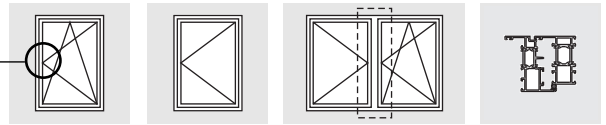


ALU 2200

The clampable hardware for
aluminium windows and patio doors
hardware certified in accordance with **QM 328**

FBS-G



Please observe:

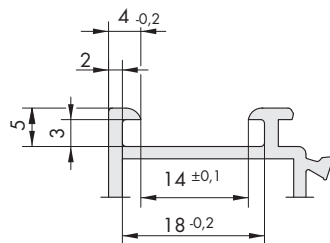
Guidelines/notes on the product and on liability (VHBH directives as well as the further applicable documents)!

All dimensions given are final dimensions after the surface treatment of the profiles e.g. painted, powder coated etc.!

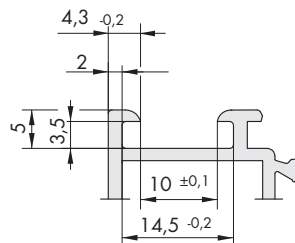
See SIEGENIA download portal for all documentation!

Frame groove size

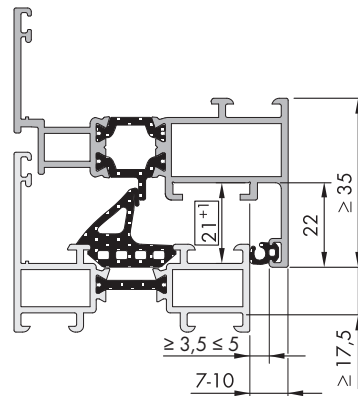
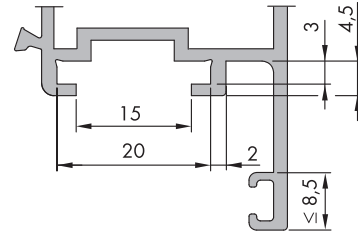
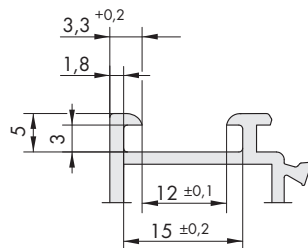
A0004



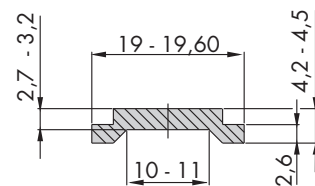
A0006




A0022

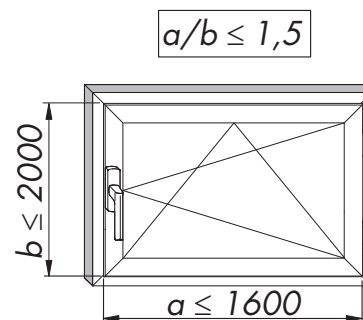
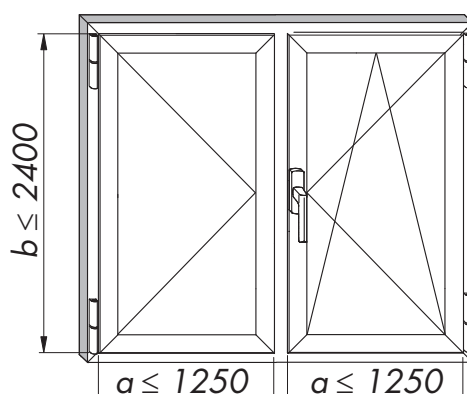
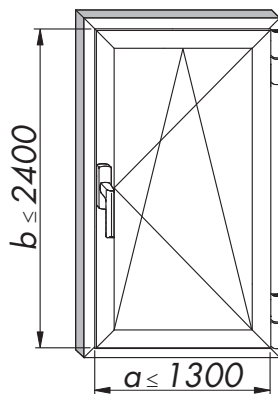


min. - max.



All dimensions in mm

Sash width	(a)	min. 375 - max. 1600
Sash height	(b)	min. 550 - max. 2400
Sash weight	()	max. 80 kg

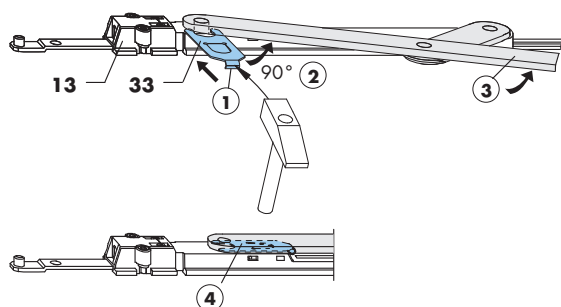


Assembly instructions
H48.2200LS001en

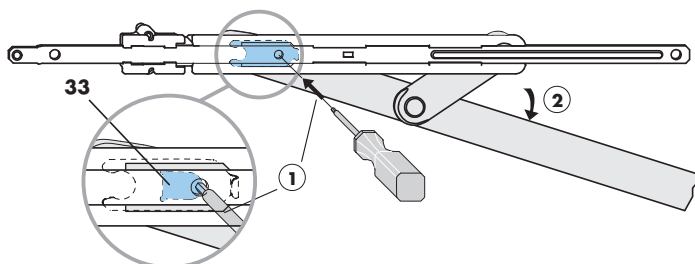
Technical specifications and colours are subject to change

H48.2200LS001EN/6

Installation of the tilt restrictor (33)

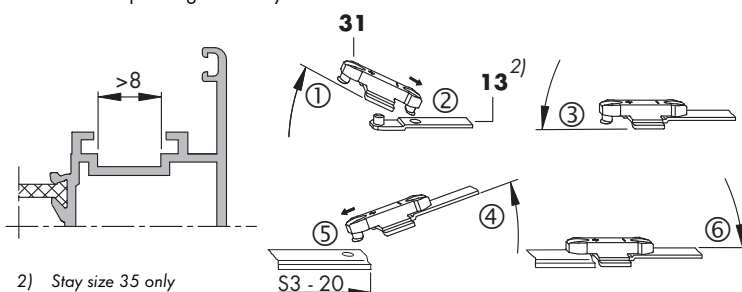


Removal of the tilt limiter (33)



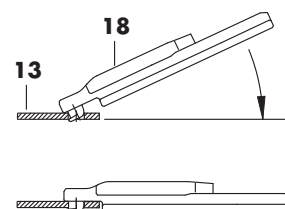
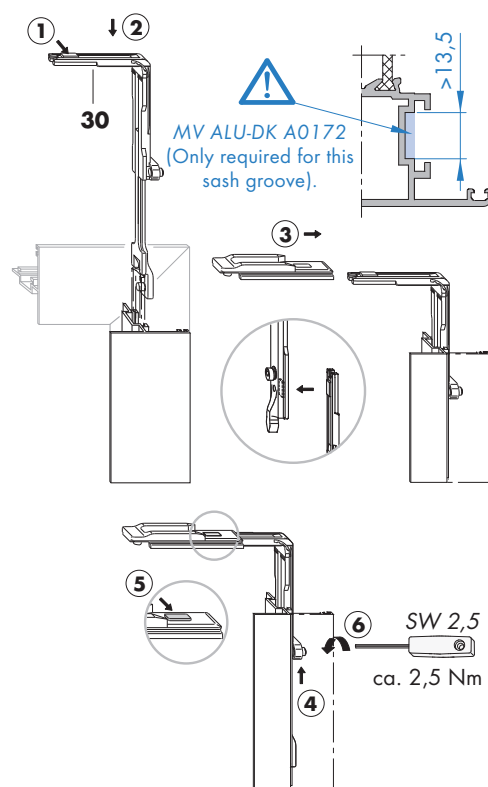
Assembly instructions for items 32 and 18

- On request, the MV stay striker (32) can be used as an additional locking point. Striker (35) must be ordered separately.
- MV stay striker (32) is required for the sash groove (see fig.).
- Shorten operating rod S3 by 20 mm.



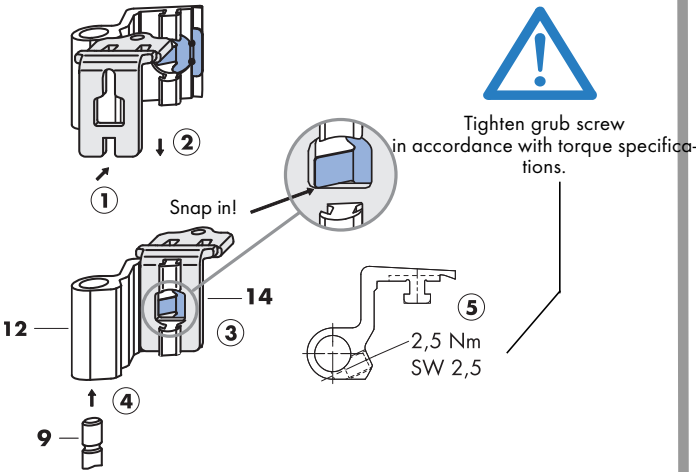
2) Stay size 35 only

Assembly instructions for the corner drive VSU/BSO (31) A0172



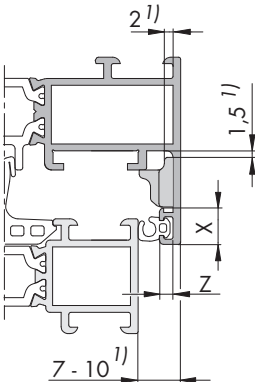
Note: for hardware overview, see page 8.

Assembly instructions for stay hinge (12), adapter (14) and hinge pin (9).



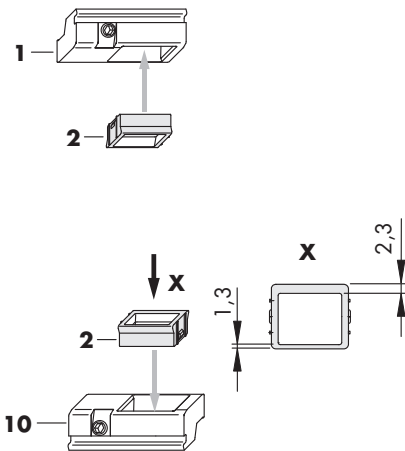
Design variations for handle support (29)

Z	X < 7 mm	X 7.1 - 7.5 mm
< 2 mm	MFHA0010-100200	MFHA0010-100200
2.1 - 3 mm	MFHA0010-100200	MFHA0020-100200
> 3 mm	MFHA0010-100200	-

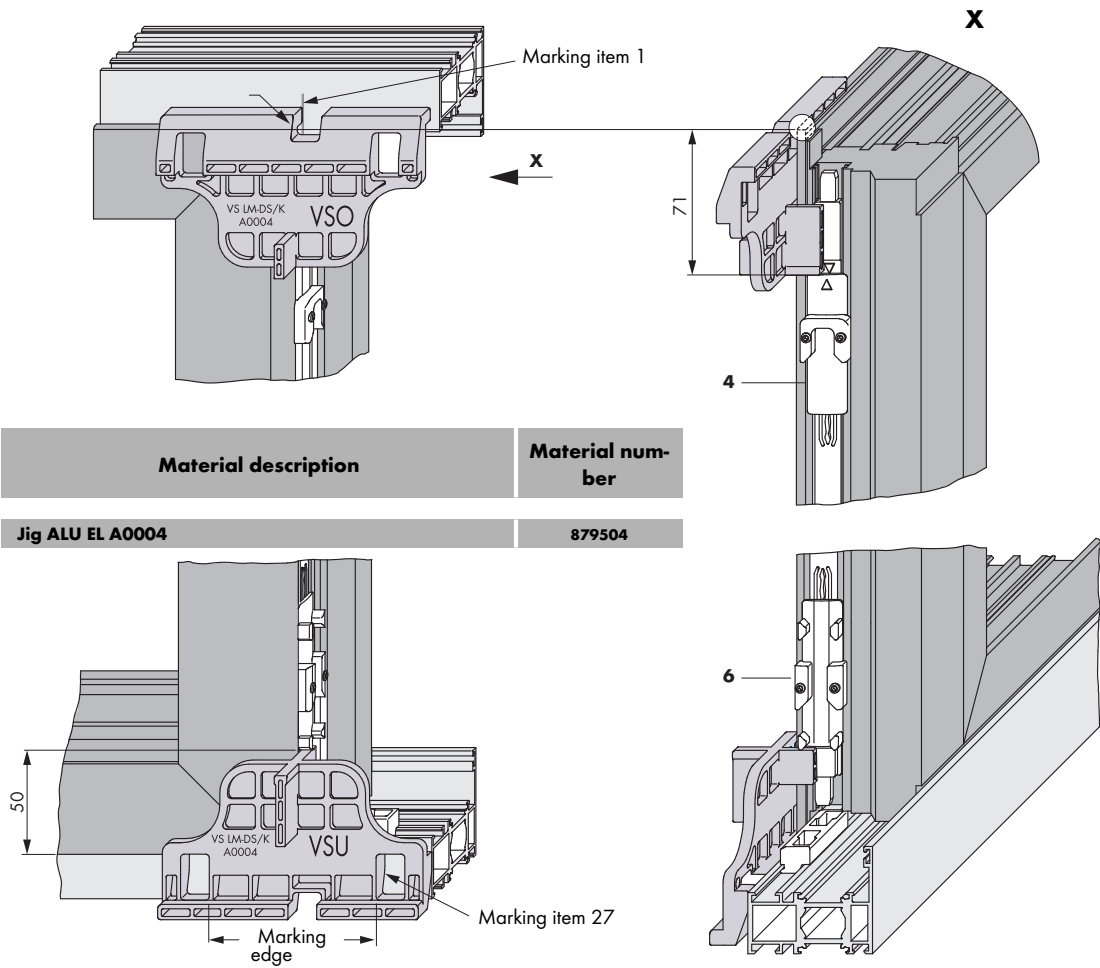


1) Required space

Compression setting of the pressure pieces (2) +1 mm

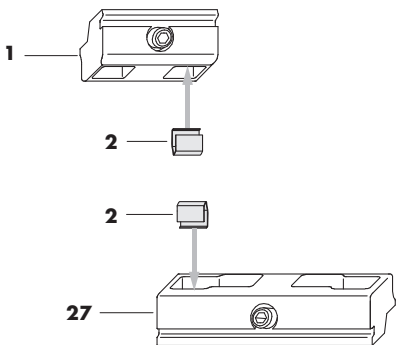


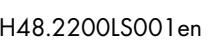
Instructions for positioning the ALU striker jig on the secondary sash



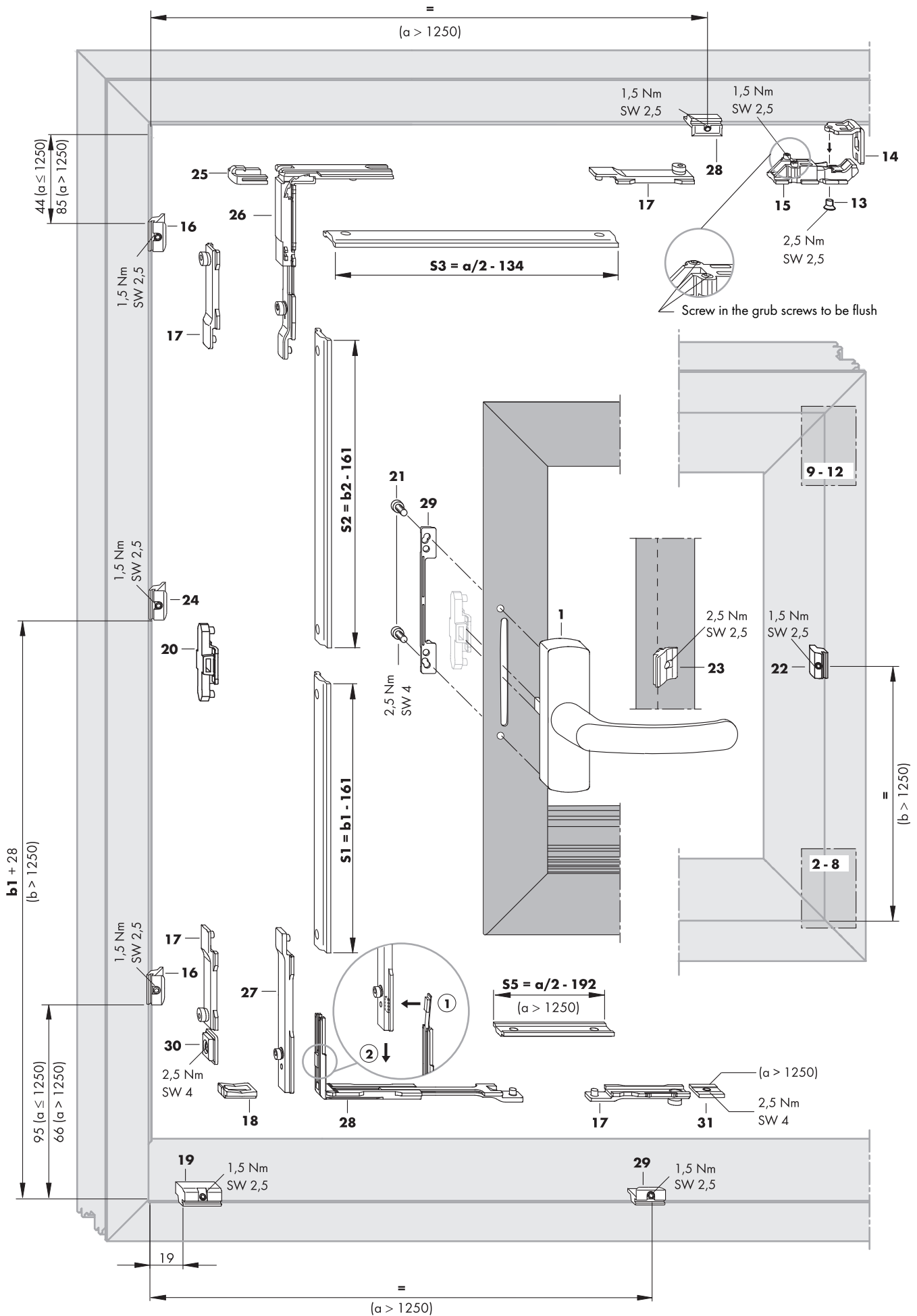
Material description	Material number
Jig ALU EL A0004	879504

Adjustable compression of the stop springs (2) +0.5 mm

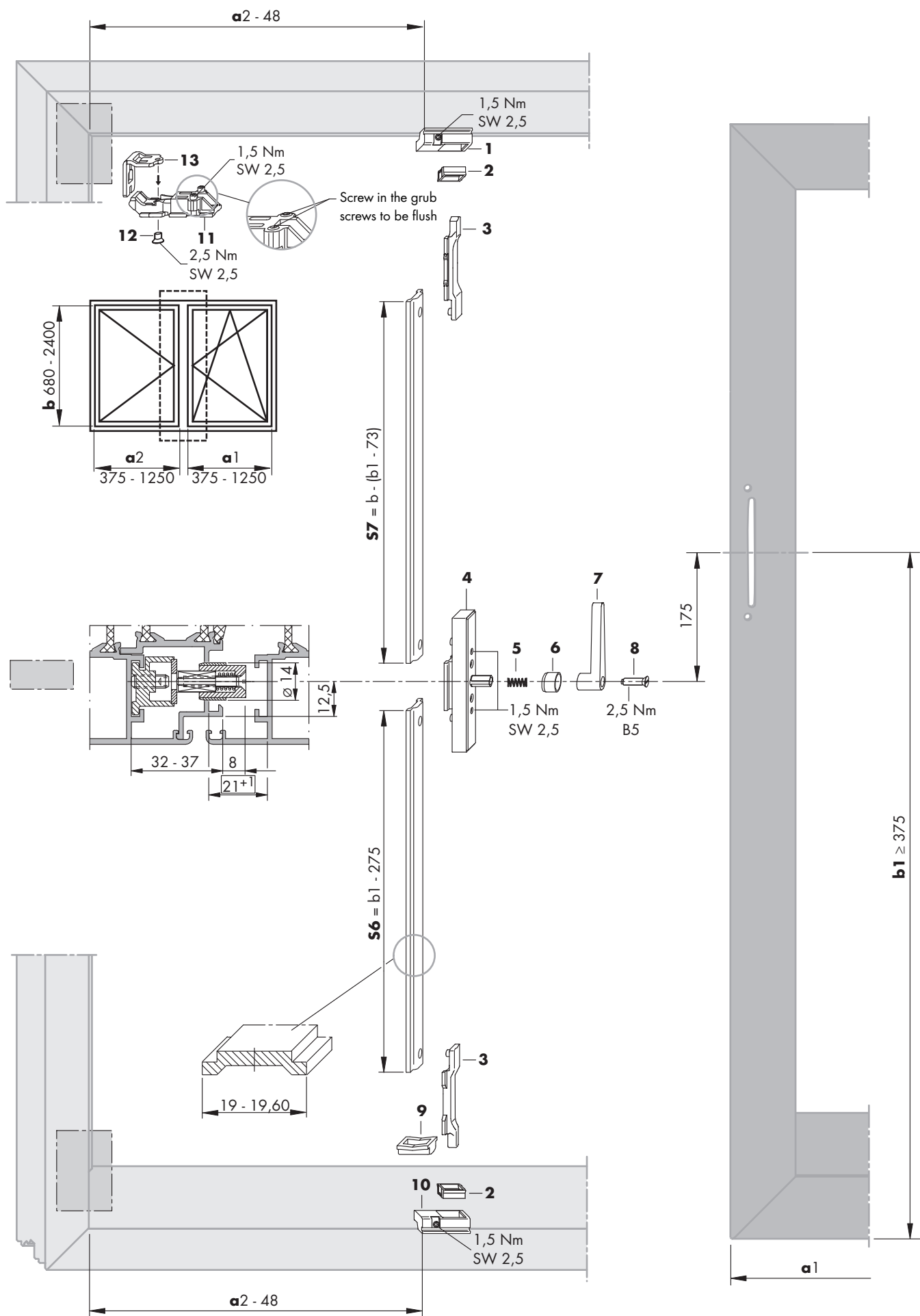




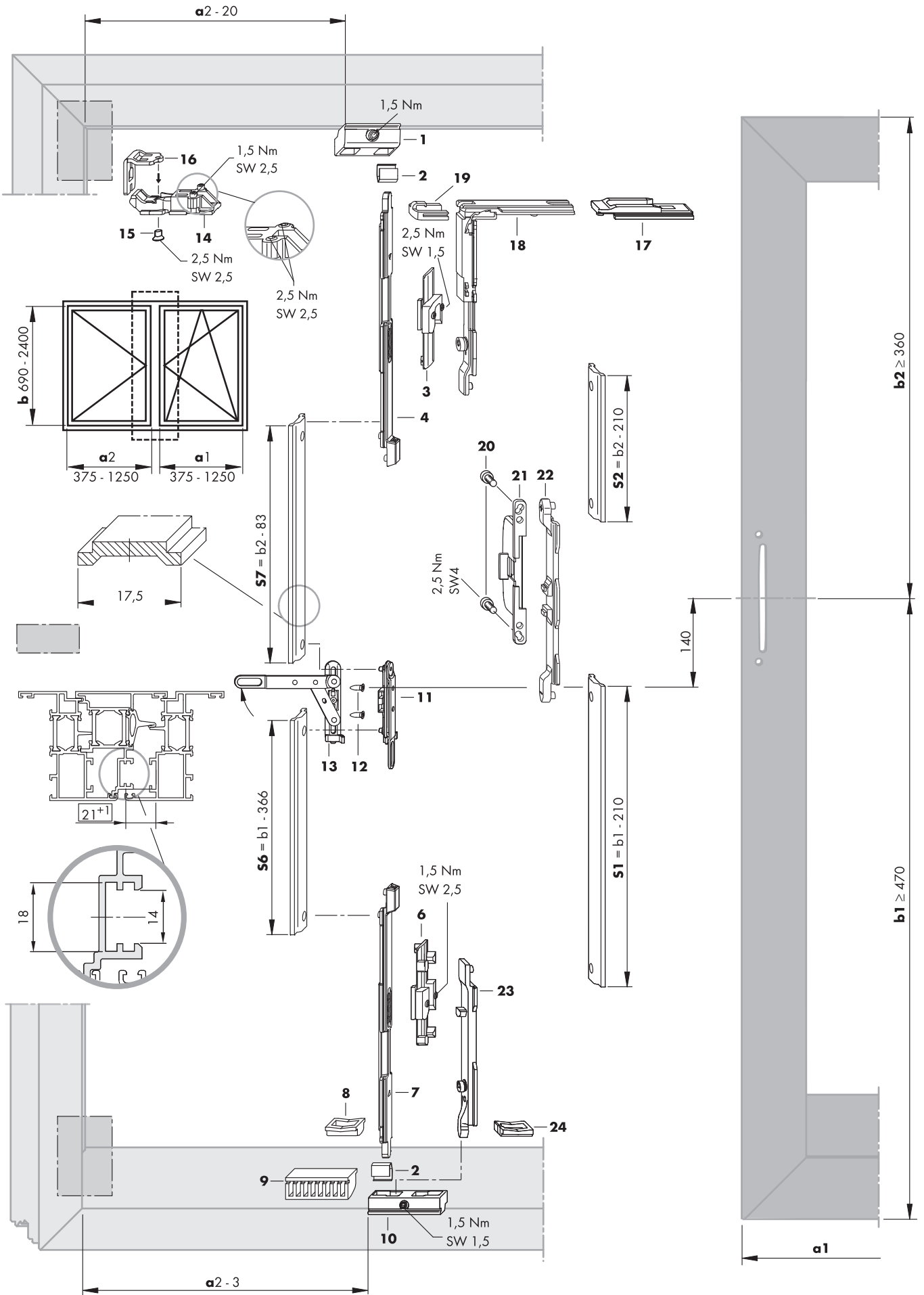
ALU 2200-D Hardware overview and installation dimensions



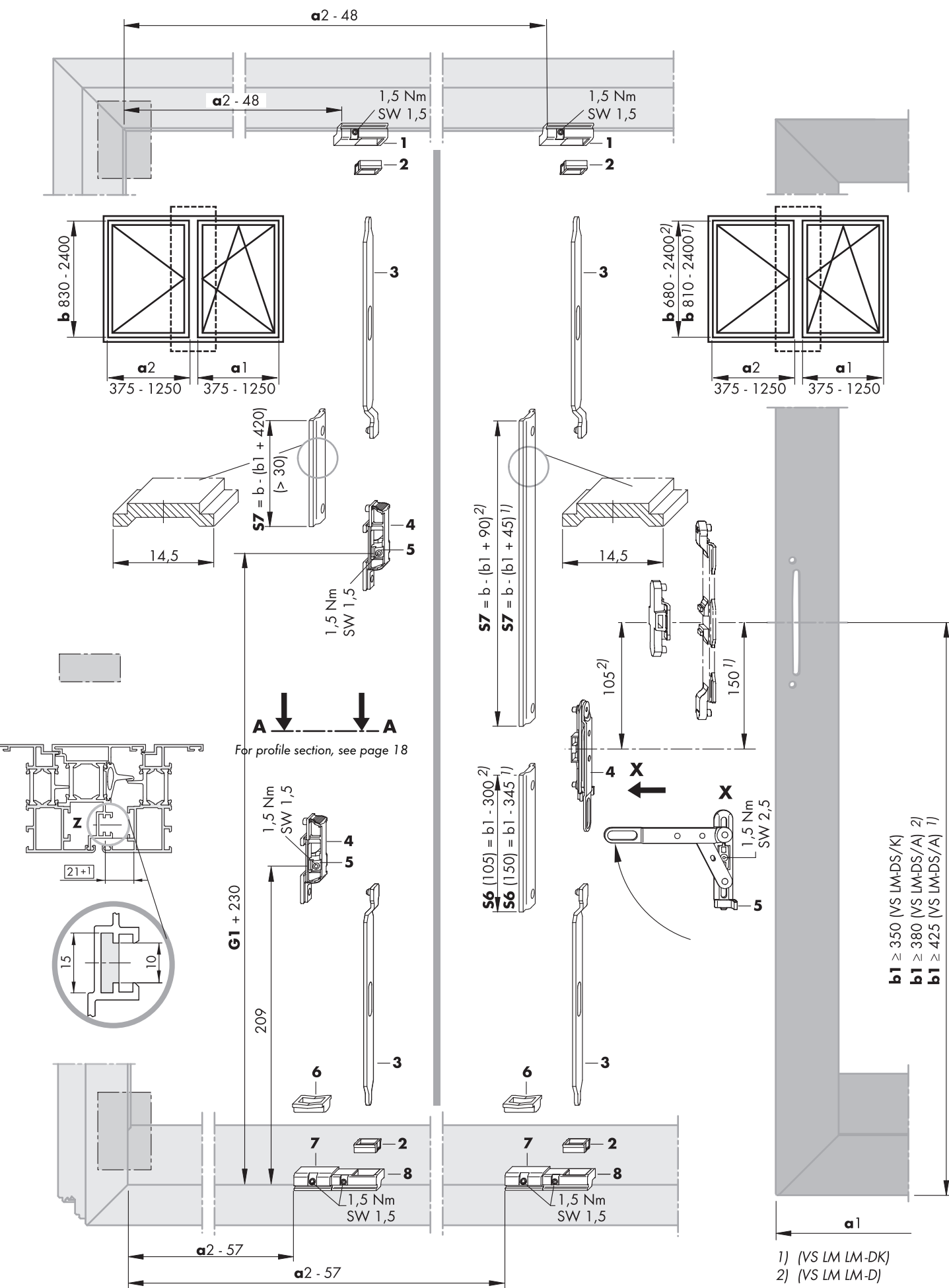
ALU 2200-DS Hardware overview and installation dimensions



VS ALU 2200-DS/A A0004 Hardware overview and installation dimensions

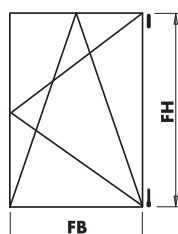
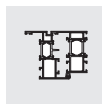
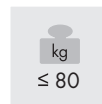
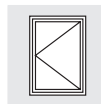






Application diagram

H58.AWDLS002_EN



permissible application range

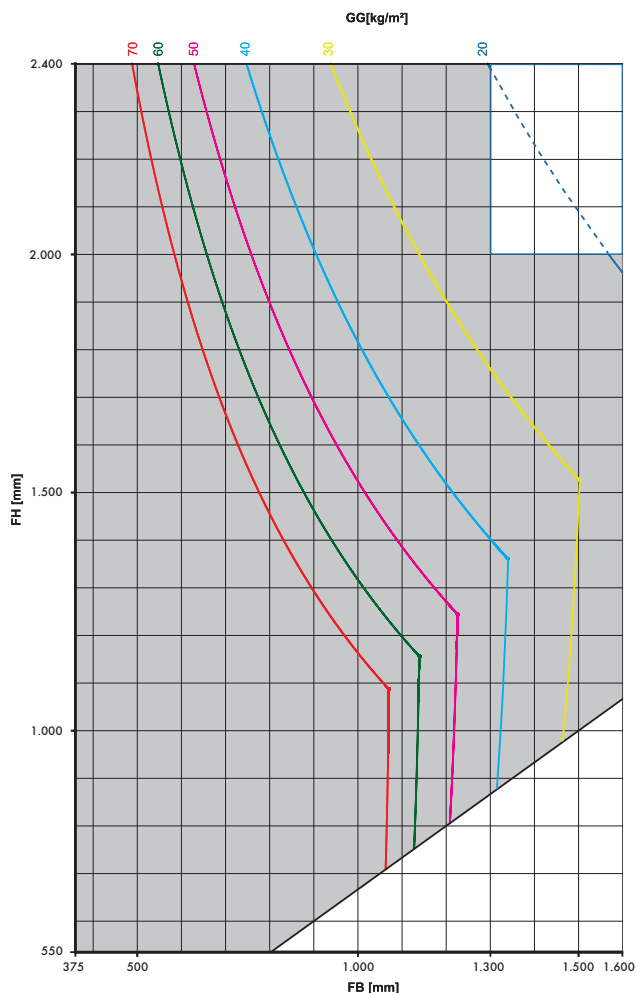
outside the limits

FH = sash height

FB = sash width

Testing and calculation specifications:

- Turn & tilt testing in accordance with QM 328 Appendix 2 – Figure A:
 - 10,000 turn & tilt cycles
 - 10,000 turn cycles
- Additional loads in accordance with EN 14608 (Figure A.1) / Class 4 in accordance with EN 13115 (800 N) taken into account



Requirements for the use of the size range chart:

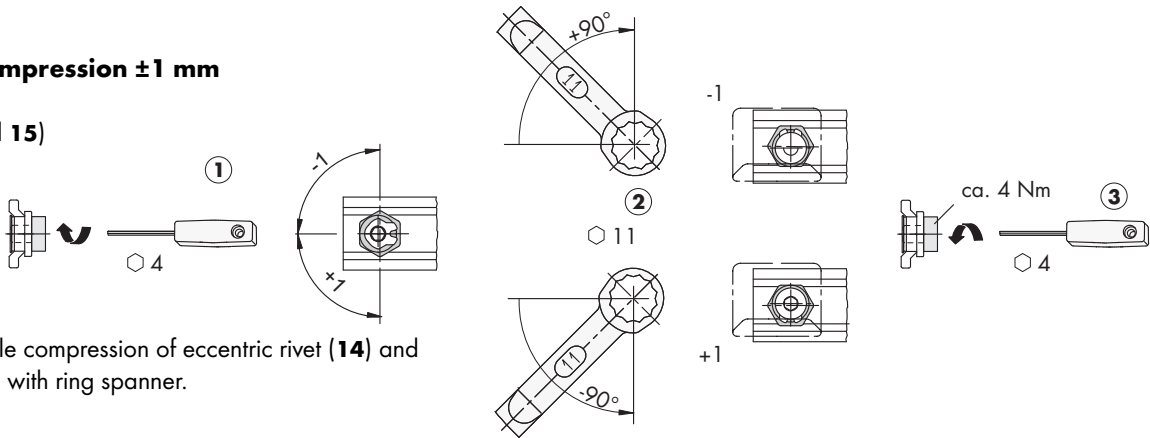
- Proof that the load-bearing components have been attached to the window system by the window manufacturer in accordance with TBDK using the following forces:
 - To the top hinge with 2,200 N
 - To the bottom hinge with 2,310 N
- Comply with the following values for all window systems:
 - Max. width-to-height ratio $QW/H \leq 1.5$
 - Reduction in glass size $CG \geq 40$ mm
 - Profile weight $PW \leq 3.6$ kg/m
- Observe the notes on proper use:
 - basics and use of the application diagrams - see document H58.AWD_BG_EN

ALU 2200 Adjustable compression and regulation possibilities

Adjustable compression ± 1 mm

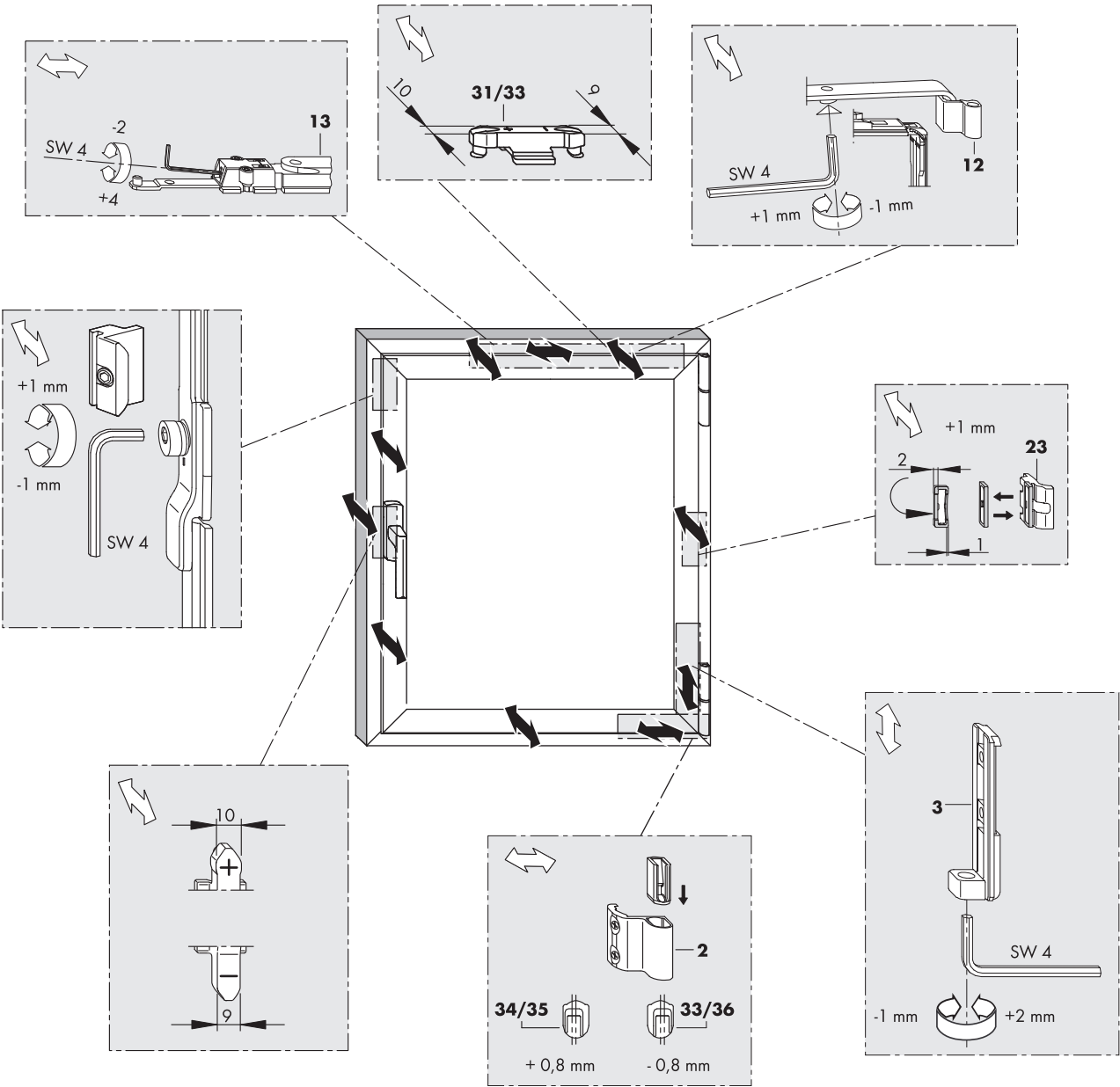
(for items **14** and **15**)

Perform adjustable compression of eccentric rivet (**14**) and locking cam (**15**) with ring spanner.

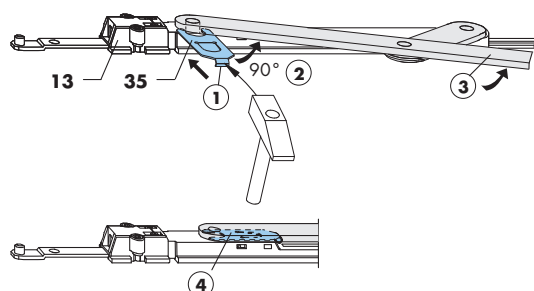


Regulation possibilities ALU 2200

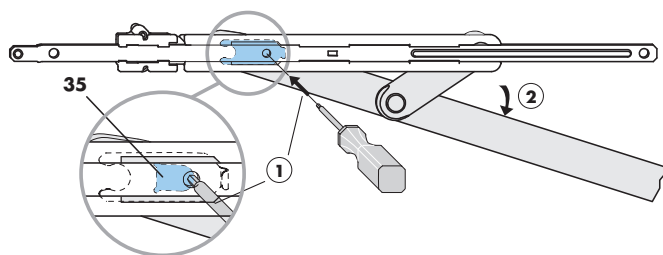
Stay ALU-D without illustration (SW 2.5).



Installation of the tilt limiter (35)

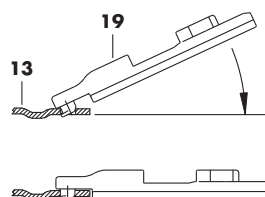
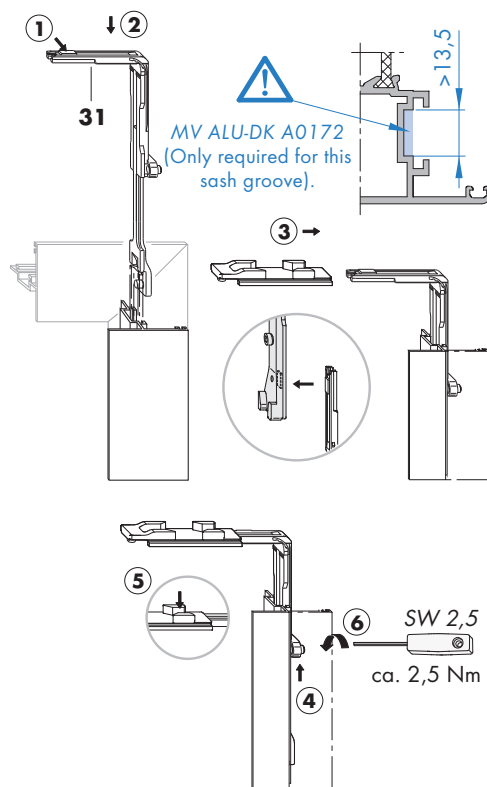
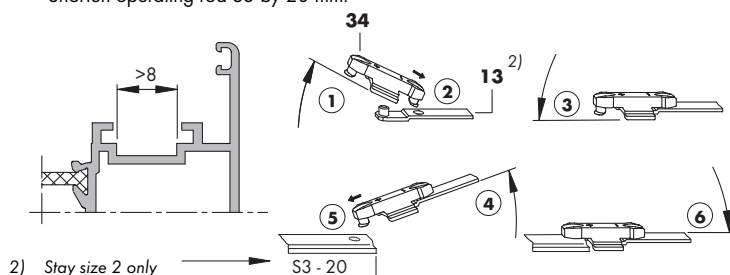


Removal of the tilt limiter (35)

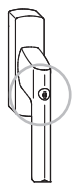


Assembly instructions for items 34 and 19

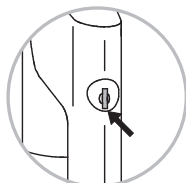
- On request, the MV stay striker (34) can be used as an additional locking point. Striker (38) must be ordered separately.
- Stay striker (33) is required for the sash groove (see fig.).
- Shorten operating rod S3 by 20 mm.



Function notes for handle, lockable/TBT

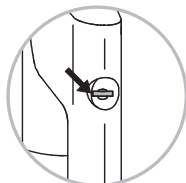


Verschlussstellung

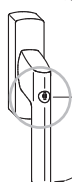


Kippstellung

Verschlussstellung

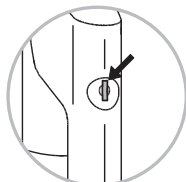


Drehstellung



Kippstellung

Verschlussstellung

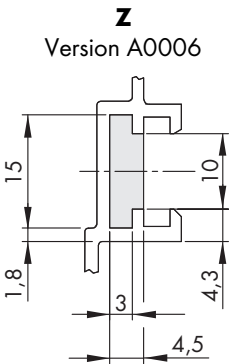
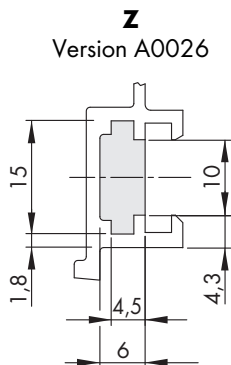
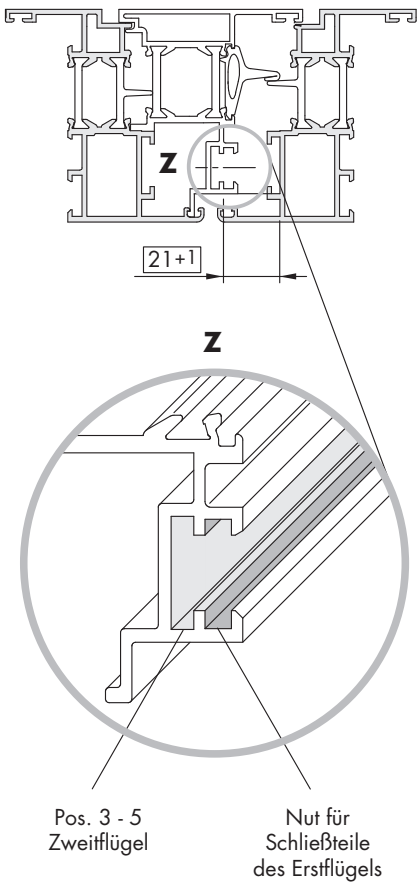


Abbreviations

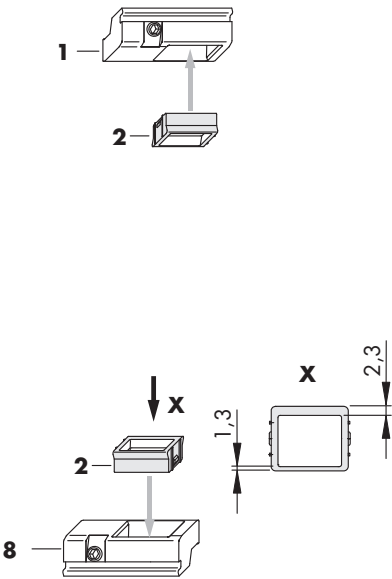
These assembly instructions contain the following abbreviations:

BS	Hinge side
BSO	Hinge side, top
a	Sash width
a1	Sash width, primary sash
a2	Sash width, secondary sash
b	Sash height
b1	Handle position, bottom
b2	Handle position, top
FBS-G	Mishandling device on handle
MV	Centre lock
SV	Side adjustment
VS	Locking side
VSO	Locking side, top
VSU	Locking side, bottom
S1	Operating rod, locking side, bottom
S2	Operating rod, locking side, top
S3	Operating rod, top horizontal
S4	Operating rod, hinge side
S5	Operating rod, bottom horizontal
S6	Operating rod, secondary sash locking side, bottom
S7	Operating rod, secondary sash locking side, top

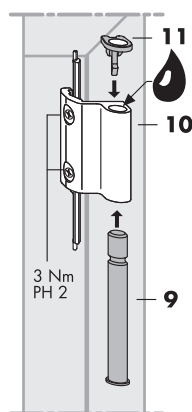
Profile recommendations for secondary sashes



Adjustable compression of the pressure pieces (2) + 1 mm

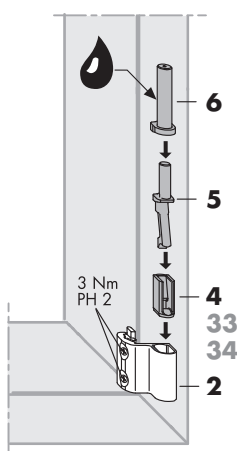


1. Installation on frame (BSO)



1. Push the washer (11) from above flush into the top hinge (10). Push the hinge pin (9) from below into the top hinge (10) until it is in the pre-engaged position.

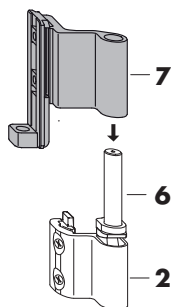
2. Installation on frame (BSU)



2. Connect bushing (6), bottom hinge pin (5) and pressure piece (4) and insert flush in the bottom hinge (2).

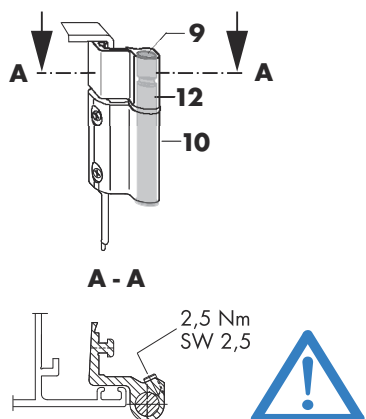
Note: Grease bushing (6) before installation.

3. Hanging the sash (BSU)



3. Place the sash with the corner hinge (7) on the bushing (6) and lower it until it is positioning.

4. Installation on sash (BSO)



4. Close the sash and insert the hinge pin (9) into the stay hinge (12) up to the stop of the top hinge (10).

Open sash and secure hinge pin (9) with grub screw (torque 2.5 Nm, SW 2.5).

Basic safety notes

Intended use

The hardware described in this document is intended to be installed in an aluminium window frame by a certified window construction specialist in accordance with these instructions. The windows must only be installed vertically.

The certified window construction specialist must ensure that the hardware is suitable for the application based on the specifications in these instructions and in the other documents specified.

Avoid excessive strain

Bearing components can break if they are exposed to excessive strain. If this happens, the window sash may fall out, leading to serious injuries.

If the hinge parts may be subject to excessive strain under certain conditions (use in schools, nursery schools, etc.), appropriate measures must be taken to prevent this from happening, such as using turning locks or tilt-before-turn opening (TBT).

- If in any doubt, please consult your SIEGENIA sales consultant.

Do not mix hardware components

The hardware components are designed to work with one another. If they are mixed on a window with hardware components from other systems or producers, it is not possible to guarantee that they will operate safely.

Hardware components may break and cause accidents.

- Only use the hardware components listed in these instructions together on a window.

Only treat window surfaces prior to assembly of hardware

- Surface treatment assembly of the hardware may affect the components' operational reliability.

Avoid damage caused by corrosion and debris

Corrosive materials, dirt and moisture may damage hardware components and cause hazards.

- Do **not** use acetic or acid-releasing sealants.
- Do **not** use the hardware components in environments where the air contains aggressive or corrosive components.
- Keep all rebates free of debris and dirt, especially cement and residues of plaster.
- Keep the hardware dry.

Clean hardware gently

- Only clean the hardware with a soft cloth and mild, diluted pH-neutral cleaning agents.
- The hardware must not be exposed to abrasive cleaners or aggressive, acidic cleaning agents.
- Leave the hardware to dry after cleaning.

Pass on information to the user of the window

- Attach the user information order no. 05083 to the installed window or door element so that it can be seen easily.
- Provide the user with the following documents:

- maintenance instructions ALU: order Nr. H49.ALUS001
(This documentation is intended for use by specialists only)

- service instructions ALU: order Nr. H47.ALUS001

- operating instructions ALU: order Nr. H47.ALUS002

This documentation is intended for use by specialists and users.

Disclaimer of liability

- We assume no liability for malfunctions and damage to the hardware, as well as the windows and patio doors that are equipped with them, resulting from inadequate tendering, failure to follow these installation instructions or from force being applied to the hardware (e.g. through improper use).