

Roto Patio Alversa

Universal hardware for minimum effort
in Parallel Sliding and Tilt&Slide systems

Installation, maintenance and operating instructions
for timber and PVC profiles



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1 General information

1.1 Version history

Version	Date	Changes
v0	10.10.2016	
v1	16.11.2016	In the drilling pattern, two drill holes (Ø 5) removed → 9.4.2.3 "Geared-handle" from page 153
v2	24.01.2017	<p>Material numbers of reinforcement part changed. → 5.1 "Reinforcement part sets" from page 107</p> <p>Position of travel restrictor changed. → 9.5.7 "Travel restrictor" from page 166</p> <p>Reinforcement part cover and rubber buffer added to the component list in the variant overview for Roto Patio Alversa KS. → 3.6.2 "Roto Patio Alversa KS" from page 40</p> <p>Spare sliding scissor stay added to the component list in the variant overview for Roto Patio Alversa PS Air. → 3.6.5 "Roto Patio Alversa PS Air" from page 42</p>
v3	01.12.2017	<p>Chapters added: → 1 "General information" from page 8, → 2 "Security" from page 18, → 3 "Information on the product" from page 24</p> <p>Profile information and operating temperature range added. → 3.2 "Application ranges" from page 24</p> <p>Application diagram: application range for fixed handle height (all variants of Patio PS) added.</p> <p>New track sets added. → 5.2 "Track sets" from page 108</p> <p>New colour R 04.4 added.</p> <p>Bottom guide block, movable, added. → 9.7.4 "Bottom guide block, movable" from page 221</p> <p>Brief instructions added. → 8 "Brief instructions" from page 141</p> <p>Installation of the retrofit set for PS sliding scissor stay added. → 9.6.7.2 "Preassembling the PS sliding scissor stay with retrofit set" from page 204</p> <p>Installation of sliding scissor stay changed. Installation of top guide block added. → 9.6.7.1 "Inserting the KS sliding scissor stay" from page 202 → 9.6.7.3 "Inserting the PS sliding scissor stay and installing the top guide block" from page 206</p> <p>Adjustment of top guide block added. → 10.5 "Top guide block, fixed" from page 232 → 10.6 "Top guide block, tiltable" from page 233</p> <p>Roto Patio PS maintenance added. → 12.3.2 "Roto Patio Alversa PS (except for PS Air Com)" from page 242 → 12.3.3 "Roto Patio Alversa PS Air Com" from page 243</p> <p>Bogies changed. Now with integrated anti-jemmy device.</p> <p>KS scissor stays changed.</p> <p>PS scissor stays changed (retrofit set can be installed).</p> <p>High backset espagnolette changed. Gearbox can now be ordered as optional extra.</p> <p>SRW relating to the quantity of supporting pieces changed. → 9.5.12.1 "Supporting piece drill holes" from page 182</p> <p>Frame routing dimensions for PS Air Com changed. → 9.4.3.1 "Comfort scissor stay and mishandling device" from page 154</p> <p>Installation of connecting rod changed. → 9.5.13.3 "Connecting rod" from page 185</p> <p>Installation of frame components changed.</p>

1.2 Instructions

This manual contains important information, instructions and application diagrams (max. sash sizes and weights) and assembly instructions for the installation, maintenance and operation of hardware.

The information and instructions contained in this document refer to products belonging to the Roto hardware system named on the front page. All steps must be completed in sequence.

The following documents apply in addition to these instructions:

- Alversa catalogue
- Handles catalogue

The following guidelines also apply:

- Guideline TBDK issued by the Gütegemeinschaft Schlösser und Beschläge e. V. quality assurance association (Attachment of supporting fitting components for turn-only and tilt&turn fittings),
- Directive VHBE issued by the Gütegemeinschaft Schlösser und Beschläge e. V. quality assurance association (Hardware for windows and balcony doors – Guidelines / advice for end-users),
- Directive VHBH issued by the Gütegemeinschaft Schlösser und Beschläge e. V. quality assurance association (Hardware for windows and balcony doors – Guidelines / advice on the product and on liability),
- Instructions and information issued by profile manufacturers (e.g. manufacturers of windows and balcony doors),
- The applicable regulations, directives and national laws.

Compliance with the following guidelines is additionally recommended:

- TLE.01 by the VFF (German Window and Facade Association) Correct handling of ready-to-install windows and external doors during transport, storage and installation,
- WP.01 by the VFF (German Window and Facade Association) Maintenance of windows, facades and external doors – Maintenance, care and inspection – Information for sales,
- WP.02 by the VFF (German Window and Facade Association) Maintenance of windows, facades and external doors – Maintenance, care and inspection – Measures and documents,
- WP.03 by the VFF (German Window and Facade Association) Maintenance of windows, facades and external doors – Maintenance, care and inspection – Maintenance agreement.

Storing the instructions

These instructions are an important part of the product. The instructions must be stored so that they are always to hand.

Explanation of the markings

The instructions use the following markings for the purpose of identification and emphasis, e.g. in figures or handling instructions:

Marking	Meaning
	Sash
	Frame
	Drill holes or screw positions
	Unaffected components Indirectly affected components

Marking	Meaning
	Components that have just been described Arrows or movements
	Item number
[1]	Legend
[A]	Steps



INFO

Any dimensions without a unit in the instructions are given in millimetres (mm). Other units of measurement are clearly indicated by the presence of the differing unit.



INFO

Figures are provided in the left-hand version (DIN 107).



INFO

Roto Patio Alversa | PS stands for the variants:

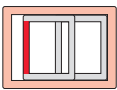
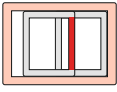
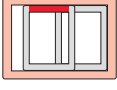
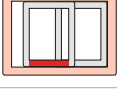
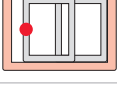
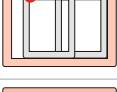
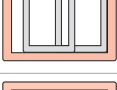
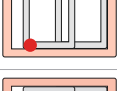
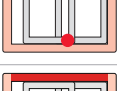
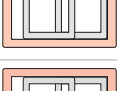
- Roto Patio Alversa | PS without night ventilation
- Roto Patio Alversa | PS with night ventilation
- Roto Patio Alversa | PS Air
- Roto Patio Alversa | PS Air Com

1.3 Symbols

Symbol	Meaning
■	First-level list
○	Second-level list
→	(Cross-)reference
▷	Result
▶	Unnumbered step
1.	Numbered step
a.	Numbered second-level step

1.4 Pictographs

Symbol	Meaning
	Tilt&Slide system
	Parallel Sliding system
	Without night ventilation
	Tilt ventilation
	Night ventilation

Symbol	Meaning
	Comfort tilt ventilation
	Timber
	PVC
	Left of sash
	Right of sash
	Top of sash
	Bottom of sash
	Sash handle height (centre-left)
	Top left of sash
	Top right of sash
	Bottom left of sash
	Bottom right of sash
	Top of frame
	Bottom of frame

1.5 Product features

Symbol	Meaning
	Hardware axis
	Description

Symbol	Meaning
	Base
	Supporting pin
	Drill hole for supporting pin
	DIN left / right
	Rebate clearance
	Rebate depth
	Colour
	Colour code
	Sash rebate width
	Sash rebate height
	Sash weight
	Fixed handle height
	Centred / variable handle height
	Information
	Material number
	Installation type
	Surface
	Opening type

Symbol	Meaning
	System
	Adjustment

1.6 Abbreviations

Abbreviation	Meaning
lock.	lockable
Com	Comfort
CTL	Catalogue
DIN L / R	DIN left / right
d _h	Screw head diameter
T&T	Tilt&Turn
BS	Backset
SRW	Sash rebate width
SRH	Sash rebate height
S.kg	Sash weight
BSec	Basic security
IMO	Installation instructions
Y	Yes
kg	Kilograms
KS	Tilt&Slide
KSR	Vertical tilting
mm	Millimetres
CL	Centre lock
N	No
Nm	Torque
Not sh.	Not shown
PS	Parallel Sliding
RC	Resistance class
FIW	Frame internal width
ST	Striker

1.7 Target groups

The information in this document is directed at the following target groups:

Hardware dealers

The “hardware dealers” target group includes all companies / individuals that purchase hardware from hardware manufacturers for resale, without modifying or further processing the hardware.

Window and balcony door manufacturers

The "window and balcony door manufacturers" target group includes all companies / individuals that purchase hardware from hardware manufacturers or hardware dealers and further process the hardware by integrating it in windows and balcony doors.

Building element dealers / installation companies

The "building element dealers" target group includes all companies / individuals that purchase windows and / or balcony doors from window and balcony door manufacturers for resale and for installation in construction projects, without modifying the windows or balcony doors.

The "installation companies" target group includes all companies / individuals that purchase windows and / or balcony doors from window and balcony door manufacturers or from building element dealers for installation in construction projects, without modifying the windows or balcony doors.

Builders

The "builders" target group includes all companies / individuals who place orders for the manufacture of windows and / or balcony doors for installation in their construction projects.

End users

The "end users" target group includes all individuals who use the installed windows and / or balcony doors.

1.8 Target groups' obligation to give instructions



INFO

Each target group must fulfil their obligation to give instructions in full.

Unless specified otherwise in the text below, documents and information can be passed on as a printed document, on a CD-ROM or via the Internet.

Responsibility of hardware dealers

Hardware dealers must pass the following documents on to the window and balcony door manufacturer:

- Catalogue – Installation, maintenance and operating instructions
- Guideline on attachment of supporting fitting components for turn-only and tilt&turn fittings (TBDK)
- Guidelines / advice on the product and on liability (VHBH)
- Guidelines / advice for end-users (VHBE)

Responsibility of the window and balcony door manufacturer

The window and balcony door manufacturer must pass the following documents on to building element dealers or the builder, even if a subcontractor (installation company) is involved:

- Installation, maintenance and operating instructions
- Guideline on attachment of supporting fitting components for turn-only and tilt&turn fittings (TBDK)
- Guidelines / advice on the product and on liability (VHBH)

- Guidelines / advice for end-users (VHBE)

They must ensure that the end users are provided with the documents and information intended for them in printed format.

Responsibility of building element dealers / the installation company

Building element dealers must pass the following documents on to the builder, even if a subcontractor (installation company) is involved:

- Maintenance and operation instructions (with a focus on hardware)
- Guidelines / advice on the product and on liability (VHBH)
- Guidelines / advice for end-users (VHBE)

Responsibility of the builder

The builder must pass the following documents on to the end user:

- Maintenance and operation instructions (with a focus on hardware)
- Guidelines / advice for end-users (VHBE)

1.9 Copyright protection

The contents of this document are copyright-protected. This content can be used when working with the hardware. Any other use is not permitted without written permission of the manufacturer.

1.10 Limitation of liability

All information and instructions contained in this document have been compiled in consideration of the applicable standards and regulations, the latest developments in technology and many years of knowledge and experience.

The hardware manufacturer assumes no liability for damage caused by:

- Failure to comply with this document and all product-specific documents and other applicable directives (see the chapters entitled "Security" and "Stipulated use").
- Improper use / misuse (see the chapters entitled "Security" and "Stipulated use").
- Insufficient invitation to tender, non-compliance with installation specifications and non-compliance with the application diagrams (where available).
- Increased contamination.

Claims made by third parties against the hardware manufacturer on account of damage resulting from misuse or failure to comply with the obligation to give instructions on the part of hardware dealers, window, door and balcony door manufacturers, building element dealers or the builder are passed on accordingly.

The obligations agreed in the delivery contract, the general terms and conditions, the hardware manufacturer's terms and conditions of delivery and the legal provisions applicable when the contract was concluded shall apply.

The warranty only covers original Roto components.

We reserve the right to make technical changes as part of improvement to performance characteristics and further development.

1.11 Preserving the surface finish



ATTENTION

Surface treatments may cause property damage

Surface treatments, such as painting and varnishing elements, can damage hardware or prevent it from working properly.

- ▶ For masking, only use adhesive tape that does not damage the paint coats. Consult the manufacturer if in doubt.
- ▶ Protect hardware against direct contact with the surface treatment.
- ▶ Protect the hardware against contamination.



ATTENTION

Protection against corrosion

Cleaning agents can corrode the surface of the hardware.

- ▶ Do not use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.
- ▶ Only use mild, pH-neutral cleaning agents that have been diluted.
- ▶ Apply a thin protective film to the hardware, for example using a cloth soaked in oil.
- ▶ Avoid aggressive vapours (e.g. produced by formic acid, acetic acid, ammonia, amine compounds, ammonia compounds, aldehyde, carbolic acid, chlorine, tannic acid, etc.) around the element.
- ▶ Do not use any acetic acid-crosslinking or acid-crosslinking sealing compounds or those with the aforementioned constituents as both direct contact with the sealing compound and its fumes can corrode the surface of the hardware.



ATTENTION

Protection against dirt

Contamination prevents the hardware working properly.

- ▶ Remove deposits and contaminants caused by construction materials before they bond with water, e.g. construction dust, plaster, stucco, mortar and cement.
- ▶ Keep hardware free of deposits and contaminants.



ATTENTION

Protection against (permanently) damp room air

Damp room air can lead to mould growth and corrosion caused by condensation.

- ▶ Provide adequate ventilation for hardware, particularly during the construction phase.
- ▶ Intensively air out the room several times per day by opening all elements for approximately 15 minutes. If intensive airing is not an option, place the elements in tilt mode and provide airtight masking inside the room, e.g. if there is fresh screed that cannot be walked on or must not be exposed to drafts. Discharge any humidity present in the room air to the outside using condensation dryers.
- ▶ Establish a ventilation plan for more complex construction projects if necessary.
- ▶ Provide adequate ventilation during holiday periods as well.

1.12 Imprint

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www.roto-frank.com

2 Security

This manual contains instructions relating to safety. The principal safety information in this chapter includes information and instructions relevant to the safe use or maintaining the safe condition of the product. Warning instructions that relate to handling warn of residual risks and are located before steps that are relevant to safety.

- Follow all of the instructions in order to prevent personal injury and property or environmental damage.

2.1 Presentation and structure of warning instructions

The warning instructions relate to individual actions and are structured as follows with a warning symbol:



DANGER

Nature and source of the danger.

- Explanation and description of the danger and the implications.
- Measures to take to avert the danger.

2.2 Security levels of warning instructions

The warning instructions that relate to handling are identified differently according to the severity of the associated danger. The signal words and the associated warning symbols used are clarified below.



DANGER

Immediate risk of death or serious injuries.

- Observe these warning instructions to avoid personal injuries.



WARNING

Potential risk of death or serious injuries.

- Observe these warning instructions to avoid personal injuries.



CAUTION

Risk of minor injuries.

- Observe these warning instructions to avoid personal injuries.



ATTENTION

Reference to property or environmental damage.

- Observe these warning instructions to avoid property or environmental damage.

2.3 Stipulated use

The hardware system described in these instructions is intended for installation in sliding sashes in windows and balcony doors. The hardware system is solely intended for further processing on windows and balcony door sashes for vertical installation made from the materials described in these



instructions. The hardware system opens sashes in windows and balcony doors and closes them tightly.

Stipulated use also includes compliance with all safety information and specifications contained in these instructions, the other applicable documents and the applicable regulations, directives and national laws.

2.3.1 Misuse

Any use and processing of the products that goes beyond or differs from the stipulated use is considered misuse and can lead to hazardous situations.



WARNING

Danger in the event of misuse

Misuse and incorrect installation of hardware can lead to hazardous situations.

- ▶ Never use hardware combinations that have not been approved by the hardware manufacturer.
- ▶ Never use non-original accessories or accessories which have not been approved by the hardware manufacturer.

2.3.2 Usage restriction

Opened sashes in windows and balcony doors, and windows and balcony door sashes that are unlocked or placed in ventilation positions, only have a shielding effect. They do not meet the following requirements:

- Joint impermeability,
- Driving rain impermeability,
- Sound insulation,
- Thermal insulation,
- Burglary inhibition.

2.4 Stipulated use for end users

On windows or balcony doors with sliding hardware, window sashes or balcony door sashes can be moved horizontally or vertically by operating a handle.

On special structures, various sashes can additionally be brought into a turn position and / or into a tilt position restricted by the scissor stay version.

When closing a sash and locking the hardware, the gasket counter force must generally be overcome.



WARNING

Opening and closing sashes improperly poses the risk of injury and property damage.

Incorrect opening and closing of sashes can result in serious injuries and substantial property damage.

- ▶ Ensure that the sash does not collide with the frame, opening restrictor (buffer) or other sashes when it is moved into the fully open or closed position.
- ▶ Ensure that the sash is guided by hand throughout its entire movement range, until it has been brought into a fully closed or opened position, and that it is guided towards the frame, the opening restrictor (buffer) or other sashes at a very low speed (technical value – maximum reference speed of the closing edge $v \leq 0.2 \text{ m/s}$).

Any use and processing of the products that goes beyond or differs from the stipulated use is considered misuse and can lead to hazardous situations.

No claims of any kind can be made on account of damage resulting from failure to comply with the stipulated use.

2.4.1 Misuse

Any use and processing of the products that goes beyond or differs from the stipulated use is considered misuse and can lead to hazardous situations.



WARNING

Danger in the event of misuse

Misuse and incorrect installation of hardware can lead to hazardous situations.

- ▶ Never use hardware combinations that have not been approved by the hardware manufacturer.
- ▶ Never use non-original accessories or accessories which have not been approved by the hardware manufacturer.

2.5 Basic safety information

The following hazards may arise when handling the product.

2.5.1 Installation

Incorrect installation poses an immediate risk of death or serious injuries.

Incorrect installation or assembly of hardware can lead to hazardous situations or property damage. Depending on the height of the fall, this can result in serious to life-threatening injuries as well as glass breakage.

- ▶ Only use hardware combinations that have been approved by the hardware manufacturer.
- ▶ Only use original accessories or those that have been approved by the hardware manufacturer.
- ▶ Always have installation performed by a specialist company.

Heavy loads pose a risk of injury.

Lifting and carrying heavy loads in an uncontrolled manner may lead to injuries in the event of a fall or physical overexertion.

- ▶ Observe the applicable accident prevention regulations.
- ▶ Transport heavy loads with two people and / or use suitable transportation means, such as an industrial truck.

Physical strain may cause damage to health.

Moving heavy loads for extended periods leads to physical injury in the long term.

- ▶ When carrying and lifting by hand, comply with a maximum weight of 40 kg for men and 25 kg for women.



2.5.2 Use

Falls from open windows and balcony doors present an immediate risk of death and pose the risk of serious injuries.

Opened sashes of windows and balcony doors create a danger zone. Depending on the height of the fall, this can result in serious to life-threatening injuries.

- ▶ Take care when in the vicinity of open windows and balcony doors.
- ▶ Keep children and anyone unable to understand the risks away from the hazardous area.

Trapping body parts in the opening between sash and frame may lead to serious injuries.

Gripping between the sash and frame when closing windows and balcony doors poses the risk of crushing injuries.

- ▶ When closing windows and balcony doors, never grip between the sash and frame and always exercise caution.
- ▶ Keep children and anyone unable to understand the risks away from the hazardous area.

Opening and closing sashes improperly poses the potential risk of injury and property damage.

Incorrect opening and closing of sashes can result in serious injuries and substantial property damage.

- ▶ When moving the sash, ensure that it will not slam against the frame or other sashes once fully opened or closed.
- ▶ Ensure that the sash is guided by hand throughout its entire movement range, until it has been brought into a fully closed or opening position. Ensure that the sash is guided towards the frame, opening restrictor (buffer) or other sashes at a very slow speed.
- ▶ When closing a sash and locking the hardware, the gasket counter force must be overcome.

Misuse poses the potential risk of injury and property damage.

Misuse can lead to hazardous situations and may destroy the hardware, frame materials or other individual components within the windows or balcony doors.

- ▶ Refrain from introducing obstacles into the opening area between the frame and window or balcony door sashes.
- ▶ Refrain from placing additional loads which act upon the window or balcony door sash.
- ▶ Refrain from intentionally or uncontrollably slamming or pushing the window or balcony door sash against the window reveal.

Improper maintenance poses the potential risk of injury and property damage.

The windows and balcony doors, including the hardware, require expert maintenance (care, cleaning, maintenance and inspection) in order to guarantee their proper condition and safe use.

- ▶ Keep the hardware free of deposits and contaminants.
- ▶ Carry out care and cleaning tasks in accordance with these instructions.
- ▶ Always have regular maintenance, adjustment and repair work carried out by a specialist company.

2.5.3 Ambient conditions

Physical and chemical influences may result in property damage.

The hardware components can be permanently damaged to the point that they can no longer function in a saline, aggressive or corrosive environment.

- ▶ Do not use the hardware components in a saline, aggressive or corrosive environment.
- ▶ Carry out care and cleaning tasks in accordance with these instructions.
- ▶ Corrosion protection must be inspected by an authorised specialist company as part of regular maintenance work.

Moisture may cause property damage.

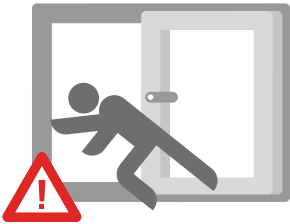
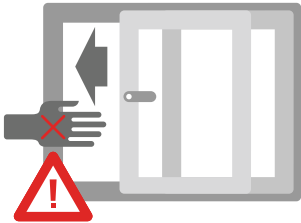
Depending on the outside temperature, relative humidity of the room air and installation conditions for the windows and balcony doors, a temporary buildup of condensation may occur. This can lead to corrosion on the hardware and mould growth on the frame or wall. Ambient conditions that are too damp, particularly during the construction phase, can lead to timber elements warping.

- ▶ Avoid preventing the circulation of air, e.g. due to deep reveals, curtains or unfavourable positioning of heaters or the like.
- ▶ Intensively air out the room several times per day.
 Open all windows and balcony doors for approximately 15 minutes so that the air in the room can be completely replaced.
- ▶ Provide adequate ventilation during holiday periods as well.
- ▶ Create a ventilation plan for construction projects if necessary.

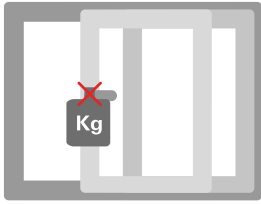
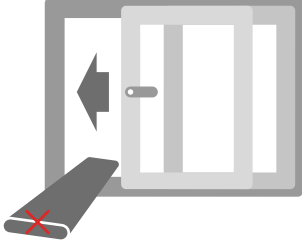
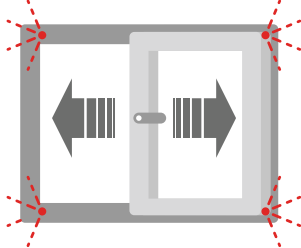
2.6 Operation

The safety symbols and markings and the associated warning instructions explained below apply to the safe operation of windows and balcony doors.

Safety symbols and markings

Symbol	Meaning
	<p>Falls from open windows and balcony doors present an immediate danger to life and pose the risk of serious injuries.</p> <p>Take care when in the vicinity of open windows and balcony doors.</p> <p>Keep children and anyone unable to understand the risks away from the hazardous area.</p>
	<p>Trapping body parts in the opening between sash and frame may lead to serious injuries.</p> <p>When closing windows and balcony doors, never grip between the sash and frame and always exercise caution.</p> <p>Keep children and anyone unable to understand the risks away from the hazardous area.</p>



Symbol	Meaning
	<p>Placing additional loads on the sash may lead to light injuries and property damage.</p> <p>Avoid placing additional loads on the sash.</p>
	<p>Introducing obstacles into the opening between sash and frame may result in light injuries and property damage.</p> <p>Avoid introducing obstacles into the opening between sash and frame.</p>
	<p>Opening and closing the sash in an uncontrolled manner may result in light injuries and property damage.</p> <p>Ensure that the sash is slowly guided by hand throughout its entire movement range, until it has been brought into a fully closed or open position.</p>

3 Information on the product

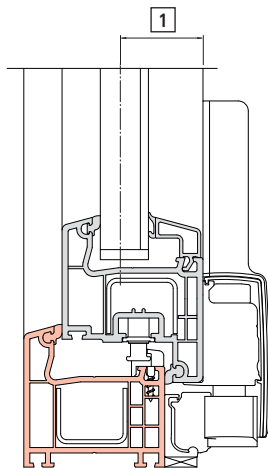
3.1 General hardware characteristics

- Modular sliding system for all profile materials.
- Universal central locking system and handle for use across all variants.
- Use of standard components from the Roto NT modular system which have been tried and tested millions of times.
- Use of innovative and future-proof components from the new Roto NX hardware system.
- Optimised run-in and run-out characteristics on every Roto Patio Alversa | PS thanks to damping elements.
- Intuitive operation on every Roto Patio Alversa | PS thanks to the familiar Tilt&Turn operating sequence.

3.2 Application ranges

- Sash rebate width: max. 2000 mm
- Sash rebate height: max. 2700 mm
- Sash weight: max. 200 kg
- Rebate clearance: 12 mm
- 18 – 22 mm overlap width
- 15 mm minimum overlap height
- 9 mm hardware axis not available for Roto Patio Alversa | PS with night ventilation
- 13 mm hardware axis available for all Roto Patio Alversa variants
- 130 mm retracting distance
- Compatible with RC 1 N and RC 2 / RC 2 N
- Sash arrangement according to diagrams A, C and D
- For profiles which run on the inside only
- Operating range: -20 °C to +50 °C

3.3 Application diagrams



[1] M dimension

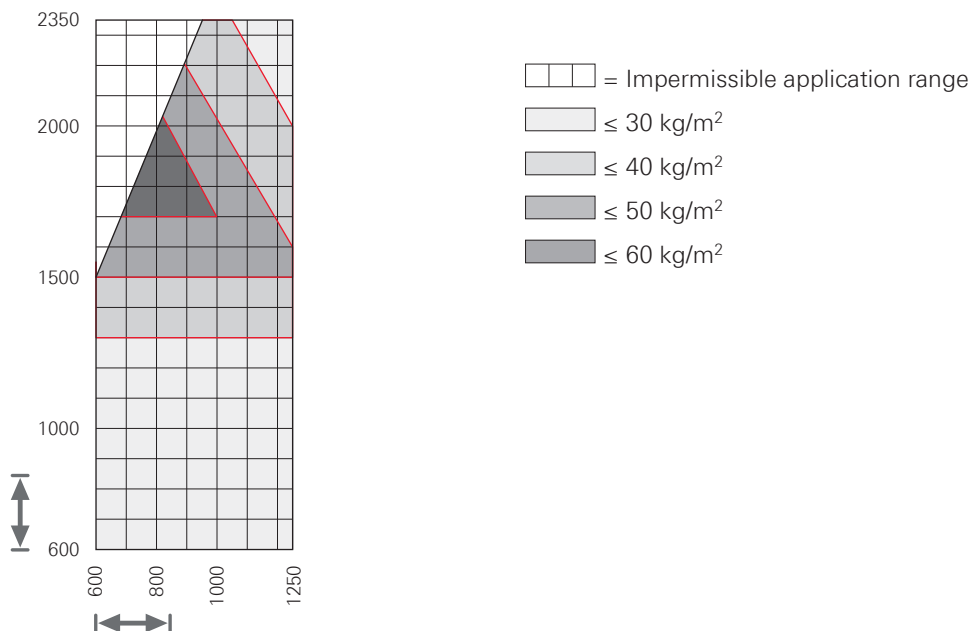


INFO

Applicable for M dimensions of 28 - 52 mm. Different dimensions must be technically checked by Roto.

3.3.1 Roto Patio Alversa | KS

3.3.1.1 Up to 100 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m².

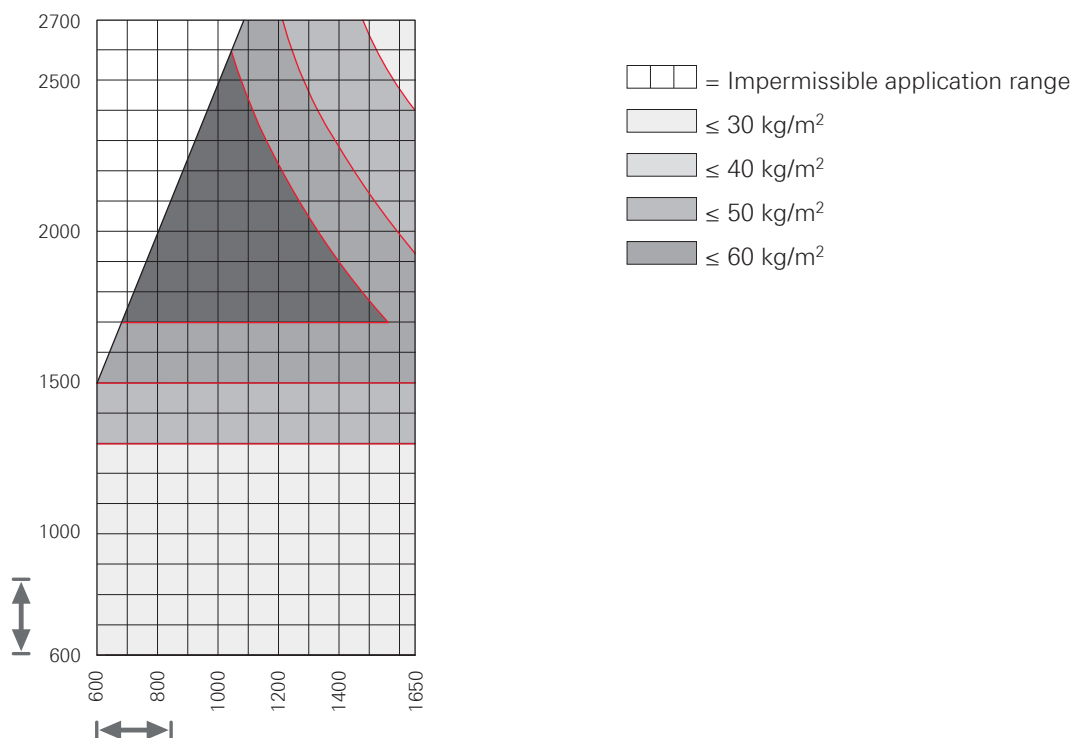
1 mm/m² glass thickness $\approx$ 2.5 kg

SRH:SRW = max. 2.5:1

Application range		
	Sash rebate width (SRW)	Diagram A, PVC / timber
		Diagram C, PVC, opposite hardware groove 620 – 1250 mm
		Diagram C, PVC, concealed hardware groove 600 – 1250 mm
		Diagram C, timber 620 + y ^[1] – 1250 mm
	Sash rebate height (SRH)	600 – 2350 mm
	Sash weight (S.kg)	max. 100 kg
–	Glass weight	max. 60 kg/m ²

[1] Dimension y: → 3.4.1 "Roto Patio Alversa | KS horizontal cross section" from page 32

3.3.1.2 Up to 160 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m^2 .

1 mm/m² glass thickness $\approx$ 2.5 kg

SRH:SRW = max. 2.5:1

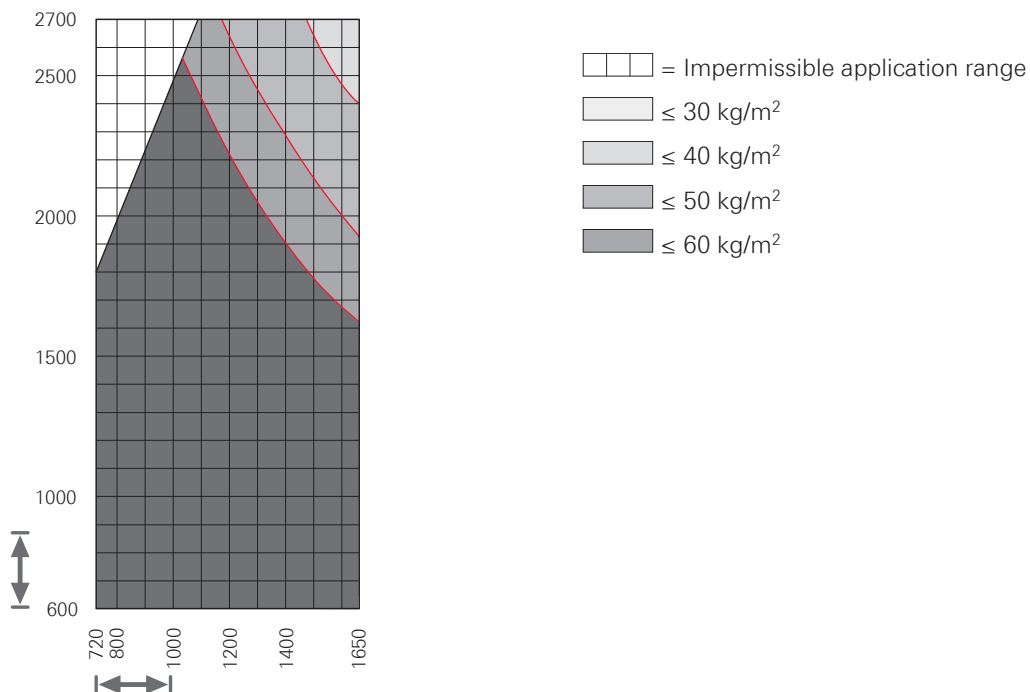
Application range		
	Sash rebate width (SRW)	Diagram A, PVC/timber
		Diagram C, PVC, opposite hardware groove 620 – 1650 mm
		Diagram C, PVC, concealed hardware groove 600 – 1650 mm
		Diagram C, timber 620 + y [2] – 1650 mm
	Sash rebate height (SRH)	600 – 2700 mm
	Sash weight (S.kg)	max. 160 kg
–	Glass weight	max. 60 kg/m^2

[2] Dimension y: → 3.4.1 "Roto Patio Alversa | KS horizontal cross section" from page 32



3.3.2 Roto Patio Alversa | PS without / with night ventilation

3.3.2.1 Up to 160 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m².

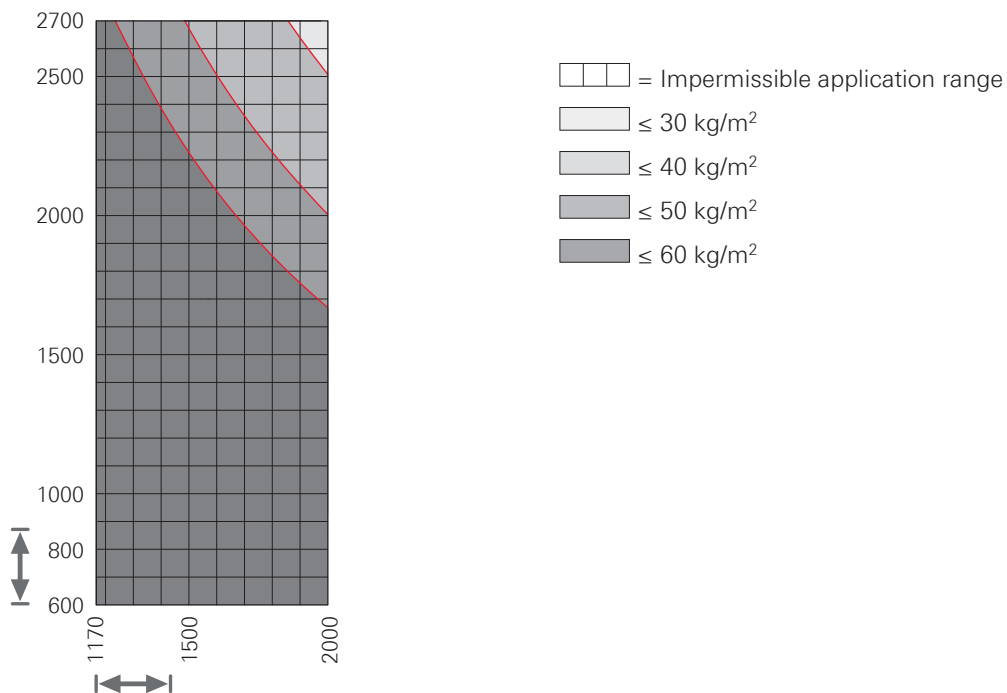
1 mm/m² glass thickness $\approx$ 2.5 kg

SRH:SRW = max. 2.5:1

Application range		
	Sash rebate width (SRW)	Diagram A, PVC / timber: 720 – 1650 mm
		Diagram C, PVC, opposite hardware groove: 740 – 1650 mm
		Diagram C, PVC, concealed hardware groove: 720 – 1650 mm
		Diagram C, timber: 740 + y ^[3] – 1650 mm
	Sash rebate height (SRH)	600 – 2700 mm
	Sash weight (S.kg)	max. 160 kg
	Handle height	Central (SRH / 2)
		For SRH 1801 – 2400 mm: fixed handle height 1000 mm
–	Glass weight	max. 60 kg/m²

[3] Dimension y: → 3.4.2 "Roto Patio Alversa | PS horizontal cross section" from page 33

3.3.2.2 Up to 200 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m².

1 mm/m² glass thickness ≅ 2.5 kg

SRH:SRW = max. 2.5:1

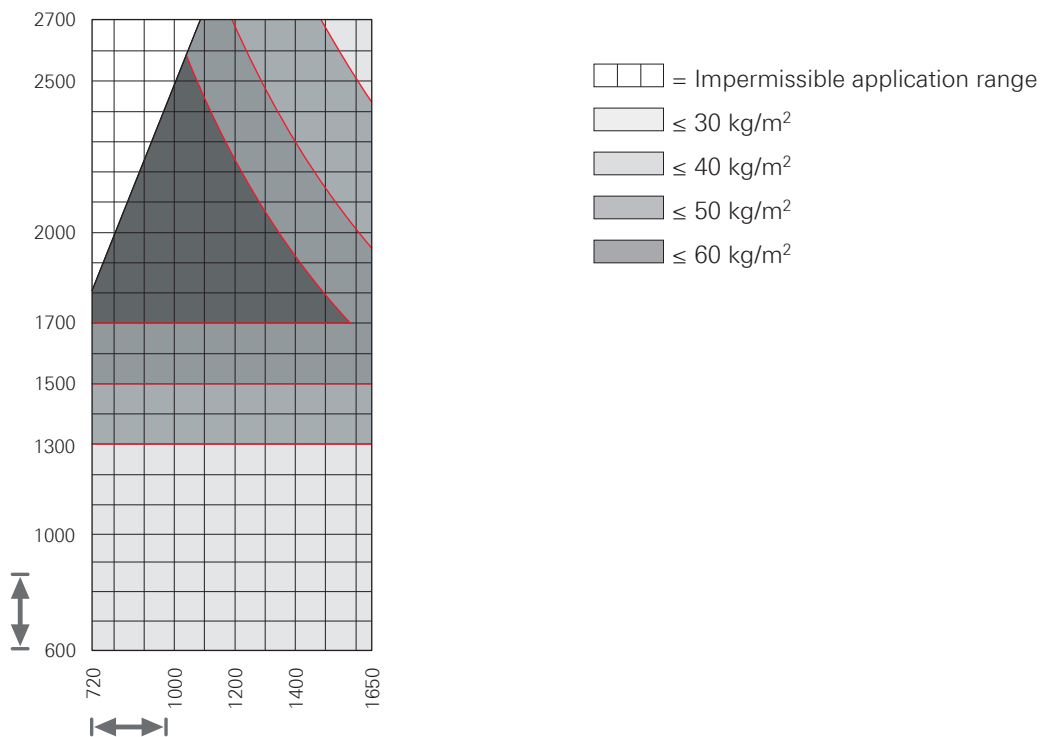
Application range		
	Sash rebate width (SRW)	Diagram A, PVC / timber: 1170 – 2000 mm
		Diagram C, PVC, opposite hardware groove: 1190 – 2000 mm
		Diagram C, PVC, concealed hardware groove: 1170 – 2000 mm
		Diagram C, timber: 1190 + y ^[4] – 2000 mm
	Sash rebate height (SRH)	600 – 2700 mm
	Sash weight (S.kg)	max. 200 kg
	Handle height	Central (SRH / 2)
		For SRH 1801 – 2400 mm: fixed handle height 1000 mm
–	Glass weight	max. 60 kg/m ²

[4] Dimension y: → 3.4.2 "Roto Patio Alversa | PS horizontal cross section" from page 33



3.3.3 Roto Patio Alversa | PS Air

3.3.3.1 Up to 160 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m².

1 mm/m² glass thickness ≅ 2.5 kg

SRH:SRW = max. 2.5:1

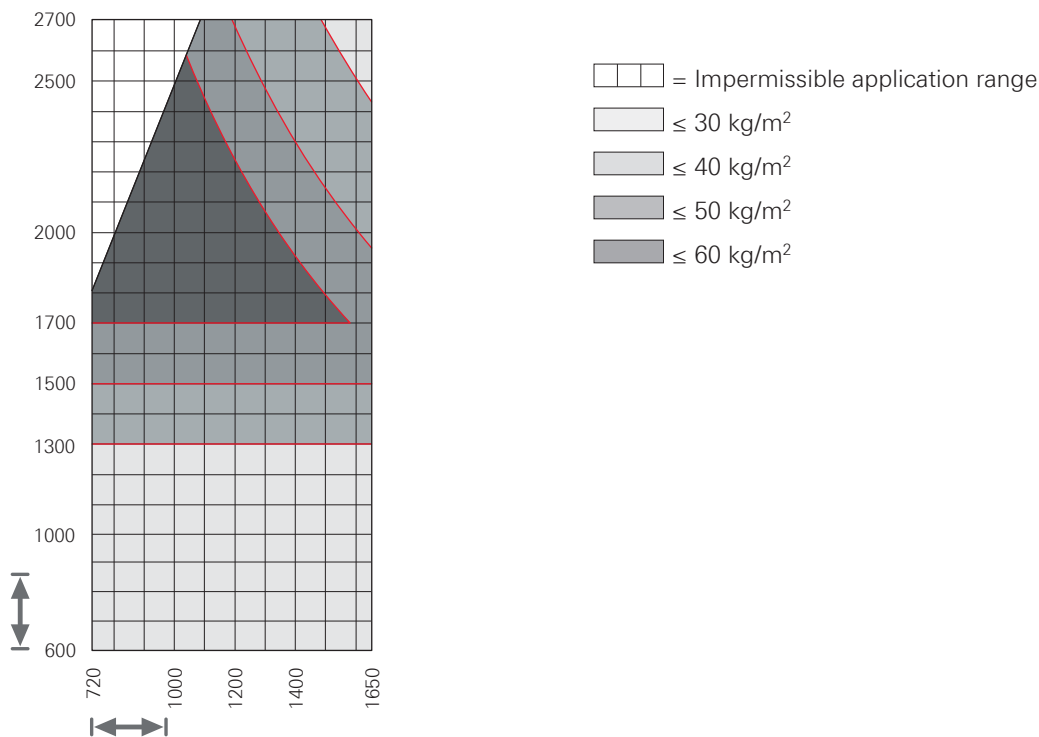
		Application range
	Sash rebate width (SRW)	Diagram A, PVC / timber: 720 – 1650 mm
		Diagram C, PVC, opposite hardware groove: 740 – 1650 mm
		Diagram C, PVC, concealed hardware groove: 720 – 1650 mm
		Diagram C, timber: 740 + y ^[5] – 1650 mm
	Sash rebate height (SRH)	600 – 2700 mm
	Sash weight (S.kg)	max. 160 kg ^[6]
	Handle height	Central (SRH / 2)
		For SRH 1801 – 2400 mm: fixed handle height 1000 mm
–	Glass weight	max. 60 kg/m ²

[5] Dimension y: → 3.4.2 "Roto Patio Alversa | PS horizontal cross section" from page 33

[6] Use of the retrofit set for the lock-in position is optional from S.kg >80 kg.

3.3.4 Roto Patio Alversa | PS Air Com

3.3.4.1 Up to 160 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m².

1 mm/m² glass thickness ≅ 2.5 kg

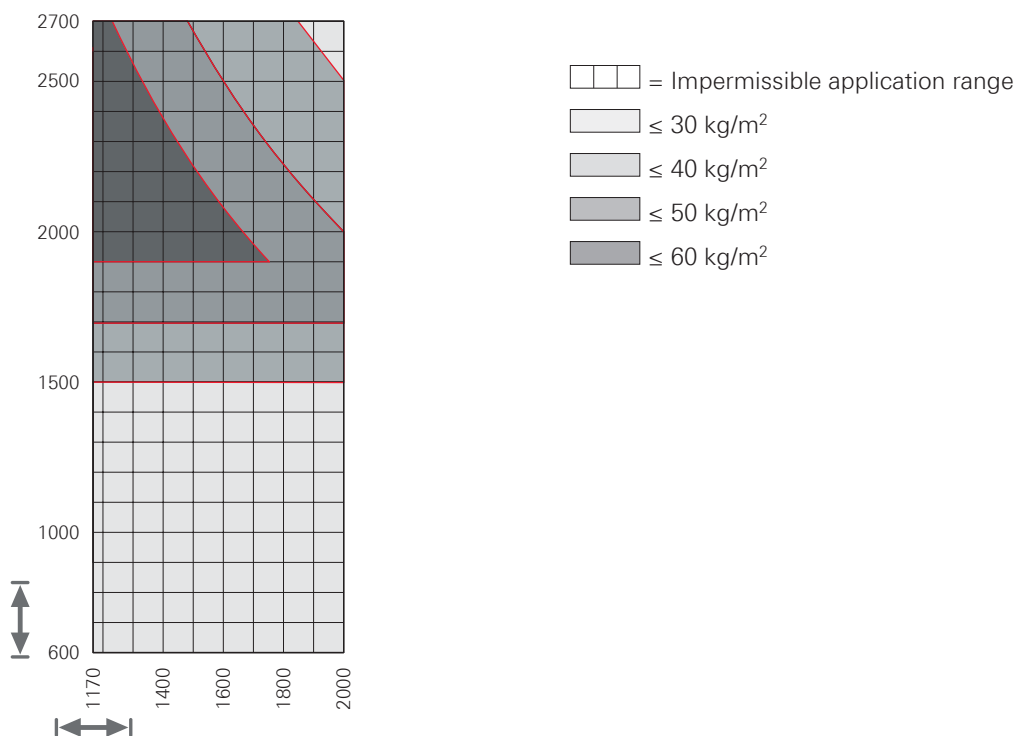
SRH:SRW = max. 2.5:1

		Application range
	Sash rebate width (SRW)	Diagram A, PVC / timber: 720 – 1650 mm
		Diagram C, PVC, opposite hardware groove: 740 – 1650 mm
		Diagram C, PVC, concealed hardware groove: 720 – 1650 mm
		Diagram C, timber: 740 + y ^[7] – 1650 mm
	Sash rebate height (SRH)	600 – 2700 mm
	Sash weight (S.kg)	max. 160 kg
	Handle height	Central (SRH / 2)
		For SRH 1801 – 2400 mm: fixed handle height 1000 mm
–	Glass weight	max. 60 kg/m ²

[7] Dimension y: → 3.4.2 "Roto Patio Alversa | PS horizontal cross section" from page 33



3.3.4.2 Up to 200 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m².

1 mm/m² glass thickness ≈ 2.5 kg

SRH:SRW = max. 2.5:1

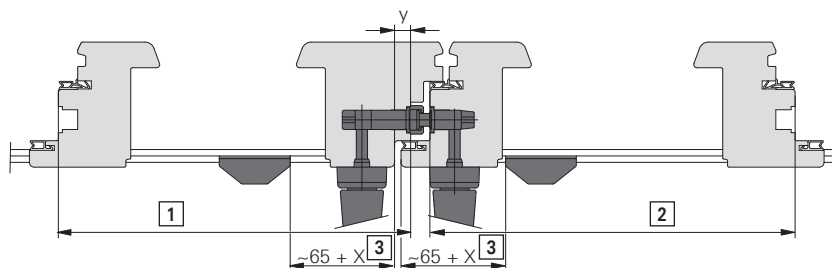
Application range		
	Sash rebate width (SRW)	Diagram A, PVC / timber: 1170 – 2000 mm
		Diagram C, PVC, opposite hardware groove: 1190 – 2000 mm
		Diagram C, PVC, concealed hardware groove: 1170 – 2000 mm
		Diagram C, timber: 1190 + y ^[8] – 2000 mm
	Sash rebate height (SRH)	600 – 2700 mm
	Sash weight (S.kg)	max. 200 kg ^[9]
	Handle height	Central (SRH / 2)
		For SRH 1801 – 2400 mm: fixed handle height 1000 mm
–	Glass weight	max. 60 kg/m ²

[8] Dimension y: → 3.4.2 "Roto Patio Alversa | PS horizontal cross section" from page 33

[9]

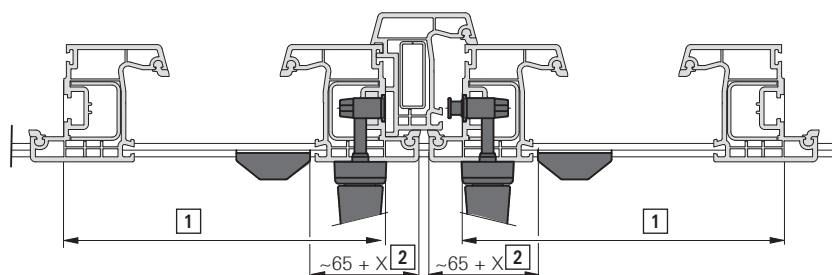
3.4 Profile sections

3.4.1 Roto Patio Alversa | KS horizontal cross section



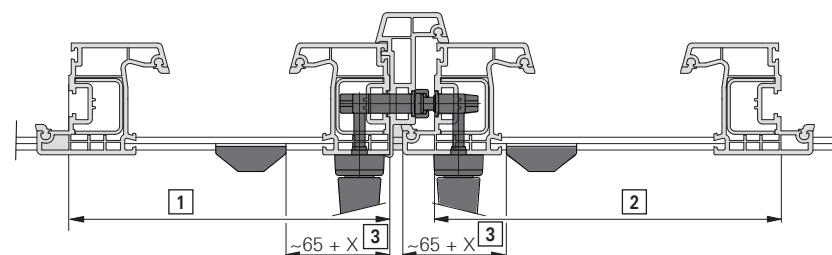
Two-sashed (without centre post / fixed glazing)

Assignment	Application range	Meaning
[1]	SRW min. 620 + y	–
[2]	SRW min. 600	–
[3]	~65 + X	Dimension X (= curve or pitch on the sash) → 9.5.11.1 "Preparing the drilling jig" from page 175



Two-sashed, concealed hardware groove / fixed glazing

Assignment	Application range	Meaning
[1]	SRW min. 600	–
[2]	~65 + X	Dimension X (= curve or pitch on the sash) → 9.5.11.1 "Preparing the drilling jig" from page 175

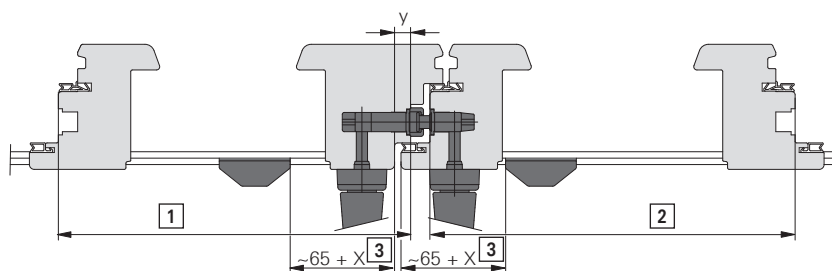


Two-sashed, opposite hardware groove / fixed glazing

Assignment	Application range	Meaning
[1]	SRW min. 620	–
[2]	SRW min. 600	–
[3]	~65 + X	Dimension X (= curve or pitch on the sash) → 9.5.11.1 "Preparing the drilling jig" from page 175

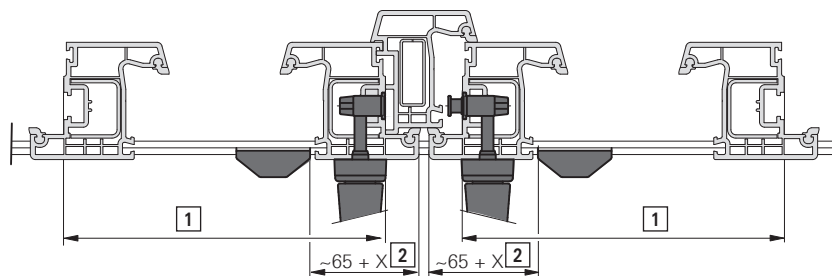


3.4.2 Roto Patio Alversa | PS horizontal cross section



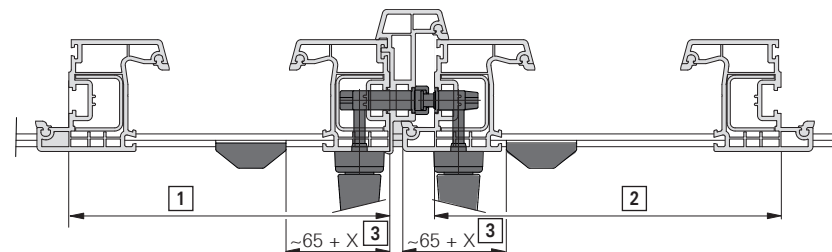
Two-sashed (without centre post / fixed glazing)

Assignment	Application range	Meaning
[1]	SRW min. 740 + y	–
[2]	SRW min. 720	–
[3]	S.kg ≥ 160 kg: SRW min. 1190 + y	–
[4]	S.kg ≥ 160 kg: SRW min. 1170	–
[5]	~65 + X	Dimension X (= curve or pitch on the sash) → 9.5.11.1 "Preparing the drilling jig" from page 175



Two-sashed, concealed hardware groove / fixed glazing

Assignment	Application range	Meaning
[1]	SRW min. 720	–
[2]	S.kg ≥ 160 kg: SRW min. 1170	–
[3]	~65 + X	Dimension X (= curve or pitch on the sash) → 9.5.11.1 "Preparing the drilling jig" from page 175

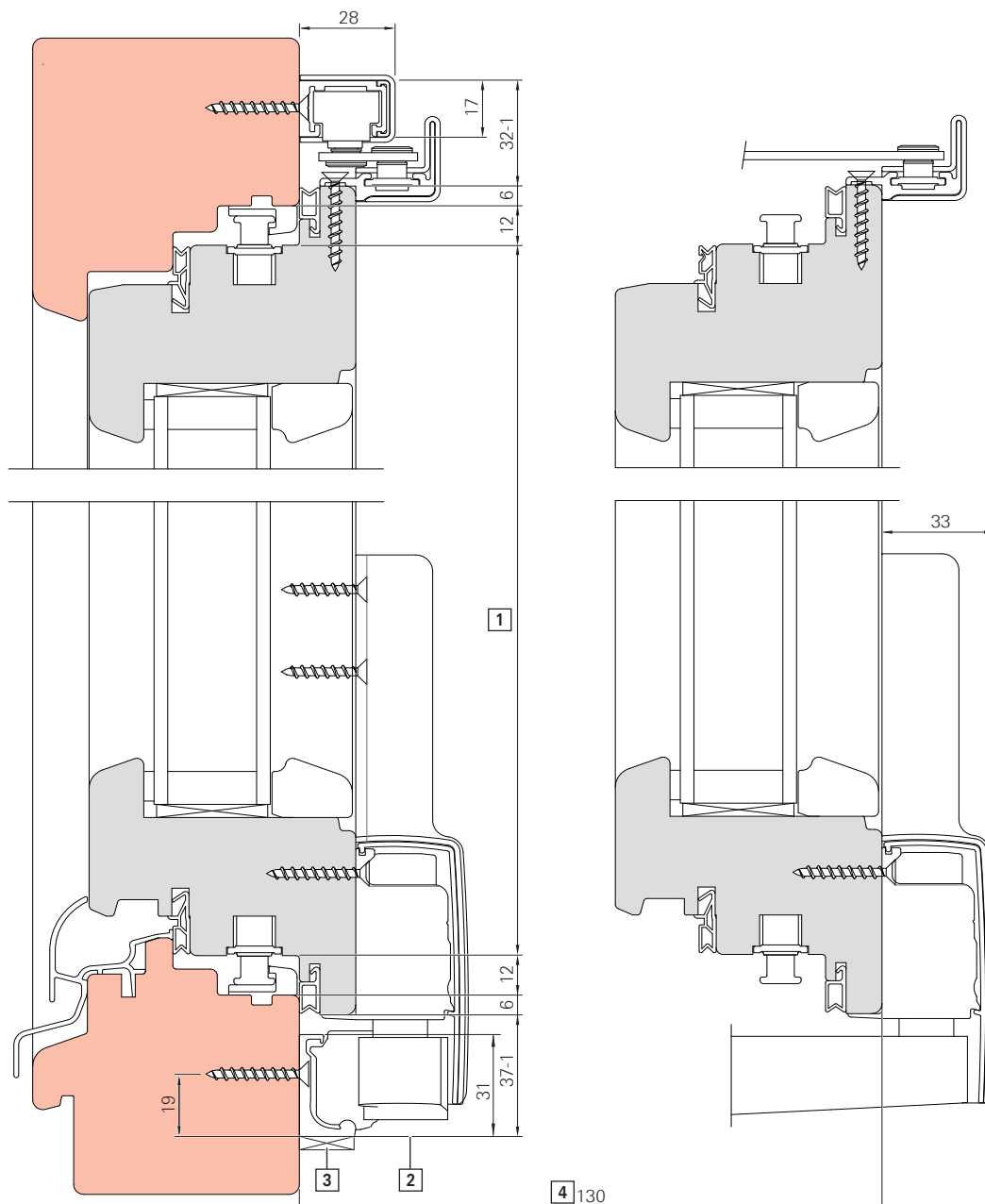


Two-sashed, opposite hardware groove / fixed glazing

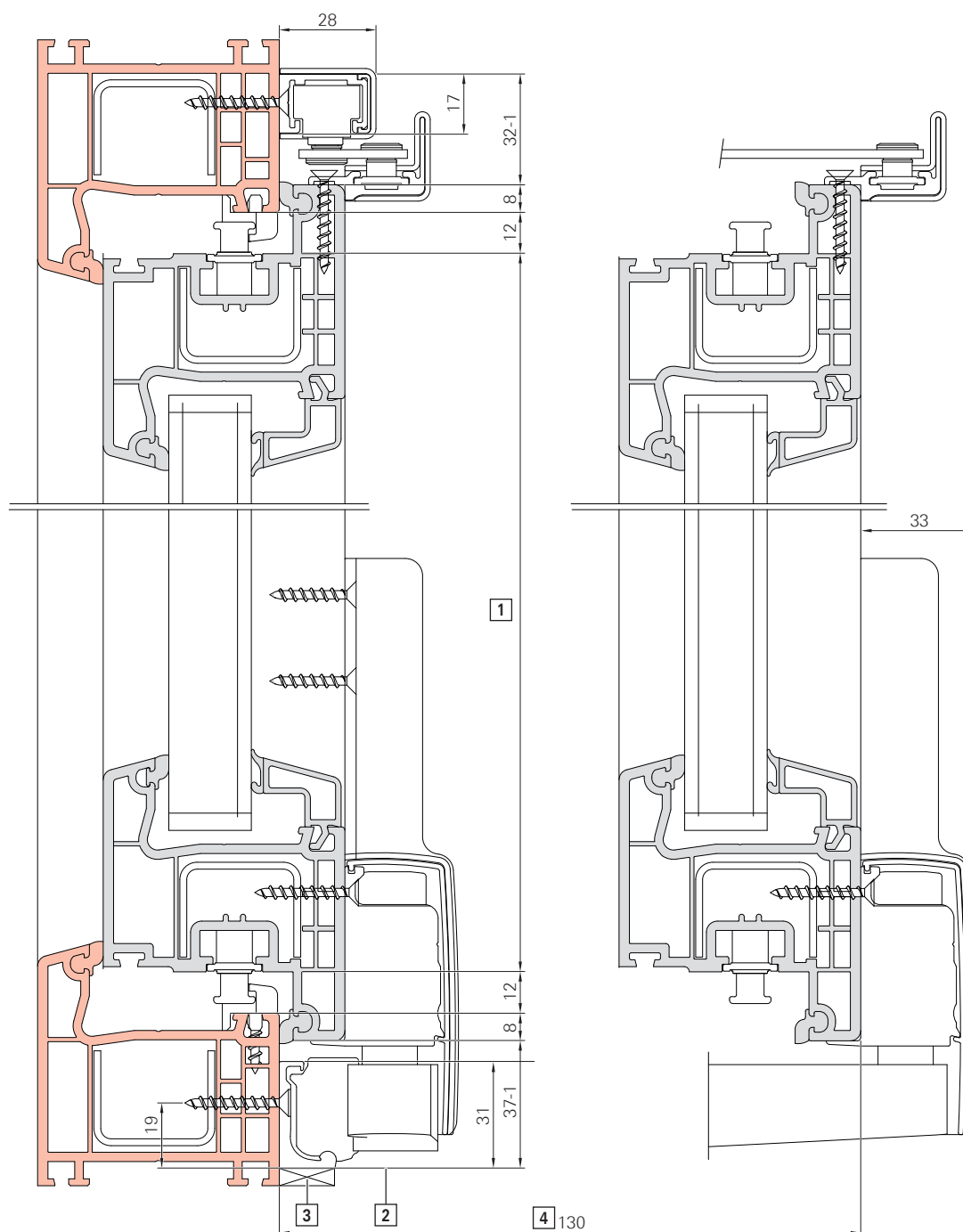
Assignment	Application range	Meaning
[1]	SRW min. 740	–
[2]	SRW min. 720	–
[3]	S.kg ≥ 160 kg: SRW min. 1190	–
[4]	S.kg ≥ 160 kg: SRW min. 1170	–

Assignment	Application range	Meaning
[5]	~65 + X	Dimension X (= curve or pitch on the sash) → 9.5.11.1 "Preparing the drilling jig" from page 175

3.4.3 Vertical cross section



Assignment	Meaning
[1]	SRH
[2]	Max. top edge of finished floor
[3]	Underlay the roller track over the entire length on site in order to transfer the load.
[4]	Retracting distance



Assignment	Meaning
[1]	SRH
[2]	Max. top edge of finished floor
[3]	Underlay the roller track over the entire length on site in order to transfer the load.
[4]	Retracting distance

3.5 Design variants

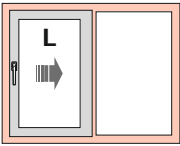
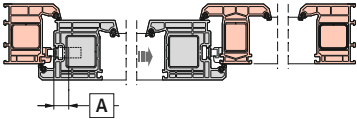
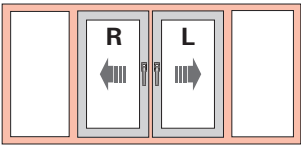
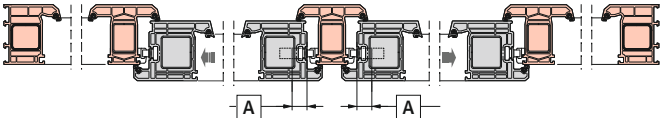
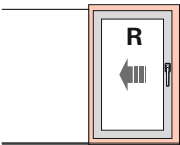
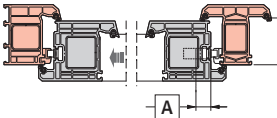
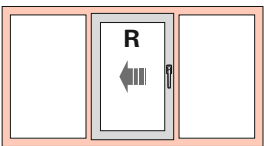
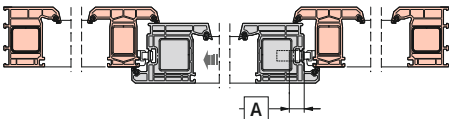
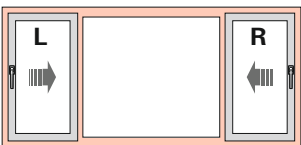
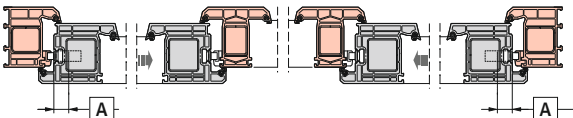
3.5.1 Note regarding the design variants

Combinations for constructing the Patio Alversa are assigned to the following diagrams.

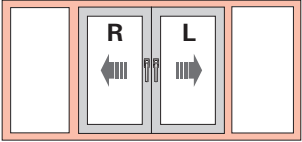
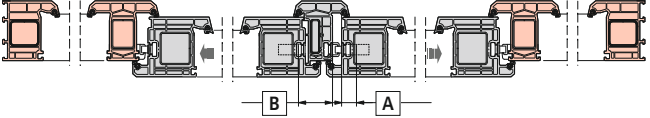
These combinations can be built in DIN L and R.

The cross sections show where the espagnolette is installed.

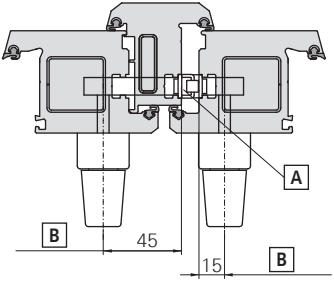
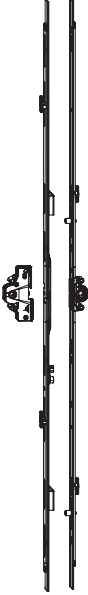
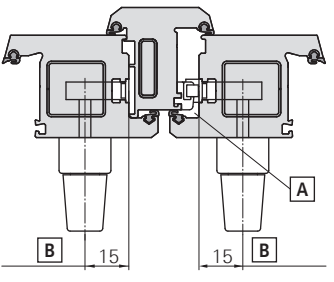
3.5.2 Diagram A

Combinations	Further description	
 <p>1 sliding sash (L or R) 1 fixed glazing element</p>	Diagram A	 <p>[A] = Backset (standard 15 mm)</p>
 <p>2 sliding sashes (L and R) with centre post 2 fixed glazing elements</p>	Diagram C	 <p>[A] = Backset (standard 15 mm)</p>
 <p>1 sliding sash (L or R) 1 frame, internal, flush with the wall</p>	Diagram B	 <p>[A] = Backset (standard 15 mm)</p>
 <p>1 sliding sash (L or R) 2 fixed glazing elements</p>	Diagram G	 <p>[A] = Backset (standard 15 mm)</p>
 <p>2 sliding sashes (L and R) 1 fixed glazing element</p>	Diagram K	 <p>[A] = Backset (standard 15 mm)</p>

3.5.3 Diagram C

Combinations	Further description
 <p>2 sliding sashes (L and R) without centre post 2 fixed glazing elements</p>	<p>Diagram C</p>  <p>[A] = Backset (standard 15 mm) [B] = Backset (standard 45 mm)</p>

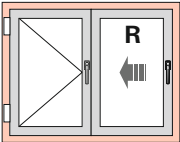
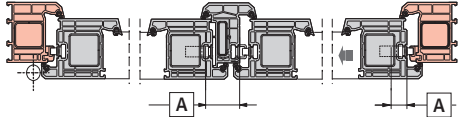
Deciding between two espagnolette systems:

Combinations	Espagnolettes	Drawing
<p>Opposite hardware groove</p>  <p>[A] Striker mounted on opposite espagnolette [B] Backset</p>	<p>On the floating mullion: espagnolette with welded-on striker On the locking side: espagnolette with cam</p>	 <p>Shown: BS 30 and BS 15 espagnolette</p>
<p>Concealed hardware groove</p>  <p>[A] Striker mounted on floating-mullion profile [B] Backset</p>	<p>On the floating mullion: espagnolette without striker or cam On the locking side: espagnolette with cam BS 15 espagnolette without cam not available for PS Air Com.</p>	 <p>Shown: BS 15 espagnolette</p>



3.5.4 Diagram D



Combinations	Previous description
 <p>1 sliding sash (L or R) 1 Turn-Only sash (L or R) Bottom guide block, movable → 9.7.4.1 "Bottom guide block, movable" from page 221</p>	Diagram D 



INFO
Turn-Only sash (diagram D) can be opened for cleaning and maintenance work.

3.6 Variant overview

3.6.1 Notes on the variant overview

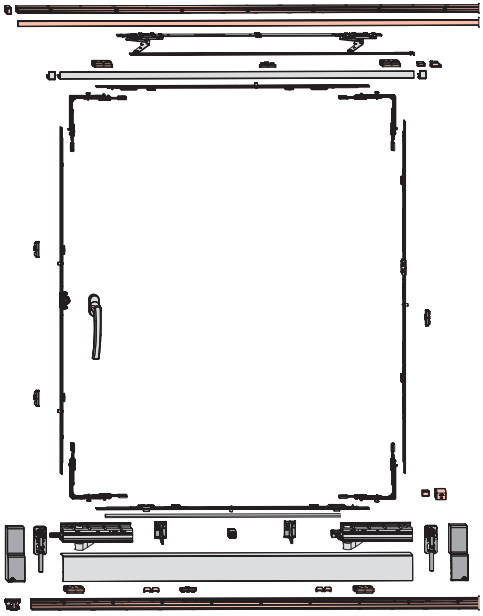
The following overviews list the components for each Patio Alversa variant.
The components for each variant are identical to the previously illustrated variant unless otherwise indicated; only additional components or those that are not present are listed again.



INFO
For more detailed information on assembling hardware, see the hardware overview chapter.

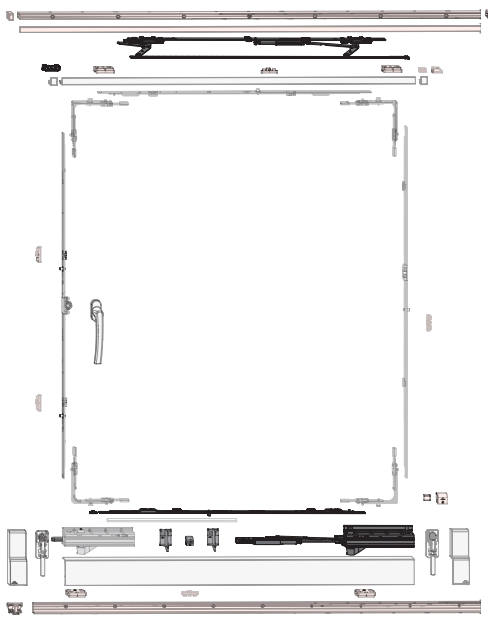


3.6.2 Roto Patio Alversa | KS

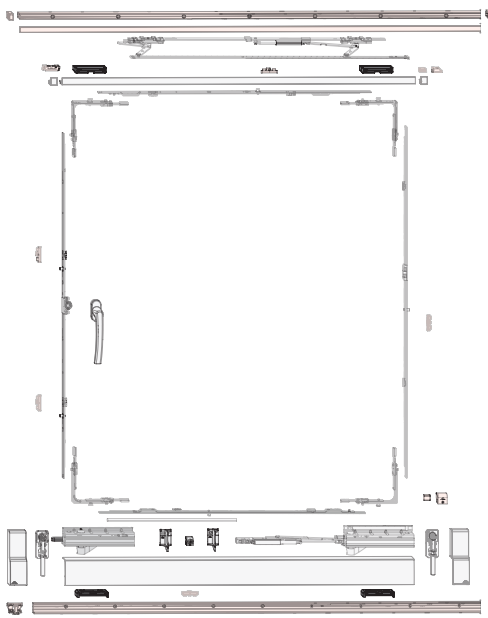
Example hardware overview	Quantity	Component	See page
	4	Corner drives	→ from page 165
	1	T&T espagnolette	→ from page 167
	1	Centre lock, vertical	→ from page 168
	1	Centre lock, horizontal, with bullet catch; bottom	→ from page 168
	1	Centre lock, horizontal; top	→ from page 168
	1	Handle	→ from page 170
	1	Bogies, Tilt&Slide	→ from page 174
	2	Reinforcement parts	→ from page 174
	1-2	Supporting pieces	→ from page 182
	1	Connecting rod	→ from page 183
	1	Support block	→ from page 183
	1	Retaining track	→ from page 187
	...	Strikers (depending on the size of the sash and resistance class)	→ from page 191
	1	Guide track	→ from page 200
	2	Guide plates	→ from page 196
	1	Sliding scissor stay, Tilt&Slide	→ from page 206
	1	Roller track	→ from page 209
	2	End caps for retaining track	→ from page 220
	1	Guide block, bottom	→ from page 211
	1	Stop part, bottom	→ from page 225
	1	Stop part, top	→ from page 225
	2	Rubber buffer stop part	→ from page 225
	1	Bogie cover	→ from page 226
	2	Reinforcement part cover caps	→ from page 227
	2	Cover caps on the bogie cover	→ from page 226
	1	Guide track cover profile	→ from page 226
	2	End caps for guide track	→ from page 228



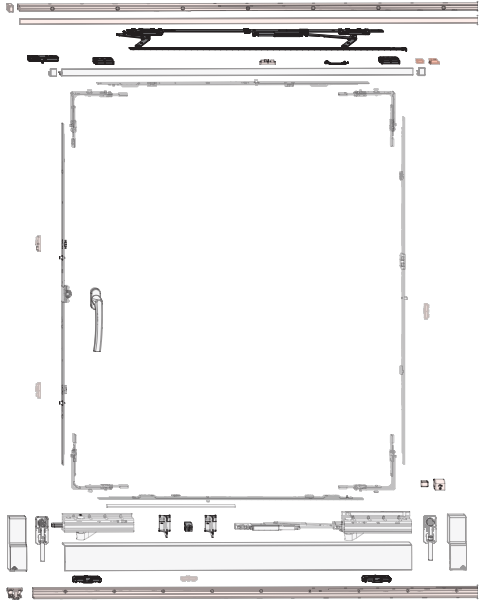
3.6.3 Roto Patio Alversa | PS without night ventilation

Example hardware overview	Quantity	Component	See page	
	1	Travel restrictor	Accessory	→ from page 166
	1	Centre lock, horizontal; bottom	Spare	→ from page 168
	1	Sliding scissor stay, Parallel Sliding, night ventilation	Spare	→ from page 206
	1	Bogies, Parallel Sliding	Spare	→ from page 174
	1	Top guide block, fixed	Accessory	→ from page 206
	2	Guide plates	Omitted	

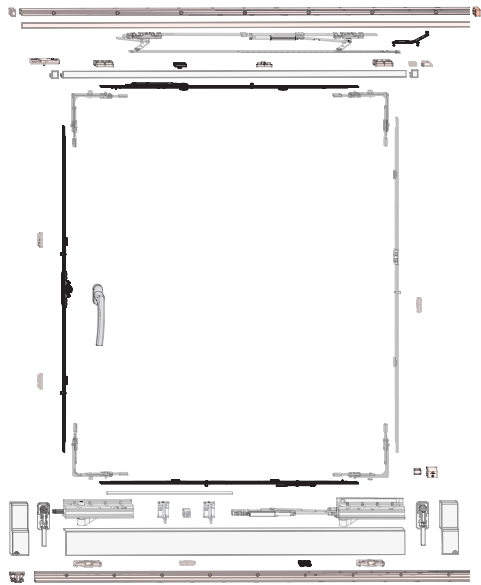
3.6.4 Roto Patio Alversa | PS with night ventilation

Example hardware overview	Quantity	Component	See page	
	...	Night ventilation strikers (depending on the size of the sash and resistance class)	Spare	→ from page 191
	1	Travel restrictor	Omitted	

3.6.5 Roto Patio Alversa | PS Air

Example hardware overview	Quantity	Component	See page	
	...	Strikers (depending on the size of the sash and resistance class)	Spare	→ from page 191
	2	Tilt strikers	Spare	→ from page 191
	1	Top guide block, tiltable	Spare	→ from page 206
	1	Sliding scissor stay, Parallel Sliding, tilt ventilation	Spare	→ from page 206
	1	Retrofit set for lock-in position (from S.kg > 80 kg)	Optional	→ from page 204
	...	Night ventilation strikers	Omitted	

3.6.6 Roto Patio Alversa | PS Air Com

Example hardware overview	Quantity	Component	See page	
	1	T&T espagnolette, reinforced	Spare	→ from page 167
	1	Centre lock, horizontal, with comfort scissor stay; top	Spare	→ from page 168
	1	Comfort scissor stay frame component	Accessory	→ from page 197
	1	Centre lock, horizontal, with mishandling device; bottom	Spare	→ from page 168
	1	Mishandling device frame component	Accessory	→ from page 197
	1	Retrofit set for tilt assistance (from S.kg > 140 kg)	Spare	→ from page 204
	1	Retrofit set for lock-in position	Omitted	



4 Hardware overviews

The hardware overviews on the following pages are a recommendation on the part of Roto Frank AG.

The basic page layout in the hardware overviews chapter firstly shows examples of the combination of individual hardware components, and the associated parts list can be seen on the following pages.

Additional combinations of hardware components can be found in the catalogue.

The item numbers in the squares link the hardware overview to the parts list.

The actual composition of the hardware depends on:

- The height of the element
- The width of the element
- The weight of the element
- Security grade
- Profile system
- Variation



INFO Security grades

- Basic security (BSec) and security grade 1 (RC 1 N) are jointly mapped out in a single hardware overview. For a BSec hardware set, replace all security strikers with standard strikers.
- The RC 1 N, RC 2 and RC 2 N security grades refer to the entire system.
- The hardware combinations shown in the hardware overviews are recommendations.
- The hardware complies with the corresponding security grades in the required system tests.
- However, the security grades are only complied with if all of the other components in the system (e.g. profile system, reinforcement, glass, etc.) are also designed for this.
- Steel security strike plates must generally be used in systems with a 9 mm hardware axis.



INFO Security grades

- The RC 2 and RC 2 N security grades refer to the entire system.
- The hardware combinations shown in the hardware overviews are recommendations.
- The hardware complies with the corresponding security grades in the required system tests.
- However, the security grades are only complied with if all of the other components in the system (e.g. profile system, reinforcement, glass, etc.) are also designed for this.



INFO Variations

- The hardware overviews in diagram C only show the second opening sash in full. The full hardware overview of the cropped, first opening sash can be found in diagram A.

Profile-related frame components and general sets are listed in additional chapters.

Recommended handles can be found in the handles catalogue.

Determine the required quantity of essential hardware components with Roto Con Orders.



INFO

Roto Con Orders

Efficient online hardware configurator for the custom configuration of individual window and door hardware components. All conventional shapes and opening types can be automatically configured quickly and easily. Individual parts lists, including application ranges and an exemplary hardware overview, can be ordered from your responsible sales representative.

www.roto-frank.com





KS – BSec / RC 1 N

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KS second opening sash – BSec / RC 1 N

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KS – RC 2 and RC 2 N

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Diagram A – VT espagnolette.....	58

KS second opening sash – RC 2 and RC 2 N

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PS without night ventilation – BSec / RC 1 N

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PS without night ventilation, second opening sash – BSec / RC 1 N

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PS without night ventilation – RC 2 and RC 2 N

Diagram A – T&T espagnolette	68
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PS without night ventilation, second opening sash – RC 2 and RC 2 N

Diagram C – T&T espagnolette with opposite hardware groove.....	70
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PS with night ventilation – BSec / RC 1 N

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PS with night ventilation, second opening sash – BSec / RC 1 N

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PS with night ventilation – RC 2 and RC 2 N

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PS with night ventilation – RC 2 and RC 2 N

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PS Air – BSec / RC 1 N

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PS Air second opening sash – BSec / RC 1 N

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PS Air – RC 2 and RC 2 N

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PS Air second opening sash – RC 2 and RC 2 N

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PS Air Com – BSec / RC 1 N

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PS Air Com second opening sash – BSec / RC 1 N

Diagram C – T&T espagnolette with opposite hardware groove.....	94
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PS Air Com – RC 2 and RC 2 N

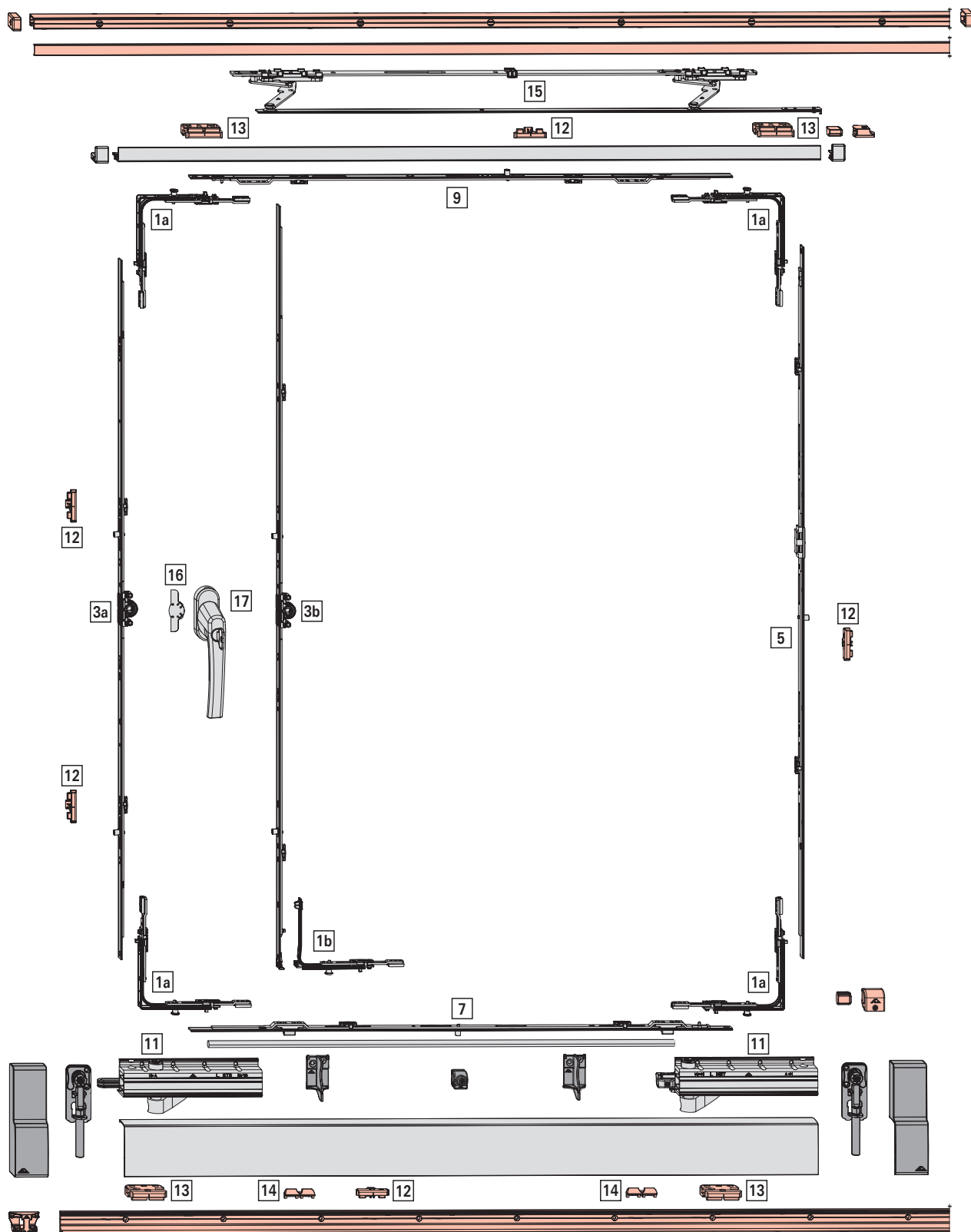
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PS Air Com second opening sash – RC 2 and RC 2 N

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PS Air Com second opening sash – RC 2 and RC 2 N

Diagram C – T&T espagnolette with opposite hardware groove...	106
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Shown: up to 160 kg; RC 1 N; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height (a) and T&T espagnolette, fixed handle height (b)

**Application range**Sash rebate width **SRW** 600 – 1650 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 100 kg / 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

**[1b] Corner drive, Tilt&Turn
(for T&T espagnolette, fixed handle height)**

	Cam	Material no.
	1V	260288

**[3a] T&T espagnolette, centred / variable handle
height, backset 15**

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

**[3b] T&T espagnolette, fixed handle height,
backset 15**

SRH	Handle height	Length	Cam	Material no.
600 – 800	263	690	1E	259833
801 – 1000	413	890	1E	259836
1001 – 1200	513	1090	1E	259838
1201 – 1400	563	1290	1E	259840
1401 – 1600	563	1490	2E	259843
1601 – 1800	563	1690	2E	259846
1801 – 2000	1000	1890	2E	794035
2001 – 2200	1000	2090	3E	794038
2201 – 2400	1000	2290	3E	794040
2401 – 2600	1000	2290	3E	794040
Centre lock, multipart		200	1E	+ 450821
2601 – 2700	1000	2290	3E	794040
Centre lock, multipart		400	1E	+ 280346

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[7] Centre lock, horizontal, with bullet catch

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772801
			Right	786296
801 – 1000	790	1E	Left	772802
			Right	786297
1001 – 1200	990	1E	Left	772803
			Right	786298
1201 – 1400	1190	1E	Left	772804
			Right	786299
1401 – 1650	1440	1E	Left	772875
			Right	786300

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[15] Sliding scissor stay set, Tilt&Slide**

SRW	Damping	Material no.
600 – 900	No	810456
901 – 1250	No	810457
1251 – 1650	No	810458

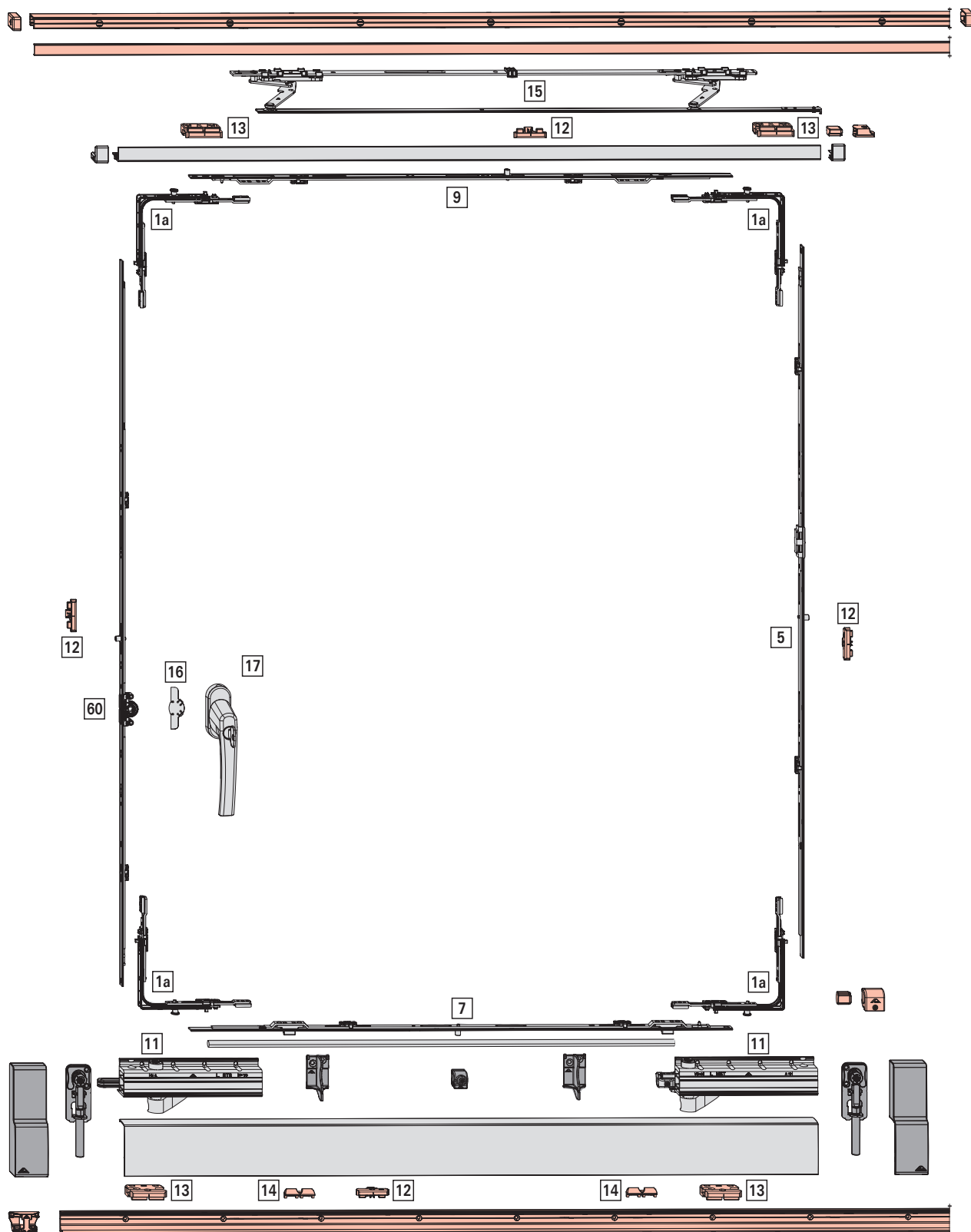
[11] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Tilt&Slide	up to 160 kg	No	Left	799830
			Right	799831

[14] Guide plate → Page 125**Track set → Page 108****Reinforcement part set > 100 kg → Page 107**

* Mandatory for RC 1 N.



Shown: up to 160 kg; RC 1 N; SRW 1450; SRH 1300; VT espagnolette, fixed handle height

**Application range**Sash rebate width **SRW** 600 – 1650 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 100 kg / 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[60] VT espagnolette, fixed handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 800	263	580	–	619591
801 – 1000	413	780	1E	619592
1001 – 1200	513	980	1E	619593
1201 – 1400	563	1180	1E	619594
1401 – 1600	563	1380	2E	619595
1601 – 1800	563	1580	2E	619596
1601 – 1800	1000	1580	2E	794636
1801 – 2000	1000	1780	2E	794637
2001 – 2200	1000	1980	3E	794638
2201 – 2400	1000	2180	3E	794639
2401 – 2600	1000	2180	3E	794639
Centre lock, multipart		200	1E	+ 450821
2601 – 2700	1000	2180	3E	794639
Centre lock, multipart		400	1E	+ 280346

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[7] Centre lock, horizontal, with bullet catch

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772801
			Right	786296
801 – 1000	790	1E	Left	772802
			Right	786297
1001 – 1200	990	1E	Left	772803
			Right	786298
1201 – 1400	1190	1E	Left	772804
			Right	786299
1401 – 1650	1440	1E	Left	772875
			Right	786300

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[15] Sliding scissor stay set, Tilt&Slide**

SRW	Damping	Material no.
600 – 900	No	810456
901 – 1250	No	810457
1251 – 1650	No	810458

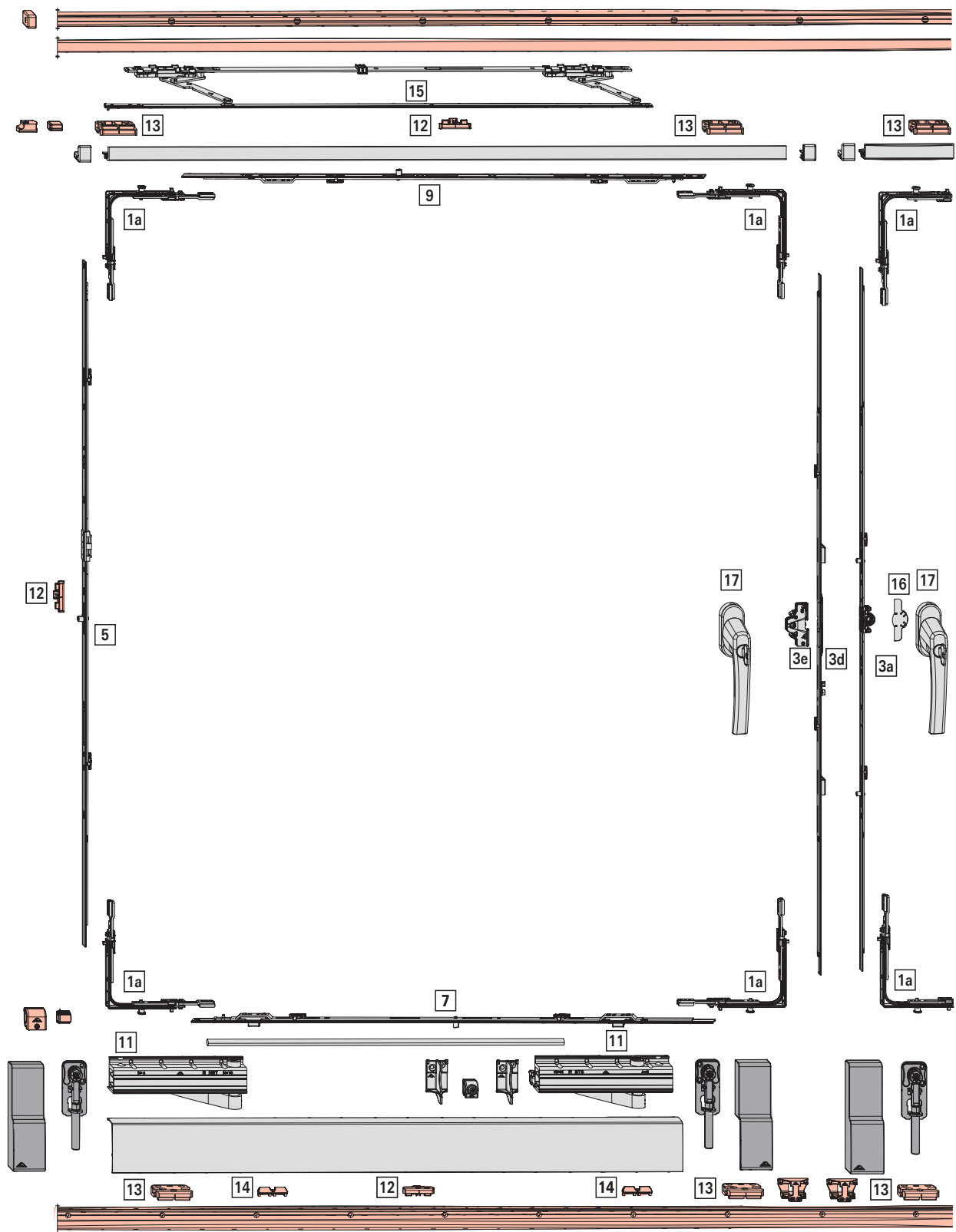
[11] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Tilt&Slide	up to 160 kg	No	Left	799830
			Right	799831

[14] Guide plate → Page 125**Track set → Page 108****Reinforcement part set > 100 kg → Page 107**

* Mandatory for RC 1 N.



**Application range**Sash rebate width **SRW**600** – 1650 mmSash rebate height **SRH**600 – 2700 mmSash weight **S.kg** max. 100 kg / 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181

[5] Centre lock, vertical

SRH	Length	Cam	Material no.
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[7] Centre lock, horizontal, with bullet catch

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772801
			Right	786296
801 – 1000	790	1E	Left	772802
			Right	786297
1001 – 1200	990	1E	Left	772803
			Right	786298
1201 – 1400	1190	1E	Left	772804
			Right	786299
1401 – 1650	1440	1E	Left	772875
			Right	786300

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[15] Sliding scissor stay set, Tilt&Slide**

SRW	Damping	Material no.
600 – 900	No	810456
901 – 1250	No	810457
1251 – 1650	No	810458

[11] Bogie set

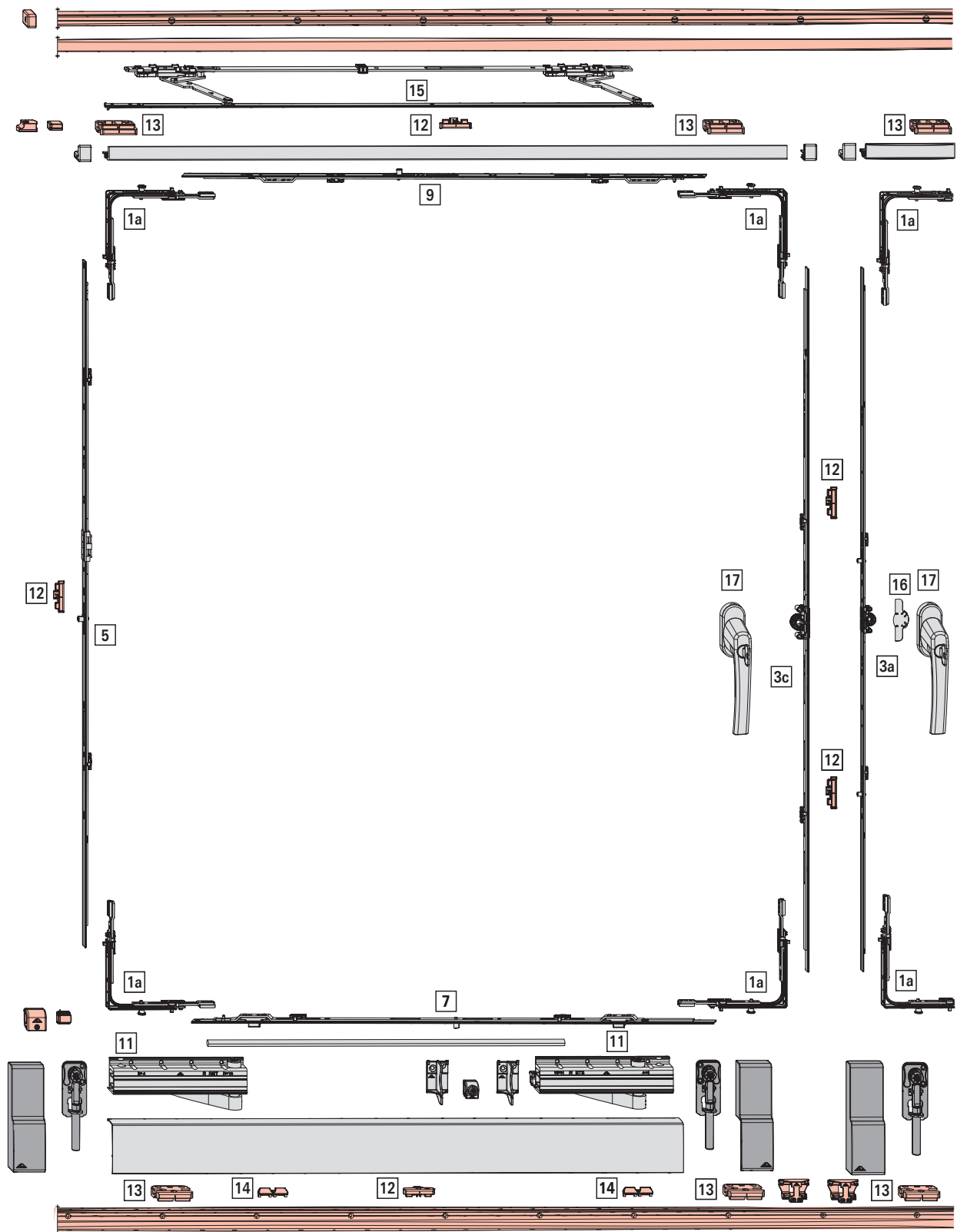
Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Tilt&Slide	up to 160 kg	No	Left	799830
			Right	799831

[14] Guide plate → Page 125**Track set → Page 108****Reinforcement part set > 100 kg → Page 107**

* Mandatory for RC 1 N.

** For exact details of the SRW, see the "Profile cross sections" chapter



**Application range**Sash rebate width **SRW** 600 – 1650 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 100 kg / 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[3c] T&T espagnolette, centred / variable handle height, backset 15, without locking cam

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	–	289862
801 – 1200	401 – 600	980	–	289863
1201 – 1600	601 – 800	1380	–	289864
1601 – 2000	801 – 1000	1780	–	289865
2001 – 2400	1001 – 1200	2180	–	289866
2401 – 2700	1201 – 1350	2180	–	289866
2x centre lock, multipart		200	–	+ 308267

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[7] Centre lock, horizontal, with bullet catch

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772801
			Right	786296
801 – 1000	790	1E	Left	772802
			Right	786297
1001 – 1200	990	1E	Left	772803
			Right	786298
1201 – 1400	1190	1E	Left	772804
			Right	786299
1401 – 1650	1440	1E	Left	772875
			Right	786300

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[15] Sliding scissor stay set, Tilt&Slide**

SRW	Damping	Material no.
600 – 900	No	810456
901 – 1250	No	810457
1251 – 1650	No	810458

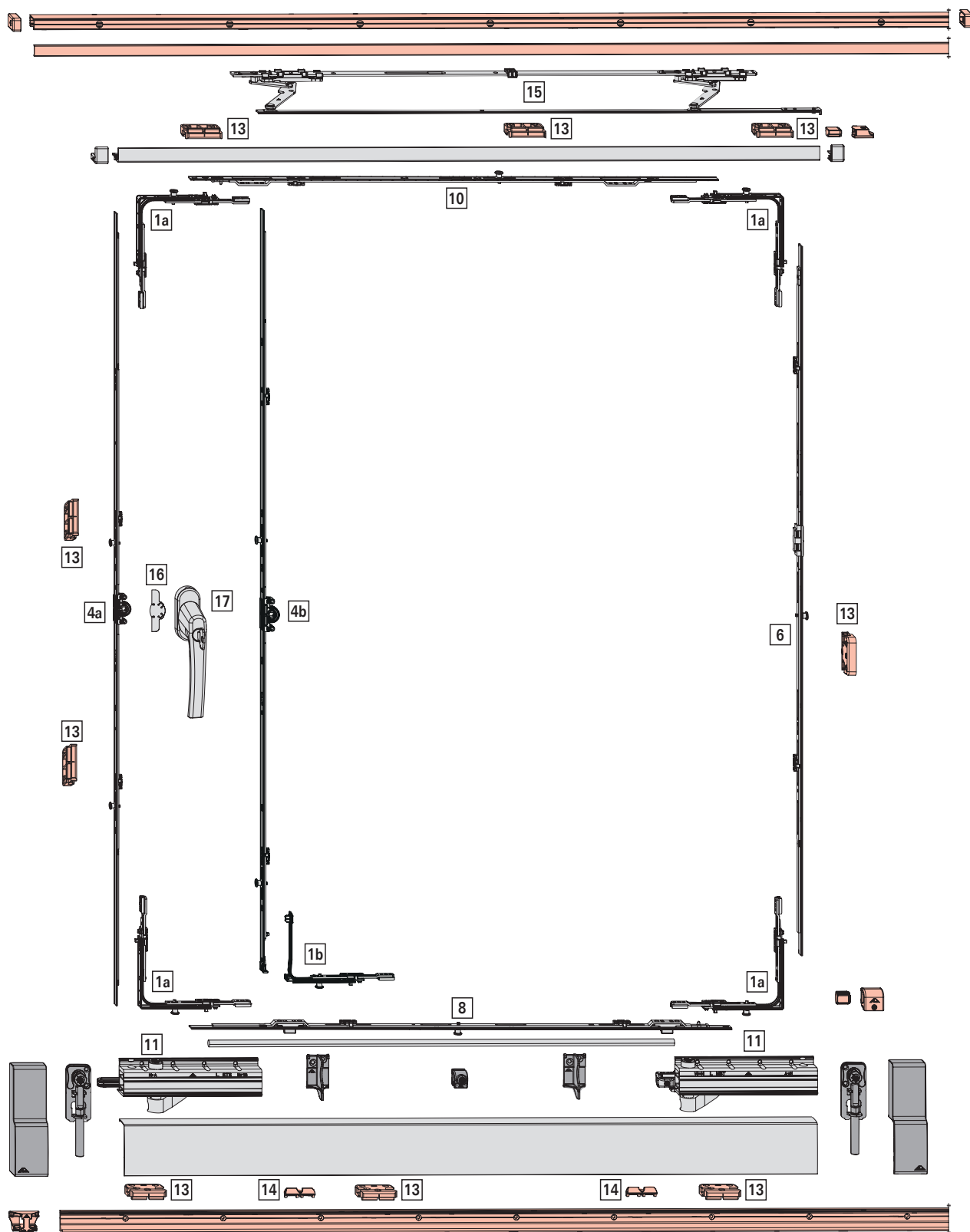
[11] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Tilt&Slide	up to 160 kg	No	Left	799830
			Right	799831

[14] Guide plate → Page 125**Track set → Page 108****Reinforcement part set > 100 kg → Page 107**

* Mandatory for RC 1 N.



Shown: up to 160 kg; RC 2; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height (a) and T&T espagnolette, fixed handle height (b)

**Application range**Sash rebate width **SRW** 600 – 1650 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 100 kg / 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
1V		260272

**[1b] Corner drive, Tilt&Turn
(for T&T espagnolette, fixed handle height)**

	Cam	Material no.
1V		260288

[4a] T&T espagnolette, centred / variable handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743
801 – 1200	401 – 600	980	1V	355744
1201 – 1600	601 – 800	1380	2V	355745
1601 – 2000	801 – 1000	1780	2V	795390
2001 – 2400	1001 – 1200	2180	4V	795393
2401 – 2700	1201 – 1350	2180	4V	795393
2x centre lock, multipart		200	1V	+ 337708

[4b] T&T espagnolette, fixed handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
600 – 800	263	690	1V	259832
801 – 1000	413	890	2V	259835
1001 – 1200	513	1090	2V	259837
1201 – 1400	563	1290	2V	259839
1401 – 1600	563	1490	3V	259841
1601 – 1800	563	1690	3V	259844
1601 – 1800	1000	1690	3V	794041
1801 – 2000	1000	1890	3V	794042
2001 – 2200	1000	2090	4V	794043
2201 – 2400	1000	2290	4V	794044
2401 – 2600	1000	2290	3V	794044
Centre lock, multipart		200	1V	+ 337708
2601 – 2700	1000	2290	3V	794044
Centre lock, multipart		400	1V	+ 337710

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[8] Centre lock, horizontal, with bullet catch – security

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772801
			Right	786296
801 – 1000	790	1V	Left	772876
			Right	786301
1001 – 1200	990	1V	Left	772877
			Right	786302
1201 – 1400	1190	1V	Left	772878
			Right	786303
1401 – 1650	1440	1V	Left	772879
			Right	786304

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475

[13] Striker, security → Page 116**[15] Sliding scissor stay set, Tilt&Slide**

SRW	Damping	Material no.
600 – 900	No	810456
901 – 1250	No	810457
1251 – 1650	No	810458

[11] Bogie set

Contains trailing and leading bogie

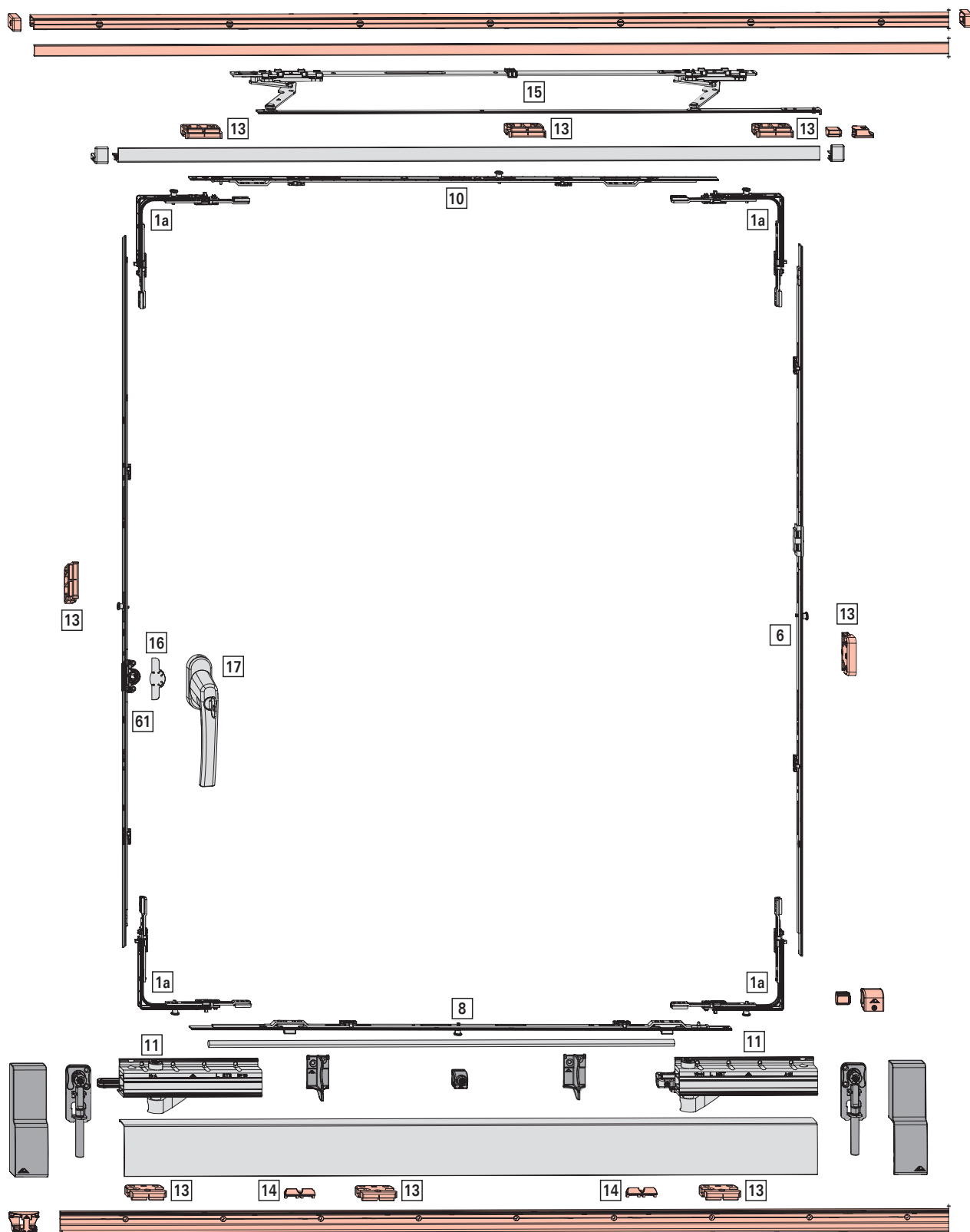
Variant	Weight	Damping	DIN	Material no.
Tilt&Slide	up to 160 kg	No	Left	799830
			Right	799831

[14] Guide plate → Page 125**Track set → Page 108****Reinforcement part set > 100 kg → Page 107****Run-up block**

Installation on NT floating mullion

Security component for filling the rebate clearance*	601500
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* Quantity and position depend on the sash profile and hardware version.



Shown: up to 160 kg; RC 2 N; SRW 1450; SRH 1300; VT espagnolette, centred / variable handle height

**Application range**Sash rebate width **SRW** 600 – 1650 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 100 kg / 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[61] VT espagnolette, fixed handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
600 – 800	263	690	–	619591
801 – 1000	413	890	1V	626542
1001 – 1200	513	1090	1V	626543
1201 – 1400	563	1290	1V	626544
1401 – 1600	563	1490	2V	626575
1601 – 1800	563	1690	2V	626576
1601 – 1800	1000	1690	2V	794640
1801 – 2000	1000	1890	2V	794641
2001 – 2200	1000	2090	3V	794642
2201 – 2400	1000	2290	3V	794643
2401 – 2600	1000	2290	3V	794643
Centre lock, multipart		200	1V +	337708
2601 – 2700	1000	2290	3V	794643
Centre lock, multipart		400	1V +	337710

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V +	337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V +	337710

[8] Centre lock, horizontal, with bullet catch – security

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772801
			Right	786296
801 – 1000	790	1V	Left	772876
			Right	786301
1001 – 1200	990	1V	Left	772877
			Right	786302
1201 – 1400	1190	1V	Left	772878
			Right	786303
1401 – 1650	1440	1V	Left	772879
			Right	786304

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475

[13] Striker, security → Page 116**[15] Sliding scissor stay set, Tilt&Slide**

SRW	Damping	Material no.
600 – 900	No	810456
901 – 1250	No	810457
1251 – 1650	No	810458

[11] Bogie set

Contains trailing and leading bogie

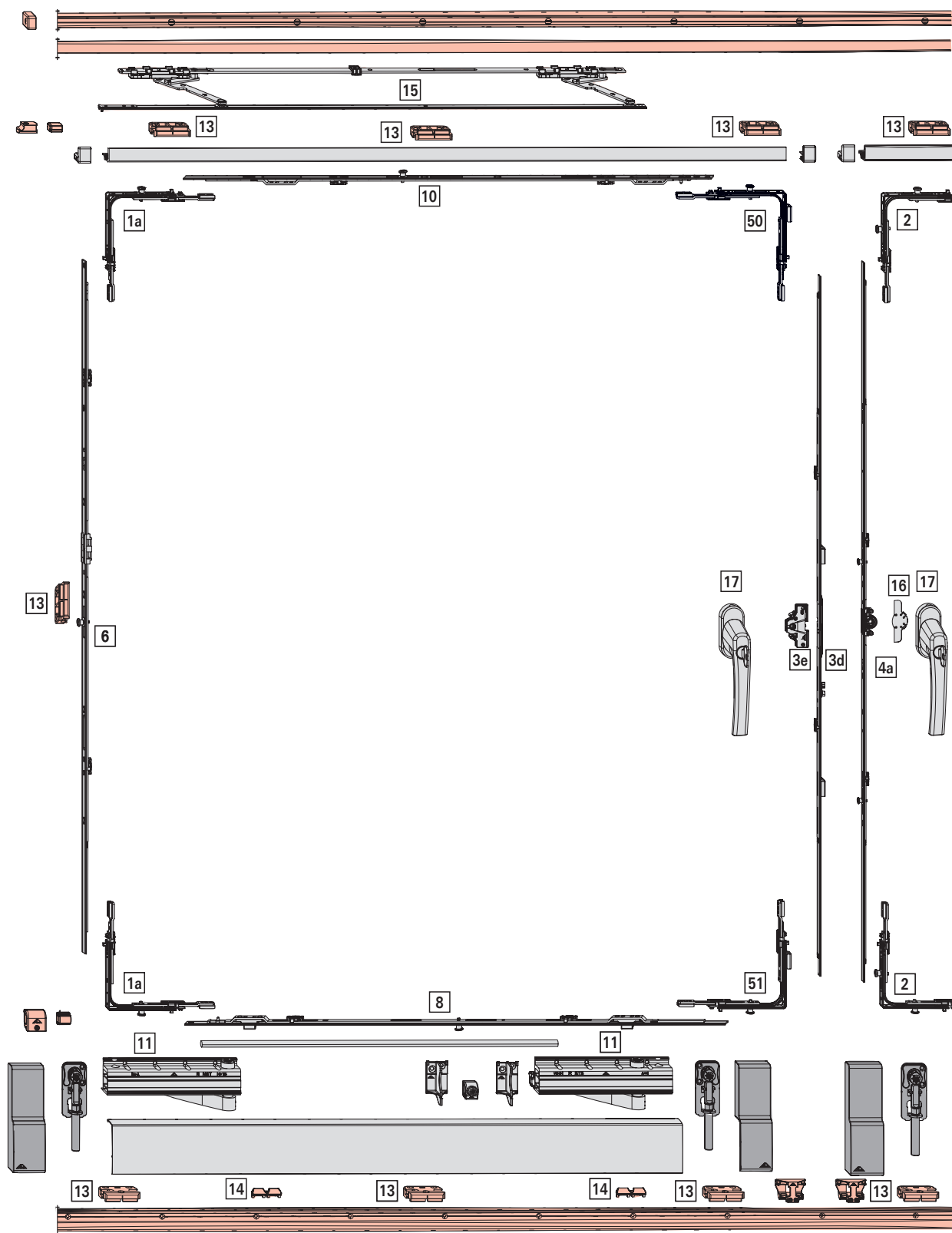
Variant	Weight	Damping	DIN	Material no.
Tilt&Slide	up to 160 kg	No	Left	799830
			Right	799831

[14] Guide plate → Page 125**Track set → Page 108****Reinforcement part set > 100 kg → Page 107****Run-up block**

Installation on NT floating mullion

Security component for filling the rebate clearance*	601500
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* Quantity and position depend on the sash profile and hardware version.



**Application range**Sash rebate width **SRW**600** – 1650 mmSash rebate height **SRH**600 – 2700 mmSash weight **S.kg** max. 100 kg / 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[2] Corner drive, standard – security

	Cam	Material no.
	2V	260274

[50] Corner drive at top of floating mullion – security

Number of strikers	Cam	Material no.
1	1V	313538

[51] Corner drive at bottom of floating mullion – security

Number of strikers	Cam	Material no.
1	1V	367227

[4a] T&T espagnolette, centred / variable handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743
801 – 1200	401 – 600	980	1V	355744
1201 – 1600	601 – 800	1380	2V	355745
1601 – 2000	801 – 1000	1780	2V	795390
2001 – 2400	1001 – 1200	2180	4V	795393
2401 – 2700	1201 – 1350	2180	4V	795393
2x centre lock, multipart		200	1V	+ 337708

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708

[6] Centre lock, vertical – security

SRH	Length	Cam	Material no.
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[8] Centre lock, horizontal, with bullet catch – security

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772801
			Right	786296
801 – 1000	790	1V	Left	772876
			Right	786301
1001 – 1200	990	1V	Left	772877
			Right	786302
1201 – 1400	1190	1V	Left	772878
			Right	786303
1401 – 1650	1440	1V	Left	772879
			Right	786304

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475

[13] Striker, security → Page 116**[15] Sliding scissor stay set, Tilt&Slide**

SRW	Damping	Material no.
600 – 900	No	810456
901 – 1250	No	810457
1251 – 1650	No	810458

[11] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Tilt&Slide	up to 160 kg	No	Left	799830
			Right	799831

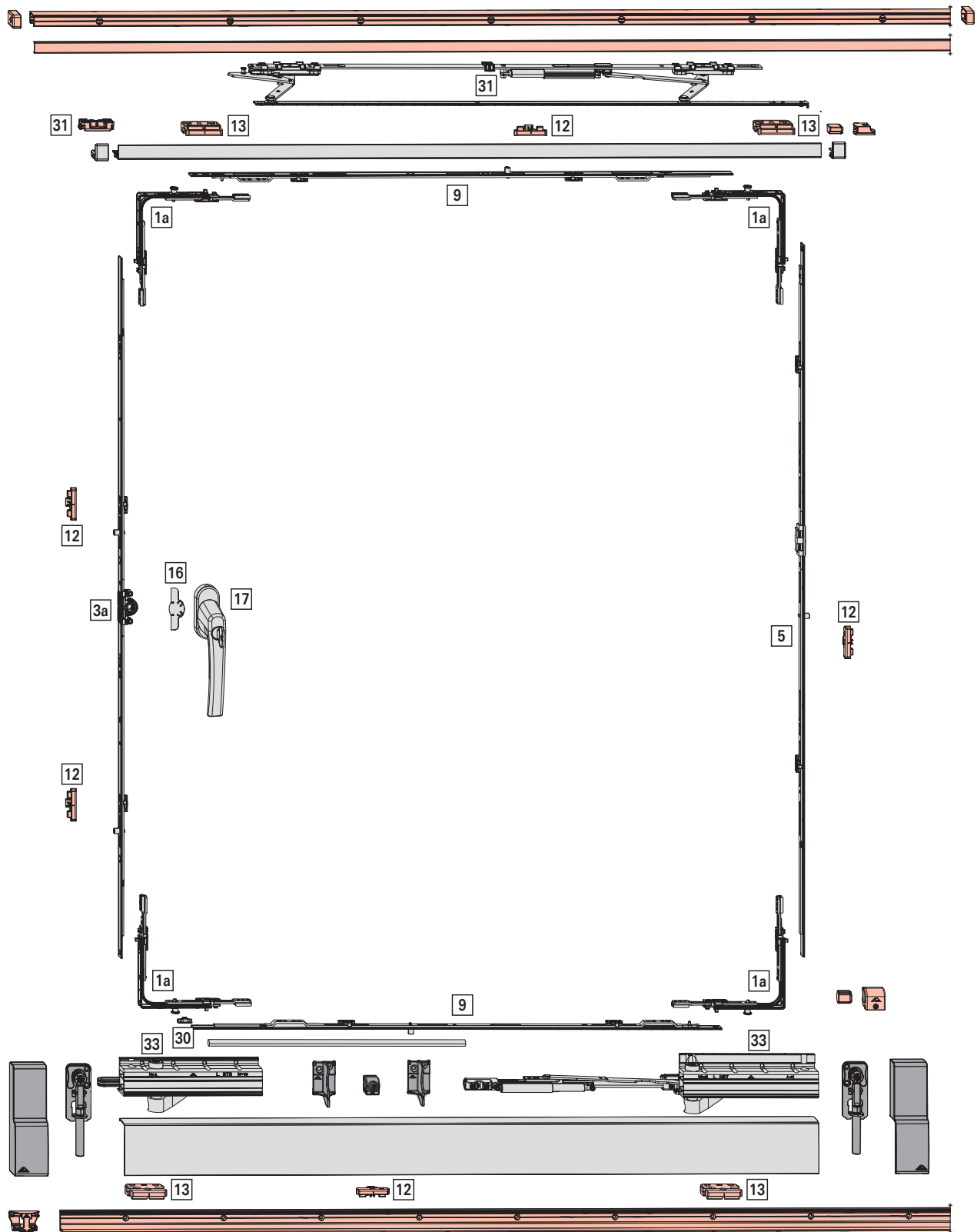
[14] Guide plate → Page 125**Track set → Page 108****Reinforcement part set > 100 kg → Page 107****Run-up block**

Installation on NT floating mullion

Security component for filling the rebate clearance*	601500
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* Quantity and position depend on the sash profile and hardware version.

** For exact details of the SRW, see the "Profile cross sections" chapter



Shown: up to 160 kg; RC 2 N; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height

**Application range**Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[30] Travel restrictor

	Material no.
	264603

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466
1651 – 1850	1440	1E	603466
Centre lock, multipart	200	1E	+ 450821
1851 – 2000	1440	1E	603466
Centre lock, multipart	400	1E	+ 280346

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

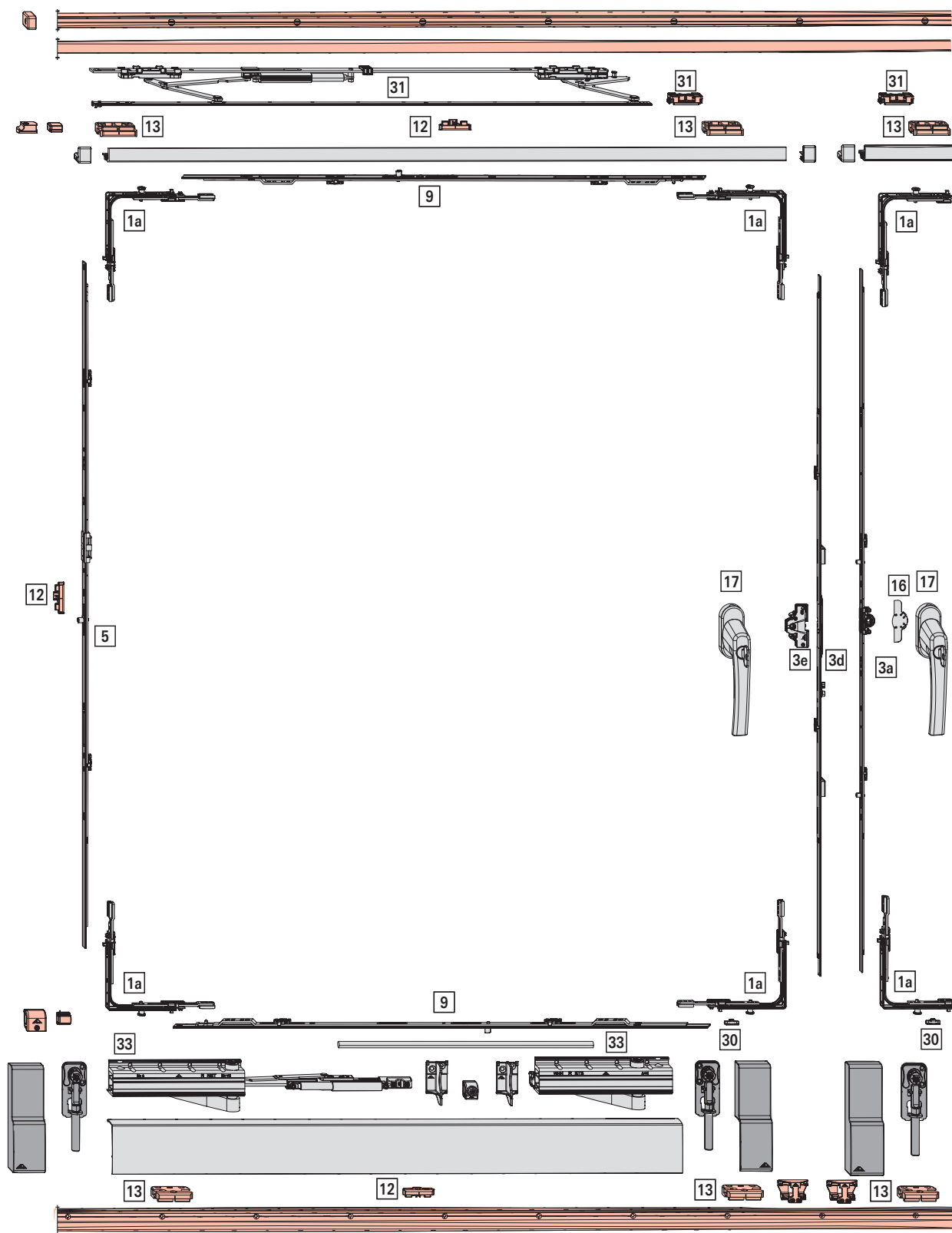
[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

Track set → Page 108**Reinforcement part set → Page 107**

* Mandatory for RC 1 N.



**Application range**Sash rebate width **SRW**720** – 2000 mmSash rebate height **SRH**600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[30] Travel restrictor

	Material no.
	264603

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466
1651 – 1850	1440	1E	603466
Centre lock, multipart	200	1E	+ 450821
1851 – 2000	1440	1E	603466
Centre lock, multipart	400	1E	+ 280346

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed			
SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

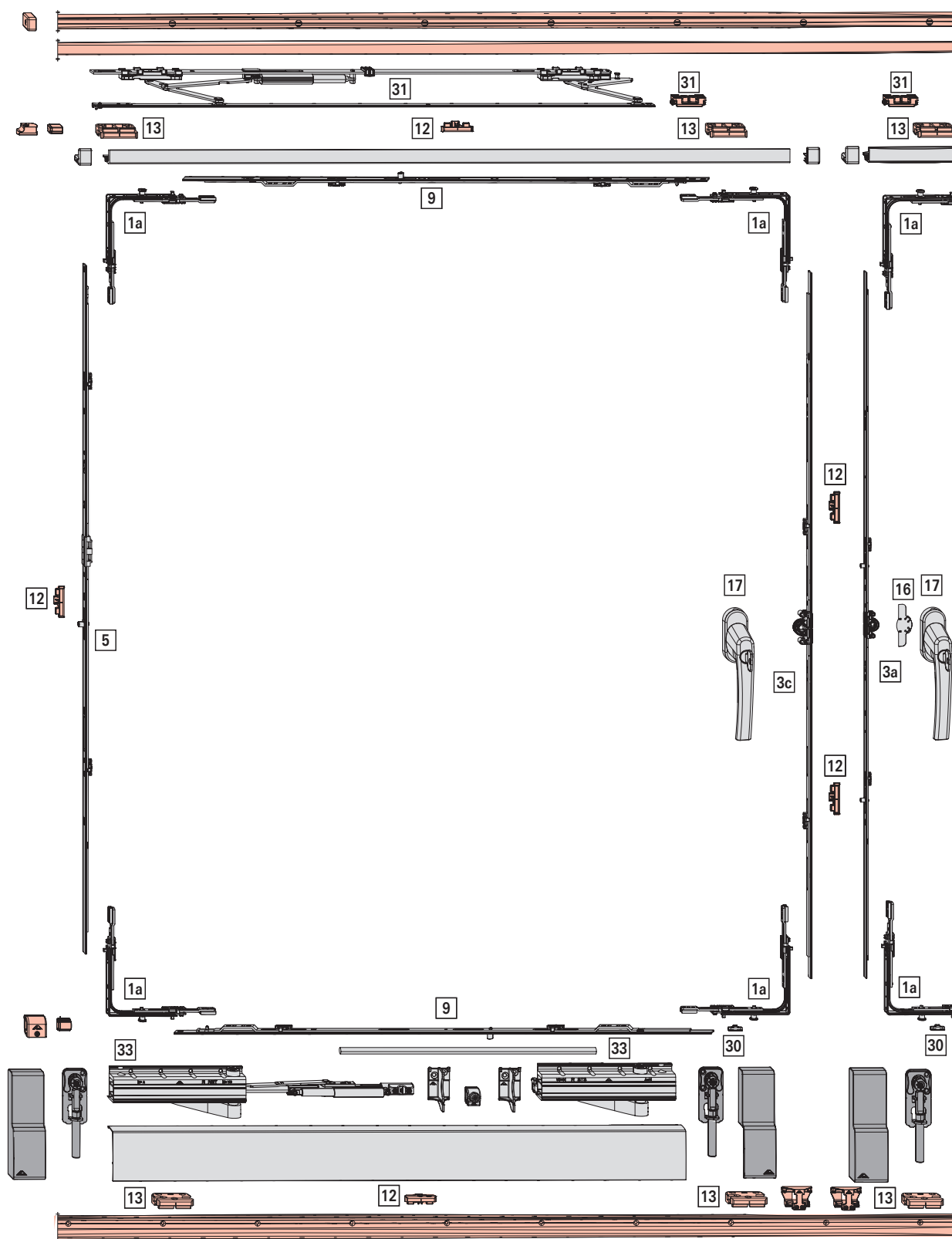
[33] Bogie set

Contains trailing and leading bogie				
Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

Track set → Page 108**Reinforcement part set → Page 107**

* Mandatory for RC 1 N.

**For exact details of the SRW, see the "Profile cross sections" chapter



**Application range**Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[30] Travel restrictor

	Material no.
	264603

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[3c] T&T espagnolette, centred / variable handle height, backset 15, without locking cam

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	–	289862
801 – 1200	401 – 600	980	–	289863
1201 – 1600	601 – 800	1380	–	289864
1601 – 2000	801 – 1000	1780	–	289865
2001 – 2400	1001 – 1200	2180	–	289866
2401 – 2700	1201 – 1350	2180	–	289866
2x centre lock, multipart		200	–	+ 308267

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466
1651 – 1850	1440	1E	603466
Centre lock, multipart	200	1E	+ 450821
1851 – 2000	1440	1E	603466
Centre lock, multipart	400	1E	+ 280346

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

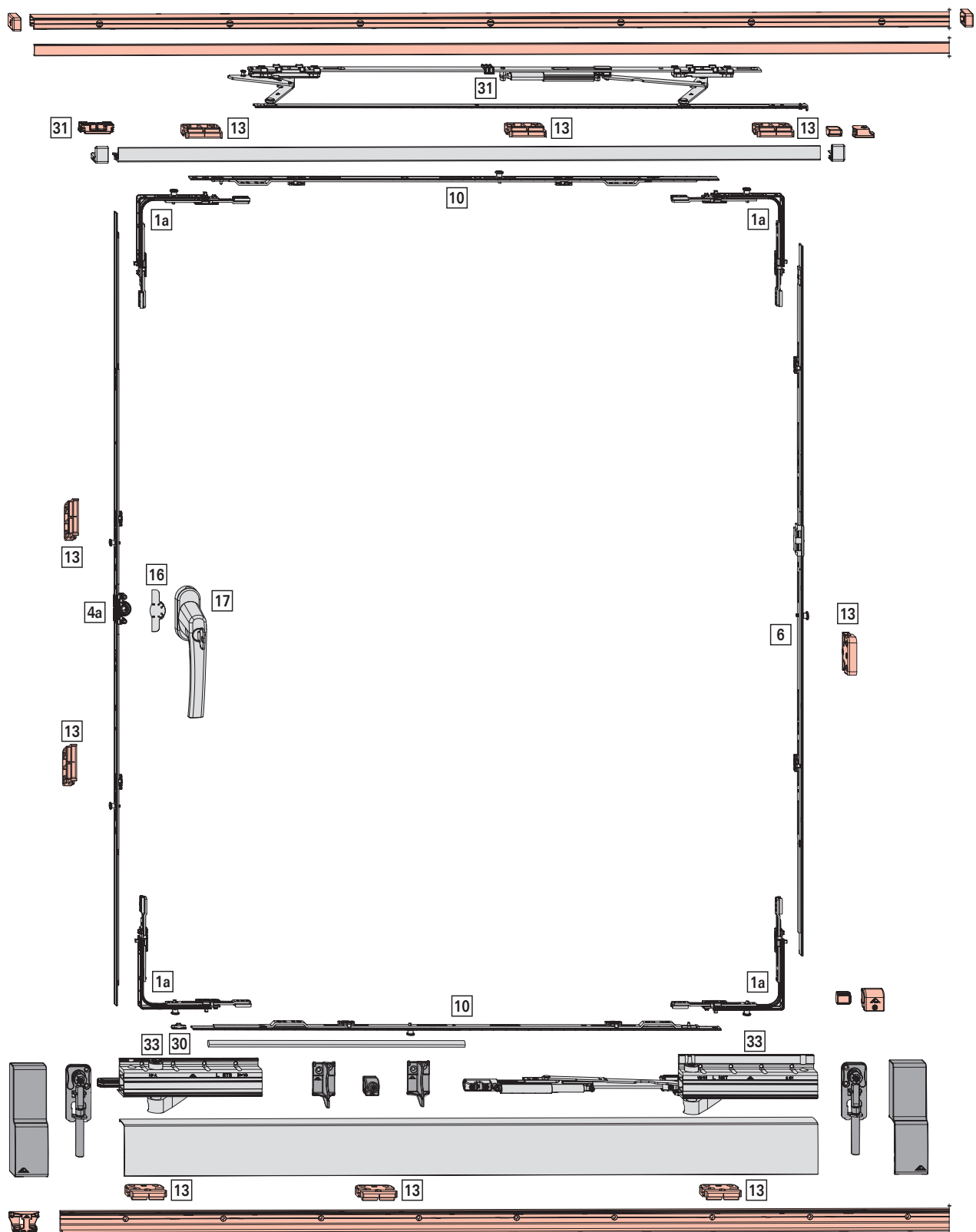
[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

Track set → Page 108**Reinforcement part set → Page 107**

* Mandatory for RC 1 N.



Subject to change

**Application range**Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[30] Travel restrictor

	Material no.
	264603

[4a] T&T espagnolette, centred / variable handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743
801 – 1200	401 – 600	980	1V	355744
1201 – 1600	601 – 800	1380	2V	355745
1601 – 2000	801 – 1000	1780	2V	795390
2001 – 2400	1001 – 1200	2180	4V	795393
2401 – 2700	1201 – 1350	2180	4V	795393
2x centre lock, multipart		200	1V	+ 337708

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475
1651 – 1850	1440	1V	603475
Centre lock, multipart	200	1V	+ 337708
1851 – 2000	1440	1V	603475
Centre lock, multipart	400	1V	+ 337710

[13] Striker, security → Page 116**[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

Track set → Page 108**Reinforcement part set → Page 107****Run-up block**

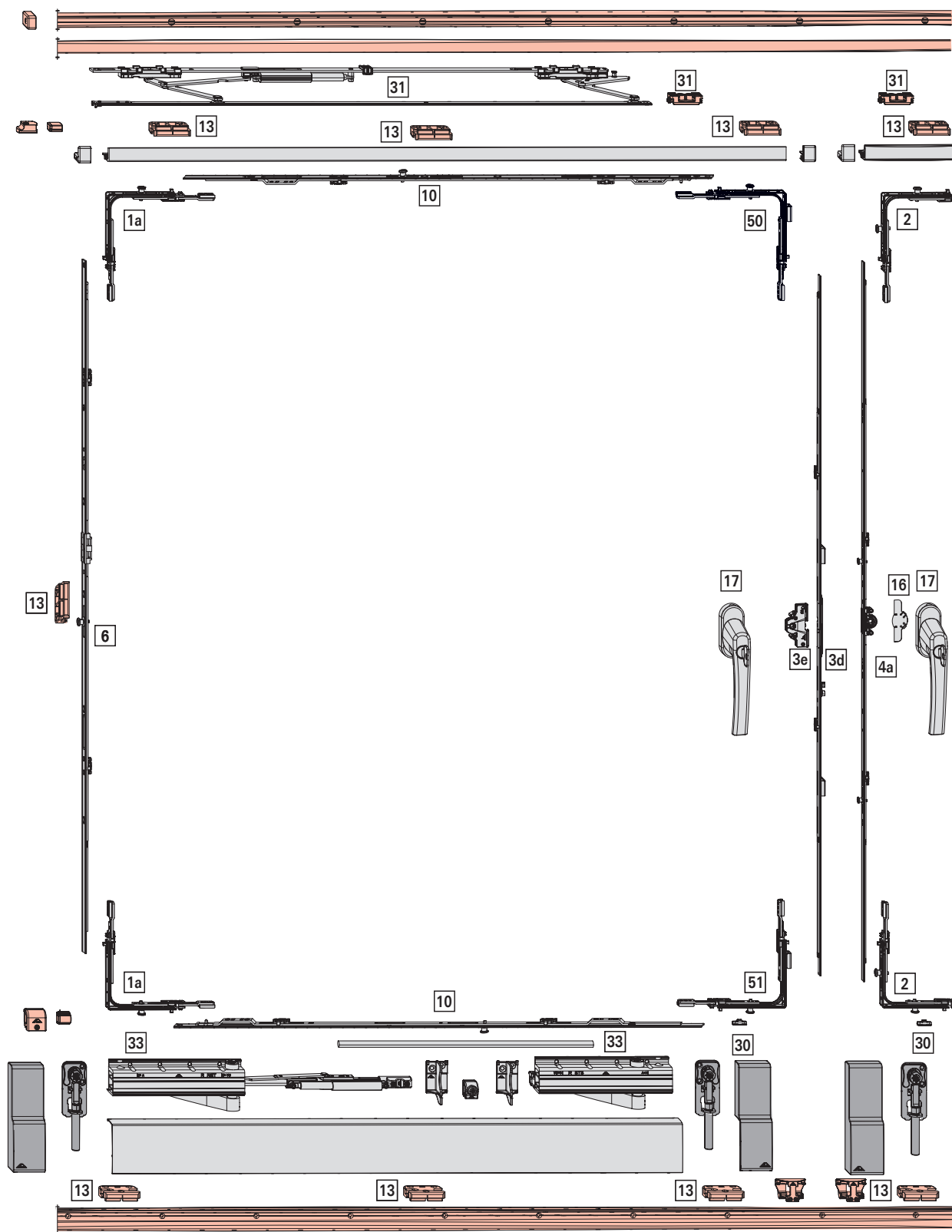
Installation on NT floating mullion

Security component for filling the rebate clearance*	601500
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* Quantity and position depend on the sash profile and hardware version.

PS without night ventilation, second opening sash – RC 2 and RC 2 N

Diagram C – T&T espagnolette with opposite hardware groove



Shown: up to 160 kg; RC 2 N; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height

**Application range**Sash rebate width **SRW**720** – 2000 mmSash rebate height **SRH**600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
1V		260272

[2] Corner drive, standard – security

	Cam	Material no.
2V		260274

[50] Corner drive at top of floating mullion – security

Number of strikers	Cam	Material no.
1	1V	313538

[51] Corner drive at bottom of floating mullion – security

Number of strikers	Cam	Material no.
1	1V	367227

[30] Travel restrictor

	Material no.
	264603

[4a] T&T espagnolette, centred / variable handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743
801 – 1200	401 – 600	980	1V	355744
1201 – 1600	601 – 800	1380	2V	355745
1601 – 2000	801 – 1000	1780	2V	795390
2001 – 2400	1001 – 1200	2180	4V	795393
2401 – 2700	1201 – 1350	2180	4V	795393
2x centre lock, multipart		200	1V +	337708

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1 +	450822
Centre lock at bottom of floating mullion		200	1 +	280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V +	337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V +	337710

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475
1651 – 1850	1440	1V	603475
Centre lock, multipart	200	1V +	337708
1851 – 2000	1440	1V	603475
Centre lock, multipart	400	1V +	337710

[13] Striker, security → Page 116**[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

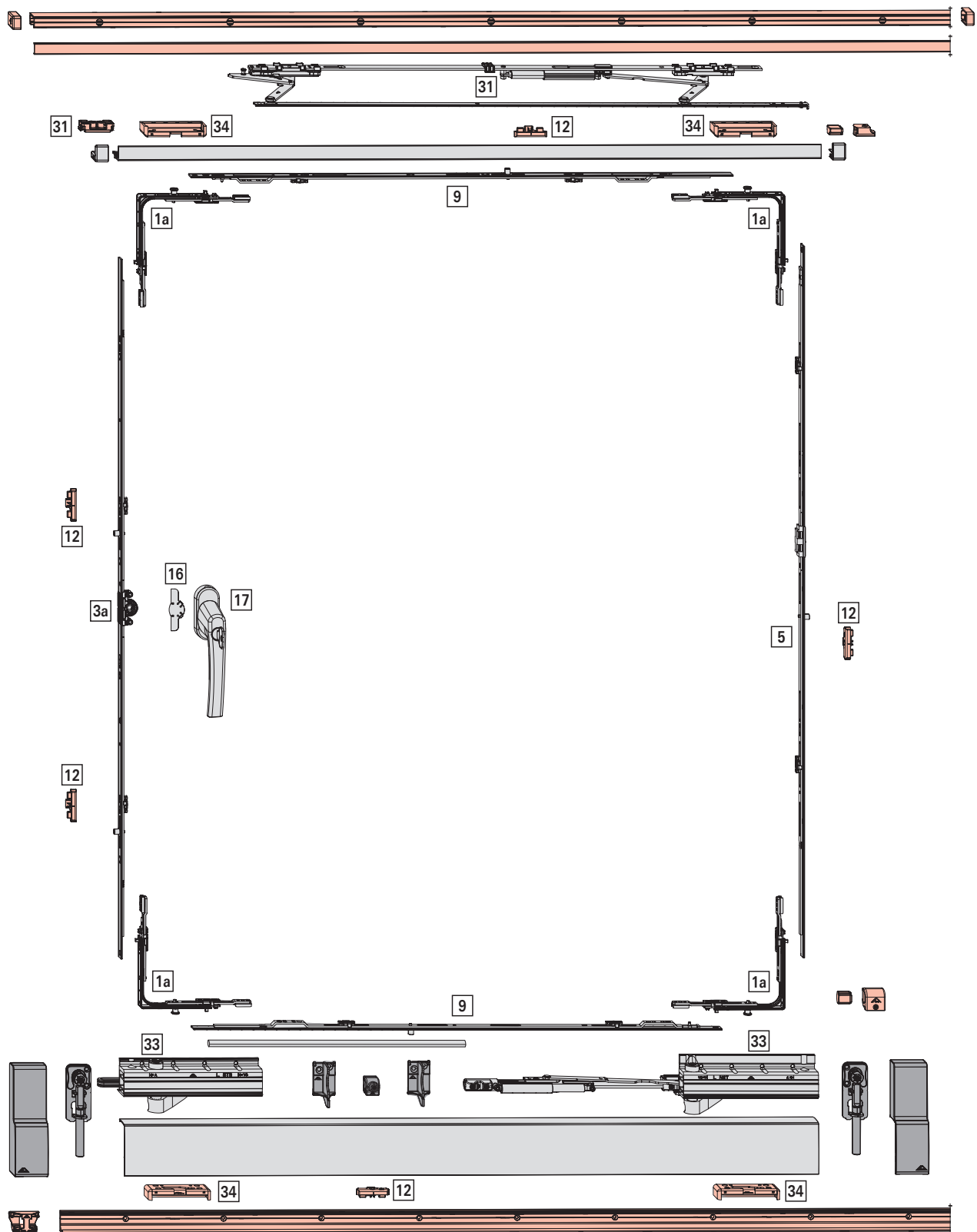
Track set → Page 108**Reinforcement part set → Page 107****Run-up block**

Installation on NT floating mullion

Security component for filling the rebate clearance*	601500
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* Quantity and position depend on the sash profile and hardware version.

** For exact details of the SRW, see the "Profile cross sections" chapter



Shown: up to 160 kg; RC 2 N; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height

**Application range**Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466
1651 – 1850	1440	1E	603466
Centre lock, multipart	200	1E	+ 450821
1851 – 2000	1440	1E	603466
Centre lock, multipart	400	1E	+ 280346

[12] Striker, standard → Page 115**[34] Night ventilation strikers → Page 120****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed			
SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

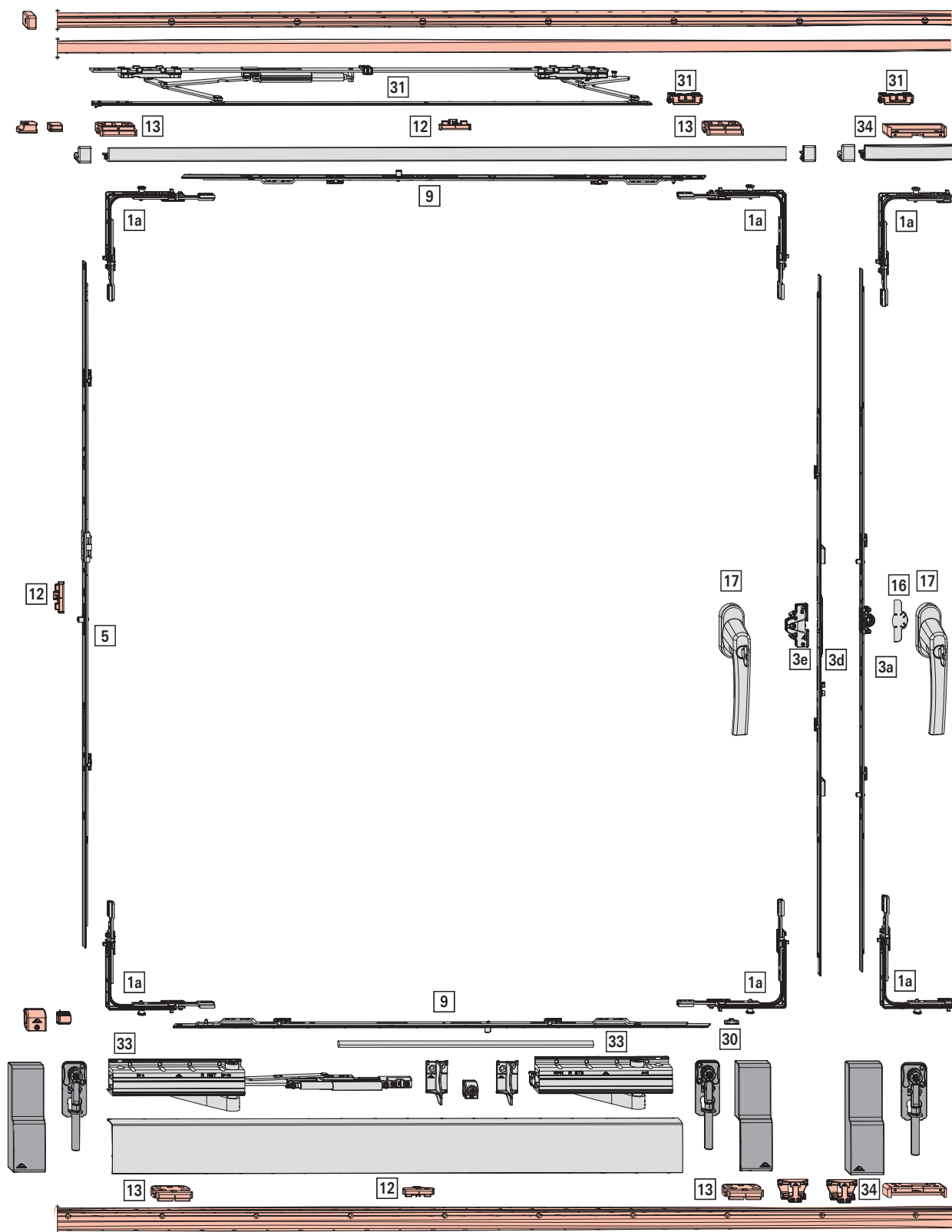
[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

Track set → Page 108**Reinforcement part set → Page 107**

* Mandatory for RC 1 N.



**Application range**Sash rebate width **SRW**720** – 2000 mmSash rebate height **SRH**600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[30] Travel restrictor

	Material no.
	264603

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466
1651 – 1850	1440	1E	603466
Centre lock, multipart	200	1E	+ 450821
1851 – 2000	1440	1E	603466
Centre lock, multipart	400	1E	+ 280346

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[34] Night ventilation strikers → Page 120****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed			
SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

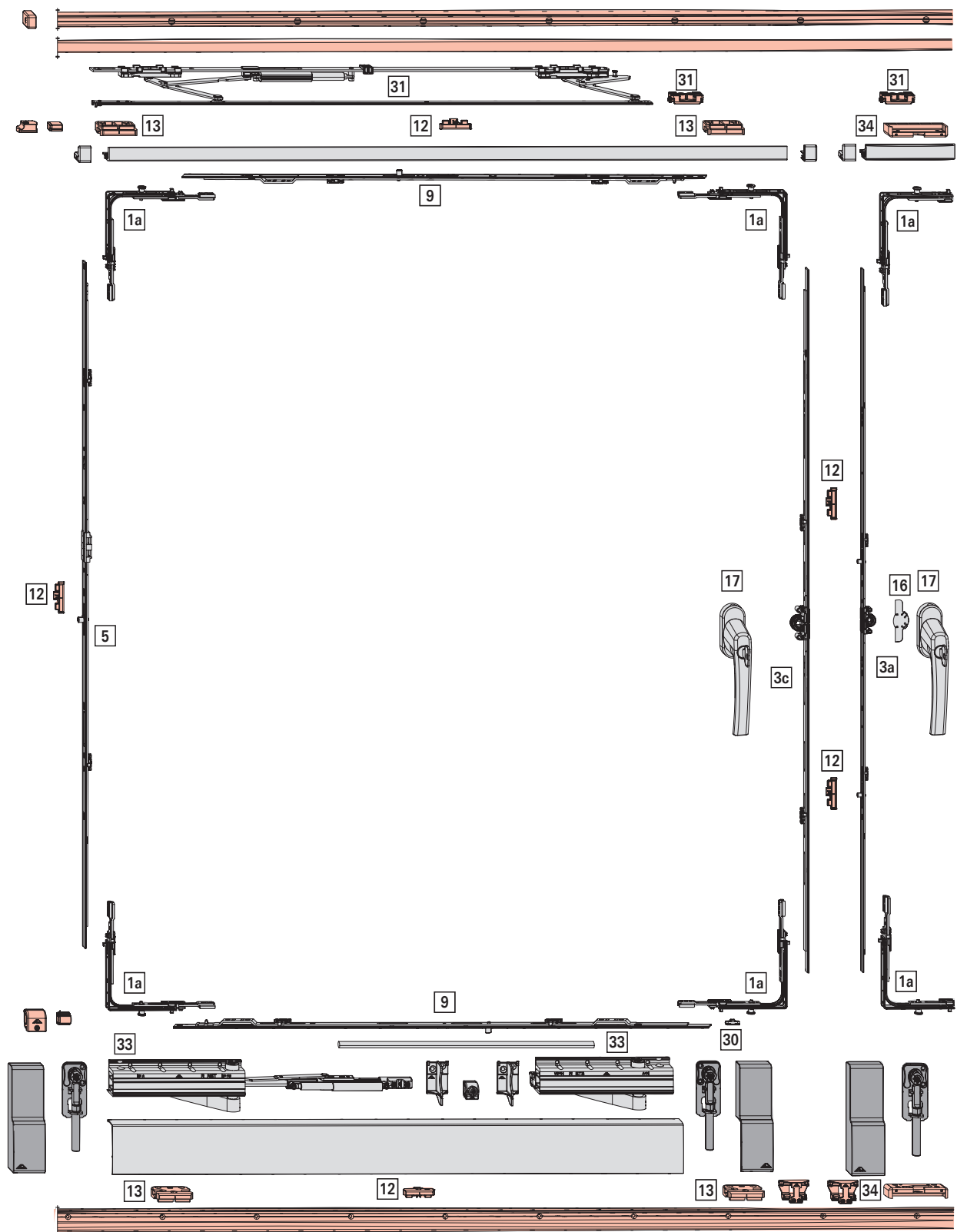
[33] Bogie set

Contains trailing and leading bogie				
Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

Track set → Page 108**Reinforcement part set → Page 107**

* Mandatory for RC 1 N.

** For exact details of the SRW, see the "Profile cross sections" chapter



**Application range**Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[30] Travel restrictor

	Material no.
	264603

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[3c] T&T espagnolette, centred / variable handle height, backset 15, without locking cam

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	–	289862
801 – 1200	401 – 600	980	–	289863
1201 – 1600	601 – 800	1380	–	289864
1601 – 2000	801 – 1000	1780	–	289865
2001 – 2400	1001 – 1200	2180	–	289866
2401 – 2700	1201 – 1350	2180	–	289866
2x centre lock, multipart		200	–	+ 308267

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466
1651 – 1850	1440	1E	603466
Centre lock, multipart	200	1E	+ 450821
1851 – 2000	1440	1E	603466
Centre lock, multipart	400	1E	+ 280346

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[34] Night ventilation strikers → Page 120****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed			
SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

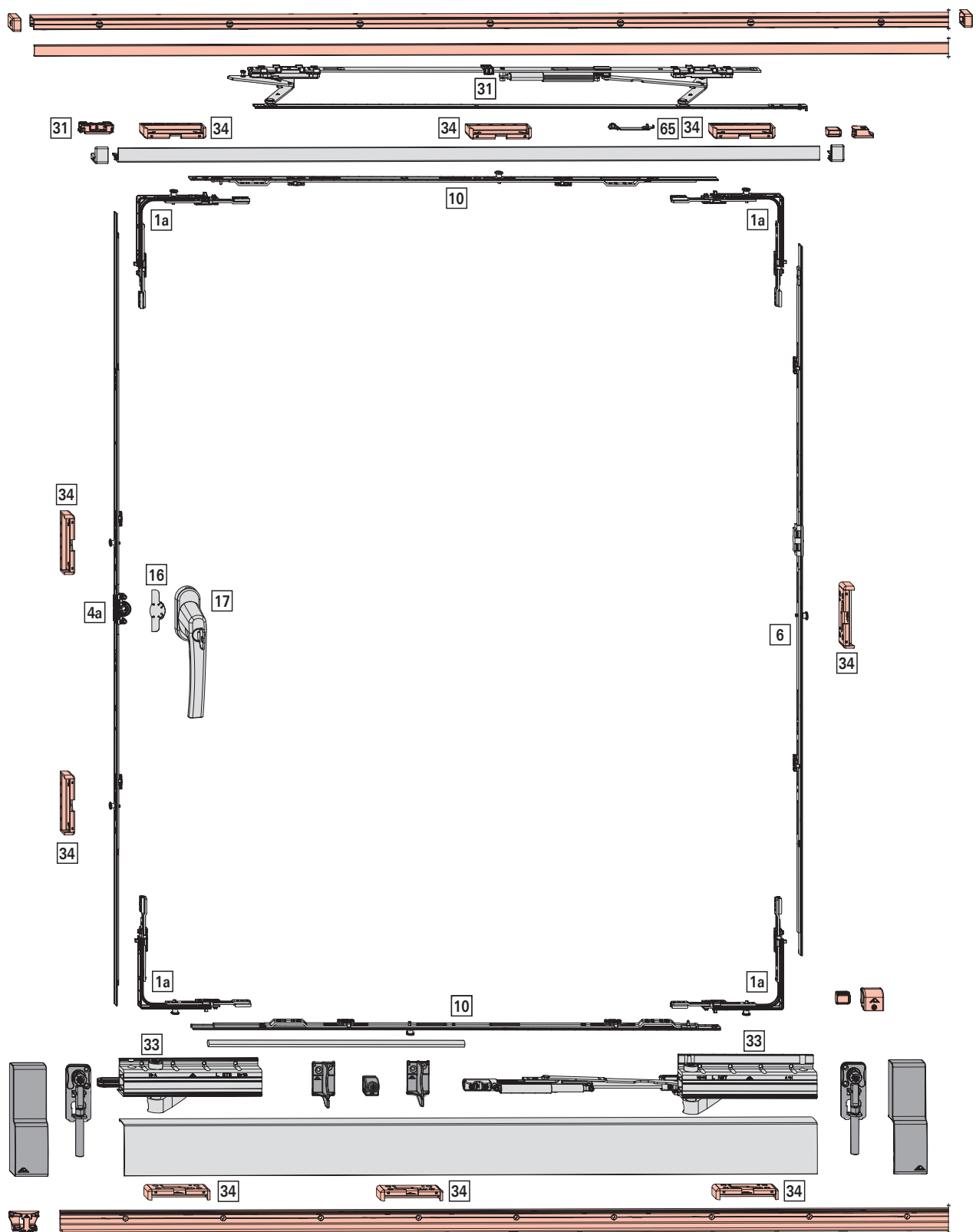
[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

Track set → Page 108**Reinforcement part set → Page 107**

* Mandatory for RC 1 N.



Shown: up to 160 kg; RC 2 N; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height;
in the closed and night ventilation position

**Application range**Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[4a] T&T espagnolette, centred / variable handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743
801 – 1200	401 – 600	980	1V	355744
1201 – 1600	601 – 800	1380	2V	355745
1601 – 2000	801 – 1000	1780	2V	795390
2001 – 2400	1001 – 1200	2180	4V	795393
2401 – 2700	1201 – 1350	2180	4V	795393
2x centre lock, multipart		200	1V	+ 337708

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475
1651 – 1850	1440	1V	603475
Centre lock, multipart	200	1V	+ 337708
1851 – 2000	1440	1V	603475
Centre lock, multipart	400	1V	+ 337710

[34] Night ventilation strikers → Page 120**[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

Track set → Page 108**Reinforcement part set → Page 107****Run-up block**

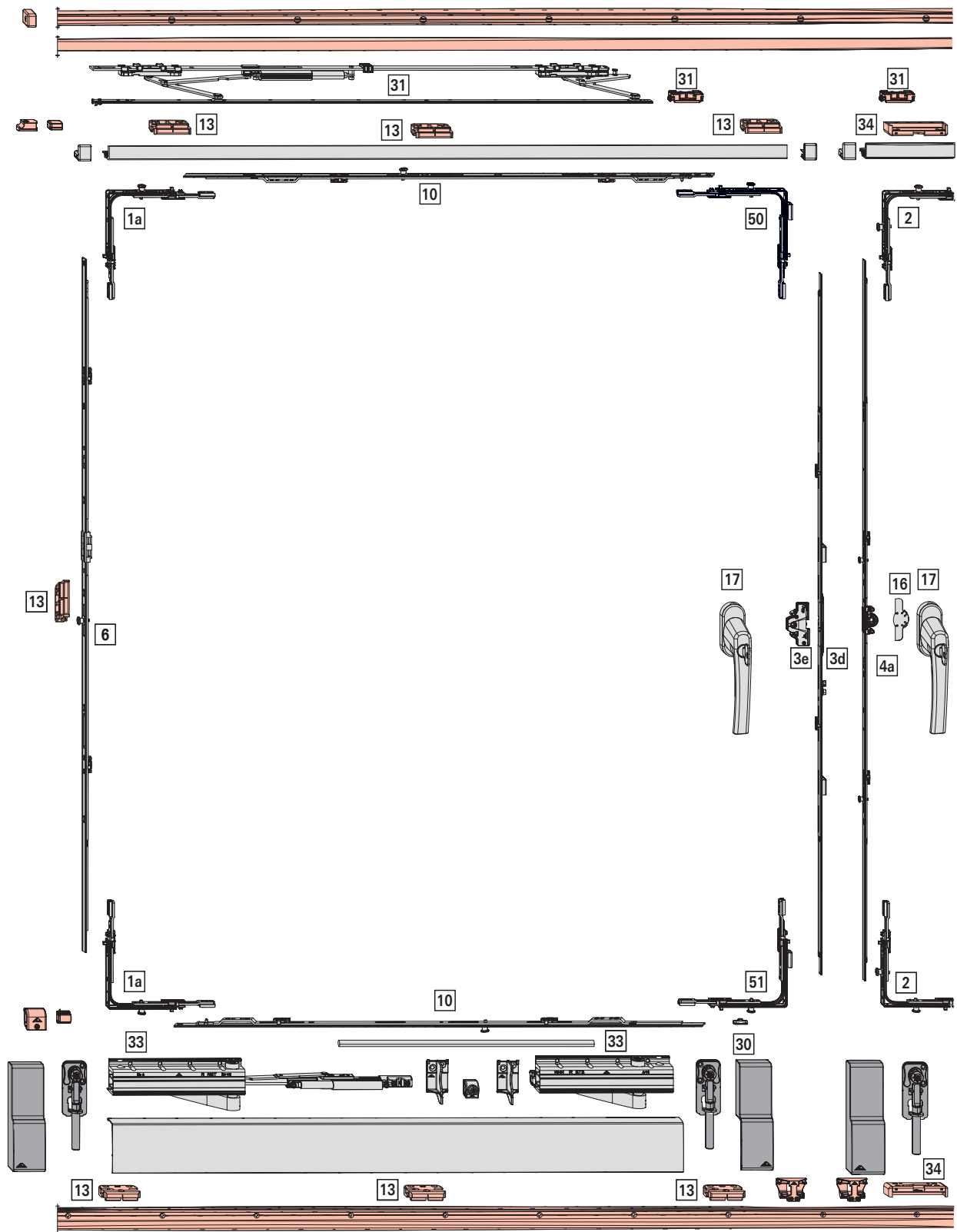
Installation on NT floating mullion

Security component for filling the rebate clearance*	601500
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**INFO**

RC 2 / RC 2 N (closed position): night ventilation strikers in every corner. There are “security strikers” at all other locking points.

* Quantity and position depend on the sash profile and hardware version.



Shown: up to 160 kg; RC 2 N; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height;
in closed position

**Application range**Sash rebate width **SRW** 720* – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
1V		260272

[2] Corner drive, standard – security

	Cam	Material no.
2V		260274

[50] Corner drive at top of floating mullion – security

Number of strikers	Cam	Material no.
1	1V	313538

[51] Corner drive at bottom of floating mullion – security

Number of strikers	Cam	Material no.
1	1V	367227

[30] Travel restrictor

	Material no.
	264603

[4a] T&T espagnolette, centred / variable handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743
801 – 1200	401 – 600	980	1V	355744
1201 – 1600	601 – 800	1380	2V	355745
1601 – 2000	801 – 1000	1780	2V	795390
2001 – 2400	1001 – 1200	2180	4V	795393
2401 – 2700	1201 – 1350	2180	4V	795393
2x centre lock, multipart		200	1V	+ 337708

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172

[6] Centre lock, vertical – security

SRH	Length	Cam	Material no.
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475
1651 – 1850	1440	1V	603475
Centre lock, multipart	200	1V	+ 337708
1851 – 2000	1440	1V	603475
Centre lock, multipart	400	1V	+ 337710

[13] Striker, security → Page 116**[34] Night ventilation strikers → Page 120****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed			
SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

[33] Bogie set

Contains trailing and leading bogie				
Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

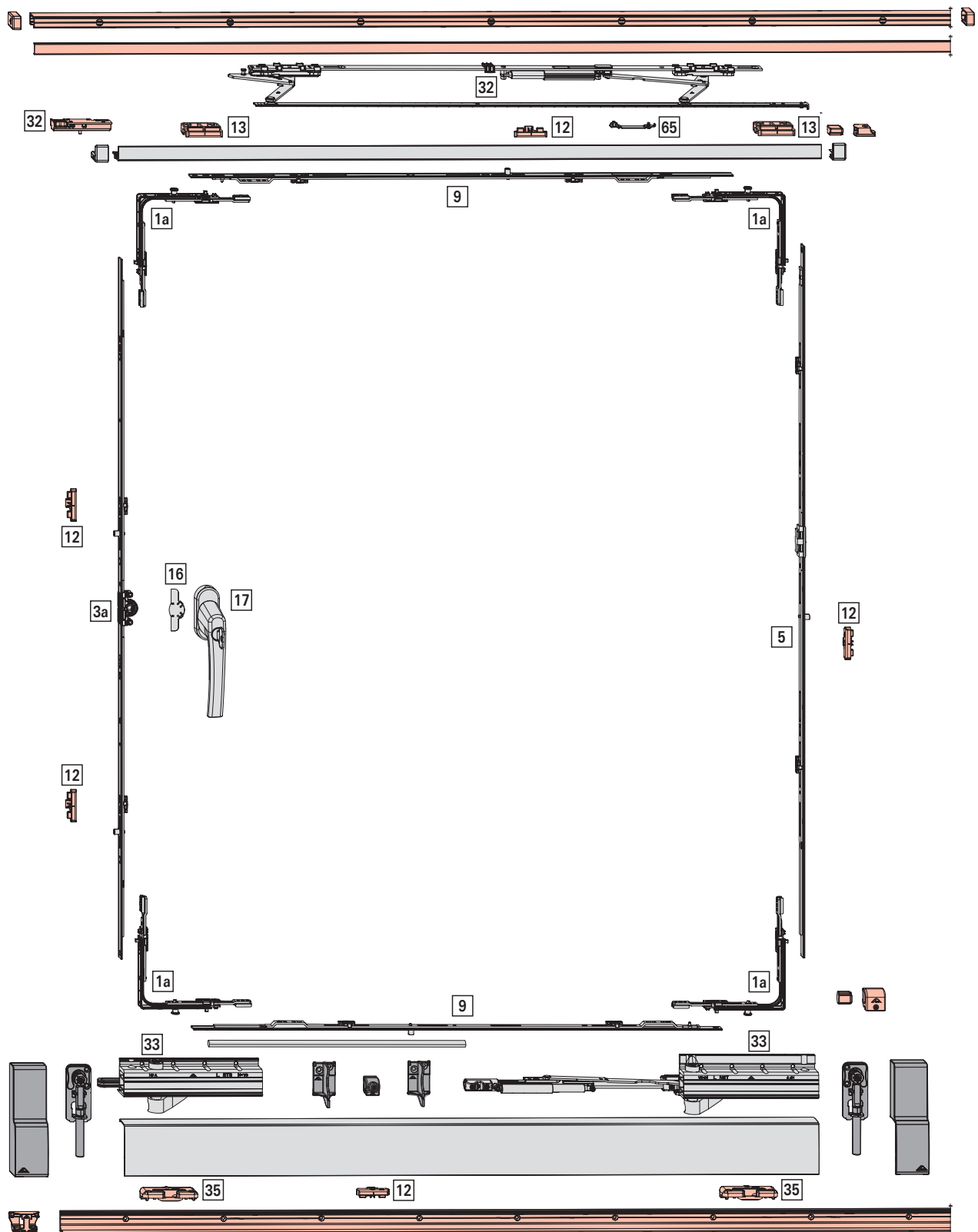
Track set → Page 108**Reinforcement part set → Page 107****Run-up block**

Installation on NT floating mullion	
Security component for filling the rebate clearance*	601500

**INFO**

RC 2 / RC 2 N (closed position): night ventilation strikers in every corner on the first opening sash.

* Quantity and position depend on the sash profile and hardware version.



Shown: up to 160 kg; RC 1 N; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height

**Application range**Sash rebate width **SRW** 720 – 1650 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**[5] Centre lock, vertical**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[65] Retrofit set for lock-in position****

	Material no.
For sliding scissor stay, Parallel Sliding, tilt ventilation: to assist the lock-in function	807166

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829

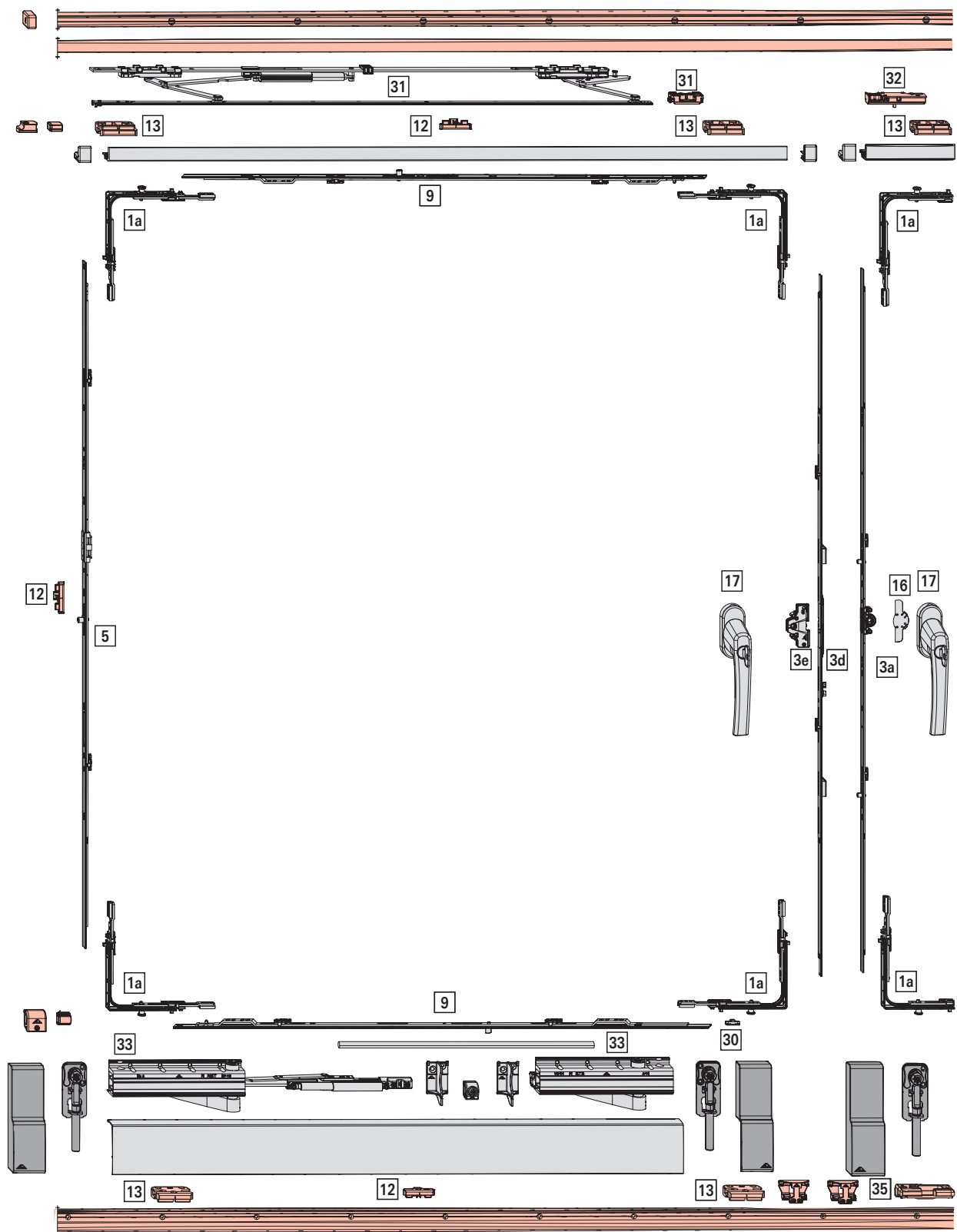
[33] Bogie set

Contains trailing and leading bogie				
Variant	Weight	Damping	DIN	Material no.
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833

[35] Tilt striker, zinc → Page 121**Track set → Page 108****Reinforcement part set → Page 107**

* Mandatory for RC 1 N.

** Optional for S.kg > 80 kg





Application range

Sash rebate width **SRW**720** – 1650 mm

Sash rebate height **SRH**600 – 2700 mm

Sash weight **S.kg**max. 160 kg

[1a] Corner drive, standard

Cam	Material no.
1V	260272

[30] Travel restrictor

Material no.
264603

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

Material no.
787677

[16] Drilling protection*

Material no.
770965

[17] Handle, lockable* → CTL_1

[5] Centre lock, vertical

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466

[12] Striker, standard → Page 115

[13] Striker, security → Page 116

[31] Sliding scissor stay set, Parallel Sliding, night ventilation

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227

[65] Retrofit set for lock-in position**

Material no.
For sliding scissor stay, Parallel Sliding, tilt ventilation: to assist the lock-in function 807166

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

Contains sliding scissor stay and top guide block, tiltable

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833

[35] Tilt striker, zinc → Page 121

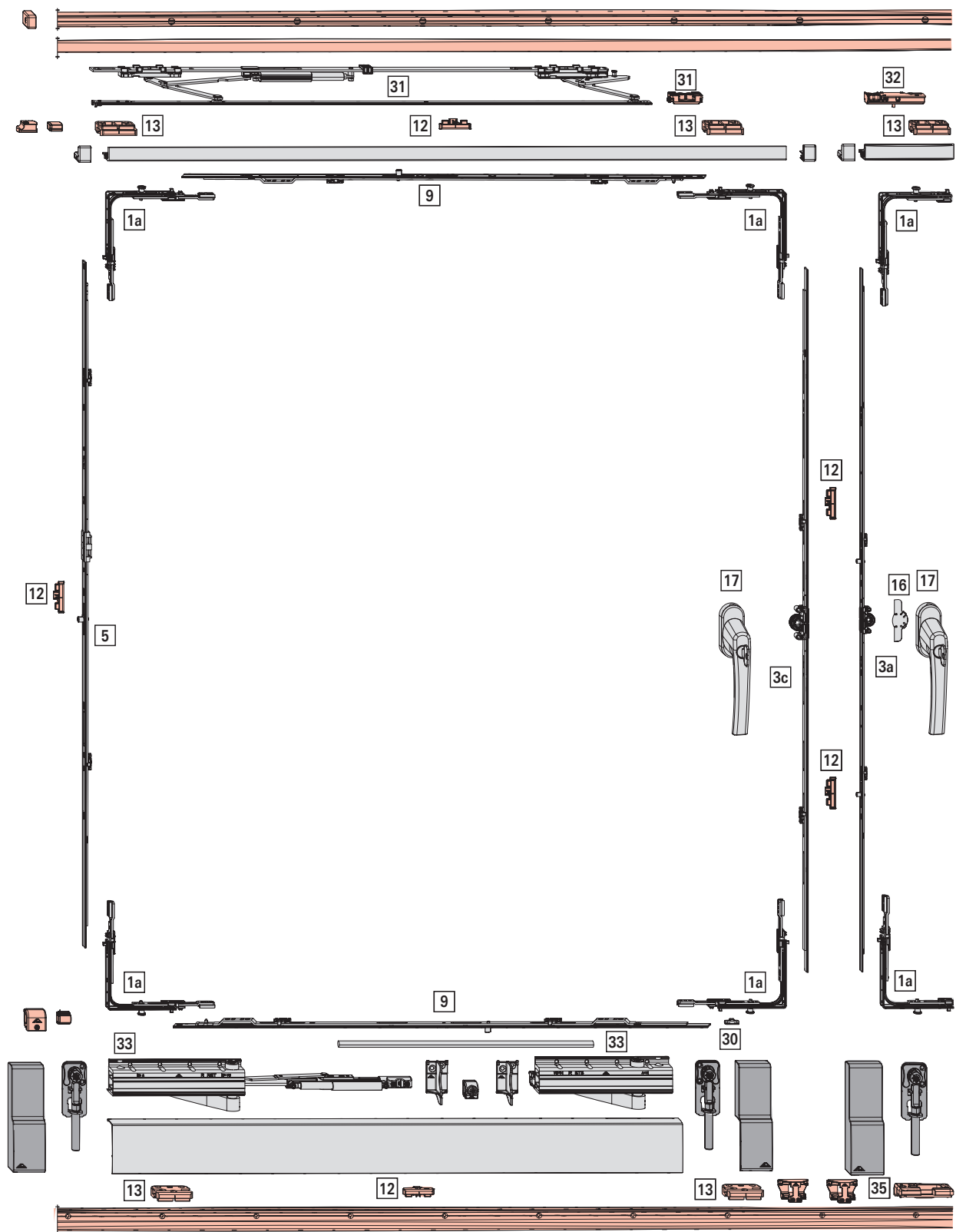
Track set → Page 108

Reinforcement part set → Page 107

* Mandatory for RC 1 N.

** For exact details of the SRW, see the "Profile cross sections" chapter

*** Optional for S.kg > 80 kg





Application range

Sash rebate width **SRW** 720 – 1650 mm

Sash rebate height **SRH** 600 – 2700 mm

Sash weight **S.kg** max. 160 kg

[1a] Corner drive, standard

	Cam	Material no.
	1V	260272

[30] Travel restrictor

	Material no.
	264603

[3a] T&T espagnolette, centred / variable handle height, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	1E	259719
801 – 1200	401 – 600	980	1E	259720
1201 – 1600	601 – 800	1380	2E	259721
1601 – 2000	801 – 1000	1780	2E	795389
2001 – 2400	1001 – 1200	2180	4E	795392
2401 – 2700	1201 – 1350	2180	4E	795392
2x centre lock, multipart		200	1E	+ 450821

[3c] T&T espagnolette, centred / variable handle height, backset 15, without locking cam

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	–	289862
801 – 1200	401 – 600	980	–	289863
1201 – 1600	601 – 800	1380	–	289864
1601 – 2000	801 – 1000	1780	–	289865
2001 – 2400	1001 – 1200	2180	–	289866
2401 – 2700	1201 – 1350	2180	–	289866
2x centre lock, multipart		200	–	+ 308267

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1

[5] Centre lock, vertical

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466

[12] Striker, standard → Page 115

[13] Striker, security → Page 116

[31] Sliding scissor stay set, Parallel Sliding, night ventilation

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227

[65] Retrofit set for lock-in position**

	Material no.
For sliding scissor stay, Parallel Sliding, tilt ventilation: to assist the lock-in function	807166

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

Contains sliding scissor stay and top guide block, tiltable

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833

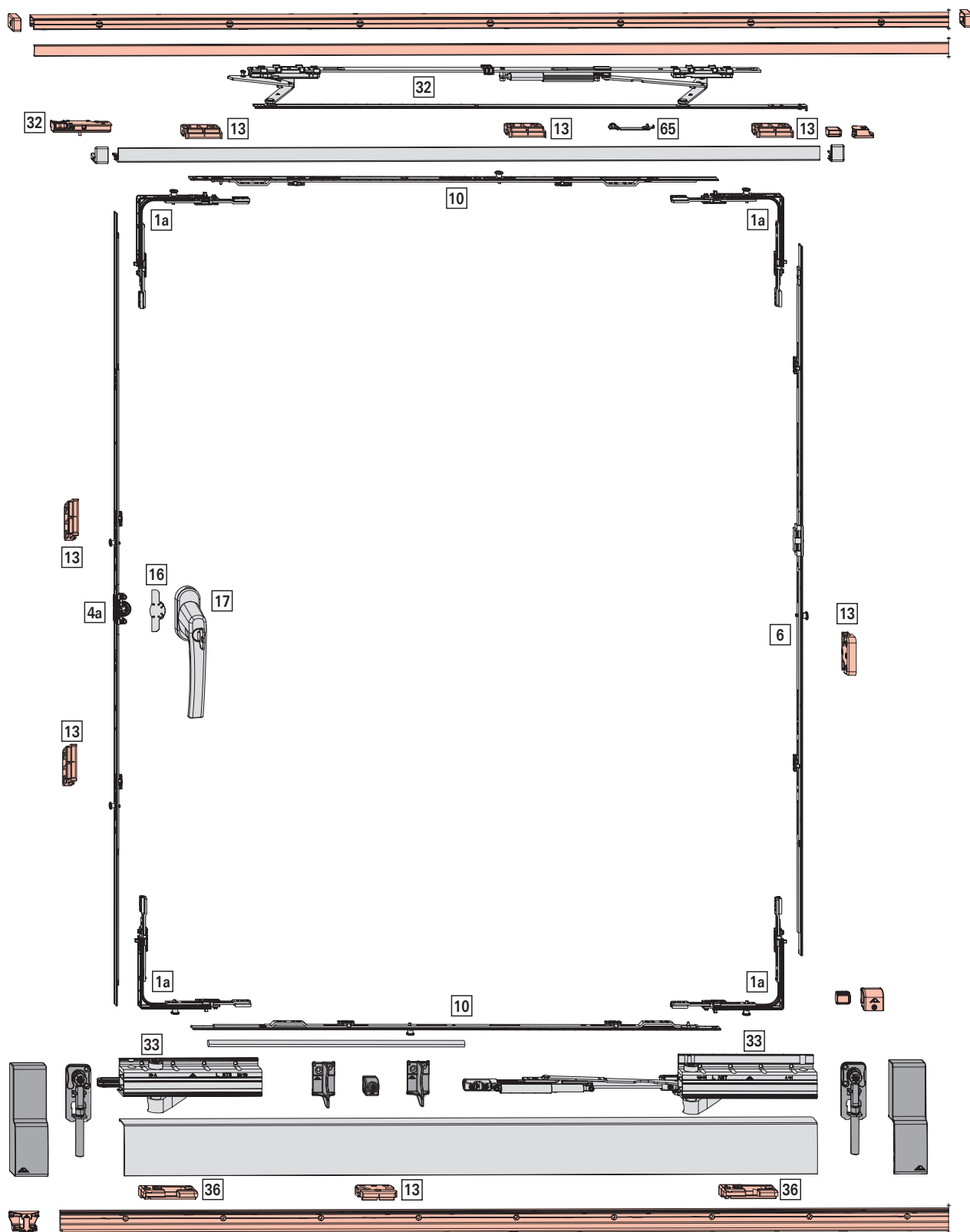
[35] Tilt striker, zinc → Page 121

Track set → Page 108

Reinforcement part set → Page 107

* Mandatory for RC 1 N.

** Optional for S.kg > 80 kg



Shown: up to 160 kg; RC 2 N; SRW 1450; SRH 1300; T&T espagnolette, centred / variable handle height

**Application range**Sash rebate width **SRW** 720 – 1650 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[4a] T&T espagnolette, centred / variable handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743
801 – 1200	401 – 600	980	1V	355744
1201 – 1600	601 – 800	1380	2V	355745
1601 – 2000	801 – 1000	1780	2V	795390
2001 – 2400	1001 – 1200	2180	4V	795393
2401 – 2700	1201 – 1350	2180	4V	795393
2x centre lock, multipart		200	1V	+ 337708

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475

[13] Striker, security → Page 116**[65] Retrofit set for lock-in position****

	Material no.
For sliding scissor stay, Parallel Sliding, tilt ventilation: to assist the lock-in function	807166

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829

[33] Bogie set

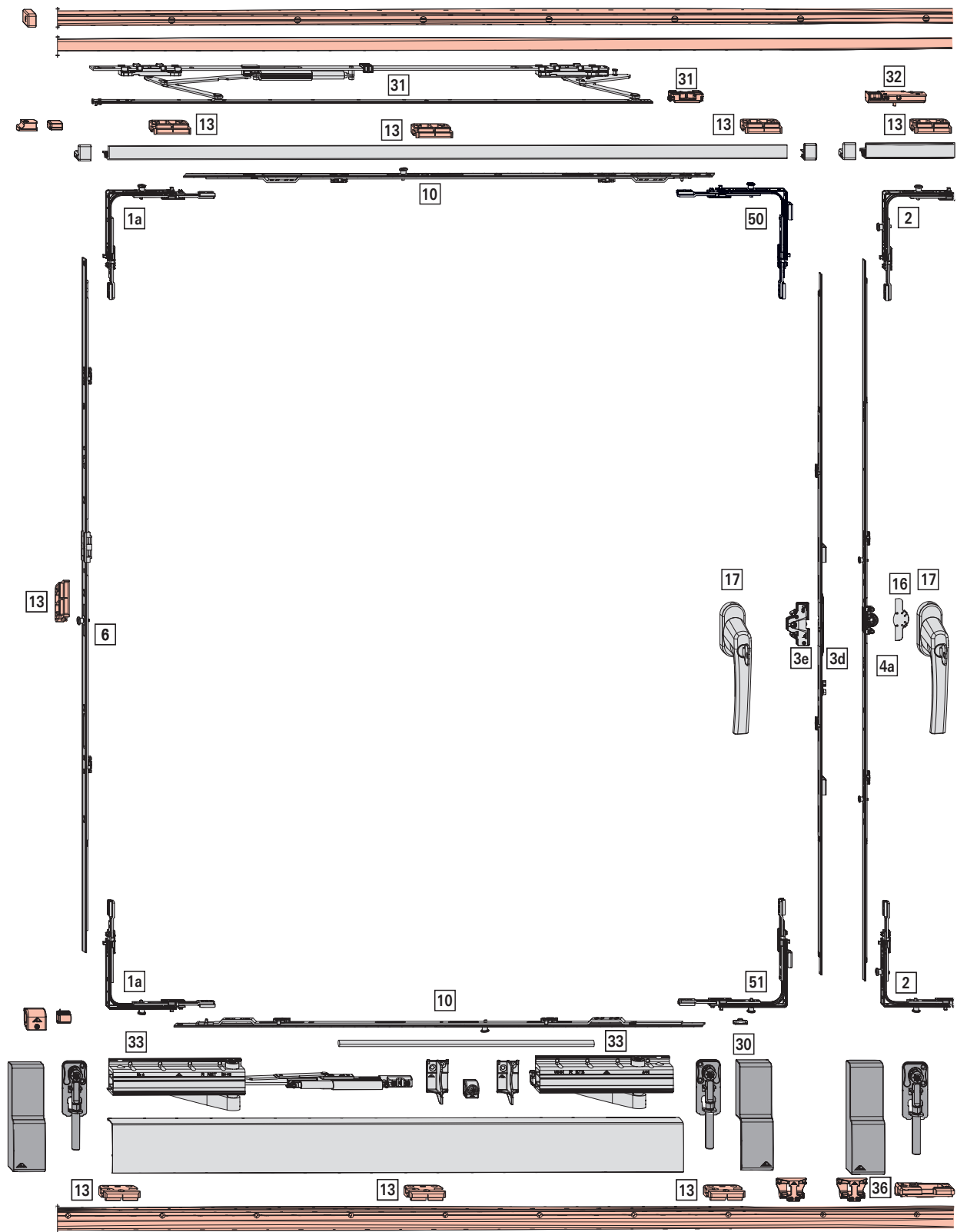
Contains trailing and leading bogie				
Variant	Weight	Damping	DIN	Material no.
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833

[36] Tilt striker steel → Page 123**Track set → Page 108****Reinforcement part set → Page 107****Run-up block**

Installation on NT floating mullion	
Security component for filling the rebate clearance*	601500

* Quantity and position depend on the sash profile and hardware version.

** Optional for S.kg > 80 kg



**Application range**Sash rebate width **SRW**720** – 1650 mmSash rebate height **SRH**600 – 2700 mmSash weight **S.kg**max. 160 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[2] Corner drive, standard – security

	Cam	Material no.
	2V	260274

[50] Corner drive at top of floating mullion – security

Number of strikers	Cam	Material no.
1	1V	313538

[51] Corner drive at bottom of floating mullion – security

Number of strikers	Cam	Material no.
1	1V	367227

[30] Travel restrictor

	Material no.
	264603

[4a] T&T espagnolette, centred / variable handle height, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743
801 – 1200	401 – 600	980	1V	355744
1201 – 1600	601 – 800	1380	2V	355745
1601 – 2000	801 – 1000	1780	2V	795390
2001 – 2400	1001 – 1200	2180	4V	795393
2401 – 2700	1201 – 1350	2180	4V	795393
2x centre lock, multipart		200	1V	+ 337708

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection

	Material no.
	770965

[17] Handle, lockable → CTL_1**[6] Centre lock, vertical – security**

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170

[6] Centre lock, vertical – security

SRH	Length	Cam	Material no.
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475

[13] Striker, security → Page 116**[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed			
SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227

[65] Retrofit set for lock-in position**

	Material no.
For sliding scissor stay, Parallel Sliding, tilt ventilation: to assist the lock-in function	807166

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

Contains sliding scissor stay and top guide block, tiltable			
SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829

[33] Bogie set

Contains trailing and leading bogie				
Variant	Weight	Damping	DIN	Material no.
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833

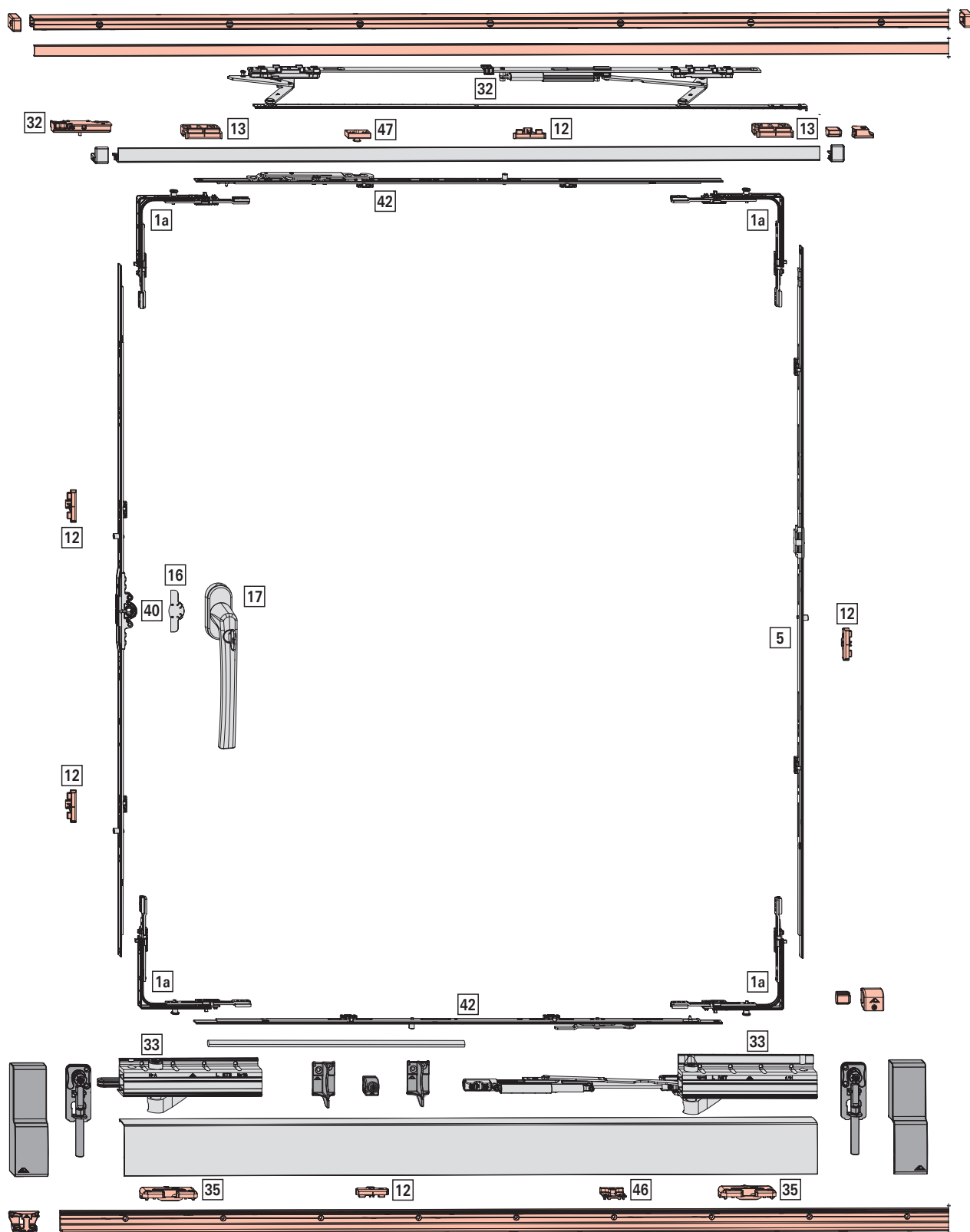
[36] Tilt striker steel → Page 123**Track set → Page 108****Reinforcement part set → Page 107****Run-up block**

Installation on NT floating mullion	
Security component for filling the rebate clearance*	601500

* Quantity and position depend on the sash profile and hardware version.

** For exact details of the SRW, see the "Profile cross sections" chapter

*** Optional for S.kg > 80 kg





Application range

Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

Cam	Material no.
1V	260272

[40] T&T espagnolette, centred / variable handle height, reinforced, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718*
621 – 800	311 – 400	580	1E	259719*
801 – 1200	401 – 600	980	1E	774182
1201 – 1600	601 – 800	1380	2E	774183
1601 – 2000	801 – 1000	1780	2E	774184
2001 – 2400	1001 – 1200	2180	4E	774185
2401 – 2700	1201 – 1350	2180	4E	774185
2x centre lock, multipart		200	1E	+ 450821

[16] Drilling protection**

Material no.
770965

[17] Handle, lockable → CTL_1**

INFO

Only use handles with a length of 200 mm for Patio Alversa | PS Air Com.

[5] Centre lock, vertical

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[42] Comfort set

Contains a centre lock, horizontal, with comfort scissor stay at the top and mishandling device at the bottom

SRW	Length	Cam	DIN	Material no.
720 – 800	590	–	Left	772309
			Right	772310
801 – 1000	790	1E	Left	772311
			Right	772312
1001 – 1200	990	1E	Left	772313
			Right	772314
1201 – 1400	1190	1E	Left	773386
			Right	773388
1401 – 1650	1440	1E	Left	773389
			Right	773390
1651 – 1850	1440	1E	Left	773389
			Right	773390
Centre lock, multipart	200	1E		+ 450821
1851 – 2000	1440	1E	Left	773389
			Right	773390
Centre lock, multipart	400	1E		+ 280346

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation**

Contains sliding scissor stay and top guide block, tiltable

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829
1651 – 2000	Yes	Left	808826
		Right	808830

[33] Bogie set

Contains trailing and leading bogie

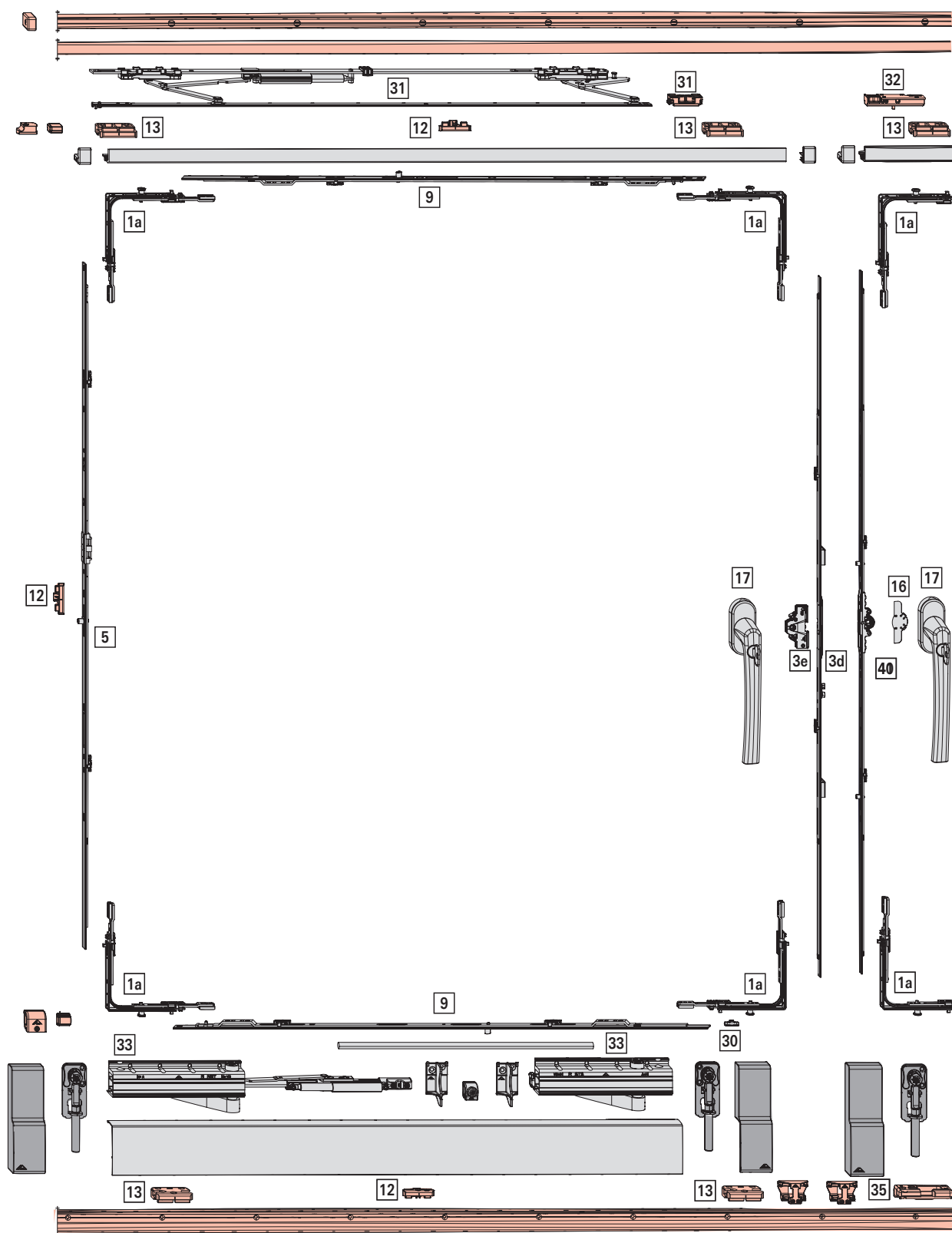
Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

[35] Tilt striker, zinc → Page 121**[46] Mishandling device frame component
→ Page 129****[47] Comfort scissor stay frame component***
→ Page 127****Track set → Page 108****Reinforcement part set → Page 107**

* Non-reinforced version

** Mandatory for RC 1 N.

*** Two comfort scissor stay frame components are required for a SRW of 1201–2000





Application range

Sash rebate width **SRW** 720*** – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
1V		260272

[30] Travel restrictor

	Material no.
	264603

[40] T&T espagnolette, centred / variable handle height, reinforced, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718*
621 – 800	311 – 400	580	1E	259719*
801 – 1200	401 – 600	980	1E	774182
1201 – 1600	601 – 800	1380	2E	774183
1601 – 2000	801 – 1000	1780	2E	774184
2001 – 2400	1001 – 1200	2180	4E	774185
2401 – 2700	1201 – 1350	2180	4E	774185
2x centre lock, multipart		200	1E	+ 450821

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection**

	Material no.
	770965

[17] Handle, lockable → CTL_1****INFO**

Only use handles with a length of 200 mm for Patio Alversa | PS Air Com.

[5] Centre lock, vertical

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[42] Comfort set

Contains a centre lock, horizontal, with comfort scissor stay at the top and mishandling device at the bottom

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772309
			Right	772310
801 – 1000	790	1E	Left	772311
			Right	772312
1001 – 1200	990	1E	Left	772313
			Right	772314
1201 – 1400	1190	1E	Left	773386
			Right	773388
1401 – 1650	1440	1E	Left	773389
			Right	773390
1651 – 1850	1440	1E	Left	773389
			Right	773390
Centre lock, multipart	200	1E		+ 450821
1851 – 2000	1440	1E	Left	773389
			Right	773390
Centre lock, multipart	400	1E		+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466
1651 – 1850	1440	1E	603466
Centre lock, multipart	200	1E	+ 450821
1851 – 2000	1440	1E	603466
Centre lock, multipart	400	1E	+ 280346

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

Contains sliding scissor stay and top guide block, tiltable

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829
1651 – 2000	Yes	Left	808826

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

Contains sliding scissor stay and top guide block, tiltable

SRW	Damping	DIN	Material no.
		Right	808830

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

[35] Tilt striker → Page 121

[46] Mishandling device frame component

→ Page 129

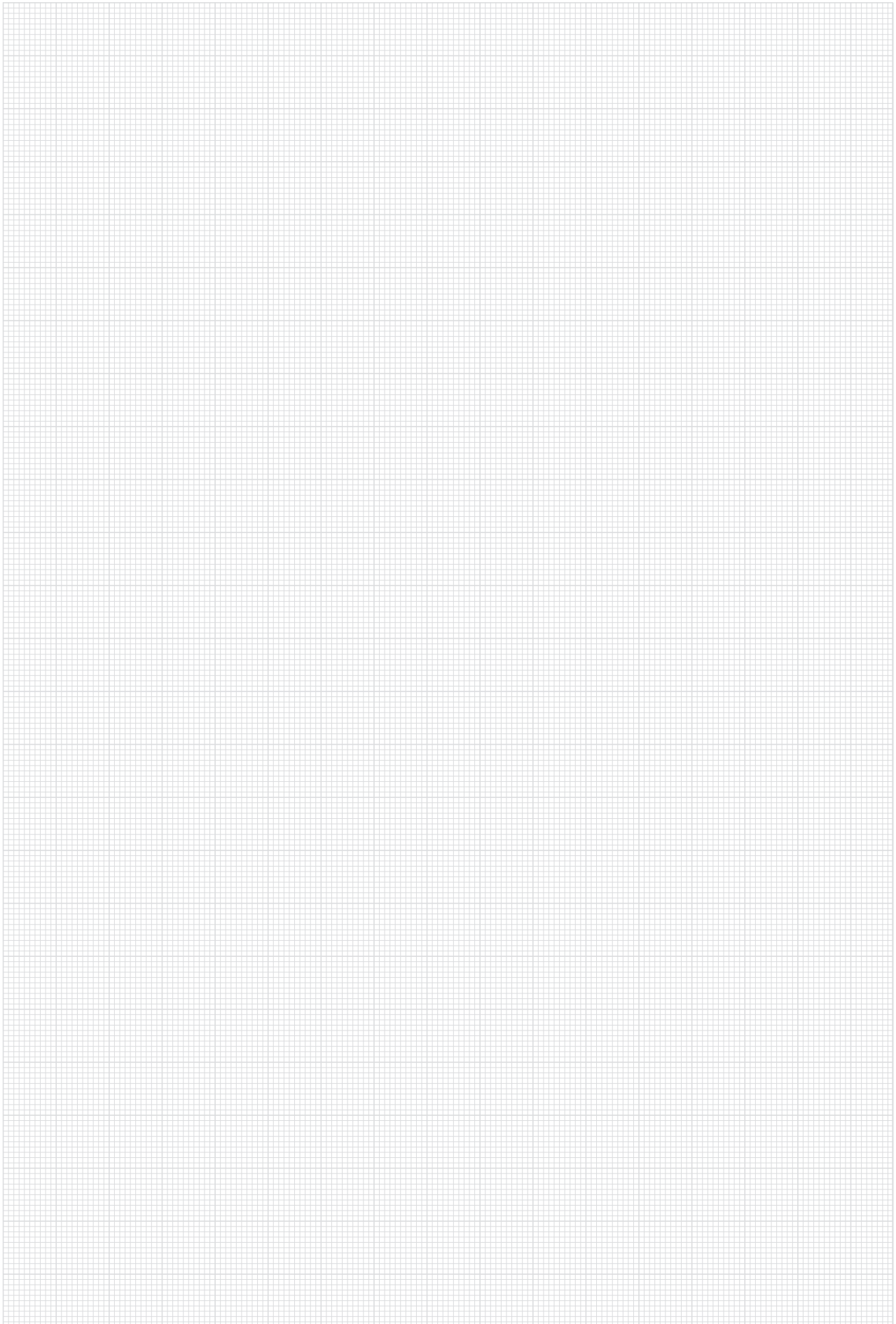
[47] Comfort scissor stay frame component***

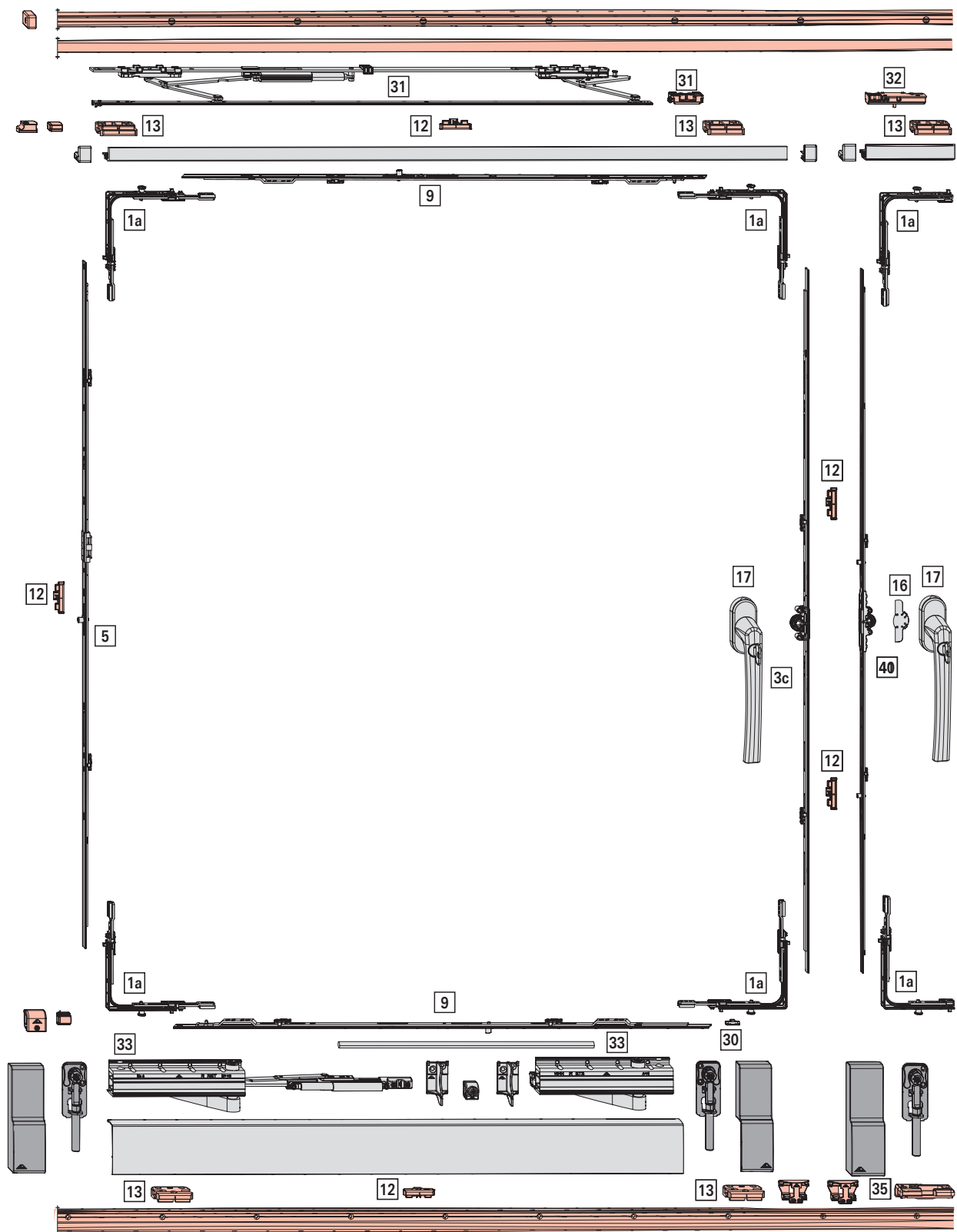
→ Page 127

Track set → Page 108

Reinforcement part set → Page 107

- * Non-reinforced version
- ** Mandatory for RC 1 N.
- *** Two comfort scissor stay frame components are required for a SRW of 1201–2000
- **** For exact details of the SRW, see the "Profile cross sections" chapter





**Application range**Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[30] Travel restrictor

	Material no.
	264603

[40] T&T espagnolette, centred / variable handle height, reinforced, backset 15

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718*
621 – 800	311 – 400	580	1E	259719*
801 – 1200	401 – 600	980	1E	774182
1201 – 1600	601 – 800	1380	2E	774183
1601 – 2000	801 – 1000	1780	2E	774184
2001 – 2400	1001 – 1200	2180	4E	774185
2401 – 2700	1201 – 1350	2180	4E	774185
2x centre lock, multipart		200	1E	+ 450821

[3c] T&T espagnolette, centred / variable handle height, backset 15, without locking cam

SRH	Handle height	Length	Cam	Material no.
600 – 620	225 – 310	400	–	259718
621 – 800	311 – 400	580	–	289862
801 – 1200	401 – 600	980	–	289863
1201 – 1600	601 – 800	1380	–	289864
1601 – 2000	801 – 1000	1780	–	289865
2001 – 2400	1001 – 1200	2180	–	289866
2401 – 2700	1201 – 1350	2180	–	289866
2x centre lock, multipart		200	–	+ 308267

[16] Drilling protection**

	Material no.
	770965

[17] Handle, lockable → CTL_1****INFO**

Only use handles with a length of 200 mm for
Patio Alversa | PS Air Com.

[5] Centre lock, vertical

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1E	774174
1001 – 1200	990	1E	774175
1201 – 1400	1190	1E	774176
1401 – 1600	1390	2E	774177
1601 – 1800	1590	2E	774178
1801 – 2000	1790	2E	774179
2001 – 2200	1990	3E	774180
2201 – 2400	2190	3E	774181
2401 – 2600	2190	3E	774181
Centre lock, multipart	200	1E	+ 450821
2601 – 2700	2190	3E	774181
Centre lock, multipart	400	1E	+ 280346

[42] Comfort set

Contains a centre lock, horizontal, with comfort scissor stay at the top and mishandling device at the bottom

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772309
			Right	772310
801 – 1000	790	1E	Left	772311
			Right	772312
1001 – 1200	990	1E	Left	772313
			Right	772314
1201 – 1400	1190	1E	Left	773386
			Right	773388
1401 – 1650	1440	1E	Left	773389
			Right	773390
1651 – 1850	1440	1E	Left	773389
			Right	773390
Centre lock, multipart	200	1E		+ 450821
1851 – 2000	1440	1E	Left	773389
			Right	773390
Centre lock, multipart	400	1E		+ 280346

[9] Centre lock, horizontal

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1E	603444
1001 – 1200	990	1E	603447
1201 – 1400	1190	1E	603462
1401 – 1650	1440	1E	603466
1651 – 1850	1440	1E	603466
Centre lock, multipart	200	1E	+ 450821
1851 – 2000	1440	1E	603466
Centre lock, multipart	400	1E	+ 280346

[12] Striker, standard → Page 115**[13] Striker, security → Page 116****[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

Contains sliding scissor stay and top guide block, tiltable

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829
1651 – 2000	Yes	Left	808826

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

Contains sliding scissor stay and top guide block, tiltable

SRW	Damping	DIN	Material no.
		Right	808830

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

[35] Tilt striker → Page 121

[46] Mishandling device frame component

→ Page 129

[47] Comfort scissor stay frame component***

→ Page 127

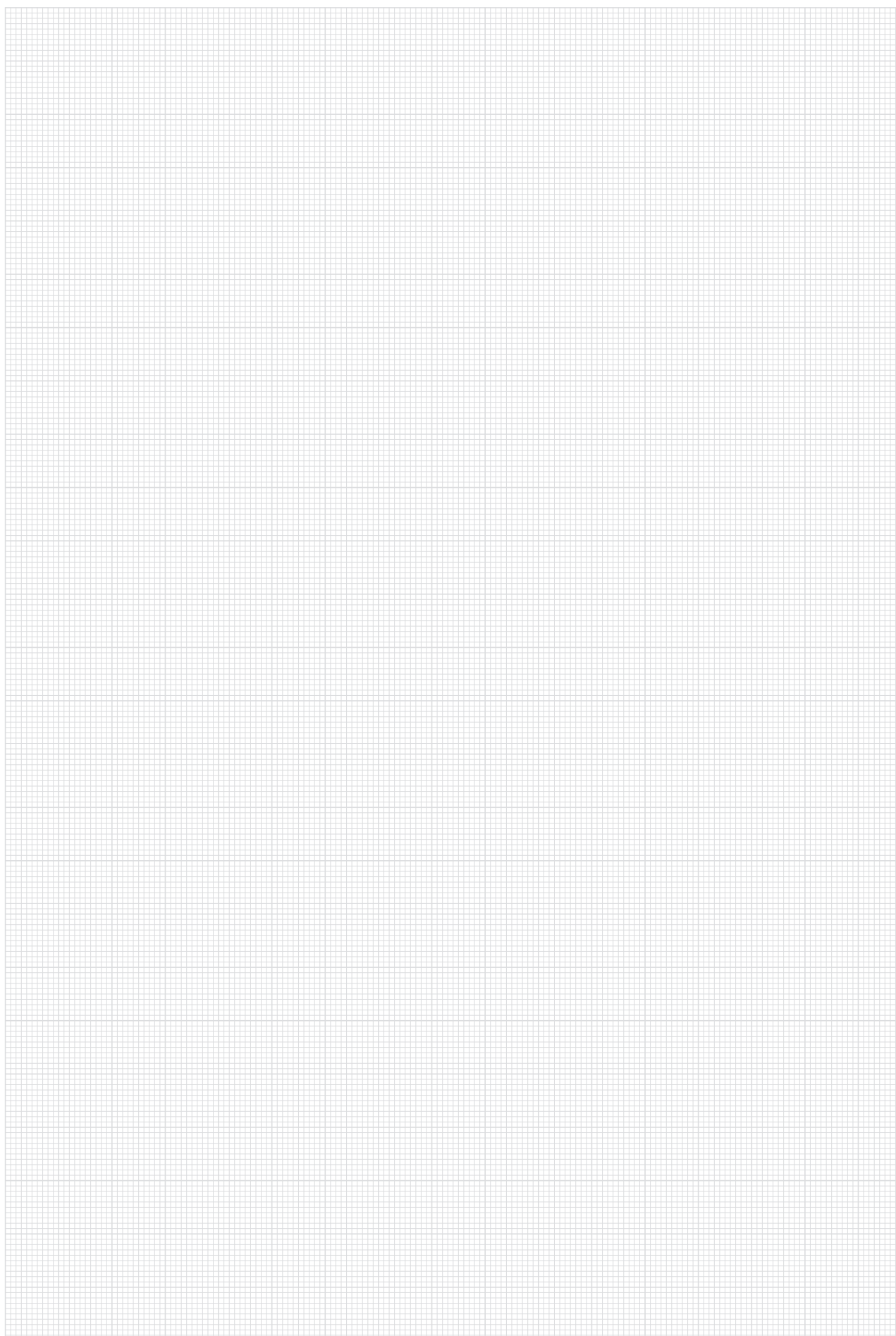
Track set → Page 108

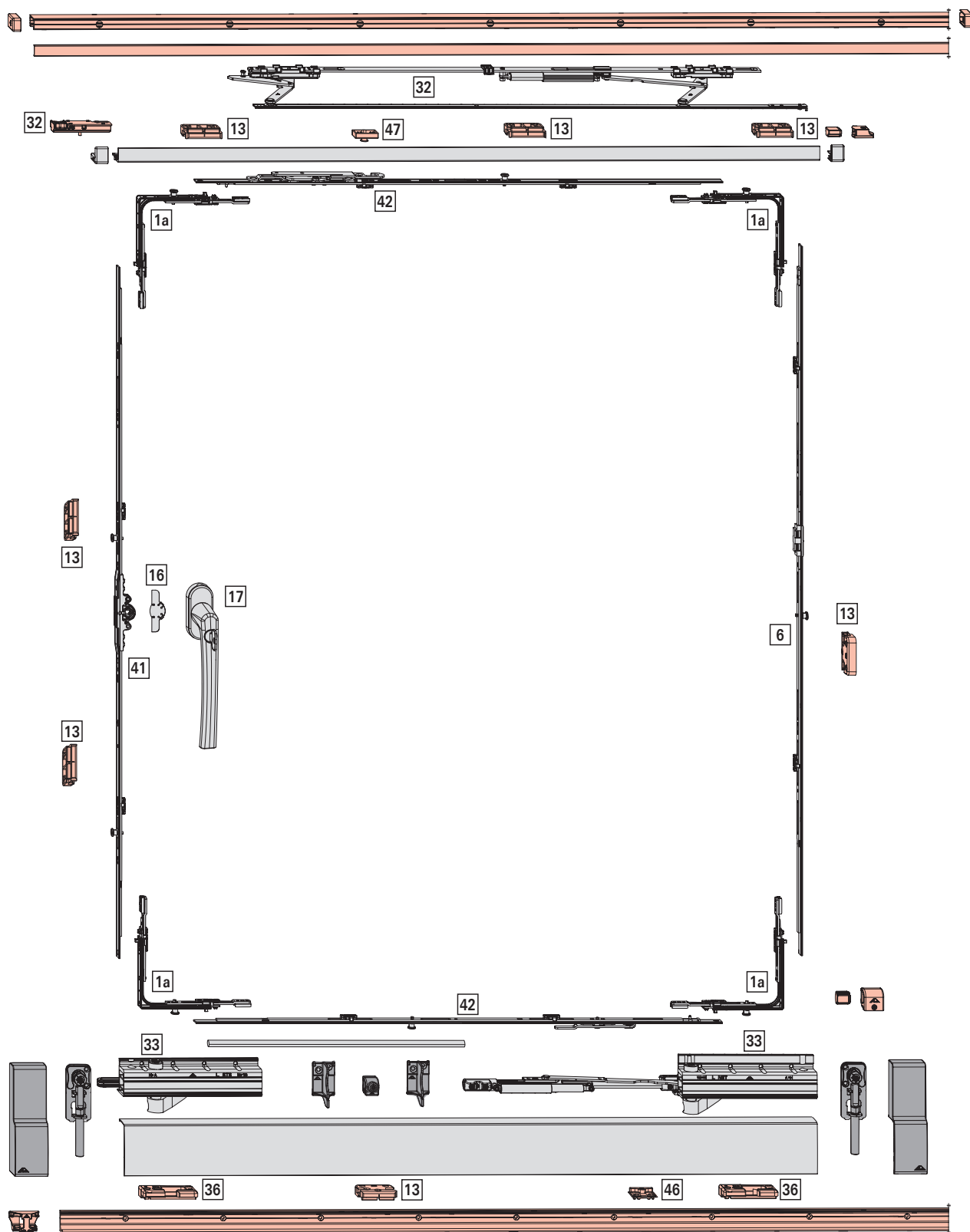
Reinforcement part set → Page 107

* Non-reinforced version

** Mandatory for RC 1 N.

*** Two comfort scissor stay frame components are required for a SRW of 1201–2000







Application range

Sash rebate width **SRW** 720 – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 160 kg / 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
	1V	260272

[41] T&T espagnolette, centred / variable handle height, reinforced, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743*
801 – 1200	401 – 600	980	1V	774186
1201 – 1600	601 – 800	1380	2V	774187
1601 – 2000	801 – 1000	1780	2V	774188
2001 – 2400	1001 – 1200	2180	4V	774189
2401 – 2700	1201 – 1350	2180	4V	774189
2x centre lock, multipart		200	1V	+ 337708

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**INFO**

Only use handles with a length of 200 mm for Patio Alversa | PS Air Com.

[6] Centre lock, vertical – security

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[42] Comfort set

Contains a centre lock, horizontal, with comfort scissor stay at the top and mishandling device at the bottom

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772309
			Right	772310
801 – 1000	790	1V	Left	776884
			Right	776915
1001 – 1200	990	1V	Left	776916
			Right	776917
1201 – 1400	1190	1V	Left	776918
			Right	776919
1401 – 1650	1440	1V	Left	776920
			Right	776921
1651 – 1850	1440	1V	Left	776920
			Right	776921
Centre lock, multipart	200	1V		+ 337708
1851 – 2000	1440	1V	Left	776920
			Right	776921
Centre lock, multipart	400	1V		+ 337710

[13] Striker, security → Page 116**[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation**

Contains sliding scissor stay and top guide block, tiltable

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829
1651 – 2000	Yes	Left	808826
		Right	808830

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

[36] Tilt striker steel → Page 123**[46] Mishandling device frame component → Page 129****[47] Comfort scissor stay frame component** → Page 127****Track set → Page 108****Reinforcement part set > 100 kg → Page 107****Run-up block**

Installation on NT floating mullion

Security component for filling the rebate clearance***	601500
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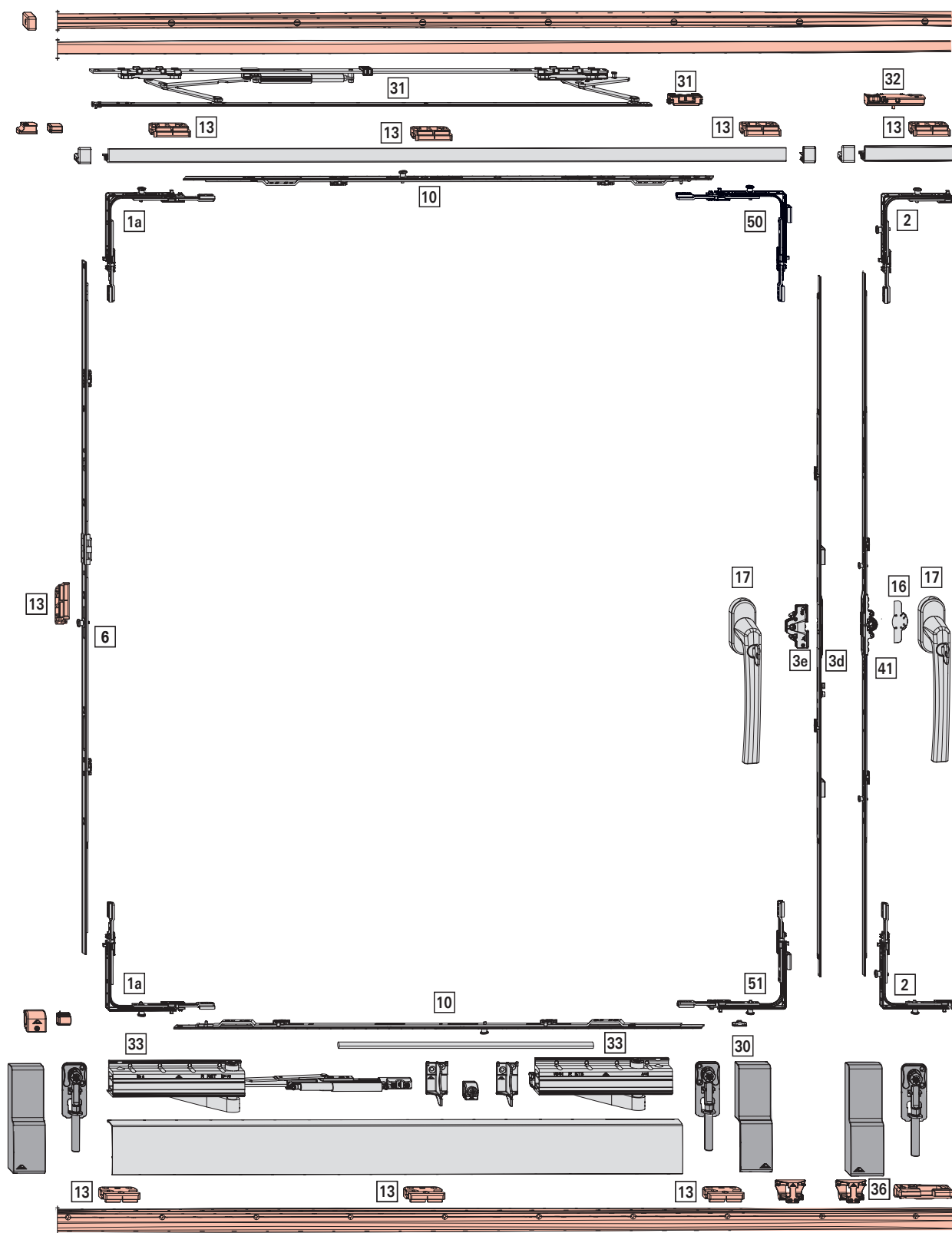
* Non-reinforced version

** Two comfort scissor stay frame components are required for a SRW of 1201–2000

*** Quantity and position depend on the sash profile and hardware version.

PS Air Com second opening sash – RC 2 and RC 2 N

Diagram C – T&T espagnolette with opposite hardware groove





Application range

Sash rebate width **SRW** 720*** – 2000 mmSash rebate height **SRH** 600 – 2700 mmSash weight **S.kg** max. 200 kg**[1a] Corner drive, standard**

	Cam	Material no.
1V		260272

[2] Corner drive, standard – security

	Cam	Material no.
2V		260274

[50] Corner drive at top of floating mullion – security

	Number of strikers	Cam	Material no.
1	1V		313538

[51] Corner drive at bottom of floating mullion – security

	Number of strikers	Cam	Material no.
1	1V		367227

[30] Travel restrictor

	Material no.
	264603

[41] T&T espagnolette, centred / variable handle height, reinforced, backset 15 – security

SRH	Handle height	Length	Cam	Material no.
620 – 800	311 – 400	580	1V	355743*
801 – 1200	401 – 600	980	1V	774186
1201 – 1600	601 – 800	1380	2V	774187
1601 – 2000	801 – 1000	1780	2V	774188
2001 – 2400	1001 – 1200	2180	4V	774189
2401 – 2700	1201 – 1350	2180	4V	774189
2x centre lock, multipart		200	1V	+ 337708

[3d] Espagnolette faceplate – centred / variable handle height, second opening sash

SRH	Handle height	Length	Number of strikers	Material no.
801 – 1200	401 – 600	980	1	788319
1201 – 1600	601 – 800	1380	2	788321
1601 – 2000	801 – 1000	1780	2	788323
2001 – 2400	1001 – 1200	2180	4	788325
2401 – 2700	1201 – 1350	2180	4	788325
Centre lock at top of floating mullion		200	1	+ 450822
Centre lock at bottom of floating mullion		200	1	+ 280342

[3e] Gearbox, backset 30

	Material no.
	787677

[16] Drilling protection*

	Material no.
	770965

[17] Handle, lockable* → CTL_1**INFO**

Only use handles with a length of 200 mm for Patio Alversa | PS Air Com.

[6] Centre lock, vertical – security

SRH	Length	Cam	Material no.
600 – 800	590	–	774165
801 – 1000	790	1V	774167
1001 – 1200	990	1V	774168
1201 – 1400	1190	1V	774169
1401 – 1600	1390	2V	774170
1601 – 1800	1590	2V	774171
1801 – 2000	1790	2V	773124
2001 – 2200	1990	3V	774172
2201 – 2400	2190	3V	774173
2401 – 2600	2190	3V	774173
Centre lock, multipart	200	1V	+ 337708
2601 – 2700	2190	3V	774173
Centre lock, multipart	400	1V	+ 337710

[42] Comfort set

Contains a centre lock, horizontal, with comfort scissor stay at the top and mishandling device at the bottom

SRW	Length	Cam	DIN	Material no.
600 – 800	590	–	Left	772309
			Right	772310
801 – 1000	790	1V	Left	776884
			Right	776915
1001 – 1200	990	1V	Left	776916
			Right	776917
1201 – 1400	1190	1V	Left	776918
			Right	776919
1401 – 1650	1440	1V	Left	776920
			Right	776921
1651 – 1850	1440	1V	Left	776920
			Right	776921
Centre lock, multipart	200	1V		+ 337708
1851 – 2000	1440	1V	Left	776920
			Right	776921
Centre lock, multipart	400	1V		+ 337710

[10] Centre lock, horizontal – security

SRW	Length	Cam	Material no.
600 – 800	590	–	603442
801 – 1000	790	1V	603472
1001 – 1200	990	1V	603473
1201 – 1400	1190	1V	603474
1401 – 1650	1440	1V	603475
1651 – 1850	1440	1V	603475
Centre lock, multipart	200	1V	+ 337708
1851 – 2000	1440	1V	603475
Centre lock, multipart	400	1V	+ 337710

[13] Striker, security → Page 116**[31] Sliding scissor stay set, Parallel Sliding, night ventilation**

Contains sliding scissor stay and top guide block, fixed

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	772220
		Right	772225
901 – 1250	Yes	Left	772221
		Right	772226
1251 – 1650	Yes	Left	772222
		Right	772227
1651 – 2000	Yes	Left	772223
		Right	772228

[32] Sliding scissor stay set, Parallel Sliding, tilt ventilation

Contains sliding scissor stay and top guide block, tilttable

SRW	Damping	DIN	Material no.
720 – 900	Yes	Left	808816
		Right	808827
901 – 1250	Yes	Left	808824
		Right	808828
1251 – 1650	Yes	Left	808825
		Right	808829
1651 – 2000	Yes	Left	808826
		Right	808830

[33] Bogie set

Contains trailing and leading bogie

Variant	Weight	Damping	DIN	Material no.
Bogie set				
Parallel Sliding	up to 160 kg	Yes	Left	799832
			Right	799833
Tandem bogie set				
Parallel Sliding	up to 200 kg	Yes	Left	799804
			Right	799895

[36] Tilt striker steel → Page 123

[46] Mishandling device frame component → Page 129

[47] Comfort scissor stay frame component** → Page 127

Track set → Page 108

Reinforcement part set → Page 107

Run-up block

Installation on NT floating mullion

Security component for filling the rebate clearance***	601500
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* Non-reinforced version

** Two comfort scissor stay frame components are required for a SRW of 1201–2000

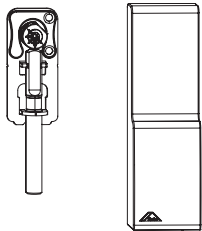
*** Quantity and position depend on the sash profile and hardware version.

****For exact details of the SRW, see the "Profile cross sections" chapter



5 Hardware sets

5.1 Reinforcement part sets



					Nº
Reinforcement parts and cover caps	For sash weights > 100 kg	Parallel Sliding Tilt&Slide	R01.1	Natural silver	793508
			R04.4	Black brown	797514
			R05.3	Medium bronze	793509
			R05.4	Dark bronze	793510
			R05.5	Bronze	793511
			R06.2	Jet black	793512
			R07.2	Traffic white	793513
			R07.3	Cream	793514



Contents

Figure	Quantity	Description
	2	Reinforcement parts
	2	Cover caps

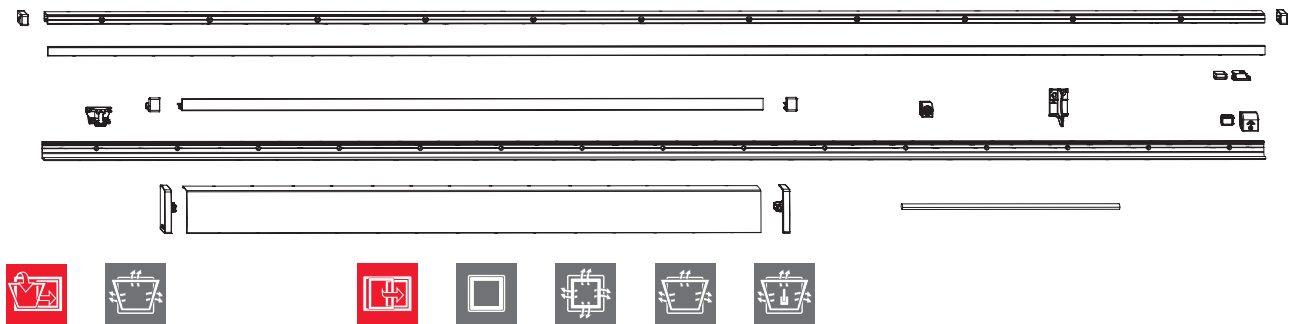


INFO

Using reinforcement parts

- **Tilt&Slide:** for sash weights > 100 kg
- **Parallel Sliding:** must always be used

5.2 Track sets



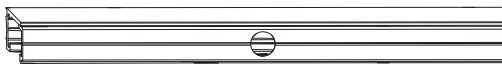
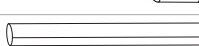
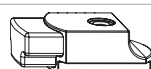


5.2.1 Track set with retaining track 13

				Nº
R01.1	Natural silver	600 – 900	1930	766764
		901 – 1050	2230	766775
		1051 – 1250	2630	766777
		1251 – 1450	3030	766779
		1451 – 1650	3430	766780
		1651 – 2000	4130	769693
R04.4	Black brown	600 – 900	1930	796795
		901 – 1050	2230	796796
		1051 – 1250	2630	796797
		1251 – 1450	3030	796798
		1451 – 1650	3430	796799
		1651 – 2000	4130	796800
R05.3	Medium bronze	600 – 900	1930	766781
		901 – 1050	2230	766782
		1051 – 1250	2630	766784
		1251 – 1450	3030	766785
		1451 – 1650	3430	766786
		1651 – 2000	4130	769742
R05.4	Dark bronze	600 – 900	1930	766787
		901 – 1050	2230	766788
		1051 – 1250	2630	766789
		1251 – 1450	3030	766790
		1451 – 1650	3430	766791
		1651 – 2000	4130	769775
R05.5	Bronze	600 – 900	1930	769781
		901 – 1050	2230	769789
		1051 – 1250	2630	769794
		1251 – 1450	3030	769797
		1451 – 1650	3430	769798
		1651 – 2000	4130	769799
R06.2	Jet black	600 – 900	1930	780454
		901 – 1050	2230	780475
		1051 – 1250	2630	780476
		1251 – 1450	3030	780477
		1451 – 1650	3430	780478
		1651 – 2000	4130	780479
R07.2	Traffic white	600 – 900	1930	766792
		901 – 1050	2230	766793
		1051 – 1250	2630	766794
		1251 – 1450	3030	766795
		1451 – 1650	3430	766796
		1651 – 2000	4130	769807

				Nº
R07.3	Cream	600 – 900	1930	766797
		901 – 1050	2230	766798
		1051 – 1250	2630	766799
		1251 – 1450	3030	766800
		1451 – 1650	3430	766801
		1651 – 2000	4130	769813

Contents

Figure	Quantity	Description
	1	Guide track
	1	Guide track cover profile
	2	End caps for guide track
	1	Roller track
	1	Bogie cover profile
	2	Cover caps for bogie cover profile
	1	Retaining track 13
	2	End caps for retaining track
	1	Connecting rod
	1	Guide block, bottom
	1	Stop part, top
	1	Stop part, bottom
	0 [10] 1 [11]	Support block
	1 [12] 2 [13]	Supporting piece

[10] With SRW ≤ 1450 mm

[11] With SRW > 1450 mm

[12] With SRW ≤ 1450 mm

[13] With SRW > 1450 mm



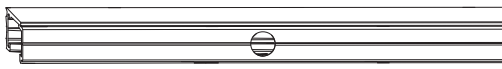
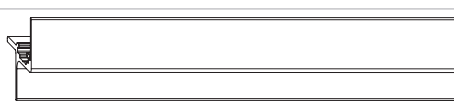
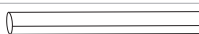
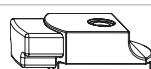
5.2.2 Track set with retaining track 20

				Nº
R01.1	Natural silver	600 – 900	1930	796939
		901 – 1050	2230	797006
		1051 – 1250	2630	797007
		1251 – 1450	3030	797008
		1451 – 1650	3430	797010
		1651 – 2000	4130	797009
R04.4	Black brown	600 – 900	1930	797093
		901 – 1050	2230	797094
		1051 – 1250	2630	797105
		1251 – 1450	3030	797106
		1451 – 1650	3430	797107
		1651 – 2000	4130	797108
R05.3	Medium bronze	600 – 900	1930	797011
		901 – 1050	2230	797012
		1051 – 1250	2630	797013
		1251 – 1450	3030	797014
		1451 – 1650	3430	797091
		1651 – 2000	4130	797092
R05.4	Dark bronze	600 – 900	1930	797109
		901 – 1050	2230	797130
		1051 – 1250	2630	797131
		1251 – 1450	3030	797132
		1451 – 1650	3430	797133
		1651 – 2000	4130	797134
R05.5	Bronze	600 – 900	1930	797377
		901 – 1050	2230	797378
		1051 – 1250	2630	797379
		1251 – 1450	3030	797380
		1451 – 1650	3430	797381
		1651 – 2000	4130	797382
R06.2	Jet black	600 – 900	1930	797419
		901 – 1050	2230	797420
		1051 – 1250	2630	797421
		1251 – 1450	3030	797422
		1451 – 1650	3430	797423
		1651 – 2000	4130	797424
R07.2	Traffic white	600 – 900	1930	797383
		901 – 1050	2230	797408
		1051 – 1250	2630	797409
		1251 – 1450	3030	797410
		1451 – 1650	3430	797411
		1651 – 2000	4130	797412



				Nº
R07.3	Cream	600 – 900	1930	797413
		901 – 1050	2230	797414
		1051 – 1250	2630	797415
		1251 – 1450	3030	797416
		1451 – 1650	3430	797417
		1651 – 2000	4130	797418

Contents

Figure	Quantity	Description
	1	Guide track
	1	Guide track cover profile
	2	End caps for guide track
	1	Roller track
	1	Bogie cover profile
	2	Cover caps for bogie cover profile
	1	Retaining track 20
	2	End caps for retaining track
	1	Connecting rod
	1	Guide block, bottom
	1	Stop part, top
	1	Stop part, bottom
	0 [14] 1 [15]	Support block
	1 [16] 2 [17]	Supporting piece

[14] With SRW ≤ 1450 mm

[15] With SRW > 1450 mm

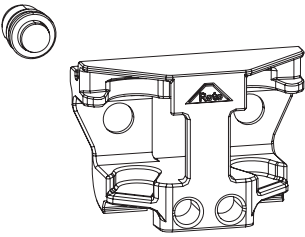
[16] With SRW ≤ 1450 mm

[17] With SRW > 1450 mm



5.3 Guide block sets

For diagram D



				Nº
		Roto Sil	1 Piece	809477
		Black	1 Piece	809478
Movable bottom guide block and retaining pin				

Figure	Quantity	Description
	1	Bottom guide block, movable
	2	Retaining pin



6 Frame components



INFO

Further frame components are available upon request.

6.1 PVC



INFO

In the following sections, the frame components for the Roto NT product group are shown. These are also used for Roto Patio Alversa.

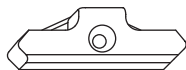
- Strikers – Standard → *from page 115*
- Strikers – Security → *from page 116*
- Tilt striker – Standard → *from page 121*

However, Roto Patio Alversa is not necessarily compatible with all of the profile systems described here. Additional profile systems are available upon request.



6.1.1 Strikers

6.1.1.1 Standard

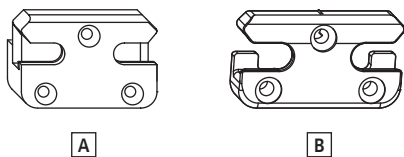


				Nº
Actual Solar 600	13	N		349807
Alphacan System Class	13	N		314251
Aluplast Ideal 2000 Aluplast Ideal 3000 LB Profile Pad Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SI82 MD Schüco Living 82	13	N		331489
Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Aluplast Ideal 8000 Dimex Komfort Schüco Corona 60 Vision Schüco Corona AD Schüco Corona AS 60 Schüco Corona MD	13	N		350192
Brüggmann AD 13 Brüggmann MD 13 Dimex Contour Dimex Elegance	13	N		341485
Brüggmann BluEvolution 82 Schüco Corona CT70 AD Veka Alphaline 90 Veka Softline 70 AD Veka Softline 70 MD Veka Topline AD 13 Veka Topline MD 13 Brüggmann BluEvolution 73 AD Veka Softline 82 MD	13	N		332438
Deceuninck Klassiek Deceuninck Mondial VK	13	Y		281601
Deceuninck Zendow	13	N		370071
Gealan S3000 Gealan S7000 Gealan S8000 Gealan S9000	13	N		319744
Inoutic AD 13 Inoutic Eforte Inoutic MD 100 Inoutic Prestige AD Inoutic Prestige MD	13	Y		260370
KBE 70 AD KBE 70 MD Kömmerling Gold	13	N		338070
Kömmerling 88 Plus Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance	13	N		334957
Kömmerling Eurodur 3S Kömmerling Eurodur MPF	13	N		457090
Plus Plan Plus Tec	13	Y		264316

			Nº
Rehau S 735 MD Rehau S 788 Rehau S 799 Brillant Design (S 730) Rehau S 969 Synego Rehau S 980 Geneo Rehau S 986 EuroDesign 86	13	N	332439
Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD	13	N	482541
Salamander 2D Salamander 3D Salamander BluEvolution 92 Salamander Streamline 76	13	N	486195
Trocal 88+ Trocal Innonova 2000	13	Y	290127
Trocal Confort	13	Y	263032
Trocal Innonova 70.A5 AD Trocal Innonova 70.M5 MD	13	N	336797
Wymar 2000	13	N	287033
Wymar 3000	13	N	374157

6.1.1.2 Security

Zinc



Assignment	Meaning
[A]	With base
[B]	Without base

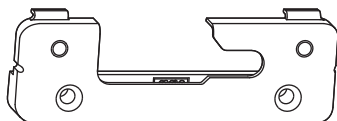


				Nº
Actual Solar 600	13	Y	–	349808
Aluplast Ideal 2000 Aluplast Ideal 3000 LB Profile Pad Schüco Corona CT70 MD Schüco Corona SI82 MD Schüco Living 82	13	Y	–	260395
Aluplast Ideal 2000 Aluplast Ideal 3000 Schüco Corona CT70 MD Schüco Corona SI82 MD Schüco Living 82	13	N	–	331490
Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Aluplast Ideal 8000 Dimex Komfort Schüco Corona 60 Vision Schüco Corona AD Schüco Corona AS 60	13	Y	–	257357

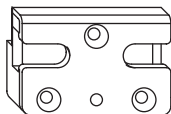


				Nº
Brüggmann AD 13 Brüggmann MD 13 Dimex Contour Dimex Elegance	13	Y	–	292194
Brüggmann BluEvolution 82 Schüco Corona CT70 AD Veka Alphaline 90 Veka Softline 70 AD Veka Softline 70 MD Veka Softline AD 13 Veka Topline AD 13 Veka Topline MD 13 Brüggmann BluEvolution 73 AD	13	N	–	348410
Brüggmann BluEvolution 82 Schüco Corona CT70 AD Veka Softline AD 13 Veka Topline AD 13 Veka Topline MD 13 Brüggmann BluEvolution 73 AD Veka Softline 82 MD	13	Y	–	260396
Deceuninck Klassiek Deceuninck Mondial VK	13	Y	–	281632
Deceuninck Zendow	13	Y	–	370072
Gealan S3000 Gealan S7000 Gealan S8000 Gealan S9000	13	Y	–	260393
Inoutic AD 13 Inoutic Eforte Inoutic MD 100 Inoutic Prestige AD Inoutic Prestige MD	13	Y	–	260394
KBE 70 AD Kömmerling Gold	13	Y	–	289941
Kömmerling 88 Plus Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance	13	N	–	334958
Kömmerling Eurodur 3S Kömmerling Eurodur MPF	13	Y	–	258303
Plus Plan Plus Tec	13	Y	–	264327
Rehau S 735 MD Rehau S 788 Rehau S 799 Brillant Design (S 730) Rehau S 969 Synego Rehau S 986 EuroDesign 86	13	Y	–	316942
Rehau S 980 Geneo	13	Y	–	496019
Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD	13	Y	–	260399
Salamander 2D Salamander 3D Salamander Streamline 76	13	Y	–	365385
Trocal Innonova 70.A5 AD Trocal Innonova 70.M5 MD	13	N	–	336810
Trocal 88+ Trocal Innonova 2000	13	N	–	290128
Trocal Confort	13	Y	–	263033
Wymar 2000	13	Y	–	380115
Wymar 3000	13	Y	–	374194

Steel



A



B

Assignment		Meaning
	[A]	Striker, right/left
	[B]	Striker, symmetrical



					Nº
Aluplast Ideal 2000 Aluplast Ideal 3000 Schüco Corona CT70 MD Schüco Corona SI82 MD LB Profile Pad Schüco Living 82	13	Y	–		260423
Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Schüco Corona AD	13	Y	–		257358
Brüggmann AD 13 Brüggmann MD 13 Dimex Contour Dimex Elegance	13	Y	–		501486
Brüggmann BluEvolution 82 Schüco Corona CT70 AD Veka Softline 70 AD Veka Topline AD 13 Veka Topline MD 13 Brüggmann BluEvolution 73 AD Veka Alphaline 90 Veka Softline 82 MD	13	Y	–		260424
Deceuninck Zendow	13	Y	–		607925
Gealan S3000 Gealan S7000 Gealan S8000 Gealan S9000	13	Y	–		260421
Inoutic AD 13 Inoutic Eforte Inoutic Favorite AD 13 Inoutic MD 100 Inoutic Prestige AD Inoutic Prestige MD	13	Y	–		260422
KBE 70 AD	13	N	Left		289972
	13	N	Right		289976
Kömmerling 88 Plus Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance	13	N	–		334962
Kömmerling Eurodur 3S Wymar 3000 Kömmerling Eurodur MPF	13	Y	–		260417
Rehau S 735 MD Rehau S 788 Rehau S 799 Brillant Design (S 730) Rehau S 969 Synego Rehau S 980 Geneo Rehau S 986 EuroDesign 86	13	Y	–		260418



				Nº
Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD Plus Plan Plus Tec	13	Y	–	260425
Salamander Design 2D	13	N	Left	314270
Salamander Design 3D Salamander Streamline 76	13	N	Right	314271
Trocal 88+	13	N	Left	291565
Trocal Innonova 2000 Trocal S900	13	N	Right	291566
Trocal Innonova 70.A5 AD Trocal Innonova 70.M5 MD	13	N	–	336812

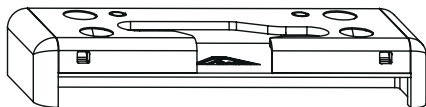


INFO

For the left-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the right-hand frame component.

For the right-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the left-hand frame component.

6.1.1.3 Night ventilation



			Nº
Actual Solar 600 Brüggmann AD 13 Brüggmann MD 13 Veka Alphaline 90 Veka Softline 70 AD Veka Softline 70 MD Veka Topline AD 13 Veka Topline MD 13 Brüggmann BluEvolution 82 Veka Softline 82 MD	Left	4 Piece	774666
	Right	4 Piece	774651
	Left	4 Piece	774668
	Right	4 Piece	774667
	Left	4 Piece	774679
	Right	4 Piece	774678
	Left	4 Piece	774681
	Right	4 Piece	774680
	Left	4 Piece	774677
Gealan S3000 Gealan S7000 Gealan S8000 Gealan S9000	Right	4 Piece	774676
	Left	4 Piece	774675
Inoutic AD 13 Inoutic Prestige AD Inoutic Prestige MD	Right	4 Piece	774674
	Left	4 Piece	774700
KBE 70 AD KBE 70 MD Kömmerling Gold	Right	4 Piece	774699
	Left	4 Piece	774692
Kömmerling 88 Plus Kömmerling Eurodur 3S Kömmerling Eurodur MPF Kömmerling Eurofutur Classic	Right	4 Piece	774691
	Left	4 Piece	774685
Plus Plan Plus Tec	Right	4 Piece	774684
	Left	4 Piece	774698
Rehau S 799 Brillant Design (S 730)	Right	4 Piece	774697
	Left	4 Piece	774672
Rehau S 980 Geneo	Right	4 Piece	774670
	Left	4 Piece	774703
Salamander 2D Salamander 3D Salamander Streamline 76	Right	4 Piece	774702
	Left	4 Piece	774690
Trocal 88+ Trocal Innonova 2000	Right	4 Piece	774689

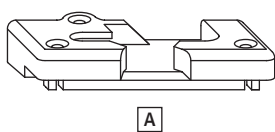
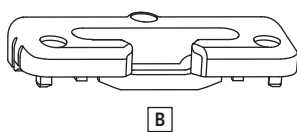


			Nº
Trocal Innonova 70 AD+ Trocal Innonova 70 MD+	Left	4 Piece	774688
	Right	4 Piece	774686
Wymar 3000	Left	4 Piece	774683
	Right	4 Piece	774682

6.1.2 Tilt strikers

6.1.2.1 Standard

Zinc



Assignment	Meaning
[A]	With base
[B]	Without base



				Nº
Actual Solar 600	13	N	–	349806
	13	Y	Left	350425
	13	Y	Right	349816
Alphacan System Class	13	Y	Left	314285
	13	Y	Right	314286
Aluplast Ideal 2000	13	N	–	331487
Aluplast Ideal 3000	13	Y	Left	260501
Schüco Corona CT70 MD	13	Y	Right	260502
Schüco Corona SI82 MD	13	Y	Right	260502
LB Profile Pad				
Schüco Living 82				
Aluplast Ideal 4000	13	N	–	350190
Aluplast Ideal 5000	13	Y	Left	257364
Aluplast Ideal 6000	13	Y	Right	257365
Schüco Corona AD	13	Y	Right	257365
Aluplast Ideal 8000				
Dimex Komfort				
Schüco Corona 60 Vision				
Schüco Corona AS 60				
Brüggmann AD 13	13	Y	Left	292195
Brüggmann MD 13	13	Y	Right	292196
Dimex Contour				
Dimex Elegance				
Schüco Corona CT70 AD	13	N	–	338019
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline AD 13				
Veka Softline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Veka Softline 82 MD				

				Nº
Schüco Corona CT70 AD	13	Y	Left	256783
Veka Softline 70 AD	13	Y	Right	256784
Veka Softline 70 MD				
Veka Softline AD 13				
Veka Softline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Deceuninck Klassiek	13	Y	Left	281599
Deceuninck Mondial VK	13	Y	Right	281600
Deceuninck Zendow	13	Y	Right	370074
	13	Y	Left	370073
Gealan S3000	13	N	–	367200
Gealan S7000	13	Y	Left	260497
Gealan S8000				
Gealan S9000	13	Y	Right	260498
Inoutic AD 13	13	Y	Left	260499
Inoutic Eforte				
Inoutic MD 100	13	Y	Right	260500
Inoutic Prestige AD				
Inoutic AD 13	13	N	–	729039
Inoutic Prestige MD				
Inoutic Prestige MD	13	Y	Left	288117
	13	Y	Right	288118
KBE 70 AD	13	N	–	338071
KBE 70 MD				
KBE 70 AD	13	Y	Left	289973
KBE 70 MD				
Kömmerring Gold	13	Y	Right	289974
Kömmerring 88 Plus	13	N	–	334954
Kömmerring Eurofutur Classic				
Kömmerring Eurofutur Elegance				
Kömmerring Eurodur 3S	13	Y	Left	260489
Kömmerring Eurodur MPF				
	13	Y	Right	260490
Plus Plan Plus Tec	13	Y	Left	264420
	13	Y	Right	264421
Rehau S 735 MD	13	N	–	338021
Rehau S 788				
Rehau S 799 Brillant Design (S 730)				
Rehau S 969 Synego				
Rehau S 986 EuroDesign 86				
Rehau S 735 MD	13	Y	Left	316939
Rehau S 788				
Rehau S 799 Brillant Design (S 730)	13	Y	Right	316940
Rehau S 986 EuroDesign 86				
Rehau S 980 Geneo	13	Y	Left	496018
	13	Y	Right	496017
Roplasto 4K	13	Y	Left	260507
Roplasto 7001 AD				
Roplasto 7001 MD	13	Y	Right	260508
Salamander 2D	13	N	–	561212
Salamander 3D				
Salamander Streamline 76	13	Y	Left	261724
	13	Y	Right	261725
Trocal 88+	13	Y	Left	290131
Trocal Innonova 2000				
	13	Y	Right	290152
Trocal Confort	13	Y	Left	263037
	13	Y	Left	263038
Trocal Innonova 70.A5 AD	13	N	–	336808
Trocal Innonova 70.M5 MD				



				Nº
Wymar 2000	13	Y	Right	287040
	13	Y	Left	287037
Wymar 3000	13	Y	Left	373964
	13	Y	Right	373963

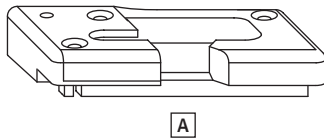
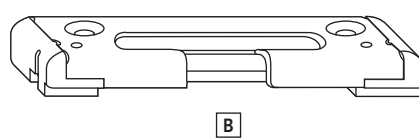


INFO

For the left-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the right-hand frame component.

For the right-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the left-hand frame component.

Steel



Assignment	Meaning
[A]	With base
[B]	Without base



				Nº
Deceuninck Zendow	13	N	–	607926
Aluplast Ideal 2000	13	Y	Left	260349
Aluplast Ideal 3000	13	Y	Right	260350
Schüco Corona CT70 MD				
Schüco Corona SI82 MD				
Schüco Living 82				
Veka Softline 82 MD				
Aluplast Ideal 4000	13	Y	Left	257353
Aluplast Ideal 5000	13	Y	Right	257354
Aluplast Ideal 6000				
Schüco Corona AD				
Brüggmann AD 13	13	N	–	283031
Brüggmann MD 13				
Dimex Contour				
Dimex Elegance				
Schüco Corona CT70 AD	13	Y	Left	260351
Veka Softline 70 AD	13	Y	Right	260352
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82	13	Y	Right	260345
Veka Softline 82 MD				
Gealan S3000	13	Y	Left	260345
Gealan S7000	13	Y	Right	260346
Gealan S8000				
Gealan S9000				
Inoutic AD 13	13	Y	Left	260347
Inoutic Eforte	13	Y	Right	260348
Inoutic MD 100				
Inoutic Prestige AD				

				Nº
Kömmerling Eurofutur Classic	13	Y	Left	260337
Kömmerling Eurofutur Elegance	13	Y	Right	260338
Wymar 3000				
Kömmerling Eurodur 3S				
Roplasto 4K	13	Y	Left	260353
Roplasto 7001 AD	13	Y	Right	260354
Roplasto 7001 MD				
Plus Plan Plus Tec				
Trocal 88+	13	N	–	291564
Trocal Innonova 2000				
Trocal S900				



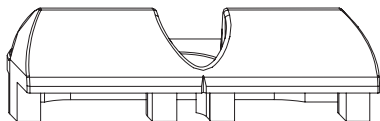
INFO

For the left-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the right-hand frame component.

For the right-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the left-hand frame component.



6.1.3 Guide strikers



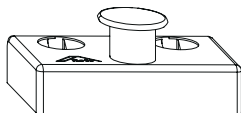
		Nº
	Actual Solar 600	775337
	Alphacan System Class	775461
	Aluplast Ideal 2000 Aluplast Ideal 3000 Dimex Contour Dimex Elegance LB Profile Pad Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SI82 MD Schüco Living 82	775338
	Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Aluplast Ideal 8000 Dimex Komfort Schüco Corona 60 Vision Schüco Corona AD Schüco Corona AS 60 Schüco Corona MD	772976
	Brüggmann AD 13 Brüggmann MD 13 Veka Alphaline 90 Veka Softline 70 AD Veka Softline 70 MD Veka Topline AD 13 Veka Topline MD 13 Brüggmann BluEvolution 82 Veka Softline 82 MD	774708
	Deceuninck Zendow 3000	775365
	Deceuninck Klassiek Deceuninck Mondial Deceuninck Mondial VK	775339
	Gealan S3000 Gealan S7000 Gealan S8000 KBE 70 AD Kömmerling Gold Gealan S9000 Wymar 3000	775341
	Inoutic AD 13 Inoutic Prestige AD Inoutic Prestige MD	775342
	KBE 70 MD Plus Plan Plus Tec	775343
	Kömmerling 88 Plus Kömmerling Eurodur 3S Kömmerling Eurodur MPF Kömmerling Eurofutur Classic	775344
	Rehau S 799 Brillant Design (S 730) Rehau S 980 Geneo	774707
	Roplasto 4K	776287
	Salamander Design 2D Salamander Design 3D Salamander Streamline 76	775357

		Nº
Trocal 88+ Trocal Innonova 2000		775363
Trocal Confort		775355
Trocal Innonova 70 AD+ Trocal Innonova 70 MD+		775356
Wymar 2000		775364



6.1.4 Centre locks

6.1.4.1 Comfort scissor stay



		Nº
	Actual Solar 600	776289
	Aluplast Ideal 2000 Aluplast Ideal 3000 Dimex Contour Dimex Elegance LB Profile Pad Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SI82 MD Schüco Living 82	776291
	Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Aluplast Ideal 8000 Dimex Komfort Schüco Corona 60 Vision Schüco Corona AD Schüco Corona AS 60 Schüco Corona MD	776292
	Brüggmann AD 13 Brüggmann MD 13 Veka Alphaline 90 Veka Softline 70 AD Veka Softline 70 MD Veka Topline AD 13 Veka Topline MD 13 Brüggmann BluEvolution 82 Veka Softline 82 MD	776293
	Deceuninck Klassiek Deceuninck Mondial VK	776294
	Deceuninck Zendow 3000	776308
	Gealan S3000 Gealan S7000 Gealan S8000 KBE 70 AD Kömmerling Gold Gealan S9000 Wymar 3000	776297
	Inoutic AD 13 Inoutic Prestige AD Inoutic Prestige MD	772317
	KBE 70 MD Plus Plan Plus Tec	772318
	Kömmerling 88 Plus Kömmerling Eurodur 3S Kömmerling Eurodur MPF Kömmerling Eurofutur Classic	776288
	Rehau S 799 Brillant Design (S 730) Rehau S 980 Geneo	776307
	Roplasto 4K	776311
	Salamander 2D Salamander 3D Salamander Design Streamline 76	776304

		Nº
Trocal 88+ Trocal Innonova 2000		776305
Trocal Confort		776302
Trocal Innonova 70 AD+ Trocal Innonova 70 MD+		776303
Wymar 2000		776306

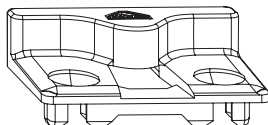


INFO

From SRW 1201, two comfort scissor stays are mounted on the horizontal centre lock component at the top. One frame component is required for each comfort scissor stay.



6.1.4.2 Mishandling device



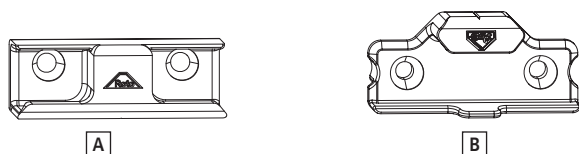
		Nº
	Actual Solar 600	785930
	Aluplast Ideal 2000 Aluplast Ideal 3000 Brüggmann BluEvolution 82 Deceuninck Zendow 3000 LB Profile Pad Roplasto 4K Veka Alphaline 90 Veka Softline 70 AD Veka Softline 70 MD Veka Topline AD 13 Veka Softline 82 MD Veka Topline MD 13	785931
	Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Aluplast Ideal 8000 Deceuninck Klassiek Deceuninck Mondial VK Dimex Komfort Rehau S 799 Brillant Design (S 730) Rehau S 980 Geneo Salamander 2D Salamander 3D Salamander Streamline 76 Schüco Corona 60 Vision Schüco Corona AD Schüco Corona AS 60 Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona MD Schüco Corona SI82 MD Schüco Living 82	785937
	Brüggmann AD 13 Brüggmann MD 13 Dimex Contour Dimex Elegance Plus Plan Plus Tec	786311
	Gealan S3000 Gealan S7000 Gealan S8000 Gealan S9000	785932
	Inoutic AD 13 Inoutic Prestige AD Inoutic Prestige MD	785933
	KBE 70 AD Kömmerring Gold	785934
	KBE 70 MD	785935
	Kömmerring 88 Plus Kömmerring Eurodur 3S Kömmerring Eurodur MPF Kömmerring Eurofutur Classic	785936
	Trocal 88+ Trocal Innova 2000	785939
	Trocal Confort	786315

		Nº
	Trocal Innonova 70 AD+ Trocal Innonova 70 MD+	785938
	Wymar 2000	785941
	Wymar 3000	785942

6.2 Timber

6.2.1 Strikers

6.2.1.1 Standard



Assignment		Meaning
[A]		Hardware axis 9 (Euro-rebate/Euro-groove)
[B]		Hardware axis 13 (Euro-rebate/Euro-groove)

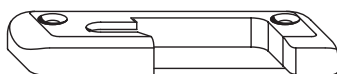


										Nº
Eurofalz	18	12	Screw-on	N	–	Also rebate depth 22	9	Y	–	260360
	20	12	Screw-on	N	–	–	9	Y	–	260362
	24	12	Screw-on	N	–	–	13	Y	–	261933
		12	Screw-on	Y	2 x Ø 8 mm	–	13	Y	–	261934
	30	12	Screw-on	N	–	–	13	N	–	599651
Euronut 7/8	18	12	Screw-on	N	–	Also rebate depth 20	9	Y	–	378462
Euronut 11/8	24	12	Screw-on	N	–	–	13	Y	–	378467



6.2.1.2 Security

Zinc



A



B

Assignment	Meaning
[A]	Striker, right/left
[B]	Striker, symmetrical



										
Eurofalz	18	12	Screw-on	N	–	Also rebate depth 22	9	Y	Left	260382
		12	Screw-on	N	–	Also rebate depth 22	9	Y	Right	260383
	20	12	Screw-on	N	–	–	9 10	Y	Left	260386
		12	Screw-on	N	–	–	9 10	Y	Right	260387
	24	12	Screw-on	N	–	–	13	Y	Left	261935
		12	Screw-on	N	–	–	13	Y	Right	262930
		12	Screw-on	Y	2 x Ø 8 mm	–	13	Y	Left	261936
		12	Screw-on	Y	2 x Ø 8 mm	–	13	Y	Right	262931
	30	12	Screw-on	N	–	–	13	Y	–	631527
Euronut 7/8	18	12	Screw-on	N	–	Also rebate depth 20	9	Y	Left	260388
		12	Screw-on	N	–	Also rebate depth 20	9	Y	Right	260389
Euronut 11/8	24	12	Screw-on	N	–	–	13	Y	Left	378465
		12	Screw-on	N	–	–	13	Y	Right	378466

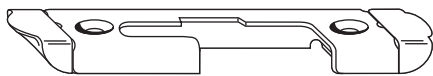


INFO

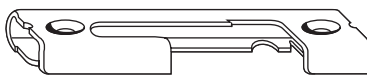
For the left-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the right-hand frame component.

For the right-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the left-hand frame component.

Steel



A



B

Assignment	Meaning
[A]	With end caps
[B]	Without end caps



											
Eurofalz	18	12	Screw-on	N	–	Also rebate depth 22	9	N	Left	280446	
		12	Screw-on	N	–	Also rebate depth 22	9	N	Right	280447	
	20	12	Screw-on	N	–	–	9	N	Left	280448	
		12	Screw-on	N	–	–	9	N	Right	280449	
	24	12	Screw-on	Y	2 x Ø 8 mm	–	13	Y	Left	261936	
		12	Screw-on	Y	2 x Ø 8 mm	–	13	Y	Right	262931	
Euronut 7/8	18	12	Screw-on	N	–	–	9	N	Left	378461	
		12	Screw-on	N	–	–	9	N	Right	378456	
	20	12	Screw-on	N	–	–	9	N	Left	291552	
		12	Screw-on	N	–	–	9	N	Right	291553	

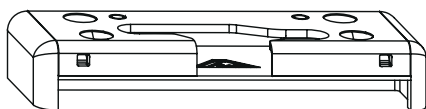


INFO

For the left-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the right-hand frame component.

For the right-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the left-hand frame component.

6.2.1.3 Night ventilation



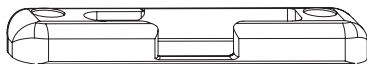
										
Eurofalz	22	12	Screw-on	N	–	–	13	Left	4 Piece	634894
		12	Screw-on	N	–	–	13	Right	4 Piece	634893
	24	12	Screw-on	N	–	–	13	Left	4 Piece	634906
		12	Screw-on	N	–	–	13	Right	4 Piece	634905
	30	12	Screw-on	N	–	–	13	Left	4 Piece	634908
		12	Screw-on	N	–	–	13	Right	4 Piece	634907



6.2.2 Tilt strikers

6.2.2.1 Standard

Zinc



											Nº
Eurofalz	18	12	Screw-on	N	–	–	9	Y	Left		260479
		12	Screw-on	N	–	–	9	Y	Right		260480
	20	12	Screw-on	N	–	–	9	Y	Left		260483
		12	Screw-on	N	–	–	9	Y	Right		260484
	24	12	Screw-on	N	–	–	13	Y	Left		261943
		12	Screw-on	N	–	–	13	Y	Right		262927
		12	Screw-on	Y	2 x Ø 8 mm	–	13	Y	Left		261944
		12	Screw-on	Y	2 x Ø 8 mm	–	13	Y	Right		262929
	30	12	Screw-on	N	–	–	13	Y	Left		631525
		12	Screw-on	N	–	–	13	Y	Right		631526
Euronut 7/8	18	12	Screw-on	N	–	Also rebate depth 20	9	Y	Left		260487
		12	Screw-on	N	–	Also rebate depth 20	9	Y	Right		260488
Euronut 11/8	24	12	Screw-on	N	–	–	13	Y	Left		378464
		12	Screw-on	N	–	–	13	Y	Right		378457



INFO

For the left-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the right-hand frame component.

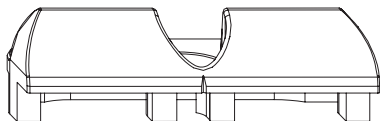
For the right-hand version of the Parallel Sliding or Tilt&Slide door (DIN 107), order the left-hand frame component.

Steel



											Nº
Eurofalz	18	12	Screw-on	N	–	–	9	N	–		280442
	20	12	Screw-on	N	–	–	9	N	–		280444
Euronut 7/8	18	12	Screw-on	N	–	–	9	N	–		378459
	20	12	Screw-on	N	–	–	9	N	–		291557

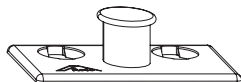
6.2.3 Guide strikers



								
Eurofalz	18	12	Screw-on	N	–	–	9	775367
	20	12	Screw-on	N	–	–	9	775368
	24	12	Screw-on	N	–	–	13	775370
		12	Screw-on	Y	2 x Ø 8 mm	–	13	776285
	30	12	Screw-on	N	–	–	13	775371
Euronut 7/8	18	12	Screw-on	N	–	Also rebate depth 20	9	775369

6.2.4 Centre locks

6.2.4.1 Comfort scissor stay



								Nº
Eurofalz	18	12	Screw-on	N	–	Also rebate depth 20 and 22	9	792841
	24	12	Screw-on	N	–	–	13	792842
	30	12	Screw-on	N	–	–	13	792843
Euronut 7/8	18	12	Screw-on	N	–	Also rebate depth 20	9	776314

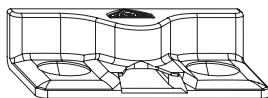


INFO

From SRW 1201, two comfort scissor stays are mounted on the horizontal centre lock component at the top. One frame component is required for each comfort scissor stay.



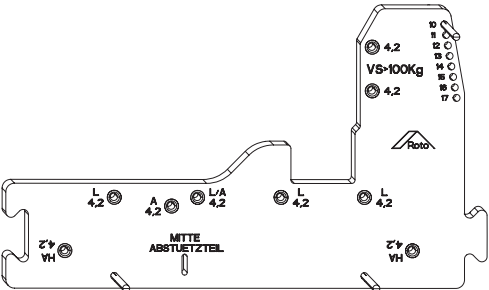
6.2.4.2 Mishandling device



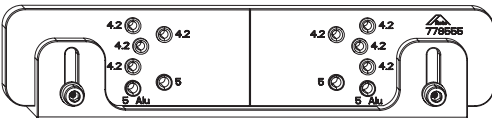
								Nº
Eurofalz	18	12	Screw-on	N	–	Also rebate depth 20 and 22	9	785943
	24	12	Screw-on	N	–	–	13	786316
	30	12	Screw-on	N	–	–	13	786318
Euronut 7/8	18	12	Screw-on	N	–	Also rebate depth 20	9	785945

7 Jigs

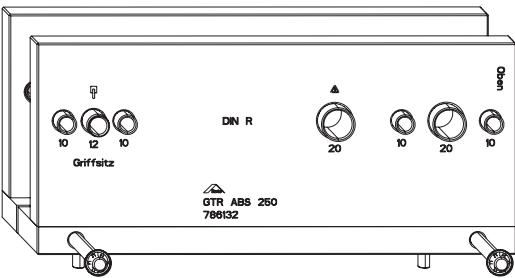
7.1 Drilling jigs



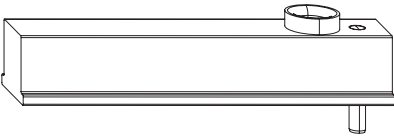
		Nº
Bogies		778522



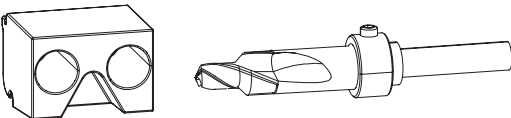
		Nº
Roto Line Alversa geared-handle		778555



		Nº
Lockable T&T espagnolette		786132

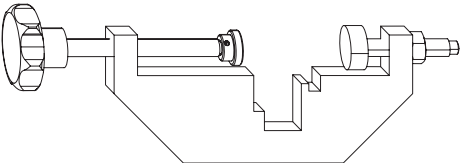


		Nº
Scissor stay retention		778523

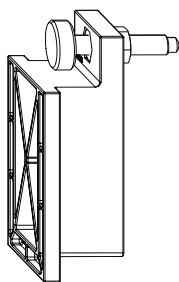


			Nº
Drilling jig with step drill		For diagram D	794249

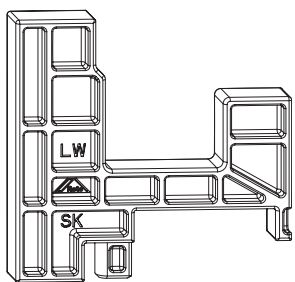
7.2 Installation jigs



		Nº
Roller track and guide track		778520



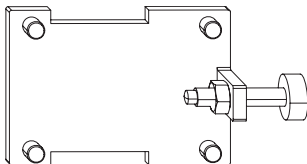
for installation



for adjustment

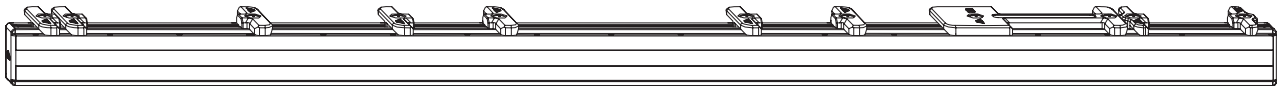


	Nº
Top guide block for installation	806975
Top guide block for adjustment	782190

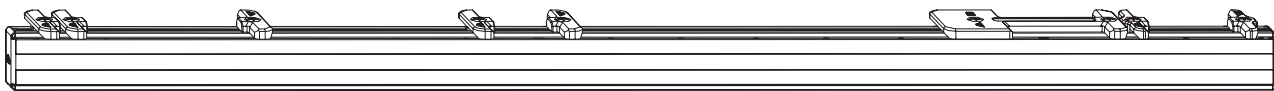


	Nº
Bottom guide block	778524

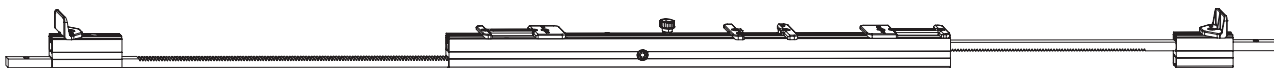
7.3 Positioning jigs



			Nº
Horizontal frame components	–	600 – 800	786188
		801 – 1000	786189
		1001 – 1200	786190
		1201 – 1400	786191
		1401 – 1650	786192



			Nº
		↔	
Horizontal frame components	–	720 – 800	776086
		801 – 1000	776087
		1001 – 1200	776088
		1201 – 1400	776089
		1401 – 1650	776090



			Nº
		↕	
Vertical frame components	Fixed handle height	600 – 800	388127
		801 – 1400	388126
		1401 – 2000	388125
		2001 – 2400	388124
	Centred / variable handle height	621 – 1200	268943
		1201 – 1600	268944
		1601 – 2000	787401
		2001 – 2400	787402



INFO
On T&T espagnolette – vertical tilting, use jigs for fixed handle height.

7.4 Tools



	Nº
Drilling aid for roller track and guide track	778521





	Nº
Hexalobular socket screwdriver ISR25	563971



8 Brief instructions

8.1 Roto Patio Alversa | Overall

Summary of IMO 407

	Installation sequence	Note	Page reference	KS	PS without / with SPL	PS Air	PS Air Com
Sash	Prepare the espagnolette		→ from page 148	■	■	■	■
	Route the profile	Hardware axis 9 and 13 as required	→ from page 154	–	–	–	■
	Crop the hardware components		→ from page 164	■	■	■	■
	Install the corner drives	Align the cam horizontally.	→ from page 165	■	■	■	■
	Install the travel restrictor	Only for PS without night ventilation. Place on the corner drive at the bottom of the locking side.	→ from page 166	–	■	–	–
	Install the espagnolette	Insert with the arrow pointing up.	→ from page 167	■	■	■	■
	Install the centre locks	Position horizontally at the top of the locking side. Position horizontally at the bottom of the hinge side. Position vertically at the top.	→ from page 168	■	■	■	■
	Install the handle		→ from page 170	■	■	■	■
	Install the bogie	KS without damping. PS with damping.	→ from page 174	■	■	■	■
	Install the reinforcement part	KS > 100 kg	→ from page 180	■	■	■	■
	Install the supporting piece	Install one supporting piece up to SRW ≤ 1450 mm. Always install two supporting pieces from SRW > 1450 mm.	→ from page 182	■	■	■	■
	Install the connecting rod with support block	Measure the length of the connecting rod using the "VS" marking on the bogies. Only for PS: VS - 315 mm Support block from SRW > 1450 mm.	→ from page 183	■	■	■	■
	Installing the retaining track	Length: sash width - 16 mm Crop DIN L left. Crop DIN R right. Secure with screws so that it is centred.	→ from page 187	■	■	■	■

	Installation sequence	Note	Page reference	KS	PS without / with SPL	PS Air	PS Air Com
Frame	Install strikers	Note the point of entry.	→ from page 191	■	■	■	■
	Install the guide plates	Note the point of entry.	→ from page 196	■	–	–	–
	Install night ventilation strikers	Only for PS with night ventilation. Note the point of entry.	→ from page 191	–	■	–	–
	Install the tilt strikers	Note the point of entry.	→ from page 191	–	–	■	■
	Install the comfort scissor stay frame component	Note the point of entry. SRW < 1201 mm: install one comfort scissor stay frame component. SRW ≥ 1201 mm: install two comfort scissor stay frame components.	→ from page 197	–	–	–	■
	Install the mishandling device frame component	Note the point of entry.	→ from page 197	–	–	–	■
	Install the guide track	Length: FIW + (2 x coverage) - 8 mm Secure with screws so that it is centred.	→ from page 200	■	■	■	■
	Prepare the sliding scissor stay	The retrofit set for tilt assistance is optional from S.kg >80 kg.	→ from page 204	–	–	■	–
	Preassemble the sliding scissor stay	KS without damping. PS with damping and fitted top guide block. Installation of top guide block (use jig). The scissor stay retention must be located on the hinge side.	→ from page 206	■	■	■	■
	Install the roller track	Length: FIW + (2 x coverage) Secure with screws so that it is centred.	→ from page 209	■	■	■	■
	Preassemble the bottom guide block		→ from page 211	■	■	■	■
Joining the sash and frame	Place the sash on the roller track	Move the handle to the sliding position.	→ from page 214	■	■	■	■
	Install the sliding scissor stay	 Correctly lock the safety pin into the drill hole on the retaining track.	→ from page 216	■	■	■	■
	Installing end caps for the retaining track	Check the end caps to ensure that they lie flush with the sash.	→ from page 220	■	■	■	■
	Install the stop parts		→ from page 225	■	■	■	■
	Install the covers	Without reinforcement part: mark and crop the cover profile at the outer edges of the bogie profiles. With reinforcement part: crop the cover profile according to the markings "A" on the bogies.	→ from page 226	■	■	■	■
Final acceptance	Adjust		→ from page 229	■	■	■	■
	Screw down the bottom guide block		→ from page 211	■	■	■	■
	Lubricate the hardware		→ from page 240	■	■	■	■



9 Installation

9.1 Processing instructions

Maximum sash sizes and weights

The specifications, application diagrams and component assignments which can be found in the hardware manufacturer's product-specific documents provide information on the maximum permitted sash sizes and weights. The component with the lowest permitted load bearing capacity determines the maximum permitted sash weight.

- Before using electronic data records and implementing them in window construction programs in particular, check that they match the specifications, application diagrams and component assignments.
- Never exceed the maximum permitted sash sizes and weights. If any points are unclear, contact the hardware manufacturer.

Specifications from profile manufacturers

The window and balcony door manufacturer must comply with all specified system dimensions (e.g. gasket gap dimensions or locking distances).

They must continue to ensure and check this on a regular basis, especially when new hardware components are used for the first time, during production and on a continuous basis, up to and including window installation.



INFO

The hardware components are always designed in such a way that any system dimensions affected by the hardware can be adjusted. The hardware manufacturer shall not be liable for any additional expenses incurred if a deviation from these dimensions is not discovered until after the windows have been installed.

Assembling hardware

Burglar-inhibiting windows and balcony doors need hardware which meets special requirements.

Windows and balcony doors for wet rooms and those for use in environments with aggressive, corrosive constituents in the air require hardware that meets special requirements.

The resistance of windows and balcony doors to wind loads when they are closed and locked depends on the individual design of the windows and balcony doors. The hardware system is capable of handling wind loads specified by legislation and standards (for example in accordance with EN 12210 – in particular test pressure P3).

Coordinate suitable hardware combinations and installation procedures in windows and balcony doors with the hardware manufacturer and profile manufacturer for the areas listed above, and conclude a separate agreement for them.



INFO

The hardware manufacturer's specifications on the combination of hardware (e.g. the use of additional scissor stays, the design of hardware for burglar-inhibiting window sashes and balcony door sashes, etc.) are binding.

Lubricating the hardware



ATTENTION

Using incorrect lubricants may cause property damage.

Substandard lubricants can prevent the hardware from working properly.

- ▶ Use high-quality lubricants.
- ▶ Only use resin-free and acid-free lubricants.

Ease of movement is improved by lubricating or adjusting the hardware. All functional hardware components must be lubricated after installation in accordance with the specifications in the "Maintenance" chapter.

Recommended lubricants

- Roto NX / NT grease

For recommended lubrication points, see the "Maintenance" chapter → 12.3 "Care" from page 240.

9.2 Screw connections



DANGER

Incorrectly installed or screwed-in hardware components present a risk of death.

Installing and screwing hardware components into place improperly may lead to hazardous situations and cause serious accidents or even death.

- ▶ During installation and screwdriving work in particular, observe the specifications provided by the profile manufacturer.
- ▶ Use the recommended screws.



CAUTION

Over-tightened screws may cause property damage.

Over-tightened screws lose their hold and no longer provide the necessary strength.

- ▶ Note the torques.
- ▶ Do not over-tighten screws.



CAUTION

Protruding screw heads may cause property damage.

Protruding screw heads can damage adjoining materials.

- ▶ Tighten screw heads until they are flush with the surface.



INFO

The length of the fixing screws must be selected according to the profiles used.

Fasten hardware components using electrogalvanised and passivated steel fixing screws. Use fixing screws with additional sealing in more challenging climatic conditions.

The manufacturer must ensure that the hardware components are adequately secured and if necessary contact the screw manufacturer. Do not use any acid cross-linked sealing compounds that could lead to corrosion of the hardware components.

9.2.1 Screw connections for PVC / timber profiles



WARNING

Incorrect screw connections may lead to serious injuries.

Short screws will not reach the steel reinforcement and will therefore not hold.

Hardware components can be pulled out of the sash if they are not screwed into the steel reinforcement.

- ▶ Select the length of the screws so that they will hold in the steel reinforcement.

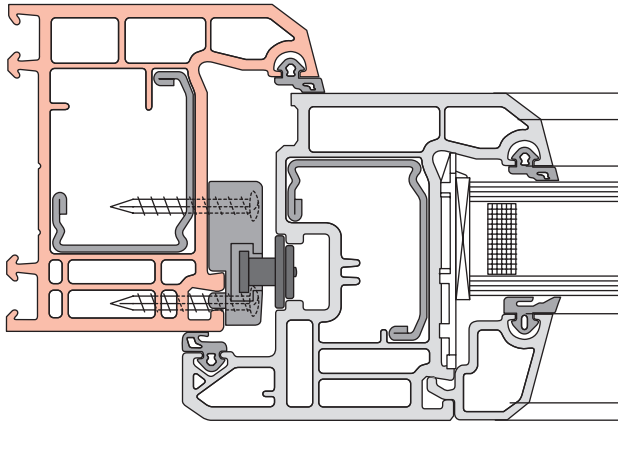
Components	Quantity	Size	d _h	Diameter to be drilled	Drive
Supporting piece	2	4.8 x ...	7 – 9.5	4.2	Not specified
Guide track	...	3.9 - 4.1 x ...	7	3.0	Not specified
Retaining track	...	3.9 - 4.1 x ...	7	-	Not specified
Roller track	...	3.9 - 4.1 x ...	7	3.0	Not specified
Bogie	4	4.8 x ...	7 – 9.5	4.2	Not specified
Roto Line handle	2	M5 x ...	–	10.1 / 12	Cross-headed screw
Tandem bogie	8	4.8 x ...	7 – 9.5	4.2	Not specified
Reinforcement part	2	4.8 x ...	7 – 9.5	4.2	Not specified



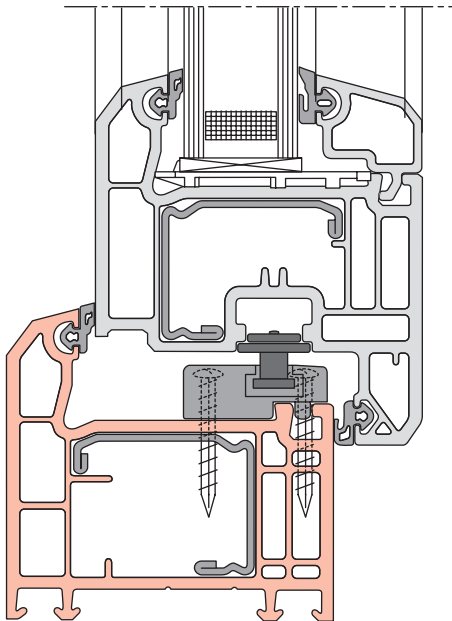
9.2.2 Fastening suggestion for security windows

Fastening SEC strikers

3x screws 4x ... Through all walls if attachment through steel reinforcement is not possible.



Horizontal cross section M 1:2



Vertical cross section M 1:2

Glazing bead attachment

With screws if required.

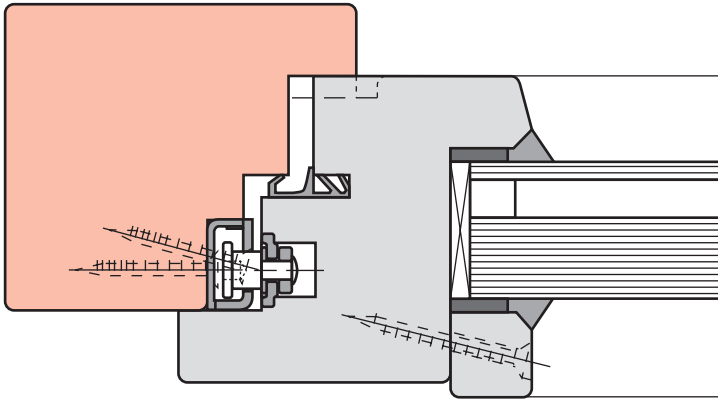
9.2.3 Fastening suggestion for security windows

Fastening SEC strikers

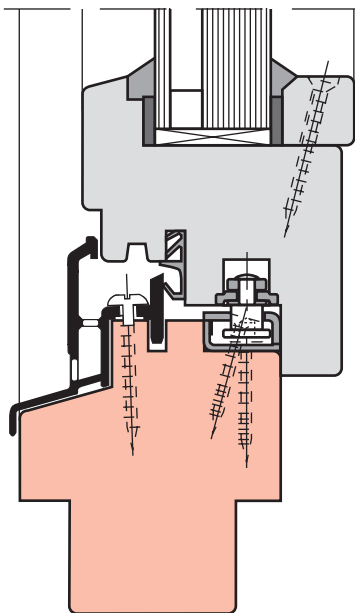
3 pcs. screws 4x ...

Glazing bead attachment

With screws if required.



Horizontal cross section M 1:2

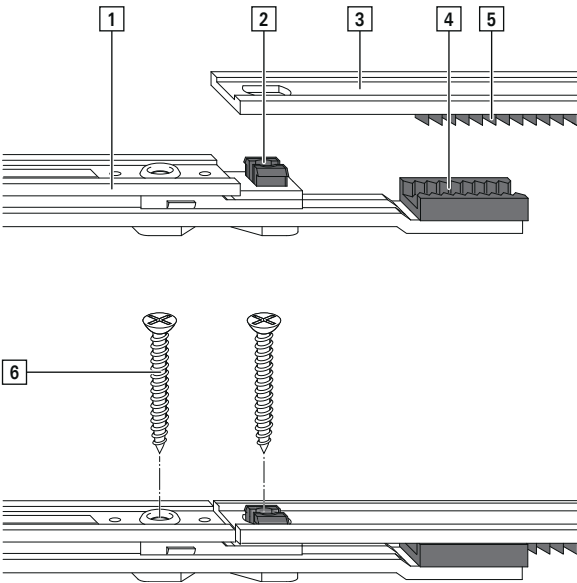


Vertical cross section M 1:2



9.3 Force-fit connection

Coupleable hardware components always require a force-fit connection.



Assignment	Description
[1]	Component A
[2]	Screw guide with clamp
[3]	Component B
[4]	Component A toothed segment
[5]	Component B toothed segment
[6]	Screw

Force-fit connections are formed by screwing down components A and B so that forces and movements are transferred without loss.



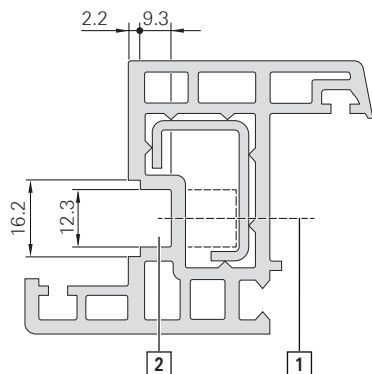
INFO

All coupleable components are delivered attached in the centre.

9.4 Drilling and routing dimensions

9.4.1 PVC

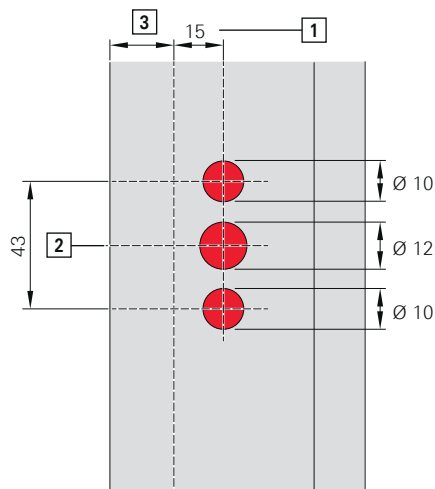
9.4.1.1 T&T espagnolette



Sash profile cross section, dimensions for hardware

[1] Hardware axis

[2] Hardware groove



Drill holes for the handle's sprocket and lugs

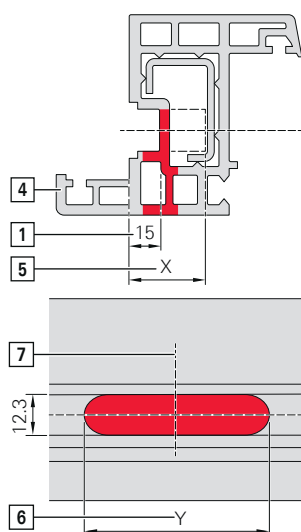
[1] Backset

[2] Handle height

[3] Overlap width: 16 to 22 mm

Drill hole Ø 10: drilling depth = overlap height + 16 mm for countersunk screws (ISO 7046-1 M5 x ...)

Drill hole Ø 12: drilling depth = overlap height + 16 mm for countersunk screws (ISO 7046-1 M5 x ...)



Gearbox routing

[1] Backset

[4] Overlap height: 16 to 22 mm

[5] Routing depth (X) min. 28 mm

[6] Routing length (Y)

BS 15 = Y min. 65 mm

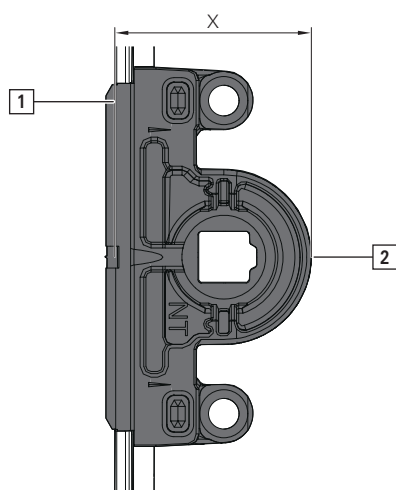
BS 30 to BS 50 = Y min. 100 mm



INFO

For reinforced espagnolettes, routing length = Y + 2 mm

[7] Centre of gearbox



Gearbox routing depth

[1] Top edge of floating mullion

[2] Bottom edge of espagnolette

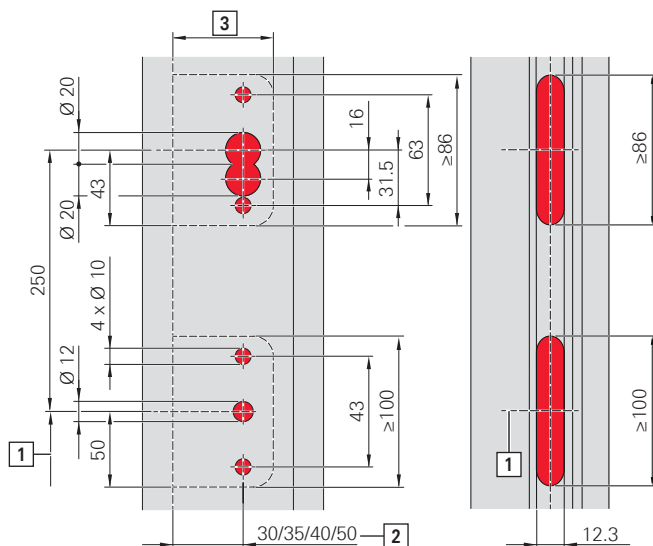
$X = BS + 13$

BS 15, fixed and centred / variable handle height; $X = 28$ mm

BS 45, centred / variable handle height, diagram C; $X = 58$ mm

BS 50, centred / variable handle height, diagram C; $X = 63$ mm

9.4.1.2 T&T espagnolette, lockable

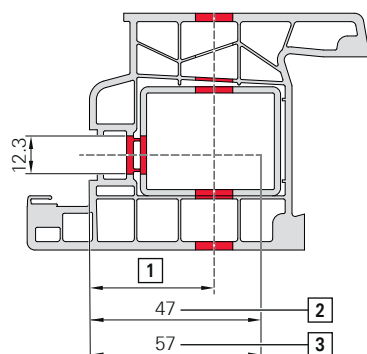


Drill holes: at the bottom for the square and handle mount, at the top for the profile cylinder and profile cylinder escutcheon mount.

Routing: at the bottom for the gearbox, at the top for the lock casing

[1] Handle height

[2] Backset



Lock casing routing depth

[1] Backset

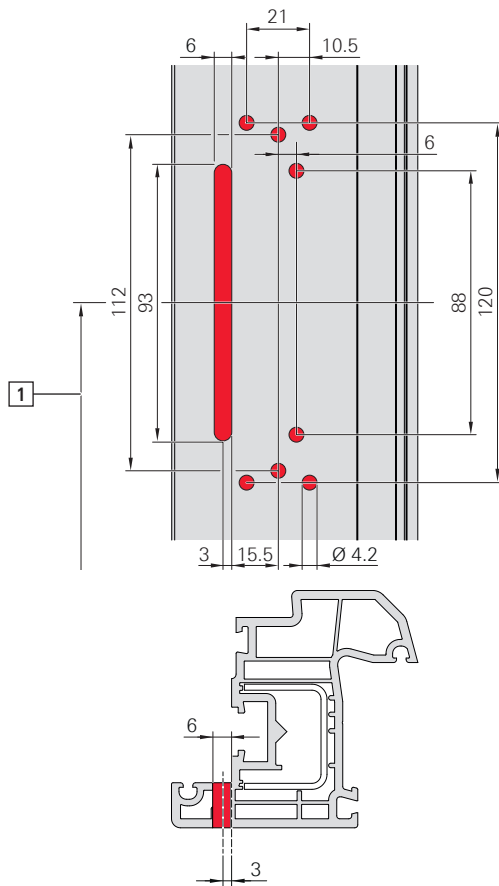
[2] Lock casing routing depth, BS 30

[3] Lock casing routing depth, BS 40

Further backsets follow the same pattern

9.4.1.3 Geared-handle

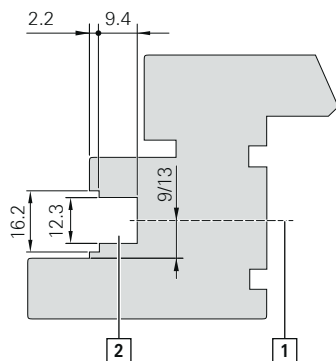
Geared-handle drilling and routing dimensions
[1] Handle height





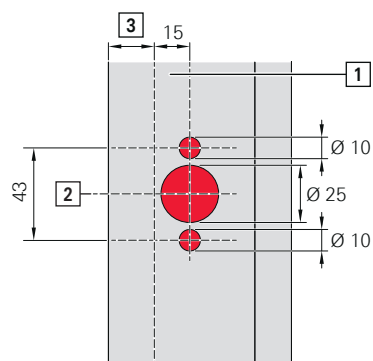
9.4.2 Timber

9.4.2.1 T&T espagnolette



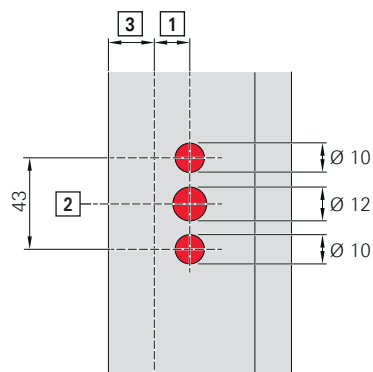
Sash profile cross section, dimensions for hardware

- [1] Hardware axis
- [2] Hardware groove



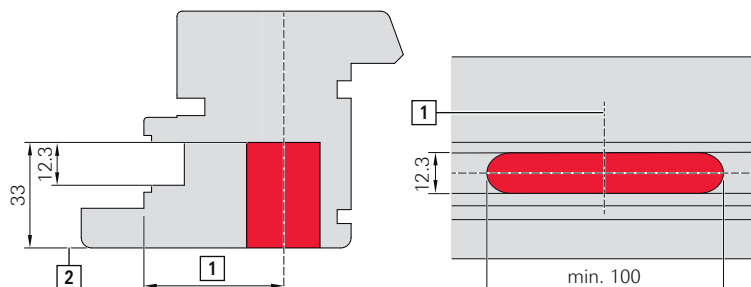
Drill holes for the sprocket and handle lugs with the T&T espagnolette DM 15

- [1] Backset
- [2] Handle height
- [3] Overlap width



Drill holes for the sprocket and handle lugs with the T&T espagnolette ≥ DM 30

- [1] Backset
- [2] Handle height
- [3] Overlap width



Routing depth espagnolette casing

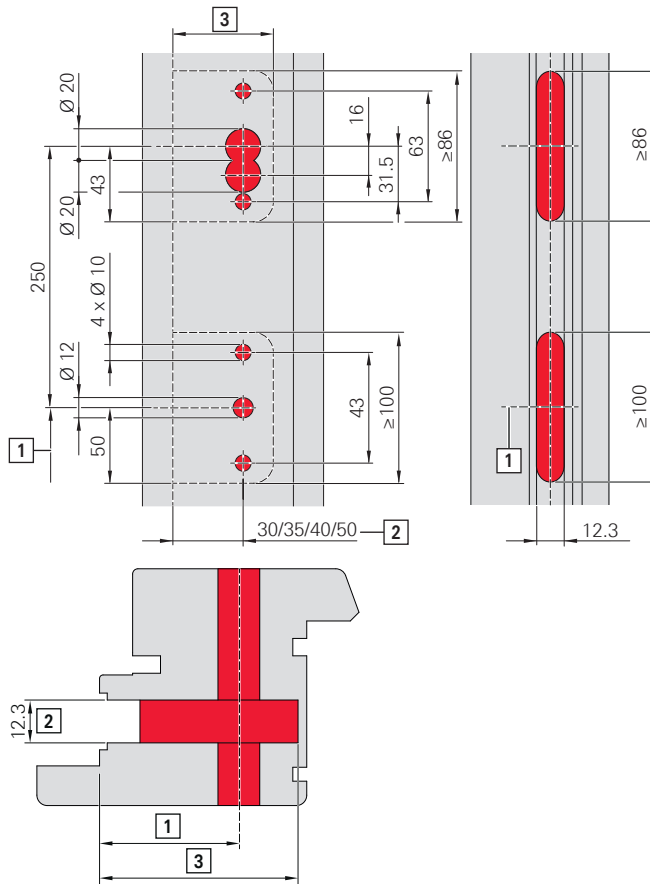
- [1] Backset
- [2] With 16 mm overlap height



INFO

If the backset is > 15 mm, complete the routing and drill holes as on the T&T espagnolette for PVC profiles. → *from page 148*

9.4.2.2 T&T espagnolette, lockable



Drill holes: at the bottom for the square and handle mount, at the top for the profile cylinder and profile cylinder escutcheon mount.

Routing: at the bottom for the gearbox, at the top for the lock casing

[1] Handle height

[2] Backset

[3] Lock casing routing depth: BS 30 = 47 mm;

BS 40 = 57 mm; ...

Lock casing routing depth

[1] Backset

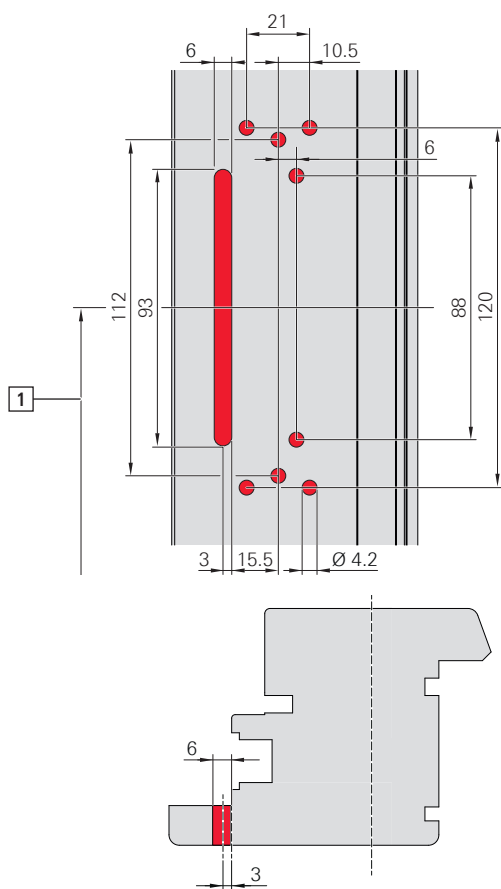
[2] Lock casing routing width

[3] Lock casing routing depth



9.4.2.3 Geared-handle

Geared-handle drilling and routing dimensions
 [1] Handle height

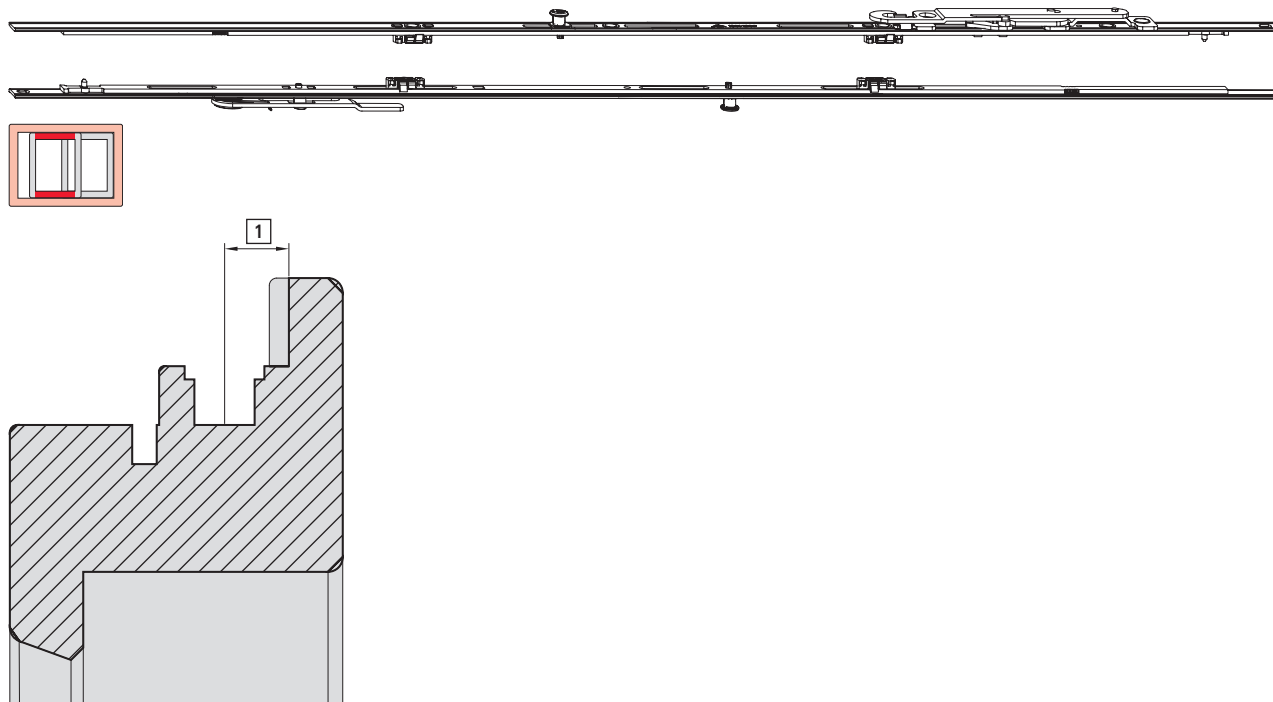


9.4.3 PVC and timber

9.4.3.1 Comfort scissor stay and mishandling device



Sash routing vertical cross section

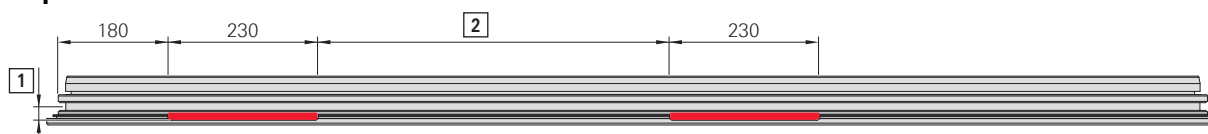


INFO

DIN L has a dimension of 180 mm.

The dimension of 180 mm is mirror-inverted for sash DIN R; measure from the other side.

Top of DIN L



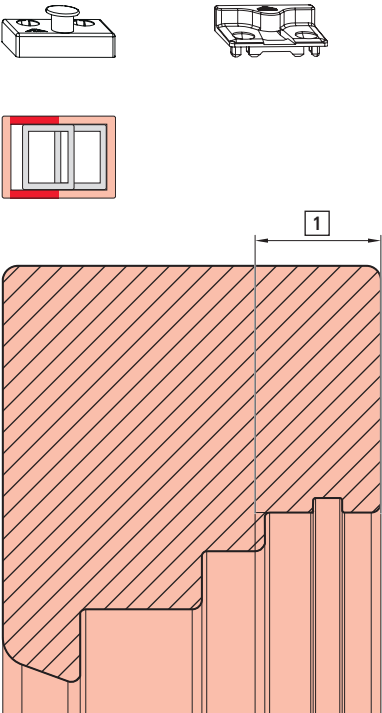
Bottom of DIN L



Assignment	Meaning
[1]	13 (on hardware axis 9)
[2]	371 (for SRW 1201 – 1400 mm) 571 (for SRW 1401 – 2000 mm)

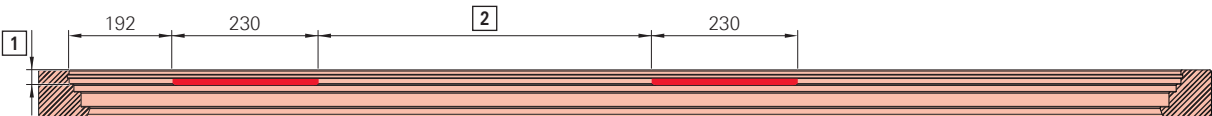


Frame routing vertical cross section

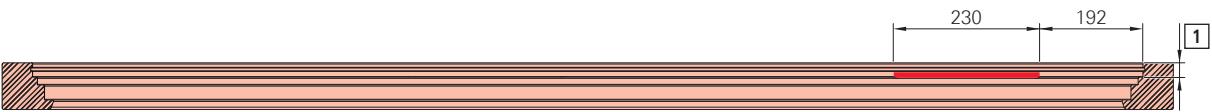


INFO
DIN L has a dimension of 180 mm.
The dimension of 180 mm is mirror-inverted for sash DIN R; measure from the other side.

Top of DIN L



Bottom of DIN L



Assignment	Meaning
[1]	22 (on hardware axis 9) 26 (on hardware axis 13)
[2]	371 (for SRW 1201 – 1400 mm) 571 (for SRW 1401 – 2000 mm)

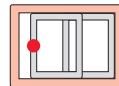
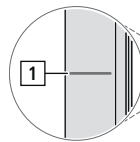
9.5 Sash

9.5.1 Preparing the sash for the T&T espagnolette

9.5.1.1 Handle drillings

Creating the drillings for the handle

1. Mark the handle-height position on the inside of the sash [1].



2. Create the drillings.
Note any different drilling dimensions. → 9.4 *"Drilling and routing dimensions" from page 148*

3. Deburr the drillings.

9.5.1.2 Gearbox cutout

Routing the gearbox cutout

1. Route the espagnolette cutout.
Observe the routing dimensions. → 9.4 *"Drilling and routing dimensions" from page 148*
2. Deburr the espagnolette cutout.

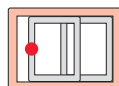
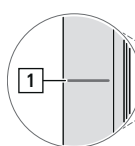
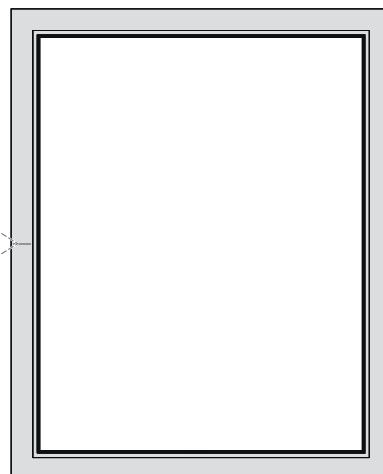


9.5.2 Preparing the sash for a lockable T&T espagnolette

9.5.2.1 Handle drill holes

Drilling the holes for the handle

1. Mark the handle height on the inside of the sash [1].

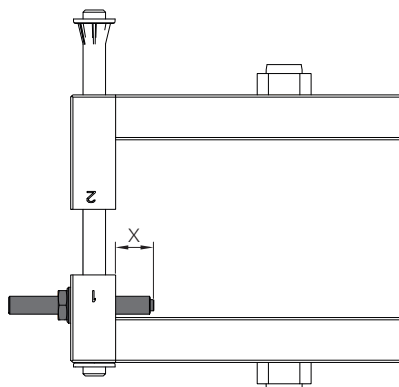


2. Adjust the drilling jig depending on the backset and overlap width.
 $X = 75 - \text{backset} - \text{overlap width}$

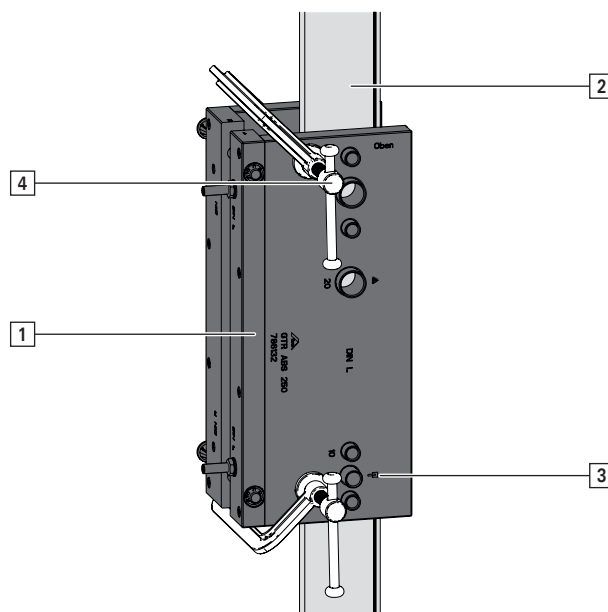


INFO

Drilling jigs are adjusted for DIN L sashes at the factory. For DIN R sashes, remove the adjustment pins and screw them into the tapped holes marked DIN R.



3. Position the drilling jig:
 - a. Place the drilling jig [1] on the sash [2].
 - b. Align the drilling jig on the marking for the handle [3].
 - c. Fix the drilling jig in place using screw clamps [4].

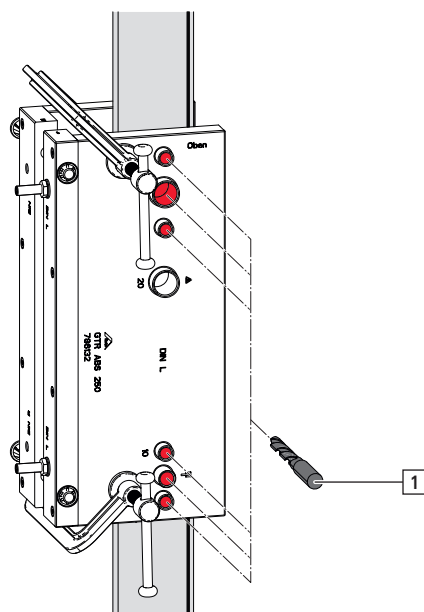


4. Drill the holes [1].
Observe the drilling dimensions. → 9.4
"Drilling and routing dimensions" from page 148



INFO

Drill from both sides.



5. Undo the screw clamps.

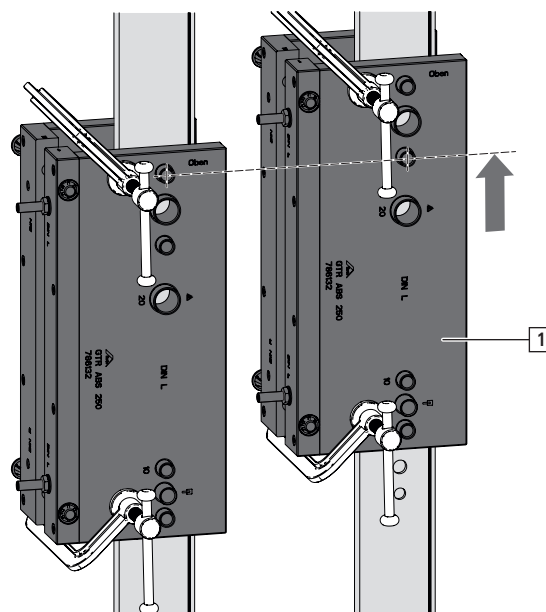


6. Push the drilling jig [1] towards the top of the sash until the drilled hole in the drilling jig coincides with the drilled hole in the sash profile.

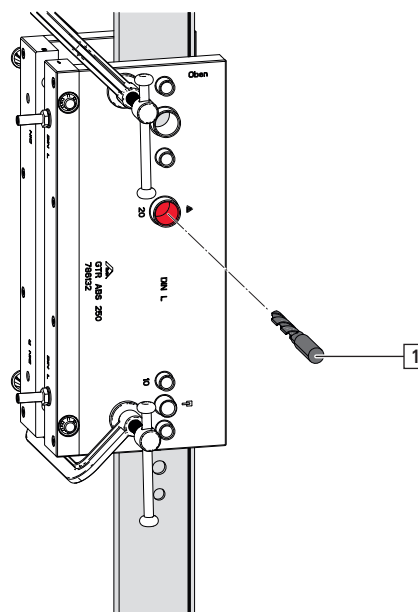


PRECONDITION

Use a tool (such as a drill) to position the jig.



7. Fix the drilling jig in place again using screw clamps.
8. Drill the hole [1].
Observe the drilling dimensions. → 9.4
"Drilling and routing dimensions" from page 148



9. Deburr the drill holes.

9.5.2.2 Gearbox cutout with lock casing

Routing the gearbox cutout with lock casing

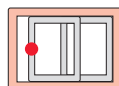
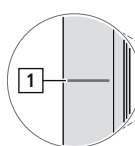
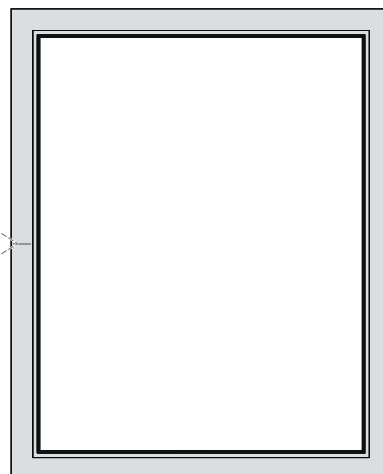
1. Route the espagnolette cutout.
Observe the routing dimensions. → 9.4 "Drilling and routing dimensions" from page 148
2. Deburr the espagnolette cutout.

9.5.3 Preparing the sash for the geared-handle

9.5.3.1 Handle drill holes

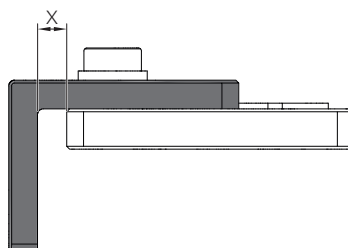
Drilling the holes for the handle

1. Mark the handle height on the inside of the sash [1].

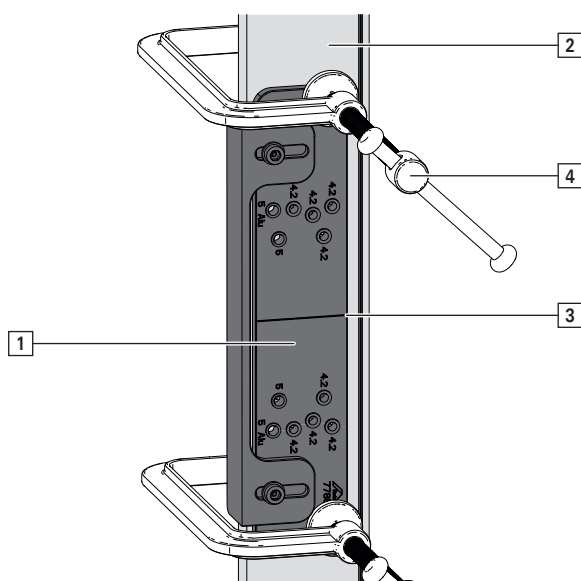


2. Adjust the drilling jig depending on the overlap width.

$X = \text{overlap width} - 15.5$



3. Position the drilling jig:
 - a. Place the drilling jig [1] on the sash [2].
 - b. Align the drilling jig on the marking [3].
 - c. Fix the drilling jig in place using the screw clamp [4].

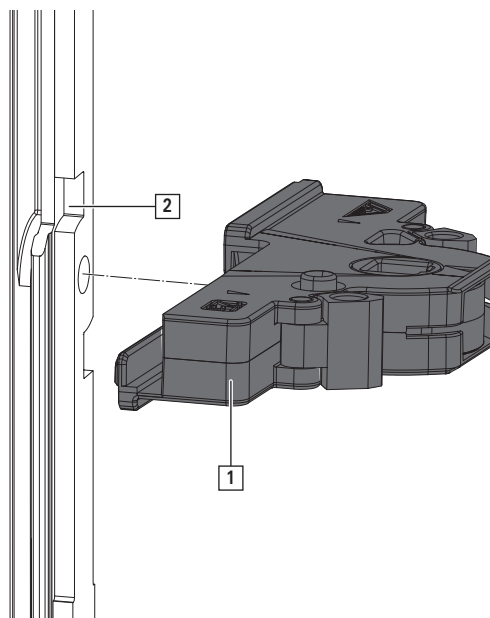




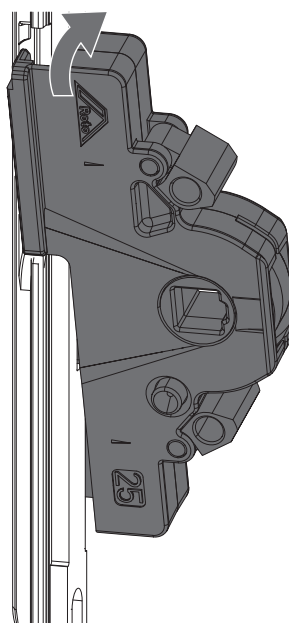
9.5.4 High backset espagnolette

Gearbox

1. Insert the gearbox [1] into the espagnolette faceplate [2] rotated by 90°. While doing so, insert the cam into the hole provided.



2. Turn the gearbox clockwise until the gearbox clicks into place.
The gearbox is positioned flush with the espagnolette faceplate.

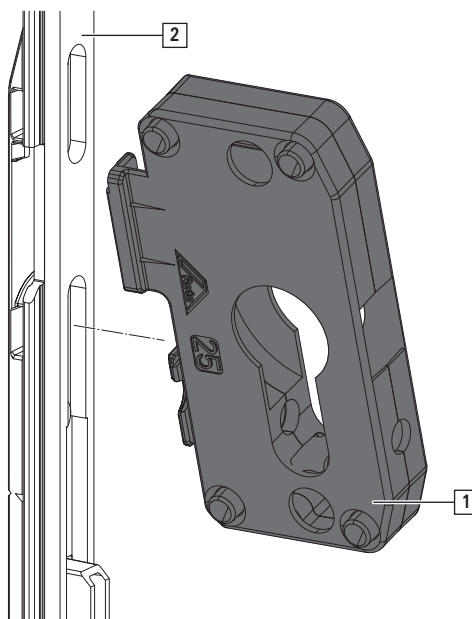


3. For dismantling, turn the gearbox anticlockwise until the gearbox comes out of the groove. Remove from the espagnolette faceplate.

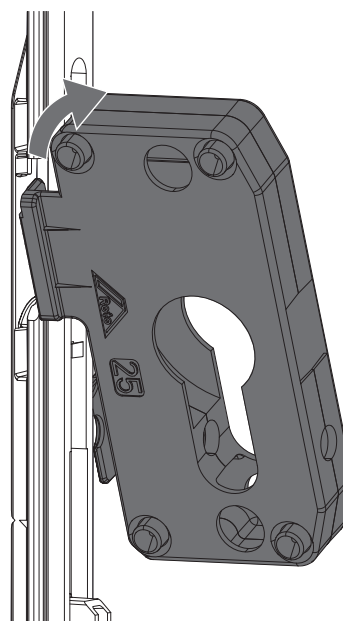


Lock casing

1. Turn the lock casing [1] slightly before inserting it into the espagnolette faceplate [2].



2. Insert the lock casing into the groove and turn clockwise until the lock casing clicks into place. The lock casing is positioned flush with the espagnolette faceplate.



3. For dismantling, turn the lock casing anticlockwise until the lock casing comes out of the groove. Remove from the espagnolette faceplate.

9.5.5 Crop the hardware components



CAUTION

Incorrect cropping methods may result in property damage.

Do not insert the hardware components into the sash before they have been cropped. The screw guide engages and can be destroyed when it is removed.

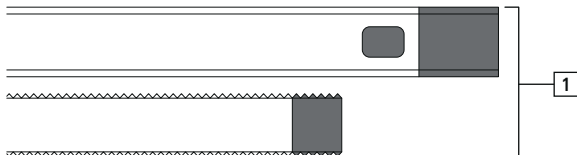
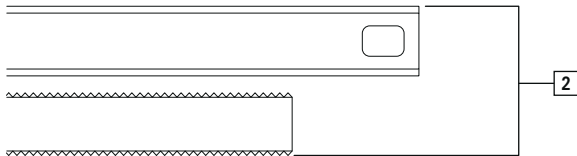
- ▶ Only lay out the hardware components and do not insert them into the sash before they have been cropped.

The following hardware components are cropped:

- Espagnolettes
- Centre locks

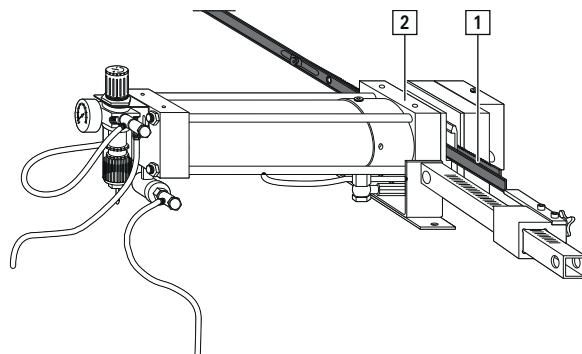
Cropping with a pneumatic punch (hole punching)

Hardware components are delivered 10 mm longer than the nominal dimension.



Assignment	Description
[1]	Hardware delivery state
[2]	Cropped hardware

1. Place the hardware component in the required position.
2. Mark the length on the hardware component.
3. Insert the hardware component [1] into the pneumatic punch [2].



4. Align the hardware component.
5. Crop the hardware component.



9.5.6 Corner drives



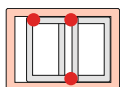
INFO

All components are manufactured with centre fixing.

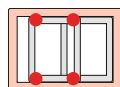
9.5.6.1 Standard corner drive



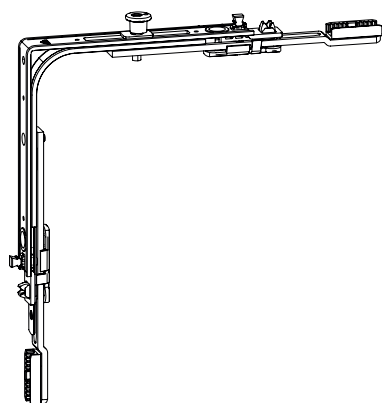
Position of the corner drives



Fixed handle height



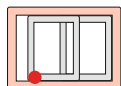
Centred / variable handle height



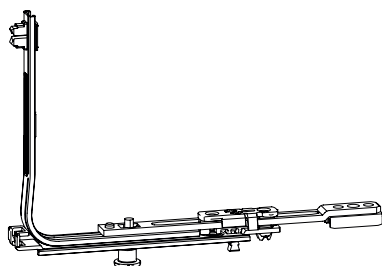
9.5.6.2 Tilt&Turn corner drive



Position of the corner drives



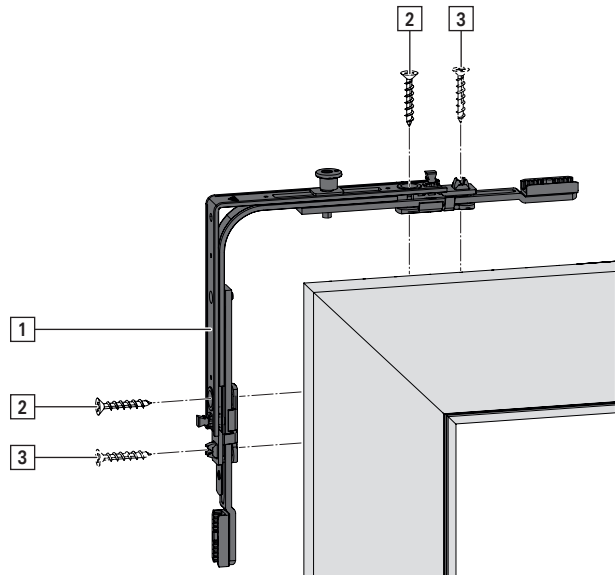
Fixed handle height



9.5.6.3 Corner drive

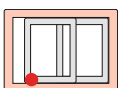
Installing the corner drive

1. Insert the corner drives [1] and screw them down with two screws [2].



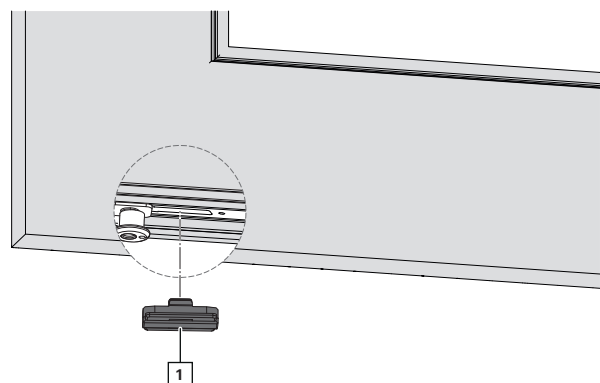
2. After all of the connector components have been installed, screw down the corner drives with a further two screws [3]. → 9.3 "Force-fit connection" from page 147

9.5.7 Travel restrictor



Installing the travel restrictor

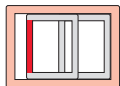
1. Insert the travel restrictor [1] into the centre-fixed corner drive on the locking side.





9.5.8 T&T espagnolettes

9.5.8.1 Fixed handle height



Installing the T&T espagnolette

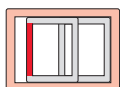
1. Place the espagnolette in the required position, mark the length and crop it on one side. → 9.5.5 "Crop the hardware components" from page 164.
2. Insert the espagnolette with the cropped side facing upwards and create a strong interlocking hardware connection. → 9.3 "Force-fit connection" from page 147



PRECONDITION

At an SRH of > 2400 mm, insert the multipart centre lock at the top on the locking side and create a strong interlocking hardware connection.

9.5.8.2 Centred / variable handle height

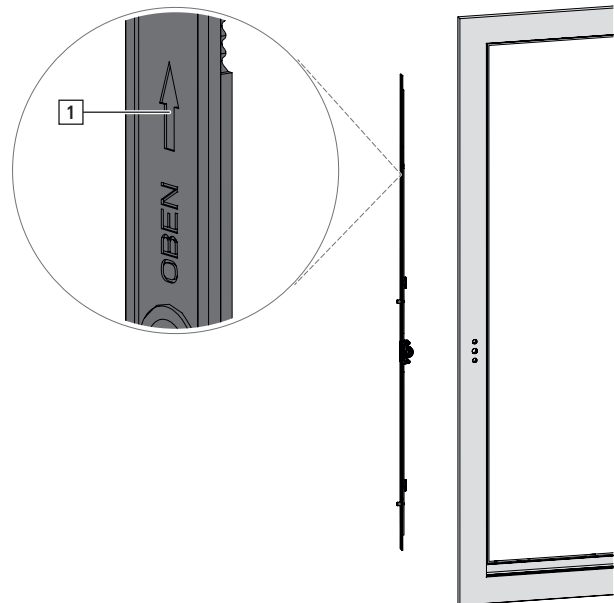


Installing the T&T espagnolette

1. Place the espagnolette or centre lock for the geared-handle in the required position, mark the length, remove it and crop it on both sides. →

9.5.5 "Crop the hardware components" from page 164.

2. Insert the espagnolette or centre lock for the geared-handle. Ensure it is installed in the correct direction, with the arrow [1] pointing upwards.
Create a strong interlocking hardware connection. → 9.3 "Force-fit connection" from page 147

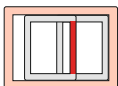


PRECONDITION

At an SRH of > 2400 mm, insert two multipart centre locks at the top and bottom on the locking side and create a strong interlocking hardware connection.

9.5.9 Centre locks

9.5.9.1 Vertical centre lock



Installing the vertical centre lock

1. Place the centre lock in the required position on the hinge side, mark the length, remove it and crop it on one side. → 9.5.5 "Crop the hardware components" from page 164
2. Insert the centre lock with the cropped side facing downwards and create a strong interlocking hardware connection. → 9.3 "Force-fit connection" from page 147

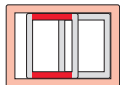


PRECONDITION

At an SRH of > 2400 mm, insert the multipart centre lock at the bottom on the hinge side and create a strong interlocking hardware connection.



9.5.9.2 Horizontal centre lock



CAUTION

Selecting incorrect components may lead to property damage.

The horizontal CL with comfort scissor stay must only be installed together with the horizontal CL with mishandling device. Failure to do so may result in damage to the frame and hardware components.

- ▶ Only install the horizontal CL with comfort scissor stay together with the horizontal CL with mishandling device.

Variant	Component	Position
Roto Patio Alversa KS	Horizontal CL	Top
	Horizontal CL with bullet catch	Bottom
Roto Patio Alversa PS without night ventilation	Horizontal CL	Top + bottom
Roto Patio Alversa PS with night ventilation		
Roto Patio Alversa PS Air		
Roto Patio Alversa PS Air Com	Horizontal CL with comfort scissor stay	Top
	Horizontal CL with mishandling device	Bottom

Installing the horizontal centre lock

1. Place the centre lock at the bottom on the hinge side and at the top on the locking side, mark the length, remove it and crop it on one side. → 9.5.5 “Crop the hardware components” from page 164
2. Insert the centre locks and create a strong interlocking hardware connection. → 9.3 “Force-fit connection” from page 147



PRECONDITION

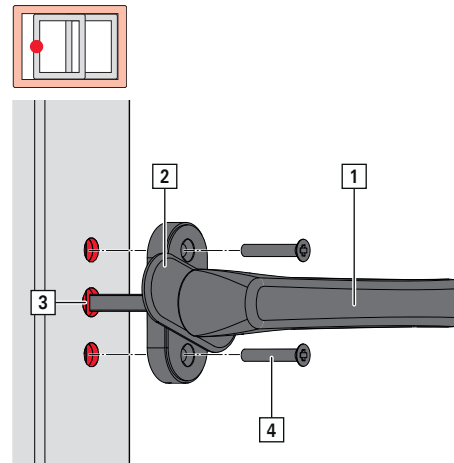
At an SRW of > 1650 mm, insert the multipart centre lock at the bottom on the locking side or at the top on the hinge side and create a strong interlocking hardware connection.

9.5.10 Handle

9.5.10.1 Handle – T&T espagnolette

Installing the handle – T&T espagnolette

1. Move the handle [1] to the sliding position (horizontally aligned with the escutcheon).
2. Rotate the cover [2] on the handle 90°.



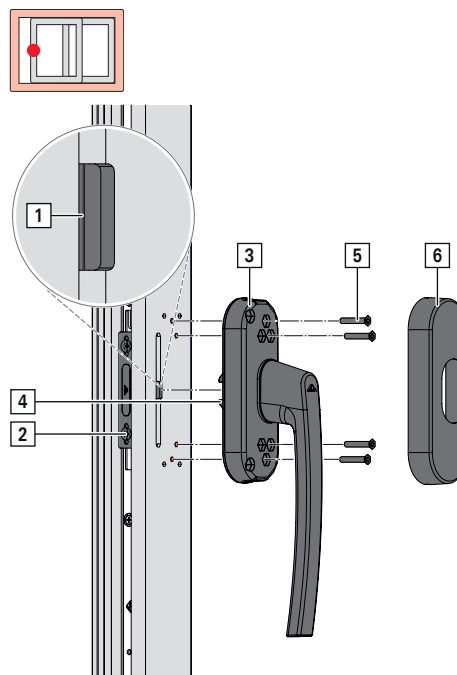
3. Insert the handle into the sash [3].
4. Secure the handle using two screws [4].
5. Rotate the cover on the handle 90°.



9.5.10.2 Handle – Geared-handle

Installing the handle – Geared-handle

1. Move the handle to the sliding position (horizontally aligned with the escutcheon).



2. On a 9 mm hardware axis: crop the connector [1] at the notch provided.
3. Secure the connector to the centre lock for the geared-handle with two screws [2].
4. Place the espagnolette [3] on the sash.
The connector engages in the coupling point [4].
5. Secure the espagnolette with four screws [5].
6. **CAUTION**
Take note of the following section before moving on to the next task. → 9.5.10.3
“Centre-fixing” from page 172
Undo the centre fixing.
7. Move the handle to the closed position and fit the cover [6].
8. Move the handle to the sliding position.

9.5.10.3 Centre-fixing



CAUTION

Undoing the centre-fixing incorrectly may result in property damage.

If the mishandling device at the bottom is not operated so that the centre-fixing on a Roto Patio Alversa | PS Air Com can be undone, this can damage the hardware components.

- ▶ To undo the centre-fixing on a Roto Patio Alversa | PS Air Com, operate the mishandling device at the bottom.
- ▶ Ensure that the comfort scissor stay can move freely.



INFO

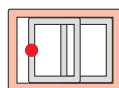
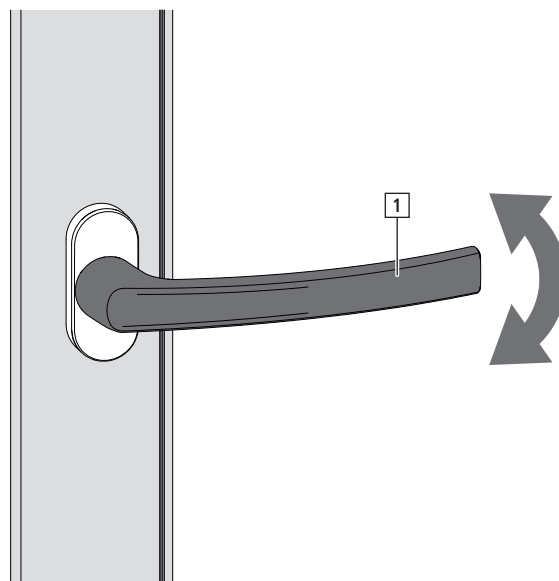
All components are manufactured with centre-fixing.

Undoing the centre-fixing

Turning the handle undoes the centre-fixing of the hardware components.

Audible cracking noise.

1. Move the handle [1] to the sliding position (horizontally aligned with the escutcheon cover).



2. Turn the handle in one direction until it reaches the stop.
Audible cracking noise.
3. Turn the handle in the opposite direction until it reaches the stop.
Audible cracking noise.
4. Turn the handle in both directions again and check for ease of movement.

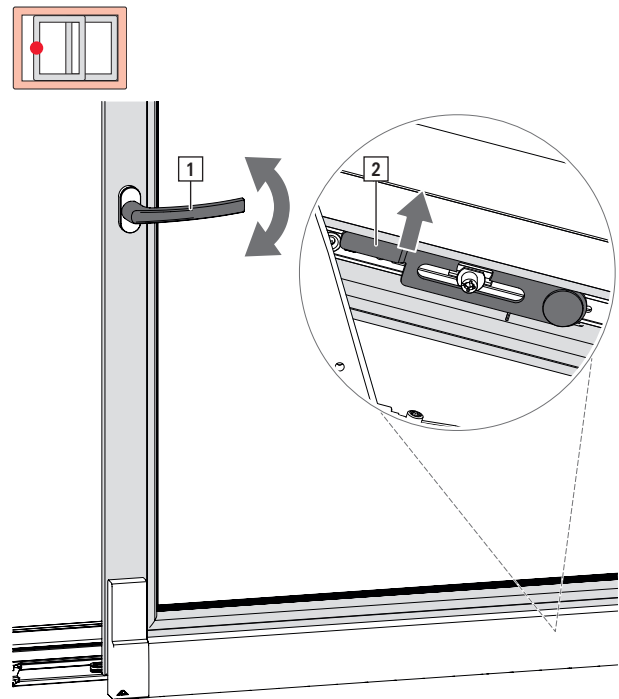
Undoing the centre fixing (Roto Patio Alversa | PS Air Com)

Turning the handle undoes the centre-fixing of the hardware components.

Audible cracking noise.



1. Move the handle [1] to the sliding position (horizontally aligned with the escutcheon cover).



2. Operate the mishandling device [2] at the bottom.
Ensure that the comfort scissor stay can move freely.
3. Turn the handle in one direction until it reaches the stop.
Audible cracking noise.
4. Turn the handle in the opposite direction until it reaches the stop.
Audible cracking noise.
5. Turn the handle in both directions again and check for ease of movement.

9.5.11 Bogies / reinforcement brackets



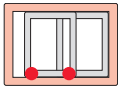
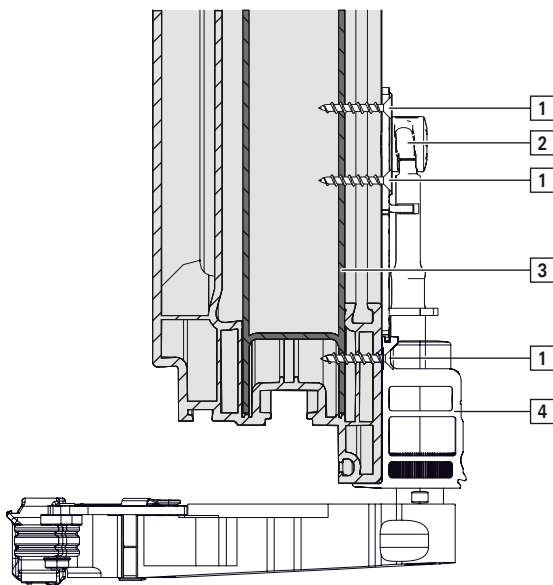
WARNING

Incorrect screw connections may lead to serious injuries.

Short screws will not reach the steel reinforcement and will therefore not hold.

Hardware components can be pulled out of the sash if they are not screwed into the steel reinforcement.

- ▶ Select the length of the screws so that they will hold in the steel reinforcement.



Assignment	Designation
[1]	Screws
[2]	Reinforcement bracket
[3]	Steel reinforcement
[4]	Bogie

The following installation sequence applies to the following components:

- Bogies up to 160 kg (with / without damping)
- Tandem bogies up to 200 kg (with damping)



INFO

Leading bogies are installed on the locking side.

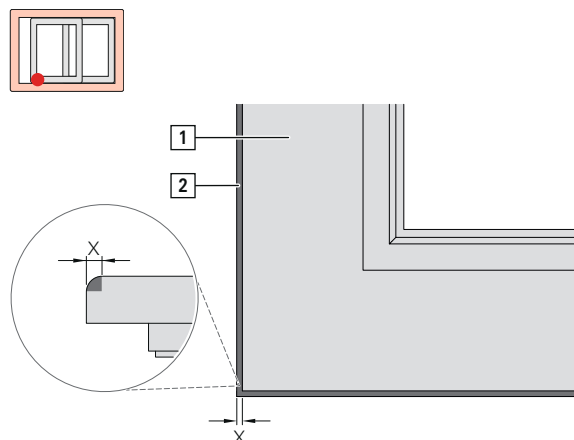
Trailing bogies are installed on the hinge side.



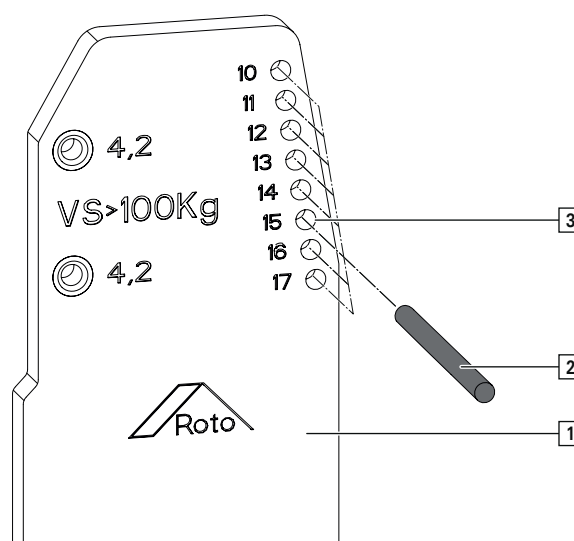
9.5.11.1 Preparing the drilling jig

Determining the curve or pitch on the sash

1. Determine dimension X of the curve or pitch [2] on the outside of the sash [1].
 $X = 0$ if there is no curve or pitch.
 Set the bogie drilling jig to dimension $10 + X$ (depending on sash curve or pitch) using the dowel pin.



2. Determine the dowel pin position:
 - a. Example: $X = 5$
 - b. Dowel pin position: $10 + 5 = 15$
3. Insert the dowel pin [2] into the dowel pin position [3] on the drilling jig [1].



INFO

Two drilling jigs are required for each sash side on tandem bogies. Only insert the dowel pin into the outer drilling jig.



INFO

Drill holes on the side of the sash that is facing the frame.



INFO

Always install two reinforcement parts for Roto Patio Alversa | PS.

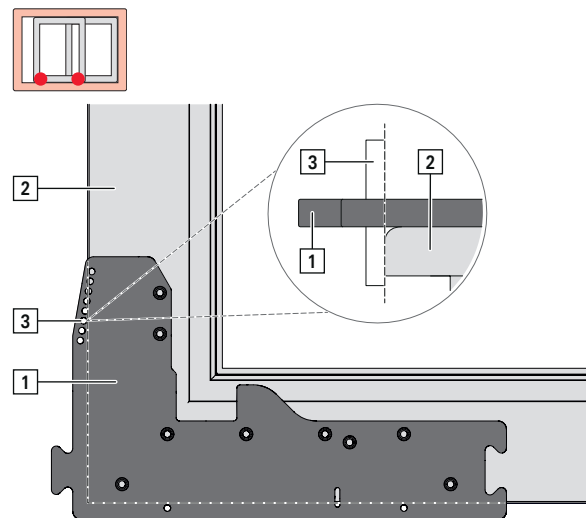
The following drill holes are required:

Determining the drill holes

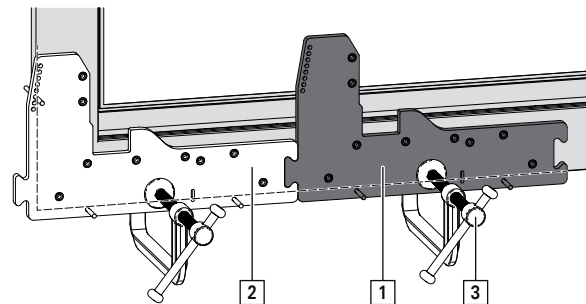
Sash weight	Bogies	Reinforcement parts
Up to 100 kg For: Roto Patio Alversa KS	2 bogies 4 drill holes each	without
Up to 160 kg	2 bogies 4 drill holes each	2 reinforcement parts 2 drill holes each
over 160 kg	2 tandem bogies 8 drill holes each	2 reinforcement parts 2 drill holes each

Positioning the drilling jig

- Position the drilling jig [1] on the lower edge of the sash [2].
The dowel pin [3] is located on the outside of the sash.



- For tandem bogies, insert the second drilling jig [1] into the first drilling jig [2].



- Check that the drilling jig is seated correctly.
- Fasten the drilling jig(s) using a screw clamp [3].



9.5.11.2 Drilling the holes



WARNING

Incorrect screw connections may lead to serious injuries.

Short screws will not reach the steel reinforcement and will therefore not hold.

Hardware components can be pulled out of the sash if they are not screwed into the steel reinforcement.

- ▶ Select the length of the screws so that they will hold in the steel reinforcement.



INFO

Two drilling jigs are required for each sash side on tandem bogies. Only insert the dowel pin into the outer drilling jig.



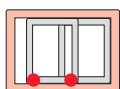
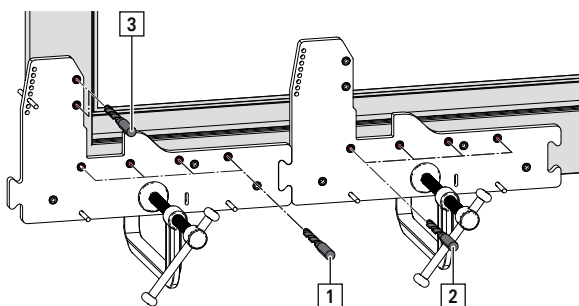
INFO

Drill holes on the inside of the sash.



INFO

Drill holes for reinforcement brackets in Tilt&Slide systems with a sash weight of over 100 kg.

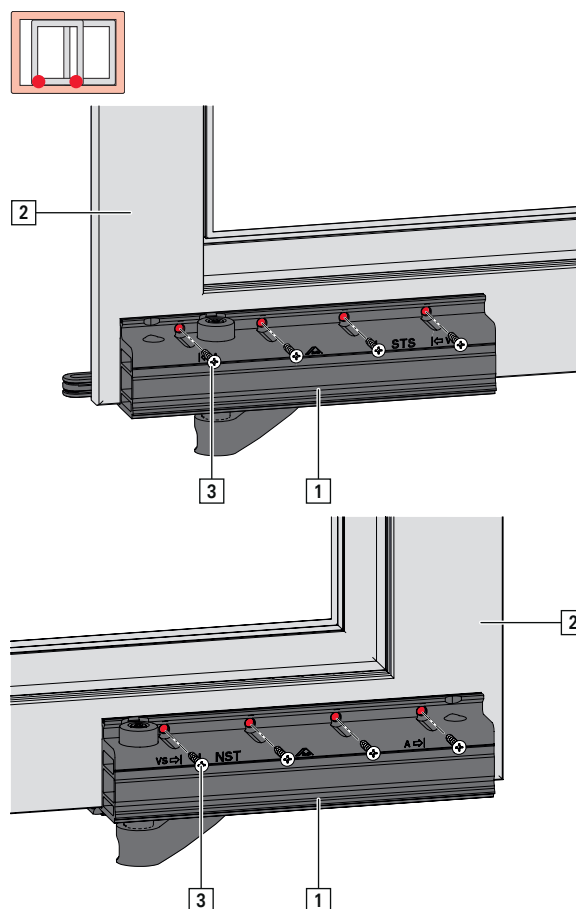


1. Drill the holes [1] for the bogies, or drill the holes [1] and [2] for the tandem bogie.
Drill: 4.2 mm diameter
2. Drill the holes for the reinforcement brackets [3].

9.5.11.3 Bogies

Installing the bogies

1. Place the bogies [1] on the sash [2].

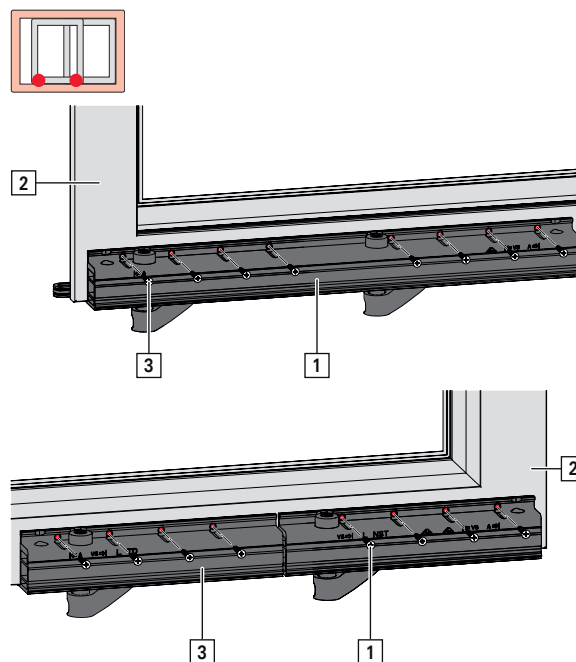


2. Check that the bogies are seated correctly:
 - Distance from the outer edges of the sash. → *9.5.11.1 "Preparing the drilling jig" from page 175*
 - Flush with the lower edge on the sash frame.
3. Screw down each bogie with 4 screws [3].



Installing the tandem bogies

1. Place the tandem bogies [1] on the sash [2].

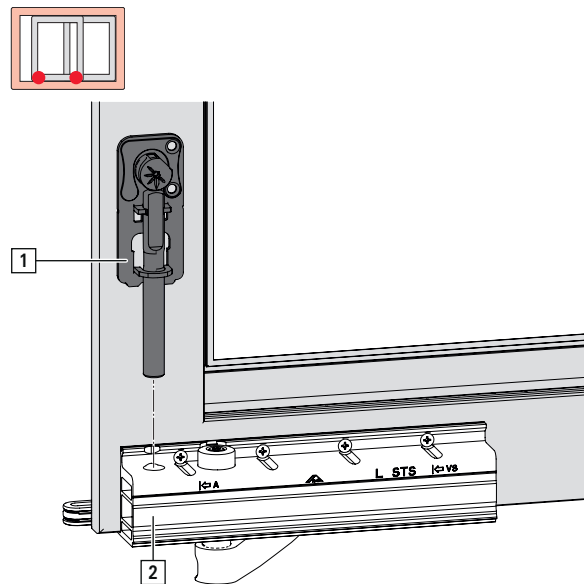
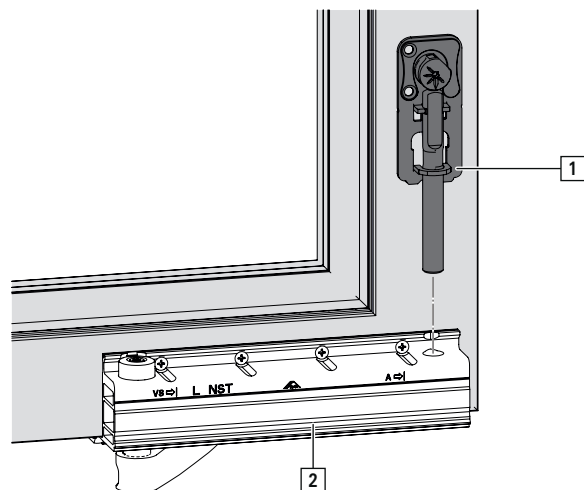


2. Check that the tandem bogies are seated correctly:
 - Distance from the outer edges of the sash. → **9.5.11.1 "Preparing the drilling jig" from page 175**
 - Flush with the lower edge on the sash frame.
3. Screw down each tandem bogie with 8 screws [3].

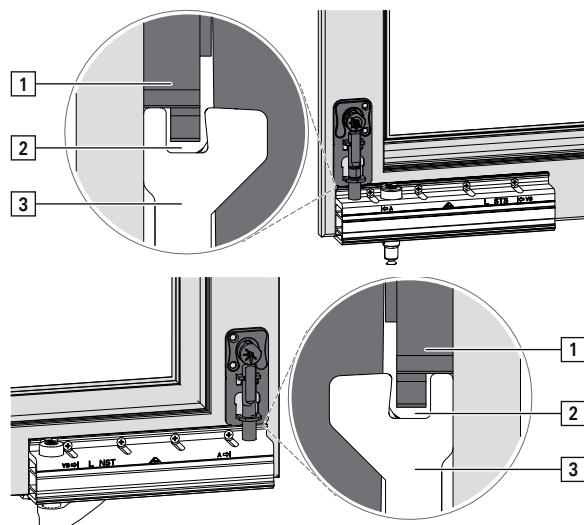
9.5.11.4 Reinforcement parts

Installing the reinforcement parts

1. Insert the reinforcement parts [1] into the bogies [2].

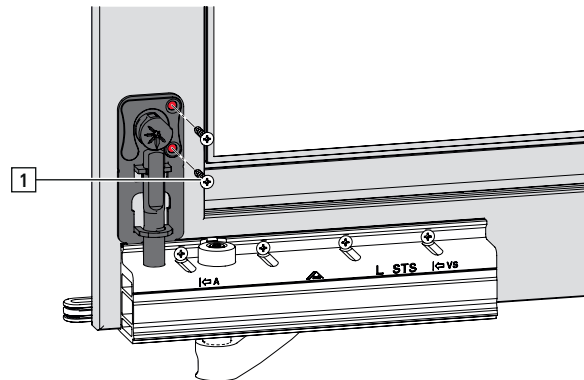
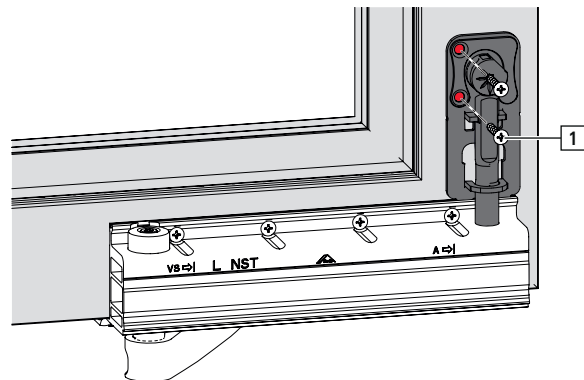


2. Check that the reinforcement parts are seated correctly.
Has the reinforcement part [1] been inserted into the guide groove [2] in the bogie [3]?





3. Screw down the reinforcement part with two screws [1].



9.5.12 Support bracket

9.5.12.1 Supporting piece drill holes



INFO

Install one supporting piece up to $SRW \leq 1450$. Always install two supporting pieces from $SRW > 1450$ mm.

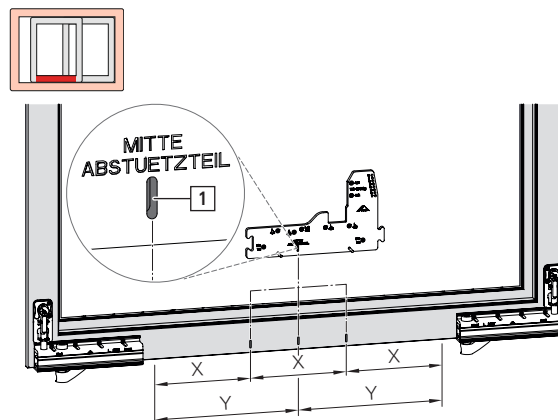


INFO

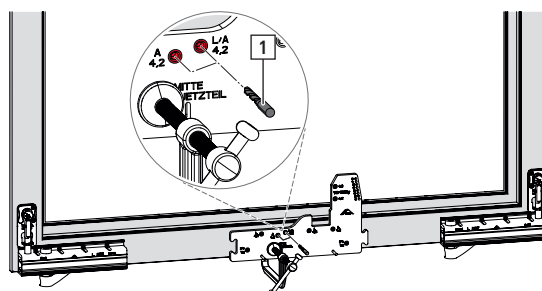
Install one supporting piece up to $SW \leq 1480$. Always install two supporting pieces from $SW > 1480$ mm.

Drilling the holes for the supporting piece

1. Determine the position of the supporting pieces with the same distance on the right and left.
2. Mark the position of the supporting pieces.
3. Place the drilling jig on the marking [1].



4. Fix the drilling jig in place using the screw clamp.
5. Drill the holes [1] for the supporting pieces.

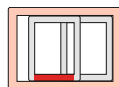
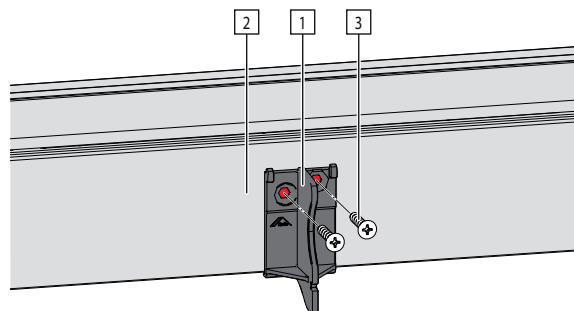




9.5.12.2 Support bracket

Installing the support bracket

1. Place the support bracket [1] on the sash [2].



2. Screw down the support bracket with 2 screws [3].

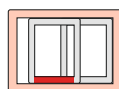
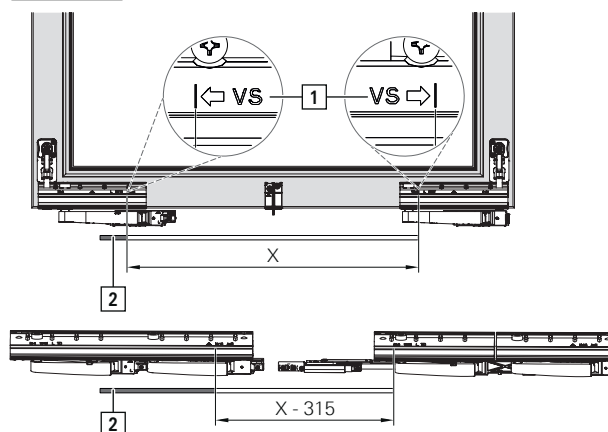
9.5.13 Connecting rod / connecting-rod support-block

9.5.13.1 Connecting rod

Cropping the connecting rod

Connecting rod for	Length
Bogies without damping (Roto Patio Alversa KS only)	According to the marking
Bogies with damping (Roto Patio Alversa PS only)	According to the marking, minus 315 mm

1. Mark the connecting rod according to the bogie markings [1].

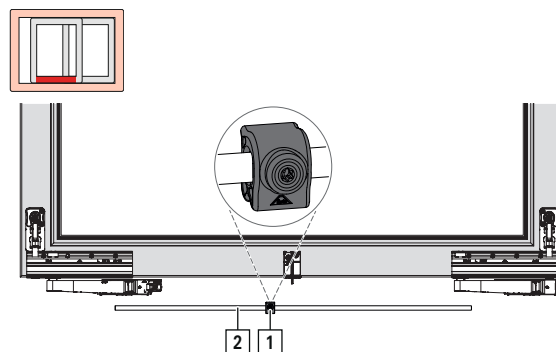


2. Crop the connecting rod [2].

9.5.13.2 Connecting-rod support-block

Installing the connecting-rod support-block

1. From an SRW of > 1450 mm: push an additional connecting-rod support-block [1] to the centre of the connecting rod [2].



2. Align the connecting-rod support-block with the bogie.

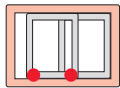
**INFO**

Position the threaded pin so that it is perpendicular to the inside of the sash.

3. Screw down the connecting-rod support-block on the connecting rod (torque: 2 – 3 Nm).

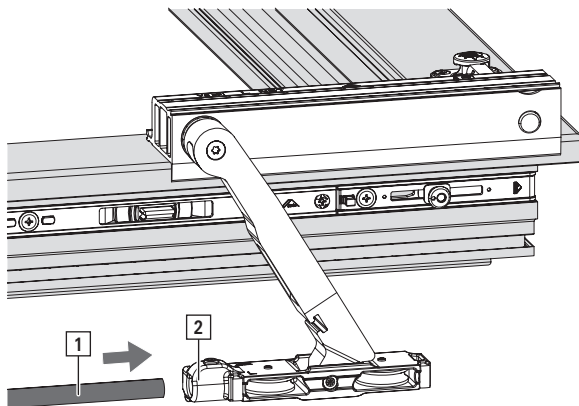


9.5.13.3 Connecting rod

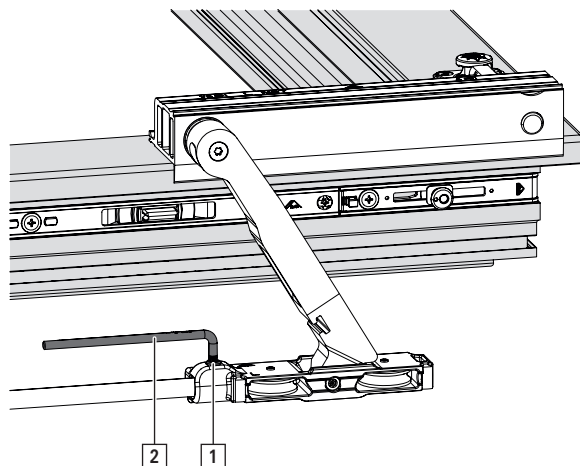


Installing the connecting rod

1. Insert the connecting rod [1] into the bogie roller unit [2] on the hinge side.

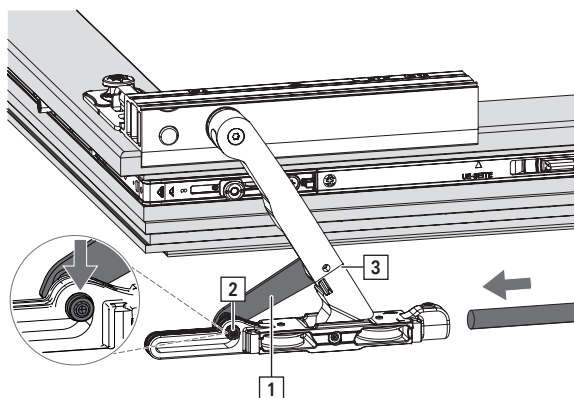


2. Secure the connecting rod with a screw [1] using a T25 hexalobular socket screwdriver [2] (torque: 5 – 7 Nm).



3. Insert the connecting rod into the bogie roller unit on the locking side.

If the control arm [1] is engaged in the roller unit, push on the cam [2] to unlock it and fold up the support arm [3].



4. Fold in the support arms and align them so that they are parallel to the frame.



INFO

The “drilling jig for bogies” or the “installation jig for the top guide block” can be used to align the support arms on the bogies. While doing so, ensure that the jig rests flat on the sash component of the bogie.

Place the drilling jig [1] for fixing the folded-in support arm on the roller units on the hinge side.

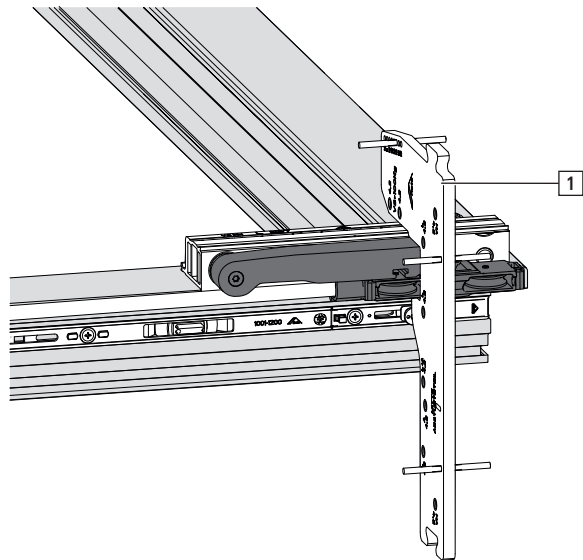
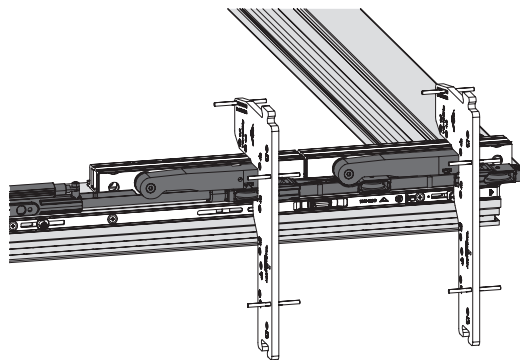
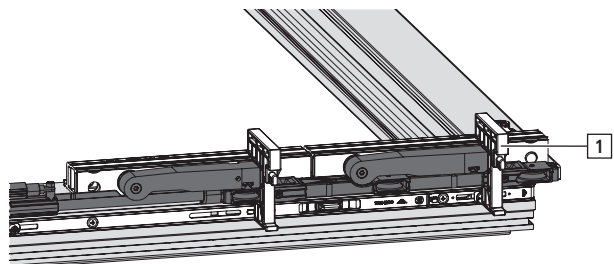
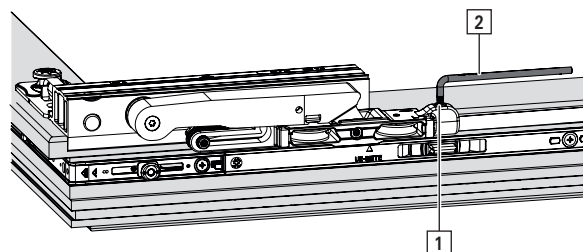
Check that the jig is resting flat on the sash component of the bogie.

- a. Tandem bogies: place two drilling jigs for fixing the folded-in support arms on the roller units on the hinge side.

b. **Alternatively:**

Place installation jigs for the top guide block [1] on the roller units on the hinge side to fix the folded-in support arms.

5. Tighten the screw [1] on the locking side using a T25 hexalobular socket screwdriver [2] (torque: 5 – 7 Nm).





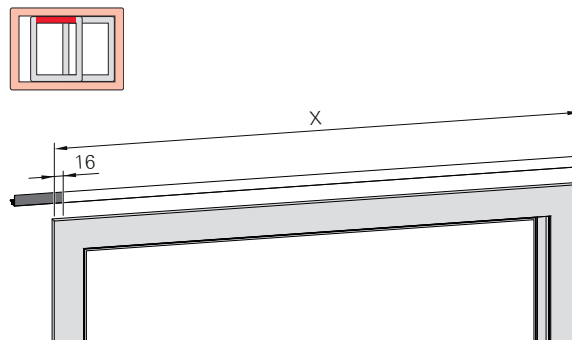
9.5.14 Stay-connecting profile

9.5.14.1 Cropping the stay-connecting profile

6 mm holes for securing the scissors-slider are provided at both ends of the stay-connecting profile at the factory.

Alternatively, drill the hole. → 9.5.14.3 "Stay-connecting profile (storage length)" from page 188

1. Crop the stay-connecting profile to the width of the sash, minus 16 mm [1].
Crop the stay-connecting profile for sash DIN L on the left.
Crop the stay-connecting profile for sash DIN R on the right.



9.5.14.2 Installing the retaining track



WARNING

Incorrect screw connections may lead to serious injuries.

Short screws will not pass through two profile-walls and will therefore not hold.

The hardware components can be pulled out of the sash if they are not screwed through two profile-walls.

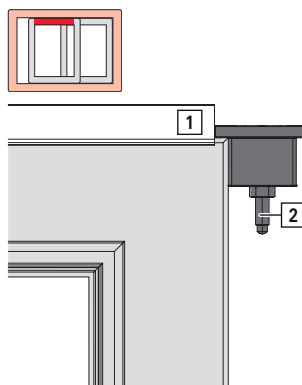
- ▶ Select the length of the screws so that they will hold in two profile-walls.



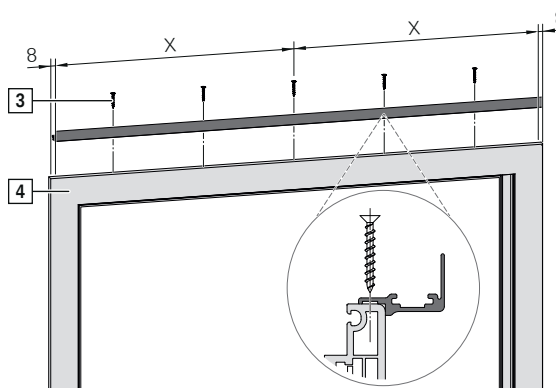
INFO

Use retaining track 20 for sash overlaps with curves or pitches of ≥ 3.5 mm.

1. Place the retaining track [1] on the top of the outer edge of the sash. (Jig [2] "Top guide block / installation" as installation aid)



2. Secure the retaining track in the centre of the sash [4] using screws [3].



9.5.14.3 Stay-connecting profile (storage length)

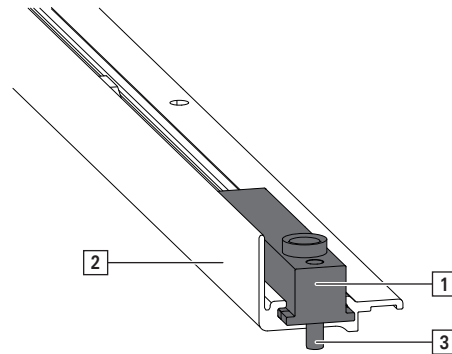
Drilling the hole in the stay-connecting profile (storage length)

1. Crop → 9.5.14.1 "Cropping the stay-connecting profile" from page 187 and install

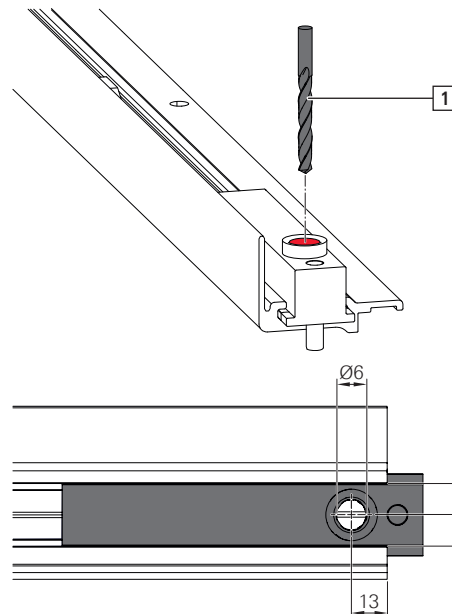


→ 9.5.14.2 "Installing the retaining track" from page 188 the stay-connecting profile.

2. Insert the drilling jig [1] into the stay-connecting profile [2] on the hinge side.
3. Position the drilling jig stop [3] on the stay-connecting profile.



4. Drill into the stay-connecting profile using a 6 mm diameter drill [1].



9.6 Frame

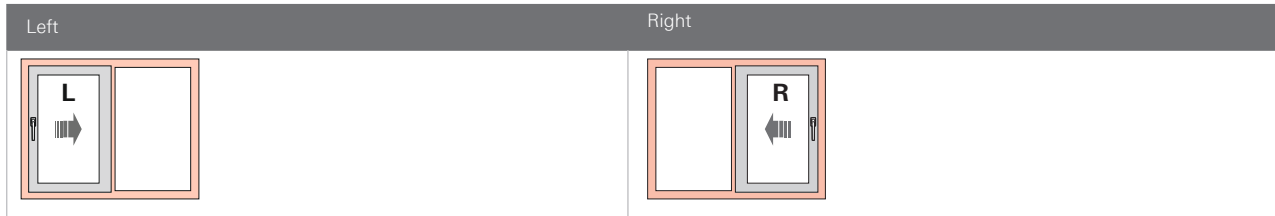


INFO

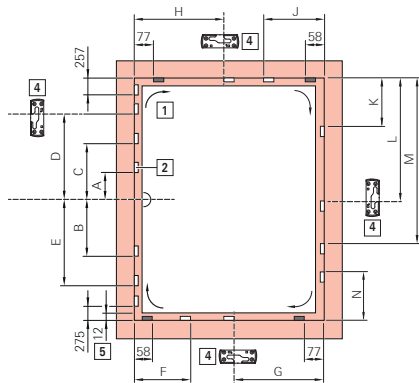
Install the frame components when the frame is horizontal (workshop).
Once the frame is fitted, the reveal may prevent frame components from being installed correctly.

9.6.1 Frame components

Explanation of the markings



Explanation of frame component positioning



The locking direction [1] indicates the direction in which the element locks and how the frame components must be turned in order to achieve the correct point of entry.

The frame component item number [2] represents all frame components shown.

The item number [3] shows the handle centre.

The point of entry [4] illustrates the edge to which the dimensional guide line refers for the different frame components.

The dimensioning illustrates where a frame component is positioned and the SRH or SRW in question. The dimensions can be found in the tables below. The dimensions apply to a rebate clearance of 12 mm [5].

Installing frame components

1. Use the jigs according to the overviews of jigs for frame components. → *9.6.5 "Overview with positioning jigs" from page 198*
2. Position strikers, guide plates, tilt strikers, frame component for the mishandling device and frame component for the comfort scissor stay according to the overview of the relevant frame component.

Variant	Frame component including cross reference to the overview with dimensional drawing
Rotopatio Alversa KS	Strikers → <i>from page 191</i> Guide plates → <i>from page 196</i>
Rotopatio Alversa PS without night ventilation	Strikers → <i>from page 191</i>
Rotopatio Alversa PS with night ventilation	Strikers → <i>from page 191</i> Night ventilation strikers → <i>from page 191</i>
Rotopatio Alversa PS Air	Strikers → <i>from page 191</i> Tilt strikers → <i>from page 191</i>
Rotopatio Alversa PS Air Com	Strikers → <i>from page 191</i> Tilt strikers → <i>from page 191</i> Comfort scissor stay and mishandling device frame component → <i>from page 197</i>



9.6.2 Strikers, night ventilation strikers and tilt strikers

9.6.2.1 Overview with dimensional drawing



INFO

The overview shows the security grades from basic security to RC 2 / RC 2 N.
The dimensions given refer to the point of entry of the striker.

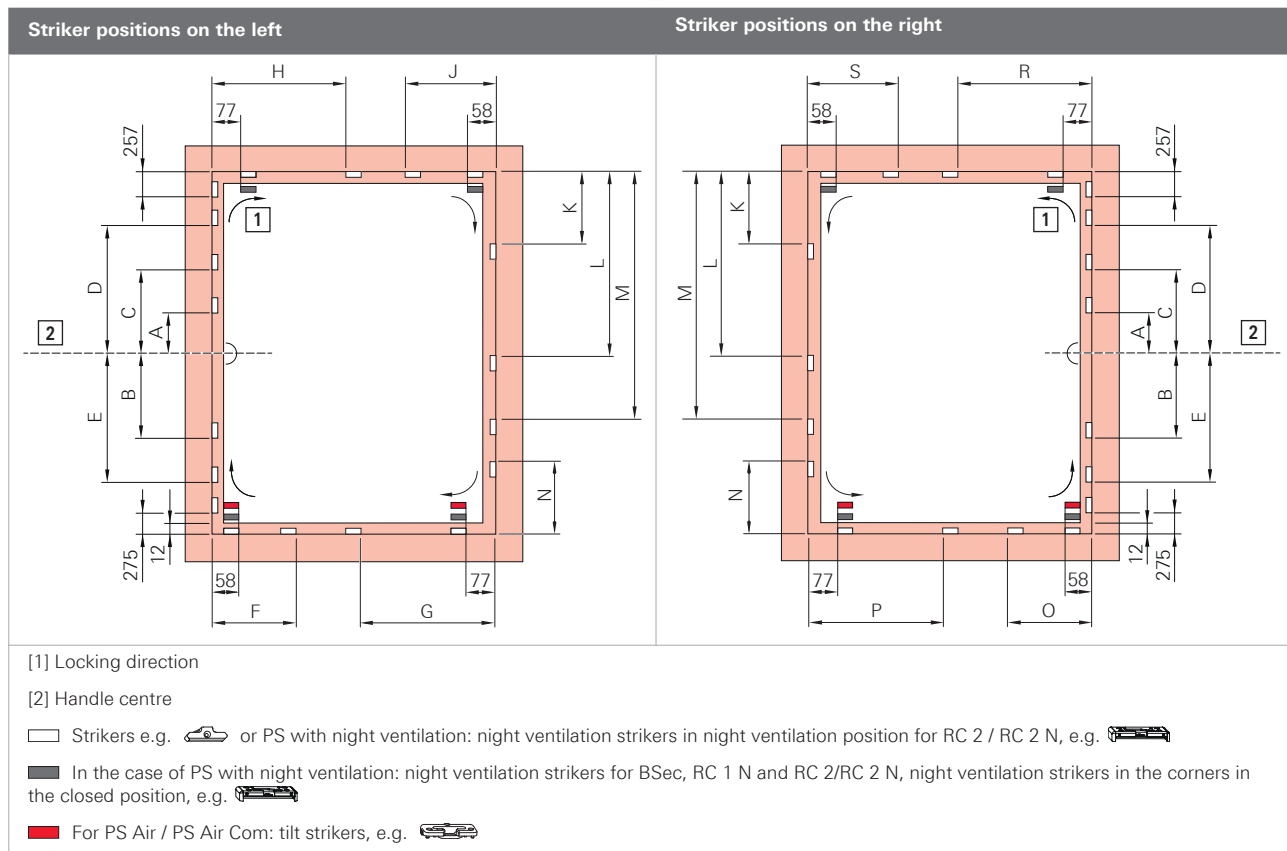
E.g. PVC

	Strikers	Night ventilation strikers	Tilt strikers
			<p>[A] With base [B] Without base</p>
Positioning of the components (DIN L shown here) on the basis of the point of entry [1] (= dimensional guide line) of the cams:			

E.g. timber

	Strikers	Night ventilation strikers	Tilt strikers
	<p>[A] Hardware axis 9 (Euro-rebate / Euro-groove) [B] Hardware axis 13 (Euro-rebate / Euro-groove)</p>		
Positioning of the components (DIN L shown here) on the basis of the point of entry [1] (= dimensional guide line) of the cams:			

Diagram A – Centred / variable handle height



T&T espagnolette, centred / variable handle height

SRH / mm	A	B	C	D	E
600 – 1200	125	–	–	–	–
1201 - 1600	125	340	–	–	–
1601 - 2000	–	312	358	–	–
2001 - 2400	–	312	358	758	740
2401 - 2600	–	312	358	758	740
With extension	–	–	–	–	–
2601 - 2700	–	312	358	758	740
With extension	–	–	–	–	–



INFO

The handle height is 280 mm with SRH 600 - 620 mm.

Centre lock, vertical – Diagram A

SRH / mm	K	L	M	N
600 - 800	–	–	–	–
801 - 1000	550	–	–	–
1001 - 1200	700	–	–	–
1201 - 1400	700	–	–	–
1401 - 1600	700	1170	–	–

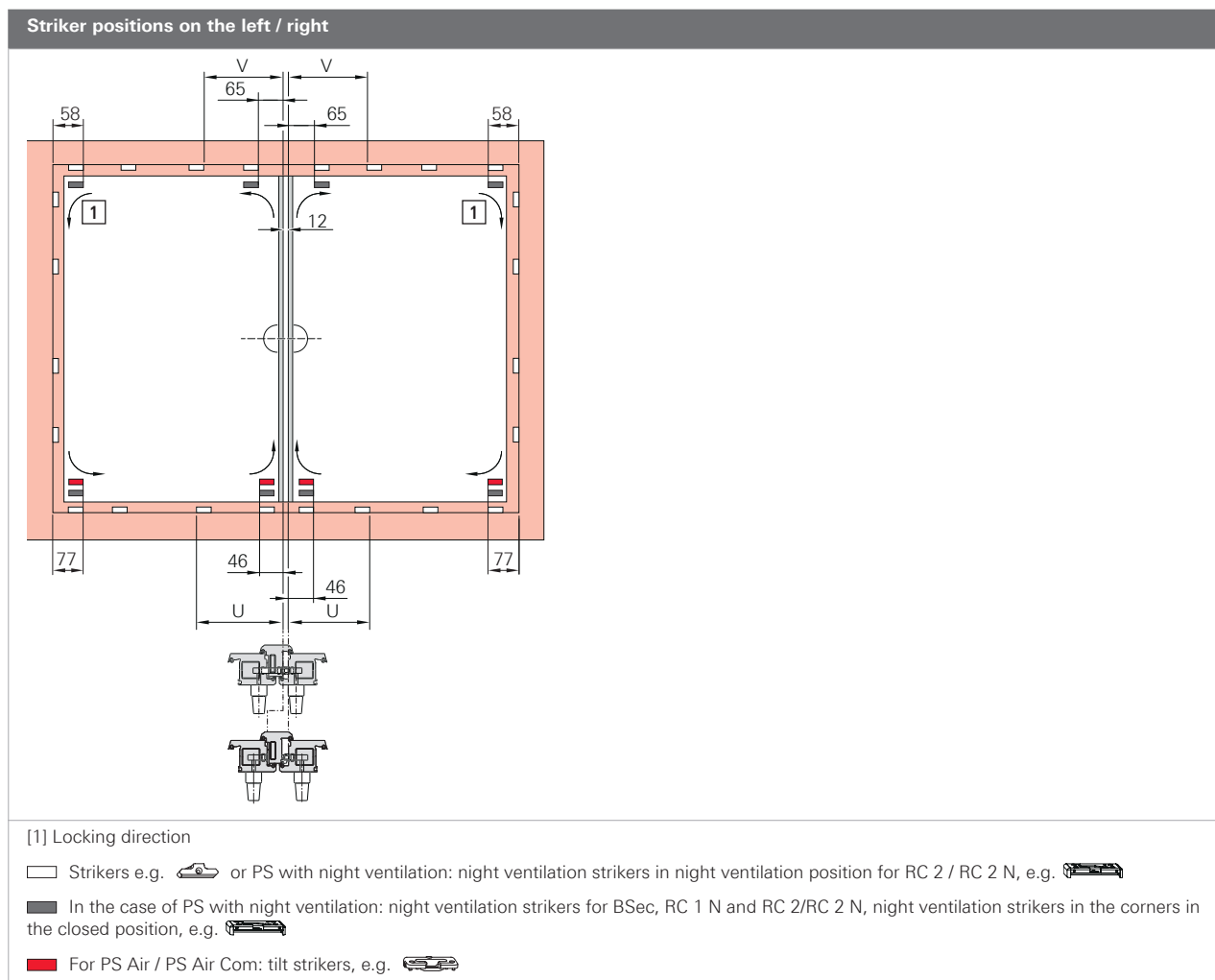


SRH / mm	K	L	M	N
1601 - 1800	700	1370	–	–
1601 - 1800	700	1370	–	–
1801 - 2000	700	1370	–	–
2001 - 2200	700	1370	1770	–
2201 - 2400	700	1370	1770	–
2401 - 2600	700	1370	1770	–
With extension	–	–	–	257
2601 - 2700	700	1370	1770	–
With extension	–	–	–	457

Centre lock, horizontal

SRW / mm	F DIN L	G DIN L	H DIN L	Y DIN L	O DIN R	P DIN R	R DIN R	S DIN R
600 - 800	–	–	–	–	–	–	–	–
801 - 1000	–	468	468	–	–	468	468	–
1001 - 1200	–	618	618	–	–	618	618	–
1201 - 1400	–	618	618	–	–	618	618	–
1401 - 1650	–	868	868	–	–	868	868	–
1651 - 1850	–	868	868	–	–	868	868	–
With extension	257	–	–	257	257	–	–	257
1851 - 2000	–	868	868	–	–	868	868	–
With extension	457	–	–	457	457	–	–	457

Diagram C – Centred / variable or fixed handle height



Centre lock, horizontal – Diagram C

SRW / mm	U	V
600 - 800	–	–
801 - 1000	–	456
1001 - 1200	–	606
1201 - 1400	–	606
1401 - 1650	–	856
1651 - 1850	–	856
With extension	245	–
1851 - 2000	–	856
With extension	445	–



INFO

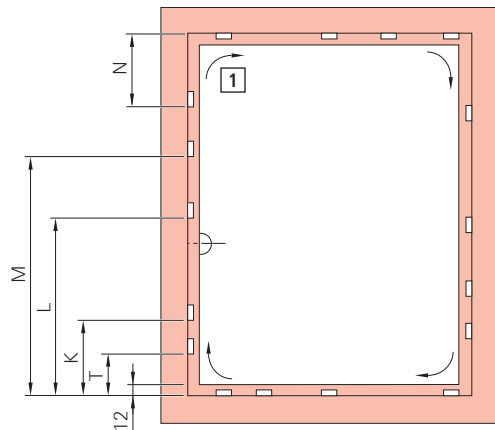
For other striker positions for the T&T espagnolette and vertical and horizontal centre locks, see the tables for diagram A.



Diagram A – Fixed handle height



Striker positions on the left / right



[1] Locking direction

□ Strikers e.g.

T&T espagnolette, fixed handle height

SRH / mm	T ^[18]	K	L	M	N
600 - 800	–	383	–	–	–
801 - 1000	160	550	–	–	–
1001 - 1200	160	700	–	–	–
1201 - 1400	160	700	–	–	–
1401 - 1600	160	700	1170	–	–
1601 - 1800	160	700	1370	–	–
1601 - 1800	160	700	1370	–	–
1801 - 2000	160	700	1370	–	–
2001 - 2200	160	700	1370	1770	–
2201 - 2400	160	700	1370	1770	–
2401 - 2600	160	700	1370	1770	–
With extension	–	–	–	–	257
2601 - 2700	160	700	1370	1770	–
With extension	–	–	–	–	457



INFO

For striker positions for vertical and horizontal centre locks, see the tables for diagram A – Centred / variable handle height.

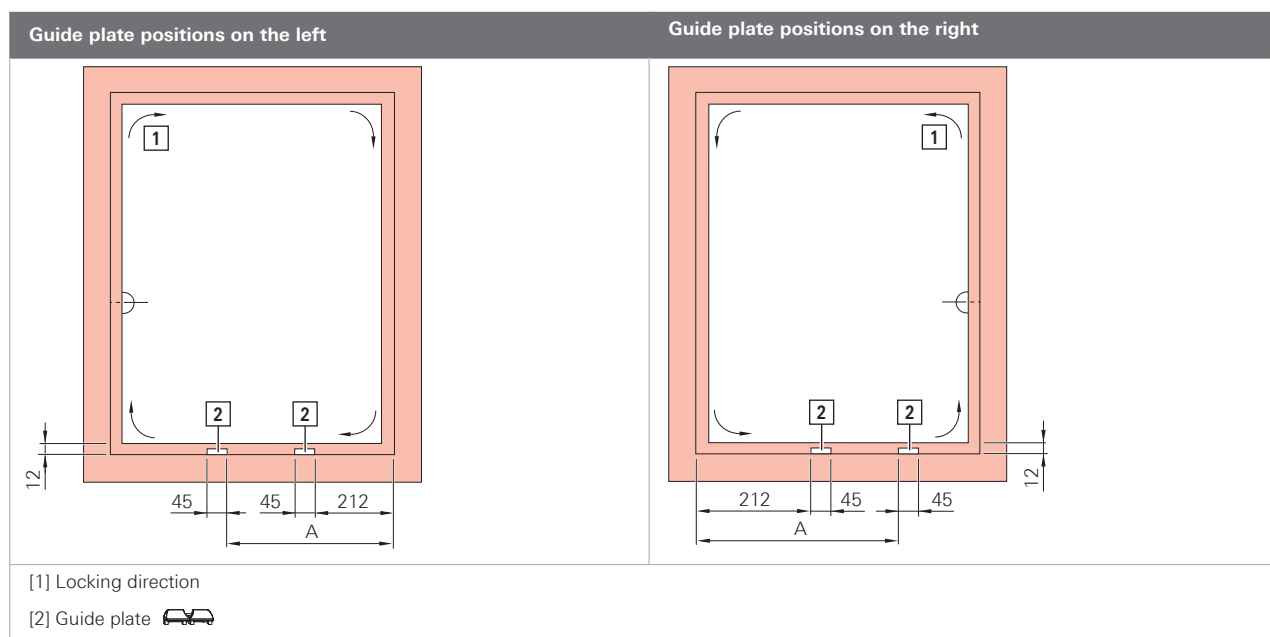
[18] Only T&T espagnolette RC 2

9.6.3 Guide plates



9.6.3.1 Overview with dimensional drawing

E.g. PVC



Centre lock, horizontal, bottom, with bullet catch

SRW / mm	A DIN L / R
600 - 800	392
801 - 1000	592
1001 - 1200	792
1201 - 1400	992
1401 - 1650	1192

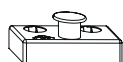
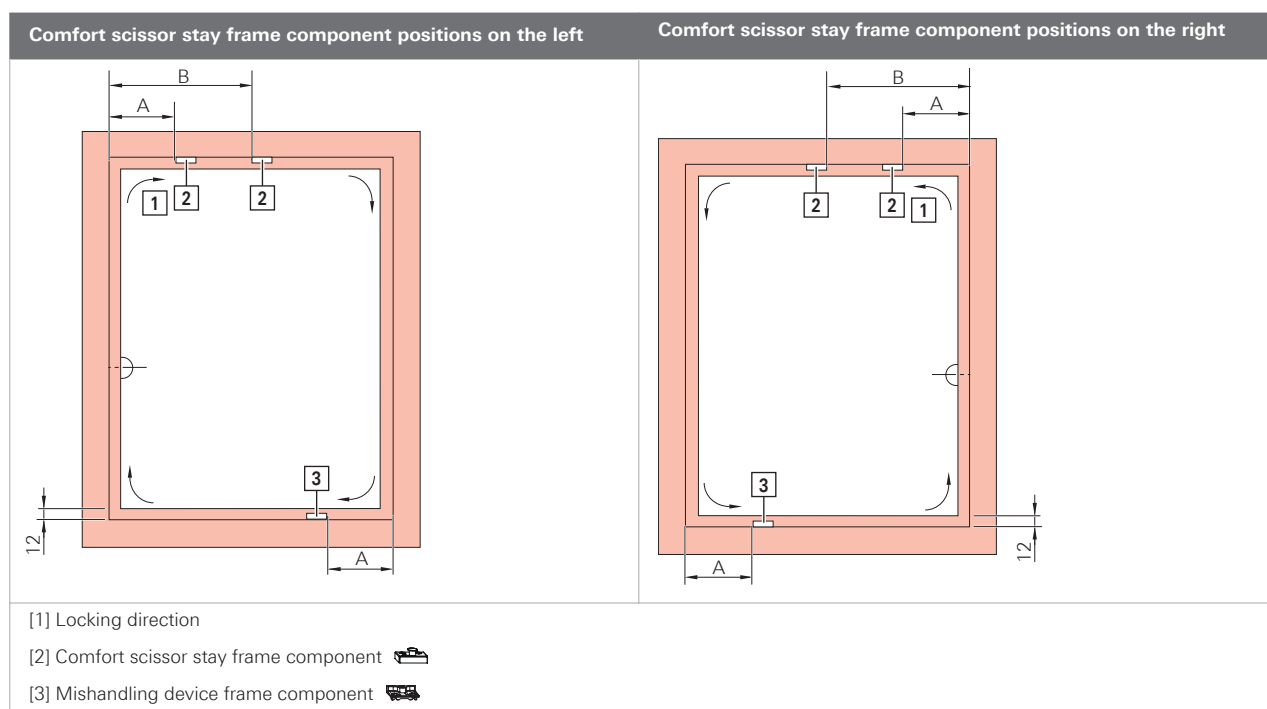


9.6.4 Comfort scissor stay and mishandling device



9.6.4.1 Overview with dimensional drawing

E.g. PVC



Centre lock, horizontal, with comfort scissor stay at the top and mishandling device at the bottom

SRW / mm	A	B
600 - 800	359	–
801 - 1000	359	–
1001 - 1200	359	–
1201 - 1400	359	960
1401 - 1650	359	1160

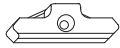
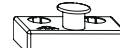
9.6.5 Overview with positioning jigs



INFO

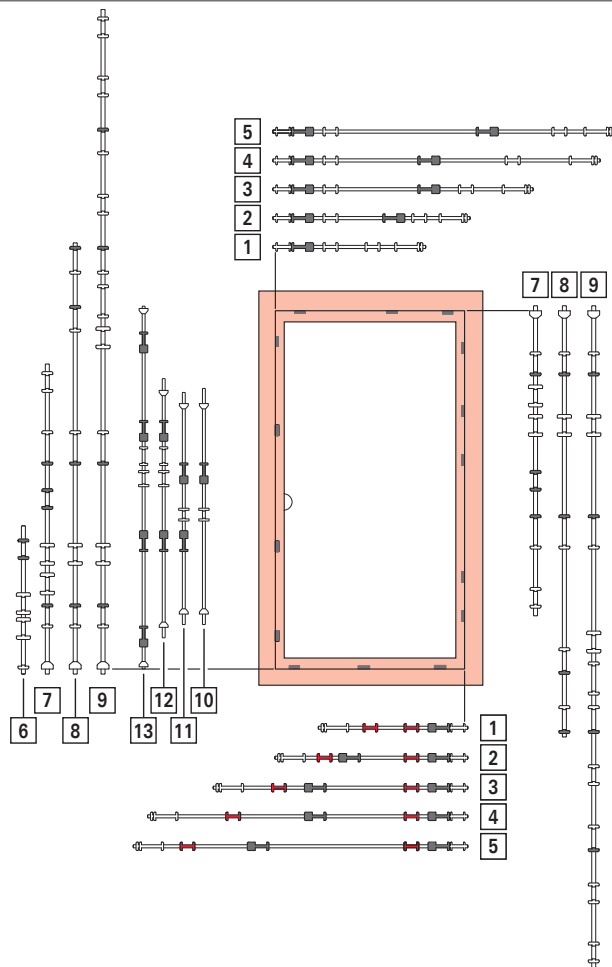
The right-hand version is mirror-inverted.

E.g. PVC



Roto Patio Alversa | KS

Left-hand version



Guide plate position

Positioning jigs, horizontal (for CL at the top / bottom)

Assignment	SRW / mm
[1]	600 - 800
[2]	801 - 1000
[3]	1001 - 1200
[4]	1201 - 1400
[5]	1401 - 1650



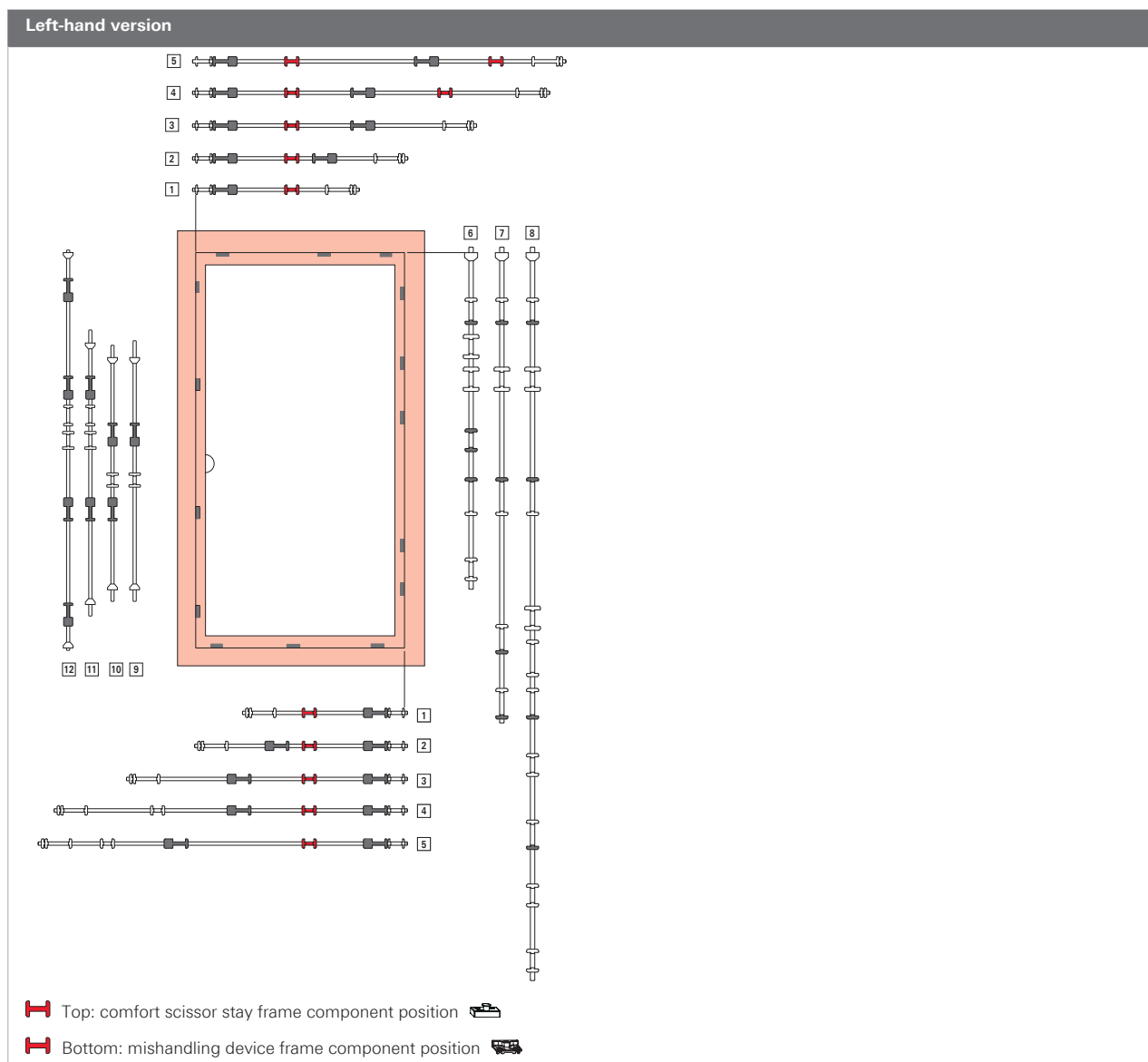
Positioning jigs, vertical (for CL, vertical; T&T espagnolette, fixed handle height)

Assignment	SRH / mm
[6]	600 - 800 ^[19]
[7]	801 - 1400
[8]	1401 - 2000
[9]	2001 - 2400

Positioning jigs, vertical (for T&T espagnolette, centred / variable handle height)

Assignment	SRH / mm
[10]	621 - 1200
[11]	1201 - 1600
[12]	1601 - 2000
[13]	2001 - 2400

Roto Patio Alversa | PS



[19] Not for CL, vertical



INFO

At an SRH of 2401 to 2700 mm and an SRW of 1601 to 2000 mm, manually place additional strikers. On frame components with a width of more than 50 mm, jigs can only be used for the frame component's point of entry.
 Do not work on night ventilation strikers using jigs.

Positioning jigs, horizontal (for CL at the top / bottom)

Assignment	SRW / mm
[1]	720 - 800
[2]	801 - 1000
[3]	1001 - 1200
[4]	1201 - 1400
[5]	1401 - 1600

Positioning jigs, vertical (for CL, vertical)

Assignment	SRH / mm
[6]	801 - 1400
[7]	1401 - 2000
[8]	2001 - 2400

Positioning jigs, vertical (for T&T espagnolette, centred / variable handle height)

Assignment	SRH / mm
[9]	650 - 1200
[10]	1201 - 1600
[11]	1601 - 2000
[12]	2001 - 2400

9.6.6 Guide track



WARNING

Incorrect screw connections may lead to serious injuries.

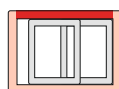
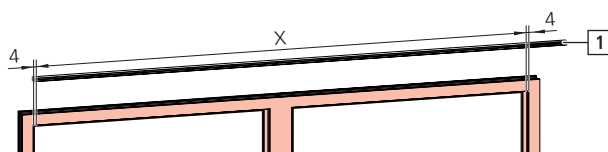
Short screws will not reach the steel reinforcement and will therefore not hold.
 Hardware components can be pulled out of the sash if they are not screwed into the steel reinforcement.
 ► Select the length of the screws so that they will hold in the steel reinforcement.

9.6.6.1 Preparing the guide track

Cropping the guide track

1. Crop the guide track [1].

$$X = \text{frame internal width} + (2 \times \text{coverage}) - 8$$

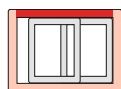
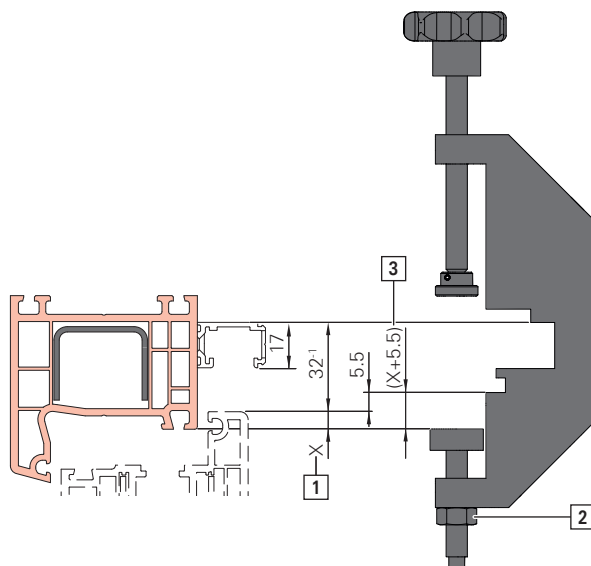




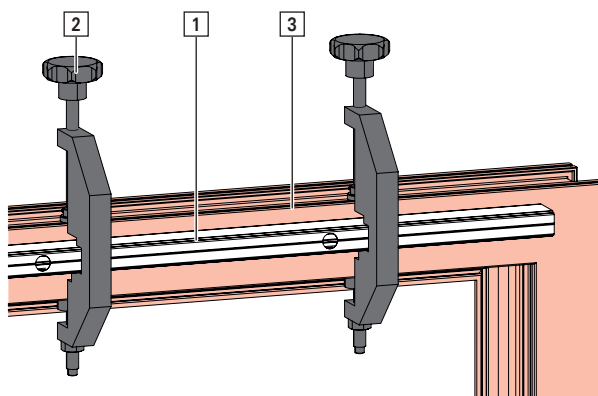
9.6.6.2 Guide track drill holes

Drilling the holes for the guide track

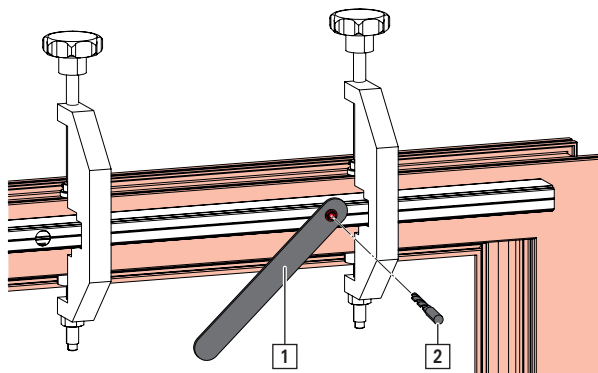
1. Adjust the jig for the guide track.
- a. Determine coverage X [1] with a rebate clearance of 12 mm.
- b. Undo the nut [2].
- c. Adjust dimension X + 5.5 [3] for the guide track.
- d. Tighten the nut.



2. Align the guide track [1] with jigs [2] in the centre of the frame [3].
- a. Position the guide track in two jigs.
- b. Place the jigs with the guide track on the frame from below.
- c. Secure the jigs to the frame.

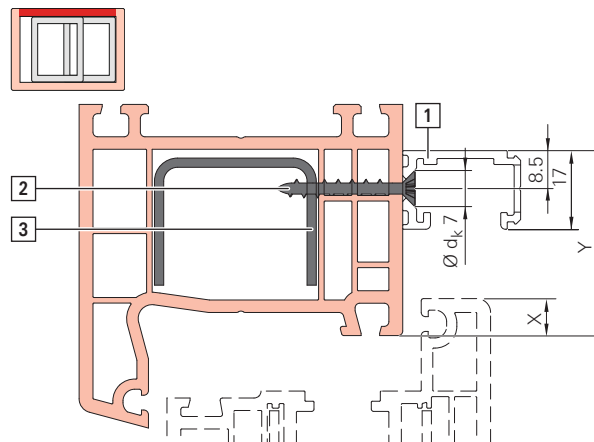


3. Use a drilling aid [1] to drill holes in the guide track.
Drill [2]: Ø 3.0 mm



9.6.6.3 Installing the guide track

1. Fasten the guide track to the frame with the distance dimension Y. Note coverage X.
With coverage 6: Y = 38 mm.
With coverage 8: Y = 40 mm.



2. Screw down the guide track [1] with screws [2] in all of the pre-drilled holes in the steel reinforcement [3].

9.6.7 Sliding scissor stay

9.6.7.1 Inserting the KS sliding scissor stay



WARNING

Trapped limbs may result in injuries.

When being transported, the sliding scissor stay can open and close uncontrollably. This can result in limbs being trapped and seriously injured.

- ▶ Note the danger zone in the sliding scissor stay.
- ▶ Close the sliding scissor stay after installation and secure it in place for transport.
- ▶ Wear safety gloves.

The scissor stay retention must always be located on the hinge side.

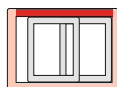
The Roto Patio Alversa | KS sliding scissor stay can be pushed past the middle (dead centre) and be used for left and right-hand sashes. Always note the correct side during insertion.

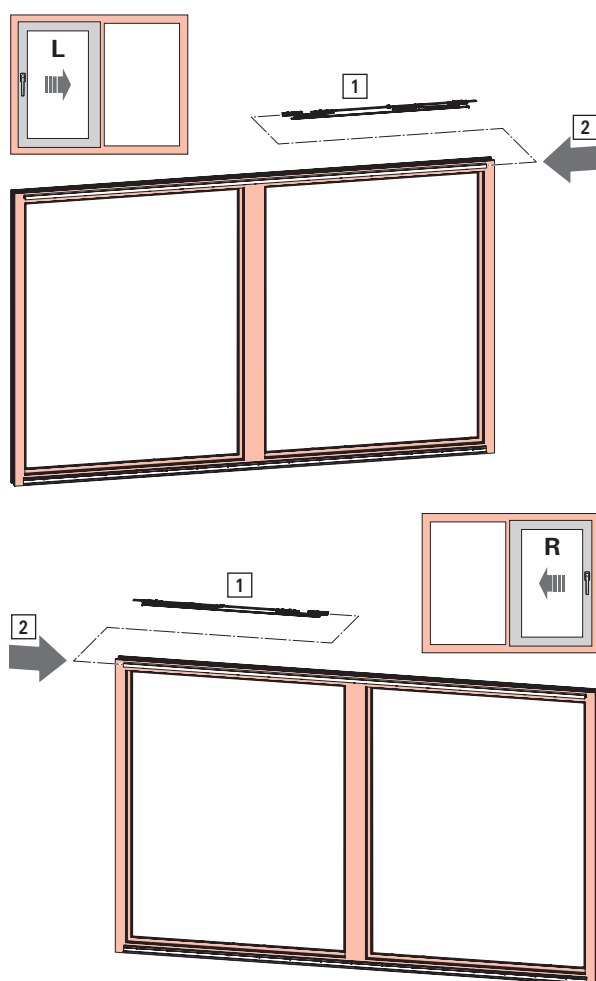


INFO

Slide the sliding scissor stay onto the frame when it is horizontal (workshop).

1. Open the sliding scissor stay [1].
Insert the sliding scissor stay into the guide track from the hinge side [2].





2. Secure the sliding scissor stay for transport to prevent it from opening and falling out.

9.6.7.2 Preassembling the PS sliding scissor stay with retrofit set

Variant	Requirements
Lock-in position	Optional from S.kg > 80 kg

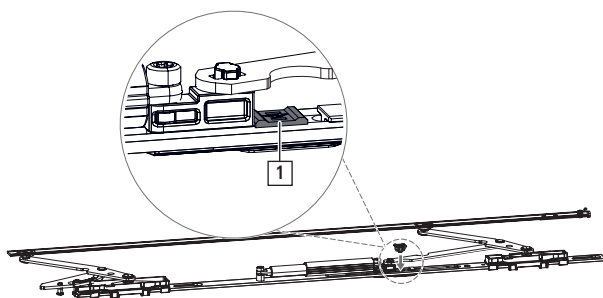
Choosing a retrofit set

Variant	Requirements
Lock-in position	Mandatory from dimension M > 44 mm
Tilt assistance	Mandatory from S.kg > 140 kg

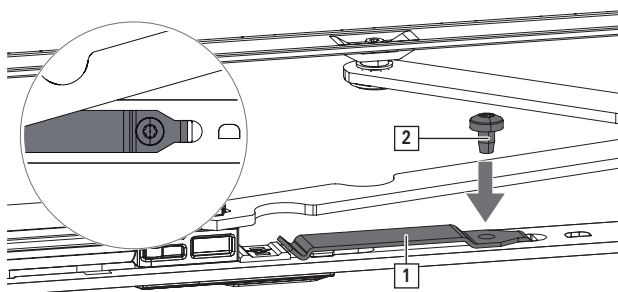
Installing the retrofit set for lock-in position



1. Open the PS sliding scissor stay.
 Clip the catch cam [1] into the slot next to the damper.



2. Place the leaf spring [1] with lug into the opening and align it so that it is parallel.
 Secure to the sliding scissor stay with the self-tapping screw provided [2] using a T20 hexalobular socket screwdriver.



Installing the retrofit set for tilt assistance





1. Open the PS sliding scissor stay.



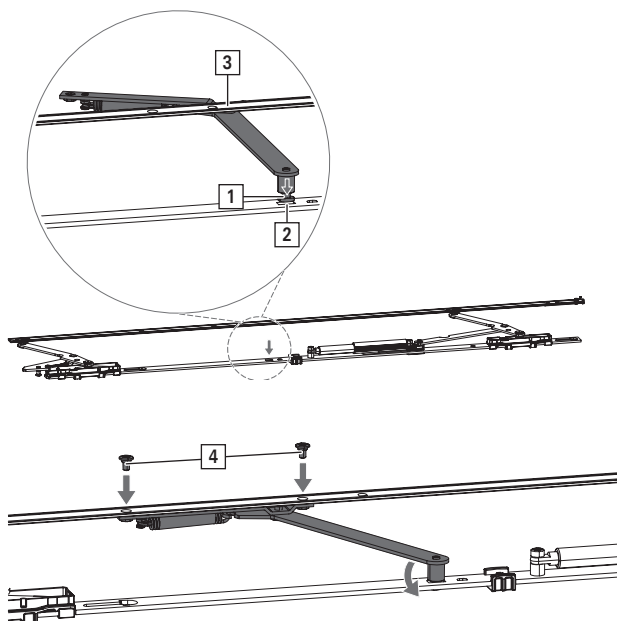
INFO

Guide the retrofit set underneath the floating mullion connecting rod [3]. This is no longer possible at a later point.

Insert the mounting bolt [1] from the retrofit set into the slot on the scissor stay connecting rod [2].

2. Turn the installed retrofit set until its drill holes are located beneath those of the floating mullion connecting rod.

Secure in the floating mullion connecting rod with two screws [4] using a T25 hexalobular socket screwdriver.



9.6.7.3 Inserting the PS sliding scissor stay and installing the top guide block



WARNING

Trapped limbs may result in injuries.

When being transported, the sliding scissor stay can open and close uncontrollably. This can result in limbs being trapped and seriously injured.

- ▶ Note the danger zone in the sliding scissor stay.
- ▶ Close the sliding scissor stay after installation and secure it in place for transport.
- ▶ Wear safety gloves.

The scissor stay retention must always be located on the hinge side.

The Roto Patio Alversa | PS sliding scissor stay is available in left or right-hand variants. During insertion, ensure that the guide block is preassembled.



INFO

Roto Patio Alversa | PS Air Com: for a sliding scissor stay with installed retrofit set, install the top guide block as described in the "Adjustment" chapter.

Preparing the PS sliding scissor stay

1. Mount the top guide block [1] into the sliding scissor stay bolt [2].

Variant	Guide block	Figure
Roto Patio Alversa PS without night ventilation Roto Patio Alversa PS with night ventilation	Top guide block, fixed	
Roto Patio Alversa PS Air Roto Patio Alversa PS Air Com	Top guide block, tiltable	

Inserting the PS sliding scissor stay and installing the top guide block

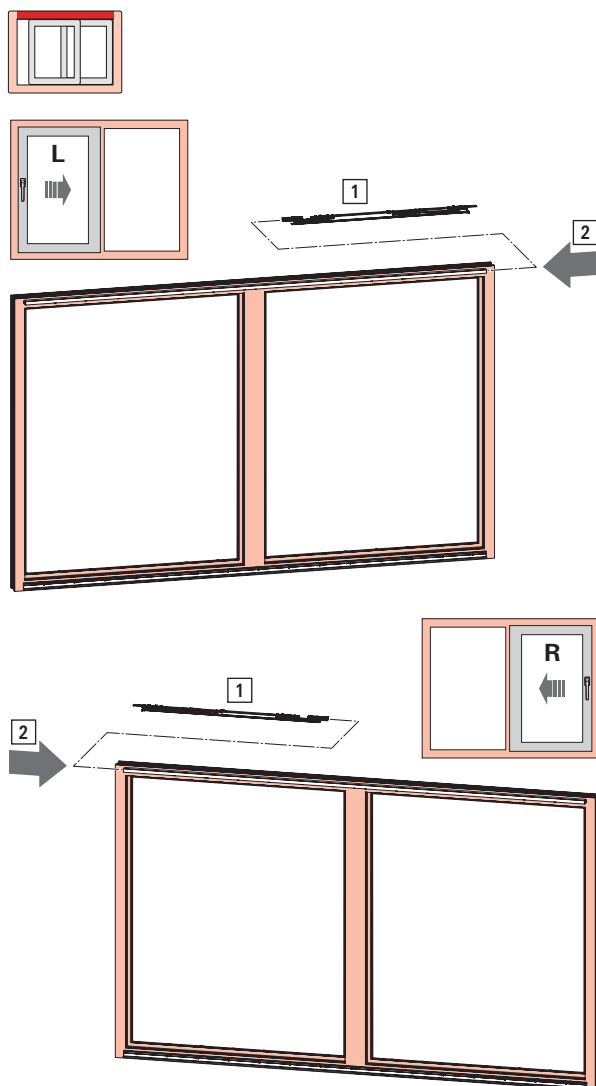


INFO

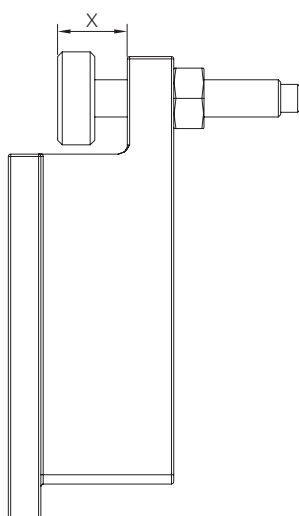
Slide the closed sliding scissor stay onto the frame when it is horizontal (workshop).



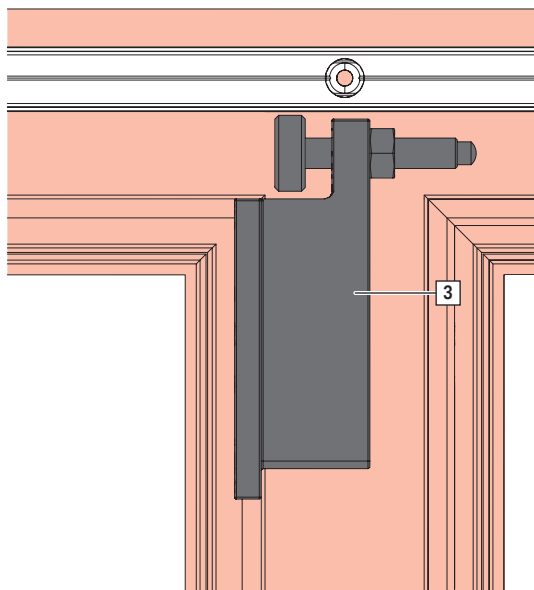
1. Insert the closed sliding scissor stay [1], with fitted guide block, into the guide track [2] from the hinge side.



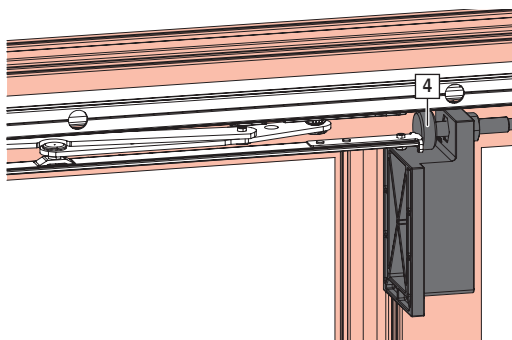
2. Adjust the installation jig for the top guide block.
 $X = 23 + \text{rebate clearance} - \text{overlap width}$
 (e.g.: $X = 23 + 12 - 20 = 15 \text{ mm}$)



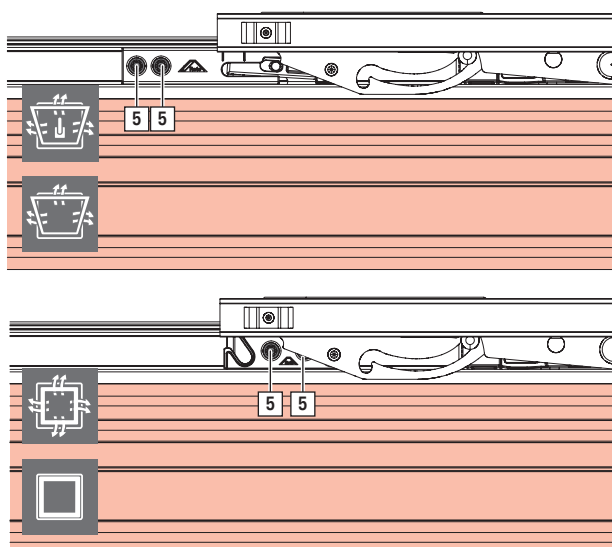
3. Place the installation jig [3] on the frame.



4. Push the sliding scissor stay towards the installation jig [4] as far as it will go.



5. Tighten both screws [5] on the top guide block using a T25 hexalobular socket screwdriver (torque: max. 3 - 4 Nm).



6. Secure the sliding scissor stay for transport to prevent it from opening and falling out.



9.6.8 Roller track



WARNING

Incorrect screw connections may lead to serious injuries.

Short screws will not reach the steel reinforcement and will therefore not hold.

Hardware components can be pulled out of the sash if they are not screwed into the steel reinforcement.

- ▶ Select the length of the screws so that they will hold in the steel reinforcement.



CAUTION

Inadequate load transfer may lead to crushing and property damage.

If no underlay is present between the roller track and base, this can cause the sash to fall.

- ▶ Underlay the roller track over the entire length on site in order to transfer the load.

9.6.8.1 Preparing the roller track

Cropping the roller track

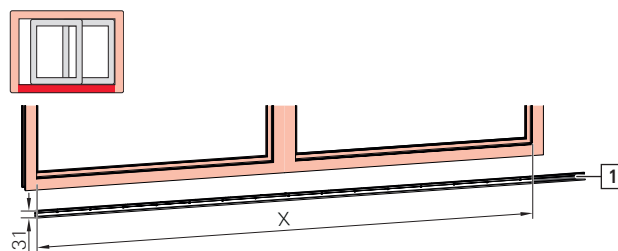


INFO

Install the roller track on the frame when it is horizontal (workshop).

Roto Patio Alversa | KS: leave the roller track for diagram D 55 mm longer on the locking side.

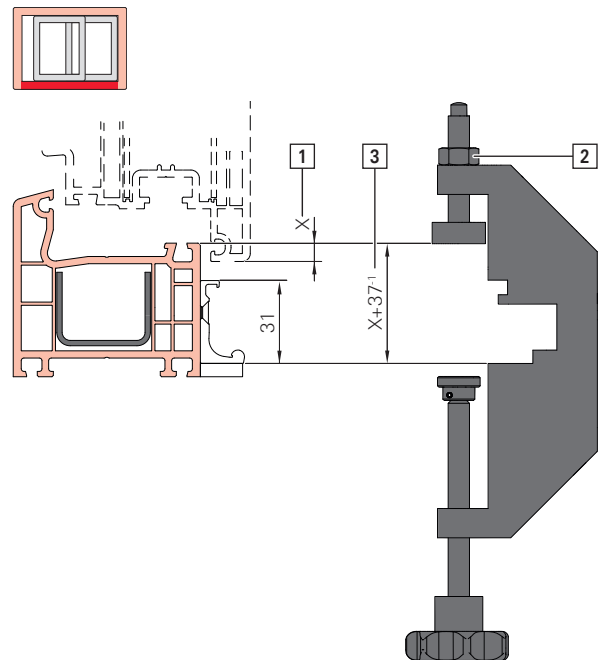
1. Crop the roller track [1].
 $X = \text{frame internal width} + (2 \times \text{coverage})$



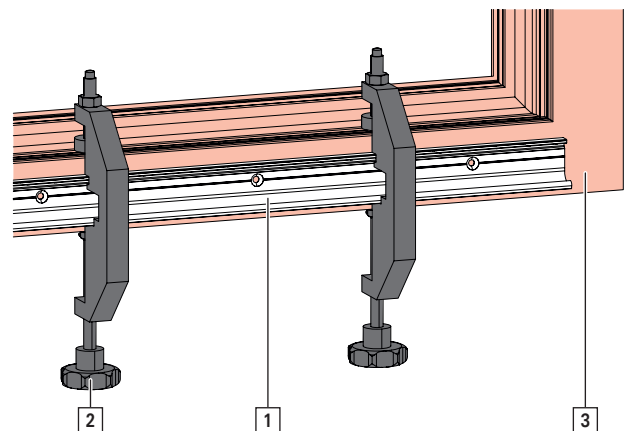
9.6.8.2 Roller track drill holes

Drilling the holes for the roller track

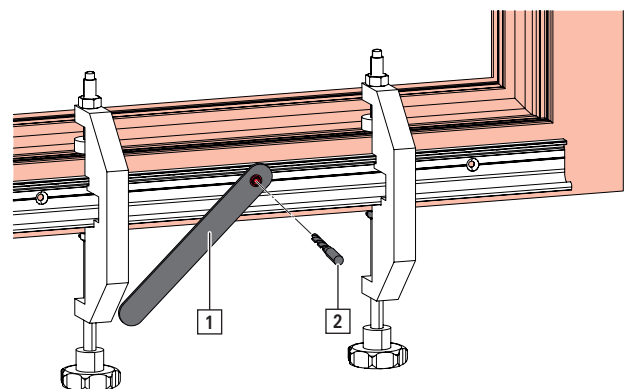
1. Adjust the jig for the roller track.
- a. Determine coverage X [1] with a rebate clearance of 12 mm.
- b. Undo the nut [2].
- c. Adjust dimension $X + 37^{-1}$ [3] for the roller track.
- d. Tighten the nut.



2. Align the roller track [1] with jigs [2] in the centre of the frame [3].
- a. Position the roller track in two jigs.
- b. Place the jigs with the roller track on the frame from above.
- c. Secure the jigs to the frame.



3. Use a drilling aid [1] to drill holes in the roller track.
 Drill [2]: Ø 3.0 mm





9.6.8.3 Roller track

Installing the roller track



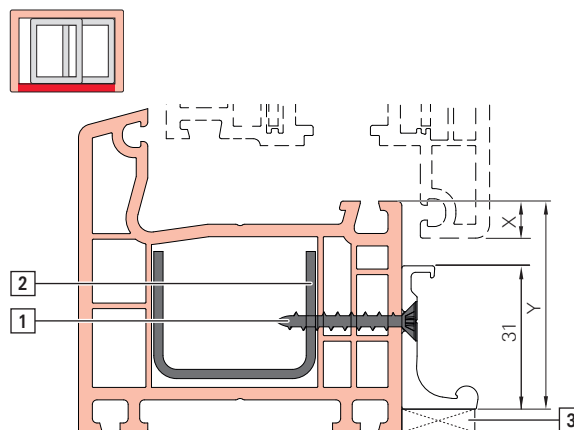
CAUTION

Inadequate load transfer may lead to crushing and property damage.

If no underlay is present between the roller track and base, this can cause the sash to fall.

- Underlay the roller track over the entire length on site in order to transfer the load.

1. Fasten the roller track to the frame with the distance dimension Y. Note coverage X.
 With coverage 6: Y = 43 mm.
 With coverage 8: Y = 45 mm.
 Screw down the roller track with screws [1] in all of the pre-drilled holes in the steel reinforcement [2].

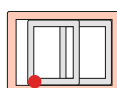
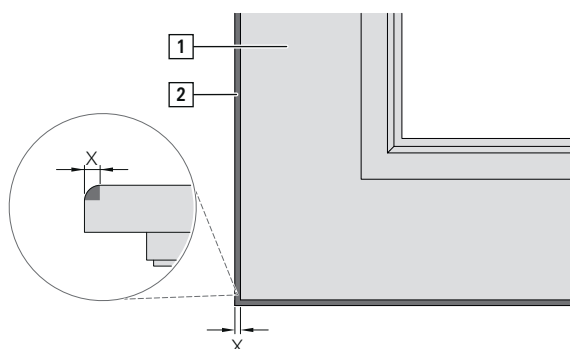


2. Underlay the roller track over the entire length on site in order to transfer the load [3].

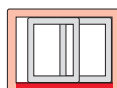
9.6.9 Bottom guide block

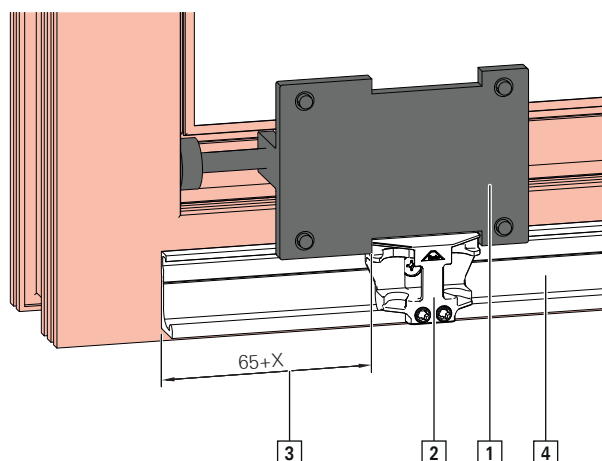
9.6.9.1 Installing the bottom guide block

1. Diagram A: installation using a positioning jig
 - a. Determine dimension X of the curve or pitch [2] on the outside of the sash [1]. → 9.5.11.1 "Preparing the drilling jig" from page 175

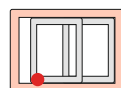
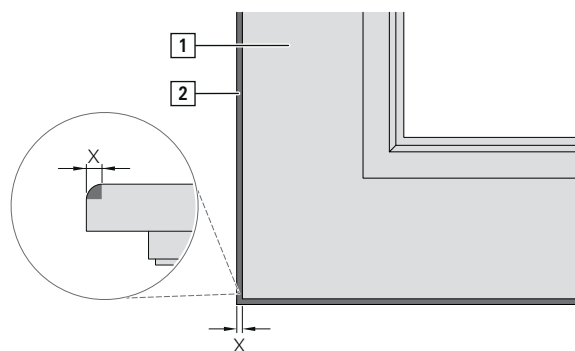


- b. Adjust the jig [1] for the guide block [2] to approximately 65 mm + X [3] according to the figure.



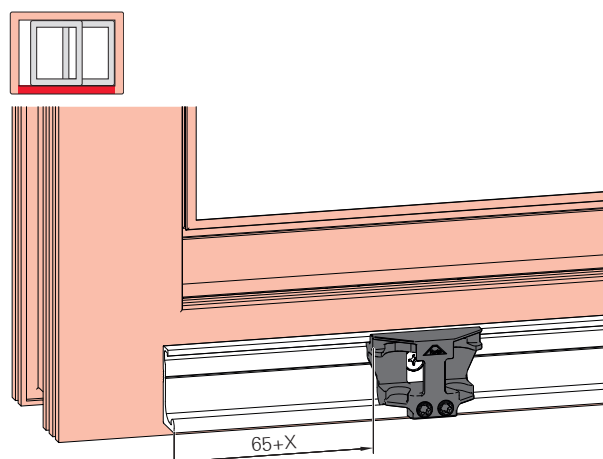


- c. Insert the guide block in the roller track [4].
 - d. Place the jig for the guide block on the roller track.
2. Diagram A (alternative): installation using a dimensional drawing
- a. Insert the guide block [2] on the locking side without a jig.
 - b. Determine dimension X of the curve or pitch [2] on the outside of the sash [1].



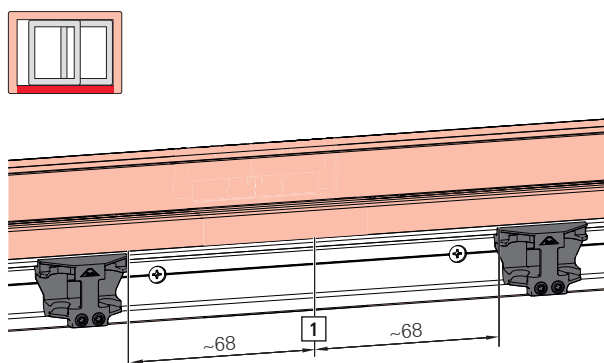


- c. Position the guide block approximately 65 mm + X from the outer edge of the roller track on the locking side.

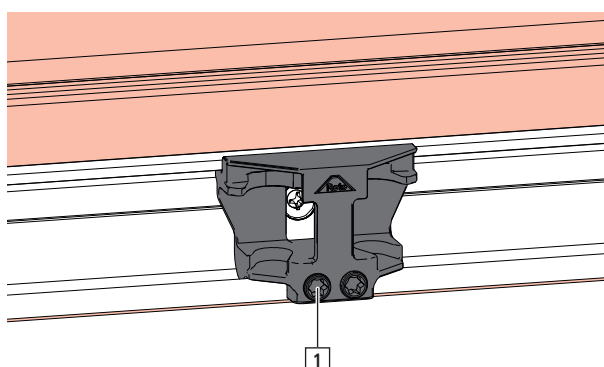


3. Diagram C: installation using a dimensional drawing

- a. Position the guide block approximately 68 mm from the centre of the frame [1] if there is a continuous roller track.



4. Gently tighten one of the two screws [1] on the guide block using a T25 hexalobular socket screwdriver (torque: max. 1 Nm).



INFO

Join the sash and frame. Performing adjustment
 Then tighten both screws on the guide block using a T25 hexalobular socket screwdriver (torque: max. 3 - 4 Nm).

9.7 Joining the sash and frame



WARNING

Heavy loads pose the risk of injury and property damage.

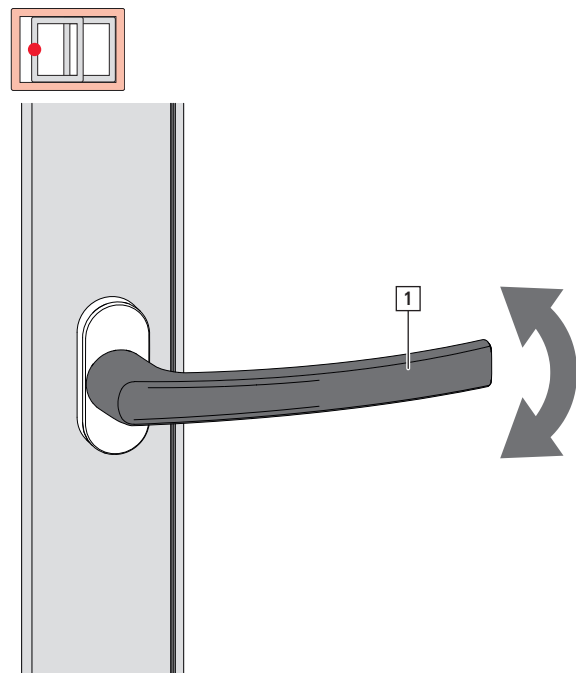
Lifting and carrying heavy loads in an uncontrolled manner may lead to physical injury and property damage.

- ▶ Transport and installation must be carried out by at least two people.
- ▶ Do not rest sashes on the bogies.
- ▶ Use transportation means. → 14 "Transport" from page 248

9.7.1 Sash

Placing the sash on the roller track

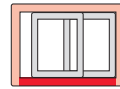
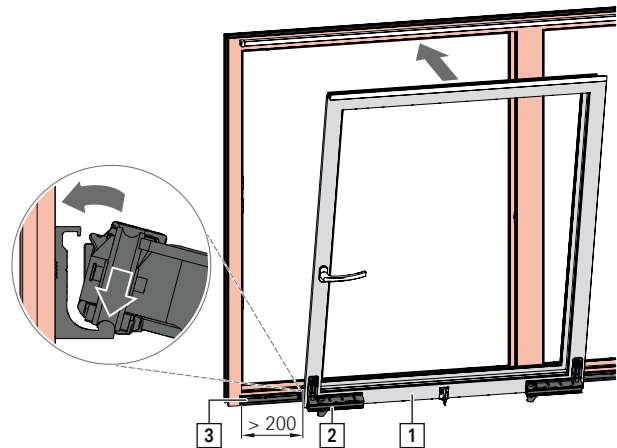
1. Move the handle [1] into the sliding position.



2. Lock the bogies in the stopped position.
3. Place the sash in front of the frame.
 - a. Use a clean underlay.



- b. Only use a support-brace in the centre of the frame so that the bogies can hang free.
- 4. Lift the sash at a slight incline.
- 5. Place the sash [1] with the bogie rollers [2] on the front edge of the roller track [3].



- 6. Check that the bogie rollers are correctly positioned on the roller track by pushing the sash.
The bogies must run smoothly.

9.7.2 Sliding scissor stay

**DANGER**

Connecting the sliding scissor stay to the sash incorrectly presents an immediate risk of death and may cause serious injuries.

The window sash can fall out if the sliding scissor stay is not engaged correctly or not engaged at all in the drill hole in the retaining track, and if the end caps for the retaining track have not been installed. This results in an immediate risk of death.

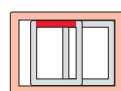
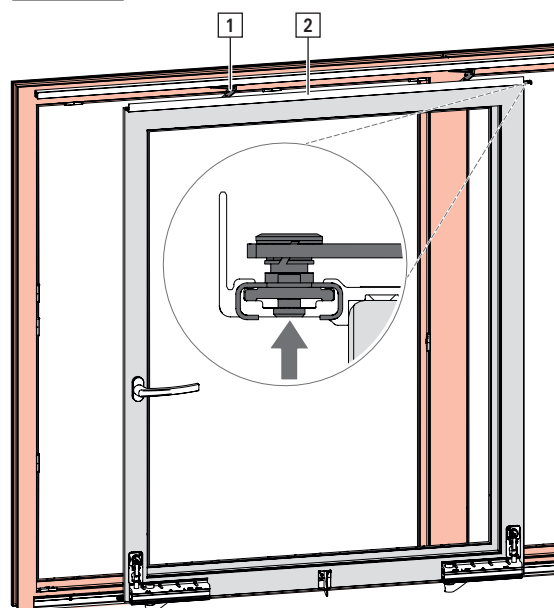
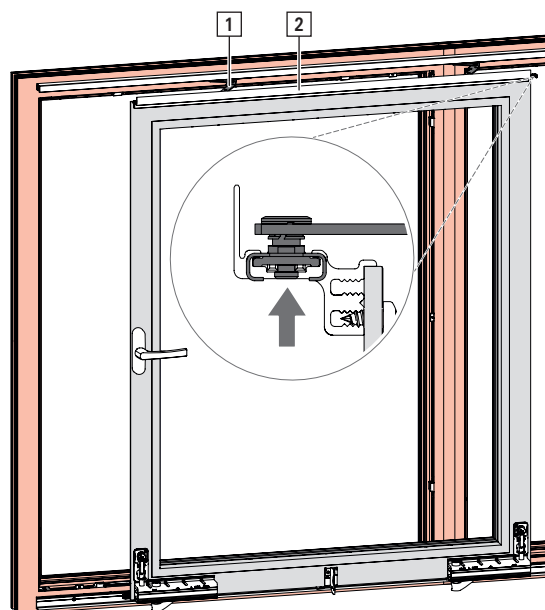
- ▶ Engage the sliding scissor stay safety pin in the drill hole in the retaining track correctly (see the following figure).
 - ▶ Install the end caps for the retaining track with the preassembled locking plate. → 9.7.3 “End caps for retaining track” from page 220
-

Inserting the sliding scissor stay into the sash

Drill hole in the retaining track. → 9.5.14.3 “Stay-connecting profile (storage length)” from page 188



1. Push the sliding scissor stay [1] towards the fixed glazing.
Insert the sliding scissor stay into the groove of the retaining track [2] from the hinge side.

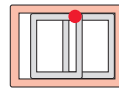
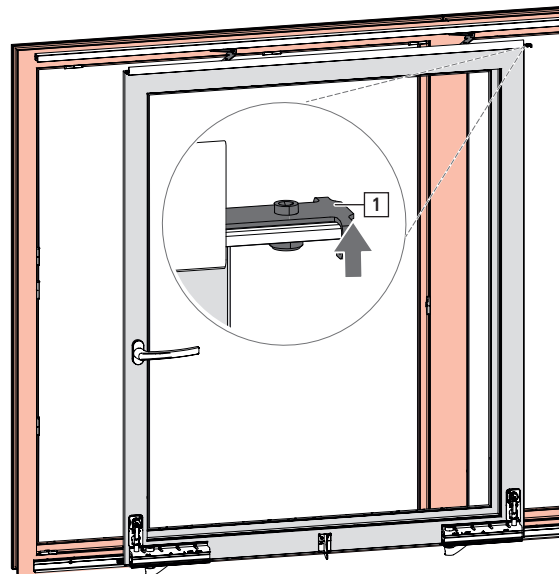


Installation

Joining the sash and frame

Sliding scissor stay

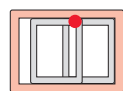
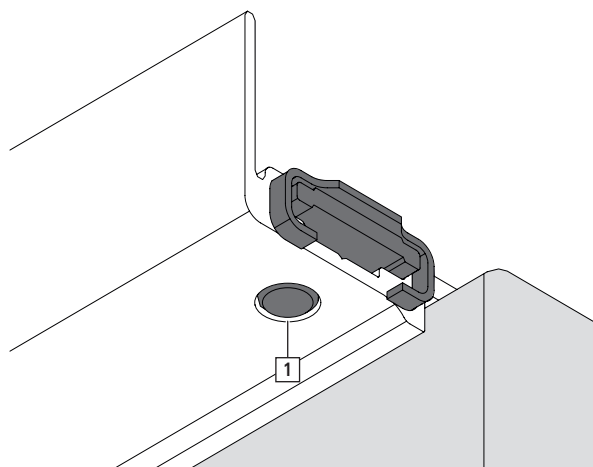
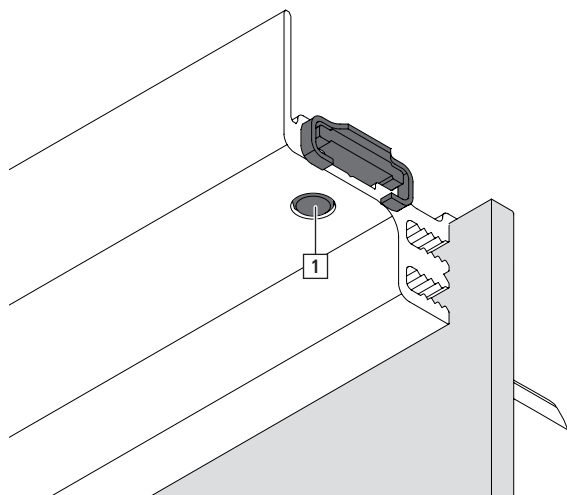
2. Push the sliding scissor stay spring [1] upwards.



3. Continue to push the sliding scissor stay until the sliding scissor stay safety pin engages in the drill hole in the retaining track.



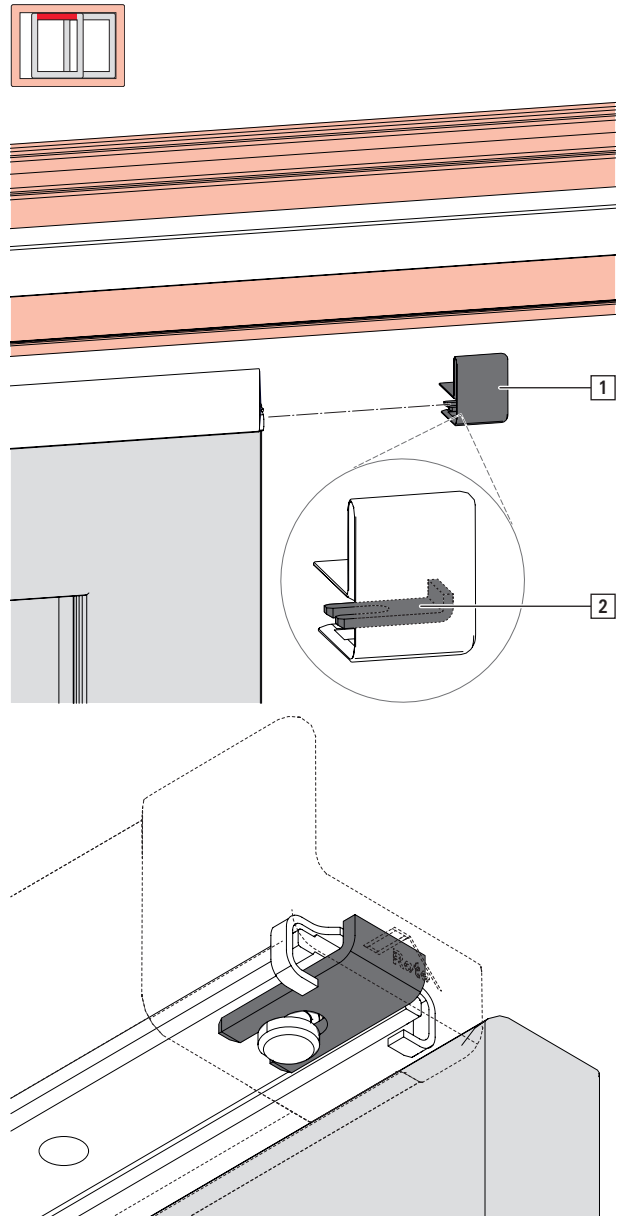
4. Check that the sliding scissor stay has been installed correctly.
The safety pin must be visibly engaged in the drill hole [1] in the retaining track from below.



9.7.3 End caps for retaining track

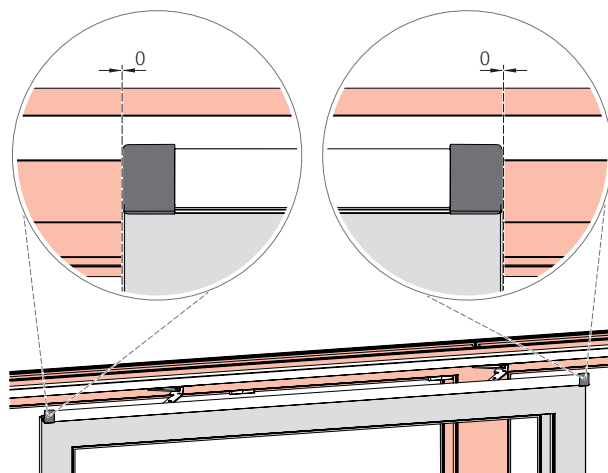
Installing end caps for the retaining track

1. Place the end caps [1] on the left and right ends of the retaining track.
The locking plate [2] in the end caps prevents the safety pin from inadvertently coming out of the retaining track.





2. Check the end caps to ensure that they lie flush with the sash.



INFO

Roto Patio Alversa | PS:

Check for 12 mm rebate clearance on both sides.

Check that the top and bottom guide blocks are installed in the same way.

If necessary, reposition the top guide block.

→ 10.5 "Top guide block, fixed" from page 232

→ 10.6 "Top guide block, tiltable" from page 233

9.7.4 Bottom guide block, movable



INFO

Turn-Only sash (diagram D) can be opened for cleaning and maintenance work.

9.7.4.1 Bottom guide block, movable

Drilling the hole for the movable bottom guide block



PRECONDITION

Adjustment completed. → 10 "Adjustment" from page 229

- Bogies, horizontal

- Rebate clearance, horizontal

The bottom guide block is installed. → 9.6.9 "Bottom guide block" from page 211

Roto Patio Alversa | KS: leave the roller track for diagram D 55 mm longer on the locking side.

1. Move the sash into the sliding position.
2. Check for 12 mm rebate clearance on both sides.

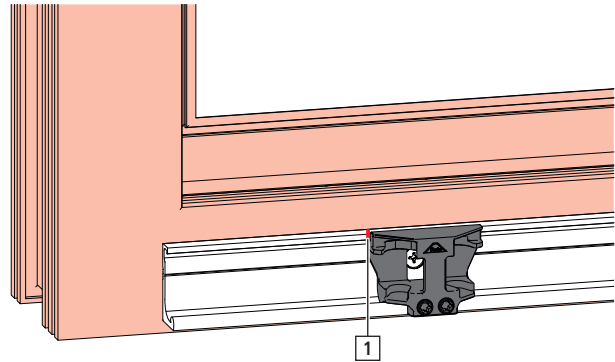
Installation

Joining the sash and frame

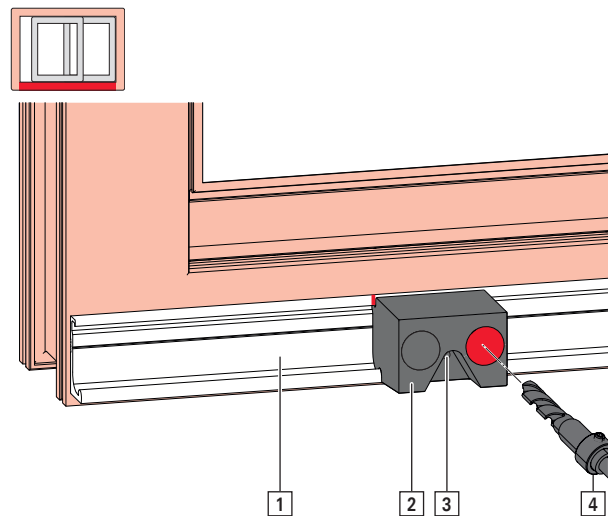
Bottom guide block, movable

If necessary, reposition the bottom guide block.

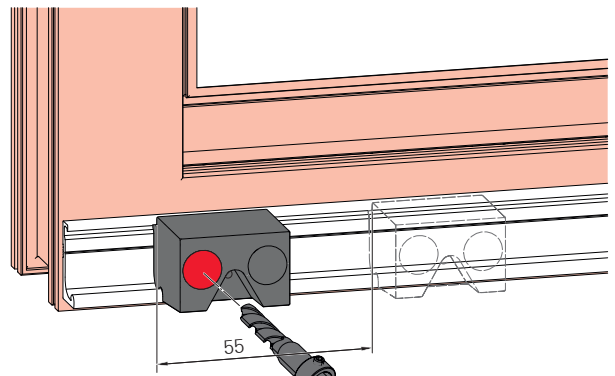
3. Mark the position of the bottom guide block [1].
Remove the bottom guide block.



4. Insert the drilling jig for the movable bottom guide block in the roller track [2].
Align the drilling jig for the movable bottom guide block [1] on the marking.
Fix the drilling jig in place using a threaded pin [3].
Use a special step drill [4] to drill into the roller track up to the stop.



5. Move the drilling jig 55 mm to the left.
Drill up to the stop again in the second hole on the drilling jig.
Remove the drilling jig for the movable bottom guide block.

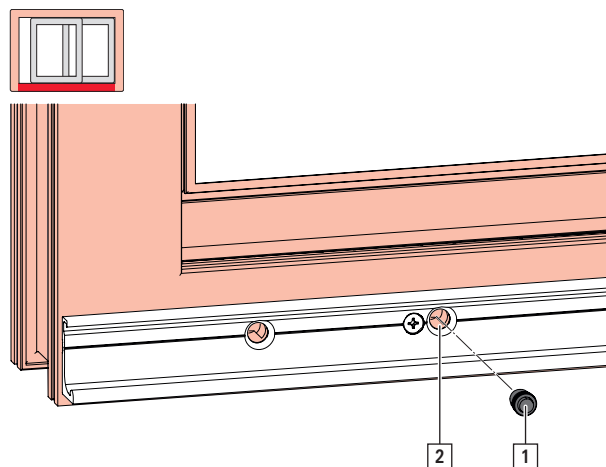




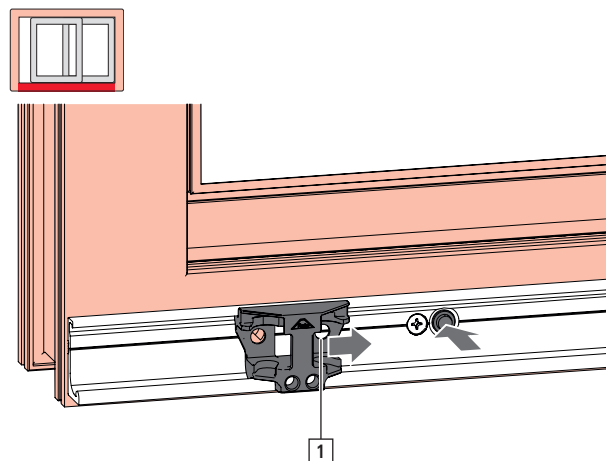
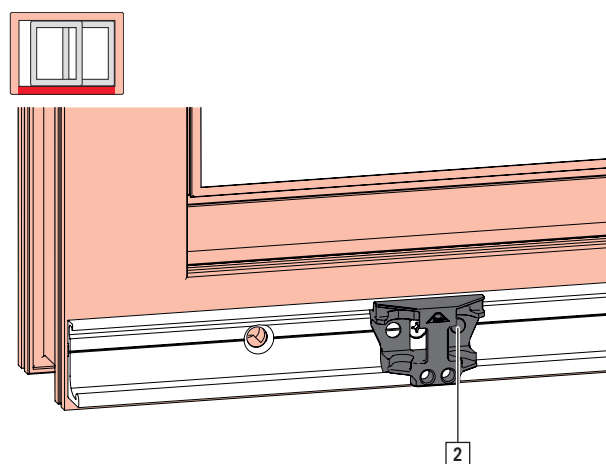
9.7.4.2 Bottom guide block, movable

Installing the movable bottom guide block

1. Insert the locking mechanism [1] for the movable bottom guide block into the drill hole [2].



2. Insert the movable bottom guide block [1] into the roller track.
Let the locking mechanism of the movable bottom guide block engage in the drill hole [2].

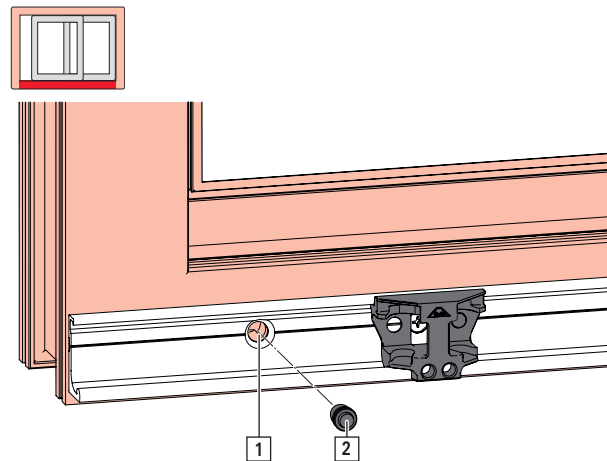


Installation

Joining the sash and frame

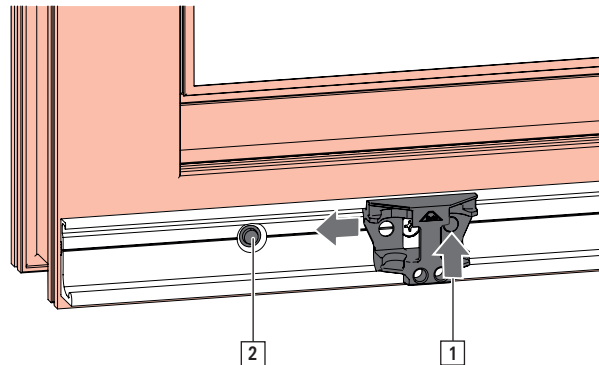
Bottom guide block, movable

3. Insert the additional locking mechanism [2] for the movable bottom guide block into the outer drill hole [1].

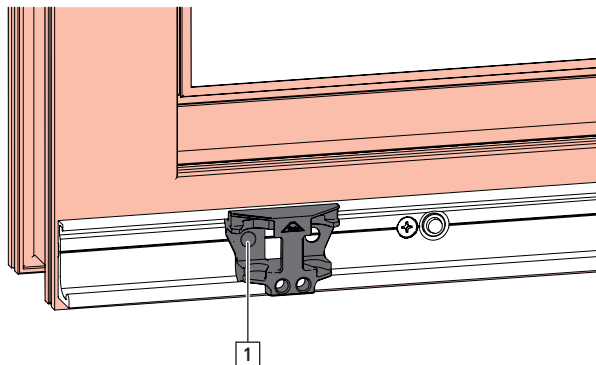


Opening the Turn-Only sash (diagram D) for cleaning and maintenance work

1. Open the window sash in the sliding position.
2. Push out the locking mechanism for the movable bottom guide block [1] and move it [2].



3. Let the movable bottom guide block engage in the outer locking mechanism [1].



4. Slowly push the window sash in the locking direction until the roller unit reaches the movable bottom guide block.
5. Open the Turn-Only sash.



INFO

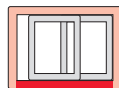
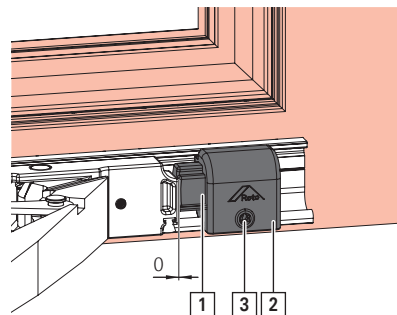
When closing, ensure that the movable bottom guide block is locked back in the original position.



9.7.5 Buffer stops

Installing the bottom buffer stop

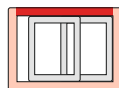
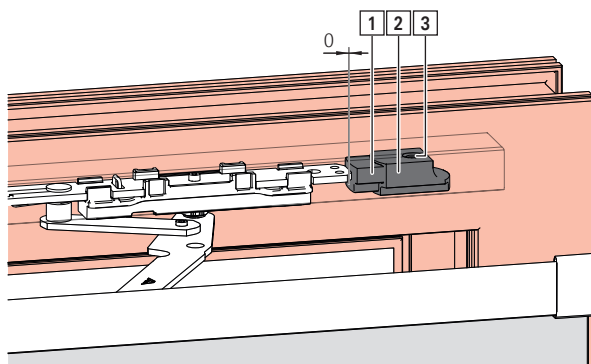
1. Insert the rubber buffer [1] into the buffer stop [2].



2. Insert the bottom buffer stop into the required position in the roller track.
3. Tighten the screw [3] using a T25 hexalobular socket screwdriver (torque: 2 - 3 Nm).

Installing the top buffer stop

1. Insert the rubber buffer [1] into the buffer stop [2].
2. Open the sash until it reaches the buffer stop.
3. Insert the top buffer stop into the guide track until it reaches the scissors-slider.



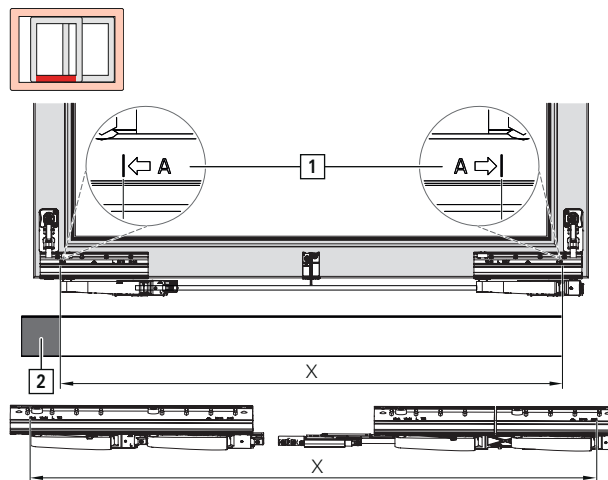
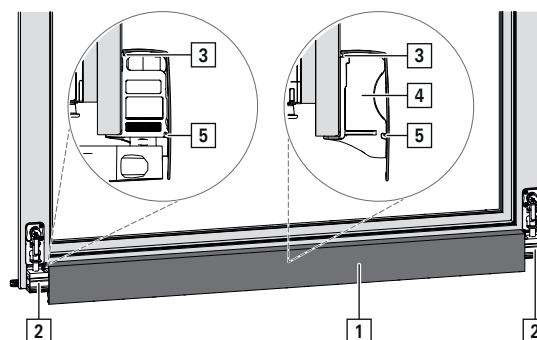
4. Tighten the screw [3] using a T25 hexalobular socket screwdriver (torque: 2 - 3 Nm).
5. Check whether the sash touches the top and bottom buffer stop at the same time.
If necessary, realign the top buffer stop.

9.7.6 Covers

9.7.6.1 Bogie cover profile

Installing the bogie cover profile

1. Carry out the necessary adjustments before installing the bogie cover. → 10 "Adjustment" from page 229
2. Crop the cover profile.
 - a. Without reinforcement part: mark and crop the cover profile at the outer edges of the bogie profiles.
 - b. With reinforcement part: crop the cover profile according to the markings [1] on the bogies [2].
3. Move the cover profile into place.
 - a. Align the cover profile [1] with the markings on the bogies [2].
 - b. Insert the top of the cover profile [3] into the bogie and the supporting piece [4].
 - c. Clip the bottom of the cover profile into the bogie and the supporting piece [5].



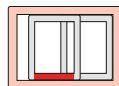
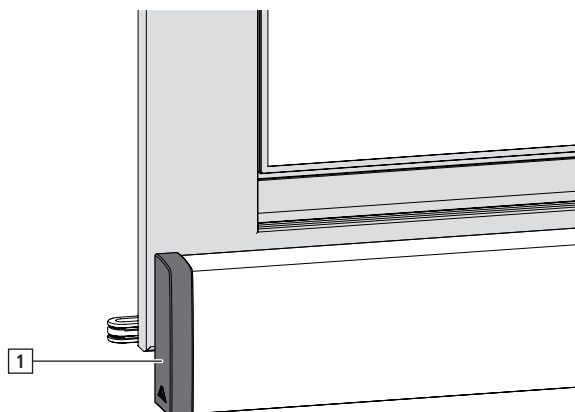


9.7.6.2 Cover caps for bogies without a reinforcement bracket



Installing cover caps for bogies without a reinforcement bracket

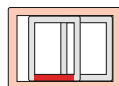
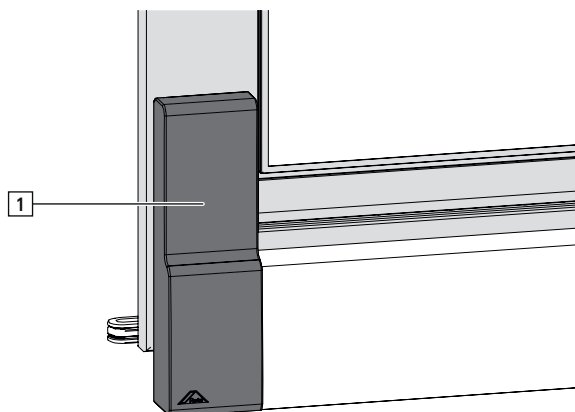
1. Place the corresponding cover caps [1] on the left and right of the cover profile bogies.



9.7.6.3 Cover caps for bogies with a reinforcement bracket

Installing cover caps for bogies with a reinforcement bracket

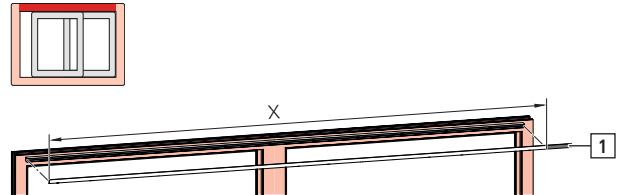
1. Clip the corresponding cover caps [1] to the left and right of the reinforcement brackets.



9.7.6.4 Guide track cover profile

Installing the guide track cover profile

1. Crop the cover to the dimension of the guide track [1].

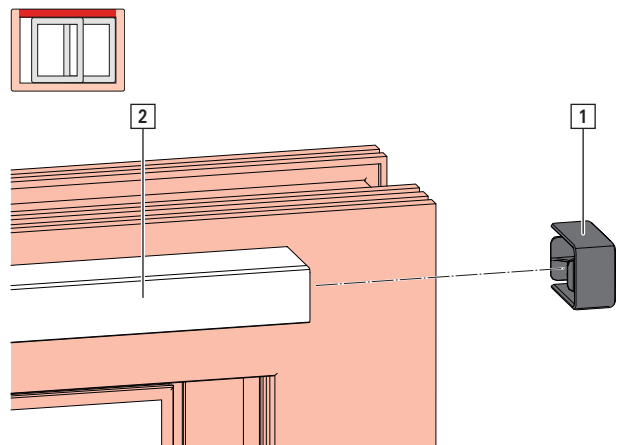


2. Place the cover on the guide track.

9.7.6.5 Guide track end caps

Installing guide track end caps

1. Place the end caps [1] on the right and left of the guide track [2].





10 Adjustment

10.1 Aligning the sash horizontally



ATTENTION

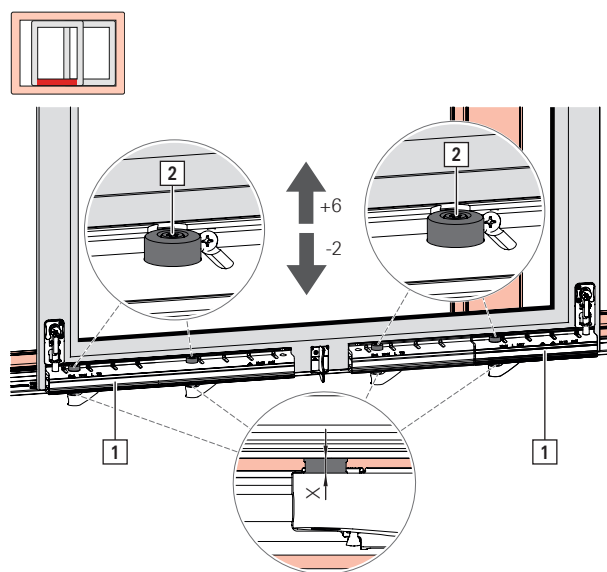
Uneven adjustment may result in property damage.

The bogies are preset evenly at the factory. To correctly align the sash, adjust the bogies evenly – in order to avoid jamming – using their adjusting screws.

- ▶ Align both bogies evenly using their adjusting screws.

Setting the height of the sash in the frame

1. Check the bottom horizontal rebate clearance.
2. Use a T25 hexalobular socket screwdriver on the adjusting screws [2] to align the bogies [1].
 - 1 adjusting screw per bogie
 - 2 adjusting screws per tandem bogie
 - a. Too little rebate clearance:
Evenly adjust the adjusting screws in a clockwise direction.
 - b. Too much rebate clearance:
Evenly adjust the adjusting screws in an anticlockwise direction.



INFO

Adjusting screw initial position $X \sim 5 \text{ mm}$

$X_{\text{max.}} = 11 \text{ mm}$

$X_{\text{min.}} = 3 \text{ mm}$

10.2 Aligning the bogies parallel

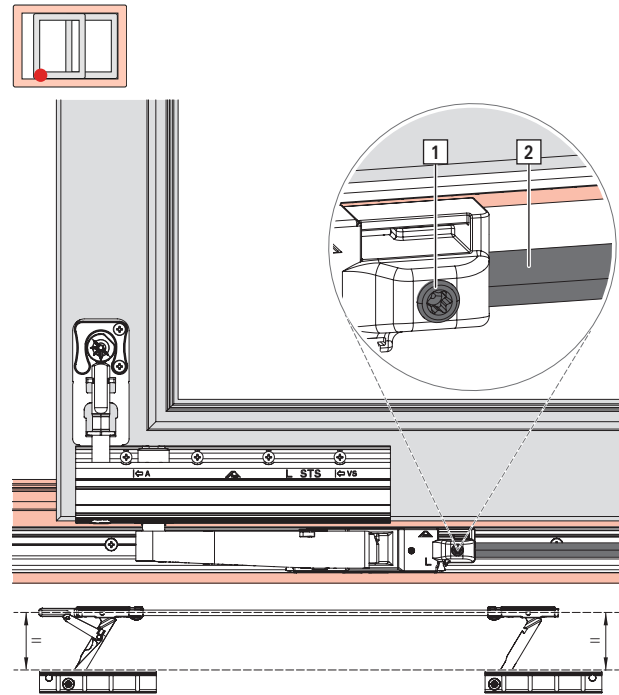
Setting the sash to run into the frame evenly

1. Move the sash into the sliding position.

Adjustment

Adjusting reinforcement brackets

2. Adjust the connecting rod.
 - a. Loosen the screw [1] on the connecting rod [2] using a T25 hexalobular socket screwdriver on the locking-side bogie.
 - b. Align the bogie on the hinge side to be parallel by moving the connecting rod to the left or right.
 - c. Tighten the screw on the connecting rod using a T25 hexalobular socket screwdriver (torque: max. 5 - 7 Nm) on the locking-side bogie.

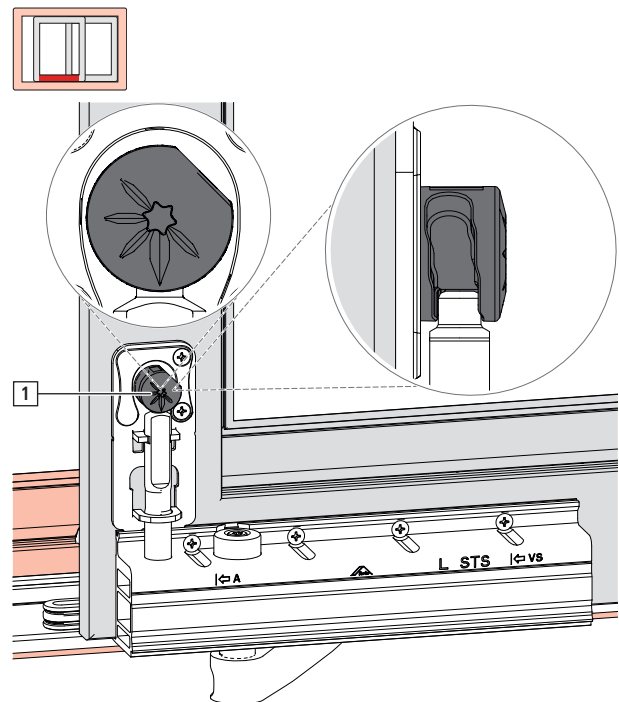


10.3 Adjusting reinforcement brackets

Adjust the reinforcement brackets to optimise the smooth running of the sash into the frame.

Adjusting reinforcement brackets from their original position

1. Adjust both reinforcement brackets evenly [1].
The markings must be in the same position on both sides of the sash.



2. Adjust by turning counterclockwise with a T25 hexalobular socket screwdriver and the sash will close more easily.

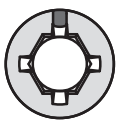
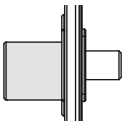
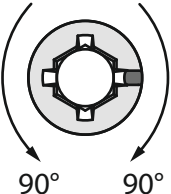
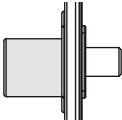


Adjust by turning clockwise with a T25 hexalobular socket screwdriver and the sash will open more easily.

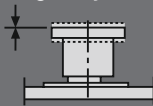
3. Check whether the bogies run smoothly.
If too extreme an adjustment is made, the bogies may drag.

10.4 Adjusting the locking cam

E cam

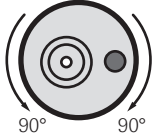
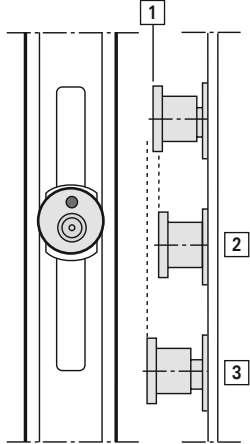
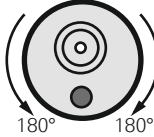
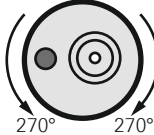
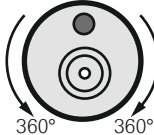
E cam	Adjustment distance	Gasket-compression adjustment / mm	Height	Profile view
				
		±0.8 mm		

V cam

V cam	Adjustment distance	Gasket-compression adjustment / mm	Height adjustment / mm	Profile view
				
				

Adjustment

Top guide block, fixed

V cam	Adjustment distance	Gasket-compression adjustment / mm	Height adjustment / mm	Profile view
		± 0.8 mm	± 0.2 mm	 <p>[1] 0 = initial position [2] -0.8 mm max. adjustment [3] +0.8 mm max. adjustment</p>
			± 0.4 mm	
		± 0.8 mm	± 0.6 mm	
			± 0.8 mm	

10.5 Top guide block, fixed



INFO

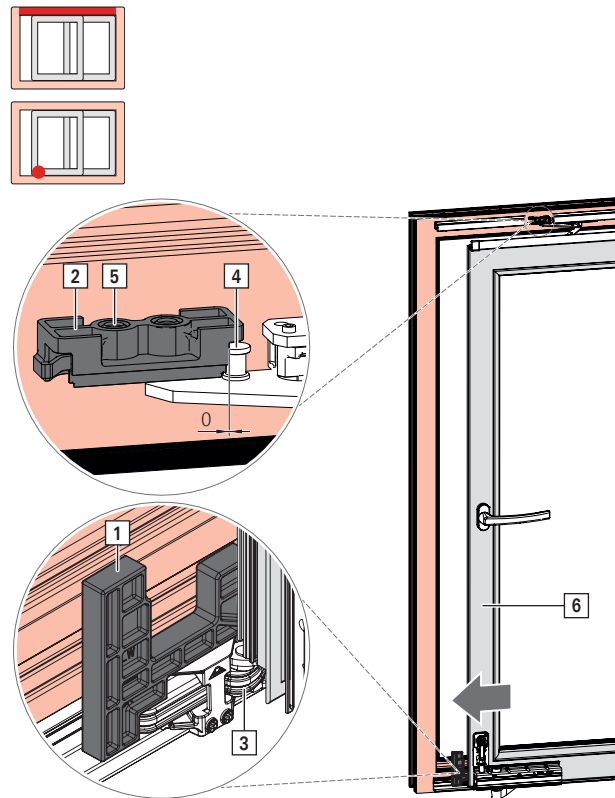
Required when the bottom and top guide blocks do not trigger the sliding scissor stay and bogie at the same time.

Adjusting the fixed top guide block

1. Undo the screws on the fixed top guide block.



2. Place the jig [1] for the fixed top guide block [2] on the bottom guide block with roller units [3]. Push the guide block until it reaches the sliding scissor stay pilot bolt [4].



3. Gently tighten the screws [5] on the fixed top guide block using a T25 hexalobular socket screwdriver (torque: max. 1 Nm).
4. Remove the jig.
5. Move the sash [6] into the closed position.
6. Check for 12 mm rebate clearance on both sides.
If necessary, reposition the fixed top guide block.
7. Tighten both screws on the fixed top guide block using a T25 hexalobular socket screwdriver (torque: max. 3 - 4 Nm).

10.6 Top guide block, tiltable



INFO

Required when the bottom and top guide blocks do not trigger the sliding scissor stay and bogie at the same time.

Adjusting the tiltable top guide block

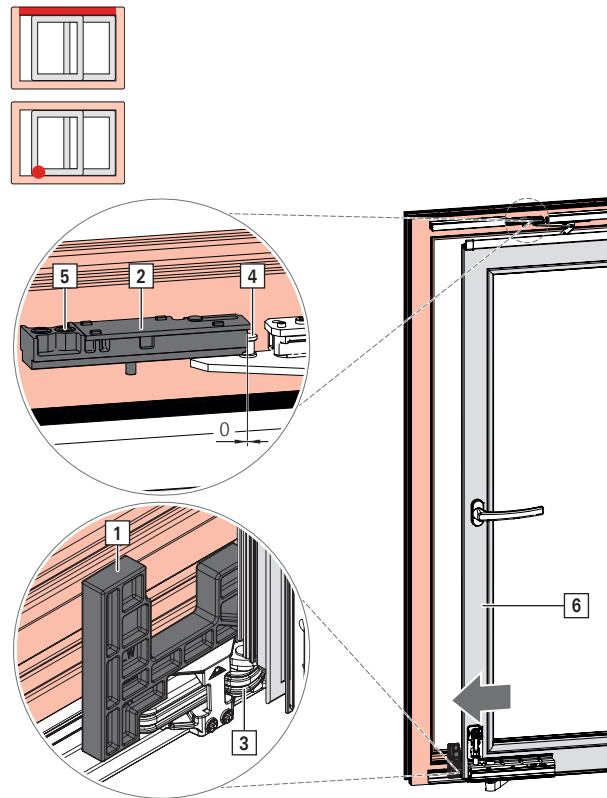
1. Undo the screws on the tiltable top guide block.

Adjustment

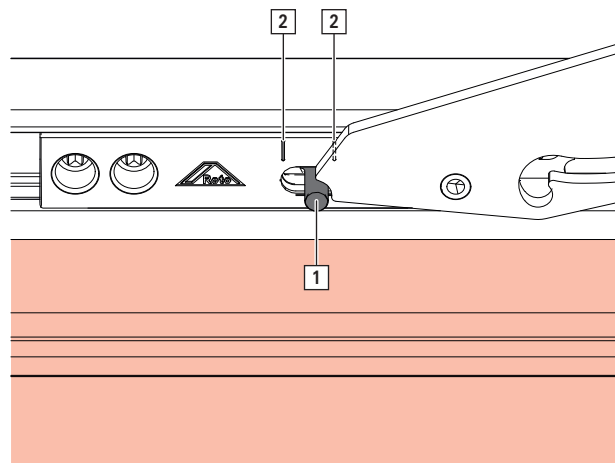
Top guide block, tiltable

2. Place the jig [1] for the tiltable top guide block [2] on the bottom guide block with roller units [3].

Push the guide block until it reaches the sliding scissor stay pilot bolt [4].



3. Gently tighten the screws [5] on the tiltable top guide block using a T25 hexalobular socket screwdriver (torque: max. 1 Nm).
4. Remove the jig.
5. Move the sash [6] into the closed position.
6. Check for 12 mm rebate clearance on both sides.
If necessary, reposition the tiltable top guide block.
7. Check the sash tilt function.
Ensure that the control bolt [1] on the tiltable top guide block is between the two markings [2] when the sash is tilted.
If necessary, reposition the tiltable top guide block.





8. Tighten both screws on the tiltable top guide block using a T25 hexalobular socket screwdriver (torque: max. 3 - 4 Nm).

11 Operation

11.1 Operating information

The windows and balcony doors are operated using a handle.

The following symbols illustrate the different handle positions and the resultant sash positions of the windows and balcony doors.

11.1.1 Roto Patio Alversa | KS



ATTENTION

Risk of being accidentally locked out.

If the sash is in the sliding position and closes, the sash can engage and then be impossible to reopen from the outside.

- ▶ Secure the sash against accidentally engaging when in the sliding position.
- ▶ Ensure that access is possible if necessary.

Handle position	Sash position	Meaning
		Sash in closed position.
		Sash in tilted position.
		Sash opened.
		Sash in sliding position.
		Sash engaged.
		Sash in closed position.



11.1.2 Roto Patio Alversa | PS without night ventilation

Handle position	Sash position	Meaning
		Sash in closed position.
		Sash in sliding position.

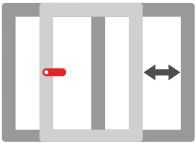
11.1.3 Roto Patio Alversa | PS with night ventilation

Handle position	Sash position	Meaning
		Sash in closed position.
		Sash in sliding position.
		Sash in sliding position.
		Sash in night ventilation position.

11.1.4 Roto Patio Alversa | PS Air

Handle position	Sash position	Meaning
		Sash in closed position.
		Sash in sliding position.
		Sash in sliding position.
		Sash in tilted position.

11.1.5 Roto Patio Alversa | PS Air Com

Handle position	Sash position	Meaning
		Sash in closed position.
 		Sash in sliding position.
		Sash in comfortable tilted position.

11.2 Fault assistance

Fault	Cause	Corrective action	Specialist company	End user
Handle is difficult to turn.	Frame components have not been greased	Grease the frame components	☐	☐
	Handle is faulty	Replace the handle	☒	
	Handle screwed into place too tightly	Undo the screw fixing slightly	☒	
	Sash components with slanting screws	Screw the sash components in straight	☒	
	Sash components are faulty	Replace the sash components	☒	
	Incorrect striker positions	Adapt the striker positions	☒	
Handle cannot be turned 180°.	Sash components hinged or installed incorrectly	Check the setting in the turn position (potentially rehang – start from the T&T espagnolette).	☒	
Locking cams brush against the striker.	Sash components hinged or installed incorrectly	Check the setting in the turn position (potentially rehang – start from the T&T espagnolette).	☒	
	Incorrect striker positions	Adapt the striker positions	☒	

☐ = May be carried out by a specialist company or the end user

☒ = **Must** be carried out by a specialist company



12 Maintenance



CAUTION

Improperly performed maintenance work may result in injuries.

Improper maintenance can lead to serious injuries or property damage.

- ▶ Ensure that there is sufficient space for installation before starting work.
- ▶ Ensure that the installation site is clean and tidy.
- ▶ Always have hardware adjustment and replacement work performed by a specialist company.
- ▶ Secure windows or balcony doors against unintentionally opening or closing.
- ▶ Do not unhinge windows or balcony doors for maintenance purposes.



ATTENTION

Incomplete or incorrect checks may result in property damage.

Adjusting the hardware incorrectly or improperly may cause the window or balcony door to malfunction.

- ▶ Check the hardware when installed.
- ▶ If defects need to be remedied, have the window or balcony door unhinged and remounted by a specialist company.



INFO

The manufacturer must draw the attention of builders and end-users to these maintenance instructions. Roto Frank AG recommends the manufacturer conclude a maintenance agreement with their end-users.

No legal claims can be derived from the following recommendations; their application is to be based on the specific individual case.

12.1 Maintenance intervals



ATTENTION

Inadequate maintenance may cause property damage.

The maintenance intervals must be adapted to the respective ambient conditions. The maintenance intervals correspond to the current directives and represent a maximum time frame.

- ▶ Determine the appropriate maintenance interval in accordance with the ambient conditions.

The maintenance interval for all tasks relating to the hardware components is **annually** at the least. In hospitals, schools and hotels, the maintenance interval is **six-monthly**.

Regular maintenance is necessary in order to maintain the proper and smooth-running operation of the hardware and to prevent premature wear or even defects.

Responsibility		
Cleaning		→ from page 240
Clean hardware	☐	
Care		→ from page 240
Lubricate movable parts	☐	
Lubricate locking points	☐	
Performance test		→ from page 244
Check that hardware components are fitted securely	☐	
Inspect hardware components for wear	☐	
Check that movable parts work properly	☐	
Check that locking points work properly	☐	
Check ease of movement	☒	
Repair		→ from page 244
Retighten fixing screws	☒	
Replace damaged components	☒	

□ = May be carried out by a specialist company or the end user

■ = **Must** be carried out by a specialist company

12.2 Cleaning



ATTENTION

Incompatible cleaning agents may cause property damage.

Incompatible cleaning agents may damage surfaces and destroy gaskets.

- ▶ Never use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.
- ▶ Only use cleaning and care agents that do not adversely affect the corrosion protection of the hardware components and gaskets.
- ▶ Only use mild, pH-neutral cleaning agents that have been diluted.

Cleaning the hardware

- ▶ Clean deposits and contaminants off the hardware using a soft cloth.
- ▶ Lubricate movable parts and locking points after cleaning. → 12.3 "Care" from page 240
- ▶ Apply a thin protective film to the hardware, for example using a cloth soaked in oil.

12.3 Care



ATTENTION

Using incorrect lubricants may cause property damage.

Substandard lubricants can prevent the hardware from working properly.

- ▶ Use high-quality lubricants.
- ▶ Only use resin-free and acid-free lubricants.



ATTENTION

Cleaning agents and lubricants may pollute the environment.

Leaking or excess cleaning agents and lubricants may pollute the environment.

- ▶ Remove any leaking or excess cleaning agents and lubricants.
- ▶ Dispose of cleaning agents and lubricants separately and properly.
- ▶ Observe the applicable directives and national laws.

Ease of movement can be improved by lubricating or adjusting the hardware. All functional hardware components must be lubricated on a regular basis.

Recommended lubricants

- Roto NX / NT grease

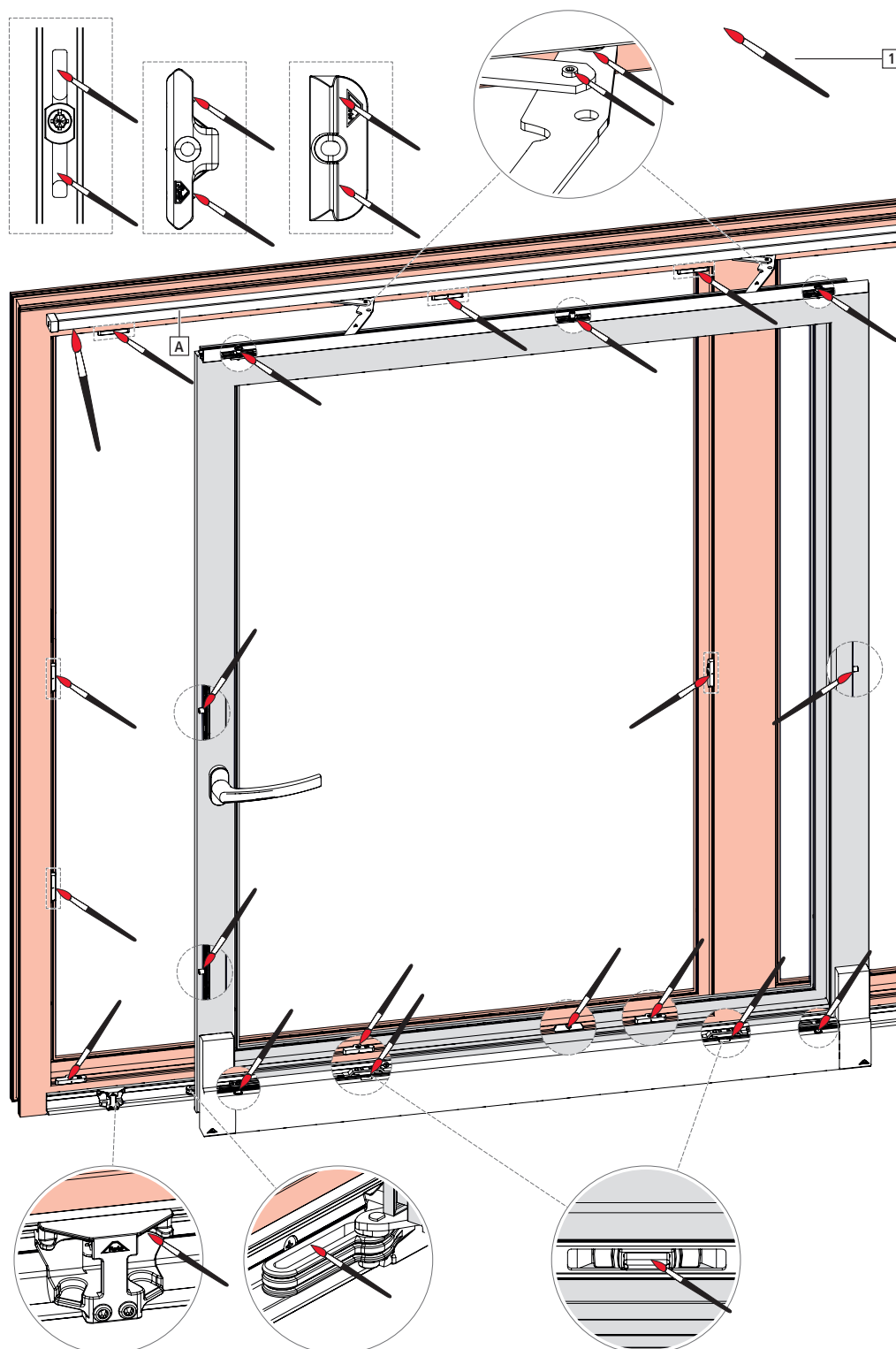


INFO

The figure displays the positioning of potential lubrication points. The figure does not necessarily match the installed hardware. The quantity of lubrication points varies depending on the size and design of the element.



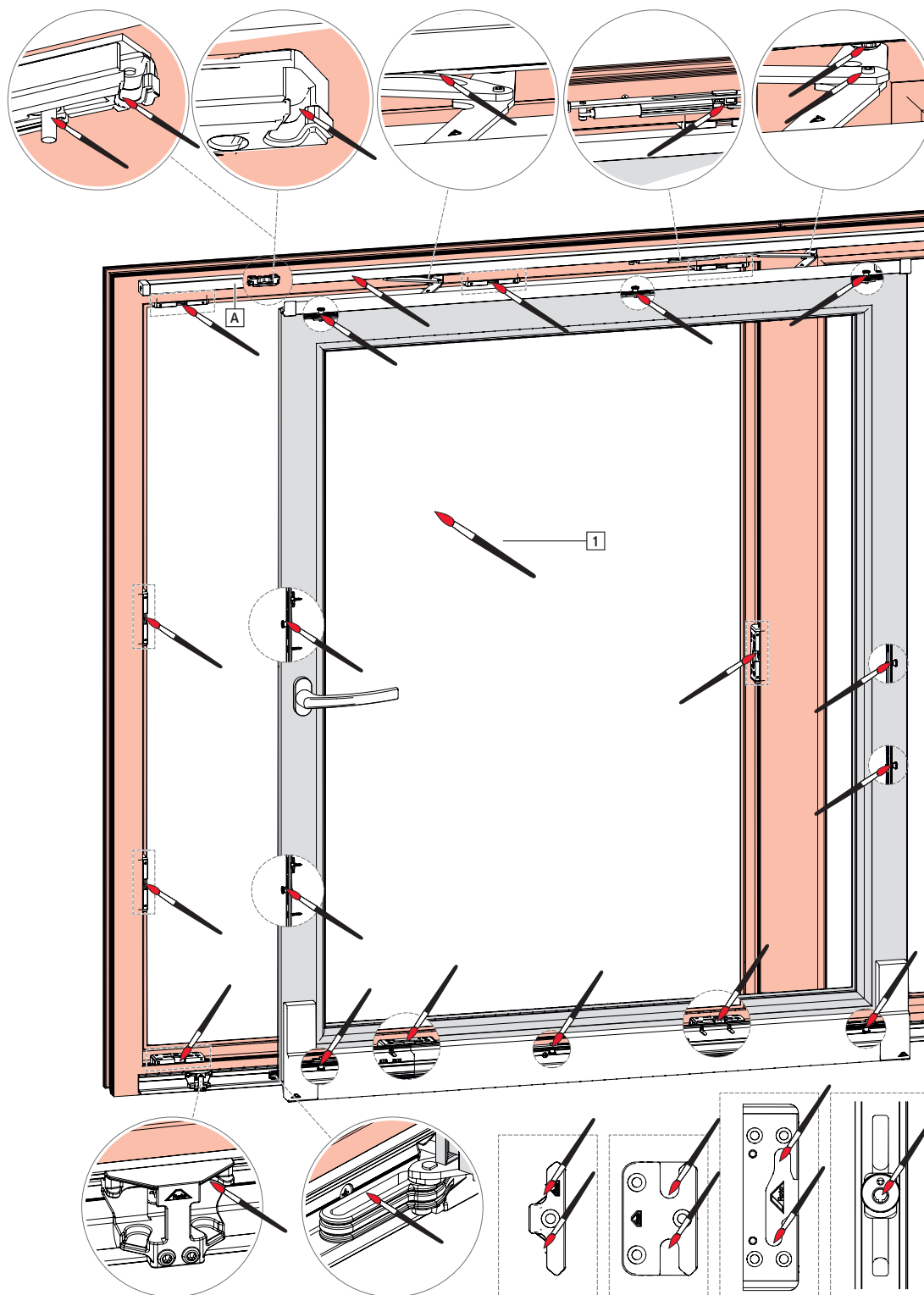
12.3.1 Roto Patio Alversa | KS



[1] Grease

[A] Grease the guide track along its entire length.

12.3.2 Roto Patio Alversa | PS (except for PS Air Com)

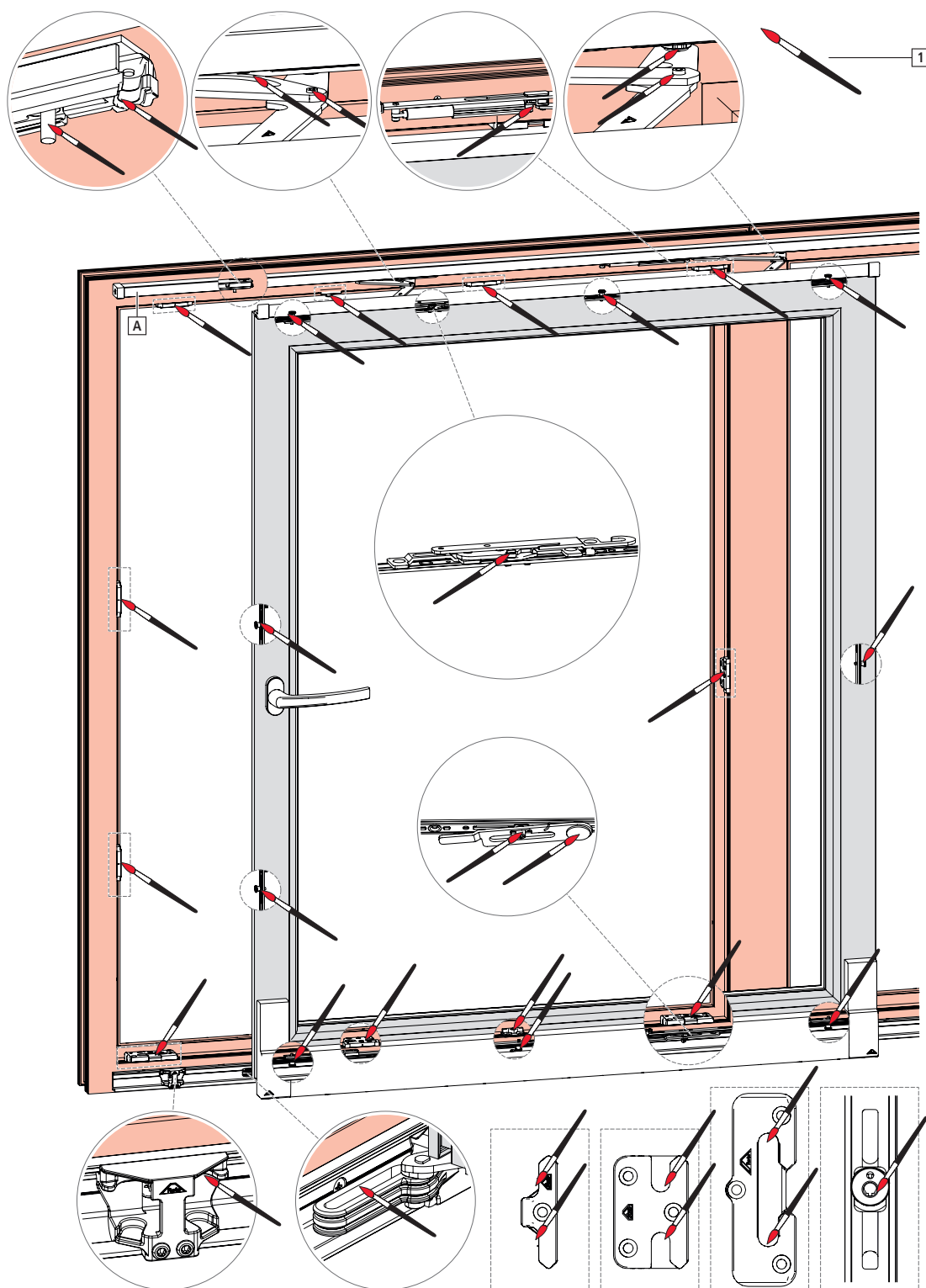


[1] Grease

[A] Grease the guide track along its entire length.



12.3.3 Roto Patio Alversa | PS Air Com



[1] Grease

[A] Grease the guide track along its entire length.

12.4 Performance test



WARNING

Potential danger to life, risk of injury and property damage.

Improperly performed repairs impair the safety of the windows and balcony doors.

- ▶ Always have repair work performed by a specialist company.

Check for proper operation:

- ▶ Inspect hardware components for damage, deformation and a firm fit.
- ▶ Check that windows or balcony doors run smoothly by opening and closing them.
- ▶ Check the window or balcony door gaskets for elasticity and fit.
- ▶ Check closed windows or balcony doors to ensure that they are leakproof.
- ▶ Locking and unlocking torque max. 10 Nm. The test can be performed using a torque wrench.

Have malfunctions remedied by a specialist company.

12.5 Repair



ATTENTION

Securing components incorrectly may lead to property damage.

Loose or faulty screws can prevent the hardware from working properly.

- ▶ Check that the individual screws are secure and seated correctly.
- ▶ Tighten or replace loose or faulty screws immediately.
- ▶ Only use the screws suggested for repairs.

Repair work includes replacing and repairing components and is only necessary if components have become damaged after wear or as a result of external circumstances. The hardware must be secured reliably in order to ensure that the element works properly and is safe to use.

The following tasks must only be performed by a specialist company:

- All adjustment work on the hardware
- Replacing hardware or hardware components
- Installing and removing windows, doors or balcony doors

The specialist company must observe the following:

- The necessary repair work must be performed properly, according to generally recognised engineering practice and in accordance with the applicable regulations.
- Makeshift repairs must not be performed on worn or damaged components.
- Only original or approved spare parts may be used in the course of repairs.

12.6 Preventative measures

These measures are intended to preserve the surface finish and durability. They aim to prevent premature wear or contamination and thereby simplify maintenance.

Corrosion protection

Cleaning agents can corrode the surface of the hardware.

Protect the hardware:

1. Do not use aggressive or flammable liquids, acidic cleaners or abrasive cleaners.



2. Only use mild, pH-neutral cleaning agents that have been diluted.
3. Apply a thin protective film to the hardware, for example using a cloth soaked in oil.
4. Only use high-quality components for repairs, such as stainless steel screws.

Protection from contaminants

Contaminants impair the proper operation of the hardware.

Protect the hardware:

1. Remove deposits and contaminants caused by construction materials before they bond with water, e.g. builder's dust, plaster, stucco, mortar and cement.
2. Always clean using a soft cloth.

Protection against (permanently) damp room air

Damp room air can lead to mould growth and corrosion caused by condensation.

Protect the hardware:

1. Provide adequate ventilation for hardware, particularly during the construction phase.
2. Intensively air out the room several times per day by opening all windows or balcony doors for approximately 15 minutes.
If intensive airing is not an option, place the windows or balcony doors in tilt mode and provide airtight masking inside the room, e.g. if there is fresh screed that cannot be walked on or must not be exposed to drafts. Discharge outside any humidity present in the room air using dehumidifiers.
3. Establish a ventilation plan for more complex construction projects if necessary.
4. Provide adequate ventilation during holiday periods as well.

13 Dismantling



ATTENTION

Incorrect dismantling poses the potential risk of injury and property damage.

- ▶ Always have dismantling carried out by an authorised specialist company.

13.1 Sash



WARNING

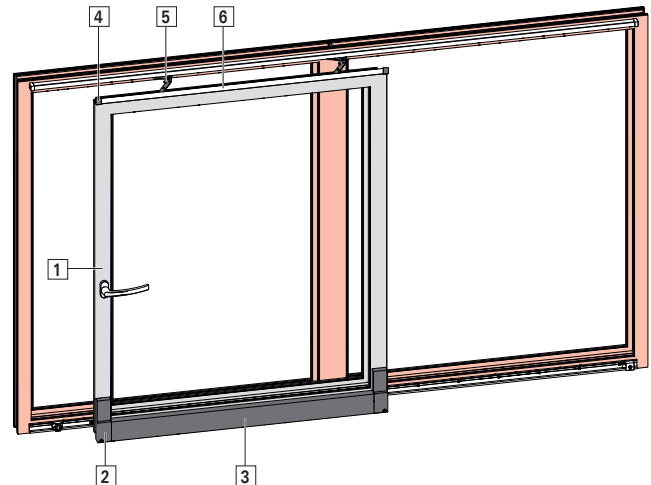
Heavy loads pose the risk of injury and property damage.

Lifting and carrying heavy loads in an uncontrolled manner may lead to physical injury and property damage.

- ▶ Transport and removal must be carried out by at least two people.
- ▶ Do not rest sashes on the bogies.
- ▶ Use transportation means. → 14 "Transport" from page 248

Unhinging the sash

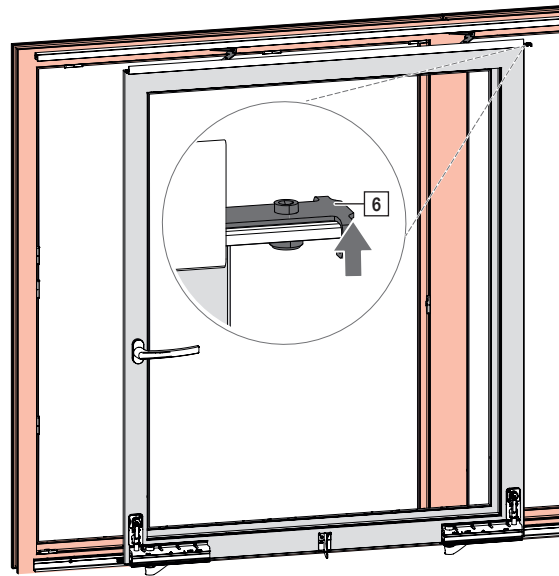
1. Move the sash [1] into the sliding position.



2. Remove the covers.
 - Cover caps for the bogie [2] on the left and right
 - Bogie cover [3]
 - Cover caps for the retaining track [4] on the left and right
 - a. Remove the bogie cover caps by pulling them forwards.
 - b. Grasp the back of the bogie cover from below and pull it diagonally upwards.
Pull forcefully, using both hands.
 - c. Remove the cover caps for the retaining track on the side.
3. Secure the sash to prevent it falling out before pushing the sliding scissor stay [5] out.



4. Push the sliding scissor stay spring [6] upwards and undo the form-fitting connection between the sliding scissor stay and retaining track.



5. Push the sliding scissor stay out of the retaining track.
6. Lift the sash at a slight incline.
7. Place the sash in front of the frame.
 - a. Use a clean packer.
 - b. Only use a support in the centre of the sash so that the bogies can hang free.

13.2 Hardware components

Removing hardware components

1. Undo all screw connections.
2. Remove the hardware components.
3. Dispose of the hardware components properly.

14 Transport

14.1 Transporting the hardware



WARNING

Trapped limbs may result in injuries.

The transported goods can skid or fall during transportation tasks. This can result in limbs being trapped and seriously injured.

- ▶ Wear safety gloves and protective footwear.



WARNING

Heavy loads present an injury risk.

Lifting and carrying heavy loads in an uncontrolled manner may lead to injuries in the event of a fall or physical overexertion.

- ▶ Observe the applicable accident prevention regulations.
- ▶ Transport heavy loads with two people and / or use suitable transportation means, such as an industrial truck.



WARNING

Physical strain may cause damage to health.

Moving heavy loads for extended periods leads to physical injury in the long term.

- ▶ When carrying and lifting by hand, comply with a maximum weight of 40 kg for men and 25 kg for women.
- ▶ Always carry and lift smaller shipments with an ergonomically correct posture.

Hardware is supplied to the specialist company as complete sets. The components are packaged accordingly for each shipment. The instructions for safely transporting the hardware are described below.

Observe the following basic instructions when transporting hardware:

- ▶ Transport larger shipments using appropriate transportation means, such as industrial trucks.
- ▶ Note the transport weight in order to select appropriate transportation means.
- ▶ Immediately check the delivery for completeness and transport damage on receipt.



INFO

Submit a complaint about any defects as soon as they are identified. Claims for damages may only be made within the reclamation period.

Use the following transportation means for support when transporting, loading and unloading larger shipments:

- Industrial trucks (e.g. forklifts, telescopic handlers, pallet trucks)
- Lifting equipment (e.g. transport nets, carry straps, round slings)
- Protective devices (e.g. edge protection, spacer blocks)



INFO

Industrial trucks and lifting devices may only be operated by qualified persons.



INFO

Lifting equipment and protective devices may only be used if they are in full working order.



14.2 Storing the hardware

Store all hardware components as follows until they are installed:

- Dry and protected
- On a level surface
- Protected against sunlight

15 Disposal



ATTENTION

Incorrect disposal can harm the environment.

Pieces of hardware are raw materials.

- ▶ Dispose of hardware for environmentally friendly material reutilisation as mixed scrap.

15.1 Disposing of packaging

The hardware is supplied as complete sets together with the packaging. Once unpacked, the installation company or builder is responsible for disposing of the packaging properly. The packaging materials are produced in accordance with current environmental protection standards. The materials can be recycled separately.

Follow the basic instructions below for the proper disposal of packaging:

- ▶ Do not dispose of packaging in household waste.
- ▶ Hand over packaging at local waste collection points or recycling centres.
- ▶ Observe the national regulations on the disposal of recyclable materials.
- ▶ Contact the local authorities if necessary.

15.2 Disposing of hardware

Once the hardware is finished with, the end user or builder is responsible for properly disposing of the windows, doors or balcony doors and the hardware, including any accessories. Hardware is produced in accordance with current environmental protection standards. The materials can be recycled separately.

Follow the basic instructions below for the proper disposal of hardware:

- ▶ Observe the information and specifications for disposal contained in the other applicable documents.
- ▶ Separate hardware components from windows, doors or balcony doors.
- ▶ Do not dispose of hardware in household waste.
- ▶ Hand over hardware at local waste collection points or recycling centres.
- ▶ Observe the national regulations on the disposal of recyclable materials.
- ▶ Contact the local authorities if necessary.



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