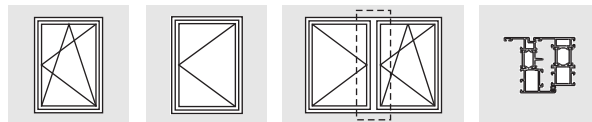


ALU 2200

The clampable hardware for aluminium windows and portal doors

Hardware certified in accordance with **QM 328**

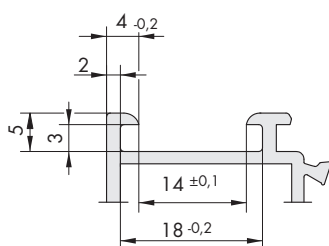


Further details and specifications/information regarding the product and liability (guidelines: VHBH, TDBK and VHBE) can be found in the aluminium planning manual (H4006.3042EN) and **must** be observed.

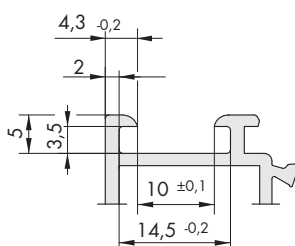
All dimensions given are final dimensions after the surface of the sections has been treated (painted, powder coated, etc.).

Frame groove size

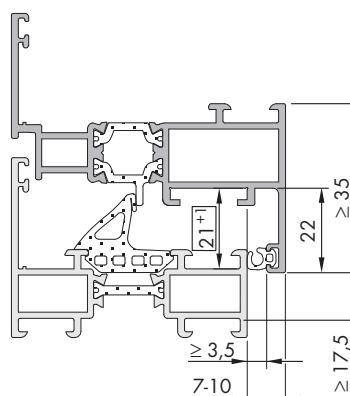
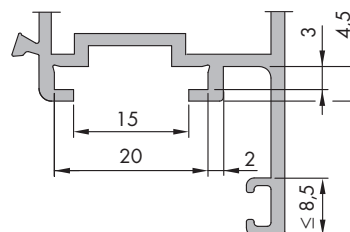
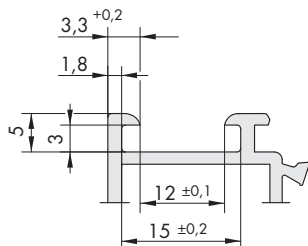
A0004



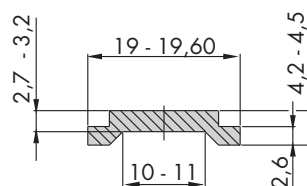
A0006



A0022

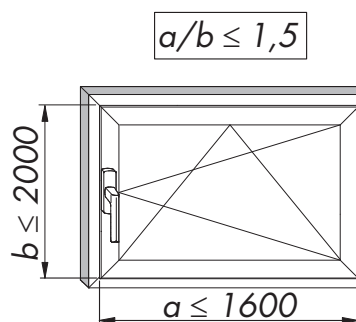
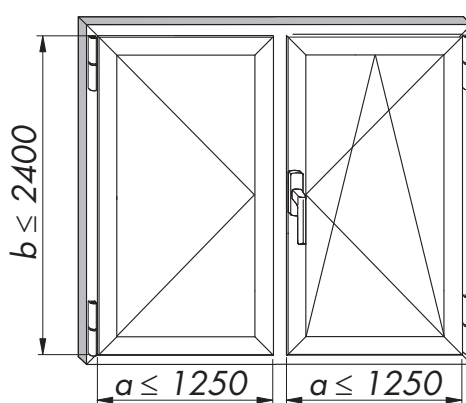
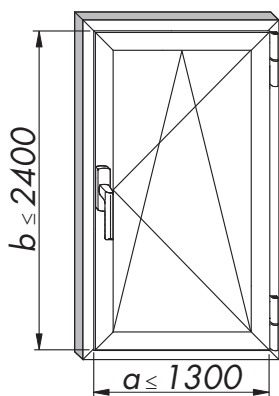


min. - max.



All dimensions in mm

Sash width	(a)	min. 375 - max. 1600
Sash height	(b)	min. 550 - max. 2400
Sash weight	(\bar{m})	max. 80 kg



Technical specifications and colours are subject to change

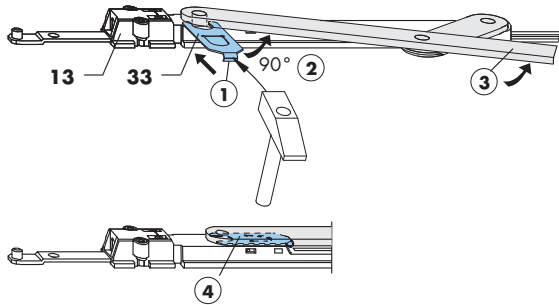
H48.2200LS001en_1_2013-02

Assembly Instructions
H48.2200LS001en

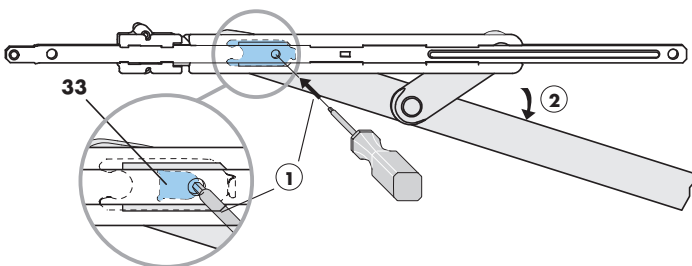
ALU 2200-DK Hardware list and installation notes

Item	Qty	Description		Material no.		Material no.		
1	1	LM Globe handle		See handle overview LM Drawing no.: H48.ZubhLS007de				
2-12	1	BS LM 2200	Silver	1	MMS50060-525010	10	MMS50060-525020	
			Brown	1	MMS50060-533010	10	MMS50060-533020	
			White RAL 9016	1	MMS50060-504010	10	MMS50060-504020	
			Black RAL 9005	1	MMS50060-523010	10	MMS50060-523020	
			Mill finish	-	-	10	MMS50060-500020	
13	1	Stay LM 2200	Size	a (in mm)	1	MSKK0010-000010	20	MSKK0010-000030
			20	375 - 600	1	MSKK0210-000010	20	MSKK0210-000030
			35	601 - 1,250	1	MSKK0210-000010	20	MSKK0210-000030
1) with LM 4200 additional stay			35 ¹⁾	1,251 - 1,600	1	MSKK0210-000010	20	MSKK0210-000030
14-17	1	Additional stay LM 4200	a > 1,250 mm + stay 35	1	857076	10	247006	
18-25	1	VS LM-DK KPS		1	MMV50250-100010	20	MMV50250-100030	
26-28	1	Coupling set FBS-G 9 mm		1	MMKL0030-100010	20	MMKL0030-100030	
29-31	2	MV LM 4200-DK	a/b > 1,250 mm	1	857045	20	246979	
29-31	2	MV LM4200/2200-DK A0172	a/b > 1,250 mm (see fig.)	1	MMMVO010-100010	20	MMMVO010-100030	
Accessories								
32	1	MV stay striker	(a 601 - 1,600) Stay size 35 only	1	MXSK0010-100010	20	MXSK0010-100030	
33	1	LM 2200 tilt restrictor	(a 601 - 1,250) Stay size 35 only	1	MXSK0030-000010	200	MXSK0030-000200	
34	1	Pressure piece SV right	Width adjustment: 0.8 mm	1	MBDR0021-100010	100	MBDR0021-100060	
35	1	Pressure piece SV left	Width adjustment: 0.8 mm	1	MBDR0022-100010	100	MBDR0022-100060	
36	1	Striker	Stay size 35 only	1	859322	20	265413	

Mounting the tilt restrictor (33)

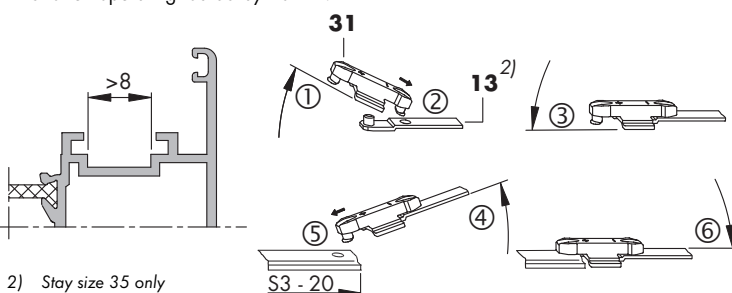


Removing the tilt restrictor (33)



Installation instructions for items 32 and 18

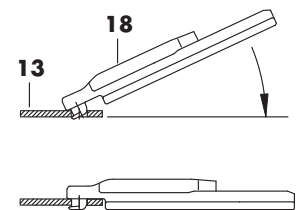
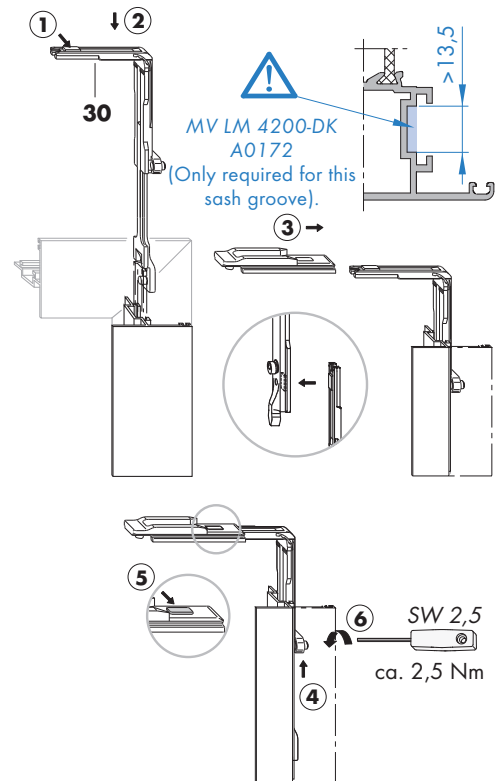
- If necessary, the MV stay striker (32) can be used as an additional locking point. Striker (35) must be ordered separately.
- MV stay striker (32) is required for the sash groove (see fig.).
- Shorten operating rod S3 by 20 mm.





2) Stay size 35 only

S3 - 20

Instructions for installing the VSU/BSO corner drive (31) A0172

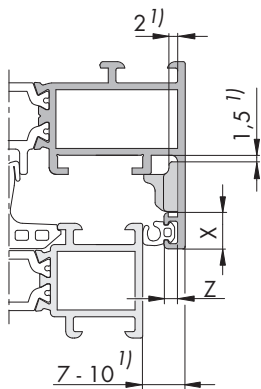


ALU 2200-D Hardware list and installation notes

Item	Qty	Description		Material no.		Material no.	
Generally required	1	LM Globe handle		See handle overview LM Drawing no.: H48.ZubhLS007de			
	2-12	BS LM 2200	Silver	1	MMBS0060-525010	10	MMBS0060-525020
	(See fig. on page 7)		Brown	1	MMBS0060-533010	10	MMBS0060-533020
			White RAL 9016	1	MMBS0060-504010	10	MMBS0060-504020
			Black RAL 9005	1	MMBS0060-523010	10	MMBS0060-523020
			Mill finish	-	-	10	MMBS0060-500020
13-14	Accessories - LM 2200 turn-only stay		1	MZBS0040-000010	20	MZBS0040-000030	
15-21	VS LM 4200-D		1	857014	20	246948	
22-24	MV LM 4200-D VS/BS	$b > 1250 \text{ mm}$	1	857052	20	246986	
25-28	MV LM4200/2200-D VSU/VSO	$a > 1,250 \text{ mm}$	1	MMMV0040-100010	20	MMMV0040-100030	
25-28	MV LM4200/2200-D VSU/VSO A0172	$a > 1250 \text{ mm}$ (see fig.)	1	MMMV0020-100010	20	MMMV0020-100030	
Accessories							
29	1	Handle support LM	-	-	200	(See table)	
30	1	Stop	1	820544	10	222805	
34	1	Pressure piece SV right (See fig. on page 7)	Width adjustment: 0.8 mm	1	MBDR0021-100010	100	MBDR0021-100060
35	1	Pressure piece SV left (See fig. on page 7)	Width adjustment: 0.8 mm	1	MBDR0022-100010	100	MBDR0022-100060

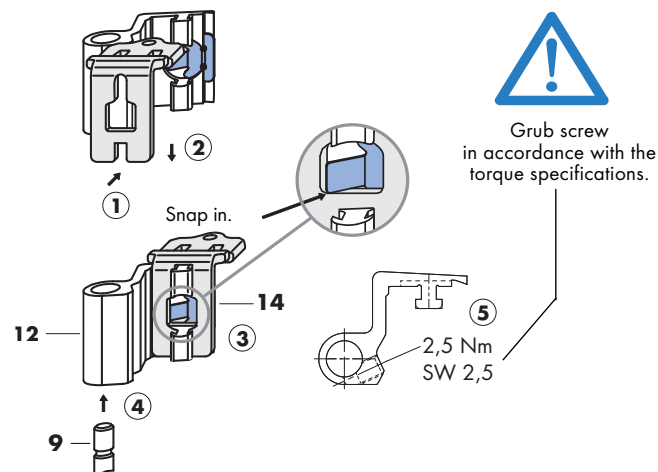
Design variations for handle support (29)

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	-

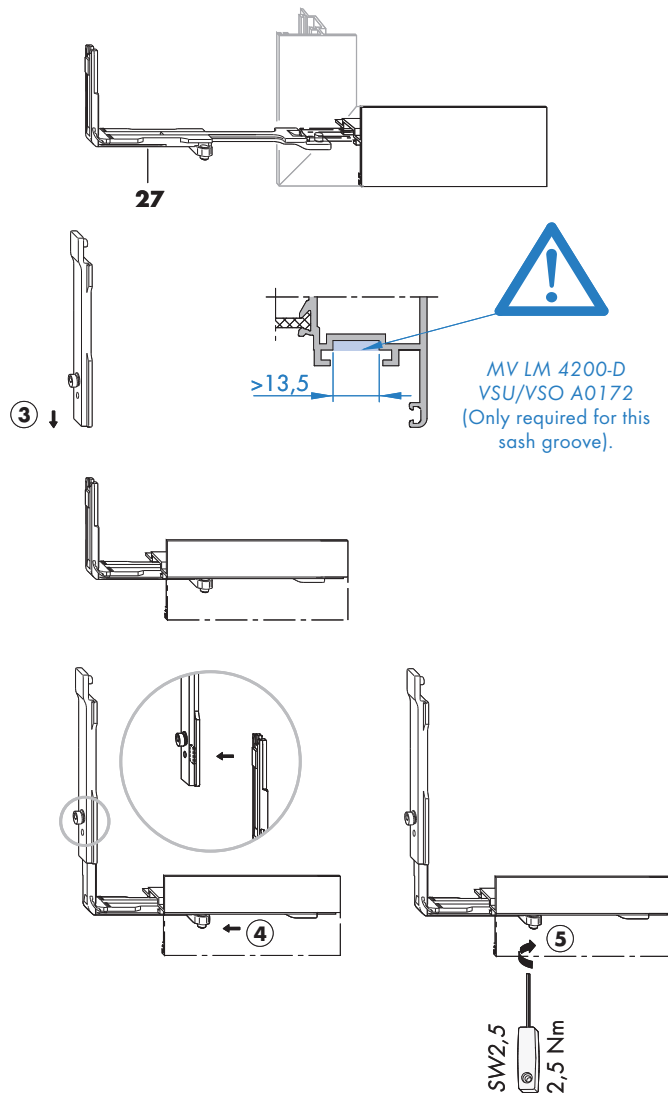


1) Required space



Instructions for installing the stay hinge (12), adapter (14) and top hinge pin (9).



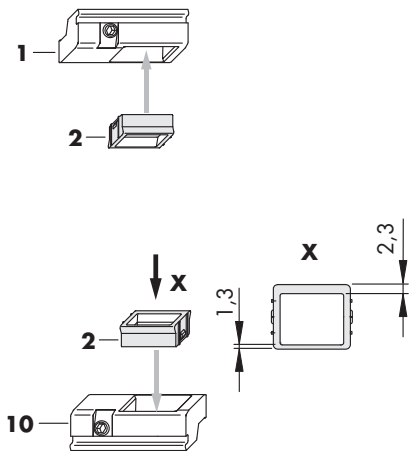
Instructions for installing the VSU/BSO corner drive (30) A0172





VS ALU 2200-DS Hardware list and pressure adjustment

Item	Qty	Description		Material no.		Material no.
1-10	1	VS LM 4200-DS A0109	1	879368	20	266885
11	1	LM 4200/2200-D stay <i>Secondary sash</i>	1	MSKD0010-100010	100	MSKD0010-100060
12-13	1	Accessories - LM 2200 turn-only stay	1	MZBS0040-000010	20	MZBS0040-000030
-	1	MV LM 4200-D VS/BS <i>b > 1250 mm</i> <small>(See fig. on page 8, items 22 - 23)</small>	1	857052	20	246986

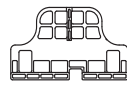
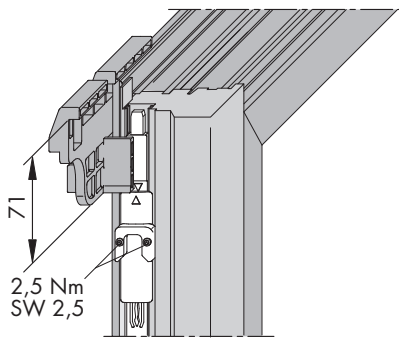
Pressure adjustment of the pressure pieces (2) + 1 mm



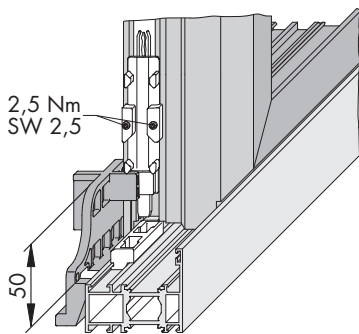
VS ALU 2200-DS/K A0004 *Hardware list, installation notes and pressure adjustment*

Item	Qty	Description		Material no.		Material no.
1-10	1	VS LM-DS/K DN A0004 Z5.0 <i>Secondary sash</i>	1	MMVS0380-100010	20	MMVS0380-100030
11-13	1	Gear set DS/A DN A0004 Z5.0 <i>Secondary sash</i>	1	MMGI0100-100010	20	MMGI0100-100030
14	1	LM 4200/2200-D stay <i>Secondary sash</i>	1	MSKD0010-100010	20	MSKD0010-100030
15-16	1	Accessories - LM 2200 turn-only stay <i>Secondary sash</i>	1	MZBS0040-000010	20	MZBS0040-000030
17-24	1	VS LM-DK FBS-G 9 MM A0172 <i>Main sash</i>	1	MMVS0360-100010	20	MMVS0360-100020

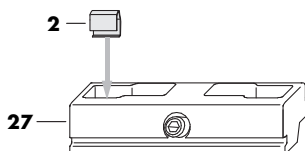
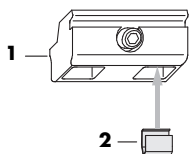
Instructions for positioning the LM striker jig on the secondary sash

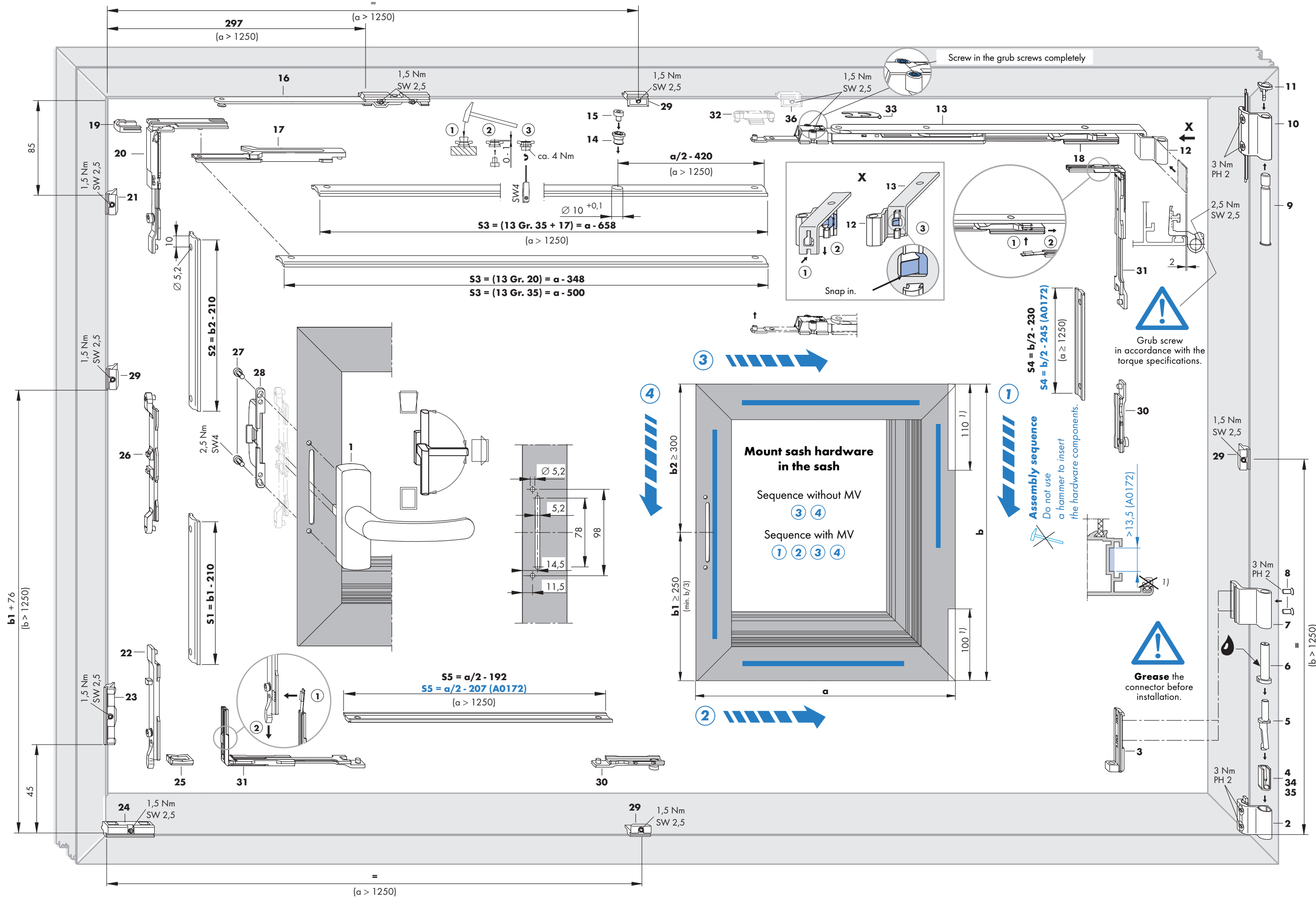


Description	Material no.
LM A0004 striker jig	879504

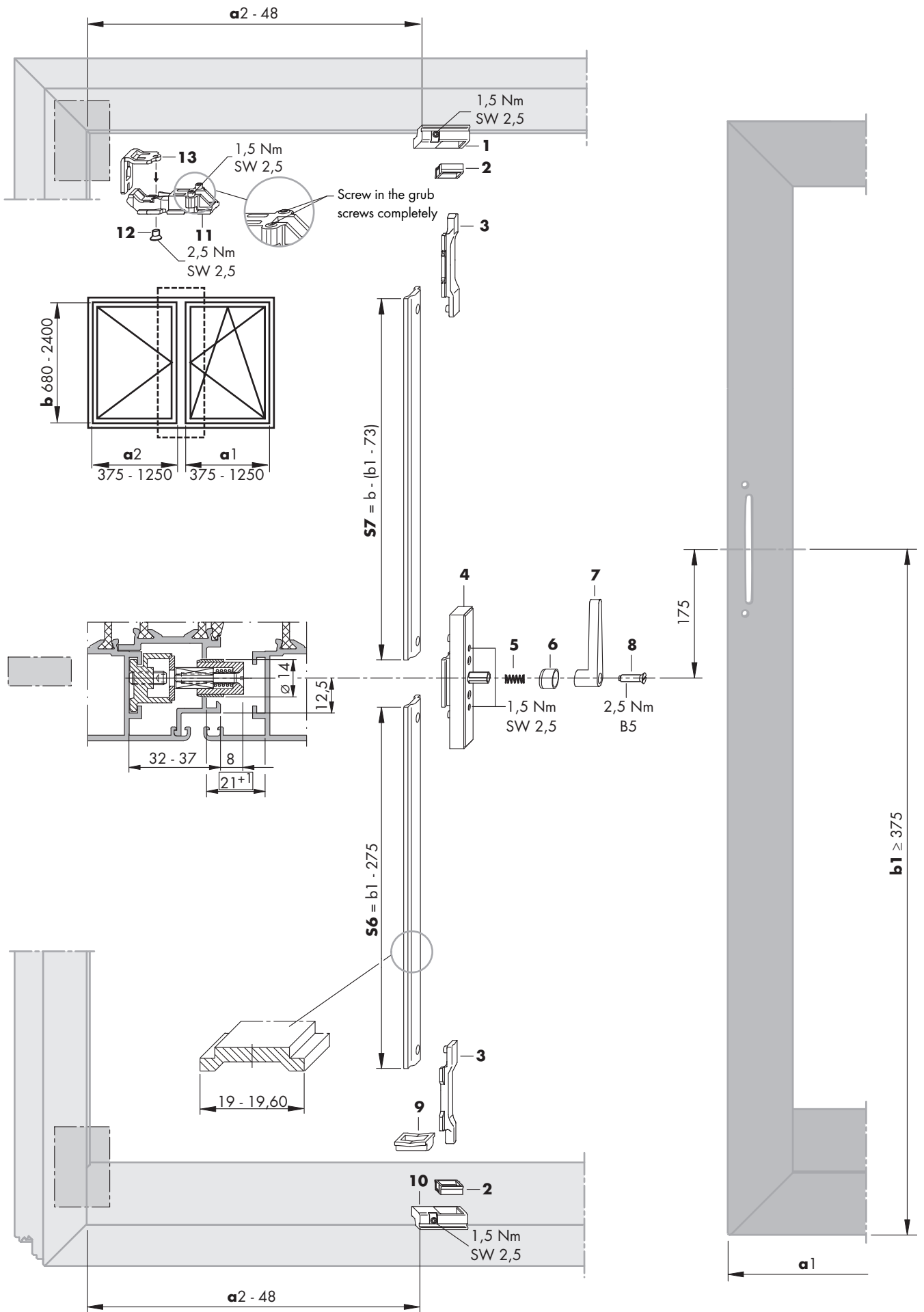


Contact pressure setting with stop springs (2) +0.5 mm

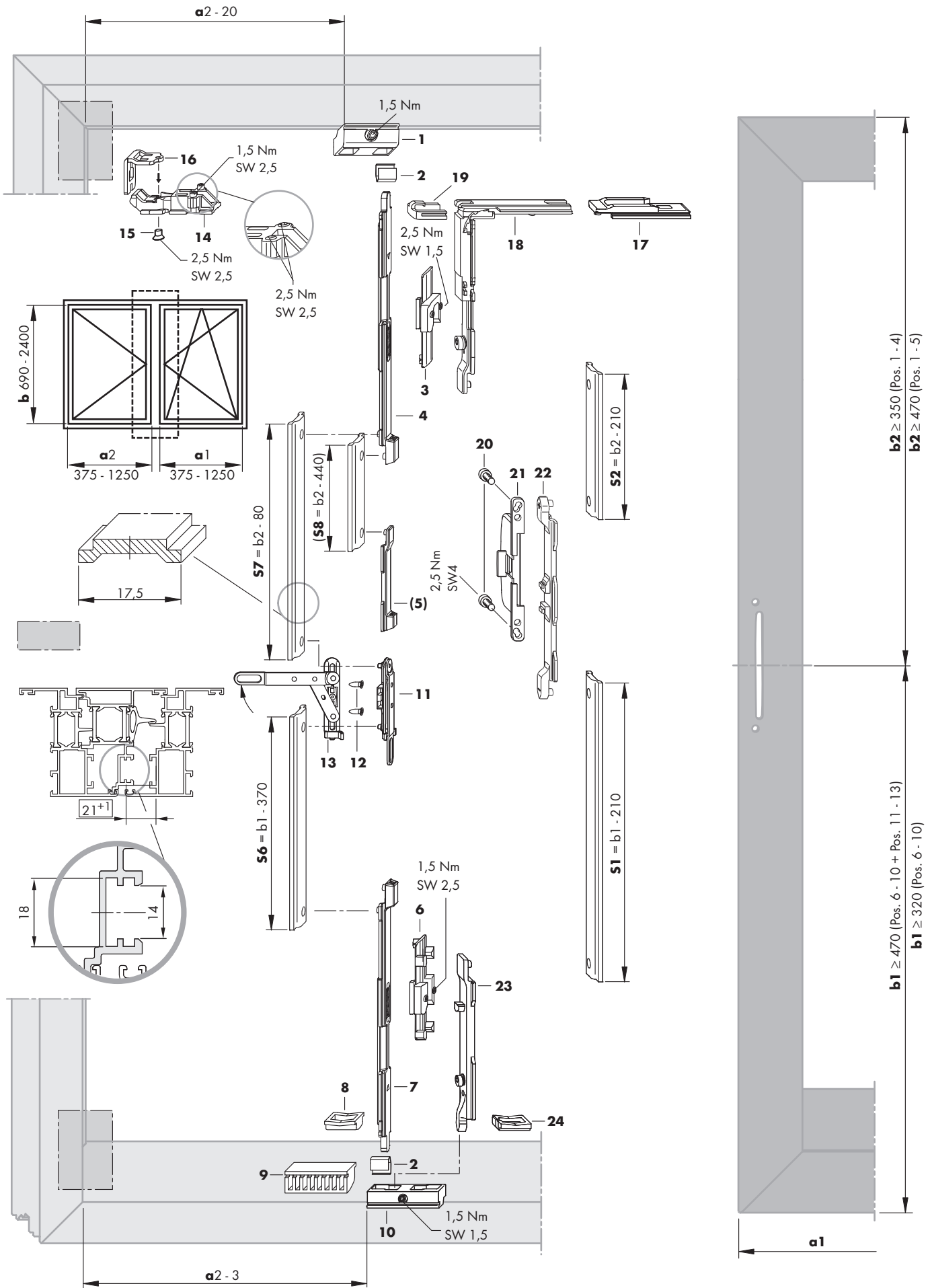


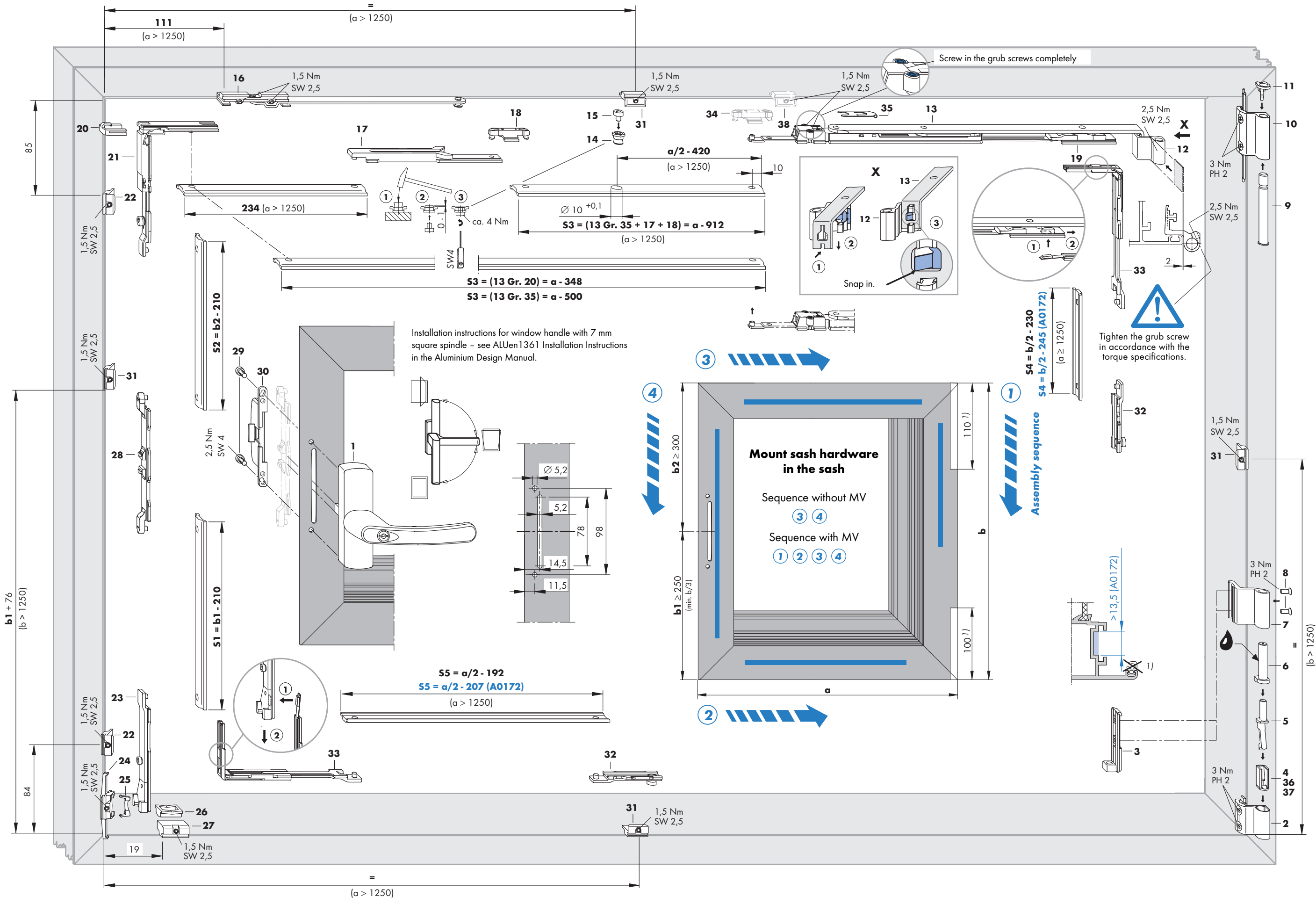


ALU 2200-DS Hardware layout and installation dimensions

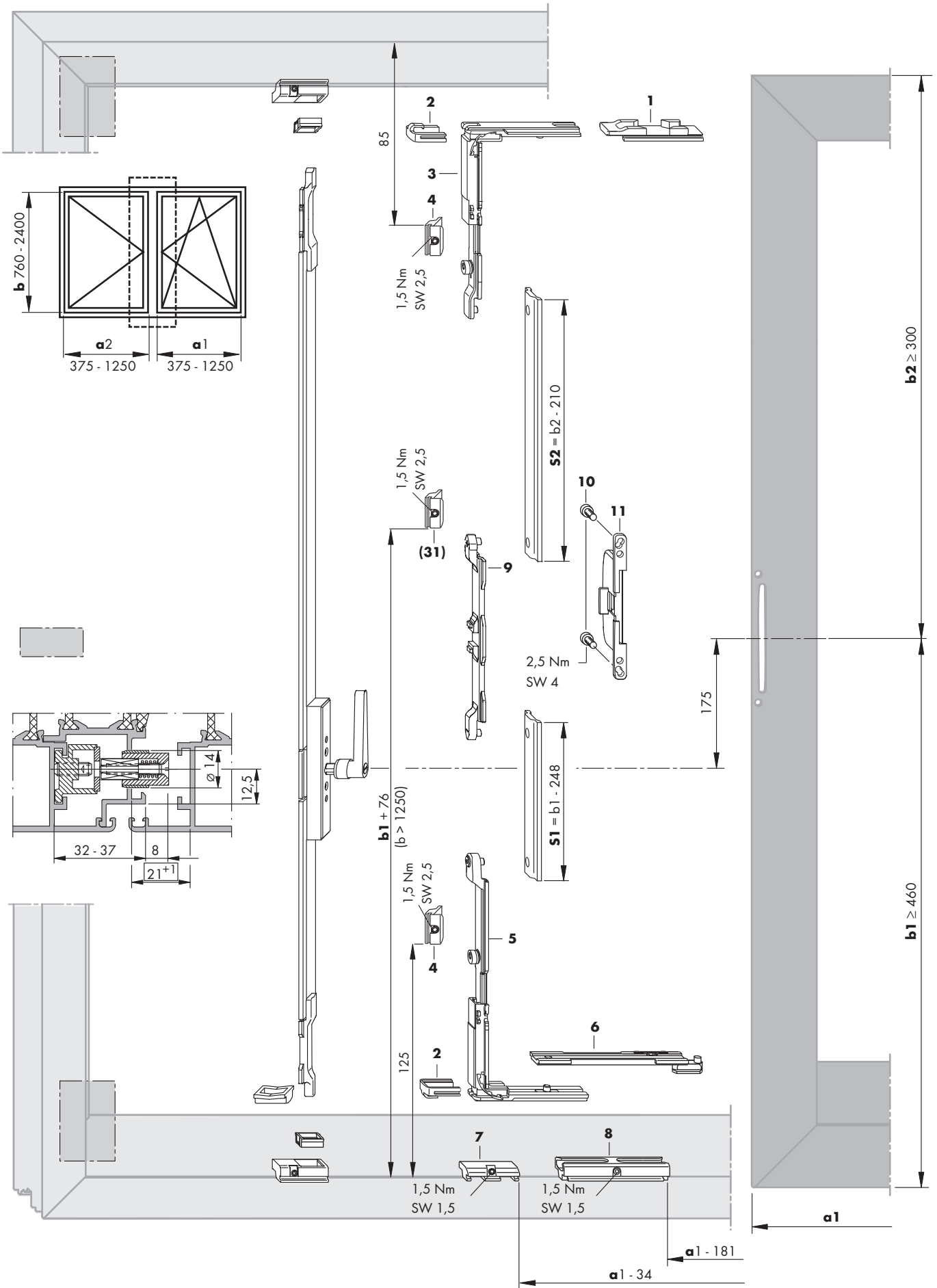


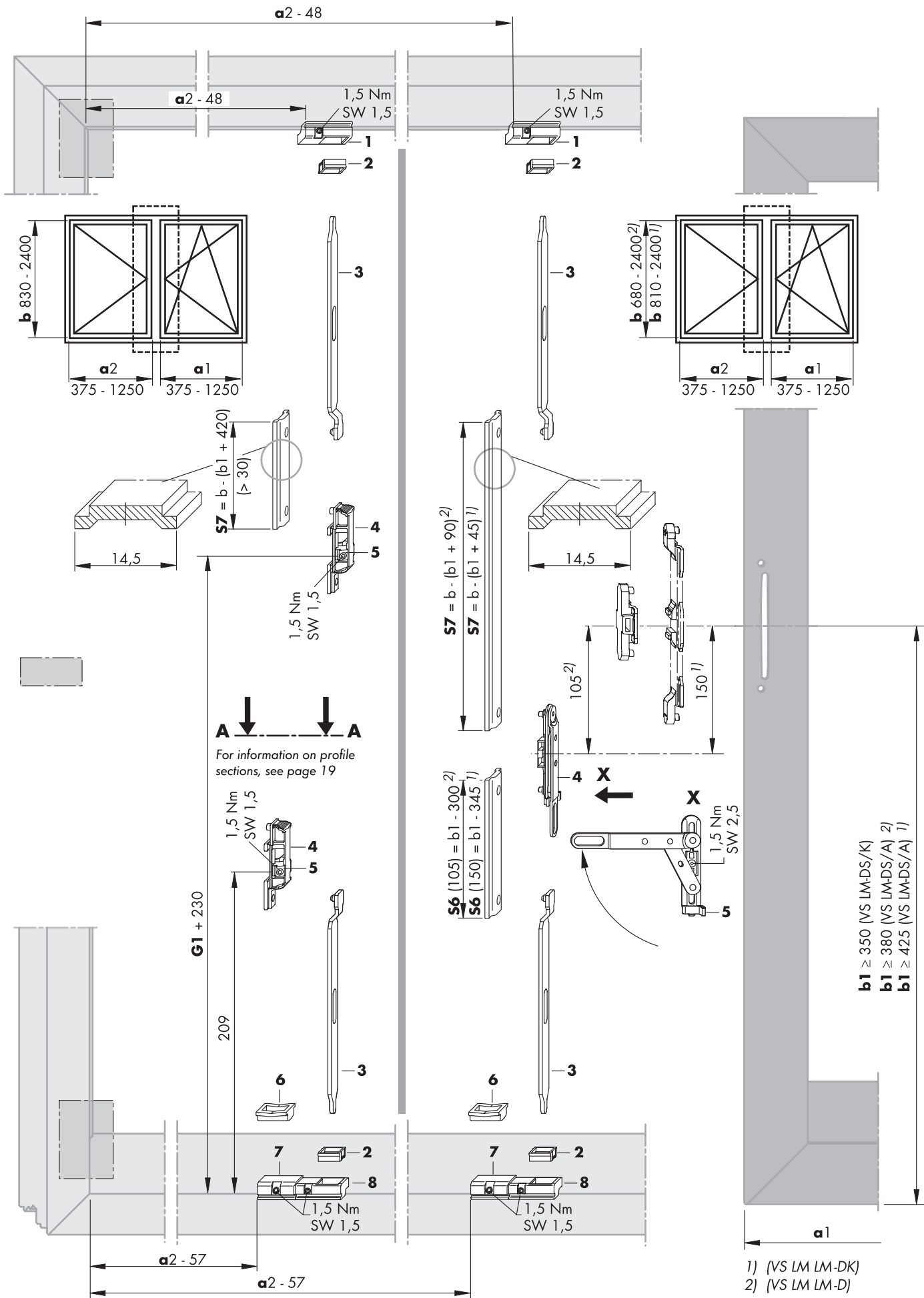
VS ALU 2200-DS/K A0004 Hardware layout and installation dimensions





VS ALU 2200-TBT/DS Hardware layout and installation dimensions





ALU 2200 Diagram for determining allowable sash sizes, abbreviations

Glass thickness in mm without air gap

12 mm glass thickness (equivalent to 30 kg/m²)

16 mm glass thickness (equivalent to 40 kg/m²)

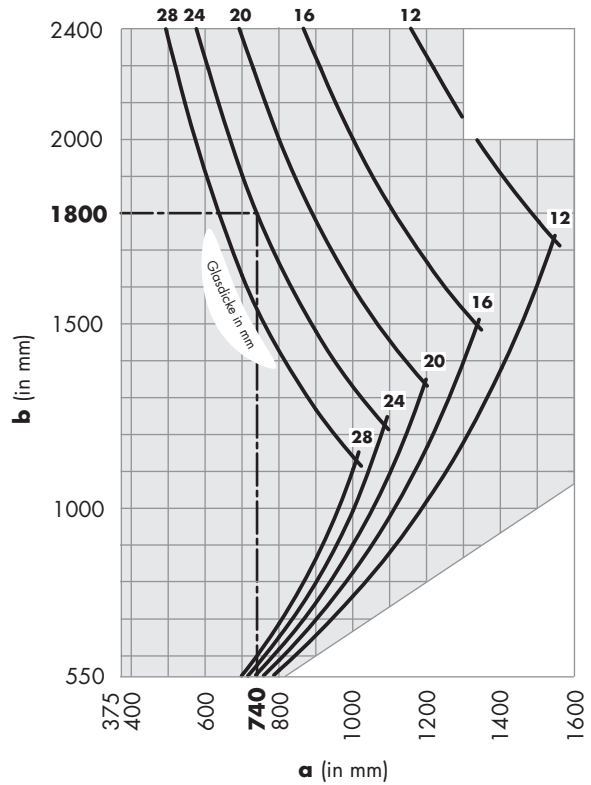
20 mm glass thickness (equivalent to 50 kg/m²)

24 mm glass thickness (equivalent to 60 kg/m²)

28 mm glass thickness (equivalent to 70 kg/m²)

1 mm/m² glass thickness = 2.5 kg

Example (---): sash height = 1,800 mm
 glass thickness = 24 mm
 maximum allowable sash width = **740 mm**



For glass thicknesses under 12 mm, all sash sizes can be used, as long as they are within the size range and do not exceed a width to height ratio of 1.5.

Abbreviations

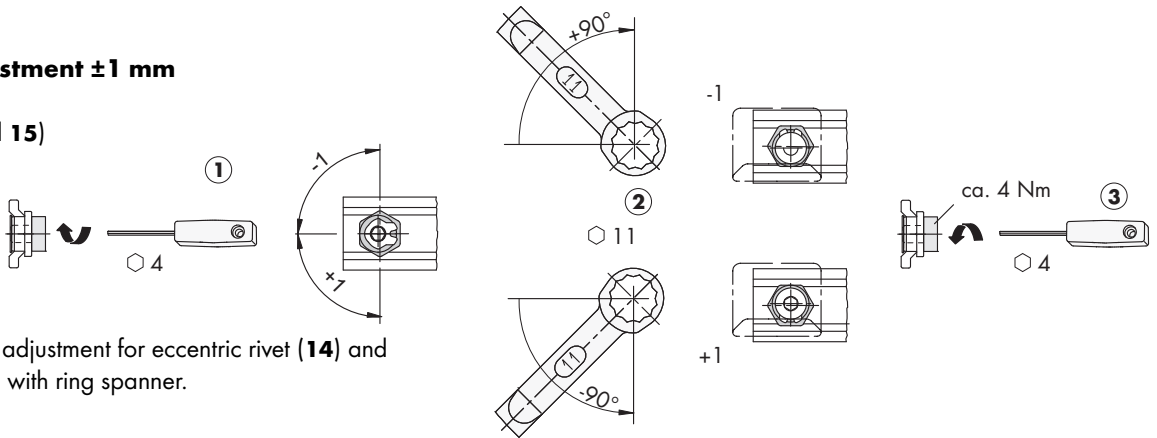
The following abbreviations are used in these assembly instructions:

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

ALU 2200 Pressure adjustment and setting options

Pressure adjustment ± 1 mm

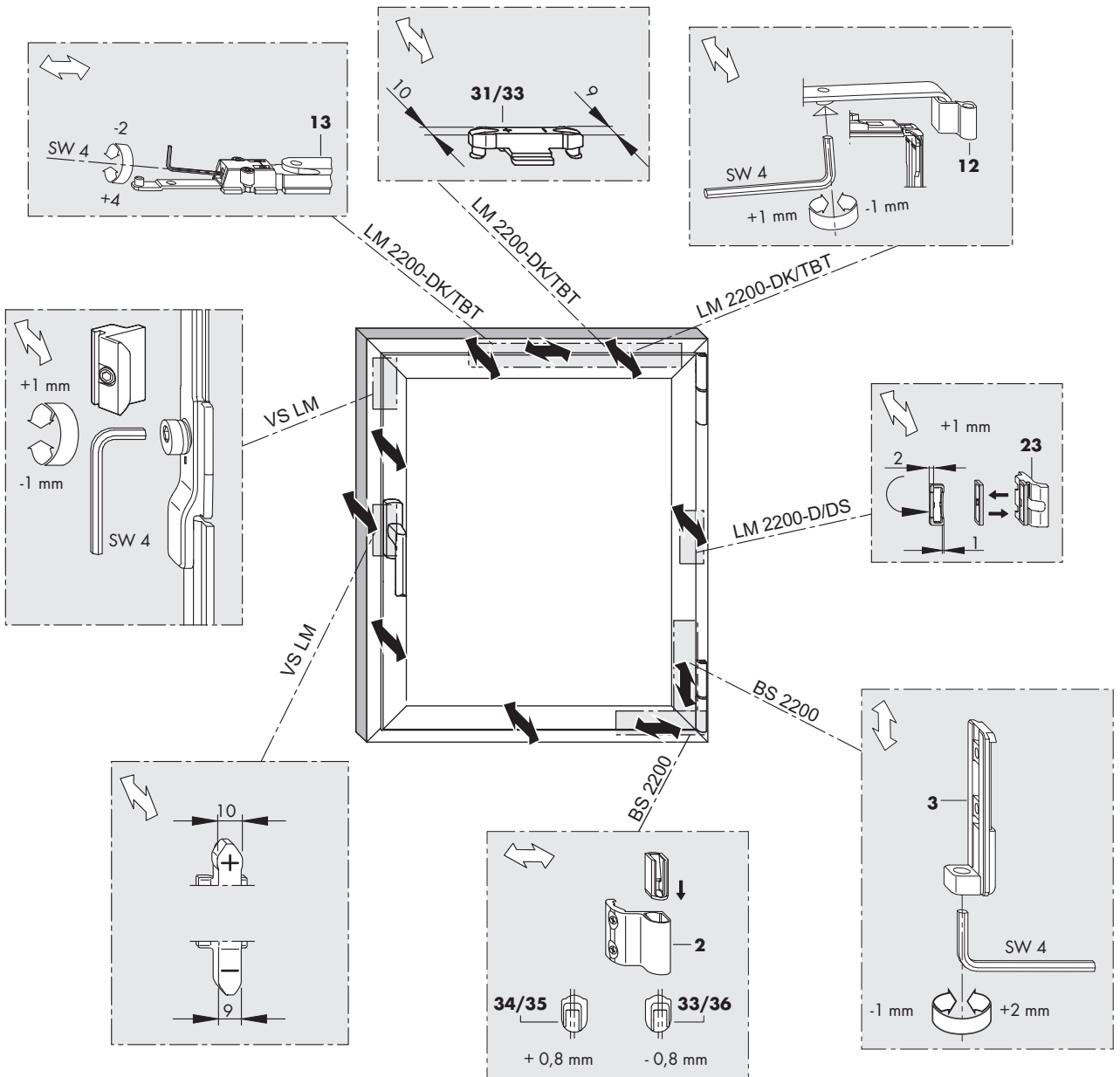
(for items 14 and 15)



Perform pressure adjustment for eccentric rivet (14) and locking cam (15) with ring spanner.

ALU 2200 setting options

LM4200-D stay, not pictured (key dimension 2.5)



ALU 2200-TBT Hardware list and installation notes

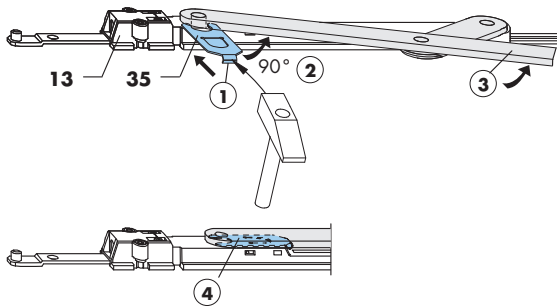
Item	Qty	Description		Material no.		Material no.						
1	1	LM Globe handle, lockable/TBT		See handle overview LM Drawing no.: H48.ZubhLS007de								
	2-12	BS LM 2200	Silver	1	MMSB0060-525010	10	MMSB0060-525020					
			Brown	1	MMSB0060-533010	10	MMSB0060-533020					
			White RAL 9016	1	MMSB0060-504010	10	MMSB0060-504020					
			Black RAL 9005	1	MMSB0060-523010	10	MMSB0060-523020					
			Mill finish	-	-	10	MMSB0060-500020					
13	1	Stay LM 2200	Size	a (in mm)	1	MSKK0010-000010	20	MSKK0010-000030				
			20	375 - 600					1	MSKK0210-000010	20	MSKK0210-000030
			35	601 - 1,250								
1) with additional stay LM			35 ¹⁾	1,251 - 1,600	1	MSKK0210-000010	20	MSKK0210-000030				
14-17	1	Additional stay LM 4200	a > 1,250 mm + stay 35	1	857076	10	247006					
18	1	Stay striker MV	a > 1,250 mm	1	MXSK0010-100010	20	MXSK0010-100030					
19-27	1	VS LM-TBT KPS		1	MMV50270-100010	20	MMV50270-100030					
28-30	1	Coupling set FBS-G 9 mm		1	MMKL0030-100010	20	MMKL0030-100030					

31-33	2	MV LM 4200-DK	a/b > 1,250 mm	1	857045	20	246979
31-33	2	MV LM 4200-DK A0172	a/b > 1,250 mm (see fig.)	1	MMMVO010-100010	20	MMMVO010-100030

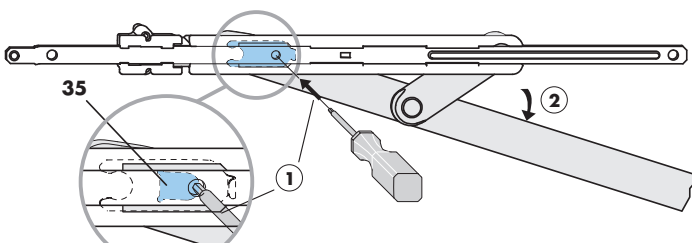
Accessories

34	1	MV stay striker	(a 601 - 1,600) Stay size 35 only	1	(see item 18).	-	(see item 18).
35	1	LM 2200 tilt restrictor	(a 601 - 1,250) Stay size 35 only	1	MXSK0030-000010	200	MXSK0030-000200
36	1	Pressure piece SV right	Width adjustment: 0.8 mm	1	MBDR0021-100010	100	MBDR0021-100060
37	1	Pressure piece SV left	Width adjustment: 0.8 mm	1	MBDR0022-100010	100	MBDR0022-100060
38	1	Striker	Stay size 35 only	1	859322	20	265413

Mounting the tilt restrictor (35)

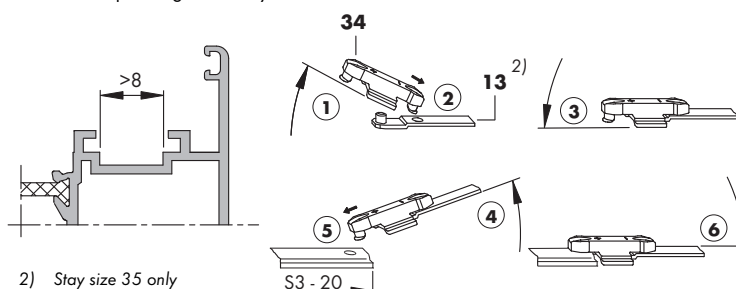


Removing the tilt restrictor (35)



Installation instructions for items 34 and 19

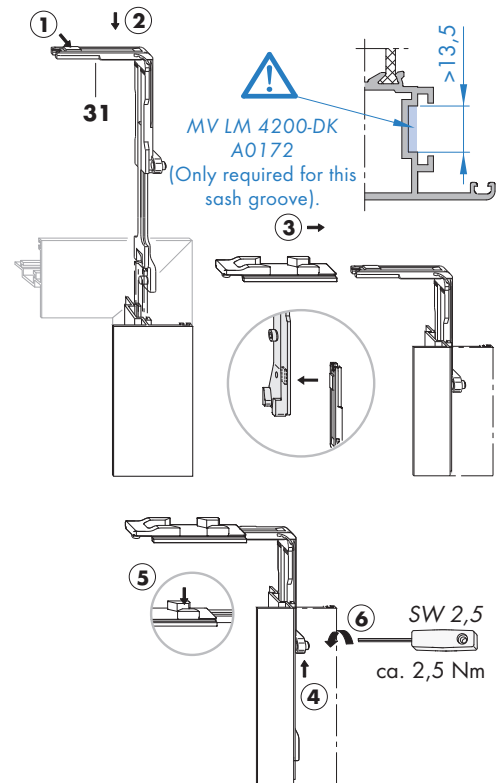
- If necessary, the MV stay striker (34) can be used as an additional locking point. Striker (38) must be ordered separately.
- Stay striker (33) is required for the sash groove (see fig.).
- Shorten operating rod S3 by 20 mm.



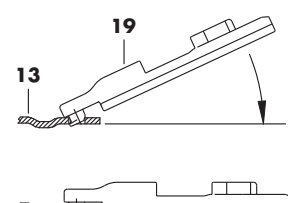
2) Stay size 35 only

S3 - 20

Instructions for installing the VSU/BSO corner drive (31) A0172



SW 2,5
ca. 2,5 Nm



VS ALU 2200-TBT/DS Hardware list and function notes

Item	Qty	Description		Material no.		Material no.		
1-8	1	VS LM-DK-TBT KPW <i>Main sash</i>		MMVS0400-100010	20	MMVS0400-100030		
9-11	1	LM FBS-G 9MM coupling set <i>Main sash</i>		MMKL0030-100010	20	MMKL0030-100010		
-	1	Stay LM 2200 (See fig. on pages 11 - 12)	Size 20	a (in mm) 375 - 600	1	MSKK0010-000010	20	MSKK0010-000030
	1		35	601 - 1,250	1	MSKK0210-000010	20	MSKK0210-000030
-	0 to 1	MV LM 4200-DK <i>b > 1,250 mm</i>	(See fig. on page 12, items 31 - 33)	857045	20	246979		
-	0 to 1	MV LM 4200/2200-DK A0172 <i>b > 1,250 mm</i>	(See fig. on page 12, items 31 - 33)	MMMV0010-100010	20	MMMV0010-100030		
-	0 to 1	Stay striker MV <i>Stay size 35 only (a 601 - 1,250)</i>	(See fig. on page 12, item 34)	MXSK0010-100010	20	MXSK0010-100030		
-	0 to 1	LM 2200 tilt restrictor <i>Stay size 35 only (a 601 - 1,250)</i>	<i>For information on installation, see page 17 item 35)</i>	MXSK0030-000010	200	MXSK0030-000200		

For information on the secondary sash, see pages 4 and 9

Function notes for handle, lockable/TBT

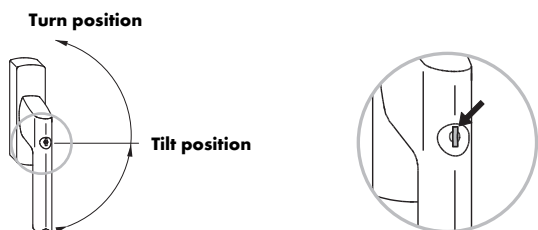


Locked position



Tilt position

Locked position





Turn position

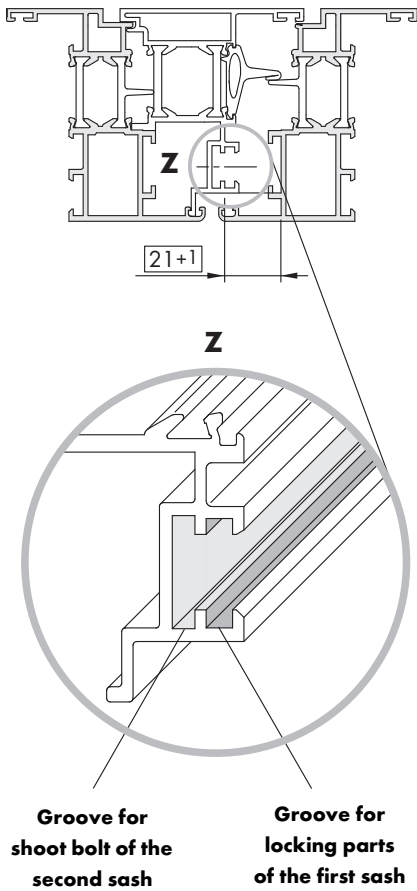
Tilt position

Locked position

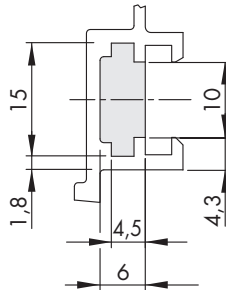
VS ALU 2200-DS/K/A Hardware list, suggested profiles for secondary sash

Item	Qty	Description		Material no.		Material no.
1-8	1	VS LM-DS/K secondary sash	1	860830	20	249338
1-8	1	VS LM-DS/A A0026 secondary sash	1	864425	20	252192
	1	VS LM-DS/A A0006 secondary sash	1	860823	20	249321
-	1	LM 4200/2200-D stay (See fig. on page 10, item 12)	1	MSKD0010-100010	100	MSKD0010-100060
-	1	Accessories - LM 2200 turn-only stay (See fig. on page 10, items 13 - 14)	1	MZBS0040-000010	20	MZBS0040-000030
-	1	MV LM 4200-D VS/BS (b > 1,250 mm) (See fig. on page 8, items 22 - 23)	1	857052	20	246986

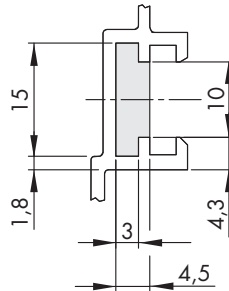
Suggested profiles for secondary sash



Z
Version A0026



Z
Version A0006



Pressure adjustment of the pressure pieces (2) + 1 mm

