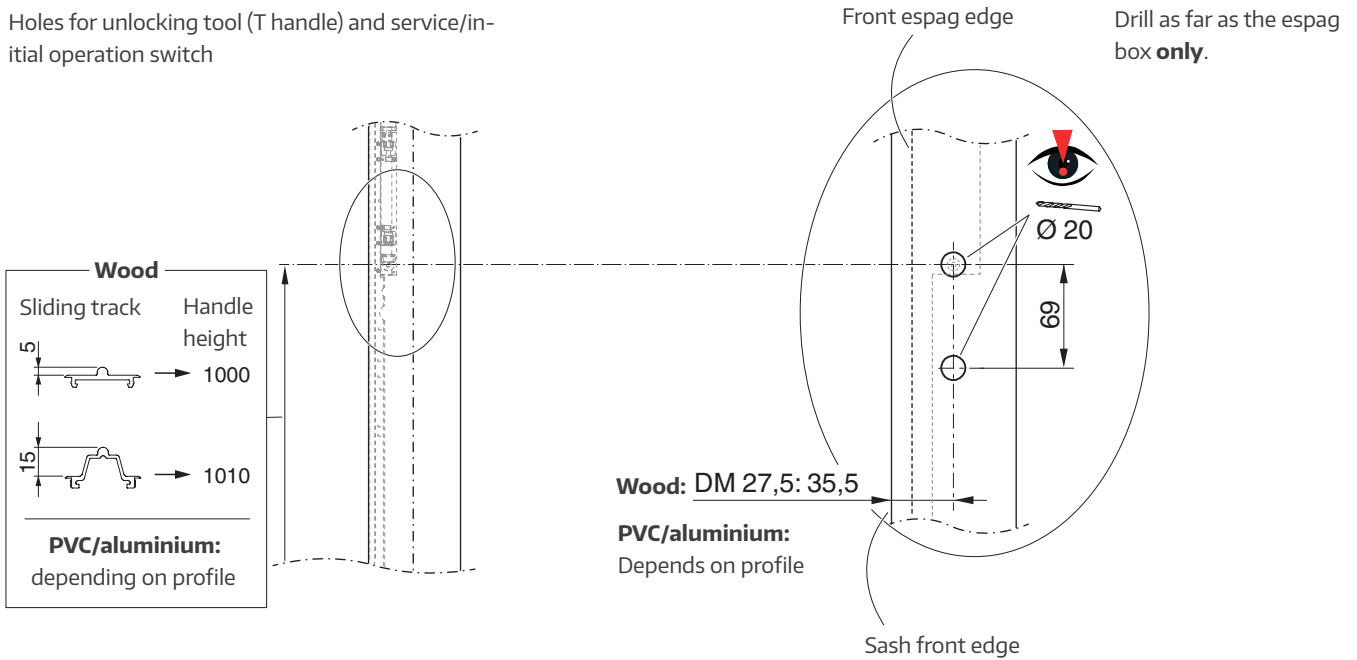


* optional

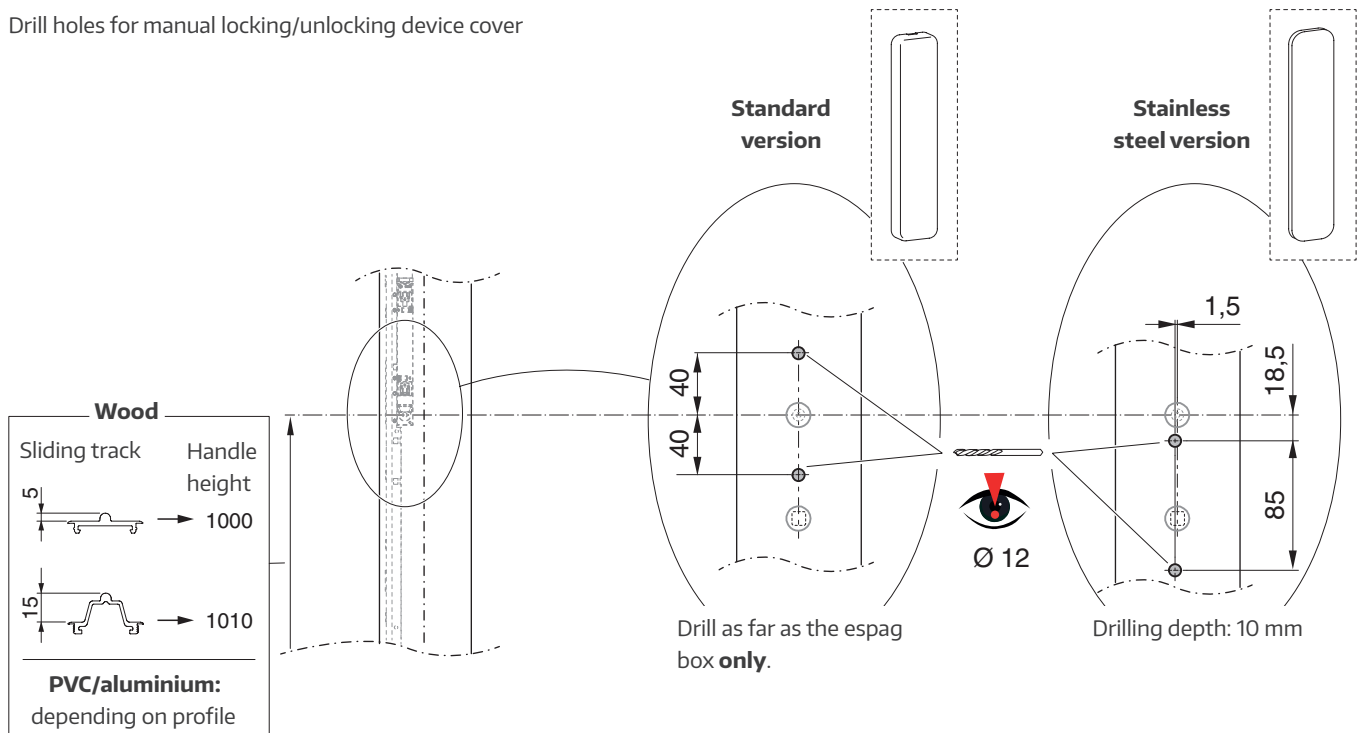
Bogie variant	Y	
		
M2	35	45
M1	46	56

For latch espag: drill holes for lift actuator

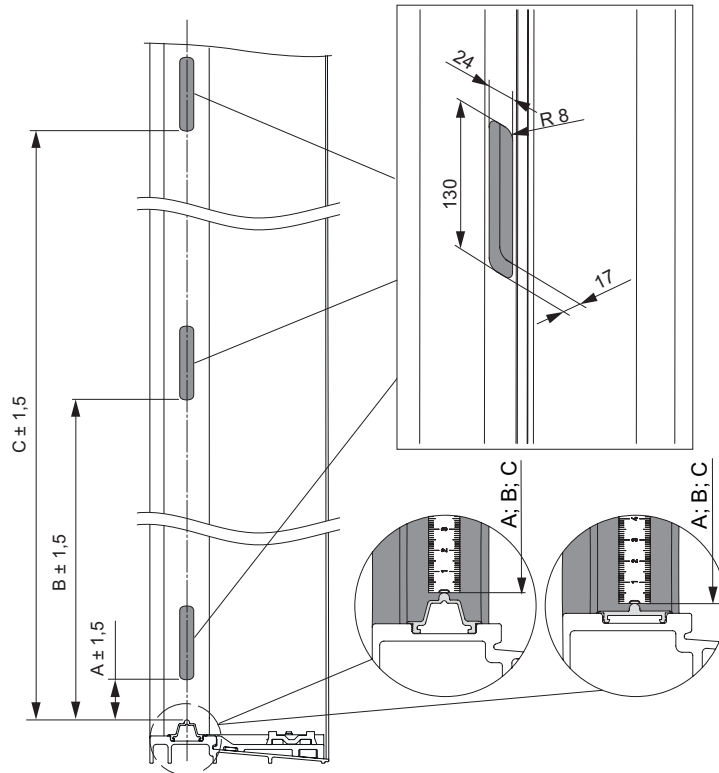
Holes for unlocking tool (T handle) and service/initial operation switch



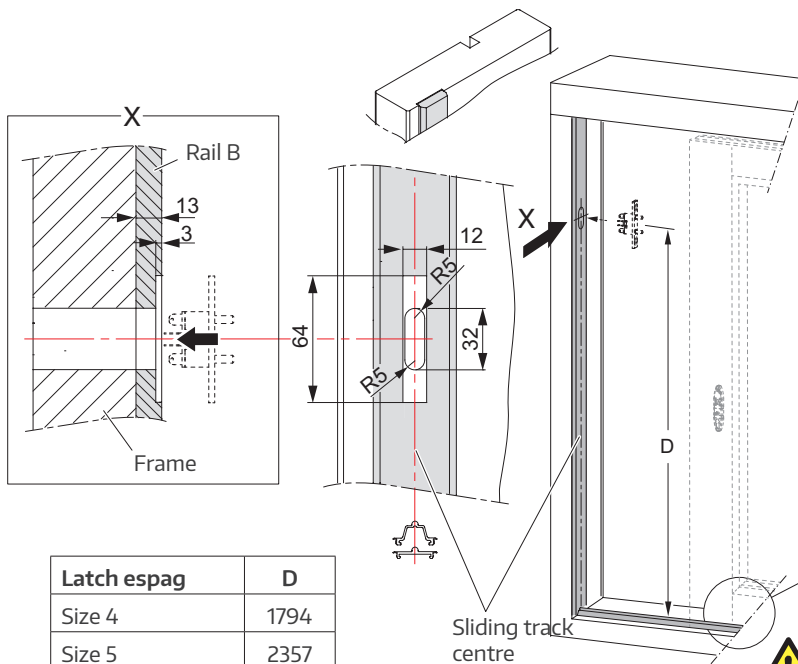
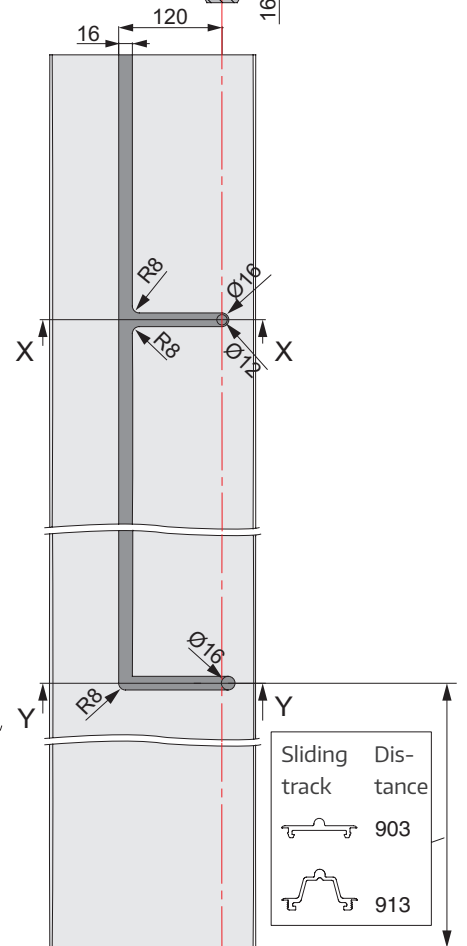
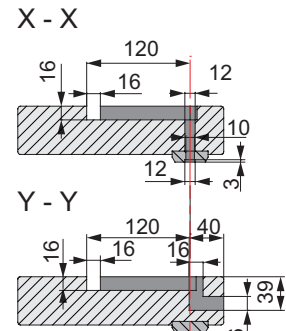
Drill holes for manual locking/unlocking device cover



For latch espag: Lock, operating and power transfer component



Latch espag	A	B	C
Size 4	145	733*	1613
Size 5	145	733	2045

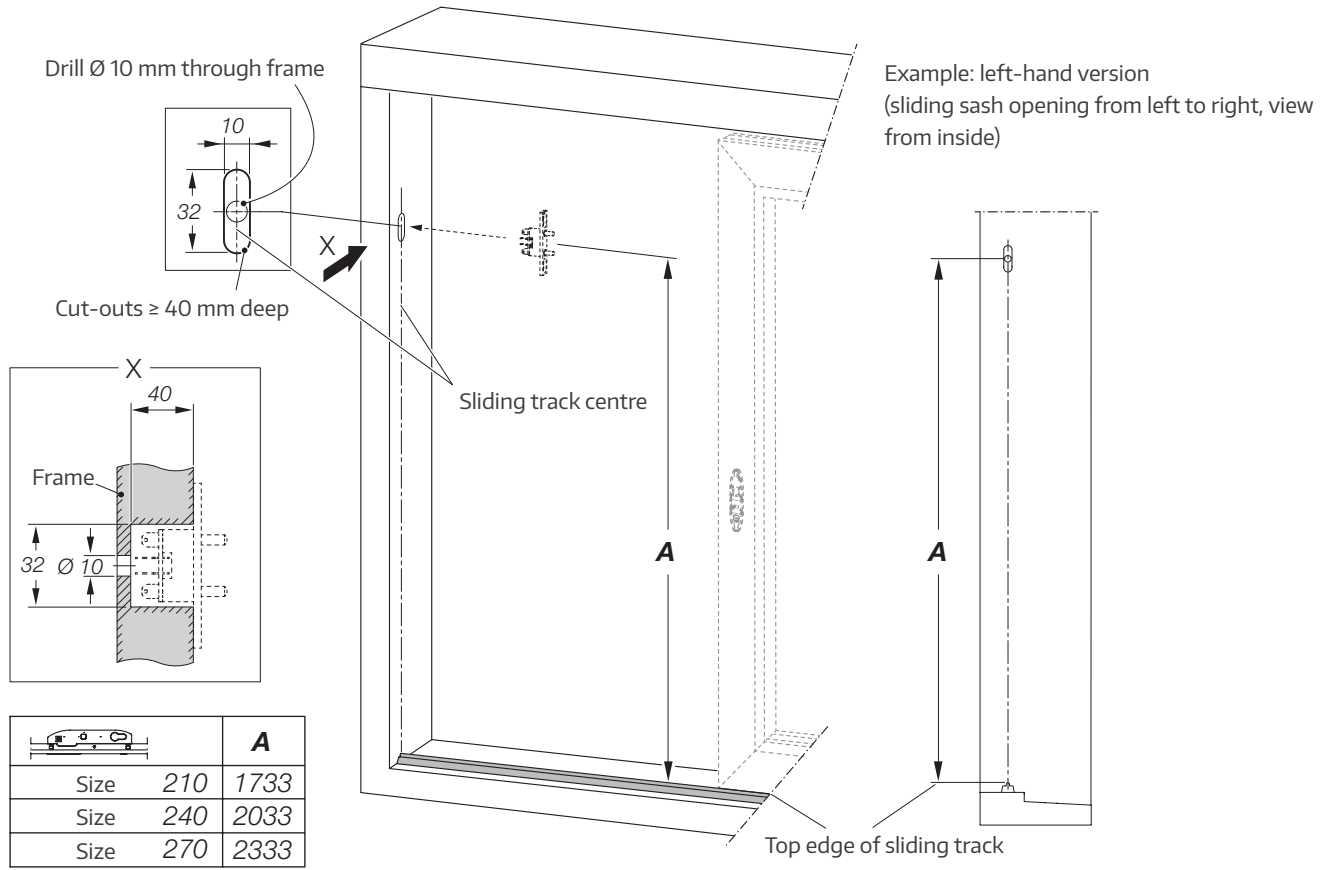



Latch espag	D
Size 4	1794
Size 5	2357



WARNING:
Bogie variants M1/M2

Cut-out in the frame for contact transfer



	A	
Size 210	1733	
Size 240	2033	
Size 270	2333	

Bogie installation

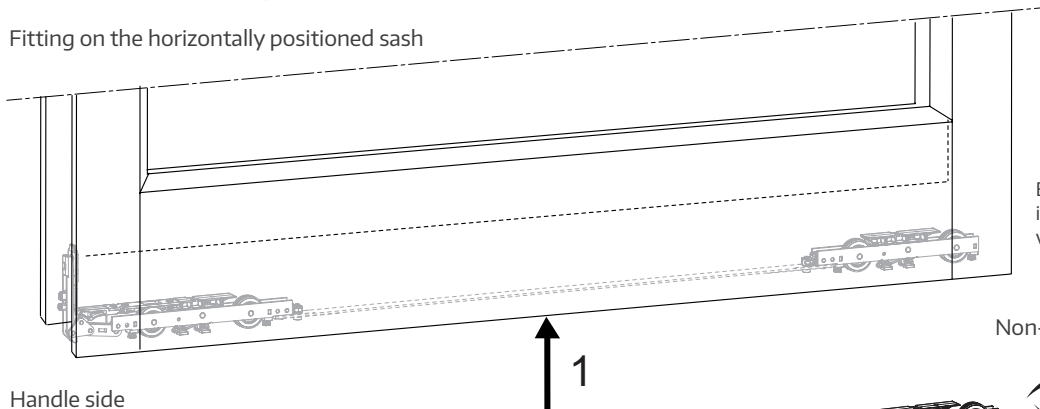


2 additional bogies for 400 kg or 440 kg must be used with a sash weighing 200 kg (latch espag) or 330 kg (bolt/inviso espag) or more;

also see Parts overview → Bogie variants

siehe auch profilbezogene Montageanleitung
Refer to profile-based installation instructions

Fitting on the horizontally positioned sash



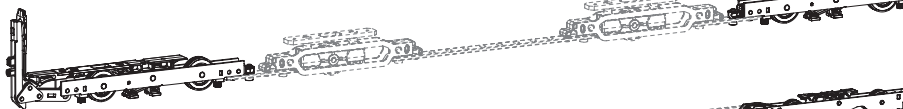
Example: Sliding sash opening from right to left, view from inside

Non-handle side



Handle side

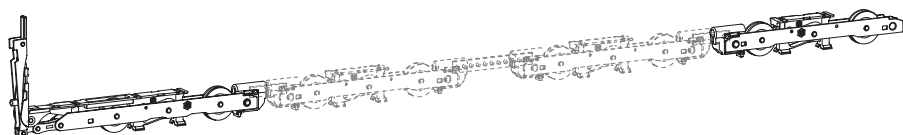
M1



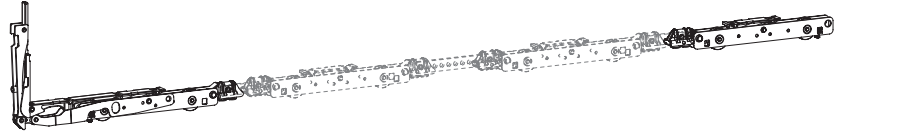
M2



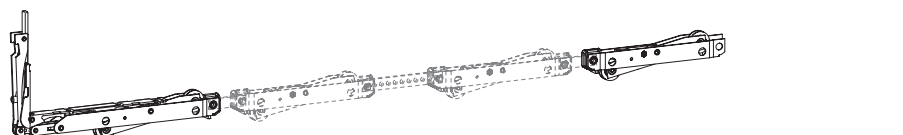
H1



H2



H3



2

Remove retainers from both bogies with a hammer and a suitable wooden striking block. The bogies must then be able to move very easily.

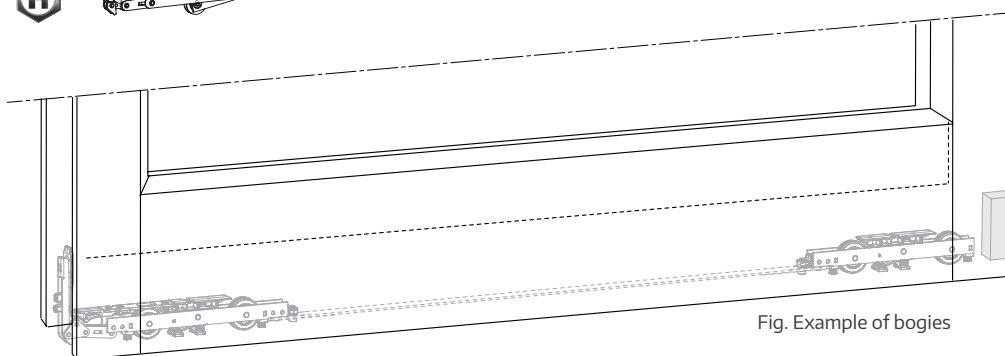
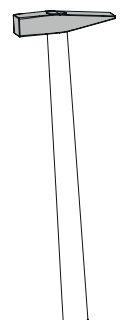


Fig. Example of bogies



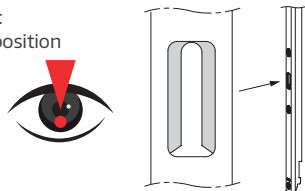
CAUTION:

The retainers must be removed after the bogies are installed. If they are detached at a later stage (e.g. when the lift actuator is put into operation), this may cause material damage, or the sash cannot be raised because the bogie have not been released from their retainers.



For bolt/inviso espag: Installing the lift actuator and contact transfer component

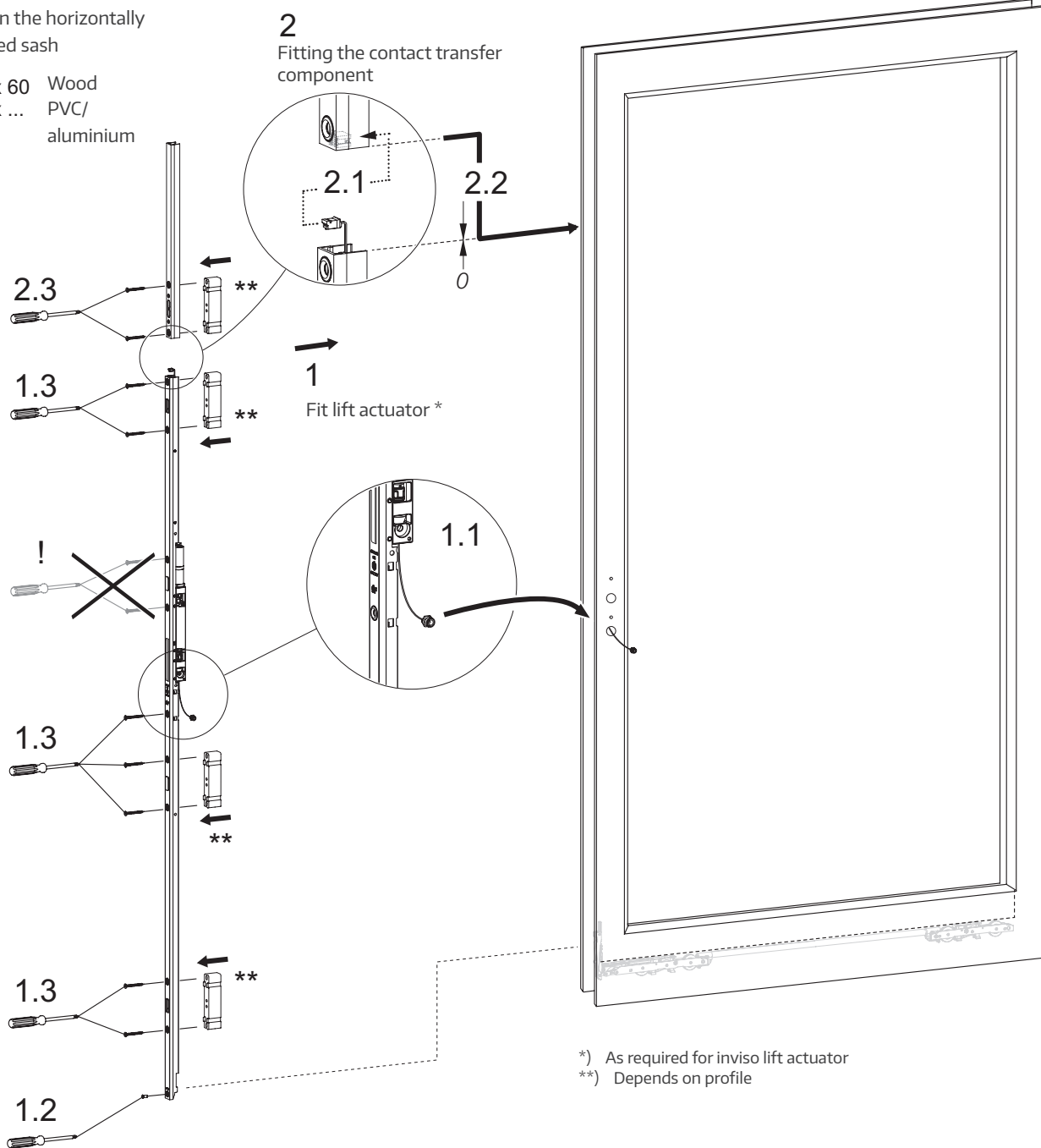
Condition on delivery:
Sash lowered motor position



Example: Sliding sash opening from left to right, view from inside

Fitting on the horizontally positioned sash

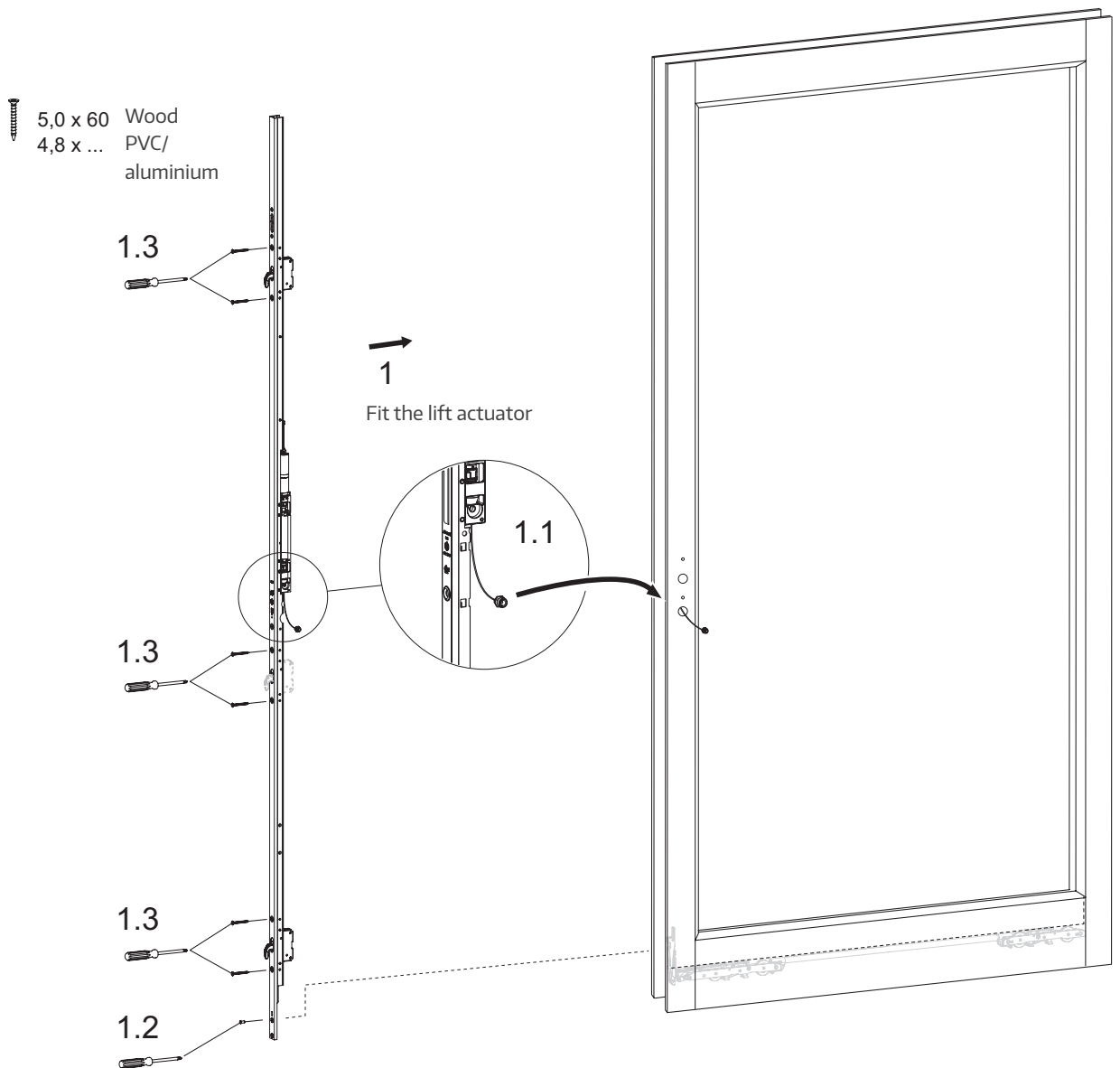
- 5,0 x 60 Wood
- 4,8 x ... PVC/
aluminium



*) As required for invisio lift actuator
**) Depends on profile

For latch espag: Fitting the lift actuator

Condition on delivery:
Sash lowered motor position



Installing the sliding sash



IMPORTANT:

When putting the lift actuator into operation with the service/initial operation switch, the sliding sash is installed **according to the following procedure first**.

The sliding sash must remain in a horizontal position to do so.

NOTE:

The installation situation depends on the profile.

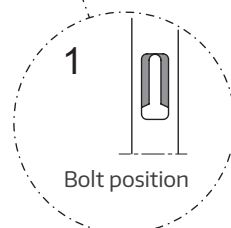
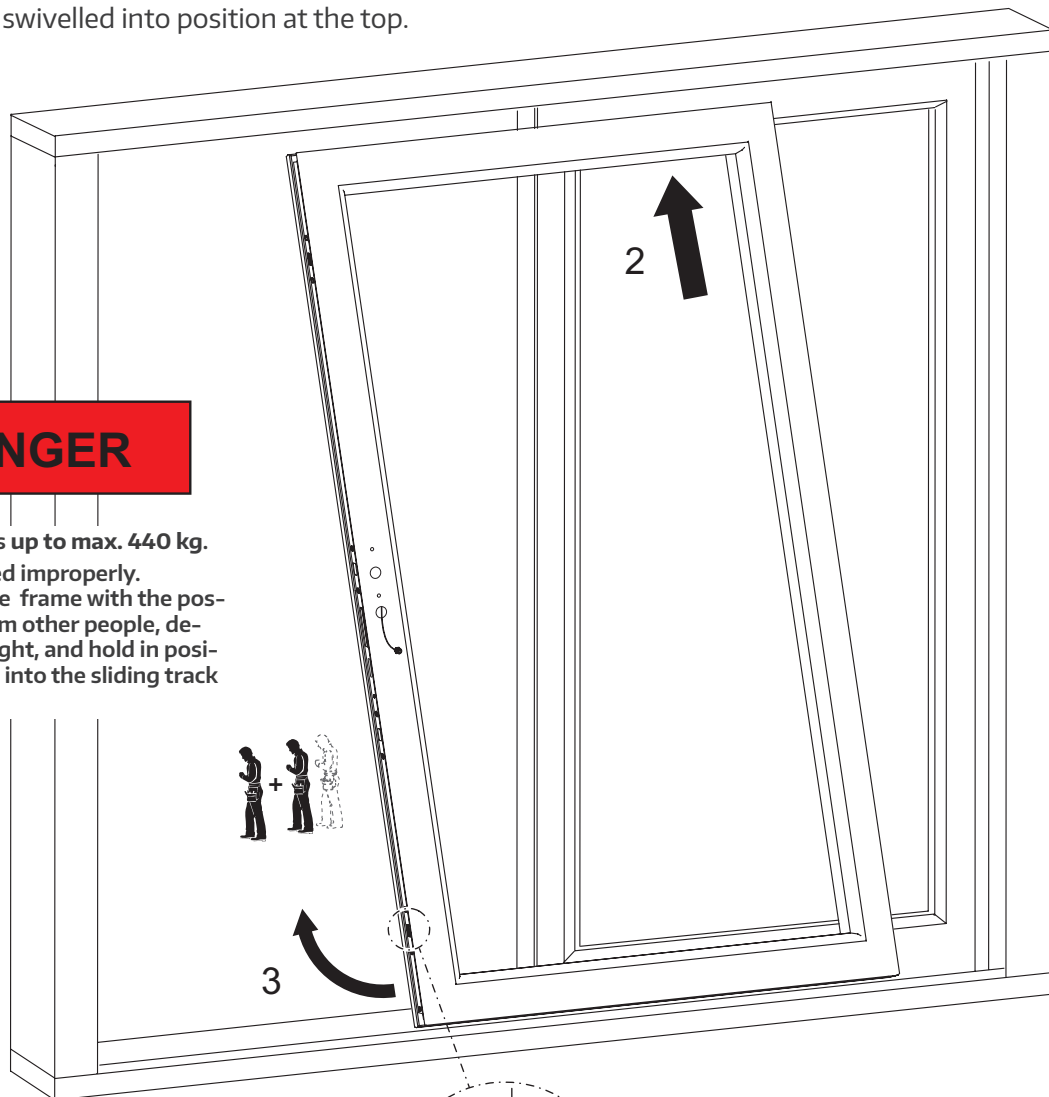
If necessary, the sash must first be placed on the sliding track and then swivelled into position at the top.

Example:

Sliding sash opening from left to right,
View from inside



Heavy sash weights up to max. 440 kg.
Risk of injury if used improperly.
Place the sash in the frame with the possible assistance from other people, depending on the weight, and hold in position until it is fitted into the sliding track and guide.



IMPORTANT:

Install the sash in the **Closed** position only

Cable routing options



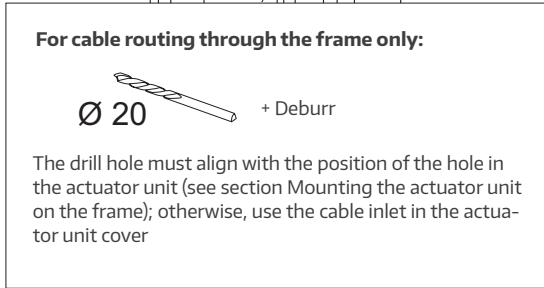
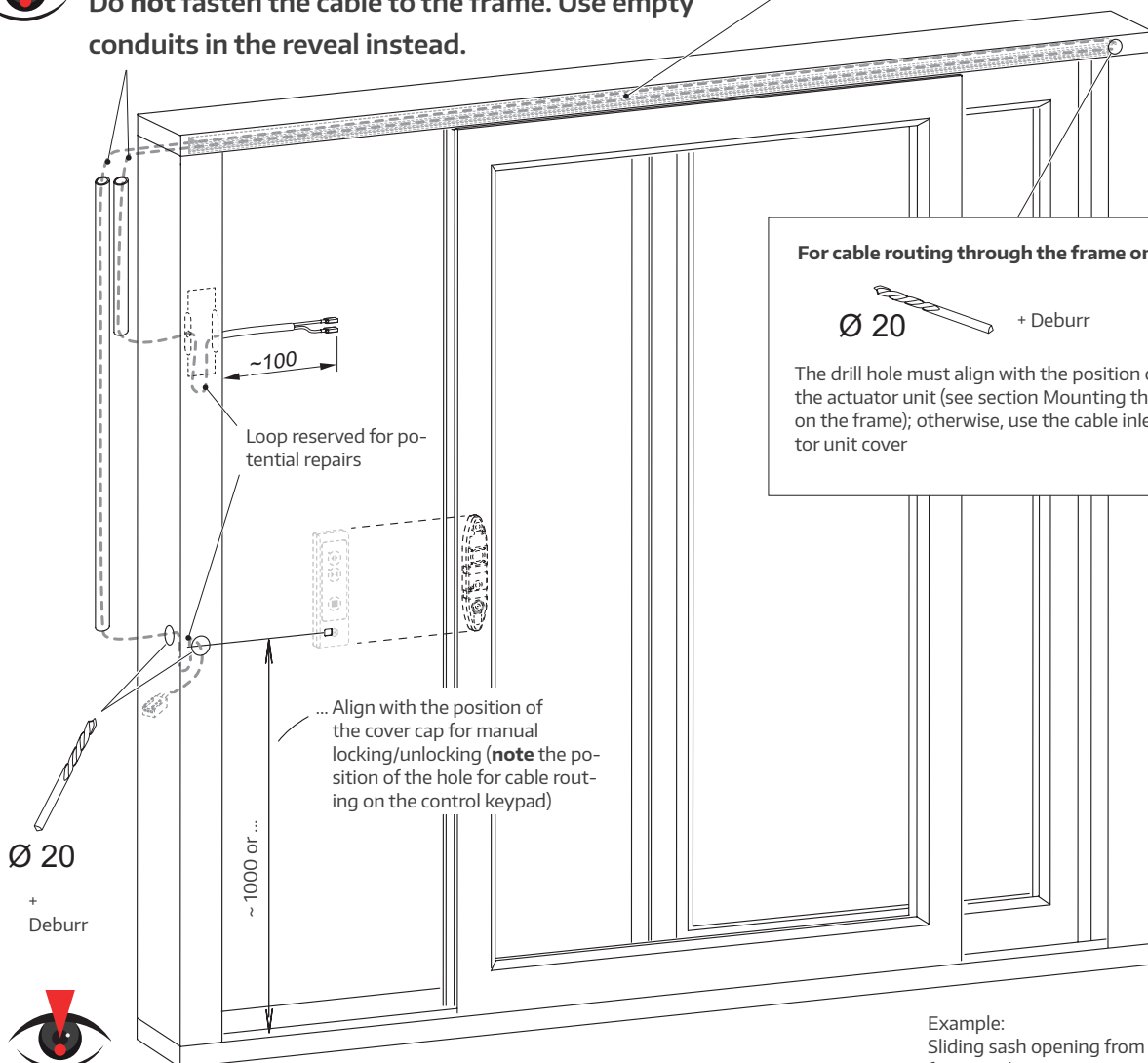
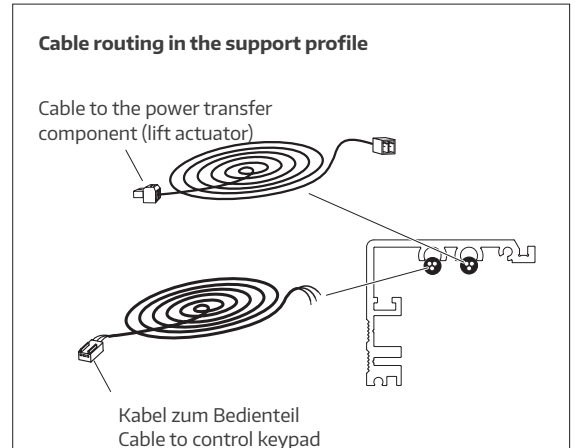
WARNING:

The cables must be attached in such a way that they do not come into contact with moving parts. The holes drilled for cable routing must be carefully deburred. Risk of material damage.



IMPORTANT for PVC/aluminium frames:

Do not fasten the cable to the frame. Use empty conduits in the reveal instead.



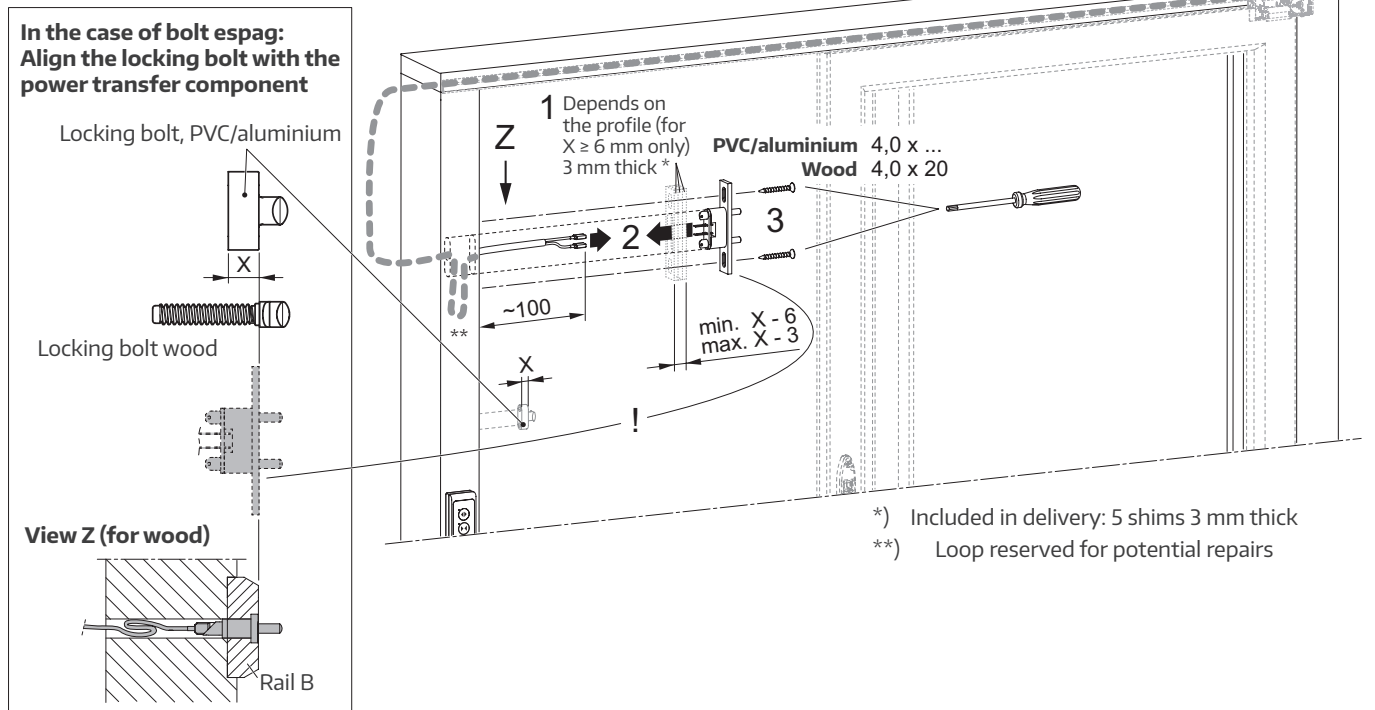
For 3-button control keypad only; different for other control keypads

Example:
Sliding sash opening from left to right, view from inside

Fitting the power transfer component and control keypad

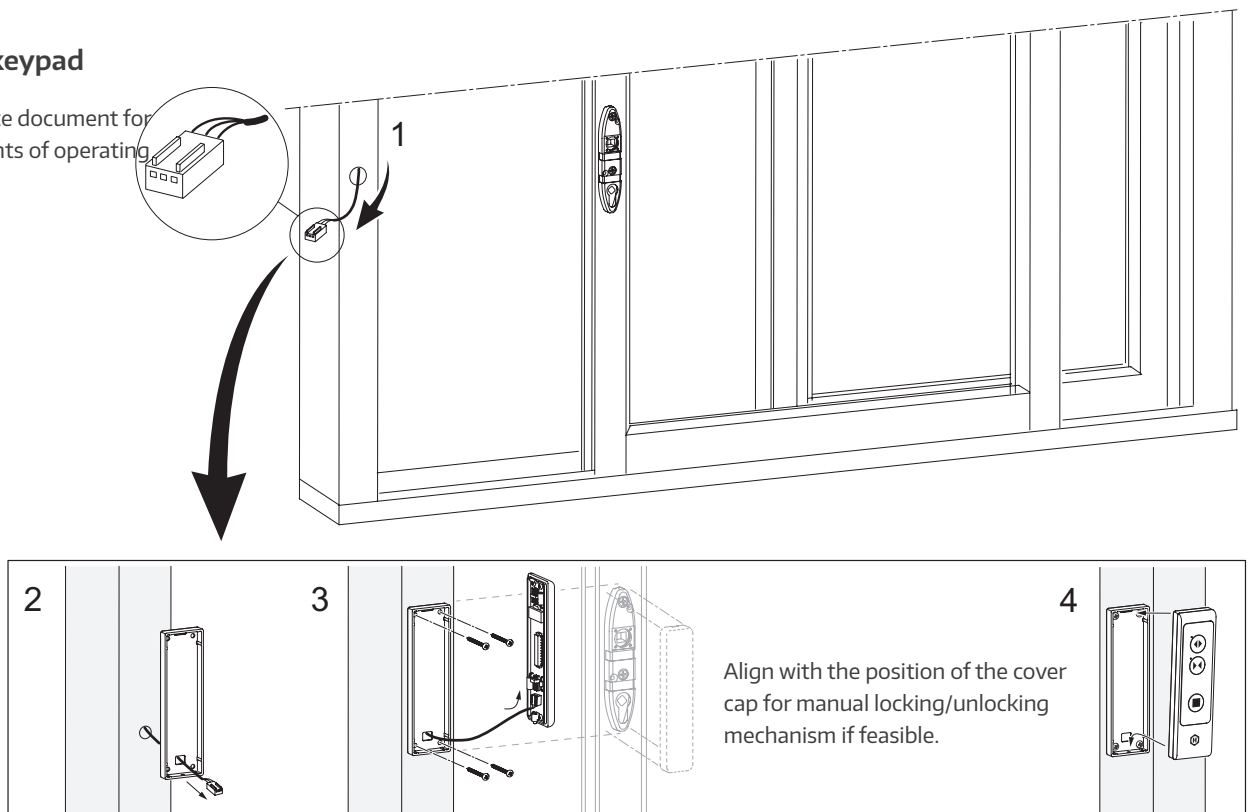
Power transfer component

1. Place shim(s) on the power transfer component if necessary (depending on profile)
2. Attach flat connector to the power transfer component
3. Firmly fasten power transfer component with 2 screws 4.0 x ... to the frame (wood: Rail B)



Control keypad

See separate document for other variants of operating controls

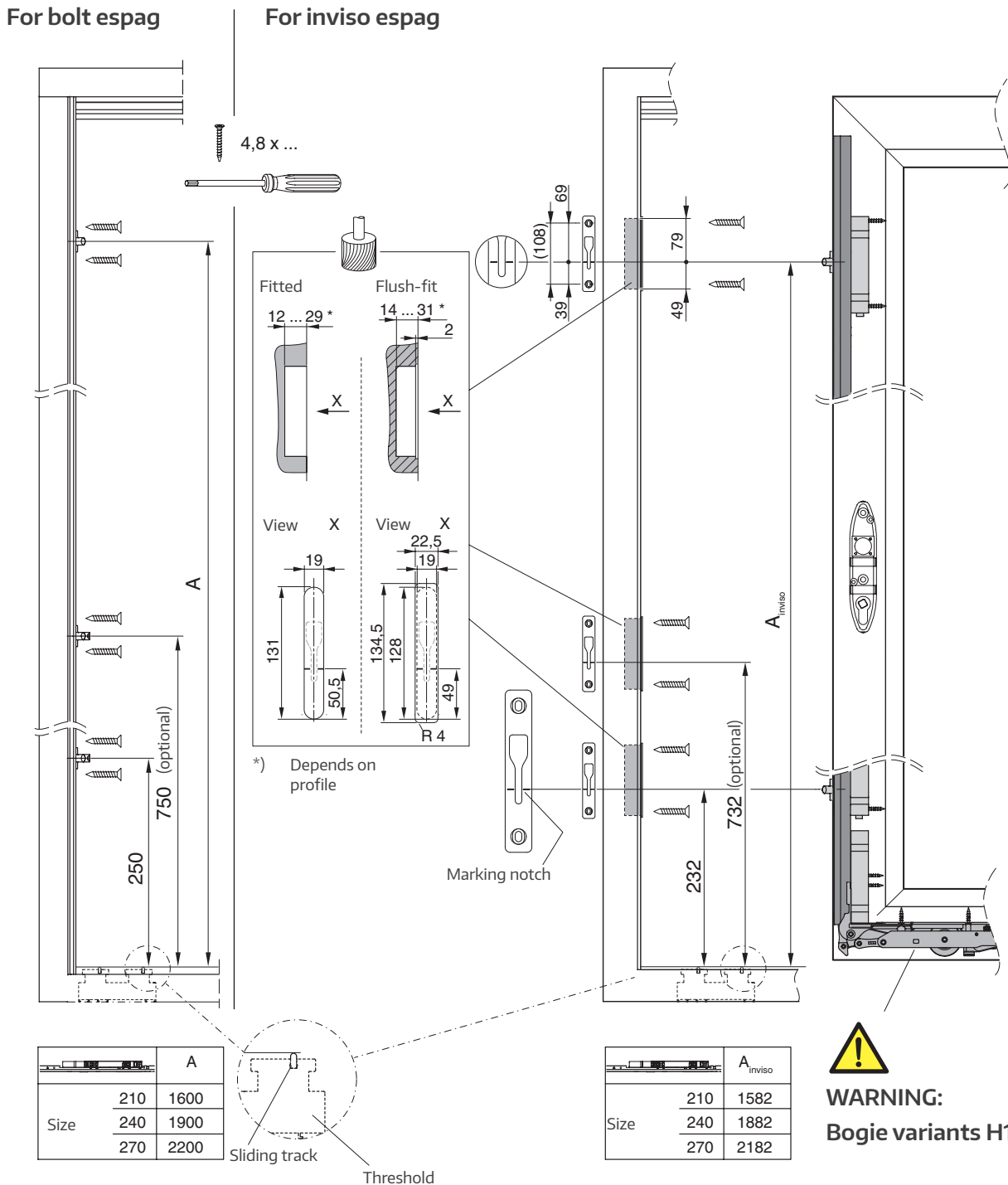


For bolt/inviso espag: Positions of locking bolts/locking parts



IMPORTANT:
Different positions for locking bolt points for bolt espag and invisio espag.

Example:
Sliding sash opening from left to right, view from inside

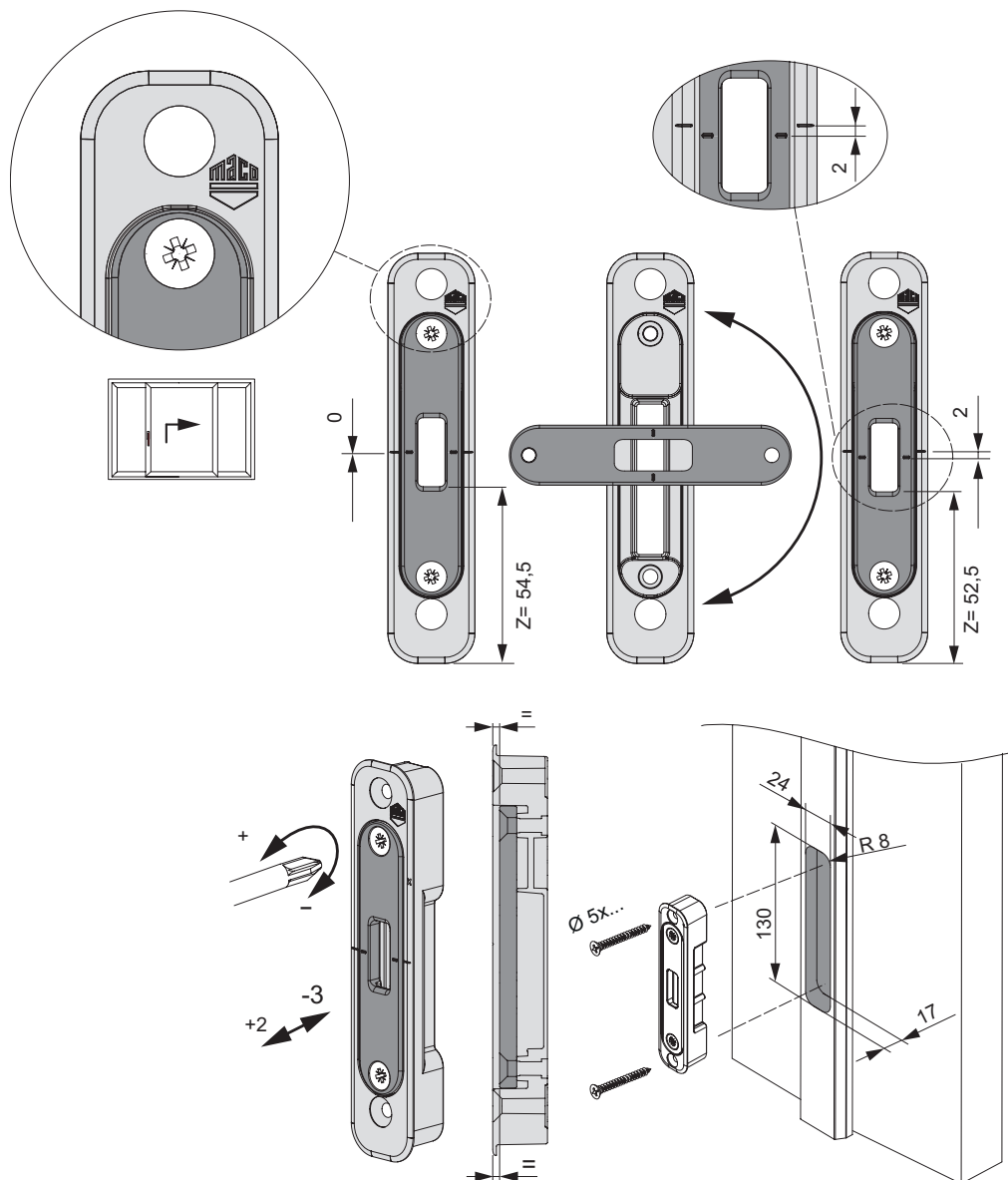


WARNING:
Bogie variants H1/H2/H3

For latch espag: Installing the latch locking mechanism



Always choose the installation position so that the MACO logo is placed at the top.
Turning the striker around can compensate for manufacturing tolerances.

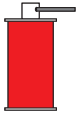


Greasing locking parts



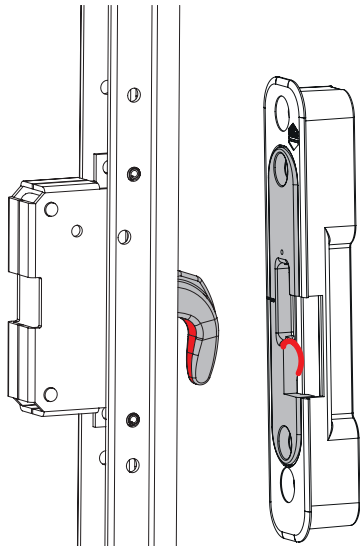
IMPORTANT:

You **must grease** the latches and latch locking mechanisms (inner side) before initial operation.

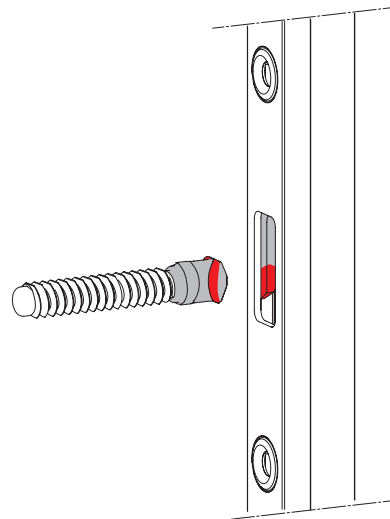


Lubricating grease for fittings:
Adhesive lubricant spray with PTFE,
e.g. OKS 3751 or equivalent.

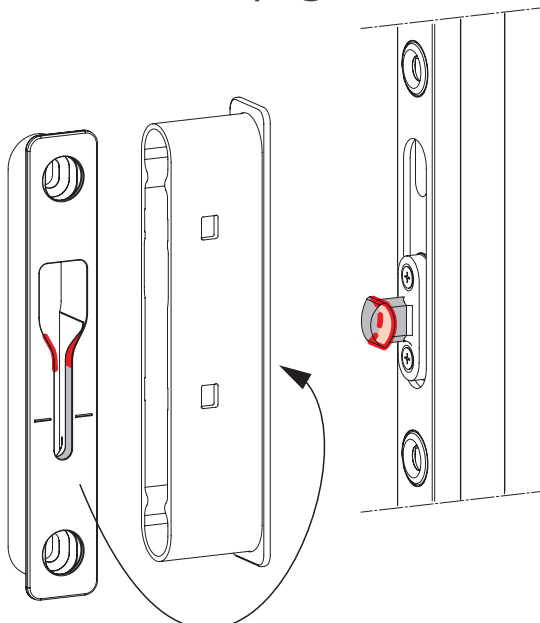
For latch espag



For bolt espag



For invisio espag

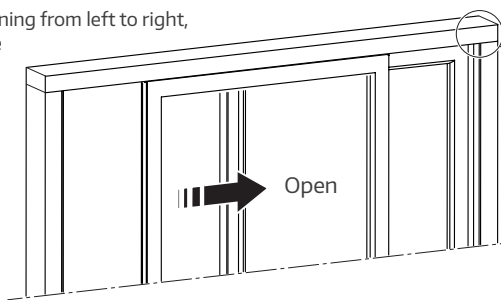


Fitting the actuator unit onto the frame

1

Determine the CLOSE direction (if the CLOSE direction is to the right, apply the steps shown here in reverse).

Example:
Sliding sash opening from left to right,
View from inside

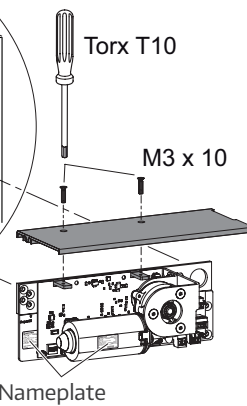


IMPORTANT:

The cover mounting bracket must be screwed to the actuator unit before installation. It **cannot** be retrofitted after installation.

5

Fit the cover mounting bracket



4

Drill 2 holes on both sides

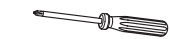


WARNING:

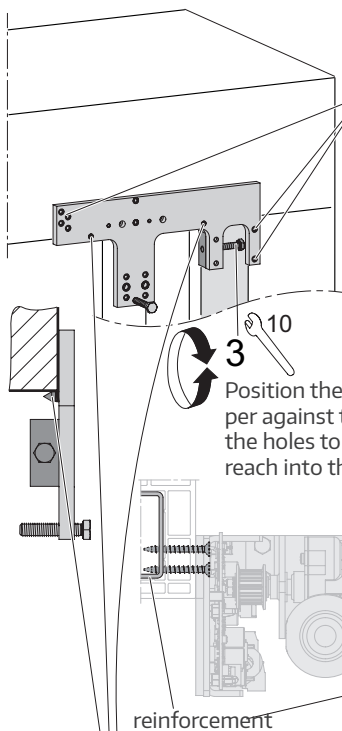
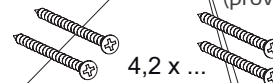
Any drilling chips **must** be vacuum-cleaned away as the PCB can become permanently damaged otherwise.

7

Fasten the actuator unit to the reinforcement with 2 screws on each side



Window construction screw (provided by customer)



Position the screw as a stopper against the frame so that the holes to be drilled at point 4 reach into the reinforcement.

2

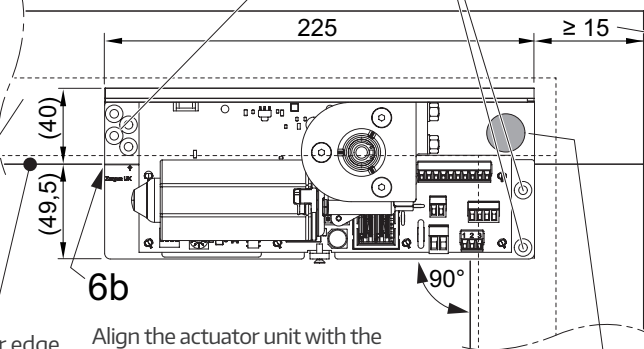
Position the drilling template threaded pins below the frame.

reinforcement

6b

Lower edge of the frame

Align the actuator unit with the marking on the lower edge of the frame.



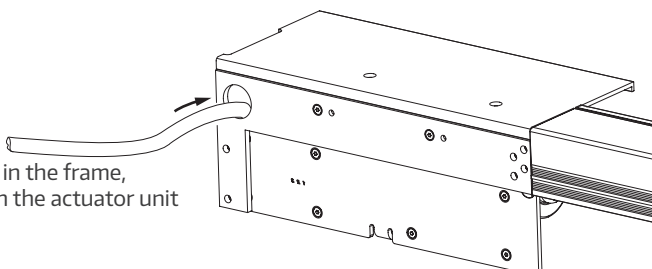
Clear space for cables

If cables are completely inside the frame, this hole must align with the corresponding drill hole position in the frame (see section Cable routing options)

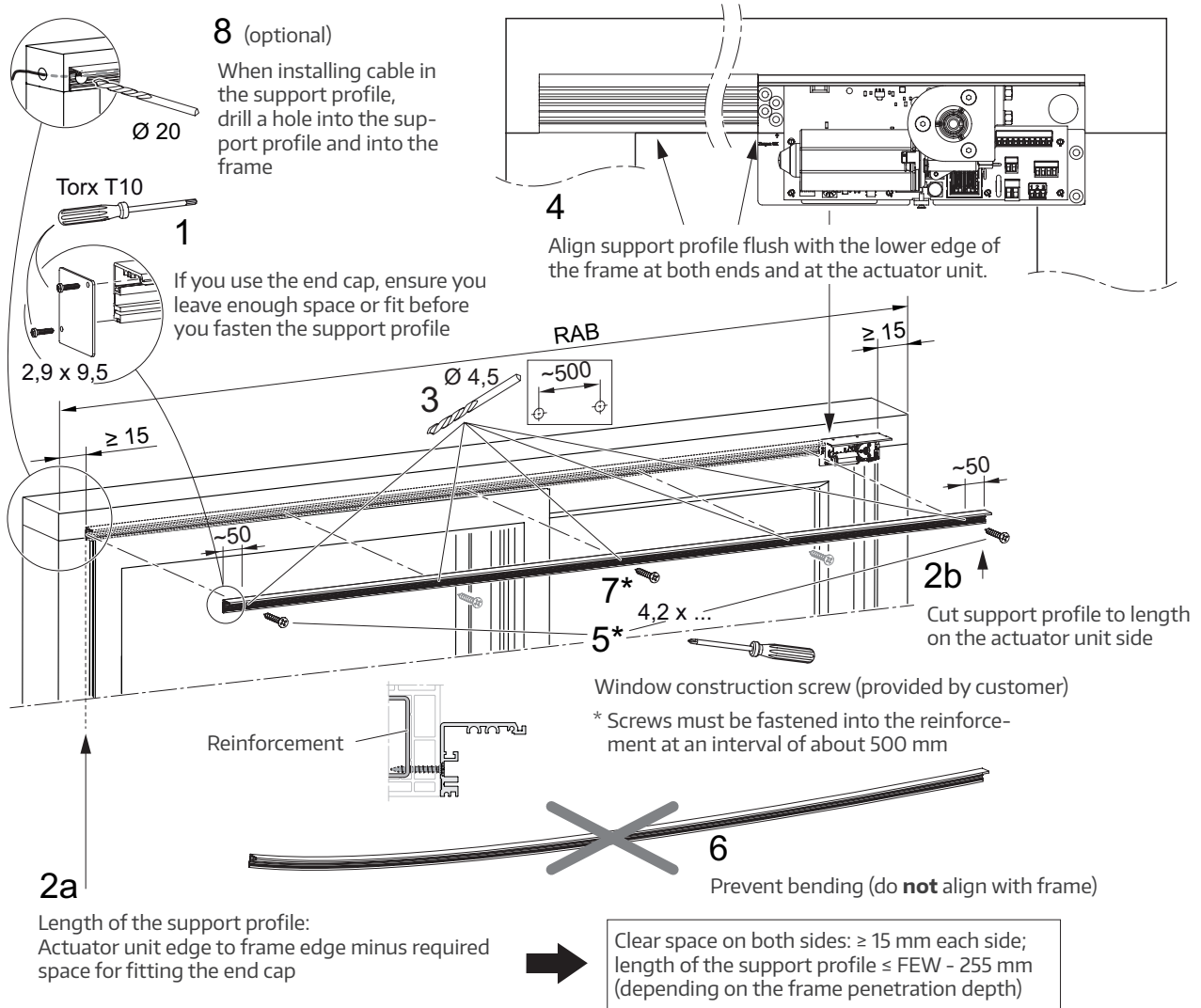
Z view

6a

If you install cable in the frame, feed cable through the actuator unit

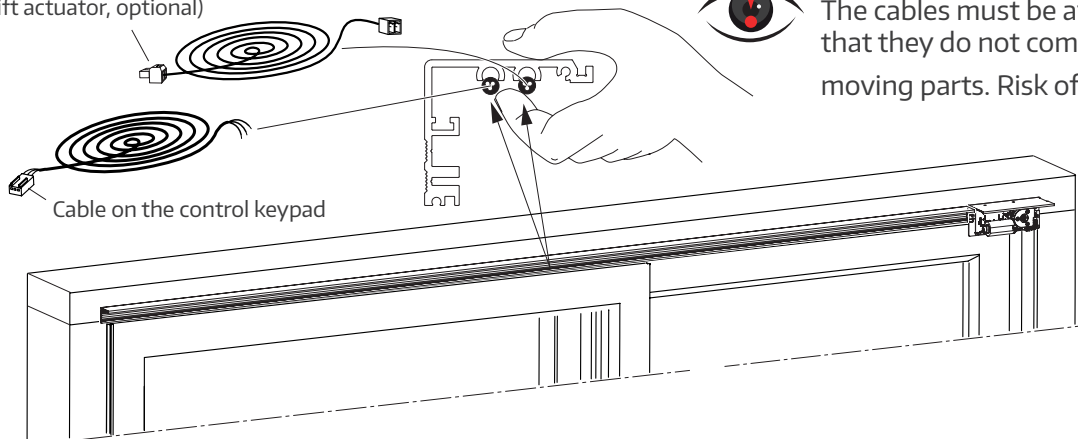


Installing the support profile on the frame



Cable installation in the support profile (optional)

Cable to the power transfer component
(lift actuator, optional)



Installing the cam on the sash

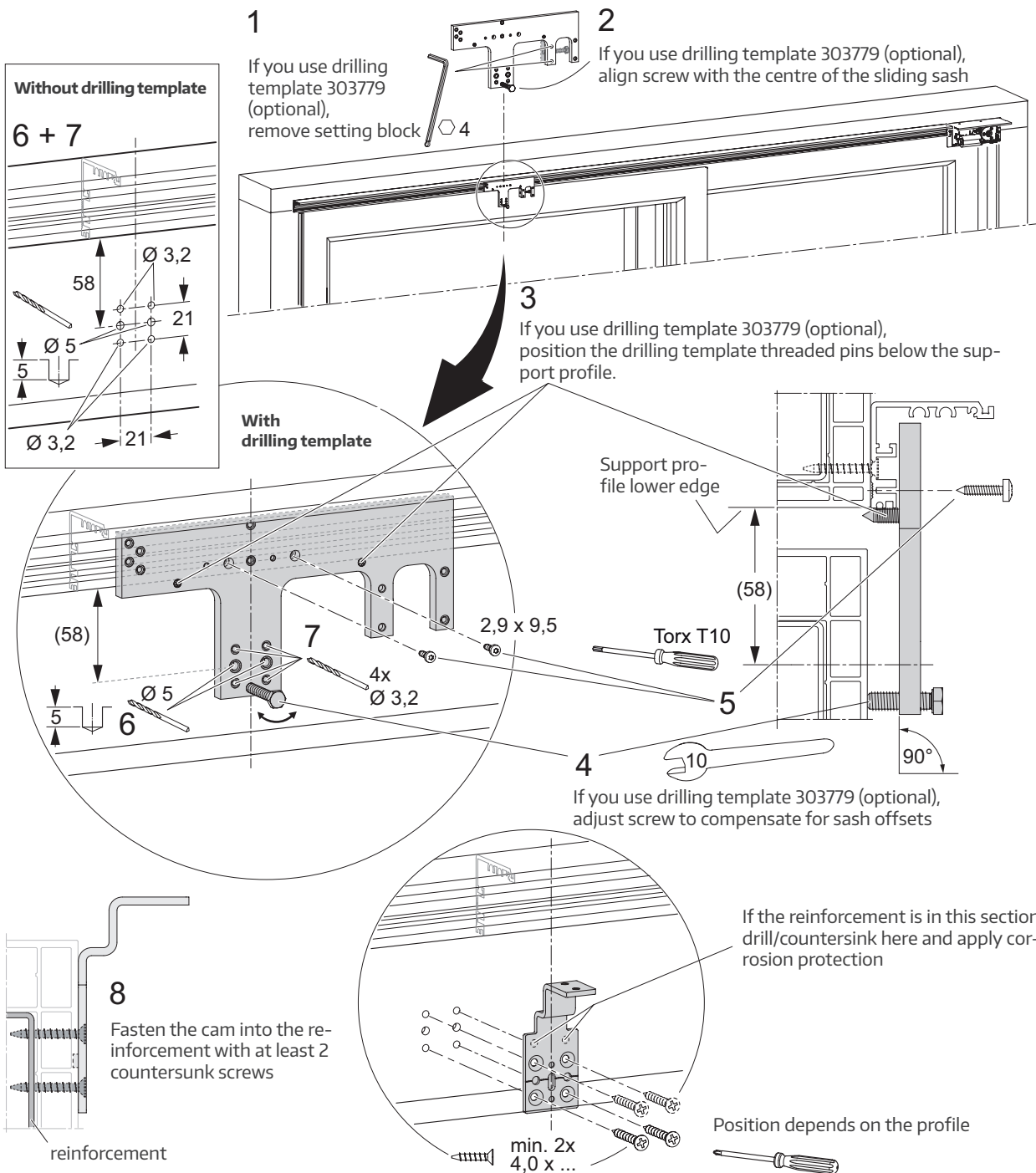


IMPORTANT:

Sash **must** be in lowered position. If the sash is not lowered, the drill holes will not match and you may **permanently damage** the actuator.

Example:
Sliding sash opening from left to right,
View from inside

In the case of a sliding sash opening from right to left, the template needs to be changed around (see section Preparatory measures)



Placing sash in raised position

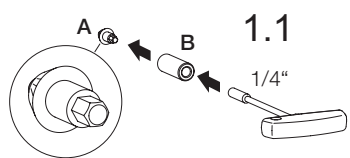
MECHANICAL lifting of the sash/lift actuator (**without** service/initial operation switch)



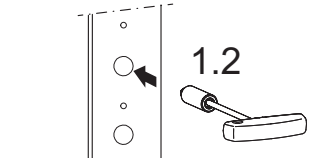
IMPORTANT:

The direction of rotation is always the same as shown here, i.e. **this instruction applies to both the left-hand and right-hand versions.**

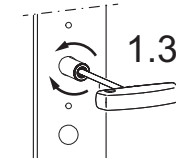
1. Fit the sprocket emergency unlocking device with the guide on the espag



Attach the sprocket emergency unlocking device A with the guide (sleeve) B onto the 1/4" socket wrench.




Insert 1/4" socket wrench, sprocket and guide (sleeve) into the handle hole.



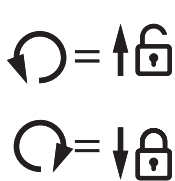
IMPORTANT:
The socket must be fully inserted.

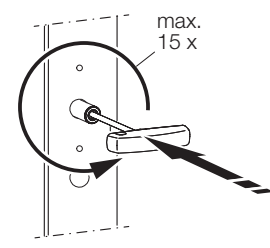
To ensure this is the case, gently turn it back and forth (right/left). The emergency unlocking device has engaged as soon as you feel resistance and hear a whirring sound.

2. Lift sash



Do not use a battery-operated screwdriver.





RECOMMENDED: Lift sash without weight of glass. If you do not, it may take greater effort.

While applying slight pressure towards the sash, turn the emergency unlocking device anti-clockwise up to 15 full turns (applies to sashes opening both to the left and right) until the sash can be moved (try to move it after every few turns). If the emergency unlocking device slips, increase the pressure towards the sash.

3. Detach guide (sleeve) and emergency unlocking device socket

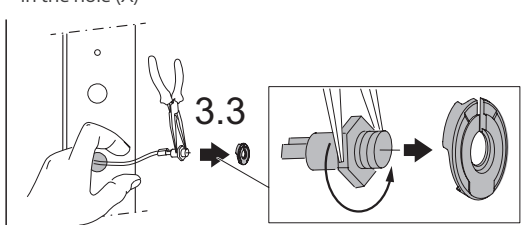
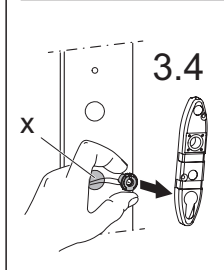
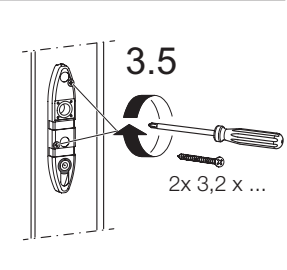
IMPORTANT

After lifting the sash, you must remove the guide (sleeve) and the socket from the sash. If you do not, you may damage the lift actuator or the emergency unlocking mechanism.

Remove the guide (sleeve) and the socket from the sash with the 1/4" socket wrench and store away somewhere safe in case you need them again. Insert the plug socket for the initial operation switch into the plastic holder* and fasten it tight using needle-nose pliers (or similar tool). Fit the plastic holder with the plug socket into the handle escutcheon, stow the cables in hole (X) and screw on the handle escutcheon.

CAUTION!
Cables must not get caught or snagged.
Risk of electric shock.

*) Diagrams with handle escutcheon; without the handle escutcheon, the plug socket is stowed in the hole (X)

4. Perform initialization: see Initial operation (Full Init)
Wiring of the panel needs to be complete to do this.

Placing sash in raised position (contd.)

ELECTRIC lifting of the sash/lift actuator with service/initial operation switch

1. Fit plug socket for initial operation switch

Insert the plug socket for the initial operation switch into the plastic holder* and fasten it tight using needle-nose pliers (or similar tool). Fit the plastic holder with the plug socket into the handle escutcheon, stow the cables in hole (X) and screw on the handle escutcheon.

⚠ CAUTION!
Cables must not get caught or snagged.
Risk of electric shock.

*) Diagrams with handle escutcheon; without the handle escutcheon, the plug socket is stowed in the hole (X)

2. Connect initial operation switch

Connect initial operation switch with the power supply unit. Insert plug into the plug socket in the handle escutcheon and connect the 230 V power supply unit.

3. Lift sash

Sash must be built into the panel and everything must be screwed/fastened into place.
If the toothed belt is already fitted, you must ensure that it is not fastened to the cam.
Use the initial operation switch to lift the sash.

Lift sash:
Press I or II (test)

4. Complete lifting the sash

Reconnect the power supply to the main circuit board of the actuator unit (see Electrical connection).
Disconnect the initial operation switch plug.

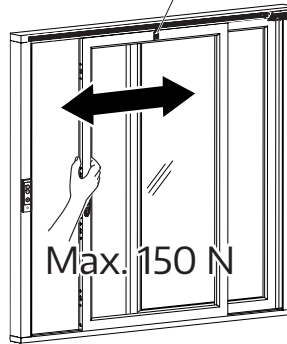
Preparing for test run



IMPORTANT INSTRUCTIONS

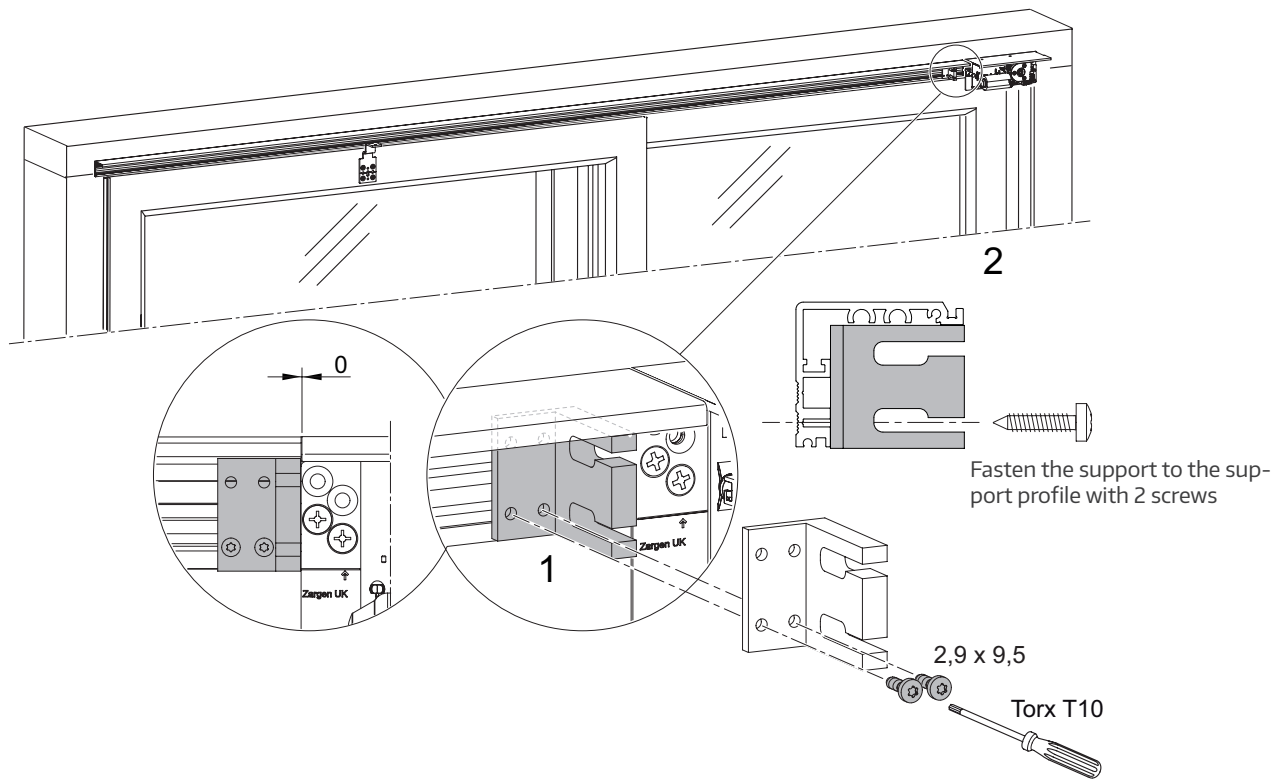
The sliding sash must be in the lifted position and glazed.

If the test run is prepared at a later stage, the cam must **not** be connected to the toothed belt.

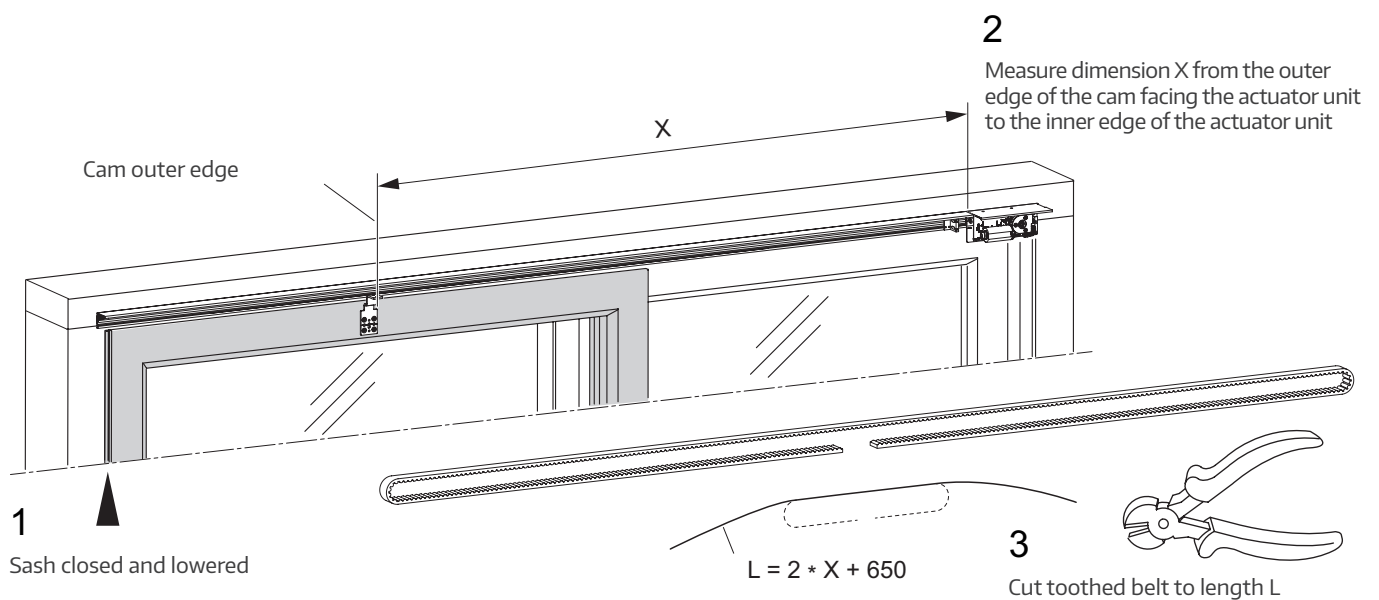


Sliding sash Check the sash moves freely (mechanical operating force: max. 150 N)

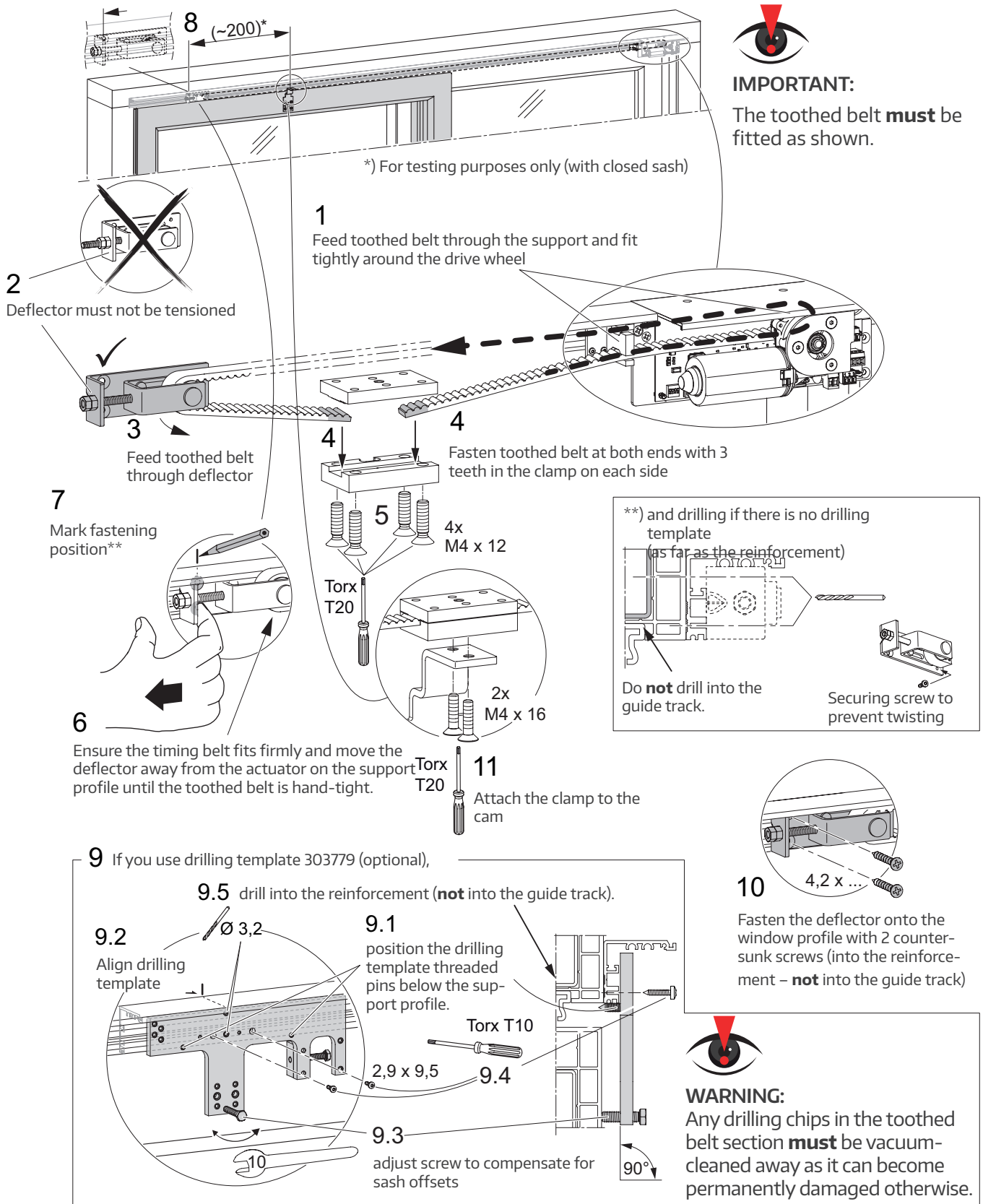
Installing the toothed belt support on the support profile



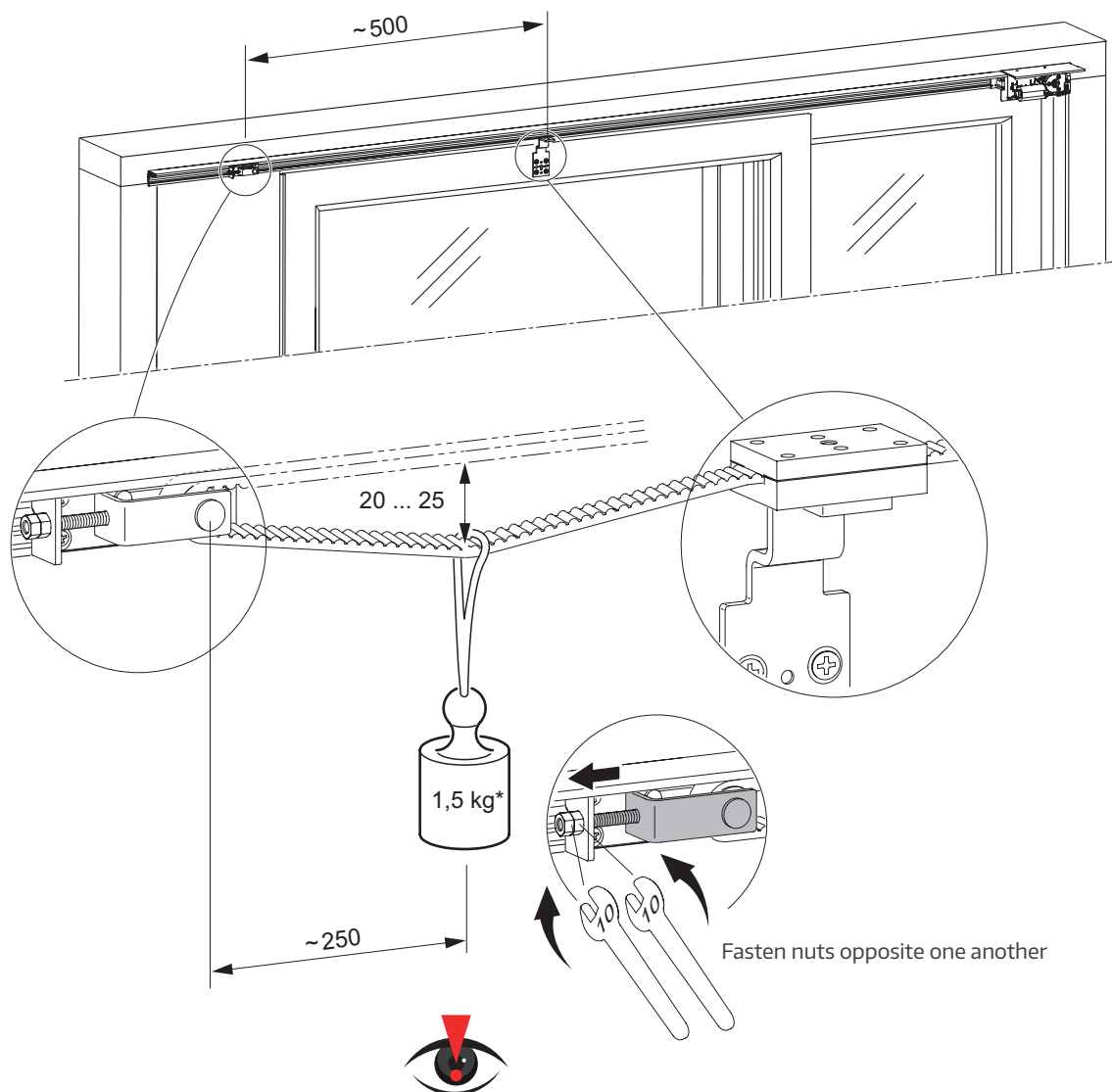
Cut the toothed belt to length



Installing the toothed belt and deflector



Adjusting the toothed belt parameters



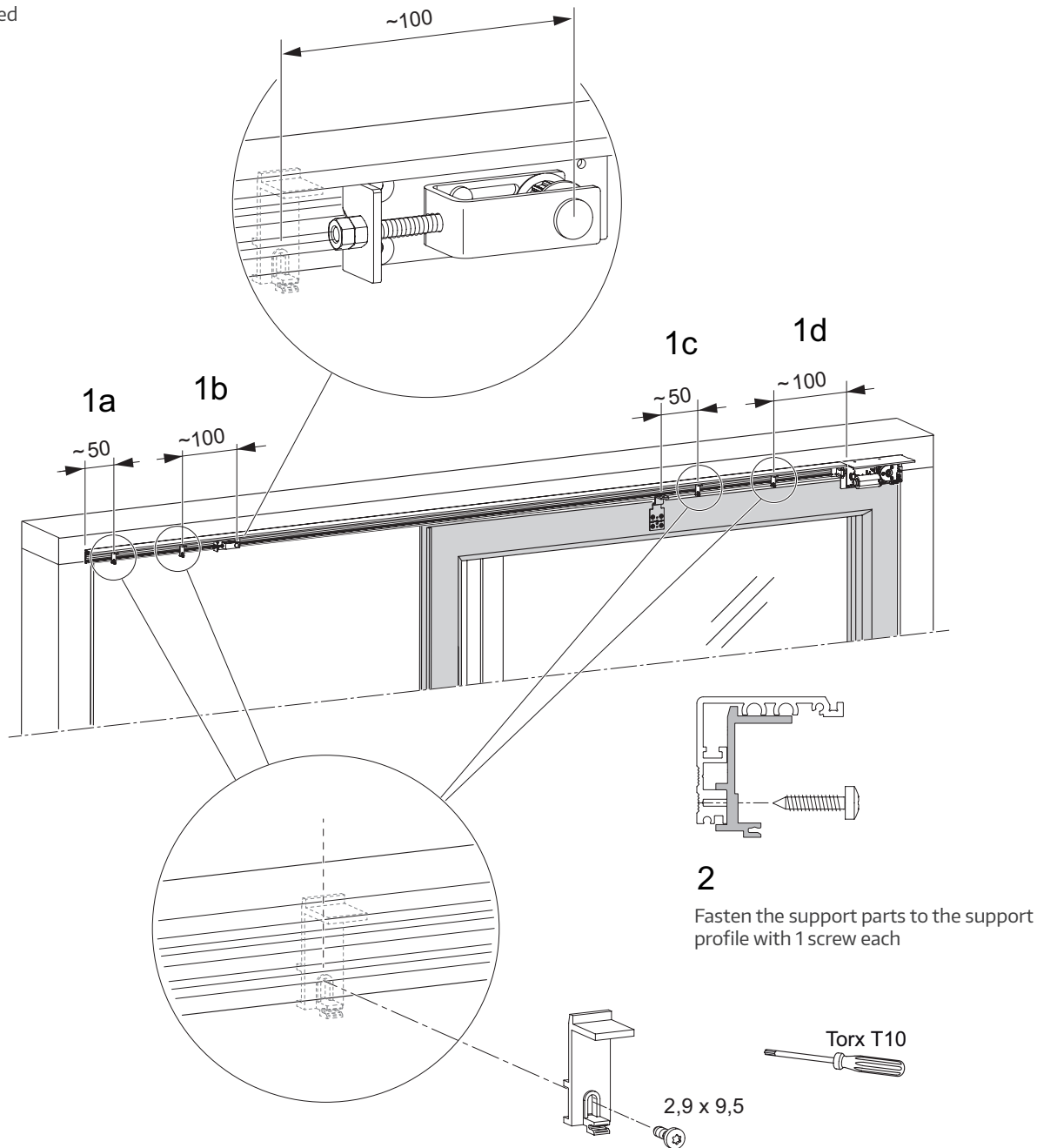
*) Not included in the scope of supply

IMPORTANT:

The toothed belt tension should be checked during annual maintenance. The toothed belt must be re-tensioned if necessary.

Fitting the support parts

Sash opened

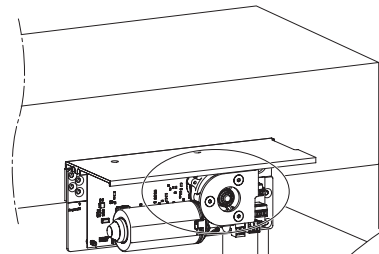


Electrical connection

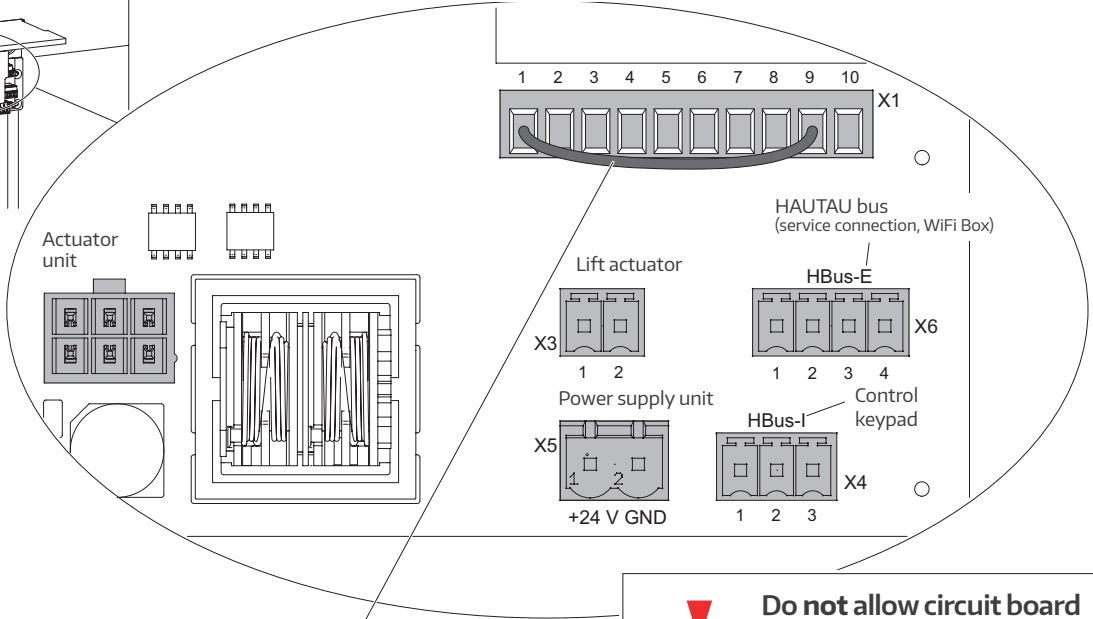


WARNING

Disconnect the power supply to the actuator while carrying out connection work. If you do not, this poses a life-threatening hazard due to electric shock.



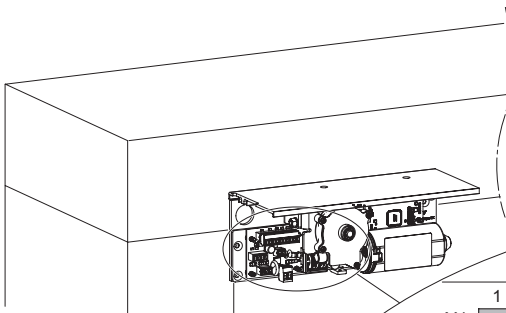
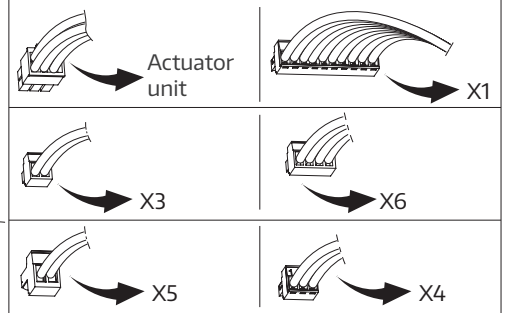
Example:
Sliding sash opening from left to right, view from inside



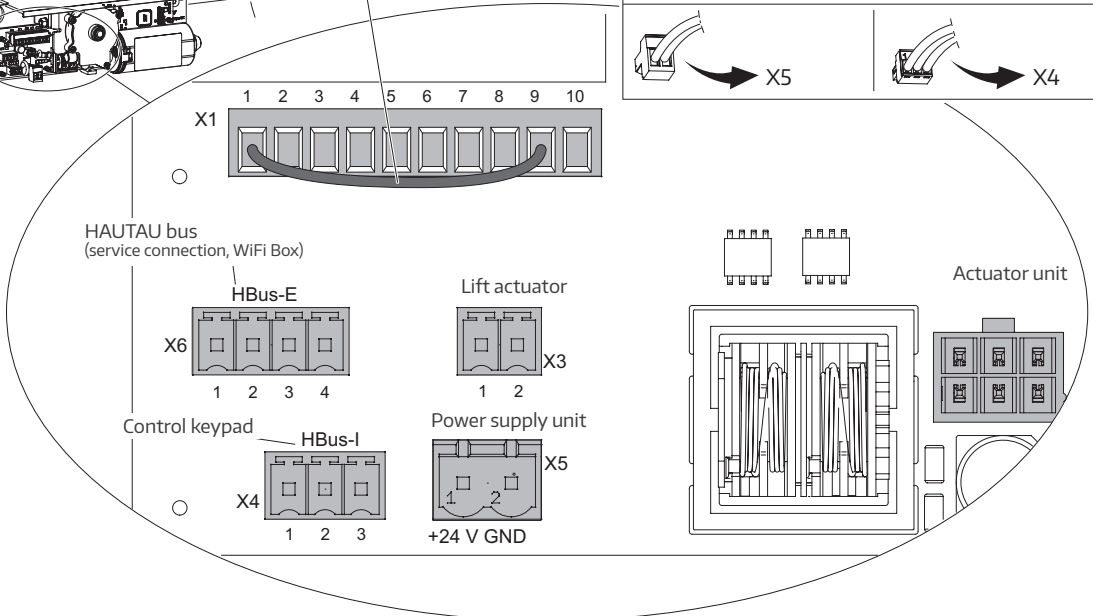
Remove bridge 1-9 if you fit and connect an emergency stop switch; the same applies if you use a junction box (see separate document).



Do not allow circuit board cables to come into contact with rotating parts.



Example:
Sliding sash opening from right to left, view from inside




Electrical connection (continued)

Terminal assignment

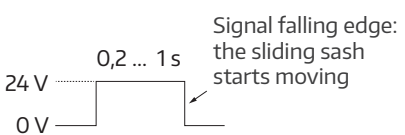
X1: Connection/extended connection for connection box

- X1-1 +24 V for ext. devices (light curtain, fingerprint sensor, etc.)
- X1-2 Test signal for light curtain
- X1-3 Sensor signal from light curtain 2
- X1-4 Sensor signal from light curtain 1
- X1-5 Control output for locking control
- X1-6 Ext. OPEN control input (dead man) or external actuation switching impulse →
- X1-7 Ext. CLOSE control input (dead man)
- X1-8 Ext. HAUTAU bus
- X1-9 Emergency off input
- X1-10 GND



IMPORTANT INFORMATION
for selecting accessories

e.g. smart home, fingerprint sensor, etc.
(also see installation instructions for accessories)



X3: Connection for lift actuator

- X3-1 +24V or GND
- X3-2 GND or +24V

X4: Connection for control keypad

- X4-1 +24V (red)
- X4-2 HAUTAU bus (brown)
- X4-3 GND (black)

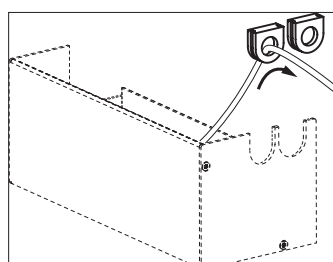
X5: Power supply connection (power supply unit)

- X5-1 +24V
- X5-2 GND

X6: HAUTAU bus service connection, connection for WiFi Box

- X6-1 +24V
- X6-2 unassigned
- X6-3 HAUTAU bus
- X6-4 GND

Prepare cable connection for surface mounting

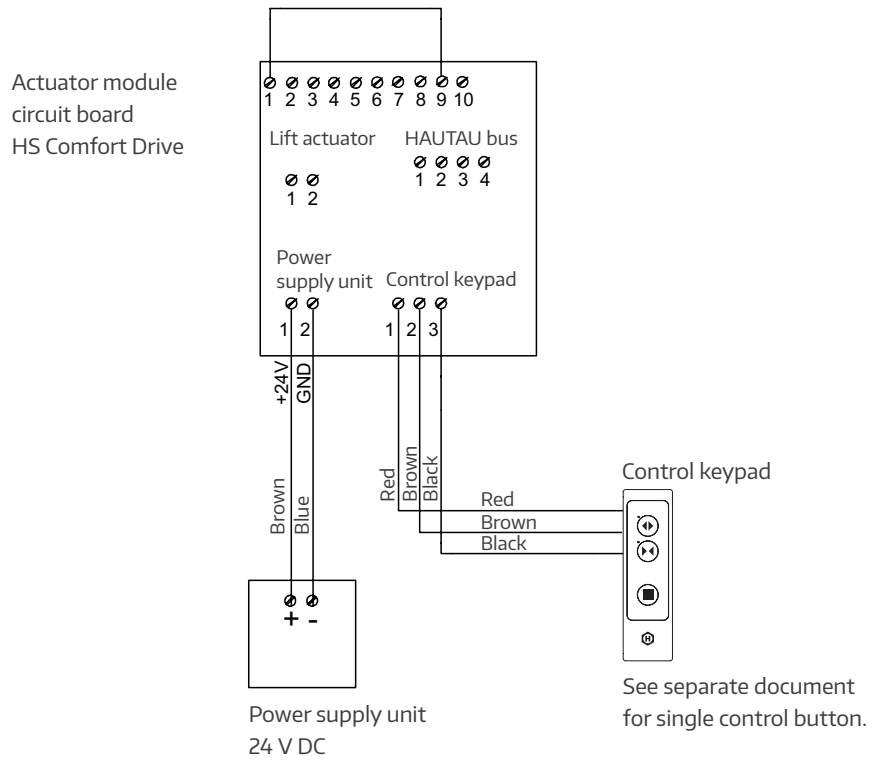


Feed cable through
membrane grommet

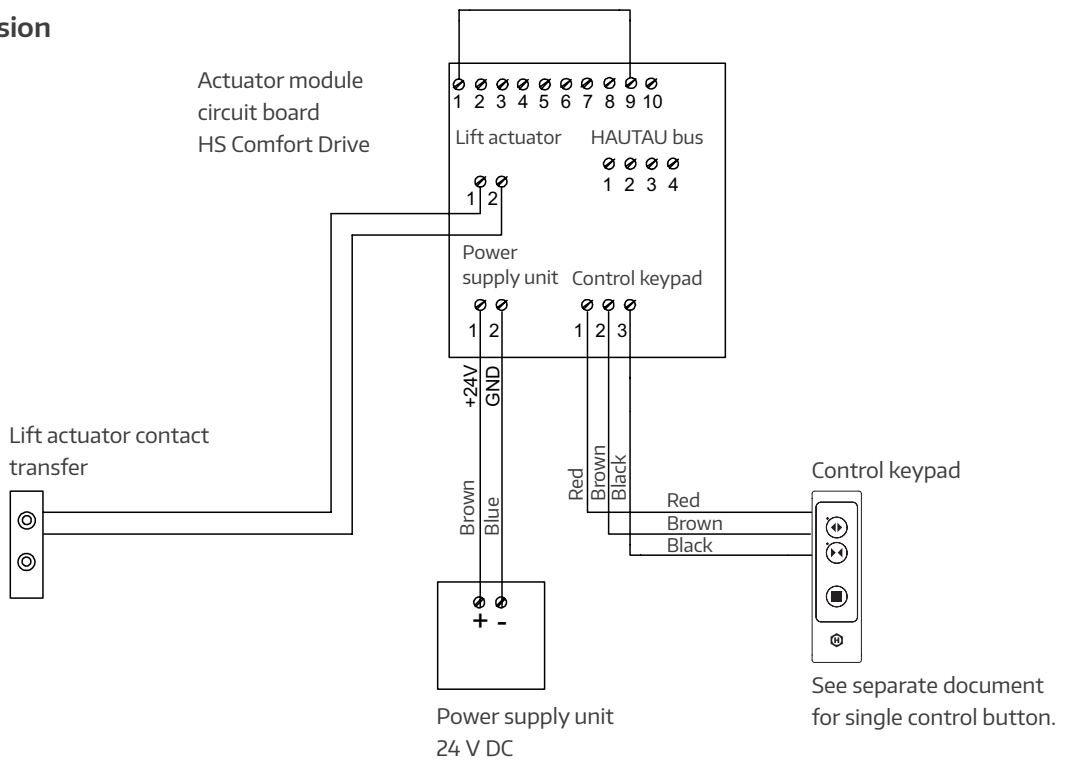
Electrical connection (continued)

Circuit diagram (examples)

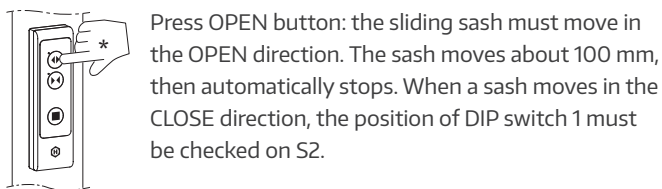
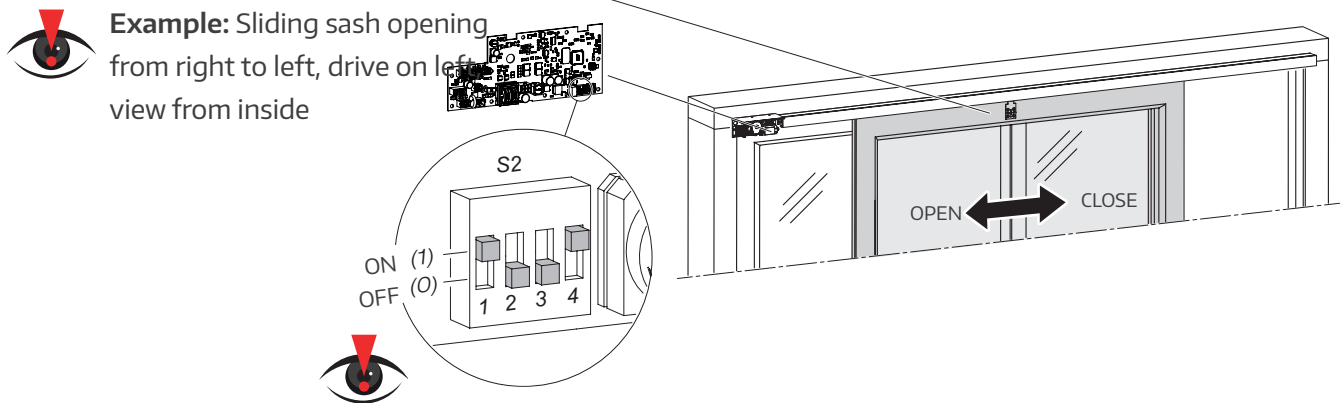
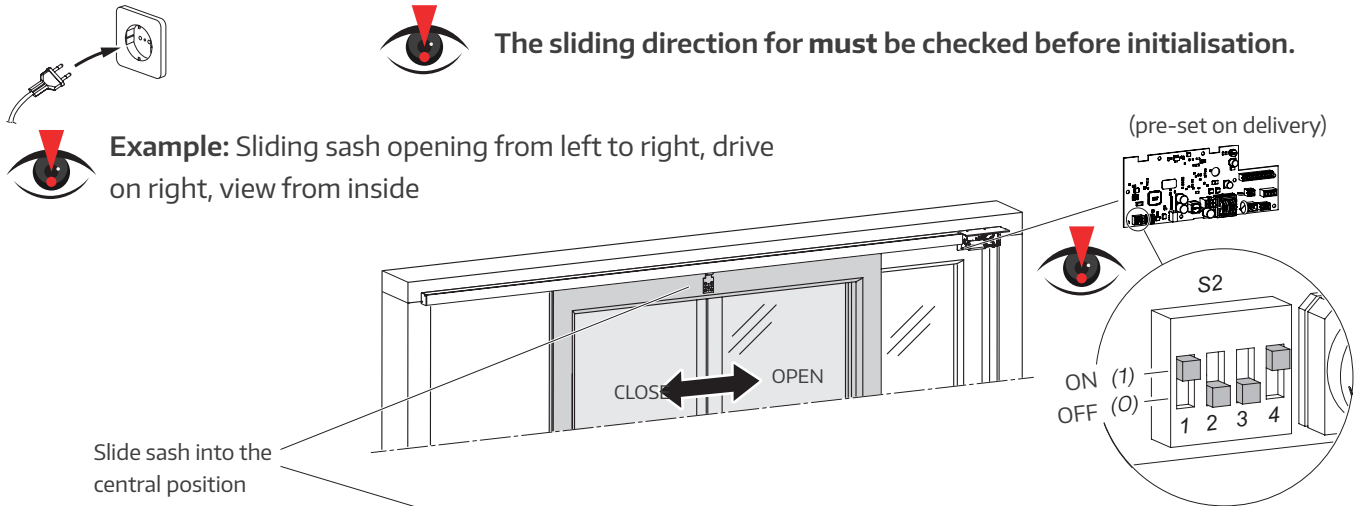
Slide version



Lift and slide version

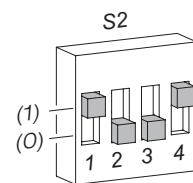


Checking/configuring DIP switches



*) The button is pressed in the case of the single control button.

After changes to the S2 switch, the power supply unit must be disconnected from the power supply for at least 20 seconds.



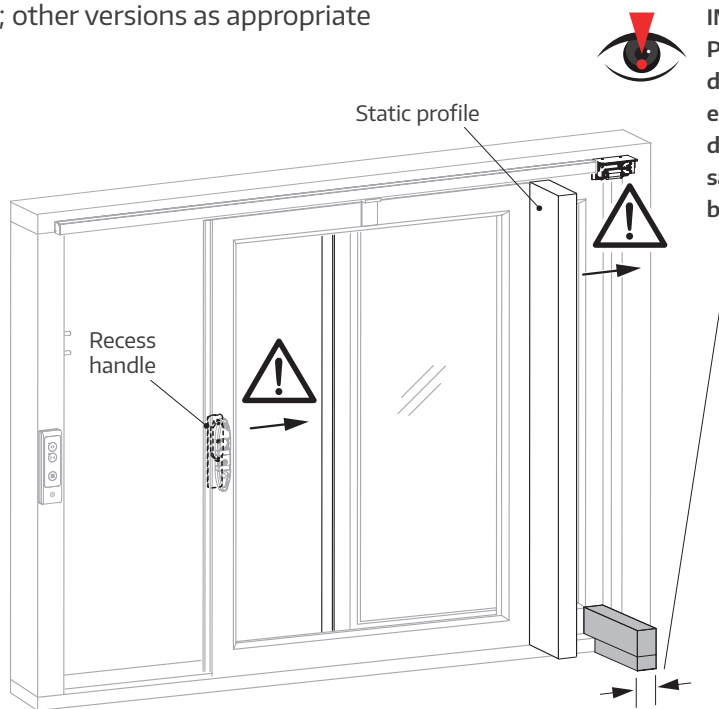
System settings (■ = applicable)		ON (1)	OFF (0)
1	Sash opening from left to right	■	
	Sash opening from right to left	■	
2	Fixed sash (Scheme C)		■
3	Active sash (Scheme C)		■
4	Automatic system/optionally with smart home, fingerprint sensor (ekey) or similar	■	
	Dead man **/with key-operated switch		■

**) During initial operation (Full Init) or the calibration run (Home Init), the sliding sash moves in automatic mode and then in dead man mode.

Stopper for recess handles and/or static profiles

Example:

Sliding sash opening from left to right – view from inside; other versions as appropriate



IMPORTANT NOTE:

Position stopper for mechanical limitation (width dependent on the profile, not included in delivery) in the fixed sash section as shown to avoid damaging the actuator or recess handle while the sash moves; remove the stopper after the calibration run.

Activating Full Init and Home Init (overview)

Full Init = factory reset
Home Init = software reset



IMPORTANT NOTE:

A factory reset and software reset of the HS Comfort Drive are **only possible with the control keypad and the control button/button box.** Also see the following pages regarding details on prerequisites and procedure.

Mode	Operating controller	Type of initialisation	Action	Feedback signal
Automatic mode (DIP switch 4 set to ON)	Control keypad	Software reset (Home Init)	Press STOP button for about 20 sec.	Yellow + green LED
		Factory reset (Full Init)	Press STOP button for about 30 sec.	Yellow + green LED
	Control button with button box	Software reset (Home Init)	Press button for about 20 sec.	Audible signal from button box
		Factory reset (Full Init)	Press button for about 30 sec.	Audible signal from button box
Dead man mode (DIP switch 4 set to OFF)	Control keypad	Software reset (Home Init)	Press STOP button for about 20 sec.	Yellow + green LED
		Factory reset (Full Init)	Press STOP button for about 30 sec.	Yellow + green LED
	Control button with button box	Software reset (Home Init)	Double-click + press button for about 20 sec.	Audible signal from button box
		Factory reset (Full Init)	Double-click + press button for about 30 sec.	Audible signal from button box
		End initialisation	Wait about 1 min. or double-click again	-

Initial operation ('Full Init')

Overview

(see following page for procedure)

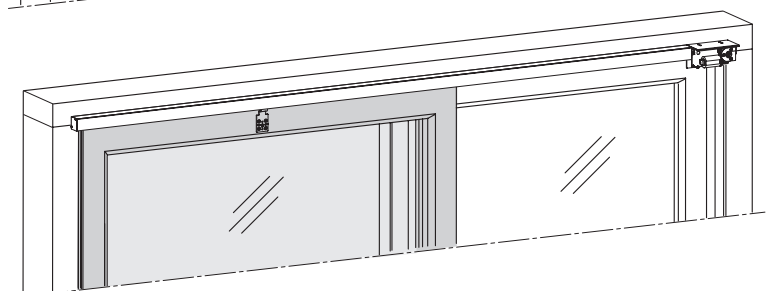
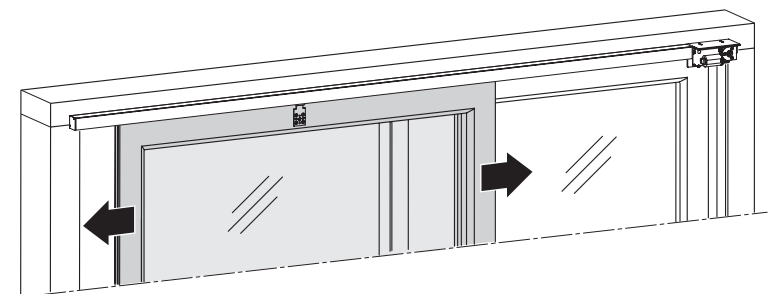
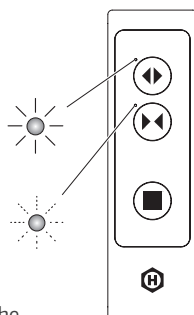
During initial operation, the sash completes a full automatic initialisation, moving to CLOSE and OPEN to determine and save the required parameters. If DIP switch 4 is set to DEAD MAN on the S2 switch, the sliding sash first moves in automatic mode and then in dead man mode.

Sliding sash closes and opens automatically during initialisation.

Let sash move until yellow LED no longer flashes*.

Green LED on the control keypad lights up permanently when the sash moves.

Green LED on the control keypad flashes during initialisation.



The sash remains in the closed position after initialisation.

*) The button is pressed in the case of the single control button.

Initial operation ('Full Init', continued)

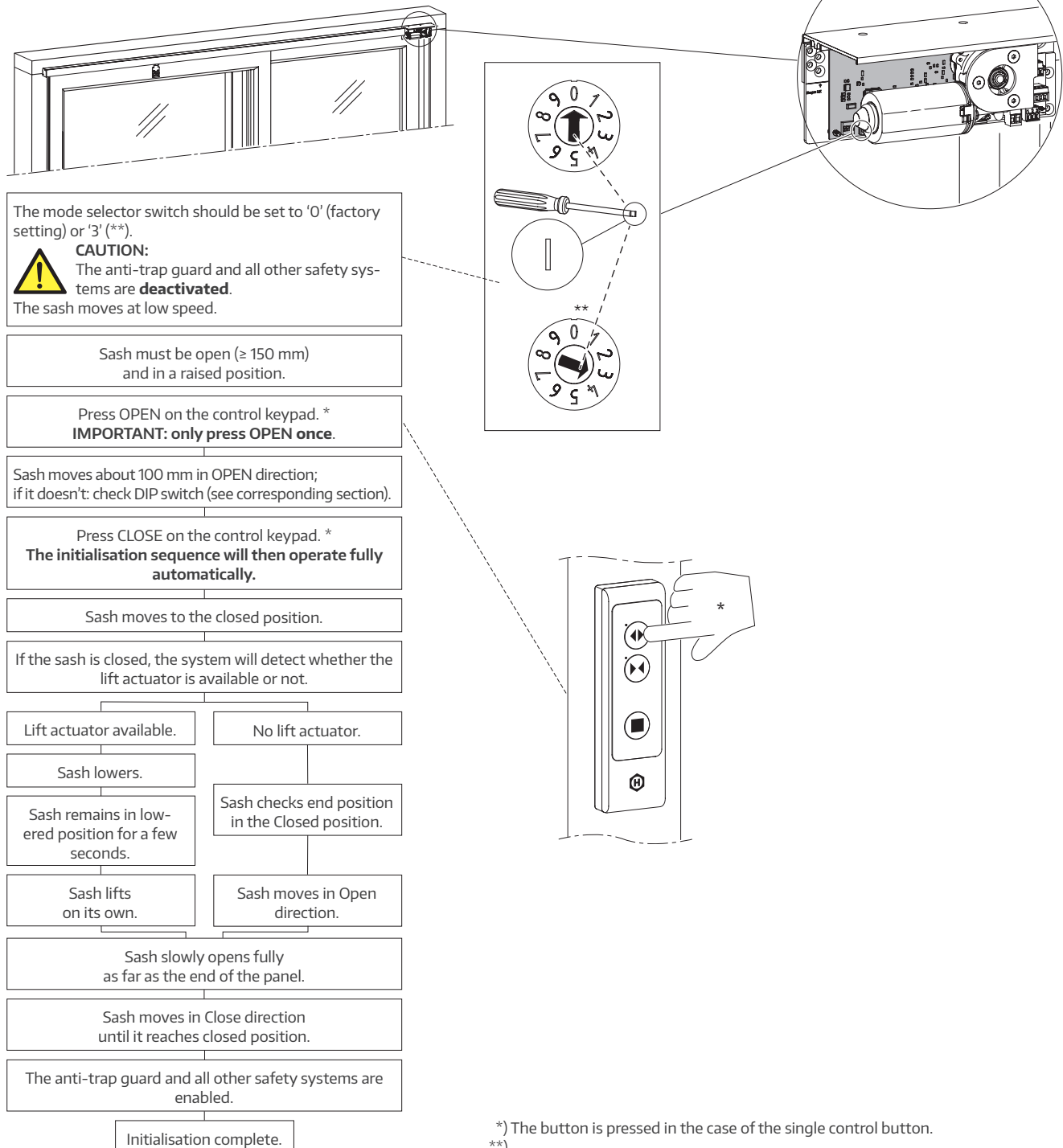
Procedure

Full, automatic initialisation

(You can use STOP to interrupt the process at any time.)

Example:

Sliding sash opening from left to right – view from inside; other versions as appropriate

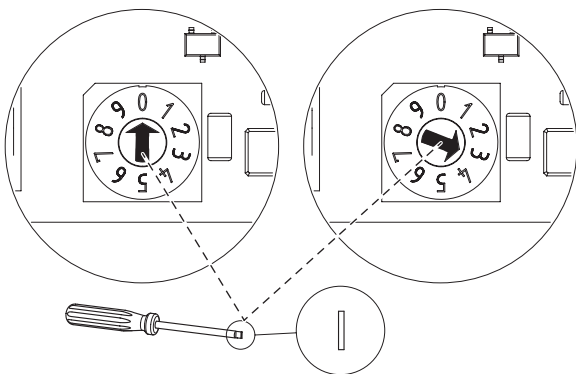


Normal mode



In automatic mode, the sash will stop about 120 mm* before the mechanical end position when opening.

*) Default operating mode switch setting on delivery ('0').



If the operating mode switch is set to '3', the sash stops about 10 mm before the mechanical end position.



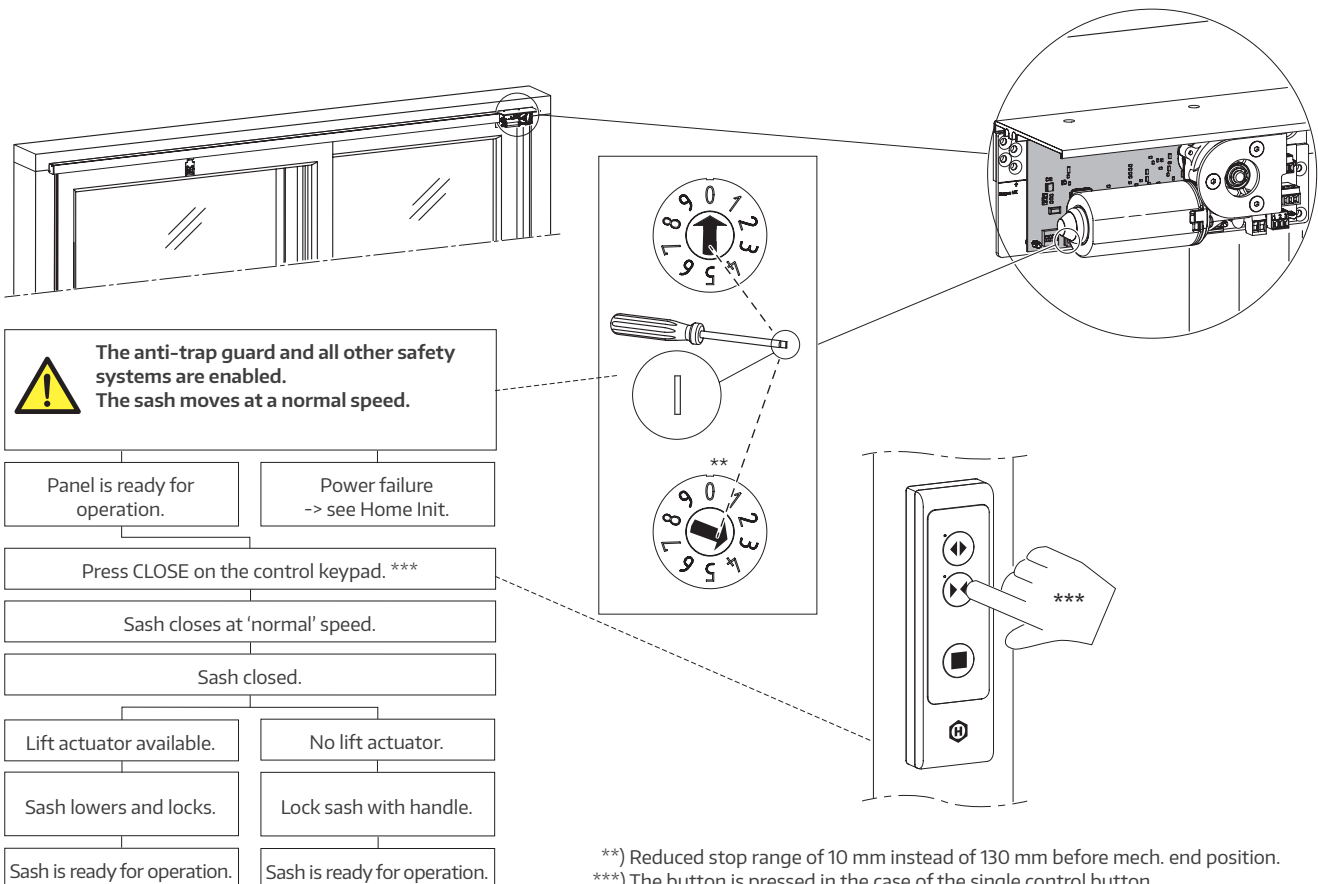
WARNING:
This setting poses a risk of fingers being crushed in the central stile section.
The operator must implement measures to prevent this.

A factory reset ('Full Init') with complete initialisation must be performed after adjusting the operating mode switch (see Section Activating Full Init and Home Init).

Partial initialisation, e.g. after a power failure

Example:

Sliding sash opening from left to right – view from inside; other versions as appropriate



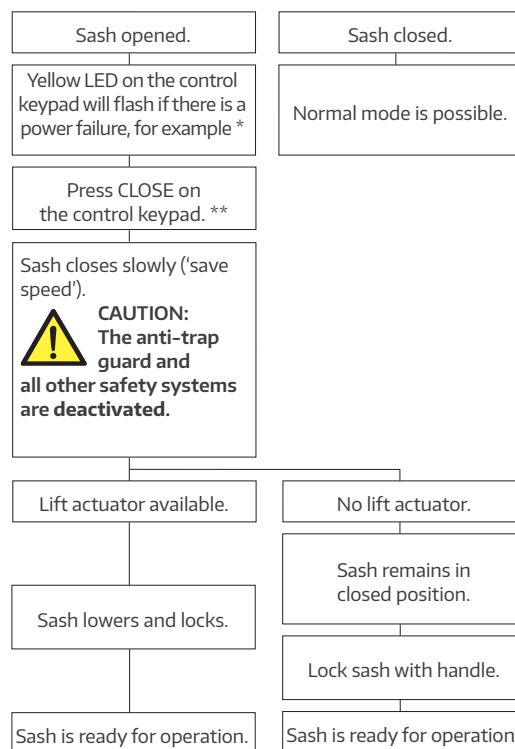
**) Reduced stop range of 10 mm instead of 130 mm before mech. end position.

***) The button is pressed in the case of the single control button.

Calibration run (Home Init)

Home Init = software reset

If the DIP switch 4 is set to DEAD MAN on the S2 switch, the sliding sash first moves in automatic mode and then in dead man mode.



*) or audible signal from the button box in the case of single button control pad.

***) The button is pressed in the case of the single control button.

Reversal safety function test

1 ✓

Calibration run (Home Init) has been carried out. Sash is opened.

Example:

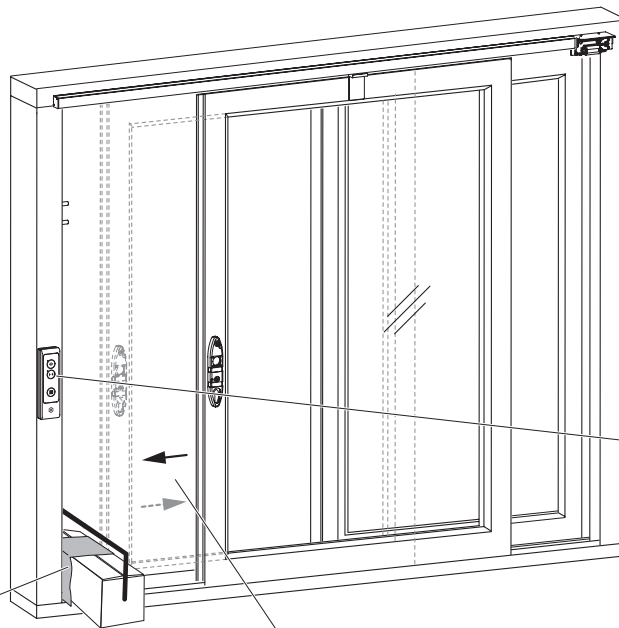
Sliding sash opening from left to right – view from inside; other versions as appropriate

2

Place a solid object such as a toolbox between the sash and frame and against the frame.

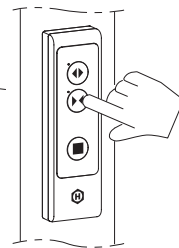


You should cover the object with a suitable cloth to prevent scratches on the sash or frame.



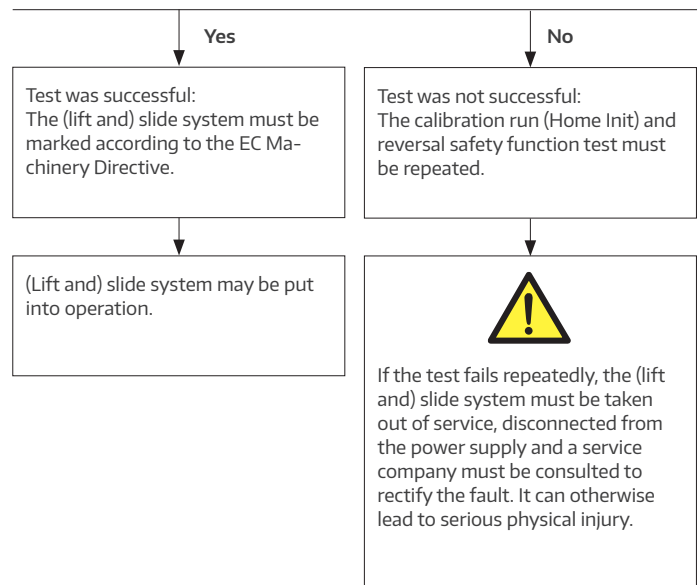
3

Press CLOSE on the control keypad (press the button in the case of single control button).

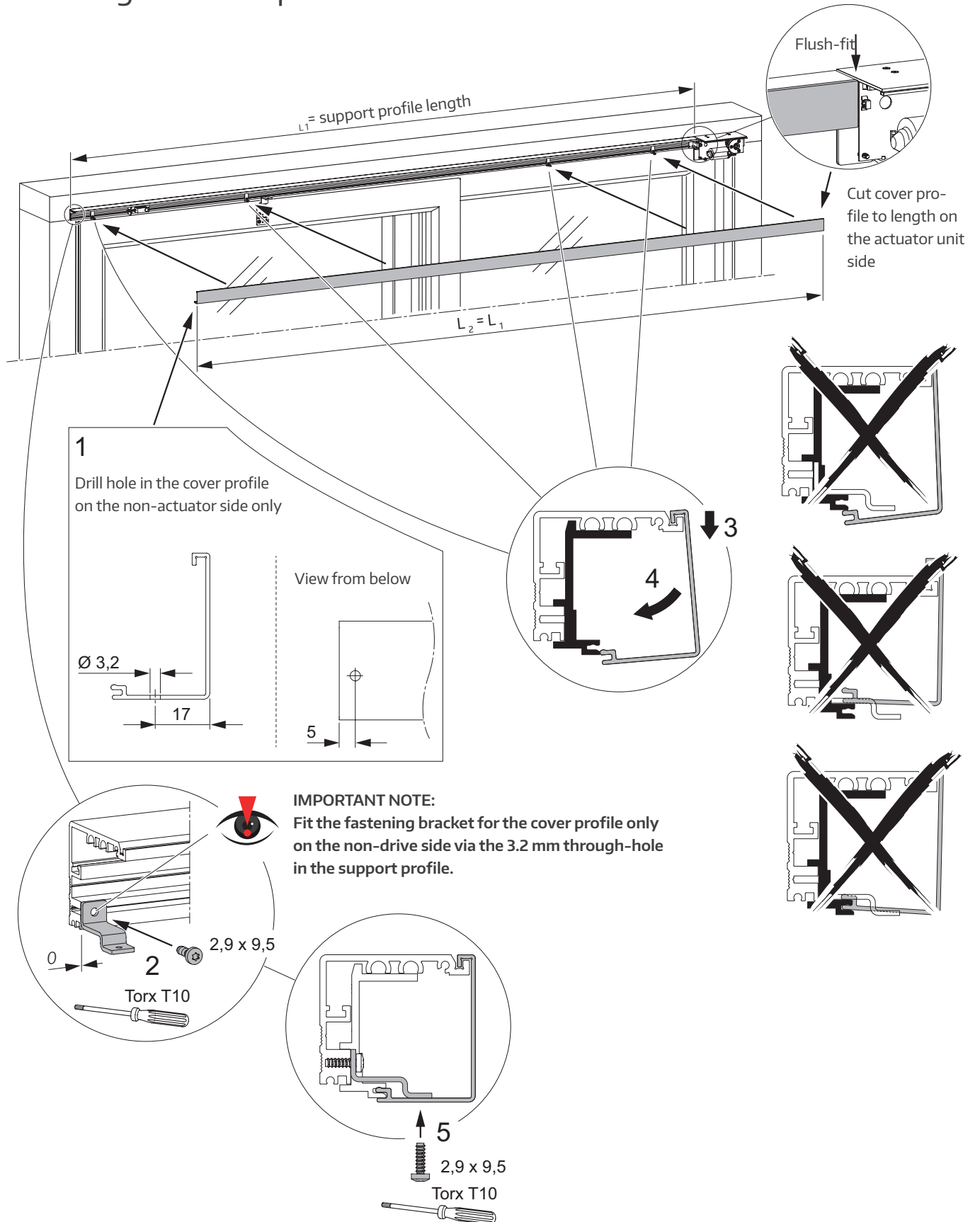


4

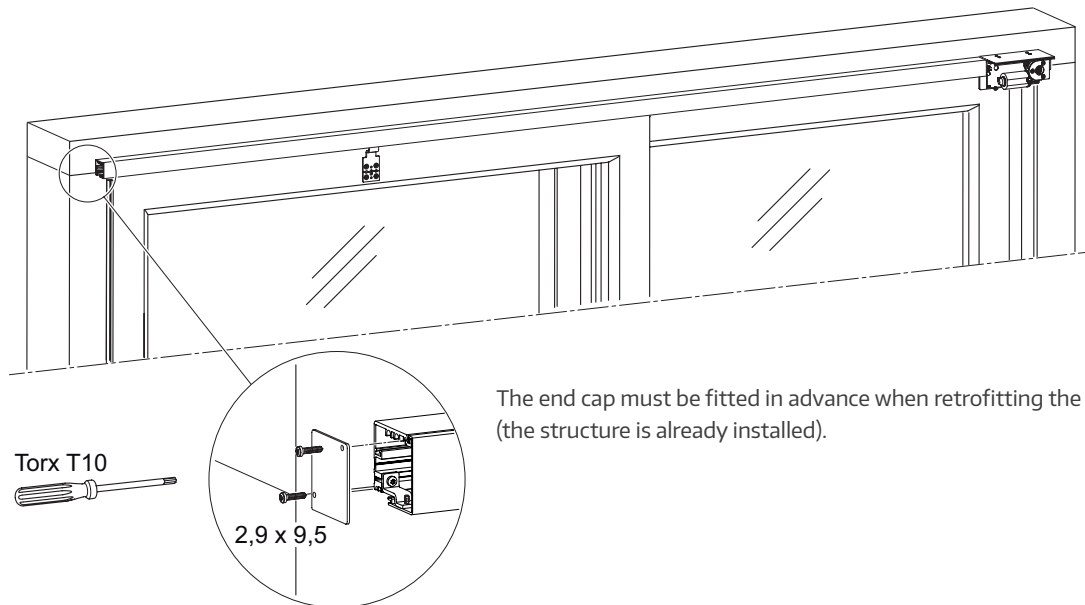
Sash moves against the solid object, comes to a halt and then moves in the OPEN direction to a certain extent.



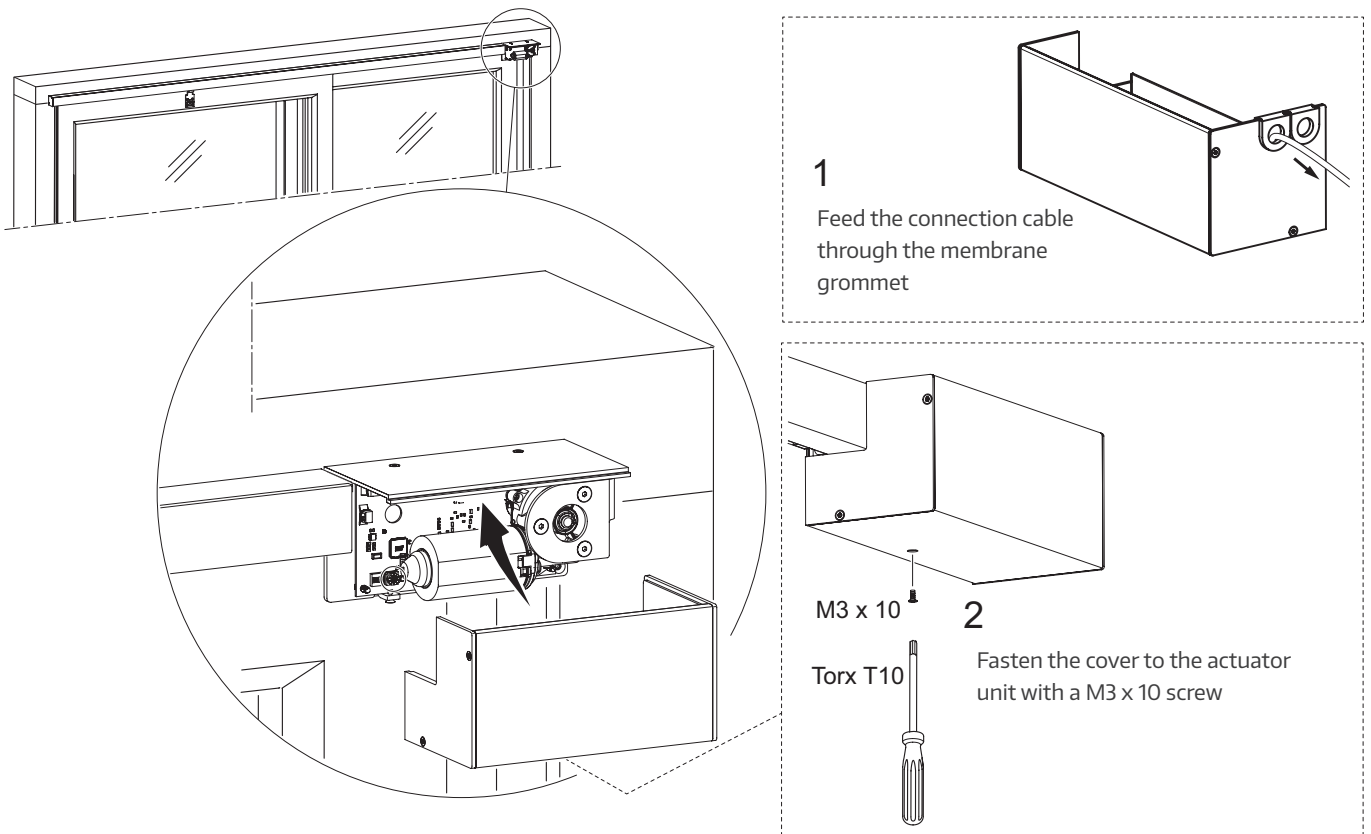
Installing the cover profile



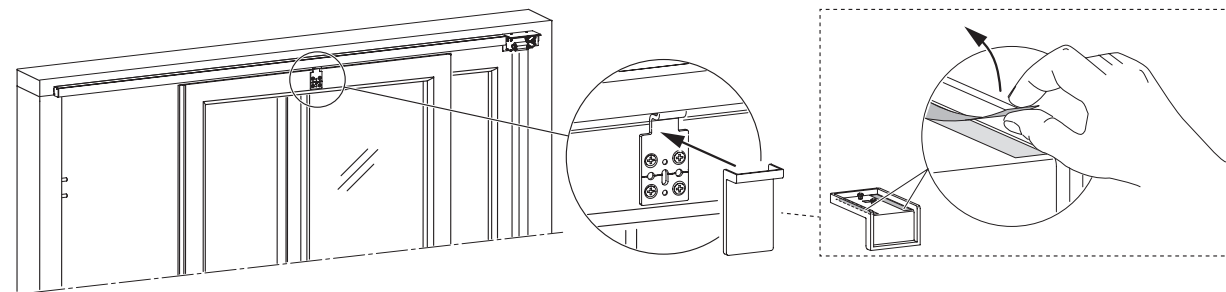
Fitting the end cap (for newly built structure)



Fitting the actuator unit cover

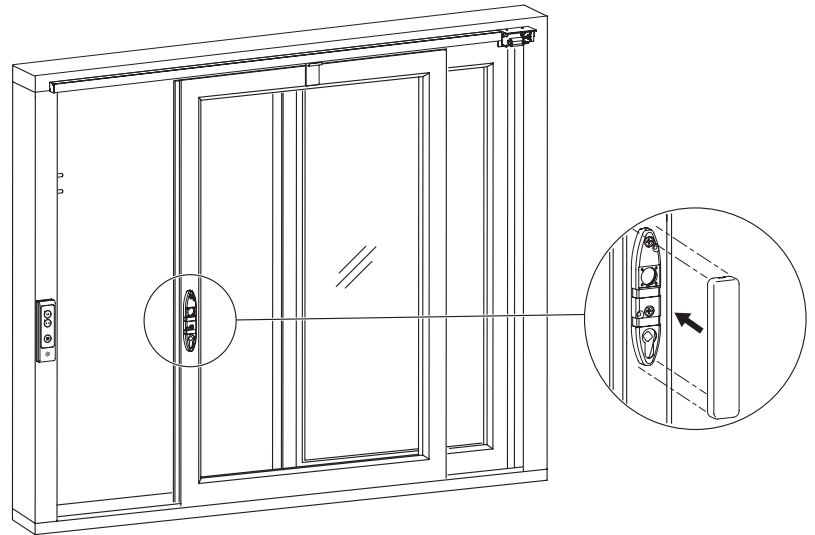


Fitting the cover for the cam

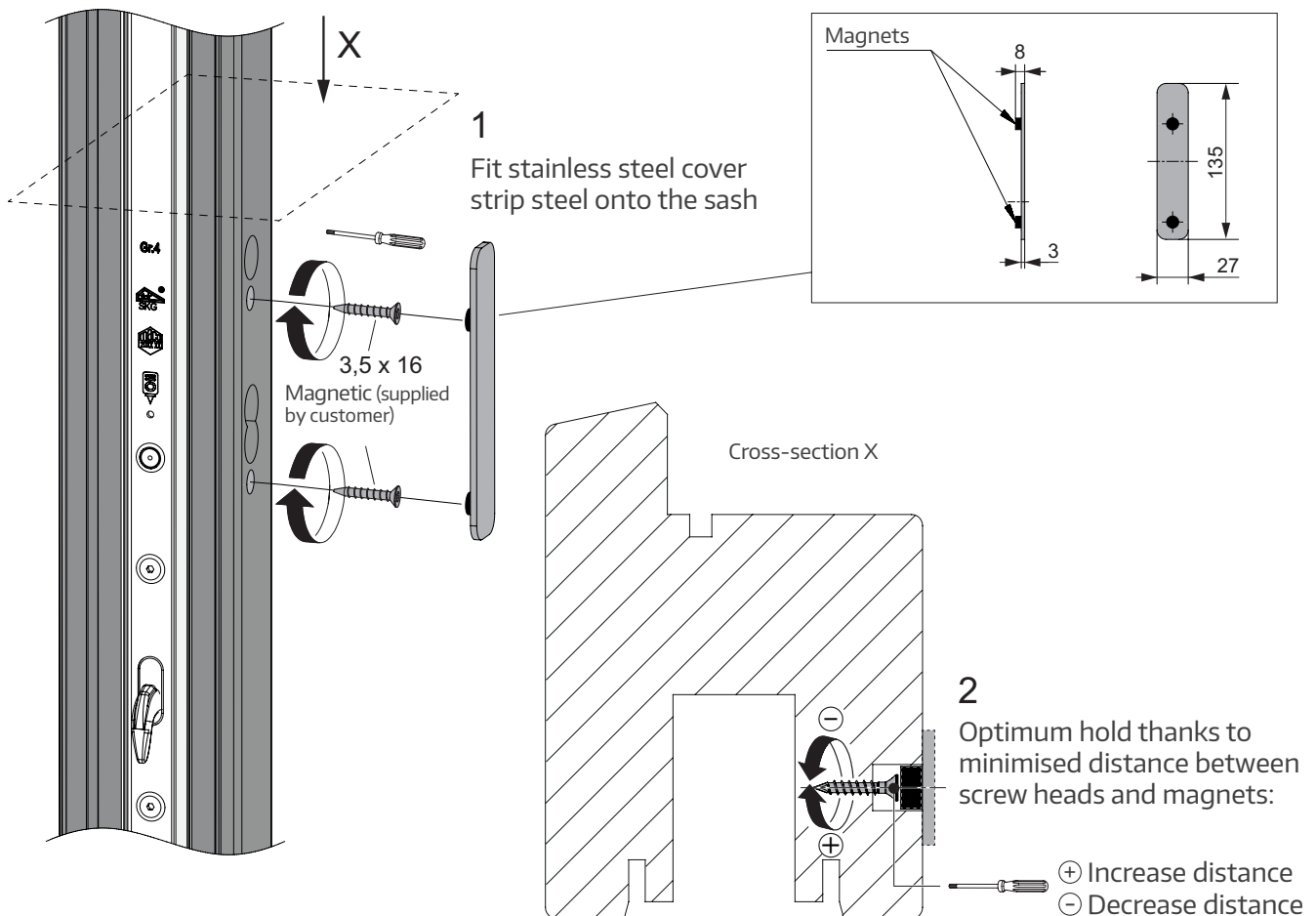


Fitting the covers for the manual locking/unlocking device

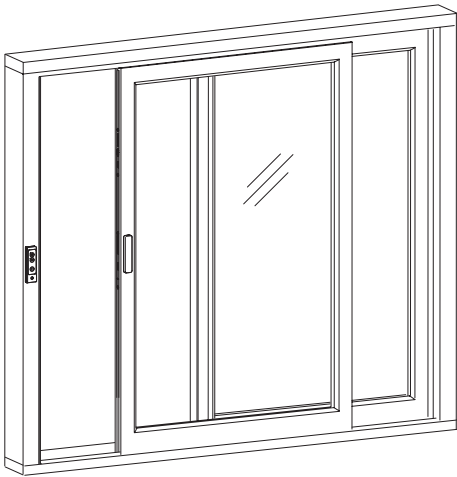
Standard version (optional)



Stainless steel cover strip (optional)



Completing the entire structure



Congratulations!


You have successfully completed installation of the HS Comfort Drive and connected it to the power supply.

It is now crucial to maintain the original state of the structure as far as possible and ensure consistently flawless operation of this high-quality electric sliding sash.

When handing the system over to the customer, you must inform them about the measures required for maintenance, servicing and care and provide them with the relevant information for these tasks.

Fault repair after completing the entire structure

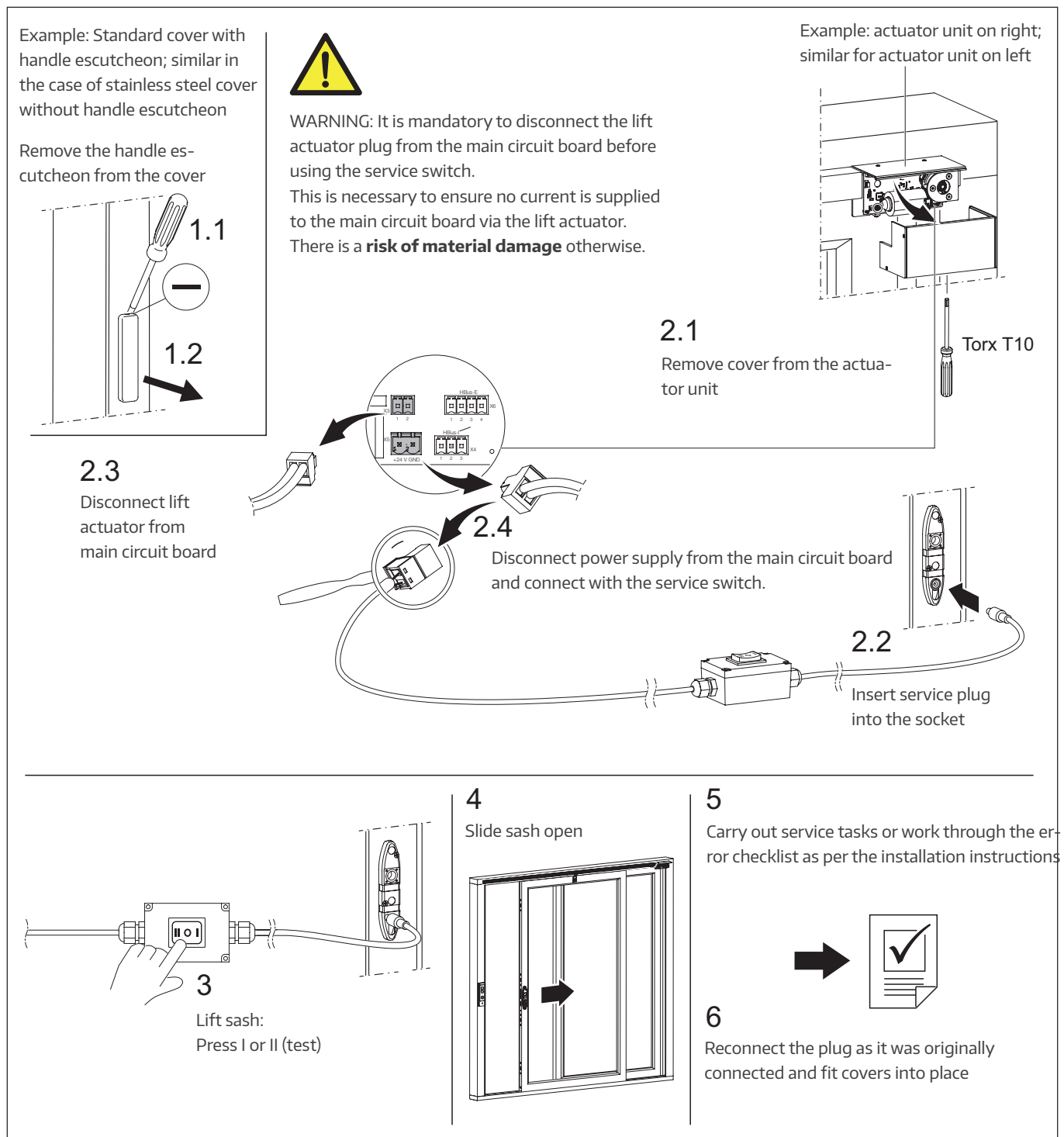
If one of the following malfunctions occurs immediately after completion, you can take the appropriate measures as indicated in the table. If any additional malfunctions occur during later operation, you can be consult a continuously updated list on our website to see what remedial action is required.

Event	Meaning	Action
General malfunctions (e.g. one or both sashes make unexpected or incomplete movements)	One/both lift actuator(s) is/are not connected	- Connect both lifting actuators to the relevant circuit board or check connection/ cabling
Yellow LED on the control keypad flashes *	Fault	<ul style="list-style-type: none"> > Press the STOP button on the control keypad (Error reset; light goes out *) > Press (OPEN) button: <ul style="list-style-type: none"> if slide movement is normal: everything OK; if the yellow remains lit *: - Initiate software reset by pressing the (STOP) button for about 20 s (Home Init - both LEDs light up for about 3 s * - see section Calibration run (Home Init); - If the (STOP) button is pressed for about 30 s, a factory reset is initiated (Full Init - both LEDs light up for about 3 s * - see section Initial operation (Full Init).
Power failure (operating mode switch set to '0' or '3')	Fault	<ul style="list-style-type: none"> > If sash opened: Home Init is required (yellow LED flashes*); press the (CLOSE) button on the control keypad (sash moves to CLOSE and sets position to '0') > If the sash is closed, no action is required, because the sash has detected the position <p> WARNING: All safety systems are deactivated during the Home Init.</p>
No response after pressing the (STOP) button for at least 30 s	Fault	<ul style="list-style-type: none"> > Set operating mode switch to '5' and disconnect power supply unit from mains for at least 20 s > Re-connect power supply unit > After about 3 s: Set operating mode switch to '0' - for further action see initial operation (Full Init)
Actuator reverses (sash moves back about 100 mm)	Sash moved against obstacle	Error reset by pressing on the (STOP) button (yellow LED goes out *)

*) or 2x audible signal sequence on control button (on the button box)

Service procedure for lift actuator

In the case of a service/error status, the lift actuator may not function correctly due to causes such as a defective contact transfer or main circuit board, improper installation of the contact transfer, or wrong size of shims for the power transfer component. In such cases, the service technician can use the service/initial operation switch to raise the lift actuator and open the sash.



Technical specifications

Overall system

(Lift and slide actuator)

HS Comfort Drive

Sash width (SW)	720 to 3235 mm
Sash height (SH)	
	Bolt/inviso espag 1900 to 2800 mm
	Latch espag 1870 to 2850 mm
Ratio SH: SB	max. 2: 1
Frame exterior width	max. 6500 mm
Max. sash weight	
	Bolt/inviso espag BS 27.5: 440 kg
	Latch espag BS 27.5: 440 kg
Total sound pressure level LpA	≤ 70 dB(A)
Max. actuator displacement force	200 N

Electrical characteristics

Nominal voltage	24 V DC (-10%, +30%)
Permitted voltage range	21.6 to 31.2 V DC
Max. permitted ripple	≤ 20% in relation to the nominal voltage
Current draw	4 A at 24 V
Max. wattage	100 W
Switch-off in any position (blockage)	Yes, safety switch-off in the OPEN and CLOSE directions up to 330 kg.
Protection class III safety extra-low voltage (SELV)	

Connection and operation

Duty cycle	20 cycles or D 30
Life cycle	20,000 cycles (Class H3 EN 13126-16)
Reading of operating statuses	Yes
Servicing	Yearly in line with general maintenance guidelines
Connection to WiFi Box	
Address (factory setting)	103

Installation and environmental conditions

Nominal temperature	20 °C
Ambient temperature	-5 to +60 °C (Environment class 1 as per VdS 2580)
Protection rating	IP40 as per EN 60529
Ambient conditions	For dry environments only; no dew formation, no aggressive steams/vapours, no dusty environments

Instructions on power supply and actuation

Switch-mode power supply and transformer power supply	C-load suitable with energy reserves for the starting and stopping torque of actuators
Low voltage (24 V)	Rated impulse withstand voltage category I must be guaranteed

Approvals and certificates

See section Certificates and declarations.

Technical data (continued)

S Comfort Drive slide actuator

Electrical characteristics

Nominal voltage	24 V DC (-10%, +30%)
Permitted voltage range	21.6 to 31.2 V DC
Max. permitted ripple	≤ 20% in relation to the nominal voltage
Current draw	4 A at 24 V
Switch-off in any position (blockage)	Yes, safety switch-off in the OPEN and CLOSE directions up to 330 kg

Material and mechanical properties

Sound pressure level LpA	≤ 70 dB(A)
Displacement force	200 N
Max. sash weight	440 kg
Operating speed	75 mm/s (factory setting)
Halogen-free	No
Silicone-free	No
RoHS-compliant	Yes
Temperature range	-5 to 60 °C
Protection rating	IP40 as per EN 60529, when installed and if HAUTAU covers are used
Max. number of cycles:	20

Lift actuator (for HS Comfort Drive)

Electrical characteristics

Nominal voltage	24 V DC (-15%, +30%)
Permitted voltage range	20.4 to 31.2 V DC
Max. permitted ripple	≤ 20% in relation to the nominal voltage
Current draw	2.5 A
Switch-off OPEN/CLOSE	Integrated limit switches
Protection class	III safety extra-low voltage (SELV)

Material and mechanical properties

Sound pressure level LpA	≤ 70 dB(A)
Mech. emergency unlocking	Yes
Halogen-free	No
Silicone-free	No
RoHS-compliant	Yes
Lift time	about 6 s
Max. sash weight	
Bolt/inviso/latch espag	BS 37.5: 330 kg
Bolt/inviso espag	BS 27.5: 440 kg
Latch espag	BS 27.5: 440 kg
Temperature range	-5 to 60 °C
Protection rating	IP40 as per EN 60529, when installed
Max. number of cycles:	20

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