

Roto NT Designo

Concealed hinge solution

for windows and balcony doors with sash weights up to 150 kg

Installation, maintenance and operation instructions
for PVC profiles



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1 General information

1.1 Version history

Version	Date	Changes
v0	10.02.2020	Publication

1.2 Instructions

This manual contains important information, instructions, 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:

- Catalogue
 - Roto NX: CTL_105
 - Roto NT: CTL_7
 - Handles: CTL_1

The following guidelines also apply:

- Guideline TBKD 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 VHB E 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),
- Directive FPKF issued by the Gütegemeinschaft Schlösser und Beschläge e. V. quality assurance association (Restrictor and cleaning stays for Tilt-Only sashes and Tilt-Only fanlights),
- 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 manual uses the following markings for emphasis (e.g. in figures or instructions):

Marking	Meaning
	Sash
	Frame
	Drill holes, routing or screw positions
	Unaffected components
	Indirectly affected components
	Components that have just been described
	Arrows or movements
1	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 right-hand version (DIN 107).

1.3 Symbols

Symbol	Meaning
	First-level list
□	Second-level list
	(Cross-)reference
	Result
	Unnumbered step
1.	Numbered step
a.	Numbered second-level step
⇒	Requirement

1.4 Pictographs

Symbol	Meaning
	Turn-Only / Tilt&Turn floating-mullion sash window
	Turn-Only window

Symbol	Meaning
	Tilt&Turn window
	Sash rebate width
	Sash rebate height
	Sash weight
	Tilt-Only window
	PVC

1.5 Product features

Symbol	Meaning
	Hardware axis
	Description
	Base
	DIN left / right
	Integrated corner drive
	Rebate clearance
	Sash rebate width
	Sash rebate height
	Sash weight
	Fixed handle height
	Centred / variable handle height
	Size

Symbol	Meaning
	Information
	Fixed toggle lever position
	Centred / variable toggle lever position
	Couplable
	Length
Nº	Material number
	Installation type
	Lifting mishandling device
	Surface
	Position
	Profile
	Number of welded-on strikers
	Number of locking cams
	Type of locking cams
	Security class
	Bullet catch
	System
	Adjustment

1.6 Abbreviations

Abbreviation	Meaning
GC	Gasket compression
CTL	Catalogue
DIN L / R	DIN left / right
d _k	Screw head diameter
T&T	Tilt&Turn
BS	Backset
SRW	Sash rebate width
SRH	Sash rebate height
S.kg	Sash weight
HH	Handle height
BSec	Basic security
IMO	Installation instructions
Y	Yes
kg	Kilograms
KU	Couplable
mm	Millimetres
CL	Centre lock
N	No
Nm	Torque in newton metres
LMD	Lifting mishandling device
RC	Resistance class
BC	Bullet catch
SEC	Security
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 and 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 and 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 or installation companies

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

Builders

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

End users

The "end users" target group includes all individuals who use the installed windows and 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 data storage device 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 operation instructions
- Directive 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 operation instructions
- Directive 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 and the installation company

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

- Installation, 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:

- Installation, 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 and 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 (e.g. painting and varnishing) on elements can damage components or prevent them from working properly.

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



ATTENTION

Using incorrect cleaning agents and sealing compounds may cause property damage.

Cleaning agents and sealing compounds may damage the surfaces of components and gaskets.

- ▶ 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 components, 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, carboic acid, chlorine, tannic acid) 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 components.



ATTENTION

Contamination may cause property damage.

Contamination prevents components working properly.

- ▶ Remove deposits and contamination caused by construction materials (e.g. plaster, gypsum).
- ▶ Keep components free of deposits and contaminants.



ATTENTION

(Permanently) damp room air may cause property damage.

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

- ▶ Provide adequate ventilation for components, 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 the tilt position 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 draughts. 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.

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 and 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 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

Turn-Only and Tilt&Turn hardware components are one-hand operation, Turn-Only and Tilt&Turn hardware components for windows and balcony doors in structural engineering. This hardware is used to move window sashes and balcony door sashes to a turned position by actuating a hand lever or a tilt position which is restricted by the scissor stay version. Turn-Only and Tilt&Turn hardware components may be used on vertically installed windows and balcony doors made of timber, PVC, aluminium or steel, or corresponding combinations of the aforementioned materials. Turn-Only and Tilt&Turn hardware components in the sense of this definition close windows and balcony door sashes or move them into various ventilation positions.



During the closing process, the gasket counter force must generally be overcome.

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

Misuse may pose a risk of death!

Misuse and incorrect installation of hardware can lead to serious injuries.

- ▶ 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.
- ▶ Note the product-related documentation → *from page 10*.

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 sealing
- Driving rain impermeability
- Sound insulation
- Thermal insulation
- Burglary inhibition



INFO

Windows built with security strikers for tilt ventilation fulfil the burglary inhibition function in tilt mode.

2.4 Stipulated use for end users

For windows or balcony doors with Turn-Only or Tilt&Turn hardware, windows or balcony door sashes can be moved to a turned position by operating a hand lever or to 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 in an uncontrolled manner may pose a risk of death!

Opening and closing the sash in an uncontrolled manner may lead to serious injuries.

- ▶ 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 slowly guided by hand throughout its entire movement range, until it has been brought into a fully closed or opening position.



ATTENTION

Opening and closing sashes in an uncontrolled manner may result in property damage.

Opening and closing the sash in an uncontrolled manner may cause the element to malfunction.

- ▶ 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 slowly guided by hand throughout its entire movement range, until it has been brought into a fully closed or opening position.

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

Misuse may pose a risk of death!

Misuse and incorrect installation of hardware can lead to serious injuries.

- ▶ 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.
- ▶ Note the product-related documentation → *from page 10*.

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 and 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 may lead to injuries in the event of a fall or physical overexertion.

- ▶ Note the applicable accident prevention regulations.



- ▶ Transport heavy loads with two people and 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 25 kg for men and 10 kg for women.
- ▶ Carry and lift even small loads with an ergonomically correct posture.

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 and glass breakage.

- ▶ 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 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 slowly guided by hand throughout its entire movement range, until it has been brought into a fully closed or opening position.
- ▶ When closing a sash and locking the hardware, the gasket counter force must be overcome.

Misuse poses a 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.

- ▶ Do not introduce any obstacles in the opening area between the frame and window or balcony door sashes.
- ▶ Do not place additional loads on windows and balcony door sashes.

- ▶ 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.

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 as specified in 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.

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 as specified in 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 build-up 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 and 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.

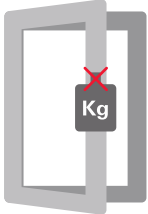
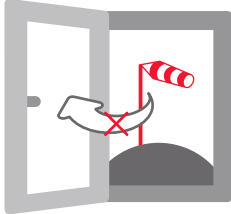
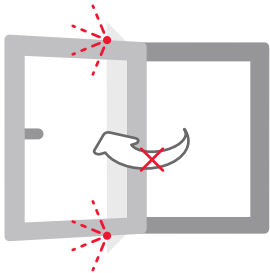
2.6 Operation

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



Symbol	Meaning
	Trapping body parts in the opening between sash and frame may lead to serious 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.
	Placing additional loads on the sash may lead to minor injuries and property damage. Avoid placing additional loads on the sash.
	The impact of wind may lead to minor injuries and property damage. Avoid exposing the open sash to wind. Close and lock the window and balcony door sash in windy or draughty conditions.
	Introducing obstacles into the opening between sash and frame may result in minor injuries and property damage. Avoid introducing obstacles into the opening between sash and frame.
	Pressing the sash against the edge of an opening (reveal) may pose a risk of minor injuries and cause property damage Refrain from pressing the sash against the edge of an opening (reveal).

3 Information on the product

3.1 General hardware characteristics

- Fully concealed central locking system in the sash rebate with single-handed operation:
 - Profiled faceplate
 - Effortless and low-wear operation thanks to adjustable locking cams guided over the surface
- Simple adjustment options for lateral and height adjustment; additional gasket compression adjustment via:
 - E locking cam: gasket compression adjustable eccentric cam
 - P locking cam: gasket compression adjustable security eccentric cam
 - V locking cam: gasket compression and height adjustable security eccentric cam
- Link-guided stay arm, as standard with:
 - Integrated anti-slam device (Tilt&Turn version only)
 - Safeguard against incorrect operation in the tilt position (Tilt&Turn version only)
 - Variable tilt distance restriction (80 – 140 mm, Tilt&Turn version only)
 - Turn restriction
- Fully concealed stay bearing and pivot rest in the sash rebate.
- 3D adjustment in the stay arm / corner hinge / pivot rest.
- Lasting and reliable load relief on the pivot rest.
- Form-fitting "Clip&Fit" connection.
- With burglar inhibiting anti-jemmy device in the tilt striker as standard.
- Low-maintenance thanks to grease deposit recesses.
- Tested in accordance with EN 13126-8 and EN 1191 and certified in accordance with QM 328.
- High-quality Roto Sil surface (matt silver) for maximum corrosion resistance (DIN EN 13126 / 8 and free from chromium VI compounds).

In combination with Roto Sil, Roto Sil Level 6 is an advanced standard for connection components subject to high stress, such as rivets, bolts and sliding elements.

- Ten-year warranty for the functionality of the hardware.

3.2 General information

Hardware functional safety

The following points must be noted in order to ensure the functional safety of the hardware at all times:

1. Correct installation of hardware components in accordance with the installation instructions.
2. Correct installation of elements during window installation.
3. The window manufacturer must pass the maintenance and operation instructions and the product liability guidelines (if applicable) on to the user.
4. The hardware as a whole may only consist of original Roto system components. The use of components from other manufacturers excludes any liability.

Product liability regulations

Electrogalvanised and passivated steel fenestration screws are to be used to fasten the hardware components.

The window manufacturer must ensure that the hardware components are adequately secured; the screw manufacturer must be involved if required.

When attaching security-relevant, load-bearing hardware components such as stay bearings and pivot rests, the pulling forces vertical to the sash plane must be achieved in accordance with the following table (tractive force values depending on the sash weights from the TBDK).

Sash weight	Tractive force in newtons (N)
60 kg	1650 N
70 kg	1900 N
80 kg	2200 N
90 kg	2450 N
100 kg	2700 N
110 kg	3000 N
120 kg	3250 N



Sash weight	Tractive force in newtons (N)
130 kg	3500 N
140 kg	3900 N
150 kg	4200 N

The stated values refer to the stay bearing. They also apply to the pivot rest if it is attached in the same way as the stay bearing.



INFO

Observe directive TBDK for tractive force values as a function of the sash weights.

Further information can be found at www.beschlagindustrie.de.

Do not use any acid cross-linked sealing compounds that could lead to corrosion of the hardware components. The spacer block guidelines for glazing methods must be complied with.

Product liability – liability exclusion

The hardware manufacturer is not liable for malfunctions or damage to the hardware, or to windows and balcony doors equipped with the hardware, if this has been caused by insufficient invitation to tender or failure to comply with the installation specifications and application diagrams, or if the hardware has been subjected to increased levels of dirt.

The warranty only covers original Roto components.

Profile classification – application ranges

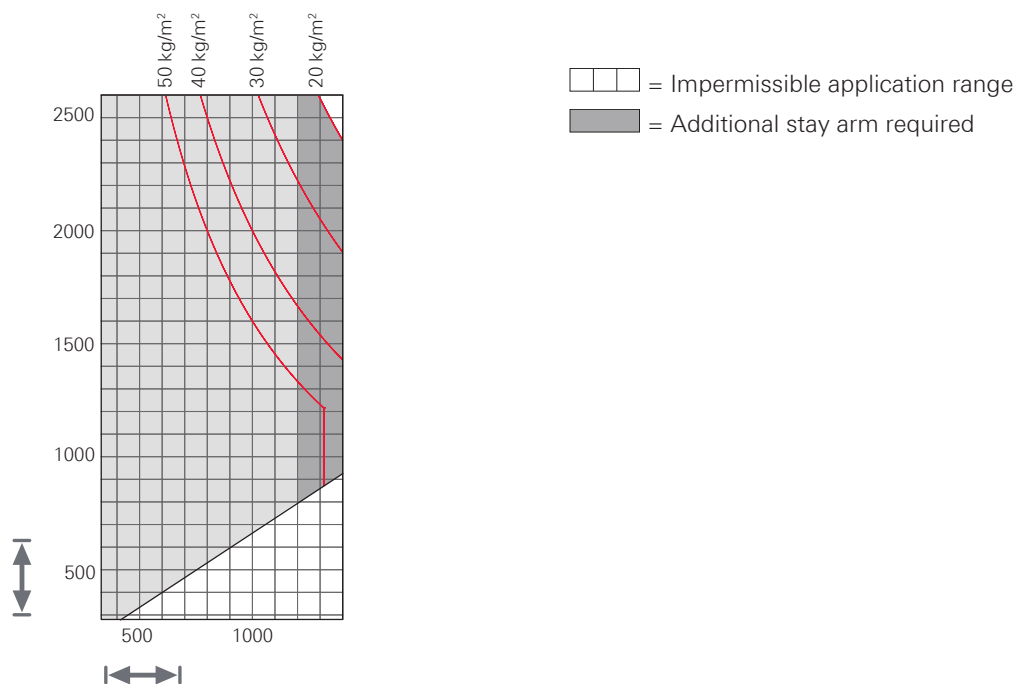
The individual application diagrams must be complied with.

When determining the maximum permitted sash formats and sash weights, the values specified by the profile manufacturers and system owners must not be exceeded either.

3.3 Application diagrams

3.3.1 Turn-Only / Tilt&Turn hardware for rectangular windows

3.3.1.1 80 kg



Application range

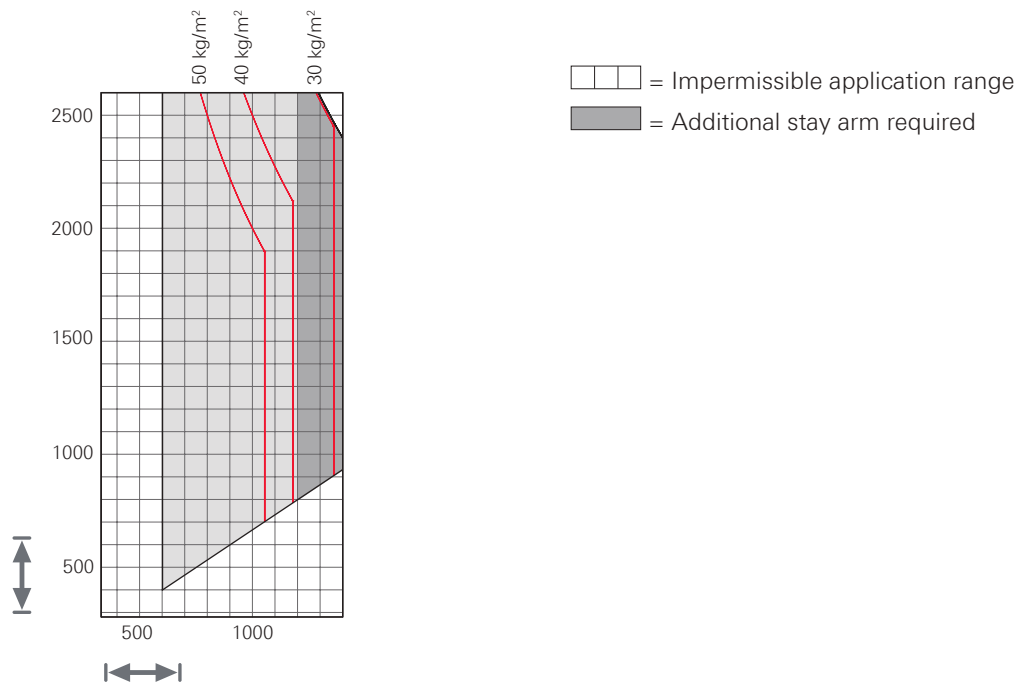
		Basic security	Security RC 1 N	Security RC 2 / RC 2 N
	Sash rebate width	330 – 1400 mm	450 – 1400	450 – 1400
	Sash rebate height	280 – 2600 mm	280 – 2600	490 – 2400
	Sash weight	Max. 80 kg	Max. 80 kg	Max. 80 kg

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

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



3.3.1.2 100 kg



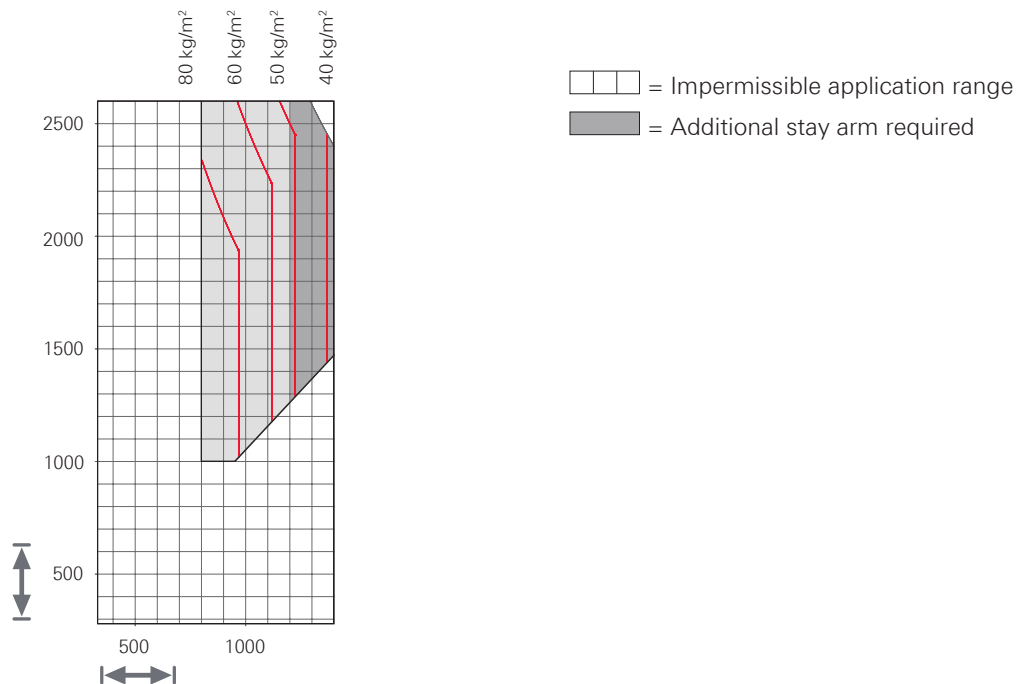
Application range

		Basic security	Security RC 1 N	Security RC 2 / RC 2 N
	Sash rebate width	600 – 1400 mm	450 – 1400	450 – 1400
	Sash rebate height	400 – 2600 mm	280 – 2600	490 – 2400
	Sash weight	Max. 100 kg	Max. 100 kg	Max. 100 kg

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

1 mm/m² glass thickness ≅ 2.5 kg

3.3.1.3 Load transfer from 80 to 150 kg



Application range

		Basic security	Security RC 1 N	Security RC 2 / RC 2 N
	Sash rebate width	800 – 1400 mm	800 – 1400	800 – 1400
	Sash rebate height	1000 – 2600 mm	1000 – 2600	1000 – 2400
	Sash weight	Max. 80 – 150 kg	Max. 80 – 150 kg	Max. 80 – 150 kg

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

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

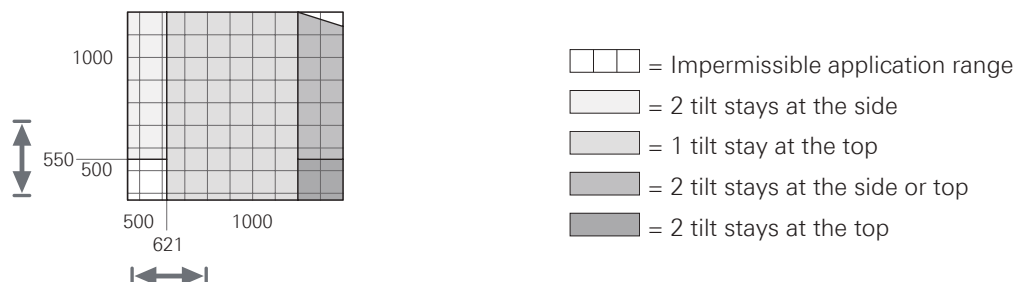


INFO

If the sash weight is > 130 kg, set the stay arm's tilt distance restrictor to 80 mm.



3.3.2 Tilt-Only hardware for rectangular windows



Application range

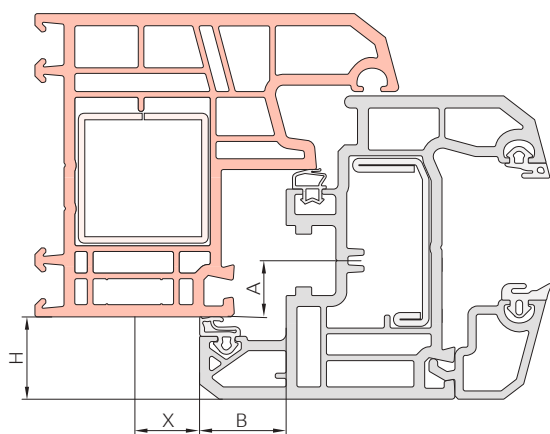
Basic security		
	Sash rebate width	450 – 1400 mm
	Sash rebate height	370 – 1200 mm
	Sash weight	Max. 80 kg

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

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

3.4 Frame clearances

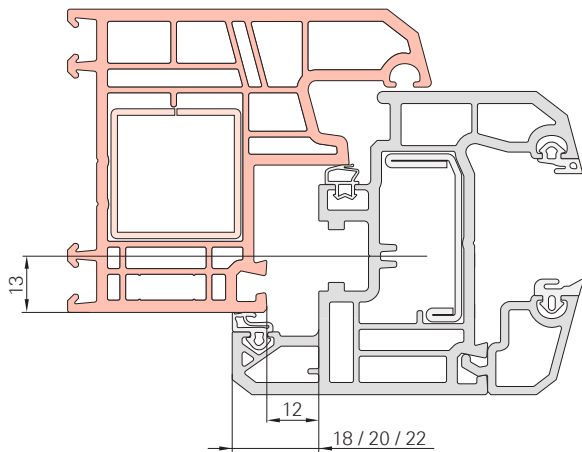
3.4.1 Frame clearances with a 90° opening angle



Axis dimension [A]	Overlap height [H]	Overlap width [B]	Frame clearance [X]
13	16	18	5.2
	20	18	7.6
	24	18	10.6
	16	20	4.9
	20	20	7.2
	24	20	9.9
	16	22	4.7
	20	22	6.8
	24	22	9.3

3.4.2 Dimensions

System 12/18 (20/22)-13



Rebate clearance at the bottom / top, horizontal: 11 - 14 mm

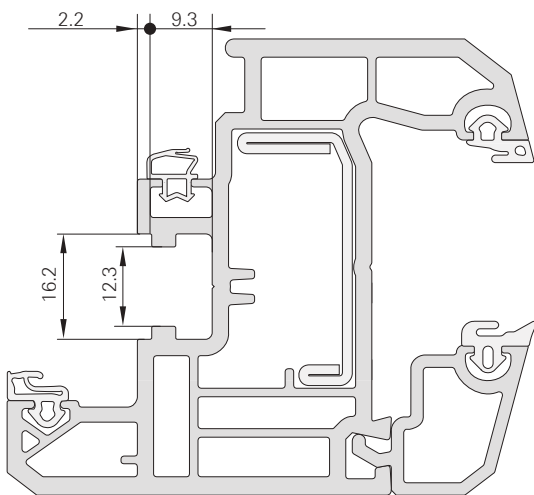
Rebate clearance at the side: 10 - 14 mm



INFO

Horizontal rebate clearance at the bottom, preset to 12 mm.

Sash profile cross section





3.5 Fastening suggestion for security windows

- [1] Brickwork
- [2] Spacer blocks
- [3] Frame



INFO

Attach spacer blocks in the vicinity of the screw fixings for the security strikers.

Burglar inhibiting windows in accordance with DIN EN 1627–1630 may only be designated as such if installation is performed in accordance with the specified standard in all points.

4 Hardware overviews

The hardware overviews on the following pages are a recommendation on the part of Roto Frank Fenster- und Türtechnologie GmbH.

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 class
- the profile system



INFO

Security classes

- The RC 1 N, RC 2, RC 2 N and RC 3 security classes refer to the entire system.
- The hardware combinations shown in the hardware overviews are recommendations.
- The hardware complies with the corresponding security classes in the required system tests.
- However, the security classes 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 locking components must generally be used in systems with a 9 mm hardware axis.

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

Recommended handles can be found in the handles catalogue.

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



INFO

Roto Con Orders

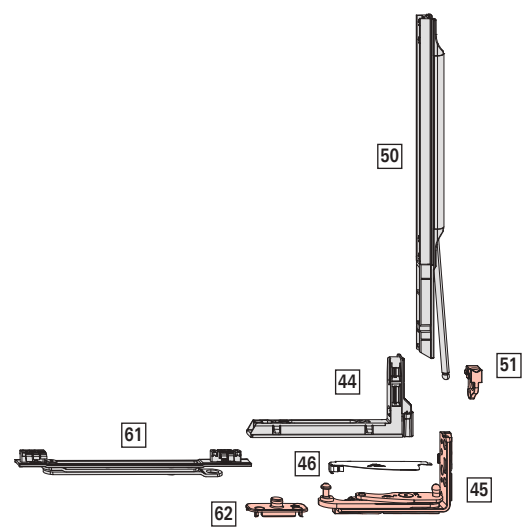
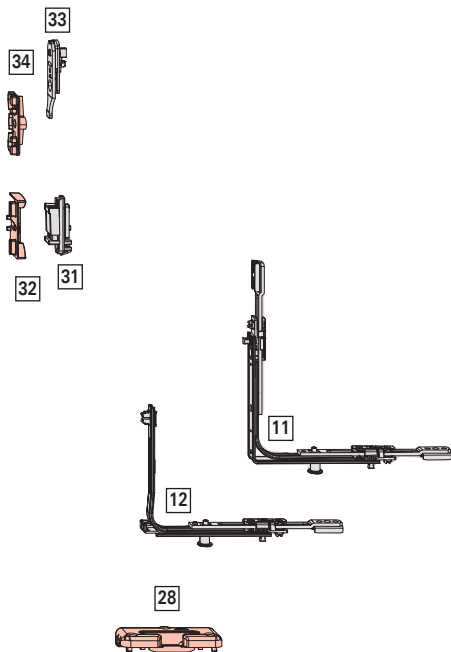
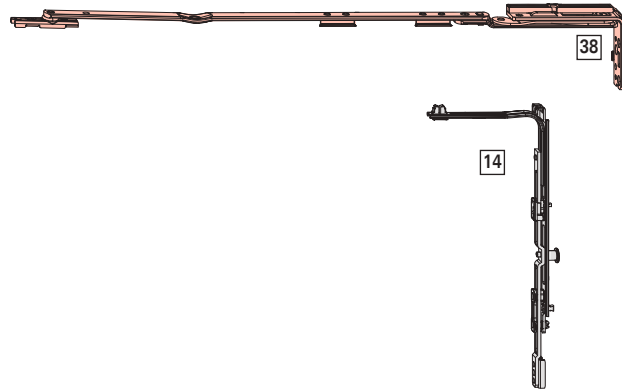
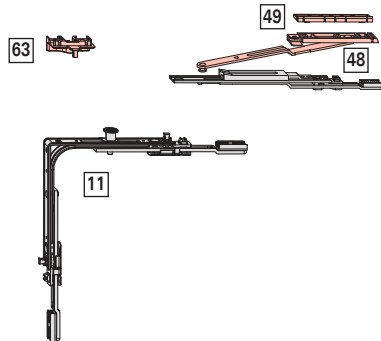
Efficient online hardware configurator for the custom configuration of individual window and door hardware components. All conventional shapes and opening types can be automatically configured quickly and easily. Individual parts lists, including application ranges and an exemplary hardware overview,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

www.roto-frank.com



4.1 Tilt&Turn hardware

4.1.1 Basic security



[19] Multipart centre lock – standard, horizontal

				Nº
400	N	1	E	255280
600	N	1	E	255281
200	N	1	P	255284

Size-specific combinations:

					Nº
Without turn restrictor	With turn restrictor				
–	801 – 850	200	1	P	255284
801 – 1200	851 – 1200	400	1	E	255280
1201 – 1400	1201 – 1400	600	1	E	255281

[23] Striker → from page 110

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

	Nº
Bullet catch sash component	788363

[32] Bullet catch (optional SRH ≥ 1601 mm) → from page 119

[33] Lifting mishandling device sash component

	Nº
Sash component for lifting mishandling device	795927

[34] Lifting mishandling device frame component → from page 120

[36] Stay guide – basic security

			 [#]		Nº
330 – 600	250	490	–	–	385393
601 – 800	350	690	–	–	385394
801 – 1000	500	890	1	E	385415
1001 – 1200	500	1090	1	E	385416

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

	Nº
NT Designo corner hinge (HA 13)	634705

[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

		Nº
Frame and sash component	200	255237

[49] Packer → from page 117

[50] Load transfer sash component

	Nº
max. 150 kg	567972

[51] Load transfer frame component

	Nº
max. 150 kg	565254

[54] Handle → CTL_1

[61] Turn restrictor 198, sash component

	Nº
Roto NT Designo	485591



INFO

Turn restrictor possible from SRW 525 mm, mandatory for SRW > 1000 mm and when load transfer is used.

[62] Turn restrictor frame component → from page 122

Optional

[46] Pivot rest cover

			Nº
NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



INFO

Horizontal rebate clearance at the bottom 11.5 - 14 mm.

[63] Night vent

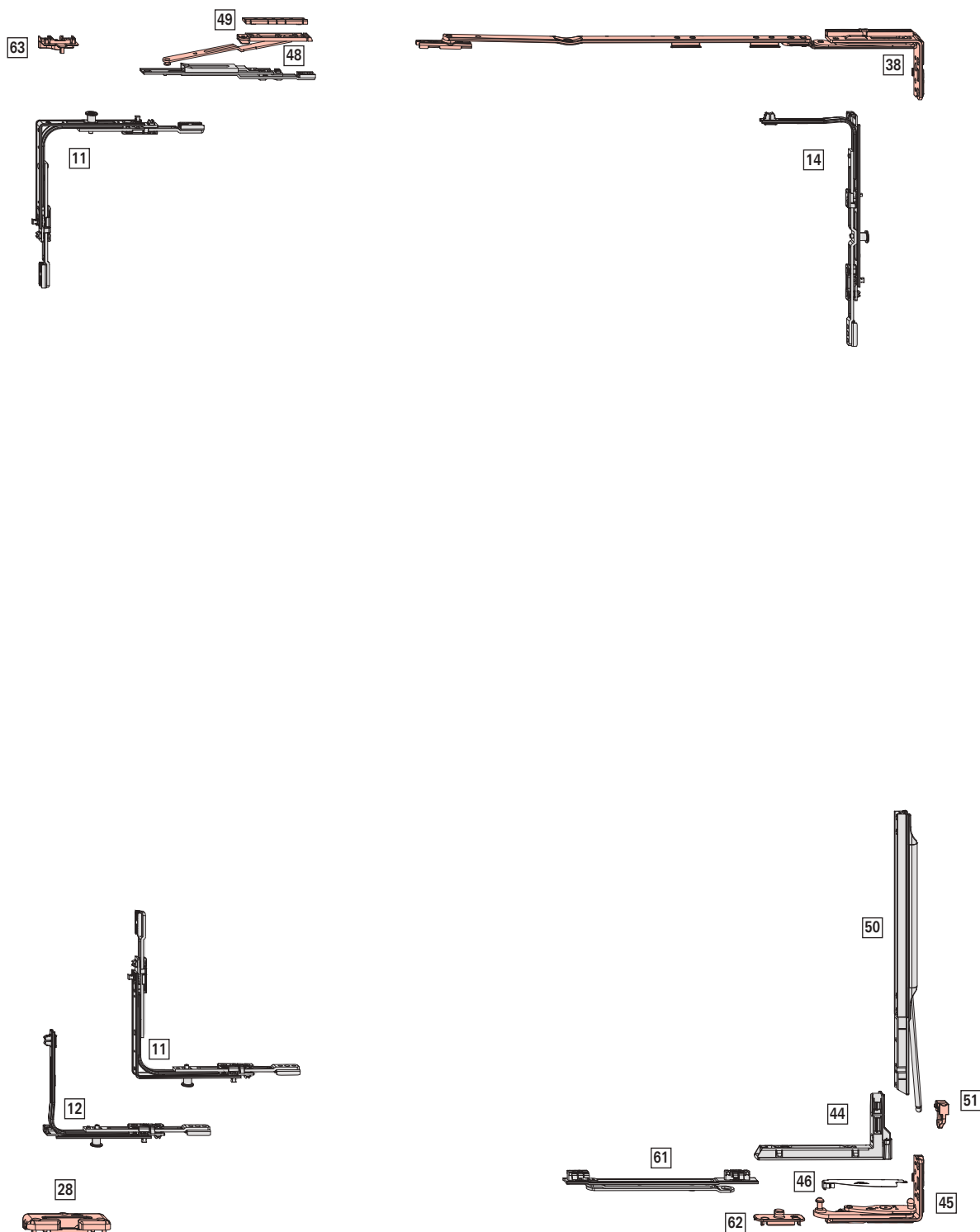
Arrestable brake stay sash component → CTL

Arrestable brake stay frame component → CTL

Sash lifter → CTL



4.1.2 RC 1 N





Application range

Without load transfer

Sash rebate width **SRW**: 450 - 1400 mm

Sash rebate height **SRH**: 280 - 2600 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2600 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

								Nº
280 – 570	120	460	Y	N	–	–	–	742199
511 – 710	170	600	N	Y	–	–	–	795327
601 – 800	263	690	N	Y	1	E	–	259833
801 – 1000	413	890	N	Y	1	E	–	259836
1001 – 1200	513	1090	N	Y	1	E	–	259838
1201 – 1400	563	1290	N	Y	1	E	–	259840
1401 – 1600	563	1490	N	Y	2	E	–	259843
1601 – 1800	563	1690	N	Y	2	E	–	259846
1601 – 1800	1000	1690	N	Y	2	E	–	794035
1801 – 2000	1000	1890	N	Y	2	E	–	794036
2001 – 2200	1000	2090	N	Y	3	E	–	794038
2201 – 2400	1000	2290	N	Y	3	E	–	794040



INFO

At an SRH of 280 - 290 mm, the screw guide must be removed (e.g. using pliers).

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

							Nº
310 – 620	155 - 225	430	N	–	–	–	259717
621 – 800	311 - 400	580	Y	1	E	–	259719
801 – 1200	401 - 600	980	Y	1	E	–	259720
1201 – 1600	601 - 800	1380	Y	2	E	–	259721
1601 – 2000	801 - 1000	1780	Y	2	E	–	795389
2001 – 2400	1001 - 1200	2180	Y	4	E	–	795392

[6] Espagnolette extension, (SRH ≥ 2401 mm)

				Nº
200	Y	1	E	450821

[11] Standard corner drive

		Nº
1	P	260277

[12] Tilt&Turn corner drive

		Nº
1	P	260290

[13] Special short corner drive

		Nº
1	P	260282

For use with:

SRW < 430 mm

Fixed handle height: SRH < 370 mm

Centred / variable handle height: SRH < 450 mm

[14] Sash stay corner drive

		Nº
1	P	260286



INFO

With SRH 280 - 330 mm, the connecting rod must be cropped (extend the connecting rod fully to do so).

[18] Multipart centre lock – standard, vertical

				Nº
400	N	1	E	255280
600	N	1	E	255281
600	Y	1	E	255282
200	N	1	P	255284

Size-specific combinations:

				Nº
Without load transfer	With load transfer			
801 – 1200	1001 – 1200	400	1	E 255280
1201 – 1400	1201 – 1400	600	1	E 255281
	1401 – 1600	600 KU	1	E 255282
		200	1	P 255284
1401 – 1800	1601 – 1800	600 KU	1	E 255282
		400	1	E 255280
1801 – 2000	1801 – 2000	600 KU	1	E 255282
		600	1	E 255281
	2001 – 2200	600 KU	1	E 255282
		600 KU	1	E 255282
		200	1	P 255284
2001 – 2400	2201 – 2400	600 KU	1	E 255282
		600 KU	1	E 255282
		400	1	E 255280
2401 – 2600	2401 – 2600	600 KU	1	E 255282
		600 KU	1	E 255282
		600	1	E 255281

[19] Multipart centre lock – standard, horizontal

					Nº
400	N	1	E		255280
600	N	1	E		255281
600	Y	1	E		255282
200	N	1	P		255284

Size-specific combinations:

Without turn restrictor	With turn restrictor				Nº
450 – 650	801 – 850	200	1	P	255284
651 – 850	851 – 1050	400	1	E	255280
851 – 1000	1051 – 1250	600	1	E	255281
	1251 – 1400	600 KU	1	E	255282
		200	1	P	255284

[23] Striker → from page 110

[24] Security striker → from page 112

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

	Nº
Bullet catch sash component	788363

[32] Bullet catch (optional SRH ≥ 1601 mm) → from page 119

[33] Lifting mishandling device sash component

	Nº
Sash component for lifting mishandling device	795927

[34] Lifting mishandling device frame component → from page 120

[36] Stay guide – basic security

				Nº
330 – 600	250	490	–	385393
601 – 800	350	690	–	385394
801 – 1000	500	890	1	385415
1001 – 1200	500	1090	1	385416

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

	Nº
NT Designo corner hinge (HA 13)	634705

[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

	Nº
Frame and sash component	200 255237

[49] Packer → from page 117

[50] Load transfer sash component

	Nº
max. 150 kg	567972

[51] Load transfer frame component

	Nº
max. 150 kg	565254

[53] Drilling protection

	Nº
Drilling protection	797819

[54] Handle, lockable → CTL_1

[61] Turn restrictor 198, sash component

	Nº
Roto NT Designo	485591



INFO

Turn restrictor possible from SRW 650 mm, mandatory for SRW > 1000 mm and when load transfer is used.

[62] Turn restrictor frame component → from page 122

Optional

[46] Pivot rest cover

	Nº
NT Designo pivot rest cover	Clampable Left 799664
NT Designo pivot rest cover	Clampable Right 799789



INFO

Horizontal rebate clearance at the bottom 11.5 - 14 mm.

[63] Night vent

Arrestable brake stay sash component → CTL

Arrestable brake stay frame component → CTL

Sash lifter → CTL



4.1.3 RC 2 / RC 2 N





Application range

Without load transfer

Sash rebate width **SRW**: 450 - 1400 mm

Sash rebate height **SRH**: 490 - 2400 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2400 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

			#		Nº
511 – 710	170	600	–	–	795327
600 – 800	263	690	1	V	259832
801 – 1000	413	890	2	V	259835
1001 – 1200	513	1090	2	V	259837
1201 – 1400	563	1290	2	V	259839
1401 – 1600	563	1490	3	V	259841
1601 – 1800	563	1690	3	V	259844
1601 – 1800	1000	1690	3	V	794041
1801 – 2000	1000	1890	3	V	794042
2001 – 2200	1000	2090	4	V	794043
2201 – 2400	1000	2290	4	V	794044

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

				#		Nº
310 – 620	155 - 225	430	N	–	–	259717
621 – 800	311 - 400	580	Y	1	V	355743
801 – 1200	401 - 600	980	Y	1	V	355744
1201 – 1600	601 - 800	1380	Y	2	V	355745
1601 – 2000	801 - 1000	1780	Y	2	V	795390
2001 – 2400	1001 - 1200	2180	Y	4	V	795393

For use from: SRH ≥ 490 mm

[11] Standard corner drive

#		Nº
1	V	260272

[12] Tilt&Turn corner drive

#		Nº
1	V	260288

[14] Sash stay corner drive

#		Nº
1	V	260284

[15] Standard corner drive (RC3)

#		Nº
2	V	260274

For use with:

Centred / variable handle height: 490 - 620 mm

[18] Multipart centre lock – security, vertical

		#		Nº
200	N	1	V	296853
400	N	1	V	296854
600	N	1	V	296855
600	Y	1	V	337711

Size-specific combinations:

					Nº
Without load transfer	With load transfer				
490 – 650	–	200	1	V	296853
651 – 850	1000 – 1150	400	1	V	296854
851 – 1050	1151 – 1350	600	1	V	296855
1051 – 1250	1351 – 1550	600 KU	1	V	337711
		200	1	V	296853
1251 – 1450	1551 – 1750	600 KU	1	V	337711
		400	1	V	296854
1451 – 1650	1751 – 1950	600 KU	1	V	337711
		600	1	V	296855
1651 – 1850	1951 – 2150	600 KU	1	V	337711
		600 KU	1	V	337711
		200	1	V	296853
1851 – 2050	2151 – 2350	600 KU	1	V	337711
		600 KU	1	V	337711
		400	1	V	296854
2051 – 2250	2351 – 2400	600 KU	1	V	337711
		600 KU	1	V	337711
		600	1	V	296855
2251 – 2400	–	600 KU	1	V	337711
		600 KU	1	V	337711
		600 KU	1	V	337711
		200	1	V	296853

[19] Multipart centre lock – security, horizontal

		#		Nº
200	N	1	V	296853
400	N	1	V	296854
600	N	1	V	296855
600	Y	1	V	337711

Size-specific combinations:

					Nº
Without turn restrictor	With turn restrictor				
450 – 650	801 – 850	200	1	V	296853
651 – 850	851 – 1050	400	1	V	296854
851 – 1000	1051 – 1250	600	1	V	296855
	1251 – 1400	600 KU	1	V	337711
		200	1	V	296853

[24] Security striker → from page 112

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

Nº

Bullet catch sash component	788363
-----------------------------	--------

[32] Bullet catch (optional SRH ≥ 1601 mm) → from page 119

[33] Lifting mishandling device sash component

Nº

Sash component for lifting mishandling device	795927
---	--------

[34] Lifting mishandling device frame component → from page 120

[36] Stay guide – security

					Nº
330 – 600	490	250	–	–	385393
601 – 800	690	350	–	–	385394
801 – 1000	890	500	1	V	450373
1001 – 1200	1090	500	1	V	450374

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

Nº

NT Designo corner hinge (HA 13)	634705
---------------------------------	--------

[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

Nº

Frame and sash component	200	255237
--------------------------	-----	--------

[49] Packer → from page 117

[50] Load transfer sash component

Nº

max. 150 kg	567972
-------------	--------

[51] Load transfer frame component

Nº

max. 150 kg	565254
-------------	--------

[53] Drilling protection

Nº

Drilling protection	797819
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[54] Handle, lockable → CTL_1

[61] Turn restrictor 198, sash component

Nº

Roto NT Designo	485591
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INFO

Turn restrictor possible from SRW 650 mm, mandatory for SRW > 1000 mm and when load transfer is used.

[62] Turn restrictor frame component → from page 122

[82] Anti-jemmy device

Nº

Anti-jemmy device	811715
-------------------	--------

Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



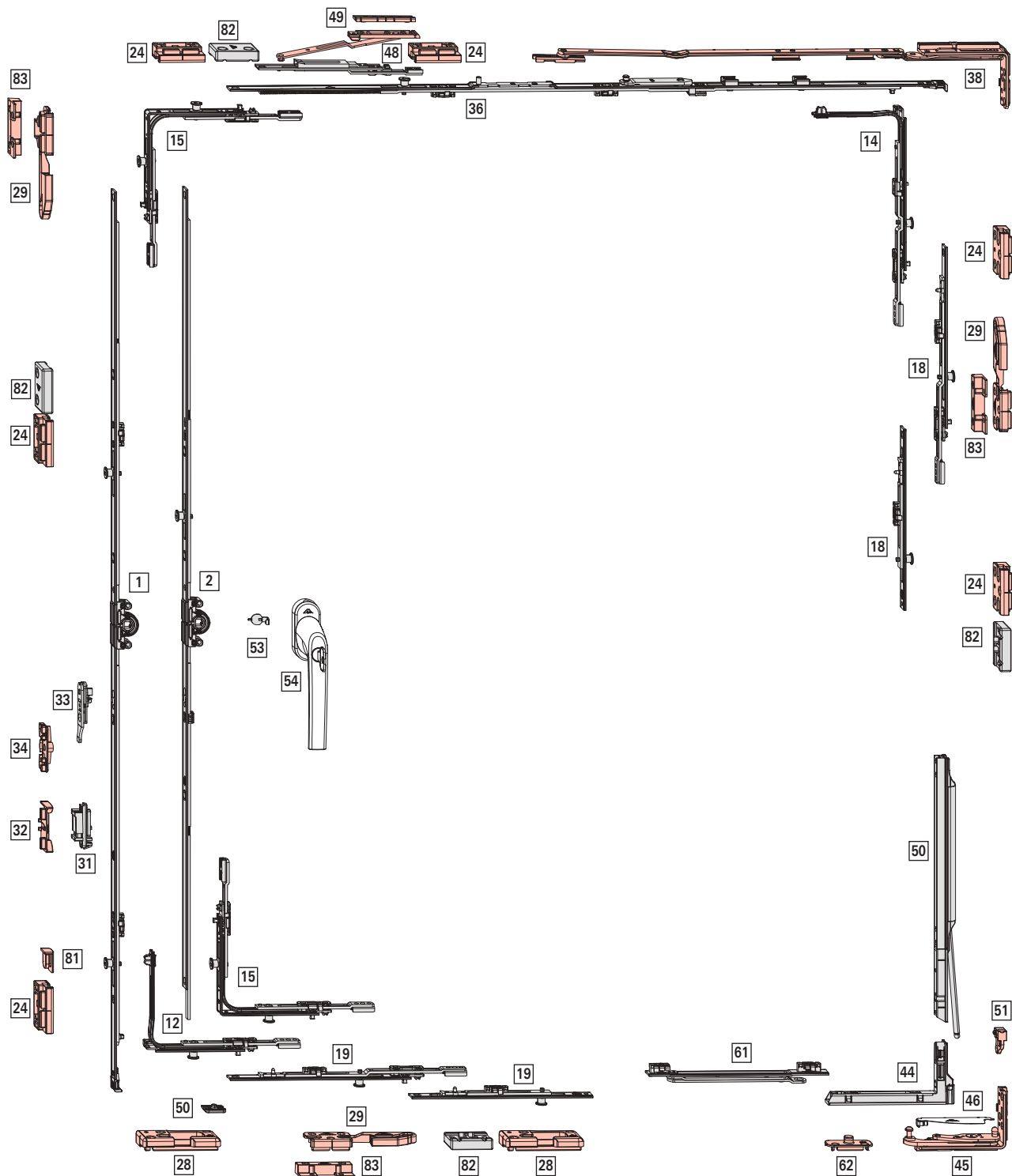
INFO

Horizontal rebate clearance at the bottom 11.5 - 14 mm.

[63] Night vent



4.1.4 TiltSafe RC 2 / RC 2 N





Application range

Without load transfer

Sash rebate width **SRW**: 450 - 1400 mm

Sash rebate height **SRH**: 490 - 2400 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2400 mm

Sash weight **S.kg**: max. 150 kg



INFO

Only for hardware axis 13 and rebate depth 30 mm.

[1] T&T espagnolette – fixed handle height, backset 15 mm

					Nº
511 – 710	170	600	–	–	795327
600 – 800	263	690	1	V	259832
801 – 1000	413	890	2	V	259835
1001 – 1200	513	1090	2	V	259837
1201 – 1400	563	1290	2	V	259839
1401 – 1600	563	1490	3	V	259841
1601 – 1800	563	1690	3	V	259844
1601 – 1800	1000	1690	3	V	794041
1801 – 2000	1000	1890	3	V	794042
2001 – 2200	1000	2090	4	V	794043
2201 – 2400	1000	2290	4	V	794044

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

						Nº
310 – 620	155 - 225	430	N	–	–	259717
621 – 800	311 - 400	580	Y	1	V	355743
801 – 1200	401 - 600	980	Y	1	V	355744
1201 – 1600	601 - 800	1380	Y	2	V	355745
1601 – 2000	801 - 1000	1780	Y	2	V	795390
2001 – 2400	1001 - 1200	2180	Y	4	V	795393

For use from: SRH ≥ 490 mm

[12] Tilt&Turn corner drive

		Nº
1	V	260288

[14] Sash stay corner drive

		Nº
1	V	260284

[15] Standard corner drive (RC3)

		Nº
2	V	260274

For use with:

Centred / variable handle height: 490 - 620 mm

[18] Multipart centre lock – security, vertical

				Nº
200	N	1	V	296853
200	Y	1	V	337708
400	N	1	V	296854
400	Y	1	V	337710
600	N	1	V	296855
600	Y	1	V	337711

Size-specific combinations:

					Nº
Without load transfer	With load transfer				
490 – 650	–	200	1	V	296853
651 – 850	1000 – 1150	200 KU	1	V	337708
		200	1	V	296853
851 – 1050	1151 – 1350	200 KU	1	V	337708
		400	1	V	296854
1051 – 1250	1351 – 1550	200 KU	1	V	337708
		600	1	V	296855
1251 – 1450	1551 – 1750	200 KU	1	V	337708
		600 KU	1	V	337711
		200	1	V	296853
1451 – 1650	1751 – 1950	200 KU	1	V	337708
		600 KU	1	V	337711
		400	1	V	296854
1651 – 1850	1951 – 2150	200 KU	1	V	337708
		600 KU	1	V	337711
		600	1	V	296855
1851 – 2050	2151 – 2350	200 KU	1	V	337708
		600 KU	1	V	337711
		600 KU	1	V	337711
		200	1	V	296853
2051 – 2250	2351 – 2400	200 KU	1	V	337708
		600 KU	1	V	337711
		600 KU	1	V	337711
		400	1	V	296854
2251 – 2400	–	200 KU	1	V	337708
		600 KU	1	V	337711
		600 KU	1	V	337711
		600	1	V	296855

[19] Multipart centre lock – security, horizontal

				Nº
200	N	1	V	296853
400	N	1	V	296854
600	N	1	V	296855
600	Y	1	V	337711

Size-specific combinations:

Without turn restrictor	With turn restrictor				Nº
450 – 650	801 – 850	200	1	V	296853
651 – 850	851 – 1050	400	1	V	296854
851 – 1000	1051 – 1250	600	1	V	296855
	1251 – 1400	600 KU	1	V	337711
		200	1	V	296853

[24] Security striker → from page 112

[28] Tilt striker → from page 104

[29] Security striker for tilt ventilation → from page 116

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

Nº

Bullet catch sash component 788363

[32] Bullet catch (optional SRH ≥ 1601 mm) → from page 119

[33] Lifting mishandling device sash component

Nº

Sash component for lifting mishandling device 795927

[34] Lifting mishandling device frame component → from page 120

[36] Stay guide – security

				Nº
330 – 600	490	250	–	385393
601 – 800	690	350	–	385394
801 – 1000	890	500	1	450373
1001 – 1200	1090	500	1	450374

For use from: SRW ≥ 450 mm.

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

Nº

NT Designo corner hinge (HA 13) 634705

[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

Nº

Frame and sash component 200 255237

[49] Packer → from page 117

[50] Load transfer sash component

Nº

max. 150 kg 567972

[51] Load transfer frame component

Nº

max. 150 kg 565254

[53] Drilling protection

Nº

Drilling protection 797819

[54] Handle, lockable → CTL_1

[61] Turn restrictor 198, sash component

Nº

Roto NT Designo 485591



INFO

Turn restrictor possible from SRW 650 mm, mandatory for SRW > 1000 mm and when load transfer is used.

[62] Turn restrictor frame component → from page 122

[81] Run-up block

Nº

Rebate run-up block Frame Insertable 609211

[82] Anti-jemmy device

Nº

Anti-jemmy device 811715

Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover Clampable Left 799664
NT Designo pivot rest cover Clampable Right 799789



INFO

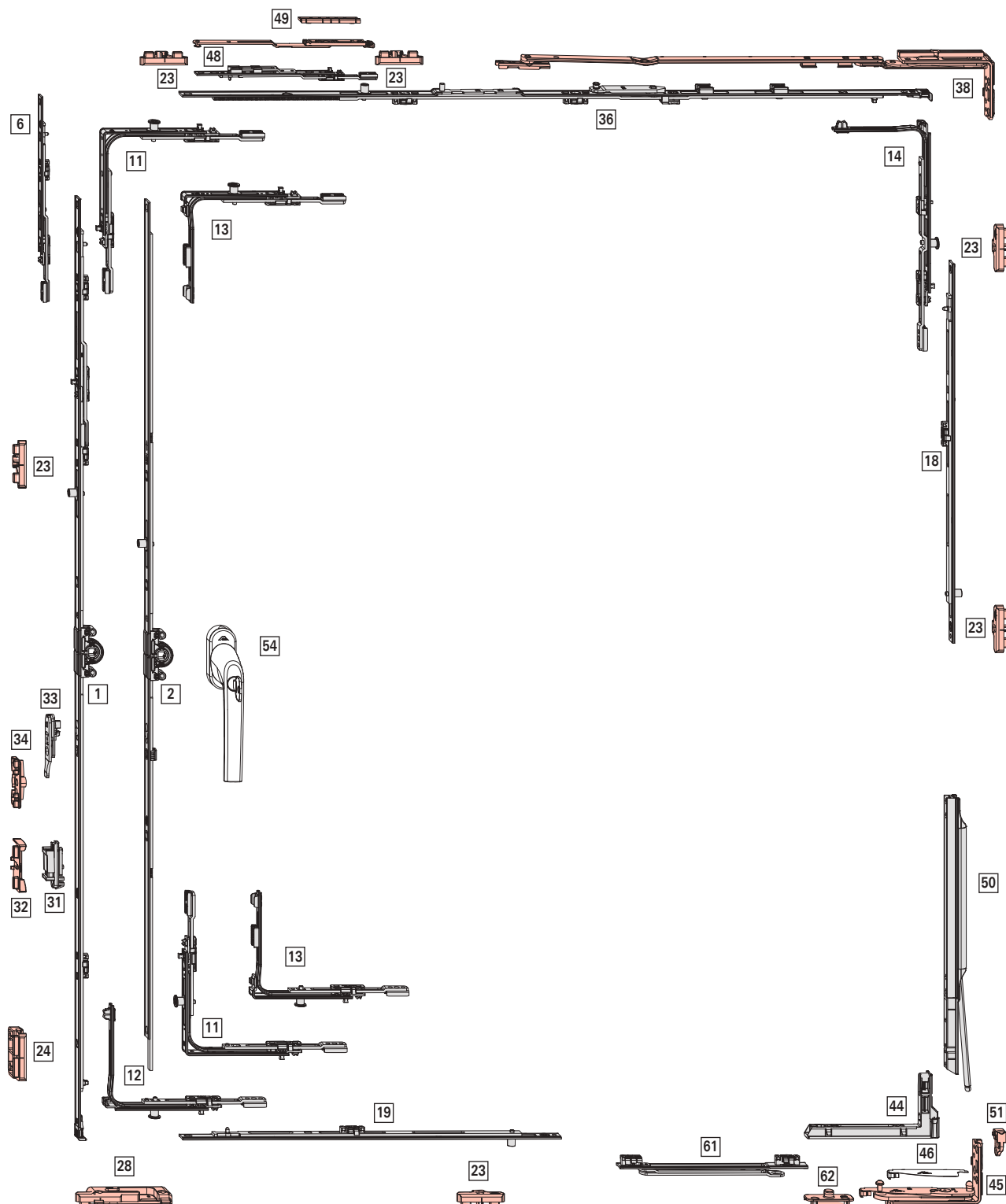
Horizontal rebate clearance at the bottom 11.5 - 14 mm.

[83] TiltSafe protective support → from page 116



4.2 TiltFirst hardware

4.2.1 Basic security





Application range

Without load transfer

Sash rebate width **SRW**: 330 - 1400 mm

Sash rebate height **SRH**: 280 - 2600 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2600 mm

Sash weight **S.kg**: max. 150 kg



INFO

SRW 330 - 430 mm from SRH 361 mm

SRH 280 - 370 mm from SRW 431 mm

[1] T&T espagnolette – fixed handle height, backset 15 mm

								Nº
280 – 570	120	460	Y	N	–	–		742199
511 – 710	170	600	N	Y	–	–		795327
601 – 800	263	690	N	Y	1	E		259833
801 – 1000	413	890	N	Y	1	E		259836
1001 – 1200	513	1090	N	Y	1	E		259838
1201 – 1400	563	1290	N	Y	1	E		259840
1401 – 1600	563	1490	N	Y	2	E		259843
1601 – 1800	563	1690	N	Y	2	E		259846
1601 – 1800	1000	1690	N	Y	2	E		794035
1801 – 2000	1000	1890	N	Y	2	E		794036
2001 – 2200	1000	2090	N	Y	3	E		794038
2201 – 2400	1000	2290	N	Y	3	E		794040



INFO

At an SRH of 280 - 290 mm, the screw guide must be removed (e.g. using pliers).

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

								Nº
310 – 620	155 - 225	430	N	–	–			259717
621 – 800	311 - 400	580	Y	1	E			259719
801 – 1200	401 - 600	980	Y	1	E			259720
1201 – 1600	601 - 800	1380	Y	2	E			259721
1601 – 2000	801 - 1000	1780	Y	2	E			795389
2001 – 2400	1001 - 1200	2180	Y	4	E			795392

[6] Espagnolette extension, (SRH ≥ 2401 mm)

								Nº
200	Y	–	–					308267

[11] Standard corner drive

								Nº
1		E						260275
1		P						260277

[12] Tilt&Turn corner drive

								Nº
1		P						260290

[13] Special short corner drive

								Nº
1		E						260280
1		P						260282

For use with:

SRW < 430 mm

Fixed handle height: SRH < 370 mm

Centred / variable handle height: SRH < 450 mm

[14] Sash stay corner drive

								Nº
1		P						260286



INFO

With SRH 280 - 330 mm, the connecting rod must be cropped (extend the connecting rod fully to do so).

[18] Multipart centre lock – standard, vertical

								Nº
400	N	1	E					255280
600	N	1	E					255281
600	Y	1	E					255282
200	N	1	P					255284

Size-specific combinations:

								Nº
								Nº
Without load transfer	With load transfer							
801 – 1200	1001 – 1200	400	1	E				255280
1201 – 1400	1201 – 1400	600	1	E				255281
	1401 – 1600	600 KU	1	E				255282
		200	1	P				255284
1401 – 1800	1601 – 1800	600 KU	1	E				255282
		400	1	E				255280
1801 – 2000	1801 – 2000	600 KU	1	E				255282
		600	1	E				255281
	2001 – 2200	600 KU	1	E				255282
		600 KU	1	E				255282
		200	1	P				255284
2001 – 2400	2201 – 2400	600 KU	1	E				255282
		600 KU	1	E				255282
		400	1	E				255280
2401 – 2600	2401 – 2600	600 KU	1	E				255282
		600 KU	1	E				255282
		600	1	E				255281

[19] Multipart centre lock – standard, horizontal

				Nº
400	N	1	E	255280
600	N	1	E	255281
200	N	1	P	255284

Size-specific combinations:

					Nº
Without turn restrictor	With turn restrictor				
–	801 – 850	200	1	P	255284
801 – 1200	851 – 1200	400	1	E	255280
1201 – 1400	1201 – 1400	600	1	E	255281

[23] Striker → from page 110

[28] Tilt striker TiltFirst → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

	Nº
Bullet catch sash component	788363

[32] Bullet catch (optional SRH ≥ 1601 mm) → from page 119

[33] Lifting mishandling device sash component

	Nº
Sash component for lifting mishandling device	795927

[34] Lifting mishandling device frame component → from page 120

[36] Stay guide – basic security

			 [#]		Nº
330 – 600	250	490	–	–	385393
601 – 800	350	690	–	–	385394
801 – 1000	500	890	1	E	385415
1001 – 1200	500	1090	1	E	385416

[38] Stay arm TiltFirst → from page 97



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

	Nº
NT Designo corner hinge (HA 13)	634705

[45] Pivot rest → from page 102

[48] Additional stay arm TiltFirst (SRW ≥ 1201 mm)

	Nº
Frame and sash component	292022

[49] Packer → from page 117

[50] Load transfer sash component

	Nº
max. 150 kg	567972

[51] Load transfer frame component

	Nº
max. 150 kg	565254

[54] Handle → CTL_1

[61] Turn restrictor 198, sash component

	Nº
Roto NT Designo	485591



INFO

Turn restrictor possible from SRW 525 mm, mandatory for SRW > 1000 mm and when load transfer is used.

[62] Turn restrictor frame component → from page 122

Optional

[46] Pivot rest cover

			Nº
NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



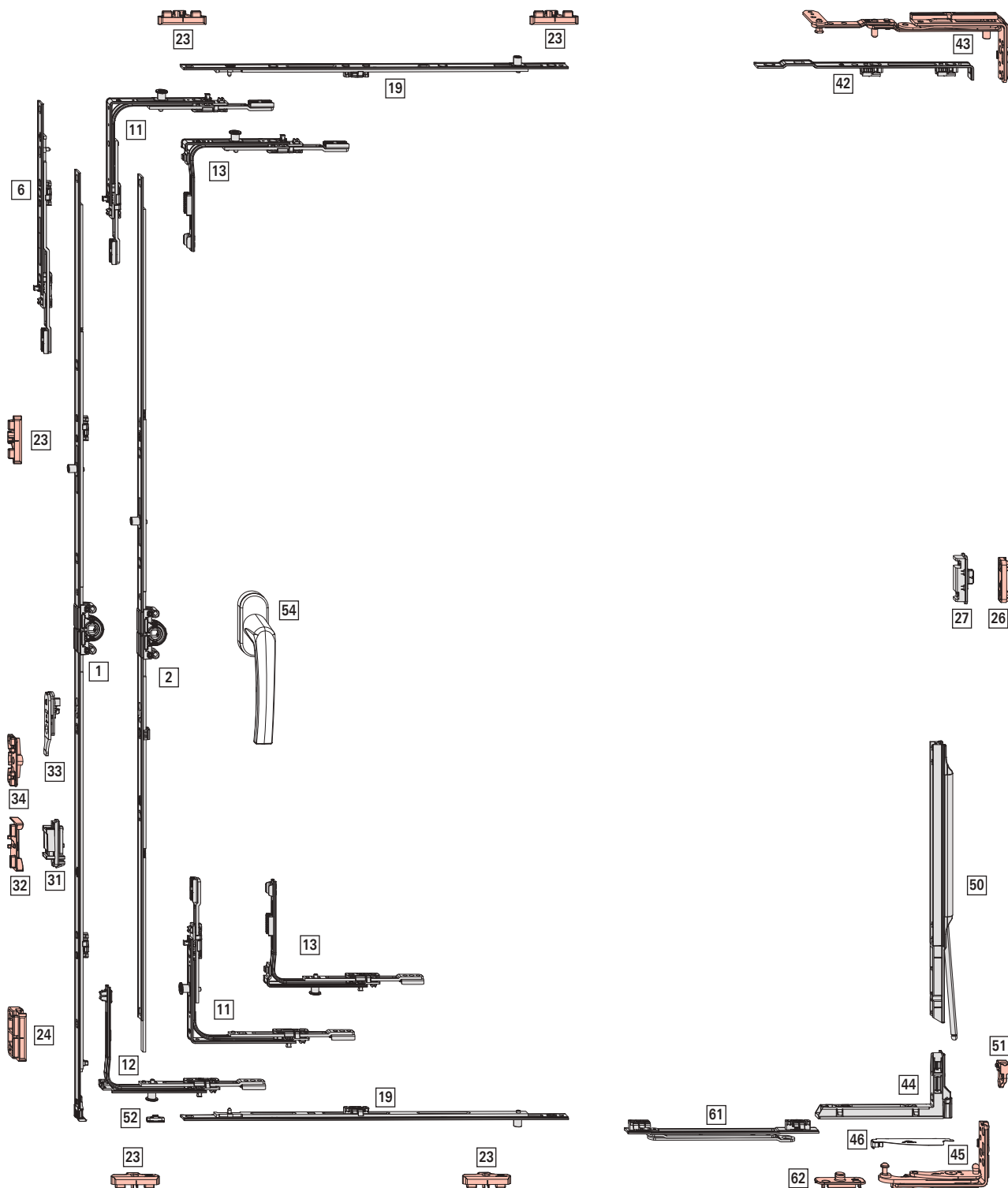
INFO

Horizontal rebate clearance at the bottom 11.5 - 14 mm.



4.3 Turn-Only hardware

4.3.1 Basic security





Application range

Without load transfer

Sash rebate width **SRW**: 370 - 1400 mm

Sash rebate height **SRH**: 280 - 2600 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2600 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

280 – 570	120	460	Y	N	–	–			Nº
511 – 710	170	600	N	Y	–	–			742199
601 – 800	263	690	N	Y	1	E			795327
801 – 1000	413	890	N	Y	1	E			259833
1001 – 1200	513	1090	N	Y	1	E			259836
1201 – 1400	563	1290	N	Y	1	E			259838
1401 – 1600	563	1490	N	Y	2	E			259840
1601 – 1800	563	1690	N	Y	2	E			259843
1601 – 1800	1000	1690	N	Y	2	E			259846
1801 – 2000	1000	1890	N	Y	2	E			794035
2001 – 2200	1000	2090	N	Y	3	E			794036
2201 – 2400	1000	2290	N	Y	3	E			794038
									794040



INFO

At an SRH of 280 - 290 mm, the screw guide must be removed (e.g. using pliers).

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

310 – 620	155 - 225	430	N	–	–				Nº
621 – 800	311 - 400	580	Y	1	E				259717
801 – 1200	401 - 600	980	Y	1	E				259719
1201 – 1600	601 - 800	1380	Y	2	E				259720
1601 – 2000	801 - 1000	1780	Y	2	E				259721
2001 – 2400	1001 - 1200	2180	Y	4	E				795389
									795392

[6] Espagnolette extension, (SRH ≥ 2401 mm)

200	Y	–	–						Nº
									308267

[11] Standard corner drive

1		E							Nº
									260275
1		P							Nº
									260277



INFO

With SRW 370 - 410 mm, crop the corner drive at the top.

[12] Tilt&Turn corner drive

1		P							Nº
									260290

[13] Special short corner drive

1		E							Nº
									260280
1		P							Nº
									260282



INFO

With SRW 370 - 410 mm, crop the corner drive at the top.

For use with:

SRW < 430 mm

Fixed handle height: SRH < 370 mm

Centred / variable handle height: SRH < 450 mm

[19] Multipart centre lock – standard, horizontal

400	N	1	E						Nº
									255280
600	N	1	E						Nº
									255281
200	N	1	P						Nº
									255284

Size-specific combinations:

Without turn restrictor	With turn restrictor								Nº
–	801 – 850	200	1	P					255284
801 – 1200	851 – 1200	400	1	E					255280
1201 – 1400	1201 – 1400	600	1	E					255281

[23] Striker → from page 110

[24] Security striker → from page 112

[26] Centre closer, concealed, frame component → CTL

[27] Centre closer, concealed, sash component → CTL

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

									Nº
Bullet catch sash component									788363

[32] Bullet catch (optional SRH ≥ 1601 mm) → from page 119

[33] Lifting mishandling device sash component

									Nº
Sash component for lifting mishandling device									795927

[34] Lifting mishandling device frame component → from page 120

[42] Rebate stay guide



Nº

Not for Tilt-Only windows	224 / 15	477255
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[43] Rebate stay arm → from page 100

[44] Corner hinge

Nº

NT Designo corner hinge (HA 13)	634705
---------------------------------	--------

[45] Pivot rest → from page 102

[50] Load transfer sash component

Nº

max. 150 kg	567972
-------------	--------

[51] Load transfer frame component

Nº

max. 150 kg	565254
-------------	--------

[52] 90° travel restrictor

Nº

T&T espagnolette limited to 90°	264603
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[54] Handle → CTL_1

[61] Turn restrictor 198, sash component

Nº

Roto NT Designo	485591
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INFO

Turn restrictor possible from SRW 525 mm, mandatory for SRW > 1000 mm and when load transfer is used.

[62] Turn restrictor frame component → from page 122

Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



INFO

Horizontal rebate clearance at the bottom 11.5 - 14 mm.

Arrestable brake stay sash component → CTL

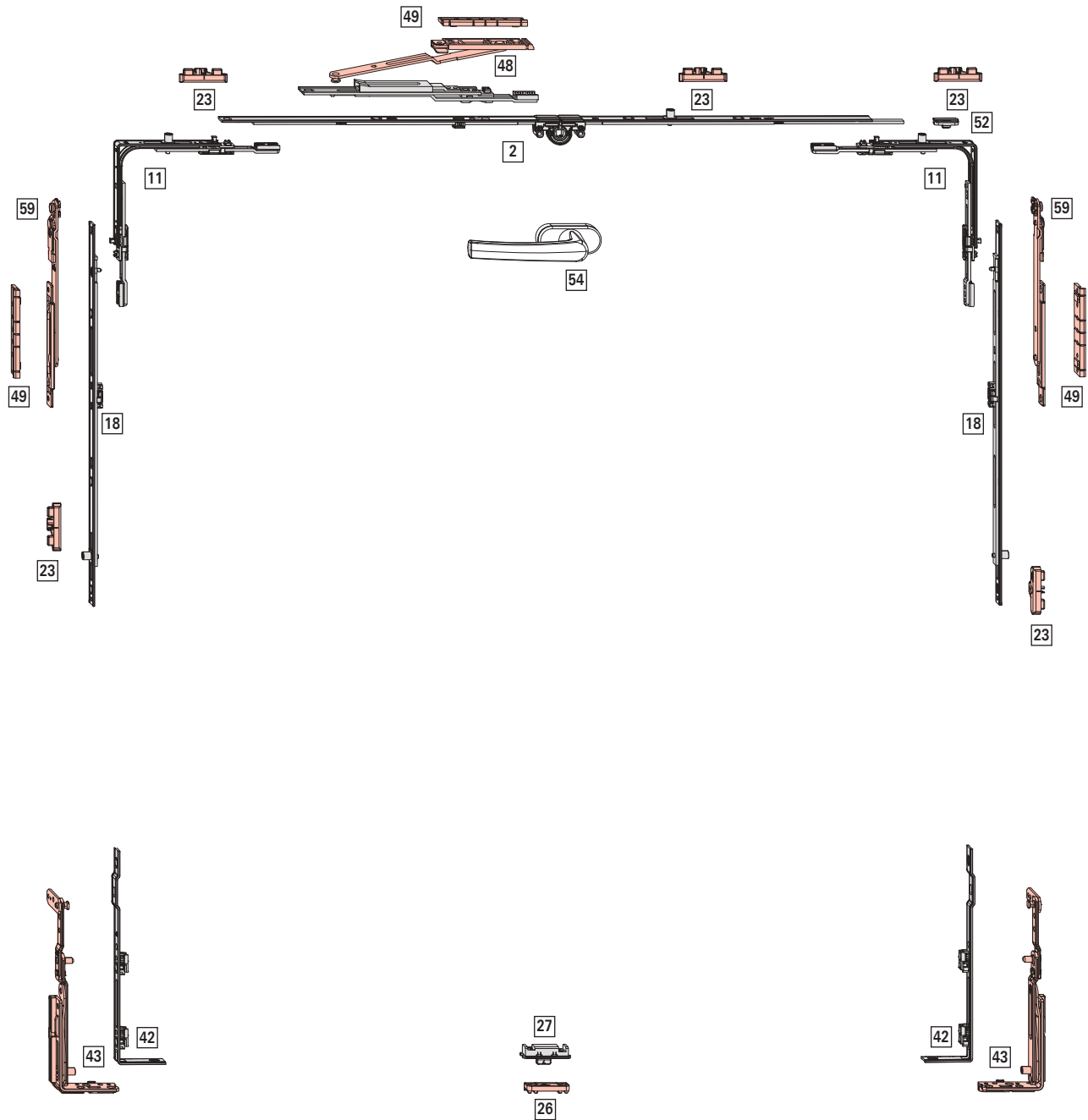
Arrestable brake stay frame component → CTL

Sash lifter → CTL



4.4 Tilt-Only hardware

4.4.1 Basic security





Application range

Sash rebate width **SRW**: 450 - 1400 mm

Sash rebate height **SRH**: 370 - 1200 mm

Sash weight **S.kg**: max. 80 kg

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

					Nº
451 – 620	400	N	–	–	259718
621 – 800	580	Y	1	E	259719
801 – 1200	980	Y	1	E	259720
1201 – 1600	1380	Y	2	E	259721

[11] Standard corner drive

		Nº
1	E	260275
1	P	260277



INFO

With SRH 370 - 410 mm, crop the corner drive at the side.

[18] Multipart centre lock – standard, vertical

				Nº
N	400	1	E	255280

[23] Striker → from page 110

[26] Centre closer, concealed, frame component → CTL

[27] Centre closer, concealed, sash component → CTL

[42] Rebate stay guide

Nº

NT Designo rebate stay guide on the hinge side (HA 9 / HA 13)	640563
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[43] Rebate stay arm → from page 100

[48] Additional stay arm (SRW ≥ 1201 mm)

Nº

Frame and sash component	200	255237
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[49] Packer → from page 117

[52] 90° travel restrictor

Nº

T&T espagnolette limited to 90°	264603
---------------------------------	--------

[54] Handle → CTL_1

[59] Tilt stay set for floating-mullion installation

Nº

Floating-mullion installation

482823

4.5 Floating-mullion hardware

4.5.1 Standard – basic security





Application range

Without load transfer

Sash rebate width **SRW**: 370 - 1400 mm

Sash rebate height **SRH**: 370 - 2600 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2600 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

							Nº
280 – 570	120	460	Y	N	–	–	742199
511 – 710	170	600	N	Y	–	–	795327
601 – 800	263	690	N	Y	1	E	259833
801 – 1000	413	890	N	Y	1	E	259836
1001 – 1200	513	1090	N	Y	1	E	259838
1201 – 1400	563	1290	N	Y	1	E	259840
1401 – 1600	563	1490	N	Y	2	E	259843
1601 – 1800	563	1690	N	Y	2	E	259846
1601 – 1800	1000	1690	N	Y	2	E	794035
1801 – 2000	1000	1890	N	Y	2	E	794036
2001 – 2200	1000	2090	N	Y	3	E	794038
2201 – 2400	1000	2290	N	Y	3	E	794040

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

						Nº
310 – 620	155 - 225	430	N	–	–	259717
621 – 800	311 - 400	580	Y	1	E	259719
801 – 1200	401 - 600	980	Y	1	E	259720
1201 – 1600	601 - 800	1380	Y	2	E	259721
1601 – 2000	801 - 1000	1780	Y	2	E	795389
2001 – 2400	1001 - 1200	2180	Y	4	E	795392

[4] Floating-mullion espagnolette – fixed handle height, backset 15 mm

		Nº
431 – 710	195 600	795464
601 – 800	335 690	791975
801 – 1000	490 890	791976
1001 – 1200	335 1090	791978
1201 – 1400	335 1290	791979
1401 – 1600	335 1490	791980
1601 – 1800	335 1690	795466
1801 – 2000	640 1890	795469
2001 – 2200	640 2090	795471
2201 – 2400	640 2290	795473

[5] Floating-mullion espagnolette – centred / variable handle height, backset 15 mm

			Nº
370 – 620	225 - 350	400	233418
621 – 800	393 - 482	680	763125
801 – 1200	482 - 682	980	763126
1201 – 1600	448 - 658	1380	763127
1601 – 2000	680 - 880	1780	795482
2001 – 2400	880 - 1080	2180	795484

[6] Espagnolette extension, (SRH ≥ 2401 mm)

				Nº
200	Y	–	–	308267

[11] Standard corner drive

		Nº
1	E	260275
1	P	260277



INFO

With SRW 370 - 410 mm, crop the corner drive at the top.

[12] Tilt&Turn corner drive

		Nº
1	P	260290

[13] Special short corner drive

		Nº
1	E	260280
1	P	260282

For use with:

SRW < 430 mm

Fixed handle height: SRH < 370 mm

Centred / variable handle height: SRH < 450 mm

[14] Sash stay corner drive

		Nº
1	P	260286

[18] Multipart centre lock – standard, vertical

				Nº
400	N	1	E	255280
600	N	1	E	255281
600	Y	1	E	255282
200	N	1	P	255284

Size-specific combinations:

					Nº
Without load transfer	With load transfer				
801 – 1200	1001 – 1200	400	1	E	255280
1201 – 1400	1201 – 1400	600	1	E	255281
	1401 – 1600	600 KU	1	E	255282
		200	1	P	255284
1401 – 1800	1601 – 1800	600 KU	1	E	255282
		400	1	E	255280
1801 – 2000	1801 – 2000	600 KU	1	E	255282
		600	1	E	255281
	2001 – 2200	600 KU	1	E	255282
		600 KU	1	E	255282
		200	1	P	255284
2001 – 2400	2201 – 2400	600 KU	1	E	255282
		600 KU	1	E	255282
		400	1	E	255280
2401 – 2600	2401 – 2600	600 KU	1	E	255282
		600 KU	1	E	255282
		600	1	E	255281

[19] Multipart centre lock – standard, horizontal

				Nº
400	N	1	E	255280
600	N	1	E	255281
200	N	1	P	255284

Size-specific combinations:

					Nº
Without turn restrictor	With turn restrictor				
–	801 – 850	200	1	P	255284
801 – 1200	851 – 1200	400	1	E	255280
1201 – 1400	1201 – 1400	600	1	E	255281

[23] Striker → from page 110

[24] Security striker → from page 112

[26] Centre closer, concealed, frame component → CTL

[27] Centre closer, concealed, sash component → CTL

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

	Nº
Bullet catch sash component	788363

[33] Lifting mishandling device sash component

	Nº
Sash component for lifting mishandling device	795927

[36] Stay guide – basic security

				Nº
330 – 600	250	490	–	385393
601 – 800	350	690	–	385394
801 – 1000	500	890	1	385415
1001 – 1200	500	1090	1	385416

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[42] Rebate stay guide



Nº

Not for Tilt-Only windows	224 / 15	477255
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[43] Rebate stay arm → from page 100



INFO

With SRH < 500 mm, set the tilt distance to 80 mm (with sash stay from size 250 and above).

[44] Corner hinge

Nº

NT Designo corner hinge (HA 13)	634705
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[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

Nº

Frame and sash component	200	255237
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[49] Packer → from page 117

[50] Load transfer sash component

Nº

max. 150 kg	567972
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[51] Load transfer frame component

Nº

max. 150 kg	565254
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[54] Handle → CTL_1

[61] Turn restrictor 198, sash component

Nº

Roto NT Designo	485591
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INFO

Turn restrictor possible from SRW 525 mm, mandatory for SRW > 1000 mm and when load transfer is used.

[62] Turn restrictor frame component → *from page 122*

[81] Run-up block



Nº

Run-up block for floating-mullion installation	Sash	12	770685
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Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



INFO

Horizontal rebate clearance at the bottom
11.5 - 14 mm.

4.5.2 Standard – RC 1 N





Application range

Without load transfer

Sash rebate width **SRW**: 450 - 1400 mm

Sash rebate height **SRH**: 370 - 2600 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2600 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

							Nº
280 – 570	120	460	Y	N	–	–	742199
511 – 710	170	600	N	Y	–	–	795327
601 – 800	263	690	N	Y	1	E	259833
801 – 1000	413	890	N	Y	1	E	259836
1001 – 1200	513	1090	N	Y	1	E	259838
1201 – 1400	563	1290	N	Y	1	E	259840
1401 – 1600	563	1490	N	Y	2	E	259843
1601 – 1800	563	1690	N	Y	2	E	259846
1601 – 1800	1000	1690	N	Y	2	E	794035
1801 – 2000	1000	1890	N	Y	2	E	794036
2001 – 2200	1000	2090	N	Y	3	E	794038
2201 – 2400	1000	2290	N	Y	3	E	794040

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

						Nº
310 – 620	155 - 225	430	N	–	–	259717
621 – 800	311 - 400	580	Y	1	E	259719
801 – 1200	401 - 600	980	Y	1	E	259720
1201 – 1600	601 - 800	1380	Y	2	E	259721
1601 – 2000	801 - 1000	1780	Y	2	E	795389
2001 – 2400	1001 - 1200	2180	Y	4	E	795392

[4] Floating-mullion espagnolette – fixed handle height, backset 15 mm

		Nº
431 – 710	195 600	795464
601 – 800	335 690	791975
801 – 1000	490 890	791976
1001 – 1200	335 1090	791978
1201 – 1400	335 1290	791979
1401 – 1600	335 1490	791980
1601 – 1800	335 1690	795466
1801 – 2000	640 1890	795469
2001 – 2200	640 2090	795471
2201 – 2400	640 2290	795473

[5] Floating-mullion espagnolette – centred / variable handle height, backset 15 mm

			Nº
370 – 620	225 - 350	400	233418
621 – 800	393 - 482	680	763125
801 – 1200	482 - 682	980	763126
1201 – 1600	448 - 658	1380	763127
1601 – 2000	680 - 880	1780	795482
2001 – 2400	880 - 1080	2180	795484

[6] Espagnolette extension, (SRH ≥ 2401 mm)

				Nº
200	Y	1	E	450821

[7] Floating mullion espagnolette extension, (SRH ≥ 2401 mm)

			Nº
200	Y	1	450822

[11] Standard corner drive

		Nº
1	P	260277

[12] Tilt&Turn corner drive

		Nº
1	P	260290

[13] Special short corner drive

		Nº
1	P	260282

For use with:

SRW < 430 mm

Fixed handle height: SRH < 370 mm

Centred / variable handle height: SRH < 450 mm

[14] Sash stay corner drive

		Nº
1	P	260286

[17] Multipart centre lock – standard, horizontal – top, Turn-Only sash

				Nº
200	Y	–	–	308267
400	Y	1	E	280346
600	Y	1	E	255282

Size-specific combinations:

				Nº
711 – 910	200 KU	–	–	308267
911 – 1110	400 KU	1	E	280346
1111 – 1310	600 KU	1	E	255282
1311 – 1400	600 KU	1	E	255282
	200 KU	–	–	308267

[18] Multipart centre lock – standard, vertical

				Nº
400	N	1	E	255280
600	N	1	E	255281
600	Y	1	E	255282
200	N	1	P	255284

Size-specific combinations:

Without load transfer	With load transfer				Nº
801 – 1200	1001 – 1200	400	1	E	255280
1201 – 1400	1201 – 1400	600	1	E	255281
	1401 – 1600	600 KU	1	E	255282
		200	1	P	255284
1401 – 1800	1601 – 1800	600 KU	1	E	255282
		400	1	E	255280
1801 – 2000	1801 – 2000	600 KU	1	E	255282
		600	1	E	255281
	2001 – 2200	600 KU	1	E	255282
		600 KU	1	E	255282
		200	1	P	255284
2001 – 2400	2201 – 2400	600 KU	1	E	255282
		600 KU	1	E	255282
		400	1	E	255280
2401 – 2600	2401 – 2600	600 KU	1	E	255282
		600 KU	1	E	255282
		600	1	E	255281

[19] Multipart centre lock – standard, horizontal

				Nº
400	N	1	E	255280
600	N	1	E	255281
200	N	1	P	255284

Size-specific combinations:

Without turn restrictor	With turn restrictor				Nº
450 – 650	801 – 850	200	1	P	255284
651 – 850	851 – 1050	400	1	E	255280
851 – 1000	1051 – 1250	600	1	E	255281
	1251 – 1400	600 KU	1	E	255282
		200	1	P	255284

[23] Striker → from page 110

[24] Security striker → from page 112

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

Nº

Bullet catch sash component 788363

[33] Lifting mishandling device sash component

Nº

Sash component for lifting mishandling device 795927

[35] Turn-Only sash stay guide – basic security

			Nº
430 – 510	250	400	482571
511 – 710	250	600	815784

[36] Stay guide – basic security

					Nº
330 – 600	250	490	–	–	385393
601 – 800	350	690	–	–	385394
801 – 1000	500	890	1	E	385415
1001 – 1200	500	1090	1	E	385416

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

Nº

NT Designo corner hinge (HA 13) 634705

[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

Nº

Frame and sash component 200 255237

[49] Packer → from page 117

[50] Load transfer sash component

Nº

max. 150 kg 567972

[51] Load transfer frame component

Nº

max. 150 kg 565254



[53] Drilling protection

Nº

Drilling protection	797819
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[54] Handle, lockable → CTL_1

[61] Turn restrictor 198, sash component

Nº

Roto NT Designo	485591
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[62] Turn restrictor frame component → *from page 122*

[81] Run-up block



Nº

Run-up block for floating-mullion installation	Sash	12	770685
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Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



INFO

Horizontal rebate clearance at the bottom
11.5 - 14 mm.

4.5.3 Standard – RC 2 / RC 2 N





Application range

Without load transfer

Sash rebate width **SRW**: 450 - 1400 mm

Sash rebate height **SRH**: 510 - 2400 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2400 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

					Nº
511 – 710	170	600	–	–	795327
600 – 800	263	690	1	V	259832
801 – 1000	413	890	2	V	259835
1001 – 1200	513	1090	2	V	259837
1201 – 1400	563	1290	2	V	259839
1401 – 1600	563	1490	3	V	259841
1601 – 1800	563	1690	3	V	259844
1601 – 1800	1000	1690	3	V	794041
1801 – 2000	1000	1890	3	V	794042
2001 – 2200	1000	2090	4	V	794043
2201 – 2400	1000	2290	4	V	794044

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

						Nº
310 – 620	155 - 225	430	N	–	–	259717
621 – 800	311 - 400	580	Y	1	V	355743
801 – 1200	401 - 600	980	Y	1	V	355744
1201 – 1600	601 - 800	1380	Y	2	V	355745
1601 – 2000	801 - 1000	1780	Y	2	V	795390
2001 – 2400	1001 - 1200	2180	Y	4	V	795393

For use from SRH 520 mm.

[4] Floating-mullion espagnolette – fixed handle height, backset 15 mm

			Nº
431 – 710	195	600	795464
601 – 800	335	690	791975
801 – 1000	490	890	791976
1001 – 1200	335	1090	791978
1201 – 1400	335	1290	791979
1401 – 1600	335	1490	791980
1601 – 1800	335	1690	795466
1801 – 2000	640	1890	795469
2001 – 2200	640	2090	795471
2201 – 2400	640	2290	795473

[5] Floating-mullion espagnolette – centred / variable handle height, backset 15 mm

			Nº
370 – 620	225 - 350	400	233418
621 – 800	393 - 482	680	763125
801 – 1200	482 - 682	980	763126
1201 – 1600	448 - 658	1380	763127
1601 – 2000	680 - 880	1780	795482
2001 – 2400	880 - 1080	2180	795484

[10] Floating mullion corner drive

			Nº
Second opening sash / welded-on striker	Bottom	1 1 V	367227

For use with:

T&T espagnolette centred / variable handle height: 520 - 620 mm

[11] Standard corner drive

		Nº
1	V	260272

[12] Tilt&Turn corner drive

		Nº
1	V	260288

[14] Sash stay corner drive

		Nº
1	V	260284

[15] Standard corner drive (RC3)

		Nº
2	V	260274

For use with:

T&T espagnolette centred / variable handle height: 520 - 620 mm

[17] Multipart centre lock – standard, horizontal – top, Turn-Only sash

				Nº
200	Y	1	V	337708
400	Y	1	V	337710
600	Y	1	V	337711

Size-specific combinations:

				Nº
711 – 910	200 KU	1	V	337708
911 – 1110	400 KU	1	V	337710
1111 – 1310	600 KU	1	V	337711
1311 – 1400	600 KU	1	V	337711
	200 KU	1	V	337708

[18] Multipart centre lock – security, vertical

				Nº
200	N	1	V	296853
400	N	1	V	296854
600	N	1	V	296855
600	Y	1	V	337711

Size-specific combinations:

					Nº
Without load transfer	With load transfer				
510 – 650	–	200	1	V	296853
651 – 850	1000 – 1150	400	1	V	296854
851 – 1050	1151 – 1350	600	1	V	296855
1051 – 1250	1351 – 1550	600 KU	1	V	337711
		200	1	V	296853
1251 – 1450	1551 – 1750	600 KU	1	V	337711
		400	1	V	296854
1451 – 1650	1751 – 1950	600 KU	1	V	337711
		600	1	V	296855
1651 – 1850	1951 – 2150	600 KU	1	V	337711
		600 KU	1	V	337711
		200	1	V	296853
1851 – 2050	2151 – 2350	600 KU	1	V	337711
		600 KU	1	V	337711
		400	1	V	296854
2051 – 2250	2351 – 2400	600 KU	1	V	337711
		600 KU	1	V	337711
		600	1	V	296855
2251 – 2400	–	600 KU	1	V	337711
		600 KU	1	V	337711
		600 KU	1	V	337711
		200	1	V	296853

[19] Multipart centre lock – security, horizontal

				Nº
200	N	1	V	296853
400	N	1	V	296854
600	N	1	V	296855
600	Y	1	V	337711

Size-specific combinations:

					Nº
Without turn restrictor	With turn restrictor				
450 – 650	801 – 850	200	1	V	296853
651 – 850	851 – 1050	400	1	V	296854
851 – 1000	1051 – 1250	600	1	V	296855
–	1251 – 1400	600 KU	1	V	337711
		200	1	V	296853

[24] Security striker → from page 112

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

Nº

Bullet catch sash component	788363
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[33] Lifting mishandling device sash component

Nº

Sash component for lifting mishandling device	795927
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[35] Turn-Only sash stay guide – security

Nº

			Nº
430 – 510	250	400	482571
511 – 710	250	600	815784

[36] Stay guide – security

				Nº
330 – 600	490	250	–	385393
601 – 800	690	350	–	385394
801 – 1000	890	500	1	450373
1001 – 1200	1090	500	1	450374

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

Nº

NT Designo corner hinge (HA 13)	634705
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[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

Nº

Frame and sash component	200	255237
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[49] Packer → from page 117

[50] Load transfer sash component

Nº

max. 150 kg	567972
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[51] Load transfer frame component

Nº

max. 150 kg	565254
-------------	--------

[53] Drilling protection

Nº

Drilling protection	797819
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[54] Handle, lockable → CTL_1

[61] Turn restrictor 198, sash component

Nº

Roto NT Designo	485591
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[62] Turn restrictor frame component → *from page 122*

[81] Run-up block

 Nº

Run-up block for floating-mullion installation	Sash	12	770685
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[84] Safety device for floating-mullion sashes

Nº

Retaining element for floating-mullion sash	552392
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Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



INFO

Horizontal rebate clearance at the bottom
11.5 - 14 mm.

4.5.4 Plus – basic security





Application range

Without load transfer

Sash rebate width **SRW**: 370 - 1400 mm

Sash rebate height **SRH**: 430 - 2600 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2600 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

							Nº
280 – 570	120	460	Y	N	–	–	742199
511 – 710	170	600	N	Y	–	–	795327
601 – 800	263	690	N	Y	1	E	259833
801 – 1000	413	890	N	Y	1	E	259836
1001 – 1200	513	1090	N	Y	1	E	259838
1201 – 1400	563	1290	N	Y	1	E	259840
1401 – 1600	563	1490	N	Y	2	E	259843
1601 – 1800	563	1690	N	Y	2	E	259846
1601 – 1800	1000	1690	N	Y	2	E	794035
1801 – 2000	1000	1890	N	Y	2	E	794036
2001 – 2200	1000	2090	N	Y	3	E	794038
2201 – 2400	1000	2290	N	Y	3	E	794040

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

							Nº
310 – 620	155 - 225	430	N	–	–	–	259717
621 – 800	311 - 400	580	Y	1	E	–	259719
801 – 1200	401 - 600	980	Y	1	E	–	259720
1201 – 1600	601 - 800	1380	Y	2	E	–	259721
1601 – 2000	801 - 1000	1780	Y	2	E	–	795389
2001 – 2400	1001 - 1200	2180	Y	4	E	–	795392

[4] Floating-mullion espagnolette, Plus – fixed handle height, backset 15 mm

							Nº
431 – 710	144	600	Y	N	–	Y	795496
601 – 800	246	690	Y	N	1	–	795497
801 – 1000	396	890	Y	N	2	–	795498
1001 – 1200	496	1090	Y	N	2	–	795499
1201 – 1400	546	1290	Y	N	2	–	795500
1401 – 1600	546	1490	Y	N	3	–	795501
1601 – 1800	546	1690	Y	Y	3	–	795502
1801 – 2000	546	1890	Y	Y	3	–	795503
2001 – 2200	546	2090	Y	Y	4	–	795504
2201 – 2400	546	2290	Y	Y	4	–	795505

[5] Floating-mullion espagnolette, Plus – centred / variable handle height, backset 15 mm

							Nº
431 – 620	194 - 289	400	N	N	–	–	795525
621 – 800	290 - 379	680	Y	N	1	–	795526
801 – 1200	380 - 579	980	Y	N	1	–	795527
1201 – 1600	580 - 779	1380	Y	N	2	–	795529
1601 – 2000	780 - 979	1780	Y	Y	2	–	795530
2001 – 2400	980 - 1179	2180	Y	Y	4	–	795531

[6] Espagnolette extension, (SRH ≥ 2401 mm)

				Nº
200	Y	–	–	308267

[11] Standard corner drive

		Nº
1	E	260275
1	P	260277



INFO

With SRW 370 - 410 mm, crop the corner drive at the top.

[12] Tilt&Turn corner drive

		Nº
1	P	260290

[13] Special short corner drive

		Nº
1	E	260280
1	P	260282

For use with:

SRW < 430 mm

Fixed handle height: SRH < 370 mm

Centred / variable handle height: SRH < 450 mm

[14] Sash stay corner drive

		Nº
1	P	260286

[18] Multipart centre lock – standard, vertical

				Nº
400	N	1	E	255280
600	N	1	E	255281
600	Y	1	E	255282
200	N	1	P	255284

Size-specific combinations:

					Nº
Without load transfer	With load transfer				
801 – 1200	1001 – 1200	400	1	E	255280
1201 – 1400	1201 – 1400	600	1	E	255281
	1401 – 1600	600 KU	1	E	255282
		200	1	P	255284
1401 – 1800	1601 – 1800	600 KU	1	E	255282
		400	1	E	255280
1801 – 2000	1801 – 2000	600 KU	1	E	255282
		600	1	E	255281
	2001 – 2200	600 KU	1	E	255282
		600 KU	1	E	255282
		200	1	P	255284
2001 – 2400	2201 – 2400	600 KU	1	E	255282
		600 KU	1	E	255282
		400	1	E	255280
2401 – 2600	2401 – 2600	600 KU	1	E	255282
		600 KU	1	E	255282
		600	1	E	255281

[19] Multipart centre lock – standard, horizontal

				Nº
400	N	1	E	255280
600	N	1	E	255281
200	N	1	P	255284

Size-specific combinations:

					Nº
Without turn restrictor	With turn restrictor				
–	801 – 850	200	1	P	255284
801 – 1200	851 – 1200	400	1	E	255280
1201 – 1400	1201 – 1400	600	1	E	255281

[23] Striker → from page 110

[24] Security striker → from page 112

[26] Centre closer, concealed, frame component → CTL

[27] Centre closer, concealed, sash component → CTL

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

	Nº
Bullet catch sash component	788363

[33] Lifting mishandling device sash component

	Nº
Sash component for lifting mishandling device	795927

[36] Stay guide – basic security

				Nº
330 – 600	250	490	–	385393
601 – 800	350	690	–	385394
801 – 1000	500	890	1	385415
1001 – 1200	500	1090	1	385416

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[42] Rebate stay guide



Nº

Not for Tilt-Only windows	224 / 15	477255
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[43] Rebate stay arm → from page 100

[44] Corner hinge

Nº

NT Designo corner hinge (HA 13)	634705
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[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

Nº

Frame and sash component	200	255237
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[49] Packer → from page 117

[50] Load transfer sash component

Nº

max. 150 kg	567972
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[51] Load transfer frame component

Nº

max. 150 kg	565254
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[54] Handle → CTL_1

[61] Turn restrictor 198, sash component

Nº

Roto NT Designo	485591
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INFO

Turn restrictor possible from SRW 525 mm, mandatory for SRW > 1000 mm and when load transfer is used.



[62] Turn restrictor frame component → from
page 122

[81] Run-up block



Nº

Run-up block for floating-mullion installation	Sash	12	770685
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Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



INFO

Horizontal rebate clearance at the bottom
11.5 - 14 mm.

4.5.5 Plus – RC 1 N





Application range

Without load transfer

Sash rebate width **SRW**: 450 - 1400 mm

Sash rebate height **SRH**: 430 - 2600 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 800 - 1400 mm

Sash rebate height **SRH**: 1000 - 2600 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

							Nº
280 – 570	120	460	Y	N	–	–	742199
511 – 710	170	600	N	Y	–	–	795327
601 – 800	263	690	N	Y	1	E	259833
801 – 1000	413	890	N	Y	1	E	259836
1001 – 1200	513	1090	N	Y	1	E	259838
1201 – 1400	563	1290	N	Y	1	E	259840
1401 – 1600	563	1490	N	Y	2	E	259843
1601 – 1800	563	1690	N	Y	2	E	259846
1601 – 1800	1000	1690	N	Y	2	E	794035
1801 – 2000	1000	1890	N	Y	2	E	794036
2001 – 2200	1000	2090	N	Y	3	E	794038
2201 – 2400	1000	2290	N	Y	3	E	794040

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

						Nº
310 – 620	155 - 225	430	N	–	–	259717
621 – 800	311 - 400	580	Y	1	E	259719
801 – 1200	401 - 600	980	Y	1	E	259720
1201 – 1600	601 - 800	1380	Y	2	E	259721
1601 – 2000	801 - 1000	1780	Y	2	E	795389
2001 – 2400	1001 - 1200	2180	Y	4	E	795392

[4] Floating-mullion espagnolette, Plus – fixed handle height, backset 15 mm

							Nº
431 – 710	144	600	Y	N	–	Y	795496
601 – 800	246	690	Y	N	1	–	795497
801 – 1000	396	890	Y	N	2	–	795498
1001 – 1200	496	1090	Y	N	2	–	795499
1201 – 1400	546	1290	Y	N	2	–	795500
1401 – 1600	546	1490	Y	N	3	–	795501
1601 – 1800	546	1690	Y	Y	3	–	795502
1801 – 2000	546	1890	Y	Y	3	–	795503
2001 – 2200	546	2090	Y	Y	4	–	795504
2201 – 2400	546	2290	Y	Y	4	–	795505

[5] Floating-mullion espagnolette, Plus – centred / variable handle height, backset 15 mm

						Nº
431 – 620	194 - 289	400	N	N	–	795525
621 – 800	290 - 379	680	Y	N	1	795526
801 – 1200	380 - 579	980	Y	N	1	795527
1201 – 1600	580 - 779	1380	Y	N	2	795529
1601 – 2000	780 - 979	1780	Y	Y	2	795530
2001 – 2400	980 - 1179	2180	Y	Y	4	795531

[6] Espagnolette extension, (SRH ≥ 2401 mm)

				Nº
200	Y	1	E	450821

[7] Floating mullion espagnolette extension, (SRH ≥ 2401 mm)

			Nº
200	Y	1	450822

[11] Standard corner drive

			Nº
1	P		260277

[12] Tilt&Turn corner drive

			Nº
1	P		260290

[13] Special short corner drive

			Nº
1	P		260282

For use with:

SRW < 430 mm

Fixed handle height: SRH < 370 mm

Centred / variable handle height: SRH < 450 mm

[14] Sash stay corner drive

			Nº
1	P		260286

[18] Multipart centre lock – standard, vertical

				Nº
400	N	1	E	255280
600	N	1	E	255281
600	Y	1	E	255282
200	N	1	P	255284

Size-specific combinations:

					Nº
Without load transfer	With load transfer				
801 – 1200	1001 – 1200	400	1	E	255280
1201 – 1400	1201 – 1400	600	1	E	255281
	1401 – 1600	600 KU	1	E	255282
		200	1	P	255284
1401 – 1800	1601 – 1800	600 KU	1	E	255282
		400	1	E	255280
1801 – 2000	1801 – 2000	600 KU	1	E	255282
		600	1	E	255281
	2001 – 2200	600 KU	1	E	255282
		600 KU	1	E	255282
		200	1	P	255284
2001 – 2400	2201 – 2400	600 KU	1	E	255282
		600 KU	1	E	255282
		400	1	E	255280
2401 – 2600	2401 – 2600	600 KU	1	E	255282
		600 KU	1	E	255282
		600	1	E	255281

[19] Multipart centre lock – standard, horizontal

				Nº
400	N	1	E	255280
600	N	1	E	255281
200	N	1	P	255284

Size-specific combinations:

					Nº
Without turn restrictor	With turn restrictor				
450 – 6500	801 – 850	200	1	P	255284
651 – 850	851 – 1200	400	1	E	255280
851 – 1000	1201 – 1250	600	1	E	255281
	1251 – 1400	600 KU	1	E	255282
		200	1	P	255284

Centre lock, horizontal – top (second opening sash)

				Nº
1201 – 1400	200 KU	1	E	308267

[23] Striker → from page 110

[24] Security striker → from page 112

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

	Nº
Bullet catch sash component	788363

[33] Lifting mishandling device sash component

	Nº
Sash component for lifting mishandling device	795927

[36] Stay guide – basic security

				Nº
330 – 600	250	490	–	385393
601 – 800	350	690	–	385394
801 – 1000	500	890	1	385415
1001 – 1200	500	1090	1	385416

For use from SRW 450 mm

[38] Stay arm → from page 91



INFO

With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

	Nº
NT Designo corner hinge (HA 13)	634705

[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

	Nº
Frame and sash component	200 255237

[49] Packer → from page 117

[50] Load transfer sash component

	Nº
max. 150 kg	567972

[51] Load transfer frame component

	Nº
max. 150 kg	565254

[53] Drilling protection

	Nº
Drilling protection	797819

[54] Handle, lockable → CTL_1

[61] Turn restrictor 198, sash component

	Nº
Roto NT Designo	485591

[62] Turn restrictor frame component → from page 122

[81] Run-up block

		Nº
Run-up block for floating-mullion installation	Sash 12	770685



Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



INFO

Horizontal rebate clearance at the bottom
11.5 - 14 mm.

4.5.6 Plus – RC 2 / RC 2 N





Application range

Without load transfer

Sash rebate width **SRW**: 450 - 1400 mm

Sash rebate height **SRH**: 510 - 2400 mm

Sash weight **S.kg**: max. 100 kg

With load transfer

Sash rebate width **SRW**: 650 - 1400 mm

Sash rebate height **SRH**: 1000 - 2400 mm

Sash weight **S.kg**: max. 150 kg

[1] T&T espagnolette – fixed handle height, backset 15 mm

			#	#	Nº
511 – 710	170	600	–	–	795327
600 – 800	263	690	1	V	259832
801 – 1000	413	890	2	V	259835
1001 – 1200	513	1090	2	V	259837
1201 – 1400	563	1290	2	V	259839
1401 – 1600	563	1490	3	V	259841
1601 – 1800	563	1690	3	V	259844
1601 – 1800	1000	1690	3	V	794041
1801 – 2000	1000	1890	3	V	794042
2001 – 2200	1000	2090	4	V	794043
2201 – 2400	1000	2290	4	V	794044

[2] T&T espagnolette – centred / variable handle height, backset 15 mm

			#	#	#	Nº
310 – 620	155 - 225	430	N	–	–	259717
621 – 800	311 - 400	580	Y	1	V	355743
801 – 1200	401 - 600	980	Y	1	V	355744
1201 – 1600	601 - 800	1380	Y	2	V	355745
1601 – 2000	801 - 1000	1780	Y	2	V	795390
2001 – 2400	1001 - 1200	2180	Y	4	V	795393

For use from SRH 520 mm

[4] Floating-mullion espagnolette, Plus – fixed handle height, backset 15 mm

			#	#	#	#	Nº
431 – 710	144	600	Y	N	–	Y	795496
601 – 800	246	690	Y	N	1	–	795497
801 – 1000	396	890	Y	N	2	–	795498
1001 – 1200	496	1090	Y	N	2	–	795499
1201 – 1400	546	1290	Y	N	2	–	795500
1401 – 1600	546	1490	Y	N	3	–	795501
1601 – 1800	546	1690	Y	Y	3	–	795502
1801 – 2000	546	1890	Y	Y	3	–	795503
2001 – 2200	546	2090	Y	Y	4	–	795504
2201 – 2400	546	2290	Y	Y	4	–	795505

[5] Floating-mullion espagnolette, Plus – centred / variable handle height, backset 15 mm

			#	#	#	Nº
431 – 620	194 - 289	400	N	N	–	795525
621 – 800	290 - 379	680	Y	N	1	795526
801 – 1200	380 - 579	980	Y	N	1	795527
1201 – 1600	580 - 779	1380	Y	N	2	795529
1601 – 2000	780 - 979	1780	Y	Y	2	795530
2001 – 2400	980 - 1179	2180	Y	Y	4	795531

[10] Floating mullion corner drive

					Nº
Second opening sash / welded-on striker	Bottom	1	1	V	367227

For use with:

T&T espagnolette centred / variable handle height: 520 - 620 mm

[11] Standard corner drive

#	#	Nº
1	V	260272

[12] Tilt&Turn corner drive

#	#	Nº
1	V	260288

[14] Sash stay corner drive

#	#	Nº
1	V	260284

[15] Standard corner drive (RC3)

#	#	Nº
2	V	260274

For use with:

T&T espagnolette centred / variable handle height: 520 - 620 mm

[18] Multipart centre lock – security, vertical

		#	#	Nº
200	N	1	V	296853
400	N	1	V	296854
600	N	1	V	296855
600	Y	1	V	337711

Size-specific combinations:

					Nº
Without load transfer	With load transfer				
490 – 650	–	200	1	V	296853
651 – 850	1000 – 1150	400	1	V	296854
851 – 1050	1151 – 1350	600	1	V	296855
1051 – 1250	1351 – 1550	600 KU	1	V	337711
		200	1	V	296853
1251 – 1450	1551 – 1750	600 KU	1	V	337711
		400	1	V	296854
1451 – 1650	1751 – 1950	600 KU	1	V	337711
		600	1	V	296855
1651 – 1850	1951 – 2150	600 KU	1	V	337711
		600 KU	1	V	337711
		200	1	V	296853
1851 – 2050	2151 – 2350	600 KU	1	V	337711
		600 KU	1	V	337711
		400	1	V	296854
2051 – 2250	2351 – 2400	600 KU	1	V	337711
		600 KU	1	V	337711
		600	1	V	296855
2251 – 2400	–	600 KU	1	V	337711
		600 KU	1	V	337711
		600 KU	1	V	337711
		200	1	V	296853

[19] Multipart centre lock – security, horizontal

				Nº
200	N	1	V	296853
400	N	1	V	296854
600	N	1	V	296855
600	Y	1	V	337711

Size-specific combinations:

					Nº
Without turn restrictor	With turn restrictor				
450 – 650	801 – 850	200	1	V	296853
651 – 850	851 – 1050	400	1	V	296854
851 – 1000	1051 – 1250	600	1	V	296855
–	1251 – 1400	600 KU	1	V	337711
		200	1	V	296853

Centre lock, horizontal – top (second opening sash)

				Nº
1201 – 1400	200 KU	1	E	308267

[24] Security striker → from page 112

[28] Tilt striker → from page 104

[31] Bullet catch sash component (optional SRH ≥ 1601 mm)

	Nº
Bullet catch sash component	788363

[33] Lifting mishandling device sash component

	Nº
Sash component for lifting mishandling device	795927

[36] Stay guide – security

				Nº
330 – 600	490	250	–	385393
601 – 800	690	350	–	385394
801 – 1000	890	500	1	450373
1001 – 1200	1090	500	1	450374

For use from SRW 450 mm

[38] Stay arm → from page 91



INFO
 With SRH < 600 mm, set the tilt distance to 80 mm.

[44] Corner hinge

	Nº
NT Designo corner hinge (HA 13)	634705

[45] Pivot rest → from page 102

[48] Additional stay arm (SRW ≥ 1201 mm)

	Nº
Frame and sash component	200 255237

[49] Packer → from page 117

[50] Load transfer sash component

	Nº
max. 150 kg	567972

[51] Load transfer frame component

	Nº
max. 150 kg	565254

[53] Drilling protection

	Nº
Drilling protection	797819

[54] Handle, lockable → CTL_1

[61] Turn restrictor 198, sash component

	Nº
Roto NT Designo	485591



[62] Turn restrictor frame component → from
page 122

[81] Run-up block



Nº

Run-up block for floating-mullion installation	Sash	12	770685
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[84] Safety device for floating-mullion sashes

Nº

Retaining element for floating-mullion sash			552392
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Optional

[46] Pivot rest cover

Nº

NT Designo pivot rest cover	Clampable	Left	799664
NT Designo pivot rest cover	Clampable	Right	799789



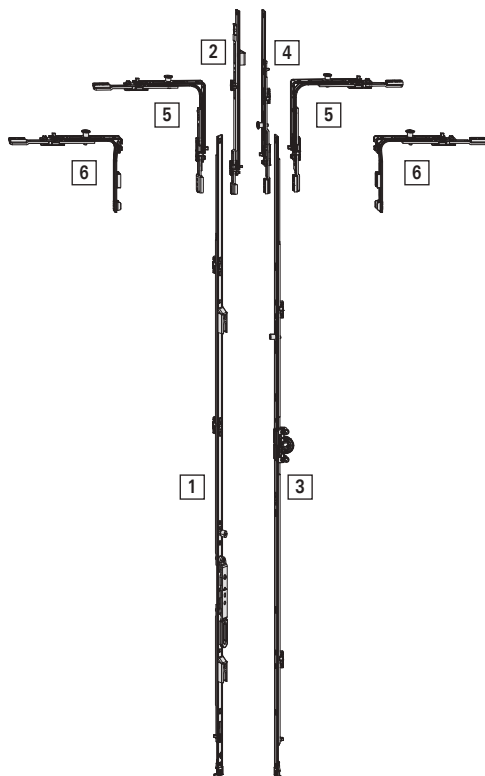
INFO

Horizontal rebate clearance at the bottom
11.5 - 14 mm.

5 T&T espagnolette / floating-mullion sash espagnolette

5.1 Standard

5.1.1 Possible combinations



Assignment	Meaning
[1]	Lever-operated espagnolette, standard
[2]	Floating-mullion centre lock
[3]	T&T espagnolette
[4]	Centre lock, standard
[5]	Corner drive, standard
[6]	Special corner drive, short

Determining the espagnolettes

1. Determine the element's sash rebate height (SRH)



INFO

Refer to the tables below for possible combinations and the required corner drive [5] + [6].

2. Select the lever-operated espagnolette, standard [1] using the *sash rebate height (SRH)* and *length of the component*

Optional: determine the floating-mullion centre lock [2]

3. Select the T&T espagnolette [3] using the *length of the component*

- ☐ T&T espagnolette – backset 8 mm
- ☐ T&T espagnolette – backset 15 mm
- ☐ T&T espagnolette – backset 25, 30, 35, 40, 45, 50 mm

Optional: determine the centre lock, standard [4]



Fixed handle height

Backset 8 mm

Application range SRH	Lever-operated espagnolette, standard			T&T espagnolette			
	Component length	Toggle lever position	Corner drive type	Component length	Handle height	LMD	Corner drive type
431 – 510	600	233	Special corner drive, short	490	120	N	Corner drive, standard
511 – 600			Corner drive, standard	600	170	N	Corner drive, standard
601 – 800	690	195	Corner drive, standard	690	263	N	Corner drive, standard
801 – 1000	890	195	Corner drive, standard	890	413	Y	Corner drive, standard
1001 – 1200	1090	335	Corner drive, standard	1090	513	Y	Corner drive, standard
1201 – 1400	1290	335	Corner drive, standard	1290	563	Y	Corner drive, standard
1401 – 1600	1490	335	Corner drive, standard	1490	563	Y	Corner drive, standard
1601 – 1800	1690	335	Corner drive, standard	1690	563 / 1000	Y	Corner drive, standard
1801 – 2000	1890	640	Corner drive, standard	1890	1000	Y	Corner drive, standard
2001 – 2200	2090	640	Corner drive, standard	2090	1000	Y	Corner drive, standard
2201 – 2400	2290	640	Corner drive, standard	2290	1000	Y	Corner drive, standard



INFO

A centre lock is required from SRH 2401 mm.

Backset of 15 mm and above

Application range SRH	Lever-operated espagnolette, standard			T&T espagnolette			
	Component length	Toggle lever position	Corner drive type	Component length	Handle height	LMD	Corner drive type
431 – 510	600	195	Special corner drive, short	460	120	N	Corner drive, standard
511 – 600			Corner drive, standard	600	170	Y	Corner drive, standard
601 – 800	690	335	Corner drive, standard	690	263	Y	Corner drive, standard
801 – 1000	890	490	Corner drive, standard	890	413	Y	Corner drive, standard
1001 – 1200	1090	335	Corner drive, standard	1090	513	Y	Corner drive, standard
1201 – 1400	1290	335	Corner drive, standard	1290	563	Y	Corner drive, standard
1401 – 1600	1490	335	Corner drive, standard	1490	563	Y	Corner drive, standard
1601 – 1800	1690	335	Corner drive, standard	1690	563 / 1000	Y	Corner drive, standard
1801 – 2000	1890	640	Corner drive, standard	1890	1000	Y	Corner drive, standard
2001 – 2200	2090	640	Corner drive, standard	2090	1000	Y	Corner drive, standard
2201 – 2400	2290	640	Corner drive, standard	2290	1000	Y	Corner drive, standard



INFO

A centre lock is required from SRH 2401 mm.

Centred / variable handle height

Backset 8 mm

Application range SRH	Lever-operated espagnolette, standard			T&T espagnolette			
	Component length	Toggle lever position	Corner drive type	Component length	Handle height	LMD	Corner drive type
621 – 800	680	235 – 275	Special corner drive, short	580	311 – 350	N	Corner drive, standard
801 – 900		276 – 335	Corner drive, standard	980	351 – 400	N	Corner drive, standard
901 – 1200	980	249 – 448	Corner drive, standard		401 – 600	Y	Corner drive, standard
1201 – 1600	1380	448 – 658	Corner drive, standard	1380	601 – 800	Y	Corner drive, standard
1601 – 2000	1780	680 – 880	Corner drive, standard	1780	801 – 1000	Y	Corner drive, standard
2001 – 2400	2180	880 – 1080	Corner drive, standard	2180	1001 – 1200	Y	Corner drive, standard



INFO

A centre lock is required from SRH 2401 mm.

Backset of 15 mm and above

Application range SRH	Lever-operated espagnolette, standard			T&T espagnolette			
	Component length	Toggle lever position	Corner drive type	Component length	Handle height	LMD	Corner drive type
431 – 450	400	255 – 265	Special corner drive, short	430	215 – 225	N	Special corner drive, short
451 – 520		266 – 300	Special corner drive, short		226 – 260	N	Corner drive, standard
521 – 620		301 – 350	Corner drive, standard		261 – 310	N	Corner drive, standard
621 – 650	680	393 – 407	Special corner drive, short	580	311 – 400	Y	Corner drive, standard
651 – 800		408 – 482	Corner drive, standard				
801 – 1200	980	482 – 682	Corner drive, standard	980	401 – 600	Y	Corner drive, standard
1201 – 1600	1380	448 – 648	Corner drive, standard	1380	601 – 800	Y	Corner drive, standard
1601 – 2000	1780	680 – 880	Corner drive, standard	1780	801 – 1000	Y	Corner drive, standard
2001 – 2400	2180	880 – 1080	Corner drive, standard	2180	1001 – 1200	Y	Corner drive, standard

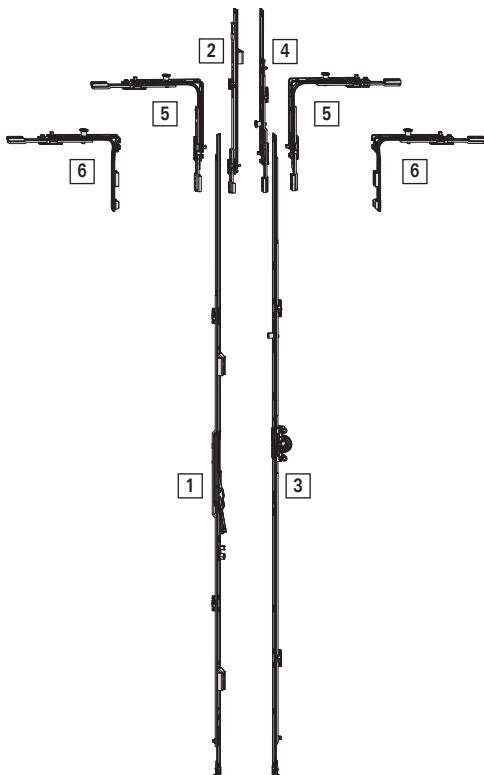


INFO

A centre lock is required from SRH 2401 mm.

5.2 Plus

5.2.1 Possible combinations



Assignment	Meaning
[1]	Lever-operated espagnolette Plus
[2]	Floating-mullion centre lock
[3]	T&T espagnolette
[4]	Centre lock, standard
[5]	Corner drive, standard
[6]	Special corner drive, short

Determining the espagnolettes

1. Determine the element's sash rebate height (SRH)



INFO

Refer to the tables below for possible combinations and the required corner drive [5] + [6].

2. Select the lever-operated espagnolette Plus [1] using the *sash rebate height (SRH)* and *length of the component*
Optional: determine the floating-mullion centre lock [2]

3. Select the T&T espagnolette [3] using the *length of the component*

- ☐ T&T espagnolette – backset 8 mm
- ☐ T&T espagnolette – backset 15 mm
- ☐ T&T espagnolette – backset 25, 30, 35, 40, 45, 50 mm

Optional: determine the centre lock, standard [4]

Fixed handle height

Backset of 8 mm and above

Application range		Lever-operated espagnolette Plus		T&T espagnolette			
SRH	Component length	Toggle lever position	Corner drive type	Component length	Handle height	LMD	Corner drive type
431 – 510	600	144	Special corner drive, short	460	120	N	Corner drive, standard
511 – 600			Corner drive, standard	600	170	Y	Corner drive, standard
601 – 800	690	246	Corner drive, standard	690	263	Y	Corner drive, standard
801 – 1000	890	396	Corner drive, standard	890	413	Y	Corner drive, standard
1001 – 1200	1090	496	Corner drive, standard	1090	513	Y	Corner drive, standard
1201 – 1400	1290	546	Corner drive, standard	1290	563	Y	Corner drive, standard
1401 – 1600	1490	546	Corner drive, standard	1490	563	Y	Corner drive, standard
1601 – 1800	1690	546	Corner drive, standard	1690	563 / 1000	Y	Corner drive, standard
1801 – 2000	1890	546	Corner drive, standard	1890	1000	Y	Corner drive, standard
2001 – 2200	2090	546	Corner drive, standard	2090	1000	Y	Corner drive, standard
2201 – 2400	2290	546	Corner drive, standard	2290	1000	Y	Corner drive, standard



INFO

A centre lock is required from SRH 2401 mm.

Centred / variable handle height

Backset 8

Application range		Lever-operated espagnolette Plus		T&T espagnolette			
SRH	Component length	Toggle lever position	Corner drive type	Component length	Handle height	LMD	Corner drive type
431 – 520	400	194 – 239	Special corner drive, short	500	215 – 260	N	Special corner drive, short
521 – 620		240 – 289	Corner drive, standard		261 – 310	N	Corner drive, standard
621 – 700	680	290 – 329	Special corner drive, short	580	311 – 400	Y	Corner drive, standard
701 – 800		330 – 379	Corner drive, standard				
801 – 1200	980	380 – 579	Corner drive, standard	980	401 – 600	Y	Corner drive, standard
1201 – 1600	1380	580 – 779	Corner drive, standard	1380	601 – 800	Y	Corner drive, standard
1601 – 2000	1780	780 – 979	Corner drive, standard	1780	801 – 1000	Y	Corner drive, standard
2001 – 2400	2180	980 – 1179	Corner drive, standard	2180	1001 – 1200	Y	Corner drive, standard



INFO

A centre lock is required from SRH 2401 mm.



Backset of 15 mm and above

Application range SRH	Lever-operated espagnolette Plus			T&T espagnolette			
	Component length	Toggle lever position	Corner drive type	Component length	Handle height	LMD	Corner drive type
431 – 450	400	194 – 204	Special corner drive, short	430	215 – 225	N	Special corner drive, short
451 – 520		205 – 239	Special corner drive, short		226 – 260	N	Corner drive, standard
521 – 620		240 – 289	Corner drive, standard		261 – 310	N	Corner drive, standard
621 – 700	680	290 – 329	Special corner drive, short	580	311 – 400	Y	Corner drive, standard
701 – 800		330 – 379	Corner drive, standard				
801 – 1200	980	380 – 579	Corner drive, standard	980	401 – 600	Y	Corner drive, standard
1201 – 1600	1380	580 – 779	Corner drive, standard	1380	601 – 800	Y	Corner drive, standard
1601 – 2000	1780	780 – 979	Corner drive, standard	1780	801 – 1000	Y	Corner drive, standard
2001 – 2400	2180	980 – 1179	Corner drive, standard	2180	1001 – 1200	Y	Corner drive, standard



INFO

A centre lock is required from SRH 2401 mm.

6 Frame components



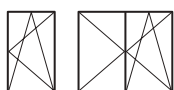
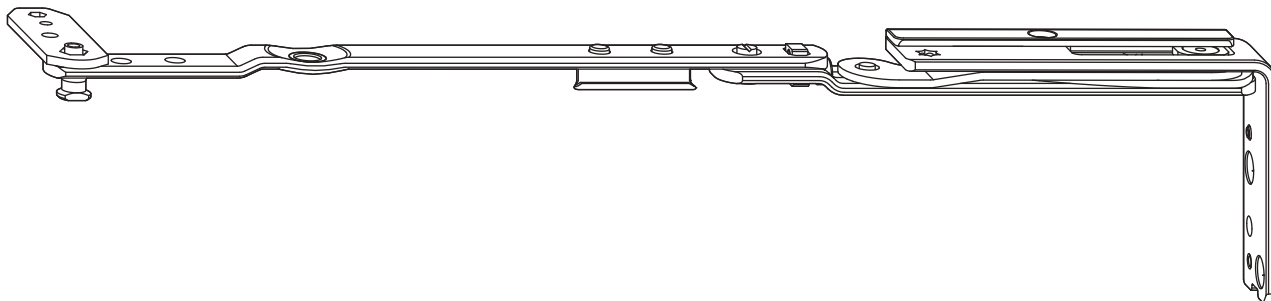
INFO

Further frame components are available upon request.



6.1 Stay arm

6.1.1 Standard – stay arm 250



				Nº
Aluplast Ideal 2000	250	Roto Sil	Left	623968
Aluplast Ideal 3000	250	Roto Sil	Right	623967
Aluplast Ideal 4000	250	Roto Sil	Left	628938
Aluplast Ideal 5000	250	Roto Sil	Right	628937
Aluplast Ideal 6000				
Aluplast Ideal 8000				
Schüco Corona MD				
Brüggmann AD 13	250	Roto Sil	Left	635229
Brüggmann MD 13				
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline 82 MD				
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Brüggmann AD 13	250	Roto Sil	Right	635228
Brüggmann MD 13				
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline 82 MD				
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann AD 73				
Brüggmann BluEvolution 82				
Deceuninck Zendow	250	Roto Sil	Left	623948
KBE 70 AD	250	Roto Sil	Right	623947
KBE 76				
Kömmerling 76				
Trocal 76				
KBE 88 MD				
Kömmerling 88 MD				
Trocal 88 MD				
Gealan Kubus	250	Roto Sil	Left	807532
	250	Roto Sil	Right	807531
Gealan S3000	250	Roto Sil	Left	606334
Gealan S7000	250	Roto Sil	Right	606326
Gealan S8000				
Inoutic AD 13	250	Roto Sil	Left	635396
Inoutic Eforte	250	Roto Sil	Right	635395
Inoutic MD 100				
Inoutic Prestige				
Kömmerling 88 Plus	250	Roto Sil	Left	606347
Kömmerling Eurodur 3S	250	Roto Sil	Right	606346
Kömmerling Eurofutur Classic				
Kömmerling Eurofutur Elegance				

Frame components

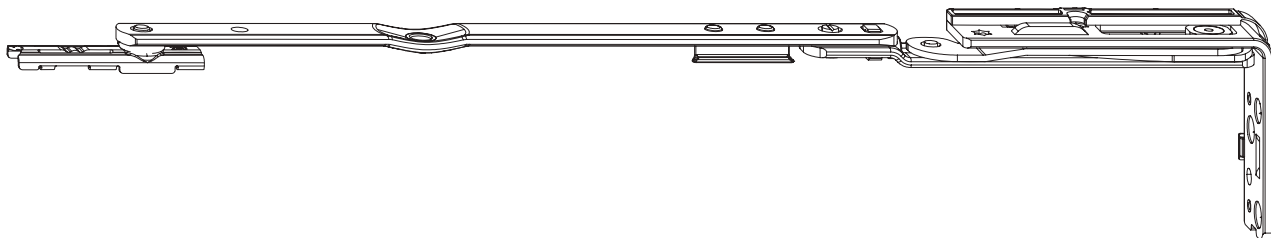
Stay arm

Standard – stay arm 250

				Nº
Rehau Nordic Design	250	Roto Sil	Left	606377
	250	Roto Sil	Right	606375
Rehau S 735 MD Rehau S 788 Rehau S 799 Brillant Design (S 730)	250	Roto Sil	Left	610950
	250	Roto Sil	Right	610949
Rehau S 980 Geneo	250	Roto Sil	Left	606364
	250	Roto Sil	Right	606363
Salamander 2D Salamander 3D Salamander Streamline 76	250	Roto Sil	Left	635510
	250	Roto Sil	Right	635509
Salamander BluEvolution 92	250	Roto Sil	Left	635620
	250	Roto Sil	Right	635619
Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SI82 MD	250	Roto Sil	Left	764817
	250	Roto Sil	Right	764816
Tropical InnoNova 70.A5 AD Tropical InnoNova 70.M5 MD	250	Roto Sil	Left	626595
	250	Roto Sil	Right	626594
Tropical 88+ Tropical InnoNova 2000	250	Roto Sil	Left	637763
	250	Roto Sil	Right	637762
Wymar 3000	250	Roto Sil	Left	736619
	250	Roto Sil	Right	736618



6.1.2 Standard – stay arm 350

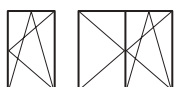
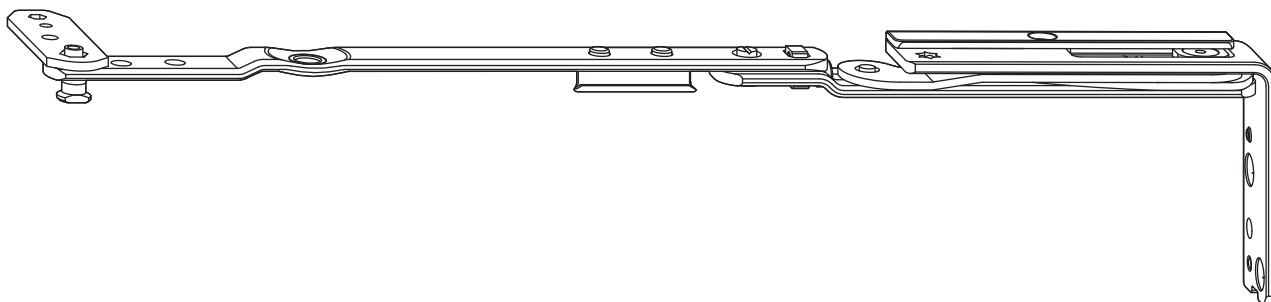


				Nº
Aluplast Ideal 2000	350	Roto Sil	Left	623970
Aluplast Ideal 3000	350	Roto Sil	Right	623969
Aluplast Ideal 4000	350	Roto Sil	Left	628941
Aluplast Ideal 5000	350	Roto Sil	Right	628939
Aluplast Ideal 6000				
Aluplast Ideal 8000				
Schüco Corona MD				
Brüggmann AD 13	350	Roto Sil	Left	635231
Brüggmann MD 13	350	Roto Sil	Right	635230
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline 82 MD				
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Deceuninck Zendow	350	Roto Sil	Left	623950
KBE 70 AD	350	Roto Sil	Right	623949
KBE 76				
Kömmerling 76				
Trocal 76				
KBE 88 MD				
Kömmerling 88 MD				
Trocal 88 MD				
Gealan Kubus	350	Roto Sil	Left	807534
	350	Roto Sil	Right	807533
Gealan S3000	350	Roto Sil	Left	606336
Gealan S7000	350	Roto Sil	Right	606335
Gealan S8000				
Inoutic AD 13	350	Roto Sil	Left	635398
Inoutic Eforte	350	Roto Sil	Right	635397
Inoutic MD 100				
Inoutic Prestige				
Kömmerling 88 Plus	350	Roto Sil	Left	606349
Kömmerling Eurodur 3S	350	Roto Sil	Right	606348
Kömmerling Eurofutur Classic				
Kömmerling Eurofutur Elegance				
Rehau Nordic Design	350	Roto Sil	Left	606380
	350	Roto Sil	Right	606379
Rehau S 735 MD	350	Roto Sil	Left	610952
Rehau S 788	350	Roto Sil	Right	610951
Rehau S 799 Brillant Design (S 730)				
Rehau S 980 Geneo	350	Roto Sil	Left	606366
	350	Roto Sil	Right	606365
Salamander 2D	350	Roto Sil	Left	635512
Salamander 3D	350	Roto Sil	Right	635511
Salamander Streamline 76				
Salamander BluEvolution 92	350	Roto Sil	Left	635622
	350	Roto Sil	Right	635621

				Nº
Schüco Corona CT70 AD	350	Roto Sil	Left	764819
Schüco Corona CT70 MD	350	Roto Sil	Left	764818
Schüco Corona SI82 MD				
Trocal InnoNova 70.A5 AD	350	Roto Sil	Left	626597
Trocal InnoNova 70.M5 MD	350	Roto Sil	Right	626596
Trocal 88+	350	Roto Sil	Left	637775
Trocal InnoNova 2000	350	Roto Sil	Right	637764
Wymar 3000	350	Roto Sil	Left	736621
	350	Roto Sil	Right	736620



6.1.3 Standard – stay arm 500



				Nº
Aluplast Ideal 2000	500	Roto Sil	Left	623972
Aluplast Ideal 3000	500	Roto Sil	Right	623971
Aluplast Ideal 4000	500	Roto Sil	Left	628948
Aluplast Ideal 5000	500	Roto Sil	Right	628947
Aluplast Ideal 6000				
Aluplast Ideal 8000				
Schüco Corona MD				
Brüggmann AD 13	500	Roto Sil	Left	635233
Brüggmann MD 13	500	Roto Sil	Right	635232
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline 82 MD				
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Deceuninck Zendow	500	Roto Sil	Left	623952
KBE 70 AD	500	Roto Sil	Right	623951
KBE 76				
Kömmerling 76				
Trocal 76				
KBE 88 MD				
Kömmerling 88 MD				
Trocal 88 MD				
Gealan Kubus	500	Roto Sil	Left	807536
	500	Roto Sil	Right	807535
Gealan S3000	500	Roto Sil	Left	606339
Gealan S7000	500	Roto Sil	Right	606338
Gealan S8000				
Inoutic AD 13	500	Roto Sil	Left	635400
Inoutic Eforte	500	Roto Sil	Right	635399
Inoutic MD 100				
Inoutic Prestige				
Kömmerling 88 Plus	500	Roto Sil	Left	606353
Kömmerling Eurodur 3S	500	Roto Sil	Right	606352
Kömmerling Eurofutur Classic				
Kömmerling Eurofutur Elegance				
Rehau Nordic Design	500	Roto Sil	Left	606383
	500	Roto Sil	Right	606381
Rehau S 735 MD	500	Roto Sil	Left	610954
Rehau S 788	500	Roto Sil	Right	610953
Rehau S 799 Brillant Design (S 730)				
Rehau S 980 Geneo	500	Roto Sil	Left	606369
	500	Roto Sil	Right	606367
Salamander 2D	500	Roto Sil	Left	635514
Salamander 3D	500	Roto Sil	Right	635513
Salamander Streamline 76				

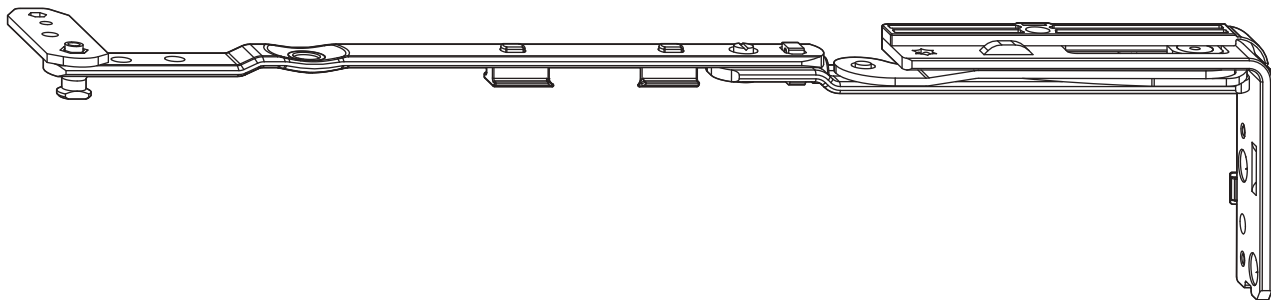
Frame components**Stay arm**

Standard – stay arm 500

				Nº
Salamander BluEvolution 92	500	Roto Sil	Left	635624
	500	Roto Sil	Right	635623
Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SI82 MD	500	Roto Sil	Left	764821
	500	Roto Sil	Right	764820
Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD	500	Roto Sil	Left	626599
	500	Roto Sil	Right	626598
Trocal 88+ Trocal InnoNova 2000	500	Roto Sil	Left	637777
	500	Roto Sil	Right	637776
Wymar 3000	500	Roto Sil	Left	736623
	500	Roto Sil	Right	736622

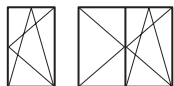
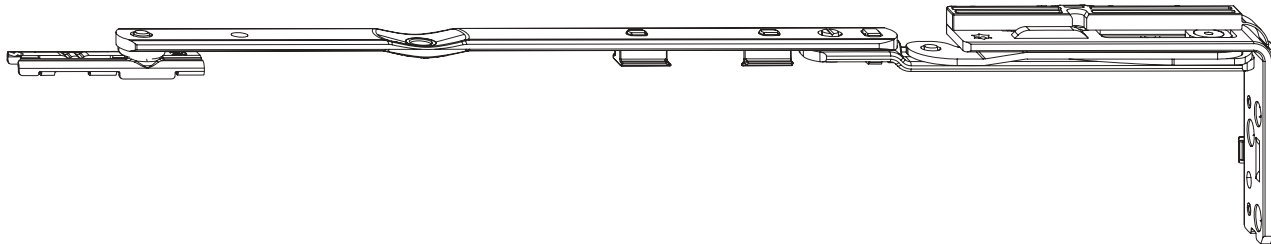


6.1.4 TiltFirst (TF) – stay arm 250



				Nº
Aluplast Ideal 2000	250	Roto Sil	Left	643271
Aluplast Ideal 3000	250	Roto Sil	Right	643270
Aluplast Ideal 4000	250	Roto Sil	Left	643247
Aluplast Ideal 5000	250	Roto Sil	Right	643246
Aluplast Ideal 6000				
Aluplast Ideal 8000				
Schüco Corona MD				
Brüggmann AD 13	250	Roto Sil	Left	643277
Brüggmann MD 13	250	Roto Sil	Right	643276
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline 82 MD				
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Deceuninck Zendow	250	Roto Sil	Left	643253
KBE 70 AD	250	Roto Sil	Right	643252
KBE 76				
Kömmerling 76				
Trocal 76				
KBE 88 MD				
Kömmerling 88 MD				
Trocal 88 MD				
Gealan S3000	250	Roto Sil	Left	638965
Gealan S7000	250	Roto Sil	Right	638944
Gealan S8000				
Inoutic AD 13	250	Roto Sil	Left	643259
Inoutic Eforte	250	Roto Sil	Right	643258
Inoutic MD 100				
Inoutic Prestige				
Kömmerling 88 Plus	250	Roto Sil	Left	643265
Kömmerling Eurodur 3S	250	Roto Sil	Right	643264
Kömmerling Eurofutur Classic				
Kömmerling Eurofutur Elegance				
Rehau S 735 MD	250	Roto Sil	Left	640572
Rehau S 788	250	Roto Sil	Right	640573
Rehau S 799 Brillant Design (S 730)				
Rehau S 980 Geneo	250	Roto Sil	Left	640566
	250	Roto Sil	Right	640567
Schüco Corona CT70 AD	250	Roto Sil	Left	764825
Schüco Corona CT70 MD	250	Roto Sil	Right	764824
Schüco Corona SI82 MD				
Trocal InnoNova 70.A5 AD	250	Roto Sil	Left	626601
Trocal InnoNova 70.M5 MD	250	Roto Sil	Right	626600
Veka Softline 70 MD	250	Roto Sil	Left	636481
	250	Roto Sil	Right	636480

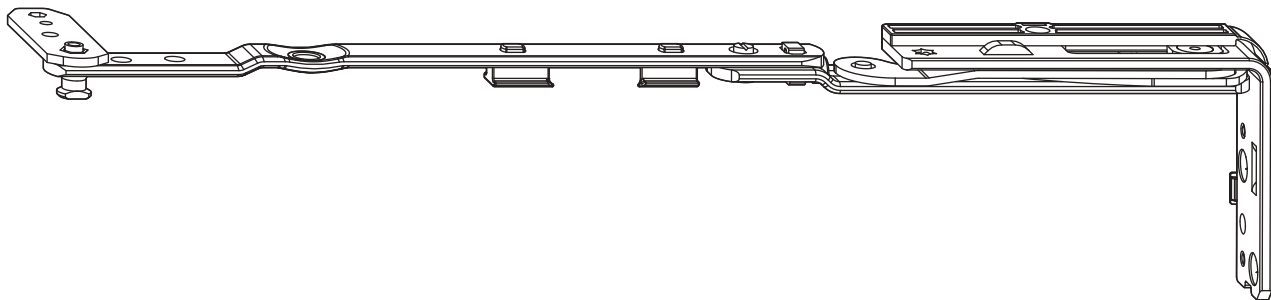
6.1.5 TiltFirst (TF) – stay arm 350



				Nº
Aluplast Ideal 2000	350	Roto Sil	Left	643273
Aluplast Ideal 3000	350	Roto Sil	Right	643272
Aluplast Ideal 4000	350	Roto Sil	Left	643249
Aluplast Ideal 5000	350	Roto Sil	Right	643248
Aluplast Ideal 6000				
Aluplast Ideal 8000				
Schüco Corona MD				
Brüggmann AD 13	350	Roto Sil	Left	643279
Brüggmann MD 13	350	Roto Sil	Right	643278
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline 82 MD				
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Deceuninck Zendow	350	Roto Sil	Left	643255
KBE 70 AD	350	Roto Sil	Right	643254
KBE 76				
Kömmerling 76				
Trocal 76				
KBE 88 MD				
Kömmerling 88 MD				
Trocal 88 MD				
Gealan S3000	350	Roto Sil	Left	638967
Gealan S7000	350	Roto Sil	Right	638966
Gealan S8000				
Inoutic AD 13	350	Roto Sil	Left	643261
Inoutic Eforte	350	Roto Sil	Right	643260
Inoutic MD 100				
Inoutic Prestige				
Kömmerling 88 Plus	350	Roto Sil	Left	643267
Kömmerling Eurodur 3S	350	Roto Sil	Right	643266
Kömmerling Eurofutur Classic				
Kömmerling Eurofutur Elegance				
Rehau S 735 MD	350	Roto Sil	Left	640574
Rehau S 788	350	Roto Sil	Right	640575
Rehau S 799 Brillant Design (S 730)				
Rehau S 980 Geneo	350	Roto Sil	Left	640568
	350	Roto Sil	Right	640569
Schüco Corona CT70 AD	350	Roto Sil	Left	764827
Schüco Corona CT70 MD	350	Roto Sil	Right	764826
Schüco Corona SI82 MD				
Trocal InnoNova 70.A5 AD	350	Roto Sil	Left	626603
Trocal InnoNova 70.M5 MD	350	Roto Sil	Right	626602
Veka Softline 70 MD	350	Roto Sil	Left	636484
	350	Roto Sil	Right	636483



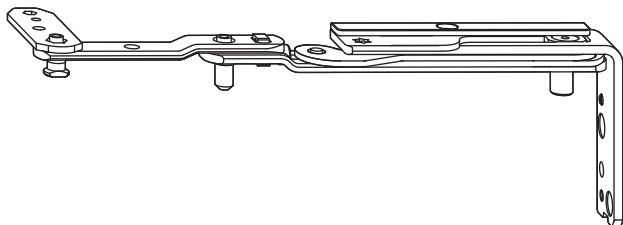
6.1.6 TiltFirst (TF) – stay arm 500



				Nº
Aluplast Ideal 2000	500	Roto Sil	Left	643275
Aluplast Ideal 3000	500	Roto Sil	Right	643274
Aluplast Ideal 4000	500	Roto Sil	Left	643251
Aluplast Ideal 5000	500	Roto Sil	Right	643250
Aluplast Ideal 6000				
Aluplast Ideal 8000				
Schüco Corona MD				
Brüggmann AD 13	500	Roto Sil	Left	643281
Brüggmann MD 13	500	Roto Sil	Right	643280
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline 82 MD				
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Deceuninck Zendow	500	Roto Sil	Left	643257
KBE 70 AD	500	Roto Sil	Right	643256
KBE 76				
Kömmerling 76				
Trocal 76				
KBE 88 MD				
Kömmerling 88 MD				
Trocal 88 MD				
Gealan S3000	500	Roto Sil	Left	638969
Gealan S7000	500	Roto Sil	Right	638968
Gealan S8000				
Inoutic AD 13	500	Roto Sil	Left	643263
Inoutic Eforte	500	Roto Sil	Right	643262
Inoutic MD 100				
Inoutic Prestige				
Kömmerling 88 Plus	500	Roto Sil	Left	643269
Kömmerling Eurodur 3S	500	Roto Sil	Right	643268
Kömmerling Eurofutur Classic				
Kömmerling Eurofutur Elegance				
Rehau S 735 MD	500	Roto Sil	Left	640576
Rehau S 788	500	Roto Sil	Right	640577
Rehau S 799 Brillant Design (S 730)				
Rehau S 980 Geneo	500	Roto Sil	Left	640570
	500	Roto Sil	Right	640571
Schüco Corona CT70 AD	500	Roto Sil	Left	764829
Schüco Corona CT70 MD	500	Roto Sil	Right	764828
Schüco Corona SI82 MD				
Trocal InnoNova 70.A5 AD	500	Roto Sil	Left	626605
Trocal InnoNova 70.M5 MD	500	Roto Sil	Right	626604
Veka Softline 70 MD	500	Roto Sil	Left	636515
	500	Roto Sil	Right	636516

6.2 Rebate stay arm

6.2.1 Standard



				Nº
Aluplast Ideal 2000	Roto Sil	Left		623966
Aluplast Ideal 3000	Roto Sil	Right		623965
Aluplast Ideal 4000	Roto Sil	Left		628936
Aluplast Ideal 5000	Roto Sil	Right		628914
Aluplast Ideal 6000				
Aluplast Ideal 8000				
Schüco Corona MD				
Brüggmann AD 13	Roto Sil	Left		635227
Brüggmann MD 13	Roto Sil	Right		635226
Veka Alphaline 90				
Veka Softline 70 AD				
Veka Softline 70 MD				
Veka Softline 82 MD				
Veka Topline AD 13				
Veka Topline MD 13				
Brüggmann BluEvolution 73 AD				
Brüggmann BluEvolution 82				
Deceuninck Zendow	Roto Sil	Left		623946
KBE 70 AD	Roto Sil	Right		623945
KBE 76				
Kömmerling 76				
Trocal 76				
KBE 88 MD				
Kömmerling 88 MD				
Trocal 88 MD				
Gealan Kubus	Roto Sil	Left		807530
	Roto Sil	Right		807529
Gealan S3000	Roto Sil	Left		606325
Gealan S7000	Roto Sil	Right		606324
Gealan S8000				
Inoutic AD 13	Roto Sil	Left		635274
Inoutic Eforte	Roto Sil	Right		635273
Inoutic MD 100				
Inoutic Prestige				
Kömmerling 88 Plus	Roto Sil	Left		606345
Kömmerling Eurodur 3S	Roto Sil	Right		606344
Kömmerling Eurofutur Classic				
Kömmerling Eurofutur Elegance				
Rehau Nordic Design	Roto Sil	Left		606373
	Roto Sil	Right		606372
Rehau S 735 MD	Roto Sil	Left		610948
Rehau S 788	Roto Sil	Right		610947
Rehau S 799 Brillant Design (S 730)				
Rehau S 980 Geneo	Roto Sil	Left		606362
	Roto Sil	Right		606361
Salamander 2D	Roto Sil	Left		635508
Salamander 3D	Roto Sil	Right		635507
Salamander Streamline 76				

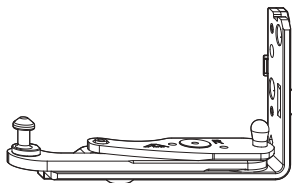


			Nº
Salamander BluEvolution 92	Roto Sil	Left	635618
	Roto Sil	Right	635617
Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SI82 MD	Roto Sil	Left	764815
	Roto Sil	Right	764794
Trocal 88+ Trocal InnoNova 2000	Roto Sil	Left	637779
	Roto Sil	Right	637778
Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD	Roto Sil	Left	626607
	Roto Sil	Right	626606
Veka Alphaline 90 Veka Softline 70 AD Veka Softline 70 MD	Roto Sil	Left	606388
	Roto Sil	Right	606387
Wymar 3000	Roto Sil	Left	736685
	Roto Sil	Right	736624

For the compatible rebate stay guide, see .

6.3 Pivot rests

6.3.1 Standard



			Nº
Aluplast Ideal 2000	Roto Sil	Left	623974
Aluplast Ideal 3000	Roto Sil	Right	623973
Aluplast Ideal 4000	Roto Sil	Left	628950
Aluplast Ideal 5000	Roto Sil	Right	628949
Aluplast Ideal 6000			
Aluplast Ideal 8000			
Schüco Corona MD			
Brüggmann AD 13	Roto Sil	Left	635235
Brüggmann MD 13	Roto Sil	Right	635234
Veka Alphaline 90			
Veka Softline 70 AD			
Veka Softline 70 MD			
Veka Softline 82 MD			
Veka Topline AD 13			
Veka Topline MD 13			
Brüggmann BluEvolution 73 AD			
Brüggmann BluEvolution 82			
Deceuninck Zendow	Roto Sil	Left	623953
KBE 70 AD	Roto Sil	Right	623954
KBE 76			
Kömmerling 76			
Trocal 76			
KBE 88 MD			
Kömmerling 88 MD			
Trocal 88 MD			
Gealan Kubus	Roto Sil	Left	807528
	Roto Sil	Right	807527
Gealan S3000	Roto Sil	Left	606343
Gealan S7000	Roto Sil	Right	606341
Gealan S8000			
Inoutic AD 13	Roto Sil	Left	635402
Inoutic Eforte	Roto Sil	Right	635401
Inoutic MD 100			
Inoutic Prestige			
Kömmerling 88 Plus	Roto Sil	Left	606355
Kömmerling Eurodur 3S	Roto Sil	Right	606354
Kömmerling Eurofutur Classic			
Kömmerling Eurofutur Elegance			
Rehau Nordic Design	Roto Sil	Left	606385
	Roto Sil	Right	606384
Rehau S 735 MD	Roto Sil	Left	610966
Rehau S 788	Roto Sil	Right	610965
Rehau S 799 Brillant Design (S 730)			
Rehau S 980 Geneo	Roto Sil	Left	606371
	Roto Sil	Right	606370
Salamander 2D	Roto Sil	Left	635616
Salamander 3D	Roto Sil	Right	635615
Salamander Design Streamline 76			
Salamander BluEvolution 92	Roto Sil	Left	635626
	Roto Sil	Right	635625



			Nº
Schüco Corona CT70 AD	Roto Sil	Left	764823
Schüco Corona CT70 MD	Roto Sil	Right	764822
Schüco Corona SI82 MD			
Trocal 88+	Roto Sil	Left	637781
Trocal InnoNova 2000	Roto Sil	Right	637780
Trocal InnoNova 70.A5 AD	Roto Sil	Left	626609
Trocal InnoNova 70.M5 MD	Roto Sil	Right	626608
Veka Softline 70 MD	Roto Sil	Left	606397
	Roto Sil	Right	606396
Wymar 3000	Roto Sil	Left	736687
	Roto Sil	Right	736686

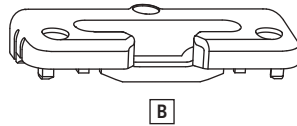
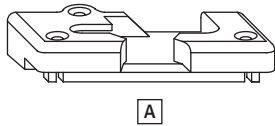
For compatible corner hinges, see .

For compatible load transfer, see .

6.4 Tilt strikers

6.4.1 Standard

6.4.1.1 Zinc



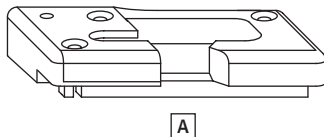
Assignment	Meaning
[A]	With base
[B]	Without base

					Nº
Aluplast Ideal 2000	13	N	Roto Sil	–	331487
Aluplast Ideal 3000	13	Y	Roto Sil	Left	260501
Schüco Corona CT70 MD	13	Y	Roto Sil	Right	260502
Schüco Corona SI82 MD					
LB Profile Pad					
Schüco LivIng 82					
Aluplast Ideal 4000	13	N	Roto Sil	–	350190
Aluplast Ideal 5000	13	Y	Roto Sil	Left	257364
Aluplast Ideal 6000	13	Y	Roto Sil	Right	257365
Schüco Corona AD					
Aluplast Ideal 8000					
Dimex Komfort					
Schüco Corona 60 Vision					
Schüco Corona AS 60					
Brüggmann AD 13	13	Y	Roto Sil	Left	292195
Brüggmann MD 13	13	Y	Roto Sil	Right	292196
Dimex Contour					
Dimex Elegance					
Schüco Corona CT70 AD	13	N	Roto Sil	–	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					
Schüco Corona CT70 AD	13	Y	Roto Sil	Left	256783
Veka Softline 70 AD	13	Y	Roto Sil	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	Roto Sil	Left	281599
Deceuninck Mondial VK	13	Y	Roto Sil	Right	281600
Deceuninck Zendow	13	Y	Roto Sil	Left	370073
	13	Y	Roto Sil	Right	370074
Gealan Kubus	13	N	Roto Sil	–	807518
	13	Y	Roto Sil	Left	807515
	13	Y	Roto Sil	Right	807516
Gealan S3000	13	N	Roto Sil	–	367200
Gealan S7000	13	Y	Roto Sil	Left	260497
Gealan S8000	13	Y	Roto Sil	Right	260498
Gealan S9000					
Inoutic AD 13	13	N	Roto Sil	–	729039
Inoutic Prestige MD					

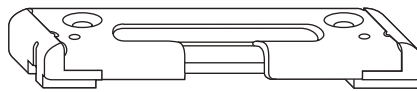


					Nº
Inoutic AD 13	13	Y	Roto Sil	Left	260499
Inoutic Eforte	13	Y	Roto Sil	Right	260500
Inoutic MD 100					
Inoutic Prestige AD					
Inoutic Prestige MD	13	Y	Roto Sil	Left	288117
	13	Y	Roto Sil	Right	288118
KBE 70 AD	13	N	Roto Sil	–	338071
KBE 70 MD					
KBE 70 AD	13	Y	Roto Sil	Left	289973
KBE 70 MD	13	Y	Roto Sil	Right	289974
Kömmerring Gold					
KBE 76	13	N	Roto Sil	–	738472
Kömmerring 76	13	Y	Roto Sil	Left	780787
Panorama 3000	13	Y	Roto Sil	Right	780788
Trocal 76					
KBE 88 MD					
Kömmerring 88 MD					
Trocal 88 MD					
KBE AD	9	Y	Roto Sil	Left	260493
	9	Y	Roto Sil	Right	260494
KBE MD	9	Y	Roto Sil	Left	260505
Trocal S900	9	Y	Roto Sil	Right	260506
Kömmerring 88 Plus	13	N	Roto Sil	–	334954
Kömmerring Eurofutur Classic					
Kömmerring Eurodur 3S	13	Y	Roto Sil	Left	260489
Kömmerring Eurodur MPF	13	Y	Roto Sil	Right	260490
Panorama 2000	9	Y	Roto Sil	Left	261794
	9	Y	Roto Sil	Right	281710
Plus Plan Plus Tec	13	Y	Roto Sil	Left	264420
	13	Y	Roto Sil	Right	264421
Rehau S 735 MD	13	N	Roto Sil	–	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	Roto Sil	Left	316939
Rehau S 788	13	Y	Roto Sil	Right	316940
Rehau S 799 Brillant Design (S 730)					
Rehau S 986 EuroDesign 86					
Rehau S 980 Geneo	13	Y	Roto Sil	Left	496018
	13	Y	Roto Sil	Right	496017
Roplasto 4K	13	Y	Roto Sil	Left	260507
Roplasto 7001 AD	13	Y	Roto Sil	Right	260508
Roplasto 7001 MD					
Salamander 2D	13	N	Roto Sil	–	561212
Salamander 3D	13	Y	Roto Sil	Left	261724
Salamander Streamline 76	13	Y	Roto Sil	Right	261725
Salamander BluEvolution 92	13	N	Roto Sil	–	604887
	13	Y	Roto Sil	Left	599778
	13	Y	Roto Sil	Right	599779
Trocal 88+	13	Y	Roto Sil	Left	290131
Trocal InnoNova 2000	13	Y	Roto Sil	Right	290152
Trocal InnoNova 70.A5 AD	13	N	Roto Sil	–	336808
Trocal InnoNova 70.M5 MD					
Veka Softline AD 9	9	Y	Roto Sil	Left	260495
	9	Y	Roto Sil	Right	260496
Wymar 2500	13	Y	Roto Sil	Left	254468
	13	Y	Roto Sil	Right	294893
Wymar 3000	13	Y	Roto Sil	Left	373964
	13	Y	Roto Sil	Right	373963

6.4.1.2 Steel



A



B

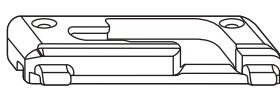
Assignment	Meaning
[A]	With base
[B]	Without base

					Nº
Aluplast Ideal 2000	13	Y	Roto Sil	Left	260349
Aluplast Ideal 3000	13	Y	Roto Sil	Right	260350
Schüco Corona CT70 MD					
Schüco Corona SI82 MD					
Schüco LivIng 82					
Veka Softline 82 MD					
Aluplast Ideal 4000	13	Y	Roto Sil	Left	257353
Aluplast Ideal 5000	13	Y	Roto Sil	Right	257354
Aluplast Ideal 6000					
Schüco Corona AD					
Brüggmann AD 13	13	N	Roto Sil	–	283031
Brüggmann MD 13					
Dimex Contour					
Dimex Elegance					
Schüco Corona CT70 AD	13	Y	Roto Sil	Left	260351
Veka Softline 70 AD	13	Y	Roto Sil	Right	260352
Veka Topline AD 13					
Veka Topline MD 13					
Brüggmann BluEvolution 73 AD					
Brüggmann BluEvolution 82					
Veka Softline 82 MD					
Deceuninck Zendow	13	N	Roto Sil	–	607926
Gealan S3000	13	Y	Roto Sil	Left	260345
Gealan S7000	13	Y	Roto Sil	Right	260346
Gealan S8000					
Gealan S9000					
Inoutic AD 13	13	Y	Roto Sil	Left	260347
Inoutic Eforte	13	Y	Roto Sil	Right	260348
Inoutic MD 100					
Inoutic Prestige AD					
KBE AD	9	N	Roto Sil	–	291594
KBE 70 AD	13	N	Roto Sil	–	289975
Kömmerling 88 Plus	13	N	Roto Sil	–	334956
Kömmerling Eurofutur Classic					
Kömmerling Eurofutur Elegance					
Kömmerling Eurofutur Classic	13	Y	Roto Sil	Left	260337
Kömmerling Eurofutur Elegance	13	Y	Roto Sil	Right	260338
Wymar 3000					
Kömmerling Eurodur 3S					
Panorama 2000	9	N	Roto Sil	–	281722
Rehau S 735 MD	13	Y	Roto Sil	Left	260339
Rehau S 788	13	Y	Roto Sil	Right	260340
Rehau S 799 Brilliant Design (S 730)					
Rehau S 969 Synego					
Rehau S 980 Geneo					
Rehau S 986 EuroDesign 86					
Roplasto 4K	13	Y	Roto Sil	Left	260353
Roplasto 7001 AD	13	Y	Roto Sil	Right	260354
Roplasto 7001 MD					
Plus Plan Plus Tec					
Salamander Design 2D	13	N	Roto Sil	–	314269
Salamander Design 3D					
Salamander Streamline 76					
Schüco Corona CT70 MD	13	N	Roto Sil	–	333251

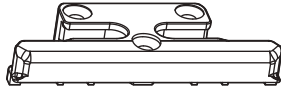


					Nº
Trocal 88+ Trocal InnoNova 2000 Trocal S900	13	N	Roto Sil	–	291564
Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD	13	N	Roto Sil	–	389598
Veka Softline AD 9	9	N	Roto Sil	–	291593

6.4.2 TiltFirst (TF)



A



B

Assignment	Meaning
[A]	Right / left tilt striker
[B]	Symmetrical tilt striker

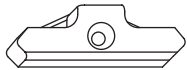
					Nº
Aluplast Ideal 2000	13	Y	Roto Sil	Left	332802
Aluplast Ideal 3000	13	Y	Roto Sil	Right	332801
Schüco Corona CT70 AD					
Schüco Corona CT70 MD					
Schüco Corona SI82 MD					
Aluplast Ideal 4000	13	Y	Roto Sil	Left	336105
Aluplast Ideal 5000	13	Y	Roto Sil	Right	336106
Aluplast Ideal 6000					
Schüco Corona AD					
Brüggmann AD 13	13	Y	Roto Sil	Left	320608
Brüggmann MD 13	13	Y	Roto Sil	Right	320609
Veka Topline AD 13	13	Y	Roto Sil	Left	309134
Veka Topline MD 13	13	Y	Roto Sil	Right	309135
Brüggmann BluEvolution 73 AD					
Brüggmann BluEvolution 82					
Gealan Kubus	13	Y	Roto Sil	Left	807519
	13	Y	Roto Sil	Right	807520
Gealan S3000	13	Y	Roto Sil	Left	280122
Gealan S7000	13	Y	Roto Sil	Right	280123
Gealan S8000					
Deceuninck Mondial VK	13	Y	Roto Sil	Left	309802
	13	Y	Roto Sil	Right	309803
Deceuninck Zendow	13	Y	Roto Sil	Left	493547
	13	Y	Roto Sil	Right	493426
Inoutic AD 13	13	Y	Roto Sil	Left	493840
Inoutic Eforte	13	Y	Roto Sil	Right	493839
Inoutic Prestige AD					
Inoutic Prestige MD					
KBE 70 AD	13	Y	Roto Sil	Left	335459
KBE 76	13	Y	Roto Sil	Right	335462
Kömmerring 76					
Trocal 76					
KBE 88 MD					
Kömmerring 88 MD					
Trocal 88 MD					
KBE AD	13	Y	Roto Sil	Left	317004
	13	Y	Roto Sil	Right	317005
Kömmerring 88 Plus	13	Y	Roto Sil	Left	309132
Kömmerring Eurodur 3S	13	Y	Roto Sil	Right	309133
Kömmerring Eurofutur Classic					
Kömmerring Eurofutur Elegance					
Rehau S 735 MD	13	Y	Roto Sil	Left	261728
Rehau S 788	13	Y	Roto Sil	Right	261729
Rehau S 799 Brillant Design (S 730)					
Rehau S 969 Synego					
Rehau S 980 Geneo					
Roplasto 4K	13	Y	Roto Sil	Left	491225
	13	Y	Roto Sil	Right	491226
Salamander 2D	13	Y	Roto Sil	Left	316977
Salamander 3D	13	Y	Roto Sil	Right	316978
Salamander Streamline 76					
Trocal 88+	13	Y	Roto Sil	Left	606635
Trocal InnoNova 2000	13	Y	Roto Sil	Right	606636



					Nº
Trocal S900	9	Y	Roto Sil	Left	309136
	9	Y	Roto Sil	Right	309137
Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD	13	Y	Roto Sil	Left	336107
	13	Y	Roto Sil	Right	336108
Veka Softline 70 AD Veka Topline AD 13	13	N	Roto Sil	–	617391
Veka Softline AD 9	9	Y	Roto Sil	Left	328015
	9	Y	Roto Sil	Right	328016

6.5 Strikers

6.5.1 Standard



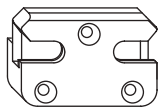
				Nº
Aluplast Ideal 2000 Aluplast Ideal 3000 LB Profile Pad Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SI82 MD Schüco LivIng 82	13	N	Roto Sil	331489
Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Aluplast Ideal 8000 Dimex Komfort Schüco Corona 60 Vision Schüco Corona AD Schüco Corona AS 60 Schüco Corona MD	13	N	Roto Sil	350192
Brüggmann AD 13 Brüggmann MD 13 Dimex Contour Dimex Elegance	13	N	Roto Sil	341485
Brüggmann AD 13 Brüggmann MD 13	13	Y	Roto Sil	292193
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	Roto Sil	332438
Deceuninck Klassiek Deceuninck Mondial VK	13	Y	Roto Sil	281601
Deceuninck Zendow	13	N	Roto Sil	370071
Gealan Kubus	13	N	Roto Sil	796675
Gealan S3000 Gealan S7000 Gealan S8000 Gealan S9000	13	N	Roto Sil	319744
Inoutic AD 13 Inoutic Eforte Inoutic MD 100 Inoutic Prestige AD Inoutic Prestige MD	13	Y	Roto Sil	260370
KBE AD	9	Y	Roto Sil	260367
KBE MD Trocal S900	9	Y	Roto Sil	260373
KBE 70 AD KBE 70 MD Kömmerling Gold	13	N	Roto Sil	338070
KBE 76 Kömmerling 76 Trocal 76 KBE 88 MD Kömmerling 88 MD Panorama 3000 Trocal 88 MD	13	N	Roto Sil	738470
Kömmerling Eurodur 3S Kömmerling Eurodur MPF	13	N	Roto Sil	457090
Kömmerling Eurodur 3S	13	Y	Roto Sil	260365



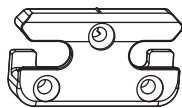
				Nº
Kömmerling 88 Plus Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance	13	N	Roto Sil	334957
Panorama 2000	9	Y	Roto Sil	281723
Plus Plan Plus Tec	13	Y	Roto Sil	264316
Rehau S 735 MD Rehau S 788 Rehau S 799 Brillant Design (S 730) Rehau S 969 Synego Rehau S 980 Geneo Rehau S 986 EuroDesign 86	13	N	Roto Sil	332439
Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD	13	N	Roto Sil	482541
Salamander 2D Salamander 3D Salamander BluEvolution 92 Salamander Streamline 76	13	N	Roto Sil	486195
Trocal 88+ Trocal InnoNova 2000	13	Y	Roto Sil	290127
Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD	13	N	Roto Sil	336797
Veka Softline AD 9	9	N	Roto Sil	260368
Wymar 2500	13	N	Roto Sil	380088
Wymar 3000	13	N	Roto Sil	374157

6.5.2 Security

6.5.2.1 Zinc



A



B

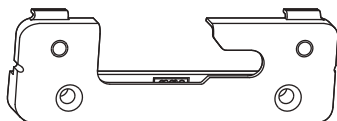
Assignment	Meaning
[A]	With base
[B]	Without base

					Nº
Aluplast Ideal 2000 Aluplast Ideal 3000 Schüco Corona CT70 MD Schüco Corona SI82 MD Schüco LivIng 82	13	N	Roto Sil	–	331490
Aluplast Ideal 2000 Aluplast Ideal 3000 LB Profile Pad Schüco Corona CT70 MD Schüco Corona SI82 MD Schüco LivIng 82	13	Y	Roto Sil	–	260395
Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Schüco Corona AD	13	N	Roto Sil	–	350191
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	Roto Sil	–	257357
Brüggmann AD 13 Brüggmann MD 13 Dimex Contour Dimex Elegance	13	Y	Roto Sil	–	292194
Deceuninck Klassiek Deceuninck Mondial VK	13	Y	Roto Sil	–	281632
Deceuninck Zendow	13	Y	Roto Sil	–	370072
Gealan Kubus	13	N	Roto Sil	–	807521
Gealan S3000 Gealan S7000 Gealan S8000	13	N	Roto Sil	–	367201
Gealan S3000 Gealan S7000 Gealan S8000 Gealan S9000	13	Y	Roto Sil	–	260393
Inoutic AD 13 Inoutic Eforte Inoutic MD 100 Inoutic Prestige AD Inoutic Prestige MD	13	Y	Roto Sil	–	260394
KBE 70 AD Kömmerling Gold	13	Y	Roto Sil	–	289941
KBE 76 Kömmerling 76 Trocal 76 KBE 88 MD Kömmerling 88 MD Trocal 88 MD	13	Y	Roto Sil	–	738471
KBE AD	9	Y	Roto Sil	–	260391

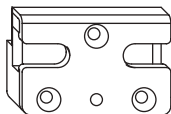


					Nº
KBE MD	9	Y	Roto Sil	Right	260398
Trocal S900	9	Y	Roto Sil	Left	260397
Kömmerling Eurodur 3S Kömmerling Eurodur MPF	13	Y	Roto Sil	–	258303
Kömmerling 88 Plus Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance	13	N	Roto Sil	–	334958
Panorama 3000	13	Y	Roto Sil	–	281768
Plus Plan Plus Tec	13	Y	Roto Sil	–	264327
Rehau S 735 MD	13	Y	Roto Sil	–	316942
Rehau S 788 Rehau S 799 Brillant Design (S 730) Rehau S 969 Synego Rehau S 986 EuroDesign 86	13	N	Roto Sil	–	348407
Rehau S 980 Geneo	13	Y	Roto Sil	–	496019
Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD	13	Y	Roto Sil	–	260399
Salamander 2D Salamander 3D Salamander Streamline 76	13	Y	Roto Sil	–	365385
Salamander BluEvolution 92	13	Y	Roto Sil	–	601574
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	Roto Sil	–	260396
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	Roto Sil	–	348410
Trocal 88+ Trocal InnoNova 2000	13	N	Roto Sil	–	290128
Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD	13	N	Roto Sil	–	336810
Veka Softline AD 9 Veka Softline MD 9	9	Y	Roto Sil	–	260392
Wymar 2500	13	Y	Roto Sil	–	284091
Wymar 3000	13	Y	Roto Sil	–	374194

6.5.2.2 Steel



A



B

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

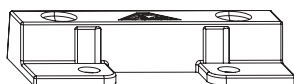
					Nº
Aluplast Ideal 2000 Aluplast Ideal 3000 Schüco Corona CT70 MD	13	N	Roto Sil	–	333250
Aluplast Ideal 2000 Aluplast Ideal 3000 Schüco Corona CT70 MD Schüco Corona SI82 MD LB Profile Pad Schüco LivIng 82	13	Y	Roto Sil	–	260423
Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Schüco Corona AD	13	Y	Roto Sil	–	257358
Brüggmann AD 13	13	N	Roto Sil	Left	305737
Brüggmann MD 13	13	N	Roto Sil	Right	306317
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	Roto Sil	–	260424
Deceuninck Zendor	13	Y	Roto Sil	–	607925
Gealan S3000 Gealan S7000 Gealan S8000 Gealan S9000	13	Y	Roto Sil	–	260421
Inoutic AD 13 Inoutic Eforte Inoutic Favorite AD 13 Inoutic MD 100 Inoutic Prestige AD Inoutic Prestige MD	13	Y	Roto Sil	–	260422
KBE 70 AD	13	N	Roto Sil	Left	289972
	13	N	Roto Sil	Right	289976
KBE AD	9	N	Roto Sil	–	291597
Kömmerling 88 Plus Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance	13	N	Roto Sil	–	334962
Kömmerling Eurodur 3S Wymar 3000 Kömmerling Eurodur MPF	13	Y	Roto Sil	–	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	Roto Sil	–	260418
Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD Plus Plan Plus Tec	13	Y	Roto Sil	–	260425



					Nº
Salamander Design 2D	13	N	Roto Sil	Left	314270
Salamander Design 3D	13	N	Roto Sil	Right	314271
Salamander Streamline 76					
Trocal 88+	13	N	Roto Sil	Left	291565
Trocal InnoNova 2000	13	N	Roto Sil	Right	291566
Trocal S900					
Trocal InnoNova 70.A5 AD	13	N	Roto Sil	–	336812
Trocal InnoNova 70.M5 MD					
Veka Softline AD 9	9	N	Roto Sil	–	291596

6.5.2.3 TiltSafe

				Nº
Aluplast Ideal 2000	13	Roto Sil	Left	816132
Aluplast Ideal 3000	13	Roto Sil	Right	816131
Schüco Corona CT70 AD				
Schüco Corona CT70 MD				
Schüco Corona SI82 MD				
Schüco LivIng 82				
Aluplast Ideal 4000	13	Roto Sil	Left	795447
Aluplast Ideal 5000	13	Roto Sil	Right	795448
Aluplast Ideal 6000				
Aluplast Ideal 8000				
Gealan S8000	13	Roto Sil	Left	795450
	13	Roto Sil	Right	795451
KBE 76	13	Roto Sil	Left	795445
KBE 88 MD	13	Roto Sil	Right	795446
Kömmerling 76				
Kömmerling 88 MD				
Trocal 76				
Trocal 88 MD				
Rehau S 729	13	Roto Sil	Left	794922
Rehau S 730 AD	13	Roto Sil	Right	795449
Rehau S 735 MD				
Rehau S 788				
Rehau S 799 Brillant Design (S 730)				
Rehau S 986 EuroDesign 86				
Veka Softline AD 13	13	Roto Sil	Left	795443
Veka Topline AD 13	13	Roto Sil	Right	795444
Veka Softline 82 MD				



				Nº
TiltSafe protective support	Aluplast Ideal 2000 Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Aluplast Ideal 8000 Gealan S8000 KBE 76 KBE 88 MD Kömmerling 76 Kömmerling 88 MD Rehau S 729 Rehau S 730 AD Rehau S 799 Brilliant Design (S 730) Rehau S 986 EuroDesign 86 Schüco Corona CT70 AD Schüco Corona SI82 MD Schüco LivIng 82 Trocal 76 Trocal 88 MD Veka Softline 82 MD Veka Softline AD 13 Veka Topline AD 13	13	RC 2 RC 2 N	816934



INFO

Recommended component for system testing (RC2 / RC2 N)

The TiltSafe protective support minimises the engagement area on the TiltSafe security strikers.

6.6 Packers



		Nº
Frame	Alphacan Master AD 13 Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Deceuninck Klassiek Salamander 2D Salamander 3D Salamander Streamline 76 Schüco Corona AD Gealan Kubus	294365
	Aluplast Ideal 2000 Aluplast Ideal 3000 Brügmann AD 13 Brügmann BluEvolution 82 Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SJ82 MD Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD Veka Softline AD 13 Veka Softline MD 13 Veka Topline AD 13 Veka Topline MD 13 Brügmann BluEvolution 73 AD	294364
	Brügmann MD 13 Wymar 2500	287070
	Deceuninck Mondial VK	477327
	Deceuninck Zendow Rehau S 735 MD Rehau S 788 Rehau S 799 Brillant Design (S 730) Rehau S 980 Geneo Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD	294469
	Dimex Elegance	292201
	Gealan S3000 Gealan S7000 Gealan S8000 KBE 76 Kömmerling 76 Trocal 76 KBE 88 MD Kömmerling 88 MD Trocal 88 MD	294370
	Inoutic AD 13 Inoutic Eforte Inoutic Favorite AD 13 Inoutic MD 100 Inoutic Prestige	294369
	KBE AD	294439
	KBE MD Trocal 88+ Trocal InnoNova 2000 Trocal S900	294463
	KBE 70 AD Kömmerling 88 Plus Kömmerling Eurodur 3S Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance	294464
	Veka Softline MD 9	294537
	Wymar 3000	374160



6.7 Bullet catches

6.7.1 Bullet catch

Standard

			Nº
Aluplast Ideal 2000 Aluplast Ideal 3000 Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 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 Salamander 2D Salamander 3D Salamander Streamline 76 Schüco Corona AD Schüco Corona CT70 AD Schüco LivIng 82	13	Roto Sil	788572
Brüggmann BluEvolution 73 AD Brüggmann BluEvolution 82 KBE 70 AD KBE 76 KBE 88 MD Kömmerling 76 Kömmerling 88 Plus Kömmerling 88 MD Kömmerling Eurodur 3S Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance Plus Plan Plus Tec Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD Trocal 76 Trocal 88 MD Veka Softline 70 AD Veka Softline 70 MD Veka Topline AD 13 Veka Topline MD 13	13	Roto Sil	788615
Gealan Kubus	13	Roto Sil	812365
Gealan S3000 Gealan S7000 Gealan S8000 Wymar 2500	13	Roto Sil	788574
Inoutic Arcade Inoutic Eforte Inoutic Prestige	13	Roto Sil	788616
KBE AD Veka Softline AD 9	9	Roto Sil	788573

6.8 Lifting mishandling devices

6.8.1 Lifting mishandling device

			Nº
Aluplast Ideal 2000 Aluplast Ideal 3000 Schüco Corona CT70 AD Schüco Corona CT70 MD Schüco Corona SI82 MD	13	Roto Sil	260551
Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000 Salamander 2D Salamander 3D Salamander BluEvolution 92 Salamander Streamline 76 Schüco Corona AD	13	Roto Sil	260557
Brüggmann AD 13 Brüggmann MD 13	13	Roto Sil	483117
Veka Alphaline 90 Veka Softline 70 AD Veka Softline 70 MD Veka Topline AD 13 Veka Topline MD 13 Wymar 3000 Brüggmann BluEvolution 73 AD Brüggmann BluEvolution 82	13	Roto Sil	260552
Deceuninck Klassiek Deceuninck Mondial VK	13	Roto Sil	281636
Deceuninck Zendow	13	Roto Sil	370175
Gealan Kubus	13	Roto Sil	807517
Gealan S3000 Gealan S7000 Gealan S8000	13	Roto Sil	380118
Inoutic AD 13 Inoutic Arcade Inoutic Eforte Inoutic Favorite AD 13 Inoutic MD 100 Inoutic Prestige AD Inoutic Prestige MD	13	Roto Sil	260550
KBE AD	9	Roto Sil	260547
KBE MD Trocal S900	9	Roto Sil	260553
Deceuninck Zendow KBE 70 AD KBE 76 Kömmerling 76 Roplasto 4K Roplasto 7001 AD Roplasto 7001 MD Trocal 76 KBE 88 MD Kömmerling 88 MD Trocal 88 MD	13	Roto Sil	260554
Kömmerling Eurodur 3S	13	Roto Sil	260545
Kömmerling 88 Plus Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance Plus Plan Plus Tec	13	Roto Sil	264523



			Nº
Panorama 2000	9	Roto Sil	281728
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	Roto Sil	260546
Trocal 88+ Trocal InnoNova 2000	13	Roto Sil	290155
Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD	13	Roto Sil	336813
Veka Softline AD 9	9	Roto Sil	260548
Wymar 2500	13	Roto Sil	290039



	Nº
Insert part	534908

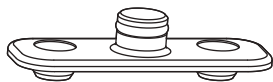


INFO

Only in conjunction with SEC striker with base (hardware axis 13).

6.9 Turn restrictors

6.9.1 Frame components

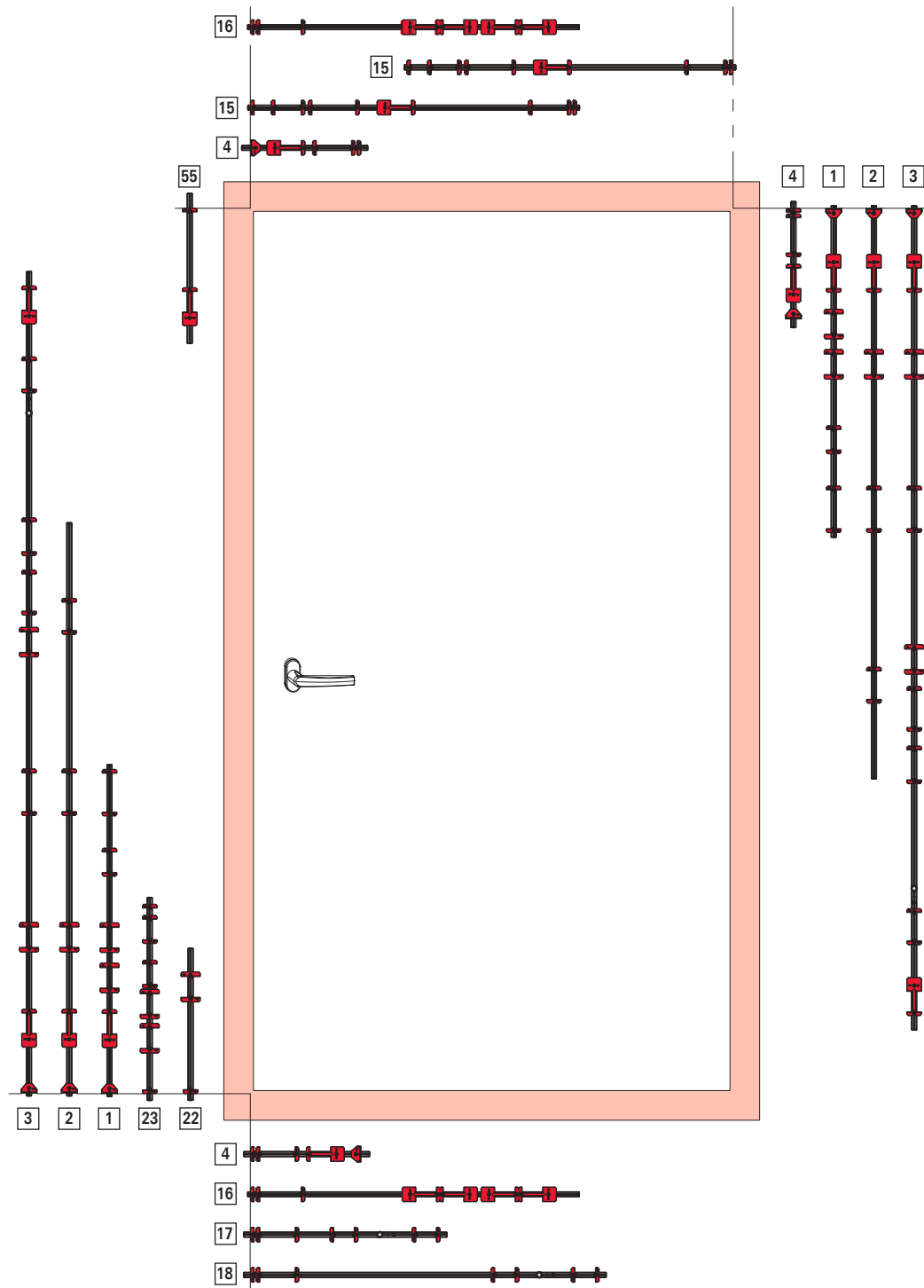


		Nº
Aluplast Ideal 2000 Aluplast Ideal 3000 Brüggmann AD 13 Brüggmann MD 13 Gealan S3000 Gealan S7000 Gealan S8000 KBE 70 AD KBE 70 MD KBE AD Kömmerling 3S Kömmerling Eurodur 3S Kömmerling Eurofutur Classic Kömmerling Eurofutur Elegance Plus Plan Plus Tec Rehau S 735 MD Rehau S 788 Rehau S 799 Brillant Design (S 730) Rehau S 969 Synego Rehau S 980 Geneo Rehau S 986 EuroDesign 86 Salamander 2D Salamander 3D Salamander Design 2D Salamander Design 3D Salamander Streamline 76 Schüco Corona AD Schüco Corona CT70 AD Schüco Corona CT70 MD Trocal InnoNova 2000 Trocal InnoNova 70.A5 AD Trocal InnoNova 70.M5 MD Veka Softline AD 13 Veka Softline AD 9 Veka Softline MD 13 Veka Topline AD 13 Veka Topline MD 13 Brüggmann AD 73 Brüggmann BluEvolution 73 AD Brüggmann BluEvolution 82 KBE 76 KBE 88 MD Kömmerling 76 Kömmerling 88 MD Trocal 76 Trocal 88 MD	Roto Sil	477848
Aluplast Ideal 4000 Aluplast Ideal 5000 Aluplast Ideal 6000	Roto Sil	490128
Gealan Kubus	Roto Sil	807522
Inoutic AD 13 Inoutic Eforte Inoutic Favorite AD 13 Inoutic MD 100 Inoutic Prestige AD Inoutic Prestige MD	Roto Sil	490133
KBE MD Trocal S900	Roto Sil	477849
Trocal 88+ Trocal InnoNova 2000	Roto Sil	490159

7 Jigs

7.1 Positioning jigs

7.1.1 T&T espagnolette – fixed handle height



Assignment	Position	Application range	T&T		T-O	Single jig
			BSec	RC1 N	BSec	
[22]	Espagnolette side	SRH 511 – 710 mm	■	■	■	Standard → <i>from page 124</i>
[23]		SRH 601 – 800 mm	■	■	■	
[1]		SRH 801 – 1400 mm	■	■	■	
[2]		SRH 1401 – 1600 mm	■	■	■	
[3]		SRH 1601 – 2600 mm	■	■	■	
[55]		SRH 2401 – 2600 mm	–	■	–	
[4]	Hinge side	SRH 290 – 800 mm	■	■	–	Tilt striker / corner drive → <i>from page 124</i>
[1]		SRH 801 – 1400 mm	■	■	■	Standard → <i>from page 124</i>
[2]		SRH 1401 – 1800 mm	■	■	■	
[3]		SRH 1801 – 2600 mm	■	■	■	
[4]	Horizontal at the top	SRW 330 – 800	■	■	■	Tilt striker / corner drive → <i>from page 124</i>
[15]		SRW 801 – 1400 mm	■	■	–	Centre lock → <i>from page 125</i>
[16]		SRW 801 – 1400 mm	–	–	■	Turn-Only sash → <i>from page 125</i>
[4]	Horizontal at the bottom	SRW 330 – 800 mm	■	–	–	Tilt striker / corner drive → <i>from page 124</i>
[16]		SRW 801 – 1400 mm	–	–	■	Turn-Only sash → <i>from page 125</i>
[17]		BSec: SRW 801 – 1200 mm	■	■	–	Centre lock → <i>from page 125</i>
		RC1 N: 450 – 850 mm				
[18]		BSec: SRW 1201 – 1400 mm	■	■	–	
		RC1 N: 851 – 1000 mm				

7.1.1.1 Standard

Espagnolette side and hinge side

					Nº
Standard	511 – 710	Espagnolette side		No. 22	808677
	481 – 800	Espagnolette side		No. 23	263338
	801 – 1400	Espagnolette side Hinge side		No. 1	290048
	1401 – 1600	Espagnolette side Hinge side		No. 2	290049
	1601 – 2600	Espagnolette side Hinge side		No. 3	290050
	2401 – 2600	Espagnolette side		No. 55	640440

7.1.1.2 Tilt striker / corner drive

					Nº
Tilt striker / corner drive	280 – 800	290 – 800	Top Bottom Hinge side	No. 4	290051



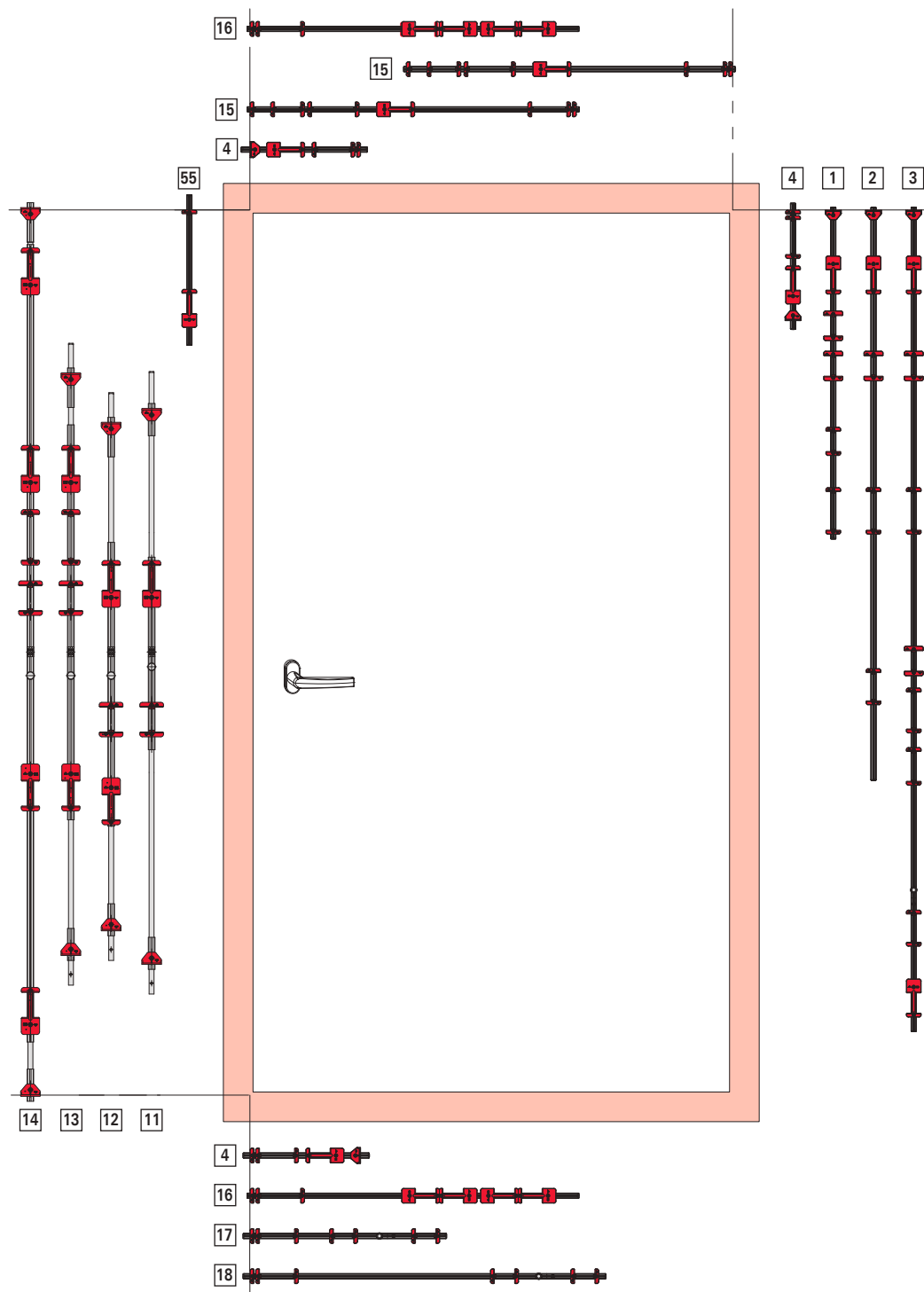
7.1.1.3 Centre lock

				Nº
Centre lock	801 – 1600	Top Bottom	No. 15	311892
	320 – 730	Bottom	No. 17	263335
	731 – 1130	Bottom	No. 18	263336

7.1.1.4 Turn-Only sash

				Nº
Turn-Only sash	801 – 1400	Top Bottom	No. 16	311893

7.1.2 T&T espagnolette – centred / variable handle height



Assignment	Position	Application range	T&T		T-O	Single jig
			BSec	RC1 N	BSec	
[11]	Espagnolette side	SRH 621 – 1200 mm	■	■	■	Standard → <i>from page 127</i>
[12]		SRH 1201 – 1600 mm	■	■	■	
[13]		SRH 1601 – 2000 mm	■	■	■	
[14]		SRH 2001 – 2400 mm	■	■	■	
[55]		SRH 2401 – 2600 mm	–	■	–	



Assignment	Position	Application range	T&T		T-O	Single jig
			BSec	RC1 N	BSec	
[4]	Hinge side	SRH 290 – 800 mm	■	■	–	Tilt striker / corner drive → <i>from page 124</i>
[1]		SRH 801 – 1400 mm	■	■	■	Standard → <i>from page 127</i>
[2]		SRH 1401 – 1800 mm	■	■	■	
[3]		SRH 1801 – 2600 mm	■	■	■	
[4]	Horizontal at the top	SRW 330 – 800	■	■	■	Tilt striker / corner drive → <i>from page 124</i>
[15]		SRW 801 – 1400 mm	■	■	–	Centre lock → <i>from page 125</i>
[16]		SRW 801 – 1400 mm	–	–	■	Turn-Only sash → <i>from page 125</i>
[4]	Horizontal at the bottom	SRW 330 – 800 mm	■	–	–	Tilt striker / corner drive → <i>from page 124</i>
[16]		SRW 801 – 1400 mm	–	–	■	Turn-Only sash → <i>from page 125</i>
[17]		BSec: SRW 801 – 1200 mm	■	■	–	Centre lock → <i>from page 125</i>
[18]		RC1 N: 450 – 850 mm				
		BSec: SRW 1201 – 1400 mm	■	■	–	
		RC1 N: 851 – 1000 mm				

7.1.2.1 Standard

Espagnolette side

				Nº
Standard	621 – 1200	Espagnolette side	No. 11	268943
	1001 – 1600	Espagnolette side	No. 12	798480
	1201 – 1600	Espagnolette side	No. 12	268944
	1601 – 2000	Espagnolette side	No. 13	787401
	2001 – 2400	Espagnolette side	No. 14	787402
	2401 – 2600	Espagnolette side	No. 55	640440

Hinge side

				Nº
Standard	801 – 1400	Espagnolette side Hinge side	No. 1	290048
	1401 – 1600	Espagnolette side Hinge side	No. 2	290049
	1601 – 2600	Espagnolette side Hinge side	No. 3	290050



INFO

With T&T espagnolettes – centred / variable handle height, use jigs on the hinge side only.

7.1.2.2 Tilt striker / corner drive

					Nº
Tilt striker / corner drive	280 – 800	290 – 800	Top Bottom Hinge side	No. 4	290051

7.1.2.3 Centre lock

				Nº
Centre lock	801 – 1600	Top Bottom	No. 15	311892
	320 – 730	Bottom	No. 17	263335
	731 – 1130	Bottom	No. 18	263336

7.1.2.4 Turn-Only sash

				Nº
Turn-Only sash	801 – 1400	Top Bottom	No. 16	311893

7.1.3 Positioning jigs

1. Place the positioning jig [1] on the frame [2].

2. Position the frame components.



8 Installation

8.1 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.

Combining 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 – especially test pressure P3).

In general, the Turn-Only and Tilt&Turn hardware components defined in this document are capable of meeting statutory and normative requirements for accessible dwellings.

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.

8.2 Screwdriving work

Electrogalvanised and passivated steel fenestration screws (Ø 3.9 – 4.2 x ...) are to be used to fasten the hardware components; in more challenging climatic conditions, use fenestration screws with additional sealing.

When attaching **security-relevant**, load-bearing hardware components such as **stay bearings** and **pivot rests**, the pulling forces horizontal to the sash plane must be achieved in accordance with the following table (tractive force values depending on the sash weights from the TBDK).

Sash weight in kg	Tractive force in N ^[1]
60	1650
70	1900
80	2200
90	2450
100	2700
110	3000
120	3250
130	3500
140	3900
150	4200

The stated values refer to the stay bearing. They also apply to the pivot rest if it is attached in the same way as the stay bearing.



INFO

Observe directive TBDK for tractive force values as a function of the sash weights.

Further information can be found at www.beschlagindustrie.de.

The spacer block guidelines for glazing methods must be complied with.

[1] Permissible tolerance -10%



8.2.1 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.

8.3 Screw connections



DANGER

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

Incorrectly installed and screwed-in hardware components may lead to hazardous situations and cause serious or fatal accidents.

- ▶ During installation and screwdriving work, observe the specifications provided by the profile manufacturer; contact the profile manufacturer if necessary.
 - ▶ Use the recommended screws.
 - ▶ Select the length of the screws according to the profiles used.
 - ▶ Ensure that the hardware components are adequately secured; contact the screw manufacturer if necessary.
-



ATTENTION

Using incorrect screw material may cause property damage.

Using the wrong screws may damage the components.

- ▶ Only use galvanised zinc-plated and passivated steel screws.
 - ▶ Use screws with additional sealing in more challenging climatic conditions.
 - ▶ Use stainless-steel screws on stainless-steel components only.
 - ▶ For aluminium components, use screws made of steel (coated with zinc-nickel or zinc flakes) or stainless steel.
-



ATTENTION

Improper screw fixings may cause property damage.

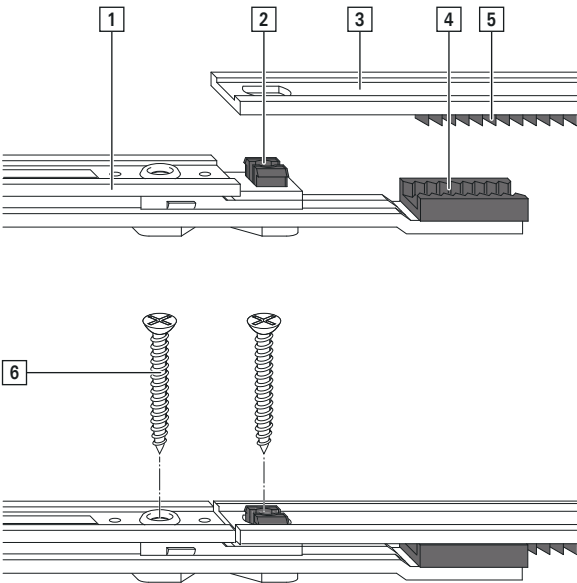
Improper screw fixings may damage the components and the element as a whole, and stop them from working properly.

- ▶ Unless stated otherwise, turn screws in straight.
 - ▶ Tighten screw heads until they are flush with the surface.
 - ▶ Do not over-tighten screws. Note the torque. Choose a torque that will not deform the hardware and profile. Define profile-specific torques on the basis of the demo assembly.
 - ▶ Use the recommended screws.
 - ▶ Select the length of the screws according to the profiles used.
-



8.4 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.

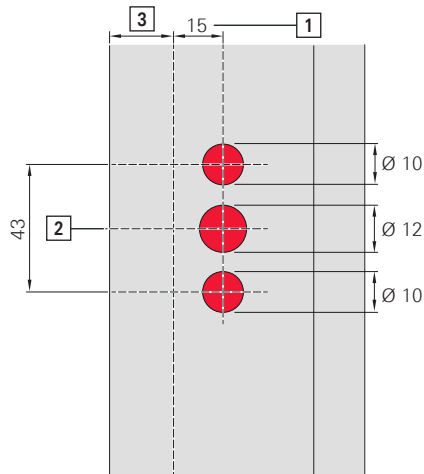


INFO

All coupleable components are delivered attached in the centre.

8.5 Drilling and routing dimensions

8.5.1 T&T espagnolette



Drill holes for sprocket and handle cam

[1] Backset

[2] Handle height

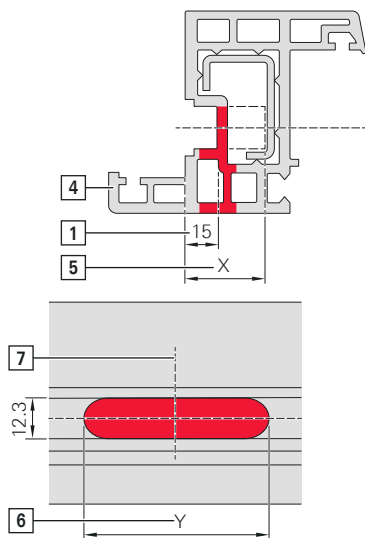
[3] Overlap width

[4] Overlap height: 16 to 22 mm

Drill hole Ø 10: drilling depth = overlap height + 17 mm for countersunk screws (ISO 7046-1 M5 x ...)

Drill hole Ø 12: drilling depth = overlap height + 17 mm

[5] Routing depth (X) min. = backset + 12.5 mm



Gearbox routing

[6] Routing length (Y)

Backset 8 = min. 30 mm

Backset 15 = min. 65 mm

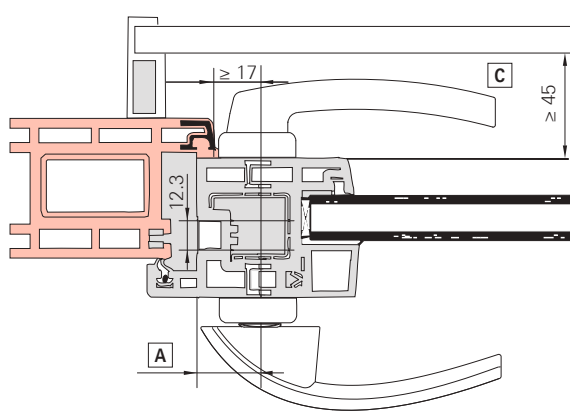
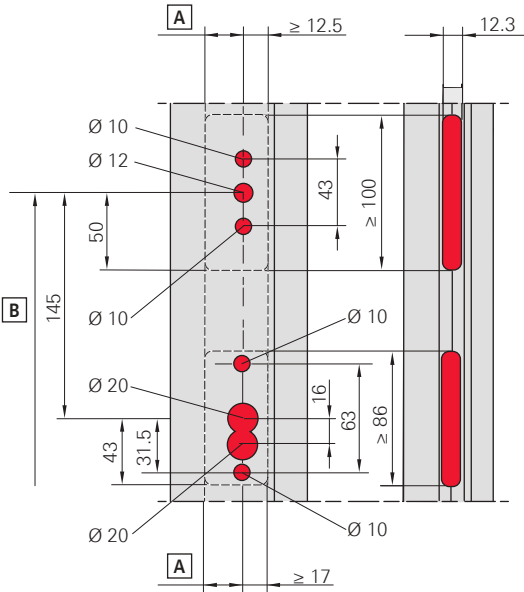
Backset 25 to backset 50 = min. 100 mm

[7] Centre of gearbox

Routing depth min. 28 mm



8.5.2 High backset espagnolette



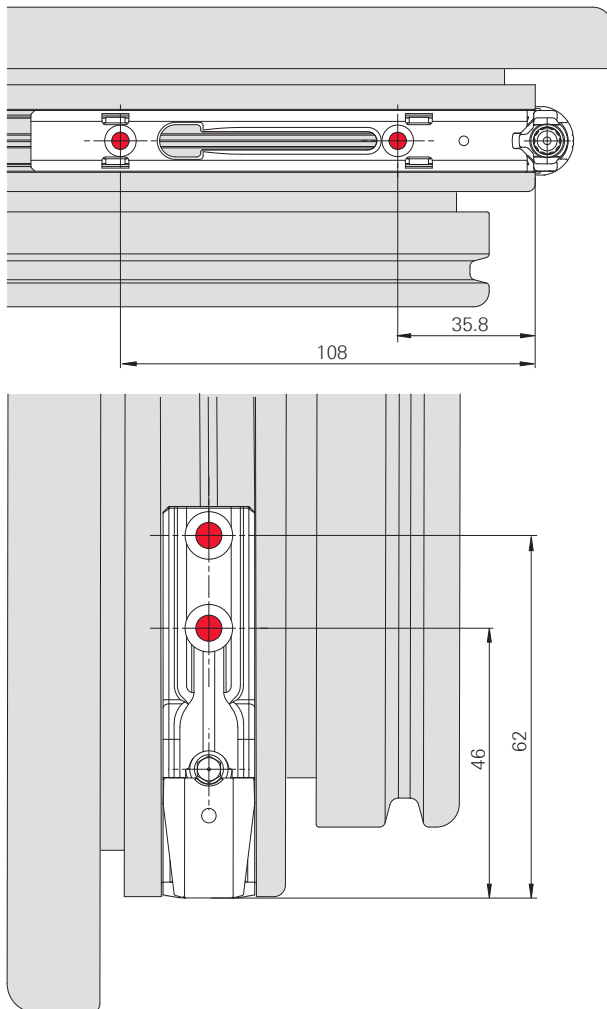
Assignment	Meaning
[A]	Backset
[B]	Handle height
[C]	On roller shutters



INFO
 Cross section: doors (inward opening).

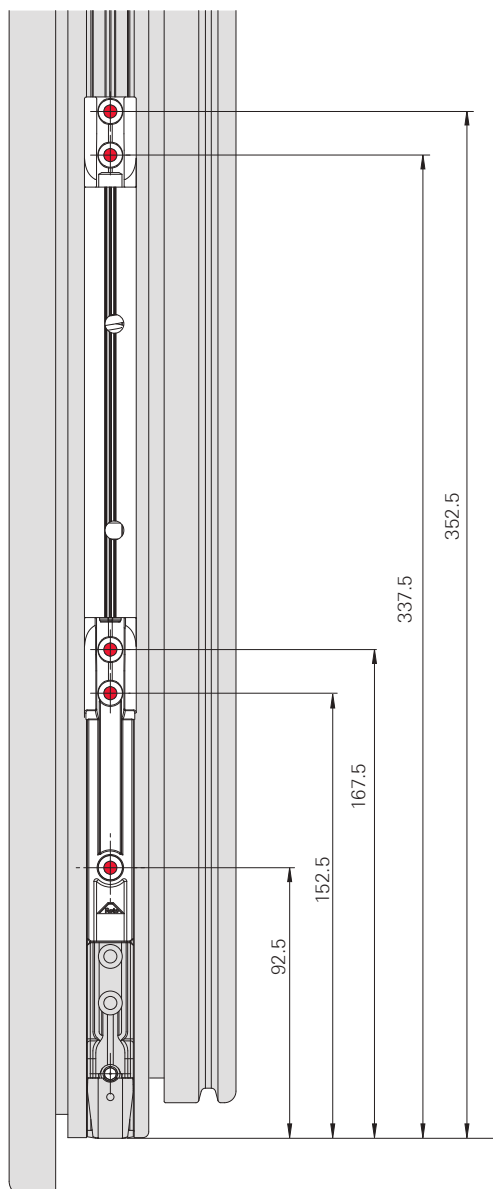
8.5.3 Corner hinge and load transfer

Corner hinge



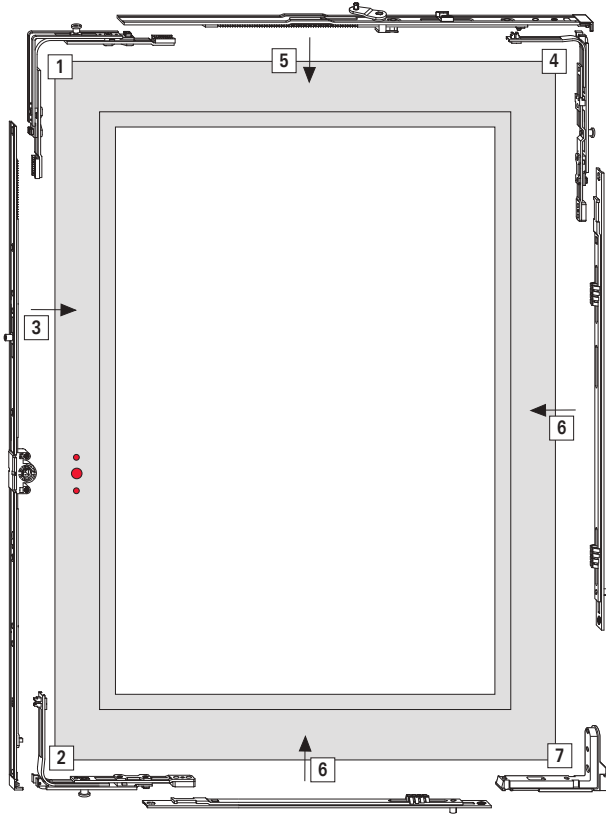


Load transfer



8.6 Sash

8.6.1 Installation sequence



Installation sequence (suggestion)

- [1] Corner drive
- [2] Corner drive
- [3] T&T espagnolette
- [4] Sash stay corner drive
- [5] Stay guide
- [6] Vertical and horizontal centre lock
- [7] Corner hinge

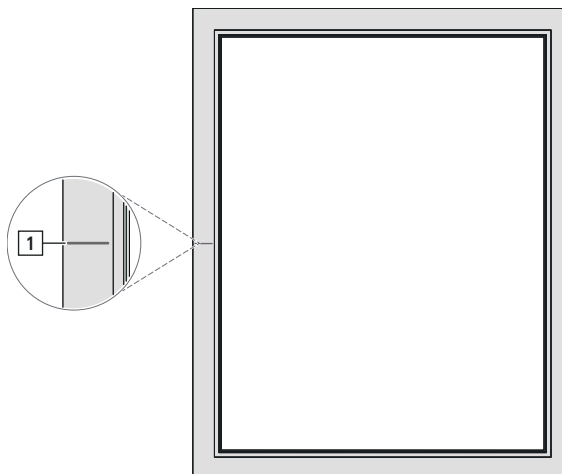


8.6.2 Preparing the sash for the T&T espagnolette

8.6.2.1 Handle drill holes

Drilling the holes for the handle

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



2. Drill holes.
Note any different drilling dimensions. → 8.5
"Drilling and routing dimensions" from page 134
3. Deburr the drill holes.

8.6.2.2 Gearbox cutout

Routing the gearbox cutout

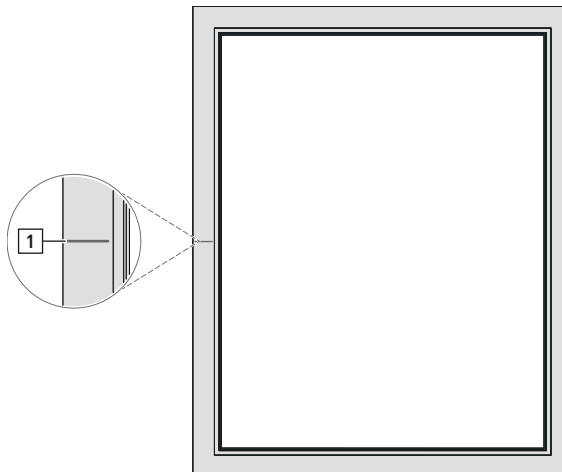
1. Route the espagnolette cutout.
Observe the routing dimensions. → 8.5 "Drilling and routing dimensions" from page 134
2. Deburr the espagnolette cutout.

8.6.3 Preparing the sash for a lockable T&T espagnolette

8.6.3.1 Handle drill holes

Drilling the holes for the handle

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



2. Drill holes.
Note any different drilling dimensions. → 8.5
"Drilling and routing dimensions" from page 134
3. Deburr the drill holes.

8.6.3.2 Gearbox cutout with lock casing

Routing the gearbox cutout with lock casing

1. Route the espagnolette cutout.
Observe the routing dimensions. → 8.5 *"Drilling and routing dimensions" from page 134*
2. Deburr the espagnolette cutout.



8.6.4 Cropping the hardware components



ATTENTION

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.

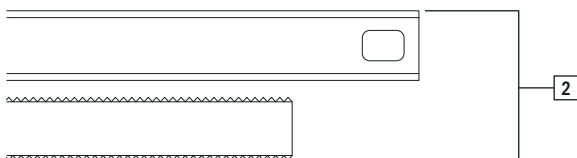
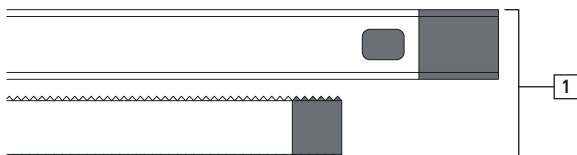
- Only lay out the hardware components and do not insert them into the sash before they have been cropped.

The following hardware components are cropped:

- Espagnolettes
- Stay guide

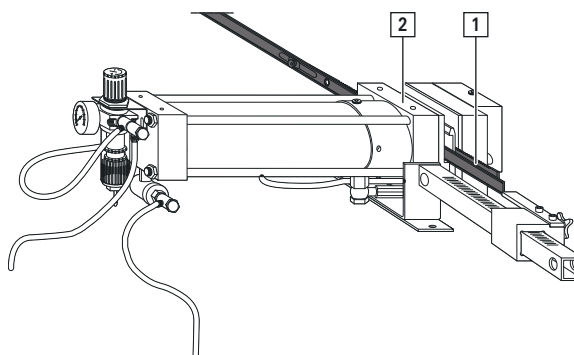
Cropping with a pneumatic punch (hole punching)

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



Assignment	Description
[1]	Hardware delivery state
[2]	Hardware, cropped

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].

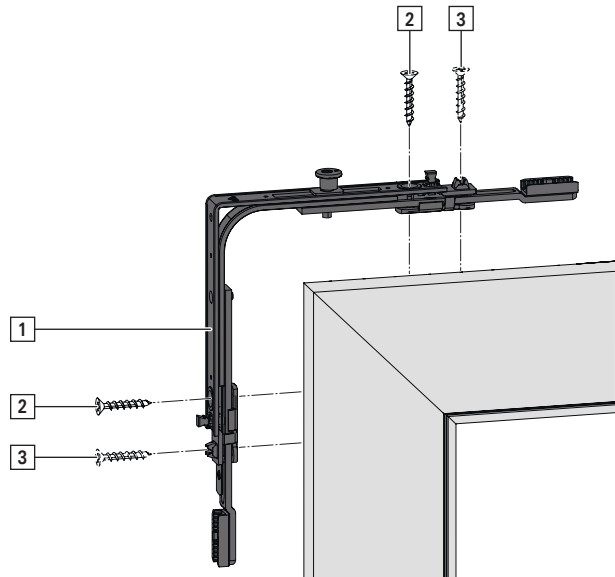


4. Align the hardware component.
5. Crop the hardware component.

8.6.5 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]. → 8.4 "Force-fit connection" from page 133

8.6.6 T&T espagnolettes

8.6.6.1 Fixed handle height

Installing the T&T espagnolette

1. Place the espagnolette in the required position, mark the length on one side and crop it .
2. Insert the espagnolette with the cropped side facing upwards and create a force-fit connection. → 8.4 "Force-fit connection" from page 133



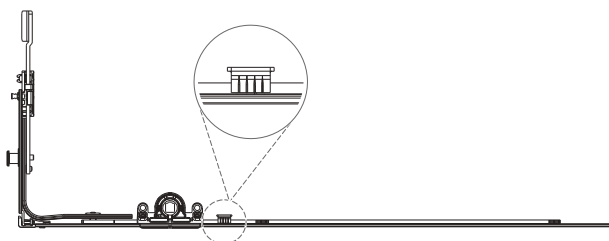
PRECONDITION

At an SRH of > 2400 mm, insert the multipart centre lock at the top on the locking side and create a force-fit connection.



INFO

At an SRH of 280 - 290 mm, the screw guide must be removed (e.g. using pliers).

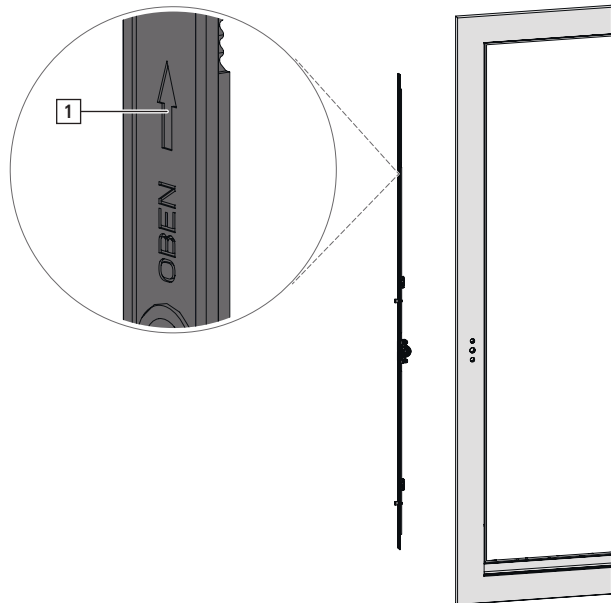




8.6.6.2 Centred / variable handle height

Installing the T&T espagnolette

1. Place the espagnolette in the required position, mark the length on both sides, remove it and crop it .
2. Insert the espagnolette. Ensure it is installed in the correct direction, with the arrow [1] pointing upwards.
Create a force-fit connection. → 8.4 "Force-fit connection" from page 133



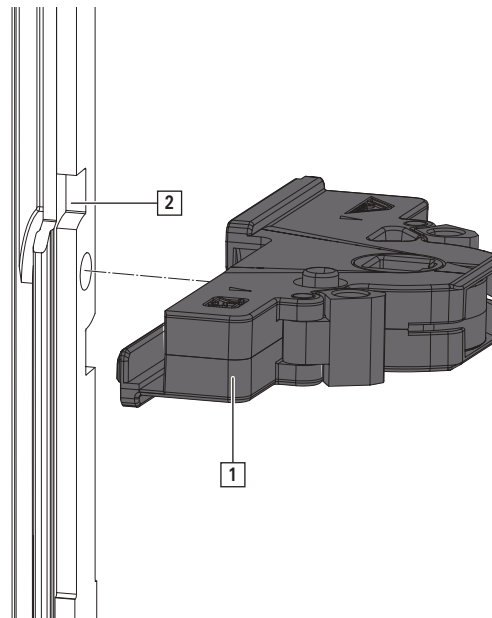
PRECONDITION

At an SRH of > 2400 mm, insert two multipart centre locks at the top on the locking side and create a force-fit connection.

8.6.7 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. If the locking lug [3] is protruding, push it back into the lock casing [1].

Turn the lock casing 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.

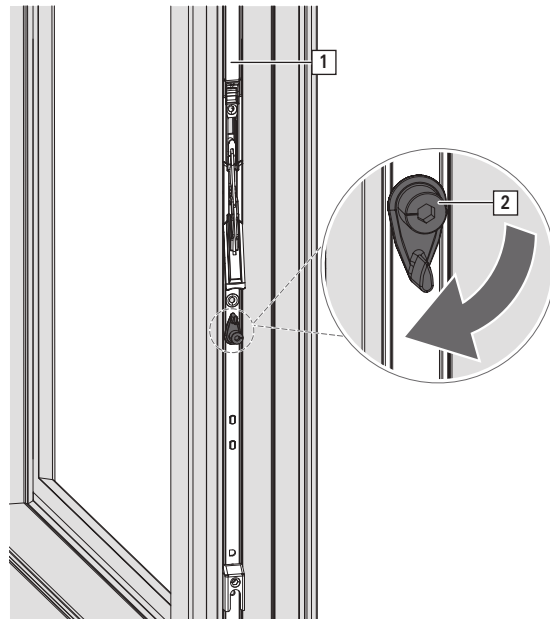
3. For dismantling, turn the lock casing anticlockwise until the lock casing comes out of the groove.

Remove from the espagnolette faceplate.

8.6.8 Floating-mullion espagnolette, Plus

1. Insert the Plus floating-mullion sash espagnolette [1] into the sash groove.

For installation in the right-hand sash, turn the eccentric bolt [2] 180°.

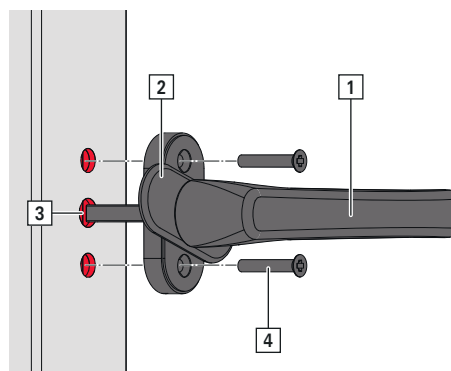


2. Mount the second opening sash with the floating-mullion espagnolette, Plus open (as delivered).

8.6.9 Handle

8.6.9.1 Handle – T&T espagnolette

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



3. Insert the handle into the sash [3].
4. Screw down the handle using screws [4].
5. Rotate the cover on the handle back 90°.



8.6.9.2 Centre fixing



INFO

All coupleable components are delivered attached in the centre.

Undoing the centre fixing

Turning the handle undoes the centre fixing of the hardware components. Undo the centre fixing with the sash open.

1. Turn the handle [1] in one direction as far as it will go.

Audible cracking noise.

2. Turn the handle in the opposite direction as far as it will go.

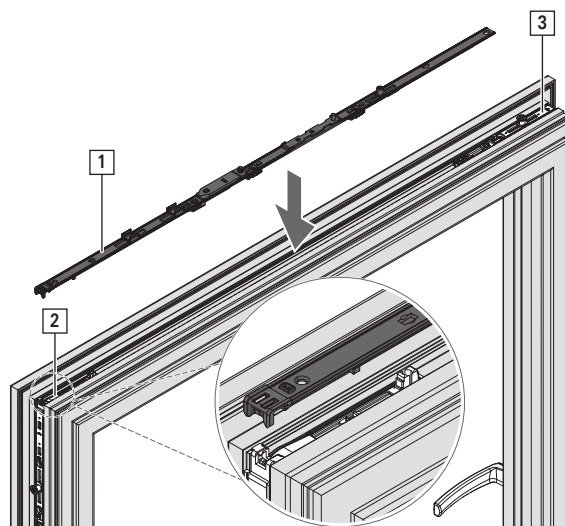
Audible cracking noise.

3. Turn the handle in both directions again and check for ease of movement.

8.6.10 Stay guide

8.6.10.1 Installing the stay guide

1. Insert the stay guide [1] into the sash groove and clip it into the sash stay corner drive [2].

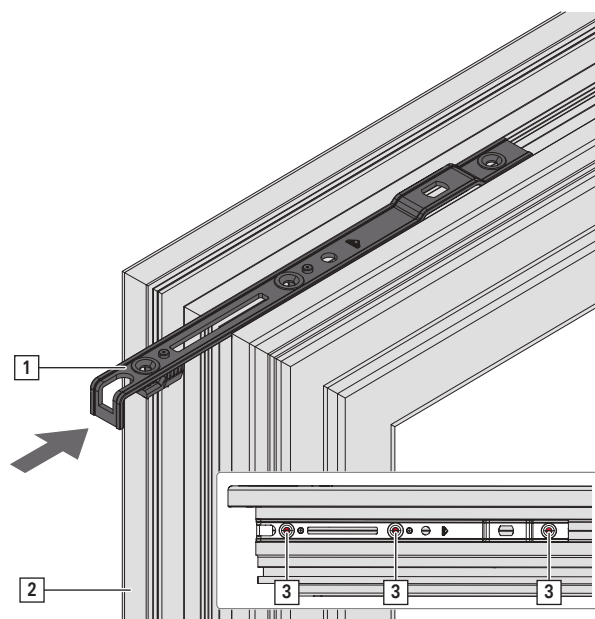


2. Connect the stay guide to the corner drive [3].
Creating a force-fit connection → *from page 133*

8.6.11 Rebate sash stay

Installing the rebate stay guide

1. Insert the rebate stay guide [1] into the sash groove [2].
Check that it is seated flush.

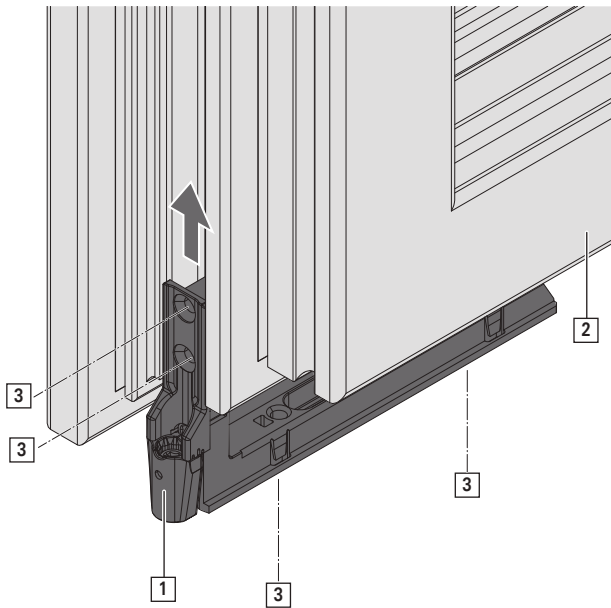


2. Fasten with three screws [3].



8.6.12 Corner hinge

1. Place the corner hinge [1] on the sash [2].



2. Fasten with four screws [3].

8.6.13 Lifting mishandling device / sash lifter

**INFO**

The sash lifter is installed in the same way as the lifting mishandling device. The installation of the lifting mishandling device is shown here.

1. Clip the lifting mishandling device [1] into the hole pattern provided in the espagnolette [2].
Position near the handle [3].

2. Fasten with a screw [4].

3. Activate the lifting mishandling device by pushing the arm in the required direction until the arm cam snaps past the spring. Do not push the arm cam beyond the housing. The lifting mishandling device's centre fixing is undone.

Restoring the neutral position

1. Use a suitable tool, for example a screwdriver, to push down on the spring [1] beneath the slot.

2. Keep the spring held down and turn the arm [2] back to 0°.



The lifting mishandling device returns to the neutral position and can be reactivated.

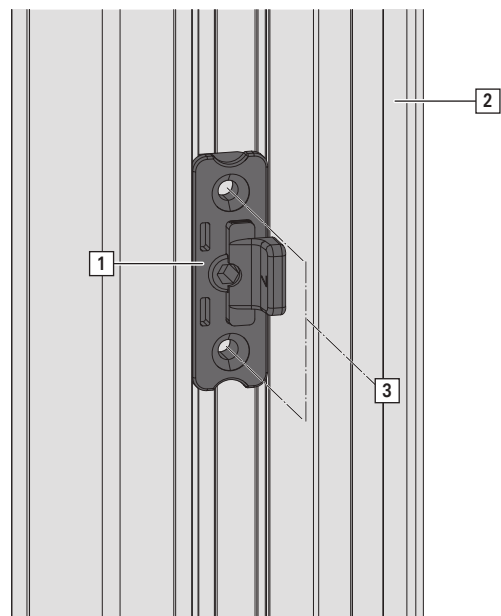
8.6.14 Bullet catch

1. Insert the bullet-catch sash component [1] into the espagnolette recess [2].
To do so, insert the nose of the bullet catch [3] into the flat side of the espagnolette recess and clip the bullet catch into place.

2. Secure with screw [4].

8.6.15 Concealed centre closer

1. Place the centre closer [1] in the sash groove [2].
For positioning, see → *from page 152*



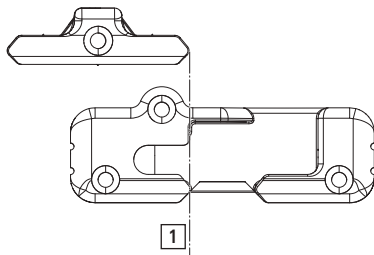
2. Fasten with two screws [3].

8.7 Frame

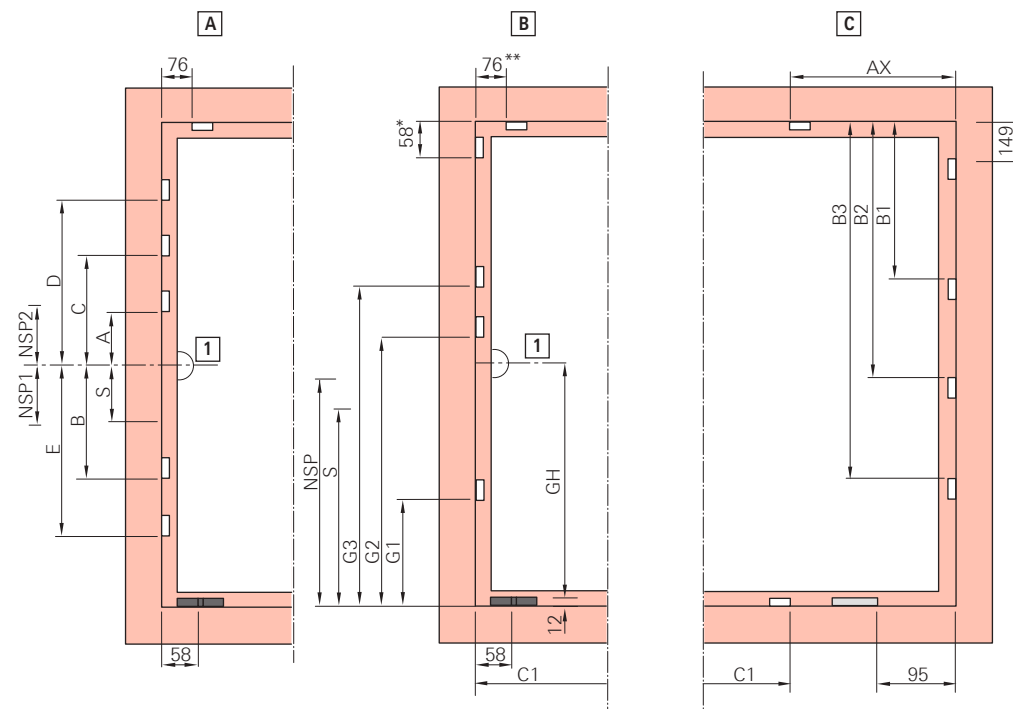
8.7.1 Position of strikers and tilt strikers

8.7.1.1 Striker positions and tilt strikers

Positioning of the strikers and tilt strikers on the basis of the point of entry [1] of the cams:



8.7.1.2 Tilt&Turn hardware / TiltFirst hardware – basic security



[A] Centred / variable handle height

[B] Fixed handle height

[C] Hinge side

[1] Handle centre

□ Striker e.g.

■ Tilt striker e.g.

▒ Turn restrictor, e.g. 

T&T espagnolette, centred / variable handle height

SRH / mm	A	B	C	D	E	NSP 1	NSP 2	S
310 - 450	–	–	–	–	–	–	–	–
451 - 620	–	–	–	–	–	–	–	–
621 - 800	125	–	–	–	–	137	–	–
801 - 1200	125	–	–	–	–	137	–	–
1201 - 1600	125	340	–	–	–	137	–	–
1601 - 2000	–	312	358	–	–	–	109	395
2001 - 2400	–	312	358	758	740	–	109	395
2401 - 2600	–	312	358	758	740	–	109	395



T&T espagnolette, fixed handle height

SRH / mm	GH	G1	G2	G3	NSP	S
280 - 510	120	–	–	–	–	–
511 - 600	170	–	–	–	262	–
601 - 800	263	383	–	–	138	–
801 - 1000	413	550	–	–	288	–
1001 - 1200	513	700	–	–	388	–
1201 - 1400	563	700	–	–	388	–
1401 - 1600	563	700	1170	–	388	–
1601 - 1800	563	700	1370	–	388	–
1601 - 1800	1000	700	1370	–	1121	807
1801 - 2000	1000	700	1370	–	1121	807
2001 - 2600	1000	700	1370	1770	1121	807

* Fit a striker up to SRW 430 mm

** Fit a striker from SRW 431 mm

Stay guide

SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	750	500 / 1090

Centre lock, vertical, without load transfer

SRH / mm	B1	B2	B3	Centre lock
801 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E
1401 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 E

Centre lock, vertical, with load transfer

SRH / mm	B1	B2	B3	Centre lock
1000 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E
1401 - 1600	746	946	–	CL 600 E KU + CL 200 P
1601 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2200	746	1346	1546	2x CL 600 E KU + CL 200 P
2201 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 E

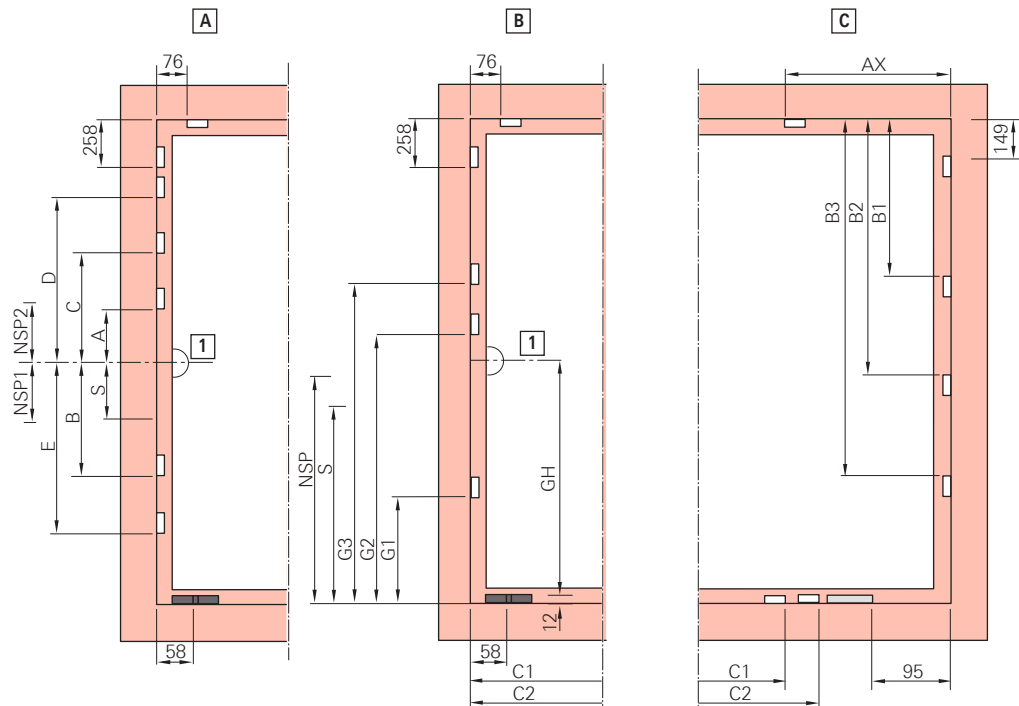
Centre lock, horizontal, without turn restrictor

SRW / mm	C1	Centre lock
801 - 1200	462	CL 400 E
1201 - 1400	658	CL 600 E

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	Centre lock
801 - 850	258	CL 200 P
851 - 1200	462	CL 400 E
1201 - 1400	658	CL 600 E

8.7.1.3 Tilt&Turn hardware – RC 1 N



[A] Centred / variable handle height

[B] Fixed handle height

[C] Hinge side

[1] Handle centre

□ Striker e.g.

■ Tilt striker e.g.

▒ Turn restrictor, e.g. 

T&T espagnolette, centred / variable handle height

SRH / mm	A	B	C	D	E	NSP 1	NSP 2	S
310 - 450	–	–	–	–	–	–	–	–
451 - 620	–	–	–	–	–	–	–	–
621 - 800	125	–	–	–	–	137	–	–
801 - 1200	125	–	–	–	–	137	–	–
1201 - 1600	125	340	–	–	–	137	–	–
1601 - 2000	–	312	358	–	–	–	109	395
2001 - 2400	–	312	358	758	740	–	109	395
2401 - 2600	–	312	358	758	740	–	109	395

T&T espagnolette, fixed handle height

SRH / mm	GH	G1	G2	G3	NSP	S
280 - 510	120	–	–	–	–	–
511 - 600	170	–	–	–	223	–
601 - 800	263	383	–	–	138	–
801 - 1000	413	550	–	–	288	–
1001 - 1200	513	700	–	–	388	–
1201 - 1400	563	700	–	–	388	–
1401 - 1600	563	700	1170	–	388	–
1601 - 1800	563	700	1370	–	388	–
1601 - 1800	1000	700	1370	–	1121	807
1801 - 2000	1000	700	1370	–	1121	807
2001 - 2600	1000	700	1370	1770	1121	807



Stay guide

SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	750	500 / 1090

Centre lock, vertical, without load transfer

SRH / mm	B1	B2	B3	Centre lock
801 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E
1401 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 E

Centre lock, vertical, with load transfer

SRH / mm	B1	B2	B3	Centre lock
1000 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E
1401 - 1600	746	946	–	CL 600 E KU + CL 200 P
1601 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2200	746	1346	1546	2x CL 600 E KU + CL 200 P
2201 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 E

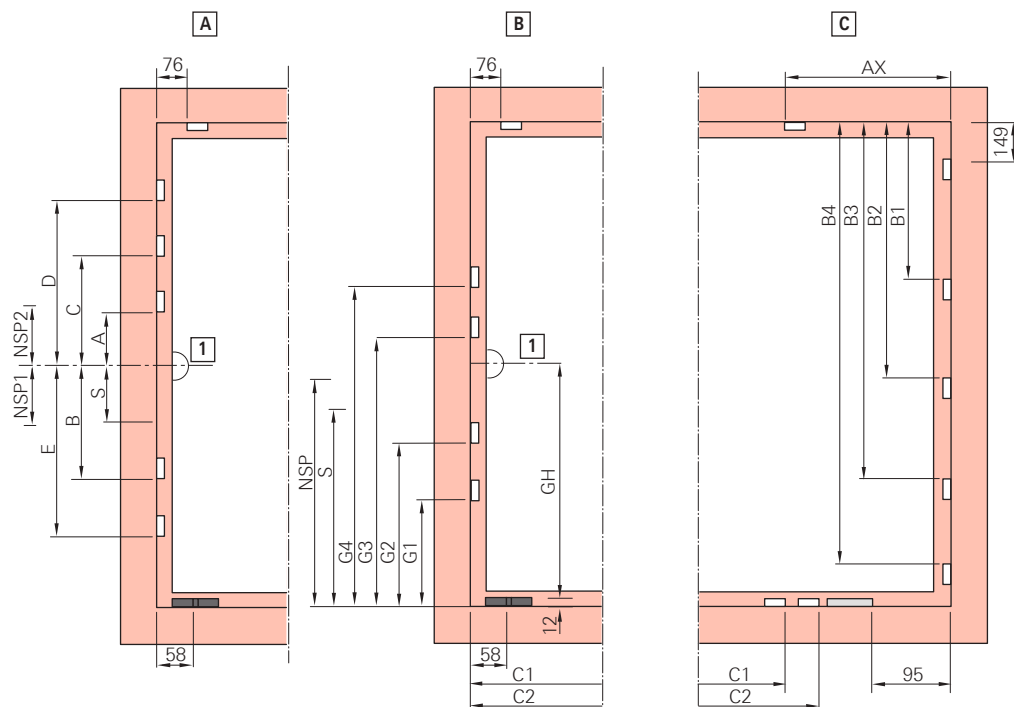
Centre lock, horizontal, without turn restrictor

SRW / mm	C1	C2	Centre lock
450 - 650	258	–	CL 200 P
651 - 850	462	–	CL 400 P
851 - 1000	658	–	CL 600 P

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	C2	Centre lock
650 - 850	258	–	CL 200 P
851 - 1050	462	–	CL 400 P
1051 - 1250	658	–	CL 600 P
1251 - 1400	658	858	CL 600 E KU + CL 200 P

8.7.1.4 Tilt&Turn hardware – RC 2 / RC 2 N



[A] Centred / variable handle height

[B] Fixed handle height

[C] Hinge side

[1] Handle centre

□ Striker e.g.

■ Tilt striker e.g.

▒ Turn restrictor, e.g. 

T&T espagnolette, centred / variable handle height

SRH / mm	A	B	C	D	E	NSP 1	NSP 2	S
490 - 620	–	–	–	–	–	–	–	–
621 - 800	125	–	–	–	–	137	–	–
801 - 1200	125	–	–	–	–	137	–	–
1201 - 1600	125	340	–	–	–	137	–	–
1601 - 2000	–	312	358	–	–	–	109	395
2001 - 2400	–	312	358	758	740	–	109	395

T&T espagnolette, fixed handle height

SRH / mm	GH	G1	G2	G3	G4	NSP	S
490 - 600	170	–	–	–	–	223	–
601 - 800	263	160	383	–	–	138	–
801 - 1000	413	160	550	–	–	288	–
1001 - 1200	513	160	700	–	–	388	–
1201 - 1400	563	160	700	–	–	388	–
1401 - 1600	563	160	700	1170	–	388	–
1601 - 1800	563	160	700	1370	–	388	–
1601 - 1800	1000	160	700	1370	–	1121	807
1801 - 2000	1000	160	700	1370	–	1121	807
2001 - 2400	1000	160	700	1370	1770	1121	807

Stay guide

SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	600	500 / 1090


Centre lock, vertical, without load transfer

SRH / mm	B1	B2	B3	B4	Centre lock
490 - 650	346	–	–	–	CL 200 V
651 - 850	550	–	–	–	CL 400 V
851 - 1050	746	–	–	–	CL 600 V
1051 - 1250	746	946	–	–	CL 600 V KU + CL 200 V
1251 - 1450	746	1150	–	–	CL 600 V KU + CL 400 V
1451 - 1650	746	1346	–	–	CL 600 V KU + CL 600 V
1651 - 1850	746	1346	1546	–	2x CL 600 V KU + CL 200 V
1851 - 2050	746	1346	1750	–	2x CL 600 V KU + CL 400 V
2051 - 2250	746	1346	1946	–	2x CL 600 V KU + CL 600 V
2251 - 2400	746	1346	1946	2146	3x CL 600 V KU + CL 200 V

Centre lock, vertical, with load transfer

SRH / mm	B1	B2	B3	B4	Centre lock
1000 - 1150	550	–	–	–	CL 400 V
1151 - 1350	746	–	–	–	CL 600 V
1351 - 1550	746	946	–	–	CL 600 V KU + CL 200 V
1551 - 1750	746	1150	–	–	CL 600 V KU + CL 400 V
1751 - 1950	746	1346	–	–	CL 600 V KU + CL 600 V
1951 - 2150	746	1346	1546	–	2x CL 600 V KU + CL 200 V
2151 - 2350	746	1346	1750	–	2x CL 600 V KU + CL 400 V
2351 - 2400	746	1346	1946	–	2x CL 600 V KU + CL 600 V

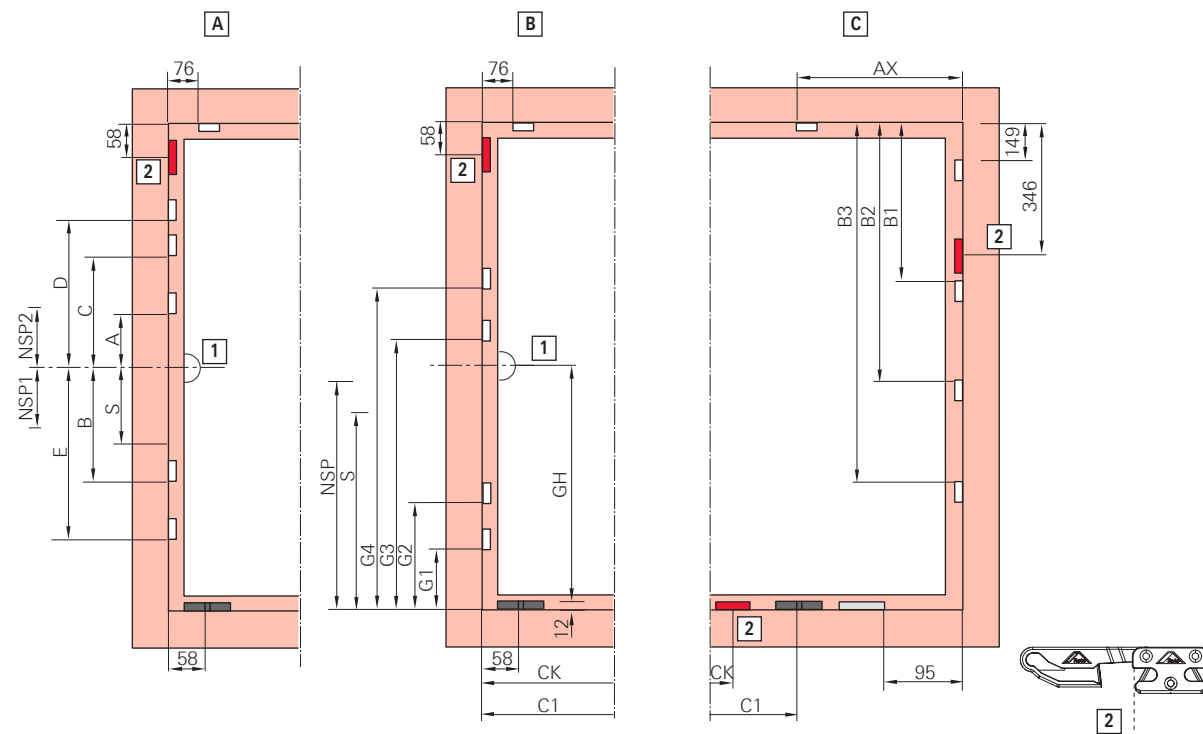
Centre lock, horizontal, without turn restrictor

SRW / mm	C1	C2	Centre lock
450 - 650	258	–	CL 200 V
651 - 850	462	–	CL 400 V
851 - 1000	658	–	CL 600 V

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	C2	Centre lock
650 - 850	258	–	CL 200 V
851 - 1050	462	–	CL 400 V
1051 - 1250	658	–	CL 600 V
1251 - 1400	658	858	CL 600 V KU + CL 200 V

8.7.1.5 Tilt&Turn hardware – TiltSafe RC 2 / RC 2 N



[A] Centred / variable handle height

[B] Fixed handle height

[C] Hinge side

[1] Handle centre

□ Striker e.g.

■ Tilt striker e.g.

□ Turn restrictor, e.g.

■ Security striker for tilt ventilation

T&T espagnolette, centred / variable handle height

SRH / mm	A	B	C	D	E	NSP 1	NSP 2	S
490 - 620	–	–	–	–	–	–	–	–
621 - 800	125	–	–	–	–	137	–	–
801 - 1200	125	–	–	–	–	137	–	–
1201 - 1600	125	340	–	–	–	137	–	–
1601 - 2000	–	312	358	–	–	–	109	395
2001 - 2400	–	312	358	758	740	–	109	395

T&T espagnolette, fixed handle height

SRH / mm	GH	G1	G2	G3	G4	NSP	S
490 - 600	170	–	–	–	–	223	–
601 - 800	263	160	383	–	–	138	–
801 - 1000	413	160	550	–	–	288	–
1001 - 1200	513	160	700	–	–	388	–
1201 - 1400	563	160	700	–	–	388	–
1401 - 1600	563	160	700	1170	–	388	–
1601 - 1800	563	160	700	1370	–	388	–
1601 - 1800	1000	160	700	1370	–	1121	807
1801 - 2000	1000	160	700	1370	–	1121	807
2001 - 2400	1000	160	700	1370	1770	1121	807

Stay guide

SRW / mm	AX	Size
801 - 1000	600	500 / 890



SRW / mm	AX	Size
1001 - 1400	600	500 / 1090

Centre lock, vertical, without load transfer

SRH / mm	B1	B2	B3	Centre lock
490 - 650	–	–	–	CL 200 V
651 - 850	546	–	–	CL 200 V KU + CL 200 V
851 - 1050	750	–	–	CL 200 V KU + CL 400 V
1051 - 1250	946	–	–	CL 200 V KU + CL 600 V
1251 - 1450	946	1146	–	CL 200 V KU + CL 600 V KU+ CL 200 V
1451 - 1650	946	1350	–	CL 200 V KU + CL 600 V KU+ CL 400 V
1651 - 1850	946	1546	–	CL 200 V KU + CL 600 V KU+ CL 600 V
1851 - 2050	946	1546	1746	CL 200 V KU + 2x CL 600 V KU+ CL 200 V
2051 - 2250	946	1546	1950	CL 200 V KU + 2x CL 600 V KU+ CL 400 V
2251 - 2400	946	1546	2146	CL 200 V KU + 2x CL 600 V KU+ CL 600 V

Centre lock, vertical, with load transfer

SRH / mm	B1	B2	B3	Centre lock
1000 - 1150	546	–	–	CL 200 V KU + CL 200 V
1151 - 1350	750	–	–	CL 200 V KU + CL 400 V
1351 - 1550	946	–	–	CL 200 V KU + CL 600 V
1551 - 1750	946	1146	–	CL 200 V KU + CL 600 V + CL 200 V
1751 - 1950	946	1350	–	CL 200 V KU + CL 600 V + CL 400 V
1951 - 2150	946	1546	–	CL 200 V KU + CL 600 V + CL 600 V
2151 - 2350	946	1546	1746	CL 200 V KU + 2x CL 600 V + CL 200 V
2351 - 2400	946	1546	1950	CL 200 V KU + 2x CL 600 V + CL 400 V

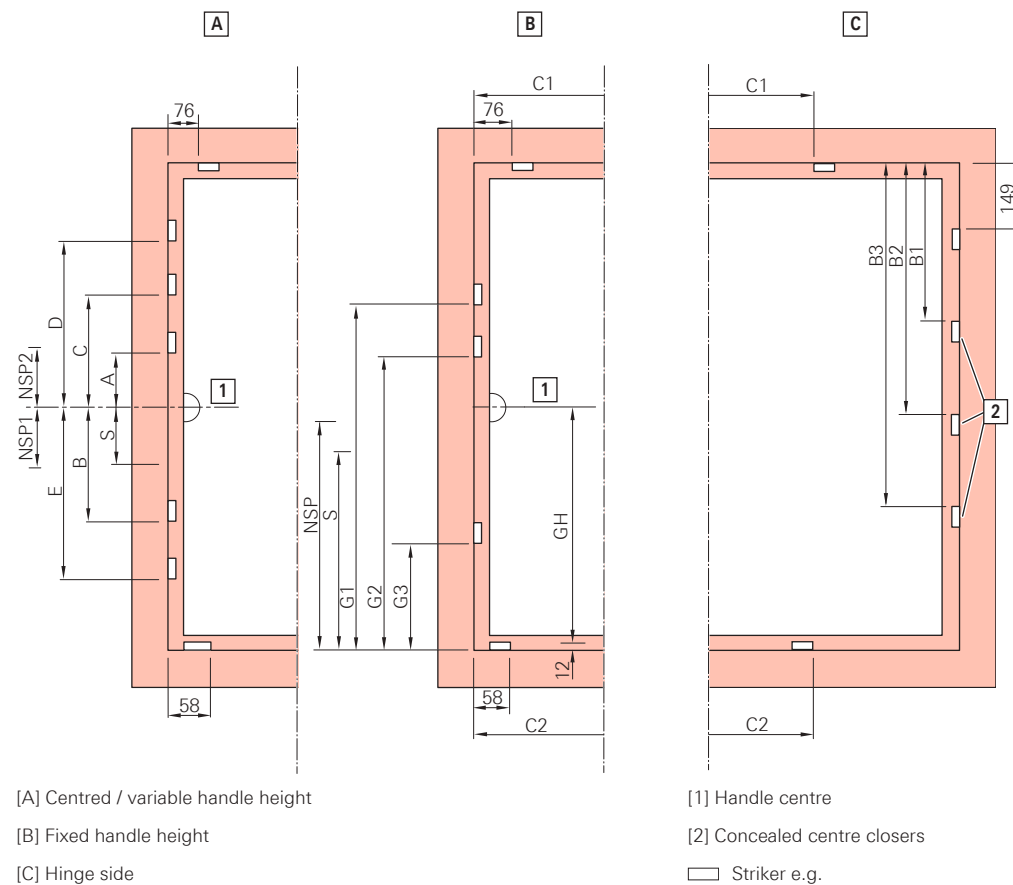
Centre lock, horizontal, without turn restrictor

SRW / mm	C1	C2	Centre lock
450 - 650	258	–	CL 200 V
651 - 850	462	–	CL 400 V
851 - 1000	658	–	CL 600 V

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	C2	Centre lock
650 - 850	258	–	CL 200 V
851 - 1050	462	–	CL 400 V
1051 - 1250	658	–	CL 600 V
1251 - 1400	658	858	CL 600 V KU + CL 200 V

8.7.1.6 Turn-Only hardware – basic security



T&T espagnolette, centred / variable handle height

SRH / mm	A	B	C	D	E	NSP 1	NSP 2	S
310 - 620	–	–	–	–	–	–	–	–
621 - 800	125	–	–	–	–	137	–	–
801 - 1200	125	–	–	–	–	137	–	–
1201 - 1600	125	340	–	–	–	137	–	–
1601 - 2000	–	312	358	–	–	–	109	395
2001 - 2600	–	312	358	758	740	–	109	395

T&T espagnolette, fixed handle height

SRH / mm	GH	G1	G2	G3	NSP	S
280 - 510	120	–	–	–	–	–
511 - 600	170	–	–	–	262	–
601 - 800	263	383	–	–	138	–
801 - 1000	413	550	–	–	288	–
1001 - 1200	513	700	–	–	388	–
1201 - 1400	563	700	–	–	388	–
1401 - 1600	563	700	1170	–	388	–
1601 - 1800	563	700	1370	–	388	807
1801 - 1800	1000	700	1370	–	1121	807
1801 - 2000	1000	700	1370	–	1121	807
2001 - 2600	1000	700	1370	1770	1121	807

Centre closer, vertical, concealed, without turn restrictor

SRH / mm	B1	B2	B3
801 - 1200	550	–	–



SRH / mm	B1	B2	B3
1201 - 1400	746	–	–
1401 - 1800	746	1150	–
1801 - 2000	746	1346	–
2001 - 2400	746	1346	1750
2401 - 2600	746	1346	1946

Centre lock, horizontal

SRW / mm	C1	C2	Top
801 - 1200	480	–	CL 400 E
1201 - 1400	676	–	CL 600 E

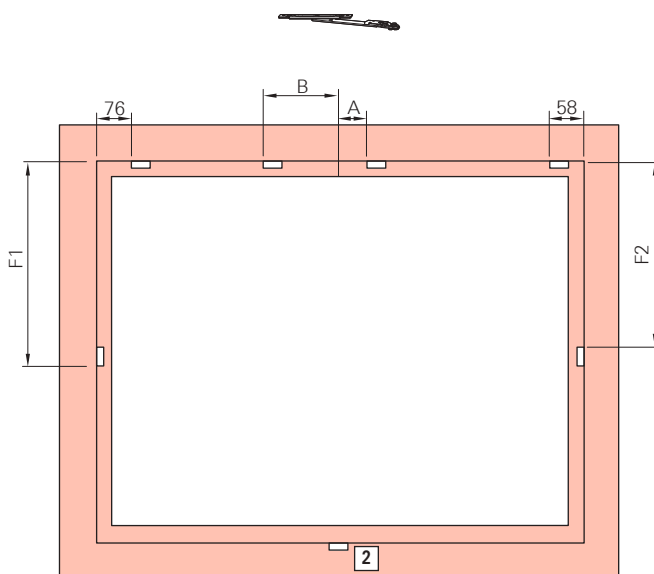
Centre lock, horizontal, without turn restrictor

SRW / mm	C1	C2	Bottom
801 - 1200	–	462	CL 400 E
1201 - 1400	–	658	CL 600 E

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	C2	Bottom
801 - 850	–	258	CL 200 P
851 - 1200	–	462	CL 400 E
1201 - 1400	–	658	CL 600 E

8.7.1.7 Tilt-Only hardware – basic security



[1] Handle centre

[2] Concealed centre closer

□ Striker e.g.

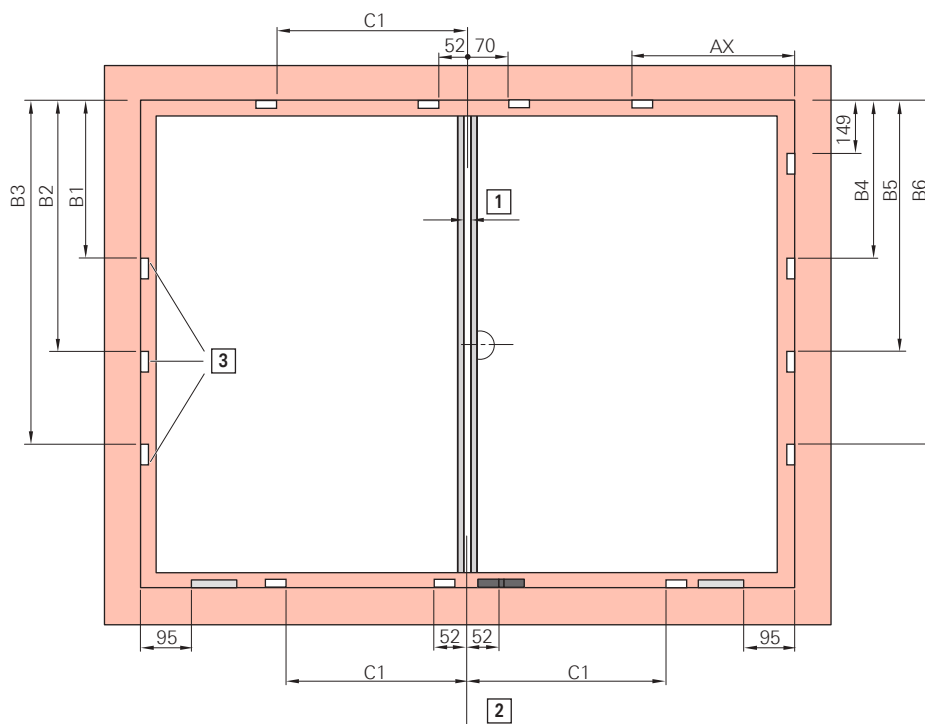
T&T espagnolette, centred / variable handle height

SRW / mm	A	B
451 - 620	–	–
621 - 800	125	–
801 - 1200	125	–
1201 - 1400	125	340

Centre lock, vertical

SRH / mm	F1	F2	Left / right
801 - 1200	462	480	CL 400 E

8.7.1.8 Floating-mullion hardware, standard – basic security



[1] 12 mm rebate clearance between the sashes

[2] Rebate clearance centre

[3] Concealed centre closers

□ Striker e.g.

■ Tilt striker e.g.

▨ Turn restrictor, e.g. 

Centre closer, vertical, concealed, without load transfer

SRH / mm	B1	B2	B3
801 - 1200	550	–	–
1201 - 1400	746	–	–
1401 - 1800	746	1150	–
1801 - 2000	746	1346	–
2001 - 2400	746	1346	1750
2401 - 2600	746	1346	1946

Centre closer, vertical, concealed, with load transfer

SRH / mm	B1	B2	B3
1001 - 1200	550	–	–
1201 - 1400	746	–	–
1401 - 1600	746	946	–
1601 - 1800	746	1150	–
1801 - 2000	746	1346	–
2001 - 2200	746	1346	1546
2201 - 2400	746	1346	1750
2401 - 2600	746	1346	1946



Centre lock, vertical, without load transfer

SRH / mm	B4	B5	B6	Centre lock
801 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E KU
1401 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 E

Centre lock, vertical, with load transfer

SRH / mm	B4	B5	B6	Centre lock
1001 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E
1401 - 1600	746	946	–	CL 600 E KU + CL 200 P
1601 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2200	746	1346	1546	2x CL 600 E KU + CL 200 P
2201 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 P

Centre lock, horizontal

SRW / mm	C1	Top
801 - 1200	456	CL 400 E
1201 - 1400	652	CL 600 E

Centre lock, horizontal, without turn restrictor

SRW / mm	C1	Bottom
801 - 1200	456	CL 400 E
1201 - 1400	652	CL 600 E

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	Bottom
801 - 850	252	CL 200 P
851 - 1200	456	CL 400 E
1201 - 1400	652	CL 600 E

Stay guide

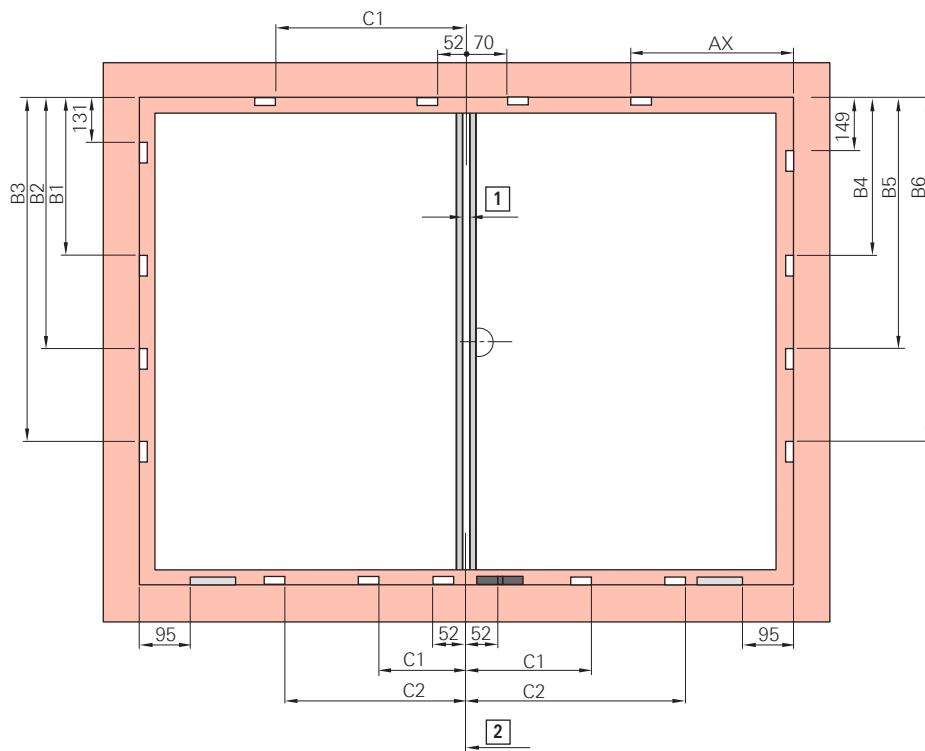
SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	750	500 / 1090



INFO

Mount the second opening sash with the lever-operated espagnolette open.

8.7.1.9 Floating-mullion hardware, standard – RC 1 N



[1] 12 mm rebate clearance between the sashes

[2] Rebate clearance centre

□ Striker e.g.

■ Tilt striker e.g.

▨ Turn restrictor, e.g.

Centre lock, vertical, without load transfer

SRH / mm	B1	B2	B3	B4	B5	B6	Centre lock
801 - 1200	532	–	–	550	–	–	CL 400 E
1201 - 1400	728	–	–	746	–	–	CL 600 E
1401 - 1800	728	1132	–	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	728	1328	–	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2400	728	1328	1732	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	728	1328	1928	746	1346	1946	2x CL 600 E KU + CL 600 E

Centre lock, vertical, with load transfer

SRH / mm	B1	B2	B3	B4	B5	B6	Centre lock
1000 - 1200	532	–	–	550	–	–	CL 400 E
1201 - 1400	728	–	–	746	–	–	CL 600 E
1401 - 1600	728	928	–	746	946	–	CL 600 E KU + CL 200 P
1601 - 1800	728	1132	–	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	728	1328	–	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2200	728	1328	1528	746	1346	1546	2x CL 600 E KU + CL 200 P
2201 - 2400	728	1328	1732	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	728	1328	1928	746	1346	1946	2x CL 600 E KU + CL 600 E

Centre lock, horizontal

SRW / mm	C1	Top
911 - 1110	452	CL 400 E KU
1111 - 1310	652	CL 600 E KU



SRW / mm	C1	Top
1311 - 1400	652	CL 600 E KU + CL 200 KU

Centre lock, horizontal, without turn restrictor

SRW / mm	C1	Bottom
450 - 650	252	CL 200 P
651 - 850	456	CL 400 P
851 - 1000	652	CL 600 P

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	C2	Bottom
650 - 850	252	–	CL 200 P
851 - 1050	456	–	CL 400 P
1051 - 1250	652	–	CL 600 P
1251 - 1400	652	852	CL 600 E KU + CL 200 P

Stay guide

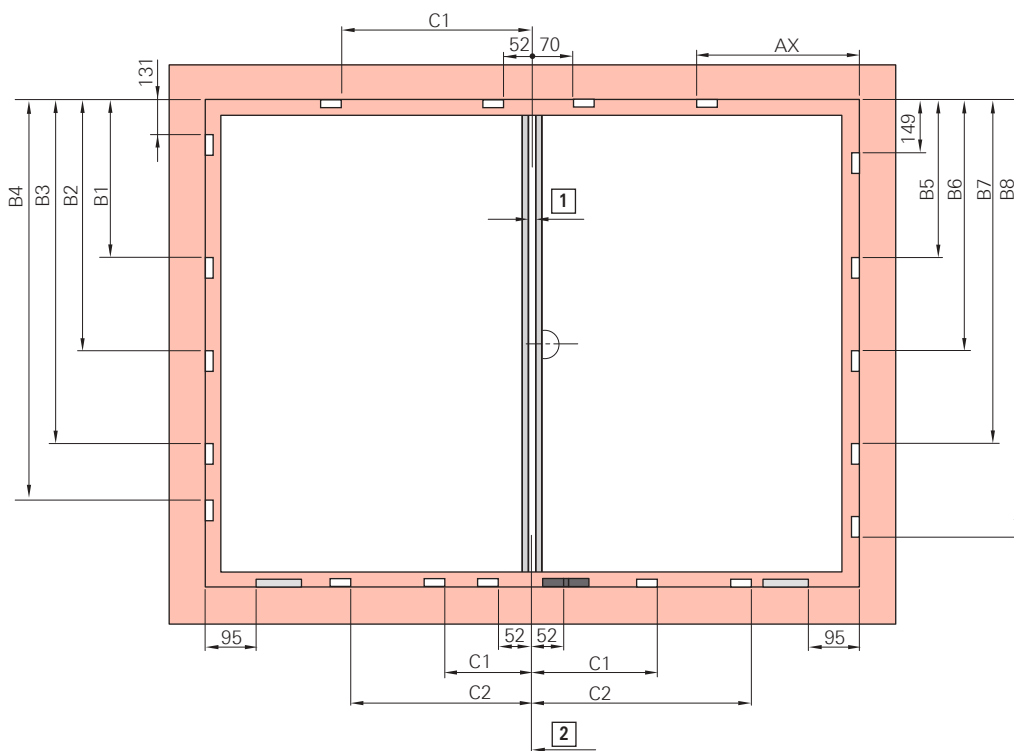
SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	750	500 / 1090



INFO

Mount the second opening sash with the lever-operated espagnolette open.

8.7.1.10 Floating-mullion hardware, standard – RC 2 / RC 2 N



[1] 12 mm rebate clearance between the sashes

[2] Rebate clearance centre

 Striker e.g.

 Tilt striker e.g.

 Turn restrictor, e.g. 

Centre lock, vertical, without load transfer

SRH / mm	B1	B2	B3	B4	B5	B6	B7	B8	Centre lock
490 - 650	328	–	–	–	346	–	–	–	CL 200 V
651 - 850	532	–	–	–	550	–	–	–	CL 400 V
851 - 1050	728	–	–	–	746	–	–	–	CL 600 V
1051 - 1250	728	928	–	–	746	946	–	–	CL 600 V KU + CL 200 V
1251 - 1450	728	1132	–	–	746	1150	–	–	CL 600 V KU + CL 400 V
1451 - 1650	728	1328	–	–	746	1346	–	–	CL 600 V KU + CL 600 V
1651 - 1850	728	1328	1528	–	746	1346	1546	–	2x CL 600 V KU + CL 200 V
1851 - 2050	728	1328	1732	–	746	1346	1750	–	2x CL 600 V KU + CL 400 V
2051 - 2250	728	1328	1928	–	746	1346	1946	–	2x CL 600 V KU + CL 600 V
2251 - 2400	728	1328	1928	2128	746	1346	1946	2146	3x CL 600 V KU + CL 200 V

Centre lock, vertical, with load transfer

SRH / mm	B1	B2	B3	B4	B5	B6	Centre lock
1000 - 1150	532	–	–	550	–	–	CL 400 V
1151 - 1350	728	–	–	746	–	–	CL 600 V
1351 - 1550	728	928	–	746	946	–	CL 600 V KU + CL 200 V
1551 - 1750	728	1132	–	746	1150	–	CL 600 V KU + CL 400 V
1751 - 1950	728	1328	–	746	1346	–	CL 600 V KU + CL 600 V
1951 - 2150	728	1328	1528	746	1346	1546	2x CL 600 V KU + CL 200 V
2151 - 2350	728	1328	1732	746	1346	1750	2x CL 600 V KU + CL 400 V
2351 - 2400	728	1328	1928	746	1346	1946	2x CL 600 V KU + CL 600 V

Centre lock, horizontal

SRW / mm	C1	C1	Top
711 - 910	252	–	CL 200 KU
911 - 1110	452	–	CL 400 KU
1111 - 1310	652	–	CL 600 V KU
1311 - 1400	652	852	CL 600 V KU + CL 200 KU

Centre lock, horizontal, without turn restrictor

SRW / mm	C1	Bottom
450 - 650	252	CL 200 V
651 - 850	456	CL 400 V
851 - 1000	652	CL 600 V

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	C2	Bottom
650 - 850	252	–	CL 200 V
851 - 1050	456	–	CL 400 V
1051 - 1250	652	–	CL 600 V
1251 - 1400	652	852	CL 600 V KU + CL 200 V

Stay guide

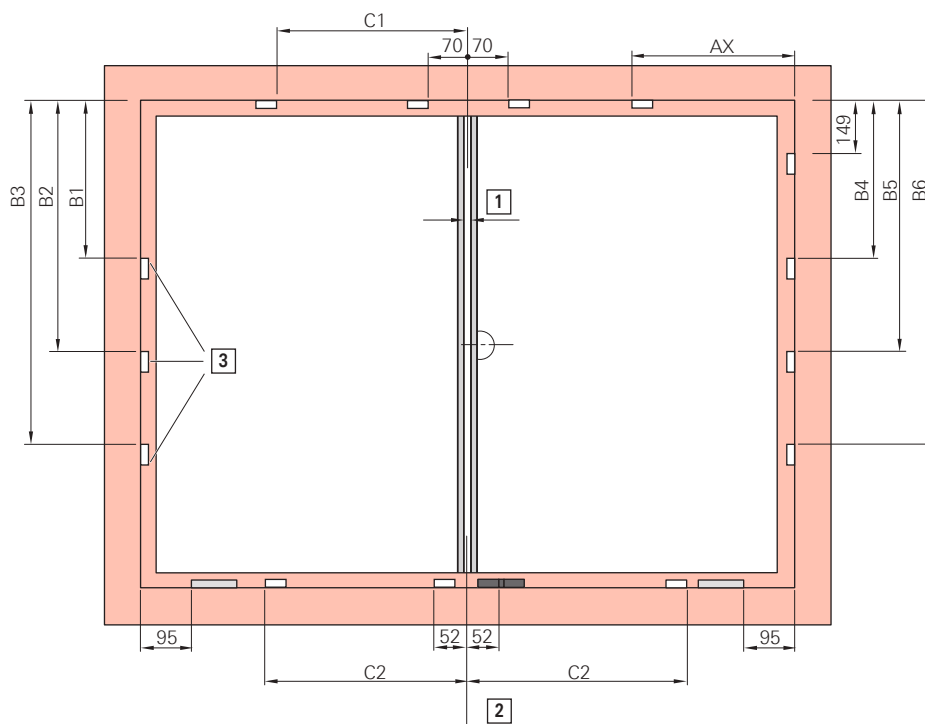
SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	750	500 / 1090



INFO

Mount the second opening sash with the lever-operated espagnolette open.

8.7.1.11 Floating-mullion hardware Plus – basic security



[1] 12 mm rebate clearance between the sashes

[2] Rebate clearance centre

[3] Concealed centre closers

□ Striker e.g.

■ Tilt striker e.g.

□ Turn restrictor, e.g. 

Centre closer, vertical, concealed, without load transfer

SRH / mm	B1	B2	B3
801 - 1200	550	–	–
1201 - 1400	746	–	–
1401 - 1800	746	1150	–
1801 - 2000	746	1346	–
2001 - 2400	746	1346	1750
2401 - 2600	746	1346	1946

Centre closer, vertical, concealed, with load transfer

SRH / mm	B1	B2	B3
1001 - 1200	550	–	–
1201 - 1400	746	–	–
1401 - 1600	746	946	–
1601 - 1800	746	1150	–
1801 - 2000	746	1346	–
2001 - 2200	746	1346	1546
2201 - 2400	746	1346	1750
2401 - 2600	746	1346	1946

Centre lock, vertical, without load transfer

SRH / mm	B4	B5	B6	Centre lock
801 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E KU
1401 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 E

Centre lock, vertical, with load transfer

SRH / mm	B4	B5	B6	Centre lock
1001 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E
1401 - 1600	746	946	–	CL 600 E KU + CL 200 P
1601 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2200	746	1346	1546	2x CL 600 E KU + CL 200 P
2201 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 P

Centre lock, horizontal

SRW / mm	C1	Top
801 - 1200	474	CL 400 E
1201 - 1400	670	CL 600 E

Centre lock, horizontal, without turn restrictor

SRW / mm	C2	Bottom
801 - 1200	456	CL 400 E
1201 - 1400	652	CL 600 E

Centre lock, horizontal, with turn restrictor

SRW / mm	C2	Bottom
801 - 850	252	CL 200 P
851 - 1200	456	CL 400 E
1201 - 1400	652	CL 600 E

Stay guide

SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	750	500 / 1090

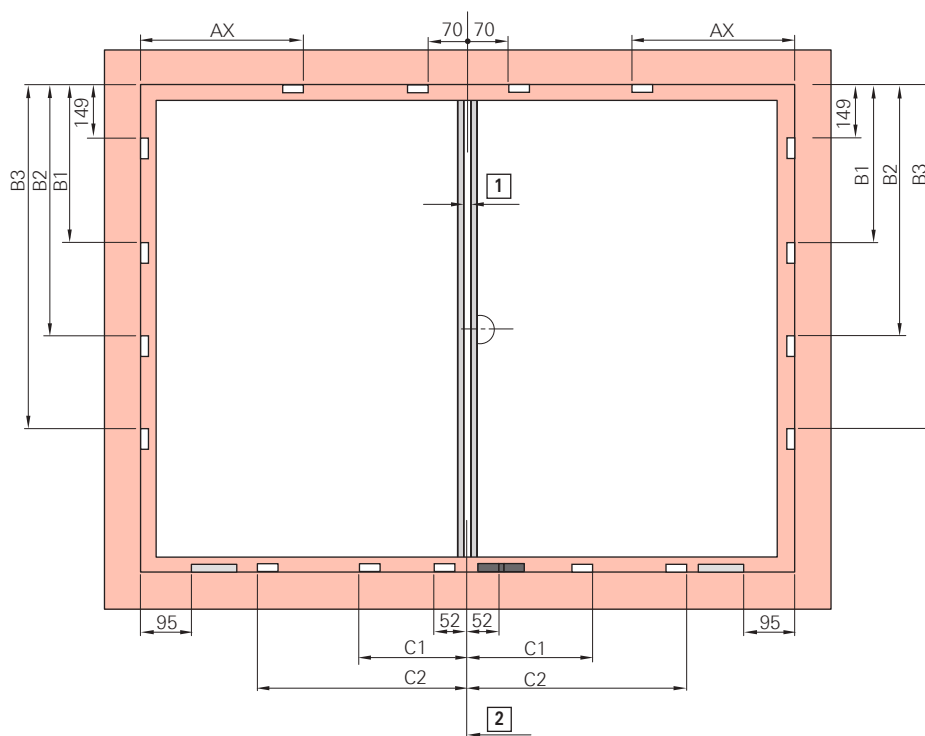


INFO

Mount the second opening sash with the lever-operated espagnolette open.



8.7.1.12 Floating-mullion hardware Plus – RC 1 N



[1] 12 mm rebate clearance between the sashes

[2] Rebate clearance centre

□ Striker e.g.

■ Tilt striker e.g.

▒ Turn restrictor, e.g.

Centre lock, vertical, without load transfer

SRH / mm	B1	B2	B3	Centre lock
801 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E
1401 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 E

Centre lock, vertical, with load transfer

SRH / mm	B1	B2	B3	Centre lock
1000 - 1200	550	–	–	CL 400 E
1201 - 1400	746	–	–	CL 600 E
1401 - 1600	746	946	–	CL 600 E KU + CL 200 P
1601 - 1800	746	1150	–	CL 600 E KU + CL 400 E
1801 - 2000	746	1346	–	CL 600 E KU + CL 600 E
2001 - 2200	746	1346	1546	2x CL 600 E KU + CL 200 P
2201 - 2400	746	1346	1750	2x CL 600 E KU + CL 400 E
2401 - 2600	746	1346	1946	2x CL 600 E KU + CL 600 E

Centre lock, horizontal, without turn restrictor

SRW / mm	C1	Bottom
450 - 650	252	CL 200 P
651 - 850	456	CL 400 P
851 - 1000	652	CL 600 P

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	C2	Bottom
650 - 850	252	–	CL 200 P
851 - 1050	456	–	CL 400 P
1051 - 1250	652	–	CL 600 P
1251 - 1400	652	852	CL 600 E KU + CL 200 P

Stay guide

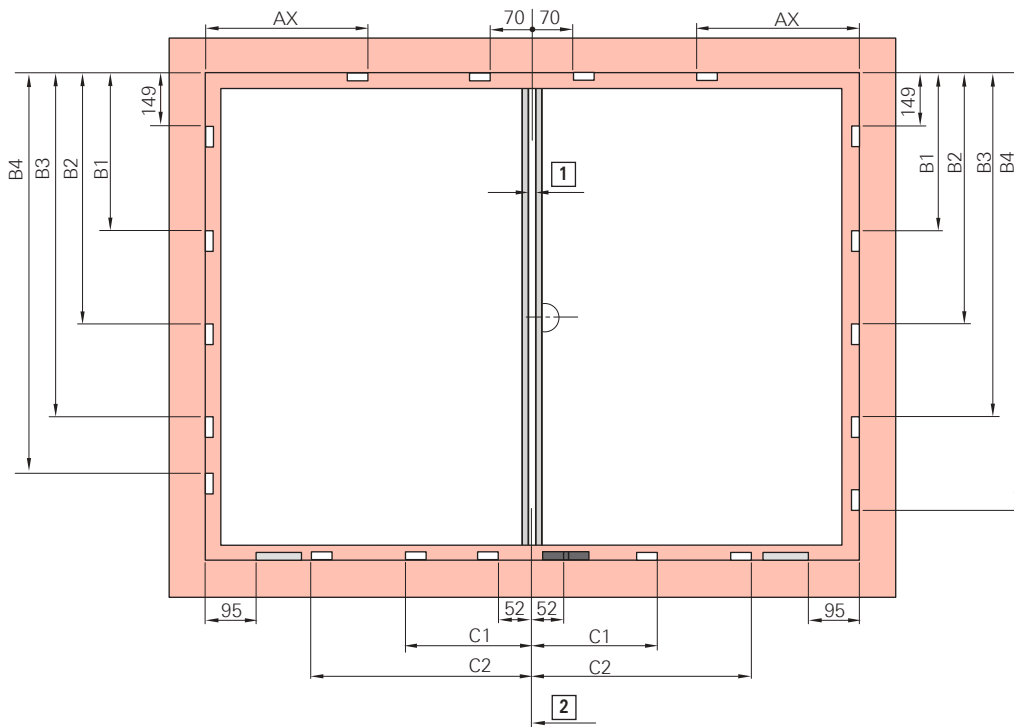
SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	750	500 / 1090



INFO

Mount the second opening sash with the lever-operated espagnolette open.

8.7.1.13 Floating-mullion hardware Plus – RC 2 / RC 2 N



[1] 12 mm rebate clearance between the sashes

[2] Rebate clearance centre

☐ Striker e.g.

 Tilt striker e.g.

 Turn restrictor, e.g.

Centre lock, vertical, without load transfer

SRH / mm	B1	B2	B3	B4	Centre lock
490 - 650	346	–	–	–	CL 200 V
651 - 850	550	–	–	–	CL 400 V
851 - 1050	746	–	–	–	CL 600 V
1051 - 1250	746	946	–	–	CL 600 V KU + CL 200 V
1251 - 1450	746	1150	–	–	CL 600 V KU + CL 400 V
1451 - 1650	746	1346	–	–	CL 600 V KU + CL 600 V



SRH / mm	B1	B2	B3	B4	Centre lock
1651 - 1850	746	1346	1546	–	2x CL 600 V KU + CL 200 V
1851 - 2050	746	1346	1750	–	2x CL 600 V KU + CL 400 V
2051 - 2250	746	1346	1946	–	2x CL 600 V KU + CL 600 V
2251 - 2400	746	1346	1946	2146	3x CL 600 V KU + CL 200 V

Centre lock, vertical, with load transfer

SRH / mm	B1	B2	B3	Centre lock
1000 - 1150	550	–	–	CL 400 V
1151 - 1350	746	–	–	CL 600 V
1351 - 1550	746	946	–	CL 600 V KU + CL 200 V
1551 - 1750	746	1150	–	CL 600 V KU + CL 400 V
1751 - 1950	746	1346	–	CL 600 V KU + CL 600 V
1951 - 2150	746	1346	1546	2x CL 600 V KU + CL 200 V
2151 - 2350	746	1346	1750	2x CL 600 V KU + CL 400 V
2351 - 2400	746	1346	1946	2x CL 600 V KU + CL 600 V

Centre lock, horizontal, without turn restrictor

SRW / mm	C1	Bottom
450 - 650	252	CL 200 V
651 - 850	456	CL 400 V
851 - 1000	652	CL 600 V

Centre lock, horizontal, with turn restrictor

SRW / mm	C1	C2	Bottom
650 - 850	252	–	CL 200 V
851 - 1050	456	–	CL 400 V
1051 - 1250	652	–	CL 600 V
1251 - 1400	652	852	CL 600 V KU + CL 200 V

Stay guide

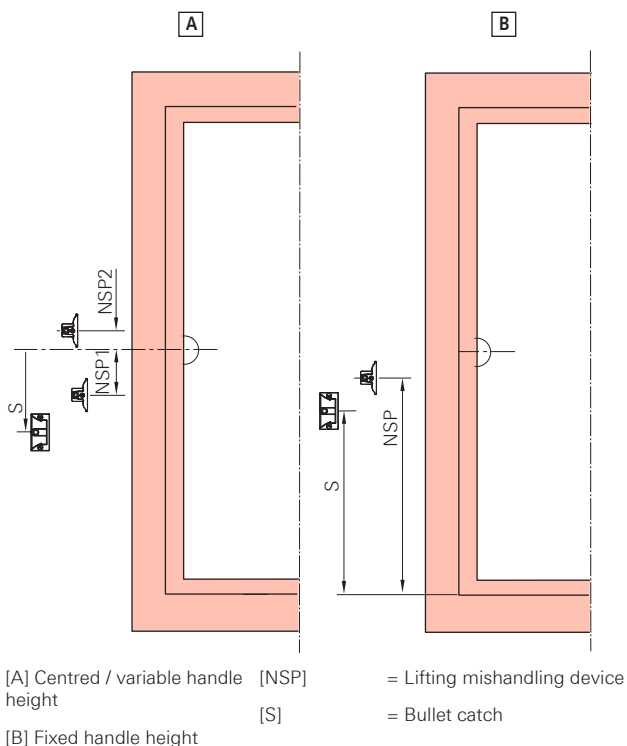
SRW / mm	AX	Size
801 - 1000	600	500 / 890
1001 - 1400	600	500 / 1090



INFO

Mount the second opening sash with the lever-operated espagnolette open.

8.7.2 Position of the lifting mishandling device and bullet catch



T&T espagnolette, centred / variable handle height

SRH / mm	NSP 1	NSP 2	S
450 - 620	–	–	–
621 - 800	137	–	–
801 - 1200	137	–	–
1201 - 1600	137	–	–
1601 - 2000	–	109	395
2001 - 2400	–	109	395
2401 - 2600	–	109	395
2601 - 2800	–	109	395

T&T espagnolette, fixed handle height

SRH / mm	NSP	S
280 - 480	–	–
481 - 600	262	–
601 - 800	138	–
801 - 1000	288	–
1001 - 1200	388	–
1201 - 1400	388	–
1401 - 1600	388	–
1601 - 1800	388	–
1601 - 1800	1121	807
1801 - 2000	1121	807
2001 - 2200	1121	807
2201 - 2400	1121	807
2401 - 2600	1121	807
2601 - 2800	1121	807

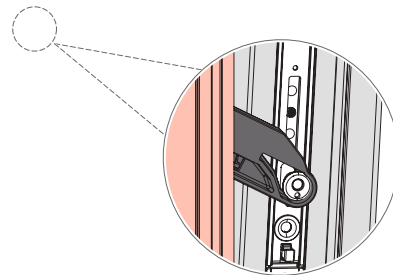


8.7.3 Security striker for tilt ventilation (TiltSafe)

1. Position the security striker for tilt ventilation [1] on the frame [2].

In the turn position, the entering cam must be positioned in the same way as a standard striker.

Striker point of entry [4]



2. Secure with three single-use screws [3].

**INFO**

Single-use screws can be tightened but not undone.

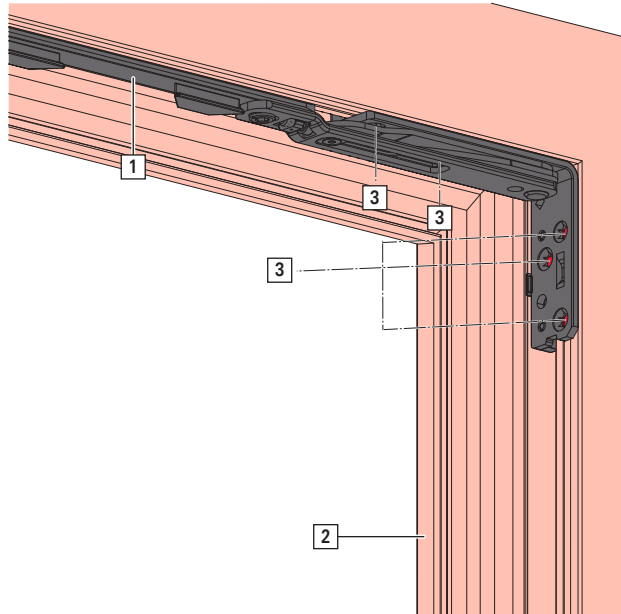
**INFO**

RC 2 protection cannot be achieved in the 135° handle position (night ventilation). To achieve RC 2 protection:

1. Tilt the window
2. Lock the handle
3. Remove the key.

8.7.4 Sash stay / rebate sash stay

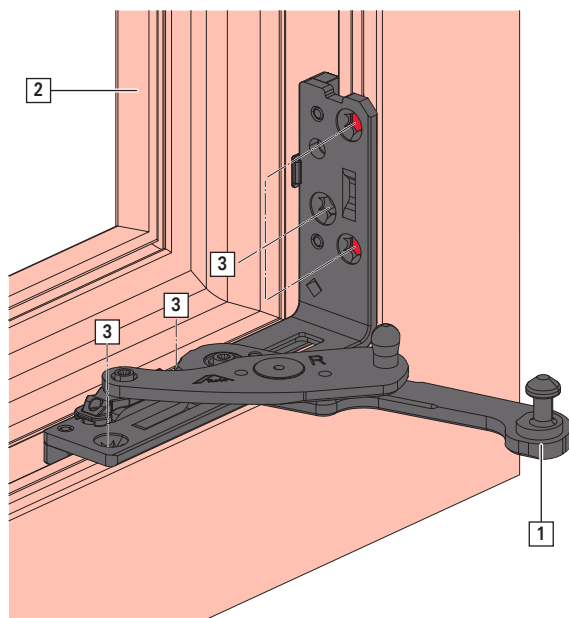
1. Place the sash stay [1] in the frame [2].



2. Fasten with five screws [3].

8.7.5 Pivot rest

1. Place the pivot rest [1] on the frame [2].



2. Fasten with five screws [3].



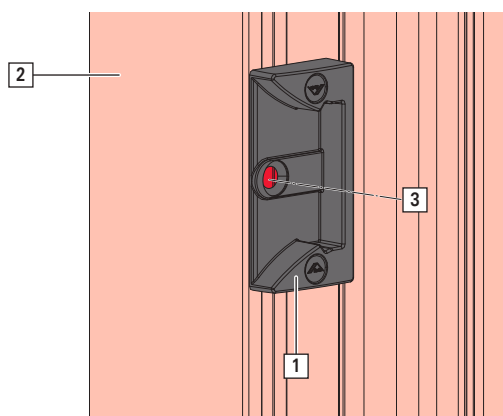
8.7.6 Lifting mishandling device

1. Position the lifting mishandling device frame component [1] in the frame [2].

2. Secure with two screws [3].

8.7.7 Bullet catch

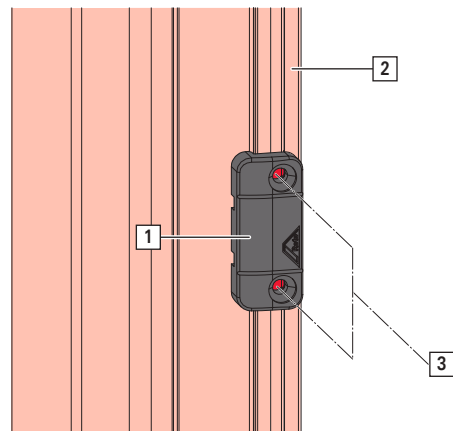
1. Position the bullet-catch frame component [1] in the frame [2].



2. Fasten with a screw [3].

8.7.8 Concealed centre closer

1. Position the centre closer [1] in the frame [2].



2. Fasten with two screws [3].



INFO

Put pressure-proof packers between glass and frame in the area of the centre closers.



8.8 Accessories

8.8.1 Tilt stay

8.8.1.1 Installation dimensions

SRW	[1]	[2]	[3]	[4]	[5]	[6]	BS
621 – 800 mm	–	–	–	4 mm	–	73 mm	15
801 – 1200 mm	–	–	–	4 mm	–	73 mm	15
1200 – 1600 mm	15 mm	–	195 mm	–	212 mm	392 mm	8 / 15
1601 – 2000 mm	433 mm	–	109 mm	–	364 mm	306 mm	8 / 15
2001 – 2400 mm	433 mm	–	509 mm	–	364 mm	706 mm	8 / 15

[A] Installation of tilt stay at the side

[B] Installation of tilt stay at the top

8.8.1.2 Sash component

Position at the side

1. Place the sash component [1] on the corner drive [2] (position [A] or [B]).

2. Secure with screw [3].

Position at the top

1. Place the sash component [1] on the espagnolette [2].

2. Secure with screw [3].



8.8.1.3 Frame component

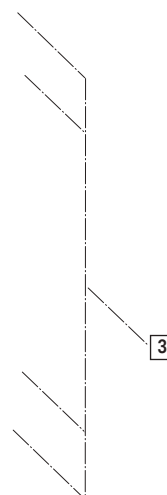
1. Break the packer [1] apart in the centre.
2. Push the tilt stay [2] onto the packer.



INFO

With a smooth rebate, no packers are required.

3. Position the tilt stay in the rebate.
4. Secure with four screws [3].



8.8.2 Additional stay arm

8.8.2.1 Sash component

1. Connect the additional stay arm sash component [1] to the corner drive [3]. Creating a force-fit connection → *from page 133*
2. Fit the stay guide [2].
3. Secure with two screws [4].



8.8.2.2 Frame component

1. Push the packer [1] into the frame component [2].
Ensure that it is firmly seated.



INFO

With a smooth rebate, no packers are required.

2. Insert the frame component with packer [1] into the frame profile.
The distance between the frame rebate and frame component is 417 mm.

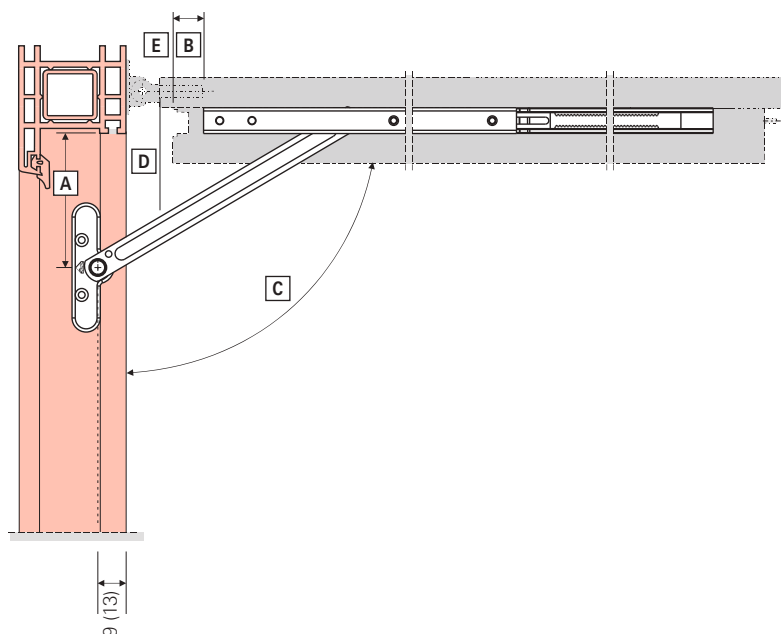
3. Secure with three screws.

Additional stay arm for arched windows

1. Break the frame component at the notch.
2. Insert the frame component into the frame profile.
3. Secure with three screws.

8.8.3 Arrestable brake stay

8.8.3.1 Installation dimensions



Assignment	Meaning
[A]	Frame dimensions
[B]	Sash dimensions
[C]	Opening angle 90°
[D]	Overlap edge
[E]	Sash rebate edge



INFO

Only the sash lifter and not the lifting mishandling device can be used in conjunction with the arrestable brake stay.



8.8.3.2 Arrestable brake stay

Installation dimensions 571 - 1570 mm

Application range	Corner drive	Centre lock	Arrestable brake stay	Arm	Frame dimension	Sash dimension
490 - 570 [2]	Special corner drive	—	486820	492757	135	130
571 - 770	T&T corner drive – standard	—	486820	492757	135	130
771 - 970	T&T corner drive – standard	CL 200 KU	486820	492757	135	130
971 - 1170	T&T corner drive – standard	CL 400 KU	486820	492757	135	130
1171 - 1370	T&T corner drive – standard	CL 600 KU	486820	492757	135	130
1371 - 15760	T&T corner drive – standard	CL 200 KU	486820	492757	135	130
		CL 600 KU				

[2] Turn-Only sash only

8.8.3.3 Sash component



INFO

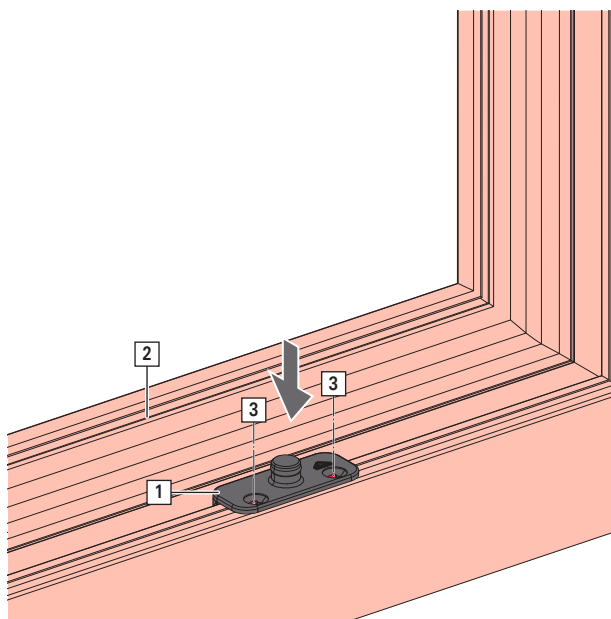
Only the sash lifter and not the lifting mishandling device can be used in conjunction with the arrestable brake stay.

1. Place the scissor stay arm [1] on the arrestable brake stay [2].
Turn the arm 180°. The arm is fixed in position.
2. Position the arrestable brake stay on the sash and connect it to the centre lock or corner drive. For dimensions, see → *from page 182*.
3. Move the slider [1] in jerks to move the assembly fixture out of the final position. While doing so, strike the cam [2].
4. Once the centre fixing is undone, the centre position of the push rod can be adjusted by moving the bend of the push rod to the position of the punching on the floating mullion.
[A] Punching on the floating mullion
[B] Bend of the push rod



8.8.3.4 Frame component

1. Position the frame component [1] in the frame groove [2].



2. Fasten with two screws [3].

8.8.4 Load transfer

8.8.4.1 Sash component



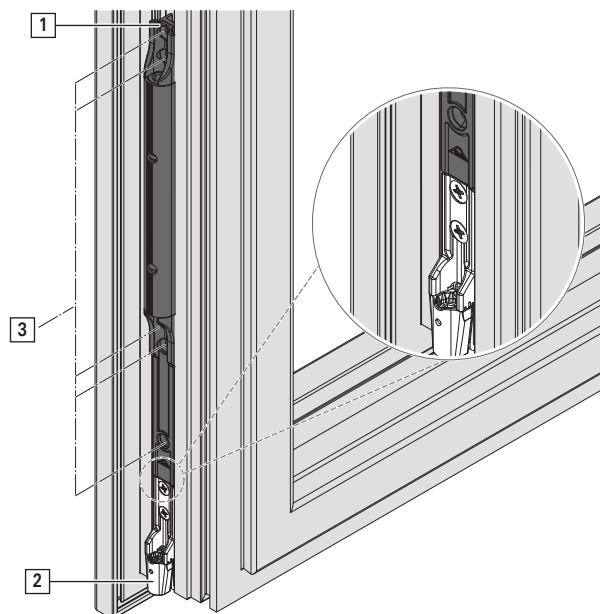
INFO

No load transfer for sash weights < 80 kg, as this may lead to malfunctions.

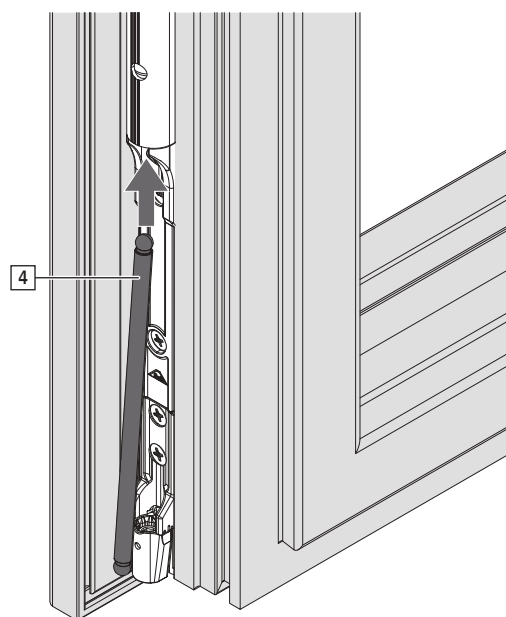
The use of a turn restrictor is mandatory.

If the sash is transported mounted in the frame, the load transfer spring can be pre-tensioned even in the workshop. This is only useful, however, if the sash is fitted with the full glass weight.

1. Insert the load transfer sash component [1] up to the stop to the corner hinge [2].



2. Fasten with five screws [3].
3. Push the support rod [4] into the load transfer.





8.8.4.2 Frame component



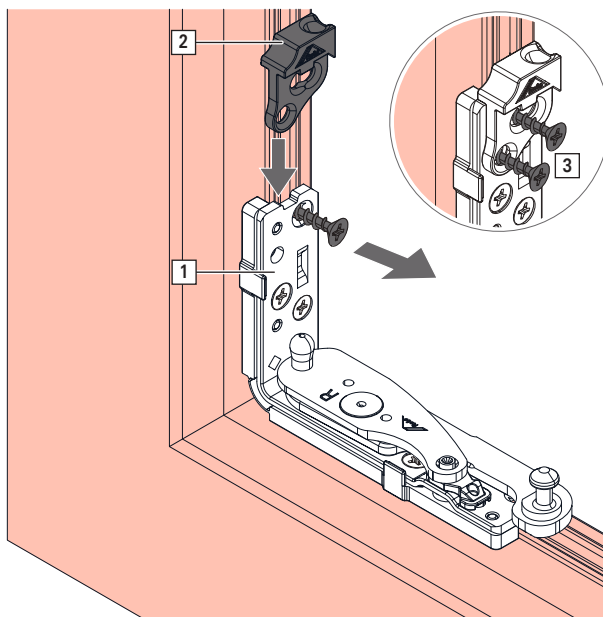
INFO

No load transfer for sash weights < 80 kg, as this may lead to malfunctions.

The use of a turn restrictor is mandatory.

If the sash is transported mounted in the frame, the load transfer spring can be pre-tensioned even in the workshop. This is only useful, however, if the sash is fitted with the full glass weight.

1. Undo the top screw fixing from the pivot rest [1].



2. Place the load transfer frame component [2] on the pivot rest and fasten with two screws [3].

8.8.5 Turn restrictors

8.8.5.1 Drilling and routing dimensions

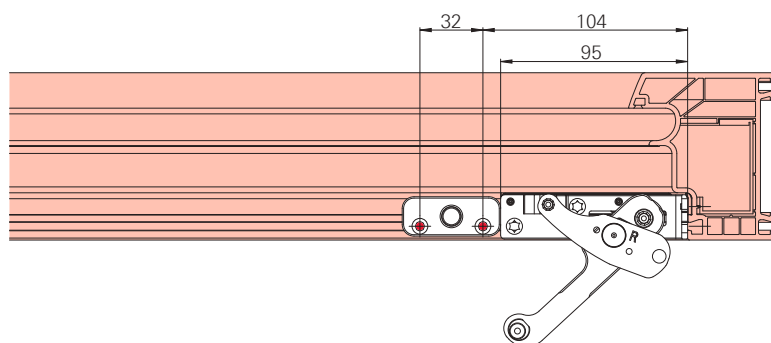


INFO

The turn restrictor is an additional component designed to provide extra convenience; it is not a security component.

Frame component

Positioning the 90° turn restrictor



Sash component

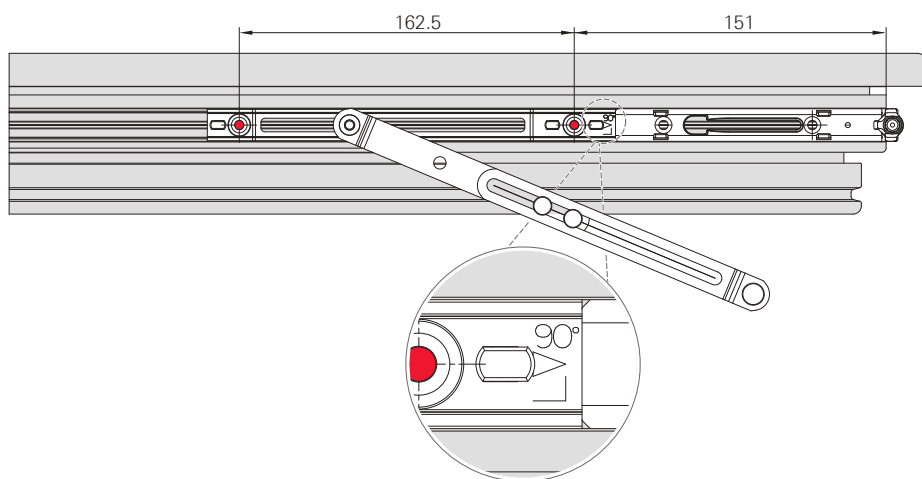


ATTENTION

Improper installation may cause property damage.

Incorrect installation of the sash component destroys the pivot rest.

- The 90° imprint must point towards the corner hinge.





8.8.5.2 Sash component

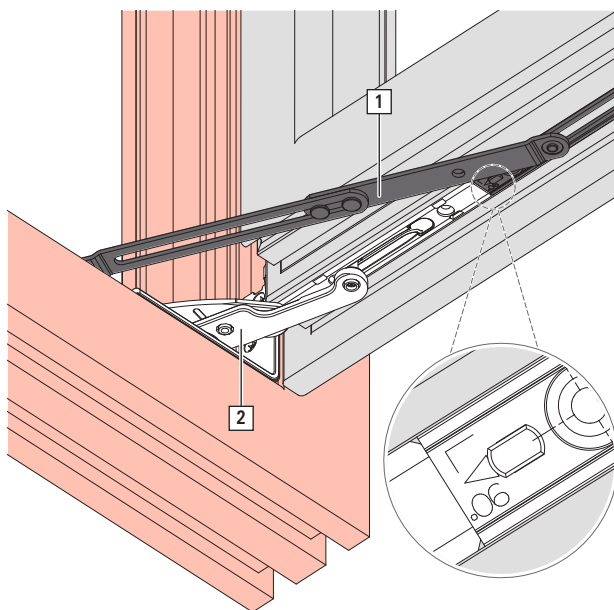
1. Let the sash component [1] come into contact with the corner hinge [2].



ATTENTION
Improper installation may cause property damage.

Incorrect installation of the sash component destroys the pivot rest.

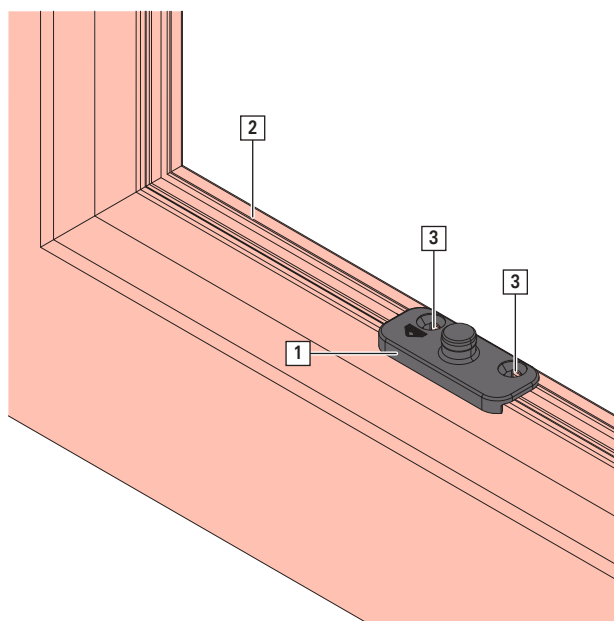
- The 90° imprint must point towards the corner hinge.



2. Fasten with two screws.

8.8.5.3 Frame component

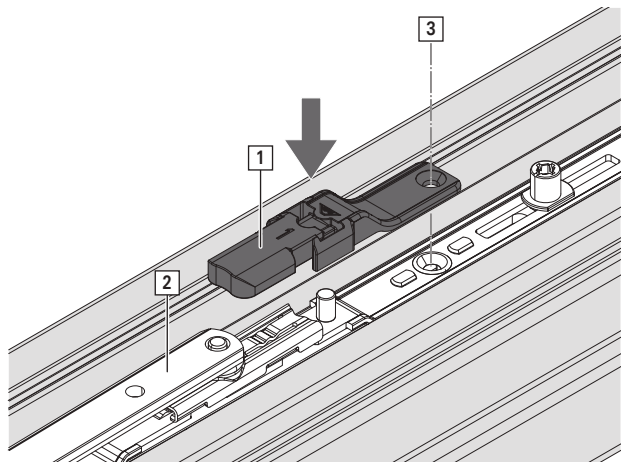
1. Let the frame component [1] come into contact with the pivot rest [2].



2. Fasten with two screws [3].

8.8.6 Anti-slam device

1. Fit the anti-slam device [1] to the stay guide [2] in the mounted sash.



2. Fasten with a screw [3].

8.9 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.
- ▶ Use transportation means. → 13 "Transport" from page 214



8.9.1 Connecting the corner hinge to the pivot rest

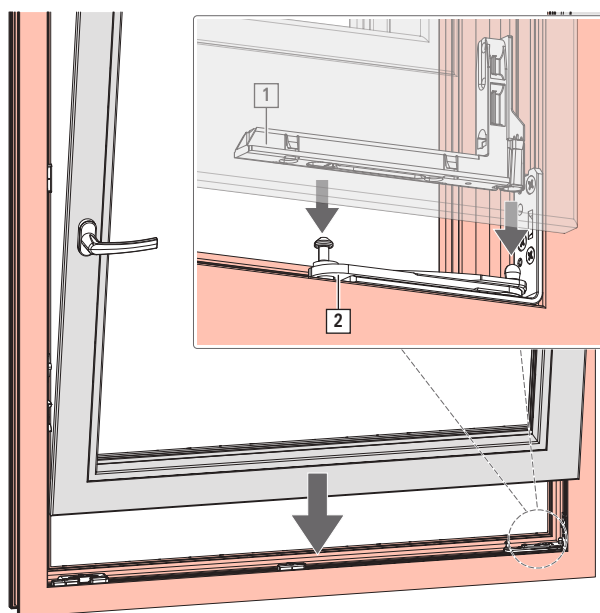
⇒ Pivot rest in initial position

1. Push down on the lifting mishandling device (if fitted).
2. Handle in turn position.

Tilt&Turn hardware

TiltFirst hardware

3. With the sash slightly tilted, guide it along the frame in a downwards direction until you feel the pivot rest [1] touch the corner hinge [2].



4. Secure the sash to prevent it from falling.



WARNING

An unsecured sash may pose a risk of death!

The sash may fall during installation if it is not securely connected to the frame.

- Secure the sash to prevent it from falling, e.g. by using two people.

5. Push down on the lifting mishandling device (if fitted).

6. Move the handle to the tilt position.

Tilt&Turn hardware

TiltFirst hardware



INFO

Under normal circumstances, this constitutes incorrect operation of the hardware, but it is a necessary step in this case.

7. Connect the sash stay → *from page 193*.



8.9.2 Mounting the stay arm

Sash stay 350 / 500

⇒ Corner hinge connected to the pivot rest.

1. Open the sash.
2. Position the slider [1] of the stay arm on the stay guide.



INFO

With SRH < 600 mm, the tilt distance must be limited to 80 mm. Turn the slider 180° to limit the tilt distance to 80 mm [A].



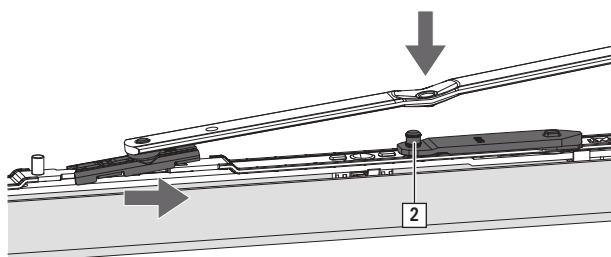
INFO

Fit an anti-slam device to prevent the sash from shutting by itself → *from page 190*.

Sash stay 350: mat. no. 794827

Sash stay 500: mat. no. 794828

3. Move the stay arm and clip it onto the supporting arm bolt [2].



4. Push down on the lifting mishandling device (if fitted).

Turn the handle to the turn position.

Turn the handle to the locked position.

Turn the handle to the turn position.



INFO

Sash stay 350: if the sash is difficult to close from the tilt position, reduce the tilt distance to 80 mm.

Sash stay 250

⇒ Corner hinge connected to the pivot rest.

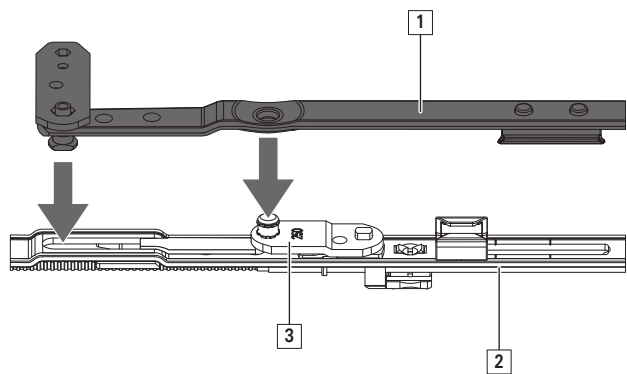
1. Open the sash.

Installation

Joining the sash and frame

Mounting the stay arm

2. Push the stay arm [1] onto the stay guide [2] and supporting arm [3].

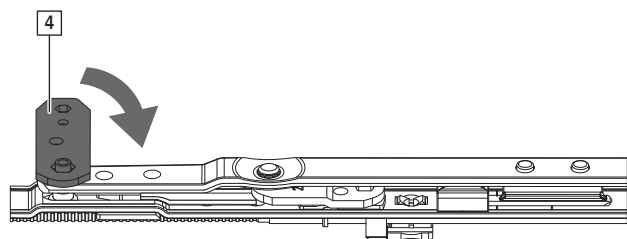


3. Close the retainer clasp [4].



INFO

For a tilt distance set to 80 mm, use an anti-slam device (mat. no. 487206).



4. Push down on the lifting mishandling device (if fitted).

Turn the handle to the turn position.

Turn the handle to the locked position.

Turn the handle to the turn position.



INFO

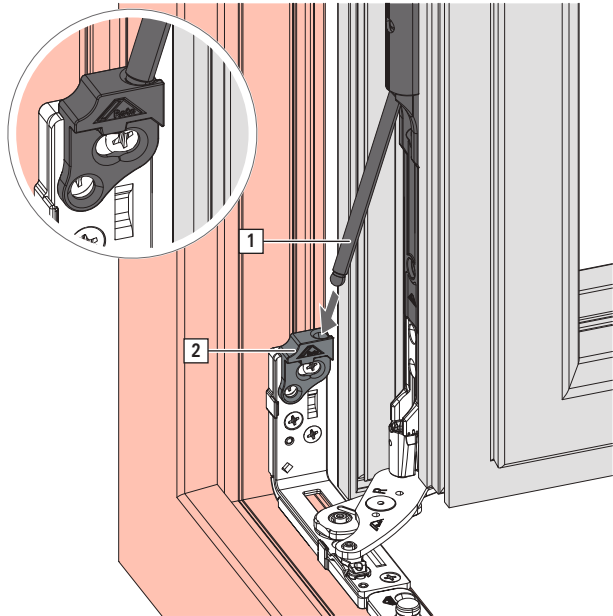
Sash stay 250: if the sash is difficult to close from the tilt position, reduce the tilt distance to 80 mm.



8.9.3 Load transfer

⇒ Sash mounted.

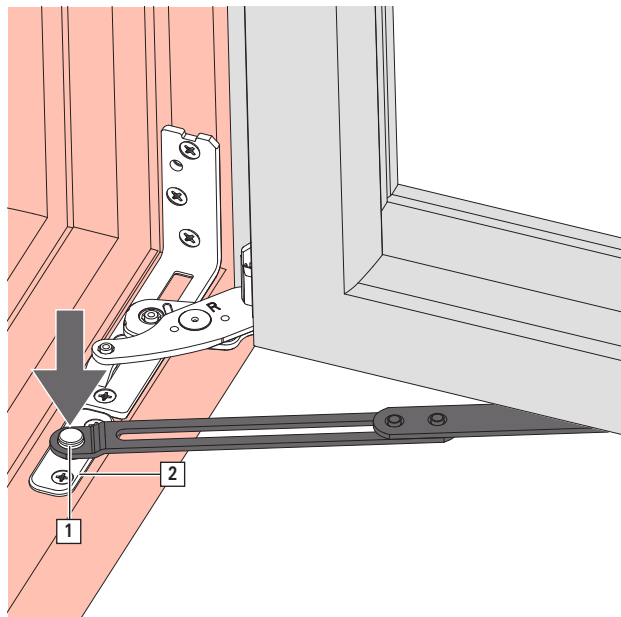
1. Open the sash 90°.
2. Connect the support rod [1] to the sash component and insert into the recess in the frame component [2].



8.9.4 Turn restrictor

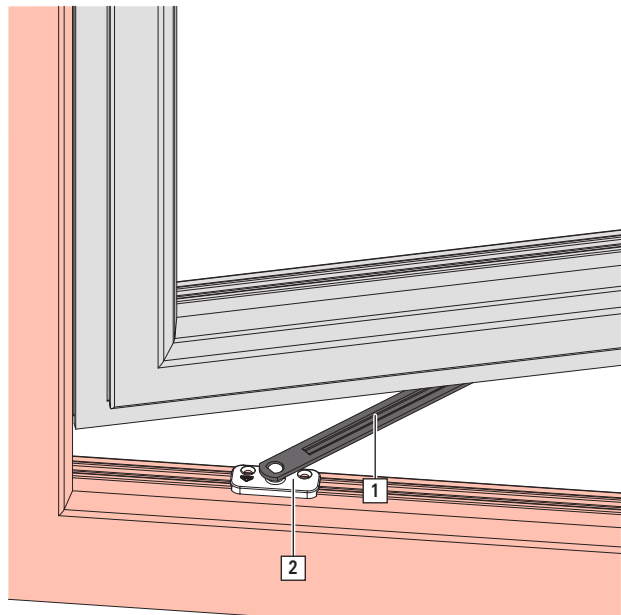
⇒ Sash mounted.

1. Open the sash.
2. Push the hole in the end of the sash component over the rubber ring [1] of the bolt on the frame component [2].



8.9.5 Arrestable brake stay

1. Mount the scissor stay arm [1] in the frame component [2].

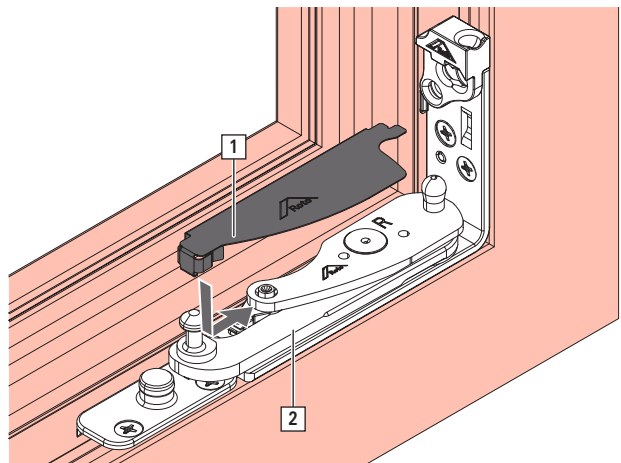


8.9.6 Pivot rest cover

**INFO**

Horizontal rebate clearance at the bottom 11.5 - 14 mm.

1. Slide the cover [1] onto the pivot rest [2] as far as it will go.



2. Clip in the cover.



9 Adjustment

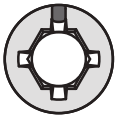
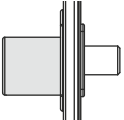
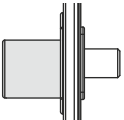


INFO

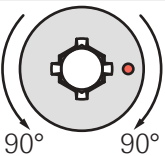
Roto hardware components may only be adjusted by authorised professionals when the element is installed.

9.1 Locking cam

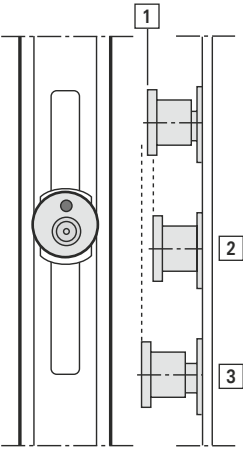
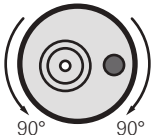
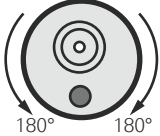
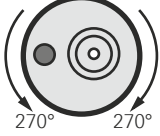
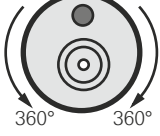
E cam

E cam	Adjustment distance	Gasket compression adjustment / mm	Height	Side view
				
		±0.8 mm		

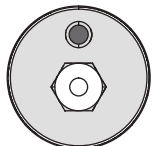
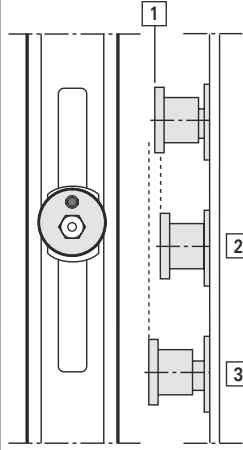
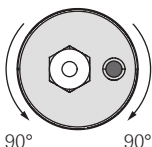
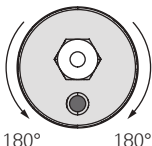
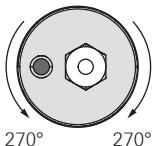
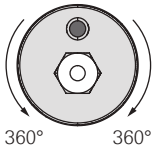
P cam

P cam	Adjustment distance	Gasket compression adjustment / mm	Height	Side view
				
		±0.8 mm		

V cam

V cam	Adjustment distance	Gasket compression adjustment / mm	Height adjustment / mm	Side view
			±0.8 mm	 [1] 0 = initial position [2] -0.8 mm max. adjustment [3] +0.8 mm max. adjustment
	90° 90°	±0.8 mm	±0.2 mm	
	180° 180°		±0.4 mm	
	270° 270°	±0.8 mm	±0.6 mm	
	360° 360°		±0.8 mm	

V cam (from 2020)

V cam	Adjustment distance	Gasket compression adjustment / mm	Height adjustment / mm	Side view
			+1.5 mm -0.8 mm	 [1] 0 = initial position [2] -0.8 mm max. adjustment [3] +1.5 mm max. adjustment
	90° 90°	±0.8 mm	±0.125 mm	
	180° 180°		±0.25 mm	
	270° 270°	±0.8 mm	±0.375 mm	
	360° 360°		±0.5 mm	



9.2 Pivot rest and corner hinge

Height adjustment

1. Open the sash.
2. Height adjustment +2.0 / -1.0 mm via screw in the corner hinge [A].
Adjustment with size 4 hex key.



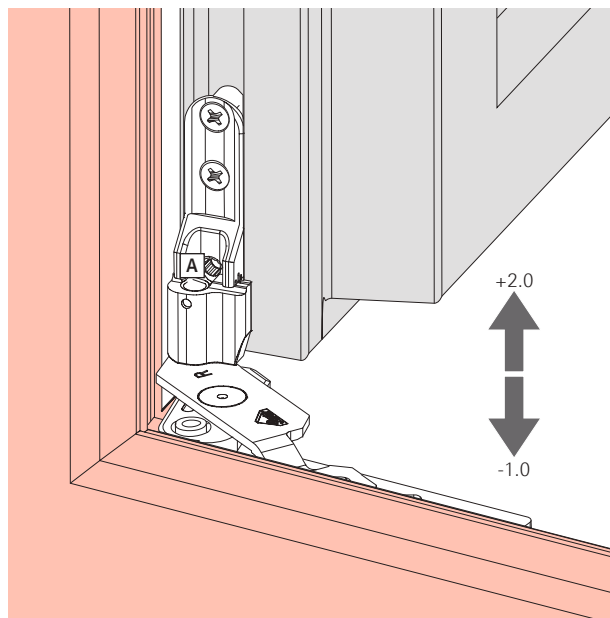
INFO

Readjust the load transfer after adjusting the height.



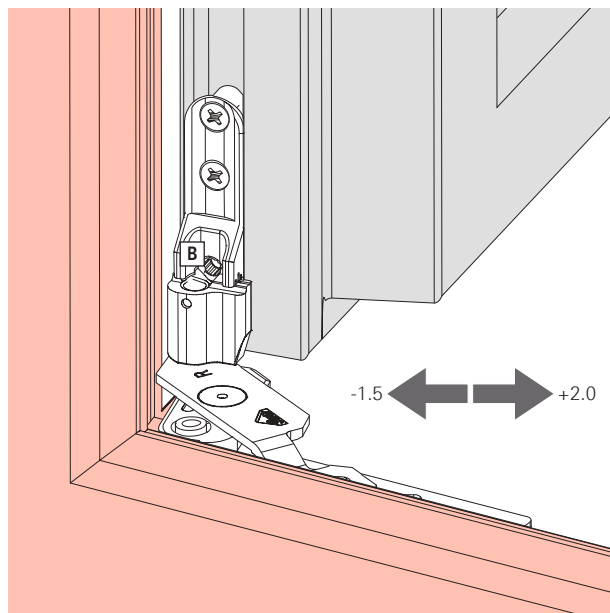
INFO

When using the cover, the horizontal rebate clearance at the bottom must be 12 - 14 mm, otherwise damage is possible.



Lateral adjustment

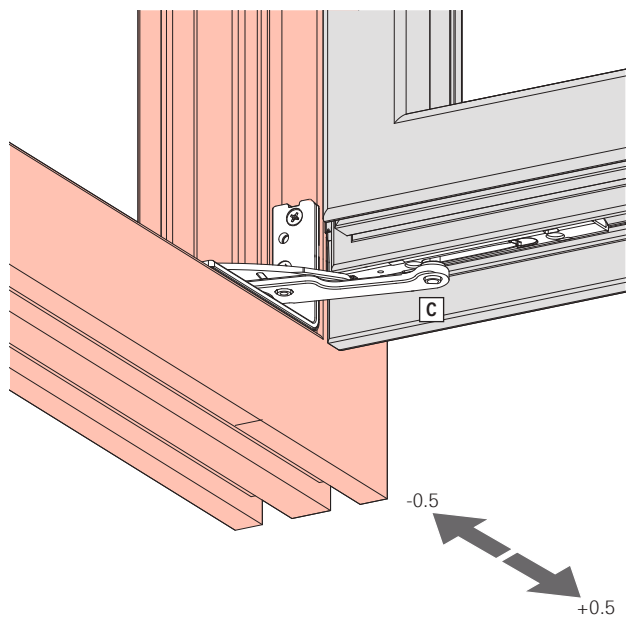
1. Open the sash.
2. Lateral adjustment +2.0 / -1.5 mm via screw in the corner hinge [B].
Adjustment with size 4 hex key.



Gasket compression adjustment

1. Open the sash.

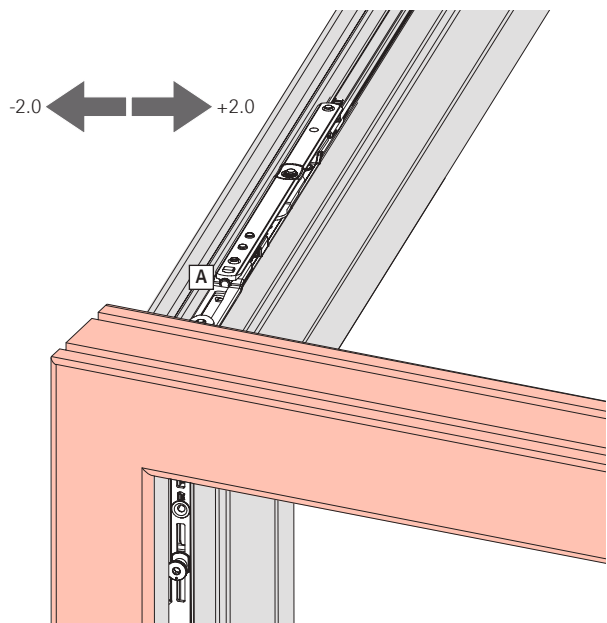
2. Gasket compression adjustment ± 0.5 mm via screw in the pivot rest [C].
Adjustment with size 4 hex key.



9.3 Sash stay

Lateral adjustment

1. Open the sash.

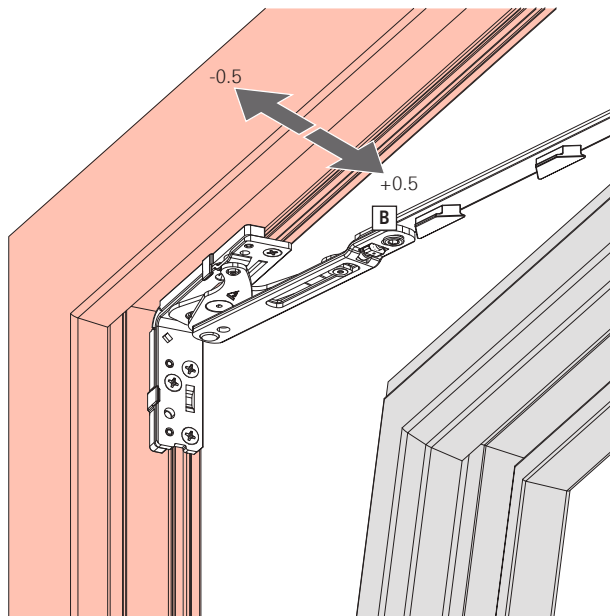


2. Lateral adjustment -2.0 / +2.0 mm via screw in the sash stay [A].
Lateral adjustment with size 4 hex key.



Gasket compression adjustment

1. Move the sash to the tilt position.



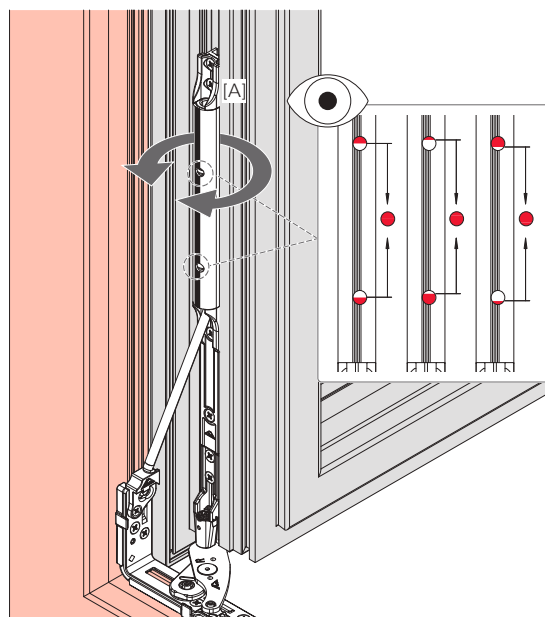
2. Gasket compression adjustment ± 0.5 mm via screw in the sash stay [B].
Gasket compression adjustment with size 4 hex key.

9.4 Load transfer

1. Open the sash.

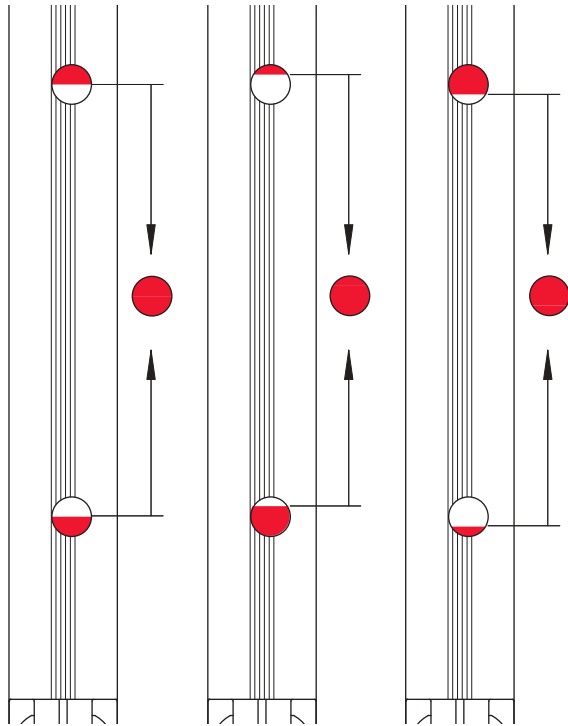
2. Tool: size 4 hex key

Using the adjusting screw [A], adjust the red partial circle so that a whole circle is produced by adding together the red partial circles.

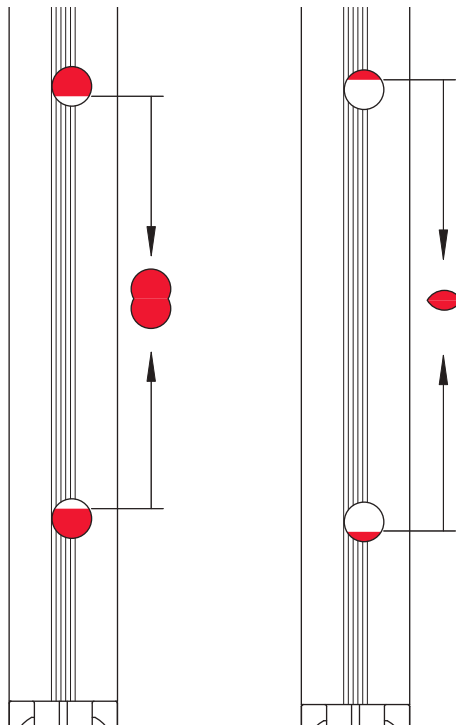


Check at the view windows.

Full circle = right



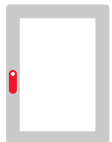
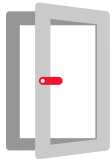
No circle = wrong



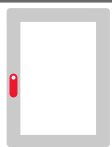


10 Operation

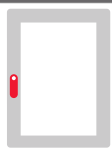
10.1 Handle position with Tilt&Turn hardware

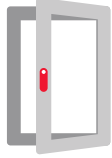
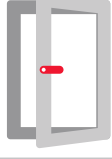
Handle position	Sash position	Meaning
		Sash in closed position.
		Sash in turned, open position.
		Sash in night ventilation position.
		Sash in tilted, open position.

10.2 Handle position with TiltFirst hardware

Handle position	Sash position	Meaning
		Sash in closed position.
		Sash in tilted, open position.
		Sash in turned, open position.

10.3 Handle position for arrestable brake stay

Handle position	Sash position	Meaning
		Sash in closed position.

Handle position	Sash position	Meaning
		Sash in turned, open position.
		Sash in fixed position.
		Release the fixed position.
		Sash in turned, open position.

10.4 Fault assistance

Fault	Cause	Corrective action	To be carried out by
Handle is difficult to turn.	Frame components have not been greased.	Grease the frame components.	□
	Handle is damaged.	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 damaged.	Replace the sash components.	■
	Incorrect striker positions.	Adapt the striker positions.	■
	Sash stay gasket compression is too strong (accumulation of gaskets).	Adjust the sash stay gasket compression or clean the gasket.	■
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).	■
Sash falls into the tilt position when in the turn position.	Excessive clearance at the top.	Check the fit of the corner hinge.	■
		Check the fit of the pivot rest.	■
		Adjust the corner hinge so that it is positioned higher (pay attention to the tilt striker).	■
Sash falls into the turn position when in the tilt position.	Tilt striker damaged.	Replace the tilt striker.	■
Sash scrapes in the tilt position.	Insufficient clearance at the top.	Lower the corner hinge (pay attention to the tilt striker).	■
Locking cam is rubbing against the striker.	Sash mounted incorrectly.	Rehang the sash.	■
	Incorrect striker position.	Adapt the striker position.	■

□ = May be carried out by a specialist company or the end user

■ = **Must** be carried out by a specialist company



11 Maintenance

11.1 Maintenance intervals



ATTENTION

Failure to adhere to maintenance intervals may cause property damage.

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.

- ▶ Determine and adhere to the appropriate maintenance interval in accordance with the ambient conditions.

11.2 Cleaning



ATTENTION

Using incorrect cleaning agents and sealing compounds may cause property damage.

Cleaning agents and sealing compounds may damage the surfaces of components and gaskets.

- ▶ 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 components, 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) 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 components.

Cleaning the hardware

- ▶ Clean deposits and contaminants off the hardware using a soft cloth.
- ▶ Lubricate movable parts and locking points after cleaning. → 11.3 "Care" from page 205
- ▶ Apply a thin protective film to the hardware, for example using a cloth soaked in oil.

11.3 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

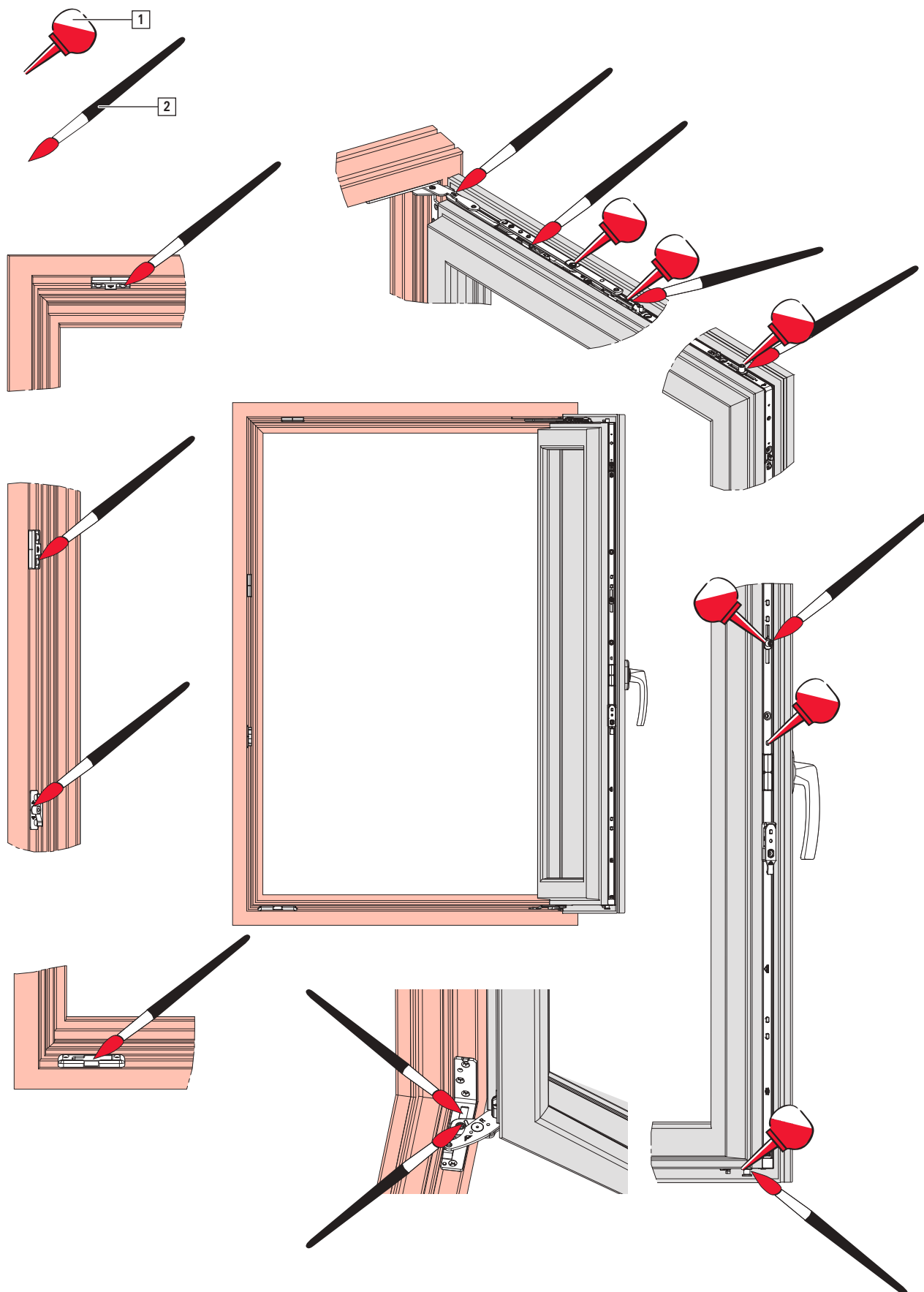


INFO

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.



11.3.1 Lubrication points



[1] Oil

[2] Grease

11.4 Performance test



WARNING

Improper repair work may pose a risk of death!

Improper maintenance may prevent the element from working properly and make it less safe to use.

- ▶ Always have repairs 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.

11.5 Repair



WARNING

Improper repair work may pose a risk of death!

Improper maintenance may prevent the element from working properly and make it less safe to use.

- ▶ Always have repairs performed by a specialist company.



ATTENTION

Improper screw fixings may cause 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.
- ▶ Use only the suggested screws.

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:

- Perform the necessary repair work properly, according to generally recognised engineering practice and in accordance with the applicable regulations.
- Do not perform makeshift repairs on worn or damaged components.
- Only use original or approved spare parts for repairs.



12 Dismantling



WARNING

Improper dismantling may pose a risk of death!

The sash may fall during dismantling.

- ▶ Secure the sash to prevent it from falling, e.g. by using two people.
- ▶ Always have dismantling work performed by a specialist company.



CAUTION

Physical strain may cause injury and damage to health.

Carrying and lifting heavy loads for extended periods leads to physical injury in the long term.

- ▶ When carrying or lifting loads, maintain an ergonomically correct posture. The maximum permissible load is 25 kg for men and 10 kg for women.



INFO

Unless otherwise stated, dismantling is performed in reverse order to installation.

12.1 Unhinging a sash with load transfer

1. Move the handle to the turn position.

Tilt&Turn hardware

TiltFirst hardware

2. Open the sash.

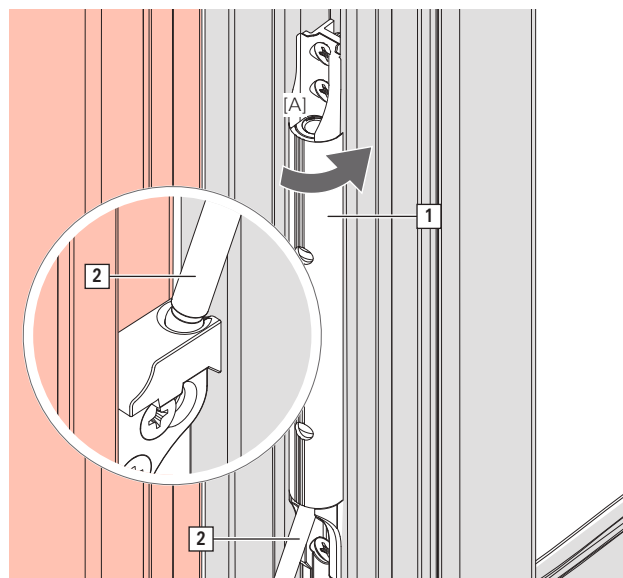
Relieve the load on the load transfer [1] [A] until the support rod [2] lies loosely in the frame component.



INFO

Unscrew the load transfer adjusting screw until the spring is fully released (the support rod becomes loose).

If the spring is not fully released, the sash cannot be rehinged.



3. Push down on the lifting mishandling device (if fitted).

Move the handle to the tilt position.

Tilt&Turn hardware

TiltFirst hardware

- Secure the sash to prevent it from falling.



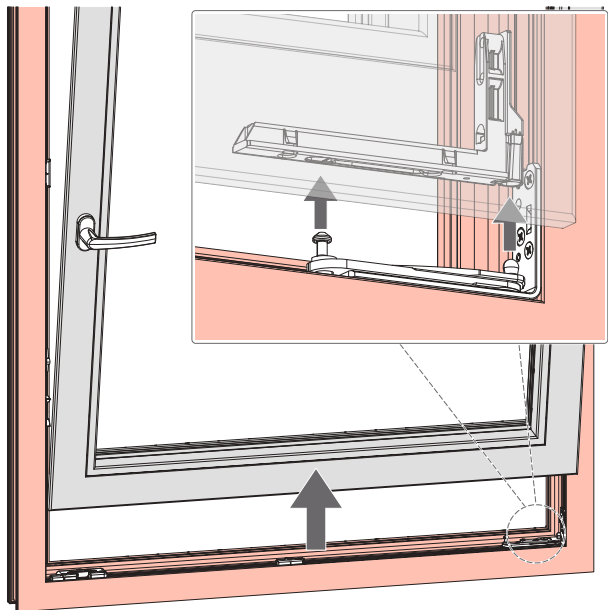
WARNING

An unsecured sash may pose a risk of death!

The sash may fall during installation if it is not securely connected to the frame.

- Secure the sash to prevent it from falling, e.g. by using two people.

- Unhinge the sash stay → *from page 211*.
- Push down on the lifting mishandling device and move the handle to the turn position.
- Close the sash.
- With the sash slightly tilted, lift it out of the pivot rest.



12.2 Unhinging a sash without load transfer

- Move the handle to the turn position.

Tilt&Turn hardware

TiltFirst hardware



2. Push down on the lifting mishandling device (if fitted).

Move the handle to the tilt position.

Tilt&Turn hardware

TiltFirst hardware

3. Secure the sash to prevent it from falling.



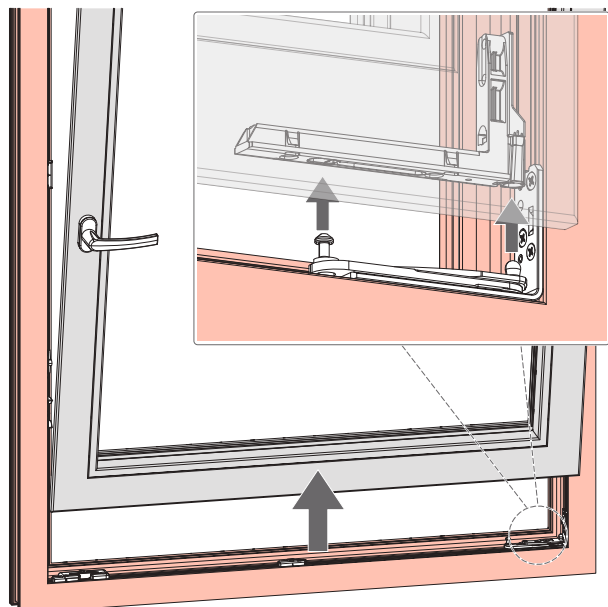
WARNING

An unsecured sash may pose a risk of death!

The sash may fall during installation if it is not securely connected to the frame.

- Secure the sash to prevent it from falling, e.g. by using two people.

4. Unhinge the sash stay → *from page 211*.
5. Push down on the lifting mishandling device and move the handle to the turn position.
6. Close the sash.
7. With the sash slightly tilted, lift it out of the pivot rest.

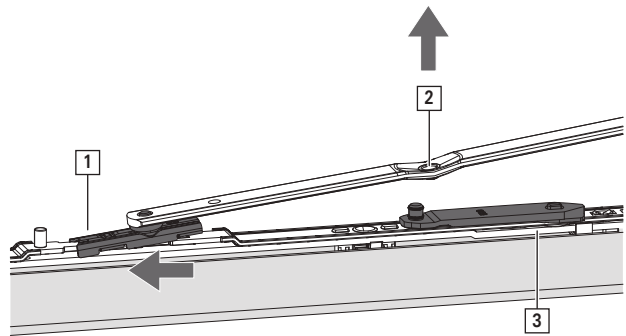


12.3 Unhinging the sash stay

Sash stay 350 and 500

1. Open the sash.

2. Detach the slider [1] and stay arm [2] from the stay guide [3].



3. Push down on the lifting mishandling device (if fitted) and move the handle to the tilt position.
4. Unhinge the sash stay and secure the sash to prevent it from falling.

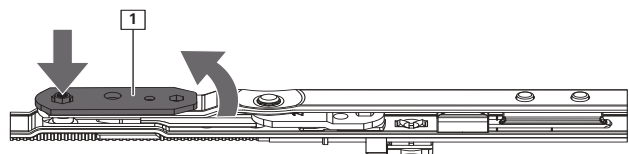


INFO

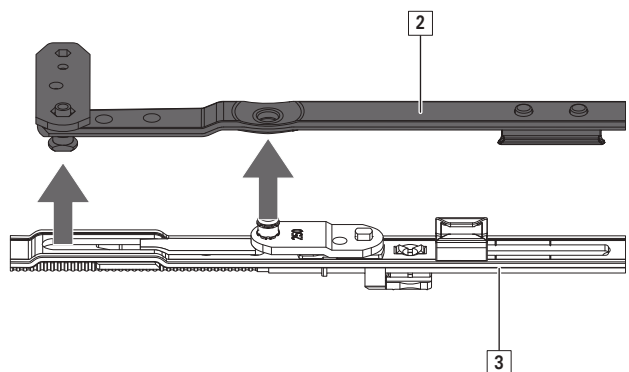
It is only possible to unhinge the sash once the anti-slam device has been removed.

Sash stay 250

1. Open the sash.
2. Open the retainer clasp [1] using a tool (e.g. hex key).



3. Detach the stay arm [2] from the stay guide [3].



12.4 Hardware components

Removing hardware components

1. Undo all screw connections.
2. Remove the hardware components.



3. Dispose of the hardware components properly.

13 Transport

13.1 Transporting elements and hardware



DANGER

Improper transport poses a risk of death!

Improper procedures for transporting, loading or unloading elements may cause serious injuries and glass breakage as a result of the elements swinging open, falling or becoming overloaded.

- ▶ Note the applicable accident prevention regulations.
- ▶ Note force application points and reaction forces.
- ▶ Prevent the sash from opening uncontrollably.
- ▶ Avoid jerky movements.
- ▶ Use suitable transportation means and protective devices.
- ▶ Watch out for protruding components.
- ▶ Transport heavy loads with two people and use suitable transportation means (such as an industrial truck).



CAUTION

Trapped limbs may result in injuries.

The transported goods can skid, open, close or fall during transportation tasks. This can result in limbs being trapped and seriously injured.

- ▶ Never reach near the scissor stays.
- ▶ Close the sash after installation and secure it in place for transport.
- ▶ Wear safety gloves and protective footwear.



CAUTION

Physical strain may cause injury and damage to health.

Carrying and lifting heavy loads for extended periods leads to physical injury in the long term.

- ▶ When carrying or lifting loads, maintain an ergonomically correct posture. The maximum permissible load is 25 kg for men and 10 kg for women.

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 scopes of delivery 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 scopes of delivery:

- 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.

13.2 Storing the hardware

Store all hardware components as follows until they are installed:

- Dry and protected
- On a level surface
- Protected against sunlight

14 Disposal

14.1 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.

14.2 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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