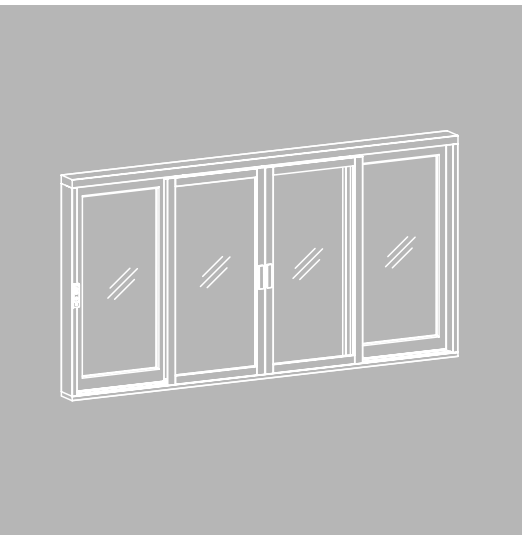
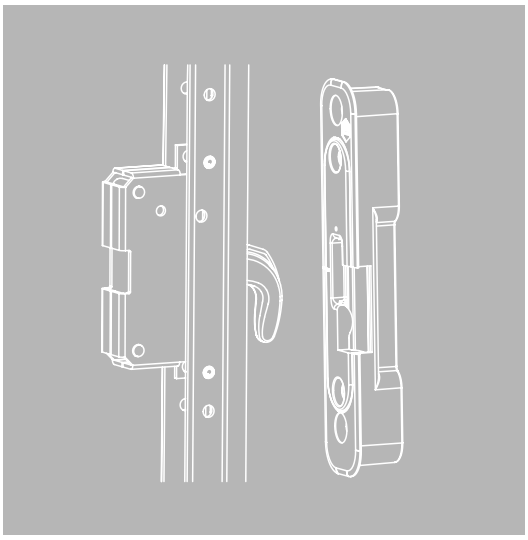
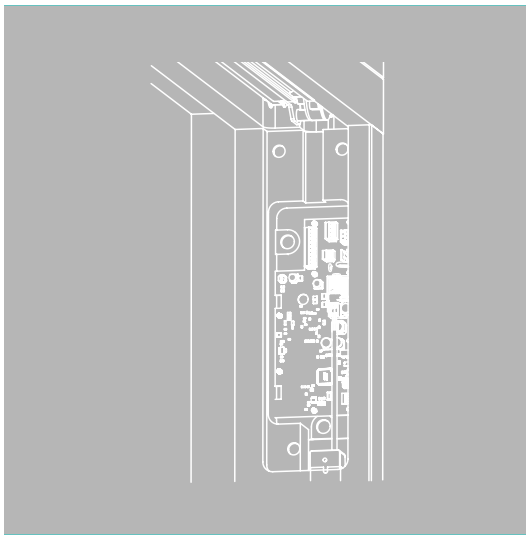
HAUTAU
A MACO Group Company

Move HS Comfort Drive

ELECTROMOTIVE LIFT & SLIDE FITTING







WOOD

INSTALLATION INSTRUCTIONS

Move HS Comfort Drive, 24 V DC
wood/wood-aluminium, concealed
Scheme C

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

Contents

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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 Move HS Comfort Drive belongs to the fittings product series for lift and slide windows and patio doors as per EN 13126-16. With two 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 areas.

› Use of the Move HS Comfort Drive only for sashes weighing max. 330 kg (integrated anti-trap guard).

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.**

› The complete device must be fitted in a vertical position only.

› All components on the (lift and) slide element must be easily accessible.

› The sashes are lowered in 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, sliding sashes 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. The right order is important in such situations (see Section Manual locking/unlocking/emergency unlocking).

Safety instructions and warnings (continued)

Ensure that the required fastening fixture are suitable for the building structure and the stress load. Use 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 panels are intact and move freely.
All work (installation, setting, etc.) must be performed with the system in a denergized state.
Before fitting the actuators, 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.

Safety instructions and warnings (continued)

WARNING: Never connect the actuators/control keypad to 230 V.
The actuators may only be operated using a safety extra-low voltage. Failure to do so could result in **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 ≤ 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 actuators open and close the sliding sashes automatically. A power cut-off brings them 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 actuators when they are in operation.
Ensure that no-one or no objects are in the way of sliding sashes.
If the sliding sash panel does not have an additional safety system (light curtain, presence detector), only operate the actuators if you can see both sliding sashes. Watch the movements of the sliding sashes until they have reached their respective end positions.
Do not pass through the walk-through space until the sliding sashes have come to a halt.
Ensure that children do not get hold of remote controls. Ensure only people who have been instructed on how remote-controlled sliding sashes work use them.
The user must maintain visual contact with both sliding sashes 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 sashes to move unintentionally.
Ensure that no-one or no objects are in the way of sliding sashes during their 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 actuators 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. Checksecuring andterminal 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 its actuators are partly completed machines 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

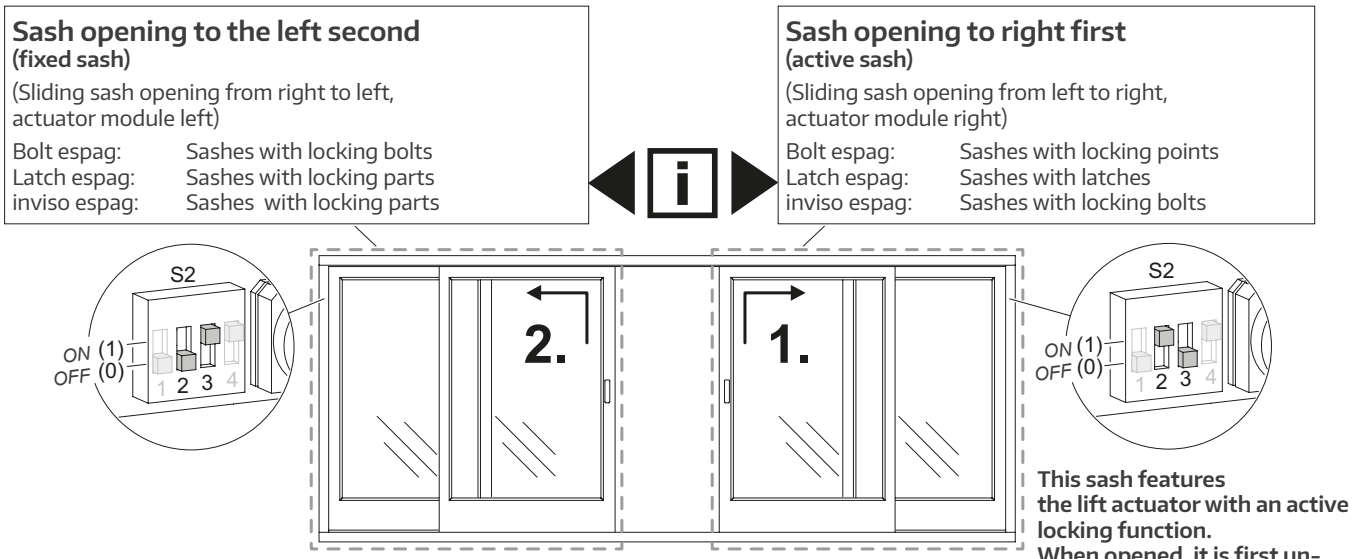
HAUTAU's General Terms and Conditions of Business apply to the actuators (online: www.hautau.de/en/).

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.weeelogic.com or other websites on the WEEE Directive.

Explanation of terms

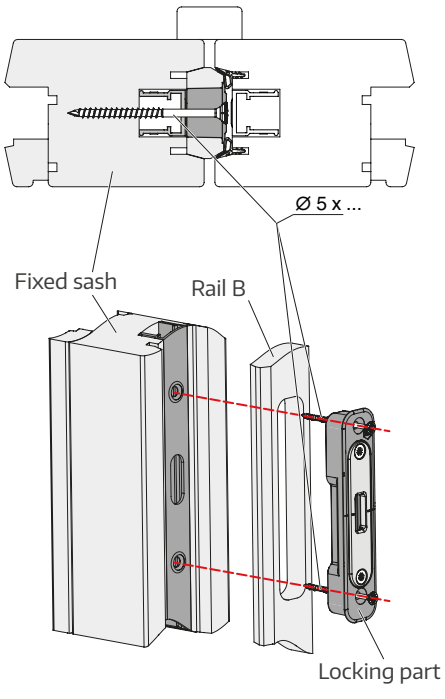
Fig.: **Sash**opening **to** right first/ **sash** opening **to** left second;
the system for a **sash** opening **to** left first and **sash** opening **to** right second must be installed in reverse to what is shown in the diagrams



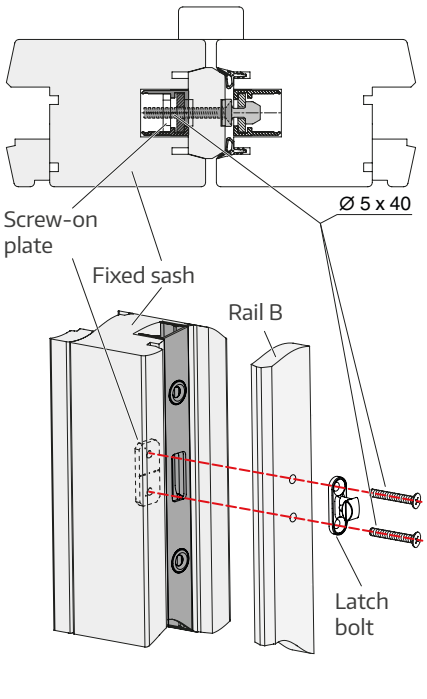
Setting the DIP switch – see section on Checking/setting the DIP switch

Locking parts/locking bolts on the fixed sash with

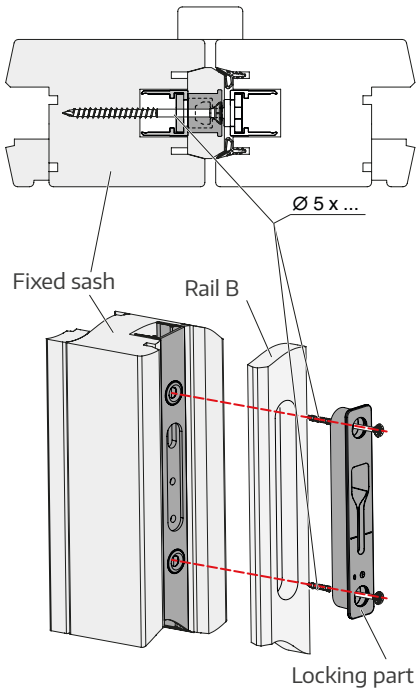
... Latch espag



... Bolt espag



... Inviso espag

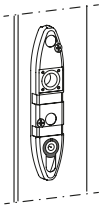


Measurements in mm. Diagrams without a scale are **not** necessarily to scale.

Abbreviations

BS Backset
SW Sash weight
SH Sash height
LS Lift and slide ...
LL Lift actuator length
FEW Frame exterior width
FH Frame height

Differing diagrams

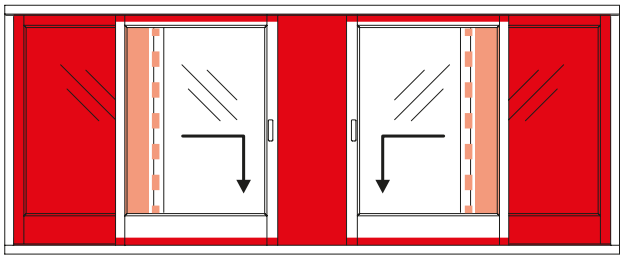


The following diagrams show the installation PROCEDURE for the design with handle escutcheons. These are only needed for manual locking/unlocking with standard covers.

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

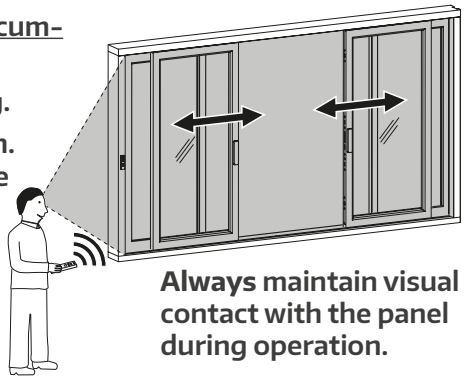


Do not enter the walk-through space while in operation under any circumstances.

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 (▬).

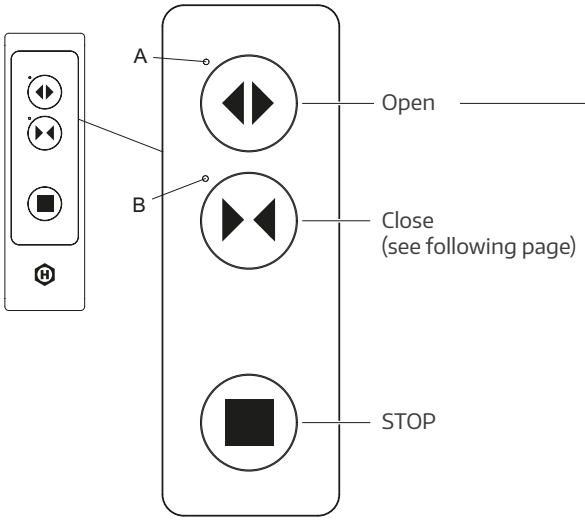
Failure to do so may result in physical injuries and property damage.



Always maintain visual contact with the panel during operation.

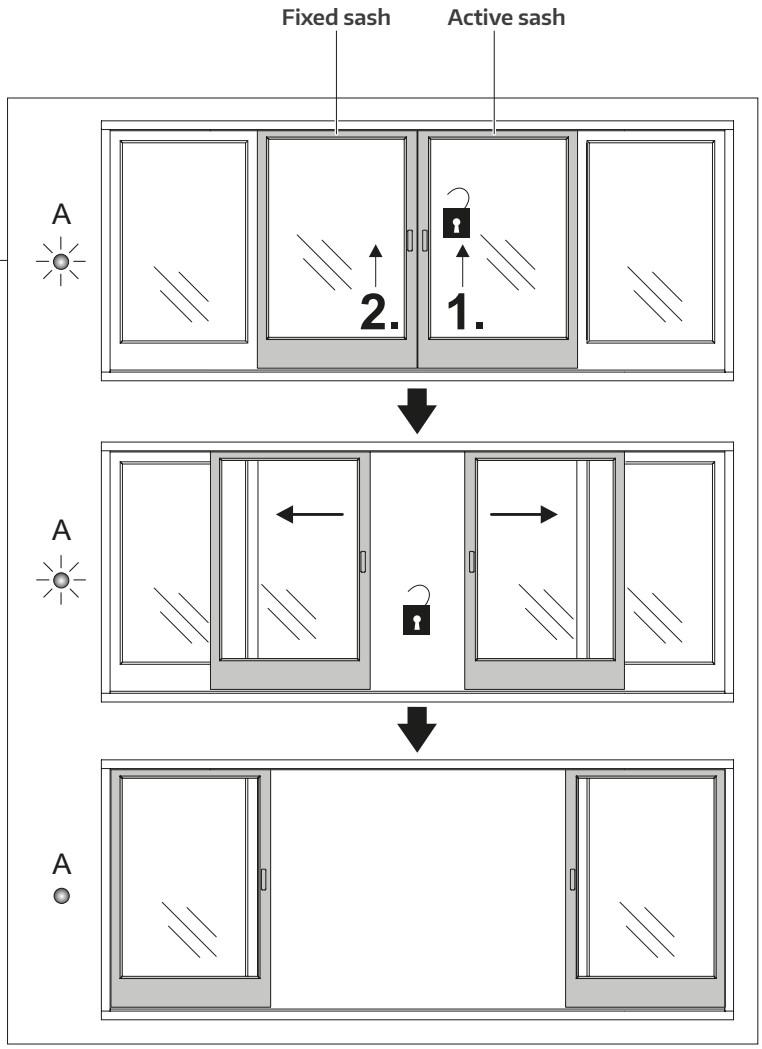
Operation (continued)

See separate document for other variants of operating controls.

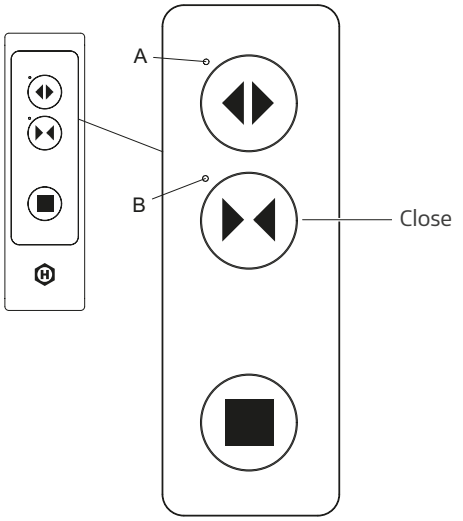


A ☼	Green lights up while the lift/slide actuator is moving.
B ☼	Yellow lights up if there is an error.
B ☼	During initialisation mode, yellow flashes: once initiation is complete, the LEDs go out.

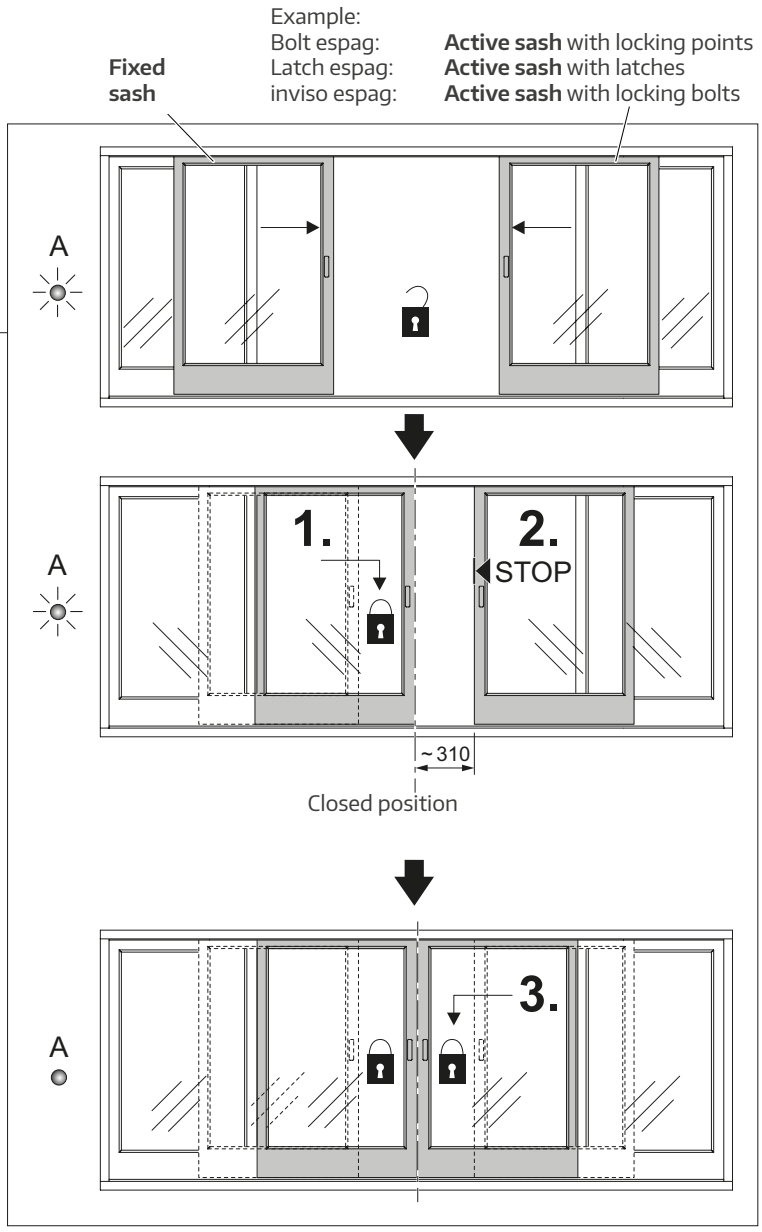
Example:



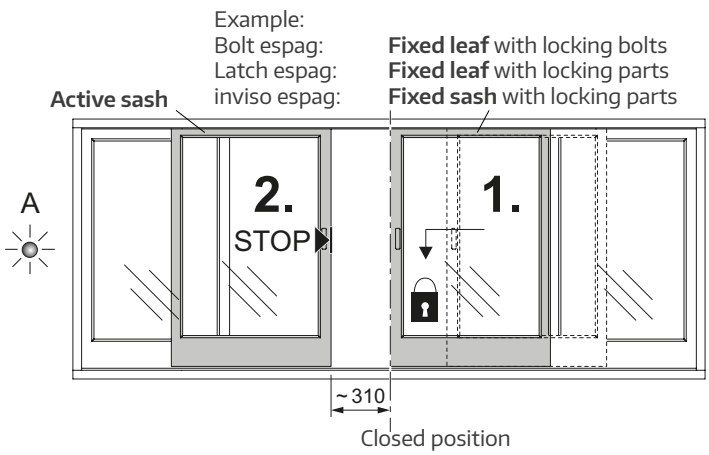
Operation (continued)



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.



In the case of a fixed sash opening to the right, the locking process is initiated as follows (diagrams are reverse to the layout above):



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

IMPORTANT NOTE (also see section on Definition of terms**):**

When unlocking the system, always unlock the active sash before the fixed sash. When locking, always lock the fixed sash before the active sash. If you don't, you may cause material damage.

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.

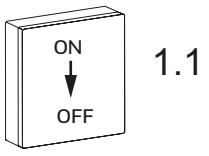
Important: However, you should try using the service switch (item code 305882) to lift the sash. Consult the Sections on Service procedure for lift actuator and Bring sash into lifted position in the installation instructions.

Note: regardless of whether the lift actuator has contact with the power transfer on the frame or not, the service/initial operation switch functions 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:

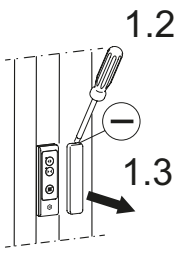
1. Remove cover

Disconnect power supply on the primary side before the power supply unit

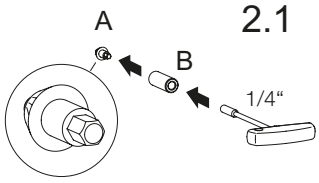


1.1

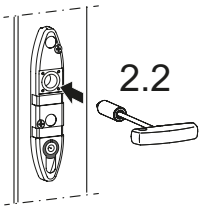
Fuse enclosure



2. 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.

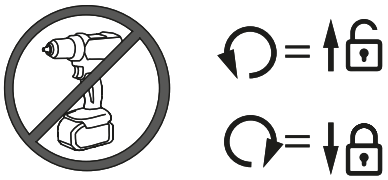


Insert 1/4" socket wrench, sprocket and guide (sleeve) into the handle hole.

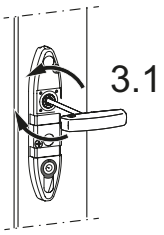
Manual locking/unlocking/emergency unlocking with a defective lift actuator (contd.)

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.**

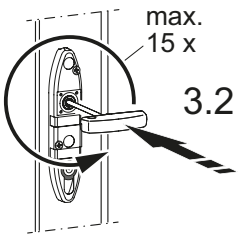
3. Emergency unlocking device



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



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.

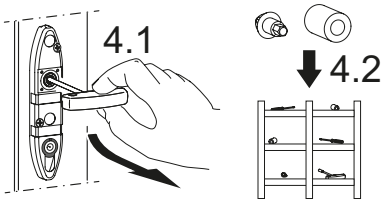


Recommendation for easier handling: separate from the cam so that you don't need to push against the slide motor. While applying slight pressure towards the sash, turn the emergency unlocking device anti-clockwise up to 15 full turns (applies to sashes opening both to the left and right) until the sash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

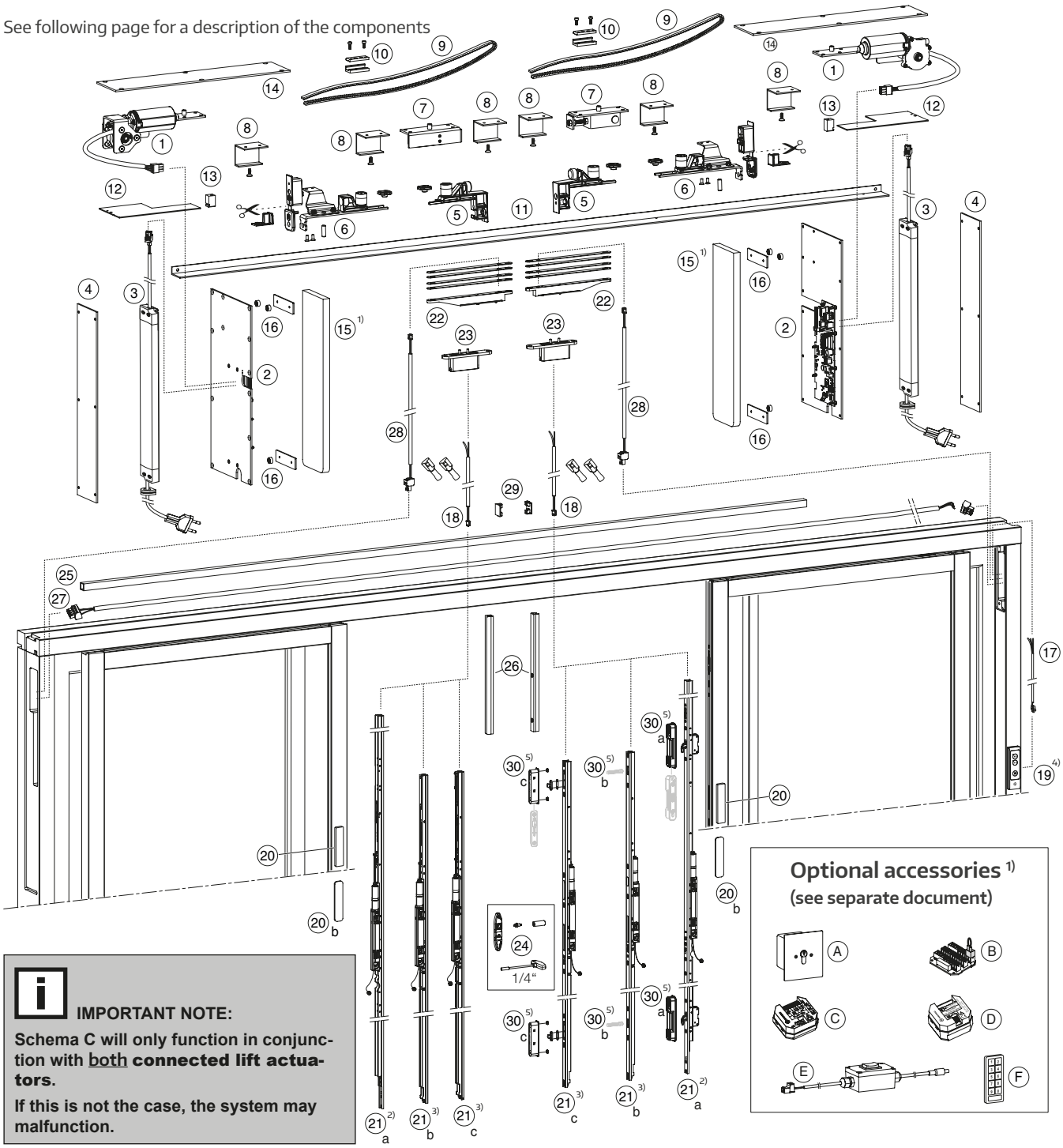
Guide (sleeve) and socket must be stored away in case the end user needs to use it.



End user

Parts overview

See following page for a description of the components



IMPORTANT NOTE:

Schema C will only function in conjunction with both connected lift actuators.

If this is not the case, the system may malfunction.

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 variant H (see following page).

4) Installation side can be freely selected; see separate document for single control button.

5) Position of the locking parts or locking bolts (depending on the lift actuator) on the active or fixed sash (see section on Definition of terms).

Parts overview (continued)

Description of the components

1. Actuator unit
2. Circuit board
3. Power supply unit
4. Power supply unit cover
5. Cam mount
6. Cam
7. Toothed belt deflector
8. Cover mount
9. Toothed belt
10. Toothed belt clamping plate
11. Cover strip
12. Actuator unit cover, bottom
13. Cover end piece
14. Actuator unit cover, top
15. Electronics cover
16. Retaining plate and magnet(s)
17. Cable for control keypad
18. Cable for lift actuator/power transfer component
19. Control keypad
20. Cover for manual locking/unlocking device (a: standard; b: stainless steel)
21. Lift actuator (a: latch espag BS 27.5; b: bolt espag BS 27.5; c: inviso espag BS 27.5)
22. Contact transfer, including shims
23. Power transfer component
24. Emergency unlocking set (socket, guide, handle escutcheon, T-handle)
25. Cable conduit for sliding sash (cut to length, optional)
26. Trim profile
27. Circuit board connection cable
28. Cable for contact transfer
29. Adapter circuit board
30. Locking part/locking bolt (a: latch espag; b: Bolt espag; c: inviso espag)

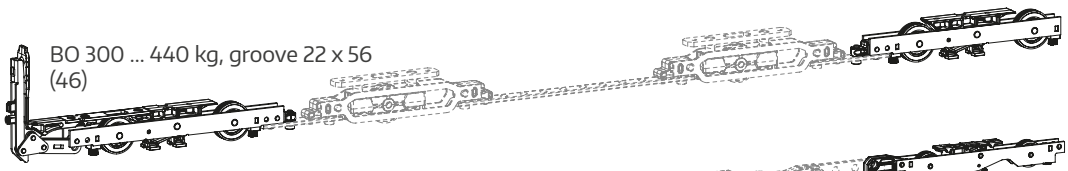
Optional accessories (see separate document):

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

Parts overview (continued)

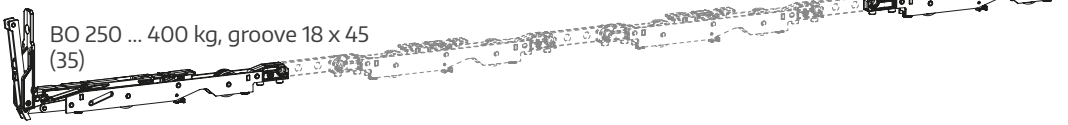
Bogie variants **(not included in the delivery package)**

M1



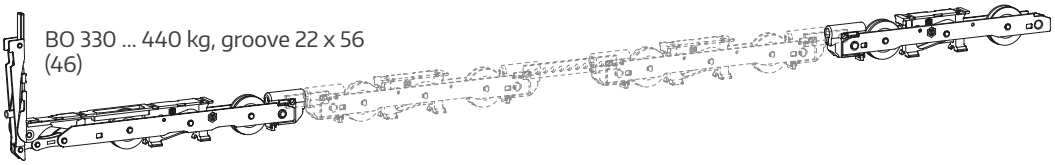
BO 300 ... 440 kg, groove 22 x 56 (46)

M2



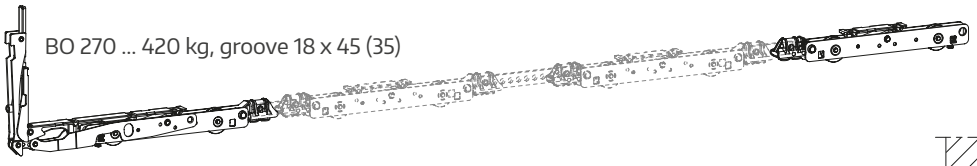
BO 250 ... 400 kg, groove 18 x 45 (35)

H1



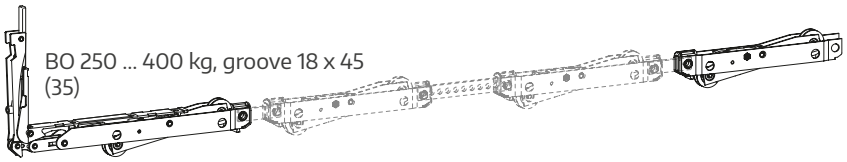
BO 330 ... 440 kg, groove 22 x 56 (46)

H2

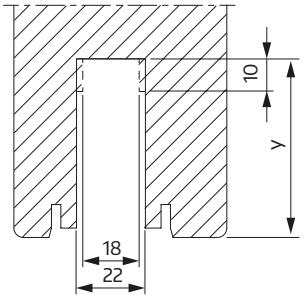


BO 270 ... 420 kg, groove 18 x 45 (35)

H3



BO 250 ... 400 kg, groove 18 x 45 (35)



* = can be used
\- = cannot be used

Bogie variant	Sash weight [mm]							Groove Width x depth y [1]		Only available with ...	
	Single				Tandem					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 Move 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.).

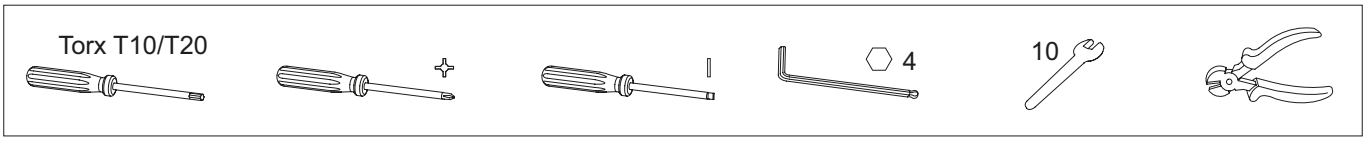
When installing glazing blocks, please refer to the German Glazing Trade Technical Guideline no. 3 Blocking of glazing units.

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

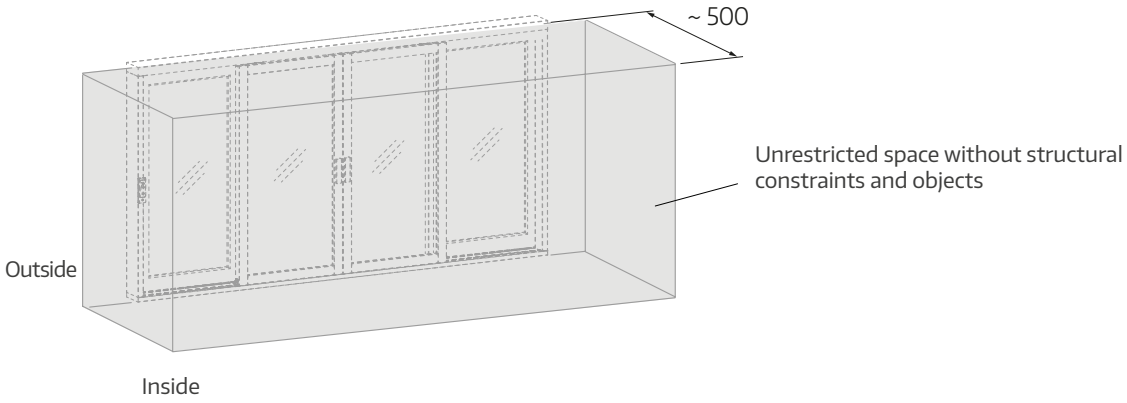
The centre of gravity or position of the glass pane may restrict the areas of use and maximum weights. You **must** request such information where necessary.

Verifying the prerequisites for installation

- All screw connections in the frame must engage adequately into the wood.
- 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):

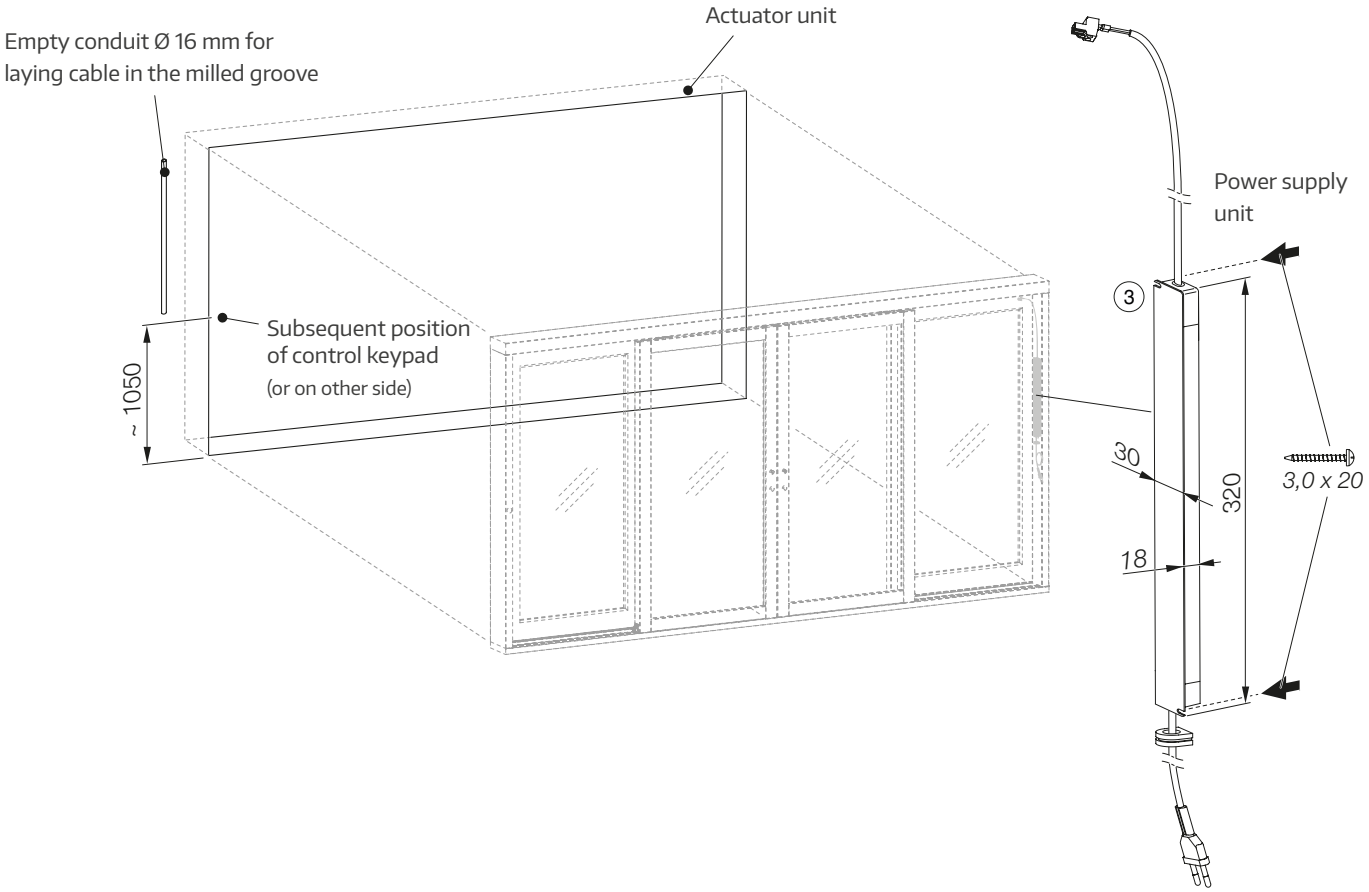


- Allow sufficient clearance for any inspection work and replacement of components.



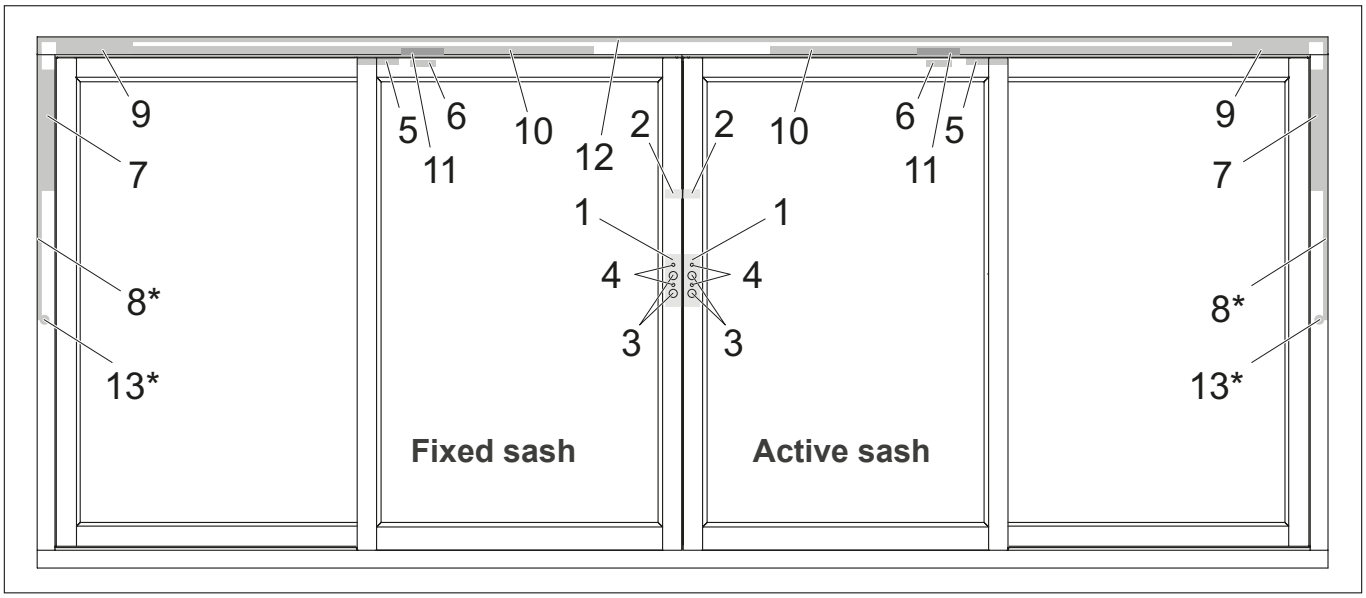
Preparing for electrical connection

Connection cable, cross section 1.5 mm²



Overview of sash/frame cut-outs (see following pages for details)

Overview – details for the necessary cut-outs; also see separate drawings
The layout of the sash/frame cut-outs and holes on the fixed sash side is the reverse of the active sash side



Sash cut-outs/drill holes for ...

1 ... Espag cases
2 ... Lift actuator
3 ... Manual locking/unlocking device
4 ... Cover for manual locking/unlocking device
5 ... Cam
6 ... Power transfer component

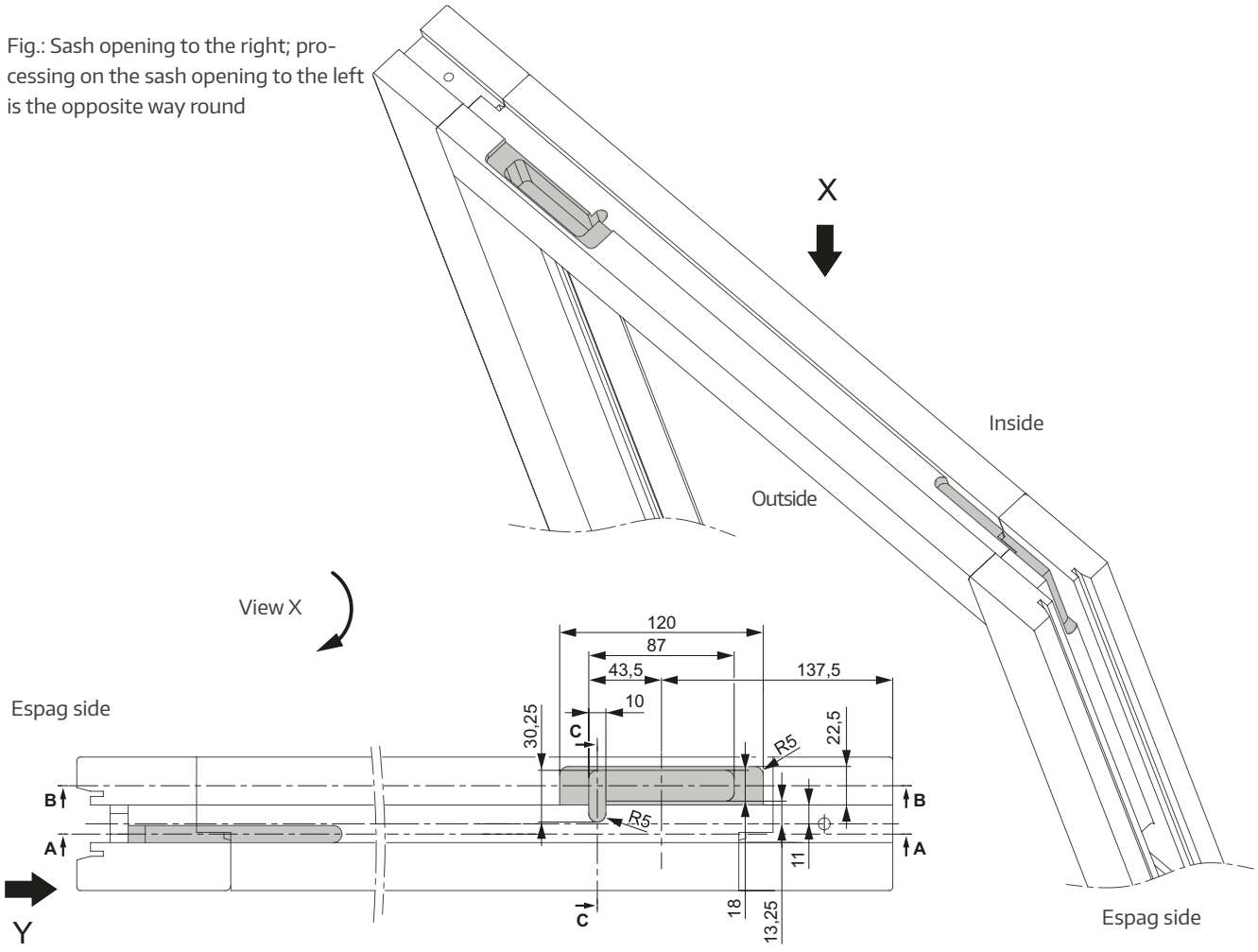
Frame cut-outs/holes for ...

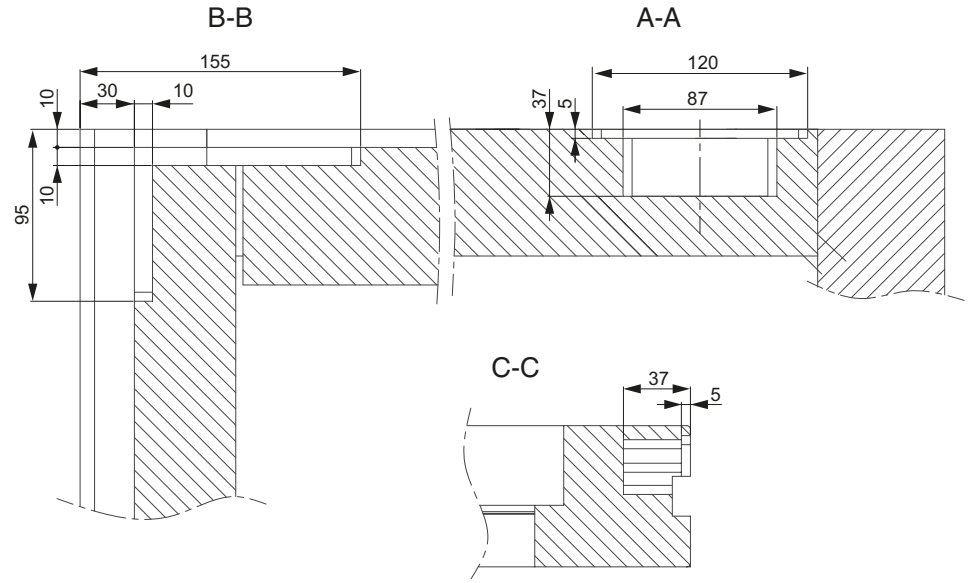
7 ... Circuit board
8 ... Cable for control keypad*
9 ... Actuator unit
10 ... Deflectors/toothed belt/cover strip
11 ... Contact transfer
12 ... Cable conduit/circuit board connection cable
13 ... Control keypad or single control button*

*) Choose one side

Sash cut-out for power transfer component

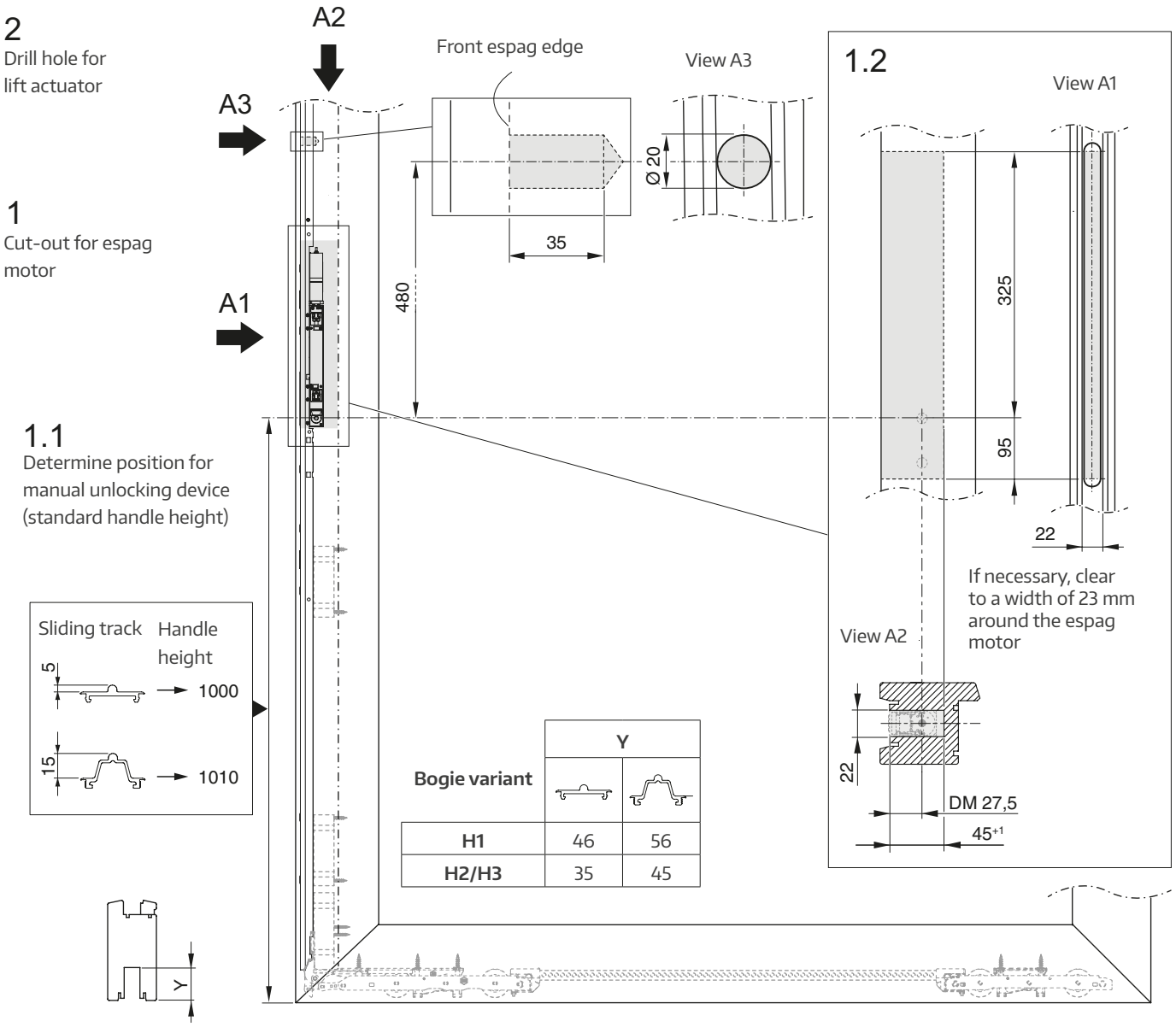
Fig.: Sash opening to the right; processing on the sash opening to the left is the opposite way round





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

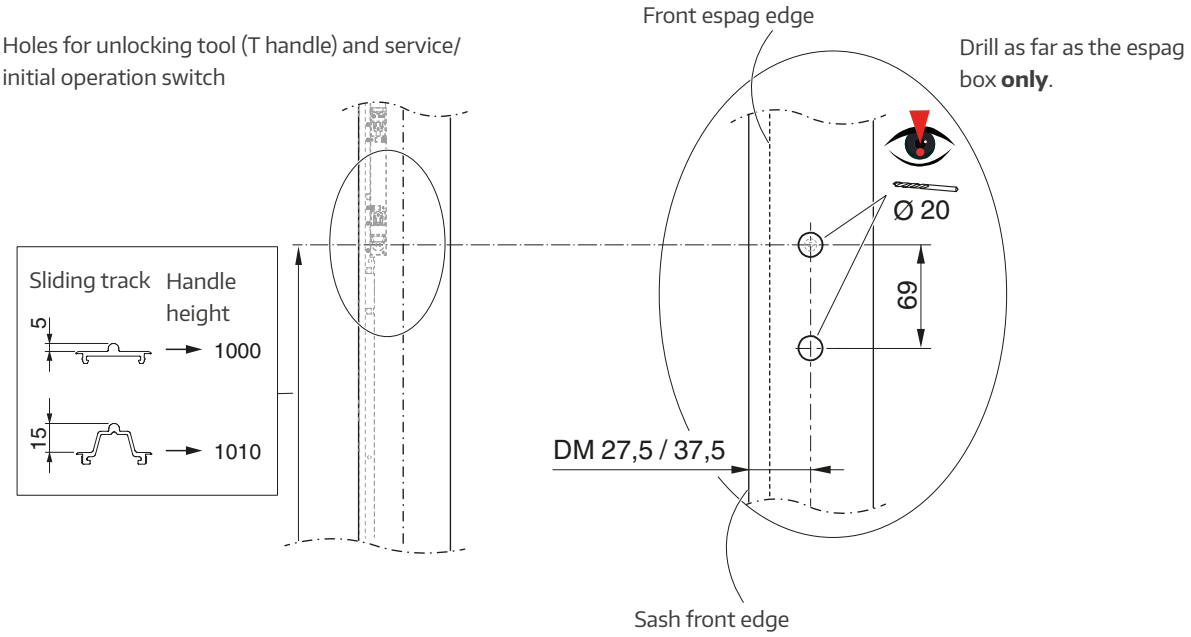
Fig.: Sash opening to the right; processing on the sash opening to the left is the opposite way round



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

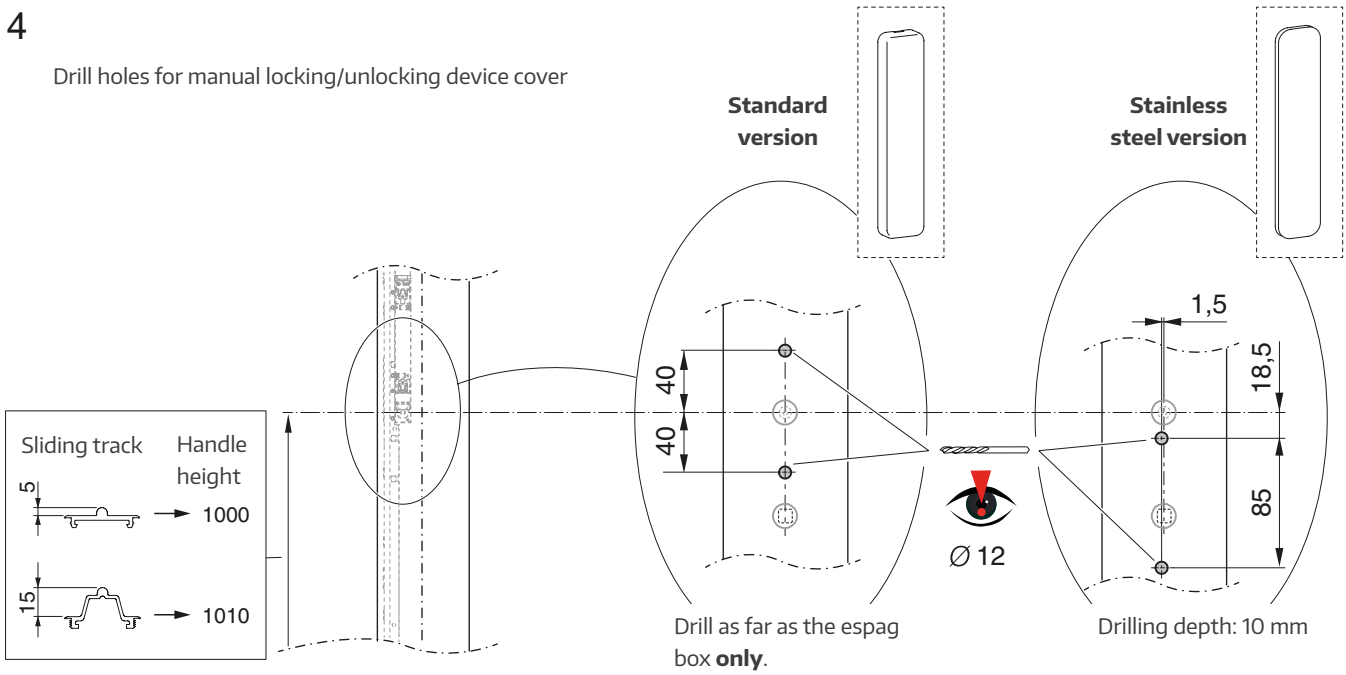
Fig.: Sash opening to the right; processing on the sash opening to the left is the opposite way round

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



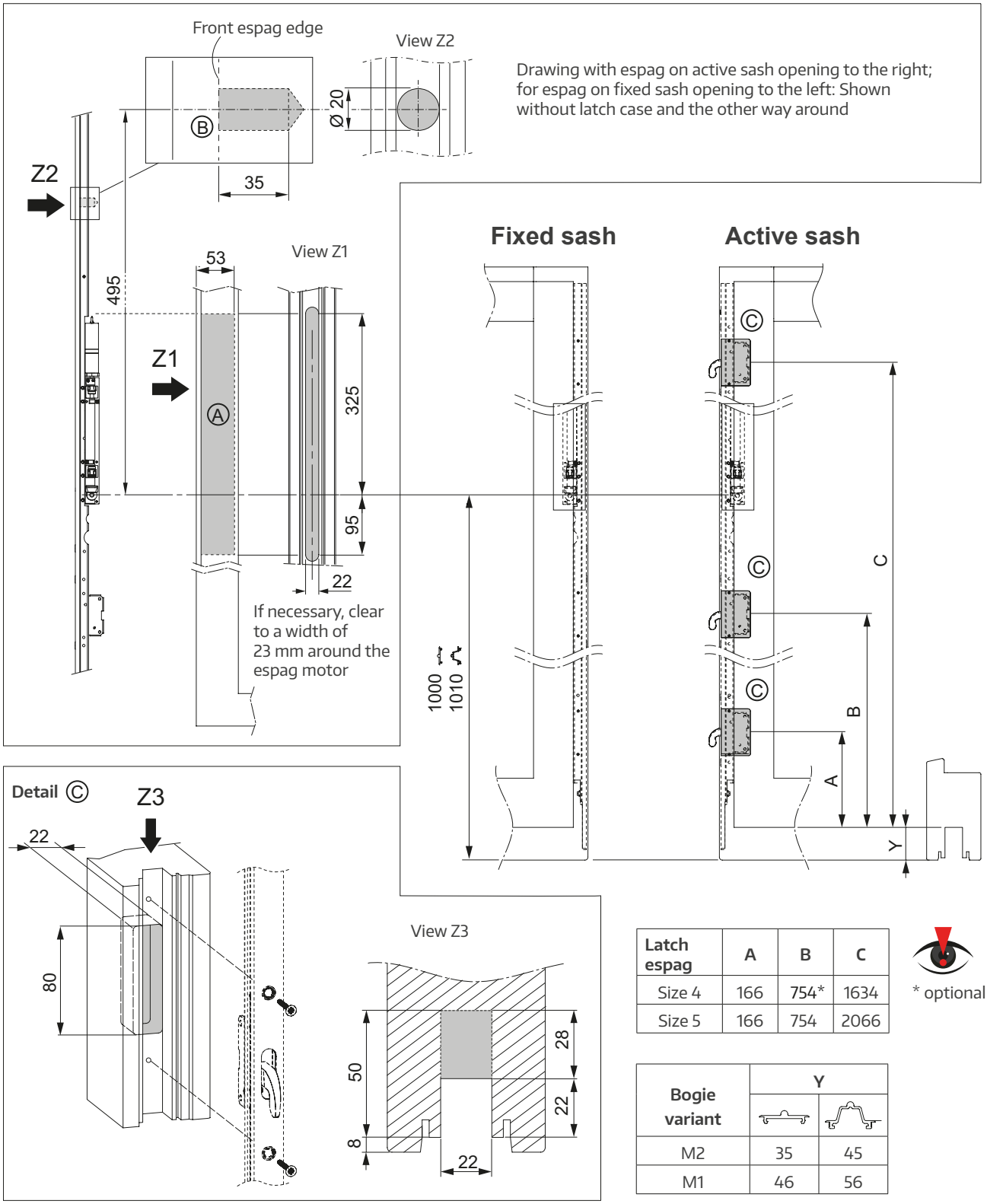
4

Drill holes for manual locking/unlocking device cover



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

Fig. For active sash opening to the right/fixed sash opening to the left; processing on an active sash opening to the left or fixed sash opening to the right is the opposite way round



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

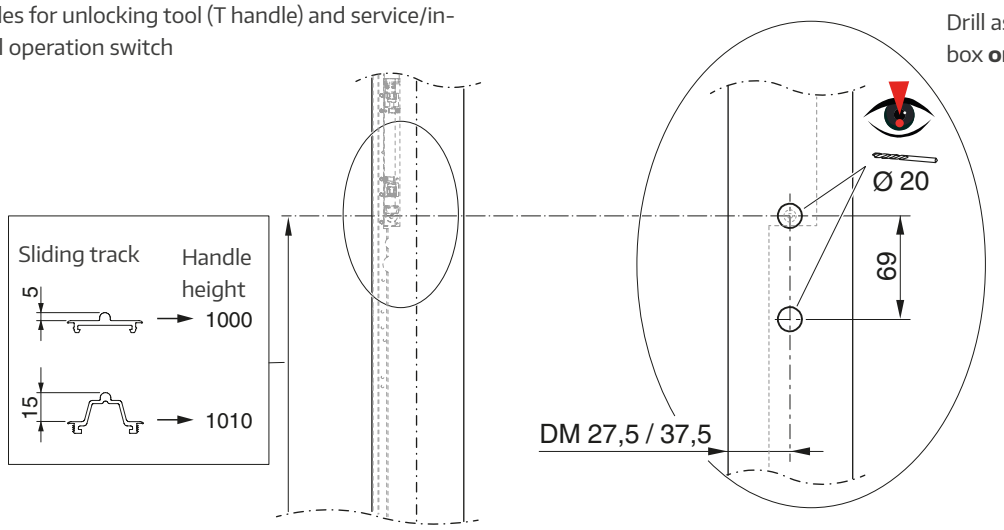
* optional

Bogie variant	Y	
M2	35	45
M1	46	56

For latch espag: drill holes for lift actuator

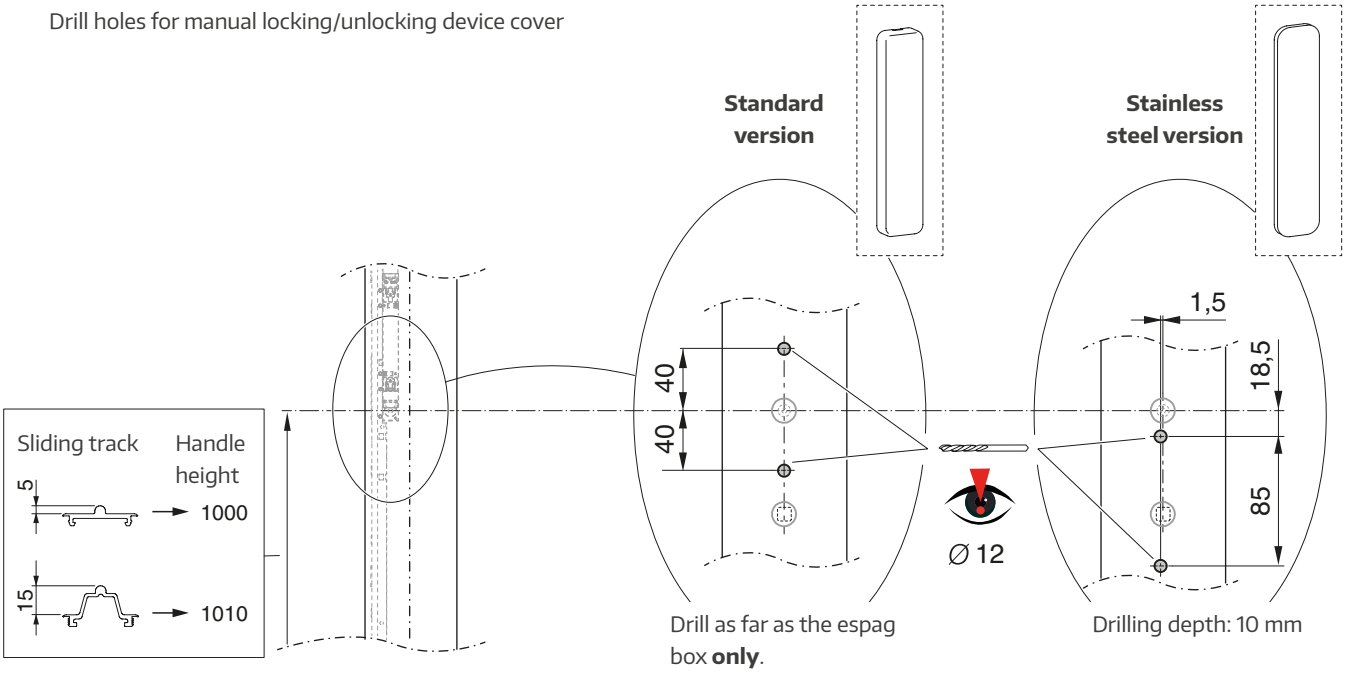
Fig.: Sash opening to the right; processing on the sash opening to the left are the opposite way round

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



Drill as far as the espag box **only**.

Drill holes for manual locking/unlocking device cover

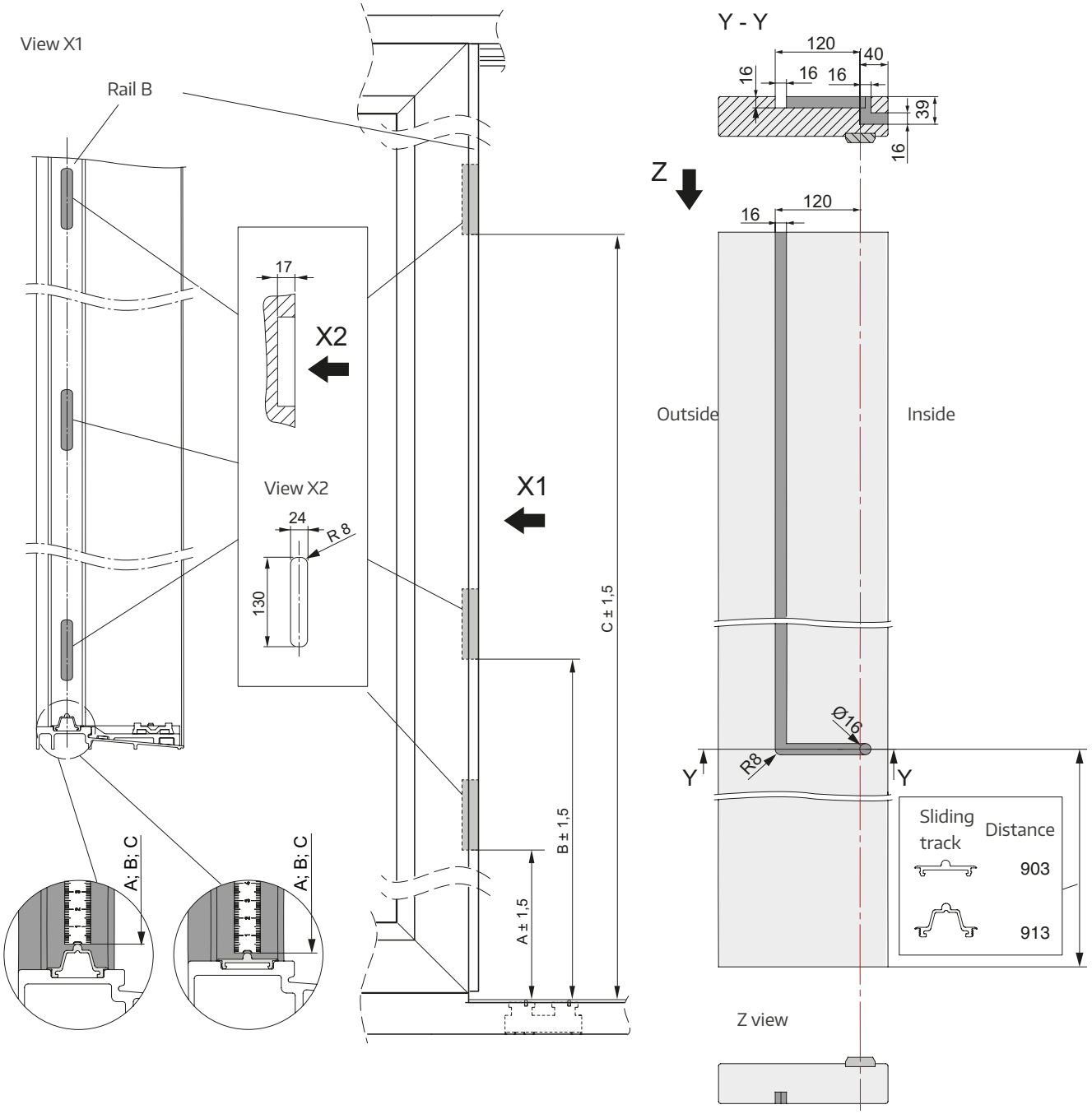


Drill as far as the espag box **only**.

Drilling depth: 10 mm

For latch espag: Cut-outs for locking parts and operation transfer

Fig.: Sash opening to the left; processing on the fixed sash opening to the right are the opposite way round



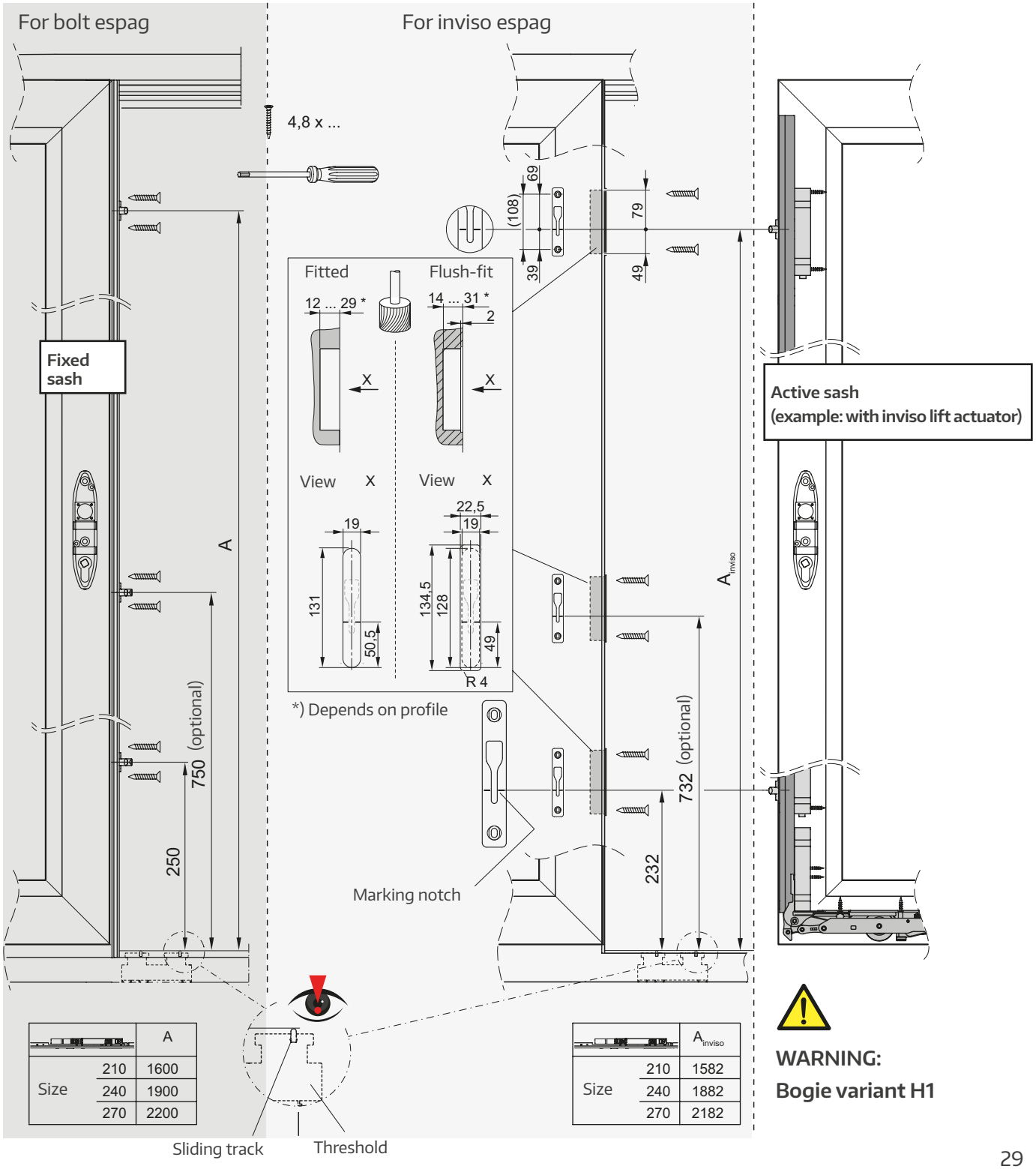
Latch espag	A	B	C
Size 4	145	733*	1613
Size 5	145	733	2045

* optional

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

Fig.: Active sash opening to the right (e.g. inviso) and fixed opening to the left; processing on an active sash opening to the left or fixed sash opening to the right is the opposite way round

CAUTION: Different positions for locking bolts for a bolt espag and locking parts for an inviso espag.

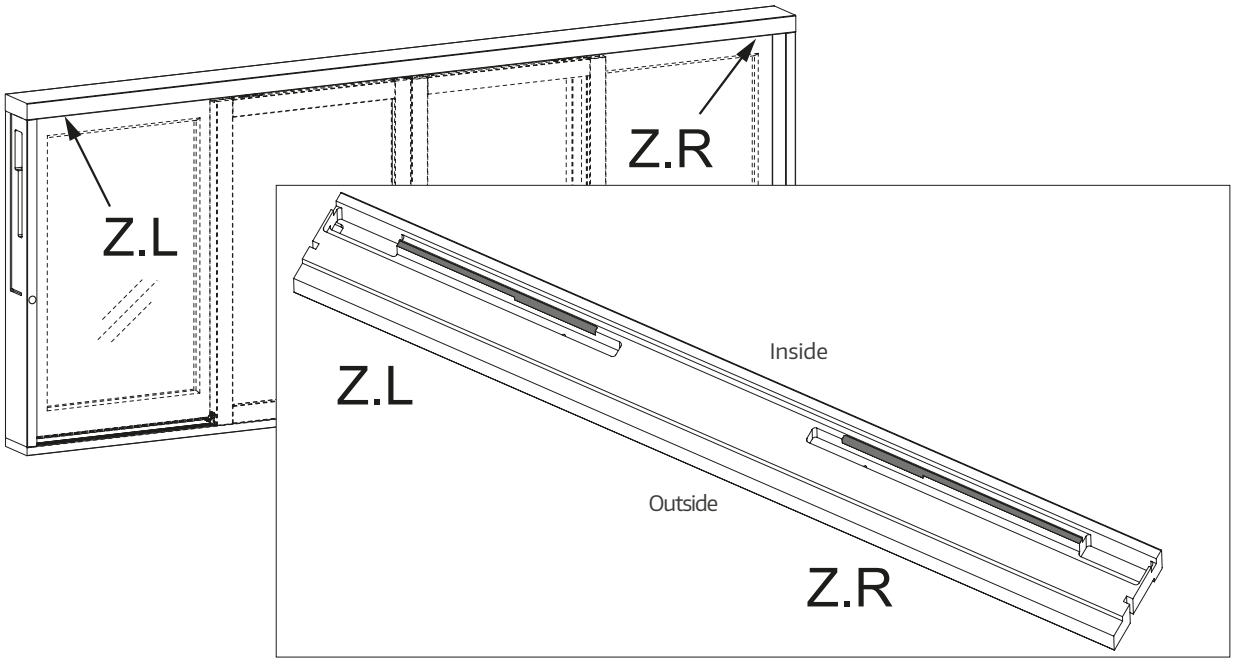


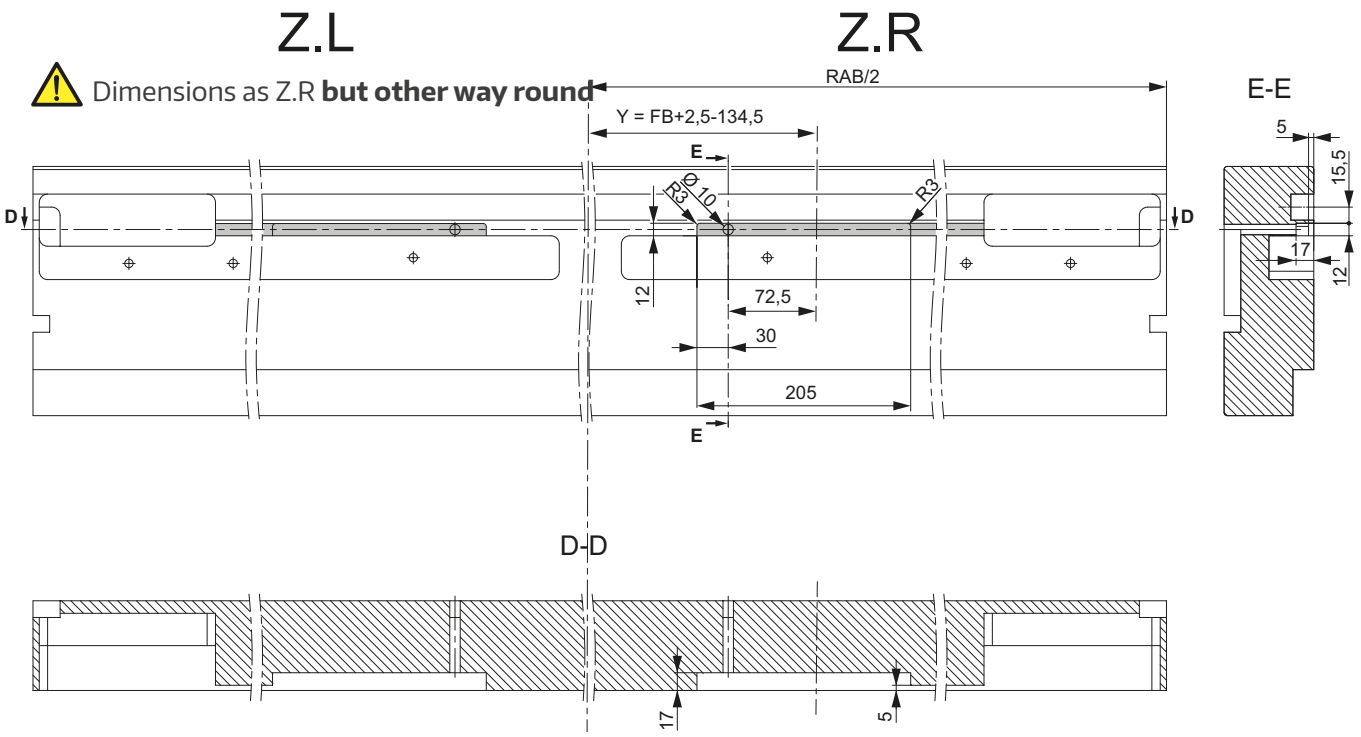
Size	A
210	1600
240	1900
270	2200

Size	A inviso
210	1582
240	1882
270	2182

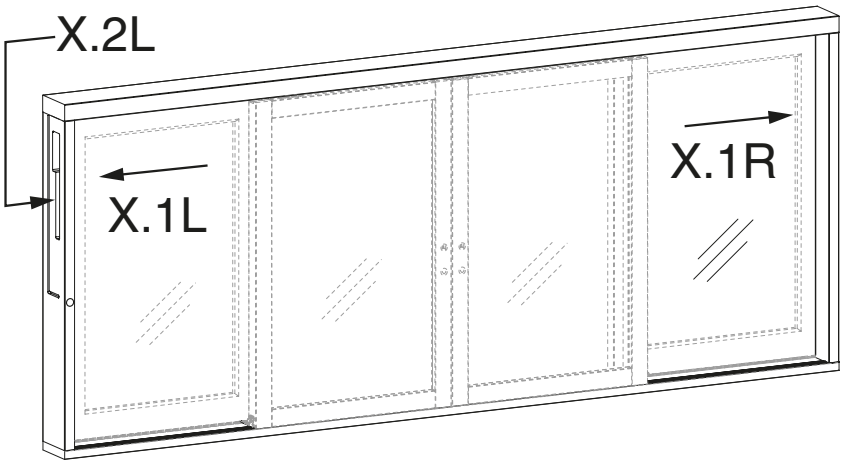
WARNING:
Bogie variant H1

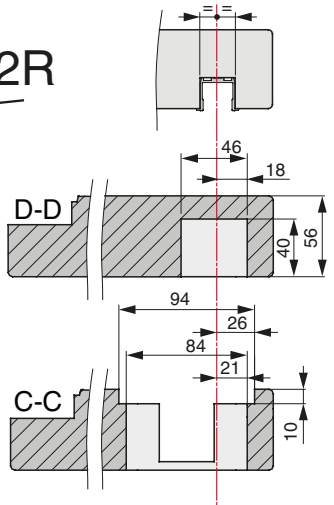
Frame cut-out for contact transfer





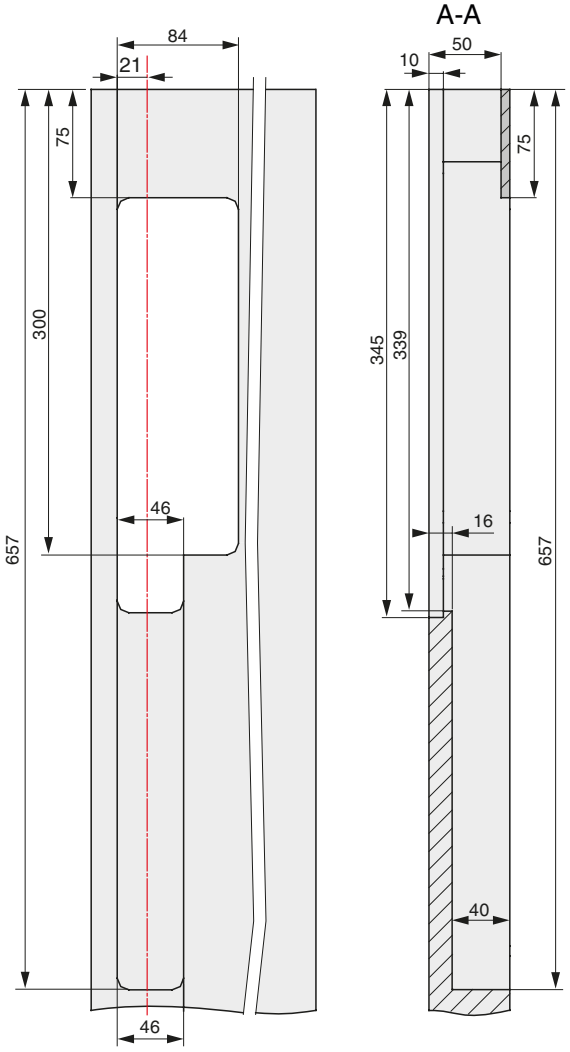
Circuit board cut-outs

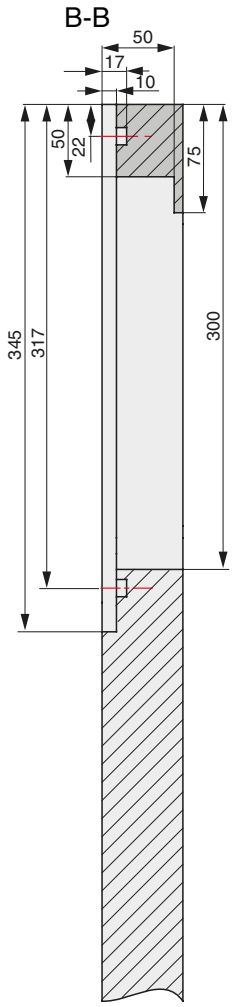


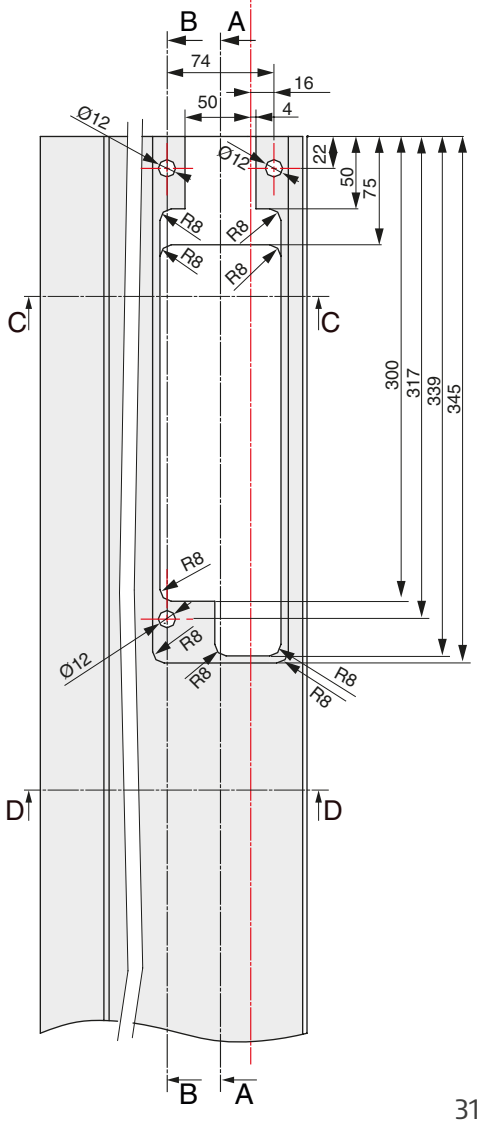


X.2L ⚠ The **other** way round
X.2R (as shown)

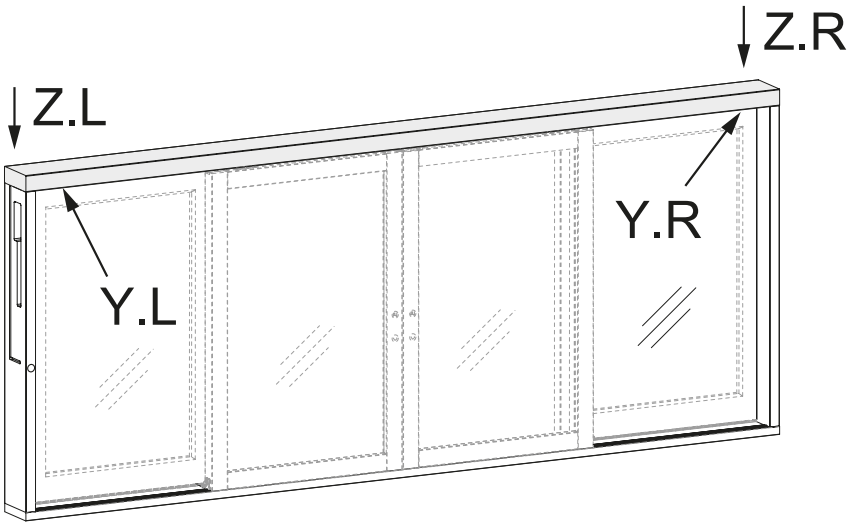
X.1L ⚠ The **other** way round
X.1R (as shown)





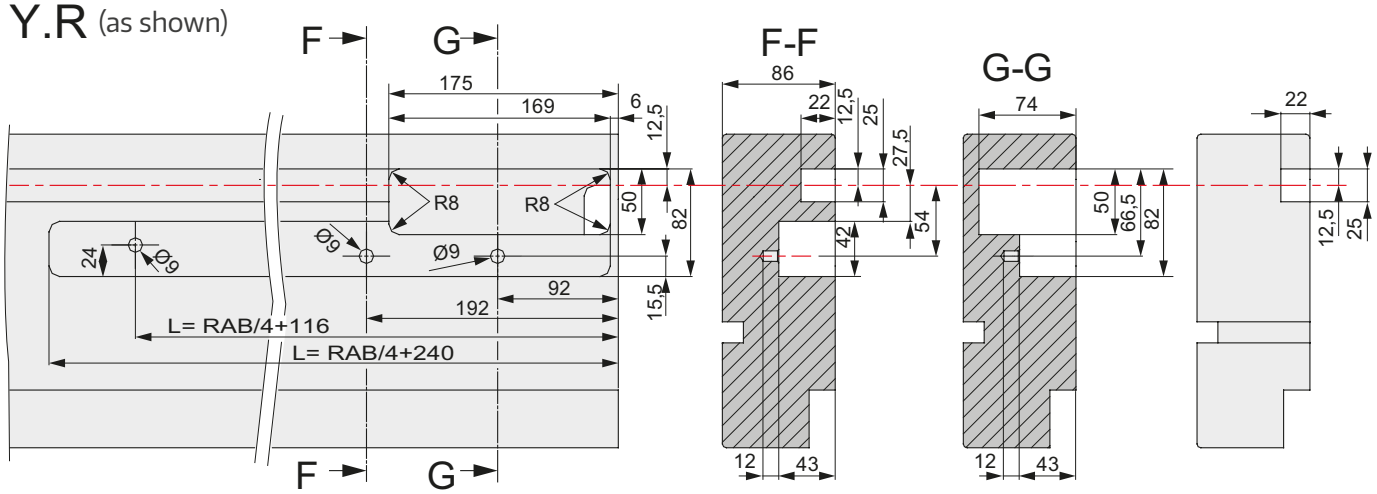


Cut-outs for actuator units



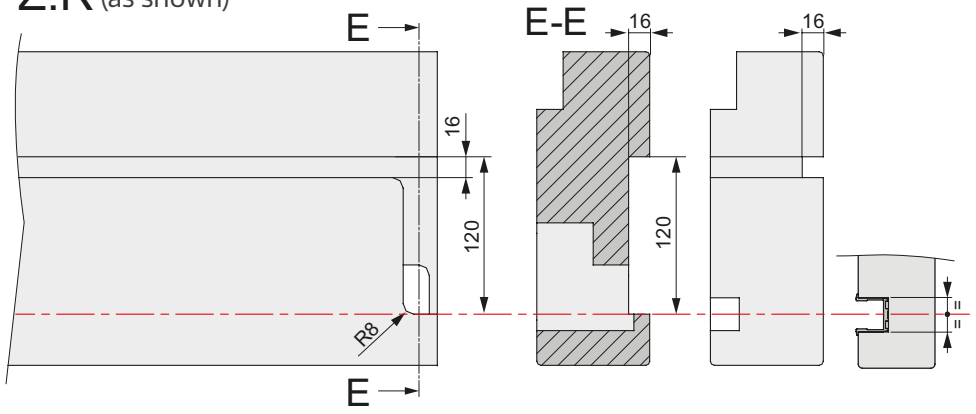
Y.L ⚠ The **other** way round

Y.R (as shown)

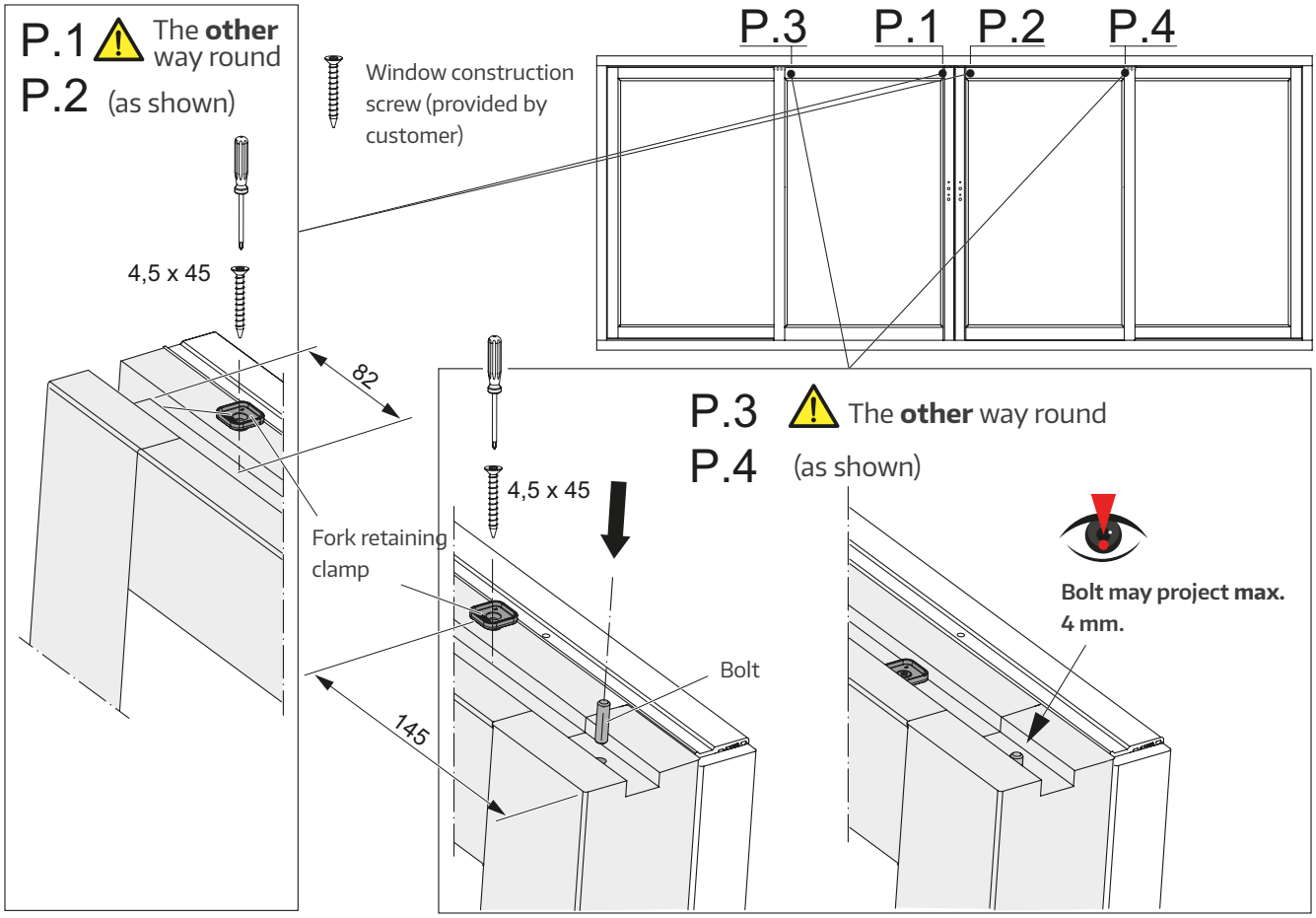


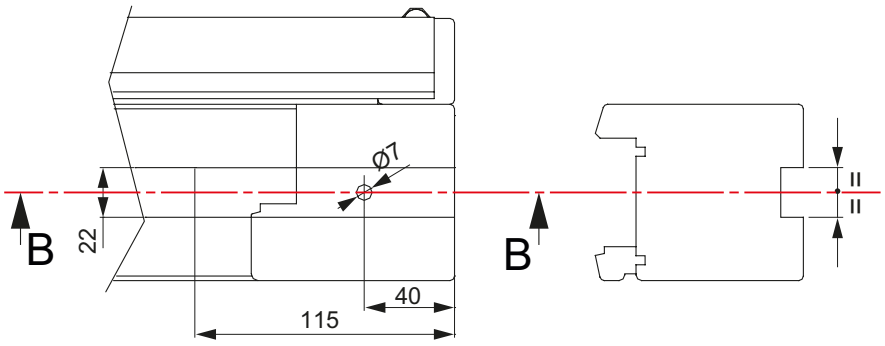
Z.L ⚠ The **other** way round

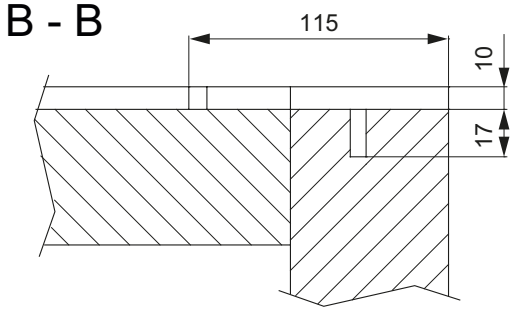
Z.R (as shown)



Preparing to install the top guide pieces

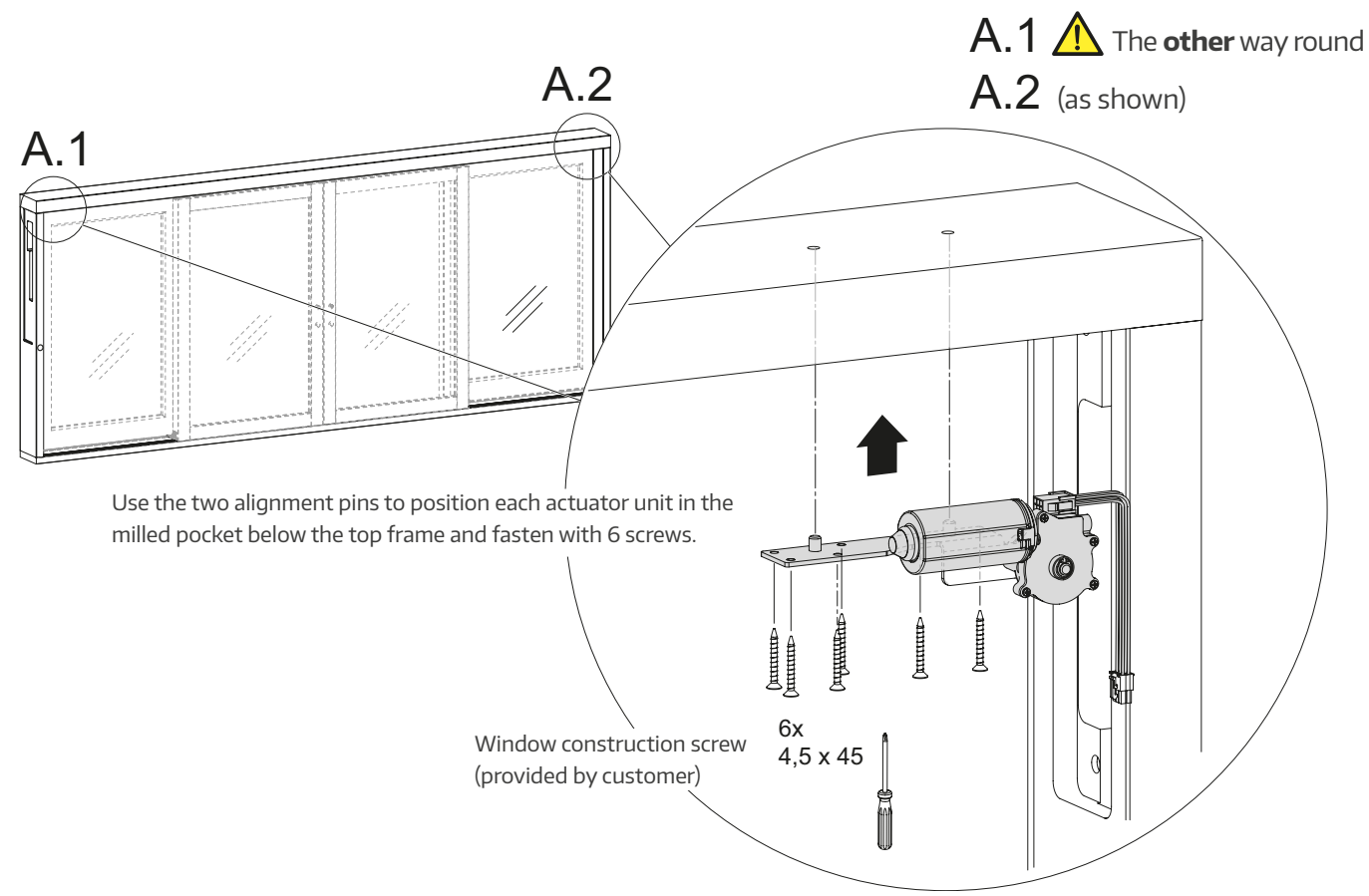






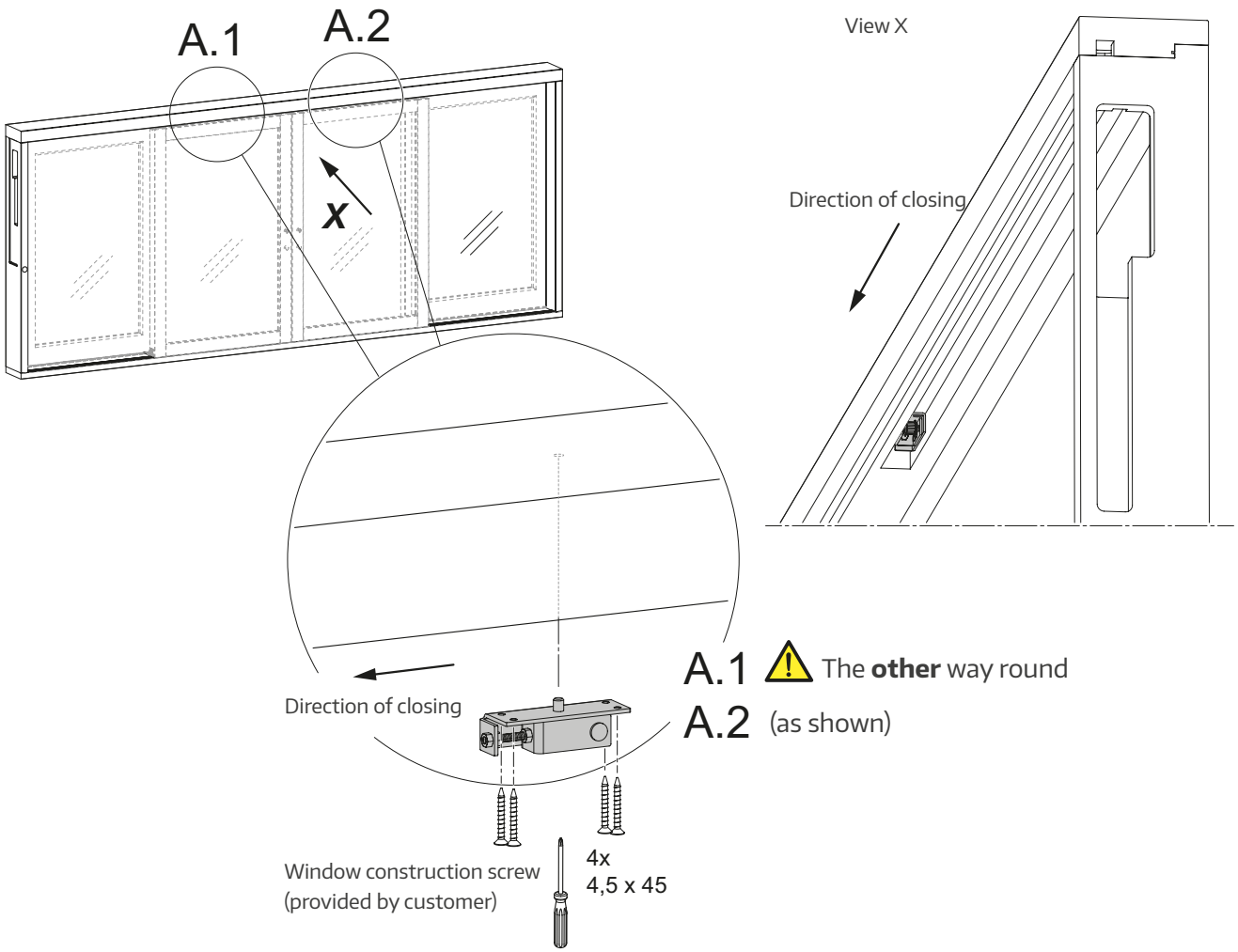
Installing the actuator units

It is recommended to fit it on the loose rod.



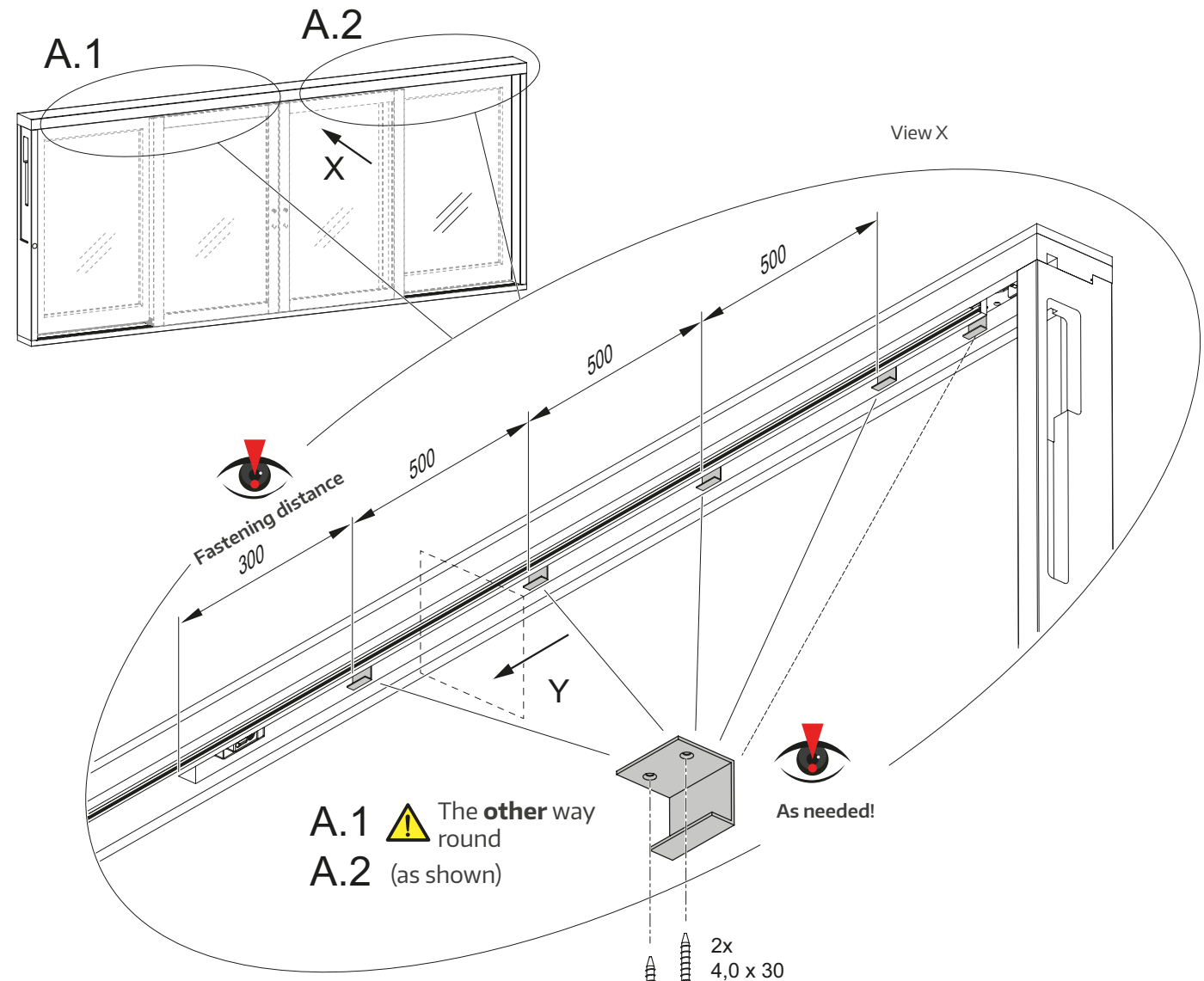
Fitting the toothed belt deflector

It is recommended to fit it on the loose rod.

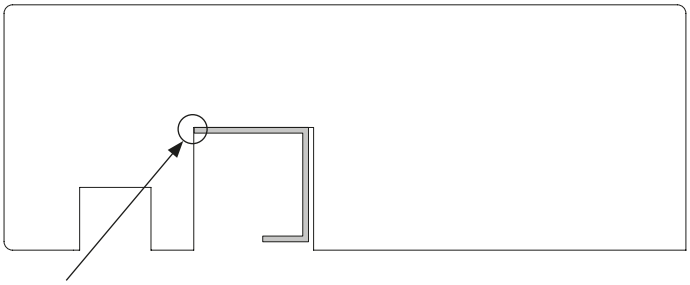


Fitting the cover strip mount

It is recommended to fit it on the loose rod.



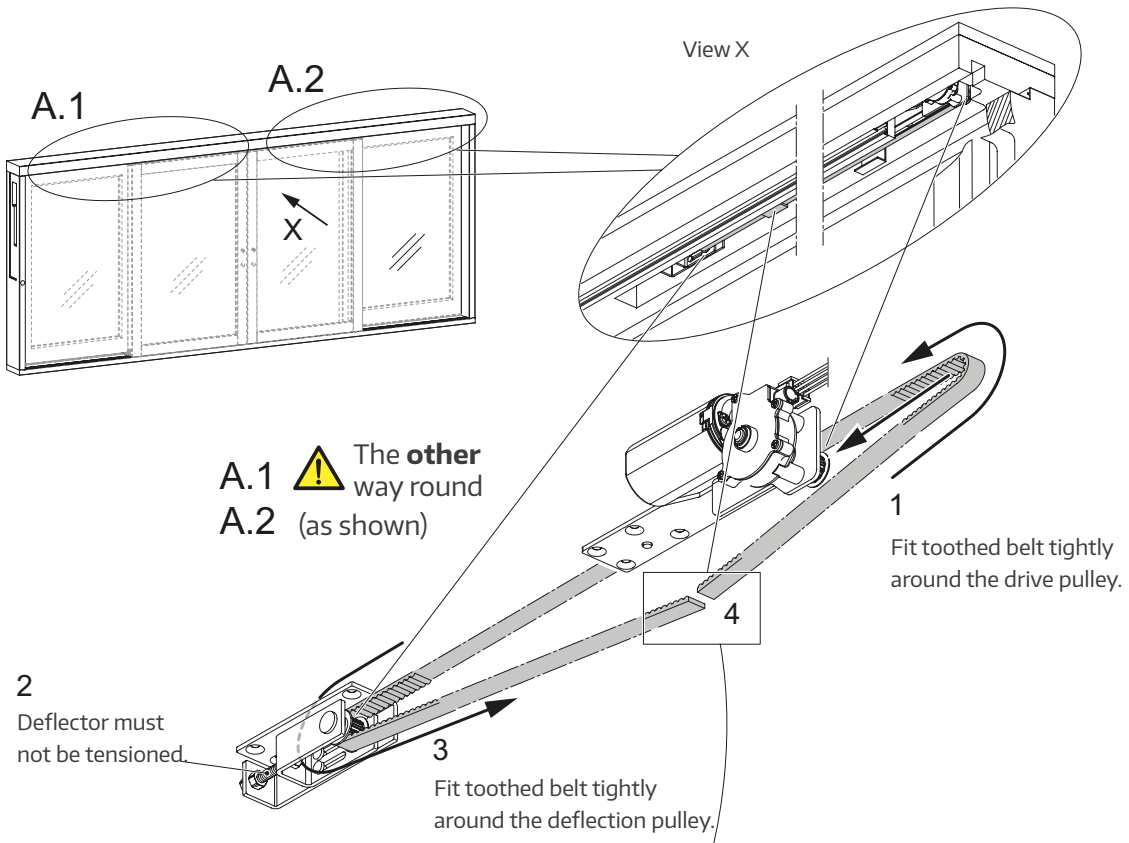
Cross-section Y (frame with cover strip mount only)



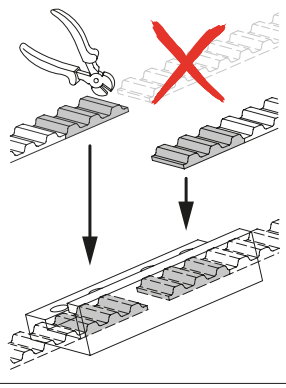
Butt joint

Fitting the toothed belt

The toothed belt should be fitted roughly halfway along the fixed section.
(See Connect cam with toothed belt)

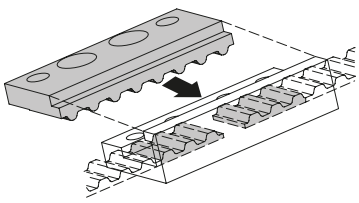


4.1
Trim toothed belt so that it can be fastened at both ends with **3 teeth** in the clamp on each side when tightened by hand.



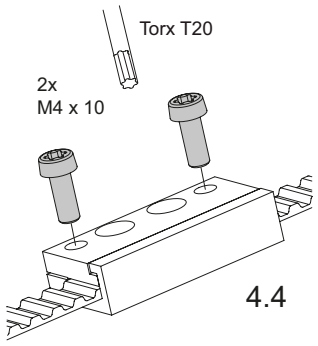
4.2
Position the top clamping plate on the lower clamping plate and the two ends of the toothed belt as shown.

Remove deflector to make it easier to connect the toothed belt.

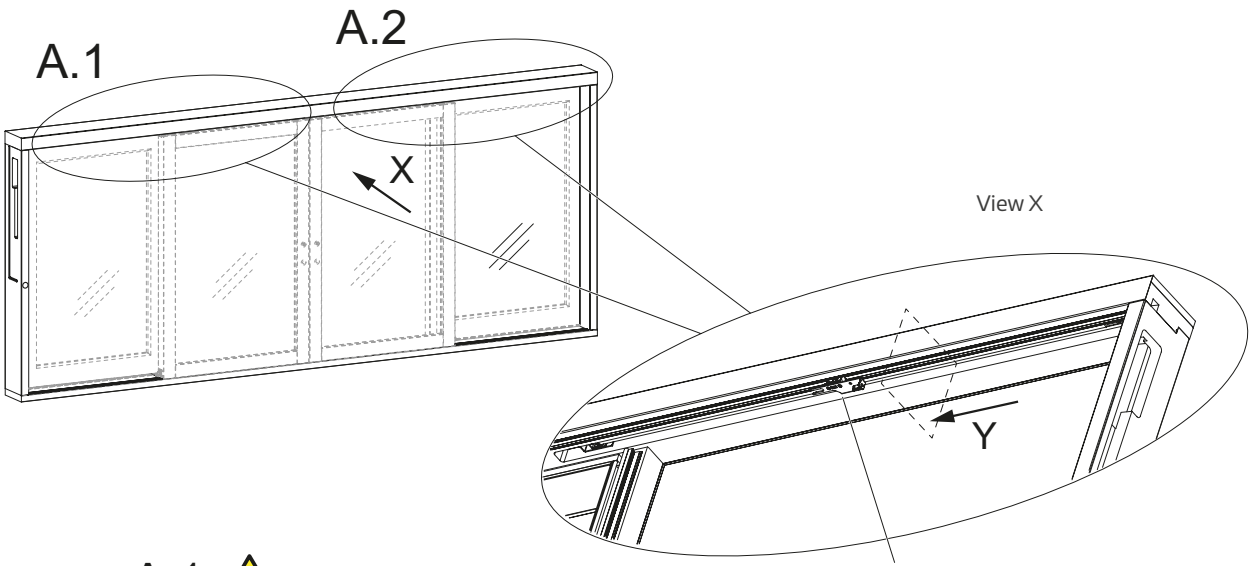


4.3
Fasten both clamping plates together with 2 M4 x 10 screws.

4.4
Mount the deflector again.

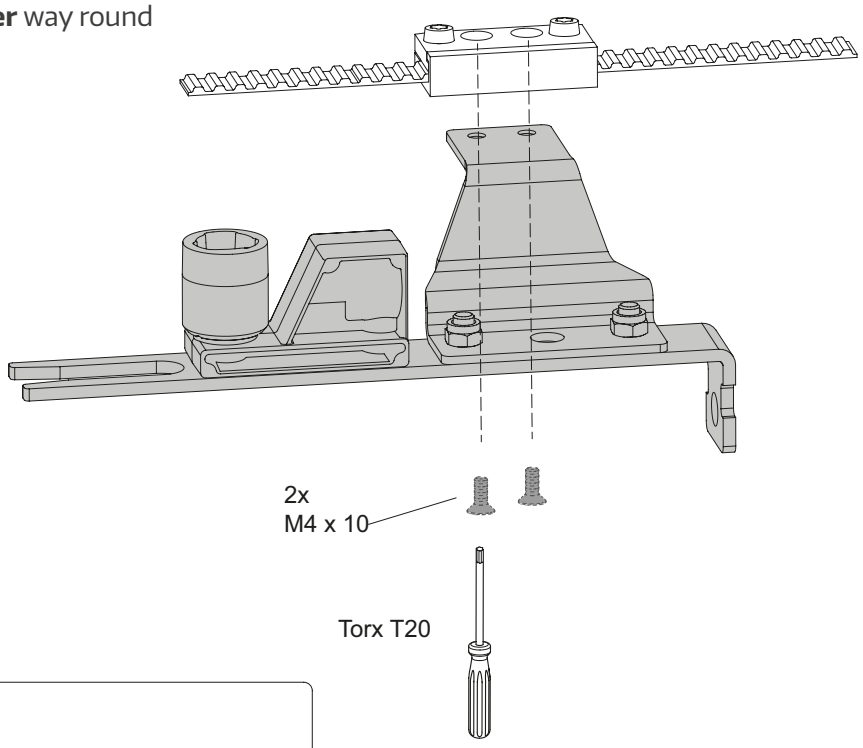


Connecting the cam with the toothed belt

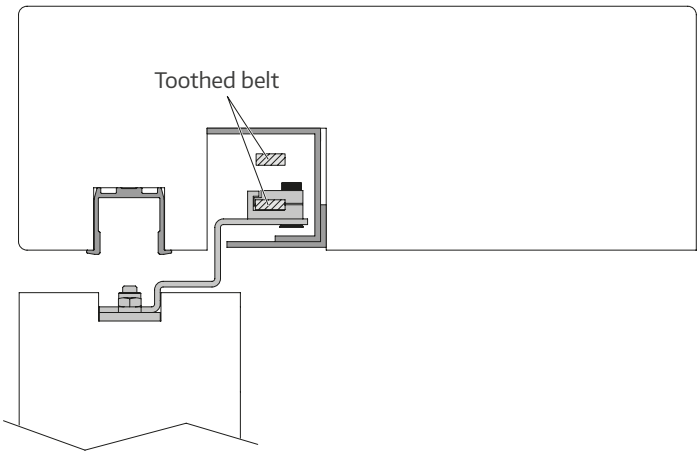


A.1 ⚠ The **other** way round

A.2 (as shown)



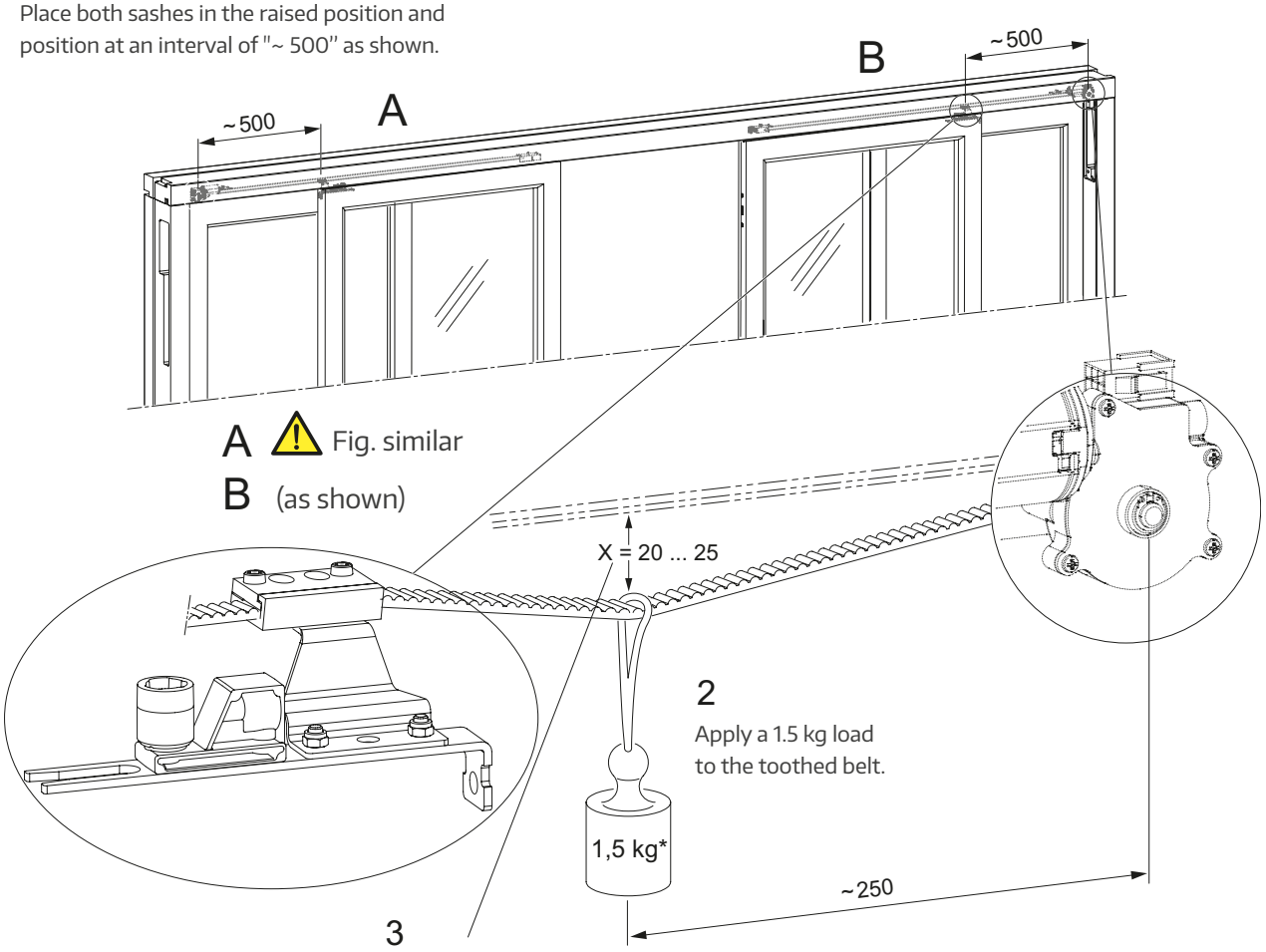
Cross-section Y



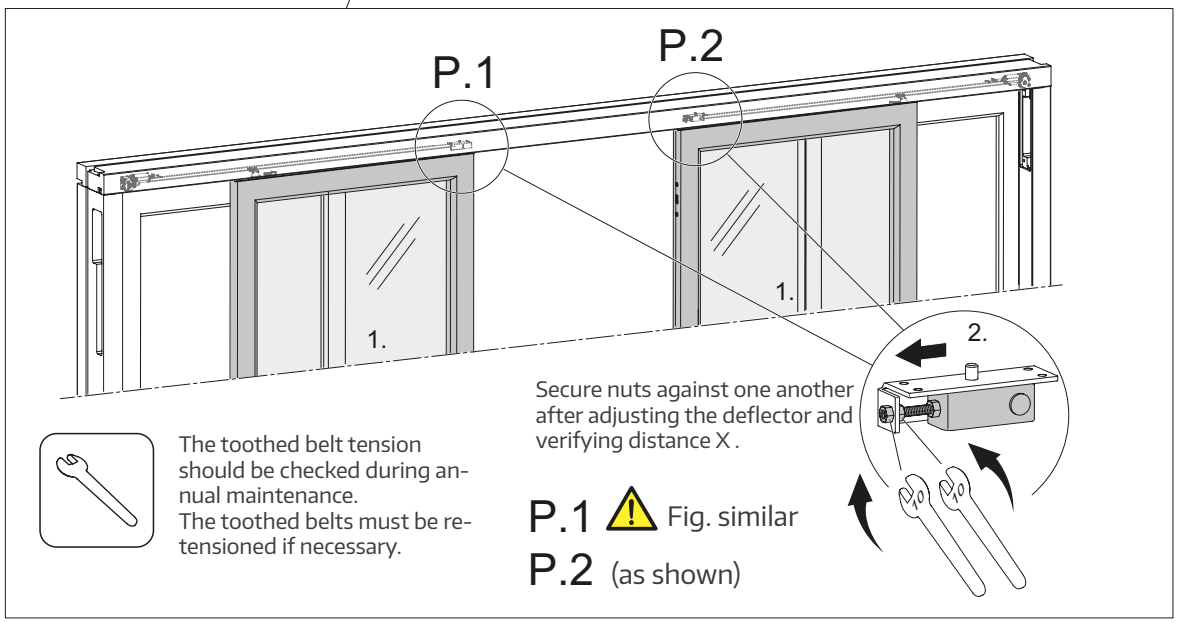
Adjusting the toothed belt tension

1

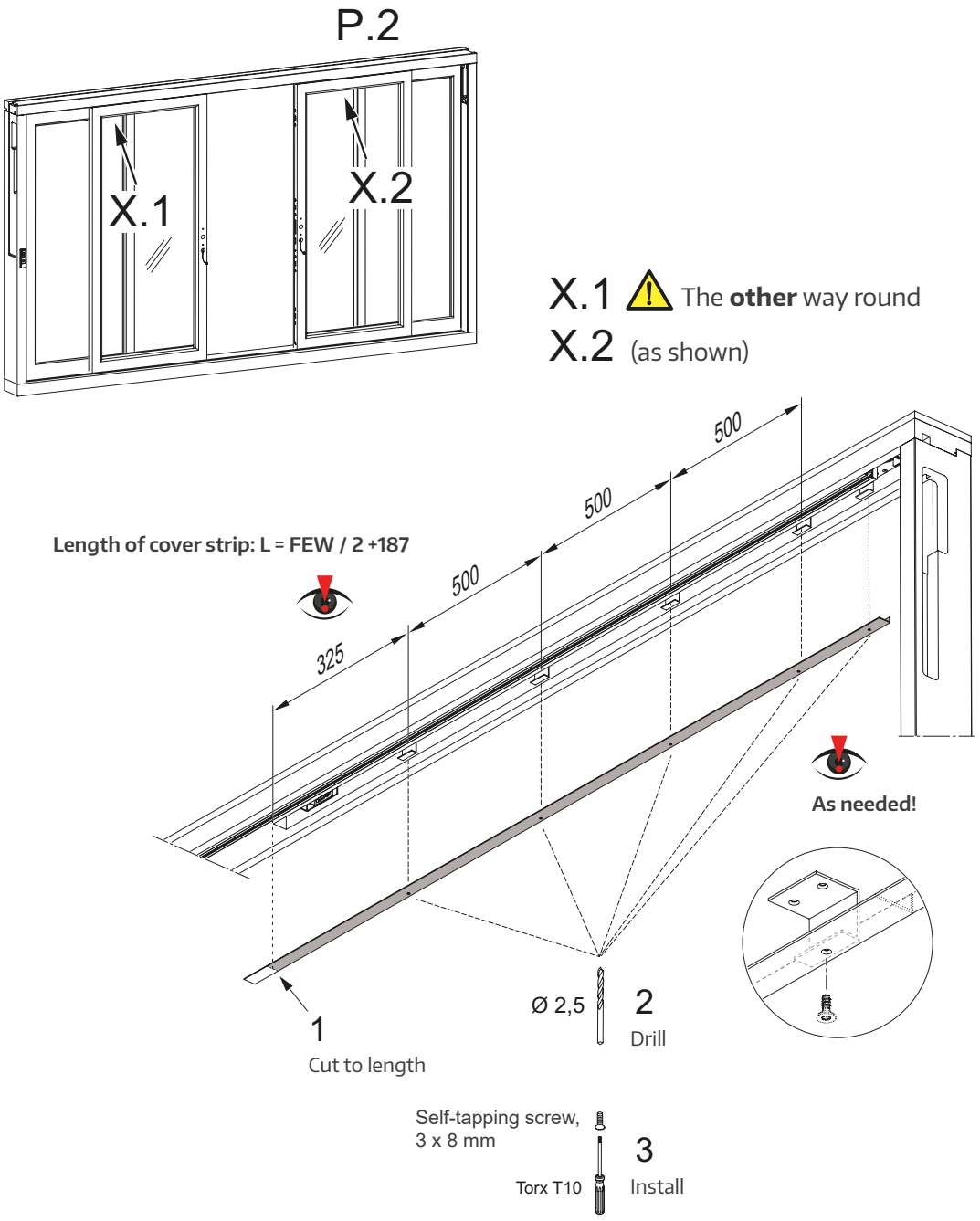
Place both sashes in the raised position and position at an interval of "~ 500" as shown.



*) Not included in the delivery.

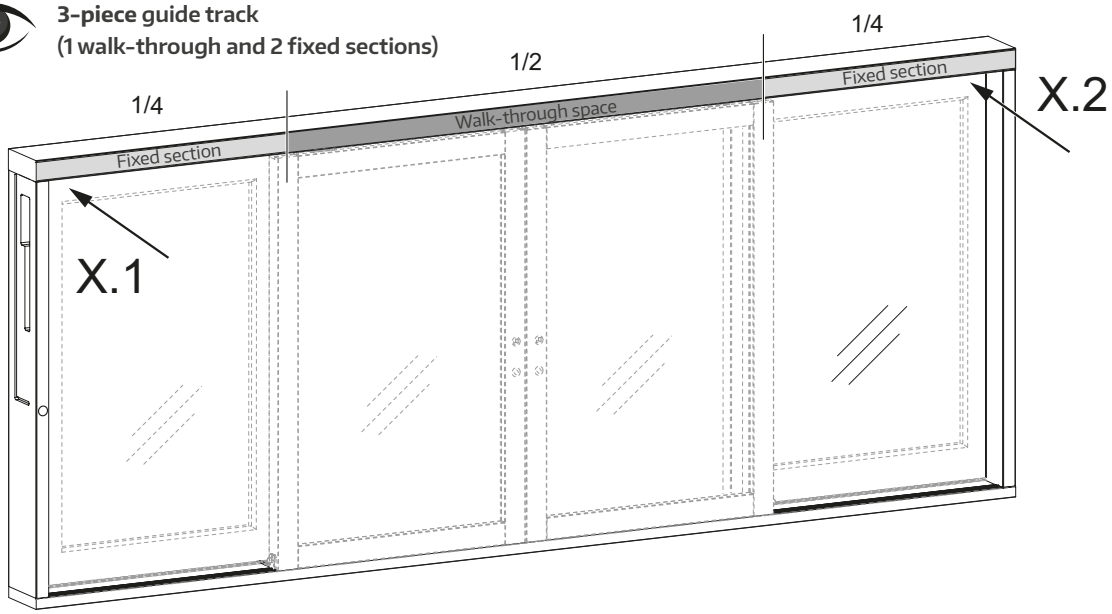


Fitting the cover strip



Fitting the guide track

3-piece guide track
(1 walk-through and 2 fixed sections)

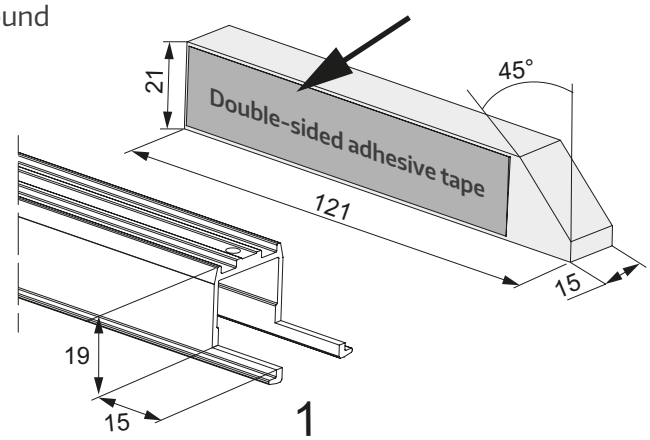


View X

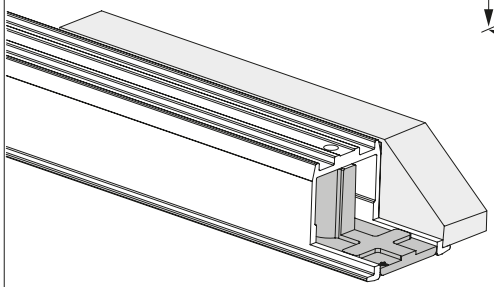
X.1 ⚠ The **other** way round

X.2 (as shown)

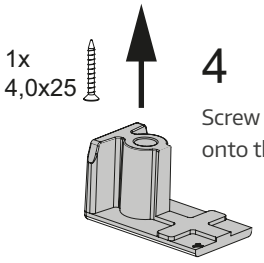
2 Attach double-sided adhesive tape on the wooden block.



1 Cut a notch in the guide track.

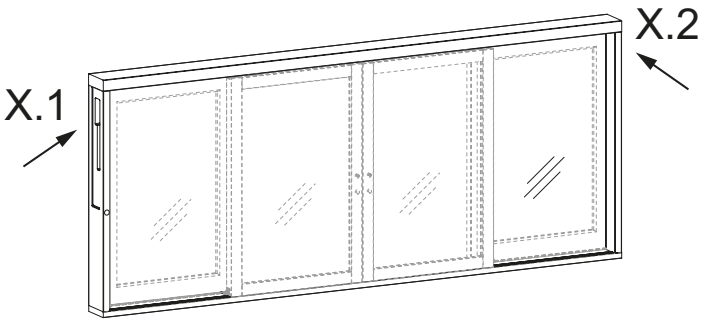


3 Adhere to guide track.



4 Screw stop bracket onto the guide track.

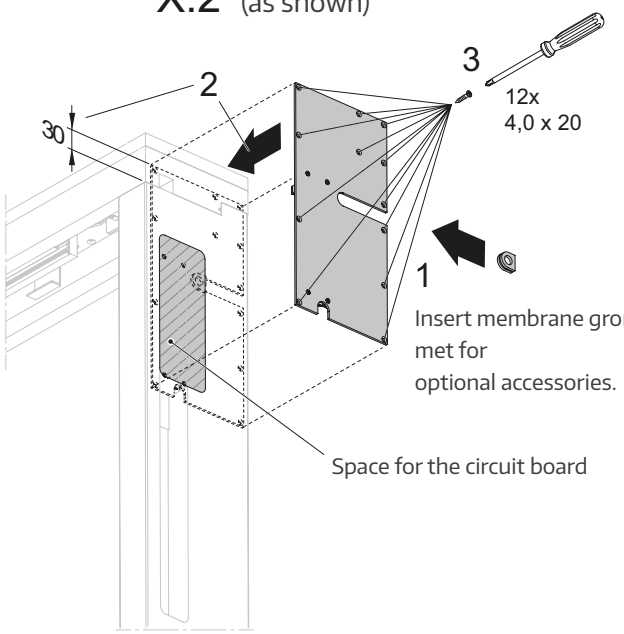
Fitting the circuit board

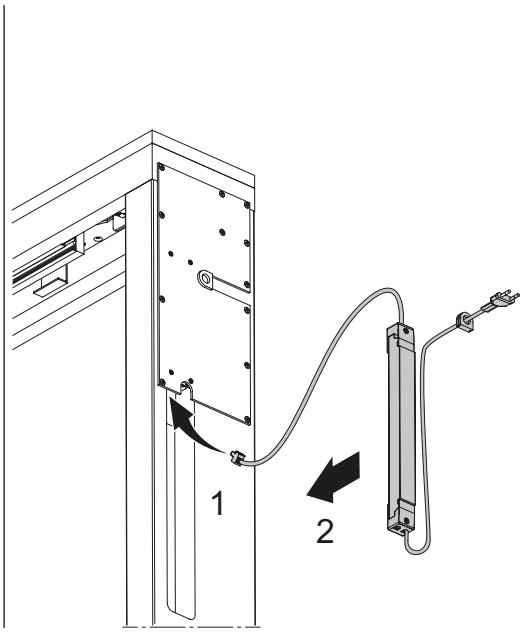


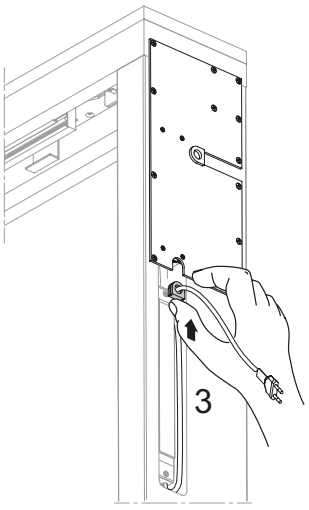
View X

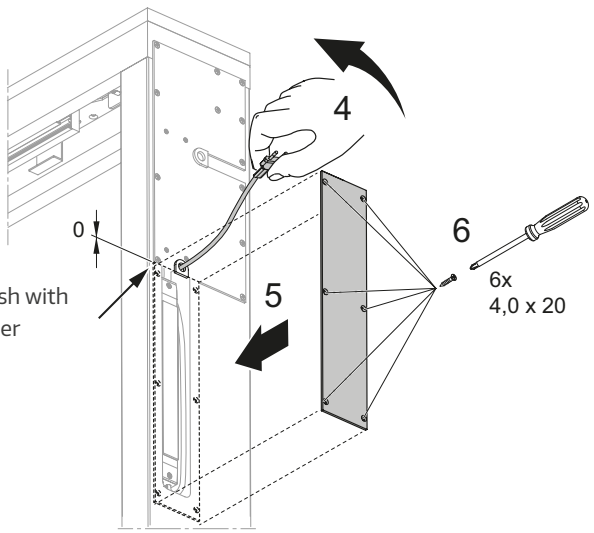
X.1 ⚠ The **other** way round

X.2 (as shown)

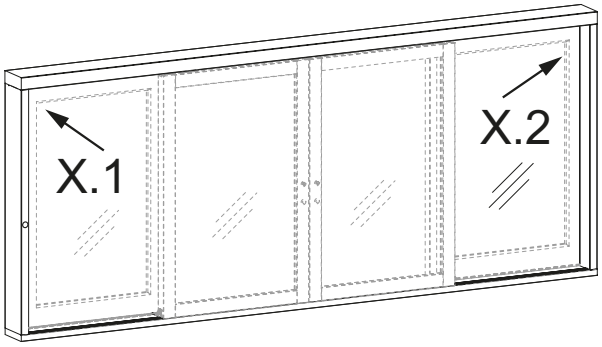


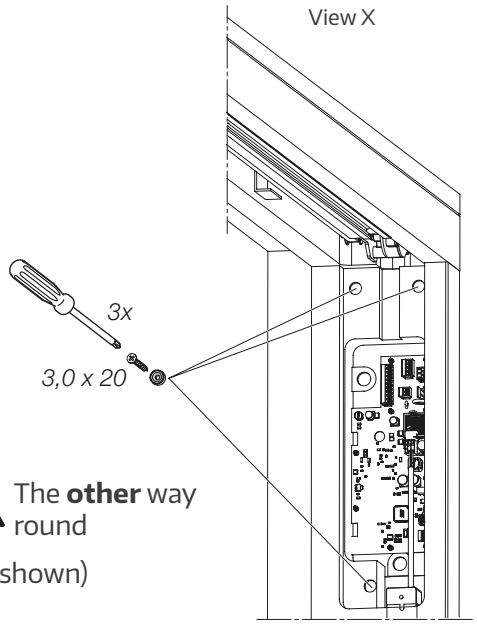






Fitting the magnets

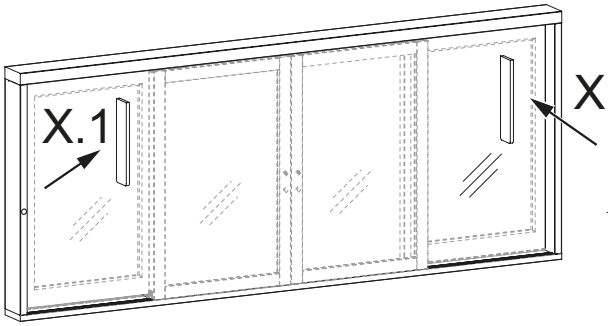


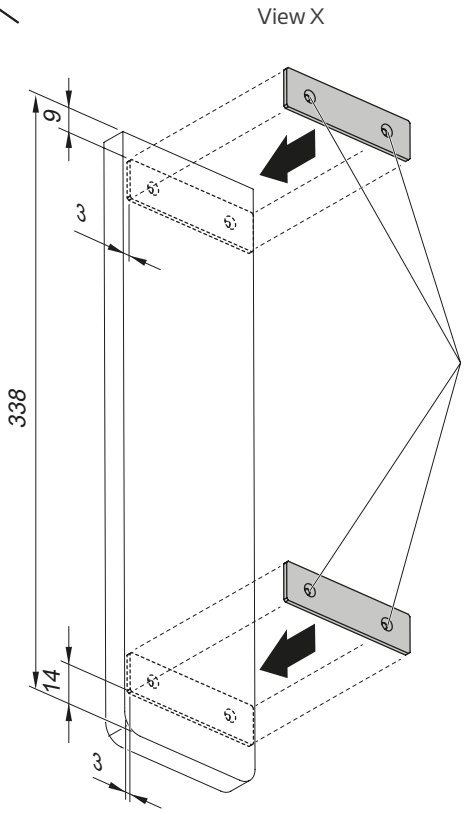


X.1 ⚠ The **other** way round

X.2 (as shown)

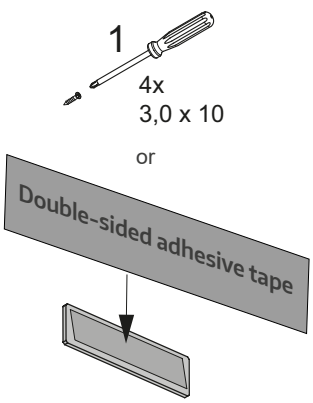
Fitting the retaining plates on the cover





X.1 ⚠ The **other** way round

X.2 (as shown)



Cable routing options

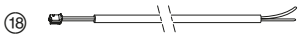
The cables must be attached in such a way that they do not come into contact with moving parts. The holes drilled for cable routing must be carefully deburred.

Risk of material damage.

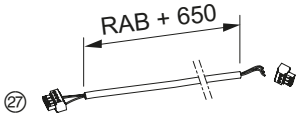
Do not fasten the cable to the frame. Use the cut-outs or empty conduits in the reveal instead (not included in the scope of delivery).

Cable installation in cut-outs, empty conduits or cable conduit (latter for cables on sash only)

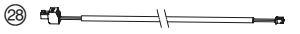
Cable on the control keypad



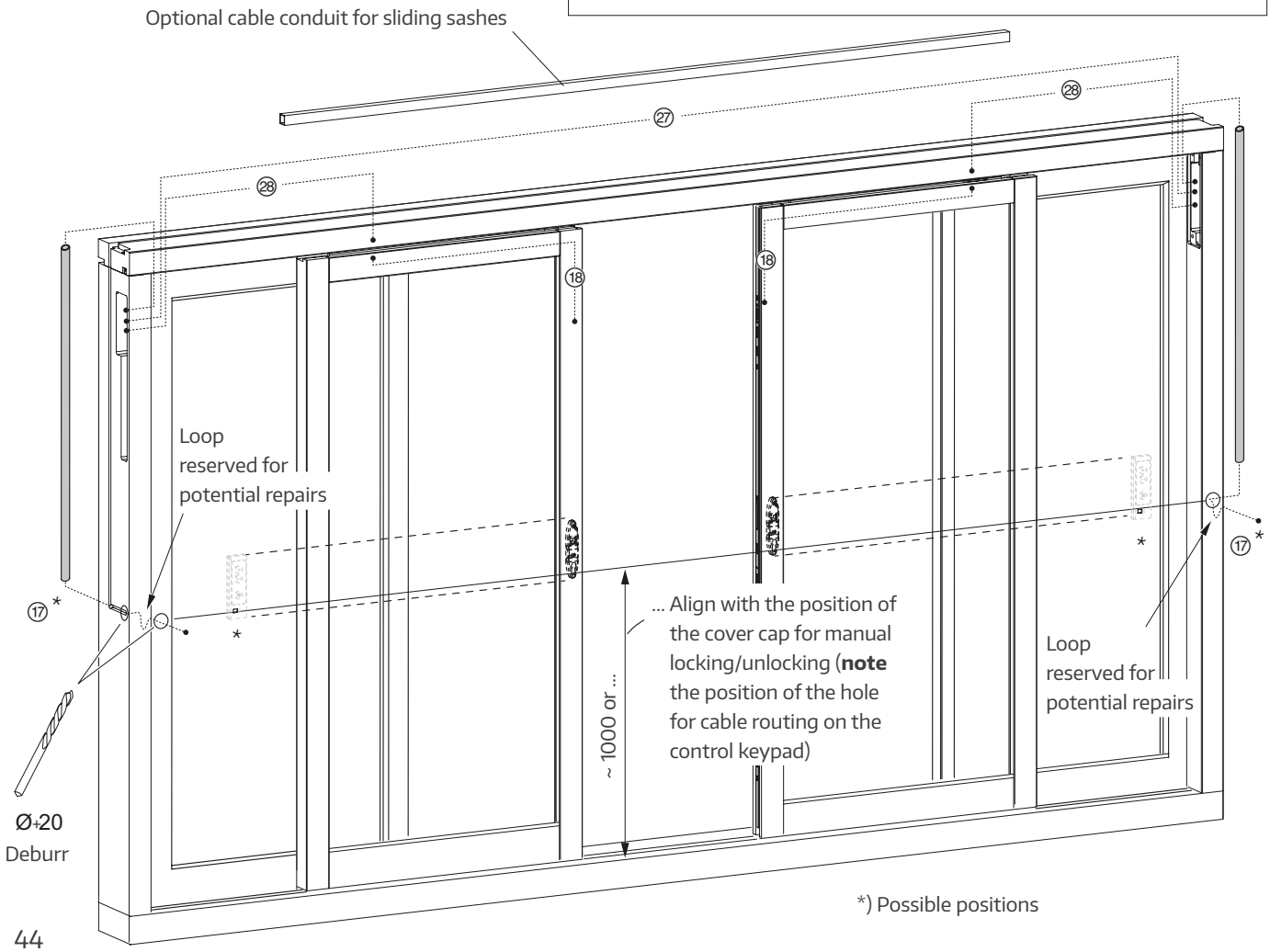
Cable for lift actuator/power transfer component



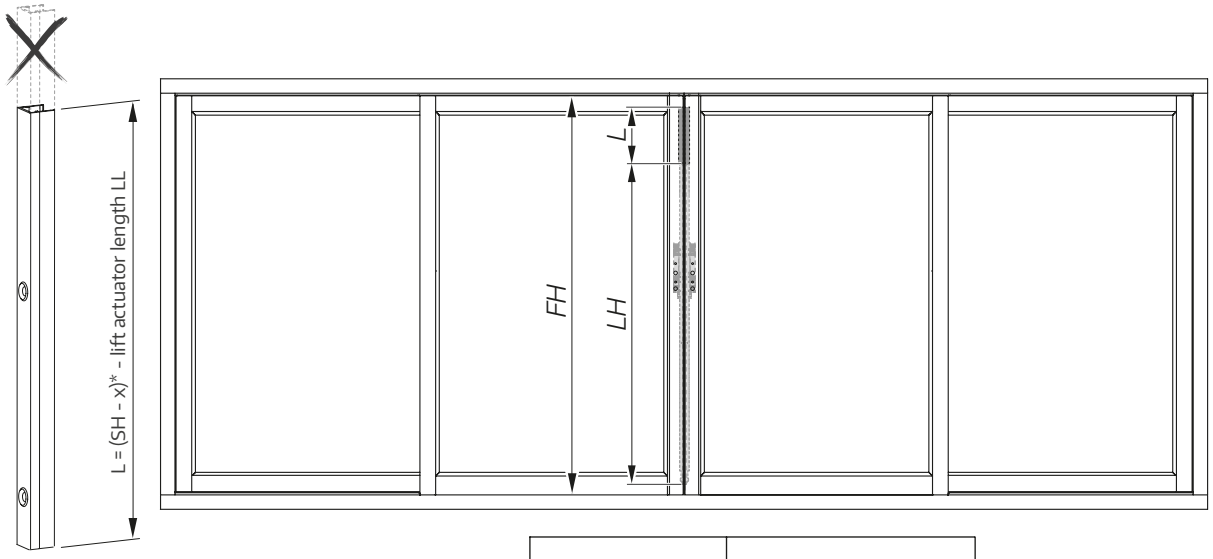
Circuit board connection cable



Cable for contact transfer



For bolt/inviso espag: cutting the trim profile to size



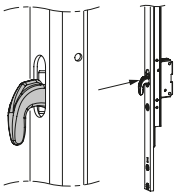
	Lift actuator length LL
Size 210	1625
Size 240	1925
Size 270	2225

* See profile-related installation instructions

Installing the lift actuator, trim profile and power transfer component

Condition on delivery:
Sash lowered motor position

Latch espag



Bolt/inviso espag

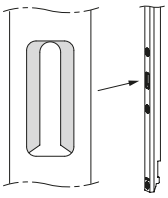
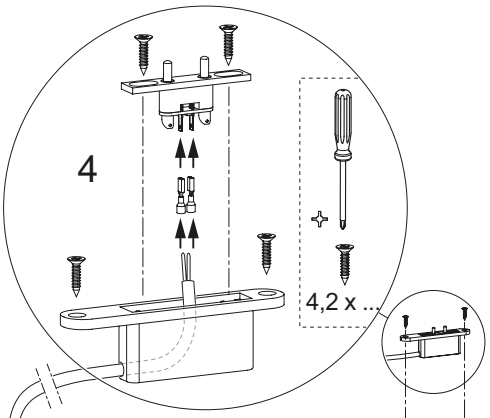


Fig.: Sash opening to the right with bolt espag; processing on the sash opening to the left and with other espag types as required

Fitting on the horizontally positioned sash



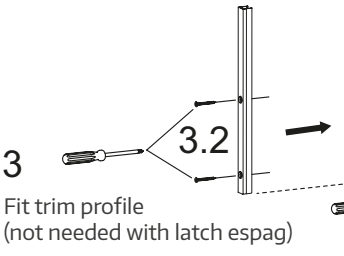
2

Connect cable for power transfer component to lift actuator
(with loop as a backup for any repairs)

Attach cable or route through the optional cable conduit.

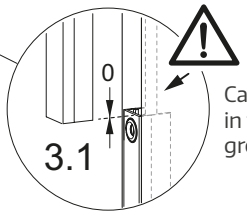
CAUTION:
If the cable is damaged during installation, there is a risk of electric shock.

See separate milling drawing for cut-out for power transfer component



3

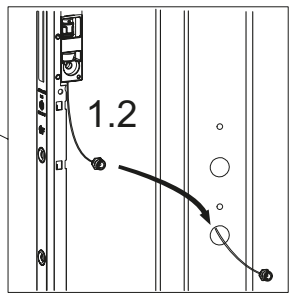
Fit trim profile
(not needed with latch espag)

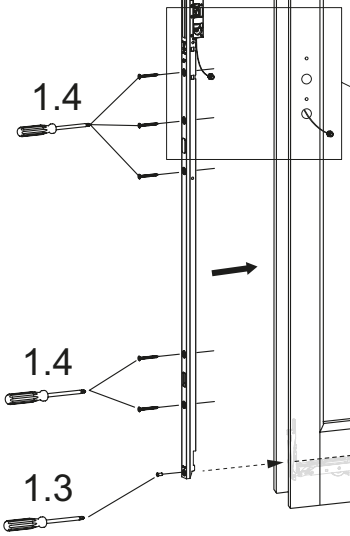


Cable routing in the profile groove

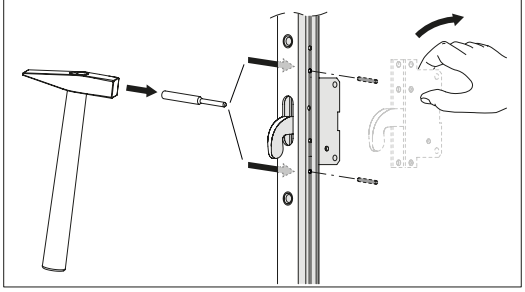
1

Fit lift actuator
(shown as an example: bolt espag)

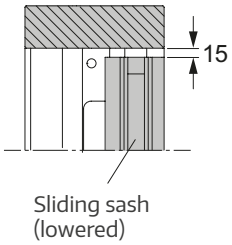




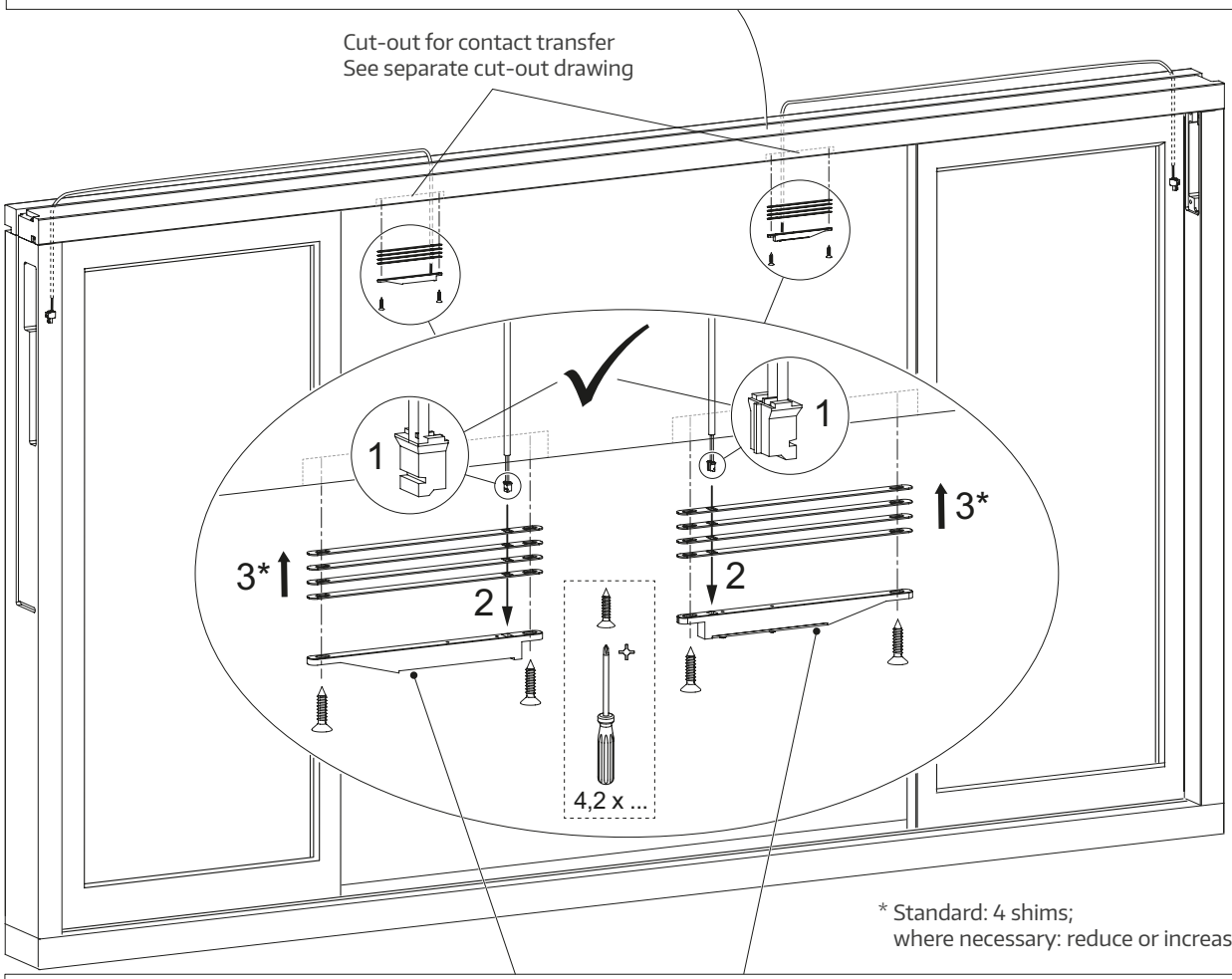
1.1 If you use the latch espag on the fixed sash, detach the latch cases



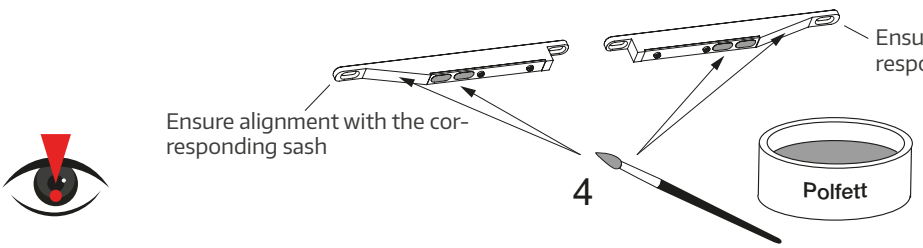
Fitting the contact transfer



CAUTION:
The distance from the sliding sash to the frame at the top must be 15 mm when in the lowered position. If less than 15 mm, this may cause material damage. To prevent this, one or more shim plates must be removed depending on the deviation from 15 mm. If 15 mm is exceeded, the contact transfer must be supported with additional shim plates accordingly.



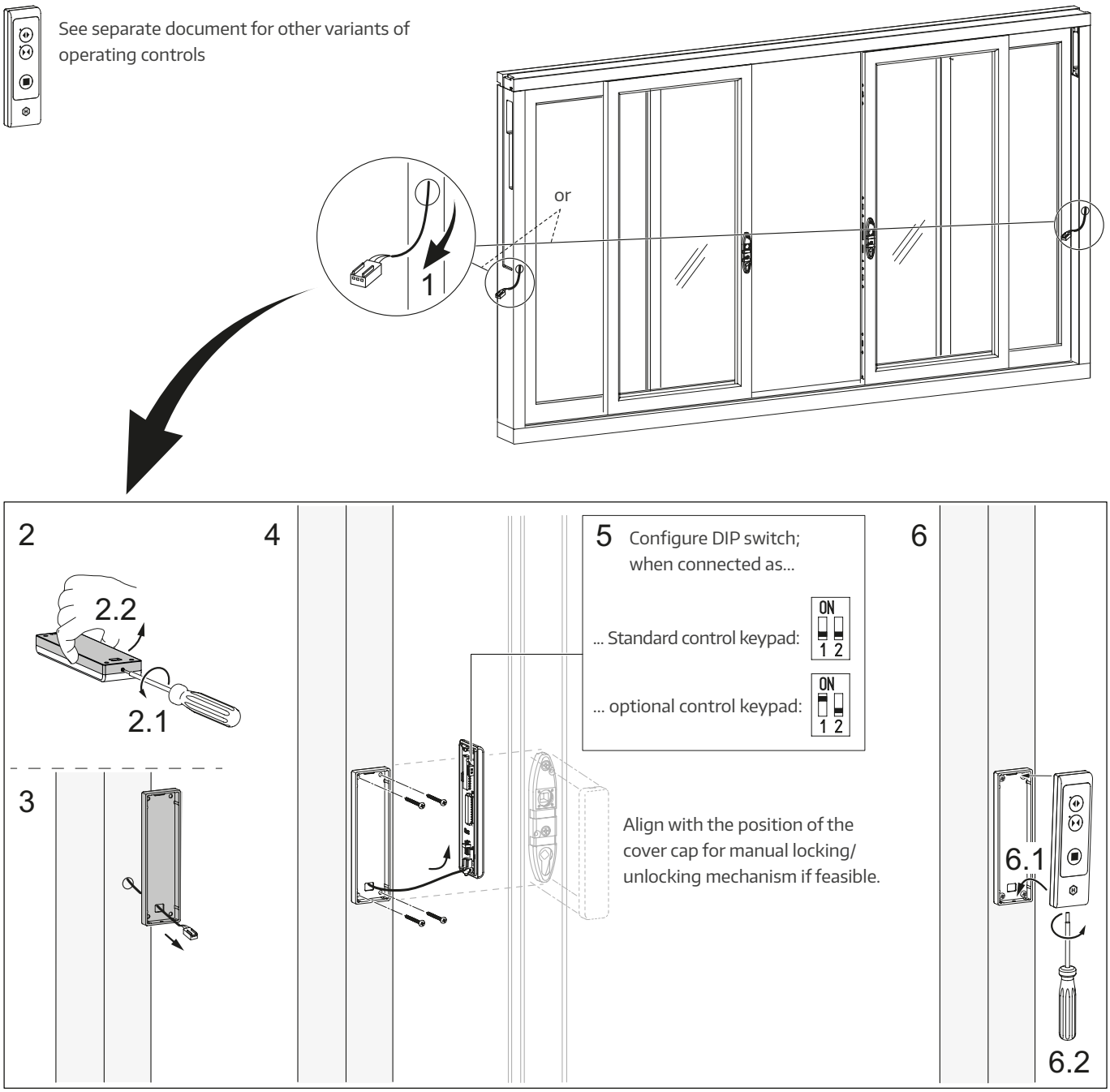
* Standard: 4 shims;
where necessary: reduce or increase number



NOTE:
Before commissioning, both contact circuit boards and the slanted surfaces on the contact transfer must be coated with battery terminal grease.
This should also be done during the annual maintenance after prior cleaning.

Fitting the control keypad

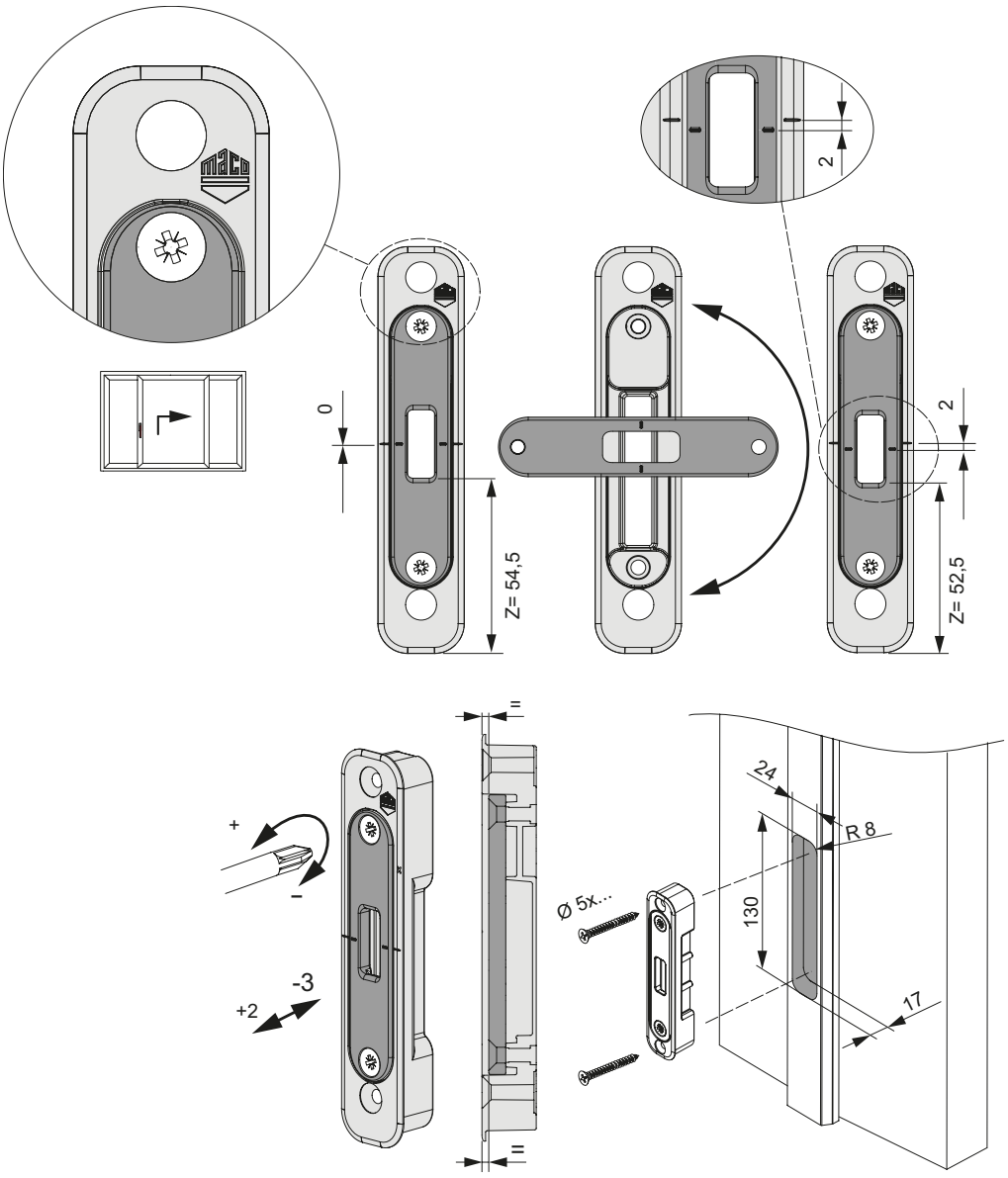
See separate document for other variants of operating controls



Fitting the locking parts

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.



In the case of bolt/inviso espag: see section Locking parts positions

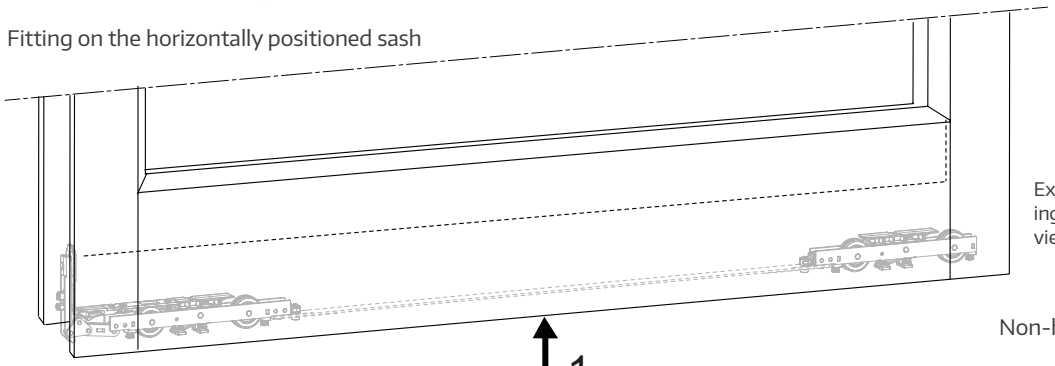
Bogie installation

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;

siehe auch profilbezogene Montageanleitung
Refer to profile-based installation instructions

also see Parts overview ➔ Bogie variants

Fitting on the horizontally positioned sash

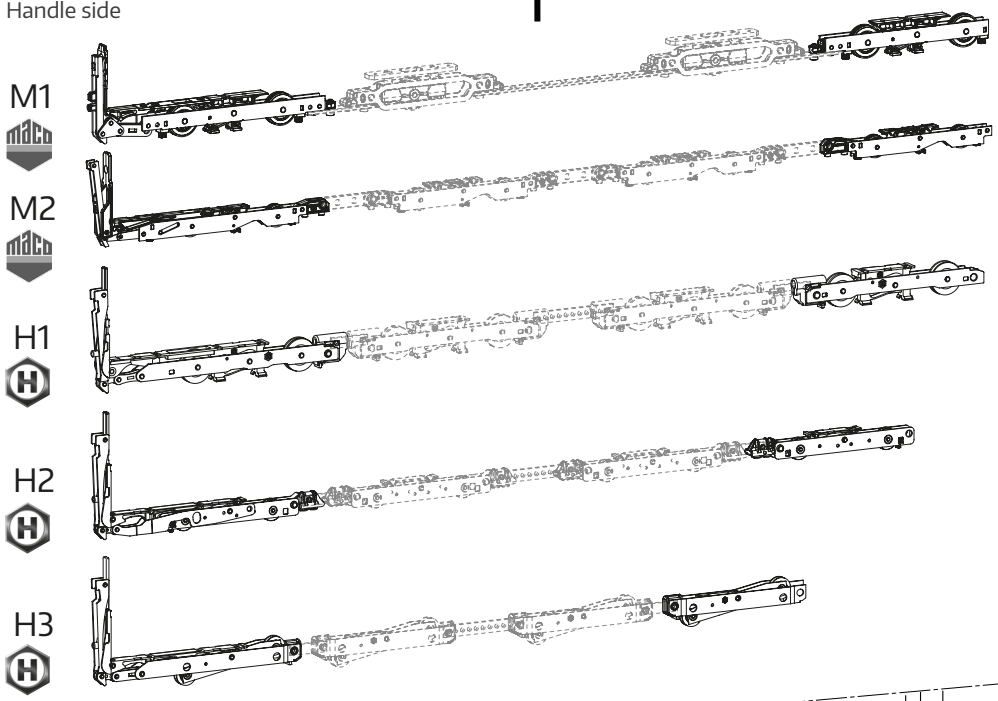


Example: Sliding sash opening from right to left, view from inside

Non-handle side

1

Handle side



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.

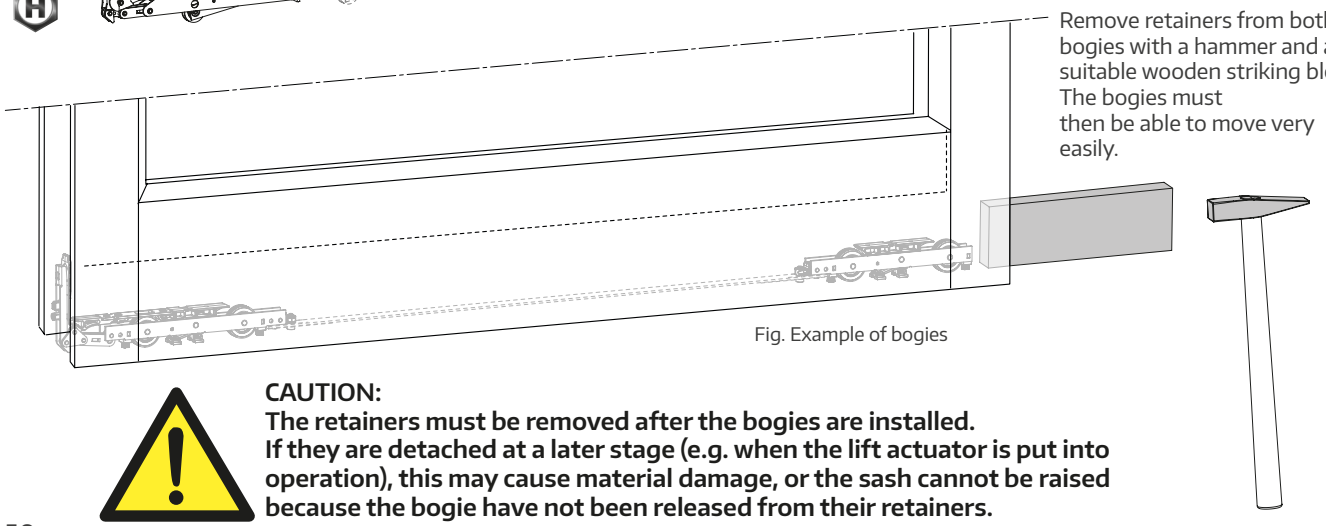


Fig. Example of bogies

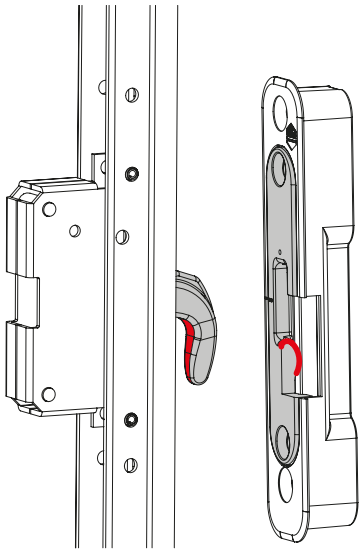
CAUTION:
The retainers must be removed after the bogies are installed. If they are detached at a later stage (e.g. when the lift actuator is put into operation), this may cause material damage, or the sash cannot be raised because the bogie have not been released from their retainers.

Greasing locking parts

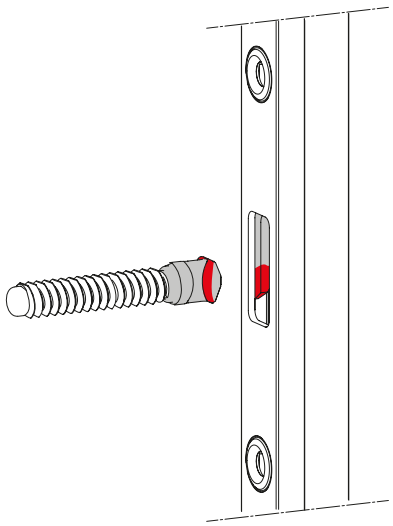
IMPORTANT:
You **must grease** the latches and latch locking mechanisms (inner side) before initial operation.

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

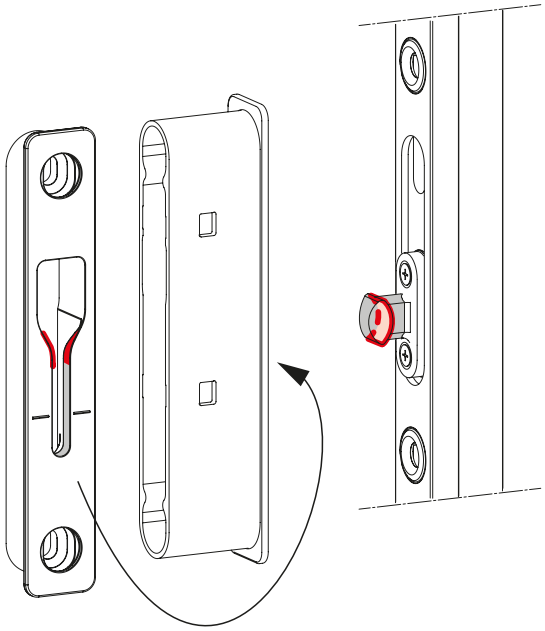
For latch espag



For bolt espag



For inviso espag



Installing the sash

Overview

WARNING

You **must** follow this order. You may otherwise cause material damage.

Insert sash

↓

Placing sash in raised position

↓

Prepare for test run:

Test displacement force of max. 150 N on glazed sash

Cam must not be fitted.

↓

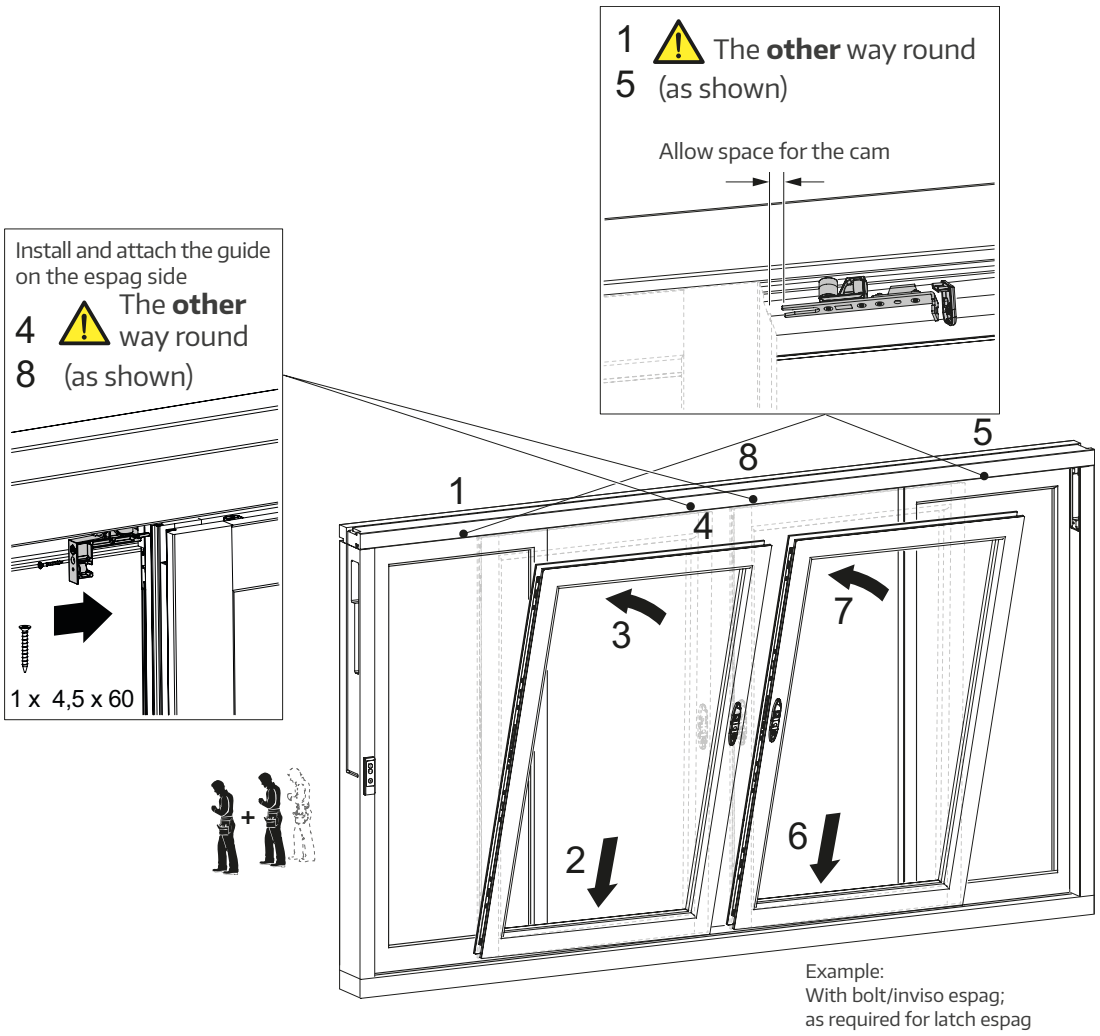
If OK:

Fasten the sliding sash (Connect cam to sash)

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.

See following page for details.

Insert sash

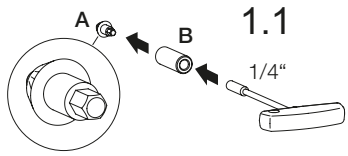

1
5
The **other** way round
(as shown)
Allow space for the cam
Install and attach the guide on the espag side
4
8
The **other** way round
(as shown)
1 x 4,5 x 60
1
8
5
4
3
7
2
6
Example:
With bolt/inviso espag;
as required for latch espag

Placing sash in raised position

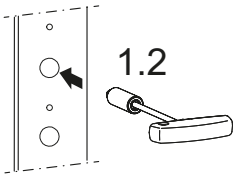
MECHANICAL lifting of the sash/lift actuator (**without** service/initial operation switch)

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.**

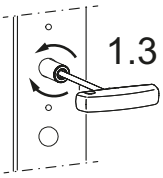
1. Fit the sprocket emergency unlocking device with the guide on the espag



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

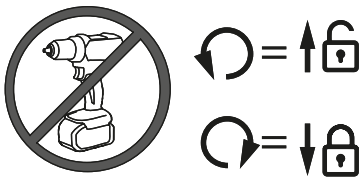


Insert 1/4" socket wrench, sprocket and guide (sleeve) into the handle hole.

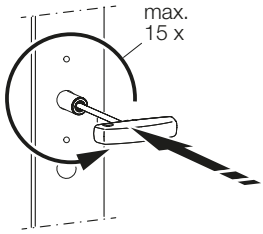


IMPORTANT:
The socket must be fully inserted.
To ensure this is the case, gently turn it back and forth (right/left). The emergency unlocking device has engaged as soon as you feel resistance and hear a whirring sound.

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.

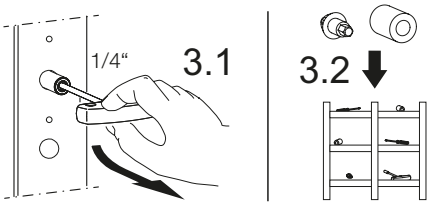
3. Detach guide (sleeve) and emergency unlocking device socket

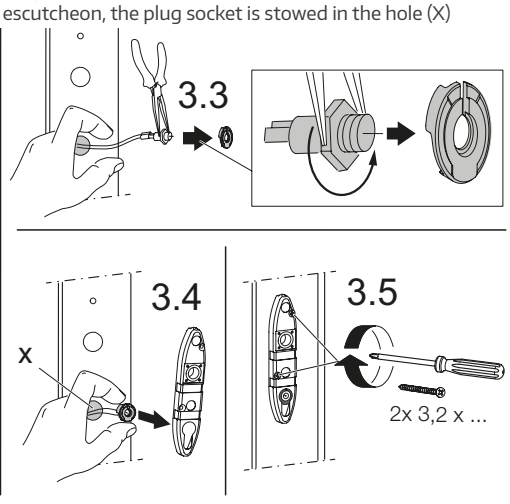
IMPORTANT
After lifting the sash, you must remove the guide (sleeve) and the socket from the sash.
If you do not, you may damage the lift actuator or the emergency unlocking mechanism.

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.

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

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





4. Repeat steps 1 to 3 on the other lift actuator and carry out initialisation:
Perform Initial operation (Full Init); wiring needs to be complete in the structure to do this.

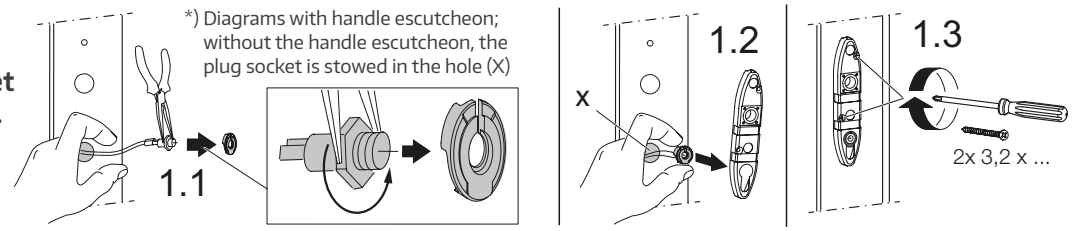
Placing sash in raised position (contd.)

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

1. Fit plug socket for initial operation switch

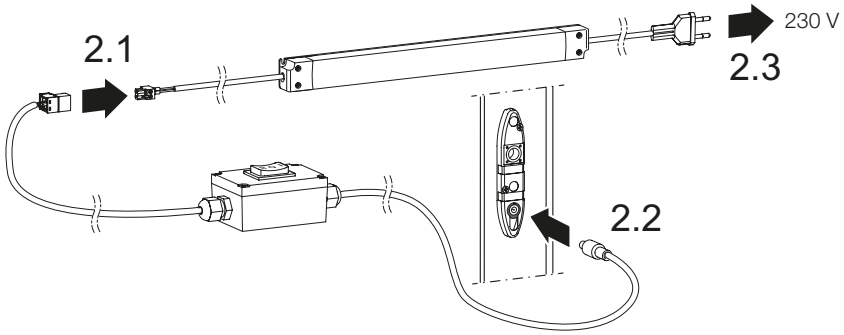
Insert the plug socket for the initial operation switch into the plastic holder* and fasten it tight using needle-nose pliers (or similar tool). Fit the plastic holder with the plug socket into the handle escutcheon, stow the cables in hole (X) and screw on the handle escutcheon.

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



2. Connect initial operation switch

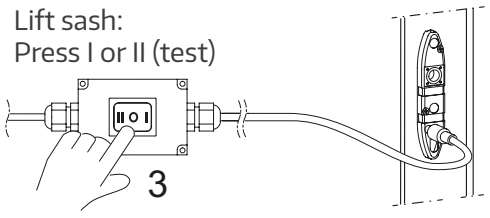
Connect initial operation switch with the power supply unit. Insert plug into the plug socket in the handle escutcheon and connect the 230 V power supply unit.



3. Lift sash

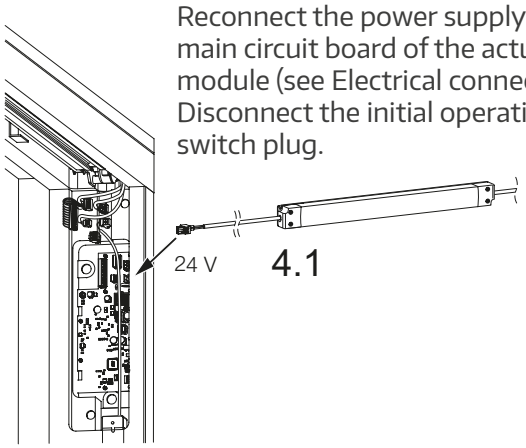
Sash must be built into the panel and everything must be screwed/fastened into place.
If the toothed belt is already fitted, you must ensure that it is not fastened to the cam.
Use the initial operation switch to lift the sash.

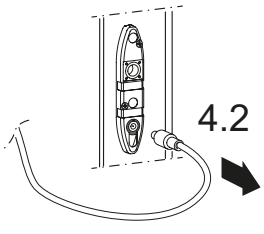
Lift sash:
Press I or II (test)



4. Finish lifting the sash

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



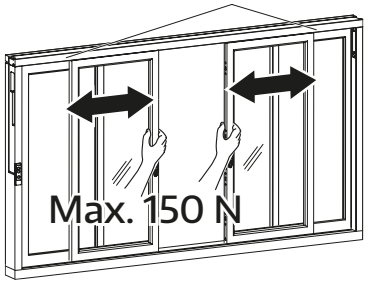


Preparing for test run

IMPORTANT INSTRUCTIONS

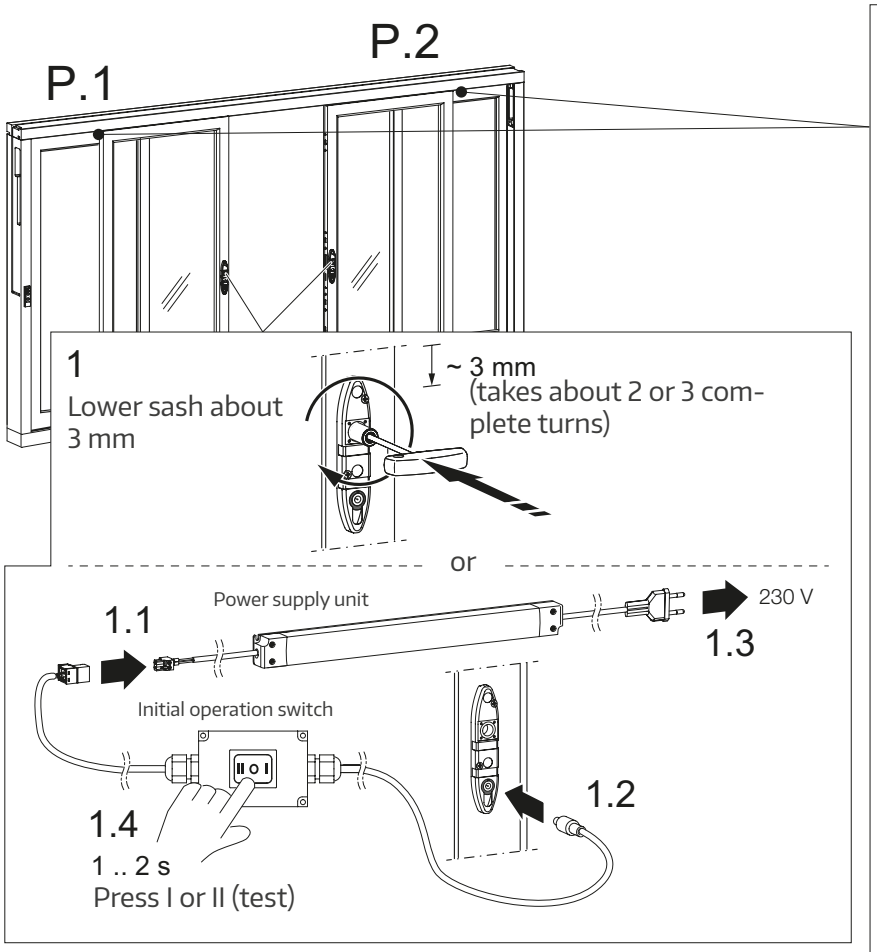
The sliding sashes must be in the lifted position and glazed.

The cam is **not** fitted on the sliding sash.



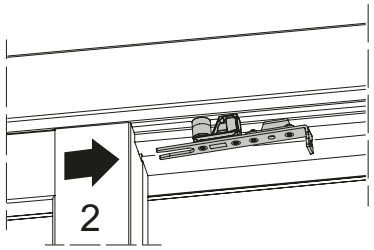
Sliding sash Check the sash moves freely (mechanical operating force: max. 150 N)

Fastening the sliding sash (connect cam to sash)



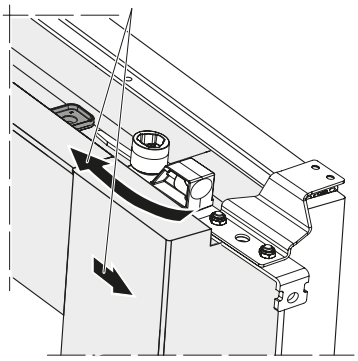
P.1 ⚠ The **other** way round

P.2 (as shown)

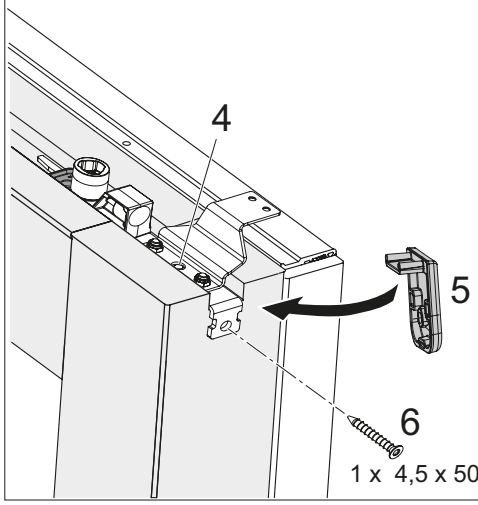


3

Push the cam fork under the cam mount fork retaining clamp;move the sash if necessary

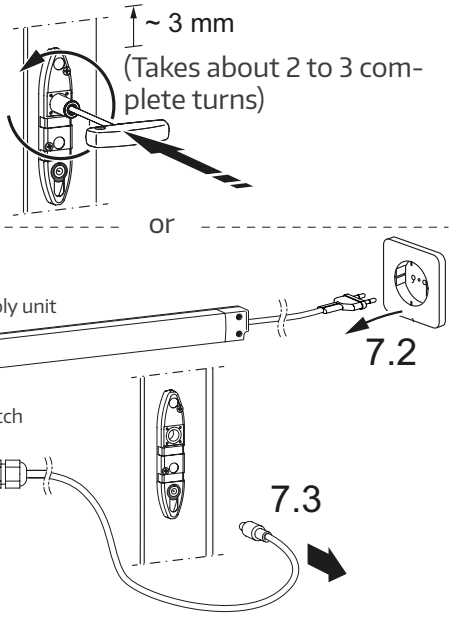


Secure cam position using the bolt (4), attach the cover (5) and screw cam firmly onto the sash (6)



7

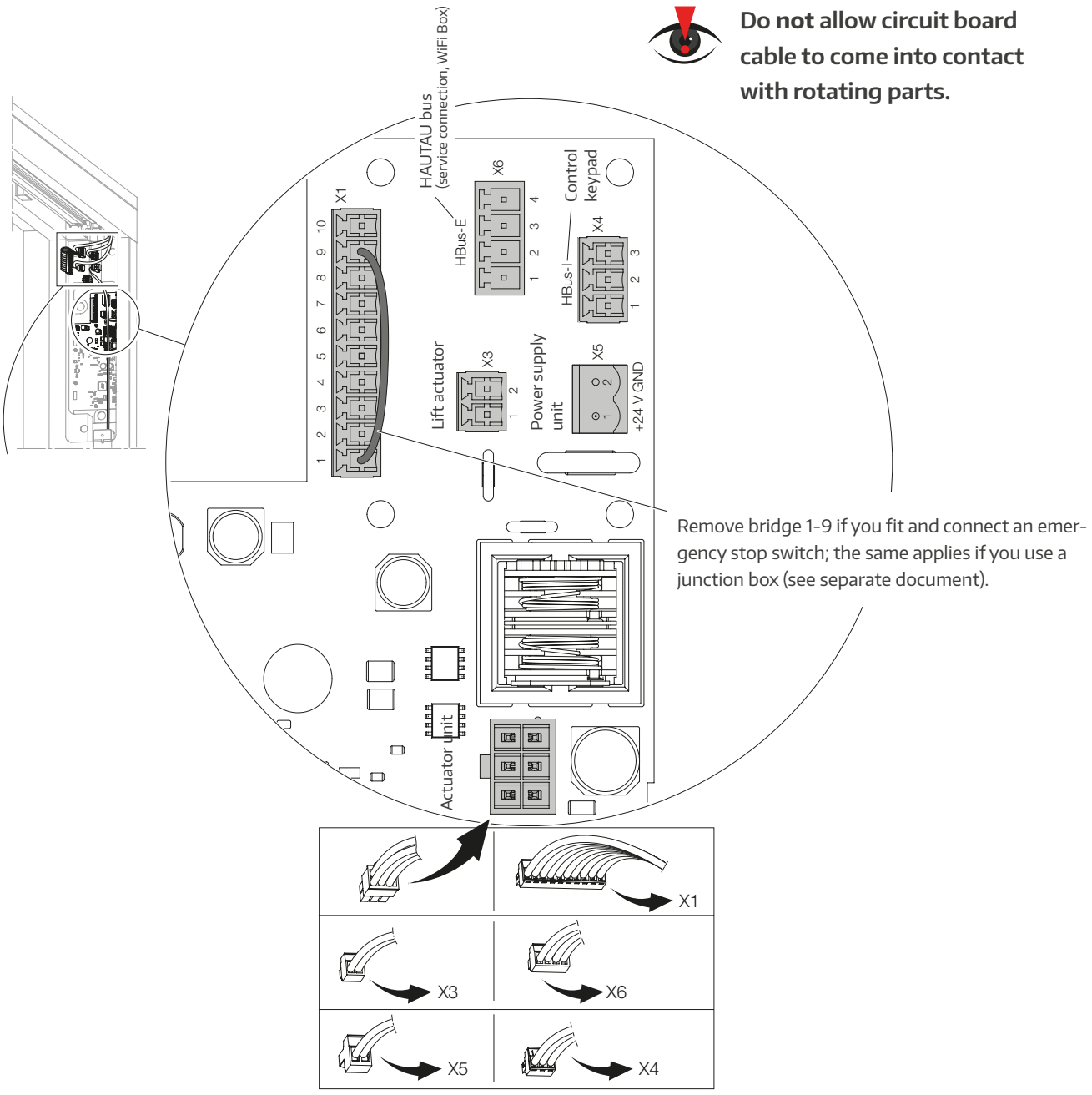
Place sash in the raised position again



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, actuator module on right – view from inside



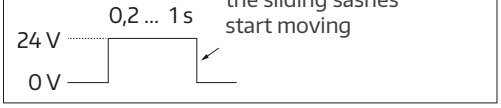
Electrical connection (continued)

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

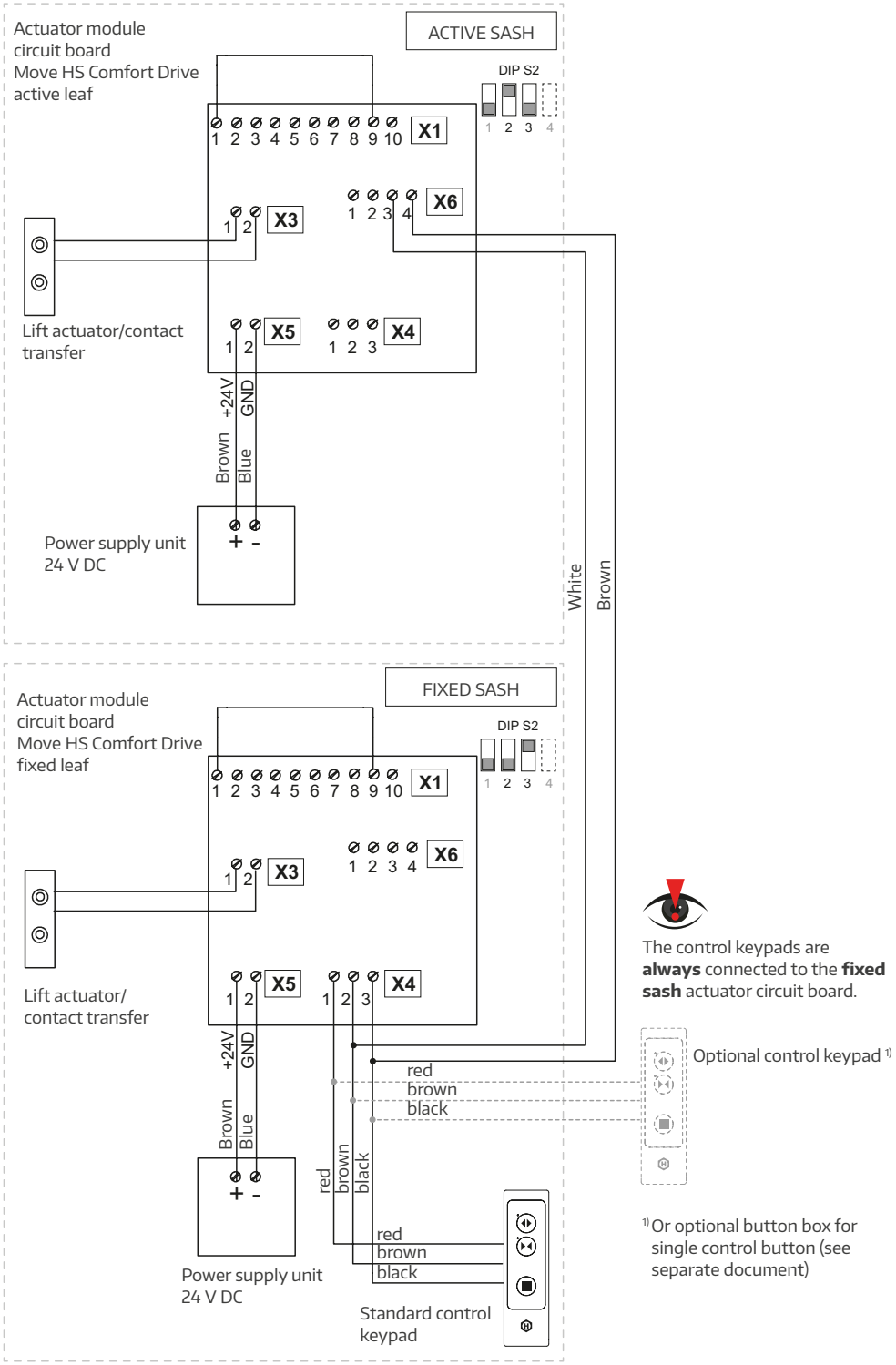
X6: HAUTAU bus service connection, connection for WiFi Box

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

Electrical connection (continued)

Circuit diagram (example)

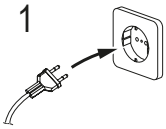
with control keypad



Checking/configuring DIP switches

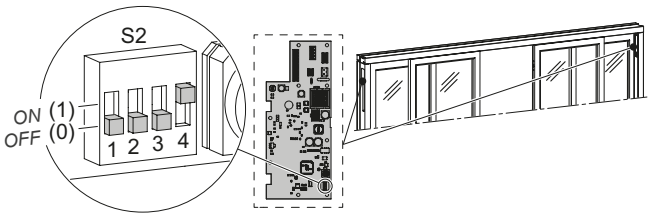
IMPORTANT NOTE: The sliding direction for both sashes must be checked before initialisation. The sliding direction must be correctly configured for both systems, i.e. active sash and fixed sash. Use the DIP switches on the circuit board for the relevant actuator module to do this. You need to determine which system is the ACTIVE SASH and which is the FIXED SASH. See table for further settings.

1



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

(condition of both circuit boards on delivery)

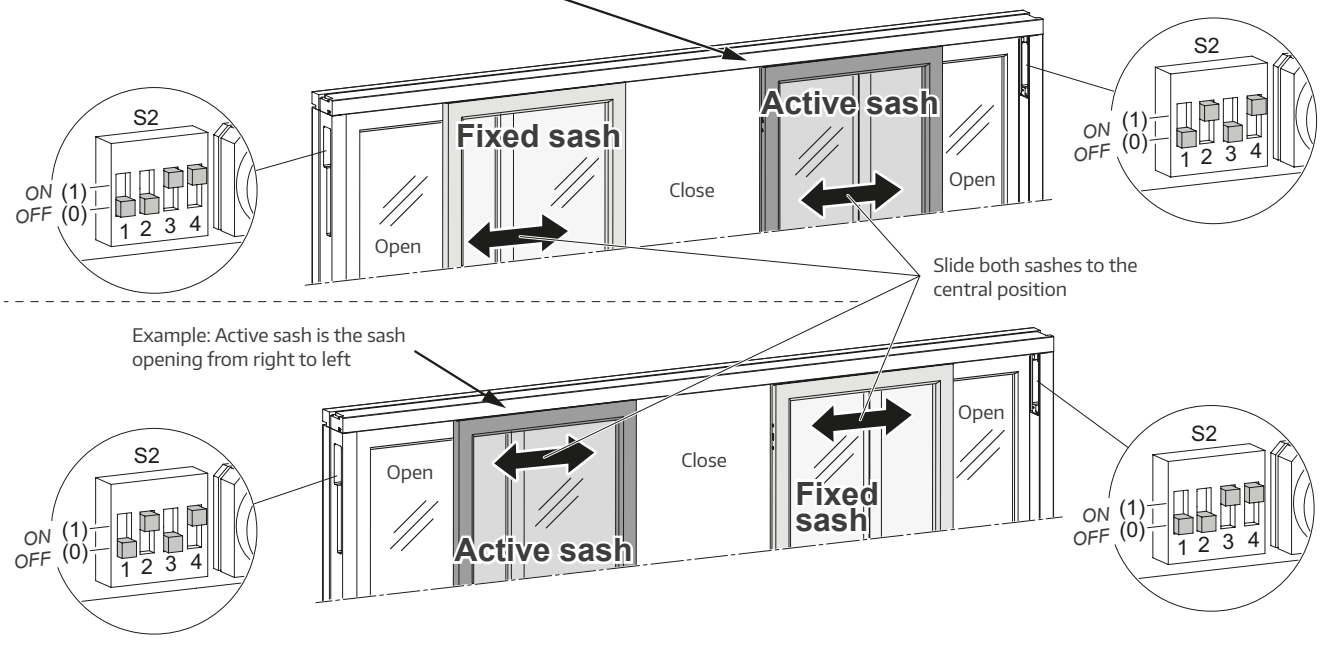


) **IMPORTANT NOTE: Each system operates separately. This means that the dead man mode setting needs to be configured in both systems if this is required. During initial operation (Full Init) or the calibration run (Home Init), the sliding sashes move in automatic mode and then in dead man mode.

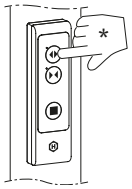
2

DIP switch setting as per diagram/table

Example: Active sash is the sash opening from left to right



3



Press OPEN button: both sliding sashes must move in the OPEN direction. Each sash moves about 100 mm and then automatically stops. When a sash moves in the CLOSE direction, the position of DIP switch 1 must be checked on the corresponding S2.

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

4

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

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 Move 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	-

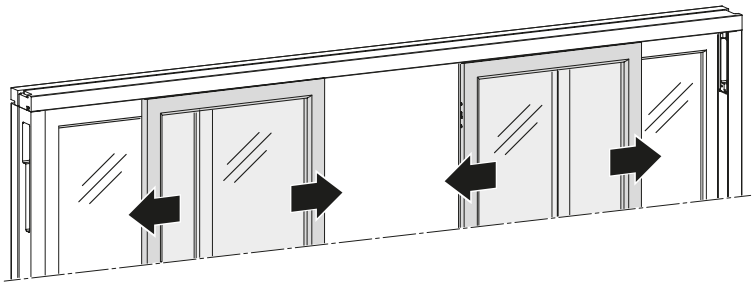
Initial operation ('Full Init')

IMPORTANT NOTE:
Schema C will only function in conjunction with <u>both</u> connected lift actuators.
If this is not the case, the system may malfunction.

Overview

(see following page for procedure)
During initial operation (Full Init = factory reset), the sashes each complete a full automatic initialisation, moving to CLOSE and OPEN to determine and save the required parameters.
If DIP switches 4 are set to DEAD MAN on both S2 switches, the sliding sashes first move in automatic mode and then in dead man mode.

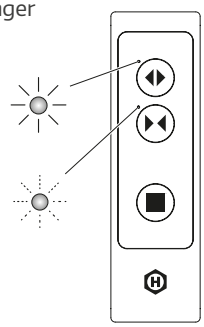
Sliding sashes close and open automatically during initialisation.

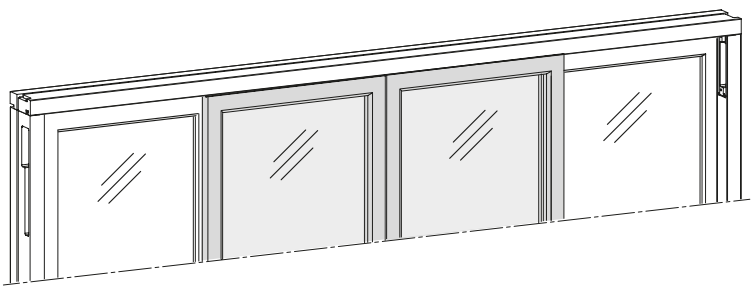


Let sashes move until yellow LED no longer flashes*.

Green LED on the control keypad lights up permanently when the sashes move.

Green LED on the control keypad flashes during initialisation.





The sashes remain in the closed position after initialisation.

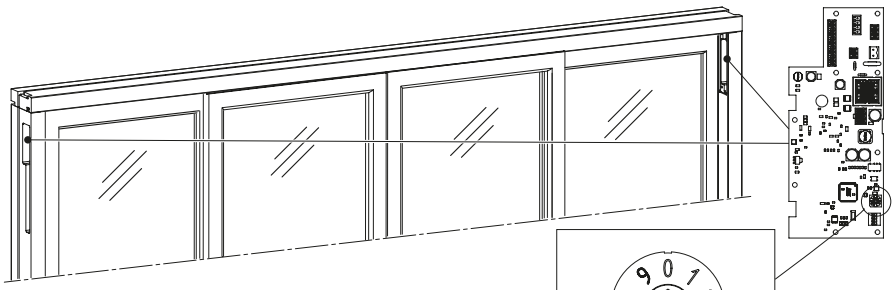
*) See separate document for single control button

Initial operation (‘Full Init’, continued)

Procedure

Full, automatic initialisation

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



IMPORTANT NOTE:
The same settings must be made on the circuit board switches for both systems.
The procedure applies to both the active sash system and the fixed sash system.

The mode selector switch should be set to ‘0’ (factory setting) or ‘3’ (**).
CAUTION:
The anti-trap guard and all other safety systems are **deactivated**.
The sashes move at low speed.

Sashes must be open (≥ 150 mm each) and in a raised position.

Press OPEN on the control keypad. *
IMPORTANT: only press OPEN once.

Sashes move about 100 mm in OPEN direction; if they do not: check DIP switch (see corresponding section).

Press CLOSE on the control keypad. *
The initialisation sequence will then operate fully automatically.

Sashes move to the closed position.

Sashes lower.

Sashes remain in lowered position for a few seconds.

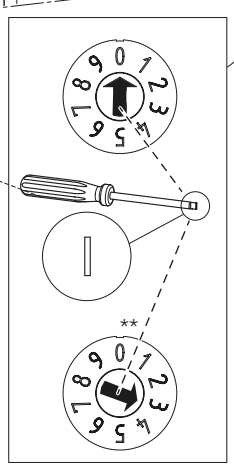
Sashes lift on their own. ***

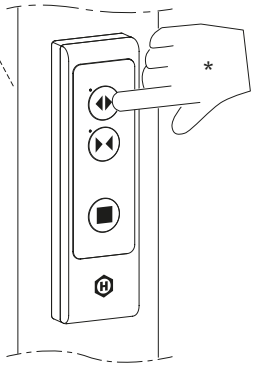
Sashes slowly open fully as far as the end of the panel.

Sashes move in Close direction until they reach the closed position.

The anti-trap guard and all other safety systems are enabled.

Initialisation complete.



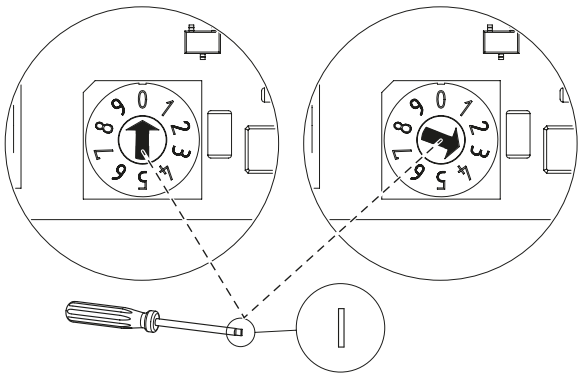


*) The button is pressed in the case of the single control button.
**) Reduced stop range of 10 mm instead of 130 mm before mech. end position.
***) Lift actuator lifts about 1 sec. before the lift actuator on the fixed sash.

Normal mode

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

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



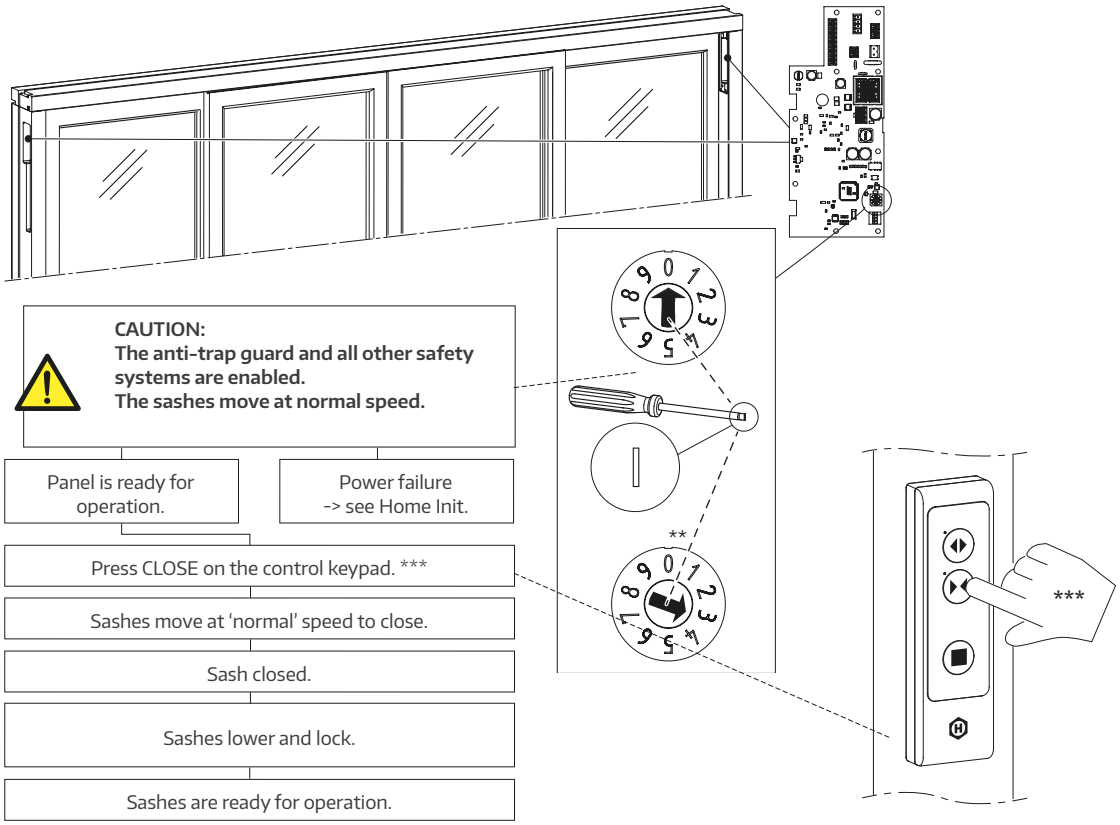
IMPORTANT NOTE:
The same settings must be made on the circuit board switches for both systems. The process applies to both the active sash system and the fixed sash system.

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



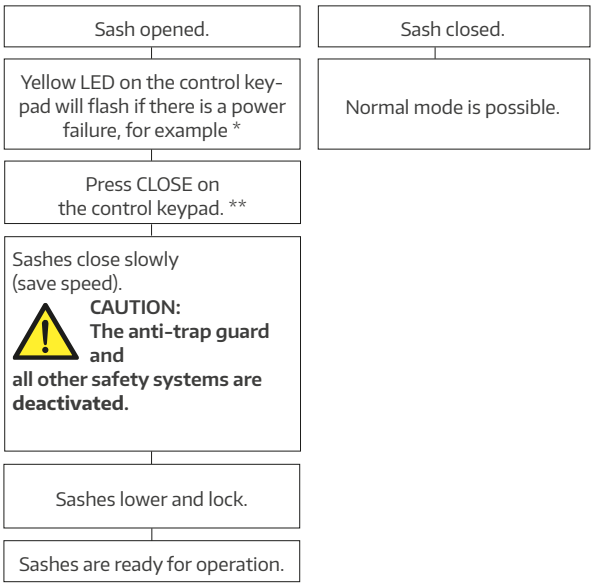
**) Reduced stop range of 10 mm instead of 130 mm before mech. end position.
***) The button is pressed in the case of the single control button.

Calibration run (Home Init)

Home Init = software reset

IMPORTANT NOTE:
The procedure applies to both the active sash system and the fixed sash system.

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

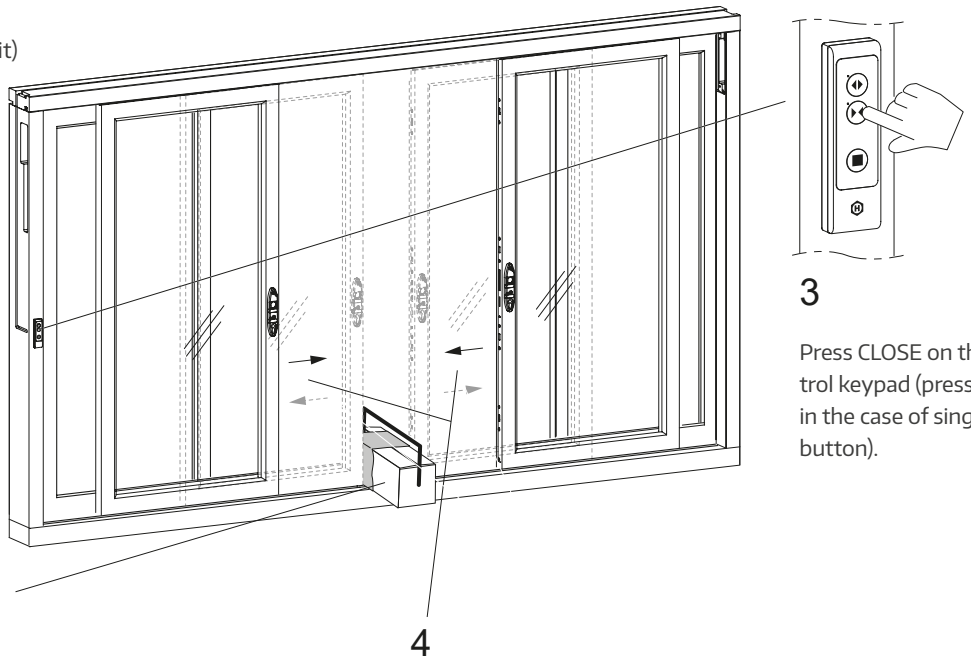


*) or audible signal from the button box in the case of single button control pad.
**) The button is pressed in the case of the single control button.

Reversal safety function test

1 ✓

Calibration run (Home Init) has been carried out. Sashes are opened.



2

Place a solid object such as a toolbox in the middle of the structure between the sashes.

3

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

4

Sashes move against the solid object, come to a halt and then move in the OPEN direction to a certain extent.

You should cover the object with a suitable cloth to prevent scratches on the sashes.

Yes

Test was successful:
The (lift and) slide system must be marked according to the EC Machinery Directive.

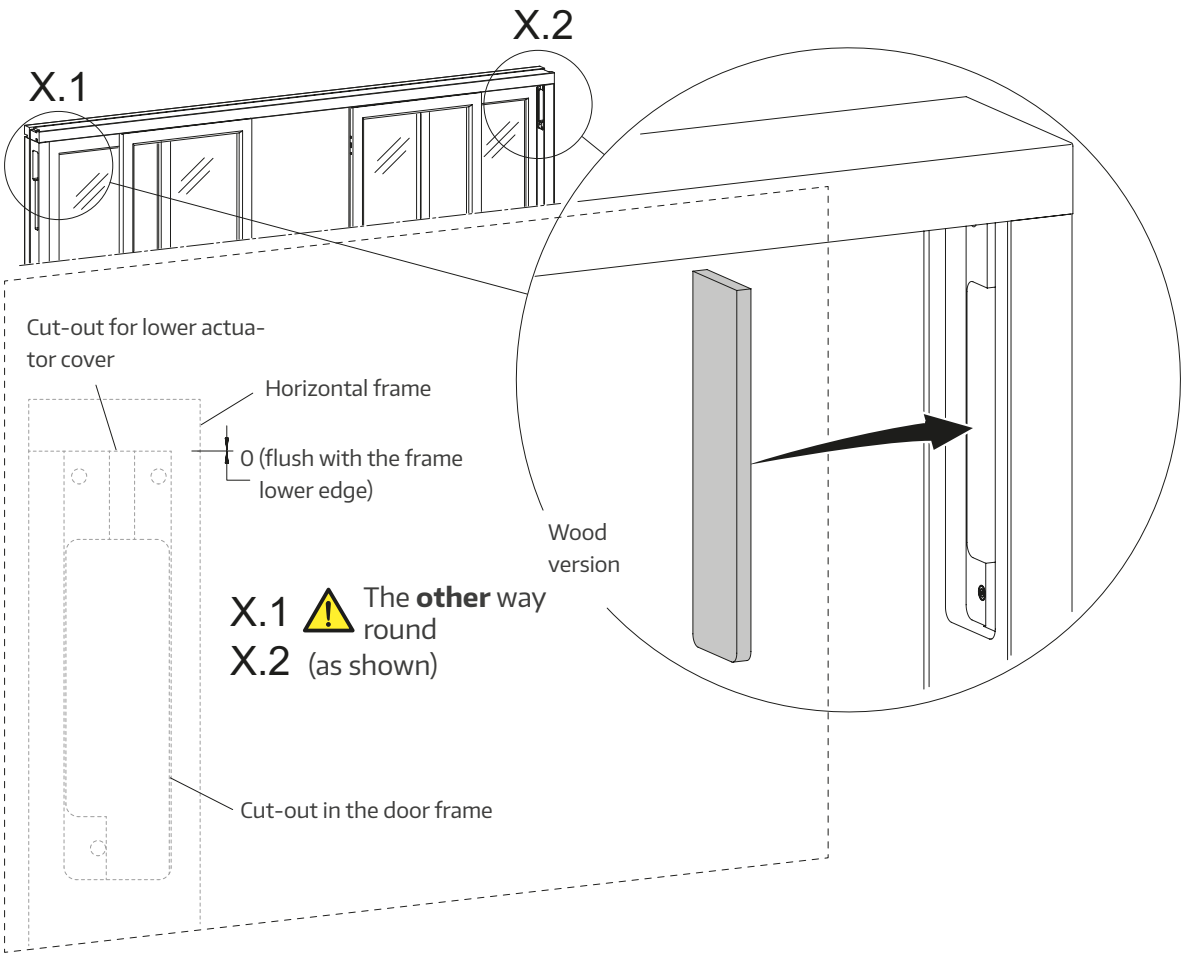
(Lift and) slide system may be put into operation.

No

Test was not successful:
The calibration run (Home Init) and reversal safety function test must be repeated.

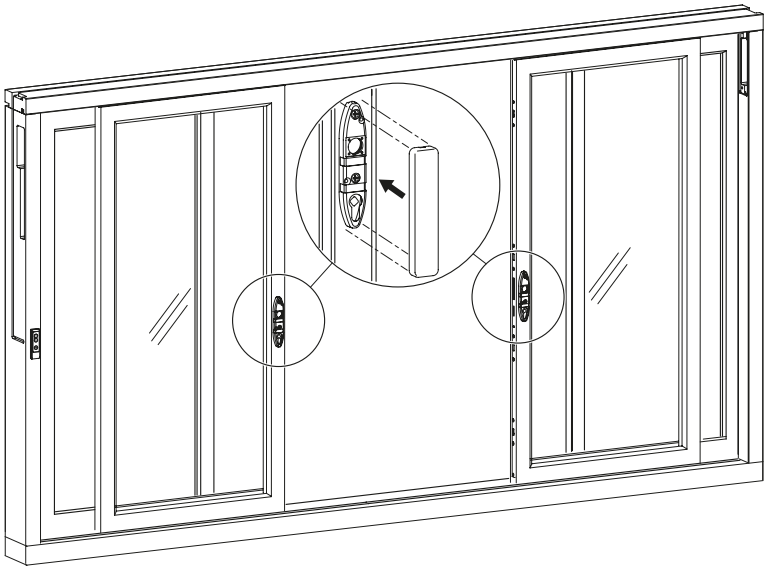
If the test fails repeatedly, the (lift and) slide system must be taken out of service, disconnected from the power supply and a service company must be consulted to rectify the fault. It can otherwise lead to serious physical injury.

Fitting the electronics cover



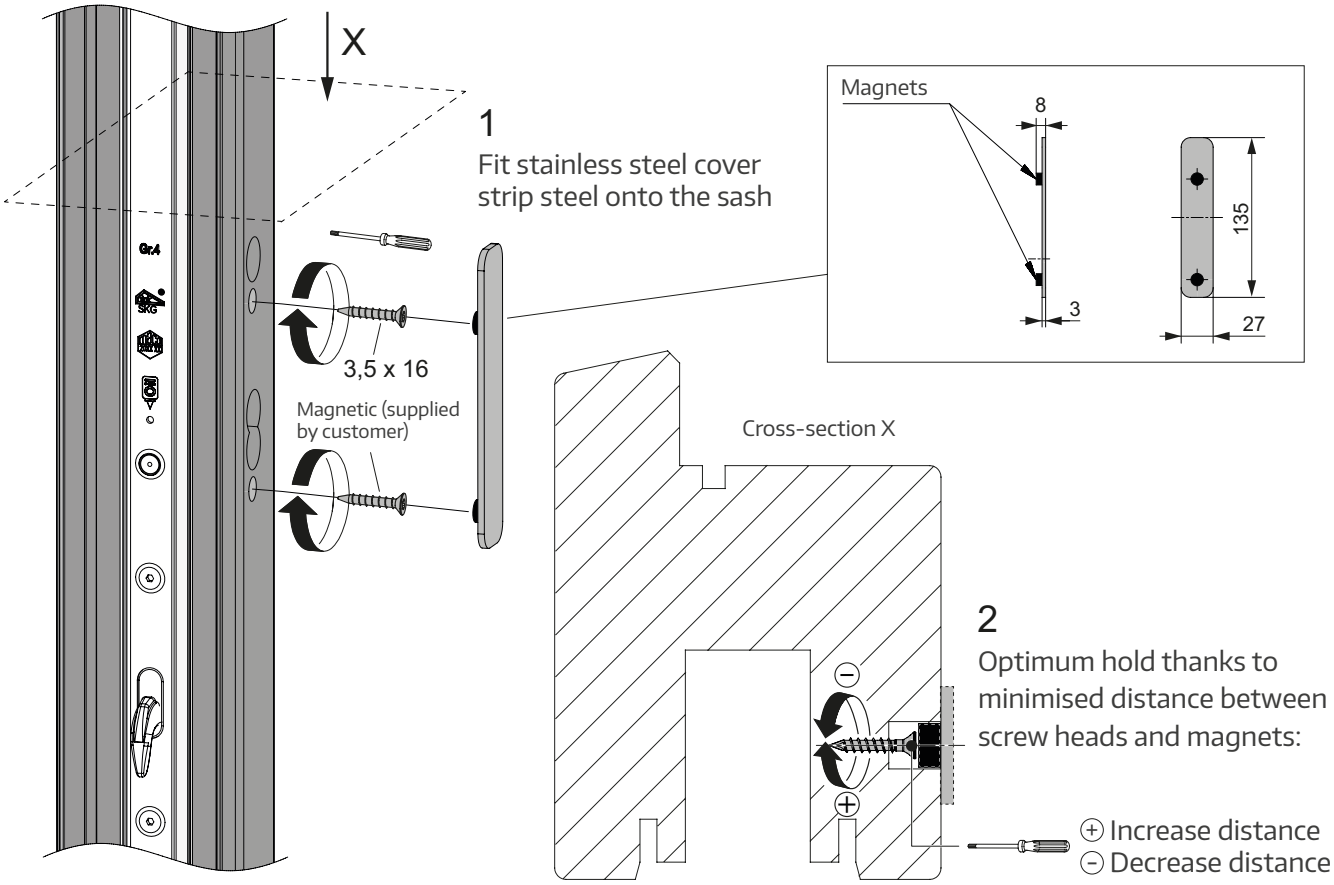
Fitting the covers for the manual locking/unlocking device

Standard version (optional)

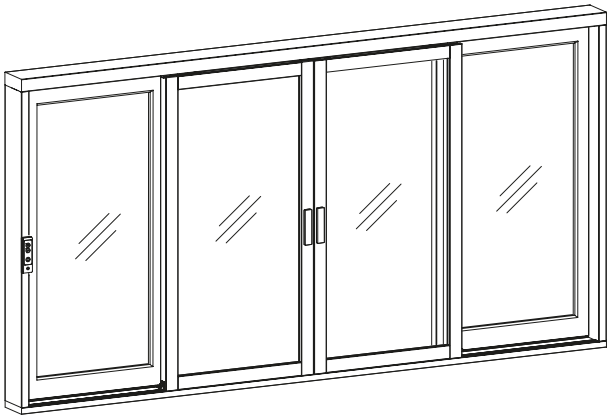


Stainless steel cover strip (optional)

Drawing for sash opening to right sash (view from inside);
Fit on sash opening to the left accordingly



Completing the entire structure



Congratulations!

You have successfully completed installation of the Move 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	› Press the STOP button on the control keypad (Error reset; light goes out *) › Press (OPEN) button: 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	› 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 ⚠ **WARNING: All safety systems are deactivated during the Home Init.**
No response after pressing the (STOP) button for at least 30 s	Fault	› 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 *)

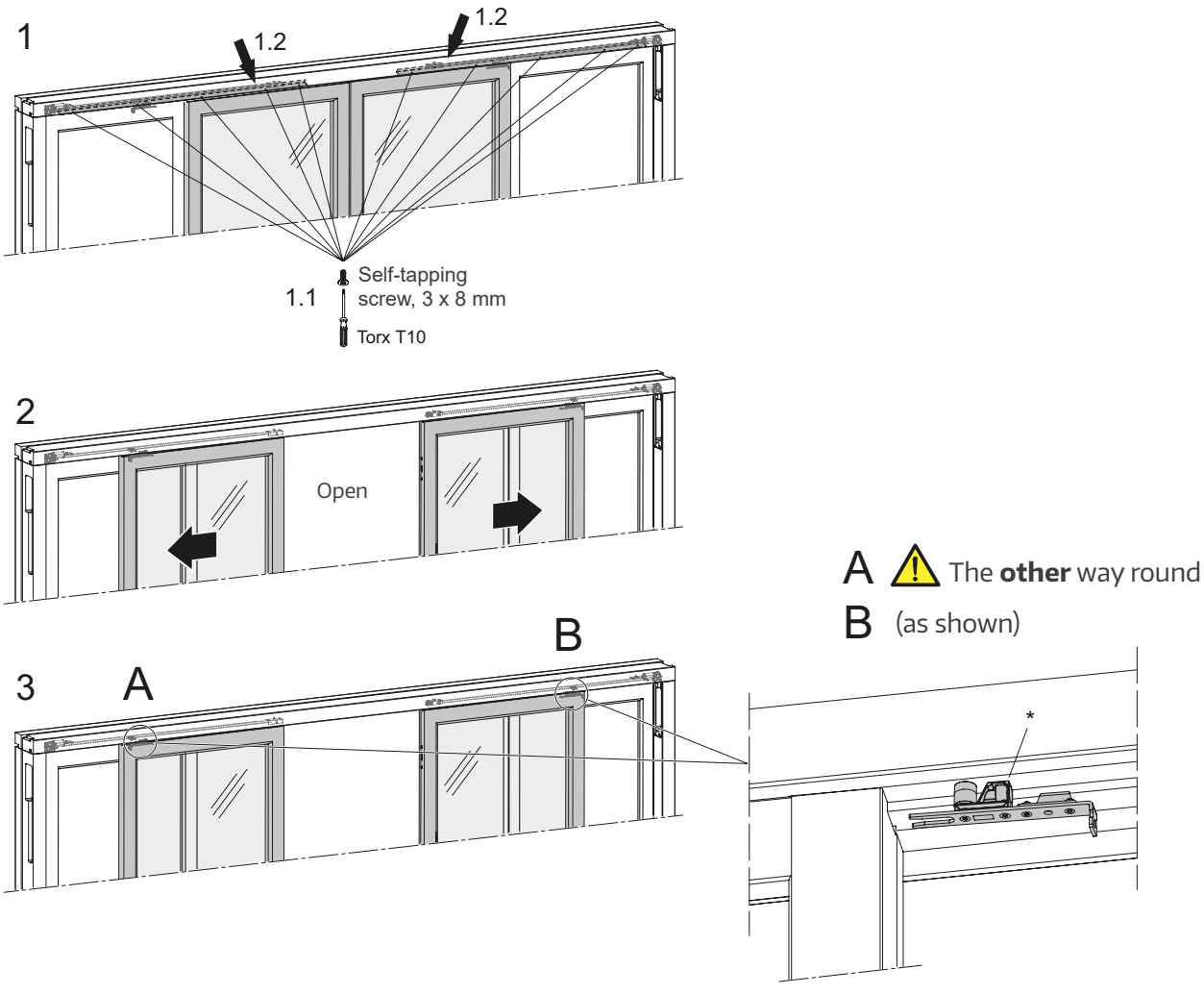
*) or 2x audible signal sequence on control button (on the button box)

Removing the cover plate (in preparation for tensioning the toothed belt)

- Undo screws in cover strip (1.1).
- Place cover strip on sash (1.2).
- Disengage the lift actuator and open the sliding sash halfway across the fixed section (2).
- Disconnect cam from the sash (3*).
- Remove cover strip from the sash.
- Close sash and lower.

* See Fastening the sliding sash (connecting the cam to the sash) for details (Disconnection same sequence but in reverse order)

Refit the cover panel using the same process in reverse order after adjusting the toothed belt tension (see Adjusting the toothed belt tension).

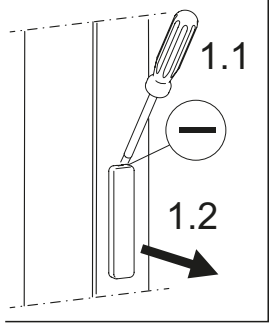


Service procedure for lift actuator

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.

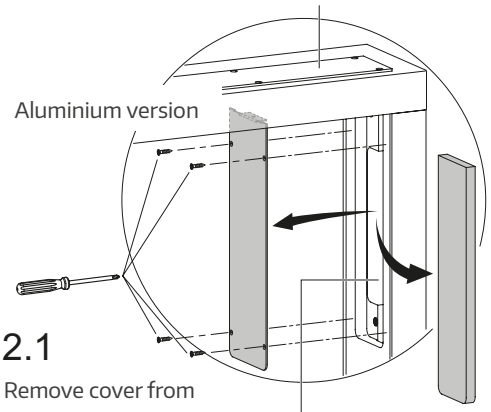
Example: actuator module on right; similar for actuator module on left

Remove the handle escutcheon from the cover



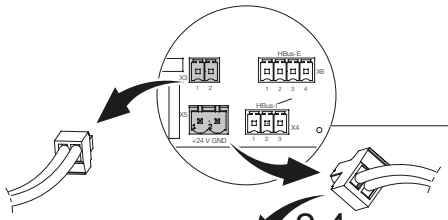
WARNING: It is mandatory to disconnect the lift actuator plug from the main circuit board before using the service switch. This is necessary to ensure no current is supplied to the main circuit board via the lift actuator. There is a **risk of material damage** otherwise.

Aluminium version

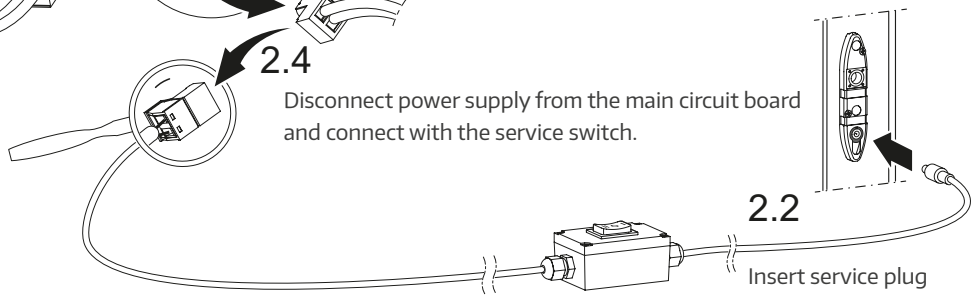


2.1
Remove cover from the actuator module

Wood version

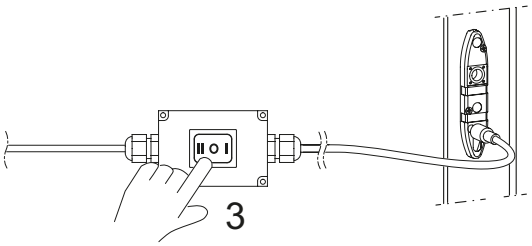


2.3
Disconnect lift actuator from main circuit board



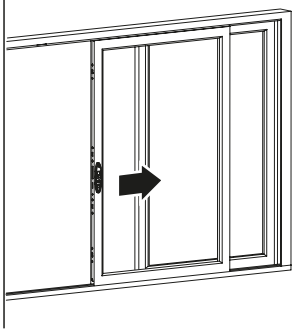
2.4
Disconnect power supply from the main circuit board and connect with the service switch.

2.2
Insert service plug into the socket

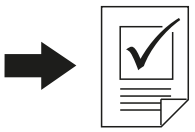


3
Lift sash:
Press I or II (test)

4
Slide sash open



5
Carry out service tasks or work through the error checklist as per the installation instructions



6
Reconnect the plug as it was originally connected and fit covers into place

Tampering Monitoring

The HS Comfort Drive system continuously monitors the lift-and-slide unit for possible tampering attempts while it is in the closed position.
As soon as the lift-and-slide unit is opened from its locked position, this is considered an unauthorized opening attempt and is signaled accordingly.

Signaling an Unauthorized Opening Attempt

An electric lift-and-slide unit consists of at least a basic set with a control electronics module.
The buzzer on the control electronics serves as an acoustic alert for an unauthorized opening attempt.
The acoustic alert sounds for 60 seconds in an interval of one second on and one second off.

Reset

After tampering has been detected, the lifting drive must be returned to the raised position (see the chapter "Emergency Release") and the electric lift-and-slide unit must be reset to factory settings. See the chapter "Triggering Full Init".
Without a reset, the unit will attempt to move again when operated. This is usually not possible because the unit is in the lowered position and therefore shuts off.

Signaling on the Control Element

In addition to the acoustic alert, a visual alert appears on the control element until the reset is performed, indicated by the yellow LED on the button element.

Signaling in the Button Box

When using the button box, two short tones are emitted as an error notification, in addition to the acoustic alert from the control electronics.

Technical specifications

Overall system
(Lift and slide actuator)
"Move 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)

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	IP 40 as per EN 60529, when installed
Max. number of cycles:	20

Lift actuator

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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