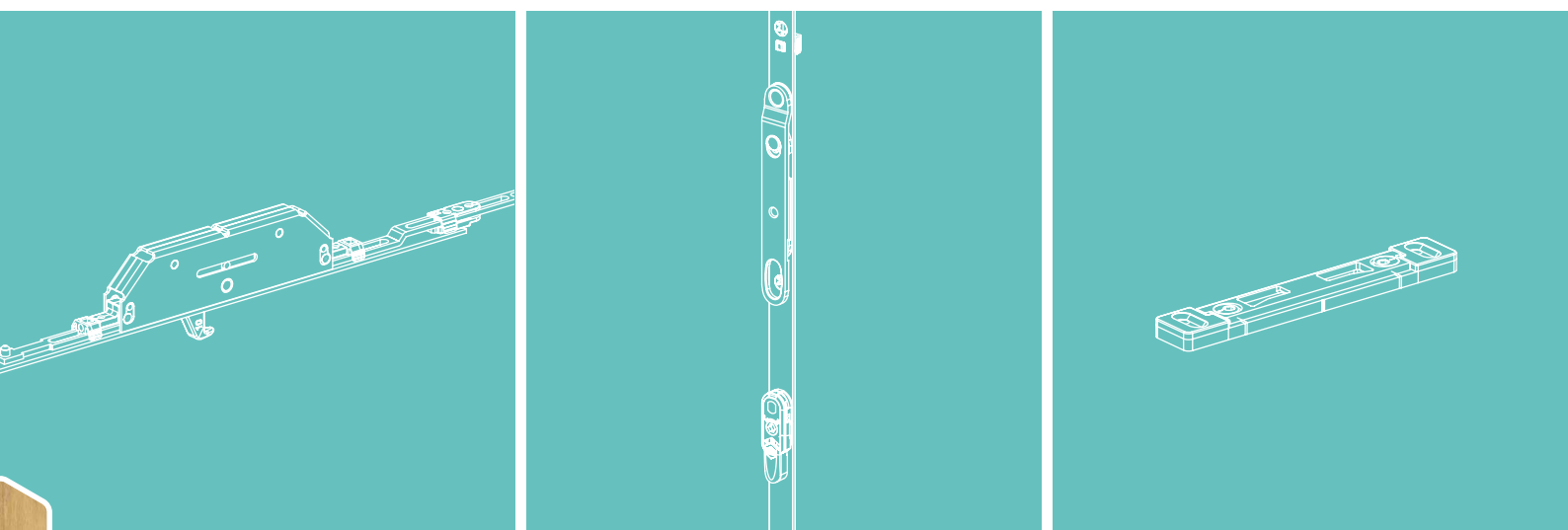




# MACO MULTI ZERO

TILT AND TURN HARDWARE



## ASSEMBLY INSTRUCTIONS

Locking hook for zero barrier threshold systems

**Only for use by certified specialists!**

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Assembly instructions for timber or PVC central locking system and the hinge-side used (PVC, AS, DT, etc.) are also binding and must be followed.



## Important Information

### Target group

This documentation is intended exclusively for specialist companies and certified specialists. The work described herein must be carried out by certified specialists.

### Instructions for use

- › Unless otherwise indicated, measurements are made in millimetres.
- › Mount all hardware parts professionally as described in this manual and observe all safety instructions!
- › All diagrams are only symbolic.
- › Further technical documents can be found in our online catalogue (TOM) at [extranet.maco.eu](http://extranet.maco.eu)
- › This print document is constantly being revised and is available for download in the current version at [www.maco.eu](http://www.maco.eu).
- › Printing errors, mistakes and changes are reserved.
- › Please send feedback or suggestions and ideas for improvements on our instructions by email to: [feedback@maco.eu](mailto:feedback@maco.eu).

### Material notes

- › The hardware parts described in this guide are made of stainless steel or galvanised passivated steel and sealed in accordance with DIN EN 12329. They must not be used in environments with aggressive, corrosive air content.
- › Do not use acid-curing sealants, as these can lead to corrosion of the hardware parts.
- › The door lock elements may only be surface-treated before the hardware is installed. Any subsequent surface treatment may restrict the functionality of the hardware. In this case, no warranty claims can be made against the hardware manufacturer.

## Key and abbreviations



Sash rebate height (SRH)



Sash rebate width (SRW)



Sash rebate width and height



Maximum sash weight

FFB	= Sash rebate width (SRW)
FFH	= Sash rebate height (SRH)
FL	= Rebate gap
Ü	= Rebate leg
FT	= Rebate depth
MM	= MULTI-MATIC
MM-KS	= MULTI-MATIC with tilt lock bolt
TO	= Single routing (Hinge side)
DT	= Double routing
AS	= Surface mounted (Hinge side)



## General processing instructions

### Intended use

These assembly instructions for the „MULTI ZERO“ hardware are binding.

The use and assembly of the components is only permitted in the manner listed below. Any other use is not provided for and therefore does not correspond to the intended use.

The following points also need to be taken into account:

- › Information on application areas, sash weights and fabrication guidelines from profile manufacturers or system providers must be considered in a binding manner!
- › The centre of gravity or position of the glass pane can affect application areas and max. weights and must be requested if necessary!

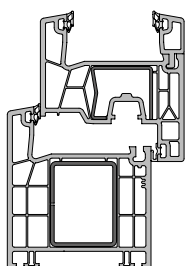
**In the event of non-compliance, the right to compensation will lapse!**

# General processing instructions

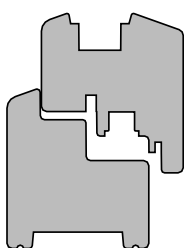
## Application notes

### 1 Application materials

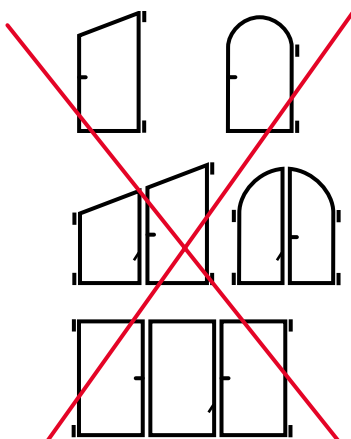
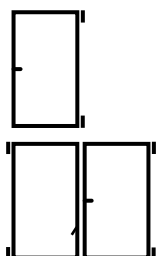
PVC



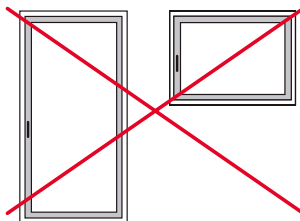
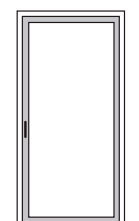
Timber



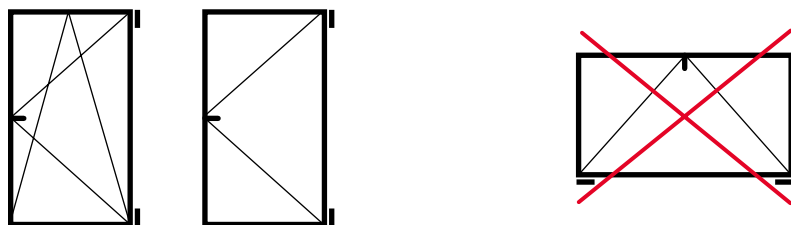
### 2 Forms of application / Sash version



### 3 Window design



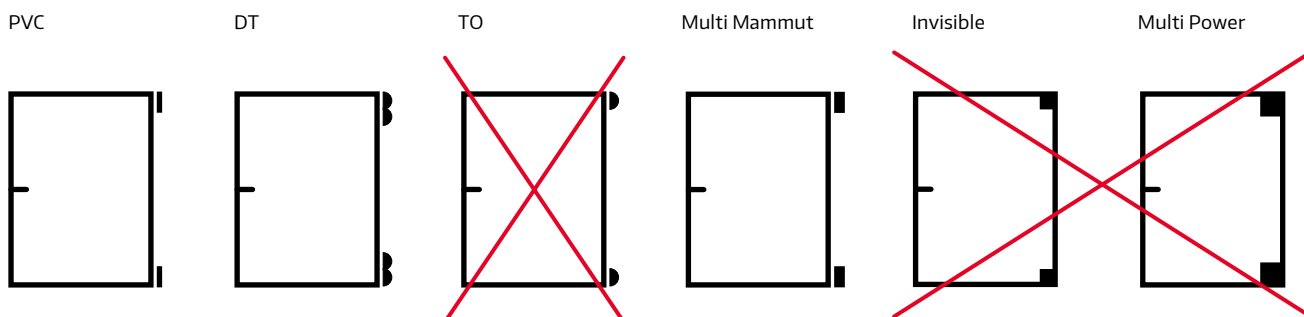
**4 Types of opening**



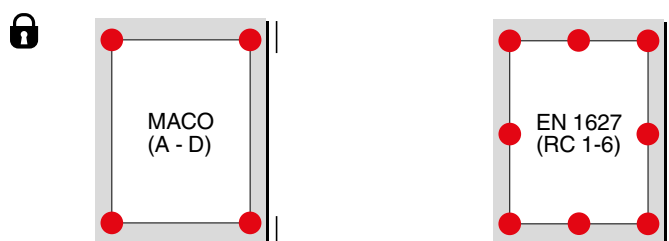
**5 Hardware overview**



**6 Hinge side**



**7 Hardware version (security)**



**8 Maximum sash weight**

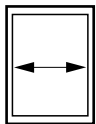
The maximum sash weight can be found in the assembly instructions for the relevant hinge-side.

**9 Application ranges**

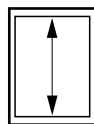


**ATTENTION!**

Use of a rebated corner support reduces the application range by 115 mm.

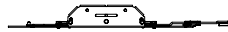


540 - 1800 mm

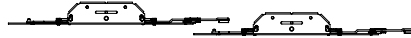


360 - 2800 mm

FFB 540 - 900 mm =



FFB 901 - 1000 mm =



FFB 1001 - 1150 mm =



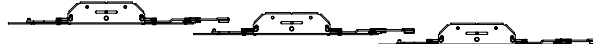
FFB 1151 - 1250 mm =



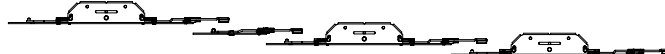
FFB 1251 - 1300 mm =



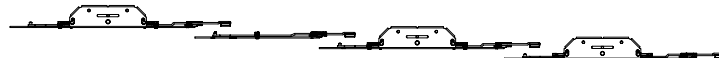
FFB 1301 - 1450 mm =



FFB 1451 - 1550 mm =



FFB 1551 - 1650 mm =



FFB 1651 - 1800 mm =



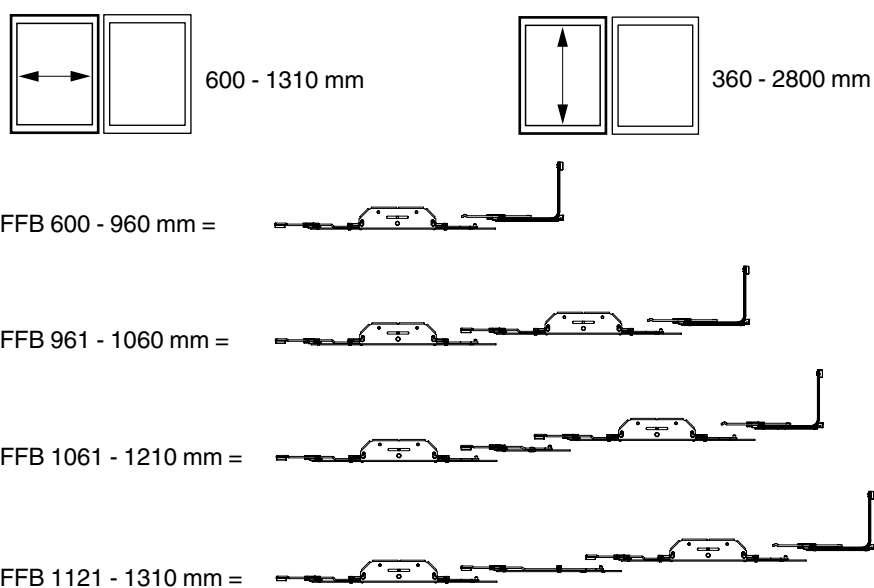


## 10 Application ranges french window sash

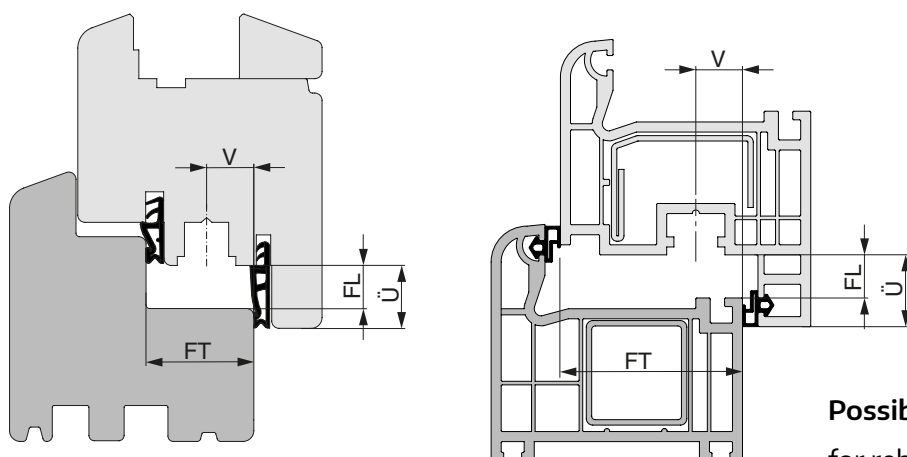


### ATTENTION!

Use of a rebated corner support reduces the application range by 115 mm.



## 11 Requirements for sash and frame profile



### Possible values:

for rebate gap (FL): 12 mm

for offset (V): 13 mm

for rebate leg (Ü): 18, 20 mm

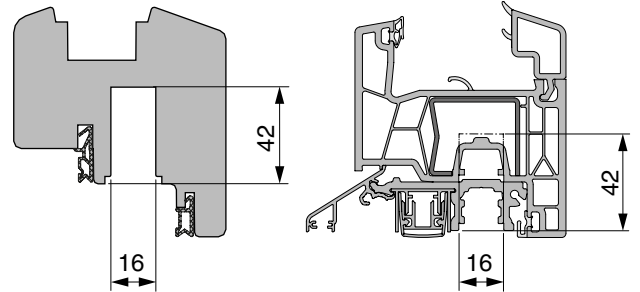
for rebate depth (FT): 24 - 30 mm

## 12 Locking hook required space



### CAUTION!

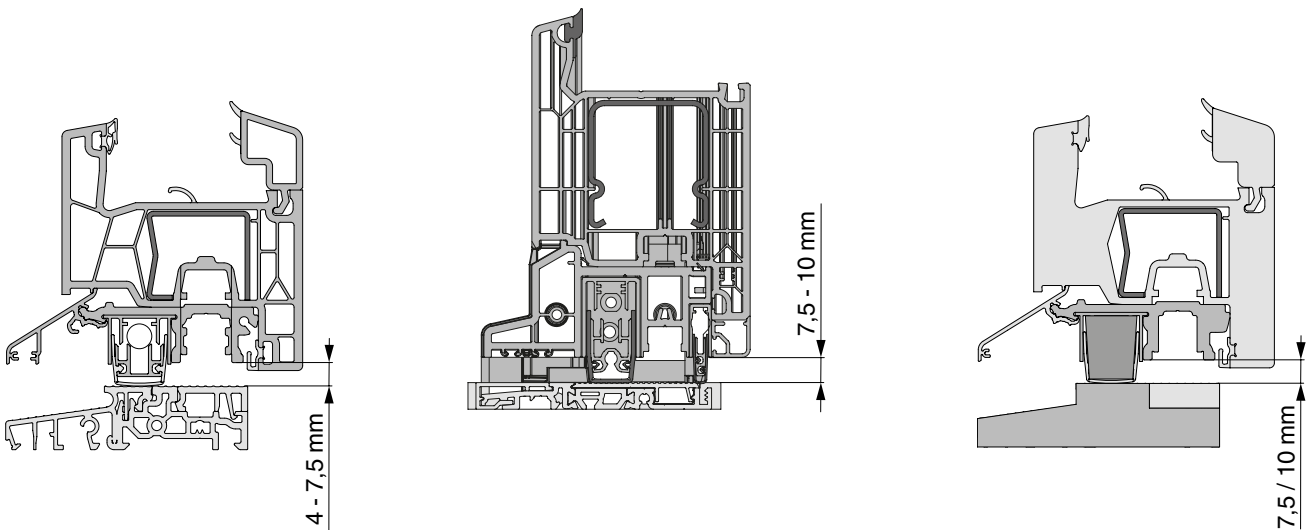
The profile must offer a minimum of 42 mm of space from the window rebate for the locking hook, without damaging the glass rebate.



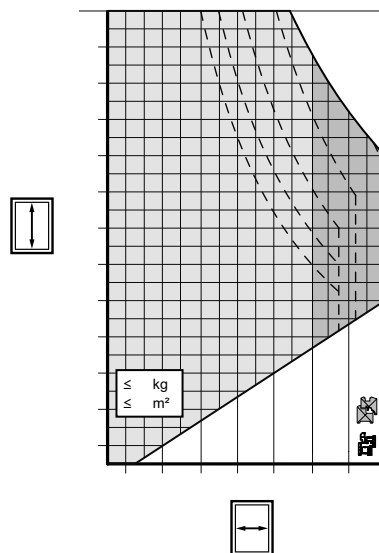
## 13 Fitting groove

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

## 15 Sash-threshold air gap



## Application diagram



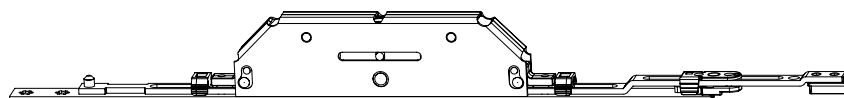
See assembly instructions for the hinge-side used.

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

## Item list

Item no. 228710 = horizontal locking hook extension MM 350 silver for 7.5 mm air gap

Item no. 229814 = horizontal locking hook extension MM 350 silver for 10 mm air gap



Item no. 228711 = flush striker plate for horizontal locking hook MM FT22 adjustable Silver

Item no. 229946 = flush striker plate for horizontal locking hook MM FT24 adjustable Silver

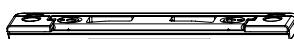
Item no. 229518 = flush striker plate for horizontal locking hook MM FT28 adjustable Silver

Item no. 229945 = flush striker plate for horizontal locking hook MM FT30 adjustable Silver

228711



229518



229945, 229946



profile system	threshold	locking hook	striker
Profine	Profine	229814	228711
Deceuninck	GKG Combi Plan 0.0 rebate depth 22 mm	228710	228711
Rehau Synego / Geneo	GKG Combi Plan 0.0 rebate depth 22 mm	228710	228711
Rehau Synego / Geneo	GKG Combi Plan 0.0 rebate depth 24 mm	228710	229946
Schüco	AWS Zero threshold	228710	250210
PVC Systems*	GKG Combi Plan 0.0 rebate depth 22 mm	228710	228711
PVC Systems*	GKG Combi Plan 0.0 rebate depth 24 mm	228710	229946
Timber Systems*	GS-Stemeseder rebate depth 30 mm	228710	229945
Timber Systems*	4-5 mm air gap, mill-in	228710	228874

\*Observe the instructions of the system supplier!

### Other items needed (all without supporting-pins)

Item no. 222214 MM vertical, extendable corner element without i.S. cam

Item no. 206630 MM extendable faceplate extension MM 140

Item no. 206197 MM extendable faceplate extension MM 235

### Other items needed french window sash

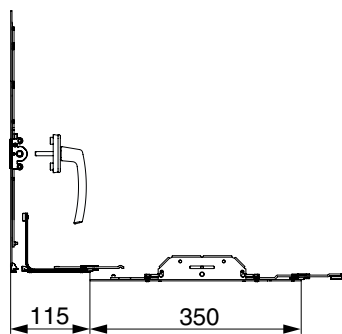
Item no. 229745 center lock 125 without i.S. cam

Item no. 229658 french casement drive gear for hook closure SRH 1701 - 1950

Item no. 229659 french casement drive gear for hook closure SRH 1951 - 2200

## Hardware combination

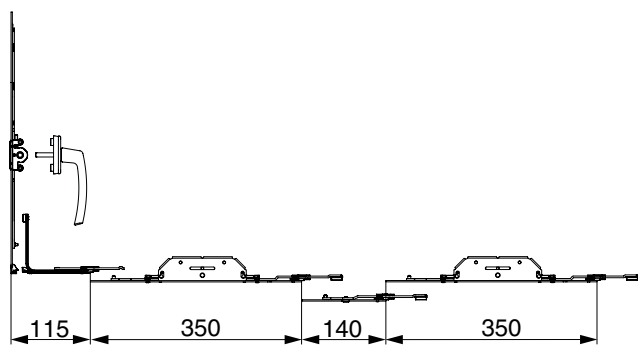
SRW 540 - 900



SRW 901 - 1000



SRW 1001 - 1150

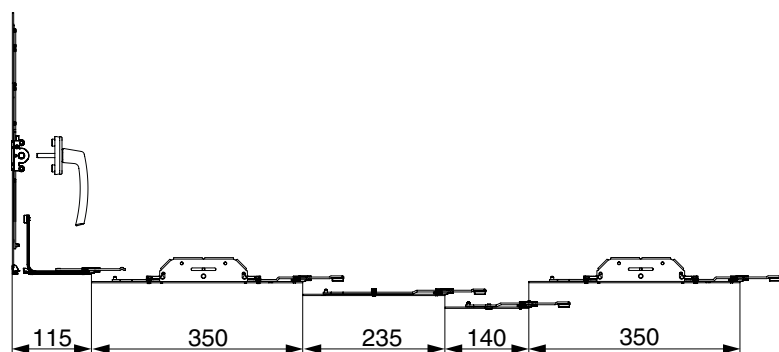


## Hardware combination

SRW 1151 - 1250



SRW 1251 - 1300

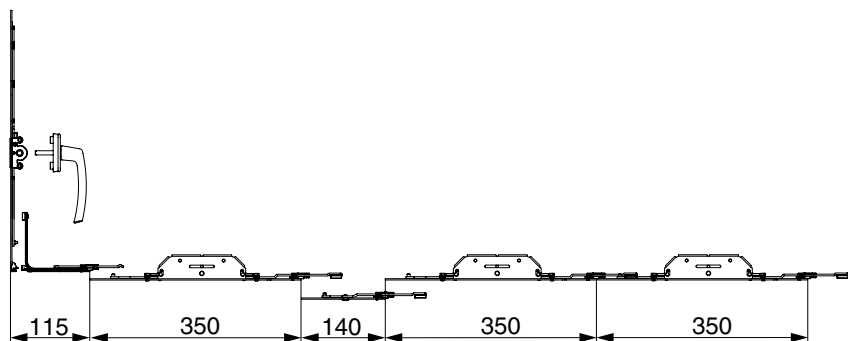


SRW 1301 - 1450

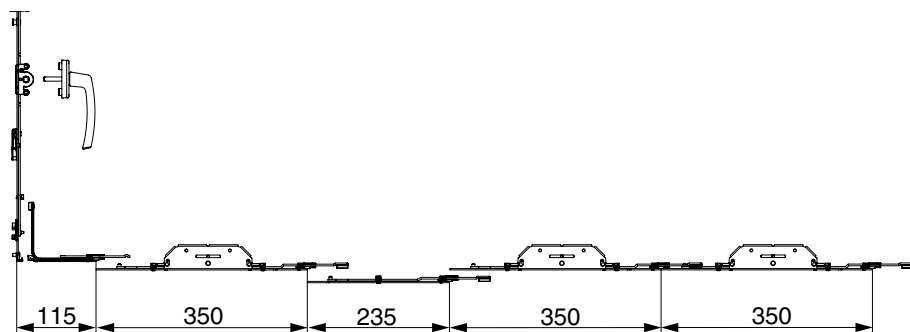


## Hardware combination

SRW 1451 - 1550



SRW 1551 - 1650

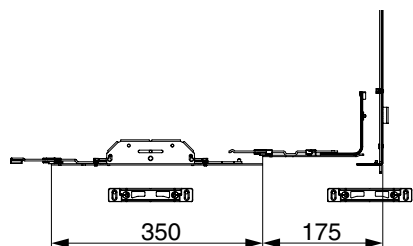


SRW 1651 - 1800

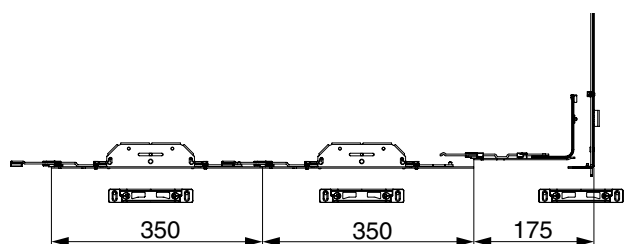


## Hardware combination french window sash

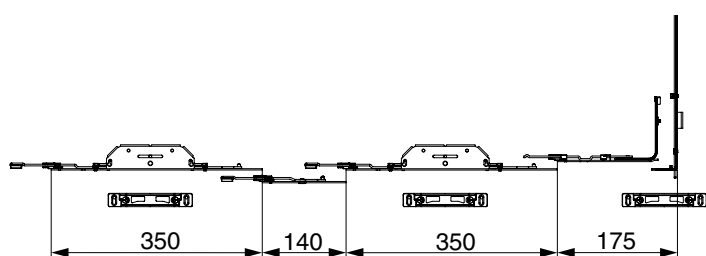
SRW 600 - 960



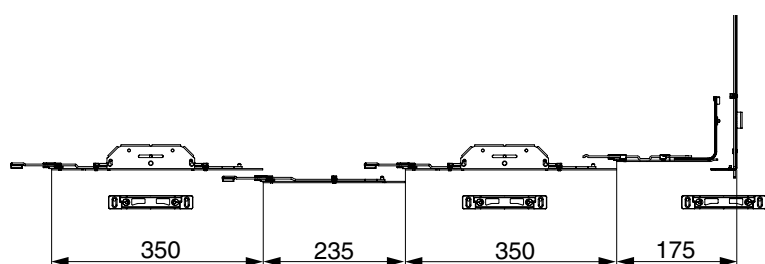
SRW 961 - 1060



SRW 1061 - 1210




SRW 1211 - 1310

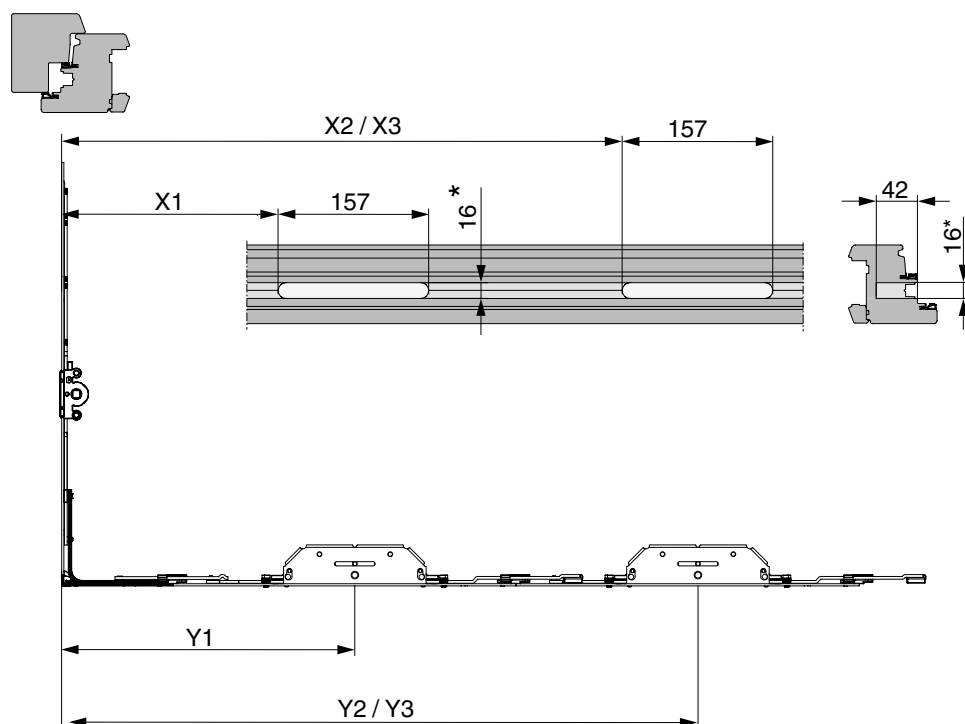




## Installing the fittings on the sash

### Routing-hole pattern


	X1 / X2 / X3	Y1 / Y2 / Y3
540 - 900	219.5	300
901 - 1000	219.5 / 569.5	300 / 650
1001 - 1150	219.5 / 709.5	300 / 790
1151 - 1250	219.5 / 804.5	300 / 885
1251 - 1300	219.5 / 944.5	300 / 1025
1301 - 1450	219.5 / 569.5 / 919.5	300 / 650 / 1000
1451 - 1550	219.5 / 709.5 / 1059.5	300 / 790 / 1140
1551 - 1650	219.5 / 804.5 / 1154.5	300 / 885 / 1235
1651 - 1800	219.5 / 944.5 / 1294.5	300 / 1025 / 1375

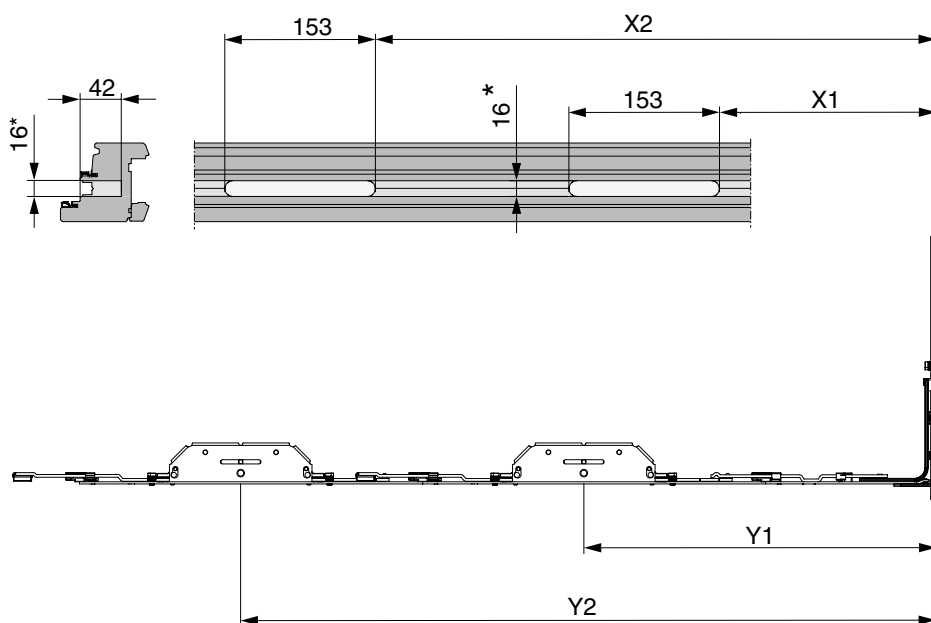
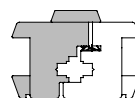


\*Routing with milling cutter  $\varnothing 16$  at least 42 mm in sash (fitting groove centre).

# Installing the fittings on the french window sash

## Routing-hole pattern french window sash

	X1 / X2	Y1 / Y2
600 - 960	279.5	360
961 - 1060	279.5 / 633.5	360 / 710
1061 - 1210	279.5 / 773.5	360 / 850
1211 - 1310	279.5 / 868.5	360 / 945



\*Routing with milling cutter Ø 16 at least 42 mm in sash (fitting groove centre).

## Installing the fittings on the sash / french window sash

### Locking hook installation



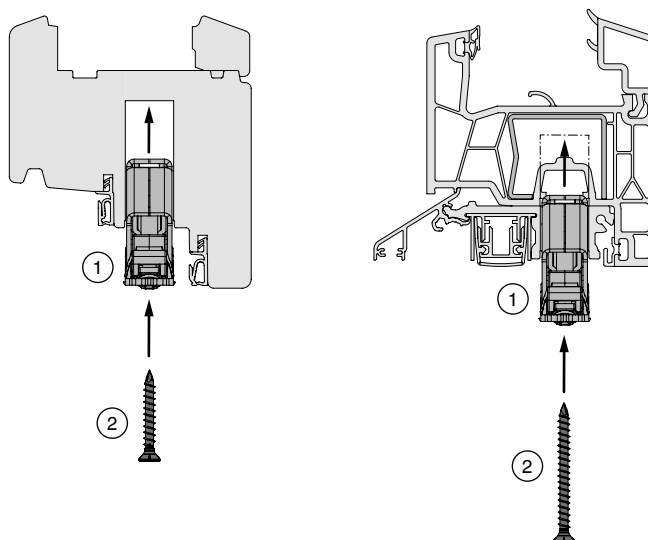
#### NOTE!

By using a VCI protective wrap for the housing, the corrosion protection and thus the functionality is significantly increased!



#### NOTE!

The joint and driving rain values are improved through additional sealing with silicone.



Slide VCI-wrapper item no. 371808 over hook lock housing (see note).

Insert locking hook ① in routing and screw in place. Screw dimension ②, in PVC the screw must protrude through both fitting grooves.

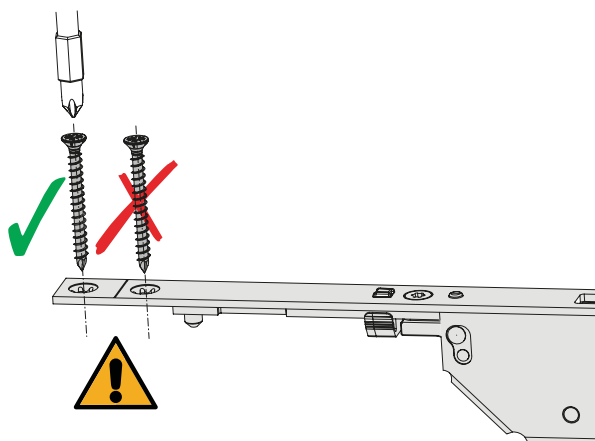
Screw diameter min. 4 x 35 mm.

### Locking hook screw fixing



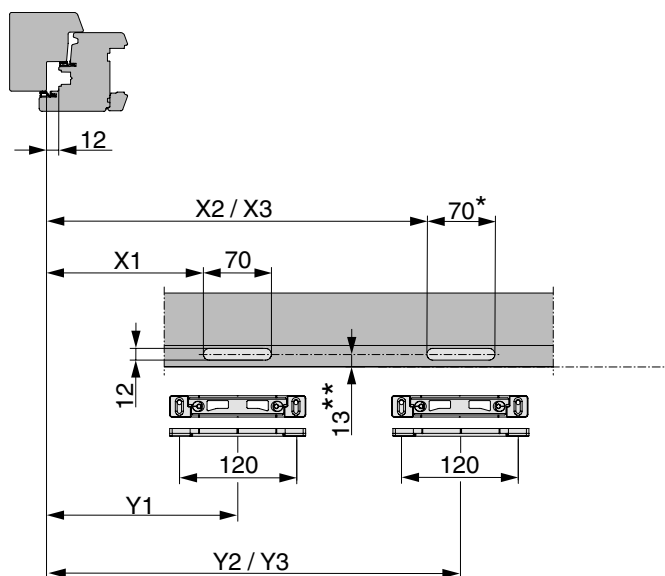
#### CAUTION!


Screw only the outermost screw on the end of the faceplate. The second screw hole is reserved for later use.



# Installing the fittings in the threshold

## Routing for hook

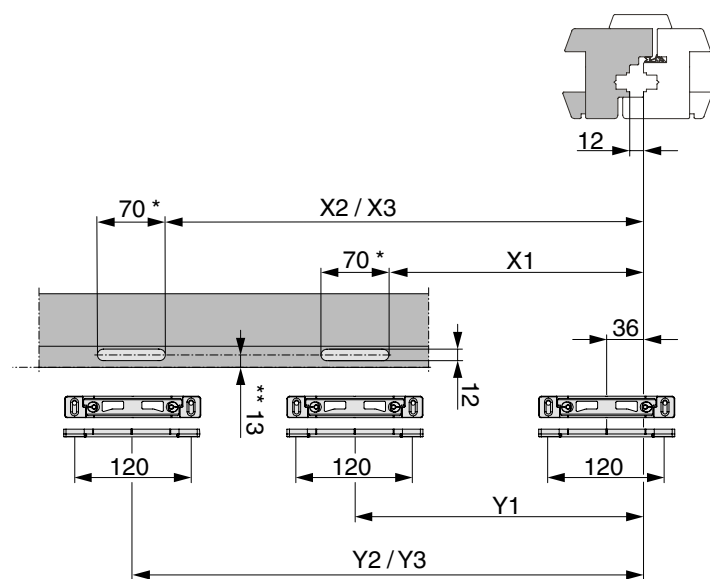



	X1 / X2 / X3	Y1 / Y2 / Y3
540 - 900	277	312
901 - 1000	277 / 627	312 / 662
1001 - 1150	277 / 767	312 / 802
1151 - 1250	277 / 862	312 / 894
1251 - 1300	277 / 1002	312 / 1037
1301 - 1450	277 / 627 / 977	312 / 662 / 1012
1451 - 1550	277 / 767 / 1117	312 / 802 / 1152
1551 - 1650	277 / 862 / 1212	312 / 894 / 1247
1651 - 1800	277 / 1002 / 1352	312 / 1037 / 1387

\*Milling depth 3 mm

\*\*Front edge of threshold

## Routing for french window sash



	X1 / X2 / X3	Y1 / Y2 / Y3
600 - 960	337	372
961 - 1060	337 / 687	372 / 722
1061 - 1210	337 / 827	372 / 862
1211 - 1310	337 / 922	372 / 954
1251 - 1300	337 / 1062	372 / 1097

\*Milling depth 3 mm

\*\*Front edge of threshold

## Installing the fittings in the threshold

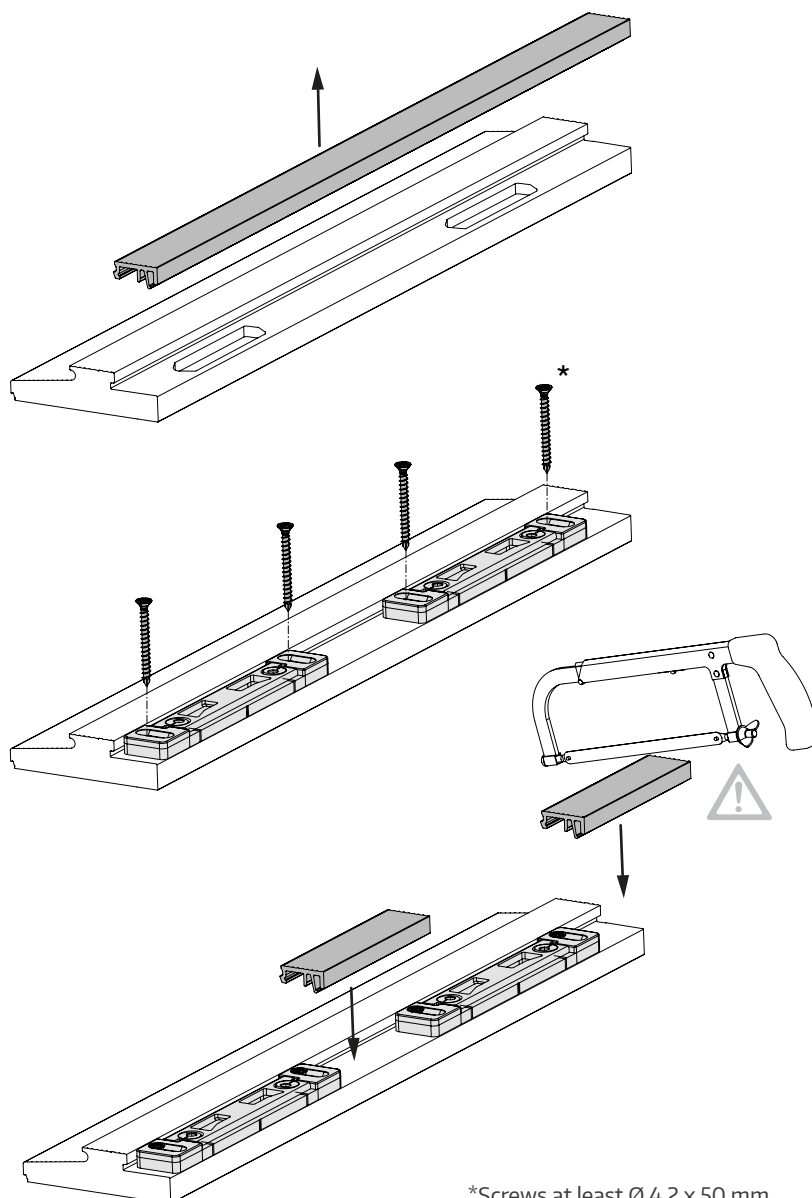
### Installing the striker plates for the locking hook



#### ATTENTION!

Solid screw fixing in the lining profile incl. reinforcement profile 30 x 30 x 1.5 mm / in the substructure must be guaranteed.

Screw dimension at least  $\varnothing 4.2 \times 50$  mm!



\*Screws at least  $\varnothing 4.2 \times 50$  mm

Threshold with frame must be fully lined. The load must be borne in the lining profile / substructure. Country-specific specifications and guidelines for the floor structure must be taken into account.

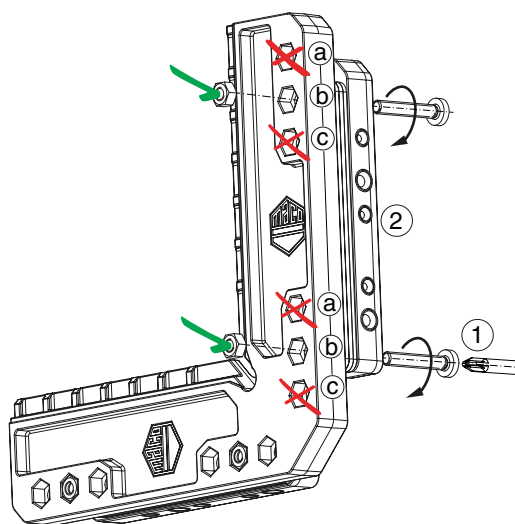


# Installing the PVC corner support

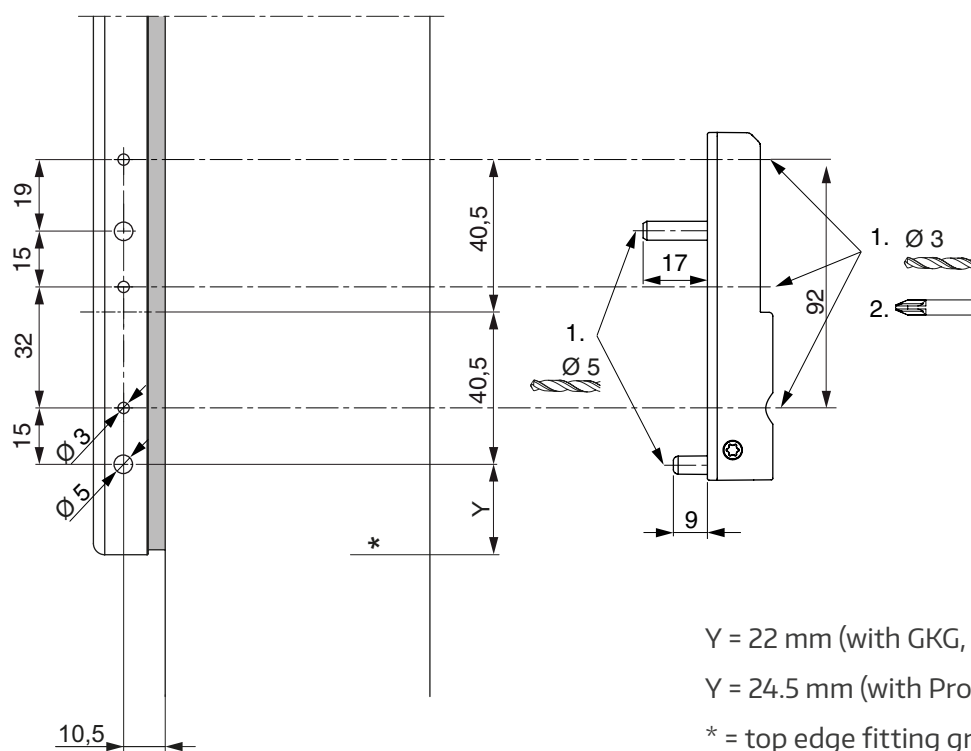
Drill hole with jig 228776

**⚠ ATTENTION!**  
 To ensure correct positioning of the drilling jig, the drill template ② must be in position ①!

**⚠ ATTENTION!**  
 Place drilling jig at the bottom on the doubling profile.



## Drilling-hole pattern



# Installing the MULTI MAMMUT pivot post

## Drill hole with jig 213096

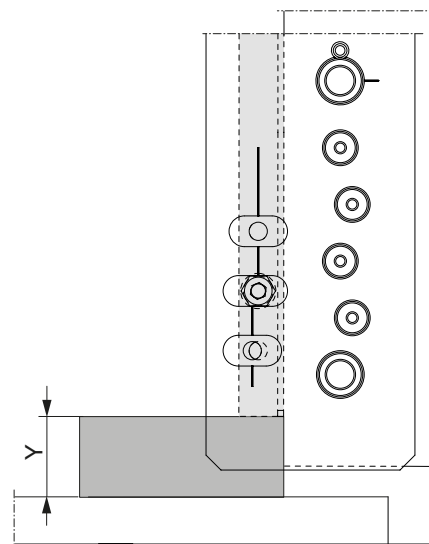


### ATTENTION!

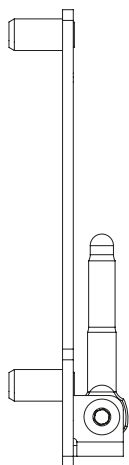
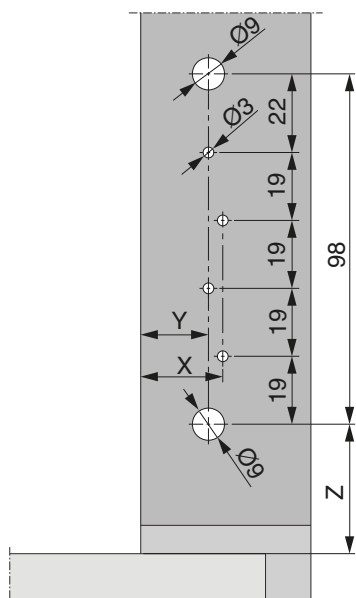
To ensure correct positioning of the drilling jig, a Y mm shim (see table) must be used between the jig's stop-block and the threshold (without cover profile).

Y = 23 mm (with GKG, Rehau)

Y = 26 mm (with Profine)



## Drilling-hole pattern 7.5L



	X	Y
18Ü	23	19
20Ü	25	21
22Ü	27	23

Y = 27,5 mm (with GKG, Rehau)

Y = 40 mm (with Profine)

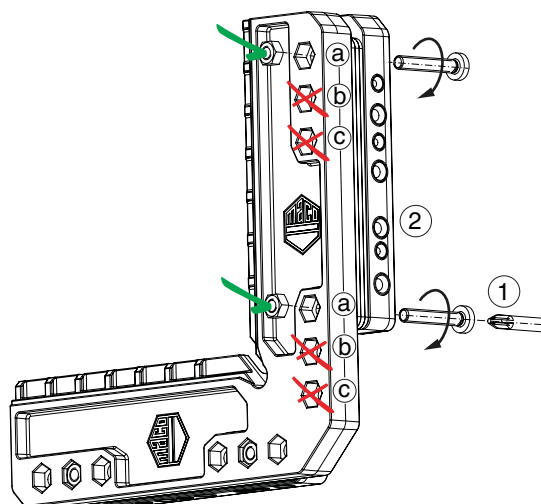


# Installing the MULTI MAMMUT corner support

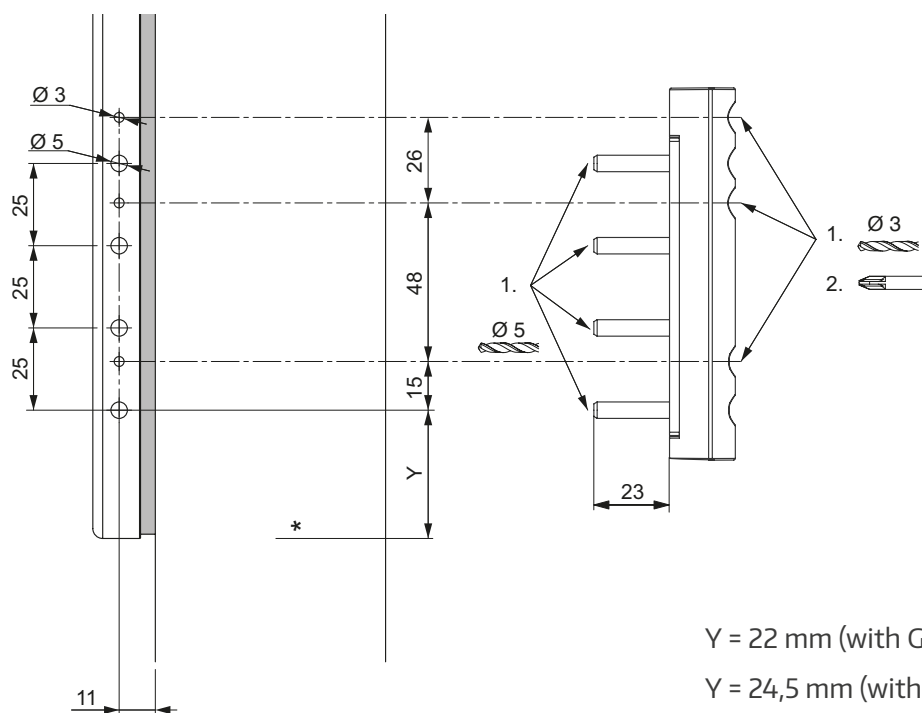
Drill hole with jig 228043

**⚠ ATTENTION!**  
 To ensure correct positioning of the drilling jig, the drill template ② must be in position ①!

**⚠ ATTENTION!**  
 Place drilling jig at the bottom on the doubling profile.



## Drilling-hole pattern

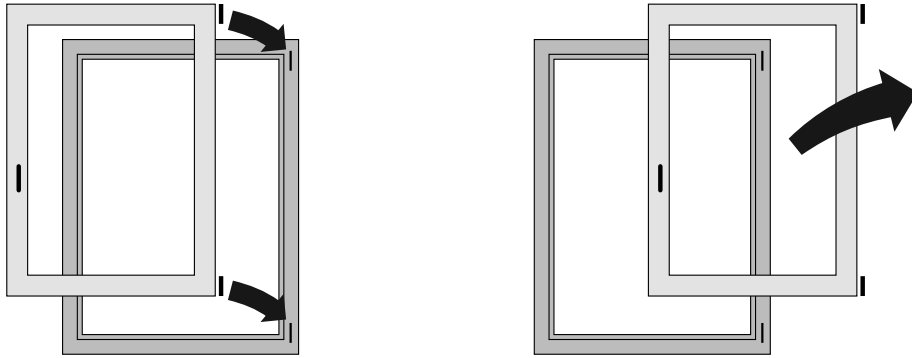


Y = 22 mm (with GKG, Rehau)

Y = 24,5 mm (with Profine)

\* = top edge fitting groove (doubling profile)

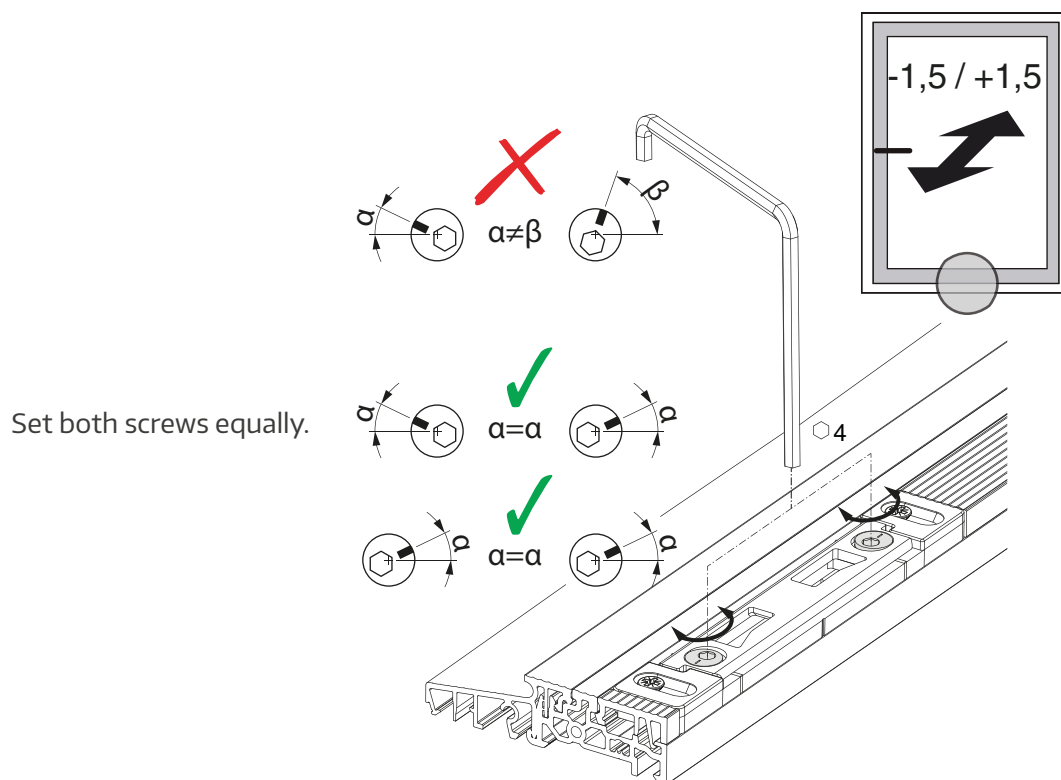
## Hinging the sash in the frame



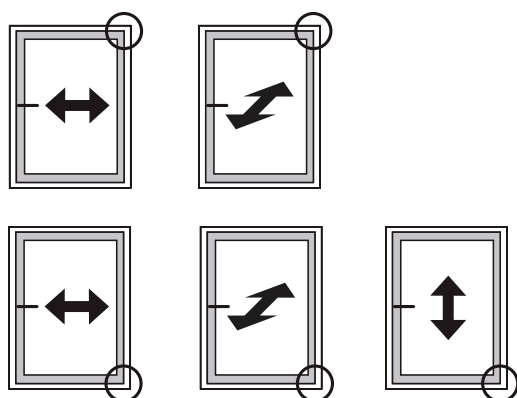
The casement door sash is hinged in the frame according to the assembly instructions of the hinge-side used.

# Locking hook settings

## Gasket compression setting



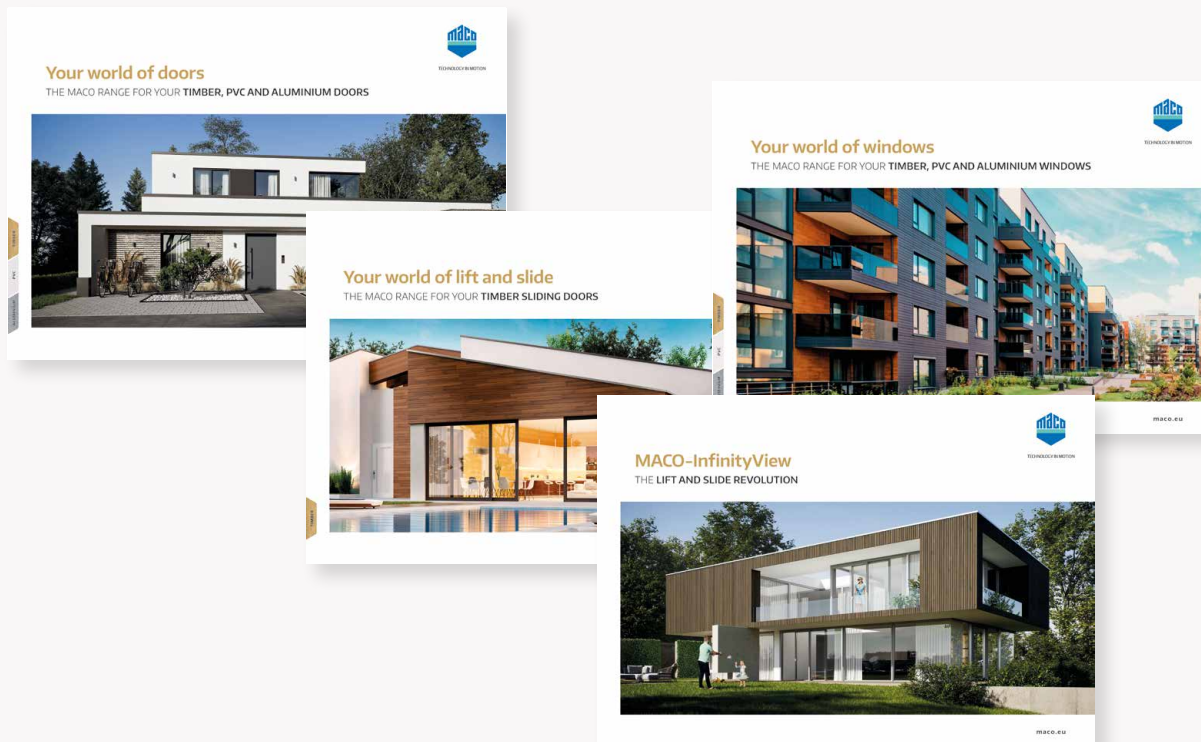
## Lateral, gasket compression and height adjustments



See assembly instructions for the hinge-side used.

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