

ASSEMBLY INSTRUCTIONS

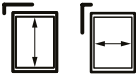
MULTI MAMMUT

Heavy-duty hardware



Only
for use by certified specialists!
Not for end users!

Key/abbreviations

	Sash rebate height (SRH)		Backset (BS)
	Sash rebate width (SRW)		Air gap (FL)
	Sash rebate width and height		Rebate leg (Ü)
	Maximum sash weight		Offset (V)
	Corner element, standard		Rebate depth (FT)
	Corner element, short		MULTI-MATIC (MM)
	Drive gear, fixed		MULTI-MATIC with tilt lock bolt (MM-KS)
	Drive gear, variable		

Instructions: If not otherwise specified, the dimensions are stated in millimetres and packing units in items per box.

All illustrations are purely symbolic.

Further technical documents can be found in our online catalogue (TOM) at extranet.maco.eu

This print document is continuously revised and the current version can be downloaded from www.maco.eu.

Misprints and errors excepted. Subject to change.

If you have any ideas or suggestions for improving our instructions, please send them by e-mail to: feedback@maco.eu

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Additional assembly instructions for central locking system (Order No. 757212) are binding and must be observed.

General processing information

Intended purpose

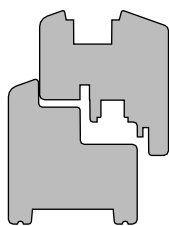
These assembly instructions are binding for the hinge-side MULTI MAMMUT. Use and assembly of the components is only permitted in the manner described below. They are not intended for any other use and therefore any other such use does not correspond to the intended purpose. The following points must also be observed:

- The application ranges, sash weights and processing guidelines of the system supplier are binding and must be observed.
- The centre of gravity and the position of the glass pane can affect the application range and max. weights and must be requested where required!

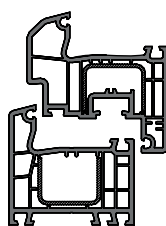
Non-observance will render claims for damages void!

1 Application materials

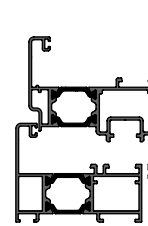
Timber*



PVC



Aluminium**

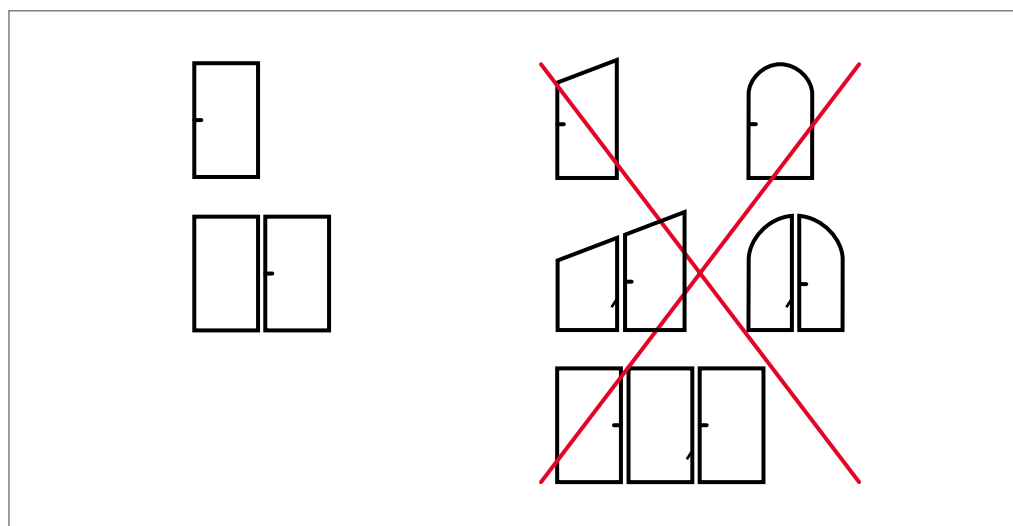


* The rebate width must be sufficiently strong so that it does not break in the event of changes to the gasket compression.

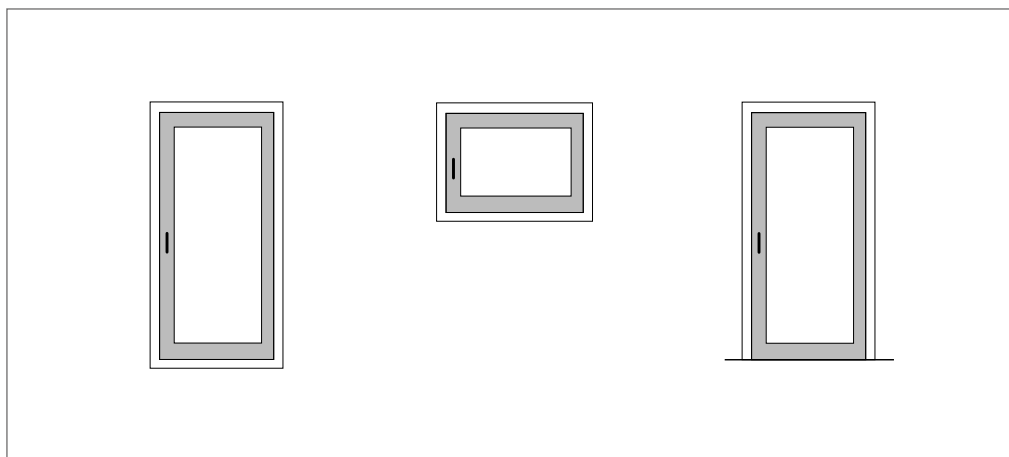
** Rebate width ≥ 16 mm



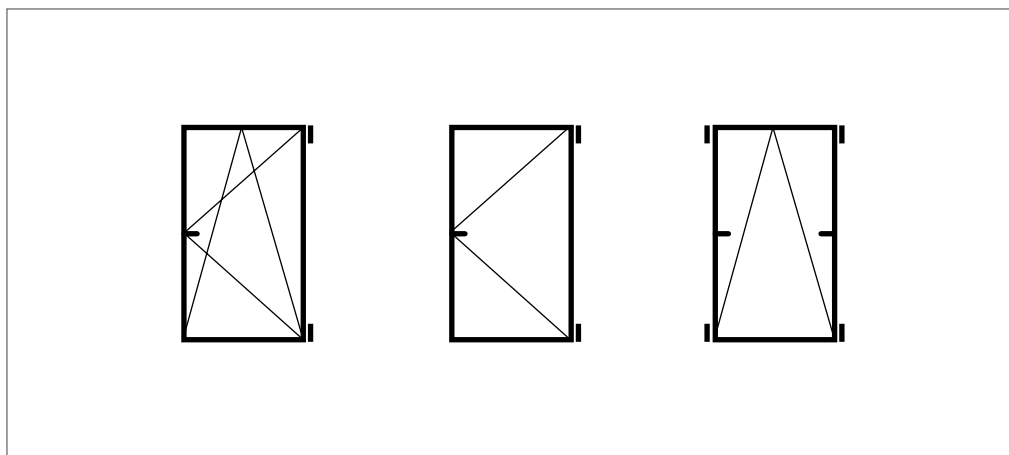
2 Sash format and number of sashes



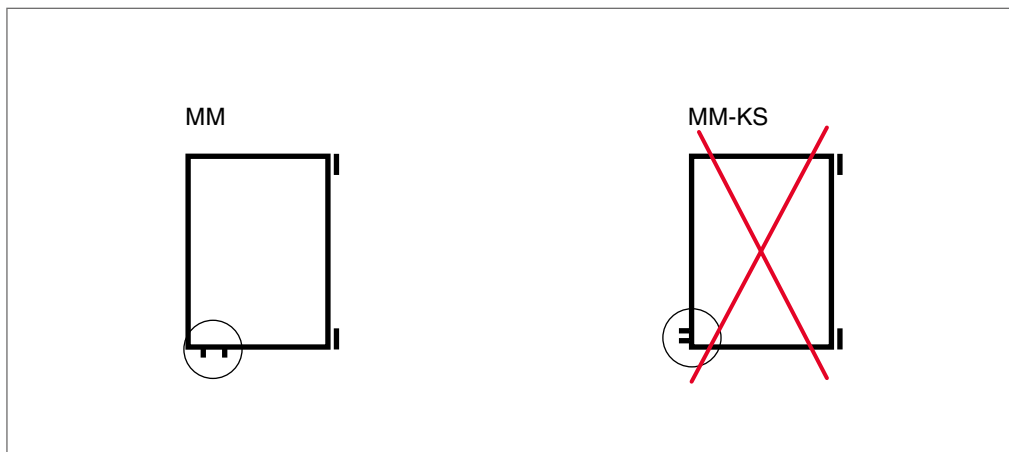
3 Window design



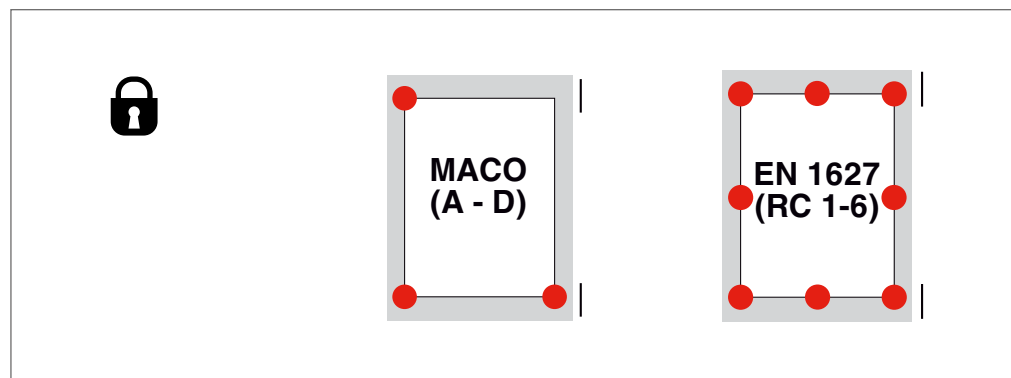
4 Opening modes



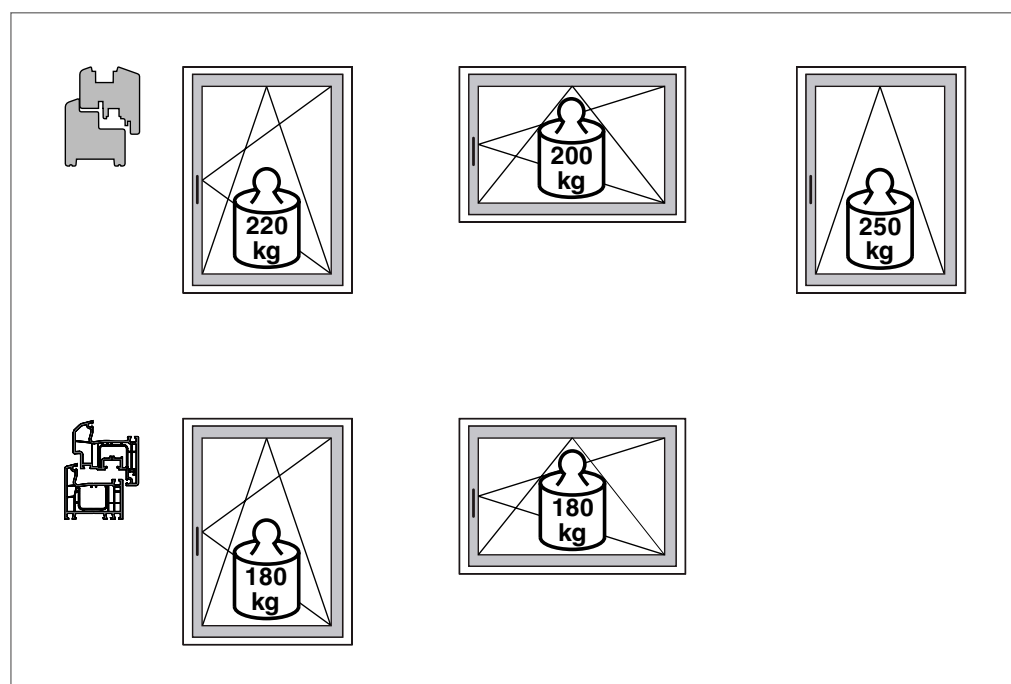
5 Hardware range



6 Hardware version (security)



7 Maximum sash weight



8 Application range – turn&tilt and turn-only units

	$\leq 1800 \times 2800 \text{ mm}$				
	$\geq 400 \text{ mm}$		$\geq 360 \text{ mm}$ ($\frac{15}{6,5}$)		$\geq 275 \text{ mm}$ ($\frac{15}{6,5}$)
			$\geq 455 \text{ mm}$ ($\frac{15}{6,5}$)		$\geq 370 \text{ mm}$ ($\frac{15}{6,5}$)
	$\leq 315 \text{ mm}$		$\geq 470 \text{ mm}$ ($\frac{15}{6,5}$)		$\geq 385 \text{ mm}$ ($\frac{15}{6,5}$)
			$\geq 530 \text{ mm}$ ($\frac{15}{6,5}$)		$\geq 445 \text{ mm}$ ($\frac{15}{6,5}$)

9 Application range – tilt units

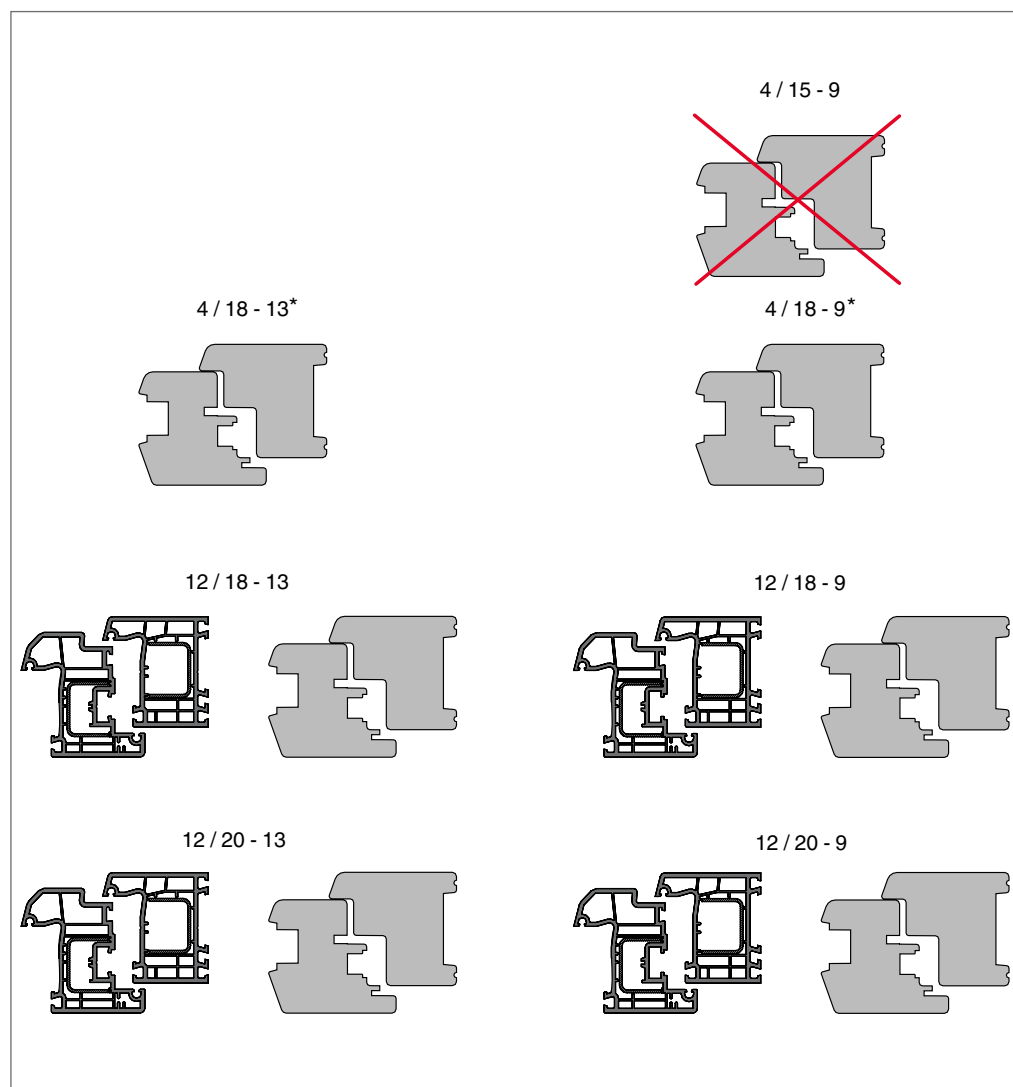


1200 - 2000 mm



800 - 2800 mm

10 Sash profile – air gap, rebate leg and offset

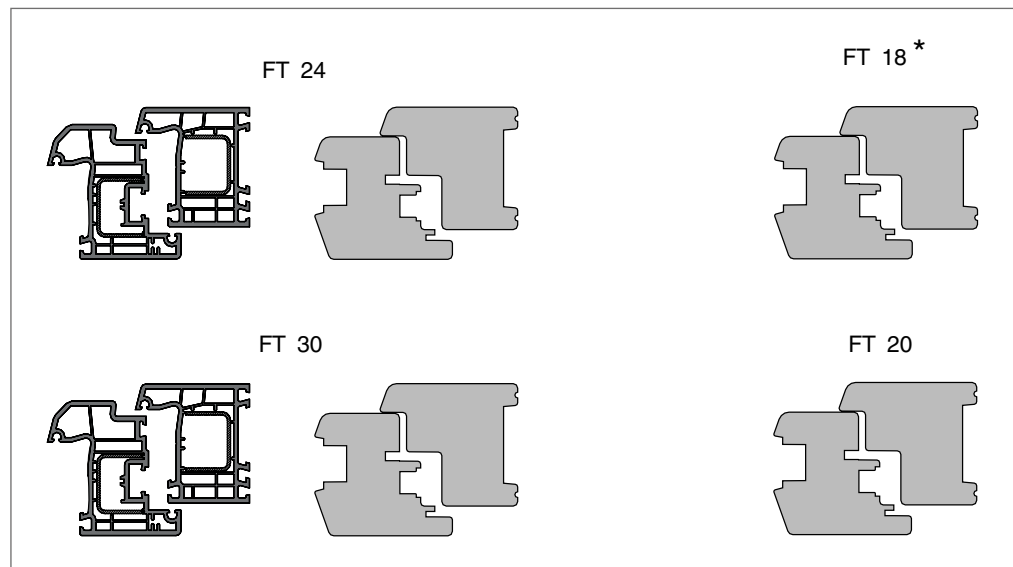


* additional routing work required

11 Fitting groove

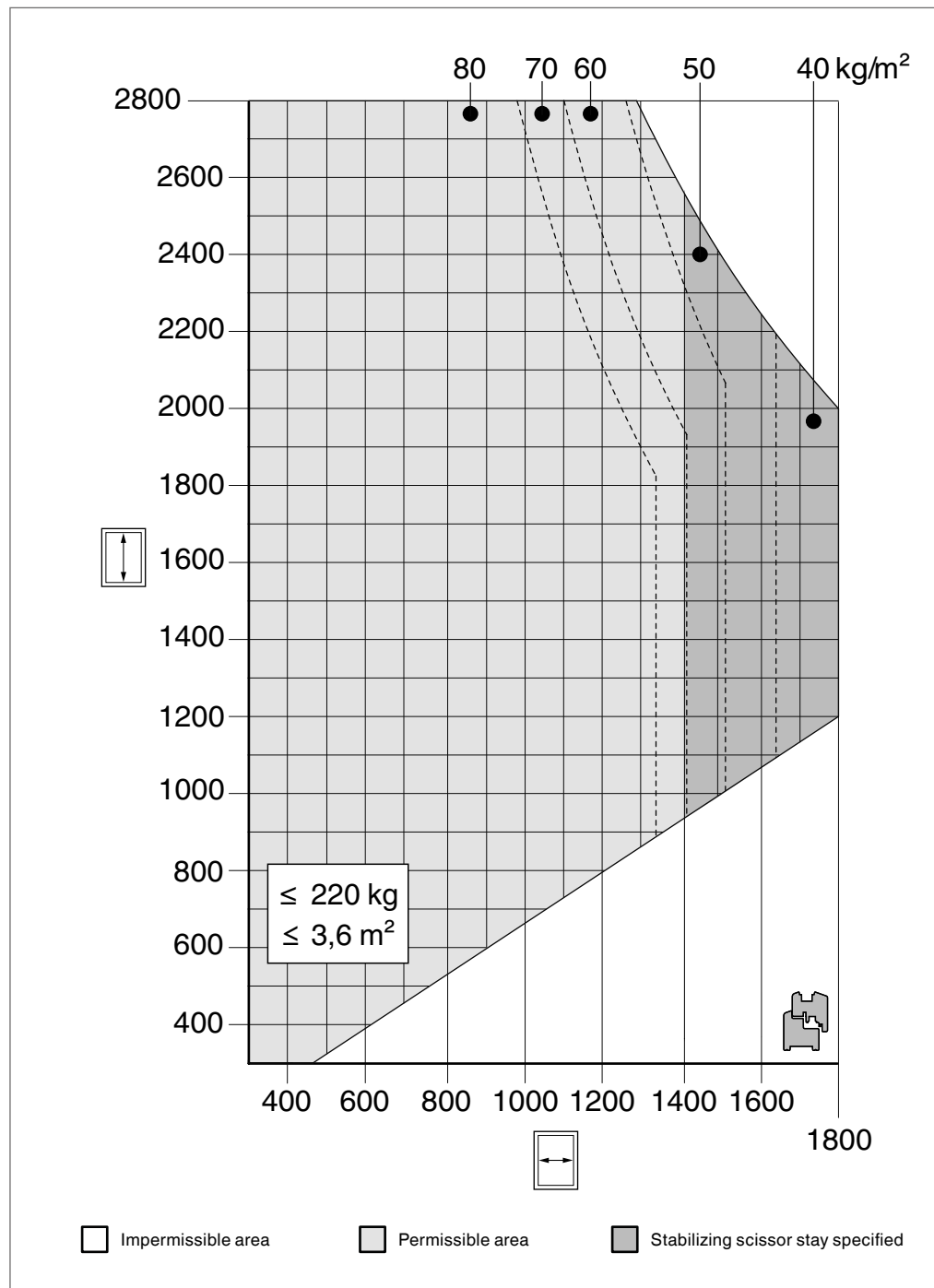
The fitting groove must be created according to the specifications in our print and online catalogues.

12 Frame rebate



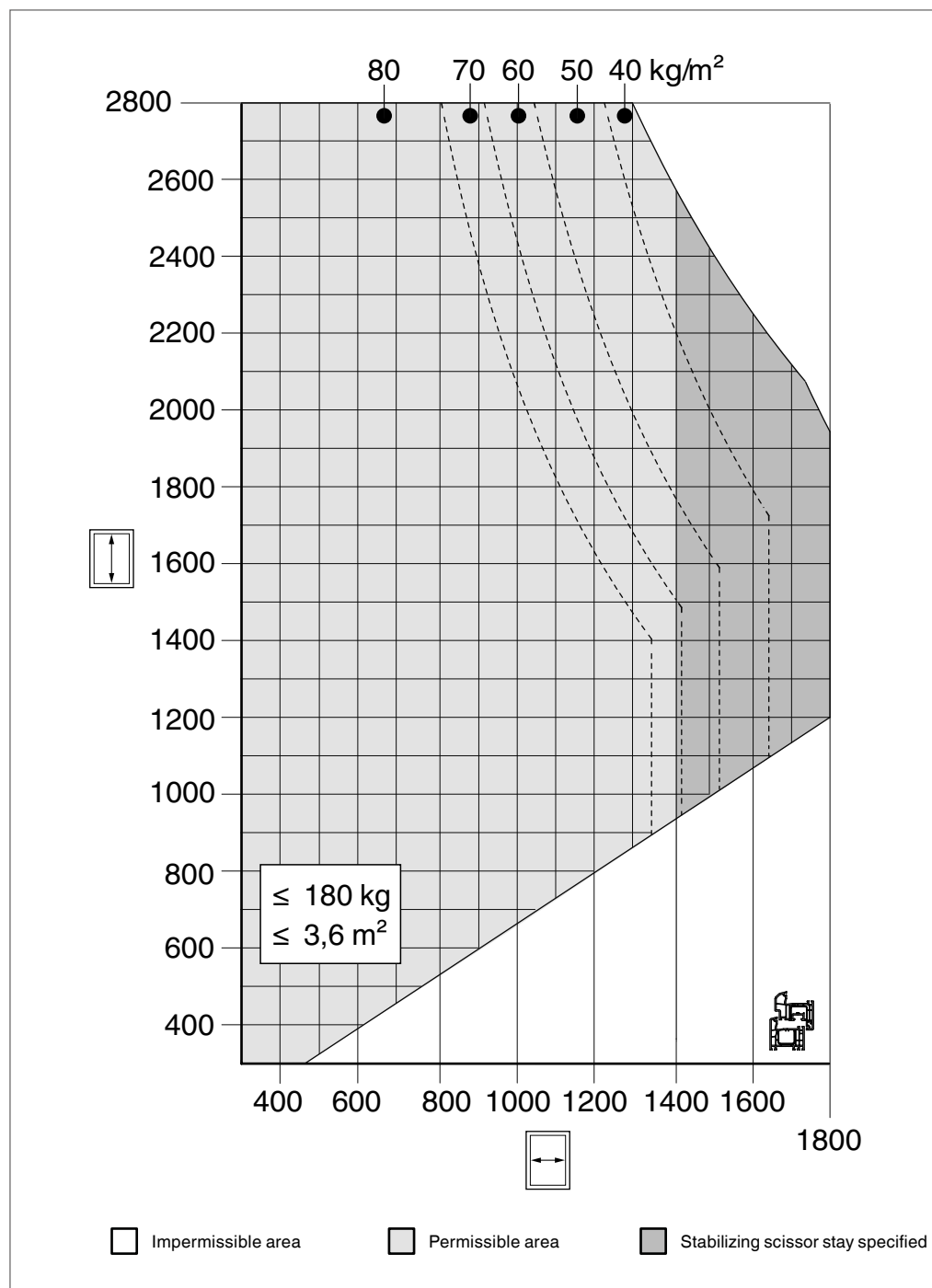
** additional routing work required*

13 Application diagram for timber turn-only and turn&tilt units



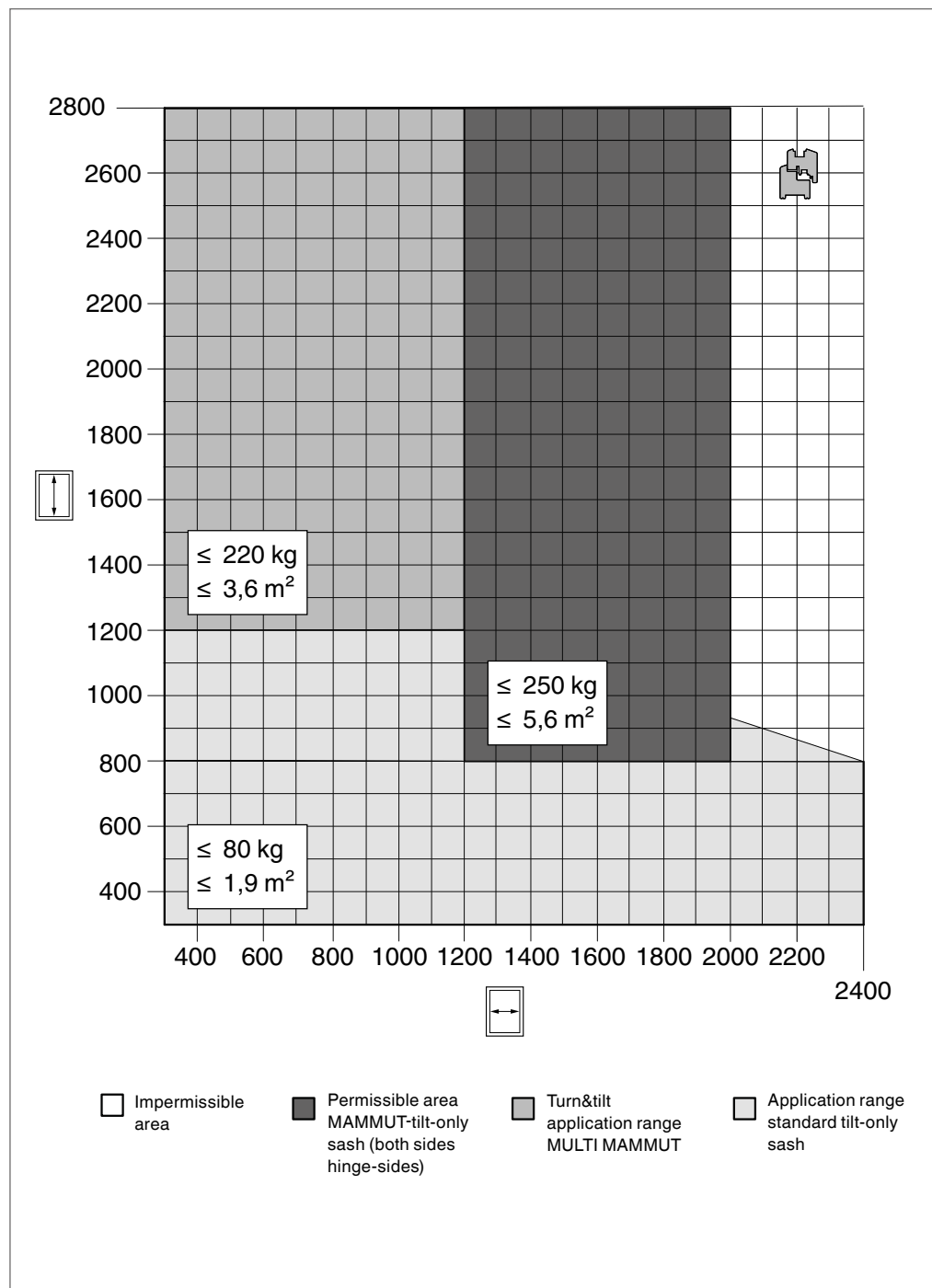
All notes regarding the use of application diagrams in our print and online catalogues must be taken into account.

14 Application diagram for PVC turn-only and turn&tilt units



All notes regarding the use of application diagrams in our print and online catalogues must be taken into account.

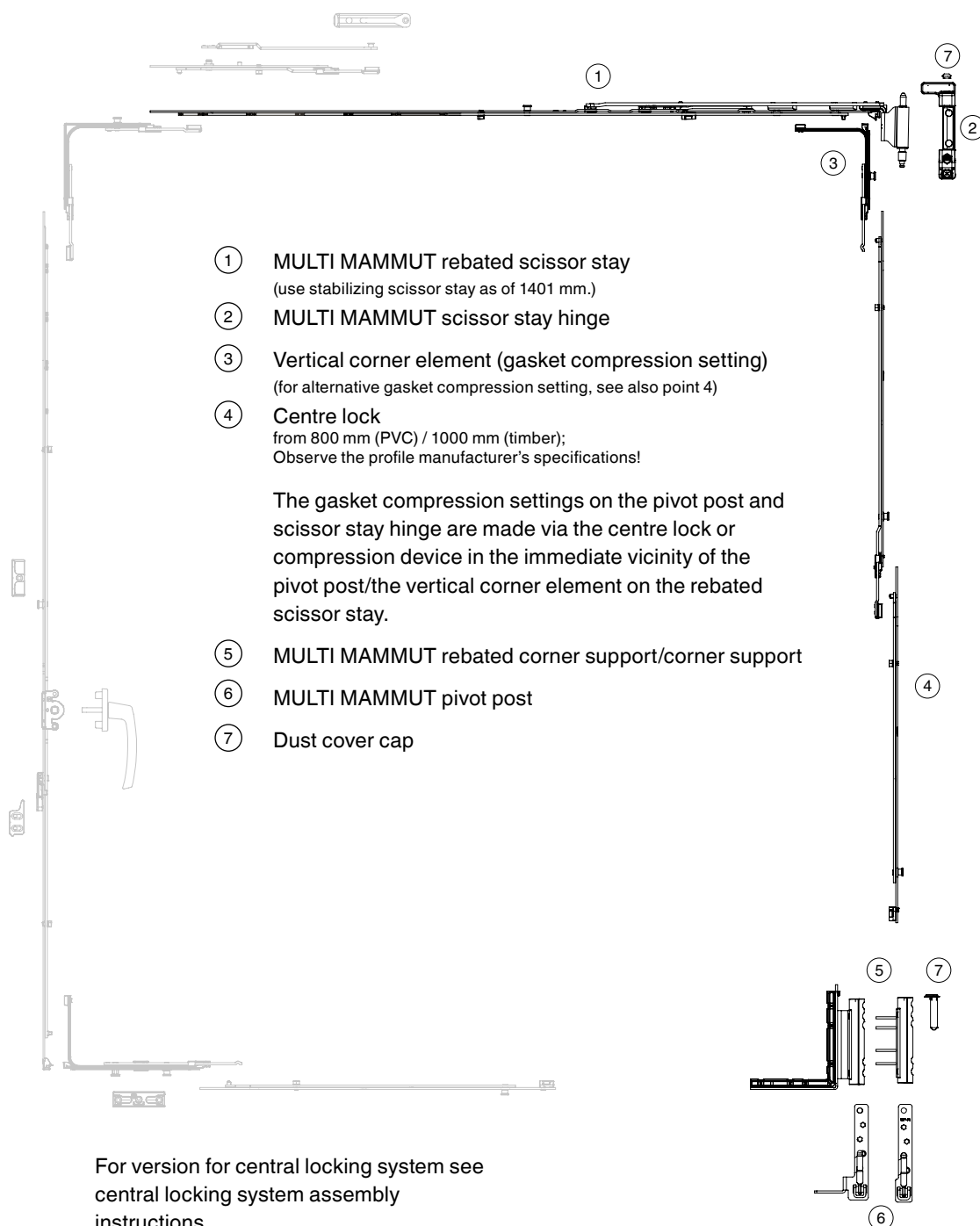
15 Application diagram for timber tilt units



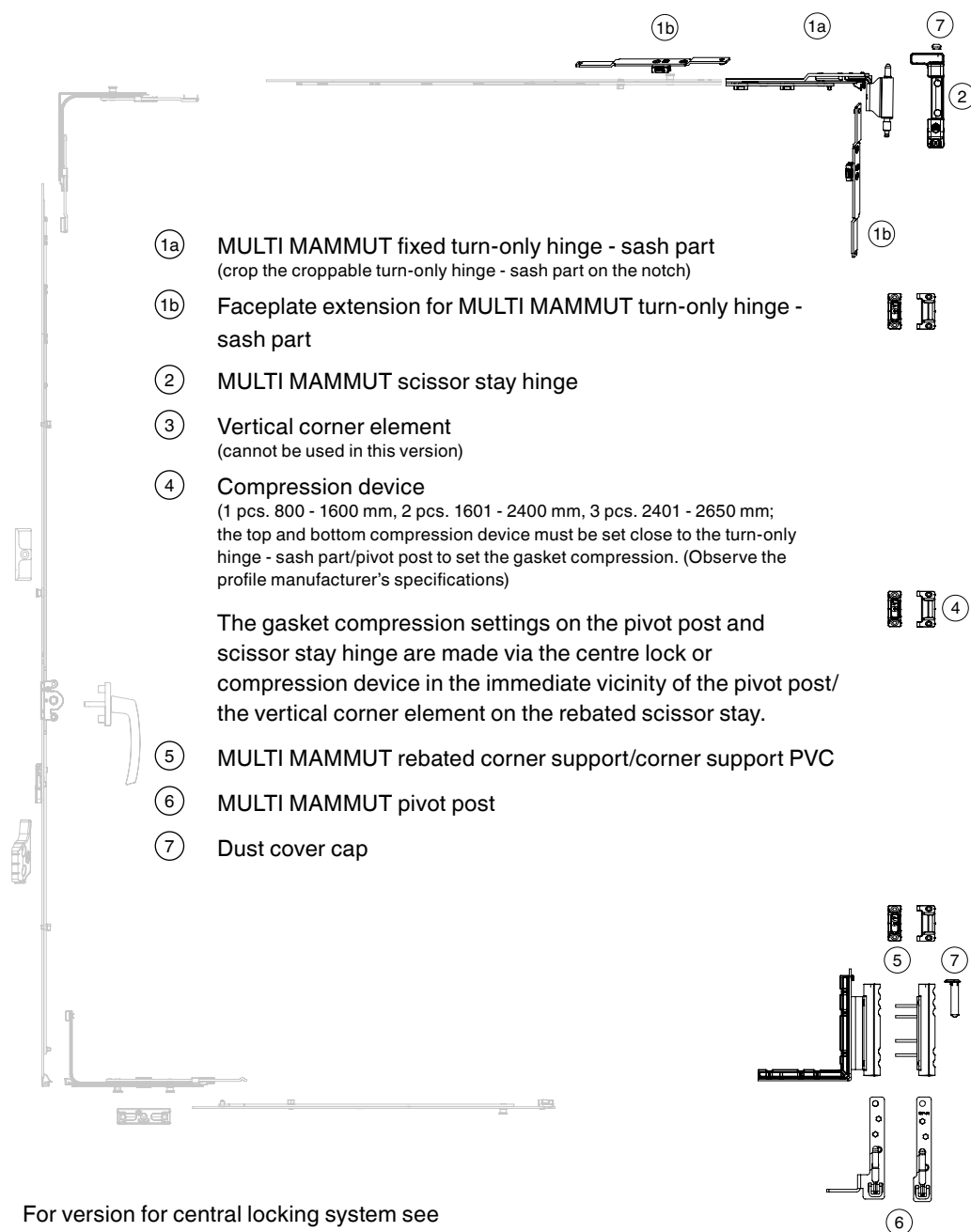
All notes regarding the use of application diagrams in our print and online catalogues must be taken into account.

Hardware combinations

Overview, turn&tilt hardware single-sash.

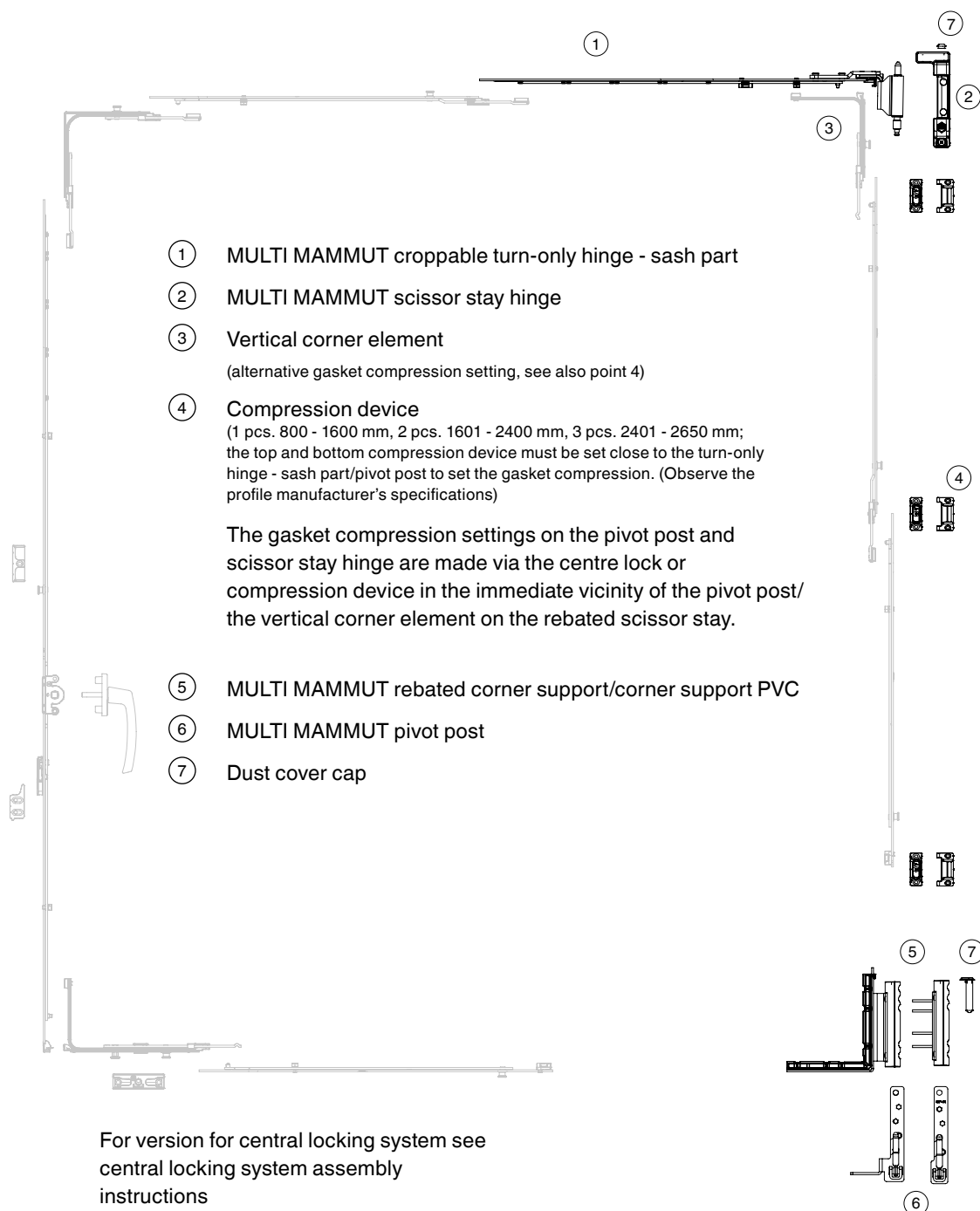


Overview, turn-only hardware with fixed turn-only hinge - sash part (SRW 385 - 1800 mm)

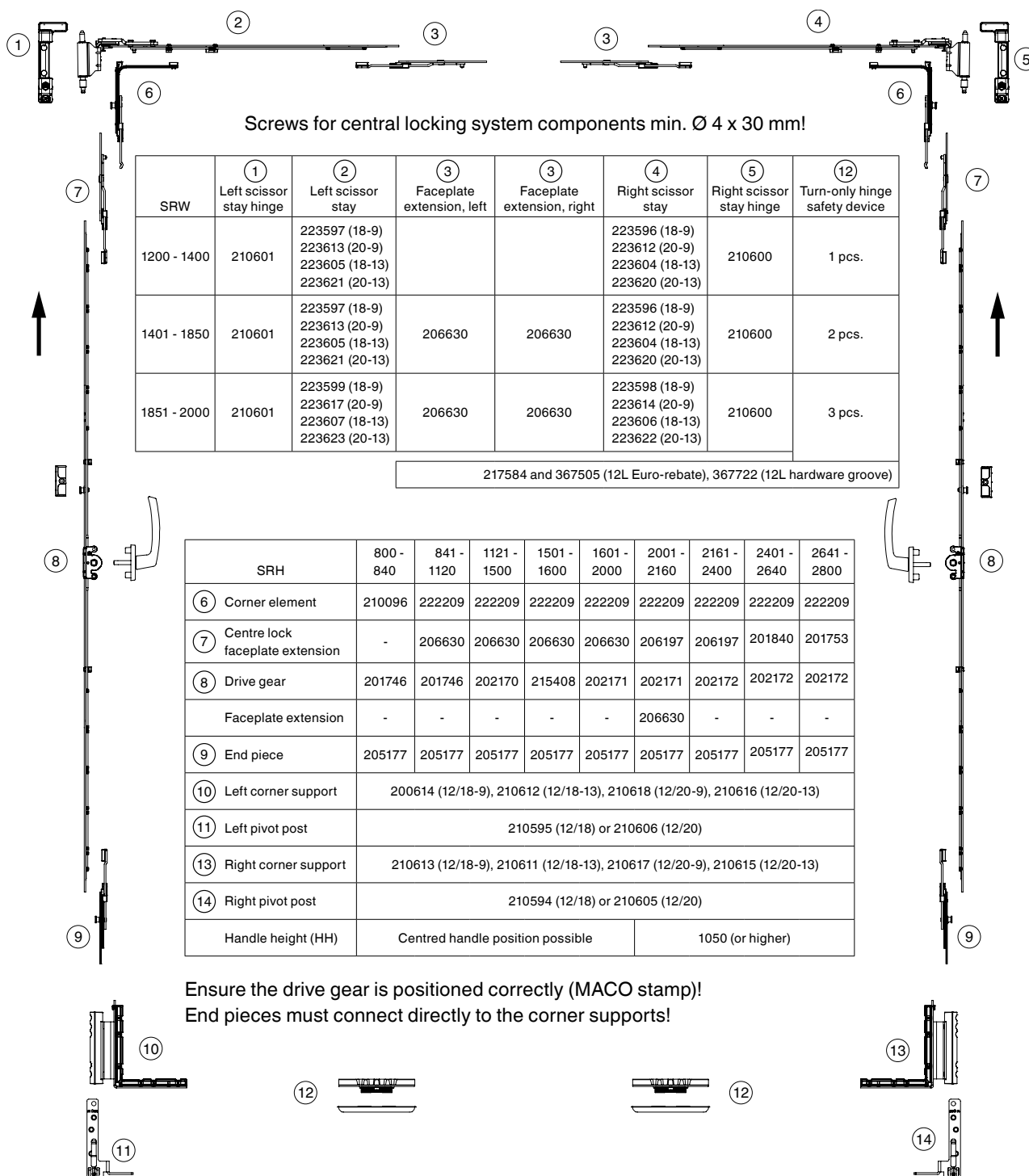


For version for central locking system see
central locking system assembly
instructions

Overview, turn-only hardware with croppable turn-only hinge - sash part (SRW 400 - 635 mm)

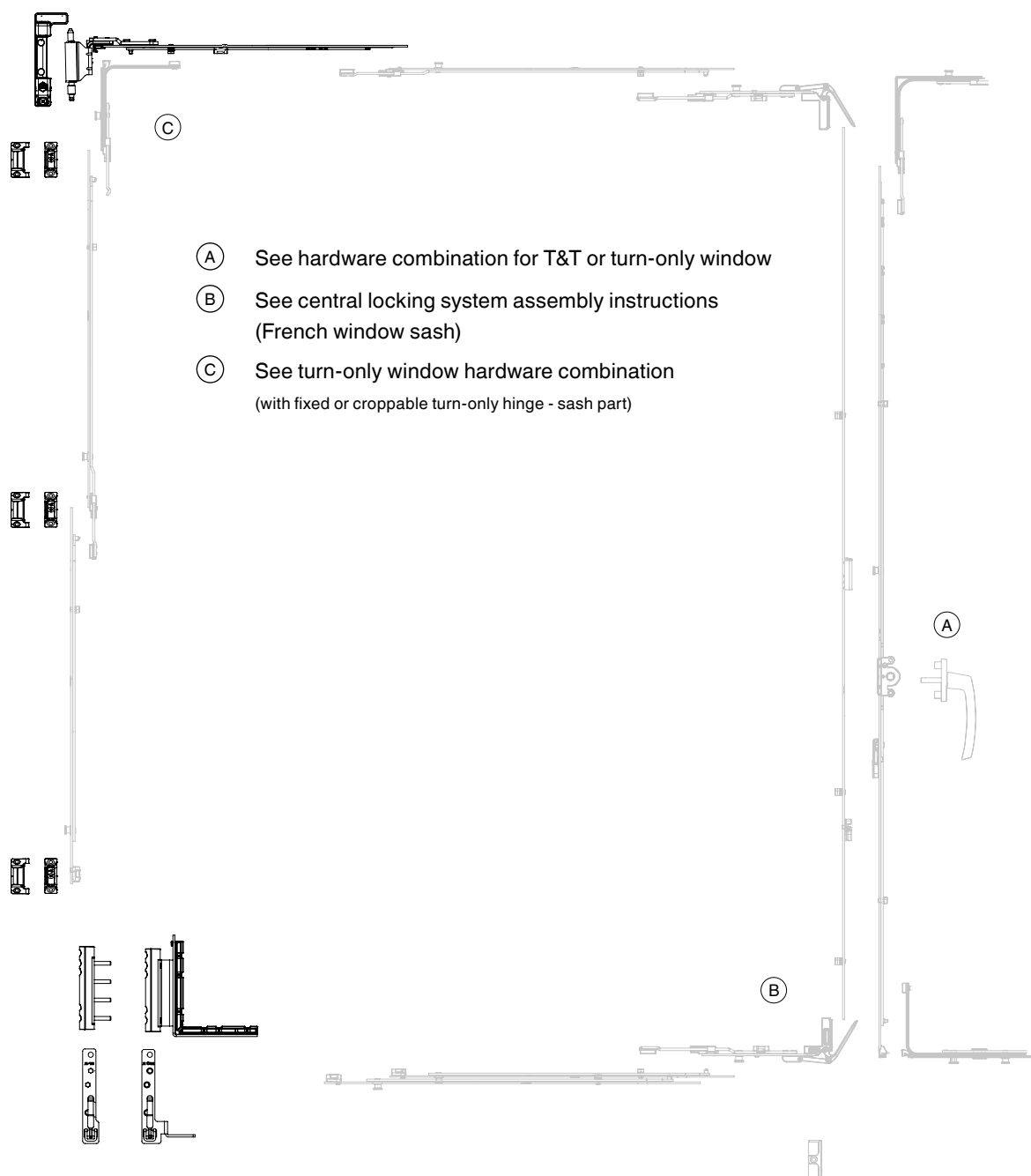


Overview of tilt-only hardware with two central locking systems

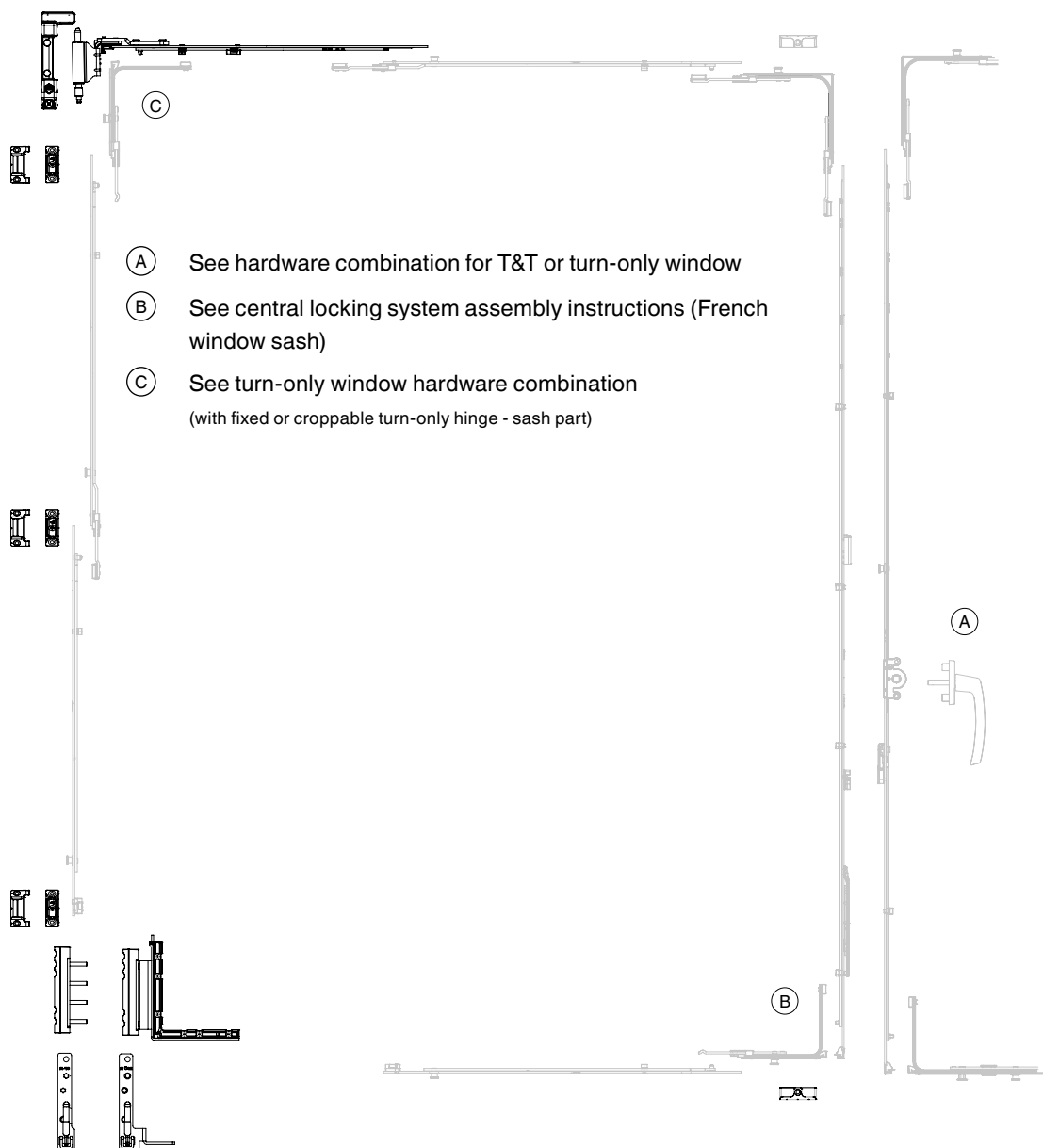


Fit the handle (handle position vertically upwards = locked position) and tear through both central locking systems in direction horizontal handle position (= tilted position).

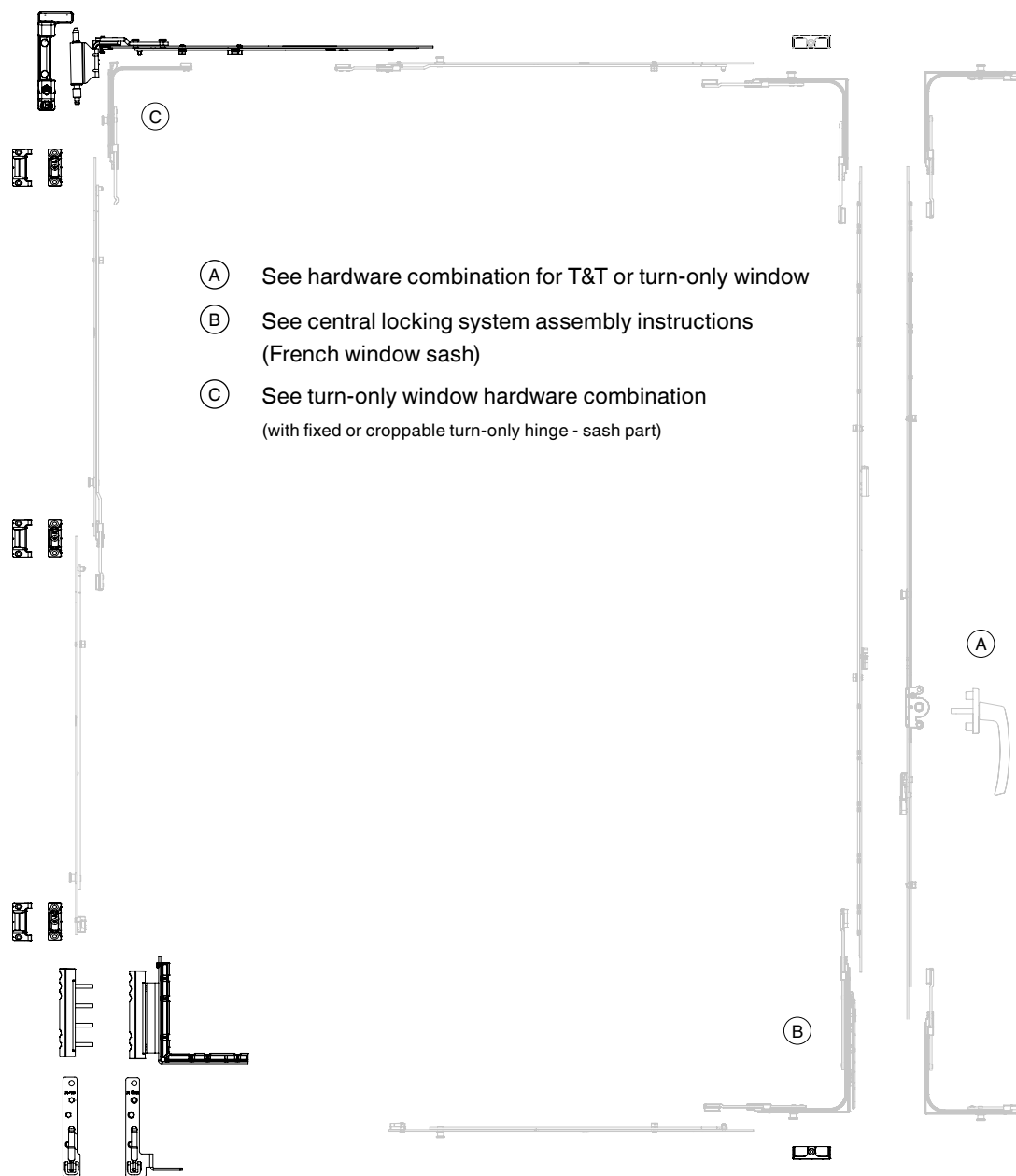
Overview, 2-sashed window – with horizontal French casement locks



Overview, 2-sashed window – with fixed French casement drive gear



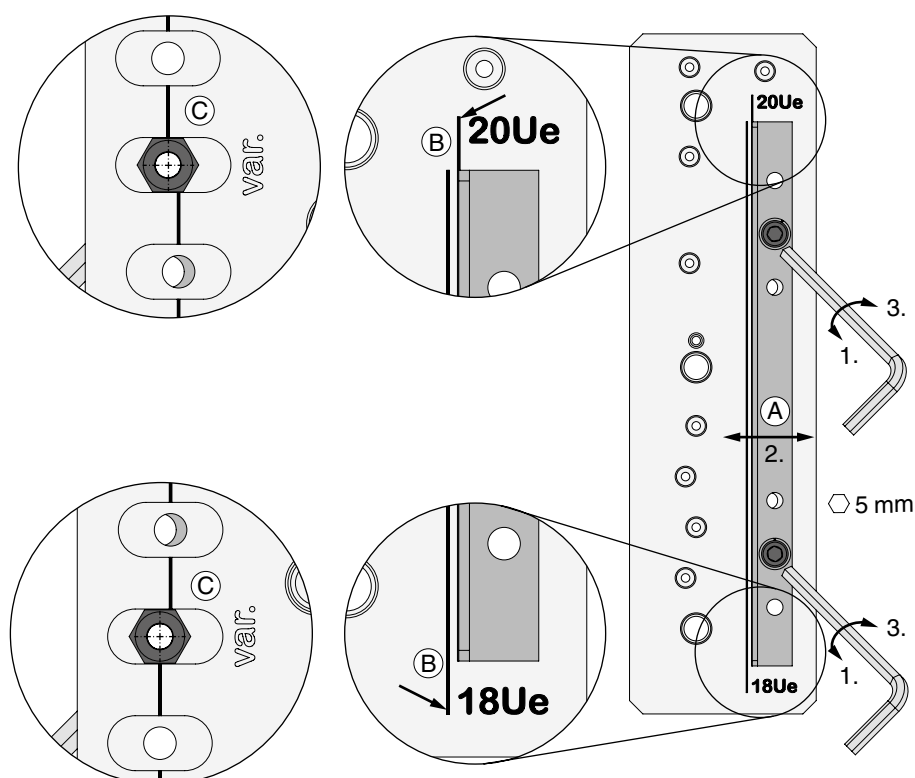
Overview, 2-sashed window – with variable French casement drive gear



Installing the fittings on the frame

Adjusting the drilling jig

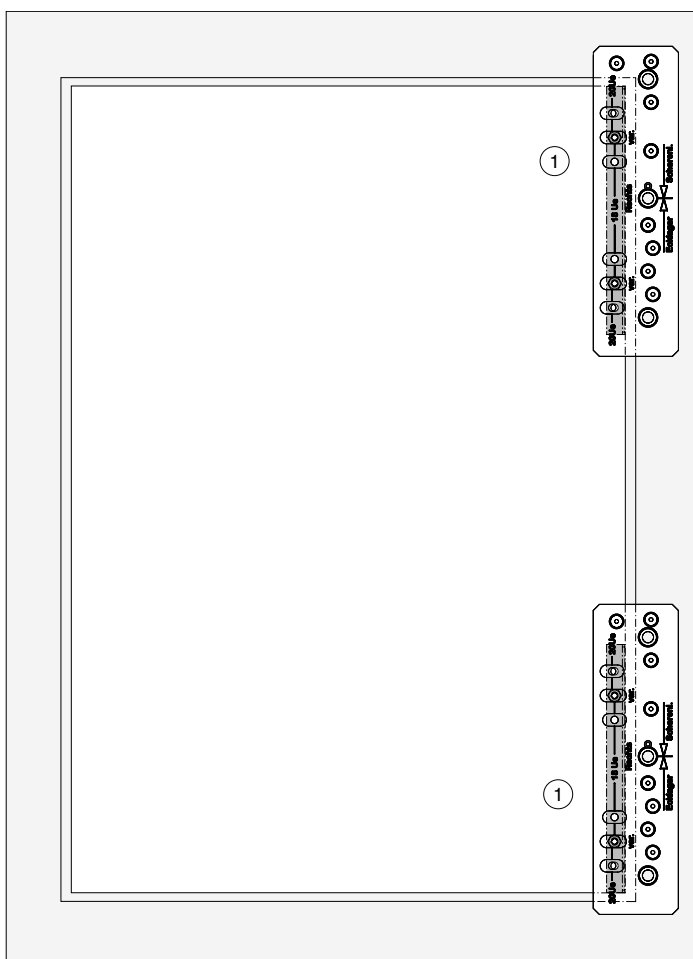
Drilling jig for pivot post and scissor stay hinge, right (Item No. 213096) or left (Item No. 213097)



1. Unscrew the screws of the angled stop (A).
2. Set the rebate leg used (18 Ü or 20 Ü).
(Marking line (B) on the rear/(C) on the screw holes)
3. Tighten the screws again.

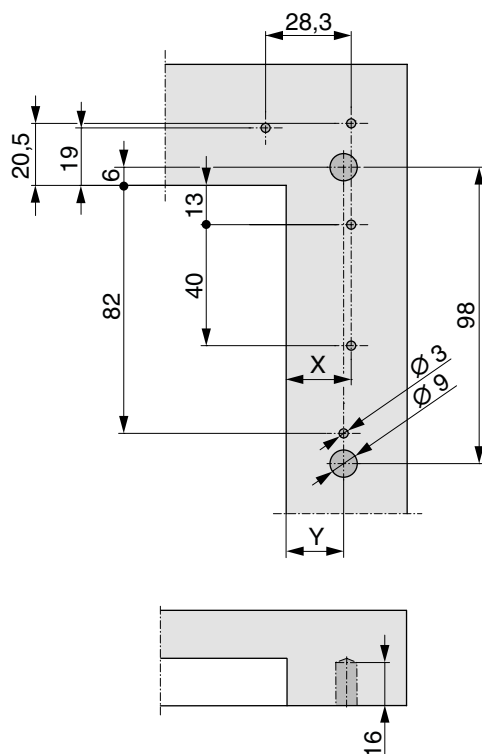
The default setting of the jig is 20 mm rebate leg and 12 mm air gap.

Drill holes with jig - pivot post and scissor stay hinge



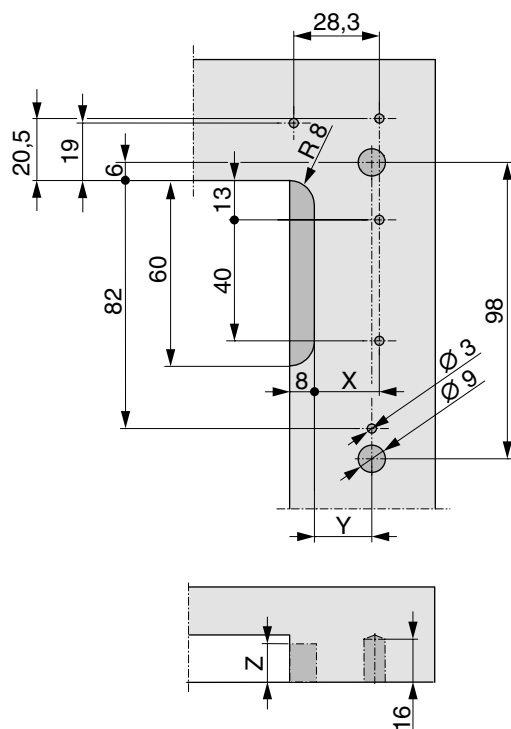
- ① Insert drilling jig for right sash Item No. 213096 or for left sash Item No. 213097 in frame rebate corners at the top and bottom (with air gap 12 mm) and pre-drill with Ø 3 or Ø 9 mm drill.

Drilling-hole pattern MULTI MAMMUT scissor stay hinge 12 mm air gap



	X	Y
18Ü	21,5	19
20Ü	23,5	21

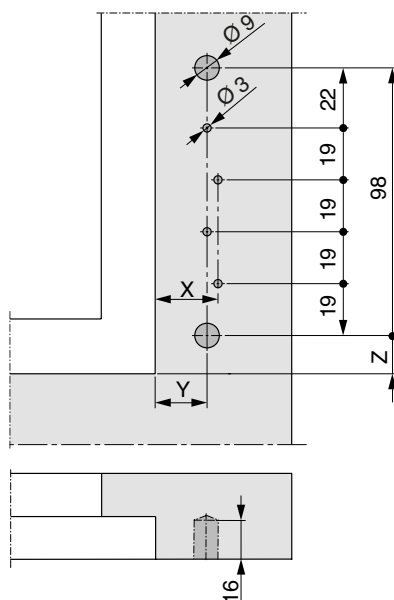
Drilling and routing pattern MULTI MAMMUT scissor stay hinge 4 mm air gap (12 mm air gap at top)



	X	Y
18Ü	21,5	19
20Ü	23,5	21

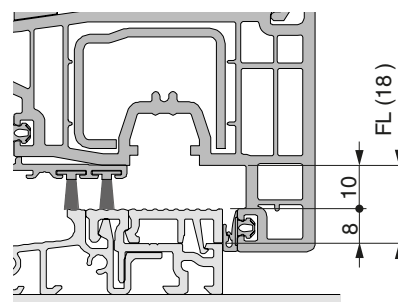
	Z
9V	20
13V	24

Drilling-hole pattern MULTI MAMMUT PVC pivot post 12 mm

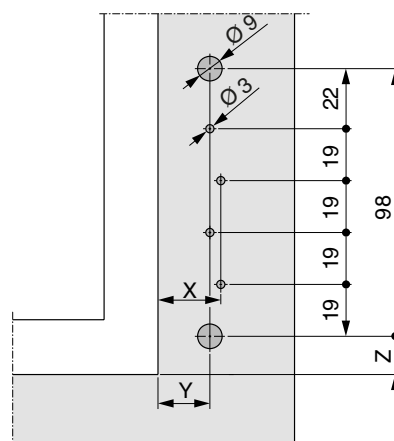


	X	Y	Z
18Ü	23	19	14
20Ü	25	21	14

Threshold	Z
12L	33
14L	35 (33 + 2 mm)
18L	39 (33 + 6 mm)

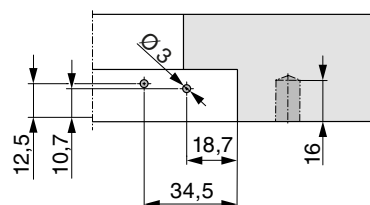


Drilling-hole pattern MULTI MAMMUT timber pivot post 12 mm air gap

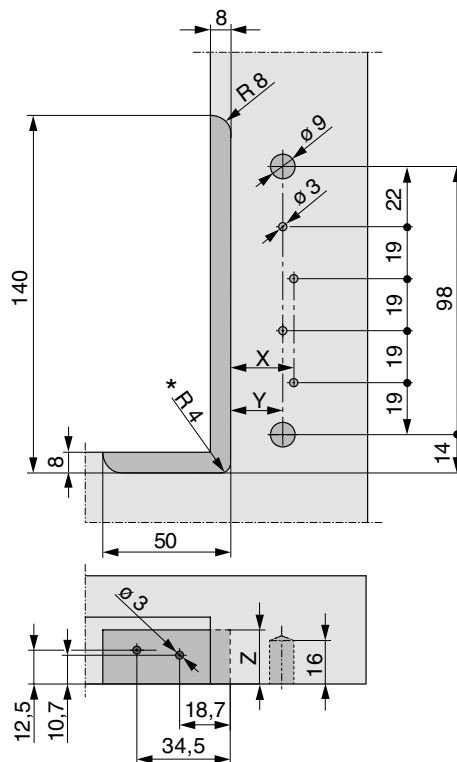


	X	Y
18Ü	23	19
20Ü	25	21

Threshold	Z
12L	14
14L	—
18L	—



Drilling and routing pattern MULTI MAMMUT pivot post 4 mm air gap

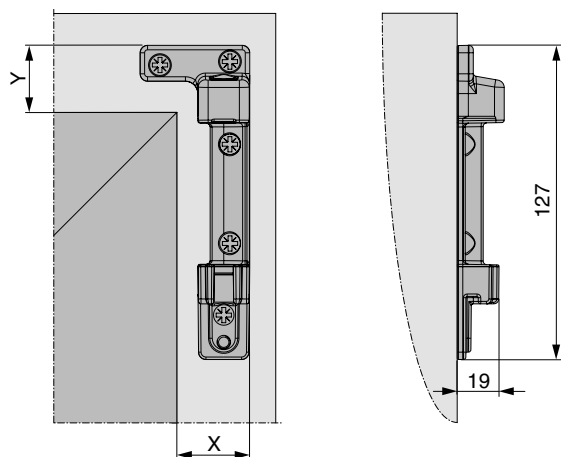


	X	Y
18Ü	23	19
20Ü	25	21

Caution:
Required in corner area R4!

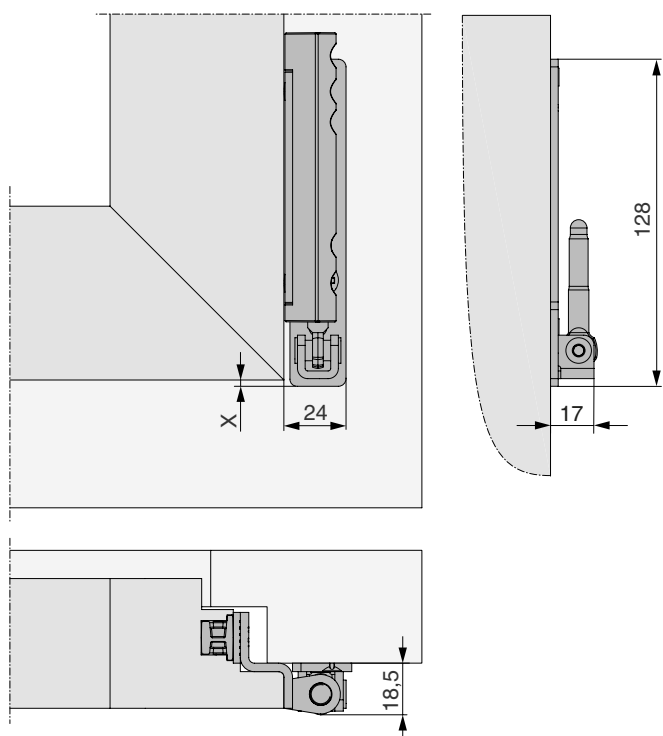
	Z
9V	20
13V	24

MULTI MAMMUT scissor stay hinge clearances



	X	Y
18Ü	25	21
20Ü	23	19

MULTI MAMMUT pivot post clearances



	X
18Ü	3
20Ü	1

MULTI MAMMUT scissor stay hinge assembly

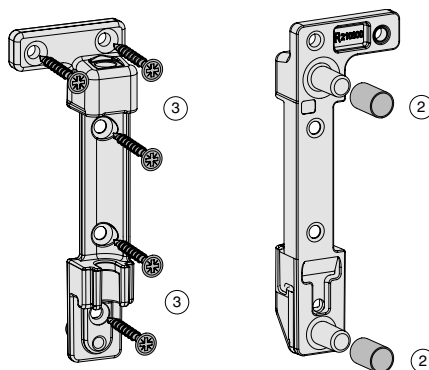


DANGER!

The bearing parts must be screwed in place in accordance with the requirements of the TBDK guideline (Gütegemeinschaft Schlösser und Beschläge [quality assurance association for locks and hardware])

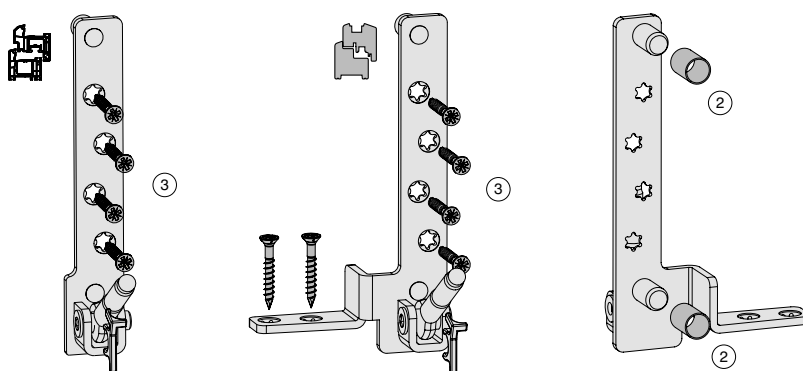
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- ① Do not screw the scissor stay hinge in place until the striker plates have been installed, otherwise the jigs cannot be applied!
- ② When using a 10 mm drill, attach the clip-on bushes (Item No. 362336).
Caution: The clip-on bush must be used for each support pin! Two pieces per bearing part!
- ③ Insert the scissor stay hinge and screw tightly with five screws. Vertical screw fixings must go through the reinforcement on PVC profiles.

MULTI MAMMUT pivot post assembly



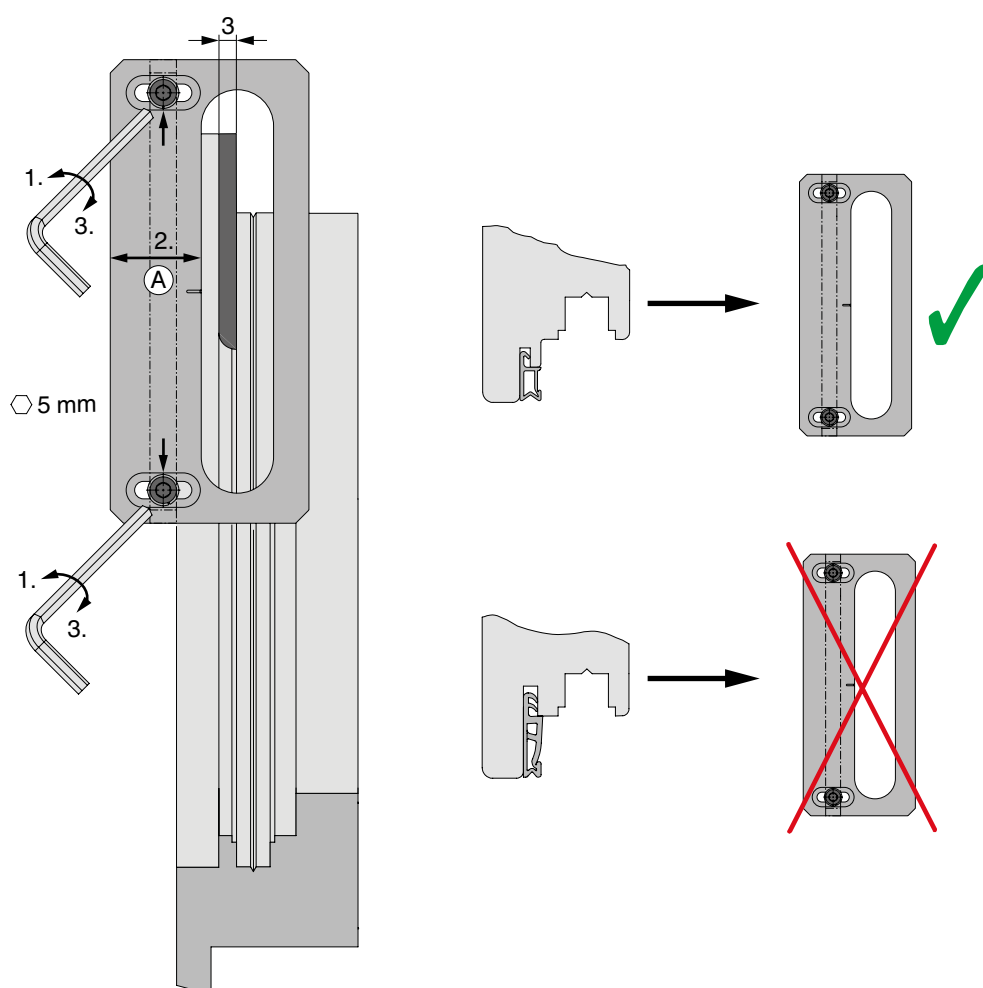
- ① Do not screw the pivot post in place until the striker plates have been installed, otherwise the jigs cannot be applied!
- ② When using a 10 mm drill, attach the clip-on bush (Item No. 362338).
Caution: The clip-on bush must be used for each support pin! Two pieces per bearing part!
- ③ Insert the pivot post and screw tightly with four/six screws. Vertical screw fixings must go through the reinforcement on PVC profiles.

Installing the hardware components on the sash

Adjusting the milling jig

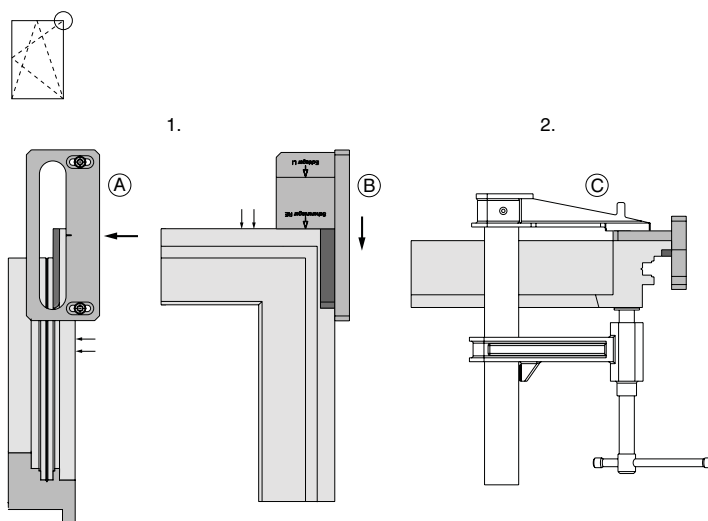
Milling jig for corner support and rebated scissor stay support arm (Item No. 213099)

IS NOT REQUIRED ON PROFILES WITH LARGER REBATE LEG GASKET!



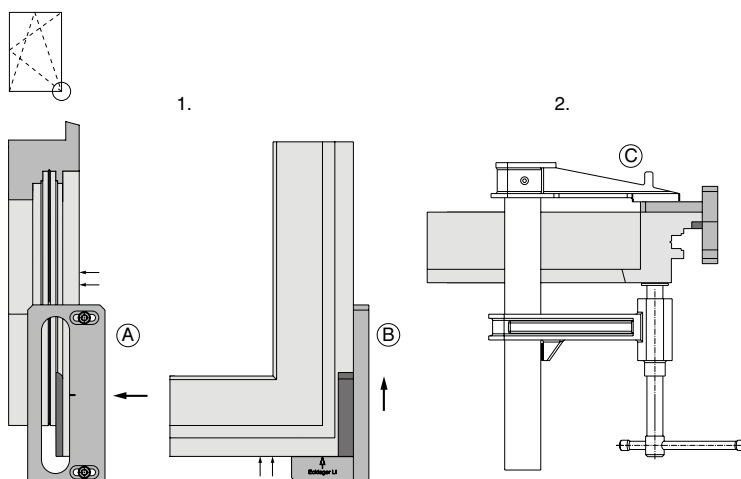
1. Unscrew the screws of the arm fixing bracket (A).
2. Set the arm fixing bracket so that 3 mm is milled off the sealing side of the rebate leg with a Ø 27 mm copy ring and Ø 16 mm cutter.
3. Tighten the screws again.

Milling with jig – rebated scissor stay support arm scissor stay/turn-only hinge - frame part



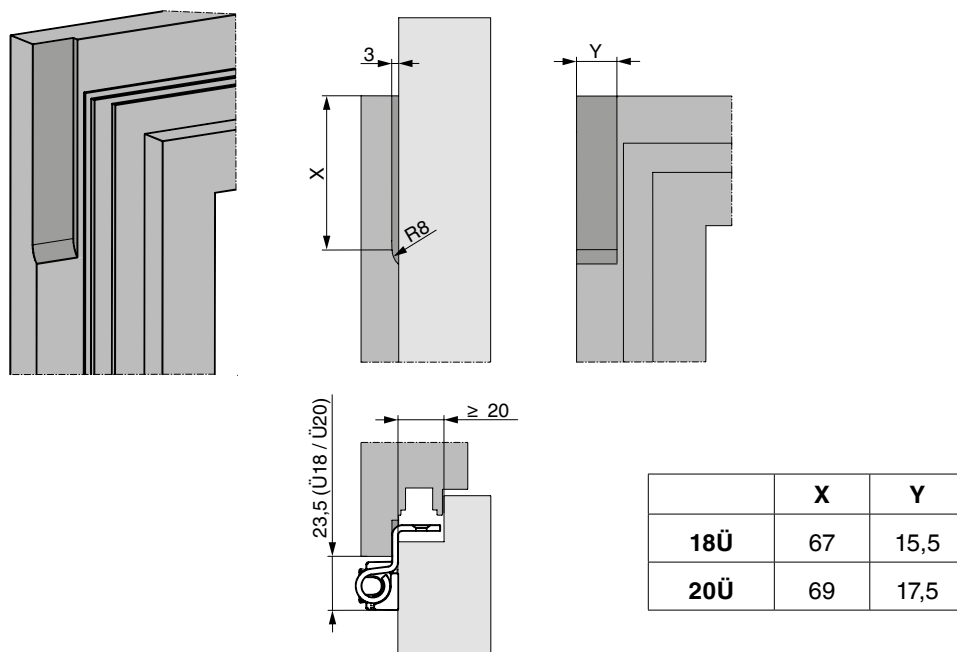
1. Place milling jig (Item No. 213099) with milling opening on rebate leg face side (A) and slide until the “scissor stay hinge” marking is touching the rebate leg edge (B).
2. Fix the milling jig with a C-clamp (C).
3. Perform routing with router and Ø 27 mm copy ring. For milling depth/width on the rebate leg, see the “Rebated scissor stay support arm scissor stay/turn-only hinge - sash part” routing pattern on the following page.

Milling with jig – pivot post corner hinge

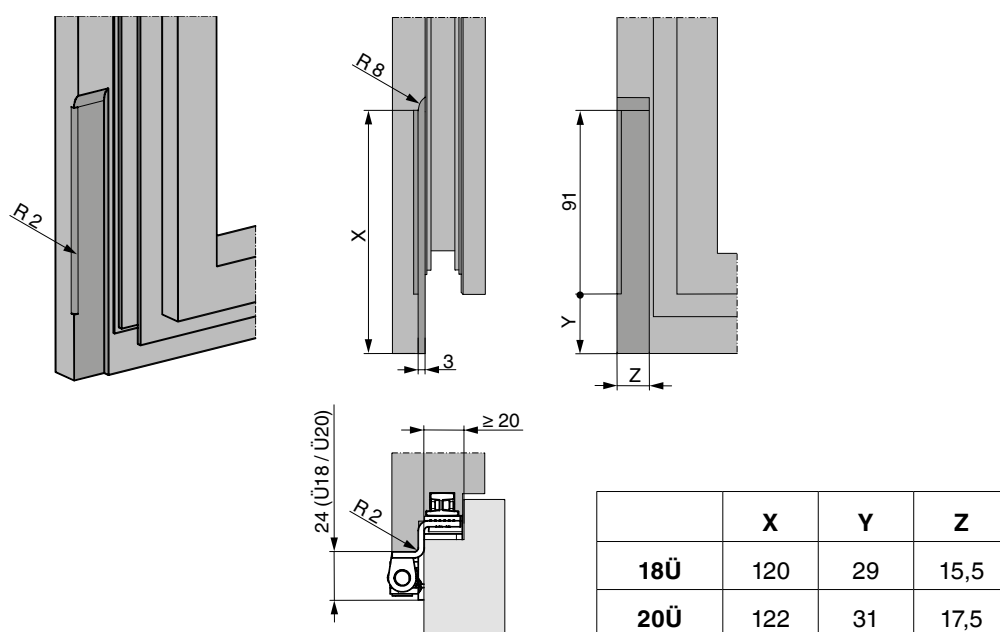


1. Place milling jig (Item No. 213099) with milling opening on rebate leg face side (A) and slide until the “pivot post” marking is touching the rebate leg edge (B).
2. Fix the milling jig with a C-clamp (C).
3. Perform routing with router and Ø 27 mm copy ring. For milling depth/width on the rebate leg, see the “Rebated scissor stay support arm corner support” routing pattern on the following page.

Routing pattern MULTI MAMMUT rebated scissor stay support arm scissor stay/turn-only hinge - frame part

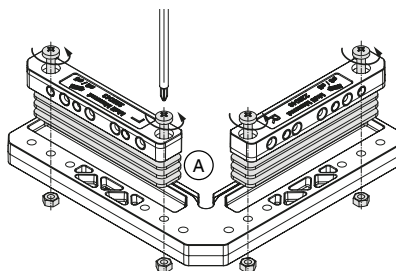


Routing pattern MULTI MAMMUT rebated scissor stay support arm pivot post



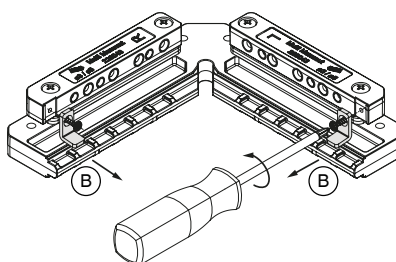
Adjusting the drilling jig

Milling jig for MULTI MAMMUT PVC corner support (Item No. 228043)

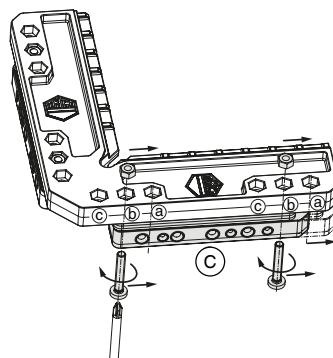


1. **Gasket compression:**
Adjustment through different packer heights (A) (7 mm = standard).

(Set with packers available under Item No. 104941)

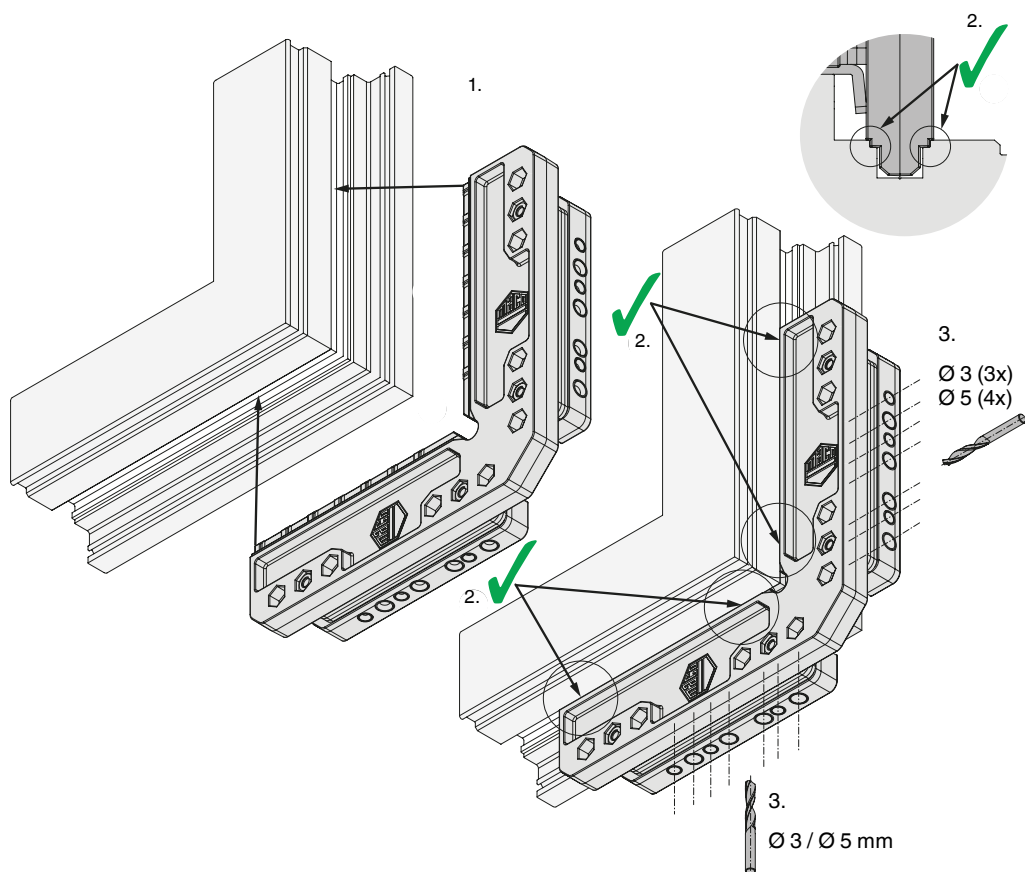


2. **Rebate leg:**
Ü20 = standard setting.
Remove corner bracket (B) for larger rebate legs. Maximum rebate leg = 22 mm.



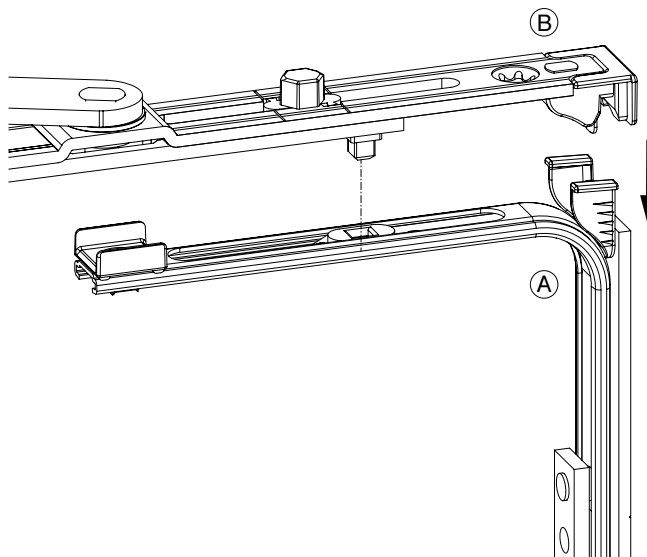
3. **Drill template position:**
(Frame profile/thresholds)
MULTI MAMMUT drill template (C) in position:
(a) = threshold
(b) = frame profile (standard)
(c) = spare

Using the drilling jig



1. Place the drilling jig (Item No. 228043) in the Eurogroove.
2. Check the position of the jig in the Eurogroove (apply across the entire length).
3. Pre-drill with Ø 3 or 5 mm (see drilling-hole pattern).

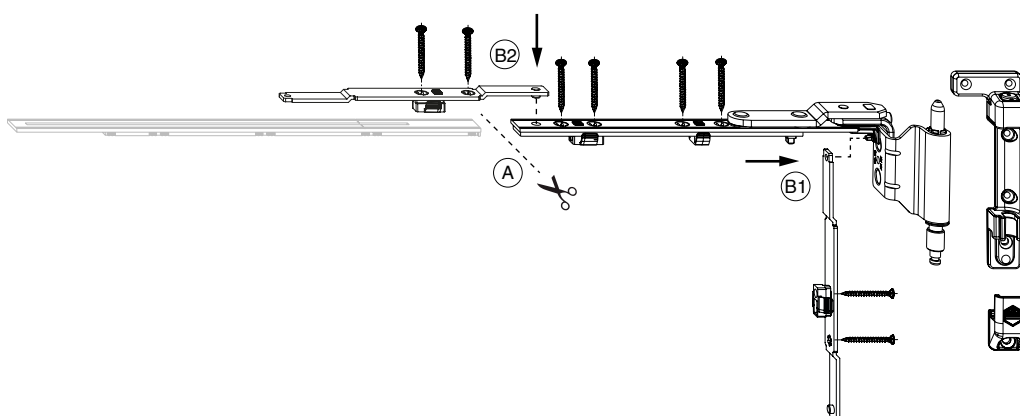
Assembly MULTI MAMMUT rebated scissor stay/croppable turn-only hinge - sash part



1. Gently lift the scissor stay arm upward and swing out.
2. Clip the vertical corner element (A) in the rebated scissor stay* (B) and place together in the Eurogroove and screw tightly into place.

** In the case of scissor stay size 670, first insert and screw the corner element into the groove base!*

Assembly MULTI MAMMUT fixed turn-only hinge - sash part with faceplate extension



1. Crop the turn-only hinge - sash part (A) to the notch marking (216 mm).
2. Vertically insert the faceplate extension (B1) (Item No. 202867) and place in the Eurogroove together with the turn-only hinge - sash part and screw tightly into place.
3. Horizontally insert the faceplate extension (B2) (Item No. 202867) and screw tightly into place.

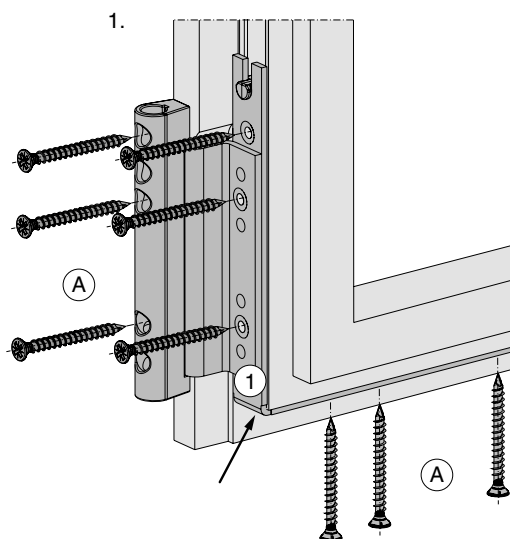
Assembly MULTI MAMMUT rebated corner support



DANGER!

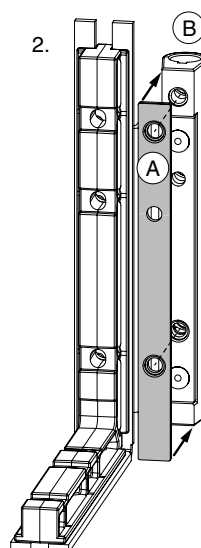
The bearing parts must be screwed in place in accordance with the requirements of the TBDK guideline (Gütegemeinschaft Schlösser und Beschläge [quality assurance association for locks and hardware])

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1. Place the rebated corner support in the Eurogroove and screw tightly into place with nine screws (A) at least Ø 4 x 25 mm .

Optional:



1. The packer (A) (Item No. 363306 = 2 mm, Item No. 363307 = 3 mm) is used with the rebated corner support (B) to adjust it to different rebate leg dimensions.

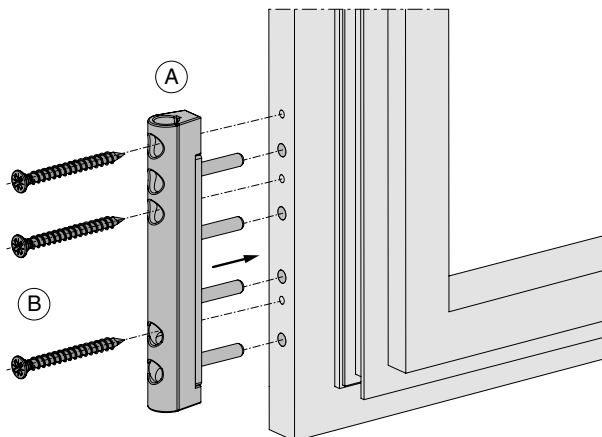
Assembly of Corner Support PVC MULTI MAMMUT



DANGER!

The bearing parts must be screwed in place in accordance with the requirements of the TSDK guideline (Gütegemeinschaft Schlösser und Beschläge [quality assurance association for locks and hardware])

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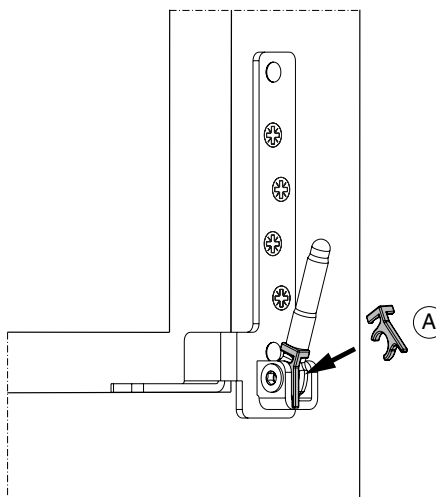


CAUTION!

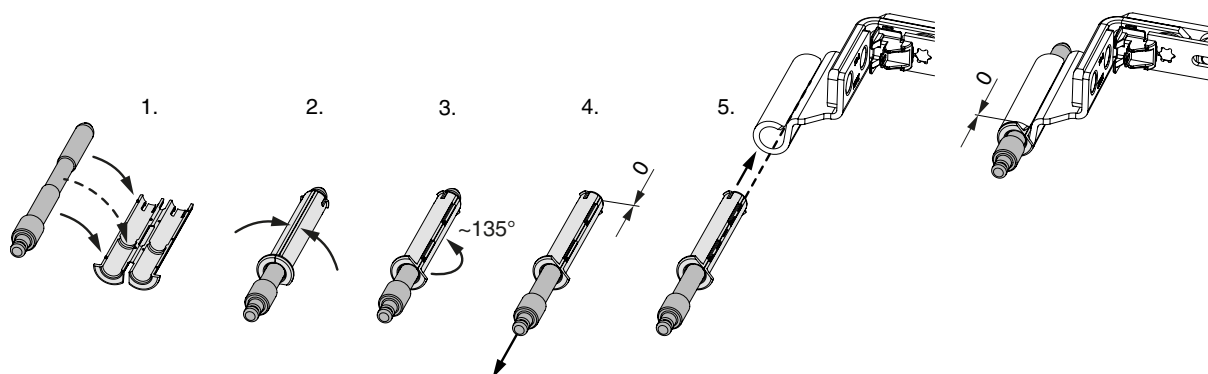
The fastening at the rebate leg must go through at least two profile walls! Be sure to select screws for fastening that do not have a cylindrical shaped head, since this would otherwise produce a friction point between the screw and the pivot post bolt.

1. Insert the Corner Support (A) in the holes and screw tight with the three, longest possible screws (B).

Hinging the sash (turn-only and turn&tilt sash)

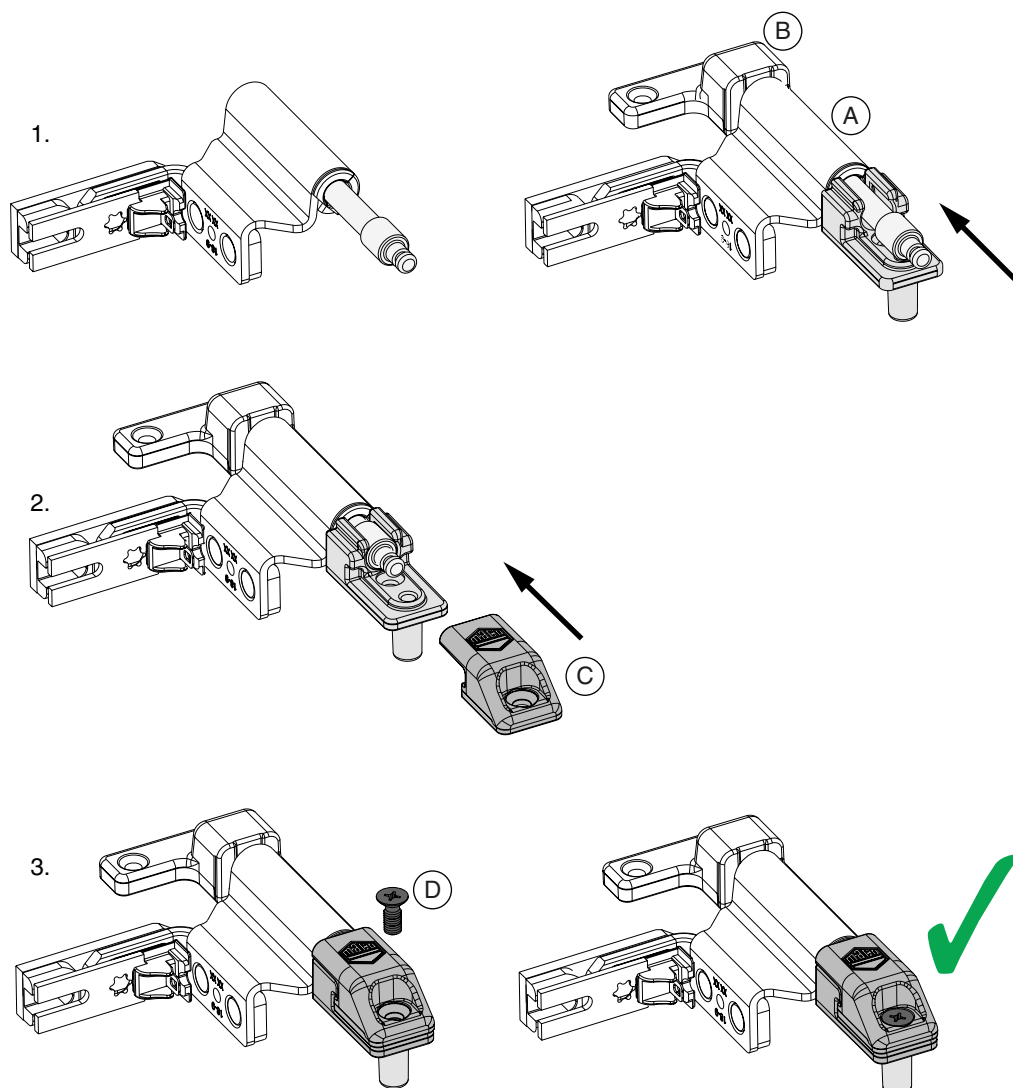


1. Attach the insertion tool (A) to pivot post pin and hinge the sash at a 90° opening angle in the pivot post.



1. Place the scissor stay hinge pin in the correct position in the PVC sleeve.
2. Close the PVC sleeve.
3. Turn the PVC sleeve into the assembly position (observe the flat area on the collar).
4. Pull the scissor stay hinge pin out of the PVC sleeve as far as it will go.
5. Slide the PVC sleeve as far as it will go into the rebated scissor stay support arm roll.

Hinging the sash (turn-only and turn&tilt sash)



DANGER!

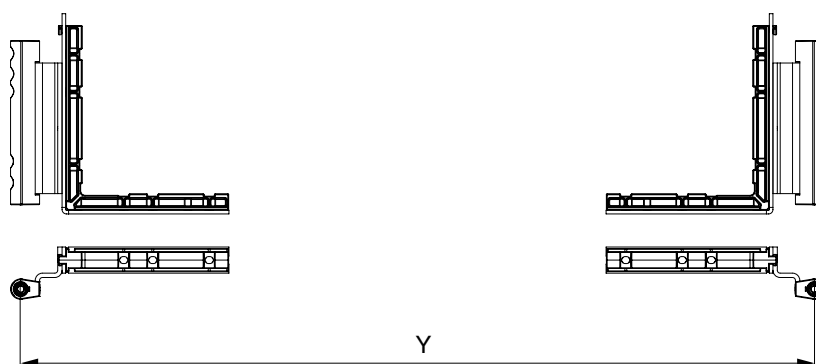
If not observed, the sash can fall out.
Non-compliance can result in personal injury or material damage.

1. Hinge the rebated scissor stay support arm with scissor stay hinge pin (A) in the scissor stay hinge (B) and push the scissor stay hinge pin upwards.
2. Push the scissor stay hinge pin lock (C) as far as it will go in the scissor stay hinge.
3. Fix the scissor stay hinge pin lock (C) with the threaded screw (D).

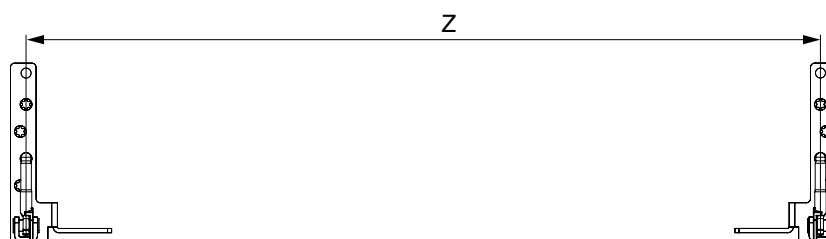
Hinging the sash (tilt-only sash 250 kg)

1. Check the air gap before hinging the sash:

First measure the dimension Y on the sash.



Then check the dimension Z on the frame.



If dimension Z does not match dimension Y, the pivot post pins must be adjusted to dimension Y. This adjustment must never only be made on just one side, as otherwise the air gap on the left side would be larger or smaller than that on the right side. This is prevented by adjusting both pivot posts. The adjustment must be made to the same extent inwards or outwards. This is the only way to ensure that the air gap is the same on the left and right.



DANGER!

If not observed, the sash can fall out.
Non-compliance can result in personal injury or material damage.

2. Place the sash on BOTH pivot posts AT THE SAME TIME.
3. Put the sash into the frame. The scissor stay hinge bolts must run freely in the scissor stay hinge. Otherwise, this must be enabled using the side adjustment of the scissor stay.
4. **Then the scissor stay hinge pin lock must be fitted on both sides.**

Hinging the sash (tilt-only sash 250 kg)



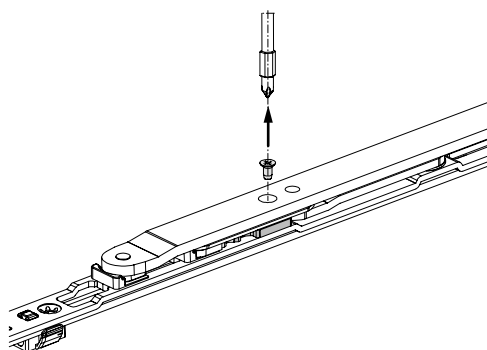
DANGER!

If not observed, the sash can fall out.
Non-compliance can result in personal injury or material damage.

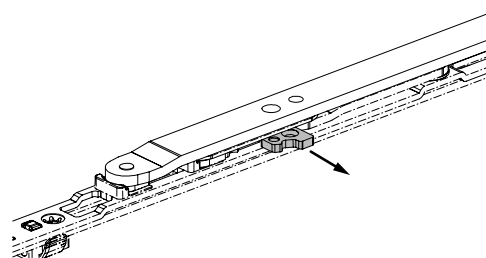
Inserting the tilt-only sash:

The sash must be hinged/unhinged by several people or using suitable aids (lifting gear) according to the size and weight.

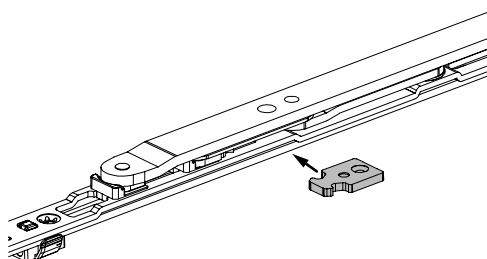
Replacement – anti-slam device/scissor stay restrictor



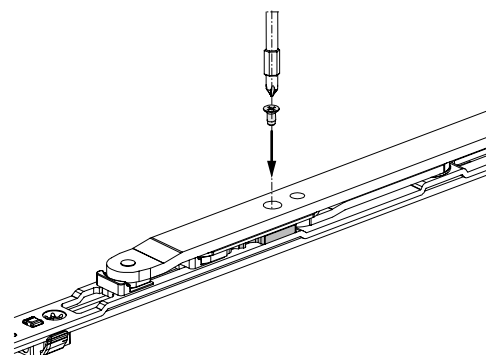
1. Unscrew the screw.



2. Pull the anti-slam device heavy (Item No. 368075 = delivery state) out laterally.

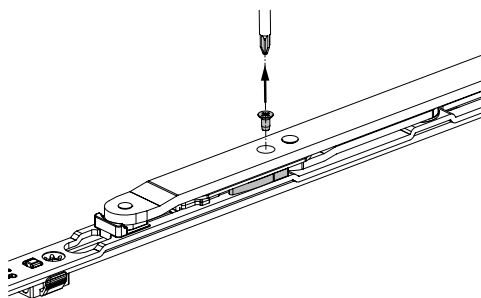


3. Insert the anti-slam device light (Item No. 368076) or scissor stay restrictor (Item No. 368077).

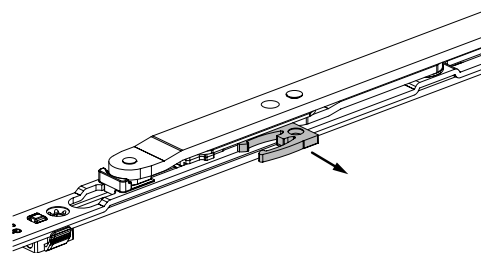


4. Screw the anti-slam device/scissor stay restrictor in place.

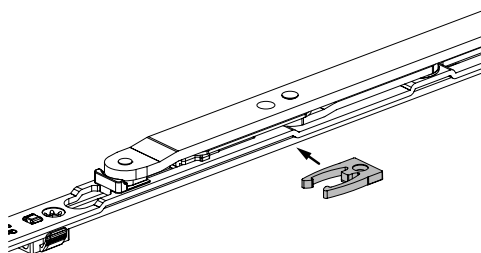
Replacement – anti-slam device/scissor stay restrictor



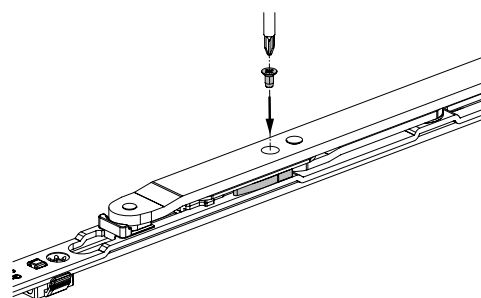
1. Release screw.



2. Remove anti-slam device sideways.



3. Insert anti-slam device.



4. Screw in anti-slam device.

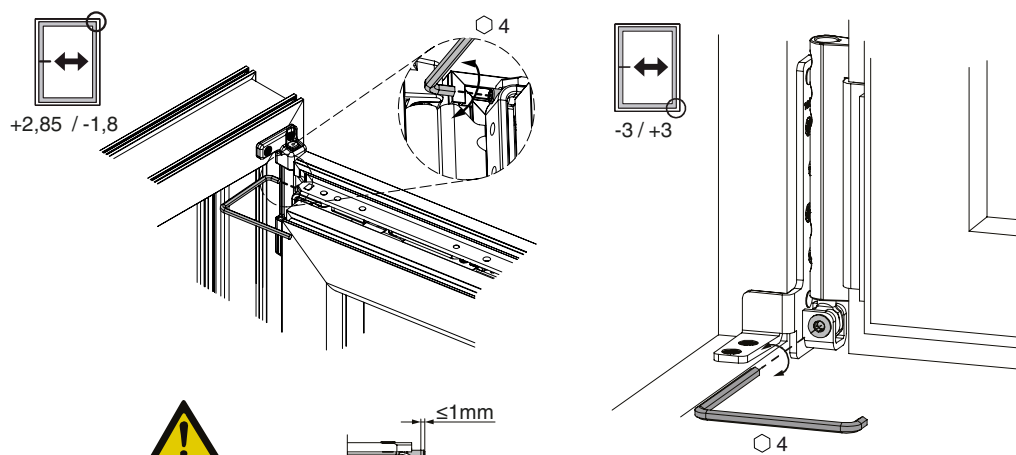
Settings – pivot post and scissor stay hinge



DANGER!

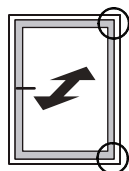
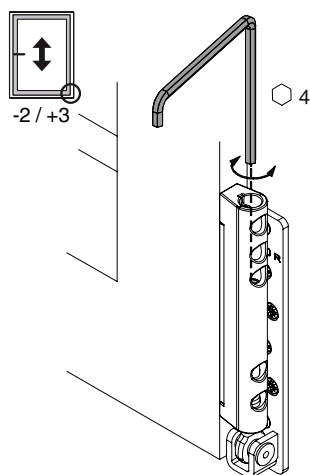
The side adjustment of the scissor stays up to version 2 requires the use of feeler gauge Item No. 468684 to ensure that the minimum adjustment measurement is met.

Side adjustment



The adjustment screw may only protrude by max. 1 mm.

Height adjustment



Gasket compression setting

The gasket compression settings on the pivot post and scissor stay hinge are made via the centre lock or compression device in the immediate vicinity of the pivot post/via the vertical corner element on the rebated scissor stay.

Setting – tilt-only sash 250 kg

Side adjustment

Side adjustment can only be carried out on the pivot posts when the sash is unhinged.

Side adjustment can only be carried out on the scissor stays when the scissor stays are unhinged. The scissor stay hinge bolts must always run freely in the scissor stay hinges!



DANGER!

**The scissor stay may only be unhinged for the adjustment period.
The sash must be secured from falling out during the adjustment work.**

Height adjustment

**During all adjustment work, ensure that the weight only ever rests on the pivot posts.
The scissor stays/scissor stay hinges must only be subjected to the weight of the tilted unit.**

Gasket compression setting

(See previous page)



DANGER!

**During all adjustment work, ensure that the weight only ever rests on the pivot posts.
The scissor stays/scissor stay hinges must only be subjected to the weight of the tilted unit.**



Maintenance instructions

All maintenance information can be found in the maintenance and adjustment instructions, Order No. 757070.

Notes for security windows according to EN 1627

Security windows according to the European standard must be constructed according to precisely defined specifications. You can find more information on our website (www.maco.eu) or from our expert advisors.

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MULTI-MATIC**



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