

Horizontal section
Scheme 431

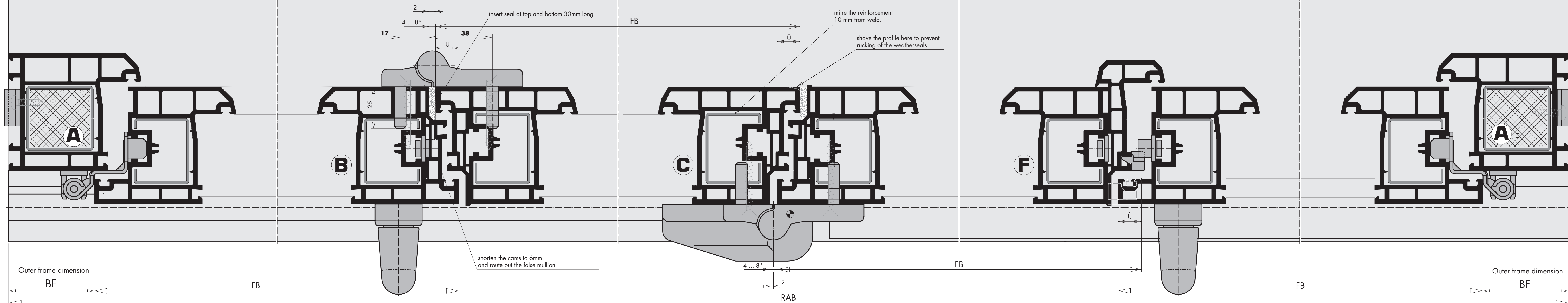


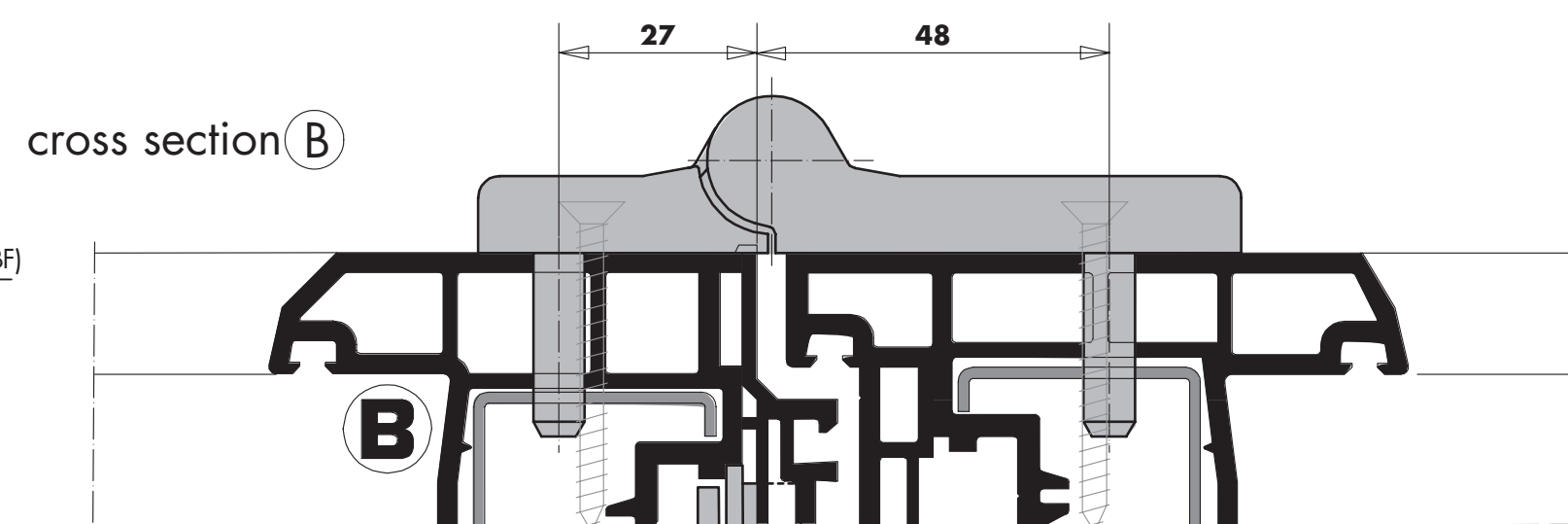
Table to calculate sash sizes FB

Scheme	FB=
321, 330	$\frac{RAB + (2 \cdot \bar{U}) - (2 \cdot BF)}{3}$
431	$\frac{RAB + (3 \cdot \bar{U}) - (2 \cdot BF)}{4}$
541, 550, 532	$\frac{RAB + (4 \cdot \bar{U}) - (2 \cdot BF)}{5}$
651, 633	$\frac{RAB + (5 \cdot \bar{U}) - (2 \cdot BF)}{6}$
761, 770, 743	$\frac{RAB + (6 \cdot \bar{U}) - (2 \cdot BF)}{7}$

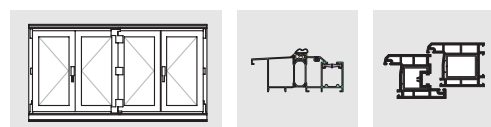
\bar{U} = Overlap
BF = Outer frame dimension

General formula

$$FB = \frac{RAB + [(No. \text{ of sashes} - 1) \cdot \bar{U}] - (2 \cdot BF)}{No. \text{ of sashes}}$$



FS-PORTAL KF low threshold FS
Fold & slide door hardware for pvc doors - 12 mm air gap



... with the following benefits

- Wheelchair accessible
- multiple adjustment possibilities
- easy running due to special bogie with ball bearing rollers
- thermally broken unobstructed threshold FS with integral brush seal

Size range

Sash width (mm)	330 ¹⁾ to 900
Sash rebate height (mm)	840 to 2360
Outside frame width (mm)	Derive from the sash widths to suit profile system and scheme
Sash weight (kg)	max. 80
Backset-Standard gear (mm)	15
Backset lockable gear (mm)	25 - 55
Handle location variable (mm)	420 to 1180
Over rebate height (mm)	13 to 24 ²⁾

¹⁾ Access sash if possible larger than 600 mm!
²⁾ Components for over-rebate heights of 19 to 24 mm

The size ranges specified above apply to the SIEGENIA AUBI FS-PORTAL KF hardware. To achieve a better load transfer we recommend bottom running elements.

In addition to the details given by the profile manufacturer or the system owner also apply, particularly on possible limitations on sash dimensions, max. number of sashes per element, sash weight and the spacing of locking elements. Where specific manufacturing regulations or working guidelines exist, these must be expressly observed.

Note on determining the sash widths

To enable efficient manufacturing, the same sash widths are designated for all sashes in the sash determination table. This prevents complete folding back of the sashes, i.e. the parallel position of the folded package is approx. ca. 95°.

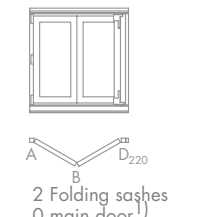
If the sashes need to fold back 90°, the following 3 options are possible:

- make the sashes different widths to suit the pivot points
- At intersection point A use the sash hinges FS with distance pieces FS instead of the FAVORIT DF components. This reduces the folding over.
- Use a wider frame profile if necessary with extension and a flat handle.

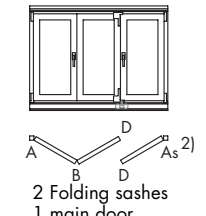
Assembly Instructions
FSgb4025

FS-PORTAL KF low threshold FS - 12 mm air gap Scheme overview

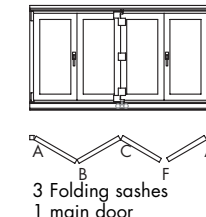
Scheme 220*



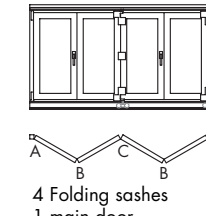
Scheme 321



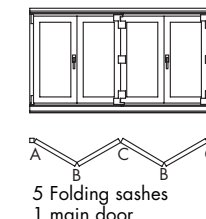
Scheme 431



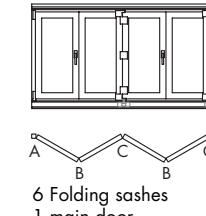
Scheme 541



Scheme 651



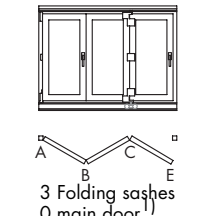
Scheme 761



Note: All schemes can also be carried out at opposite hand.
For Scheme 220, 440 and 660 please note: Different sash widths required! Request profile related drawing!

1) Access through 1st folding sash
2) e.g. As = Point A opposite hand etc.

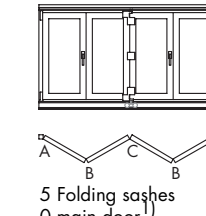
Scheme 330



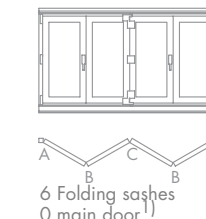
Scheme 440*



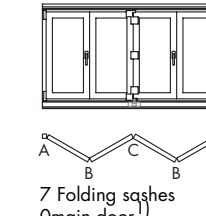
Scheme 550



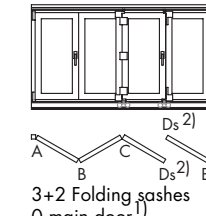
Scheme 660*



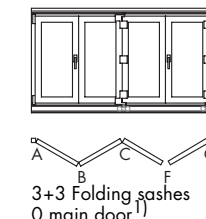
Scheme 770



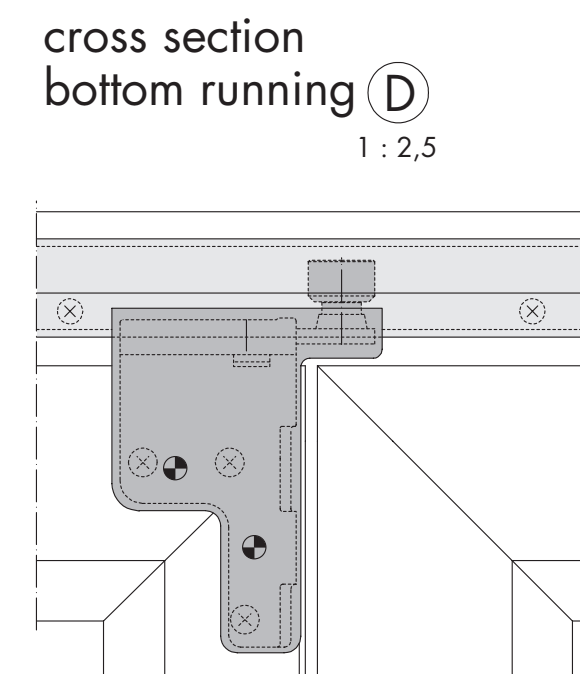
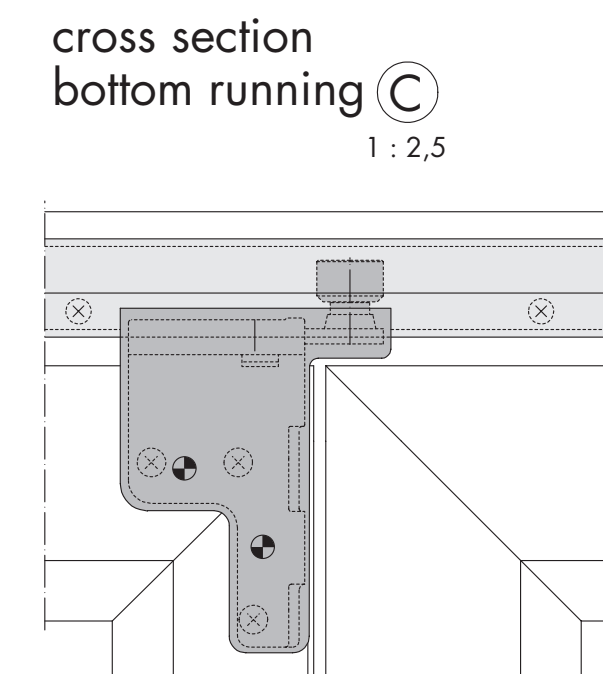
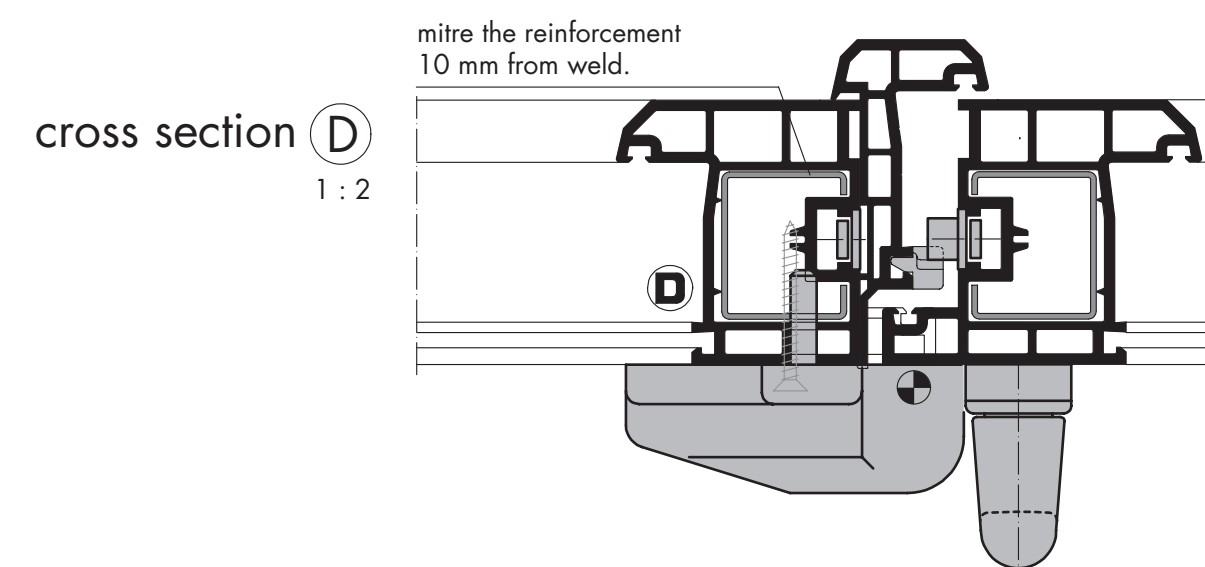
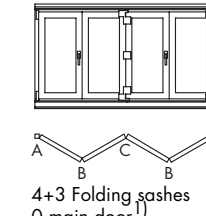
Scheme 532



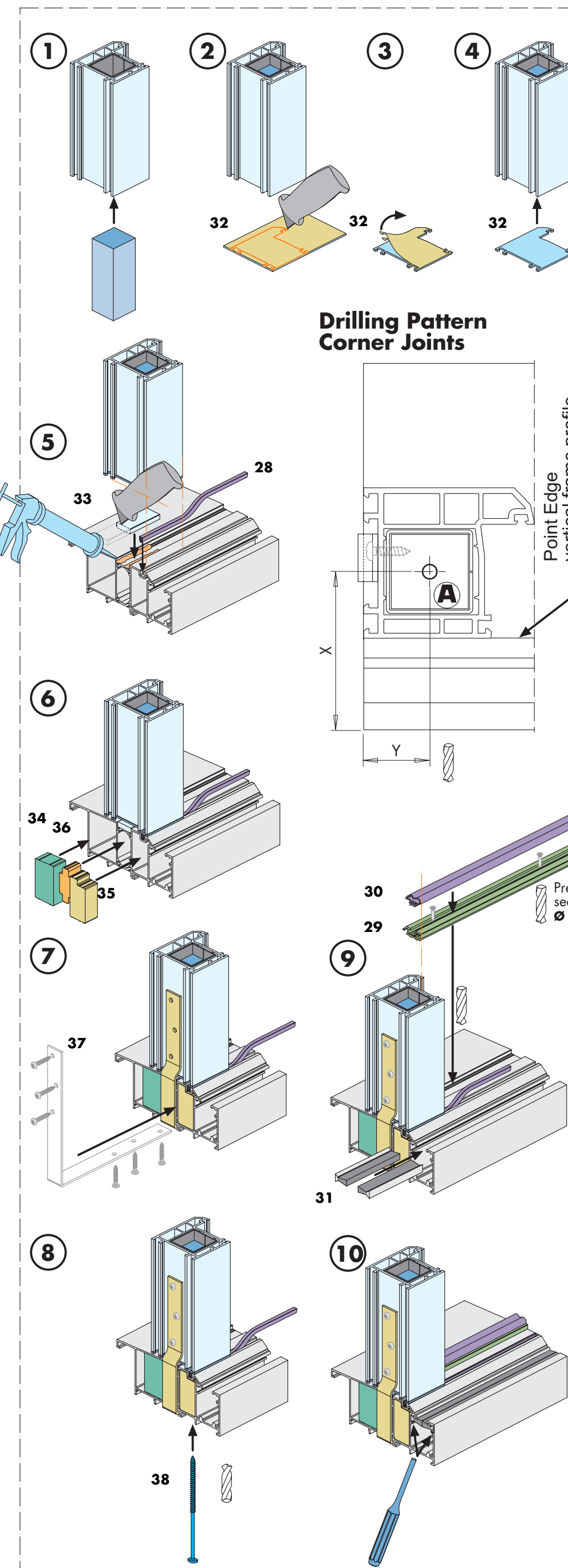
Scheme 633



Scheme 743



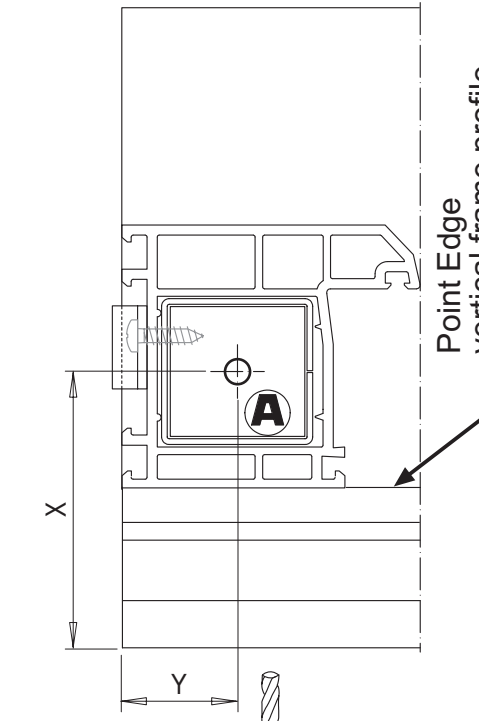
Because of their better load dispersal we recommend bottom-running elements be given preference.



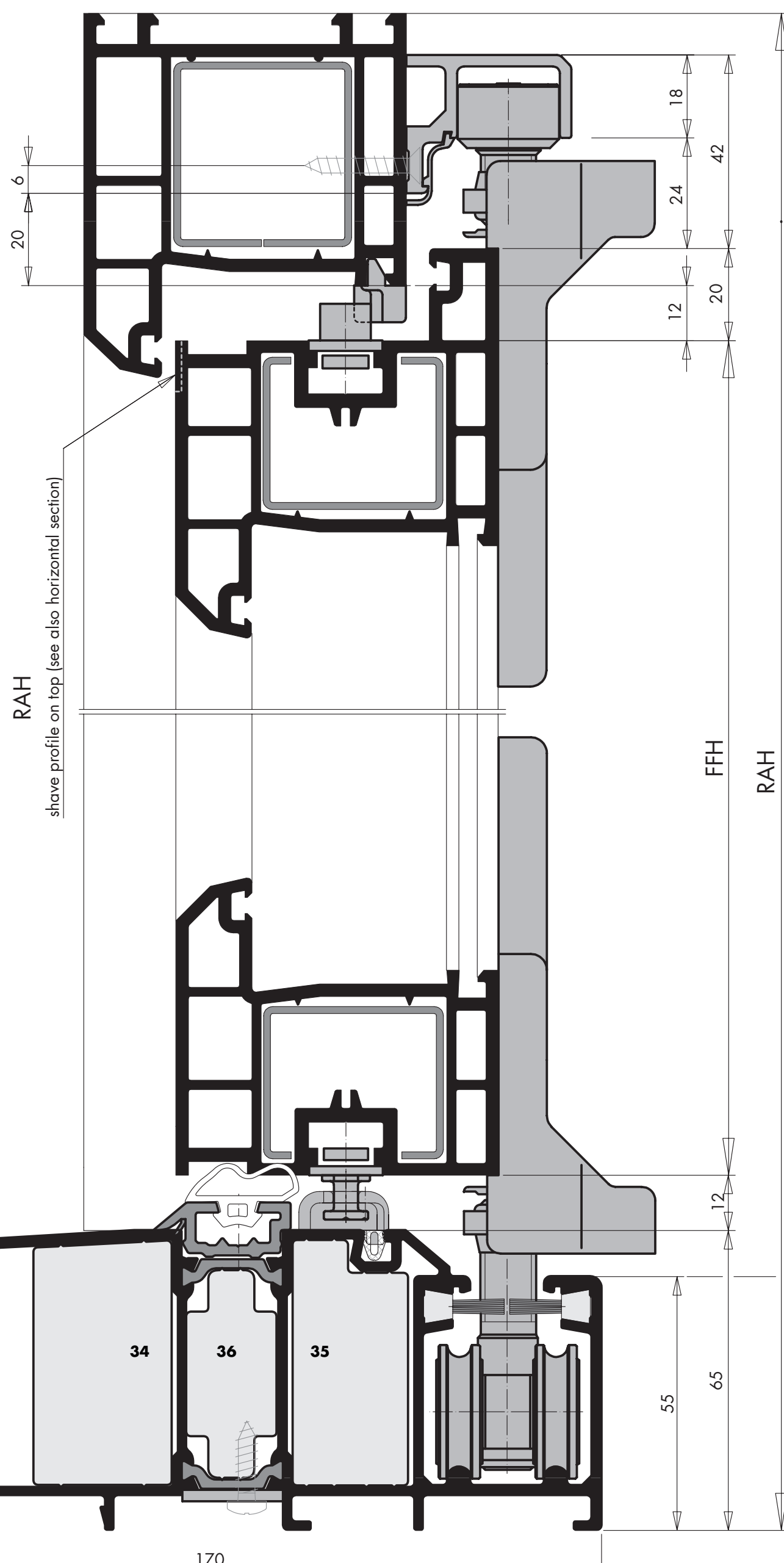
Assembly of the frame corner connection

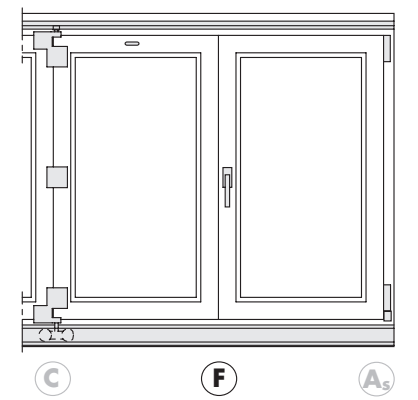
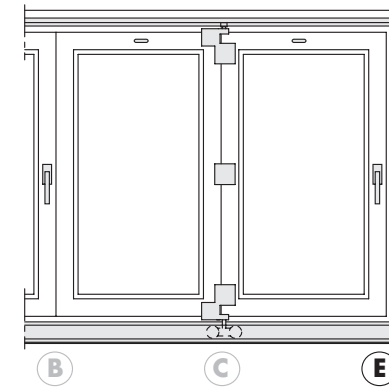
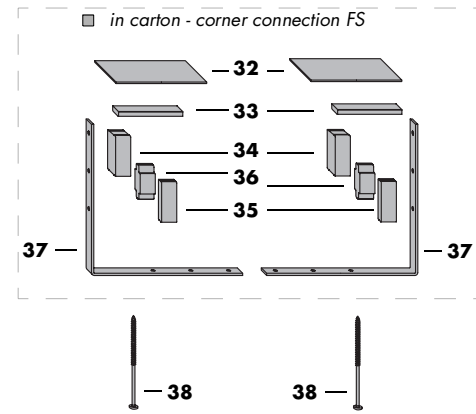
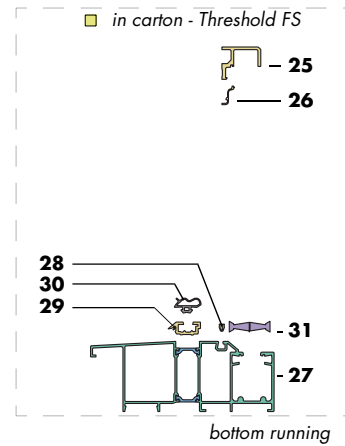
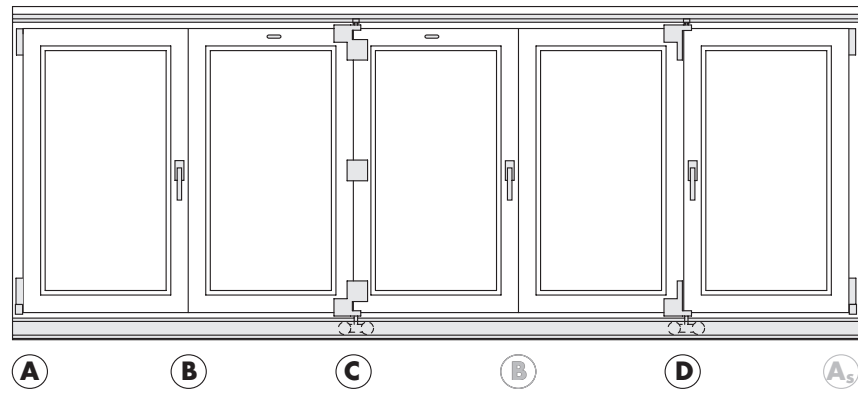
- 1 Push a commercial cavity filling piece (e.g. from GKG) into the frame profile reinforcement and screw in place.
- 2 Transfer the frame profile to sealing plate FS (32). Cut out the contour.
- 3 Pull the protective paper off sealing plate FS (32).
- 4 Stick sealing plate FS (32) on the vertical frame profile.
- 5 Cut the sealing part FS (32) to size.
- 6 Push in the weather strip (28). Length adequate up to tilt lock bearing SES FH (67) on the threshold FS. After fitting tilt lock bearing SES FH (67) shorten to the required length.
- 7 Insert supporting part FS 1 (34), supporting part FS 2 (35) and supporting part FS 3 (36) in the right position.
- 8 Fit corner angle FS (37) onto the frame profile, by bending to suit. Screw corner angle FS (37) firmly onto the vertical frame profile and the threshold FS using 3 window screws each.
- 9 Predrill the fixing holes Ø 6,5 mm through the corner angle FS (37) into the threshold FS to the drilling pattern alongside. Calculate dimension X and dimension Y to suit the frame profiles used. Screw the chipboard screw D6x130 (38) into the hole (B and C) and tighten.
- 10 Fit sealing strip FS (29) into threshold FS between the frame profiles and press into the recess. Drill Ø 3.0 mm and secure with window screws. Fit seal FS (30) into threshold FS between the frame profiles and press into the sealing strip FS (29). Push the two brush seals (31) into the threshold FS.

Drilling Pattern Corner Joints

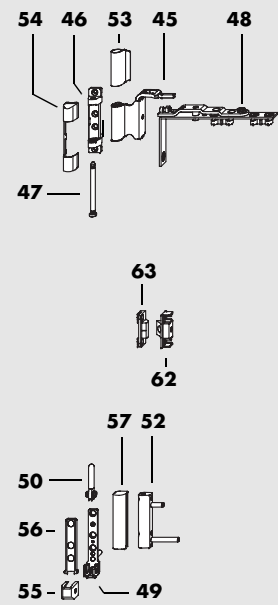


Vertical section bottom running





A



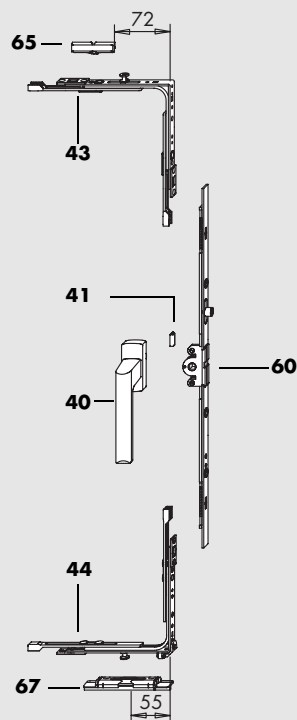
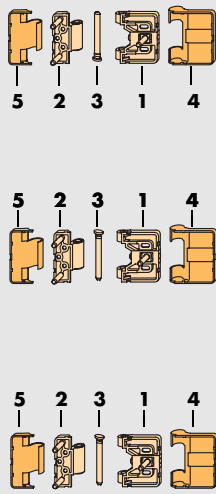
Hinge side with sash hinges FS and distance pieces see Product Catalogue

Hardware parts

Hinge side: Si-line FAVORIT
Central lock: Si-line FAVORIT

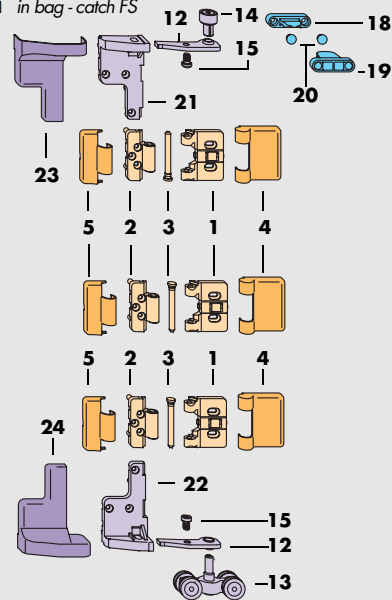
B

- in carton - Sash hinge FS../.. TS
- in bag - sash hinge cover caps FS../..



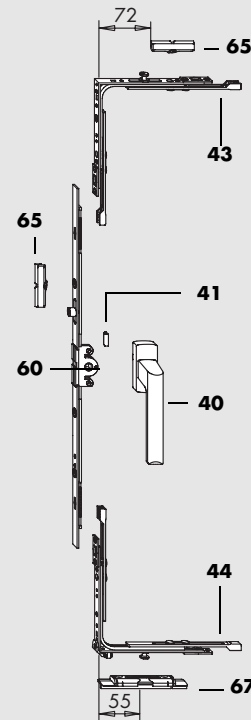
C

- in carton - Sash hinge FS 17/38 TS
- in bag - sash hinge cover caps FS17/38
- in carton - bogie D FS TS
- in bag - bogie cover caps FS
- in bag - catch FS

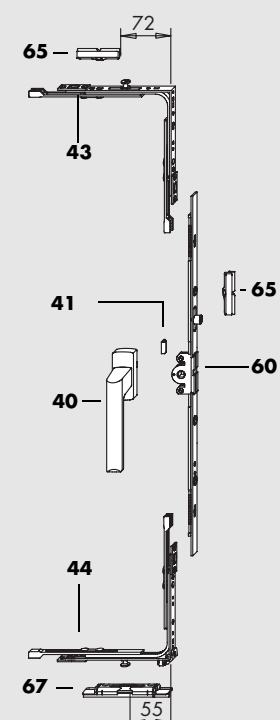


D

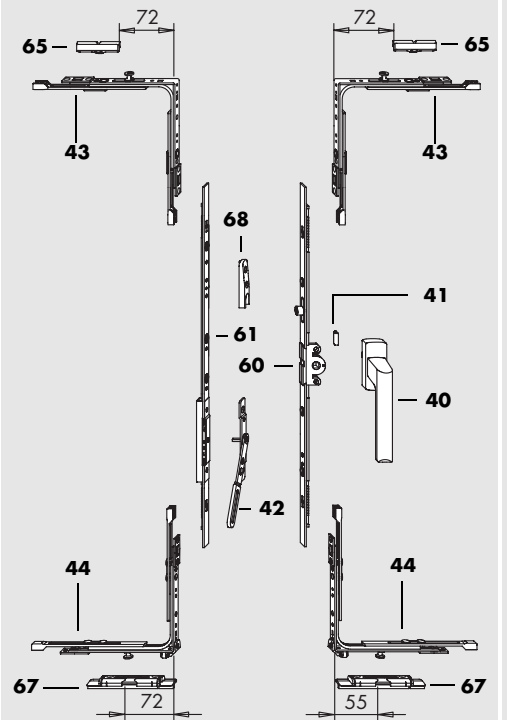
- in carton - bogie FS TS
- in bag - bogie cover cap FS



E



F



Ref.	description	Material number	Quantity per scheme														
			silver	RAL 9003 white	RAL 8019 brown	mid-bronze	321	330	431	541	550	532	651	633	761	770	743
FS PORTAL components																	
1-3	Sash hinge carton FS 17/38 TS	Intersection point B	PMFG0030-100010				1	1	1	2	2	2	2	2	3	3	3
1-3	Sash hinge carton FS 27/48 TS	profile dependent required	PMFG4020-100010				1	1	1	2	2	2	2	2	3	3	3
4, 5	Bag, sash hinge cover caps 17/38	profile dependent required	PMAG0010-025010	PMAG0010-002010	PMAG0010-011010	PMAG0010-031010	1	1	1	2	2	2	2	3	3	3	
4, 5	Bag, sash hinge cover caps 27/48		PMAG0020-025010	PMAG0020-002010	PMAG0020-011010	PMAG0020-031010	1	1	1	2	2	2	2	3	3	3	
1-3	Bag, sash hinge cover caps 17/38	Intersection point C	PMFG0030-100010				-	1	1	1	2	1	2	2	2	3	2
4, 5	Bag, sash hinge cover caps 17/38		PMAG0010-025010	PMAG0010-002010	PMAG0010-011010	PMAG0010-031010	-	1	1	1	2	1	2	2	2	3	2
12-14, 21, 22	Bogie carton FS low threshold TS		PMLG0050-100010				-	1	1	1	2	1	2	2	2	3	2
23, 24	Bag, bogie cover caps FS		PMAG0030-025010	PMAG0030-002010	PMAG0030-011010	PMAG0030-031010	-	1	1	1	2	1	2	2	2	3	2
18-20	Bag, support FS		PMZG0020-021010	PMZG0020-002010	PMZG0020-011010	PMZG0020-031010	-	1	1	-	1	1	1	2	-	1	1
12-14, 21, 22	Carton wheels FS low threshold TS	Intersection point D	PMLG0050-100010				1	-	-	1	-	1	-	-	1	-	1
23, 24	Bag, bogie cover caps FS		PMAG0030-025010	PMAG0030-002010	PMAG0030-011010	PMAG0030-031010	1	-	-	1	-	1	-	-	1	-	1
25-31	Threshold carton FS	Size RAB (mm) 250 to 2500 350 2501 to 3500 450 3501 to 4500 670 4501 to 6500	EV 1 silver PMBG0010-524010 PMBG0020-524010 PMBG0030-524010 PMBG0040-524010				1	1	1	1	1	1	1	1	1	1	1
32-37	Frame corner connection carton FS		PMRG0010-000010				1	1	1	1	1	1	1	1	1	1	1
38	Chipboard screw D6 x 130		844953				2	2	2	2	2	2	2	2	2	2	2

Always required																	
40	Handle Si-line FAVORIT		see price list				2	2	2	3	3	3	3	3	4	4	4
41	Limitation piece		800768				2	2	2	3	3	3	3	3	4	4	4
42	Handle FAVORIT DSG ..		See profile data sheet				-	-	1	-	-	-	1	1	-	-	-
43	Corner drive VS S-ES	1	703014				2	2	3	3	3	3	4	4	4	4	4
44	Corner drive VSU S-ES FH/..	1	See profile data sheet				2	2	3	3	3	3	4	4	4	4	4
45	Stay hinge KF-12/..DH		See profile data sheet				2	1	2	2	1	2	2	2	2	1	2
46	Top hinge KF Ø 6 x 12 DH		707593				2	1	2	2	1	2	2	2	2	1	2
47	Top hinge pin Ø 6		704196				2	1	2	2	1	2	2	2	2	1	2
48	Stay 7 DF		707340				2	1	2	2	1	2	2	2	2	1	2
49	Bottom hinge KF Ø 6 x 24/3		704592				2	1	2	2	1	2	2	2	2	1	2
50	Bottom hinge pin Ø 7	For corner hinge	700600				2	1	2	2	1	2	2	2	2	1	2
52	Corner hinge KF Ø 6 x 16/36	A....	See profile data sheet				2	1	2	2	1	2	2	2	2	1	2
53	Cover cap W KF		833254	833261	842195		0..2	0..1	0..2	0..2	0..1	0..2	0..2	0..2	0..2	0..1	0..2
54	Cover cap S		834145	834855	842188		0..2	0..1	0..2	0..2	0..1	0..2	0..2	0..2	0..2	0..1	0..2
55	Cover cap EL U		833230	833247	842232		0..2	0..1	0..2	0..2	0..1	0..2	0..2	0..2	0..2	0..1	0..2
56	Cover cap EL O		833216	833223	842225		0..2	0..1	0..2	0..2	0..1	0..2	0..2	0..2	0..2	0..1	0..2
57	Cover cap EB	A....	See profile data sheet				2	1	2	2	1	2	2	2	2	1	2
no illustration	Location piece		702543				0..4	0..4	0..4	0..6	0..6	0..6	0..6	0..6	0..8	0..8	0..8

Height dependant parts																	
60	Gear 3	Size FFH (mm) Measure G (mm) Gr. 1 840 to 1060 420 to 530 Gr. 2 MV 1061 to 1460 530 to 730 Gr. 3 MV 1461 to 1920 730 to 960 Gr. 4/TL 1880 to 2360 940 to 1180		706992 707012 707029 707036		2	2	2	3	3	3	3	3	4	4	4	
61	Gear DSG 3	Size FFH (mm) 80 MV 840 to 1000 2 1001 to 1460 3 1461 to 1920 4/TL 1880 to 2360		705193 705124 705131 705148		-	-	1	-	-	1	1	-	-	-	-	
	Concealed centre lock from ab FFH 1060 mm																
62	Sash part MV concealed		700655				2	1	2	2	1	2	2	2	2	1	2
63	Frame part MV concealed	A....	See profile data sheet				2	1	2	2	1	2	2	2	2	1	2

Requirement by Profile system																	
65	Striker plate 56	A....	see Profile Data Sheet				2..3	2..3	3	3..4	3..4	3..4	4	4	4..5	4..5	4..5
67	Tilt lock bearing SES FH	A.0905 for NA 13	706008				2	2	3	3	3	3	4	4	4	4	4
68	Striker plate	A0767	711736				-	-	0..2	-	-	-	0..2	0..2	-	-	-

FS-PORTAL KF low threshold - 12 mm Air Gap Carton Contents

Ref.	Quantity	description	Material number			
			silver	RAL 9003 white	RAL 8019 brown	mid-bronze
	1	Sash hinge carton FS 17/38 TS <i>comprising:</i>	Intersection point B PMFG0030-100010			
1	3	Sash hinge, wide 38 TS				
2	3	Sash hinge, narrow 17 TS				
3	3	Top hinge pin TS				
	1	Bag, sash hinge cover caps 17/38 <i>comprising:</i>	PMAG0010-025010	PMAG0010-002010	PMAG0010-011010	PMAG0010-031010
4	3	Cover cap FB, wide 38				
5	3	Cover cap FB, narrow 17				
	1	Sash hinge carton FS 27/48 TS <i>comprising:</i>	Intersection point B profile dependent required PMFG4020-100010			
1	3	Sash hinge, wide 48 TS				
2	3	Sash hinge, narrow 27 TS				
3	3	Top hinge pin TS				
	1	Bag, sash hinge cover caps 27/48 <i>comprising:</i>	PMAG0020-025010	PMAG0020-002010	PMAG0020-011010	PMAG0020-031010
4	3	Cover cap FB, wide 48				
5	3	Cover cap FB, narrow 27				
	1	Sash hinge carton FS 17/38 TS <i>comprising:</i>	Intersection point C (from Intersection point B) PMFG0030-100010			
1	3	Sash hinge, wide 38 TS				
2	3	Sash hinge, narrow 17 TS				
3	3	Top hinge pin TS				
	1	Bag, sash hinge cover caps 17/38 <i>comprising:</i>	PMAG0010-025010	PMAG0010-002010	PMAG0010-011010	PMAG0010-031010
4	3	Cover cap FB, wide 38				
5	3	Cover cap FB, narrow 17				
	1	Carton wheels FS low threshold TS <i>comprising:</i>	Intersection point C (from Intersection point D) PMLG0050-100010			
21	1	Bottom hinge, r.h.				
22	1	Bottom hinge, l.h.				
13	1	wheels, unobstructed TS				
14	1	Guide TS				
12	2	Supporting plate r.h./l.h.				
15	2	Cheese head screw M8 x 12				
	1	Bag, wheel cover caps FS <i>comprising:</i>	PMAG0030-025010	PMAG0030-002010	PMAG0030-011010	PMAG0030-031010
23	1	Cover cap E, r.h.				
24	1	Cover cap E, l.h.				
	1	Bag, support FS <i>comprising:</i>	PMZG0020-021010	PMZG0020-002010	PMZG0020-011010	PMZG0020-031010
18	1	Support D				
19	1	Support F				
20	4	Closure cap <i>for support D and support F</i>				
	1	wheel carton FS low threshold TS <i>comprising:</i>	Intersection point D PMLG0050-100010			
21	1	Bottom hinge, r.h.				
22	1	Bottom hinge, l.h.				
13	1	Bogie, unobstructed TS				
14	1	Guide TS				
12	2	Supporting plate r.h./l.h.				
15	2	Cheese head screw M8 x 12				
	1	Bag, wheel cover caps FS <i>comprising:</i>	PMAG0030-025010	PMAG0030-002010	PMAG0030-011010	PMAG0030-031010
23	1	Cover cap E, r.h.				
24	1	Cover cap E, l.h.				
	1	Threshold carton FS	Size 250 to 2500 350 2501 to 3500 450 3501 to 4500 670 4501 to 6500	RAB (mm)	EV 1 silver PMBG0010-524010 PMBG0020-524010 PMBG0030-524010 PMBG0040-524010	
25	1	Guide rail				
26	1	Cover rail F				
27	1	Threshold FS				
28	1	Weather strip profile				
29	1	Sealing strip FS				
30	1	Seal FS				
31	2	Brush seal				
	1	Frame corner connection carton FS <i>comprising:</i>	PMRG0010-000010			
32	2	Sealing plate FS				
33	2	Sealing part FS				
34	2	Supporting part FS 1				
35	2	Supporting part FS 2				
36	2	Supporting part FS 3				
37	2	Corner angle FS				

Assembly instructions

Preparation

N.B.: Bottom hinge KF 6 dia x 24/3 (48) and corner hinge KF 6 dia x 16/36 (51) 10 mm higher than standard!
 Drill the holes for bottom hinge 6 mm dia x 24/3 (48) and top hinge 6 mm dia x 12 DH(45) on the frame.
 Drill the holes for the gear 15 (60) on the appropriate sash .
 For this see the relevant FAVORIT Si-line / Titan iP - KF Assembly Instructions.

Fitting the sash

- A** Fit FAVORIT-/Titan iP components (41 to 44), (47) and (51 to 62).
See hardware illustration and list and relevant FAVORIT Si-line - Timber Assembly Instructions.
- B** Put together the folding sashes suitably in pairs and drill the holes for sash hinges (1 and 2) and bottom hinges (21 and 22).
See illustration on the front page and FS-PORTAL assembly aids.
- C** For elements with a loose folding sash (intersection point C) drill the holes for Supports D(18) and F (19).
- D** Screw on sash hinges (1 and 2) plus bottom hinges (21 and 22), watching the axial alignment of sash hinge, wide (1).
- E** Screw on Si-Line FAVORIT handle (40) in horizontal position with a max. torque of 2.5 Nm.
Operate handle downwards to shear off the centre fixing of the components.
- F** For elements with a loose folding sash (intersection point C) screw on support D(18) and support F(19). Lightly grease Support D(18) and Support F (19).

Assembly on the frame

- A** Insert bottom hinge KF 6 dia x 24/3 (48) and top hinge KF 6 dia x 12 DH (45) in correct position and screw on.
- B** Insert FAVORIT components (63), (65) and (67).
See hardware illustration and list and relevant FAVORIT Si-line - KF Assembly Instructions
- C** Cut guide rail (25), cover rail (26) and threshold FS (27) to size (Length = RAB).
N.B.: Cut off threshold (27) on the side opposite the access sash.
(The notch is used for insertion of the bogie)
- D** Screw on the guide rail (25).
- E** Screw the threshold FS (27) with the frame corner connections on the vertical timbers of the frame as illustrated on the front page. Use a cavity filler piece!

Final assembly

- A** Fit the low threshold wheel TS (13) on support plate (12). 5 mm A/F Allen key required, see Fig. 2.
- B** Fit guide TS (14) on support plate (12). 5 mm A/F Allen key required, see Fig. 3.
- C** Fit the folding sashes in turn, starting with the folding sash attached to the frame.
To mount the unobstructed bogie TS (13) on the bottom hinge lay 12 mm high distance strips (provided on site) onto the threshold FS as an assembly aid.
- Insert the unobstructed bogie TS (13) with support plate into the bottom hinge, and secure with M8 x 12 cheese head screw (15), see Fig. 2.
- D** Insert guide TS (14) with the support plate into the bottom hinge, and secure with M8 x 12 cheese head screw (15), see Fig. 3.

Fig. 2 Assembly of the bogies

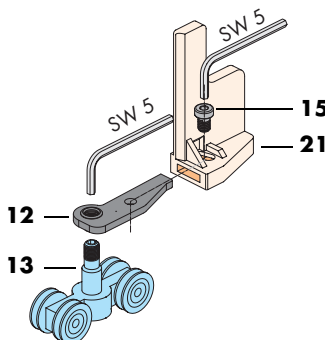


Fig. 3 Assembly of the guide

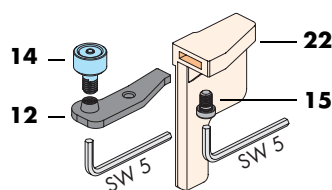
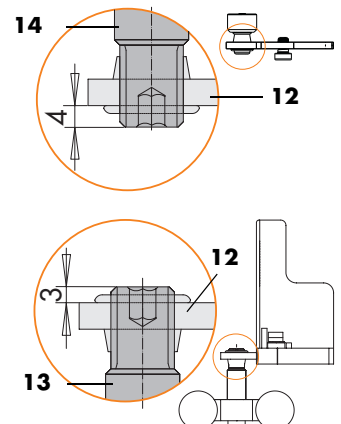


Fig. 4 Basic setting for the guide and bogie



Final assembly (continued)

- D** If necessary utilise the adjustment facilities. See next page.
- E** Attach frame part MV(63), striker plates (56) (65) and tilt lock bearing S-ES FH (67) onto the frame and threshold so that they function correctly and attach the threshold. See also hardware illustration.
- F** Adjust weather strip profile (28)
- G** Clip on all cover caps. Cut cover rail F (26) to length and clip on.

Fixing the hardware parts

Sash hinges(1 and 2):	Window screw 5 x *
Support D (18) and Support F (19):	Window screw 5 x *
Bottom hinge (21 and 22):	Window screw 5 x *
Guide rail (25)	Window screw 4 x *
Threshold (27) to vertical frame profile	Chipboard screw D 6 x 130 (38)
Si-Line FAVORIT handle (40):	Countersunk screws M5 x 40, to DIN 965 - 4.8
	Order Ref. No. 801048
FAVORIT-/Titan iP components:	Window screws 4 x *

* The length of the fixing screws must be matched to the profile system.

N.B.: The components taking fixing screws, such as bottom hinges (21 and 22), guide rail (25) must be screwed into the respective reinforcing profile.
Reinforcing profiles for sashes, for intersection point C and D, must be mitre cut to size, Distance 10 mm.

Window screws for plastic windows, steel transparent zinc coated and sealed (not supplied).

Access sash with turn & tilt hardware on request

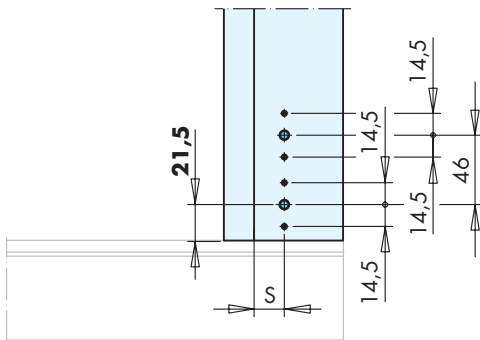
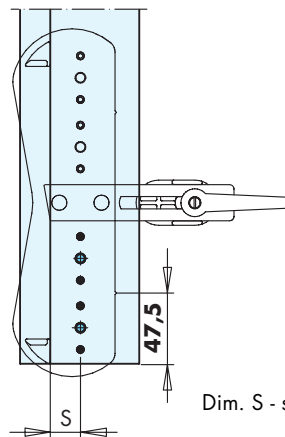


Fig. 1 Drilling pattern - Bottom hinge KF 6 dia x 24/3(48)



Dim. S - see Profile data sheet

Fig. 2 Use of the milling template KF...EL/SL

Wedging with example 431

Note: Always wedge towards the load bearing side see illustration on right

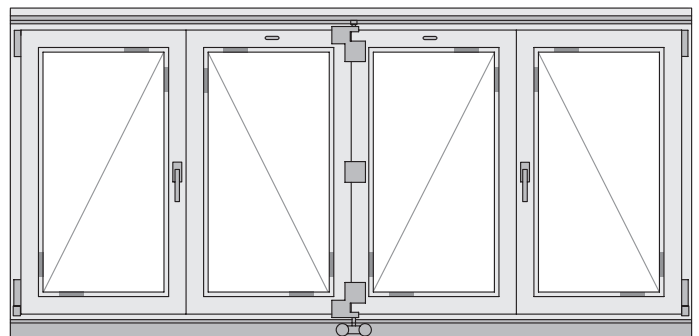
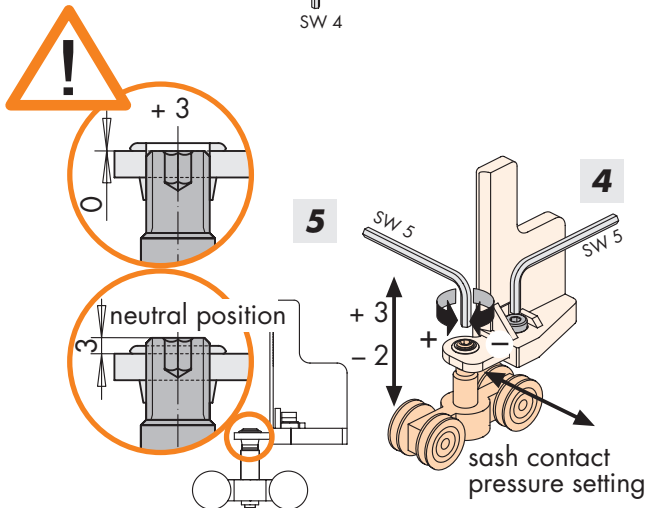
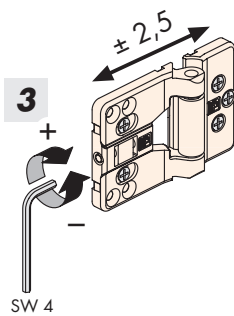
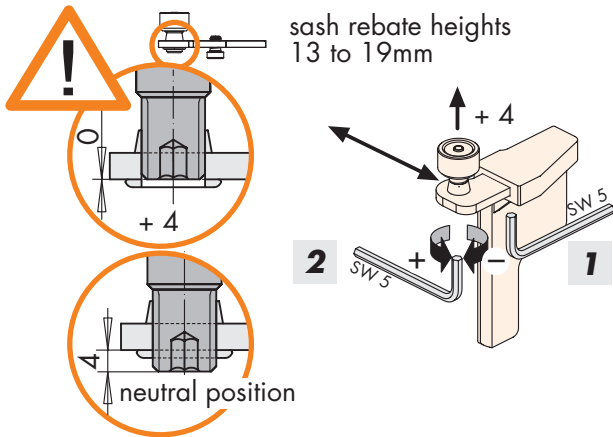


Fig. 3 Wedging

Adjustment facilities

The adjustment facilities below can be used if necessary.
The following are recommended for proper adjustment:

- Only adjust after fitting the panes of glass
- Clamp the fold & slide element firmly horizontally and vertically or do not adjust until after fitting into the brickwork



1 Setting the sash contact pressure on the bottom hinge, top

- Release the M8x12 cheese head screw on the bottom hinge with 5 mm A/F Allen key.
- Push the sash firmly into place.
- Tighten the M8x12 cheese head screw with 5 mm A/F Allen key.

2 Height of the guides after adjustment

- Adjust the height of the sash on the self locking stud bolts of the wheels or the guide with 5 mm A/F Allen key.



The maximum height setting **must not** be exceeded.

3 Adjusting the gap width on the sash hinges

Note: Loosen the sash hinges one after the other, adjust and screw down again.

- Slightly loosen both fixing screws.
- Adjust the horizontal gap width of the sash with 4 mm A/F Allen key.
- Retighten the fixing screws.

4 Setting the sash contact pressure on the bottom hinge, bottom

- Release the M8x12 cheese head screw on the bottom hinge with 5 mm A/F Allen key.
- Push the sash firmly into place.
- Tighten the M8x12 cheese head screw with 5 mm A/F Allen key.

5 Adjusting the height of the sash on the bogie

- Adjust the height of the sash on the self locking stud bolts of the wheels or the guide with 5 mm A/F Allen key.



The maximum height setting **must not** be exceeded.

Setting facilities for the FAVORIT components

- Lateral adjustment of the stay and the bottom hinge
- Contact pressure setting of the stay
- Contact pressure and height setting of the rebate corner hinge
- Sash contact pressure setting through eccentric locking cam

see FAVORIT Si-line Maintenance Instructions..

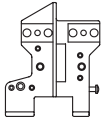
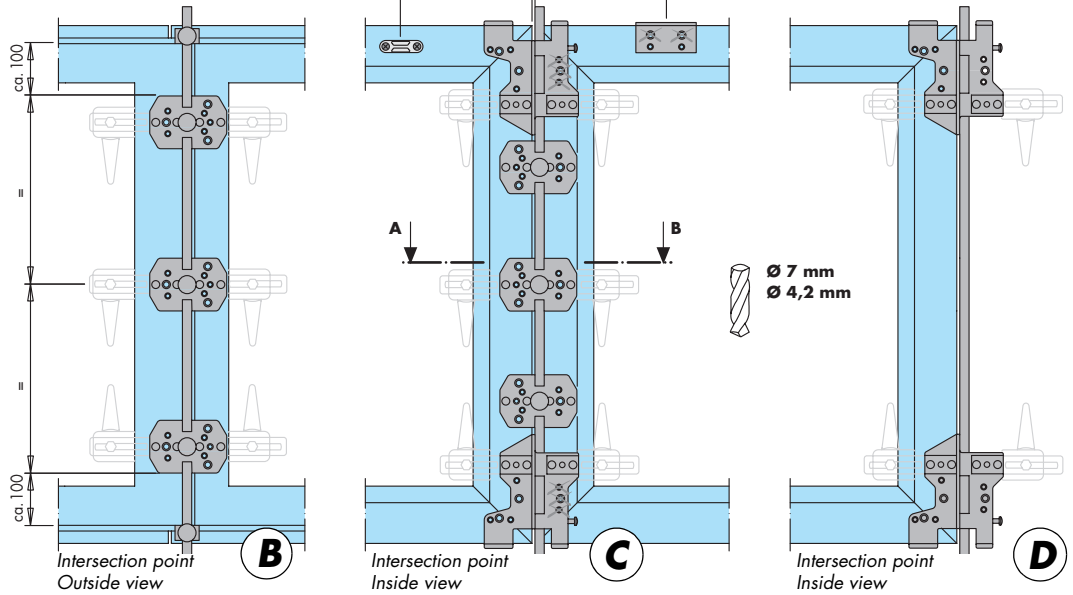
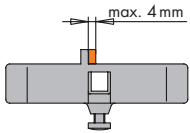
FS-PORTAL KF low threshold - 12 mm Air Gap Jigs

N.B.

The jigs are set for a 4 mm sash gap.
Depending on the profile system stick on a suitable distance piece of max. 4 mm thick.
See section A - B and Front page Intersection point B.

Section A - B

Jig EB 644-2 marked only



Jig EB 644-1

for bottom hinge

Material number

Requirement: 2 off

Drill: Ø 7,0
Ø 4,2

143063



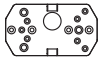
Jig EB 644-2 17/38

for sash hinge 17/38

143070

Requirement: 6 off

Drill: Ø 7,0
Ø 4,2



Jig EB 644-2 27/48

for sash hinge 27/48

PAHG0020-521010

Requirement: 3...6 off

Drill: Ø 7,0
Ø 4,2



Jig EB 644-3

for support

143087

Requirement: 1 off

Drill: Ø 4,2



Jig EB 644-4

for centring drill for guide and running rail

143094

Requirement: 1 off

Drill: Ø 3,5



Adjusting rod

for EB 644-1 and EB 644-2

143117

Requirement: 2 off



Stop

for adjusting rod

143100

Requirement: 2 off



Clamping device

for EB 644-1 and EB 644-2

139202

Requirement: 12 off

No illustration

M5 x 16 csk. head screw

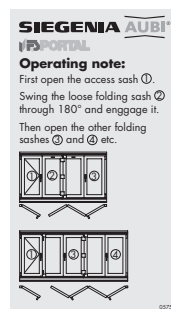
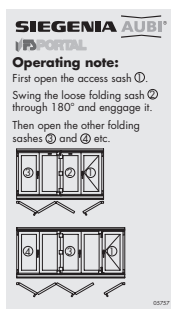
for fixing the clamping device

801147

Requirement: 24 off

Important notes

- Please consult our Product information „Sliding hardware for sashes in doors and windows.“
- The size ranges specified on Page 1 apply to the SIEGENIA-AUBI FS-PORTAL KF hardware.
In addition to this the details given by the profile manufacturer or the system owner also apply, **particularly on possible limitations on sash dimensions**, max. number of sashes per element, sash weight and the spacing of locking elements. Where specific manufacturing regulations or working guidelines exist, these must be expressly observed. The screwing speeds and torques given are obligatory.
- It is possible that bearing components can break due to excessive strain. This could cause the window to drop out of the frame and potentially cause serious injuries. If due to special circumstances (use in schools, nurseries etc.) excessive strain on bearing components can be expected, fatigue of these components must be prevented **e.g.** by fitting a lockable handle to prevent unauthorised use.
In the event of doubt please consult your SIEGENIA-AUBI representative
- The steel hardware components described in these Assembly Instructions are colourless passivated and sealed to DIN EN 12329. They must not be used in environments with aggressive, corrosion promoting air. In such cases please consult your SIEGENIA-AUBI representative.
- We can accept no liability in respect of any damages or defects arising where the hardware assembly incorporates products not made by SIEGENIA-AUBI.
- Install the hardware components correctly as described in these Assembly Instructions. The screwing speeds and torques given are obligatory. **Do not over-tighten the screws!**
- The surface treatment of folding - sliding elements must be performed **before** the hardware is assembled on the window. Post treatment could adversely affect the effective functioning of the components, in which case we are not obliged to provide any warranty.
- Please follow the standard techniques for packing and wedge the sealed glazing units within the sash/frame.
- Do not use any acid hardening sealants, as these can lead to corrosion of the hardware components.
- Keep all rebates free from dirt and debris - especially residues of cement or plaster. Avoid the direct effect of moisture on the hardware and contact of the hardware with cleaning agents.
- Affix a clearly visible operating sticker (sliding direction DIN left or DIN right) onto the fitted folding - sliding sash.
The operating sticker can be found in the FS Bogie carton.



Liability exclusions

We accept no liability in respect of any damages or malfunctions caused by the hardware or the folding - sliding elements fitted with them, as a result of incorrect or inappropriate specifications or other information provided by the customer, failure to follow these assembly instructions, wilful damage or negligence or misuse or alteration or repair of or an exertion of excessive force to the hardware by the user or customer

Abbreviations

The following abbreviations are used in these Assembly Instructions:

BLR	Frame	FFH	Sash rebate height	RHB	Frame timber width
BS	Hinge side	FH	Sash height / sash lifter	S	Stay
D/DF	Turn sash	FS	Fold & slide	S-ES	System security
DH	Turn restraint	H	Wood (timber)	U	bottom
DSG	Turn sash slave, reverse action	HH	Lift & slide, timber	VS	Locking side
E/EL	Bottom hinge	L	Running rail	VSU	Locking side, bottom
EB	Drill jig	MV	Centre lock	W	Stay hinge
ED	Bottom hinge - turn sash	O	top		
F	Guide rail	OKFF	Finished floor surface		
FB	Sash width / sash hinge	ON	With no hardware groove		
FEB	Rebate corner hinge	RAB	Frame outer width		
FFB	Sash rebate width	RAH	Frame outer height		