

Table to determine sash widths FB

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

**General formula**

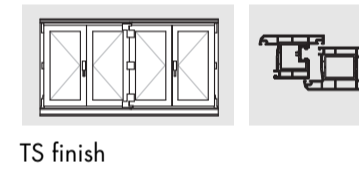
$$FB = \frac{RAB + [(No. \text{ of sashes} - 1) \cdot \bar{U}] - [2 \cdot BF]}{No. \text{ of sashes}}$$

**Achtung:** Eingerahmte Maße müssen eingehalten werden. Ansonsten besteht Gefahr für den Benutzer oder Beschädigung des Elementes!

$\bar{U}$  = overlap  
BF = outer frame dimension

## FS-PORTAL PLUS KF AL FS Hinges

Outward opening folding sliding door hardware for pvc sections with 12mm airgap



**Size Range**

sash rebate width	(mm)	330 <sup>1)</sup> to 900
sash rebate height	(mm)	840 to 2360
outerframe width	(mm)	determined by sash width and selected scheme
sash weight	(kg)	<b>max. 80</b>
backset standard gear	(mm)	25
backset lockable gear	(mm)	25 to 40
handle height	(mm)	420 to 1180
over rebate depth	(mm)	13 to 24 <sup>2)</sup>

<sup>1)</sup> main door wider than 600mm  
<sup>2)</sup> for parts to suit 19 to 24 mm over rebate depths see Produktkatalog under FS PORTAL Accessories

**The specification above must not be exceeded.**

Because of their better load dispersal, we recommend the use of bottom running elements. The recommendations of the profile company must also be considered, in particular with respect to sash size, max number of sashes, sash weight and distance between locking points. Where special preparation and manufacturing guidelines exist, then these should be expressly adhered to.

**Advice to calculate sash widths**

To make door manufacture easier, the size matrix shows all sashes the same width. This can lead to reduction in the clear opening because the doors do not fold back completely.

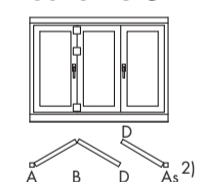
**Installation Instruction**  
FSgb4046

**FS-PORTAL PLUS KF AL 12 mm Airgap Scheme overview**

**Note:** all of these doors can be made with opposite handing.

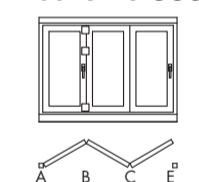
<sup>1)</sup> entrance via 1 folding door.  
<sup>2)</sup> eg. As = point A opposite hand etc.

**scheme 321**



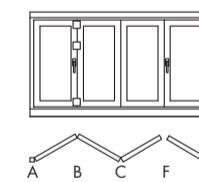
2 folding doors  
1 main door

**scheme 330**



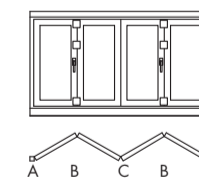
3 folding doors  
0 main door

**scheme 431**



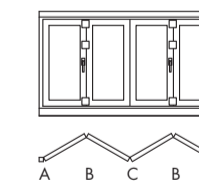
3 folding doors  
1 main door

**scheme 541**



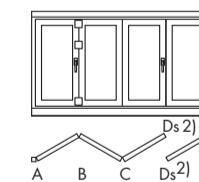
4 folding doors  
1 main door

**scheme 550**



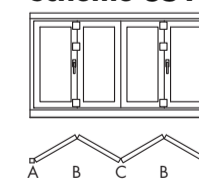
3+2 folding doors  
0 main door

**scheme 532**



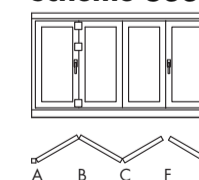
3+2 folding doors  
0 main door

**scheme 651**



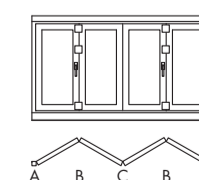
5 folding doors  
1 main door

**scheme 633**



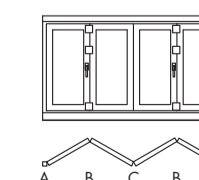
3+3 folding doors  
0 main door

**scheme 761**



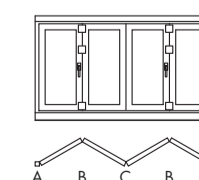
6 folding doors  
1 main door

**scheme 770**

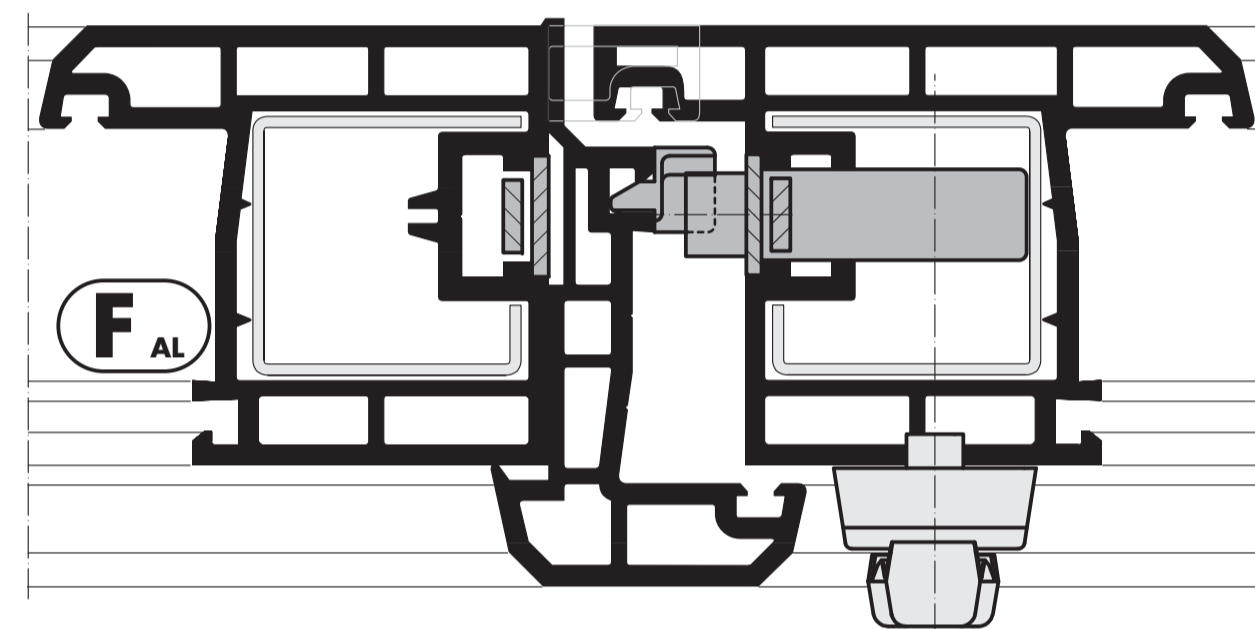


7 folding doors  
0 main door

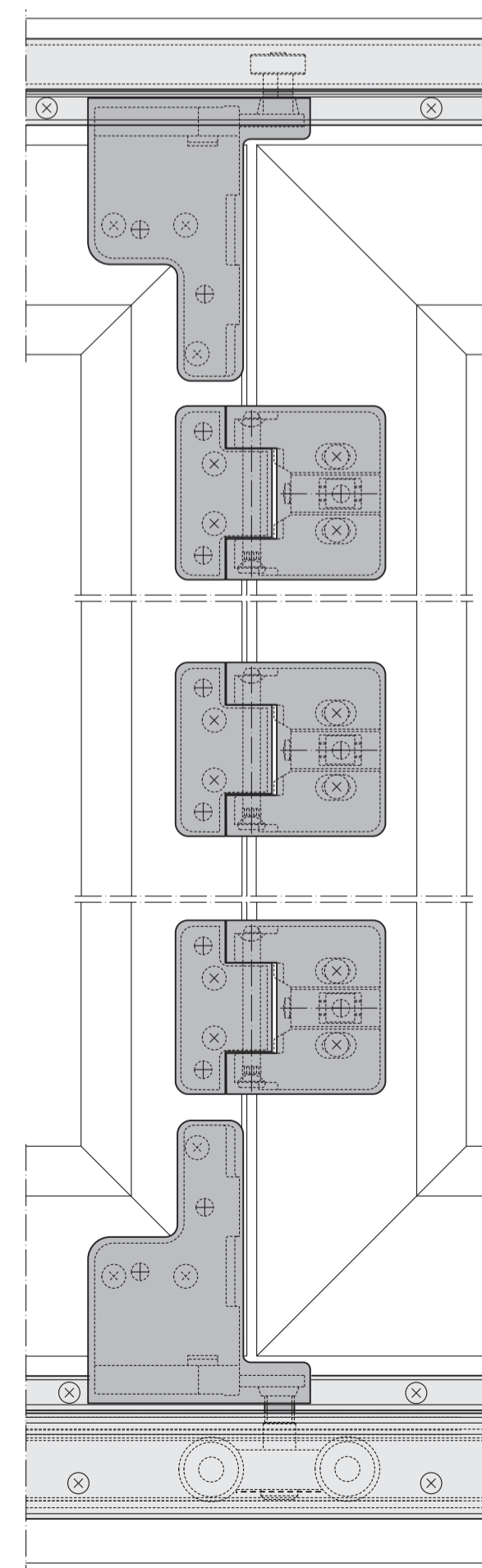
**scheme 743**



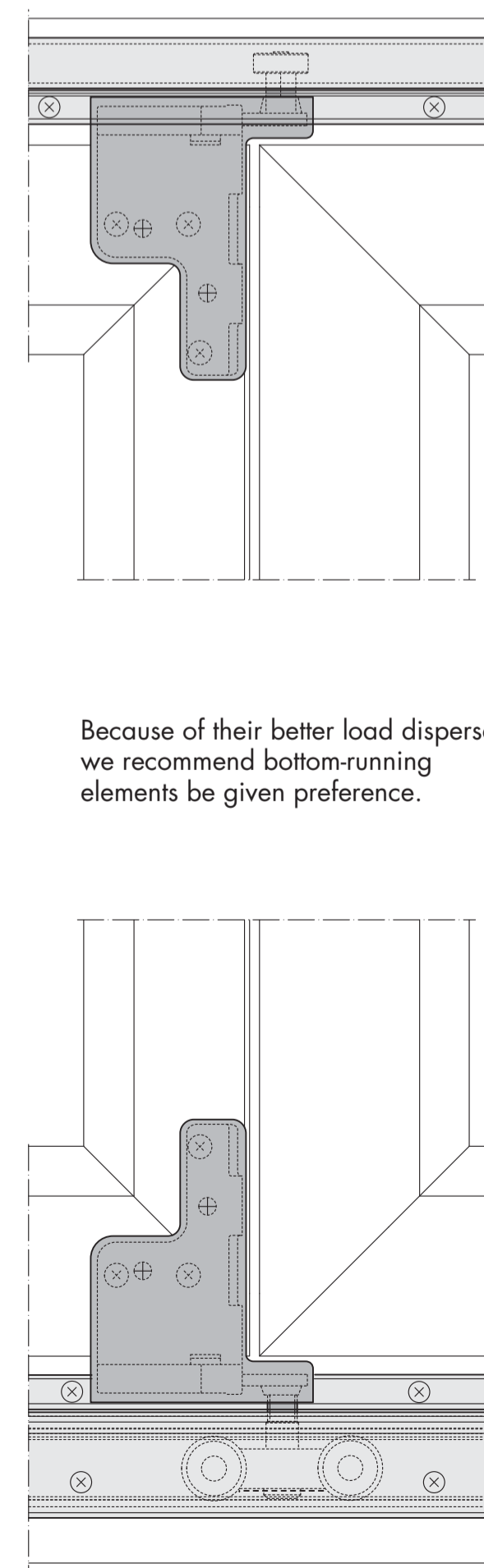
4+3 folding doors  
0 main door



**Vertical section C\_AL bottom running 1:2,5**

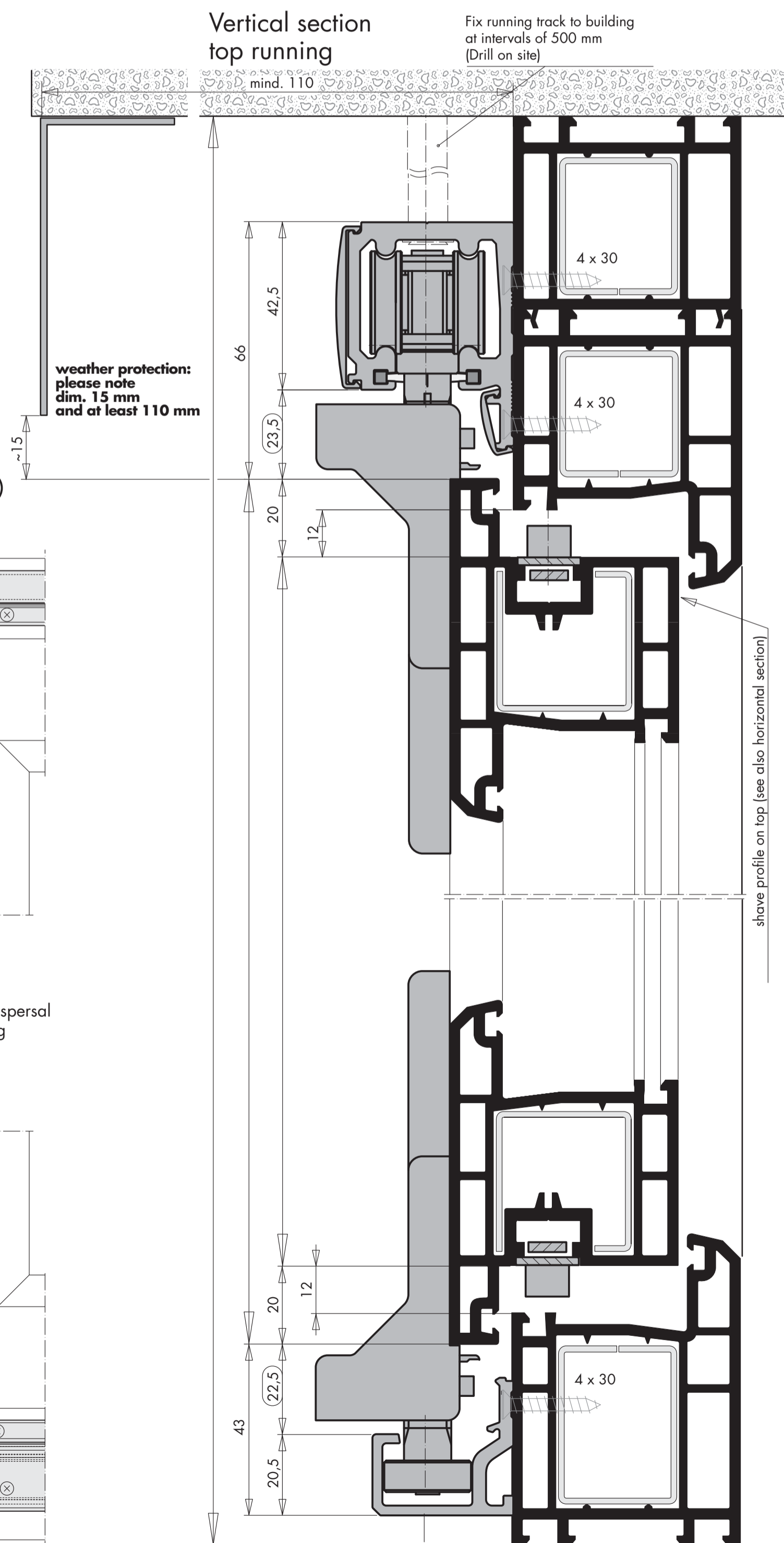


**Vertical section D\_AL bottom running 1:2,5**

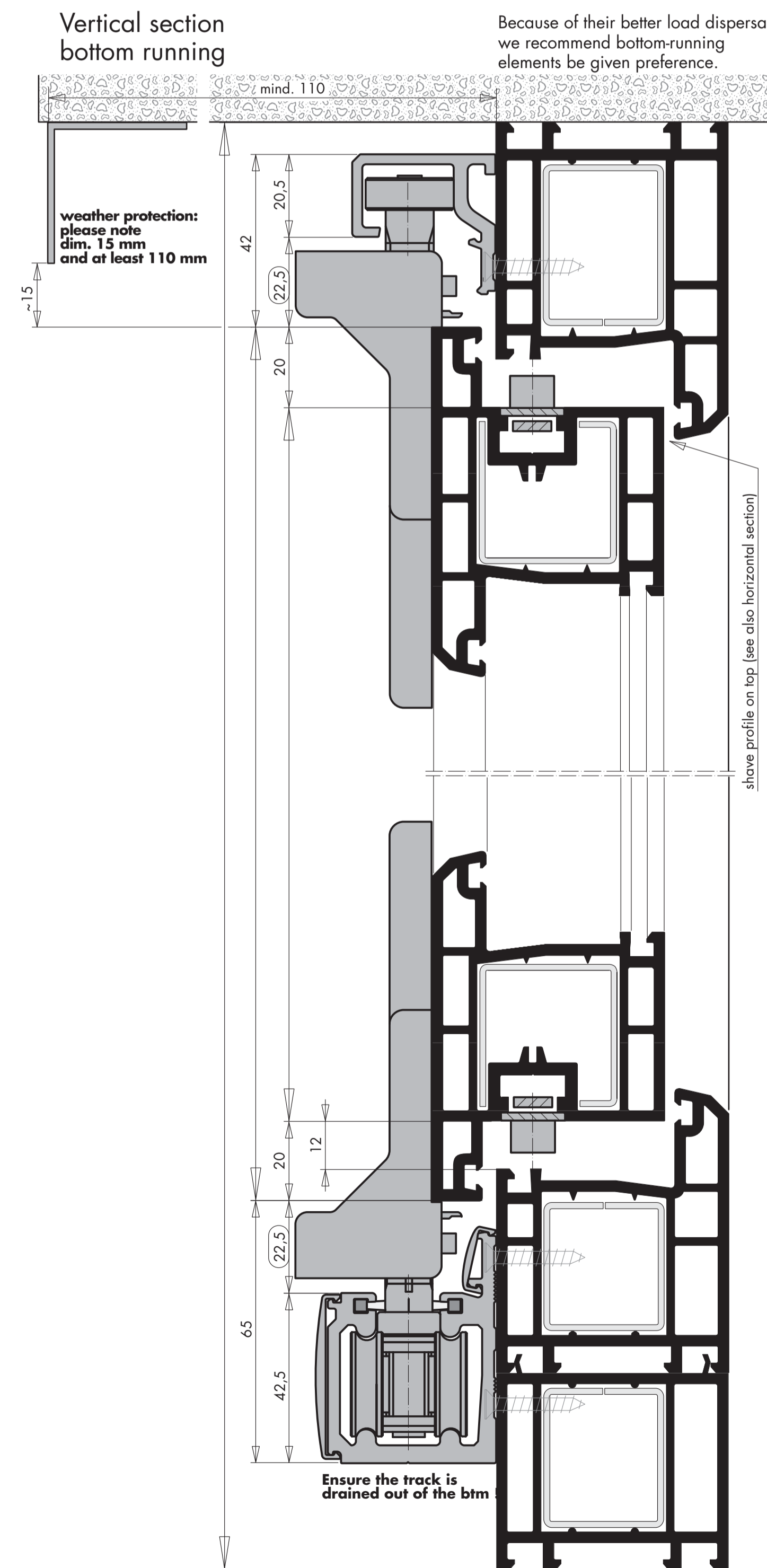


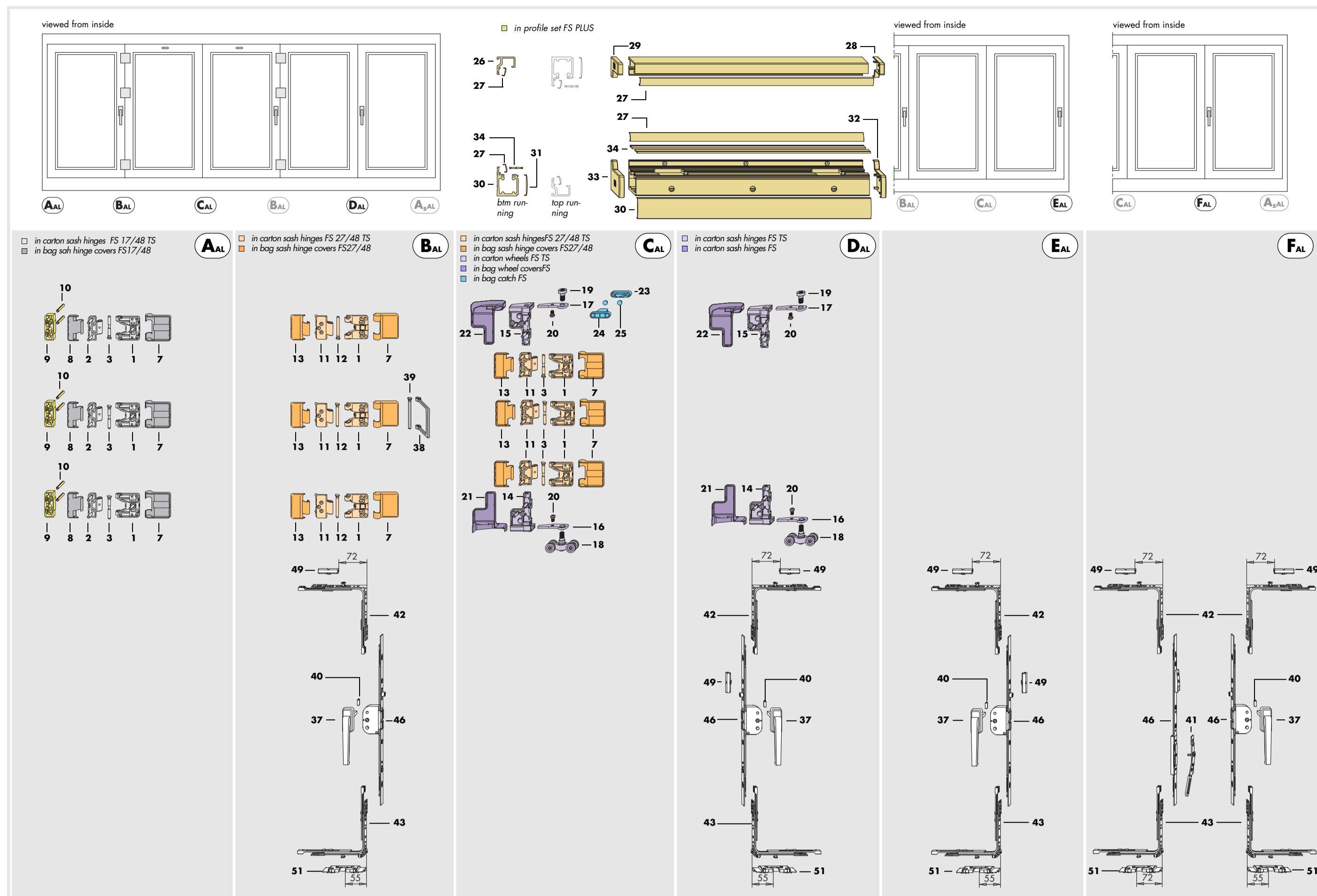
Because of their better load dispersal we recommend bottom-running elements be given preference.

**Vertical section top running**



**Vertical section bottom running**





Pos.	description	silver	RAL 9003 white	dark brown	321	330	431	541	550	532	651	633	761	770	743
<b>FS PORTAL hardware</b>															
1-6	carion sash hinges FS 17/48 TS outward opening cross section A				2	1	2	2	1	2	2	2	2	1	2
7-8	bag sash hinge covers FS 17/48				2	1	2	2	1	2	2	2	2	1	2
9	Packer														
	size	dmm	H												
	131	13		852958	826379	826386									
	141	14		852965	826416	826423									
	151	15		852972	826454	826461									
	161	16		852989	826492	826508									
	171	17		852996	826539	826546									
	181	18		853009	826577	826584									
	191	19		853016	826614	826621									
	201	20		853023	826652	826669									
	211	21		853030	826690	826706									
	221	22		853047	826737	826744									
10	dowel pin ISO 8752-A2 Ø 6,8 x 50														
1.11.12	carion sash hinges FS 27/48 TS cross section B				1	1	1	2	2	2	2	2	3	3	3
7.13	bag sash hinge covers 27/48				1	1	1	2	2	2	2	2	3	3	3
1.11.12	carion sash hinges FS 27/48 TS outward opening cross section C				1	1	1	2	2	2	2	2	3	3	3
7.13	bag sash hinge covers 27/48				1	1	1	2	2	2	2	2	3	3	3
14-20	carion wheels FS PLUS outward opening				1	1	1	2	2	2	2	2	3	3	3
21-22	bag wheel covers FS				1	1	1	2	2	2	2	2	3	3	3
23-25	bag catch FS				1	1	1	2	2	2	2	2	3	3	3
14-20	carion wheels FS outward opening cross section D				1	1	1	2	2	2	2	2	3	3	3
21-22	bag wheel covers FS				1	1	1	2	2	2	2	2	3	3	3
26-35	profile set FS PLUS	size	RAB (mm)												
		250	to 2500												
		350	2501 to 3500												
		450	3501 to 4500												
		700	4501 to 6500												
					PMPG0050525010	PMPG0050502010	PMPG0050511010								
					PMPG0060525010	PMPG0060502010	PMPG0060511010								
					PMPG0070525010	PMPG0070502010	PMPG0070511010								
					PMPG0080525010	PMPG0080502010	PMPG0080511010								
<b>always req</b>															
37	Flat handle FS														
38	Support plate FS														
39	Lagerbolzen TS														
40	limit piece														
41	handle FAVORIT DSG														
42	corner drive VS SES														
43	corner drive VSU SES RH/L														
not shown	lension button														
<b>FFH dependant</b>															
46	gear 3/25..50 M5	size	FFH (mm)	dmm (mm)	locker 25	locker 35	locker 50								
		Gr. 1	640 to 1060	420 to 530	715322	715410	715536								
		Gr. 2 MV	1061 to 1460	530 to 730	710876	710876	715543								
		Gr. 3 MV	1461 to 1920	730 to 960	710050	710050	715550								
		Gr. 4/TL	1880 to 2360	940 to 1180	710198	710198	715567								
47	gear DSG 23 A0089	size	FFH (mm)												
		80 MV	640 to 1000		720851										
		gear DSG 3 A0185	2	1001 to 1460	705377										
		3	1461 to 1920		701003										
		4/TL	1880 to 2360		705384										
<b>profile dependant parts</b>															
49	striker SE	A..													
50	strikerplate SES	A..													
51	tilt bearing SES FH	A..													
not shown	support plate A0089 RE														
not shown	support plate A0089 L														
not shown	lension button														

Pos.	qty	description	silver	part number	RAL 9003 white	dark brown
<b>cross section A</b>						
1	1	carion sash hinges FS 17/48 TS outward opening cross section A				
2	1	sash hinge, 48 wide TS				
3	1	sash hinge, small 17 TS				
4	1	bag accessories FS PORTAL AL cross section A				
5	1	carion sash hinge covers FS 17/48				
6	1	carion sash hinge covers FS 17/48				
7	1	cover cap FB, 48 wide				
8	1	cover cap FB, small 17				
<b>cross section B</b>						
1	1	carion sash hinge FS 27/48 TS cross section B				
2	1	sash hinge, 48 wide TS				
3	1	sash hinge, small 27 TS				
4	1	bag accessories FS PORTAL AL cross section B				
5	1	carion sash hinge covers FS 27/48				
6	1	carion sash hinge covers FS 27/48				
7	1	cover cap FB, 48 wide				
8	1	cover cap FB, small 27				
<b>cross section C</b>						
1	1	carion sash hinge FS 27/48 TS outward opening cross section C				
2	1	sash hinge, 48 wide TS				
3	1	sash hinge, small 27 TS				
4	1	bag accessories FS PORTAL AL cross section C				
5	1	carion sash hinge covers FS 27/48				
6	1	carion sash hinge covers FS 27/48				
7	1	cover cap FB, 48 wide				
8	1	cover cap FB, small 27				
<b>cross section D</b>						
1	1	carion wheels FS outward opening cross section D				
2	1	carion wheels FS outward opening cross section D				
3	1	bag catch FS				
4	1	bag catch FS				
5	1	tilt bearing SES FH				
6	1	tilt bearing SES FH				
7	1	tilt bearing SES FH				
8	1	tilt bearing SES FH				
9	1	tilt bearing SES FH				
10	1	tilt bearing SES FH				
11	1	tilt bearing SES FH				
12	1	tilt bearing SES FH				
13	1	tilt bearing SES FH				
14	1	tilt bearing SES FH				
15	1	tilt bearing SES FH				
16	1	tilt bearing SES FH				
17	1	tilt bearing SES FH				
18	1	tilt bearing SES FH				
19	1	tilt bearing SES FH				
20	1	tilt bearing SES FH				
21	1	tilt bearing SES FH				
22	1	tilt bearing SES FH				
23	1	tilt bearing SES FH				
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30	1	tilt bearing SES FH				
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32	1	tilt bearing SES FH				
33	1	tilt bearing SES FH				
34	1	tilt bearing SES FH				
35	1	tilt bearing SES FH				

