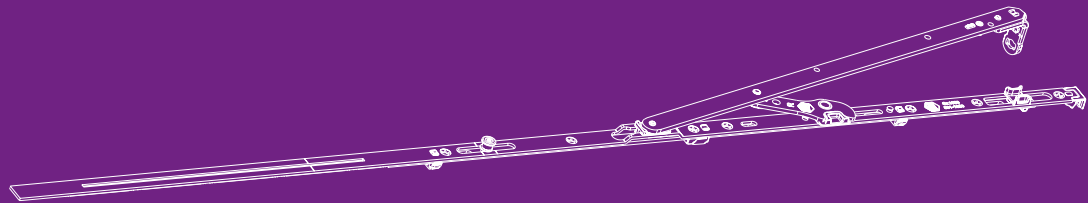


TECHNOLOGY IN MOTION



# MACO MULTI

TU.-ON. AND T&T FITTINGS

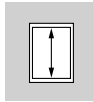


Comfort fittings

INSTALLATION INSTRUCTIONS



## Key



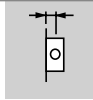
Sash rebate height



Sash rebate width



Handle position



Backset



Maximum sash weight



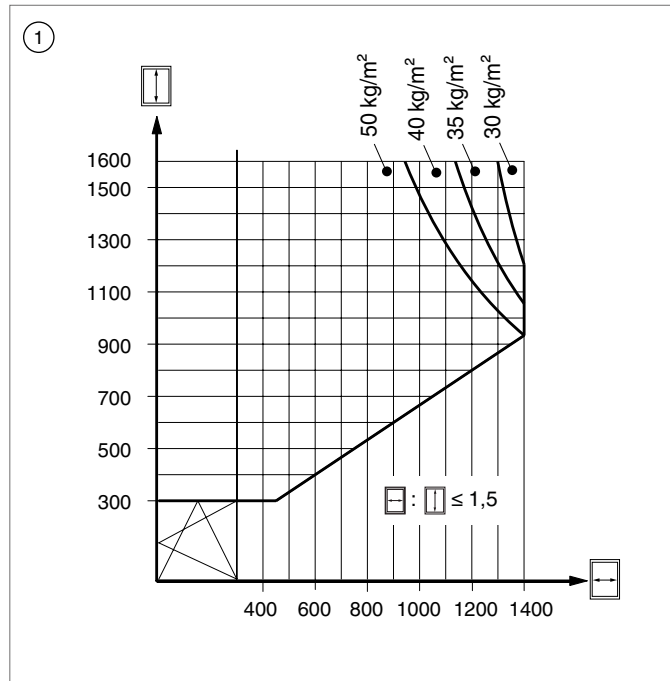
## Contents

Application ranges / Fabrication instructions	5
Fittings overviews	6
Installation of the frame fittings components	14
Installation and cropping of the sash fittings components	20
Hinging / Unhinging / Adjustments	25 / 27
Overview of article numbers	28
Safety instructions	32
Maintenance instructions	33

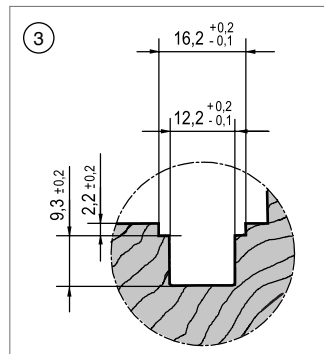
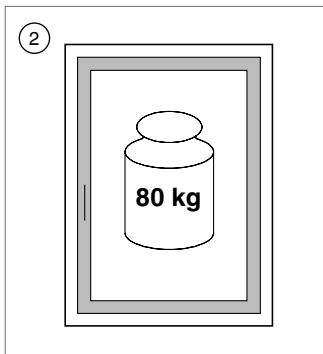
MACO  
MULTI



## Application ranges / Fabrication instructions



All dimensions in mm



④

Max.		1400
		1600
Min.*		500
		470

⑤

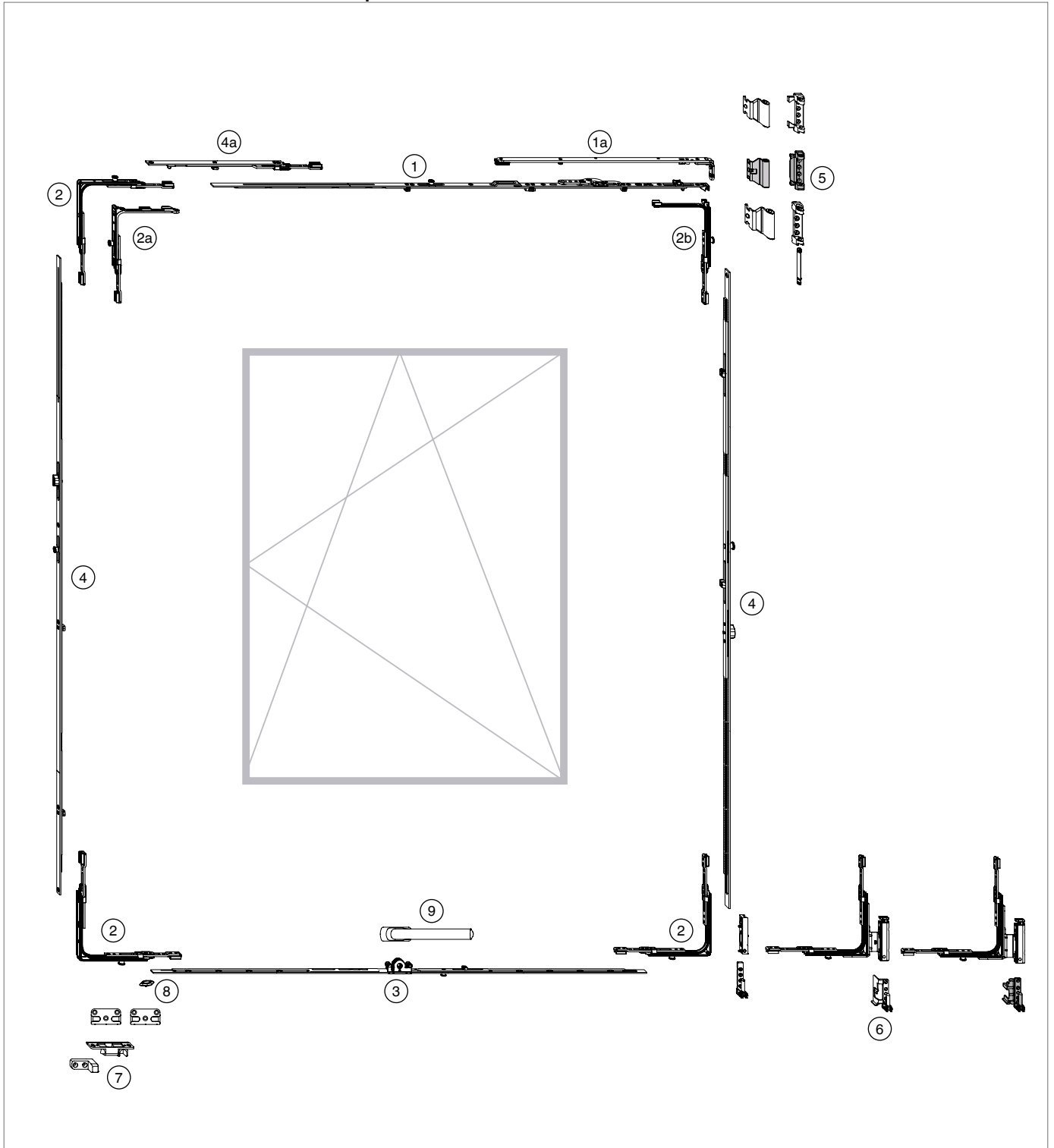
Max.		1400
		1600
Min.*		500
		620

- ① Application diagram
- ② Maximum sash weight
- ③ The fittings groove must conform to these specifications!
- ④ **Application area MULTI-MATIC:**  
\*SRW with corner element 1 i.S.  
600 mm.
- ⑤ **Application area MULTI-TREND:**  
\*SRW with corner element A 600 mm.



### Tilt&Turn comfort fittings overview

#### MULTI-Matic with handle in bottom horizontal position





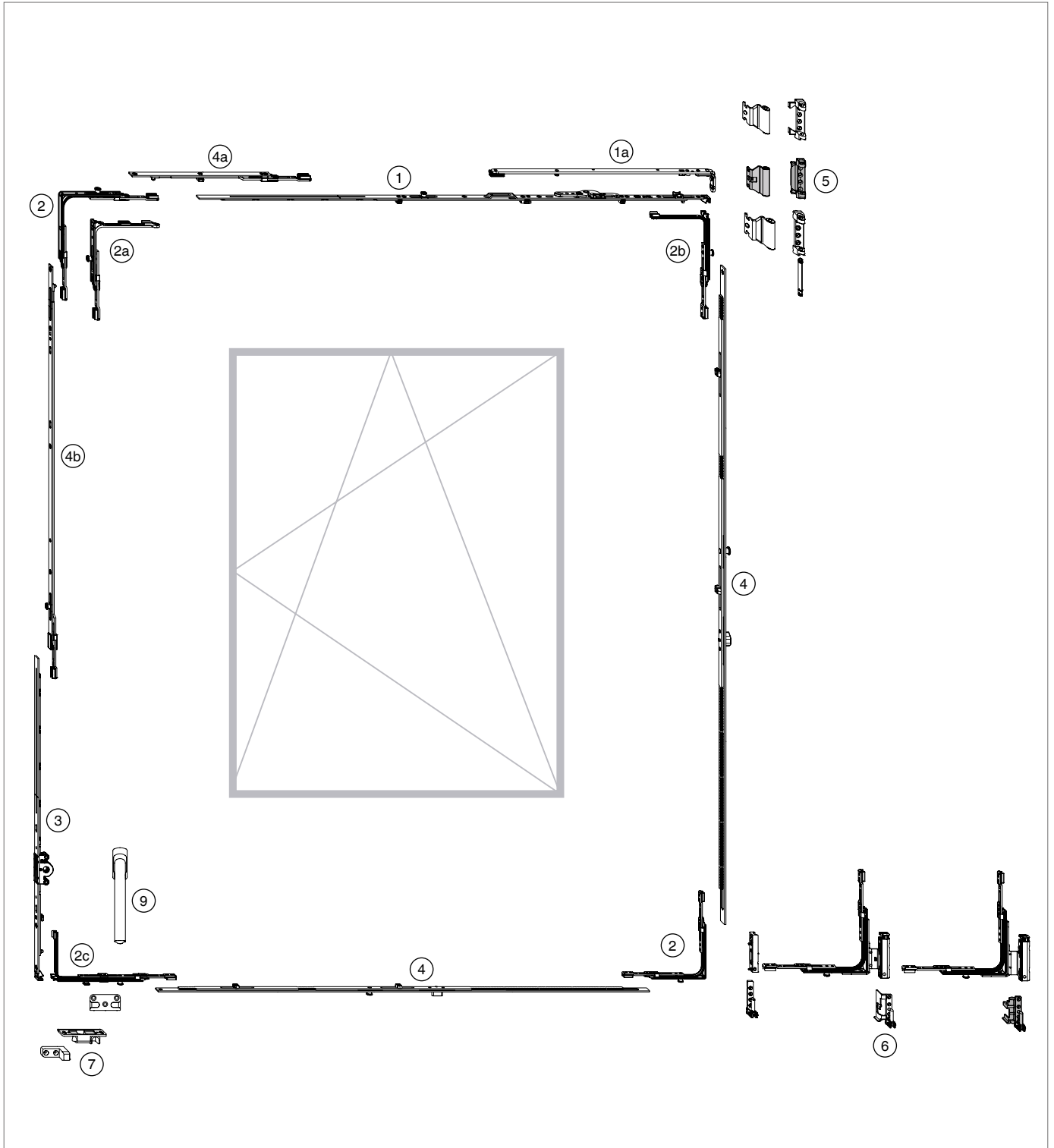
## Fittings combination

- ① Comfort Stay scissor-stay guide
- ①a Comfort Stay scissor-stay arm
- ② Corner element
- ②a Short corner element
- ②b Vertically extendable centre lock with 1 i.S.
- ③ Tilt and Turn drive-gear; variable handle-height
- ④ T&S width connector
- ④a Extension Piece
- ⑤ Scissor stay hinge
- ⑥ Bottom Hinge
- ⑦ Turn lock
- ⑧ Run up wedge
- ⑨ T&S handle



### Tilt&Turn comfort fittings overview

#### MULTI-Matic with handle in vertical position





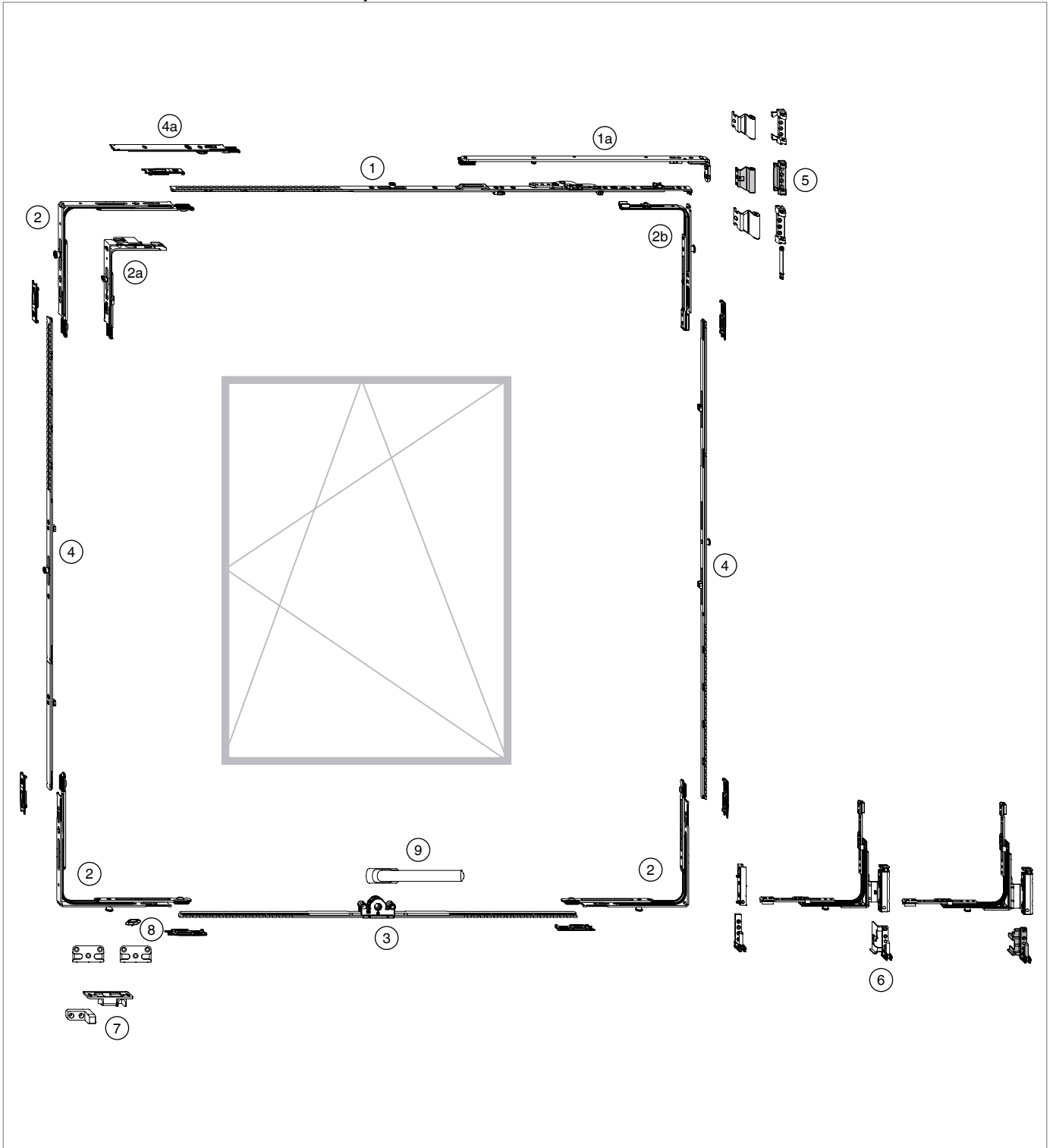
## Fittings combination

- ① Comfort Stay scissor-stay guide
- ①a Comfort Stay scissor-stay arm
- ② Corner element
- ②a Short corner element
- ②b Vertically extendable centre lock with 1 i.S.
- ②c Bottom corner element
- ③ Tilt and Turn drive-gear
- ④ T&S width connector
- ④a Extension Piece
- ④b Croppable extension piece
- ⑤ Scissor stay hinge
- ⑥ Bottom corner hinge
- ⑦ Turn lock
- ⑨ T&S handle



### Tilt&Turn comfort fittings overview

#### MULTI-Trend with handle in bottom horizontal position





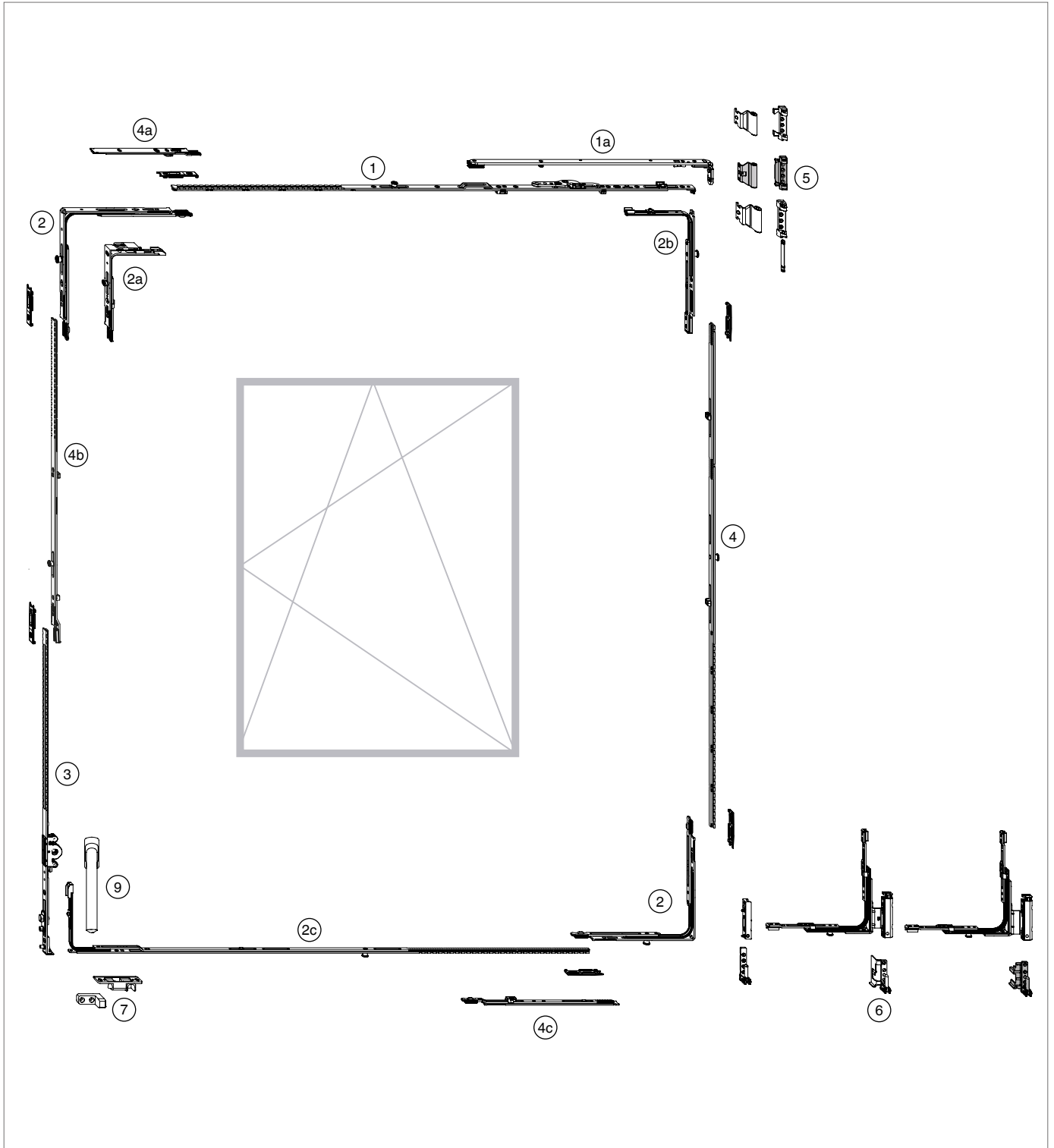
## Fittings combination

- ① Comfort Stay scissor-stay guide
- ①a Comfort Stay scissor-stay arm
- ② Corner element A
- ②a Corner element B
- ②b Vertically extendable centre lock with  
1 i.S.
- ③ Turn and Turn drive-gear;  
variable handle-height
- ④ SKB T&S width connector
- ④a Extension piece
- ⑤ Scissor stay hinge
- ⑥ Bottom corner hinge
- ⑦ Turn lock
- ⑧ Run up Wedge
- ⑨ SKB T&S handle



### Tilt&Turn comfort fittings overview

#### MULTI-Trend with handle in vertical position



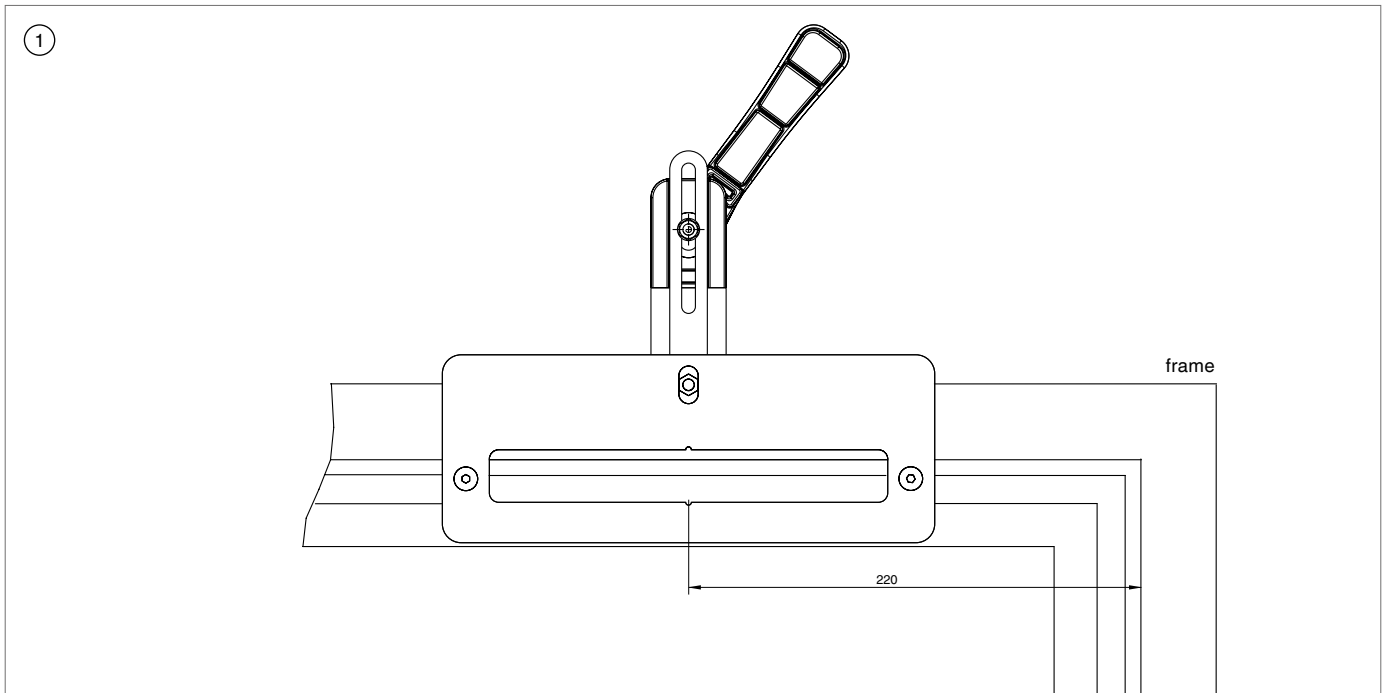


## Fittings combination

- ① Comfort Stay scissor-stay guide
- ①a Comfort Stay scissor-stay arm
- ② Corner element A
- ②a Corner element B
- ②b Vertically extendable centre lock with 1 i.S.
- ②c Corner element for half-round and angled windows
- ③ Turn and Turn drive-gear
- ④ SKB T&S width connector
- ④a Extension Piece
- ④b Croppable extension piece
- ④c Drive-gear extension
- ⑤ Scissor stay hinge
- ⑥ Bottom hinge
- ⑦ Turn lock
- ⑨ SKB T&S handle

## Installation of the frame fittings components

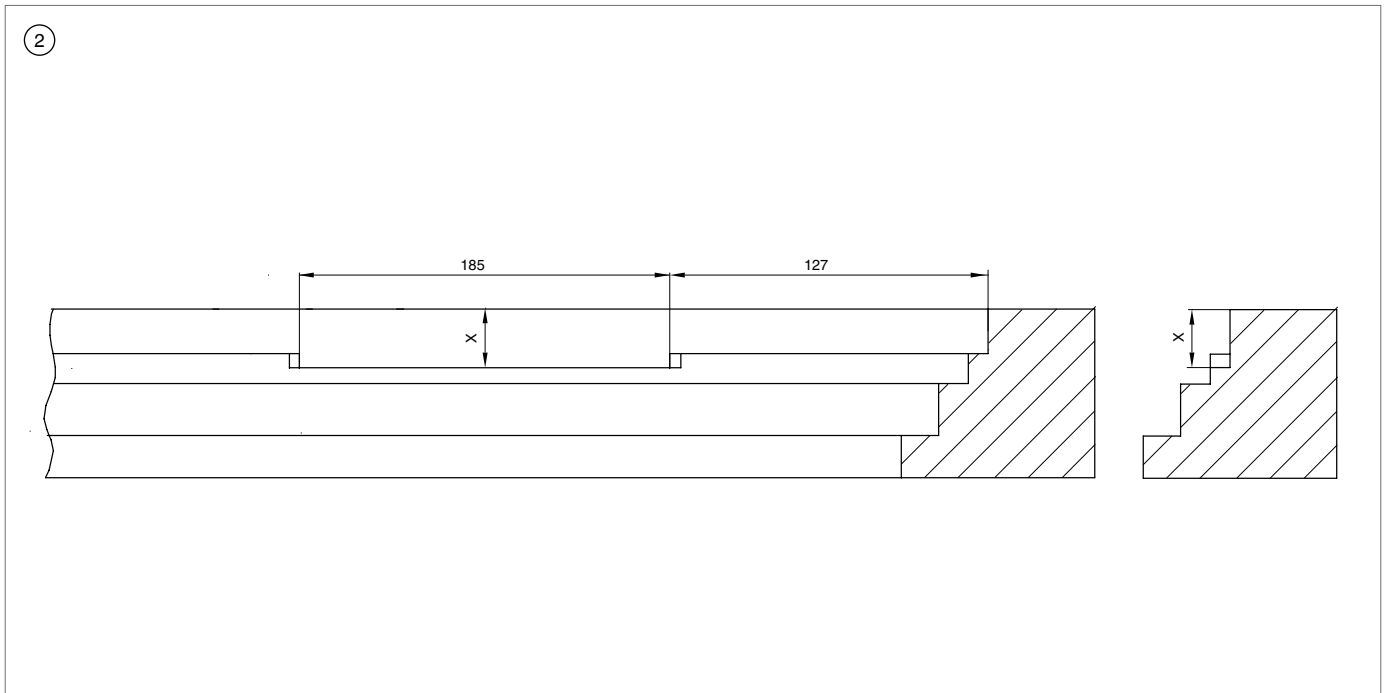
**Rout frame for rebate depth less than  
25 mm/9V and 29 mm/13V**



- ① Position the routing jig (No. 214756) as depicted and rout with  $\varnothing 8$  mm routing cutter and  $\varnothing 27$  mm guide ring.

## Installation of the frame fittings components

### Routing pattern



② Routing pattern for scissor stay hinge.

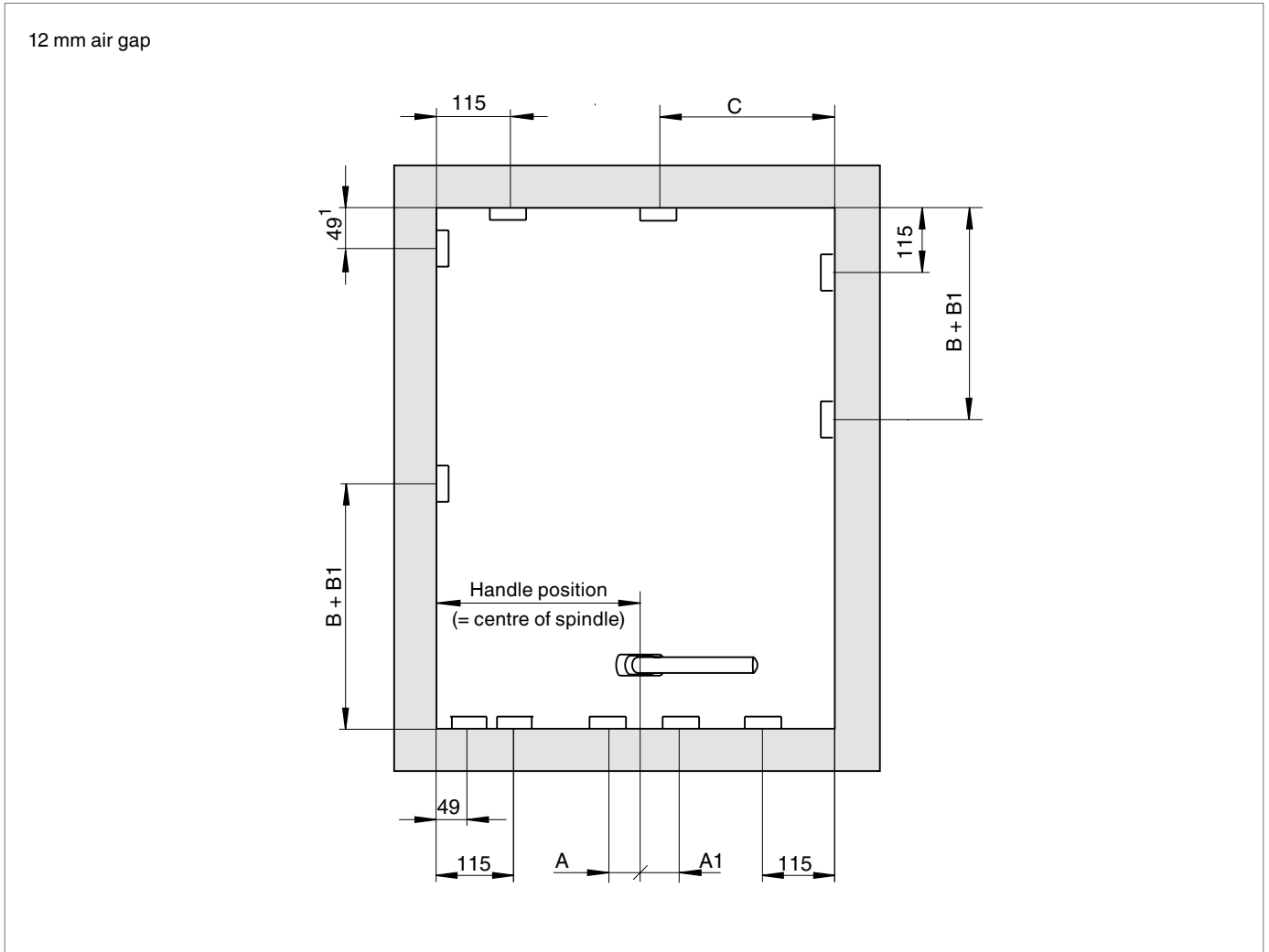
x = 25 mm for 9 mm fittings axis  
29 mm for 13 mm fittings axis



Installation of the frame fittings  
components

**MULTI-Matic striker positions for handle  
in bottom horizontal position**

All dimensions refer to the **frame rebate**  
**dimensions:**



All dimensions in mm

<sup>1</sup>only when using short corner element with 1 i.S.



Installation of the frame fittings  
components

**MULTI-Matic striker drilling positions for  
handle in bottom horizontal position**

Drive-gear size		A	A1
800	500 - 800	—	—
1250	801 - 1250	128	—
1750	1251 - 1400	173	310

Stay guide extension B-TV / T&S width connector		B	B1
1950	470 - 620	232	—
900	621 - 900	328	—
1150	901 - 1150	563	—
1400	1151 - 1400	798	—
1650	1401 - 1600	563	1033

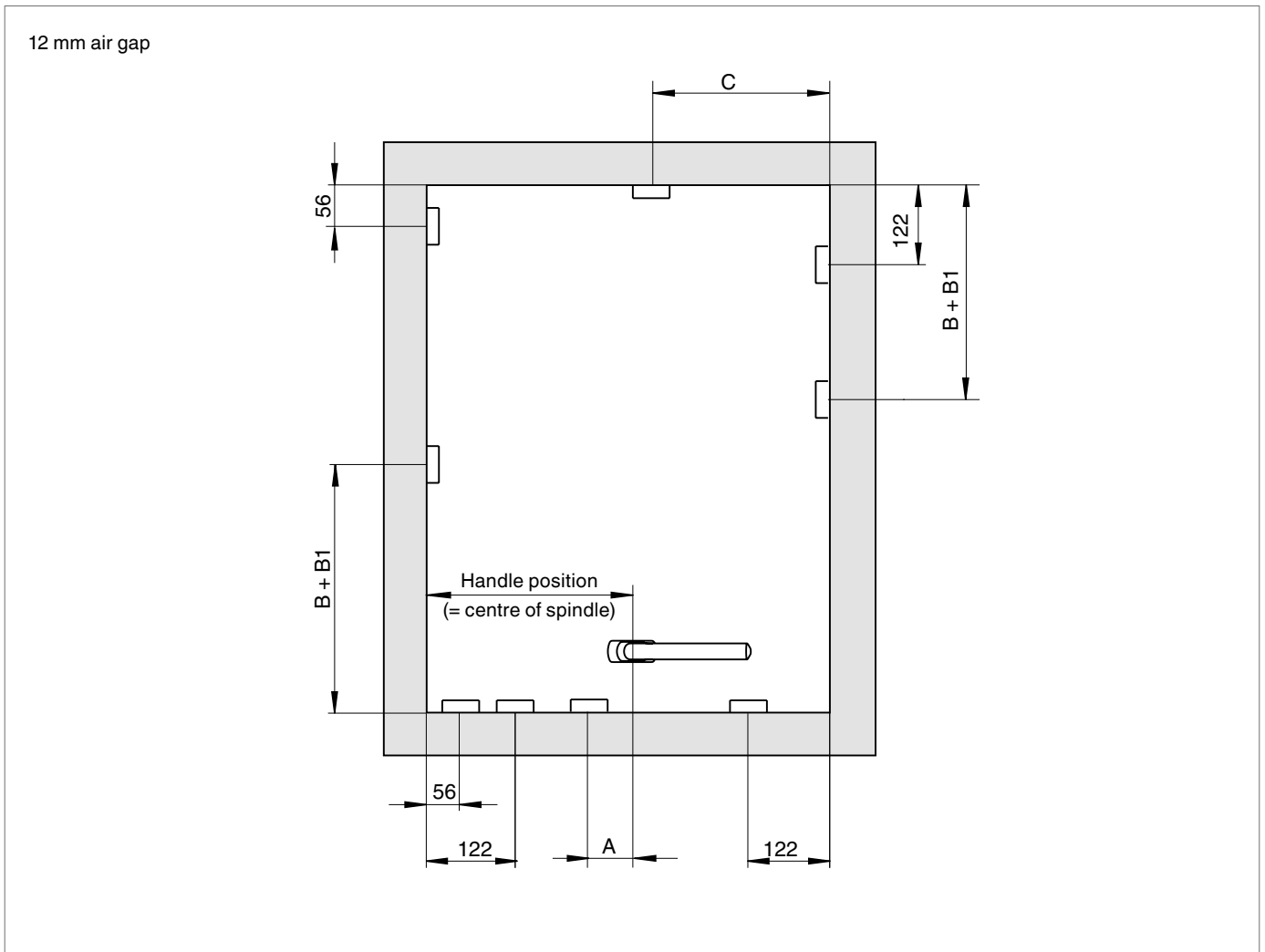
Scissor-stay size		C
1050	801 - 1400	506



Installation of the frame fittings  
components

**MULTI-Trend striker positions for handle  
in bottom horizontal position**

All dimensions refer to the **frame rebate**  
**dimensions:**





All dimensions in mm




Installation of the frame fittings  
components

**MULTI-Trend striker drilling positions for  
handle in bottom horizontal position**

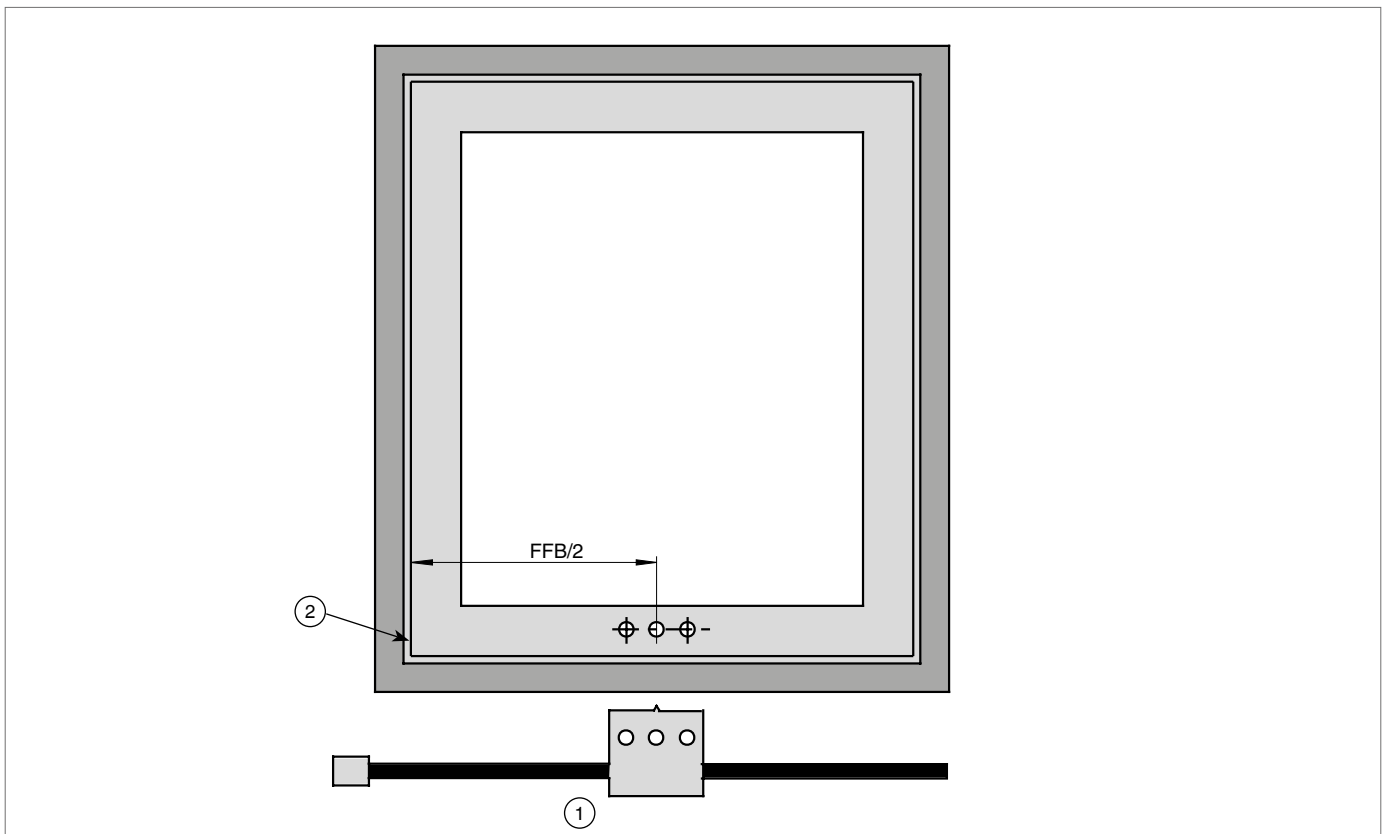
Drive-gear size		A
Gr. 1	580 - 650	—
Gr. 2	651 - 900	—
Gr. 3	901 - 1300	168
Gr. 4	1301 - 1400	168

T&S width connector		B	B1
Gr. 1	620 - 900	345	—
Gr. 2	901 - 1150	595	—
Gr. 3	1151 - 1400	795	—
Gr. 4	1401 - 1600	645	1145

Scissor-stay size		C
Gr. 2	801 - 1400	506

## Installation of the sash fittings components

### Drilling holes for bottom horizontal handle



- ① Drive-gear drilling jig  
**No. 203861** (Ø 3 Ø 3 Ø 3)  
**No. 203862** (Ø 12 Ø 3 Ø 12)

Mark the sash centre, line up the drive-gear drilling jig with the notch on the side and predrill with a Ø 3 mm and Ø 12 mm drill bit.

- ② Sash rebate edge

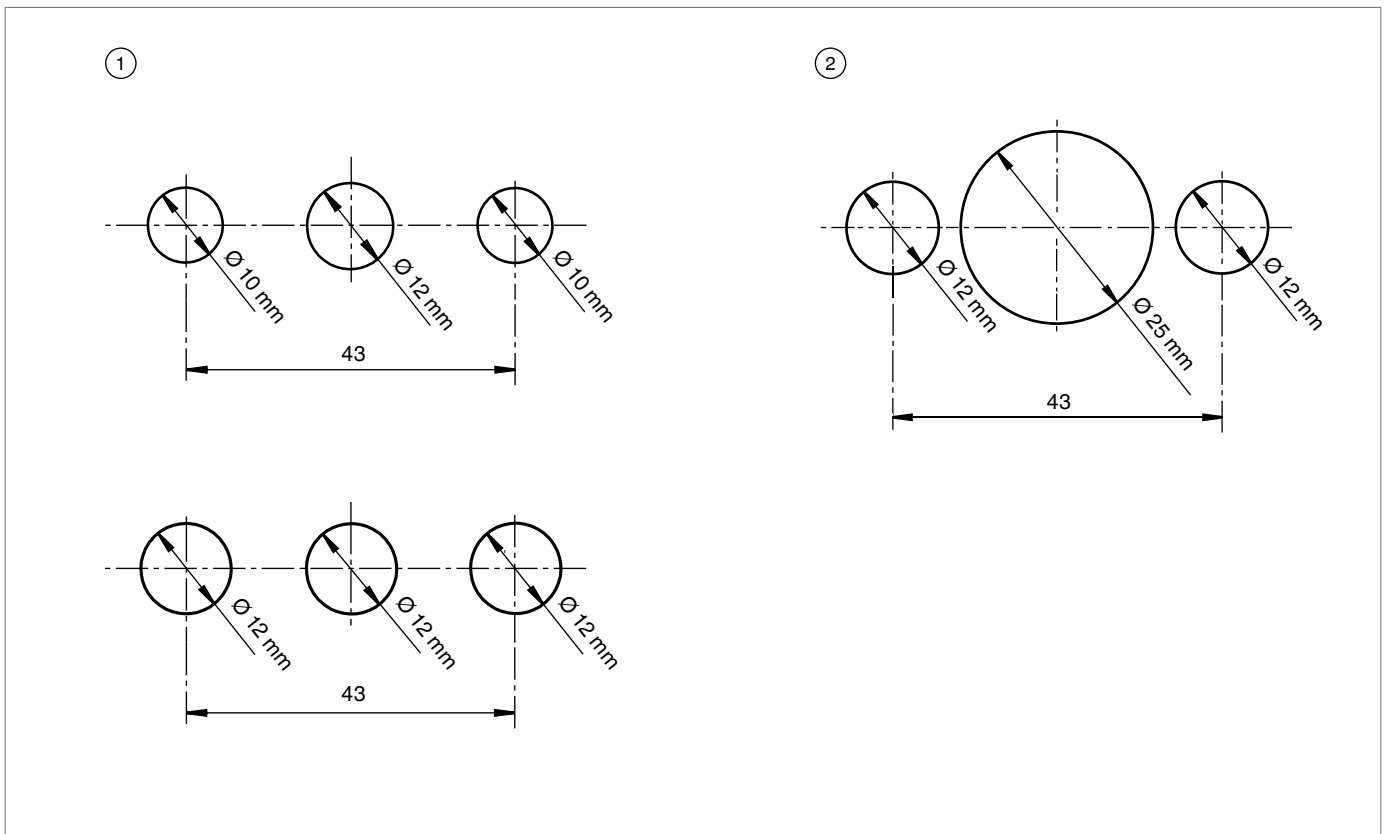
*To drill holes for vertical handle position, refer to the installation instructions:*

*MULTI-Matic Timber (order no. 750272) or  
PVC (order no. 49777)*

*MULTI-Trend Timber (order no. 49355) or  
PVC (order no. 49371)*

## Installation of the sash fittings components

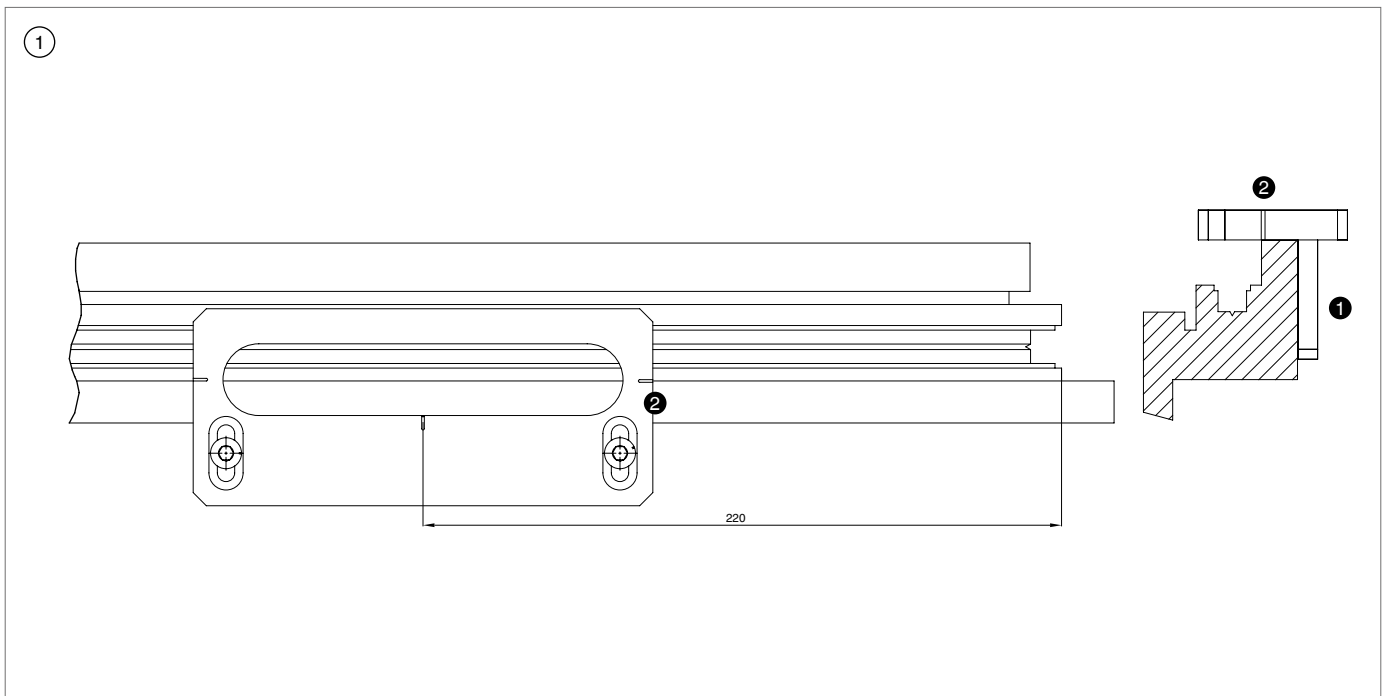
### Bottom horiz. handle drill-hole patterns



- ① **PVC** for window handles  
with  $\varnothing 10$  and/or  $12\text{ mm}$  lugs
- ② **Timber** for window handles  
with  $\varnothing 12\text{ mm}$  lugs

## Installation of the sash fittings components

### Rout sash for 9 mm fittings axis

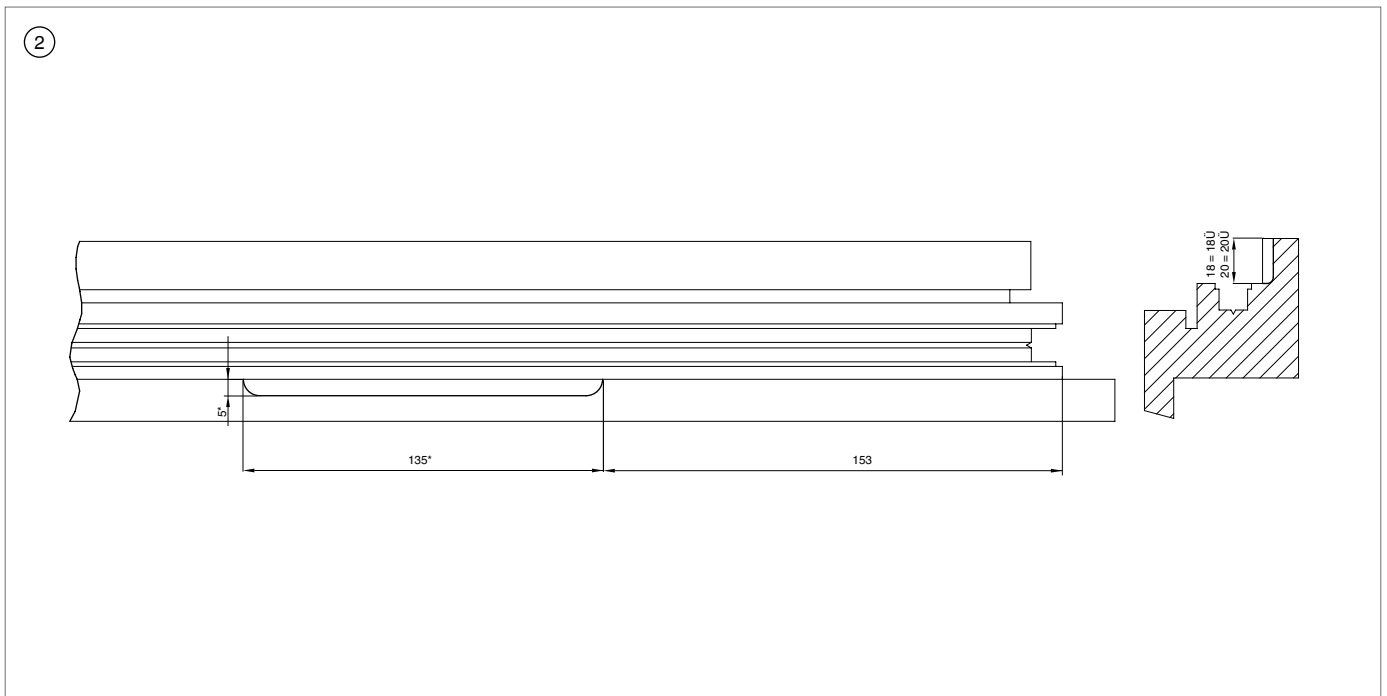


- ① Routing for scissor stay hinge; position the routing jig (**No. 213099**) as depicted and rout with  $\varnothing 10$  mm routing cutter and  $\varnothing 27$  mm guide ring.

Position the routing jig by placing the side part **1** on the outer edge of the sash and adjusting to align the notch **2** with the inner edge.

## Installation of the sash fittings components

### Routing pattern

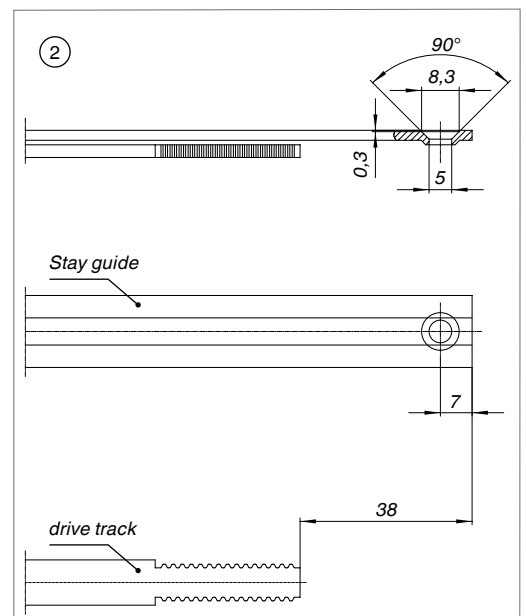
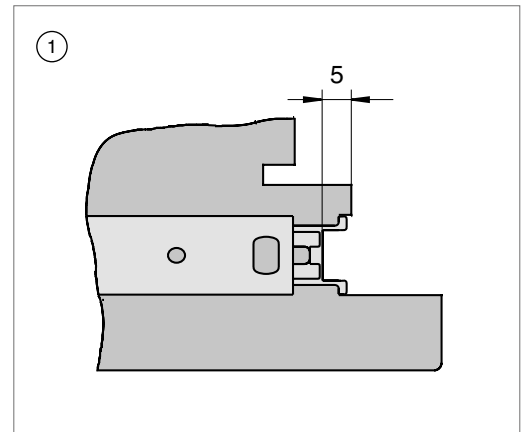
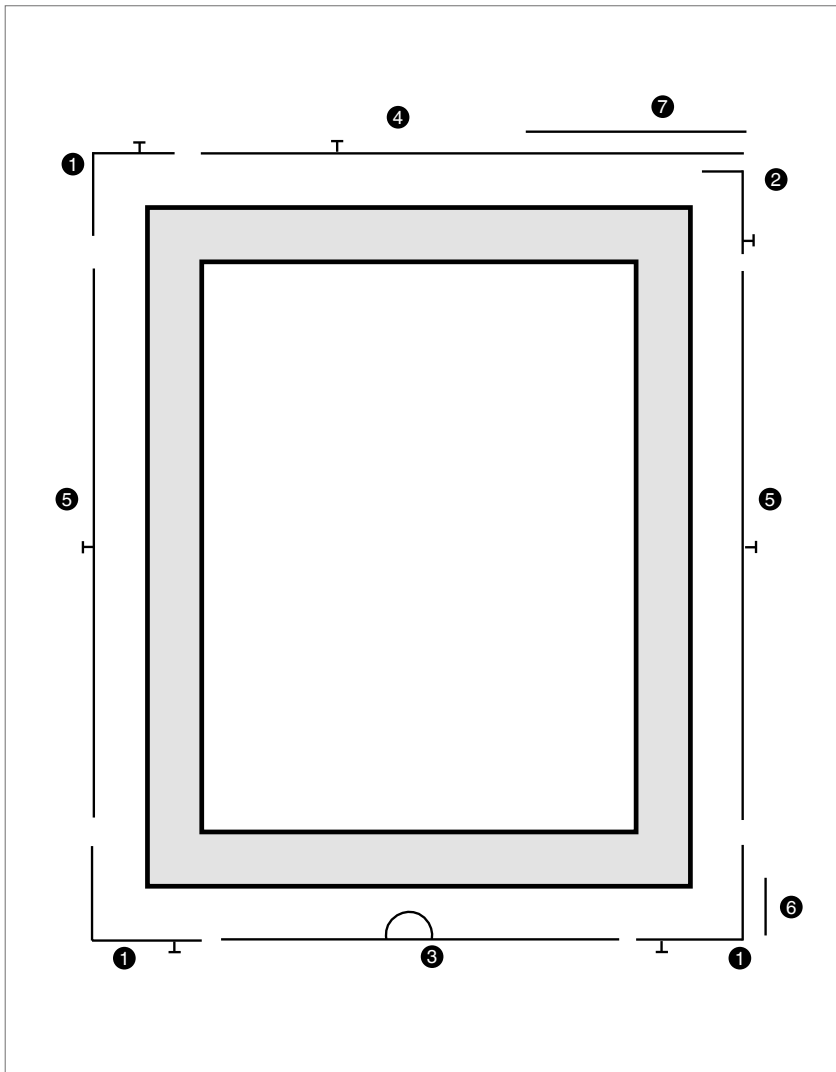


② Routing jig for scissor stay hinge.

*\*Routing for timber profile systems with 9 mm fittings axis.*

## Installation of sash components

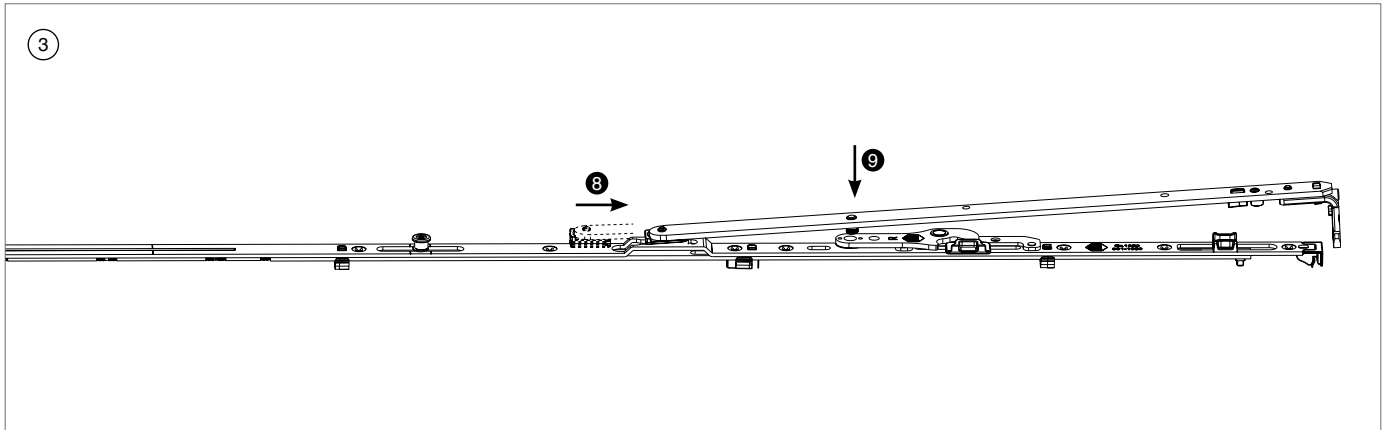
### MULTI-Matic



1. Mount the **corner element 1**.
2. Insert the **vertical extendable corner element 2** (Fig. 1).
3. Crop the **variable drive-gear 3** (Fig. 2) and screw-fasten together with the **corner elements**.
4. Crop the **stay guide 4** and (Fig. 2) screw-fasten together with the **corner elements**.

## Installation of the sash components

### MULTI-Matic



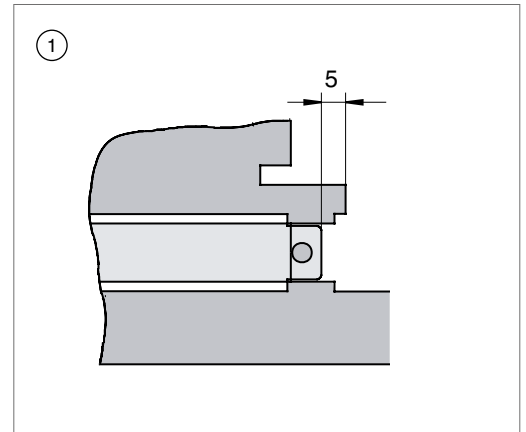
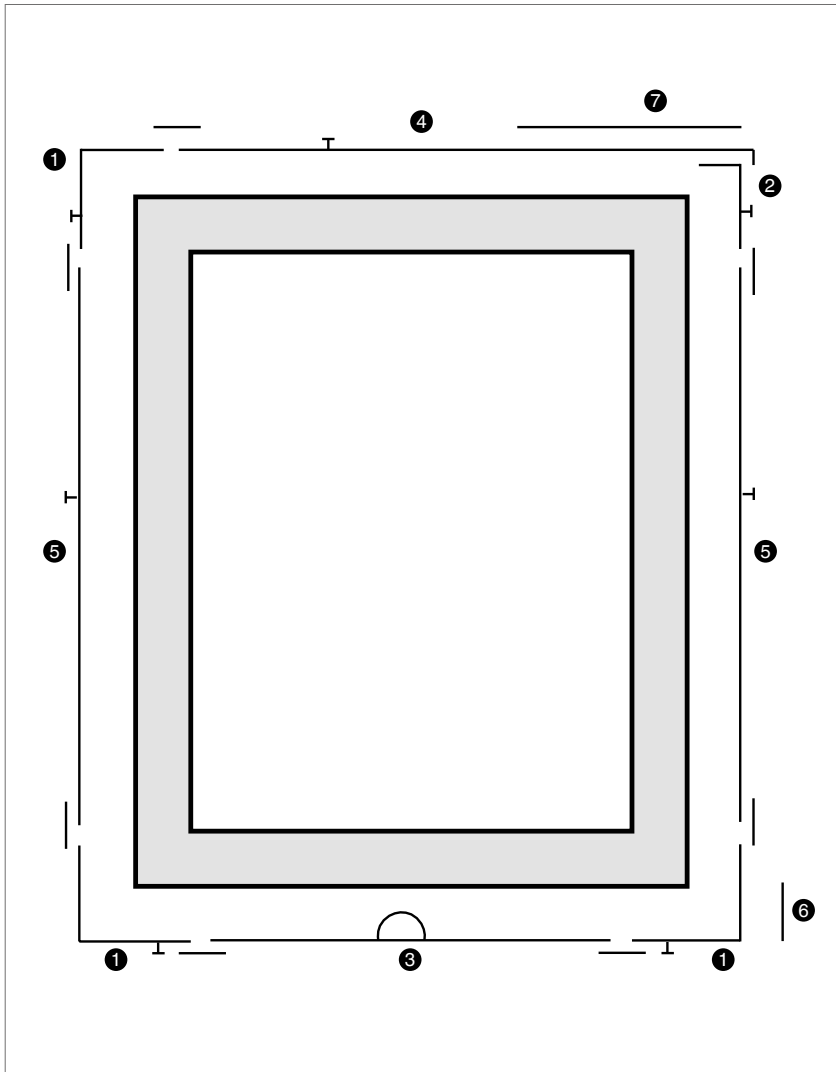
5. Crop the **T&S width connector 5** (Fig. 2) and screw-fasten together with the corner elements.
6. Insert the **corner support 6** and screw to fasten.
7. Slide the **scissor stay arm 7** into the stay guide using the **sliding guides 8** and snap-lock the **connecting pin 9** into the scissor-linking part (Fig. 3).
8. The locking cams (preset centred cams) are activated upon operating the fittings for the first time.

### Hinging / unhinging / adjusting the sash

**Installation instructions MULTI-Matic  
Timber (order no. 750272) or  
PVC (order no. 49777)**

## Installation of the sash components

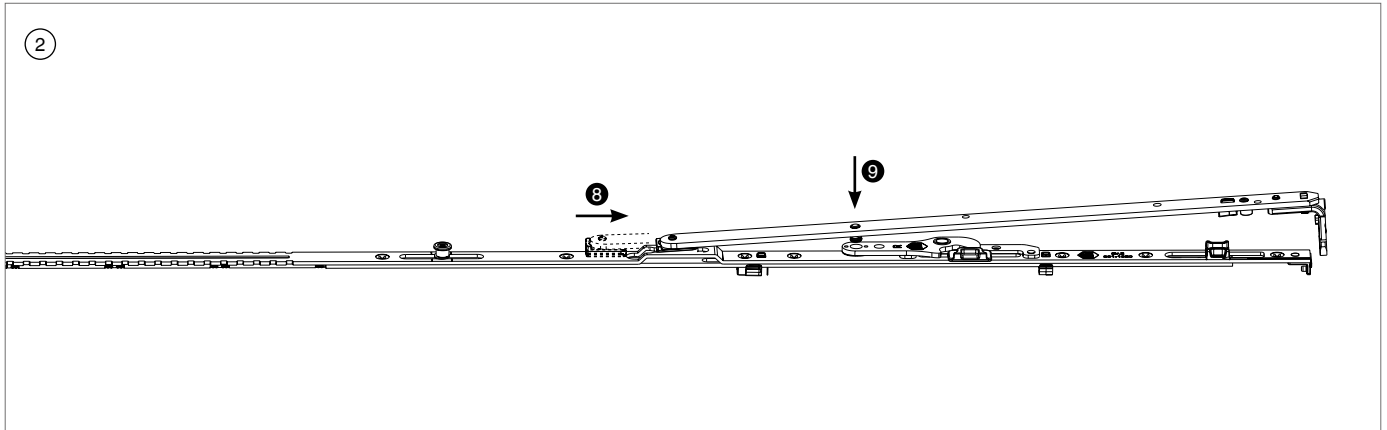
### MULTI-Trend



1. Mount the corner element ❶.
2. Insert the corner lock ❷. Pay attention to the distance from the sash rebate edge (refer to Fig. ❶).
3. Crop and mount the **variable drive-gear** ❸.
4. Crop and mount the **stay guide** ❹.
5. Crop and mount the **T&S width connector** ❺.
6. Insert the **corner support** ❻ and screw to fasten.

## Installation of the sash components

## MULTI-Trend



7. Slide the **scissor stay arm 7** into the stay guide using the **sliding guides 8** and snap-lock the **connecting pin 9** into the scissor-linking part (Fig. 2).
8. The locking cams (preset centred cams) are activated upon operating the fittings for the first time.

Hinging / unhinging / adjusting the sash

Installation instructions MULTI-Trend  
Timber (order no. 49355) or  
PVC (order no. 49371)



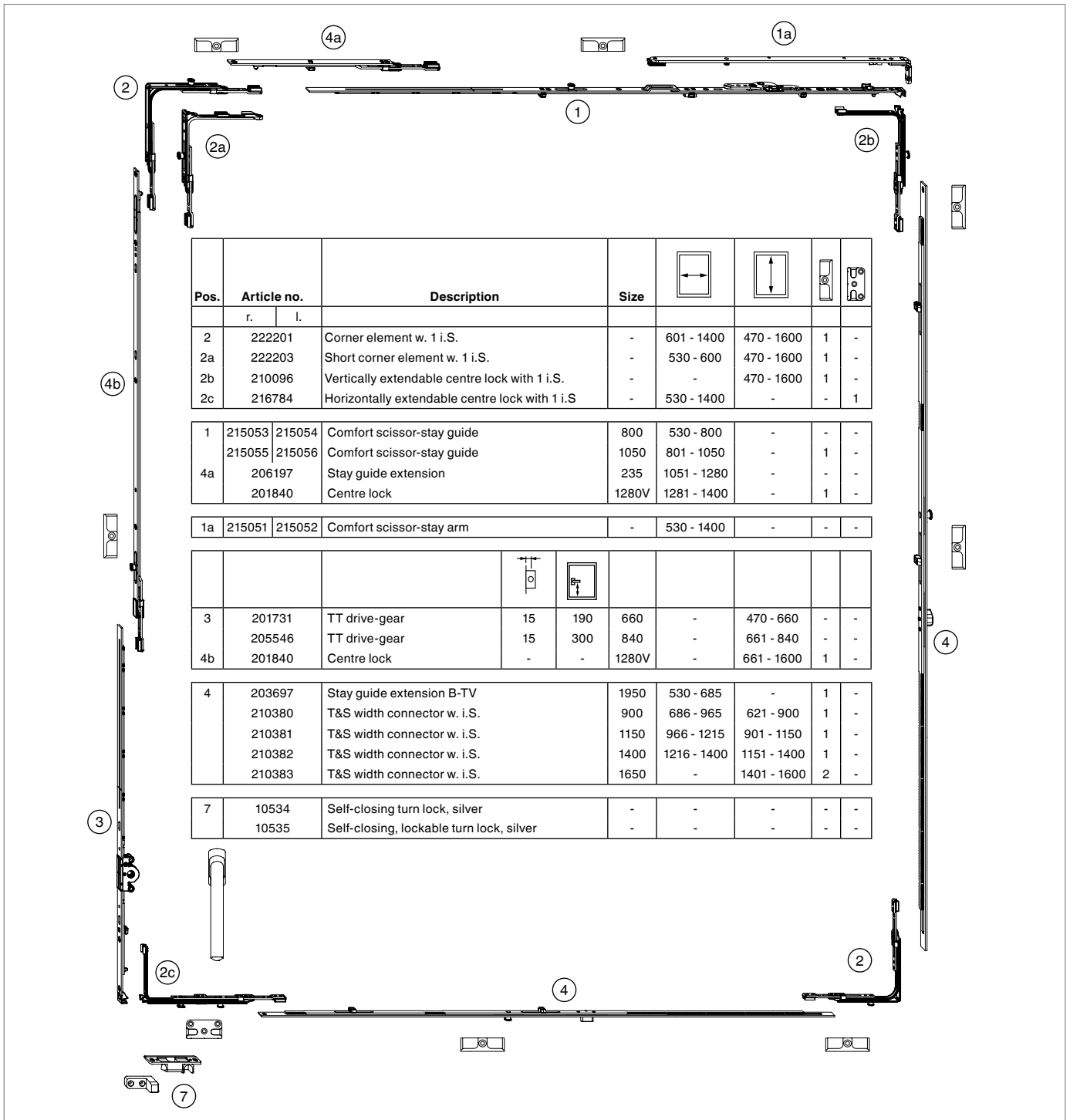
Overview of article numbers for  
Tilt&Turn comfort fittings

**MULTI-Matic with handle in bottom  
horizontal position**

Pos.	Article no.		Description	Size			
	re	l.					
2	222201		Corner element w. 1 i.S.	-	601 - 1400	470 - 1600	1
2a	222203		Short corner element w. 1 i.S.	-	500 - 600	470 - 1600	1
2b	210096		Vertically extendable centre lock with 1 i.S.	-	-	470 - 1600	1
1	215053	215054	Comfort scissor-stay guide	800	500 - 800	-	-
	215055	215056	Comfort scissor-stay guide	1050	801 - 1050	-	1
	206197		Stay guide extension	235	1051 - 1280	-	-
	201840		Centre lock	1280V	1281 - 1400	-	1
1a	215051	215052	Comfort scissor-stay arm	-	500 - 1400	-	-
3	201746		TT DG, var. handle-height	15	800	500 - 800	-
	202170		TT DG, var. handle-height	15	1250	801 - 1250	1
	202171		TT DG, var. handle-height	15	1750	1251 - 1400	2
4	203697		Stay guide extension B-TV	1950	-	470 - 620	1
	210380		T&S width connector w. i.S.	900	-	621 - 900	1
	210381		T&S width connector w. i.S.	1150	-	901 - 1150	1
	210382		T&S width connector w. i.S.	1400	-	1151 - 1400	1
	210383		T&S width connector w. i.S.	1650	-	1401 - 1600	2
7	10534		Self-closing turn lock, silver	-	-	-	-
	10535		Self-closing, lockable turn lock, silver	-	-	-	-
8	44228		Run up wedge	-	-	-	-

Overview of article numbers for  
Tilt&Turn comfort fittings

**MULTI-Matic with handle in vertical  
position**



Pos.	Article no.		Description	Size						
	r.	l.								
2	222201		Corner element w. 1 i.S.	-	601 - 1400	470 - 1600	1	-		
2a	222203		Short corner element w. 1 i.S.	-	530 - 600	470 - 1600	1	-		
2b	210096		Vertically extendable centre lock with 1 i.S.	-	-	470 - 1600	1	-		
2c	216784		Horizontally extendable centre lock with 1 i.S.	-	530 - 1400	-	-	1		
1	215053	215054	Comfort scissor-stay guide	800	530 - 800	-	-	-		
	215055	215056	Comfort scissor-stay guide	1050	801 - 1050	-	1	-		
4a	206197		Stay guide extension	235	1051 - 1280	-	-	-		
	201840		Centre lock	1280V	1281 - 1400	-	1	-		
1a	215051	215052	Comfort scissor-stay arm	-	530 - 1400	-	-	-		
3	201731		TT drive-gear	15	190	660	-	470 - 660	-	-
	205546		TT drive-gear	15	300	840	-	661 - 840	-	-
4b	201840		Centre lock	-	-	1280V	-	661 - 1600	1	-
4	203697		Stay guide extension B-TV	1950	530 - 685	-	1	-		
	210380		T&S width connector w. i.S.	900	686 - 965	621 - 900	1	-		
	210381		T&S width connector w. i.S.	1150	966 - 1215	901 - 1150	1	-		
	210382		T&S width connector w. i.S.	1400	1216 - 1400	1151 - 1400	1	-		
	210383		T&S width connector w. i.S.	1650	-	1401 - 1600	2	-		
7	10534		Self-closing turn lock, silver	-	-	-	-	-		
	10535		Self-closing, lockable turn lock, silver	-	-	-	-	-		



Overview of article numbers for  
Tilt&Turn comfort fittings

**MULTI-Trend with handle in bottom  
horizontal position**

Pos.	Article no.		Description	Size			
	re	li					
2	52920		Corner element A w. 1 i.S.	-	601 - 1400	620 - 1600	1
2a	52779		Corner element B w. 1 i.S.	-	580 - 600	620 - 1600	1
2b	52903		i.S. Centre Lock with connection shoe	-	-	620 - 1600	1
1	215057	215058	Comfort scissor-stay guide	Size 1	580 - 800	-	-
	215059	215060	Comfort scissor-stay guide	Size 2	801 - 1050	-	1
4a	10585		Drive-gear extension	250	1051 - 1300	-	-
	10720		Drive-gear extension w. i.S.	600	1301 - 1400	-	1
1a	215051	215052	Comfort scissor-stay arm	-	580 - 1400	-	-
3	52422		TT DG, var. handle-height	15	Size 1	580 - 650	-
	52966		TT DG, var. handle-height	15	Size 2	651 - 900	-
	55956		TT DG, var. handle-height w. i.S.	15	Size 3	901 - 1300	-
	55957		TT DG, var. handle-height w. i.S.	15	Size 4	1301 - 1400	-
4	210529		T&S width connector w. i.S.	Size 1	-	620 - 900	1
	210530		T&S width connector w. i.S.	Size 2	-	901 - 1150	1
	210531		T&S width connector w. i.S.	Size 3	-	1151 - 1400	1
	210532		T&S width connector w. i.S.	Size 4	-	1401 - 1600	2
7	10534		Self-closing turn lock, silver	-	-	-	-
	10535		Self-closing, lockable turn lock, silver	-	-	-	-
8	44228		Run up wedge	-	-	-	-

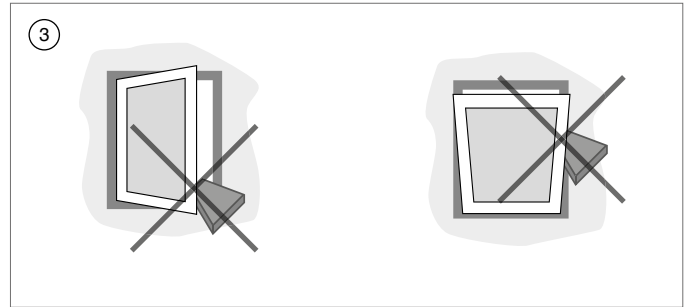
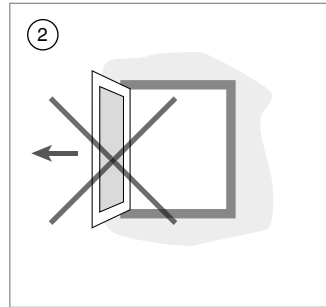
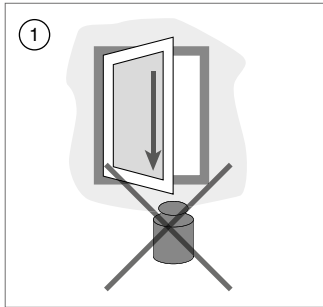


## Overview of article numbers for Tilt&Turn comfort fittings

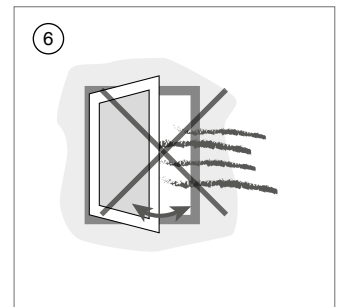
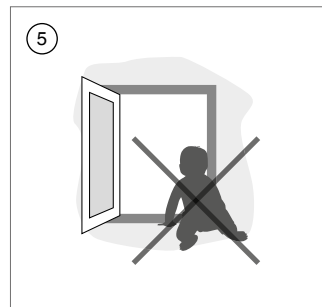
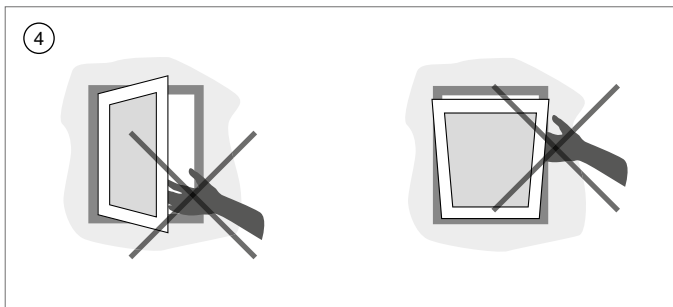
### MULTI-Trend with handle in vertical position

Pos.	Article no.		Description	Size					
	r.	l.							
2	52920		Corner element A with 1 i.S.	-	601 - 1400	620 - 1600	1		
2a	52779		Corner element B with 1 i.S.	-	500 - 600	620 - 1600	1		
2b	52903		i.S. Centre Lock with connection shoe	-	-	620 - 1600	1		
2c	52490		Corn. element for half-round/angled windows	Size 1	500 - 620	-	-		
	52491		Corn. element for half-round/angled windows	Size 2	621 - 820	-	-		
	52912		Corn. element for half-round/angled windows	Size 3	821 - 1070	-	1		
	52913		Corn. element for half-round/angled windows	Size 4	1071 - 1250	-	1		
4c	10585		Drive-gear extension	250	1251 - 1400	-	-		
1	215057	215058	Comfort scissor-stay guide	Size 1	500 - 800	-	-		
	215059	215060	Comfort scissor-stay guide	Size 2	801 - 1050	-	1		
4a	10585		Drive-gear extension	250	1051 - 1300	-	-		
	10720		Drive-gear extension w. i.S.	600	1301 - 1400	-	1		
1a	215051	215052	Comfort scissor-stay arm	-	500 - 1400	-	-		
3	52401		TT drive-gear	15	170	Size 0	-	620 - 680	-
4b	52402		TT drive-gear	15	300	Size 1	-	620 - 800	-
	10720		Drive-gear extension w. i.S.	-	-	600	-	680 - 1600	1
4	210529		T&S width connector w. i.S.	Size 1	-	620 - 900	1		
	210530		T&S width connector w. i.S.	Size 2	-	901 - 1150	1		
	210531		T&S width connector w. i.S.	Size 3	-	1151 - 1400	1		
	210532		T&S width connector w. i.S.	Size 4	-	1401 - 1600	2		
7	10534		Self-closing turn lock, silver	-	-	-	-		
	10535		Self-closing, lockable turn lock, silver	-	-	-	-		

### Safety instructions

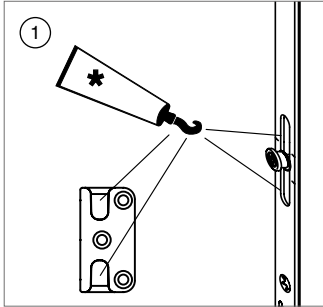


- ① Do not subject the sashes to additional loads!
- ② Do not press sashes up against the opening edge (window reveal)!
- ③ Do not insert anything in the opening gap between the sash and the frame!

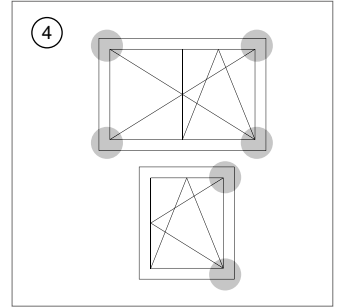
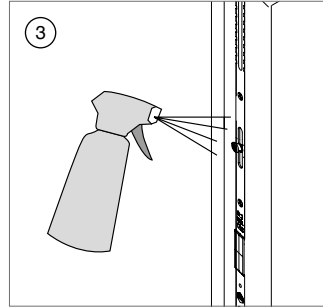
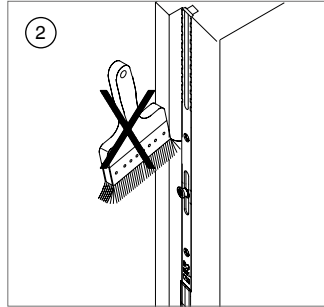


- ④ Risk of injury (e.g. catching one's fingers or other body parts) in the opening gap between the sash and the frame!
- ⑤ Risk of falling out!
- ⑥ Do not leave sashes open in the turn mode during strong winds or gusts!

## Maintenance instructions



\* Grease



- ① Lubricate all movable parts and locking points of the T&T fittings.



*Do not use any lube oils, rust removers, silicone sprays, WD40 etc!*

*Lubrication is to be carried out only with lubrication grease or technical Vaseline!*

- ② Do not paint over fittings!
- ③ Only use cleaning and maintenance products that do not damage the corrosion protection of the fittings components!
- ④ Security relevant fittings components are to be examined at regular intervals for wear and tear!



Notes

A large rectangular area filled with a fine grid pattern, intended for taking notes or drawing technical diagrams.



Notes

A large rectangular area filled with a fine grid pattern, intended for taking notes.

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