

PORTAL

HS

CORTIZO 4600

Window systems

Door systems

Comfort systems

Content

1	GENERAL NOTES.....4	7	ASSEMBLY OF ANTI-LIFT DEVICE AND LOCKING PART G16
1.1	Target group of this documentation 4	7.1	Positioning the anti-lift device 16
1.2	Copyright..... 4	7.2	Positioning locking parts G..... 16
1.3	Intended use 4	7.2.1	Scheme C: locking part G and operating sequence for sliding sash..... 17
1.4	Safety notes 4		
1.5	Extreme weather conditions..... 5	8	PROFILE SECTIONS18
1.6	Directives of the Trade Organisation for Locks and Fittings (Gütegemeinschaft Schlösser und Beschläge e.V.)..... 5	8.1	Profile section horizontal gear 18
1.7	Handle operation 5	8.2	Profile section horizontal central area 19
1.8	Dimensions 5	8.3	Profile section horizontal stop 20
1.9	Environmental protection 5	8.4	Profile section vertical bottom 21
1.10	Feedback on documentation 5	8.5	Profile section vertical top 22
2	APPLICATION DIAGRAM6	9	JIGS23
2.1	Size range 6		
3	PROCESSING SPECIFICATIONS7		
3.1	Scheme versions 7		
4	HARDWARE COMPONENTS.....8		
4.1	Standard hardware 8		
4.2	Hardware list standard components 9		
4.3	Handle overview 10		
5	ASSEMBLY OF BOGIE WHEELS UNIT12		
5.1	Hardware components for sashes up to 400 kg..... 12		
6	ASSEMBLY OF GEAR13		
6.1	Gear drills..... 13		
6.2	Fixing the gear..... 14		
6.3	Positioning the locking parts..... 15		



1 General notes

1.1 Target group of this documentation

This documentation is intended for use by specialists only. All work described in this document is to be performed by experienced professionals with training and practice in the assembly, installation and maintenance of PORTAL hardware. Safe and proper assembly of PORTAL hardware is not possible without expert knowledge. Keep these assembly instructions in a safe place.

1.2 Copyright

The contents of these instructions are protected by copyright. Their use is permissible in the scope of the further processing of the hardware components. Any use beyond this definition is inadmissible without the prior written consent of the producer.

1.3 Intended use

- PORTAL HS hardware for use in windows or patio doors.
- Sash weight max. 400 kg.
- The PORTAL HS lift-slide-hardware is intended for use in permanent buildings.
- The PORTAL HS lift-slide-hardware allows the horizontal opening and closing of doors and patio doors from profiles for lift and slide elements.
- The lift and slide elements must be installed vertically, in no circumstances in a sloping position.
- PORTAL lift & slide sashes may not be installed without providing appropriate drainage and weather protection.
- Seal the threshold components and seal between the threshold and masonry or facade observing the applicable rules in the trade (Fachhandwerk) as set down in DIN 18195 section 5 paragraph 8. 1. 5.

1.4 Safety notes

- Maintenance must be carried out on the PORTAL HS hardware at least once a year. The maintenance instructions must be observed.
- The hardware components described in these assembly instructions are manufactured from steel, zinc plated and then treated with a special process.

- The hardware components may not be used in the following cases. Please contact your SIEGENIA sales consultant in such situations.
 - in damp locations
 - in environments where the air contains aggressive, corrosive components
 - In environments where the air contains salt.
- Use solely SIEGENIA hardware components. Otherwise damage could occur, for which we accept no liability.
- All hardware components must be mounted properly. Do not overtighten the screws!
- The lift and slide elements may only be surface treated before the hardware components are assembled. Subsequent surface treatment can reduce the functional capacity of the hardware components. In such cases we are not obliged to honour any warranty.
- When block setting, please observe technical guideline Nr. 3 from the German Glazing Trade (Glaserhandwerk), "Blocking glazing units" (Klotzung von Verglasungseinheiten).
- Never use acid curing sealants as they may cause corrosion in the hardware components.
- Keep the track of the running rail and all rebates free from dirt and debris, especially from deposits of cement and plaster. Avoid exposing the hardware directly to water and do not let cleaning agents come into contact with the hardware.
- Attach the operating sticker (slide direction DIN LH or DIN RH) in a visible position on the installed lift & slide sash. You can find the operating sticker in the HS 300 basic carton.



1.5 Extreme weather conditions

The PORTAL HS hardware must receive special protection in the case of extreme prevalent weather conditions e.g. gales or storms in the direct vicinity of



the coast. PORTAL HS hardware must be sealed against the permeation of foreign bodies. Foreign bodies e.g. sand and building dust lead to an abrasive impact on the hardware surface and to further damage to the hardware components. The permeation of foreign bodies must be prevented by the application of suitable seals in the profile system or geometric profile design. Especially in the case of externally running sashes, it is essential to ensure that the external hardware components must be protected against gales and storms.

Maintenance must be carried out twice a year if the hardware components are exposed to extreme weather.

- The hardware should be freed of foreign bodies by blow out or suction methods. Treat the bogie wheels and corner drive on the locking side in the same way.
- Apply a non-acidic and non-resinous care agent to the surface of the hardware component. For example:
„KORROSIONSSCHUTZSPRAY - 300 ML“ from Würth,
„ANTI-CORIT 5F SPRAY“ from Fuchs-Schmierstoffe.
- Lubricate the drive rod of the gear via the holes in the gear sleeve.

1.6 Directives of the Trade Organisation for Locks and Fittings (Gütegemeinschaft Schlösser und Beschläge e.V.).

The directives of the Trade Organisation for Locks and Fittings provide comprehensive information on the correct operation and maintenance of hardware for windows and patio doors.

It is mandatory to adhere to these directives.

You can find the latest versions of the directives, in a range of languages here:
<http://www.beschlagindustrie.de/ggsb/richtlinien.asp>



VHBH – Hardware for windows and patio doors

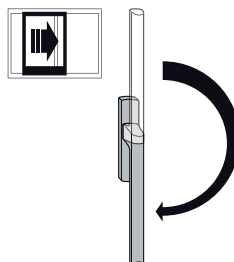
Guidelines/notes on the product and on liability

VHBE – Hardware for windows and patio doors

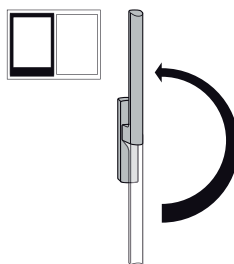
Guidelines and notes for end users

1.7 Handle operation

Lift and slide the sliding sash.



Lower the sliding sash. Locking position.



1.8 Dimensions

All dimensions are nominal values and include the general tolerances (formerly "dimensional variations"). All nominal values are given in mm.

1.9 Environmental protection

Although our products do not fall within the size range of the German Electrical and Electronic Equipment Act (ElektroG), SIEGENIA will continue to meet the requirements of this Act and will endeavour to completely eliminate the use of substances that are hazardous to the environment as soon as this becomes technically feasible. Electrical products should not be disposed of as household waste.

1.10 Feedback on documentation

We welcome your comments and suggestions on how to improve our documentation. Please email your comments to dokumentation@siegenia.com.



2 Application diagram

Restriction on sash formats for lift and slide elements with hardware version PORTAL HS up to 400 kg

Basis of testing and calculation

Combination test according to QM346 (Annex 2):

- 25,000 lifting cycles
- 25,000 slide cycles

Comply with the following values for all window systems:

- Max. height/width ratio $QB/H \leq 2.5$
- Observe notes concerning intended use Basics and use of the application diagram - see the document H58.AWD_BG_EN



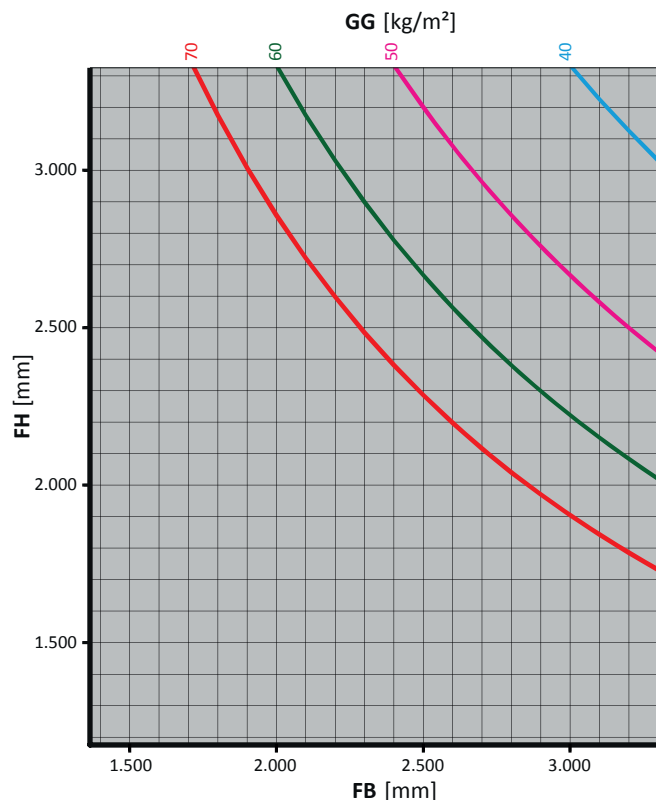
admissible size range



inadmissible size range

FH = sash height

FB = sash width



2.1 Size range

Sash width (FB)		(mm)	680 — 3350
Sash height (FH) (sliding sash)		(mm)	1160 — 2660
Exterior width of frame (RAB) (for scheme A)		(mm)	max. 6700
Frame height (RAH)		(mm)	1290 — 2790
Sash weight		(kg)	max. 400
Backset	Gear	(mm)	27.5
Handle position	Windows	(mm)	407.5 (from upper edge of running rail)
Handle position	Door	(mm)	1007.5 (from upper edge of running rail)

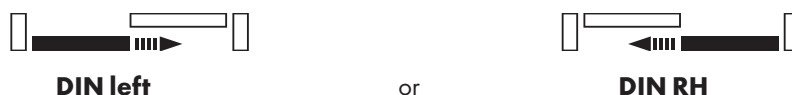


3 Processing specifications

- In addition to the size ranges, the specifications of the CORTIZO 4600, in particular with regard to potential limitations in the size range of sash dimensions and sash weight, apply here
- To comply with the requirements of EN13126-16, a handle length of 225 mm must be used.
- The components of the lift and slide element must be stored at room temperature (20°C) for 24 hours before fabrication.
- We recommend the use of stainless steel screws for the assembly of components on the ECO PASS threshold.
- The threshold must be lined at intervals of 300 mm to be pressure-tight and sound-absorbing.
- We recommend using the following elastic adhesives and sealants:
 - OTTOSEAL® S 72 from OTTO Chemie
 - Collano® A 1970 from Collano Adhesives AG
 - equivalent, other adhesives and sealants

3.1 Scheme versions

Scheme A



Scheme C



Scheme D



Scheme E



Scheme G2



Scheme G3



Scheme L

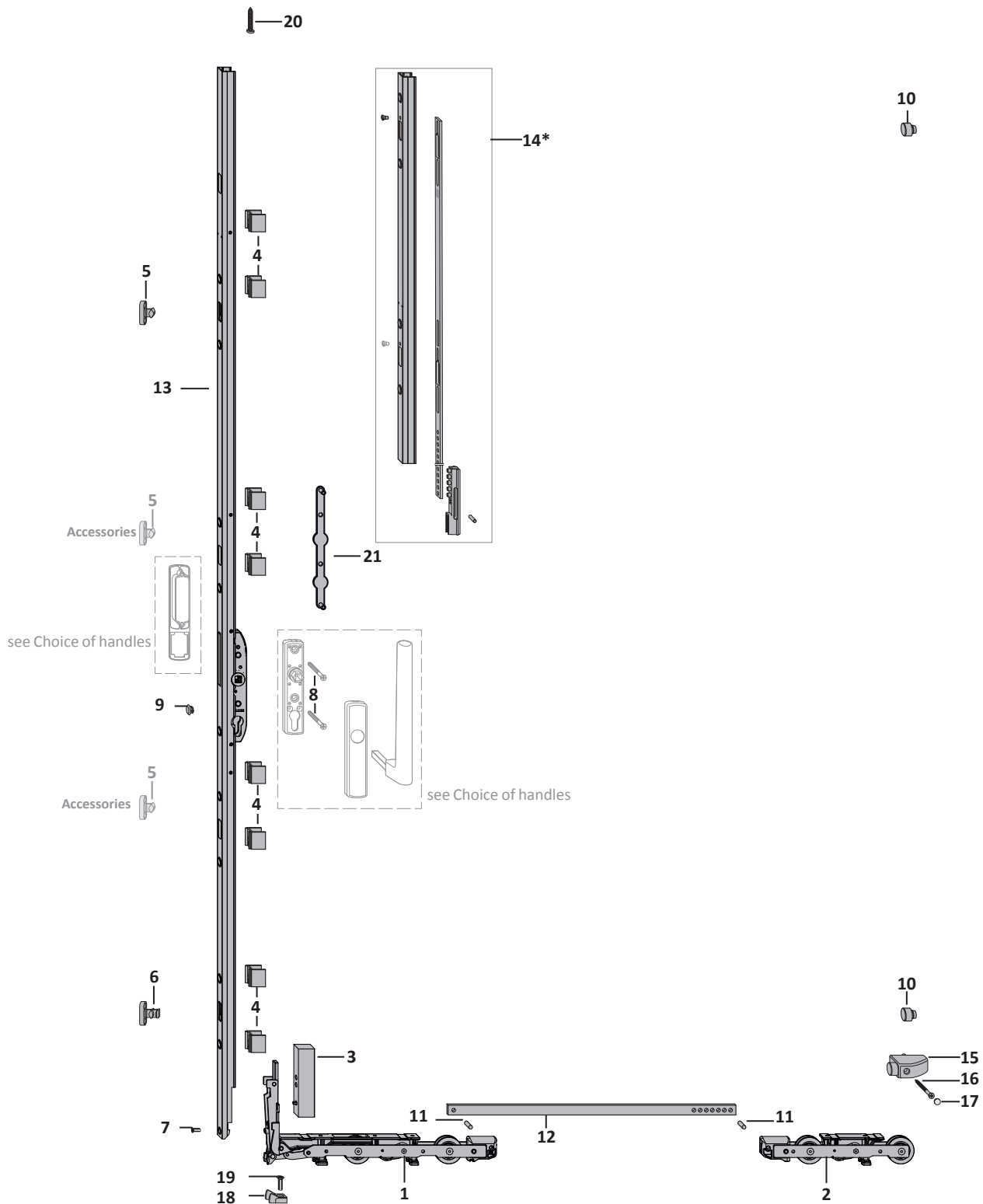


Sash determination according to the specifications of the profile manufacturer
The corresponding construction drawings are available.



4 Hardware components

4.1 Standard hardware



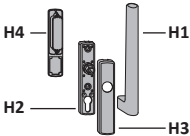
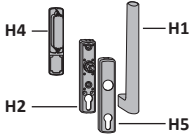
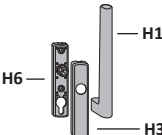
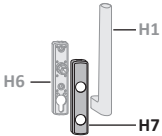
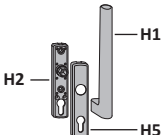
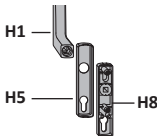
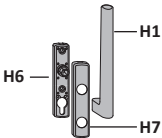


4.2 Hardware list standard components

Item	Pieces with scheme							Material designation	Material number			
	A	C	D	E	G2	G3	L					
	1	2	2	2	1	1	4	Basic carton PORTAL HS 300 LM CORTIZO 4600 consisting of:		PMKB7570-10001_		
1	1	2	2	2	1	1	4	Corner drive	VSU HS 300 with retention catches			
2	1	2	2	2	1	1	4	Bogie wheels	HS 300 TS PC 1			
3	1	2	2	2	1	1	4	Distance piece, bottom	A0001			
4	8	16	16	16	8	8	32	Distance piece, short	A0001			
5	1	1	2	1	1	1	1	Locking part, top	A0006			
6	1	1	2	1	1	1	1	Locking part, bottom	A0006			
7	1	2	2	2	1	1	4	Countersunk screw PZD M5 x 13	for gear and corner drive			
8	2	4	4	4	2	2	8	Countersunk screw PH M 5 x 60	for handle			
9	1	2	2	2	1	1	4	Closing cap	grey and brown			
10	2	4	4	4	2	2	8	Stop				
	6	12	6	4	4	4	4	Countersunk tapping screw 4.8 x 25	for locking part			
	5	10	10	10	5	5	20	Countersunk tapping screw 4.8 x 32	for corner drive and bogie wheels			
	1	2	2	2	1	1	4	Countersunk tapping screw 4.8 x 38	for corner drive and distance piece			
	8	16	16	16	8	8	32	Countersunk tapping screw 4.8 x 50	for gear			
11	2	4	4	4	2	2	8	Dowel pin Ø6 x 16	for connecting rod			
depending on sash width (FB) sliding sash												
12	1	2	2	2	1	1	4	Connecting rod (Length = FB – 730)	Size 150 200 250 335	Length (mm) 898 1398 1898 2748	Sash width (mm) 770 - 1630 1631 - 2130 2131 - 2630 2631 - 3350	719282 719480 719497 719725
dependent on sash height (FH)												
13	1	2	2	2	1	1	4	Gear PORTAL HS 200 PZ (Length = FH – 178)	Size 170 220 260	Handle position (mm) 407.5 1007.5 1007.5	Sash height* (mm) 1360 - 1848 1860 - 2348 2160 - 2748	PGKB0040-52401_ PGKB0050-52401_ PGKB0060-52401_
*Extension for deviating sash heights												
14	1	2	2	2	1	1	4	Additional lock HS		PMGB0010-12401_		
Accessories												
	0..1	0..2	0..2	0..2	0..1	0..1	0..4	Bag stop consisting of:		RAL 9003 821237 Silver EV 1 PMZB0140-0E601_ RAL 9005 831922		
15	0..1	0..2	0..2	0..2	0..1	0..1	0..4	Stop				
16	0..1	0..2	0..2	0..2	0..1	0..1	0..4	Countersunk tapping screw B 4.8 x 70				
17	0..1	0..2	0..2	0..2	0..1	0..1	0..4	Cover cap				
	1	2	—	—	—	—	—	Bag of locking parts G consisting of		238691		
18	1	2	—	—	—	—	1	Locking part G				
19	1	2	—	—	—	—	1	Countersunk screw PH M 6 x 20				
20	1	2	—	—	—	—	1	Raised countersunk head screw B 6.3 x 38				
for anti-intruder elements												
5	2	—	—	—	—	—	—	Locking part, top A0006		719213		
	4	—	—	—	—	—	—	Countersunk tapping screw 4.8 x 32 for locking parts		840603		
21	1	2	2	2	1	1	4	Anti-drill guard E		721216		



4.3 Handle overview

Item	Pieces	Individual components		Colour	Material to be ordered
Carton handle Si-line PORTAL HS 300					
H1	1	Handle HS 300 Si-line		RAL 9003 RAL 8022 EV 1 silver	PMHB0010-50201_ PMHB0010-51201_ PMHB0010-52401_
H2	1	Rose Si-line HS 300, inside			
H3	1	Cover cap Si-line HS 300			
H4	1	Sliding grip Si-line			
Carton handle Si-line PORTAL HS 300 PZ for lockable elements - with profile half cylinder inside					
H1	1	Handle HS 300 Si-line		RAL 9003 RAL 8022 EV 1 silver	PMHB0020-50201_ PMHB0020-51201_ PMHB0020-52401_
H2	1	Rose Si-line HS 300, inside			
H3	1	Sliding grip Si-line			
H5	1	Cover cap Si-line HS 300 PZ			
Carton handle Si-line PORTAL HS 300 RZ for lockable elements - with profile half cylinder inside for subsequent retrofit with RZ					
H1	1	Handle HS 300 Si-line		RAL 9003 EV 1 silver	PMHB0110-50201_ PMHB0110-52401_
H3	1	Cover cap Si-line HS 300			
H6	1	Rose Si-line HS 300 RZ inside			
Cover cap RZ A0089 for lockable elements - with profile half cylinder inside required for retrofit with RZ					
H1	1	Cover cap Si-line HS 300 RZ A0089		RAL 9003 EV 1 silver	PKHB0060-50201_ PKHB0060-52401_
Carton handle Si-line PORTAL HS 300 RZ inside for lockable elements - with profile half cylinder inside and outside only in conjunction with handle Si-line HS 300 PZ outside					
H1	1	Handle HS 300 Si-line		RAL 9003 RAL 8022 EV 1 silver	PMHB0050-50201_ PMHB0050-51201_ PMHB0050-52401_
H2	1	Rose Si-line HS 300, inside			
H5	1	Cover cap Si-line HS 300 PZ			
Carton handle Si-line PORTAL HS 300 PZ outside for lockable elements - with profile half cylinder inside and outside only in conjunction with handle Si-line HS 300 PZ inside					
H1	1	Handle HS 300 Si-line		RAL 9003 RAL 8022 EV 1 silver	PMHB0040-50201_ PMHB0040-51201_ PMHB0040-52401_
H5	1	Cover cap Si-line HS 300			
H8	1	Rose Si-line HS 300 outside			
Carton handle Si-line PORTAL HS 300 RZ for lockable elements - with profile half cylinder inside and outside only in conjunction with handle Si-line HS 300 RZ inside					
H1	1	Handle HS 300 Si-line		RAL 9003 EV 1 silver	PMHB0130-50201_ PMHB0130-51401_
H5	1	Cover cap Si-line HS 300 RZ			
H8	1	Rose Si-line HS 300 outside			

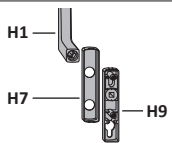
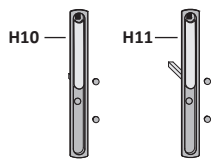
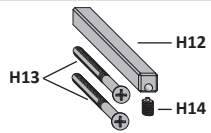
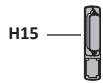



CORTIZO 4600

Hardware components

PORTAL

HS

Item	Pieces	Individual components		Colour	Material to be ordered
Carton handle Si-line PORTAL HS 300 RZ outside A0089					
for lockable elements - with profile half cylinder inside and outside only in conjunction with handle Si-line HS 300 RZ inside					
H1	1	Handle HS 300 Si-line		RAL 9003 EV 1 silver	PMHB0120-50201_ PMHB0120-51401_
H7	1	Cover cap Si-line HS 300 RZ A0089			
H9	1	Rose Si-line HS 300 outside			
Carton pop up handle HS 300 inside					
H10	1	Pop up handle HS 300 inside with 40 mm spindle length		RAL 9003 RAL 8022 EV 1 silver	PHIB0050-00201_ PHIB0050-01201_ PHIB0050-02501_
Carton pop up handle HS 300 inside					
H11	1	Pop up handle HS 300 inside with 100 mm spindle length		RAL 9003 RAL 8022 EV 1 silver	PHIB0090-00201_ PHIB0090-01201_ PHIB0090-02501_
Bag of accessories HS 200/300 handle					
For lockable elements - with profile half cylinder inside					
H12	1	Square spindle □ 10 x 120		for sash thickness 70 mm	PMZB0250-10001_
H13	1	Countersunk screw M5 x 90			
H14	1	Stud bolt M 6 x 8			
Escutcheon HS 200/300					
H15	1	Escutcheon Si-line		RAL 9003 RAL 8022 EV 1 silver	PHZB0030-50201_ PHZB0030-51201_ PHZB0030-52501_
Sleeve nut M 5					
for handle fixation without sliding grip or escutcheon					
H16	1	Sleeve nut M 5			800287



5 Assembly of bogie wheels unit

Ⓢ1 Countersunk tapping screw 4.8 x 32

Ⓢ2 Countersunk tapping screw 4.8 x 38

LV	Length of connecting rod
ML	Minimum length
FB	Sash width

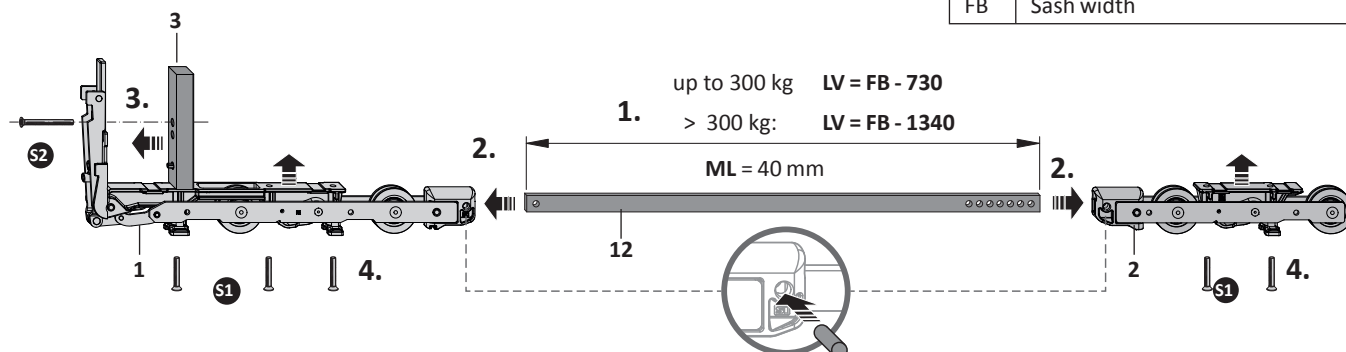


Abb. 1: Assembly of bogie wheels unit

- 1. Crop the connecting rod (12) to the required length. Minimum length = 40 mm
- 2. Insert connecting rod (12) into coupling pieces of the corner drive (1) and bogie wheels (2) and fix with grub screw M8 x 16.
- 3. Fix distance piece (4) to corner drive (1).
- 4. Insert the complete unit into the lift & slide sash. Press against the bottom profile bar and then against the vertical sash bar. Fix tightly with countersunk tapping screws.

5.1 Hardware components for sashes up to 400 kg



Use only after consultation with and release by profile manufacturer.



Item	Pieces with scheme							Material designation	Material number
	A	C	D	E	G2	G3	L		
	1	2	2	2	1	1	4	Carton of accessories HS400	PMKB0340-10001_
22	2	4	4	4	2	2	8	Bogie wheels M	
23	2	4	4	4	2	2	8	Connecting rod A0109	
24	4	8	8	8	4	4	16	Dowel pin Ø6 x 16	



6 Assembly of gear

6.1 Gear drills

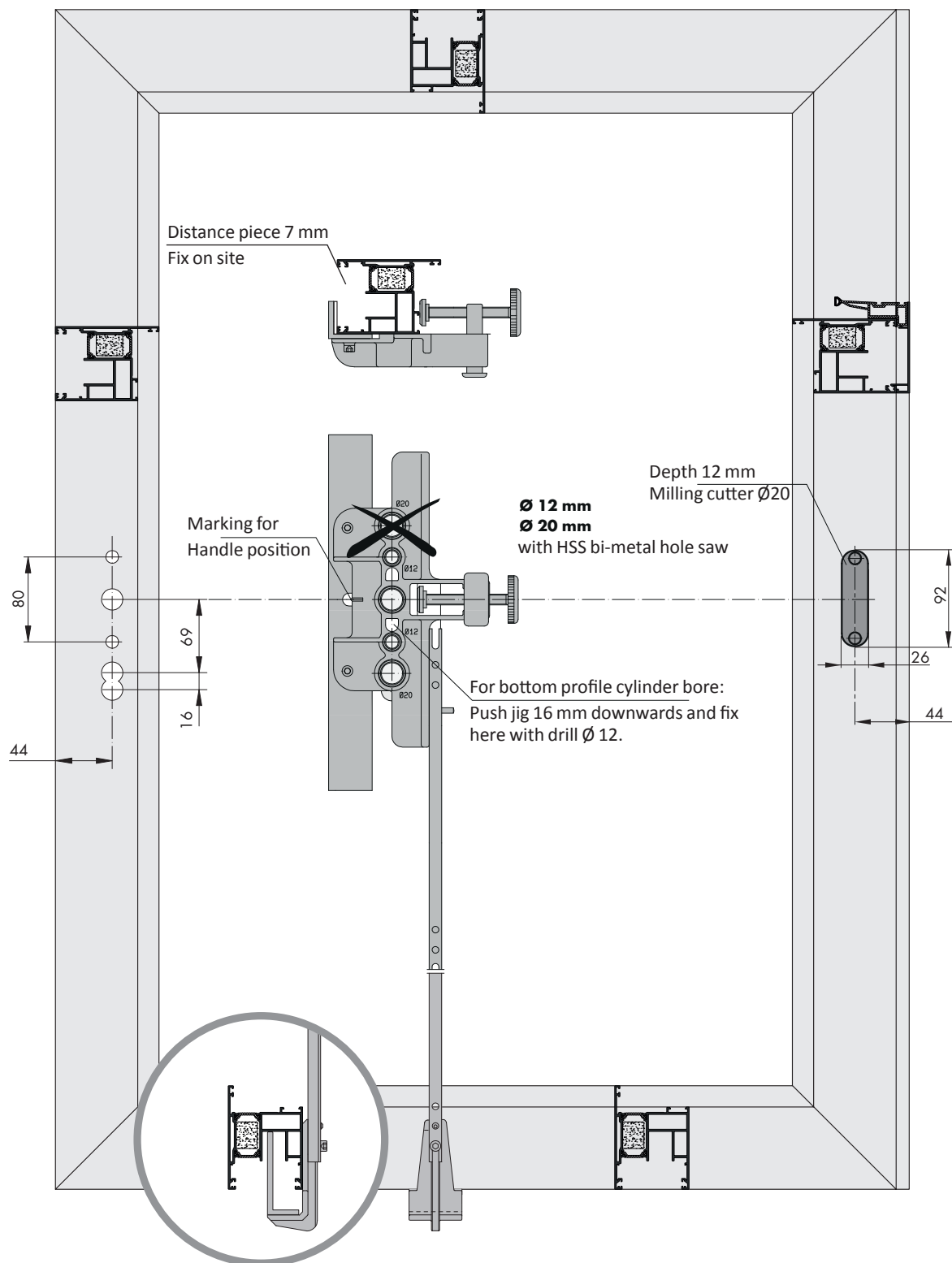


Abb. 2: Gear drills on sliding sash



6.2 Fixing the gear

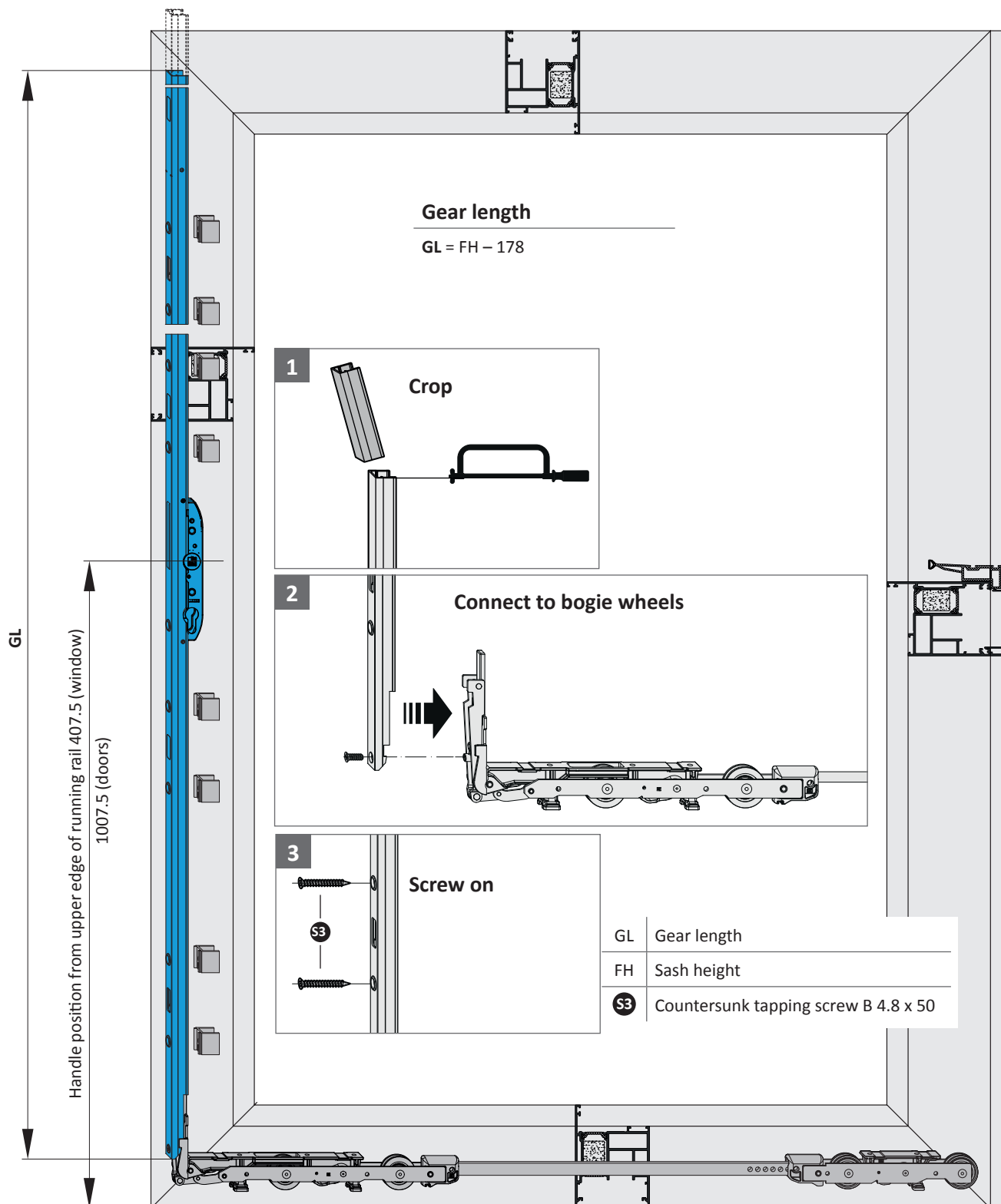


Abb. 3: Fixing the gear in the sliding sash



6.3 Positioning the locking parts

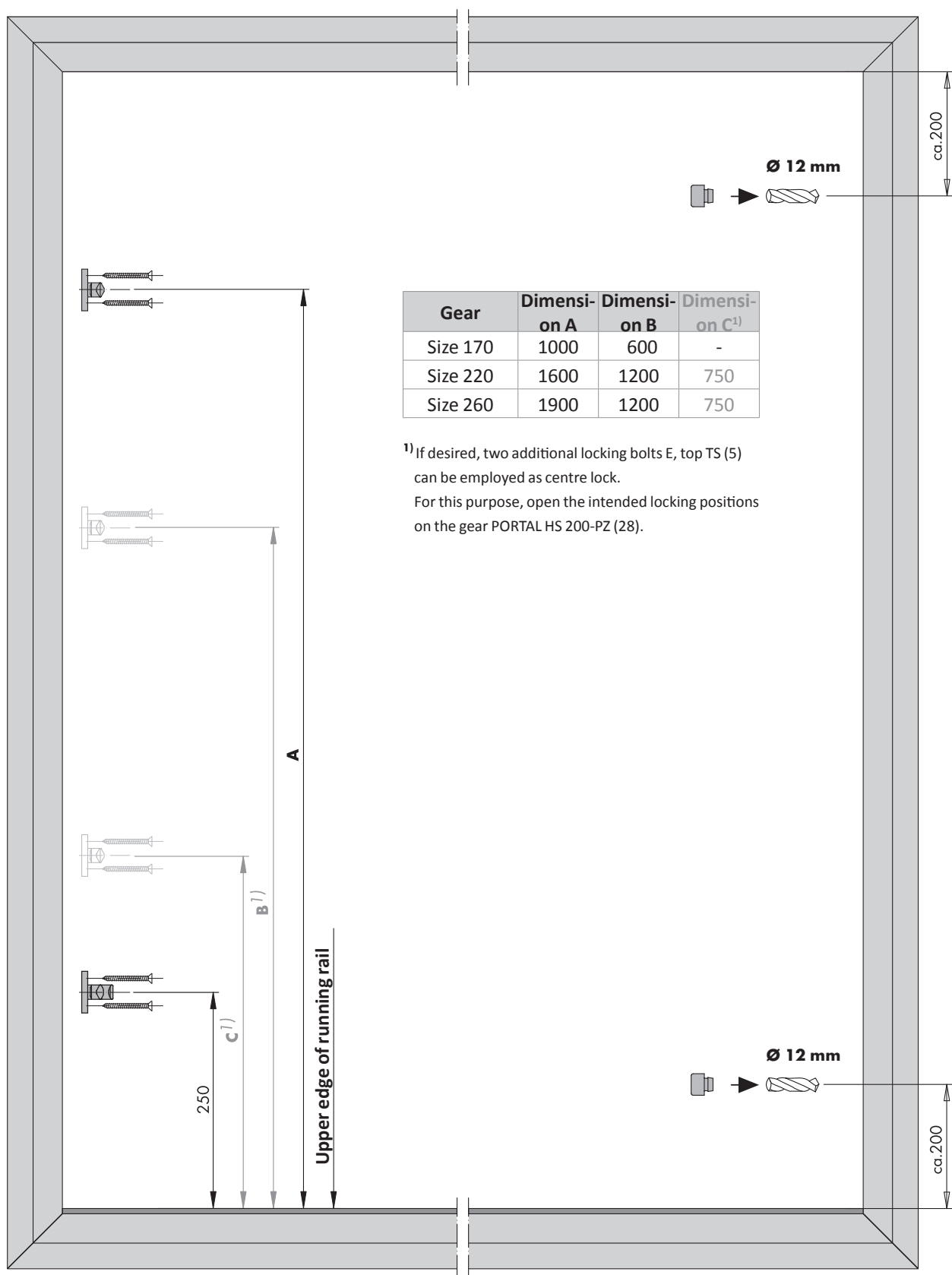
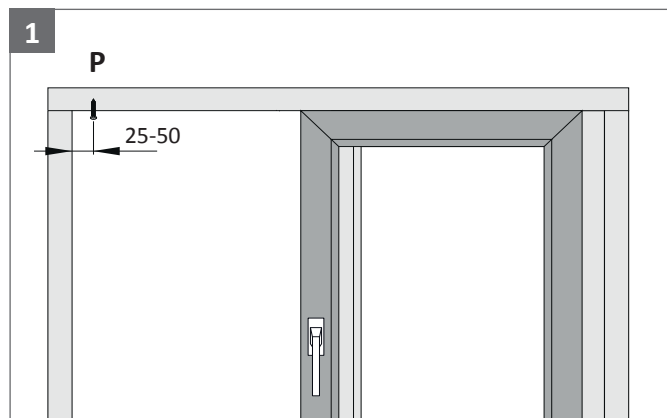


Abb. 4: Position of locking parts

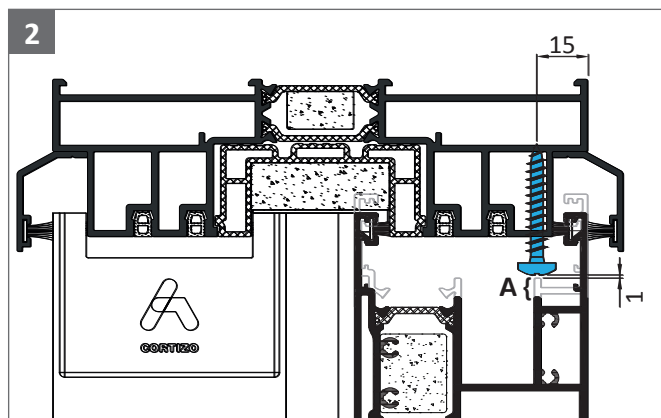


7 Assembly of anti-lift device and locking part G

7.1 Positioning the anti-lift device

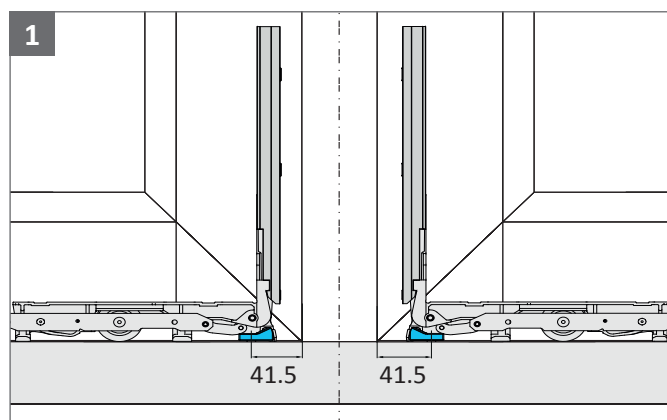


Position **P** from locking side on the frame.
Pre-drilling the screw hole is recommended.

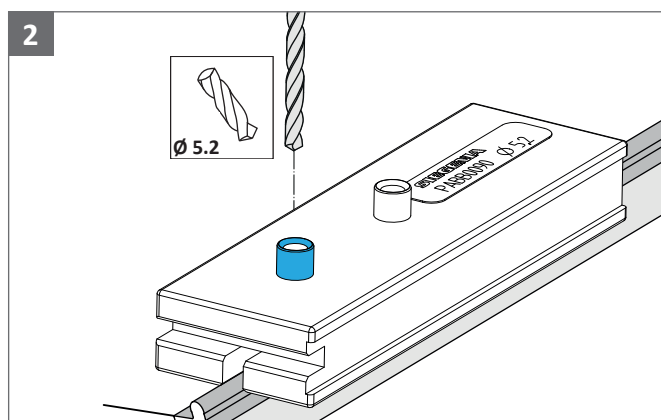


Screw raised countersunk screw B 6.3 x 38 (**page 8, item 19**) to the top of the frame 15 mm from the front edge of the sash. When the sliding sash (**A**) is lifted, the interval between the screw head and the upper edge of the sliding sash should not exceed 1 mm.

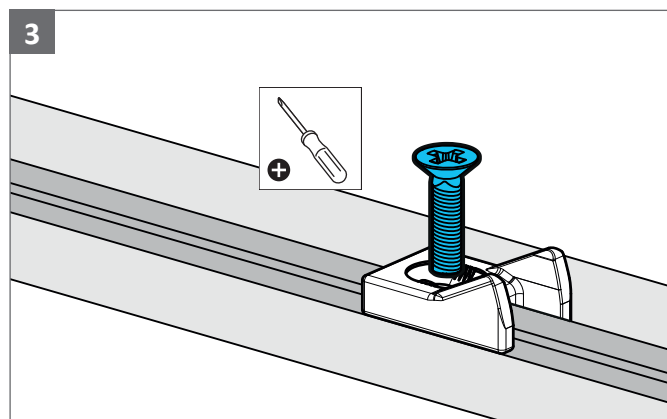
7.2 Positioning locking parts G



Position of locking parts G from the outer edge (handle side) of closed sliding sash.



Pre-drill screw holes (drill Ø5.2). Use jig 9443 29.



Fix locking parts G to the running rail using PH M6x20 countersunk head screw.



7.2.1 Scheme C: locking part G and operating sequence for sliding sash

- Items 18 and 19 are standard hardware components for primary sashes **1** (see page 8/9)

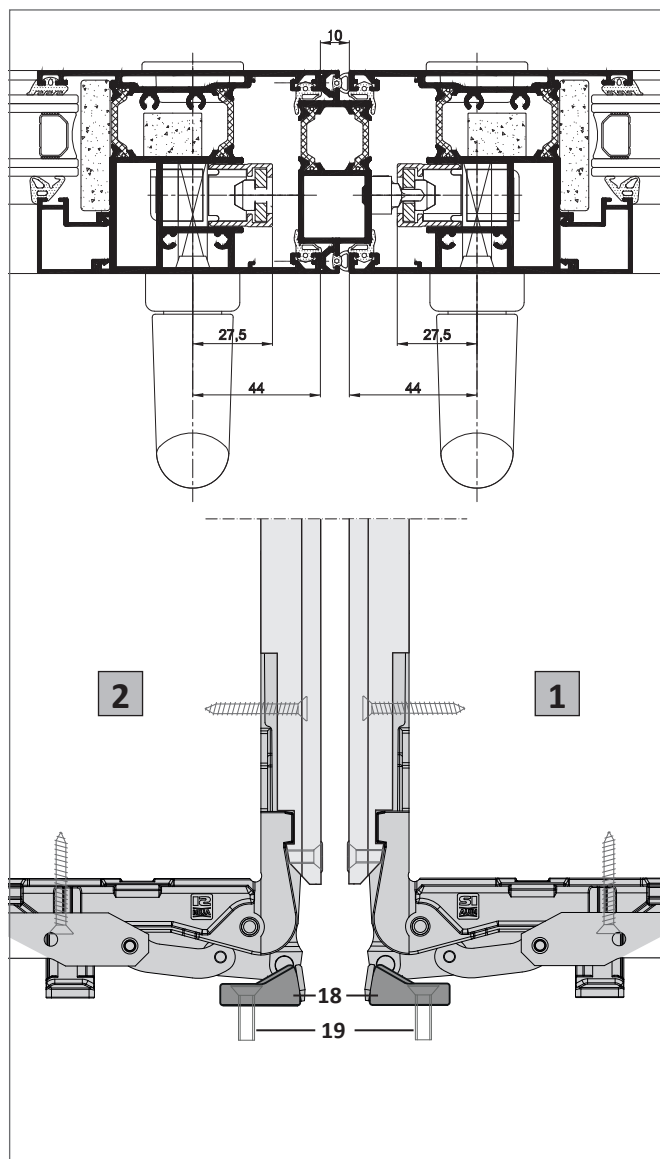
- Main and secondary sashes must be labelled accordingly to prevent faulty operation. The sliding sashes may be operated only in the order specified below**

- To open:

primary sash first **1**, then secondary sash **2**

- To close:

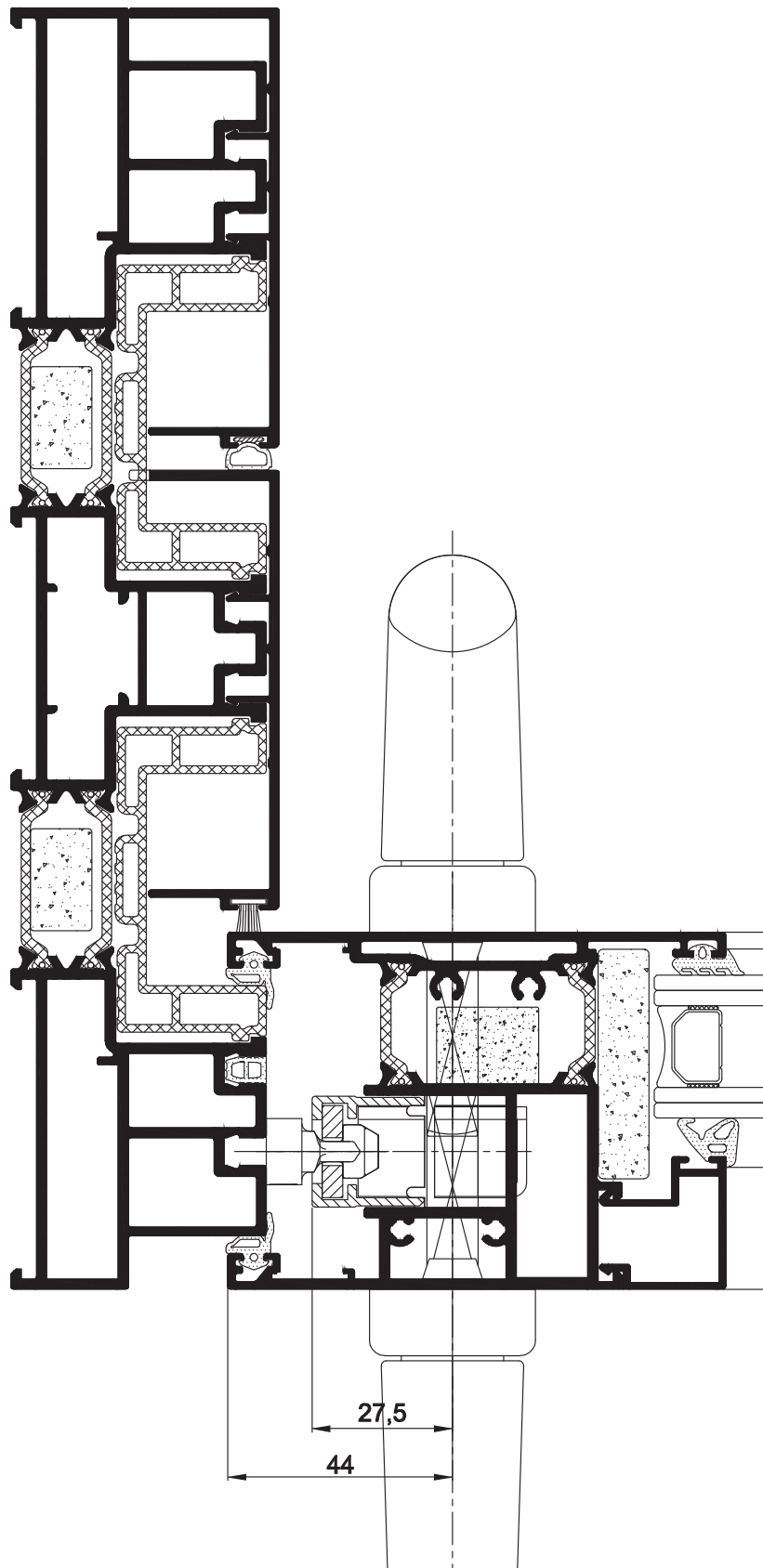
secondary sash first **2**, then primary sash **1**





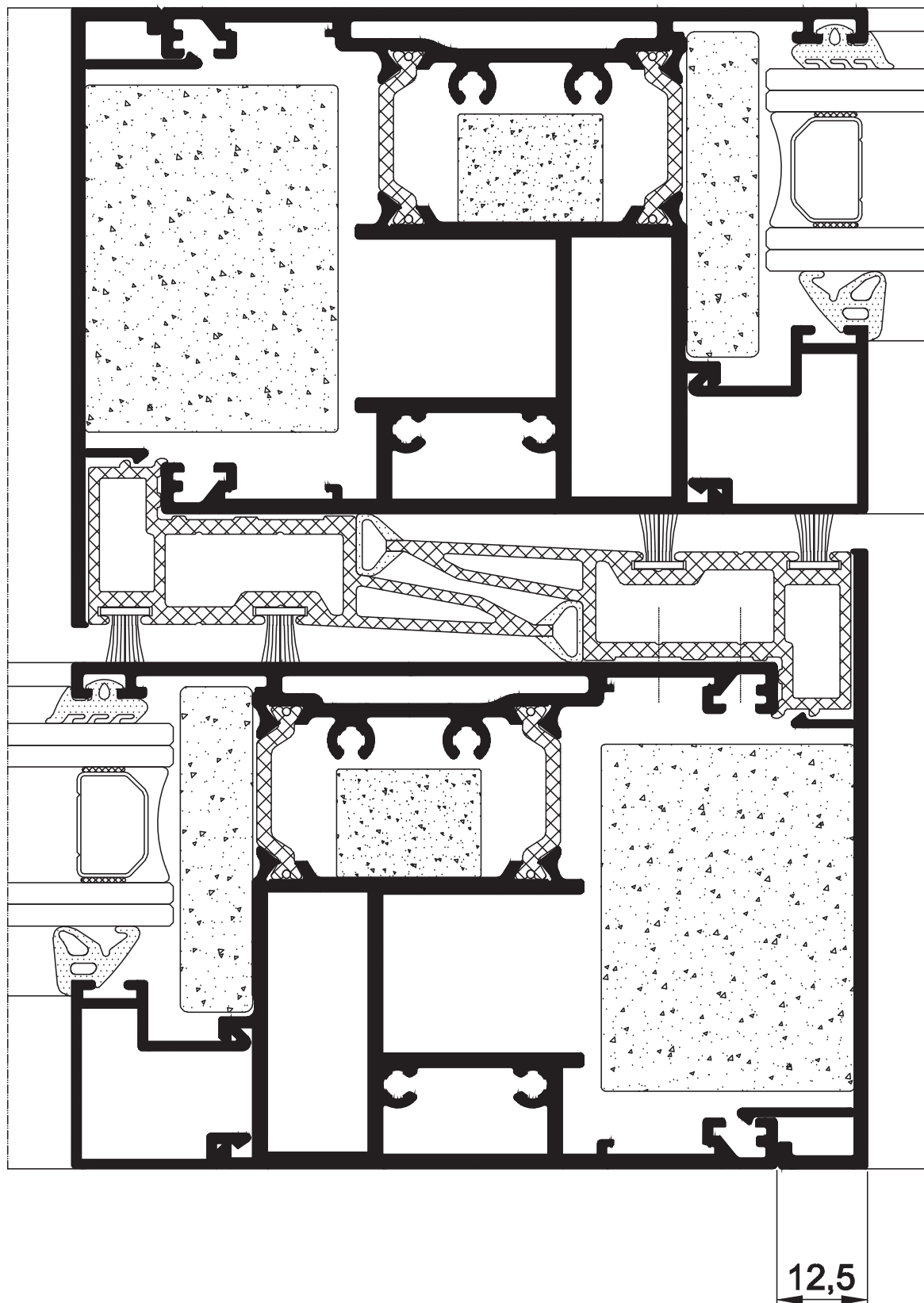
8 Profile sections

8.1 Profile section horizontal gear



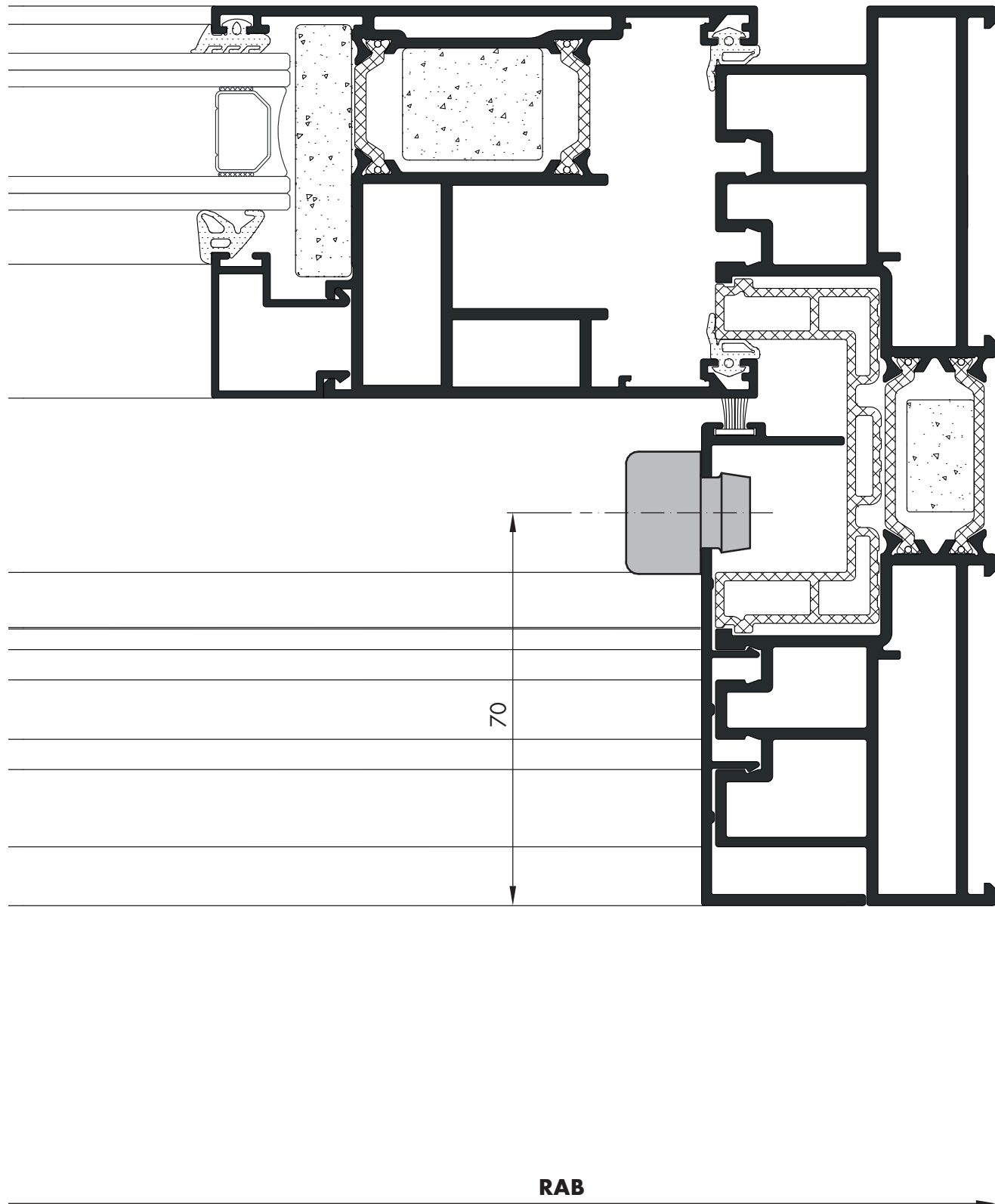


8.2 Profile section horizontal central area



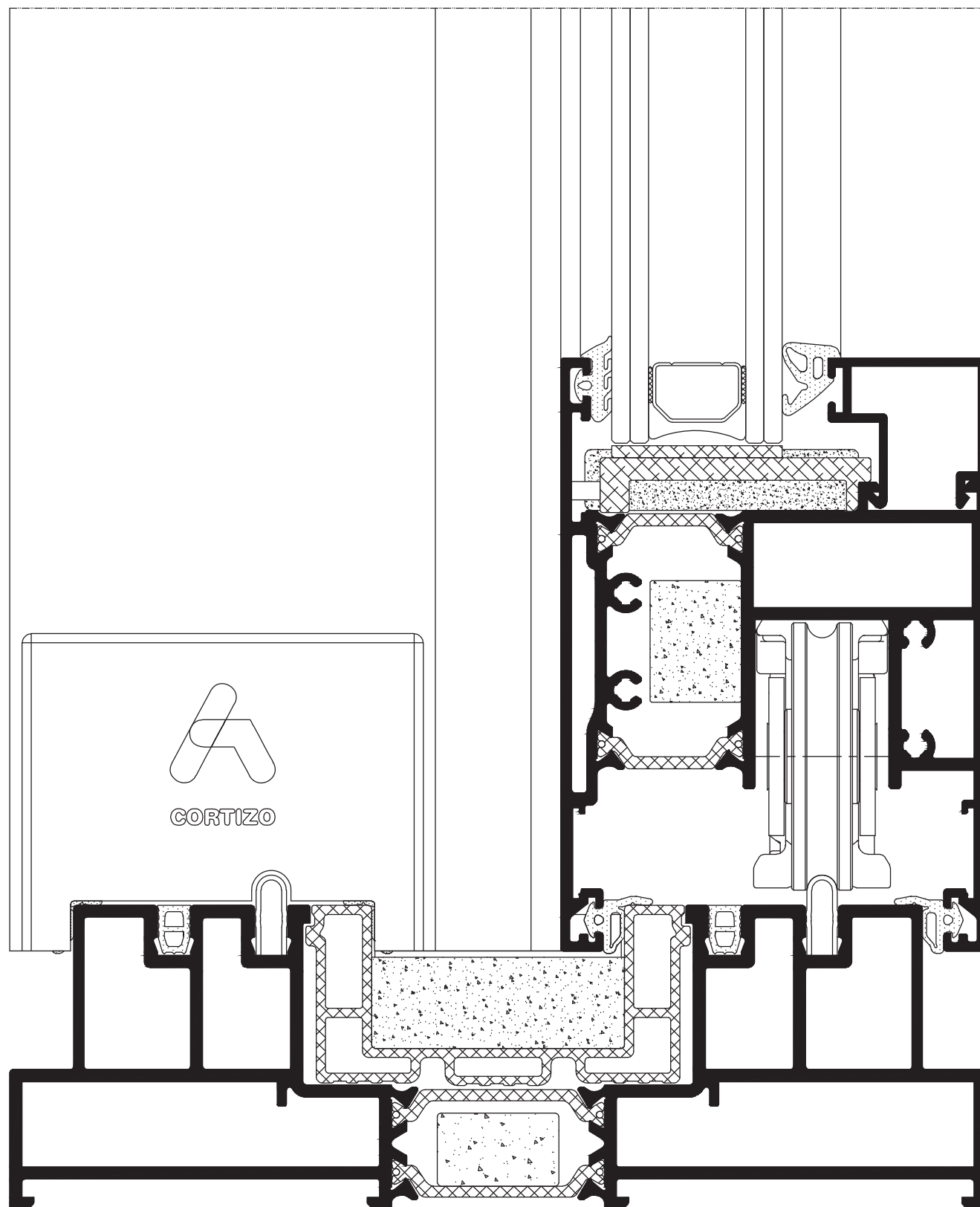


8.3 Profile section horizontal stop



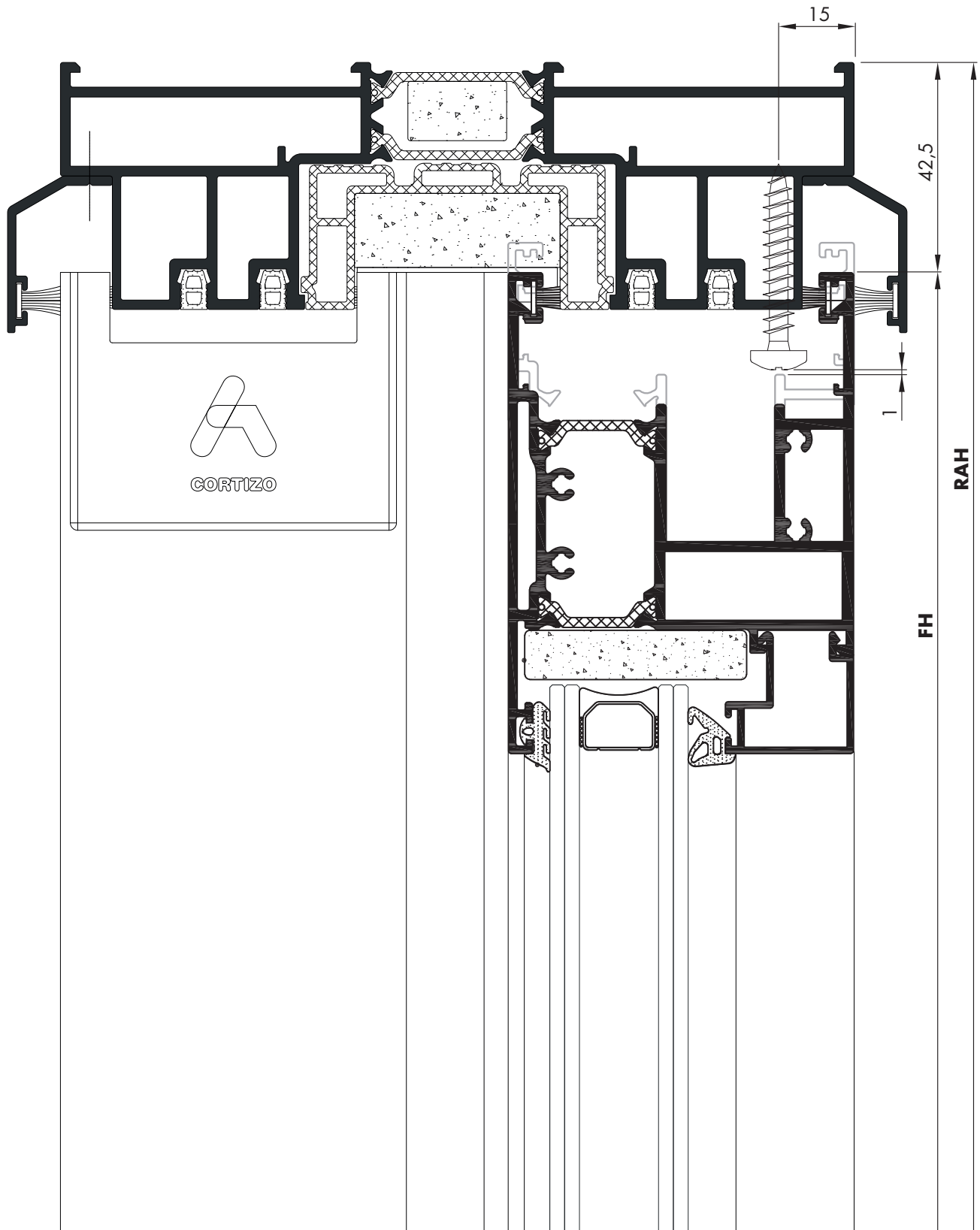


8.4 Profile section vertical bottom



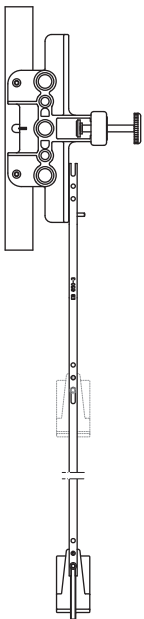

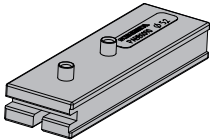


8.5 Profile section vertical top





9 Jigs

Material description			Tooling	Material number
	Jig gear backset 56.5 consisting of:	for gear drilling	Drill Ø12 Ø20	PABB0530-52101_
	Item 1: jig gear	Jig has 44 mm backset.		
	Item 2: adjusting rod including bottom stop			157244
	Centre punch PVC			PALB4010-10001_
	For punching the screw holes for locking parts			
	Jig HS		Drill Ø 5.2	PABB0090-09601_
	To pre-drill the screw hole for locking part G			

www.siegenia.com



SIEGENIA®
brings spaces to life