

Window and Door Technology



## **Roto Patio** Alversa

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

Catalogue  
for aluminium profiles



## german made What does that mean?



Roto Frank AG with headquarters in Leinfelden-Echterdingen near Stuttgart is a German group of companies. Roto has grown robustly – organically and consistently.

Our common values represent an identity that has enabled Roto, as a German company, to become a service leader. The value structure of our company is based on three pillars:

- Continuity, results and reliability
- Experience, ambition to succeed and vision
- Knowledge, ability and German engineering skills

As a technological pioneer, Roto develops intelligent product solutions that feature impressively precise technology and long service life.

Production and environmental management as well as logistics, irrespective of the manufacturing country, are based on German values such as reliability, thoroughness and vision.

German precision in design and development as well as quality and process management guarantee that we can provide outstanding performance and high-quality services – worldwide.

The consistent implementation of German values in quality specifications and standards ensures that our partners and customers can place their trust in us. This is “german made”.

People across the globe trust our superior performance. They know that they can rely on us for **custom-designed, functional and reliable solutions** and **a comprehensive range of services**.

The Roto name has represented an inventive spirit and technological progress in compatible components for the construction industry since 1935. Roto Frank AG is currently wholly owned by families descended from the company's founder, Wilhelm Frank. It takes the form of a holding for all companies in the Roto Group. Our roots are in Baden-Württemberg, Germany.

We are active all over the world with an extensive business portfolio, two divisions and more than 4000 employees.

The outstanding quality of Roto solutions frequently goes unseen. Millions of items of Roto hardware have enabled windows and doors all over the world to work correctly and move as intended. Even where Roto products can be seen imme-

diately, they impress because they ensure flawless functionality. Roto roof windows improve the quality of life in the rooms underneath the roof. Flashing for photovoltaics and solar thermal energy and the special stairs from Roto Columbus complete our extensive range of products.

We work intensively on the basis of clear management and conduct principles to secure the position of the Roto Group as a success story and to ensure continued success.

We are inspired time and time again by the requests and expectations of our customers – whether you are a builder, planner, architect, manufacturer or retailer of windows and doors, or manufacturer or specialist retailer for roofing.



# Roto Worldwide



Roto Frank Latina SA  
Buenos Aires (ARG)



Roto Frank Chile  
Santiago (CL)



Roto Frank Belarus  
Minsk (BY)



Roto Frank S.A.  
Nivelles (BE)



Roto Frank Brasil Ltd.  
San Jose (BR)



Fermax Componentes Ltd.  
Colombo (BR)



Roto Fasco Canada Inc.  
Mississauga, Ontario (CA)



Roto Frank Building Materials Co. Ltd.  
Beijing (CN)



Roto Frank AG  
Leinfelden / Velbert (DE)



Roto Frank Ehitusrautised OÜ  
Tallinn (EE)



Roto Frank Ferrures  
Saint Avold (FR)



Roto Frank Asia – Pacific Liaison Office India  
Mumbai (IN)



Roto Frank Italia  
San Donà di Piave (IT)



Roto Frank Latvija  
Jūrmala (LV)



Roto Frank Lithuania  
Vilnius (LT)



Roto Frank Asia-Pacific Pte. Ltd.  
Singapore (SG)



Roto Frank Austria GmbH  
Kalsdorf (AT)



Roto Frank  
Warsaw (PL)



Roto Romania S.R.L.  
Bucharest (RO)



OOO Roto Frank  
Noginsk (RU)



Roto Frank GmbH  
Dietikon (CH)







Roto Frank S.A.  
Montmeló (ES)



Roto Frank Ltd. Sti.  
Istanbul (TR)



Roto Frank of America Inc.  
Chester (US)



Roto Elzett Certa Kft.  
Lövő / Sopron (HU)



Roto Frank Indonesia  
Jakarta (ID)



Roto Frank Asia-Pacific Pte. Ltd.  
Hanoi (VN)



Roto Frank Okucia Budowlane Sp. z  
Kiev (UA)



Sales



Production / sales



Information	10
Application diagrams	34
Design variants	46
Hardware overviews	52
Hardware sets	88
Espagnolettes	104
Corner drives	112
Frame components	118
Jigs	130
Individual parts & accessories	140







## General

Product characteristics	11
Opening types	12
Ventilation types	12
Colours	13
Abbreviations	14
Copyright protection	14

## Roto Patio Alversa

See page	15
----------	----

## Storage conditions

See page	18
----------	----

## Environment

See page	19
----------	----

## Certifications

Environmental management	20
Quality management	21
International Technology Centre (ITC)	22

## Roto Con Orders

See page	23
----------	----

## Additional media

Documents	25
Videos	25

## Further Roto products

Roto Tilt&Turn	26
Roto Sliding	28
Roto Door	29

## Imprint

See page	31
----------	----



# 1 Information

## 1.1 General

---




















### INFO

All dimensions stated in millimetres. Other values are specified.

---



The following markings are used in this document.

### 1.1.1 Product characteristics





Symbol	Meaning
	Designation
	Damping
	DIN left / right
	Backset
	Colour
	Colour code
	Sash width
	Sash weight
	Sash height
	Information
	Length
Nº	Material number
	Opening type
	Frame width
	Frame groove
	Number of screws
	Type of screws
	Packaging



### 1.1.2 Opening types

Symbol	Meaning
	Tilt&Slide
	Parallel Sliding

### 1.1.3 Ventilation types

Symbol	Meaning
	Without ventilation
	Night ventilation
	Tilt ventilation
	Comfortable tilt ventilation















## 1.1.4 Colours

Colour code	Colour	RAL number
R01.1	Natural silver	–
R01.2	Nickel silver	–
R01.3	Titanium	–
R01.4	Chromium	–
R01.5	Silver	–
R03.1	Brass, matt	–
R03.2	Brass, shiny	–
R03.3	Gold	–
R03.4	Stainless-steel design	–
R04.1	Grey brown	8019
R04.3	Olive brown	–
R04.4	Black brown	8022
R05.3	Medium bronze	–
R05.4	Dark bronze	–
R05.5	Bronze	–
R06.2M	Jet black, matt	9005 matt
R06.2	Jet black	9005
R06.4M	Black, matt	–
R07.1	Pure white	9010
R07.2	Traffic white	9016
R07.3	Cream	9001
SP. COL.	Special colour	–
Raw	Uncoated	–

### Colour examples

									
R01.1	R01.2	R01.3	R03.1	R04.1	R04.4	R05.3	R05.5	R06.2	R07.2



### INFO

Colours may deviate in the illustration.



## 1.1.5 Abbreviations

Abbreviation	Meaning
LOCK. / lock.	Lockable
AL	Aluminium
DIN L / R	DIN left / right
SW	Sash width
SH	Sash height
S.kg	Sash weight
Hex.	Hexalobular internal screw
Y	Yes
kg	Kilograms
T&S	Tilt&Slide
Max.	Maximum
mm	Millimetres
N	No
Not dep.	Not depicted
PS	Parallel Sliding
RC	Resistance class
SEC	Security
std.	Standard
T10	Torx 10

## 1.1.6 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.

## 1.2 Roto Patio Alversa



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

Window fabricators are always looking for easy and efficient solutions. They are looking for hardware which combines the highest manufacturing quality with a wide variety of potential applications, quick installation and minimum manufacturing and storage logistics. In this sense, the more flexible and universally applicable a system is, the better it is. Roto meets these high demands. Roto listens closely and understands, and then transforms window fabricators' requirements into perfect solutions.

Roto Patio Alversa: The answer to the need for universal hardware for minimum effort in Parallel Sliding and Tilt&Slide systems.

Roto Patio Alversa reduces the effort in production, manufacture and storage logistics to a minimum.

This is ensured by a combination of

- Universal central locking system,
- universal handle and
- modular sliding system.

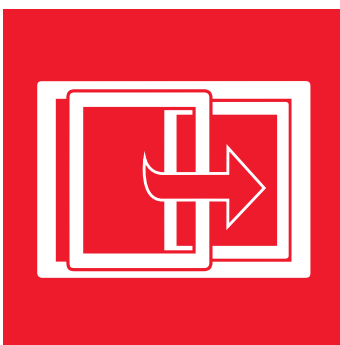
Two opening types in one system.

### Opening types



#### Tilt&Slide (KS)

In Tilt&Slide systems, the door leaf can be brought into tilt mode with a handle position of 90°. This enables the use of tilt ventilation. If the handle is moved further into the 180° position (handle pointing upwards), the locking mechanisms in the lower region are released and the sash pivots outwards. It is retracted in the parallel position and can then be moved to the side.



#### Parallel Sliding (PS)

With the convenient Parallel Sliding system, the door leaf is retracted in a parallel position at 90° and can then be moved. In the 180° position (handle pointing upwards), the ventilation function in question is achieved. The switching sequence is therefore very intuitive for the user, as it is identical to the known operation of Tilt&Turn windows.



## Ventilation types



### Night ventilation

For night ventilation, the entire sash is moved a few millimetres away from the frame. This enables air to circulate without the opening being visible from outside.



### Tilt ventilation

This innovation combines the advantages of a Parallel Sliding system with the tried-and-tested tilt ventilation function. The sash is tilted in the 180° handle position.





### Comfort tilt ventilation

With comfortable tilt ventilation, the sash is automatically moved into the tilted position and closed again by operating the handle. This significantly increases comfort, especially when the sash is heavy.



## Roto Patio Alversa

	Roto Patio Alversa   KS	Roto Patio Alversa   PS	Roto Patio Alversa   PS Air		Roto Patio Alversa   PS Air Com
Components	 Tilt&Slide (KS)	 Parallel Sliding (PS)			
	 With tilt ventilation	 without ventilation	 With night ventilation	 With tilt ventilation	 With tilt ventilation Comfort
	Max. sash weight 100 kg/160 kg	Max. sash weight 160 kg/200 kg	Max. sash weight 160 kg/200 kg	Max. sash weight 160 kg	Max. sash weight 160 kg/200 kg
	Hardware overview → from page 53	Hardware overview → from page 59	Hardware overview → from page 65	Hardware overview → from page 71	Hardware overview → from page 77
Bogies					
Undamped	■	–	–	–	–
Damped	–	■	■	■	■
Scissors-slider					
Tilt&Slide	■	–	–	–	–
Parallel Sliding night ventilation	–	■	■	–	–
Parallel Sliding tilt ventilation	–	–	–	■	■
Top guide block					
Fixed	–	■	■	–	–
Tilttable	–	–	–	■	■
Lower connecting-rod					
With bullet catch track	■	–	–	–	–
With night ventilation track	–	–	■	–	–
With mishandling device	–	–	–	–	■
Upper connecting-rod					
With night ventilation track	–	–	■	–	–
With comfort scissor stay	–	–	–	–	■
Espagnolette					
Flush-encased gearbox without mishandling device	■	■	■	■	–
SEC flush-encased gearbox without mishandling device					
Roto Line AL geared-handle					
Roto Line AL lockable geared-handle					
Flush-encased gearbox	■	■	■	■	■
Roto Line Alversa geared-handle					
Roto Line Alversa lockable geared-handle					

i

## 1.3 Storage conditions



### **Protecting components against dirt and dust**

Always keep the containers closed, and always cover open hardware containers or goods stored open (i.e. with a layer of cardboard).

### **Protecting components against mechanical damage**

Only transport and handle the containers using suitable means of transport or conveyance (forklifts, lifting devices and roller belts, etc.). Only stack pallets and cardboard boxes (during transport) to the maximum height specified in the printed instructions on the packaging.

### **Protecting components against direct moisture and wet**

The packaging must remain dry and the components must not get wet. This applies to storage and transport, as well as for unloading and loading procedures. Where appropriate, plastic protective sheets or similar are to be used during outdoor transport (i.e. on-site transport) when raining.

Only store components in suitable closed rooms and not outdoors. Condensation must absolutely be avoided during the entire duration of transport and storage.

### **If containers nevertheless get wet...**

Immediately unpack the components from the wet containers, dry the components and check for damage (signs of corrosion). In any case, repack the usable components when dry with new packaging material

## 1.4 Environment



### Environmental compatibility of the hardware components

Our objective is to succeed in manufacturing our hardware components with the lowest possible consumption of energy and operating resources, and we strive to produce extremely durable hardware components. To achieve this, we conserve natural resources, minimise energy consumption and use raw materials in an environmentally friendly manner.

### Environmental impact resulting from the hardware

The surface quality of our treated surfaces is abrasion-resistant. No environmental pollution is caused by hardware components when the stipulated use is complied with.

### Environmental compatibility of the packaging

We use recyclable disposable packaging made of reinforced cardboard, steel strapping, PVC packaging tape, PE sheeting, timber frames, single-use wooden pallets, cable ties, elastomer cord as well as reusable packaging, reusable boxes from Schäfer, pallet crates and EURO wooden pallets.

### Environmental compatibility of disposal

Our hardware is made of materials which enable environmentally friendly material utilisation and can be disposed of as mixed scrap.

### Returning packaging material

Our packaging with the INTERSEROH logo is accepted free of charge by every INTERSEROH disposal partner. The directory of your local disposal partners can be requested nationwide from the telephone exchange of ISD INTERSEROH GmbH in Cologne using the following telephone number: +49 2203 9147-322. The Roto INTERSEROH number is 25582.

## 1.5 Certifications

### 1.5.1 Environmental management

Roto Frank AG Leinfelden provides proof of environmental awareness with certification in accordance with DIN EN ISO 14001.

Roto takes into consideration the environmental compatibility of products and procedures which conserve resources right from the beginning, during development, design, planning, production and logistics.

The certification underlines the environmental awareness at Roto:

- Roto works towards health and safety at the workplace, accident prevention and system safety as its fundamental goal when it comes to occupational safety.
- Roto views environmental protection as an integral part of all its business activities and decisions. The company is shaped by its environmentally conscious behaviour, the environmental compatibility of its products and procedures, as well as the preservation of existing resources.
- The long service life of Roto products also contributes to the preservation of existing resources.



## 1.5.2 Quality management

The certification in accordance with the international standard DIN EN ISO 9001 certifies that Roto plans, documents and appropriately implements the entire development, production and sales process systematically. Starting with development and design through to quality planning, production and assembly right through to sales and customer service.

The certification is an external indication of the quality awareness practised at Roto:

- Roto's objective is to ensure continuous product and service improvements for the benefit of its customers.
- Roto offers its customers innovative, environmentally friendly and technically sophisticated architectural hardware technology.
- Roto products are supplied punctually worldwide with constant guaranteed quality.
- Roto's comprehensive view regards all business activities – including all the activities within the company – to be the key to achieving long-term corporate success.
- Roto employees are supported in their personal development and fulfil Roto's high quality requirements in their day-to-day work. Their work is performance and goal-oriented.

**ZERTIFIKAT**

Hiermit wird bescheinigt, dass

**Roto Frank AG**  
Wilhelm-Frank-Platz 1  
70771 Leinfelden-Echterdingen  
Deutschland

mit den im Anhang gelisteten Standorten

ein **Qualitätsmanagementsystem** eingeführt hat und anwendet.

Geltungsbereich:  
Entwicklung/Konstruktion, Herstellung und Vertrieb von Fenster- und Türtechnologie

Durch ein Audit, dokumentiert in einem Bericht, wurde der Nachweis erbracht,  
dass das Managementsystem die Forderungen des folgenden Regelwerks erfüllt:

**ISO 9001 : 2008**

Zertifikat-Registrier-Nr. 059808 QM08  
Gültig ab 2016-02-28  
Gültig bis 2018-09-14  
Zertifizierungsdatum 2016-02-24

**DAkkS**  
Deutsche  
Akkreditierungsstelle  
D-ZM-16074-01-00

**DQS GmbH**  
*G. Bleichschmidt*  
Götz Bleichschmidt  
Geschäftsführer

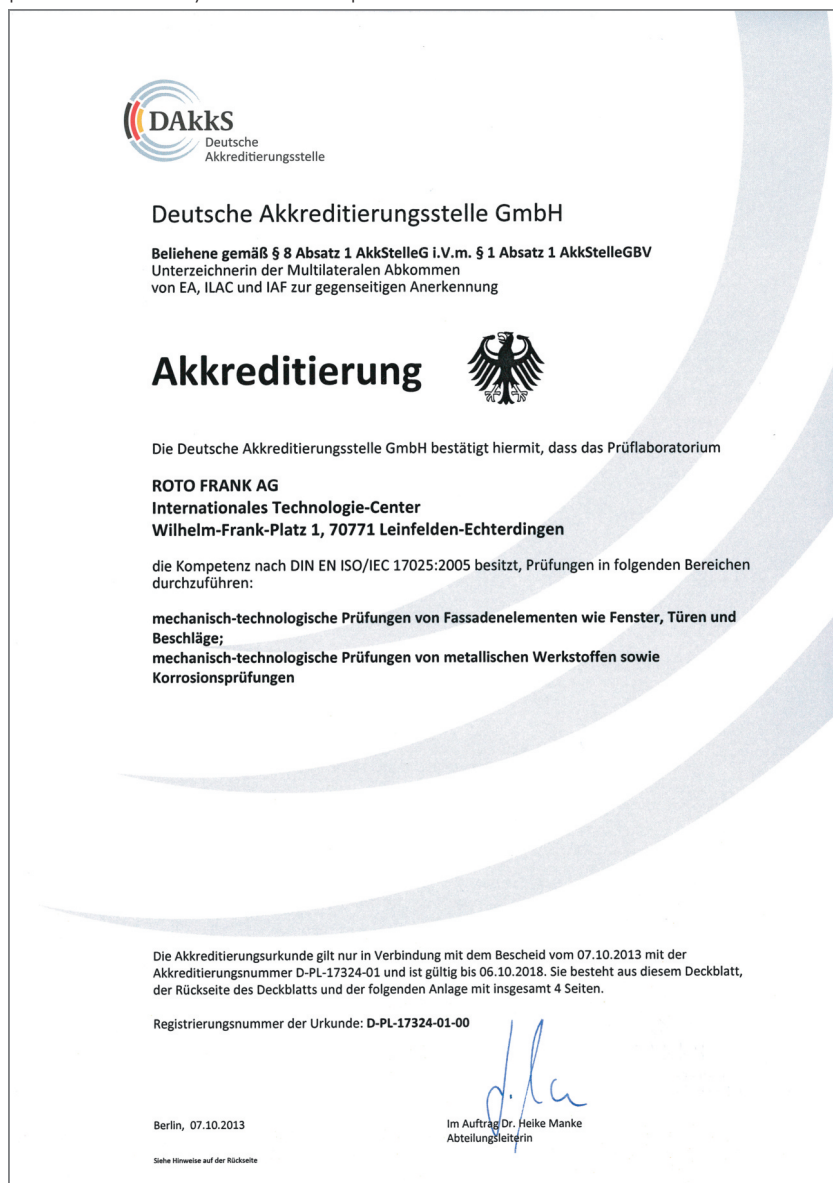
Akkreditierte Stelle: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main

1 / 3



### 1.5.3 International Technology Centre (ITC)

The Roto Group has owned a modern International Technology Centre (ITC) at its Leinfelden headquarters since October 1996. This facility is available for both our own material and product testing as well as for inspecting finished products made by Roto market partners.

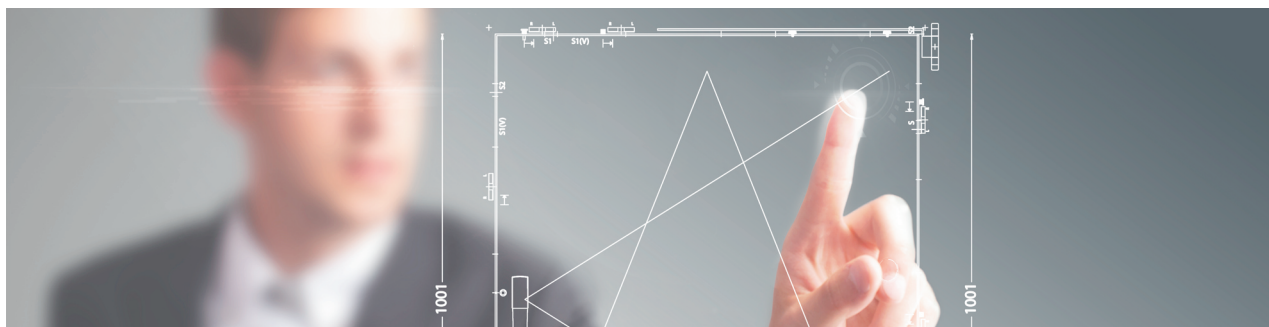


The ITC is accredited in accordance with DIN EN ISO/IEC 17025 and has the expertise required to perform tests in areas including mechanical technological testing of facade elements such as windows, doors and hardware, as well as as metallic materials.

Achieving accreditation in accordance with DIN EN ISO/IEC 17025 represents the highest distinction for a test institute in the private industry. The requirements for this are an extensive quality management system, trained personnel, high-quality test rigs and measuring instruments, as well as continuous external monitoring by the accreditation authorities.



## 1.6 Roto Con Orders

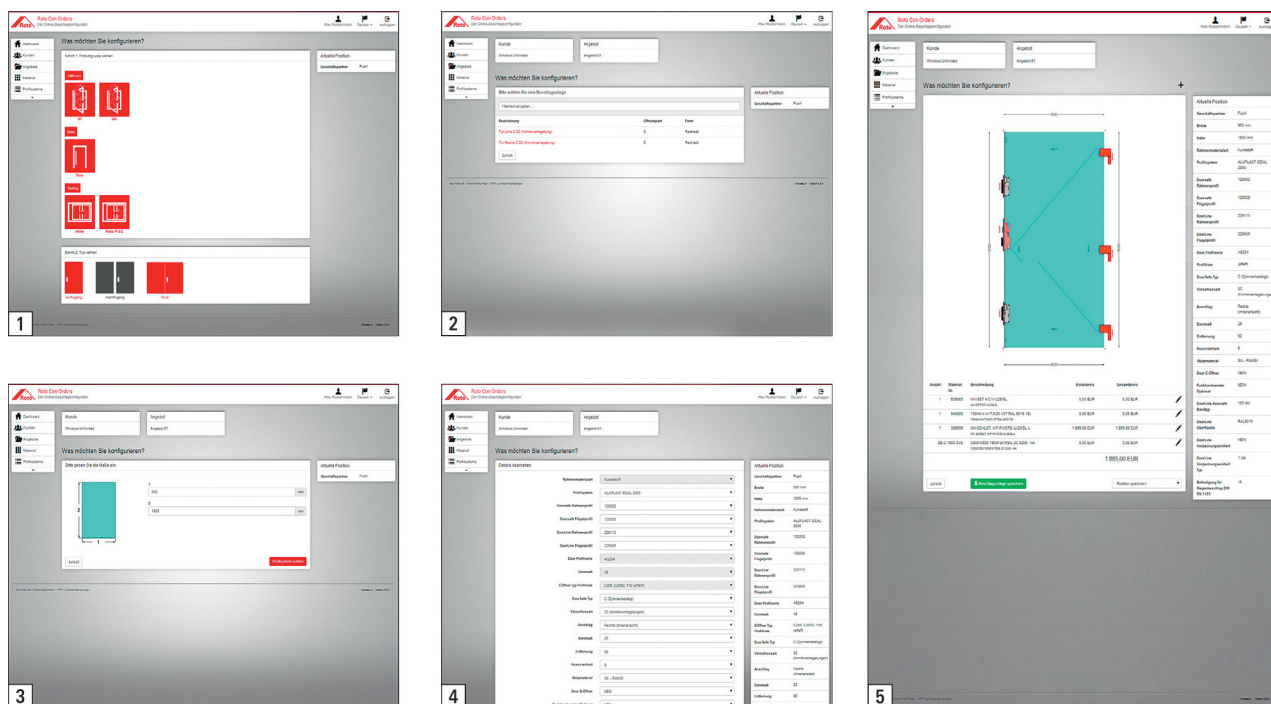


### Just four steps for a finished parts list

Roto Con Orders is the perfect solution for window and door manufacturers, and for dealers. This is because with the high-performance online hardware configurator, an individual configuration of window and door hardware can be generated very easily and in an extremely short time – for all common shapes and opening types. Just a few mouse clicks and a couple of numeric entries, and the individual parts list including a technical illustration of the hardware itemisation is finished. The list can be changed, adjusted or personalised as desired. It can be exported in various data formats, enabling it to be used for individual offers or orders. Benefit from this efficient Roto online tool, save time during configuration, management and ordering with Roto Con Orders.

### Hardware configuration has never been this easy

With intuitive menu guidance, you generate an optimum parts list in just four steps:



1. Selection of the product group
2. Selection of the design template
3. Entry of sizes
4. Individual detailed settings and adjustments
5. **Result:** Output of a detailed data sheet with a technical illustration and a complete parts list with editable order numbers, descriptions and individual and total prices.



### **Intelligent additional functions simplify your processes**



Roto Con Orders makes it easy for you to simplify and accelerate your processes. A large number of useful functions are available to help you do this:

- Store your own company addresses and logos in the header of your offers
- Create and manage customer-specific projects
- Generate individual customer hardware templates
- Integrate a discount structure system
- Material master management
- Due to its responsive design, it can be used on all devices such as PCs, tablets, and smartphones

### **Get started straight away thanks to web-based solution**

Roto Con Orders is a web-based solution that you can access around the world and around the clock. You only require a computer with a web browser and Internet access for this purpose. To work with the online hardware configurator, please register once with your e-mail address in the portal for dealers and manufacturers at:



[www.roto-frank.com](http://www.roto-frank.com)

## 1.7 Additional media



### 1.7.1 Documents

This catalogue offers an overview of the product range. Detailed technical information can be found in the documents listed below.

#### Installation, maintenance and operation instructions

Title	Document no.
Roto Patio Alversa – Timber and PVC profiles	IMO_407
Roto Patio Alversa – Aluminium profiles	IMO_408
Roto Patio Alversa – Aluminium profiles with 16 mm hardware groove	IMO_409

#### Catalogues

Title	Document no.
Roto Patio Alversa – Catalogue for timber and PVC profiles	CTL_93
Roto Handles – Handles for all opening types	CTL_1

The above-mentioned documents can be downloaded in the “Service” area of the Roto Window and Door Technology website:



[www.roto-frank.com](http://www.roto-frank.com)

### 1.7.2 Videos

Installation videos relating to each product group can be found in the “Service” area of the Roto Window and Door Technology website:

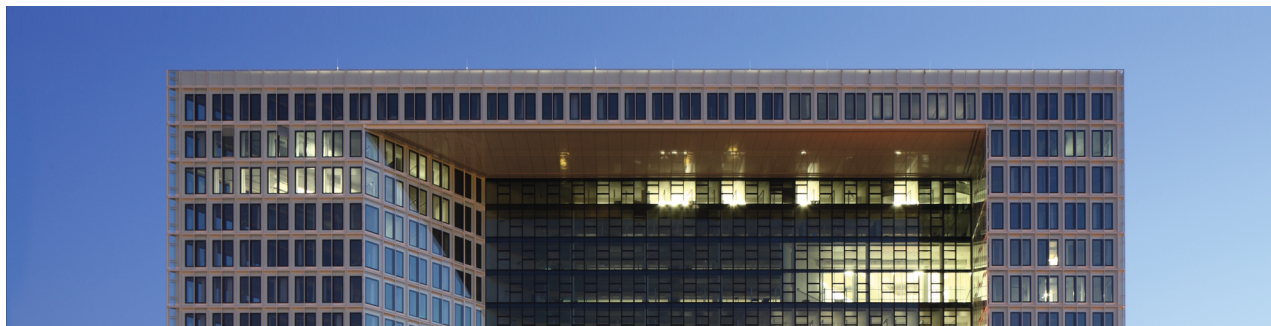


[www.roto-frank.com](http://www.roto-frank.com)



## 1.8 Further Roto products

### 1.8.1 Roto Tilt&Turn



Roto NX is a Tilt&Turn hardware system based on the proven Roto NT – with new features and functions that make the system a safe investment for the future. Roto NX provides intelligent responses to new requirements, with a focus on efficiency, security, comfort and design.

Today, almost any project is feasible with Roto hardware technology for aluminium windows and doors – in a short time, produced to outstanding quality and under favourable terms. For inward opening and outward opening windows.

#### Roto Tilt&Turn – PVC / timber windows and balcony doors



##### Roto NX

The Tilt&Turn hardware system for windows and balcony doors shaping the industry once again



##### Roto NT

The world's biggest selling Tilt&Turn hardware system for windows and balcony doors



##### Roto NT Designo

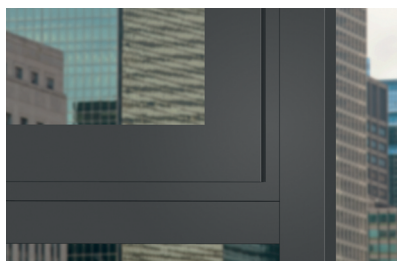
Concealed hinge solution for windows and balcony doors with high sash weights up to 150 kg

#### Roto Tilt&Turn – Aluminium windows and balcony doors



##### Roto AL

Universal hardware for aluminium windows and balcony doors



##### Roto AL Designo

Concealed hardware for aesthetic aluminium windows and balcony doors



## Roto Outward Opening – Outward opening windows



**Roto FS Kempton**

Stainless-steel friction stays for outward opening windows



**Roto PS Aintree**

Stainless-steel parallel stays for outward opening windows



## 1.8.2 Roto Sliding



Roto offers a comprehensive range of hardware solutions for a wide variety of sliding doors.

### **Roto Patio – High-quality sliding windows and doors**



#### **Roto Patio Fold**

Premium hardware for Fold&Slide systems with a large surface



#### **Roto Patio Life**

Comfort hardware for large sliding doors



#### **Roto Patio Lift**

Standard hardware for large Lift&Slide doors



#### **Roto Patio Alversa**

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



#### **Roto Patio Inowa**

Intelligent hardware for tightly sealed sliding systems

### **Roto Inline – Simple sliding windows and doors**



#### **Roto Inline**

Hardware systems for simple sliding windows and doors

### 1.8.3 Roto Door



Millions of items of Roto hardware have enabled windows and doors all over the world to work correctly and move as intended. With Roto Door, we are concentrating on the development and production of door technology that meets modern requirements in terms of security and comfort.

#### Roto Safe – Multipoint locking systems



##### Roto Safe H

Mechanical multipoint locking system for lever-handle operated doors



##### Roto Safe C

Mechanical multipoint locking system for cylinder-operated doors



##### Roto Safe E

Electromechanical multipoint locking systems for doors

#### Roto Solid – Hinges



##### Roto Solid S

Screw-on hinges for doors



##### Roto Solid B

Butt hinges for doors



## **Roto Eifel – Thresholds**



### **Roto Eifel**

Tailor-made range of thresholds for tightly sealed accessible doors and balcony doors



## 1.9 Imprint

### **Roto Frank AG**

Window and Door Technology  
Wilhelm-Frank-Platz 1  
70771 Leinfelden-Echterdingen  
Germany  
Telephon +49 (0) 711 7598 0  
Fax +49 (0) 711 7598 253  
[info@roto-frank.com](mailto:info@roto-frank.com)  
[www.roto-frank.com](http://www.roto-frank.com)





## Application ranges

See page	34
----------	----

## M dimension

See page	35
----------	----

## Roto Patio Alversa | KS

Up to 100 kg sash weight	36
--------------------------	----

Up to 160 kg sash weight	37
--------------------------	----

## Roto Patio Alversa | PS without / with night ventilation

Up to 160 kg sash weight	38
--------------------------	----

Up to 200 kg sash weight	39
--------------------------	----

## Roto Patio Alversa | PS Air

Up to 160 kg sash weight	40
--------------------------	----

## Roto Patio Alversa | PS Air Com

Up to 160 kg sash weight	41
--------------------------	----

Up to 200 kg sash weight	42
--------------------------	----

## Profile sections

Vertical cross section	43
------------------------	----

## 2 Application diagrams

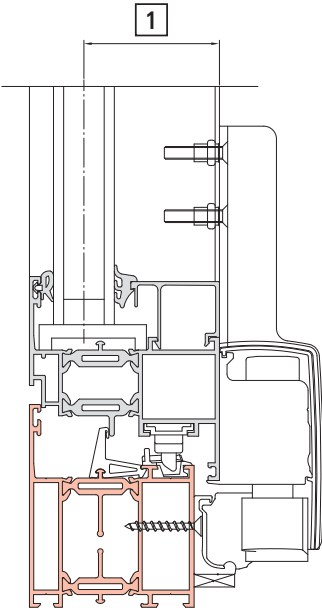


### 2.1 Application ranges

- Sash width: max. 2000 mm
- Sash height: max. 2700 mm
- Sash weight: max. 200 kg
- Rebate clearance: 11.5 – 12 mm
- 7 mm minimum overlap height
- Hardware axis: 10 mm
- Maximum retracting distance: 122 mm
- Frame groove: V.01 and V.02
- Sash groove: 15 / 20
- Compatible with RC 2/RC 2 N
- Sash arrangement according to diagrams A, C and D
- For profiles which run on the inside only
- Operating range: -20 °C to +50 °C



## 2.2 M dimension



Assignment	Meaning
[1]	M dimension



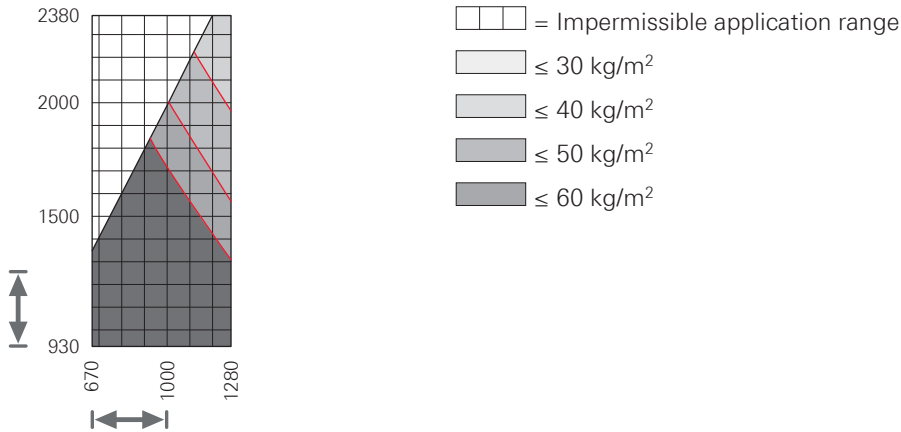
### INFO

See the following pages for the permitted product-specific M dimension. Different dimensions must be technically checked by Roto.



## 2.3 Roto Patio Alversa | KS

### 2.3.1 Up to 100 kg sash weight



The specifications in the application diagram refer to the glass weight in  $\text{kg/m}^2$ .

1 mm/m<sup>2</sup> glass thickness  $\approx$  2.5 kg

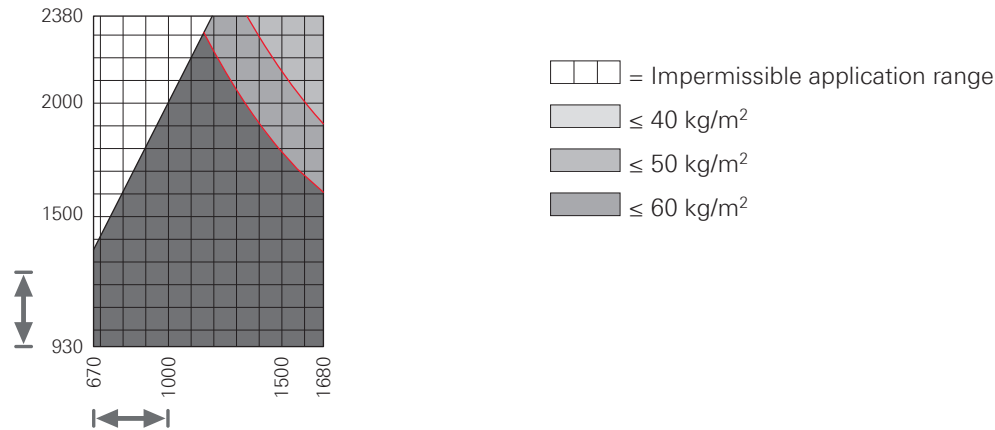
SH:SW = max. 2:1

Dimension M = max. 62 mm

Application range		
	Sash width (SW)	670 – 1280 mm
	Sash height (SH)	930 – 2380 mm
	Sash weight (S.kg)	max. 100 kg
–	Glass weight	max. 60 $\text{kg/m}^2$



### 2.3.2 Up to 160 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m<sup>2</sup>.

1 mm/m<sup>2</sup> glass thickness ≅ 2.5 kg

SH:SW = max. 2:1

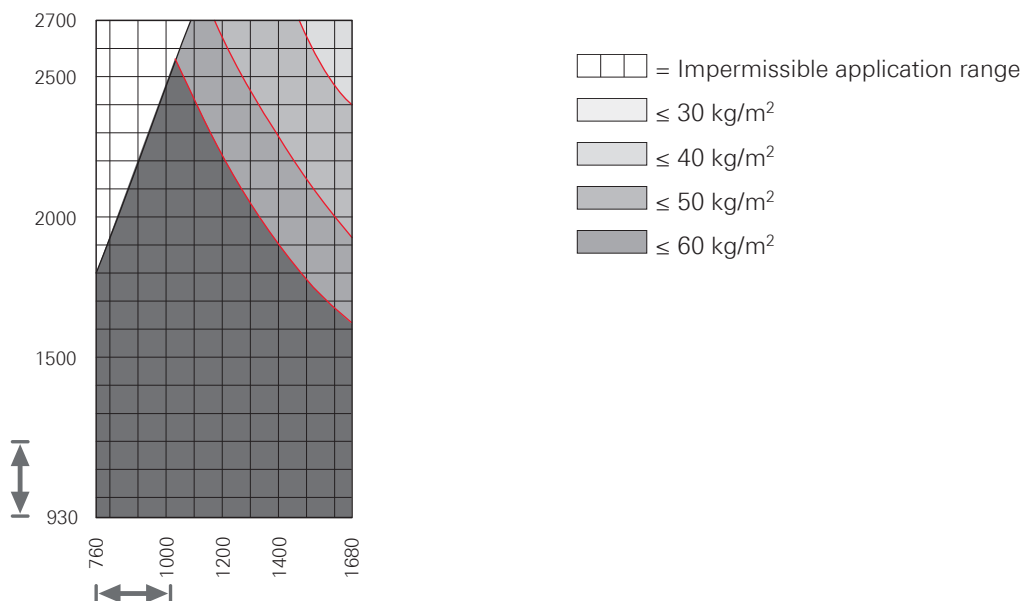
Dimension M = max. 62 mm

Application range			
	Sash width (SW)	670 – 1680 mm	
	Sash height (SH)	930 – 2380 mm	
	Sash weight (S.kg)	max. 160 kg	
–	Glass weight	max. 60 kg/m <sup>2</sup>	



## 2.4 Roto Patio Alversa | PS without / with night ventilation

### 2.4.1 Up to 160 kg sash weight



The specifications in the application diagram refer to the glass weight in  $\text{kg/m}^2$ .

1 mm/m<sup>2</sup> glass thickness  $\approx$  2.5 kg

SH:SW = max. 2.5:1

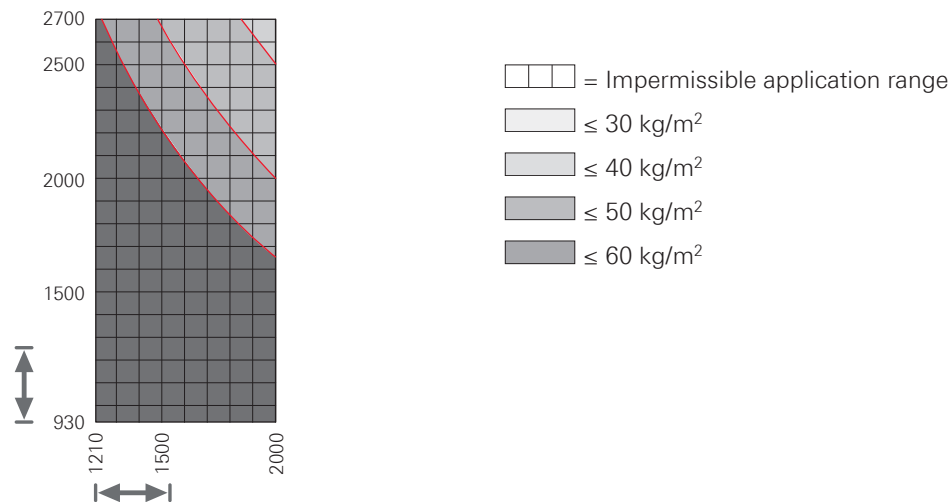
Dimension M = max. 68 mm

Application range		
	Sash width (SW)	760 – 1680 mm
	Sash height (SH)	930 – 2700 mm
	Sash weight (S.kg)	max. 160 kg
–	Glass weight	max. 60 $\text{kg/m}^2$





### 2.4.2 Up to 200 kg sash weight



The specifications in the application diagram refer to the glass weight in kg/m<sup>2</sup>.

1 mm/m<sup>2</sup> glass thickness ≈ 2.5 kg

SH:SW = max. 2.5:1

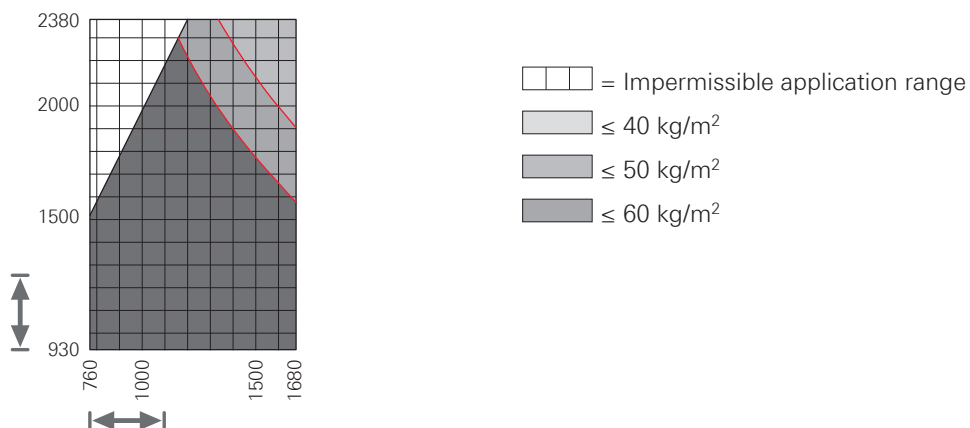
Dimension M = max. 68 mm

Application range		
	Sash width (SW)	1210 – 2000 mm
	Sash height (SH)	930 – 2700 mm
	Sash weight (S.kg)	max. 200 kg
–	Glass weight	max. 60 kg/m <sup>2</sup>



## 2.5 Roto Patio Alversa | PS Air

### 2.5.1 Up to 160 kg sash weight



The specifications in the application diagram refer to the glass weight in  $\text{kg/m}^2$ .

1 mm/ $\text{m}^2$  glass thickness  $\approx 2.5 \text{ kg}$

SH:SW = max. 2:1

Dimension M = max. 68 mm <sup>[1]</sup>

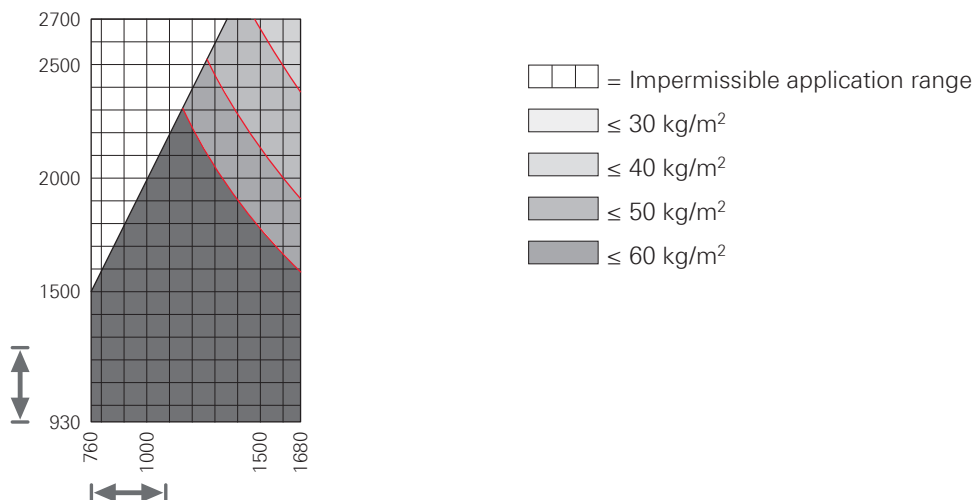
Application range		
	Sash width (SW)	760 – 1680 mm
	Sash height (SH)	930 – 2380 mm
	Sash weight (S.kg)	max. 160 kg
–	Glass weight	max. 60 $\text{kg/m}^2$

[1] Mandatory from dimension M 44 mm retrofit set for the lock-in position.



## 2.6 Roto Patio Alversa | PS Air Com

### 2.6.1 Up to 160 kg sash weight



The specifications in the application diagram refer to the glass weight in  $\text{kg/m}^2$ .

1 mm/m<sup>2</sup> glass thickness  $\approx$  2.5 kg

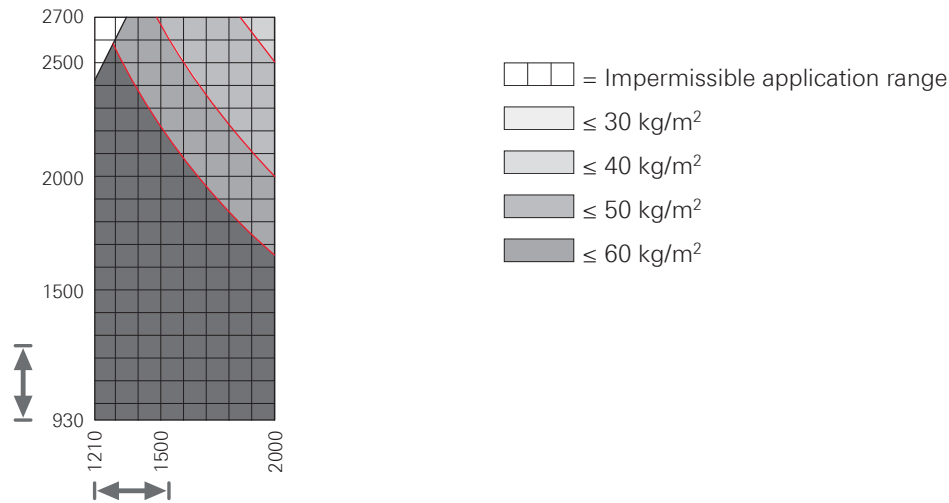
SH:SW = max. 2:1

Dimension M = max. 68 mm

Application range			
	Sash width (SW)	760 – 1680 mm	
	Sash height (SH)	930 – 2700 mm	
	Sash weight (S.kg)	max. 160 kg <sup>[2]</sup>	
–	Glass weight	max. 60 $\text{kg/m}^2$	

[2] Mandatory from S.kg >140 kg retrofit set for tilt assistance.

### 2.6.2 Up to 200 kg sash weight



The specifications in the application diagram refer to the glass weight in  $\text{kg/m}^2$ .

1 mm/m<sup>2</sup> glass thickness  $\approx$  2.5 kg

SH:SW = max. 2:1

Dimension M = max. 68 mm

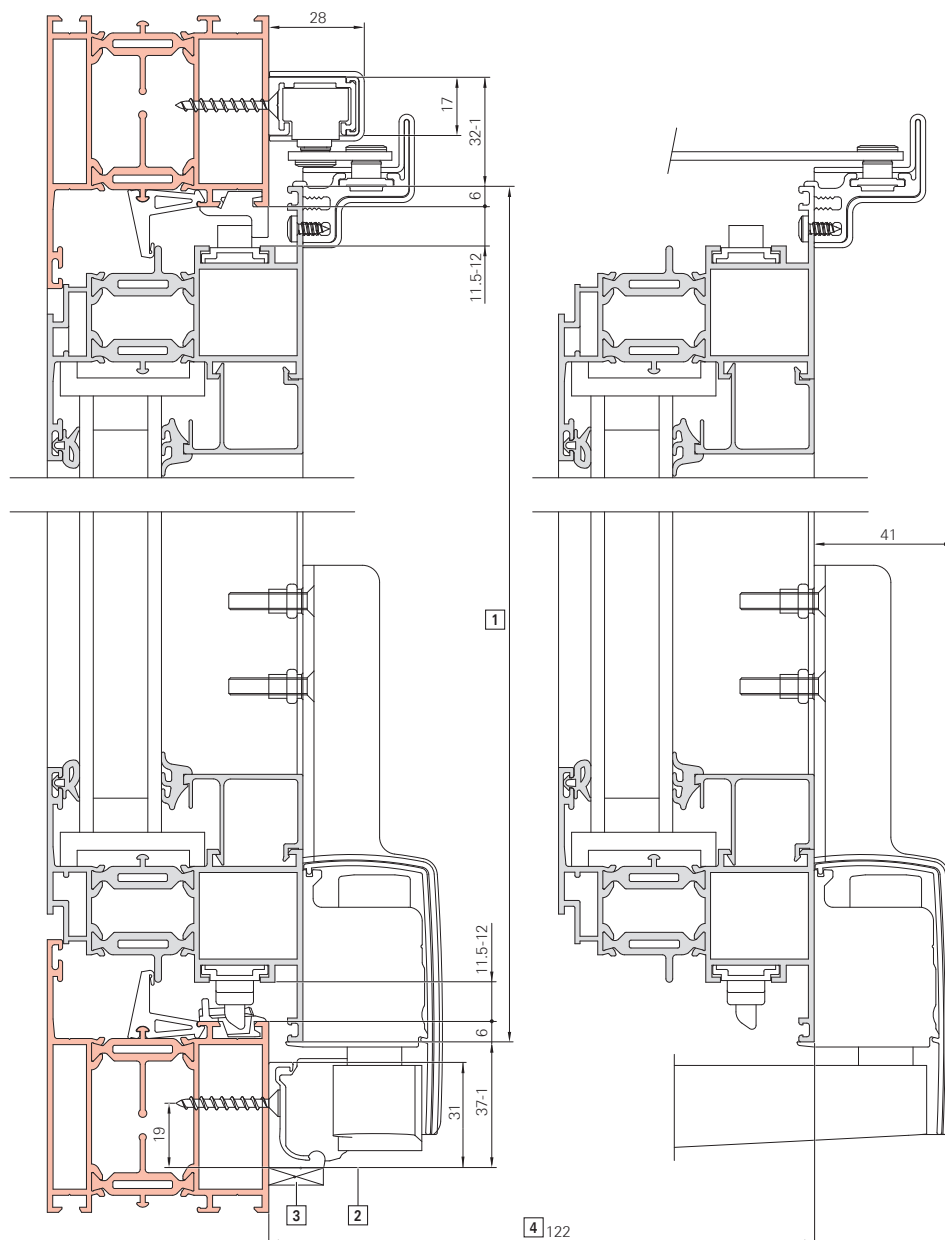
Application range		
	Sash width (SW)	1210 – 2000 mm
	Sash height (SH)	930 – 2700 mm
	Sash weight (S.kg)	max. 200 kg <sup>[3]</sup>
–	Glass weight	max. 60 $\text{kg/m}^2$

[3] Mandatory from S.kg >140 kg retrofit set for tilt assistance.



## 2.7 Profile sections

### 2.7.1 Vertical cross section



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



Note regarding the design variants

See page 46

---

Diagram A

See page 47

---

Diagram C

See page 48

---

Diagram D

See page 49

---

## 3 Design variants

### 3.1 Note regarding the design variants

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

These combinations can be built in DIN L and R.

The cross sections show where the espagnolette is installed.



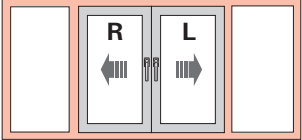
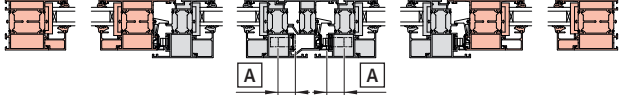




## 3.2 Diagram A

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

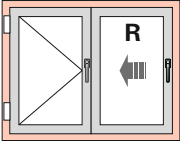
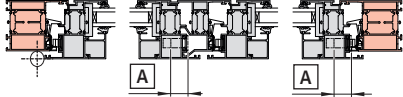
### 3.3 Diagram C

Combinations	Further designation
 <p>2 sliding sashes (L and R) without centre post 2 fixed glazings</p>	<p>Diagram C</p>  <p>[A] = Backset</p>



### 3.4 Diagram D



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



**INFO**

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





## Roto Patio Alversa | KS

Diagram A	53
Diagram C	56

## Roto Patio Alversa | PS without night ventilation

Diagram A	59
Diagram C	62

## Roto Patio Alversa | PS with night ventilation

Diagram A	65
Diagram C	68

## Roto Patio Alversa | PS Air

Diagram A	71
Diagram C	74

## Roto Patio Alversa | PS Air Com

Diagram A	77
Diagram C	80

## 4 Hardware overviews

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

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

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

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

The actual composition of the hardware depends on:

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



### INFO Security grades

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



### INFO Security grades

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



### INFO Variations

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

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

Recommended handles can be found in the handles catalogue.

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



### INFO Roto Con Orders

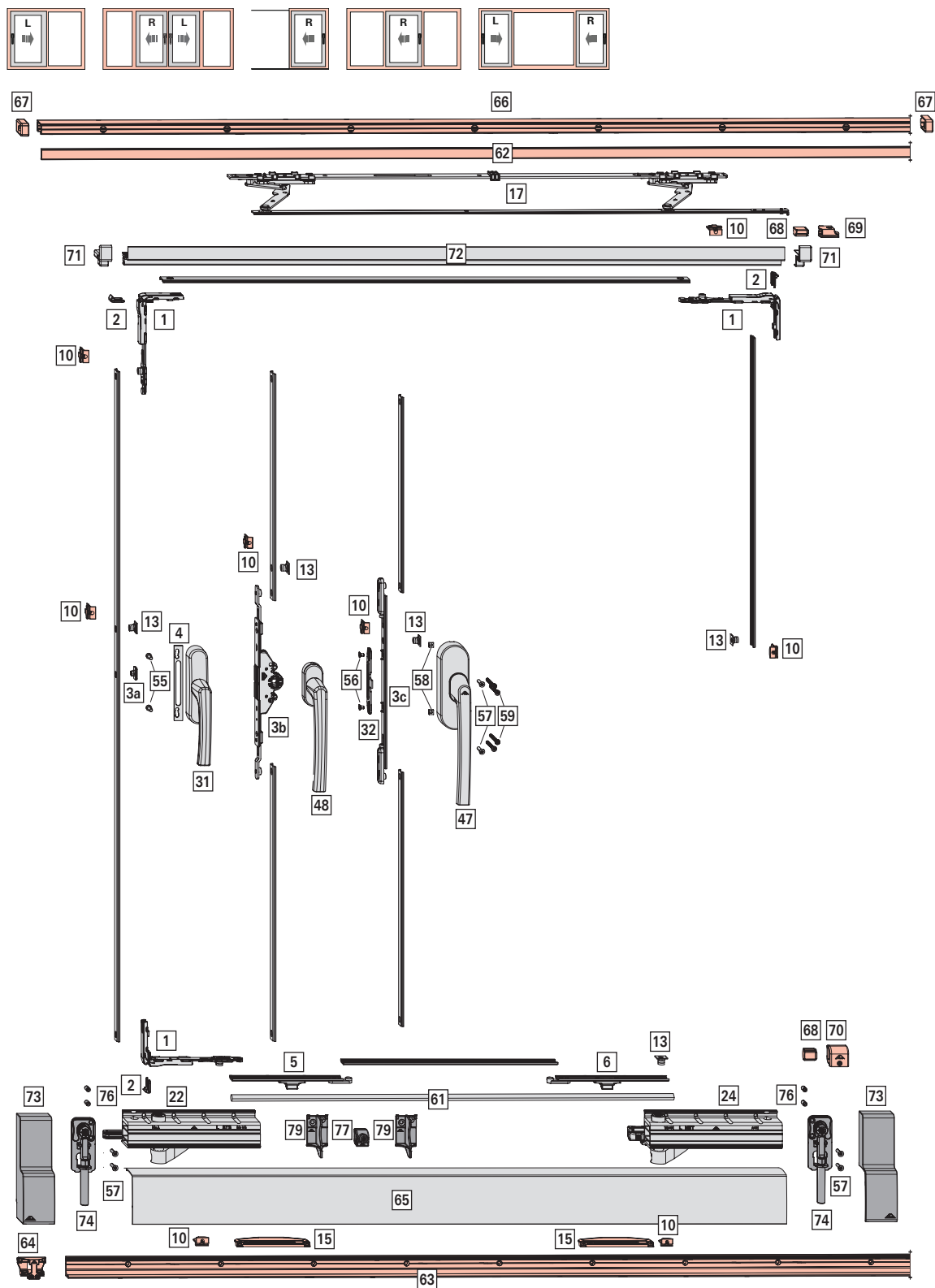
Efficient online hardware configurator for the custom configuration of individual window and door hardware components. All conventional shapes and opening types can be automatically configured quickly and easily. Individual parts lists, including application ranges and an exemplary hardware overview,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

**[www.roto-frank.com](http://www.roto-frank.com)**



## 4.1 Roto Patio Alversa | KS

### 4.1.1 Diagram A



Shown: 100 kg to 160 kg, standard (std.)

Position	Description	std.	RC 2 / RC 2 N
<b>Bullet-catch track set</b> → from page 98			
[5]	Left bullet-catch track	■	■
[6]	Right bullet-catch track	■	■
<b>Guide plate set</b> → from page 123			
[15]	Guide plates	■	■
[10]	Strikers V.01 / V.02	■	■
[13]	Insertable cams	■	■
<b>Bogie sets</b> → from page 88			
[22]	Leading bogie	■	■
[24]	Trailing bogie without damping	■	■
	Countersunk tapping-screw ST4.8 x 50	■	■
<b>Track sets</b> → from page 91			
[72]	Retaining track	■	■
[71]	End caps for retaining track	■	■
[61]	Connecting rod	■	■
[65]	Cover profile bogies	■	■
	Cover cap for cover profile bogies <sup>[4]</sup>	■	■
[79]	Supporting piece <sup>[5]</sup>	■	■
[77]	Support block <sup>[6]</sup>	■	■
[66]	Guide track	■	■
[62]	Guide track cover profile	■	■
[67]	End caps for guide track	■	■
[63]	Roller track	■	■
[64]	Bottom guide block	■	■
[70]	Stop part, bottom	■	■
[68]	Rubber buffer stop part	■	■
[69]	Stop part, top	■	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■	■
	Countersunk tapping-screw ST3.9 x 45	■	■
	Countersunk tapping-screw ST4.8 x 50	■	■
<b>Corner drive set</b> → from page 112			
[1]	Corner drive without mishandling device	■	■
[2]	Retaining fork	■	■
[13]	Insertable cams	■	■
<b>Sliding scissor stay set, Tilt&amp;Slide</b> → from page 94			
[17]	Sliding scissor stay, Tilt&Slide	■	■
<b>Reinforcement part sets</b> <sup>[7]</sup> → from page 90			
[73]	Cover caps reinforcement part	■	■
[74]	Reinforcement parts	■	■
[76]	Rivet nuts	■	■

[4] Only up to S.kg 100 kg

[5] 1 unit from SW ≤1480 mm; 2 units from SW >1480 mm

[6] 1 unit from SW >1480 mm

[7] S.kg >100 kg





Position	Description	std.	RC 2 / RC 2 N
[57]	Countersunk screw M5 x 25	■	■
<b>Espagnolettes</b>			
[3a]	Insertable connector bolt → from page 106	■	–
[3b]	Flush-encased gearbox → from page 104	■	–
[3c]	Adjustable centre section → from page 106	■	■
	Flush-encased gearbox without mishandling device → from page 105	■	SEC
<b>Espagnolette support set → from page 148</b>			
[4]	Espagnolette support	■	■
[55]	Flat-headed screw M5 x 12	■	■
<b>Handles</b>			
[48]	Handle – see catalogue CTL_1	■	Lock.
[31]	Roto Line AL geared-handle – see catalogue CTL_1	■	Lock.
[47]	Roto Line Alversa geared-handle – see catalogue CTL_1	■	Lock.
Cam and striker set <sup>[8]</sup> → from page 119			
	Strikers V.01 / V.02	■	■
	Insertable cams	■	■
<b>Connecting rods → from page 149</b>			
<b>Security components</b>			
	SEC flush-encased gearbox set → from page 105	–	■
	SEC coupler component → from page 150	–	■
	SEC striker → from page 120	–	■
	SEC insertable cam → from page 150	–	■
	SEC rebate-clearance reduction set → from page 151	–	■
	Run-up block → from page 151	–	■
	SEC espagnolette protection set → from page 107	–	■



## INFO

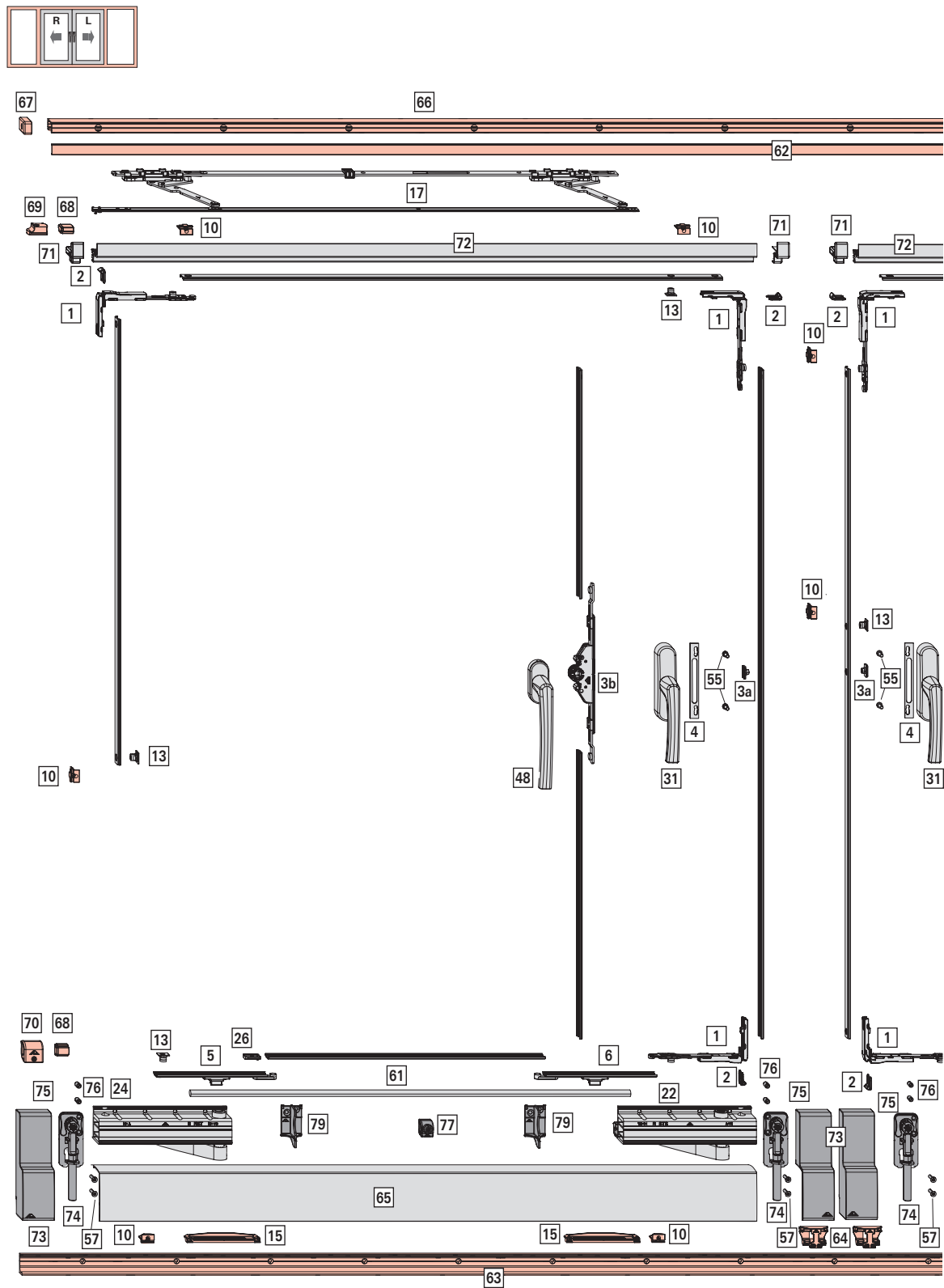
### Roto Con Orders

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](http://www.roto-frank.com)

[8] SW >1280 mm; SH >1800 mm

## 4.1.2 Diagram C



Shown: 100 kg to 160 kg, standard (std.)



Position	Description	std.
[26]	Travel restrictor	■
<b>Bullet-catch track set</b> → <i>from page 98</i>		
[5]	Left bullet-catch track	■
[6]	Right bullet-catch track	■
<b>Guide plate set</b> → <i>from page 123</i>		
[15]	Guide plates	■
[10]	Strikers V.01 / V.02	■
[13]	Insertable cams	■
<b>Bogie sets</b> → <i>from page 88</i>		
[22]	Leading bogie	■
[24]	Trailing bogie without damping	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Track sets</b> → <i>from page 91</i>		
[72]	Retaining track	■
[71]	End caps for retaining track	■
[61]	Connecting rod	■
[65]	Cover profile bogies	■
	Cover cap for cover profile bogies <sup>[9]</sup>	■
[79]	Supporting piece <sup>[10]</sup>	■
[77]	Support block <sup>[11]</sup>	■
[66]	Guide track	■
[62]	Guide track cover profile	■
[67]	End caps for guide track	■
[63]	Roller track	■
[64]	Bottom guide block	■
[70]	Stop part, bottom	■
[68]	Rubber buffer stop part	■
[69]	Stop part, top	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■
	Countersunk tapping-screw ST3.9 x 45	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Corner drive set</b> → <i>from page 112</i>		
[1]	Corner drive without mishandling device	■
[2]	Retaining fork	■
[13]	Insertable cams	■
<b>Sliding scissor stay set, Tilt&amp;Slide</b> → <i>from page 94</i>		
[17]	Sliding scissor stay, Tilt&Slide	■
<b>Reinforcement part sets</b> <sup>[12]</sup> → <i>from page 90</i>		
[73]	Cover caps reinforcement part	■
[74]	Reinforcement parts	■

[9] Only up to S.kg 100 kg

[10] 1 unit from SW ≤1480 mm; 2 units from SW >1480 mm

[11] 1 unit from SW >1480 mm

[12] S.kg >100 kg

Position	Description	std.
[76]	<b>Rivet nuts</b>	■
[57]	<b>Countersunk screw M5 x 25</b>	■
<b>Espagnolettes</b>		
[3a]	<b>Insertable connector bolt</b> → <i>from page 106</i>	■
[3b]	<b>Flush-encased gearbox</b> → <i>from page 104</i>	■
	Flush-encased gearbox without mishandling device → <i>from page 105</i>	■
<b>Espagnolette support set</b> → <i>from page 148</i>		
[4]	<b>Espagnolette support</b>	■
[55]	<b>Flat-headed screw M5 x 12</b>	■
<b>Handles</b>		
[48]	<b>Handle</b> – see catalogue CTL_1	■
[31]	<b>Roto Line AL geared-handle</b> – see catalogue CTL_1	■
Cam and striker set <sup>[13]</sup> → <i>from page 119</i>		
	Strikers V.01 / V.02	■
	Insertable cams	■
<b>Connecting rods</b> → <i>from page 149</i>		



## 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.

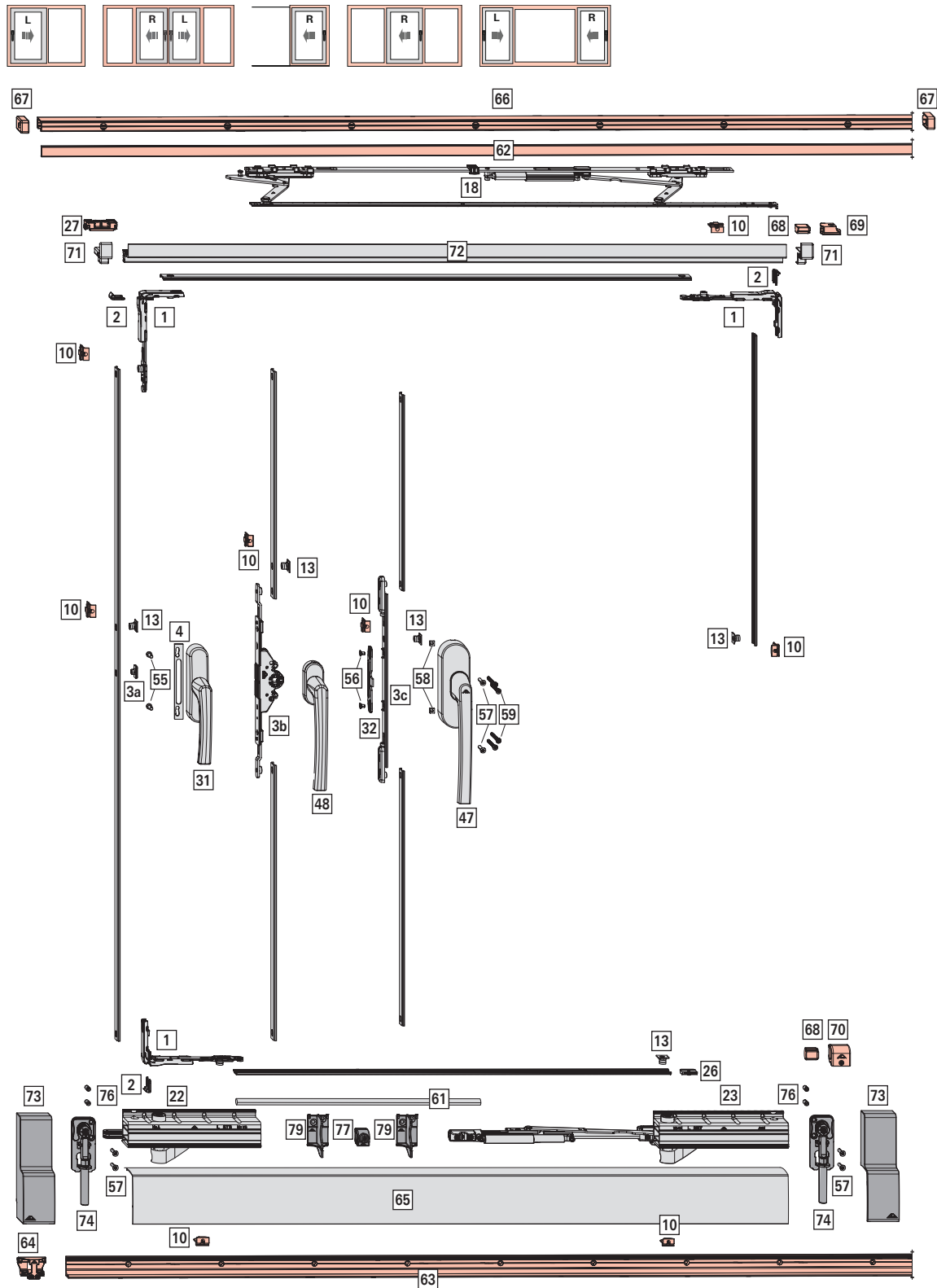
**[www.roto-frank.com](http://www.roto-frank.com)**

[13] SW >1280 mm; SH >1800 mm



## 4.2 Roto Patio Alversa | PS without night ventilation

### 4.2.1 Diagram A



Shown: 100 kg to 160 kg, standard (std.)

Position	Description	std.	RC 2 / RC 2 N
[26]	<b>Travel restrictor</b>	■	■
<b>Bogie sets</b> → <i>from page 88</i>			
[22]	<b>Leading bogie</b>	■	■
	Leading tandem bogie	■	■
[23]	<b>Trailing bogie with damping</b>	■	■
	Trailing tandem bogie with damping	■	■
	Countersunk tapping-screw ST4.8 x 50	■	■
<b>Track sets</b> → <i>from page 91</i>			
[72]	<b>Retaining track</b>	■	■
[71]	<b>End caps for retaining track</b>	■	■
[61]	<b>Connecting rod</b>	■	■
[65]	<b>Cover profile bogies</b>	■	■
	Cover cap for cover profile bogies	■	■
[79]	<b>Supporting piece</b> <sup>[14]</sup>	■	■
[77]	<b>Support block</b> <sup>[15]</sup>	■	■
[66]	<b>Guide track</b>	■	■
[62]	<b>Guide track cover profile</b>	■	■
[67]	<b>End caps for guide track</b>	■	■
[63]	<b>Roller track</b>	■	■
[64]	<b>Bottom guide block</b>	■	■
[70]	<b>Stop part, bottom</b>	■	■
[68]	<b>Rubber buffer stop part</b>	■	■
[69]	<b>Stop part, top</b>	■	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■	■
	Countersunk tapping-screw ST3.9 x 45	■	■
	Countersunk tapping-screw ST4.8 x 50	■	■
<b>Corner drive set</b> → <i>from page 112</i>			
[1]	<b>Corner drive without mishandling device</b>	■	■
[2]	<b>Retaining fork</b>	■	■
[13]	<b>Insertable cams</b>	■	■
<b>Locking set</b> → <i>from page 119</i>			
[10]	<b>Strikers V.01 / V.02</b>	■	■
[13]	<b>Insertable cams</b>	■	■
<b>Parallel Sliding sliding scissor stay set, night ventilation</b> → <i>from page 94</i>			
[18]	<b>Sliding scissor stay, Parallel Sliding</b>	■	■
[27]	<b>Fixed top guide block</b>	■	■
<b>Reinforcement part sets</b> → <i>from page 90</i>			
[73]	<b>Cover caps reinforcement part</b>	■	■
[74]	<b>Reinforcement parts</b>	■	■
[76]	<b>Rivet nuts</b>	■	■
[57]	<b>Countersunk screw M5 x 25</b>	■	■
<b>Espagnolettes</b>			

[14] 1 unit from SW ≤1480 mm; 2 units from SW &gt;1480 mm

[15] 1 unit from SW &gt;1480 mm



Position	Description	std.	RC 2 / RC 2 N
[3a]	Insertable connector bolt → from page 106	■	–
[3b]	Flush-encased gearbox → from page 104	■	–
[3c]	Adjustable centre section → from page 106	■	■
	Flush-encased gearbox without mishandling device → from page 105	■	SEC
<b>Espagnolette support set → from page 148</b>			
[4]	Espagnolette support	■	■
[55]	Flat-headed screw M5 x 12	■	■
<b>Handles</b>			
[48]	Handle – see catalogue CTL_1	■	Lock.
[31]	Roto Line AL geared-handle – see catalogue CTL_1	■	Lock.
[47]	Roto Line Alversa geared-handle – see catalogue CTL_1	■	Lock.
Cam and striker set <sup>[16]</sup> → from page 119			
	Strikers V.01 / V.02	■	■
	Insertable cams	■	■
<b>Connecting rods → from page 149</b>			
<b>Security components</b>			
	SEC flush-encased gearbox set → from page 105	–	■
	SEC coupler component → from page 150	–	■
	SEC striker → from page 120	–	■
	SEC insertable cam → from page 150	–	■
	SEC rebate-clearance reduction set → from page 151	–	■
	Run-up block → from page 151	–	■
	SEC espagnolette protection set → from page 107	–	■



## 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](http://www.roto-frank.com)

[16] SW >1280 mm; SH >1800 mm

A diagram of a double door. The left door is labeled 'R' with an arrow pointing left. The right door is labeled 'L' with an arrow pointing right. The doors are set within a frame.







Position	Description	std.
[26]	<b>Travel restrictor</b>	■
<b>Bogie sets → from page 88</b>		
[22]	<b>Leading bogie</b>	■
	Leading tandem bogie	■
[23]	<b>Trailing bogie with damping</b>	■
	Trailing tandem bogie with damping	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Track sets → from page 91</b>		
[72]	<b>Retaining track</b>	■
[71]	<b>End caps for retaining track</b>	■
[61]	<b>Connecting rod</b>	■
[65]	<b>Cover profile bogies</b>	■
	Cover cap for cover profile bogies	■
[79]	<b>Supporting piece</b> <sup>[17]</sup>	■
[77]	<b>Support block</b> <sup>[18]</sup>	■
[66]	<b>Guide track</b>	■
[62]	<b>Guide track cover profile</b>	■
[67]	<b>End caps for guide track</b>	■
[63]	<b>Roller track</b>	■
[64]	<b>Bottom guide block</b>	■
[70]	<b>Stop part, bottom</b>	■
[68]	<b>Rubber buffer stop part</b>	■
[69]	<b>Stop part, top</b>	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■
	Countersunk tapping-screw ST3.9 x 45	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Corner drive set → from page 112</b>		
[1]	<b>Corner drive without mishandling device</b>	■
[2]	<b>Retaining fork</b>	■
[13]	<b>Insertable cams</b>	■
<b>Locking set → from page 119</b>		
[10]	<b>Strikers V.01 / V.02</b>	■
[13]	<b>Insertable cams</b>	■
<b>Parallel Sliding sliding scissor stay set, night ventilation → from page 94</b>		
[18]	<b>Sliding scissor stay, Parallel Sliding</b>	■
[27]	<b>Fixed top guide block</b>	■
<b>Reinforcement part sets → from page 90</b>		
[73]	<b>Cover caps reinforcement part</b>	■
[74]	<b>Reinforcement parts</b>	■
[76]	<b>Rivet nuts</b>	■
[57]	<b>Countersunk screw M5 x 25</b>	■
<b>Espagnolettes</b>		

[17] 1 unit from SW ≤1480 mm; 2 units from SW >1480 mm

[18] 1 unit from SW >1480 mm

Position	Description	std.
[3a]	Insertable connector bolt → <i>from page 106</i>	■
[3b]	Flush-encased gearbox → <i>from page 104</i>	■
	Flush-encased gearbox without mishandling device → <i>from page 105</i>	■
<b>Espagnolette support set</b> → <i>from page 148</i>		
[4]	Espagnolette support	■
[55]	Flat-headed screw M5 x 12	■
<b>Handles</b>		
[48]	Handle – see catalogue CTL_1	■
[31]	Roto Line AL geared-handle – see catalogue CTL_1	■
Cam and striker set <sup>[19]</sup> → <i>from page 119</i>		
	Strikers V.01 / V.02	■
	Insertable cams	■
<b>Connecting rods</b> → <i>from page 149</i>		

**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.

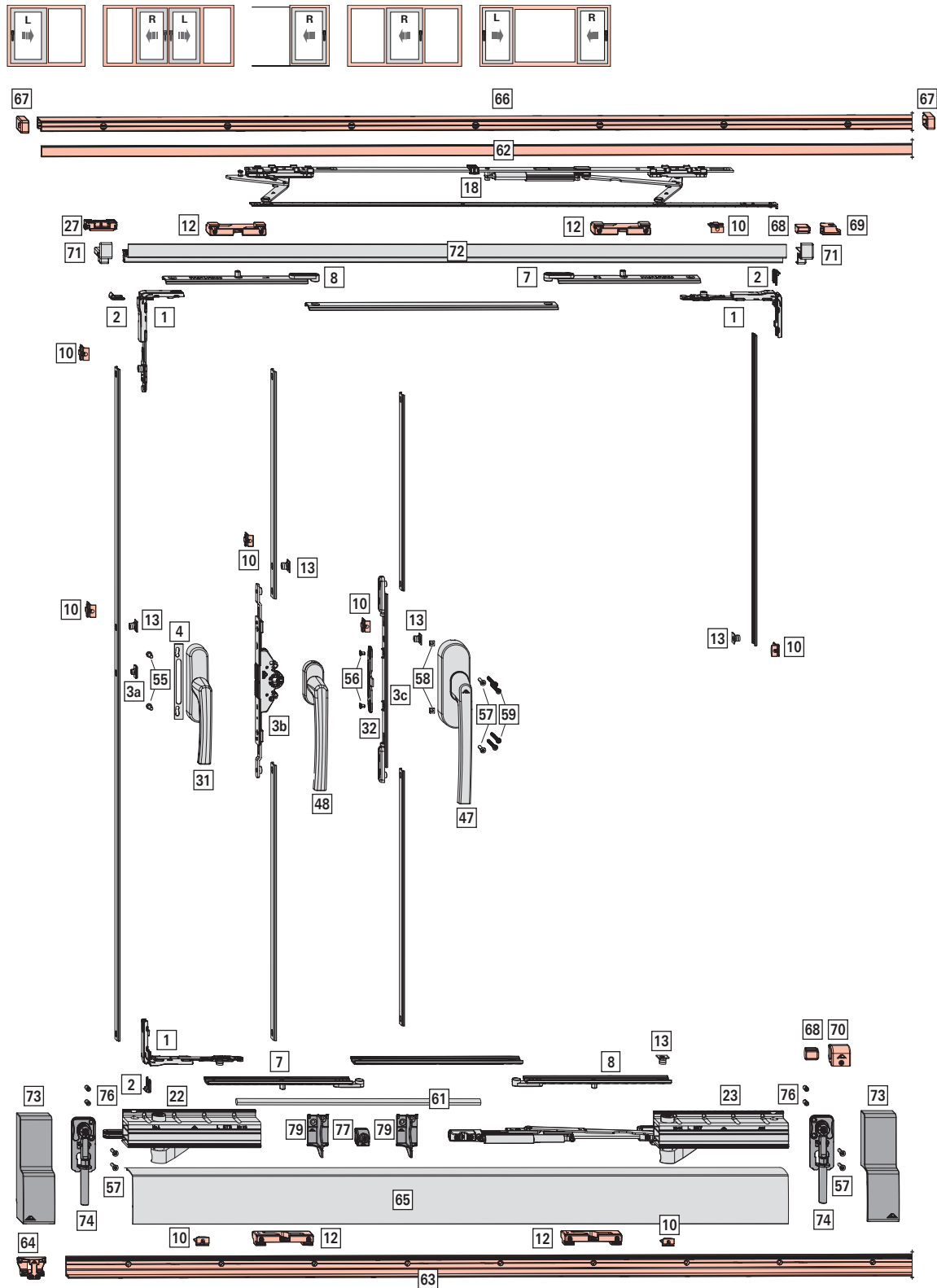
[www.roto-frank.com](http://www.roto-frank.com)

[19] SW >1280 mm; SH >1800 mm



## 4.3 Roto Patio Alversa | PS with night ventilation

### 4.3.1 Diagram A



Shown: 100 kg to 160 kg, standard (std.)

Position	Description	std.	RC 2 / RC 2 N
<b>Night ventilation striker set</b> → from page 121			
[12]	Night ventilation strikers V.01 / V.02	■	■
[10]	Strikers V.01 / V.02	■	■
[7]	Night ventilation tracks 2	■	■
[8]	Night ventilation tracks 1	■	■
[13]	Insertable cams	■	■
<b>Bogie sets</b> → from page 88			
[22]	Leading bogie	■	■
	Leading tandem bogie	■	■
[23]	Trailing bogie with damping	■	■
	Trailing tandem bogie with damping	■	■
	Countersunk tapping-screw ST4.8 x 50	■	■
<b>Track sets</b> → from page 91			
[72]	Retaining track	■	■
[71]	End caps for retaining track	■	■
[61]	Connecting rod	■	■
[65]	Cover profile bogies	■	■
	Cover cap for cover profile bogies	■	■
[79]	Supporting piece <sup>[20]</sup>	■	■
[77]	Support block <sup>[21]</sup>	■	■
[66]	Guide track	■	■
[62]	Guide track cover profile	■	■
[67]	End caps for guide track	■	■
[63]	Roller track	■	■
[64]	Bottom guide block	■	■
[70]	Stop part, bottom	■	■
[68]	Rubber buffer stop part	■	■
[69]	Stop part, top	■	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■	■
	Countersunk tapping-screw ST3.9 x 45	■	■
	Countersunk tapping-screw ST4.8 x 50	■	■
<b>Corner drive set</b> → from page 112			
[1]	Corner drive without mishandling device	■	■
[2]	Retaining fork	■	■
[13]	Insertable cams	■	■
<b>Parallel Sliding sliding scissor stay set, night ventilation</b> → from page 94			
[18]	Sliding scissor stay, Parallel Sliding	■	■
[27]	Fixed top guide block	■	■
<b>Reinforcement part sets</b> → from page 90			
[73]	Cover caps reinforcement part	■	■
[74]	Reinforcement parts	■	■
[76]	Rivet nuts	■	■

[20] 1 unit from SW ≤1480 mm; 2 units from SW >1480 mm

[21] 1 unit from SW >1480 mm



Position	Description	std.	RC 2 / RC 2 N
[57]	Countersunk screw M5 x 25	■	■
<b>Espagnolettes</b>			
[3a]	Insertable connector bolt → from page 106	■	–
[3b]	Flush-encased gearbox → from page 104	■	–
[3c]	Adjustable centre section → from page 106	■	■
	Flush-encased gearbox without mishandling device → from page 105	■	SEC
	SEC connector	–	■
<b>Espagnolette support set → from page 148</b>			
[4]	Espagnolette support	■	■
[55]	Flat-headed screw M5 x 12	■	■
<b>Handles</b>			
[48]	Handle – see catalogue CTL_1	■	Lock.
[31]	Roto Line AL geared-handle – see catalogue CTL_1	■	Lock.
[47]	Roto Line Alversa geared-handle – see catalogue CTL_1	■	Lock.
Cam and striker set <sup>[22]</sup> → from page 119			
	Strikers V.01 / V.02	■	■
	Insertable cams	■	■
<b>Connecting rods → from page 149</b>			
<b>Security components</b>			
	SEC flush-encased gearbox set → from page 105	–	■
	SEC coupler component → from page 150	–	■
	SEC striker → from page 120	–	■
	SEC insertable cam → from page 150	–	■
	SEC rebate-clearance reduction set → from page 151	–	■
	Run-up block → from page 151	–	■
	SEC espagnolette protection set → from page 107	–	■

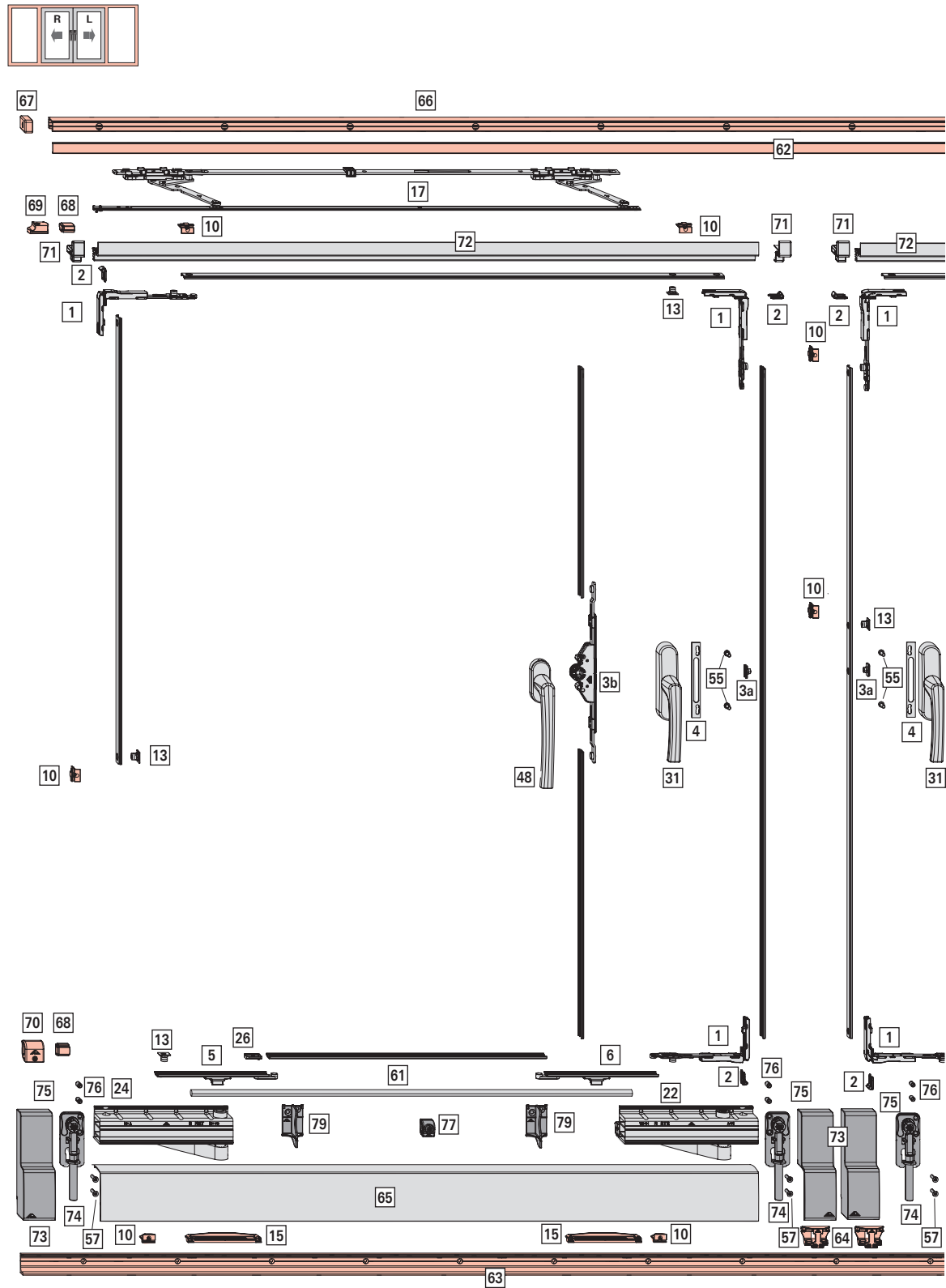
**INFO****Roto Con Orders**

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](http://www.roto-frank.com)**

[22] SW >1280 mm; SH >1800 mm

### 4.3.2 Diagram C



Shown: 100 kg to 160 kg, standard (std.)



Position	Description	std.
[26]	<b>Travel restrictor</b>	■
<b>Night ventilation striker set → from page 121</b>		
	Night ventilation strikers V.01 / V.02	■
[10]	<b>Strikers V.01 / V.02</b>	■
	Night ventilation tracks 2	■
	Night ventilation tracks 1	■
[13]	<b>Insertable cams</b>	■
<b>Bogie sets → from page 88</b>		
[22]	<b>Leading bogie</b>	■
	Leading tandem bogie	■
[23]	<b>Trailing bogie with damping</b>	■
	Trailing tandem bogie with damping	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Track sets → from page 91</b>		
[72]	<b>Retaining track</b>	■
[71]	<b>End caps for retaining track</b>	■
[61]	<b>Connecting rod</b>	■
[65]	<b>Cover profile bogies</b>	■
	Cover cap for cover profile bogies	■
[79]	<b>Supporting piece</b> <sup>[23]</sup>	■
[77]	<b>Support block</b> <sup>[24]</sup>	■
[66]	<b>Guide track</b>	■
[62]	<b>Guide track cover profile</b>	■
[67]	<b>End caps for guide track</b>	■
[63]	<b>Roller track</b>	■
[64]	<b>Bottom guide block</b>	■
[70]	<b>Stop part, bottom</b>	■
[68]	<b>Rubber buffer stop part</b>	■
[69]	<b>Stop part, top</b>	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■
	Countersunk tapping-screw ST3.9 x 45	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Corner drive set → from page 112</b>		
[1]	<b>Corner drive without mishandling device</b>	■
[2]	<b>Retaining fork</b>	■
[13]	<b>Insertable cams</b>	■
<b>Locking set → from page 119</b>		
[10]	<b>Strikers V.01 / V.02</b>	■
[13]	<b>Insertable cams</b>	■
<b>Parallel Sliding sliding scissor stay set, night ventilation → from page 94</b>		
[18]	<b>Sliding scissor stay, Parallel Sliding</b>	■
[27]	<b>Fixed top guide block</b>	■

[23] 1 unit from SW ≤1480 mm; 2 units from SW >1480 mm

[24] 1 unit from SW >1480 mm

Position	Description	std.
<b>Reinforcement part sets</b> → from page 90		
[73]	Cover caps reinforcement part	■
[74]	Reinforcement parts	■
[76]	Rivet nuts	■
[57]	Countersunk screw M5 x 25	■
<b>Espagnolettes</b>		
[3a]	Insertable connector bolt → from page 106	■
[3b]	Flush-encased gearbox → from page 104	■
	Flush-encased gearbox without mishandling device → from page 105	■
<b>Espagnolette support set</b> → from page 148		
[4]	Espagnolette support	■
[55]	Flat-headed screw M5 x 12	■
<b>Handles</b>		
[48]	Handle – see catalogue CTL_1	■
[31]	Roto Line AL geared-handle – see catalogue CTL_1	■
Cam and striker set <sup>[25]</sup> → from page 119		
	Strikers V.01 / V.02	■
	Insertable cams	■
<b>Connecting rods</b> → from page 149		



## 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](http://www.roto-frank.com)

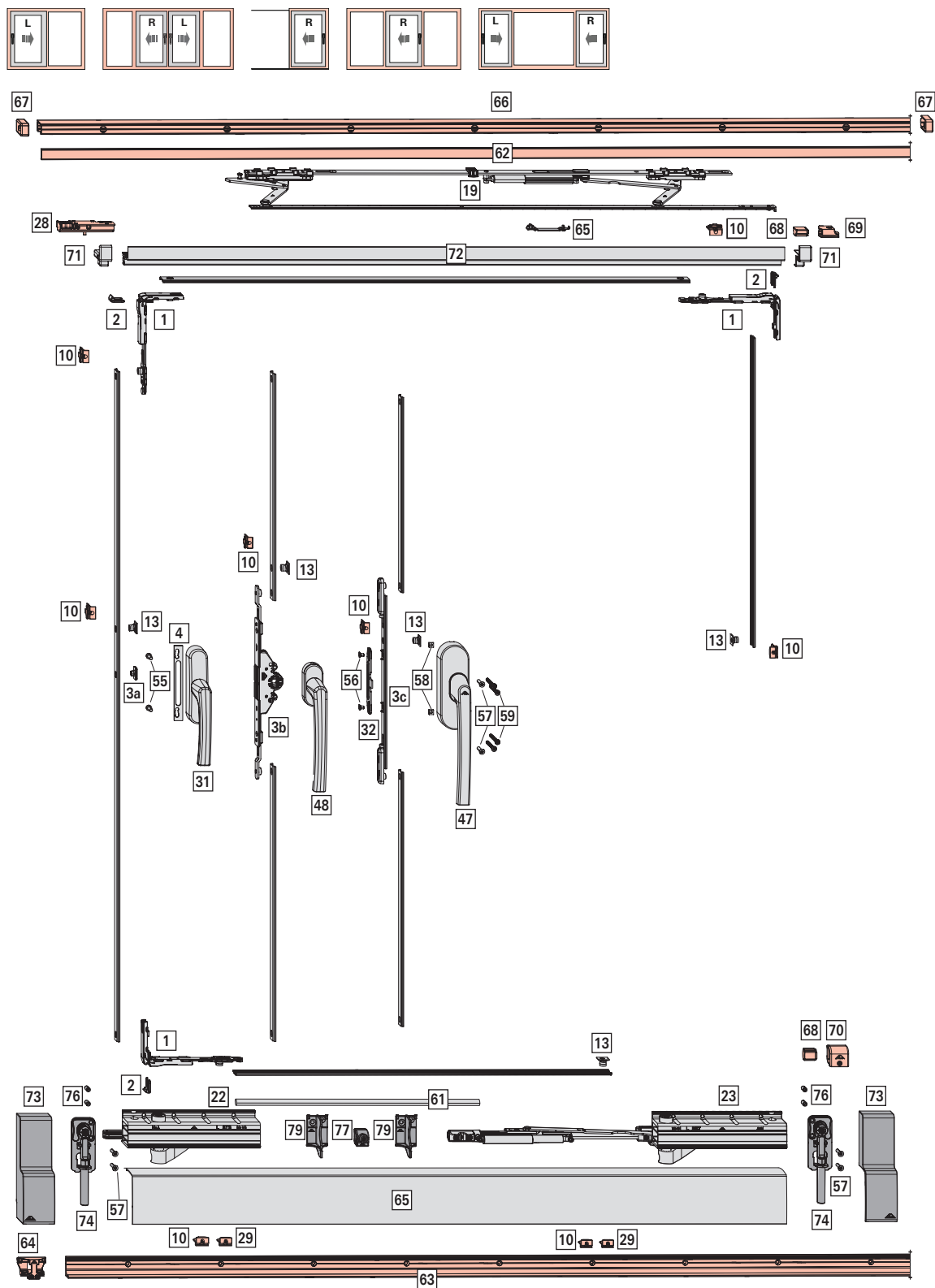
[25] SW >1280 mm; SH >1800 mm





## 4.4 Roto Patio Alversa | PS Air

### 4.4.1 Diagram A



Shown: 100 kg to 160 kg, standard (std.)

Position	Description	std.	RC 2 / RC 2 N
<b>Tilt striker set</b> → from page 122			
[29]	Tilt strikers V.01 / V.02	■	■
[10]	Strikers V.01 / V.02	■	■
[13]	Insertable cams	■	■
<b>Bogie sets</b> → from page 88			
[22]	Leading bogie	■	■
[23]	Trailing bogie with damping	■	■
	Countersunk tapping-screw ST4.8 x 50	■	■
<b>Track sets</b> → from page 91			
[72]	Retaining track	■	■
[71]	End caps for retaining track	■	■
[61]	Connecting rod	■	■
[65]	Cover profile bogies	■	■
	Cover cap for cover profile bogies <sup>[26]</sup>	■	■
[79]	Supporting piece <sup>[27]</sup>	■	■
[77]	Support block <sup>[28]</sup>	■	■
[66]	Guide track	■	■
[62]	Guide track cover profile	■	■
[67]	End caps for guide track	■	■
[63]	Roller track	■	■
[64]	Bottom guide block	■	■
[70]	Stop part, bottom	■	■
[68]	Rubber buffer stop part	■	■
[69]	Stop part, top	■	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■	■
	Countersunk tapping-screw ST3.9 x 45	■	■
<b>Corner drive set</b> → from page 112			
[1]	Corner drive without mishandling device	■	■
[2]	Retaining fork	■	■
[13]	Insertable cams	■	■
<b>Parallel Sliding sliding scissor stay set, tilt ventilation</b> → from page 95			
[19]	Sliding scissor stay, Parallel Sliding	■	■
[28]	Tiltable top guide block	■	■
[65]	Retrofit set for lock-in position <sup>[29]</sup>	■	■
<b>Reinforcement part sets</b> → from page 90			
[73]	Cover caps reinforcement part	■	■
[74]	Reinforcement parts	■	■
[76]	Rivet nuts	■	■
[57]	Countersunk screw M5 x 25	■	■
<b>Espagnolettes</b>			
[3a]	Insertable connector bolt → from page 106	■	—

[26] Only up to S.kg 100 kg

[27] 1 unit from SW ≤1480 mm; 2 units from SW &gt;1480 mm

[28] 1 unit from SW &gt;1480 mm

[29] Dimension M &gt; 44 mm



Position	Description	std.	RC 2 / RC 2 N
[3b]	Flush-encased gearbox → from page 104	■	–
[3c]	Adjustable centre section → from page 106	■	■
	Flush-encased gearbox without mishandling device → from page 105	■	SEC
<b>Espagnolette support set → from page 148</b>			
[4]	Espagnolette support	■	■
[55]	Flat-headed screw M5 x 12	■	■
<b>Handles</b>			
[48]	Handle – see catalogue CTL_1	■	Lock.
[31]	Roto Line AL geared-handle – see catalogue CTL_1	■	Lock.
[47]	Roto Line Alversa geared-handle – see catalogue CTL_1	■	Lock.
Cam and striker set <sup>[30]</sup> → from page 119			
	Strikers V.01 / V.02	■	■
	Insertable cams	■	■
<b>Connecting rods → from page 149</b>			
<b>Security components</b>			
	SEC flush-encased gearbox set → from page 105	–	■
	SEC coupler component → from page 150	–	■
	SEC striker → from page 120	–	■
	SEC insertable cam → from page 150	–	■
	SEC rebate-clearance reduction set → from page 151	–	■
	Run-up block → from page 151	–	■
	SEC espagnolette protection set → from page 107	–	■

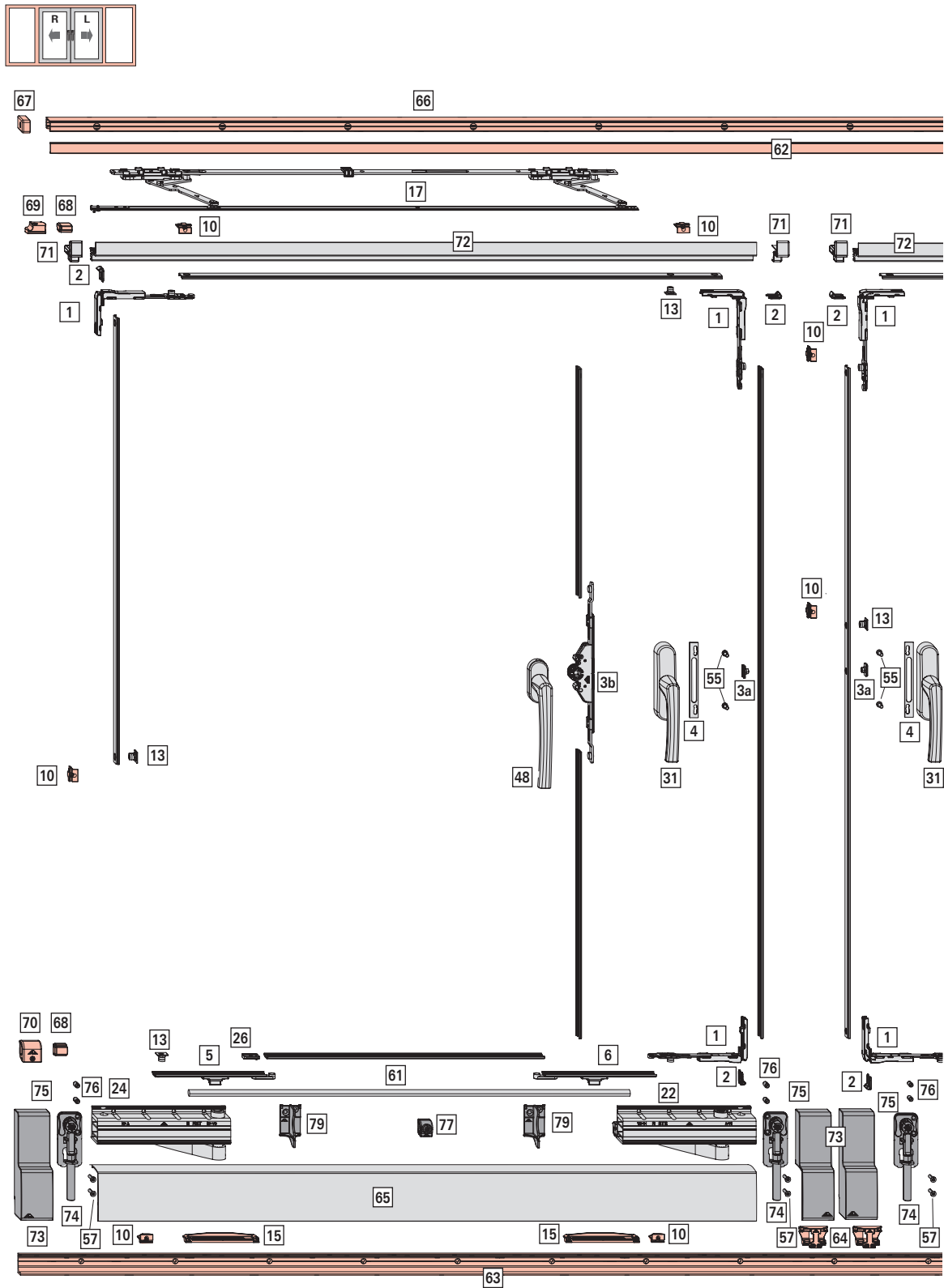
**INFO****Roto Con Orders**

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](http://www.roto-frank.com)**

[30] SW >1280 mm; SH >1800 mm

## 4.4.2 Diagram C



Shown: 100 kg to 160 kg, standard (std.)



Position	Description	std.
[26]	<b>Travel restrictor</b>	■
<b>Tilt striker set → from page 122</b>		
	Tilt strikers V.01 / V.02	■
	Strikers V.01 / V.02	■
	Insertable cams	■
<b>Bogie sets → from page 88</b>		
[22]	<b>Leading bogie</b>	■
[23]	<b>Trailing bogie with damping</b>	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Track sets → from page 91</b>		
[72]	<b>Retaining track</b>	■
[71]	<b>End caps for retaining track</b>	■
[61]	<b>Connecting rod</b>	■
[65]	<b>Cover profile bogies</b>	■
	Cover cap for cover profile bogies	■
[79]	<b>Supporting piece</b> <sup>[31]</sup>	■
[77]	<b>Support block</b> <sup>[32]</sup>	■
[66]	<b>Guide track</b>	■
[62]	<b>Guide track cover profile</b>	■
[67]	<b>End caps for guide track</b>	■
[63]	<b>Roller track</b>	■
[64]	<b>Bottom guide block</b>	■
[70]	<b>Stop part, bottom</b>	■
[68]	<b>Rubber buffer stop part</b>	■
[69]	<b>Stop part, top</b>	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■
	Countersunk tapping-screw ST3.9 x 45	■
<b>Corner drive set → from page 112</b>		
[1]	<b>Corner drive without mishandling device</b>	■
[2]	<b>Retaining fork</b>	■
[13]	<b>Insertable cams</b>	■
<b>Locking set → from page 119</b>		
[10]	<b>Strikers V.01 / V.02</b>	■
[13]	<b>Insertable cams</b>	■
<b>Parallel Sliding sliding scissor stay set, tilt ventilation → from page 95</b>		
	Sliding scissor stay, Parallel Sliding	■
[28]	<b>Tiltable top guide block</b>	■
	Retrofit set for lock-in position <sup>[33]</sup>	■
<b>Parallel Sliding sliding scissor stay set, night ventilation → from page 94</b>		
[18]	<b>Sliding scissor stay, Parallel Sliding</b>	■
[27]	<b>Fixed top guide block</b>	■

[31] 1 unit from SW ≤1480 mm; 2 units from SW >1480 mm

[32] 1 unit from SW >1480 mm

[33] Dimension M > 44 mm

Position	Description	std.
<b>Reinforcement part sets</b> → <i>from page 90</i>		
[73]	Cover caps reinforcement part	■
[74]	Reinforcement parts	■
[76]	Rivet nuts	■
[57]	Countersunk screw M5 x 25	■
<b>Espagnolettes</b>		
[3a]	Insertable connector bolt → <i>from page 106</i>	■
[3b]	Flush-encased gearbox → <i>from page 104</i>	■
	Flush-encased gearbox without mishandling device → <i>from page 105</i>	■
<b>Espagnolette support set</b> → <i>from page 148</i>		
[4]	Espagnolette support	■
[55]	Flat-headed screw M5 x 12	■
<b>Handles</b>		
[48]	Handle – see catalogue CTL_1	■
[31]	Roto Line AL geared-handle – see catalogue CTL_1	■
Cam and striker set <sup>[34]</sup> → <i>from page 119</i>		
	Strikers V.01 / V.02	■
	Insertable cams	■
<b>Connecting rods</b> → <i>from page 149</i>		



## 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.

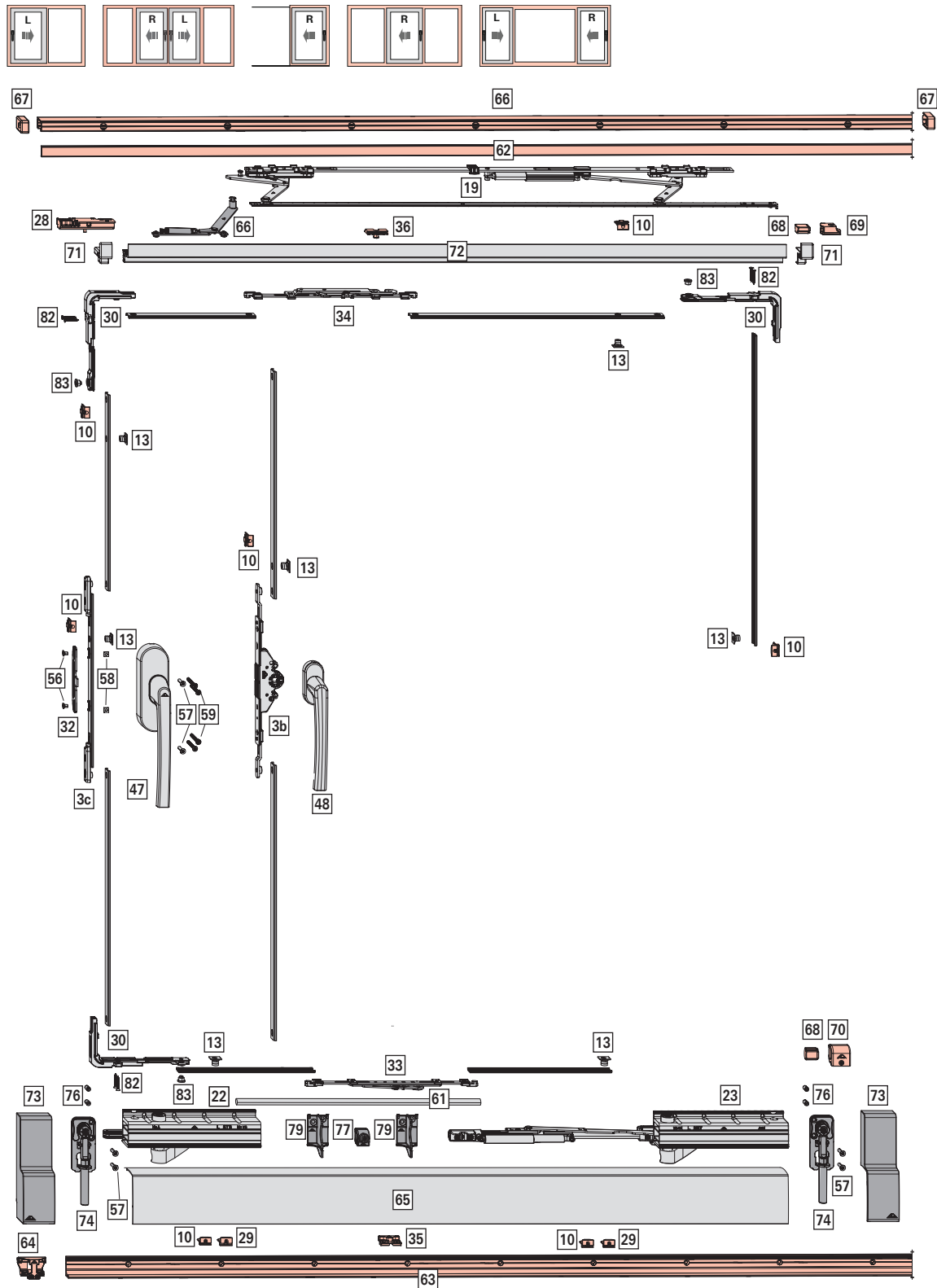
[www.roto-frank.com](http://www.roto-frank.com)

[34] SW >1280 mm; SH >1800 mm



## 4.5 Roto Patio Alversa | PS Air Com

### 4.5.1 Diagram A



Shown: 100 kg to 160 kg, standard (std.)

Position	Description	std.
<b>Tilt striker set</b> → from page 122		
[29]	<b>Tilt strikers V.01 / V.02</b>	■
[10]	<b>Strikers V.01 / V.02</b>	■
[13]	<b>Insertable cams</b>	■
<b>Bogie sets</b> → from page 88		
[22]	<b>Leading bogie</b>	■
	Leading tandem bogie	■
[23]	<b>Trailing bogie with damping</b>	■
	Trailing tandem bogie with damping	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Track sets</b> → from page 91		
[72]	<b>Retaining track</b>	■
[71]	<b>End caps for retaining track</b>	■
[61]	<b>Connecting rod</b>	■
[65]	<b>Cover profile bogies</b>	■
	Cover cap for cover profile bogies	■
[79]	<b>Supporting piece</b> <sup>[35]</sup>	■
[77]	<b>Support block</b> <sup>[36]</sup>	■
[66]	<b>Guide track</b>	■
[62]	<b>Guide track cover profile</b>	■
[67]	<b>End caps for guide track</b>	■
[63]	<b>Roller track</b>	■
[64]	<b>Bottom guide block</b>	■
[70]	<b>Stop part, bottom</b>	■
[68]	<b>Rubber buffer stop part</b>	■
[69]	<b>Stop part, top</b>	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■
	Countersunk tapping-screw ST3.9 x 45	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Comfort set</b> → from page 97		
[34]	<b>Comfort scissor stays</b>	■
[13]	<b>Insertable cams</b>	■
[33]	<b>Mishandling device</b>	■
[30]	<b>Reinforced corner drives</b>	■
[82]	<b>Countersunk tapping-screw ST3.9 x 25</b>	■
[83]	<b>Special screw M6 x 10</b>	■
<b>Comfort set frame components</b> → from page 124		
[36]	<b>Comfort scissor stay frame components</b>	■
[35]	<b>Mishandling device frame components</b>	■
<b>Parallel Sliding sliding scissor stay set, tilt ventilation</b> → from page 95		
[19]	<b>Sliding scissor stay, Parallel Sliding</b>	■
[28]	<b>Tiltable top guide block</b>	■

[35] 1 unit from SW ≤1480 mm; 2 units from SW >1480 mm

[36] 1 unit from SW >1480 mm





Position	Description	std.
[66]	<b>Retrofit set for tilt assistance</b> <sup>[37]</sup>	■
<b>Reinforcement part sets</b> → <i>from page 90</i>		
[73]	<b>Cover caps reinforcement part</b>	■
[74]	<b>Reinforcement parts</b>	■
[76]	<b>Rivet nuts</b>	■
[57]	<b>Countersunk screw M5 x 25</b>	■
<b>Espagnolettes</b>		
[3b]	<b>Flush-encased gearbox</b> → <i>from page 104</i>	■
[3c]	<b>Adjustable centre section</b> → <i>from page 106</i>	■
<b>Handles</b>		
[48]	<b>Handle</b> – see catalogue CTL_1	■
[47]	<b>Roto Line Alversa geared-handle</b> – see catalogue CTL_1	■
Cam and striker set <sup>[38]</sup> → <i>from page 119</i>		
	Strikers V.01 / V.02	■
	Insertable cams	■
<b>Connecting rods</b> → <i>from page 149</i>		

[37] S.kg >140 kg

[38] SW >1280 mm; SH >1800 mm

A diagram of a double door. The left door is labeled 'R' with a left-pointing arrow. The right door is labeled 'L' with a right-pointing arrow. The doors are set within a frame, with empty rectangular spaces on either side.





Position	Description	std.
[26]	<b>Travel restrictor</b>	■
<b>Tilt striker set → from page 122</b>		
	Tilt strikers V.01 / V.02	■
	Strikers V.01 / V.02	■
	Insertable cams	■
<b>Bogie sets → from page 88</b>		
[22]	<b>Leading bogie</b>	■
	Leading tandem bogie	■
[23]	<b>Trailing bogie with damping</b>	■
	Trailing tandem bogie with damping	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Track sets → from page 91</b>		
[72]	<b>Retaining track</b>	■
[71]	<b>End caps for retaining track</b>	■
[61]	<b>Connecting rod</b>	■
[65]	<b>Cover profile bogies</b>	■
	Cover cap for cover profile bogies	■
[79]	<b>Supporting piece</b> <sup>[39]</sup>	■
[77]	<b>Support block</b> <sup>[40]</sup>	■
[66]	<b>Guide track</b>	■
[62]	<b>Guide track cover profile</b>	■
[67]	<b>End caps for guide track</b>	■
[63]	<b>Roller track</b>	■
[64]	<b>Bottom guide block</b>	■
[70]	<b>Stop part, bottom</b>	■
[68]	<b>Rubber buffer stop part</b>	■
[69]	<b>Stop part, top</b>	■
	Flat-headed self-tapping screw ST3.9 x 9.5	■
	Countersunk tapping-screw ST3.9 x 45	■
	Countersunk tapping-screw ST4.8 x 50	■
<b>Comfort set → from page 124</b>		
	Comfort scissor stays	■
[13]	<b>Insertable cams</b>	■
	Mishandling device	■
[30]	<b>Reinforced corner drives</b>	■
[82]	<b>Countersunk tapping-screw ST3.9 x 25</b>	■
[83]	<b>Special screw M6 x 10</b>	■
<b>Comfort set frame components → from page 124</b>		
	Comfort scissor stay frame components	■
	Mishandling device frame components	■
<b>Corner drive set → from page 112</b>		
[1]	<b>Corner drive without mishandling device</b>	■

[39] 1 unit from SW ≤1480 mm; 2 units from SW >1480 mm

[40] 1 unit from SW >1480 mm

Position	Description	std.
[2]	<b>Retaining fork</b>	■
[13]	<b>Insertable cams</b>	■
<b>Locking set → from page 119</b>		
[10]	<b>Strikers V.01 / V.02</b>	■
[13]	<b>Insertable cams</b>	■
<b>Parallel Sliding sliding scissor stay set, tilt ventilation → from page 95</b>		
	Sliding scissor stay, Parallel Sliding	■
[28]	<b>Tiltable top guide block</b>	■
	Retrofit set for tilt assistance <sup>[41]</sup>	■
<b>Parallel Sliding sliding scissor stay set, night ventilation → from page 94</b>		
[18]	<b>Sliding scissor stay, Parallel Sliding</b>	■
[27]	<b>Fixed top guide block</b>	■
<b>Reinforcement part sets → from page 90</b>		
[73]	<b>Cover caps reinforcement part</b>	■
[74]	<b>Reinforcement parts</b>	■
[76]	<b>Rivet nuts</b>	■
[57]	<b>Countersunk screw M5 x 25</b>	■
<b>Espagnolettes</b>		
[3b]	<b>Flush-encased gearbox → from page 104</b>	■
[3c]	<b>Adjustable centre section → from page 106</b>	■
<b>Handles</b>		
[48]	<b>Handle – see catalogue CTL_1</b>	■
[47]	<b>Roto Line Alversa geared-handle – see catalogue CTL_1</b>	■
<b>Cam and striker set<sup>[42]</sup> → from page 119</b>		
	Strikers V.01 / V.02	■
	Insertable cams	■
<b>Connecting rods → from page 149</b>		



## INFO

### Roto Con Orders

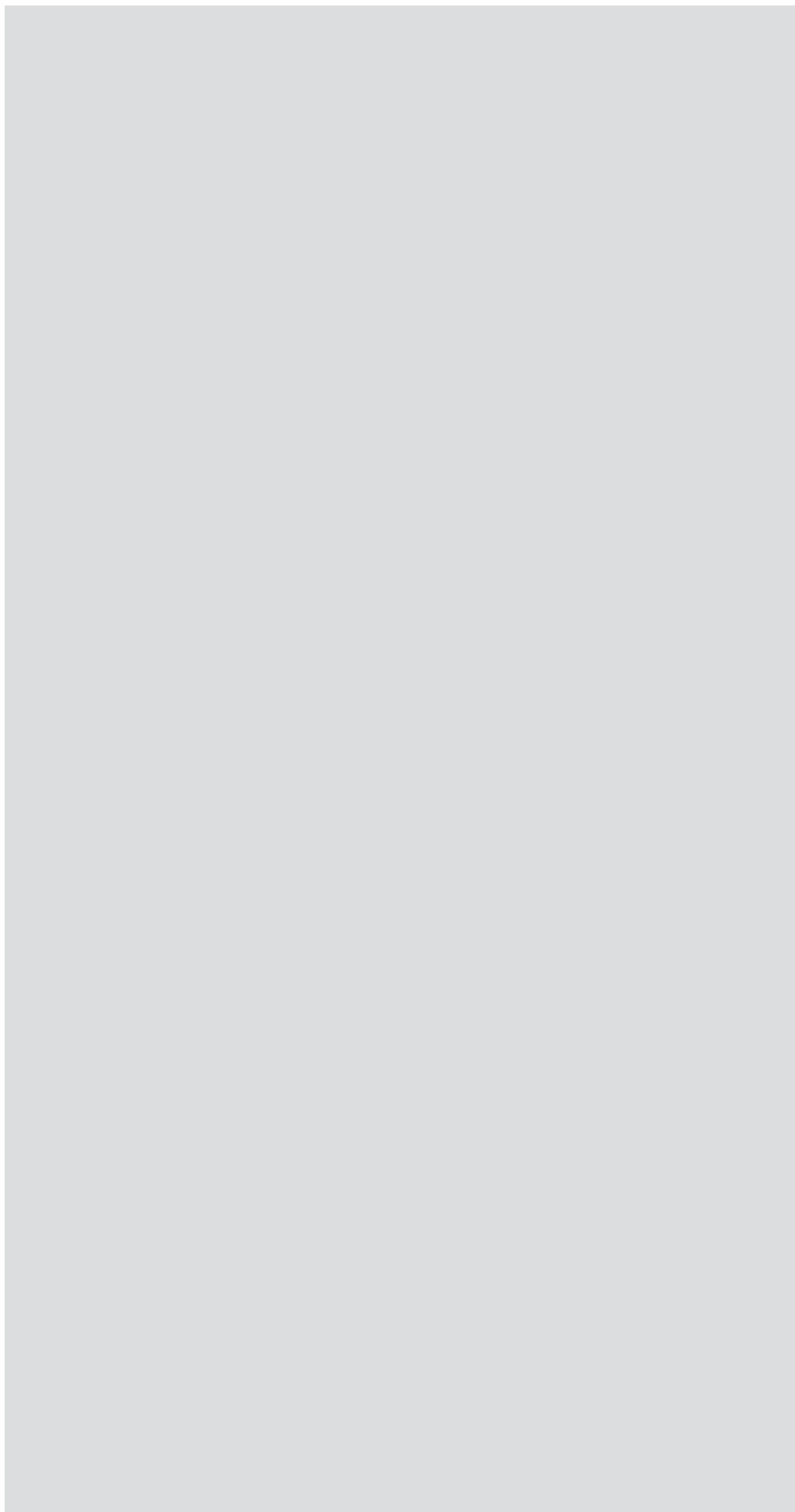
Efficient online hardware configurator for the custom configuration of individual window and door hardware components. All conventional shapes and opening types can be automatically configured quickly and easily. Individual parts lists, including application ranges and an exemplary hardware overview,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

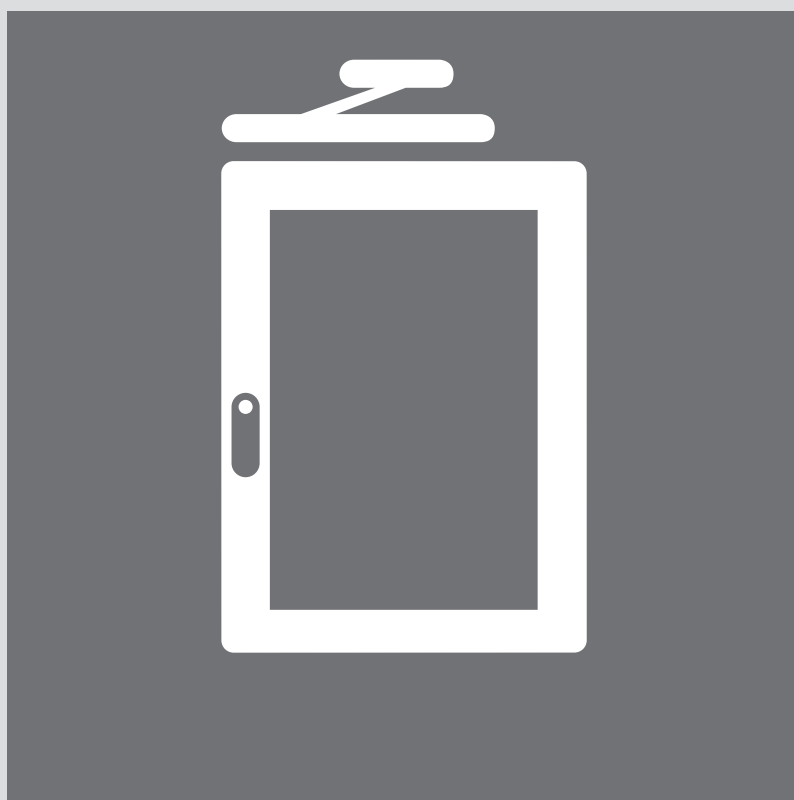
[www.roto-frank.com](http://www.roto-frank.com)

[41] S.kg >140 kg

[42] SW >1280 mm; SH >1800 mm











## Bogie sets

Bogies up to 160 kg	88
Tandem bogies up to 200 kg	89

## Reinforcement part sets

See page	90
----------	----

## Track sets

Track set with retaining track 13	92
-----------------------------------	----

## Scissors-slider sets

Tilt&Slide	94
Parallel Sliding	94

## Comfort sets

See page	97
----------	----

## Bullet catch track set

See page	98
----------	----

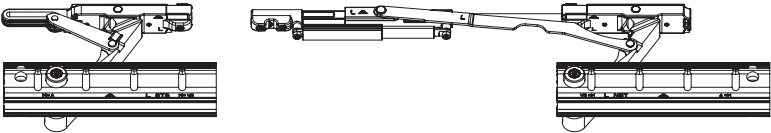
## Guide block sets








See page	99
----------	----

## 5 Hardware sets

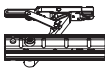

### 5.1 Bogie sets

#### 5.1.1 Bogies up to 160 kg



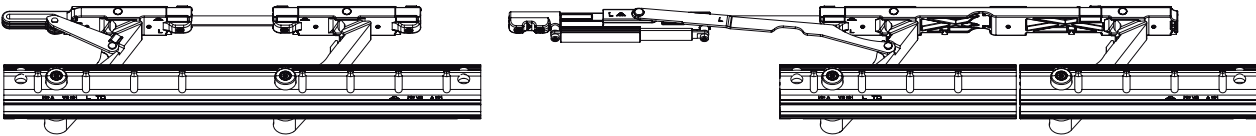
						
Bogie set	max. 160 kg	Tilt&Slide	N	Left	1 Piece	799896
		Tilt&Slide	N	Right	1 Piece	799897
		Parallel Sliding	Y	Left	1 Piece	799898
		Parallel Sliding	Y	Right	1 Piece	799900








#### Contents

Figure	Quantity	Designation
	1	Leading bogie
	1	Trailing bogie
Not dep.	8	Countersunk tapping-screws ST4.8 x 50 T25

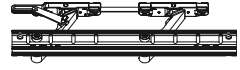
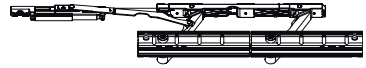


5.1.2 Tandem bogies up to 200 kg



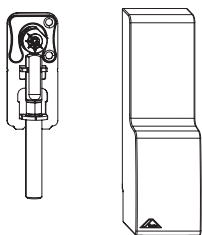
						
Tandem bogie set	max. 200 kg	Parallel Sliding	Y	Left	1 Piece	799901
		Parallel Sliding	Y	Right	1 Piece	799902

Contents

Figure	Quantity	Designation
	1	Leading tandem bogie
	1	Trailing tandem bogie
Not dep.	16	Countersunk tapping-screws ST4.8 x 50 T25



## 5.2 Reinforcement part sets



Reinforcement parts and cover caps	For sash weights > 100 kg	Parallel Sliding Tilt&Slide	R01.5	Silver	1 Piece	793515
			R04.4	Black brown	1 Piece	797565
			R05.4	Dark bronze	1 Piece	793516
			R06.2	Jet black	1 Piece	793517
			R07.2	Traffic white	1 Piece	793518

### Contents

Figure	Quantity	Description
	2	Reinforcement parts
	2	Cover caps
	4	Rivet nuts
Not sh.	4	Screws M5 x 25



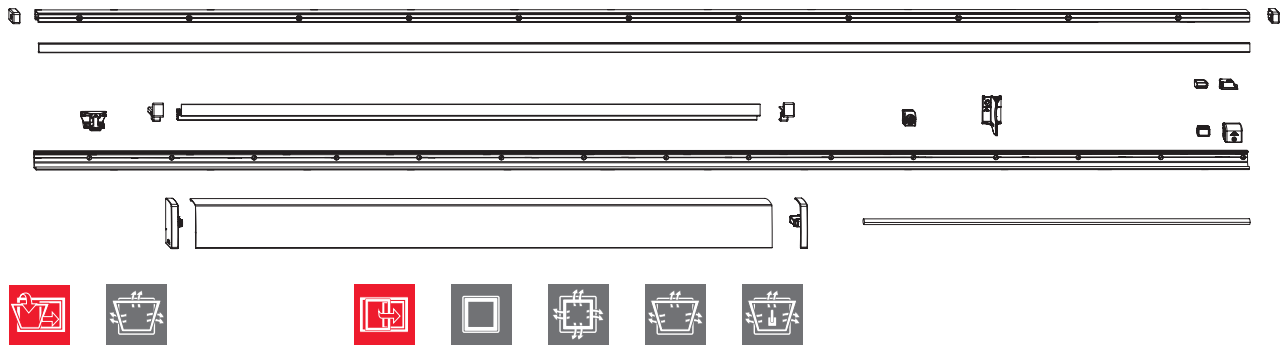
### INFO

#### Using reinforcement parts






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



## 5.3 Track sets



## 5.3.1 Track set with retaining track 13

					Nº
R01.5	Silver	670 – 930	1930	1 Piece	767051
		931 – 1080	2230	1 Piece	767052
		1081 – 1280	2630	1 Piece	767053
		1281 – 1480	3030	1 Piece	767054
		1481 – 1680	3430	1 Piece	767075
		1681 – 2000	4130	1 Piece	769841
R04.4	Black brown	670 – 930	1930	1 Piece	797635
		931 – 1080	2230	1 Piece	797636
		1081 – 1280	2630	1 Piece	797637
		1281 – 1480	3030	1 Piece	797638
		1481 – 1680	3430	1 Piece	797639
		1681 – 2000	4130	1 Piece	797640
R05.4	Dark bronze	670 – 930	1930	1 Piece	767076
		931 – 1080	2230	1 Piece	767077
		1081 – 1280	2630	1 Piece	767078
		1281 – 1480	3030	1 Piece	767079
		1481 – 1680	3430	1 Piece	767080
		1681 – 2000	4130	1 Piece	769842
R06.2	Jet black	670 – 930	1930	1 Piece	767081
		931 – 1080	2230	1 Piece	767082
		1081 – 1280	2630	1 Piece	767083
		1281 – 1480	3030	1 Piece	767084
		1481 – 1680	3430	1 Piece	767085
		1681 – 2000	4130	1 Piece	769843
R07.2	Traffic white	670 – 930	1930	1 Piece	767086
		931 – 1080	2230	1 Piece	767087
		1081 – 1280	2630	1 Piece	767088
		1281 – 1480	3030	1 Piece	767089
		1481 – 1680	3430	1 Piece	767090
		1681 – 2000	4130	1 Piece	769844
Roh	Uncoated	670 – 930	1930	1 Piece	767046
		931 – 1080	2230	1 Piece	767047
		1081 – 1280	2630	1 Piece	767048
		1281 – 1480	3030	1 Piece	767049
		1481 – 1680	3430	1 Piece	767050
		1681 – 2000	4130	1 Piece	769840

## Contents








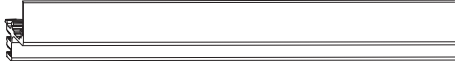



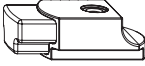




	Quantity	Description
	1	Guide track
	1	Guide track cover profile
	2	End caps for guide track



Figure	Quantity	Description
	1	Roller track
	1	Bogie cover profile
	2	Cover caps for bogie cover profile
	1	Retaining track 13
	2	End caps for retaining track
	1	Connecting rod
	1	Guide block, bottom
	1	Stop part, top
	1	Stop part, bottom
	1	Rubber buffer stop part
	0 [43] 1 [44]	Support block
	1 [45] 2 [46]	Supporting piece
Not sh.	10	Flat-headed self-tapping screws ST3.9 x 9.5 ISR15
Not sh.	40	Countersunk tapping screws ST3.9 x 45 ISR15
Not sh.	4	Countersunk tapping screws ST4.8 x 50 ISR25

[43] With SW ≤ 1480 mm

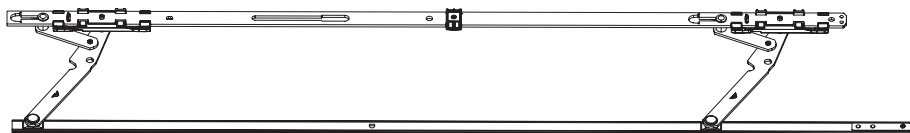
[44] With SW &gt; 1480 mm






[45] With SW ≤ 1480 mm

[46] With SW &gt; 1480 mm

## 5.4 Scissors-slider sets

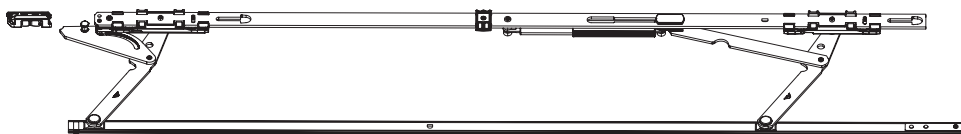
### 5.4.1 Tilt&Slide








					Nº
Tilt&Slide	670 – 930 mm	N	–	1 Piece	810456
Tilt&Slide	931 – 1280 mm	N	–	1 Piece	810457
Tilt&Slide	1281 – 1680 mm	N	–	1 Piece	810458

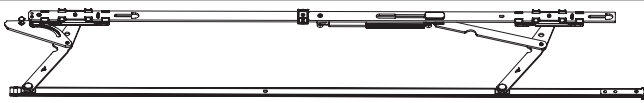

### 5.4.2 Parallel Sliding

#### 5.4.2.1 Night ventilation



					Nº
Parallel Sliding	760 – 930 mm	Y	Left	1 Piece	772220
		Y	Right	1 Piece	772225
	931 – 1280 mm	Y	Left	1 Piece	772221
		Y	Right	1 Piece	772226
	1281 – 1680 mm	Y	Left	1 Piece	772222
		Y	Right	1 Piece	772227
	1681 – 2000 mm	Y	Left	1 Piece	772223
		Y	Right	1 Piece	772228

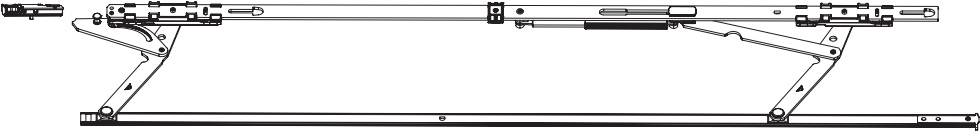
#### Contents

Figure	Quantity	Designation
	1	Parallel Sliding night ventilation scissors-slider
	1	Fixed top guide block





### 5.4.2.2 Tilt ventilation



					Nº
Parallel Sliding	760 – 930 mm	Left	Y	1 Piece	808816
		Right	Y	1 Piece	808827
	931 – 1280 mm	Left	Y	1 Piece	808824
		Right	Y	1 Piece	808828
	1281 – 1680 mm	Left	Y	1 Piece	808825
		Right	Y	1 Piece	808829
	1681 – 2000 mm	Left	Y	1 Piece	808826
		Right	Y	1 Piece	808830



### Contents

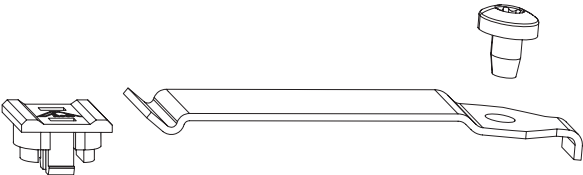
	Figure	Quantity	Description
		1	Sliding scissor stay, Parallel Sliding, tilt ventilation
		1	Tiltable top guide block

### Retrofit sets



**INFO**  
Retrofit sets can only be used in tilt ventilation sliding scissor stay sets.

### Retrofit set for lock-in position

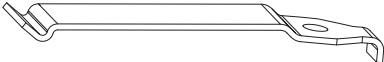



	Nº
Retrofit set for lock-in position	807166

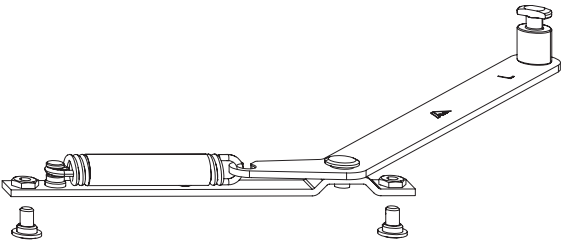


**INFO**  
When dimension M > 44 mm.

Contents

Figure	Quantity	Description
	1	Leaf spring
	1	Catch cam
Not sh.	1	Flat-headed screw (not shown)

Retrofit set for tilt assistance

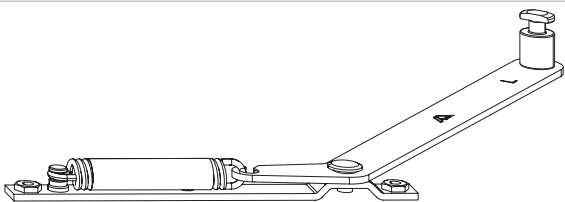


		Nº
Retrofit set for tilt assistance	Left	808699
	Right	808732



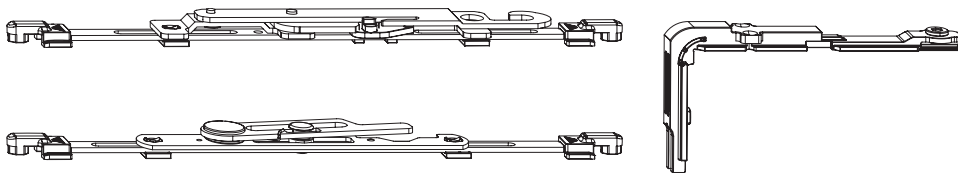
**INFO**  
When S.kg > 140 kg.

Contents

Figure	Quantity	Description
	1	Tilt assistance
Not sh.	2	Flat-headed screw (not shown)



## 5.5 Comfort sets



				Nº
Comfort set	760 – 1400	Left	1 Piece	772315
		Right	1 Piece	772316
	1401 – 2000	Left	1 Piece	786062
		Right	1 Piece	786063



### Contents

	Figure	Quantity	Description
	1 [47]	2 [48]	Comfort scissor stay(s)
	2 [48]		
		1	Mishandling device
		3	Reinforced corner drives
	Not sh.	4	Insertable cams
	Not sh.	12	Self-tapping screw ST3.9 x 25
	Not sh.	3	Special screw M6 x 10

For suitable frame components, see → *from page 124*



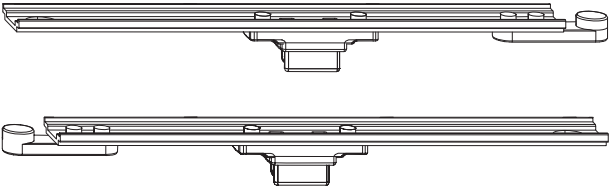
### INFO

The comfort set includes two comfort scissor stays from SW 1401 mm. One frame component is required for each comfort scissor stay.

[47] With SW < 1401 mm


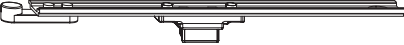
[48] With SW ≥ 1401 mm

5.6 Bullet catch track set



		Nº
Bullet-catch track set	1 Piece	774107

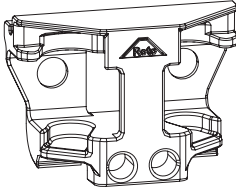
Contents

	Figure	Quantity	Designation
		1	Left bullet catch track
		1	Right bullet catch track



## 5.7 Guide block sets

For diagram D







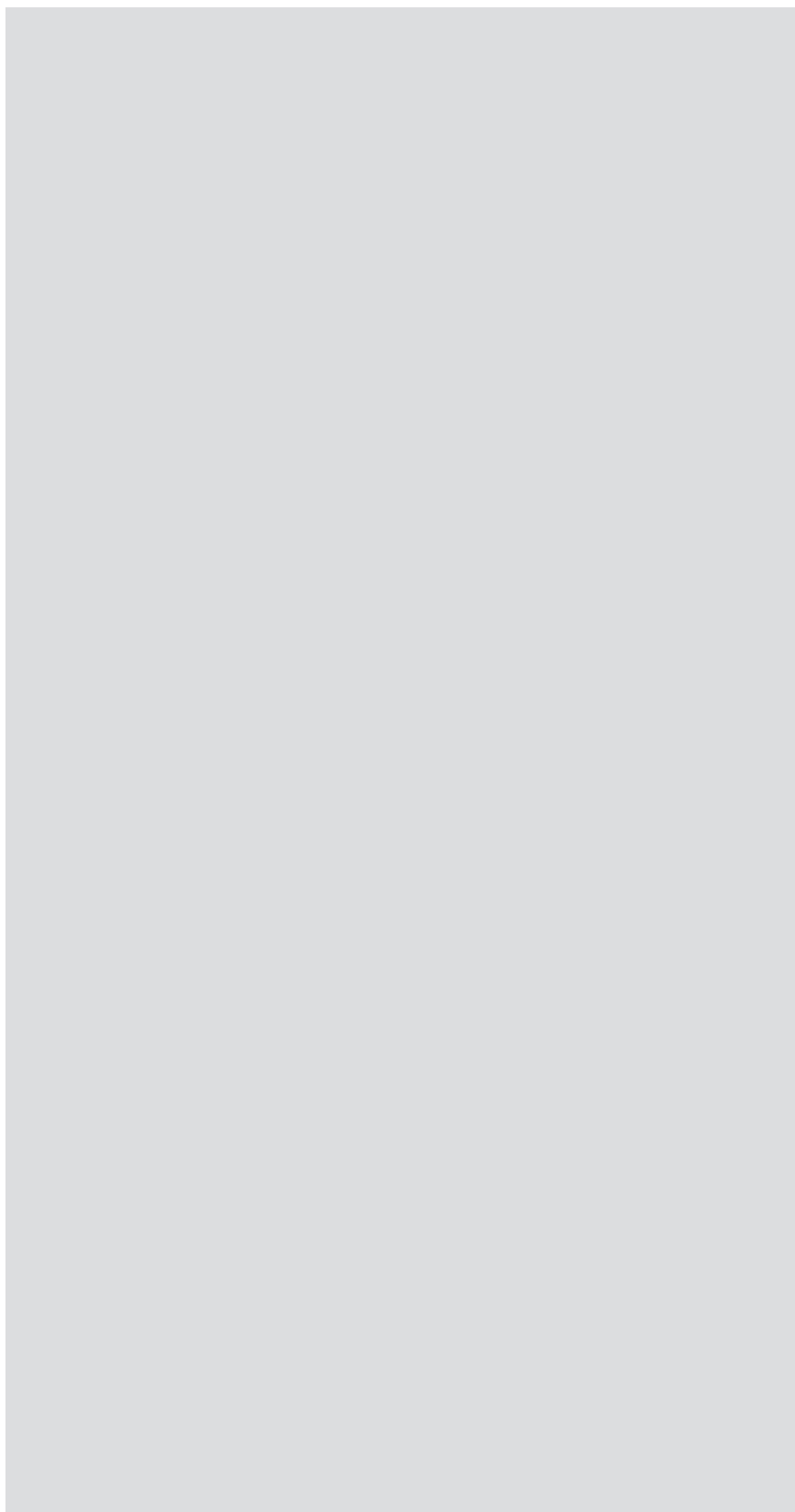
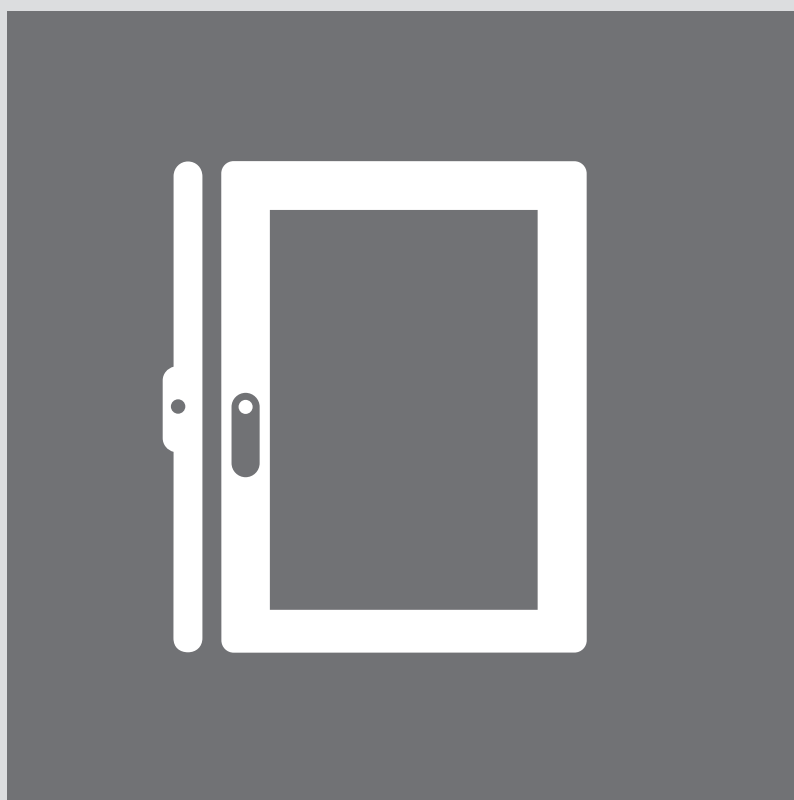
				Nº
Movable bottom guide block and retaining pin	For diagram D	Roto Sil	1 Piece	809477
		Black	1 Piece	809478



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











## Flush-encased gearbox

Roto Patio Alversa	104
Roto AL	105

## Geared-handle

Insertable connector-bolt	106
Adjustable centre section	106
SEC geared-handle protection	107

## 6 Espagnolettes

### 6.1 Flush-encased gearbox

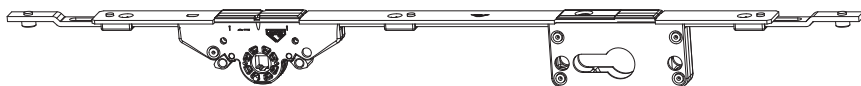
#### 6.1.1 Roto Patio Alversa

##### 6.1.1.1 Standard



					Nº
Flush-encased gearbox		25	280	1 Piece	625430
		30	280	1 Piece	625431
		35	280	1 Piece	625432
		40	280	1 Piece	625433

##### 6.1.1.2 Security



					Nº
Lockable flush-encased gearbox		25	475	1 Piece	625438
		30	475	1 Piece	625439
		35	475	1 Piece	625440
		40	475	1 Piece	625441



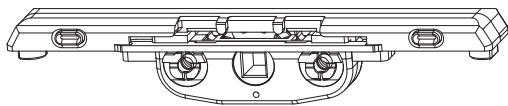
#### INFO

Not lockable in tilt mode in conjunction with handles with a length of 200 mm.



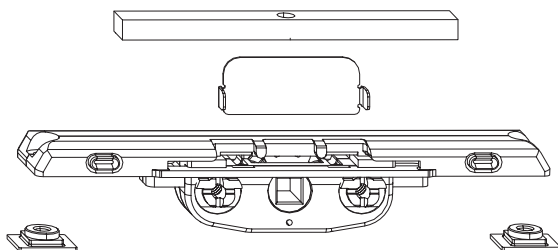
## 6.1.2 Roto AL

### 6.1.2.1 Standard



				Nº
Flush-encased gearbox without mishandling device			10 Piece	378338

### 6.1.2.2 Security



				Nº
SEC flush-encased gearbox set			10 Piece	728947

### Contents

Figure	Quantity	Description
	1	SEC flush-encased gearbox without MD
	2	SEC connector
	1	SEC drilling protection
	1	SEC rebate-clearance reduction ESP
Not sh.	2	Cylinder screws M5 x 8
Not sh.	1	Countersunk tapping screw ST4.8 x 16 ISR 25

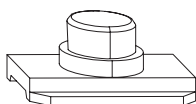
## 6.2 Geared-handle



### INFO

The matching geared-handles can be found in the catalogue entitled "Roto Handles – Operation mechanisms catalogue for PVC, timber and aluminium" (CTL\_1).

### 6.2.1 Insertable connector-bolt



			<b>Nº</b>	
Insertable connector bolt	For Roto Line AL geared-handle	100 Piece	254601	

### 6.2.2 Adjustable centre section



			<b>Nº</b>	
Adjustable centre section	For Roto Line Alversa geared-handle	1 Piece	779637	

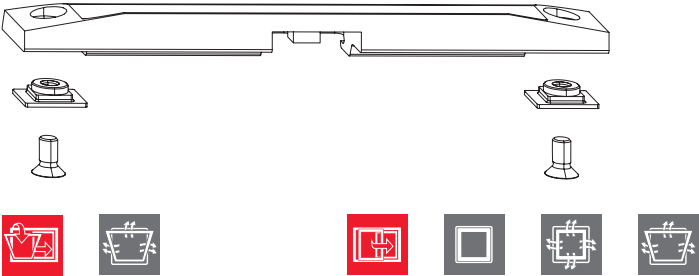


### 6.2.3 SEC geared-handle protection

for Roto Line AL lockable geared-handle

#### 6.2.3.1 Security

##### Sets



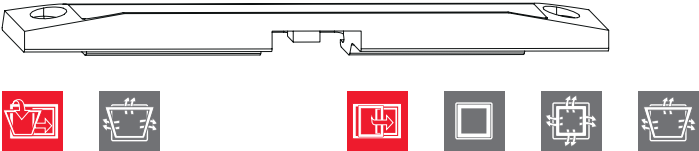
		Nº
SEC espagnolette protection set	10 Piece	728952



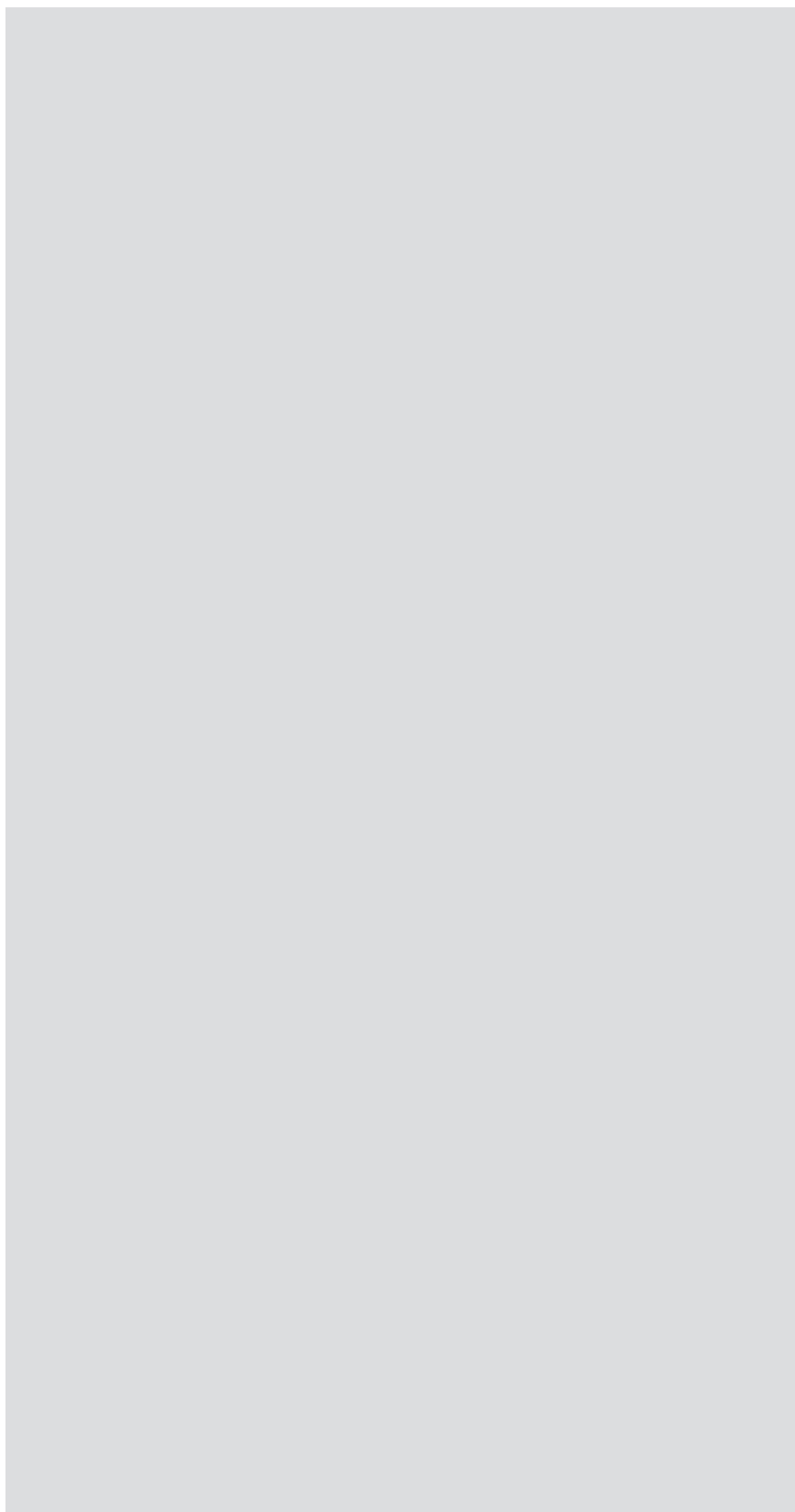
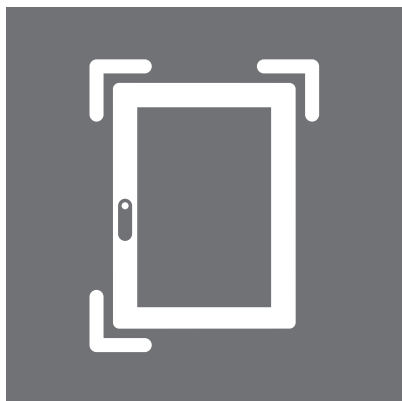
##### Contents

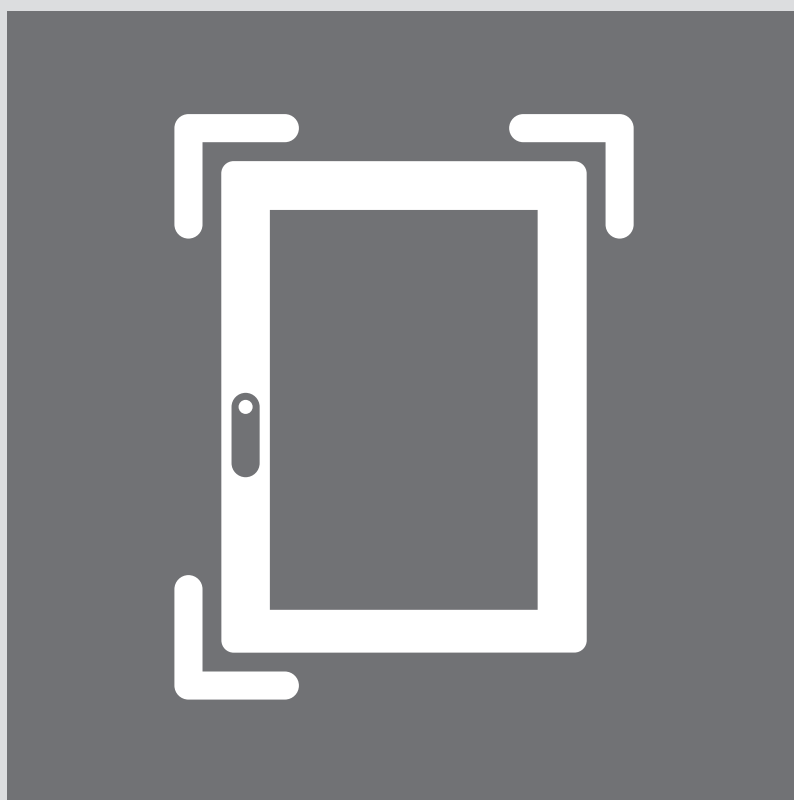
Figure	Quantity	Designation
	1	SEC geared-handle protection
	2	SEC connector
Not dep.	2	Countersunk screw M5 x 10

##### Individual components



			Nº
SEC espagnolette protection	For Roto Line AL geared-handle	10 Piece	487407









Without mishandling device

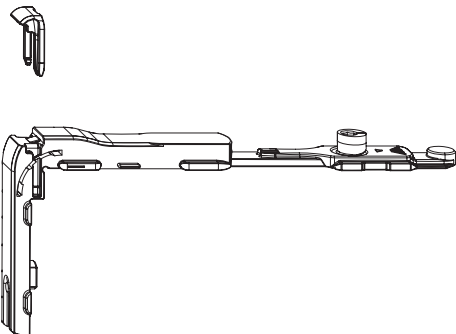
See page

112

---

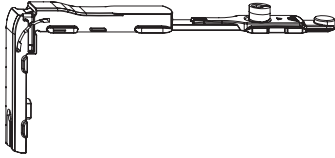


## 7 Corner drives

### 7.1 Without mishandling device

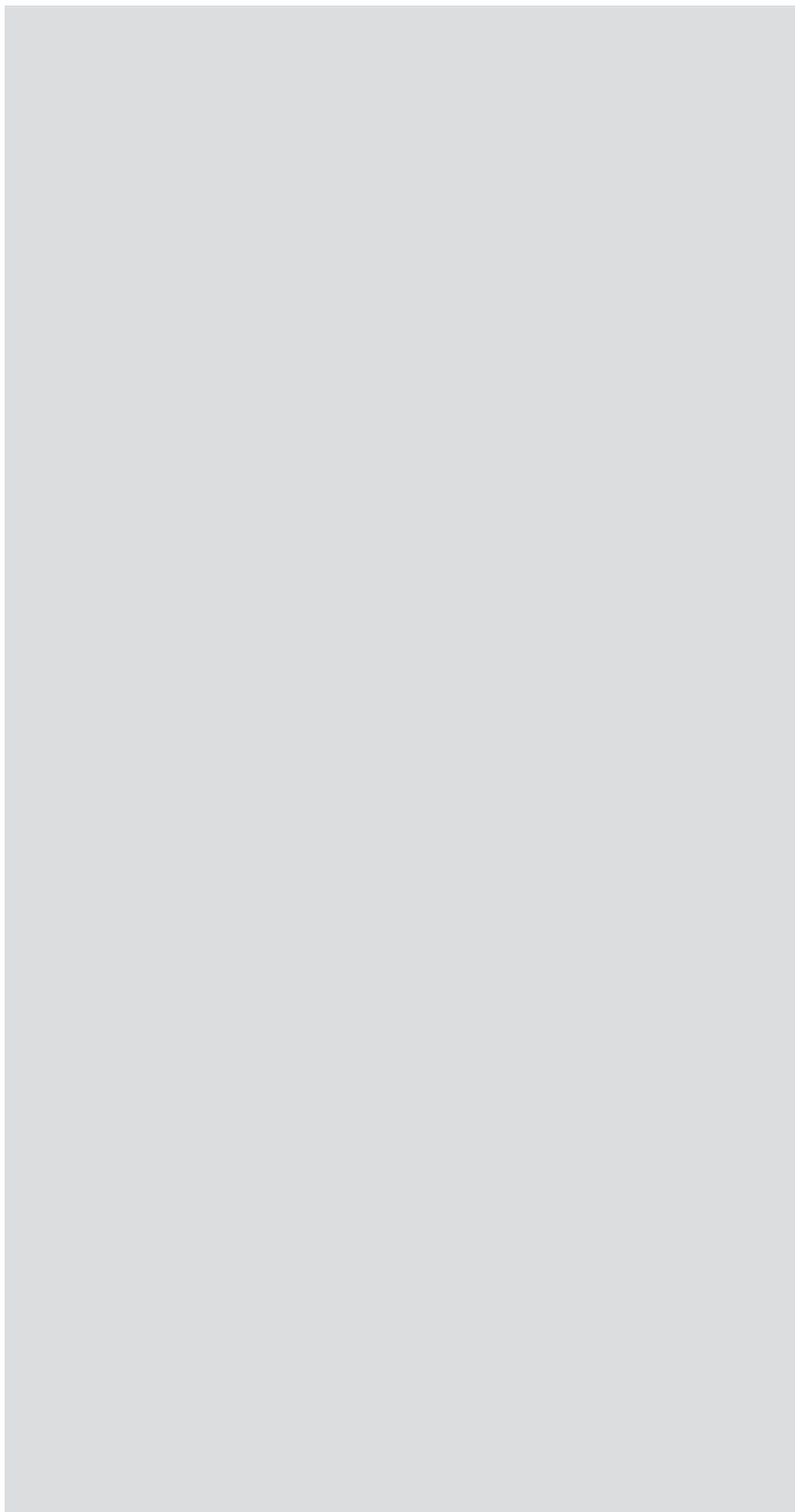
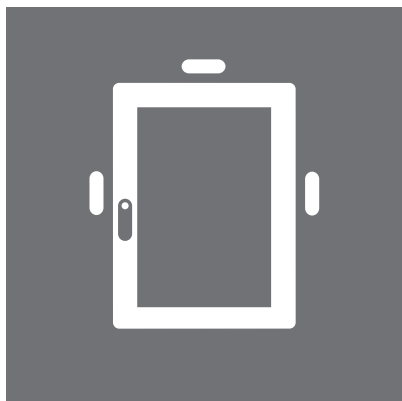


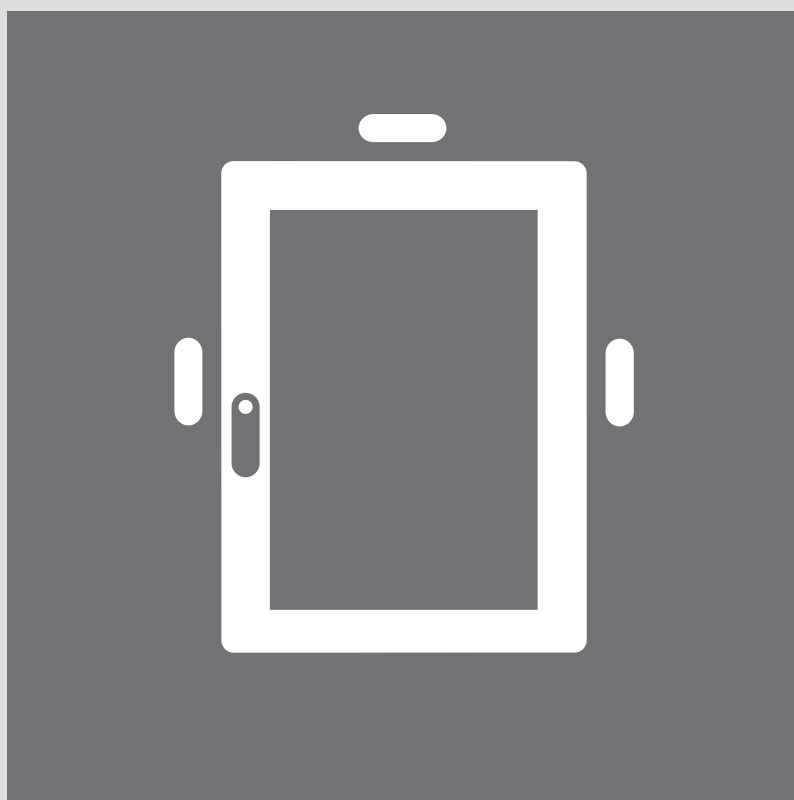
		Nº
Corner drive set	1 Piece	626523

#### Contents

Figure	Quantity	Designation
	3	Corner drives without mishandling device
	3	Retaining forks
	1	Insertable cams









Strikers	
Standard	119
Security	120
Night ventilation	
Standard	121
Tilt strikers	
Standard	122
Guide strikers	
Standard	123
Comfort set	
Comfort scissor stay	124
Mishandling device	124

## 8 Frame components

---



### INFO

Further frame components are available upon request.

---



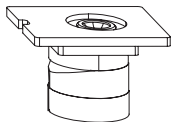
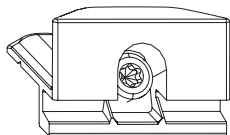







## 8.1 Strikers

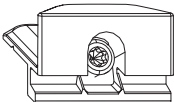

### 8.1.1 Standard

#### Locking set



			Nº
Locking set	V.01	1 Piece	791720
	V.02	1 Piece	791721

#### Contents

Figure	Quantity	Designation
	8	Strikers V.01 / V.02
	4	Insertable cams

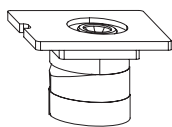
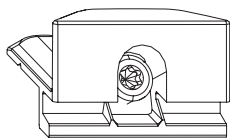


## Striker set



### INFO

Additionally with SW > 1280 mm and SH > 1800 mm.



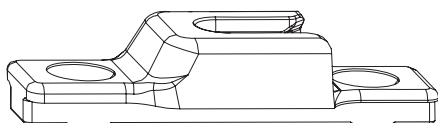
				Nº
Striker set		V.01	1 Piece	786321
		V.02	1 Piece	786322

## Contents

Figure	Quantity	Designation
	10	Strikers V.01 / V.02
	10	Insertable cams

## 8.1.2 Security

### Individual components



				Nº
SEC striker		V.01	100 Piece	212637
		V.02	100 Piece	212638

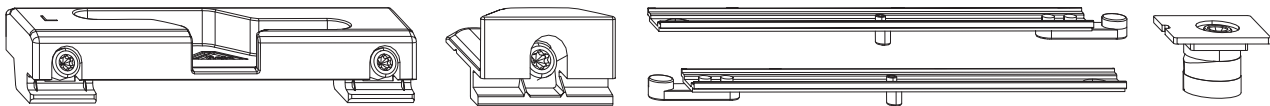
For compatible SEC insertable cams, see → *from page 150*



## 8.2 Night ventilation

### 8.2.1 Standard

#### Sets



				Nº
Night ventilation set	V.01	Left	1 Piece	782305
		Right	1 Piece	782306
	V.02	Left	1 Piece	782312
		Right	1 Piece	782313

#### Contents

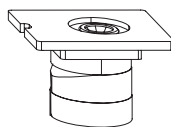
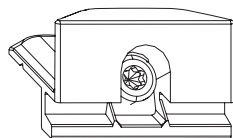
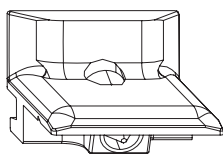
	Figure	Quantity	Designation
		4	Night ventilation strikers left / right
		4	Strikers V.01 / V.02
		2	Night ventilation tracks 1
		2	Night ventilation tracks 2
		4	Insertable cams






## 8.3 Tilt strikers

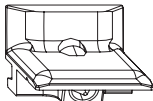
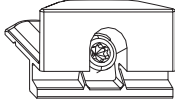
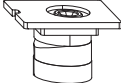
### 8.3.1 Standard

#### Sets

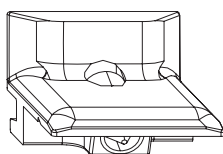





				Nº
Tilt striker set		V.01	1 Piece	779421
		V.02	1 Piece	779422

#### Contents

Figure	Quantity	Designation
	2	Tilt strikers V.01 / V.02
	8	Strikers V.01 / V.02
	4	Insertable cams

#### Individual components



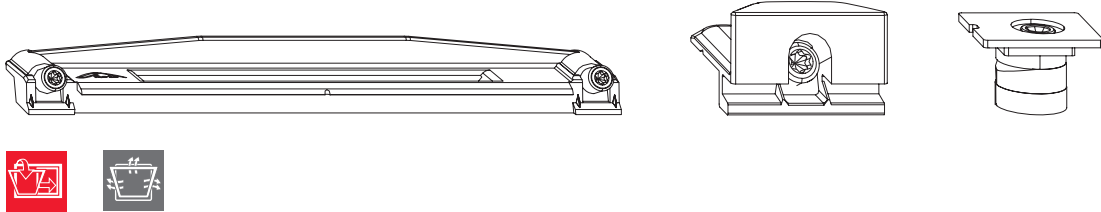
				Nº
Tilt striker		V.01	2 Piece	786223
		V.02	2 Piece	786224






## 8.4 Guide strikers

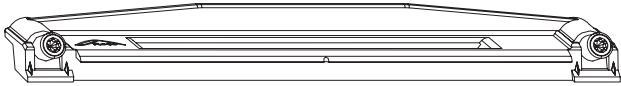
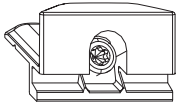
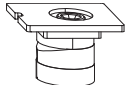
### 8.4.1 Standard

#### Sets

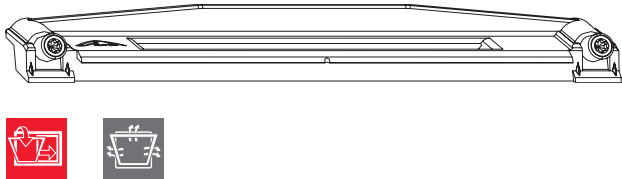





			Nº
Guide plate set	V.01	1 Piece	776011
	V.02	1 Piece	776014

#### Contents

	Figure	Quantity	Designation
		2	Guide strikers V.01 / V.02
		8	Strikers V.01 / V.02
		4	Insertable cams

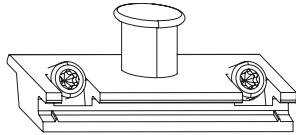
#### Individual components






			Nº
Guide plates	–	2 Piece	776013

## 8.5 Comfort set

### 8.5.1 Comfort scissor stay



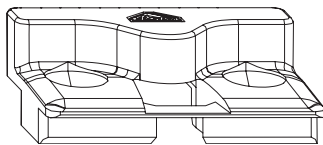
				Nº
Comfort scissor stay frame component		V.01	1 Piece	772684
		V.02	1 Piece	786361






#### INFO

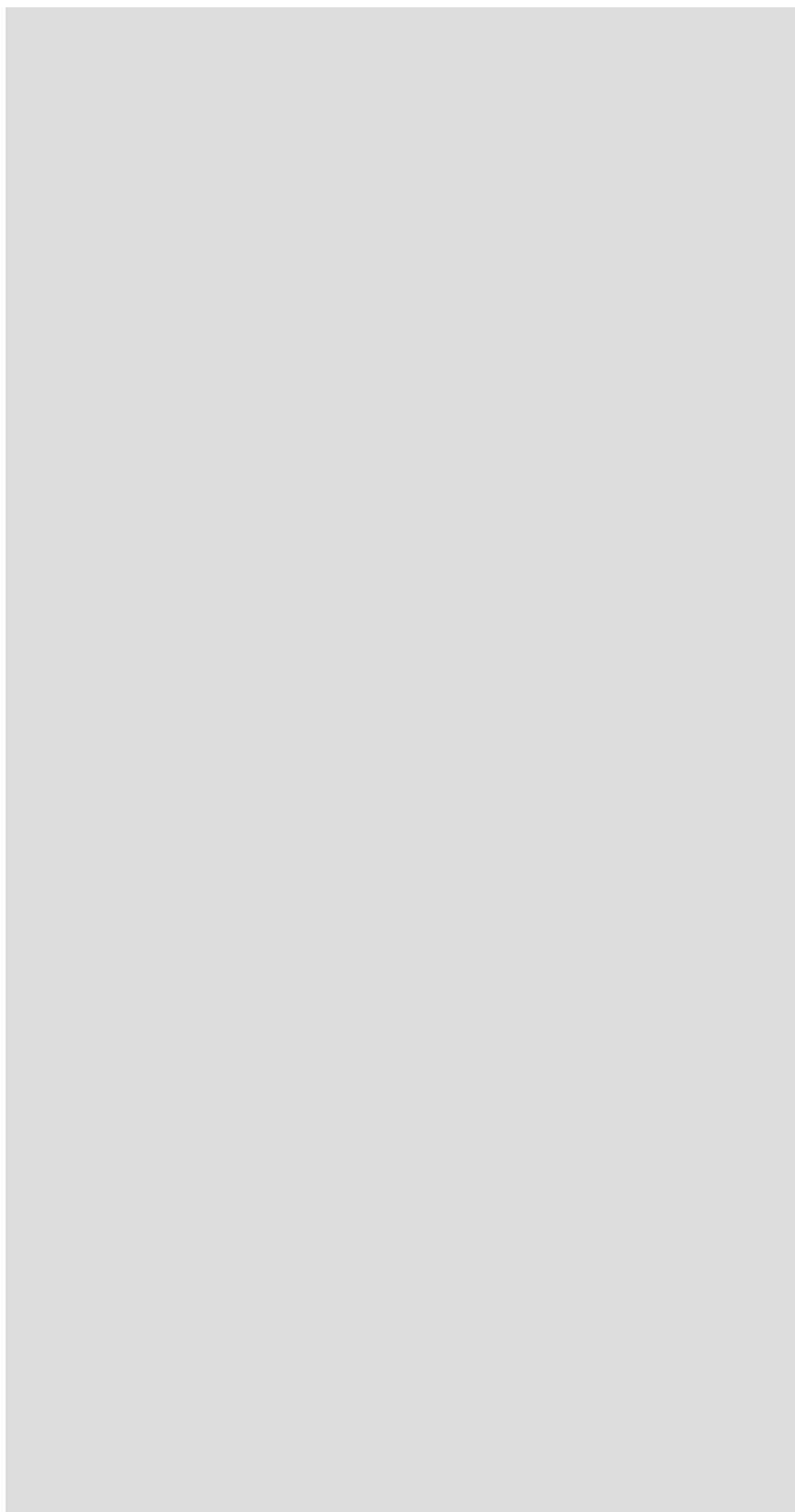
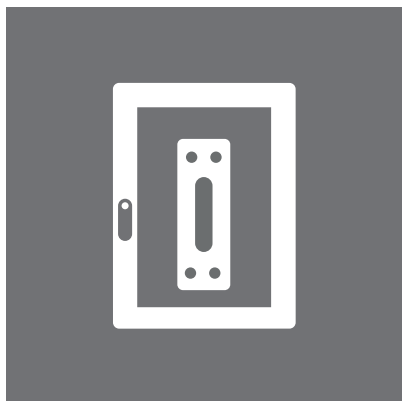
The comfort set includes two comfort scissor stays from SW 1401 mm. One frame component is required for each comfort scissor stay.

### 8.5.2 Mishandling device

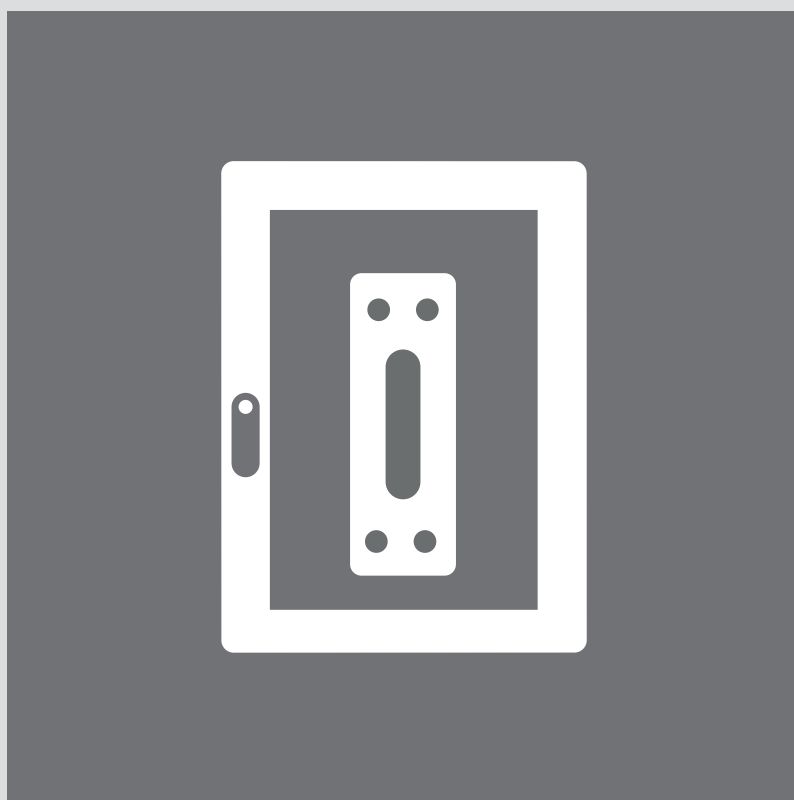


				Nº
Comfort scissor stay frame component		V.01	1 Piece	786328
		V.02	1 Piece	786329











**Drilling jigs**

See page 130

---

**Installation jigs**

See page 133

---

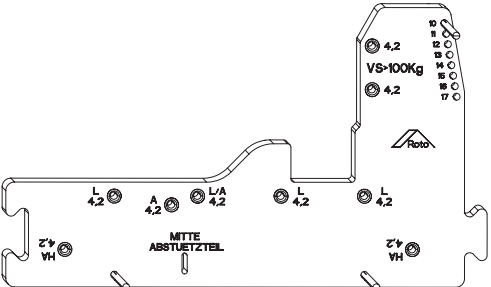
**Tools**

See page 134

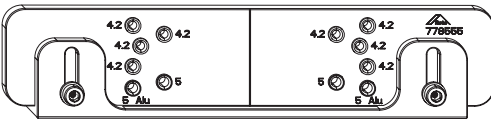
---

9 Jigs

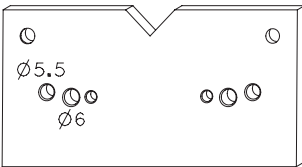
9.1 Drilling jigs



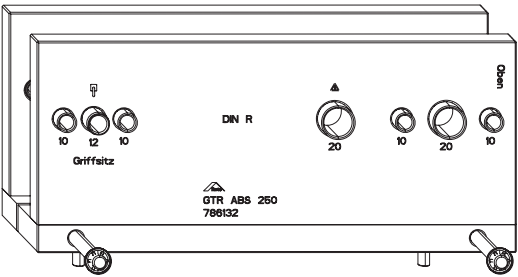
	Nº
Bogies	778522



	Nº
Roto Line Alversa geared-handle	778555



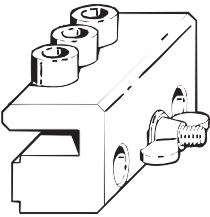
	Nº
Roto Line AL geared-handle	333473




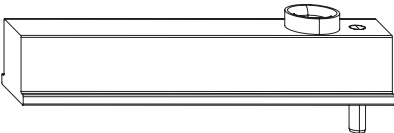
		Nº
Lockable T&T espagnolette		786132




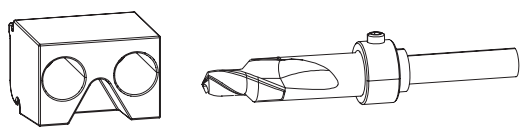
**INFO**  
Use the “Lockable T&T espagnolette” drilling jig for:  
Flush-encased gearbox without profile cylinder  
Flush-encased gearbox with profile cylinder





		Nº
Flush-encased gearbox with / without mishandling device		212155



		Nº
Scissor stay retention		778523

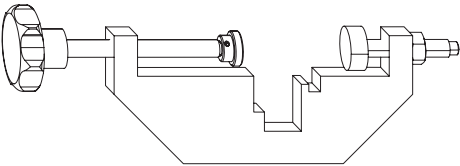


		Nº
Drilling jig with step drill	For diagram D	794249

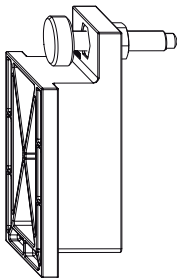




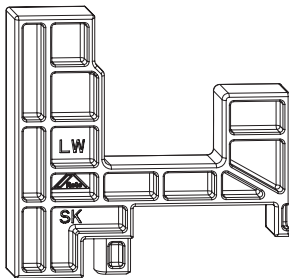
9.2 Installation jigs



	Nº
Roller track and guide track	778520



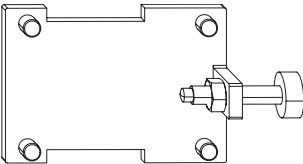
for installation



for adjustment



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



	Nº
Bottom guide block	778524

9.3 Tools



		Nº
	Drilling aid for roller track and guide track	778521

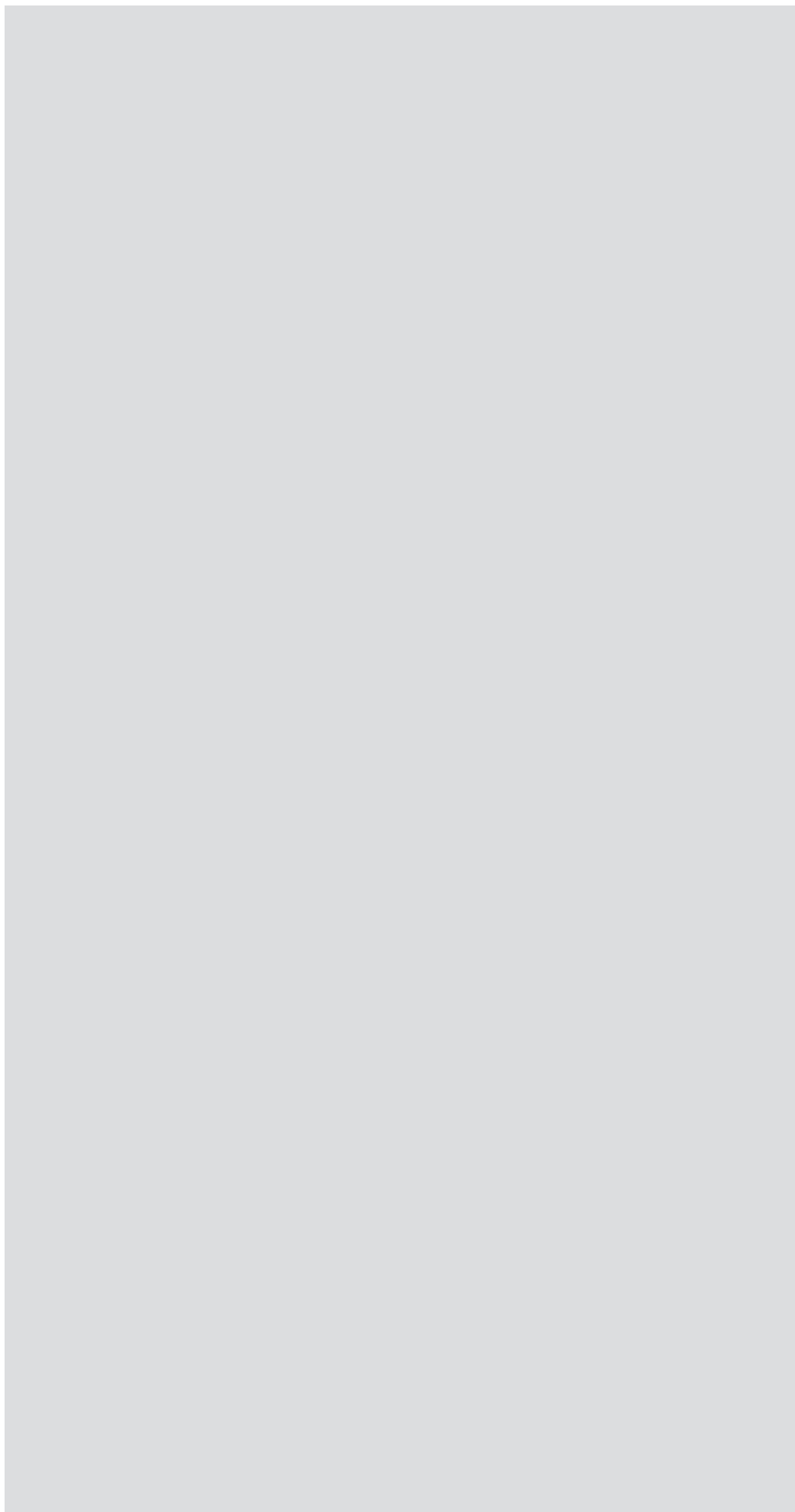


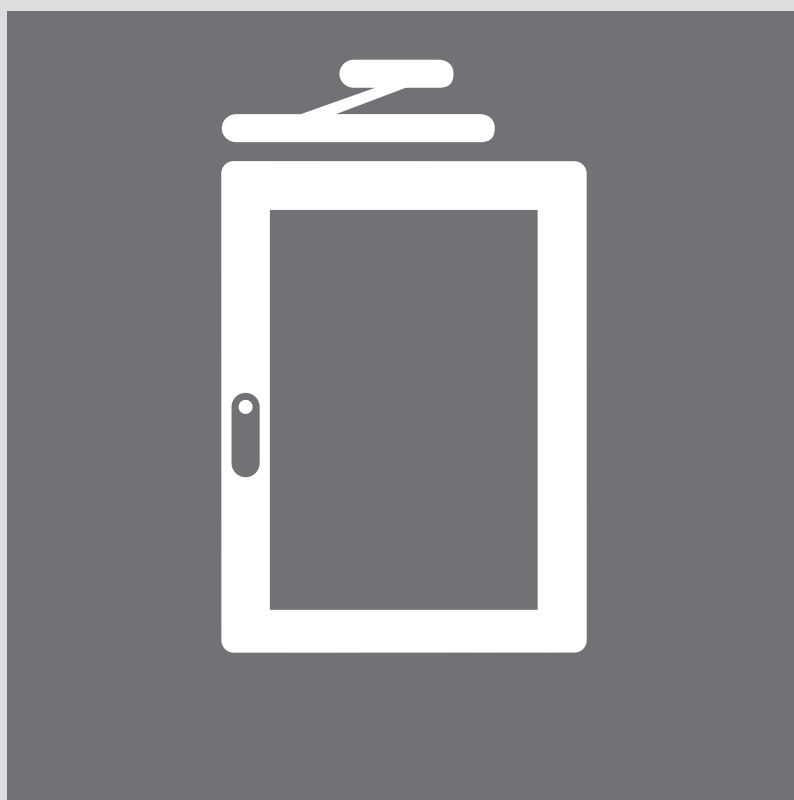
		Nº
	Hexalobular socket screwdriver ISR10	625172
	Hexalobular socket screwdriver ISR15	625173
	Hexalobular socket screwdriver ISR25	563971













## Bogie set

Bogies	140
Tandem bogies	140

## Reinforcement bracket set

Cover caps	141
------------	-----

## Track set

Roller tracks	142
Guide tracks	142
Stay-connecting profiles	142
Cover profile bogies	143
Guide track cover profile	143
Cover caps for cover profile bogies	144
Connecting rod	144
Components pack	145

## Scissors-slider set

Fixed top guide block	147
Tiltable top guide block	147

## Geared-handle support set

See page	148
----------	-----

## Connecting rods

See page	149
----------	-----

## Security components

SEC coupler component	150
SEC locking cam	150
SEC rebate-clearance reduction	151
Run-up block	151

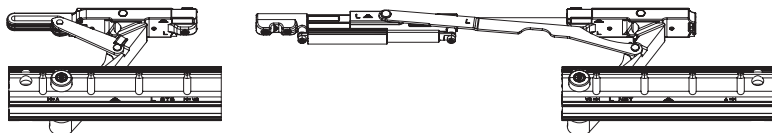
## Roto NX / NT grease

See page	152
----------	-----

## 10 Individual parts & accessories

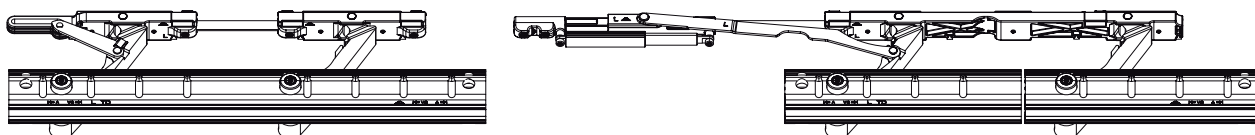
### 10.1 Bogie set

#### 10.1.1 Bogies



						Nº
Bogie	max. 160 kg	Without leading bogie	N	Left	1 Piece	800172
			N	Right	1 Piece	800173
			Y	Left	1 Piece	800180
			Y	Right	1 Piece	800181
		With leading bogie	N	Left	1 Piece	800170
			N	Right	1 Piece	800171

#### 10.1.2 Tandem bogies

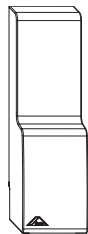


						Nº
Tandem bogie	max. 200 kg	Without leading bogie	Y	Left	1 Piece	800182
			Y	Right	1 Piece	800183
		With leading bogie	N	Left	1 Piece	800174
			N	Right	1 Piece	800175



# 10.2 Reinforcement bracket set

## 10.2.1 Cover caps

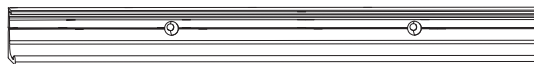


				Nº
Cover caps	R01.5	Silver	1 Pair	807254
	R04.4	Black brown	1 Pair	807317
	R05.4	Dark bronze	1 Pair	807248
	R06.2	Jet black	1 Pair	807321
	R07.2	Traffic white	1 Pair	807361



## 10.3 Track set

### 10.3.1 Roller tracks



					Nº
Roller track	R01.1	Natural silver	6070	1 Piece	785094
	R05.4	Dark bronze	6070	1 Piece	785136
	R06.2	Jet black	6070	1 Piece	785138

### 10.3.2 Guide tracks



					Nº
Guide track	R01.1	Natural silver	6070	1 Piece	785139

### 10.3.3 Stay-connecting profiles



					Nº
Retaining track	R01.5	Silver	5220	1 Piece	785152
	R04.4	Black brown	5220	1 Piece	798483
	R05.4	Dark bronze	5220	1 Piece	785153
	R06.2	Jet black	5220	1 Piece	785154
	R07.2	Traffic white	5220	1 Piece	785155
	Roh	Uncoated	5220	1 Piece	785151








### 10.3.4 Cover profile bogies



					Nº
Cover profile bogies	R01.5	Silver	5220	1 Piece	772637
	R04.4	Black brown	5220	1 Piece	798482
	R05.4	Dark bronze	5220	1 Piece	772638
	R06.2	Jet black	5220	1 Piece	772640
	R07.2	Traffic white	5220	1 Piece	772639
	Roh	Uncoated	5220	1 Piece	772636

### 10.3.5 Guide track cover profile







						Nº
Cover profile guide track	R05.3	Medium bronze	–	6070	1 Piece	785144
	R05.4	Dark bronze	–	6070	1 Piece	785659
	R05.5	Bronze	–	6070	1 Piece	785145
	R06.2	Jet black	–	6070	1 Piece	785143
	R07.2	Traffic white	–	6070	1 Piece	785141
	R07.3	Cream	–	6070	1 Piece	785142
	SF	Special colour	RAL 7004 Signal grey	6070	1 Piece	785140

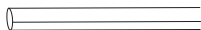





10.3.6 Cover caps for cover profile bogies



				Nº
Cover caps for bogie cover profile	R01.1	Natural silver	1 Pair	785661
	R04.4	Black brown	1 Pair	807125
	R05.4	Dark bronze	1 Pair	785156
	R06.2	Jet black	1 Pair	785158
	R07.2	Traffic white	1 Pair	785157

10.3.7 Connecting rod



				Nº
Connecting rod	3630	10	1 Piece	785149

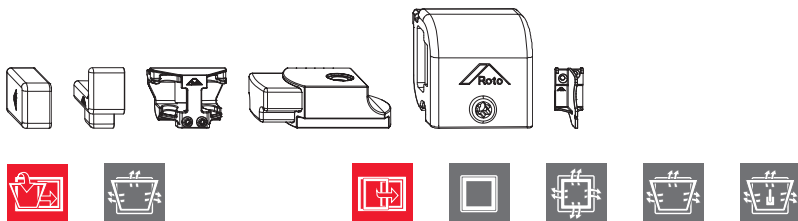








## 10.3.8 Components pack

### 10.3.8.1 Standard components pack

#### Standard components pack



				Nº
Standard components pack	R01.5	Silver	1 Piece	786157
	R04.4	Black brown	1 Piece	798929
	R05.4	Dark bronze	1 Piece	786158
	R06.2	Jet black	1 Piece	786159
	R07.2	Traffic white	1 Piece	786160
	Roh	Uncoated	1 Piece	786156

#### Contents

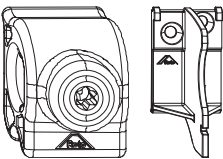
Figure	Quantity	Description
	2	End caps for guide track
	2	End caps for retaining track
	1	Bottom guide block
	1	Stop part, top
	1	Stop part, bottom
	1	Rubber buffer stop part
	1	Supporting piece
Not sh.	10	Flat-headed self-tapping screws ST3.9 x 9.5 T15
Not sh.	40	Countersunk tapping-screws ST3.9 x 45 T15





#### INFO



10.3.8.2 Components pack for additional components for wide sashes

Components pack for additional components for wide sashes



				Nº
Components pack for additional components for wide sashes			1 Piece	785793

Contents

Figure	Quantity	Description
	1	Support block
	1	Supporting piece



INFO

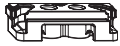
Small components pack with additional components for wide sashes is also required with SW > 1480 mm.





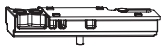
## 10.4 Scissors-slider set

### 10.4.1 Fixed top guide block



			Nº
Fixed top guide block	–	1 Piece	785868

### 10.4.2 Tiltable top guide block

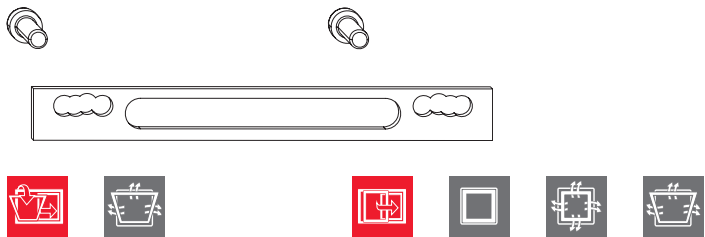


			Nº
Tiltable top guide block	Left	1 Piece	772255
	Right	1 Piece	785867



## 10.5 Geared-handle support set

### Sets

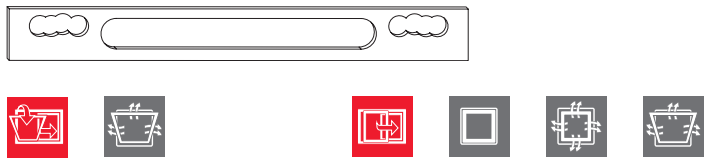


					Nº
AL espagnolette support set	For Roto Line AL geared-handle	2	M5x12	10 Piece	728853

### Contents

Figure	Quantity	Designation
	1	Geared-handle support
Not dep.	2	Flat-headed screw M5 x 12

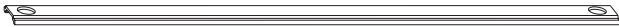
### Individual components



					Nº
AL espagnolette support	For Roto Line AL geared-handle	–	–	100 Piece	331937



## 10.6 Connecting rods






			Nº
3 m connecting rod	ECC-groove	1 Piece	735102
6 m connecting rod		1 Piece	334665



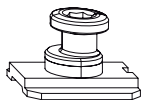
## 10.7 Security components



### 10.7.1 SEC coupler component



			Nº
SEC coupler component	For connecting the connecting rod to a bullet catch or night ventilation track in RC 2 / RC 2 N	20 Piece	348576

### 10.7.2 SEC locking cam



		Nº
SEC insertable cam	100 Piece	447245

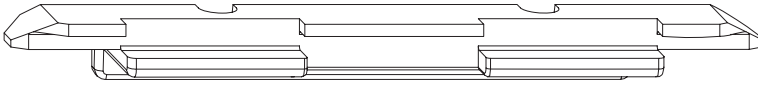






### 10.7.3 SEC rebate-clearance reduction

#### Sets

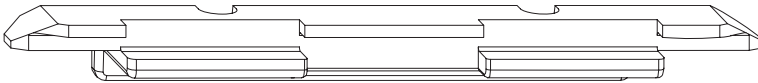


			Nº
SEC rebate-clearance reduction set	For corner drives	10 Piece	728950

#### Contents

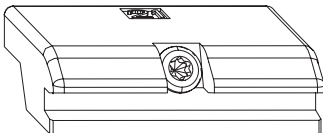
	Figure	Quantity	Description
		1	SEC rebate-clearance reduction CD
		1	Countersunk tapping-screw ST 4.8 x 16

#### Individual components



			Nº
SEC rebate-clearance reduction CD	For corner drives	50 Piece	447112

### 10.7.4 Run-up block



			Nº
Run-up block	V.01	100 Piece	684282
	V.02	100 Piece	684283

## 10.8 Roto NX / NT grease

			Nº
Roto NX / NT grease	20 ml tube, white	1 Piece	782881











**Roto Frank AG**  
**Window and Door Technology**

Wilhelm-Frank-Platz 1  
70771 Leinfelden-Echterdingen  
Germany

Telephone +49 (0) 711 7598 0  
Telefax +49 (0) 711 7598 253  
info@roto-frank.com

**www.roto-frank.com**



**From a single source: Optimum hardware systems to meet all challenges**

**Roto Tilt&Turn** | The Tilt&Turn hardware system for windows and balcony doors

**Roto Sliding** | Hardware systems for large sliding windows and doors

**Roto Door** | Matching hardware technology "everything about doors"

**Roto Equipment** | Additional technology for windows and doors