Window and Door Technology

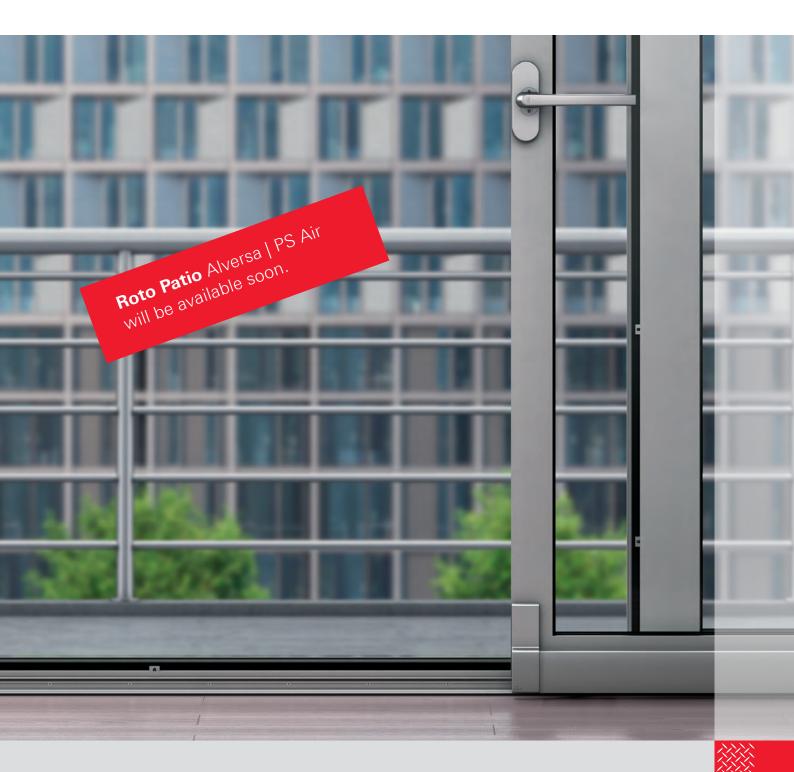




Roto Patio Alversa

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 company group. Roto has become big soundly – organically, 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 the design and development, quality and process management ensure the provision of high-quality performances and services.

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 immediately, they impress because they ensure flawless performance. Roto roof windows improve the quality of life in the rooms underneath the roof. Flashings 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 Frank Building Materials Co. Ltd. Beijing (CN)





Roto Frank AG Leinfelden/Velbert (DE)



Meolo (IT)

Roto Frank Italia

Roto Frank Kazakhstan Almaty (KZ)



Roto Frank Austria GmbH Kalsdorf (AT)







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



OOO Roto Frank Moscow (RU)



Roto Frank GmbH Dietikon (CH)



Roto Elzett Kft. Bratislava (SK)



Roto Frank S.A. Montmeló (ES)



Roto Frank Ltd. Sti. Istanbul (TR)



Roto Elzett Certa Kft. Lövö/Sopron (HU)



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



Roto Frank Okucia Budowlane Sp. z Kiev (UA)











Roto Frank of America Inc. Chester (US)

CTL_94_EN_v0 · 03 / 2017 · **6** Roto

Information	10
Application diagrams	34
Design variants	44
Hardware overviews	48
Hardware sets	78
Espagnolettes	92
Corner drives	100
Frame components	106
Jigs	118
Individual parts & accessories	126























General	
Product characteristics	11
Opening types	12
Ventilation types	12
Colours	13
Abbreviations	14
Protection of copyright	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
I//////I	Damping
	DIN left / right
-(()-(-(-(-(-(-(-(-(-(-(-(-(-(-(-(-(-(-(-	Backset
	Colour
	Colour code
	Sash width
	Sash weight
<u>‡</u>	Sash height
i	Information
←	Length
NΘ	Material number
	Opening type
	Frame width
₹Ľ	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
# <u>***</u>	Tilt ventilation
£ <u>"</u>	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





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
Υ	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 Protection of copyright

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.

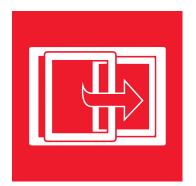
Two opening types in one system.

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.

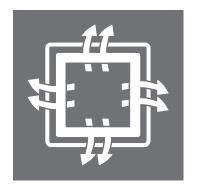


Parallel Sliding (PS)

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	Roto Patio Alversa		Roto Patio Alversa	Roto Patio Alversa
	KS	PS	_	PS AIr	PS Air Com
Components					
	Tilt&Slide (KS)		Parallel S	Sliding (PS)	
	With tilt ventilation	without ventilation	With night venti- lation	With tilt ventilation	With tilt ventilation
	Max. sash weight	Max. sash weight	Max. sash weight	Max. sash weight	Max. sash weight
	100 kg/160 kg	160 kg/200 kg	160 kg/200 kg	160 kg	160 kg/200 kg
	Hardware overview	Hardware overview	Hardware overview	Hardware overview	Hardware overviev
	→ from page 49	→ from page 55	→ from page 61		→ from page 67
Bogies					
Undamped		-	_	_	_
Damped	_				
Scissors-slider					
Tilt&Slide		_	_	_	_
Parallel Sliding night venti- lation	-			-	-
Parallel Sliding tilt venti- lation	_	_	_		
Top guide block				Т.	
Fixed	-			-	-
Tiltable	-	-	_		
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					



1.3 Storage conditions



Component protection against dirt and dust

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

Component protection against mechanical damage

Only transport and handle the containers using suitable means of transport or conveyance (forklift trucks, 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.

Component protection against direct humidity and wetness

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.

Storage may only be carried out 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 packing material

1.4 Environment



Hardware component environmental compatibility

Our objective is to succeed in manufacturing our hardware components with the lowest possible energy and fuel consumption, 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 used as intended.

Environmental compatibility of packaging

We use recyclable disposable packaging made of reinforced cardboard, steel/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 (0) 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 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 monitors health and safety at the workplace, accident prevention and plant 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.





1.5.3 International Technology Centre (ITC)

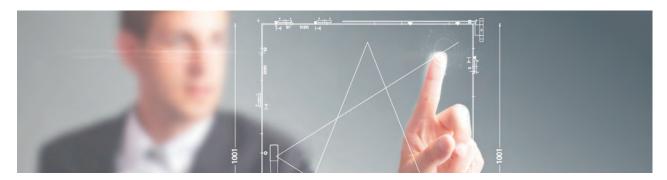
The Roto Group has owned a modern International Technology Centre (ITC) at its Leinfelden headquarters since October 1996. This facility is available for both our own material and product testing as well as for inspecting finished products made by Roto market partners.



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 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 equipment, 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

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 operating instructions

Title	Document no.
Roto Patio Alversa – Timber and PVC profiles	IMO_407
Roto Patio Alversa – Aluminium profiles	IMO_408

Catalogues

Title	Document no.
Roto Patio Alversa – Catalogue for timber and PVC profiles	CTL_93
Roto Handles – Operation mechanisms catalogue for PVC, timber and aluminium	CTL_1
Roto NT – Catalogue for timber profiles	CTL_6_EN
Roto NT – Catalogue for PVC profiles	CTL_7_EN

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



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



1.8 Further Roto products

1.8.1 Roto Tilt&Turn



Roto NT is a high-quality, thoroughly tried and tested hardware system for PVC/timber windows and doors that meets the highest requirements in terms of security, ease of operation, durability 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 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 NT Power Hinge

Aesthetic hinge solution for heavy, roomheight windows and balcony doors

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

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 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



Roto Door

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 concentrate on the development and production of door technology that meets modern requirements in terms of security and convenience.

Roto Safe - Multi-point locking systems



Roto Safe H

Mechanical multi-point locking systems for lever-handle operated doors



Roto Safe C

Mechanical multi-point locking systems for cylinder-operated doors



Roto Safe E

Electromechanical multi-point locking systems for doors

Roto Solid - Hinges



Roto Solid S

Surface-mounted hinges for doors



Roto Solid B

Butt hinges for doors



Roto Eifel - Thresholds



Roto Eifel

Tailor-made range of thresholds for tight shutting and barrier free 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 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
ventilation Up to 160 kg sash weight	38
Up to 160 kg sash weight Up to 200 kg sash weight	38
Poto Potio Alvargo I DC Air Com	
Roto Patio Alversa PS Air Com	4.0
Up to 160 kg sash weight	40
Up to 200 kg sash weight	41
Profile sections	
Vertical cross section	42



2 Application diagrams



2.1 Application ranges

Sash width: max. 2000 mm
Sash height: max. 2700 mm
Sash weight: max. 200 kg
Clearance: 11.5 – 12 mm

Minimum overlap height: 7 mm

Hardware axis: 10 mm

Maximum retracting distance: 122 mm

Frame groove: V.01 and V.02

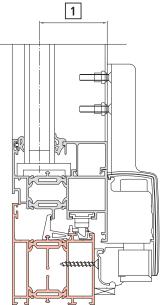
Sash groove: 15 / 20

Compatible with RC2 / RC2N

Sash arrangement according to diagrams A and C



2.2 M dimension







INFO

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

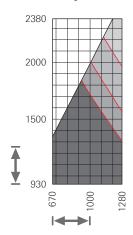


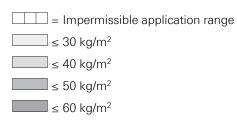
CTL_94_EN_v0 · 03 / 2017 · **35**

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 kg/m^2 .

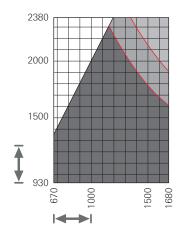
 $1 \text{ mm/m}^2 \text{ glass thickness} = 2.5 \text{ kg}$

SH:SW = max. 2:1

M dimension = max. 62 mm

Application range		
670 – 1280	Sash width (SRW)	l ←→ l
930 – 2380	Sash height (SRH)	<u>‡</u>
max. 100 kg	Sash weight (S.kg)	
max. 60 kg/m²	Glass weight	

2.3.2 Up to 160 kg sash weight







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

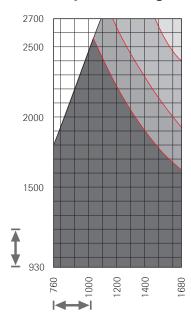
 $1 \text{ mm/m}^2 \text{ glass thickness} = 2.5 \text{ kg}$

SH:SW = max. 2:1

		Application range
l ←→ l	Sash width (SW)	670 – 1680
<u>‡</u>	Sash height (SH)	930 – 2380
	Sash weight (S.kg)	max. 160 kg
	Glass weight	max. 60 kg/m²

2.4 Roto Patio Alversa | PS without / with night ventilation

2.4.1 Up to 160 kg sash weight



= Impermissible application range ≤ 40 kg/m² ≤ 50 kg/m² ≤ 60 kg/m²

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

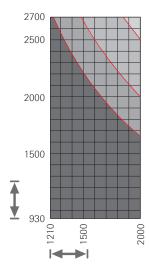
 $1 \text{ mm/m}^2 \text{ glass thickness} = 2.5 \text{ kg}$

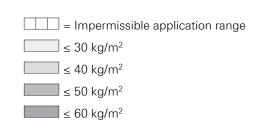
SH:SW = max. 2.5:1

		Application range
	Sash width	760 – 1680
I ←→ I	(SW)	
T	Sash height	930 – 2700
₹	(SH)	
	Sash weight	max. 160 kg
	(S.kg)	
	Glass weight	max. 60 kg/m²



Up to 200 kg sash weight 2.4.2





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

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

SH:SW = max. 2.5:1

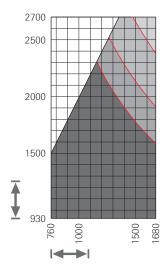
		Application range
	Sash width	1210 – 2000
←→	(SW)	
T	Sash height	930 – 2700
Ţ	(SH)	
	Sash weight	max. 200 kg
	(S.kg)	
	Glass weight	max. 60 kg/m²

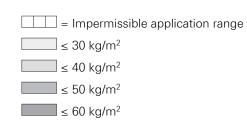


2.5 Roto Patio Alversa | PS Air Com

2.5.1 Up to 160 kg sash weight







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

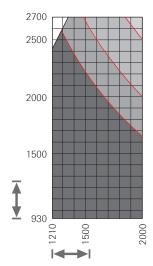
 $1 \text{ mm/m}^2 \text{ glass thickness} = 2.5 \text{ kg}$

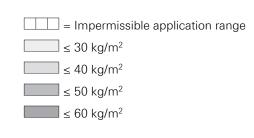
SH:SW = max. 2:1

		Application range
	Sash width	760 – 1680
 ←→	(SW)	
T	Sash height	930 – 2700
₹	(SH)	
	Sash weight	max. 160 kg
	(S.kg)	
	Glass weight	max. 60 kg/m²

Up to 200 kg sash weight

2.5.2 Up to 200 kg sash weight





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

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

SH:SW = max. 2:1

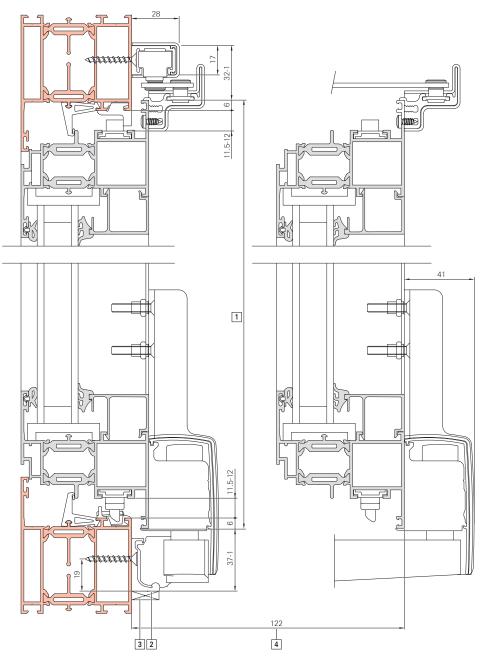
Application range		
1210 – 2000	Sash width (SW)	←→
930 – 2700	Sash height	
27.00	(SH)	<u>‡</u>
max. 200 kg	Sash weight (S.kg)	
max. 60 kg/m²	Glass weight	



2.6 Profile sections

2.6.1 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

See page Diagram A See page	
	44
See page	
	45
Diagram C	
See page	46



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.



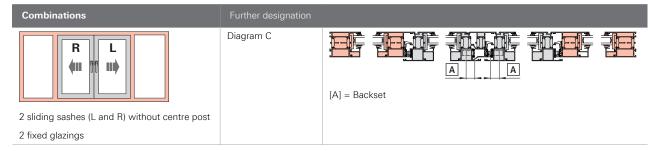


3.2 Diagram A

Combinations	Further designation	
1 sliding sash (L or R)	Diagram A	[A] = Backset
1 fixed glazing		
R L IIII	Diagram C	[A] = Backset
2 sliding sashes (L and R) with centre post		
2 fixed glazings		
R	Diagram B	[A] = Backset
1 sliding sash (L or R)		
1 inside window frame flush with the wall		
R	Diagram G	[A] = Backset
1 sliding sash (L or R)		
2 fixed glazings		
L R	Diagram K	[A] = Backset
2 sliding sashes (L and R)		
1 fixed glazing		



3.3 Diagram C





Roto Patio Alversa KS	
Diagram A	49
Diagram C	52
Roto Patio Alversa PS without night ventilation	
Diagram A	55
Diagram C	58
Roto Patio Alversa PS with night ventilation	n
Diagram A	61
Diagram C	64
Roto Patio Alversa PS Air Com	
Diagram A	67
Diagram C	70



4 Hardware overviews



INFO

All hardware overviews shown in this chapter are for illustration purposes only. Please refer to the applicable installation instructions for exact specifications and installation advice.



INFO

Security grades

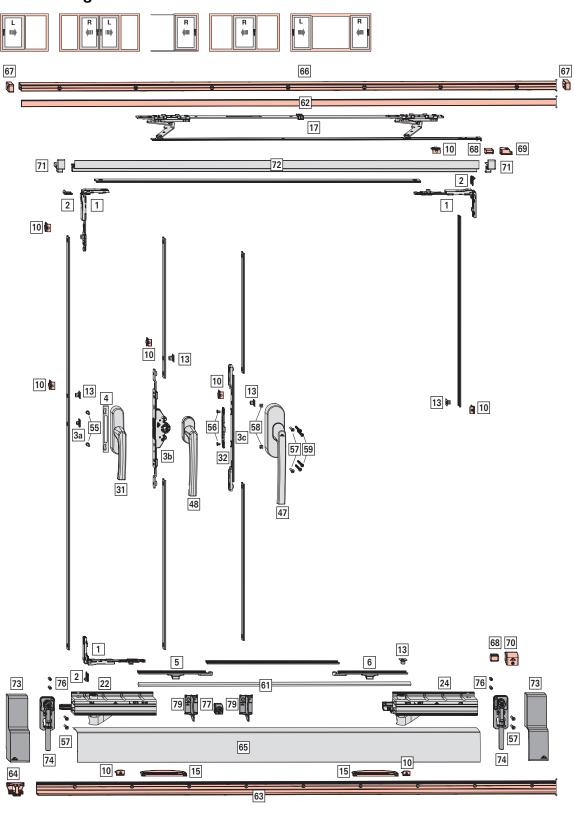
- The RC1 N, RC2 and RC2 N security grades refer to the entire system.
- The hardware combinations shown in the hardware overviews are recommendations.
- The hardware complies with the corresponding security grades in the required system tests.
- However, the security grades are only complied with if all of the other components in the system (e.g. profile system, reinforcement, glass, etc.) are also designed for this.





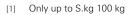
4.1 Roto Patio Alversa | KS

4.1.1 Diagram A





Position	Designation	std.	RC2 / RC2 N
Bullet catch	track set → from page 86		
[5]	Left bullet catch track		
[6]	Right bullet catch track	•	
Guide strike	r set → from page 111	-	
[15]	Guide strikers		
[10]	Strikers V.01 / V.02		
[13]	Insertable cams		
Bogie sets >	rom page 78	'	
[22]	Leading bogie		
[24]	Trailing bogie without damping		
	Countersunk tapping-screw ST4.8 x 50		
Track sets	from page 81		
[72]	Stay-connecting profile		
[71]	End caps for stay-connecting profile		
[61]	Connecting rod		
[65]	Cover profile bogies		
	Cover cap for cover profile bogies [1]		
[79]	Cover support bracket [2]		
[77]	Connecting-rod support-block [3]		
[66]	Guide track		
[62]	Guide track cover profile		_
[67]	End caps for guide track		_
[63]	Roller track		
[64]	Bottom guide block		
[70]	Bottom buffer stop		
[68]	Rubber buffer stop		
[69]	Top buffer stop		
	Flat-headed self-tapping screw ST3.9 x 9.5		
	Countersunk tapping-screw ST3.9 x 45		
	Countersunk tapping-screw ST4.8 x 50		
Corner drive	set → from page 100		
[1]	Corner drive without switch inhibitor		
[2]	Retaining fork		
[13]	Insertable cams		
Tilt&Slide so	issors-slider set → from page 83		
[17]	Tilt&Slide scissors-slider		
Reinforceme	ent bracket sets [4] → from page 80		
[73]	Cover caps reinforcement bracket		
[74]	Reinforcement brackets		_
[76]	Rivet nuts		_
[57]	Countersunk screw M5 x 25		_
Espagnolette		_	_
[3a]	Insertable connector-bolt → from page 94		_
[3b]	Flush-encased gearbox → from page 92		_
[3c]	Adjustable centre section → from page 94		
[30]	,		_



^{[2] 1} unit from SW \leq 1480 mm; 2 units from SW >1480 mm

^[4] S.kg >100 kg



^{[3] 1} unit from SW >1480 mm



Position	Designation	std.	RC2 / RC2 N
	Flush-encased gearbox without mishandling device → from page 93		SEC
	SEC connector → from page 137	-	
	Cylinder screw M5 x 6 → from page 93	_	
	SEC geared-handle protection set → from page 95	_	
Geared-hand	dle support set		
[4]	Geared-handle support		
[55]	Flat-headed screw M5 x 12		
Operation m	nechanisms	'	
[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.
Closing mech	nanism and striker set ^[5] → from page 107		
	Strikers V.01 / V.02		
	Insertable cams		
Connecting	rods → from page 136		
Security cor	nponents		
	Run-up block → from page 140	_	
	SEC coupler component → from page 137	_	
	SEC rebate clearance reduction set	_	
	SEC drilling protection → from page 137	_	
	SEC rebate clearance reduction ESP	_	
	Countersunk tapping-screw ST4.8 x 16 → from page 139	_	
	SEC striker → from page 108	_	
	SEC insertable cam → from page 137	_	



INFO

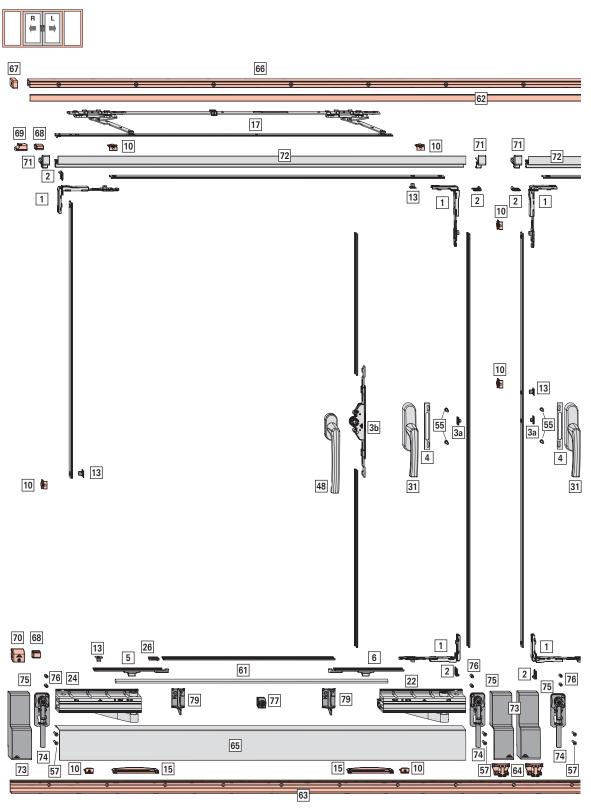
Roto Con Orders

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

www.roto-frank.com



4.1.2 Diagram C





Position	Designation	std.
[26]	Travel restrictor → from page 134	
Bullet catch tr	ack set → from page 86	<u> </u>
[5]	Left bullet catch track	•
[6]	Right bullet catch track	•
Guide striker :	set → from page 111	'
[15]	Guide strikers	•
[10]	Strikers V.01 / V.02	•
[13]	Insertable cams	•
Bogie sets →	from page 78	·
[22]	Leading bogie	
[24]	Trailing bogie without damping	
	Countersunk tapping-screw ST4.8 x 50	•
Track sets →	from page 81	·
[72]	Stay-connecting profile	■
[71]	End caps for stay-connecting profile	
[61]	Connecting rod	•
[65]	Cover profile bogies	•
	Cover cap for cover profile bogies [6]	•
[79]	Cover support bracket [7]	-
[77]	Connecting-rod support-block [8]	
[66]	Guide track	
[62]	Guide track cover profile	
[67]	End caps for guide track	
[63]	Roller track	
[64]	Bottom guide block	
[70]	Bottom buffer stop	
[68]	Rubber buffer stop	
[69]	Top buffer stop	
	Flat-headed self-tapping screw ST3.9 x 9.5	
	Countersunk tapping-screw ST3.9 x 45	
	Countersunk tapping-screw ST4.8 x 50	
Corner drive s	et → from page 100	
[1]	Corner drive without switch inhibitor	
[2]	Retaining fork	
[13]	Insertable cams	
Tilt&Slide scis	sors-slider set → from page 83	<u> </u>
[17]	Tilt&Slide scissors-slider	
Reinforcemen	t bracket sets [9] → from page 80	1
[73]	Cover caps reinforcement bracket	
[74]	Reinforcement brackets	
[76]	Rivet nuts	
[57]	Countersunk screw M5 x 25	
Espagnolette		
[3a]	Insertable connector-bolt → from page 94	
[3b]	Flush-encased gearbox → from page 92	

- [6] Only up to S.kg 100 kg
- [7] 1 unit from SW \leq 1480 mm; 2 units from SW >1480 mm
- [8] 1 unit from SW >1480 mm
- [9] S.kg >100 kg



Position	Designation	std.
	Flush-encased gearbox without mishandling device → from page 93	
Geared-handle	support set	
[4]	Geared-handle support	
[55]	Flat-headed screw M5 x 12	
Operation med	chanisms	
[48]	Handle – see catalogue CTL_1	
[31]	Roto Line AL geared-handle – see catalogue CTL_1	
Closing mechan	sism and striker set ^[10] → from page 107	
	Strikers V.01 / V.02	
	Insertable cams	
Connecting ro	ds → from page 136	





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.

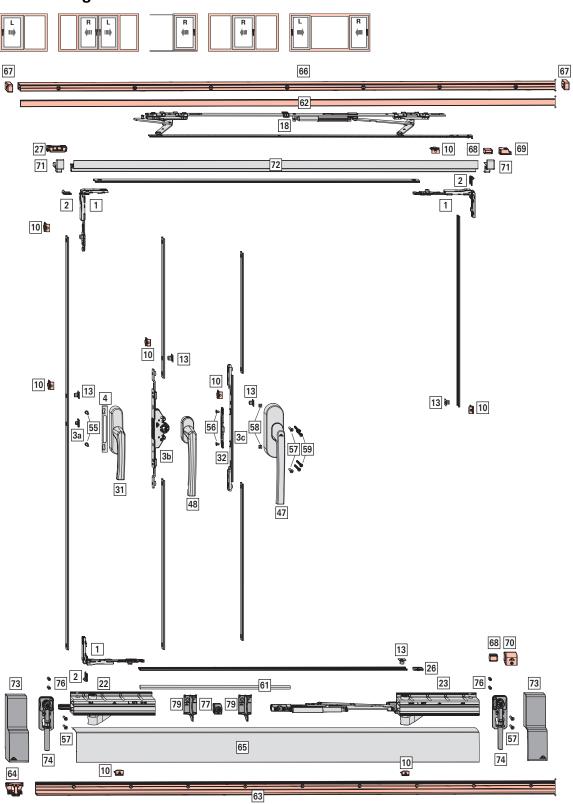
www.roto-frank.com

Subject to change



4.2 Roto Patio Alversa | PS without night ventilation

4.2.1 Diagram A





Position	Designation	std.	RC2 / RC2 N
[26]	Travel restrictor → from page 134	-	•
Bogie sets	rom page 78		
[22]	Leading bogie		
	Leading tandem bogie		
[23]	Trailing bogie with damping		
	Trailing tandem bogie with damping		
	Countersunk tapping-screw ST4.8 x 50		
Track sets	→ from page 81		
[72]	Stay-connecting profile		
[71]	End caps for stay-connecting profile		
[61]	Connecting rod		
[65]	Cover profile bogies		
	Cover cap for cover profile bogies		
[79]	Cover support bracket [11]		
[77]	Connecting-rod support-block [12]		
[66]	Guide track		
[62]	Guide track cover profile		
[67]	End caps for guide track		
[63]	Roller track		
[64]	Bottom guide block		
[70]	Bottom buffer stop		•
[68]	Rubber buffer stop		•
[69]	Top buffer stop		
	Flat-headed self-tapping screw ST3.9 x 9.5		
	Countersunk tapping-screw ST3.9 x 45		
	Countersunk tapping-screw ST4.8 x 50		
Corner drive	e set → from page 100	'	
[1]	Corner drive without switch inhibitor		
[2]	Retaining fork		
[13]	Insertable cams		
Locking set	→ from page 107		
[10]	Strikers V.01 / V.02		
[13]	Insertable cams		
Parallel Slid	ing scissors-slider set, night ventilation → from page 83		
[18]	Parallel Sliding scissors-slider		
[27]	Fixed top guide block		
Reinforcem	ent bracket sets → from page 80		
[73]	Cover caps reinforcement bracket		
[74]	Reinforcement brackets		
[76]	Rivet nuts		
[57]	Countersunk screw M5 x 25		
Espagnolett	e		
[3a]	Insertable connector-bolt → from page 94		-
[3b]	Flush-encased gearbox → from page 92		-
[3c]	Adjustable centre section → from page 94		
	Flush-encased gearbox without mishandling device → from page 93		SEC
	SEC connector → from page 137	_	
	Cylinder screw M5 x 6 → from page 93	_	



^{[12] 1} unit from SW >1480 mm





Position	Designation	std.	RC2 / RC2 N
	SEC geared-handle protection set → from page 95	-	
Geared-hand	lle support set	·	
[4]	Geared-handle support		
[55]	Flat-headed screw M5 x 12		
Operation m	echanisms		
[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.
Closing mech	nanism and striker set ^[13] → from page 107		
	Strikers V.01 / V.02		
	Insertable cams		
Connecting	rods → from page 136	,	1
Security con	nponents		
	Run-up block → from page 140	_	
	SEC coupler component → from page 137	_	
	SEC rebate clearance reduction set	-	
	SEC drilling protection → from page 137	-	
	SEC rebate clearance reduction ESP	-	
	Countersunk tapping-screw ST4.8 x 16 → from page 139	-	
	SEC striker → from page 108	-	
	SEC insertable cam → from page 137	_	



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.

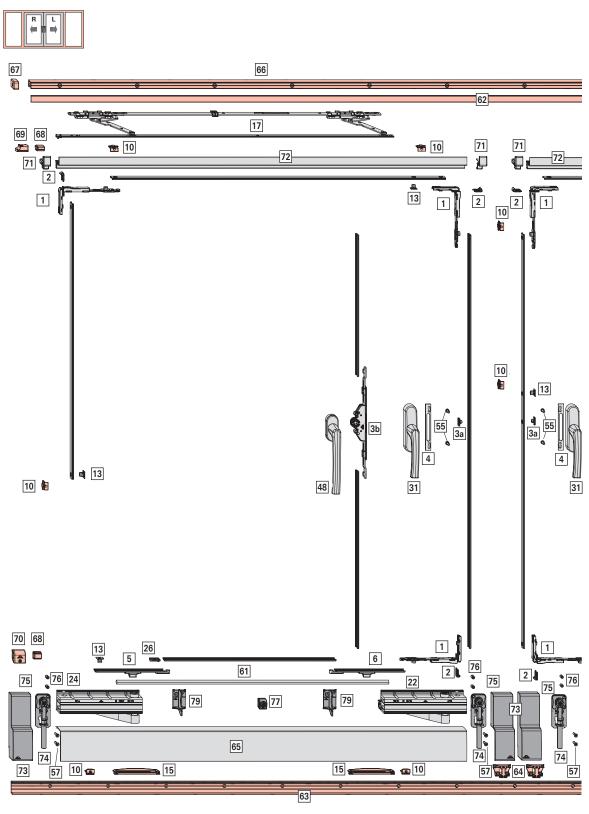
www.roto-frank.com



CTL_94_EN_v0 · 03 / 2017 · **57**

Subject to change

4.2.2 Diagram C





Roto Patio Alversa | PS without night ventilation





Position	Designation	std.
[26]		- Stu. ■
Bogie sets →	Travel restrictor → from page 134	•
[22]	Leading bogie	
[22]		
[00]	Leading tandem bogie	
[23]	Trailing bogie with damping	
	Trailing tandem bogie with damping	
Total catal	Countersunk tapping-screw ST4.8 x 50	•
Track sets →		
[72]	Stay-connecting profile	
[71]	End caps for stay-connecting profile	
[61]	Connecting rod	
[65]	Cover profile bogies	
1701	Cover cap for cover profile bogies	
[79]	Cover support bracket [14]	
[77]	Connecting-rod support-block [15]	•
[66]	Guide track	
[62]	Guide track cover profile	
[67]	End caps for guide track	
[63]	Roller track	
[64]	Bottom guide block	
[70]	Bottom buffer stop	
[68]	Rubber buffer stop	
[69]	Top buffer stop	
	Flat-headed self-tapping screw ST3.9 x 9.5	
	Countersunk tapping-screw ST3.9 x 45	•
	Countersunk tapping-screw ST4.8 x 50	
Corner drive s	set → from page 100	
[1]	Corner drive without switch inhibitor	
[2]	Retaining fork	•
[13]	Insertable cams	
Locking set -	from page 107	
[10]	Strikers V.01 / V.02	
[13]	Insertable cams	
Parallel Slidin	g scissors-slider set, night ventilation → from page 83	
[18]	Parallel Sliding scissors-slider	•
[27]	Fixed top guide block	
Reinforcemen	t bracket sets → from page 80	
[73]	Cover caps reinforcement bracket	
[74]	Reinforcement brackets	
[76]	Rivet nuts	
[57]	Countersunk screw M5 x 25	
Espagnolette		
[3a]	Insertable connector-bolt → from page 94	•
[3b]	Flush-encased gearbox → from page 92	
	Flush-encased gearbox without mishandling device → from page 93	•
Geared-handle	e support set	
[4]	Geared-handle support	
[55]	Flat-headed screw M5 x 12	

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

[15] 1 unit from SW >1480 mm



Roto Patio Alversa | PS without night ventilation

Diagram C

Position	Designation	std.
Operation med	chanisms	
[48]	Handle – see catalogue CTL_1	
[31]	Roto Line AL geared-handle – see catalogue CTL_1	
Closing mechan	nism and striker set ^[16] → from page 107	
	Strikers V.01 / V.02	
	Insertable cams	
Connecting ro	Insertable cams ods → from page 136	





INFO

Roto Con Orders

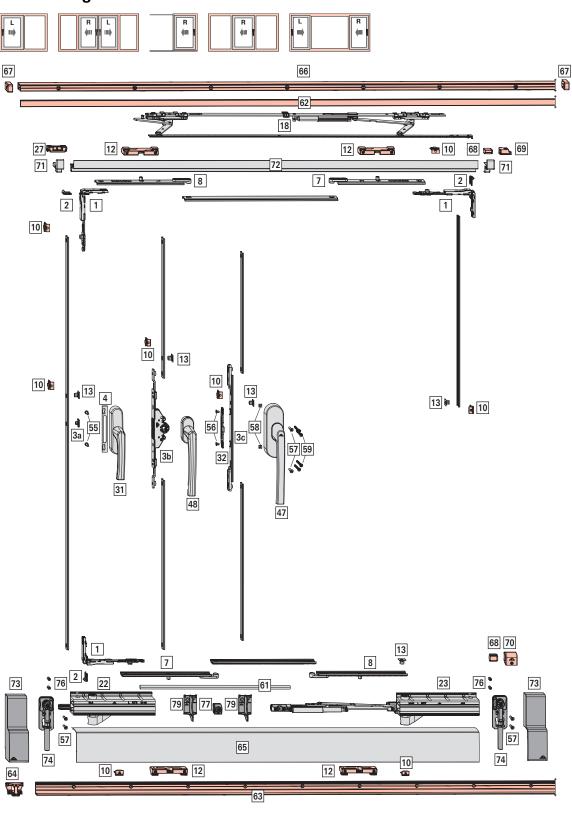
Efficient online hardware configurator for the custom configuration of individual window and door hardware components. All conventional shapes and opening types can be automatically configured quickly and easily. Individual parts lists, including application ranges and an exemplary hardware overview,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

www.roto-frank.com



4.3 Roto Patio Alversa | PS with night ventilation

4.3.1 Diagram A





Position	Designation	std.	RC2 / RC2 N
Night ventila	ation striker set → from page 109		
[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		
Bogie sets -	rom page 78		
[22]	Leading bogie		
	Leading tandem bogie		
[23]	Trailing bogie with damping		
	Trailing tandem bogie with damping		
	Countersunk tapping-screw ST4.8 x 50		
Track sets -	from page 81	-	
[72]	Stay-connecting profile		
[71]	End caps for stay-connecting profile	•	•
[61]	Connecting rod		
[65]	Cover profile bogies		
	Cover cap for cover profile bogies		
[79]	Cover support bracket [17]		
[77]	Connecting-rod support-block [18]		
[66]	Guide track		
[62]	Guide track cover profile		
[67]	End caps for guide track		
[63]	Roller track		
[64]	Bottom guide block		_
	-		
[70]	Bottom buffer stop		
[68]	Rubber buffer stop		-
[69]	Top buffer stop	_	_
	Flat-headed self-tapping screw ST3.9 x 9.5	_	
	Countersunk tapping-screw ST3.9 x 45		
	Countersunk tapping-screw ST4.8 x 50		
	set → from page 100		
[1]	Corner drive without switch inhibitor		=
[2]	Retaining fork		
[13]	Insertable cams		
	ng scissors-slider set, night ventilation → from page 83		
[18]	Parallel Sliding scissors-slider		
[27]	Fixed top guide block		
	ent bracket sets → from page 80		
[73]	Cover caps reinforcement bracket		
[74]	Reinforcement brackets		
[76]	Rivet nuts	-	
[57]	Countersunk screw M5 x 25		
Espagnoletto			
[3a]	Insertable connector-bolt → from page 94	-	_
[3b]	Flush-encased gearbox → from page 92	-	-
[3c]	Adjustable centre section → from page 94		
	Flush-encased gearbox without mishandling device → from page 93	•	SEC



^{[18] 1} unit from SW >1480 mm



Roto Patio Alversa | PS with night ventilation





Position	Designation	std.	RC2 / RC2 N
	SEC connector → from page 137	_	
	Cylinder screw M5 x 6 → from page 93	_	
	SEC geared-handle protection set → from page 95	_	
Geared-hand	lle support set		
[4]	Geared-handle support		
[55]	Flat-headed screw M5 x 12		
Operation m	echanisms		1
[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.
Closing mech	anism and striker set ^[19] → from page 107		
	Strikers V.01 / V.02		
	Insertable cams		
Connecting	rods → from page 136		1
Security con	nponents		
	Run-up block → from page 140	_	
	SEC coupler component → from page 137	_	
	SEC rebate clearance reduction set	_	
	SEC drilling protection → from page 137	-	
	SEC rebate clearance reduction ESP	-	
	Countersunk tapping-screw ST4.8 x 16 → from page 139	-	
	SEC striker → from page 108	-	
	SEC insertable cam → from page 137	_	•



INFO

Roto Con Orders

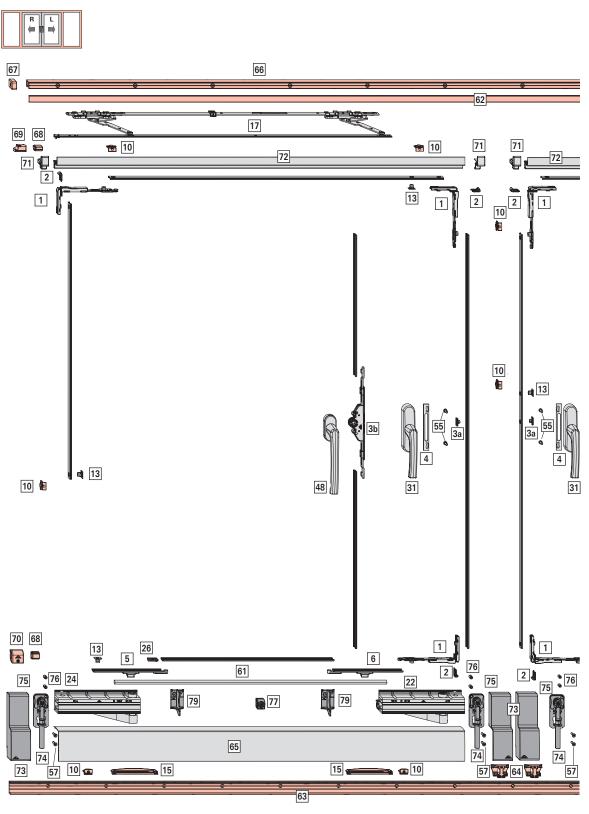
Efficient online hardware configurator for the custom configuration of individual window and door hardware components. All conventional shapes and opening types can be automatically configured quickly and easily. Individual parts lists, including application ranges and an exemplary hardware overview,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

www.roto-frank.com



Subject to change

4.3.2 Diagram C





Roto Patio Alversa | PS with night ventilation

Diagram C



Position	Designation	std.
[26]	Travel restrictor → from page 134	
Night ventilat	ion striker set → from page 109	
	Night ventilation strikers V.01 / V.02	
[10]	Strikers V.01 / V.02	
	Night ventilation tracks 2	
	Night ventilation tracks 1	
[13]	Insertable cams	
Bogie sets →	from page 78	
[22]	Leading bogie	
	Leading tandem bogie	
[23]	Trailing bogie with damping	
	Trailing tandem bogie with damping	
	Countersunk tapping-screw ST4.8 x 50	
Track sets →	from page 81	
[72]	Stay-connecting profile	
[71]	End caps for stay-connecting profile	
[61]	Connecting rod	
[65]	Cover profile bogies	
	Cover cap for cover profile bogies	
[79]	Cover support bracket [20]	
[77]	Connecting-rod support-block [21]	
[66]	Guide track	
[62]	Guide track cover profile	
[67]	End caps for guide track	
[63]	Roller track	
[64]	Bottom guide block	
[70]	Bottom buffer stop	
[68]	Rubber buffer stop	
[69]	Top buffer stop	
	Flat-headed self-tapping screw ST3.9 x 9.5	
	Countersunk tapping-screw ST3.9 x 45	
	Countersunk tapping-screw ST4.8 x 50	
Corner drive s	set → from page 100	
[1]	Corner drive without switch inhibitor	
[2]	Retaining fork	
[13]	Insertable cams	
Locking set -	rom page 107	
[10]	Strikers V.01 / V.02	
[13]	Insertable cams	
Parallel Sliding	g scissors-slider set, night ventilation → from page 83	
[18]	Parallel Sliding scissors-slider	
[27]	Fixed top guide block	
Reinforcemen	t bracket sets → from page 80	I
[73]	Cover caps reinforcement bracket	
[74]	Reinforcement brackets	
[76]	Rivet nuts	
[57]	Countersunk screw M5 x 25	
Espagnolette		-

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

[21] 1 unit from SW >1480 mm



Roto Patio Alversa | PS with night ventilation

Diagram C

Position	Designation	std.
[3a]	Insertable connector-bolt → from page 94	
[3b]	Flush-encased gearbox → from page 92	
	Flush-encased gearbox without mishandling device → from page 93	
Geared-handle	support set	
[4]	Geared-handle support	
[55]	Flat-headed screw M5 x 12	
Operation med	hanisms	
[48]	Handle – see catalogue CTL_1	
[31]	Roto Line AL geared-handle – see catalogue CTL_1	
Closing mechar	ism and striker set ^[22] → from page 107	<u>'</u>
	Strikers V.01 / V.02	
	Insertable cams	





INFO

Roto Con Orders

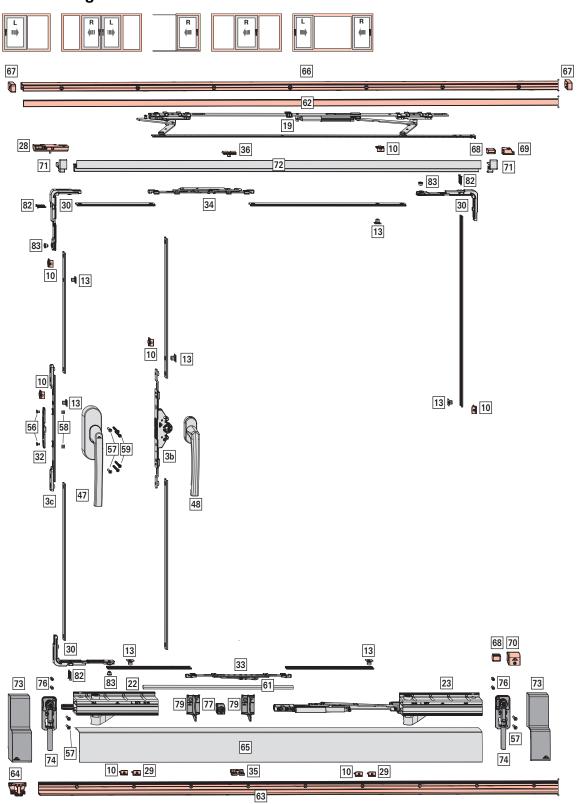
Efficient online hardware configurator for the custom configuration of individual window and door hardware components. All conventional shapes and opening types can be automatically configured quickly and easily. Individual parts lists, including application ranges and an exemplary hardware overview,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

www.roto-frank.com



4.4 Roto Patio Alversa | PS Air Com

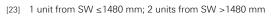
4.4.1 Diagram A







Position	Designation	std.
Tilt striker set	→ from page 110	
[29]	Tilt strikers V.01 / V.02	
[10]	Strikers V.01 / V.02	
[13]	Insertable cams	
Bogie sets → fr	om page 78	<u>'</u>
[22]	Leading bogie	
	Leading tandem bogie	
[23]	Trailing bogie with damping	
	Trailing tandem bogie with damping	
	Countersunk tapping-screw ST4.8 x 50	
Track sets → fr	om page 81	
[72]	Stay-connecting profile	
[71]	End caps for stay-connecting profile	
[61]	Connecting rod	
[65]	Cover profile bogies	
	Cover cap for cover profile bogies	
[79]	Cover support bracket [23]	
[77]	Connecting-rod support-block [24]	
[66]	Guide track	
[62]	Guide track cover profile	
[67]	End caps for guide track	
[63]	Roller track	
[64]	Bottom guide block	
[70]	Bottom buffer stop	
[68]	Rubber buffer stop	
[69]	Top buffer stop	
	Flat-headed self-tapping screw ST3.9 x 9.5	
	Countersunk tapping-screw ST3.9 x 45	
	Countersunk tapping-screw ST4.8 x 50	
Comfort set →		
[34]	Comfort scissor stays	
[13]	Insertable cams	
[33]	Mishandling device	-
[30]	Reinforced corner drives	
[82]	Countersunk tapping-screw ST3.9 x 25	
[83]	Special screw M6 x 10	_
	me components → from page 112	
[36]	Comfort scissor stay frame components	
[35]	Mishandling device frame components	
	scissors-slider set, tilt ventilation → from page 84	
[19]	Parallel Sliding scissors-slider	
[28]	Tiltable top guide block	
	bracket sets → from page 80	
[73]	Cover caps reinforcement bracket	
[74]	Reinforcement brackets	
[76]	Rivet nuts	
[57]	Countersunk screw M5 x 25	
Espagnolette		



^{[24] 1} unit from SW >1480 mm



Roto Patio Alversa | PS Air Com

Diagram A

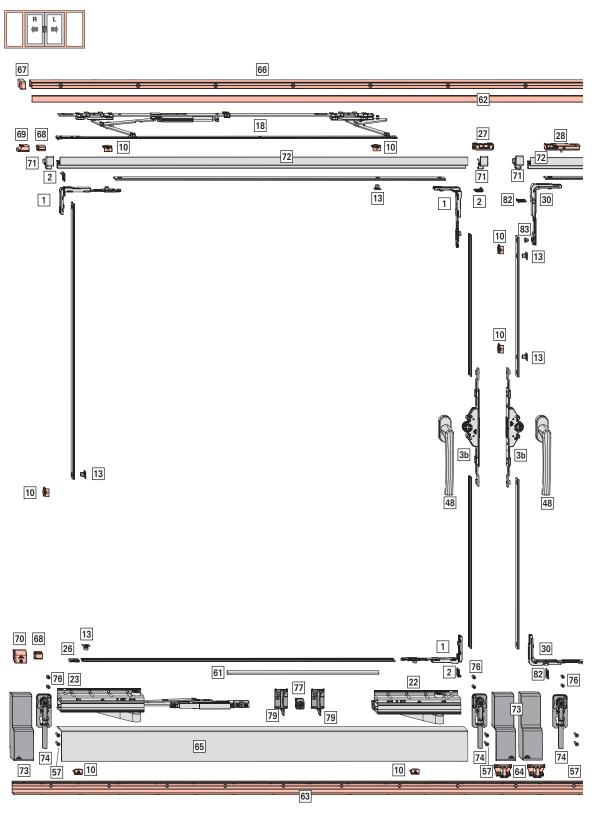


Position	Designation	std.
[3b]	Flush-encased gearbox → from page 92	
[3c]	Adjustable centre section → from page 94	
Operation mecl	nanisms	
[48]	Handle – see catalogue CTL_1	
[47]	Roto Line Alversa geared-handle – see catalogue CTL_1	
Closing mechani	sm and striker set ^[25] → from page 107	
	Strikers V.01 / V.02	
	Insertable cams	
Connecting rod	s → from page 136	



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

4.4.2 Diagram C





Roto Patio Alversa | PS Air Com

Diagram C



Position	Designation	std.
[26]	Travel restrictor → from page 134	-
Tilt striker set 🕏	→ from page 110	
	Tilt strikers V.01 / V.02	
	Strikers V.01 / V.02	•
	Insertable cams	
Bogie sets → fre	rom page 78	
[22]	Leading bogie	
	Leading tandem bogie	
[23]	Trailing bogie with damping	
	Trailing tandem bogie with damping	
	Countersunk tapping-screw ST4.8 x 50	
Track sets → fro	om page 81	1
[72]	Stay-connecting profile	
[71]	End caps for stay-connecting profile	
[61]	Connecting rod	
[65]	Cover profile bogies	
	Cover cap for cover profile bogies	
[79]	Cover support bracket [26]	
[77]	Connecting-rod support-block [27]	
[66]	Guide track	
[62]	Guide track cover profile	
[67]	End caps for guide track	
[63]	Roller track	■
[64]	Bottom guide block	
[70]	Bottom buffer stop	
[68]	Rubber buffer stop	
[69]	Top buffer stop	
<u> </u>	Flat-headed self-tapping screw ST3.9 x 9.5	
	Countersunk tapping-screw ST3.9 x 45	
	Countersunk tapping-screw ST4.8 x 50	
Comfort set →	from page 112	
	Comfort scissor stays	
[13]	Insertable cams	
<u> </u>	Mishandling device	
[30]	Reinforced corner drives	
[82]	Countersunk tapping-screw ST3.9 x 25	
[83]	Special screw M6 x 10	
Comfort set fran	me components → from page 112	
	Comfort scissor stay frame components	
	Mishandling device frame components	
Corner drive set	t → from page 100	1
[1]	Corner drive without switch inhibitor	
[2]	Retaining fork	
[13]	Insertable cams	_
Locking set → f		
[10]	Strikers V.01 / V.02	
[13]	Insertable cams	
		-

[26] 1 unit from SW \leq 1480 mm; 2 units from SW >1480 mm

[27] 1 unit from SW >1480 mm



Position	Designation	std.
	Parallel Sliding scissors-slider	
[28]	Tiltable top guide block	
Parallel Sliding	scissors-slider set, night ventilation → from page 83	'
[18]	Parallel Sliding scissors-slider	
[27]	Fixed top guide block	
Reinforcement	bracket sets → from page 80	
[73]	Cover caps reinforcement bracket	
[74]	Reinforcement brackets	
[76]	Rivet nuts	
[57]	Countersunk screw M5 x 25	
Espagnolette		<u>'</u>
[3b]	Flush-encased gearbox → from page 92	
[3c]	Adjustable centre section → from page 94	
Operation mecl	nanisms	
[48]	Handle – see catalogue CTL_1	
[47]	Roto Line Alversa geared-handle – see catalogue CTL_1	
Closing mechani	sm and striker set ^[28] → from page 107	
	Strikers V.01 / V.02	
	Insertable cams	
Connecting rod	s → from page 136	1



INFO

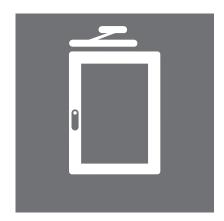
Roto Con Orders

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.

Roto Patio Alversa – Aluminium

www.roto-frank.com











Bogie sets	
Bogies up to 160 kg	78
Tandem bogies up to 200 kg	79
Reinforcement bracket sets	
See page	80
Track sets	
See page	81
Scissors-slider sets	
Tilt&Slide	83
Parallel Sliding	83
Comfort sets	
See page	85
Bullet catch track set	
See page	86



5 Hardware sets

5.1 Bogie sets

5.1.1 Bogies up to 160 kg

















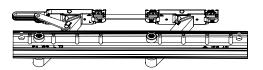


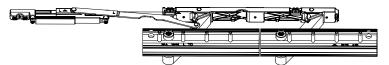
			1//////1			Nο
Bogie set	max. 160 kg	Tilt&Slide	N	Left	1 piece(s)	794092
		Tilt&Slide	N	Right	1 piece(s)	794093
		Parallel Sliding	Υ	Left	1 piece(s)	794094
		Parallel Sliding	Υ	Right	1 piece(s)	794126

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



5.1.2 Tandem bogies up to 200 kg











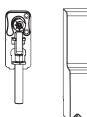


	00)		IMWMI			Nο
Tandem bogie set	max. 200 kg	Parallel Sliding	Υ	Left	1 piece(s)	794127
		Parallel Sliding	Υ	Right	1 piece(s)	794128

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



5.2 Reinforcement bracket sets



















	i		3			Nο
Reinforcement brackets and cover caps	For sash weights > 100 kg		R01.5	Silver	1 piece(s)	793515
		Tilt&Slide	R05.4	Dark bronze	1 piece(s)	793516
			R06.2	Jet black	1 piece(s)	793517
			R07.2	Traffic white	1 piece(s)	793518

Contents

Designation	Quantity	Figure
Reinforcement brackets	2	
Cover caps	2	
Rivet nuts	4	②
Screws M5 x 25	4	Not dep.



INFO

Using reinforcement brackets

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



5.3 Track sets



















				I	
3					No
R01.5	Silver	670 – 930	1 930	1 piece(s)	767051
		931 – 1 080	2 230	1 piece(s)	767052
		1 081 – 1 280	2 630	1 piece(s)	767053
		1 281 – 1 480	3 030	1 piece(s)	767054
		1 481 – 1 680	3 430	1 piece(s)	767075
		1 681 – 2 000	4 130	1 piece(s)	769841
R05.4	Dark bronze	670 – 930	1 930	1 piece(s)	767076
		931 – 1 080	2 230	1 piece(s)	767077
		1 081 – 1 280	2 630	1 piece(s)	767078
		1 281 – 1 480	3 030	1 piece(s)	767079
		1 481 – 1 680	3 430	1 piece(s)	767080
		1 681 – 2 000	4 130	1 piece(s)	769842
R06.2	Jet black	670 – 930	1 930	1 piece(s)	767081
		931 – 1 080	2 230	1 piece(s)	767082
		1 081 – 1 280	2 630	1 piece(s)	767083
		1 281 – 1 480	3 030	1 piece(s)	767084
		1 481 – 1 680	3 430	1 piece(s)	767085
		1 681 – 2 000	4 130	1 piece(s)	769843
R07.2	Traffic white	670 – 930	1 930	1 piece(s)	767086
		931 – 1 080	2 230	1 piece(s)	767087
		1 081 – 1 280	2 630	1 piece(s)	767088
		1 281 – 1 480	3 030	1 piece(s)	767089
		1 481 – 1 680	3 430	1 piece(s)	767090
		1 681 – 2 000	4 130	1 piece(s)	769844
Roh	Uncoated	670 – 930	1 930	1 piece(s)	767046
		931 – 1 080	2 230	1 piece(s)	767047
		1 081 – 1 280	2 630	1 piece(s)	767048
		1 281 – 1 480	3 030	1 piece(s)	767049
		1 481 – 1 680	3 430	1 piece(s)	767050
		1 681 – 2 000	4 130	1 piece(s)	769840

Figure	Quantity	Designation
-	1	Guide track



Designation	Quantity	Figure
Guide track cover profile	1	
End caps for guide track	2	
Roller track	1	○
Cover profile bogies	1	
Cover caps for cover profile bogies	2	
Stay-connecting profile	1	
End caps for stay-connecting profile	2	
Connecting rod	1	0
Bottom guide block	1	
Top buffer stop	1	
Bottom buffer stop	1	Zhoto.
Rubber buffer stop	1	
Connecting-rod support-block	0 ^[29]	
Cover support bracket	1 ^[31] 2 ^[32]	
Flat-headed self-tapping screws ST3.9 x 9.5 T15	10	Not dep.
Countersunk tapping-screws ST3.9 x 45 T15	40	Not dep.
Countersunk tapping-screws ST4.8 x 50 T25	4	Not dep.

^[29] With SW ≤ 1480 mm

^[30] With SW > 1480 mm

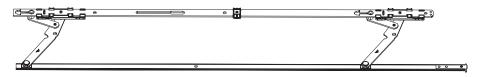
^[31] With SW ≤ 1480 mm

^[32] With SW > 1480 mm



5.4 Scissors-slider sets

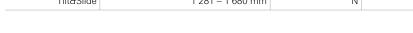
5.4.1 Tilt&Slide





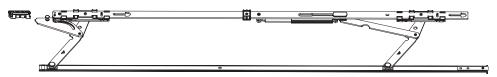


		ı			No
Tilt&Slide	670 – 930 mm	N	-	1 piece(s)	769045
Tilt&Slide	931 – 1 280 mm	N	_	1 piece(s)	769046
Tilt&Slide	1 281 – 1 680 mm	N	_	1 piece(s)	769047



5.4.2 Parallel Sliding

5.4.2.1 Night ventilation







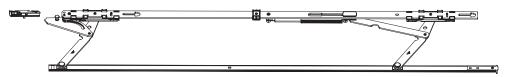


		1///////1			Nο
Parallel Sliding	760 – 930 mm	Υ	Left	1 piece(s)	772220
		Υ	Right	1 piece(s)	772225
	931 – 1 280 mm	Υ	Left	1 piece(s)	772221
		Υ	Right	1 piece(s)	772226
	1 281 – 1 680 mm	Υ	Left	1 piece(s)	772222
		Υ	Right	1 piece(s)	772227
		N	Right	1 piece(s)	772280
	1 681 – 2 000 mm	Υ	Left	1 piece(s)	772223
		Υ	Right	1 piece(s)	772228

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



5.4.2.2 Tilt ventilation









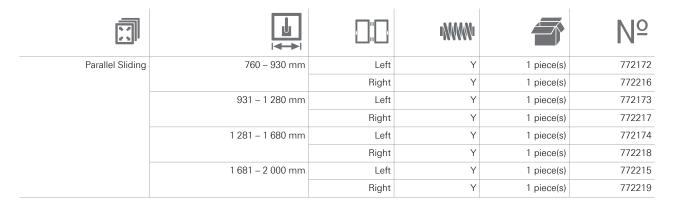
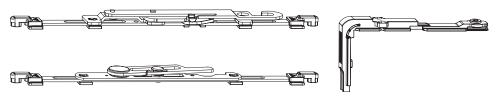


Figure	Quantity	Designation
	1	Parallel Sliding tilt ventilation scissors-slider
	1	Tiltable top guide block





5.5 Comfort sets







				No
Comfort set	760 – 1 400	Left	1 piece(s)	772315
		Right	1 piece(s)	772316
	1 401 – 2 000	Left	1 piece(s)	786062
		Right	1 piece(s)	786063

Contents

Figure	Quantity	Designation
	1 [33]	Comfort scissor(s)
	2 [34]	
	1	Mishandling device
	3	Reinforced corner drives
Not dep.	12	Self-tapping screw ST3.9 x 25
Not dep.	1	Special screw M6 x 10

For suitable frame components, see → from page 112



INFO

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

[33] With SW < 1401 mm

[34] With SW ≥ 1401 mm



5.6 Bullet catch track set





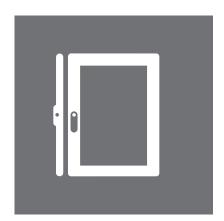




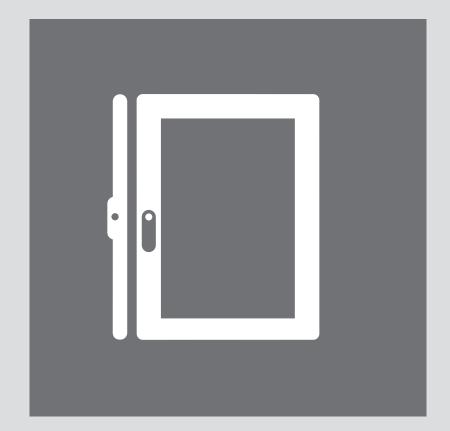
Figure	Quantity	Designation
	1	Left bullet catch track
	1	Right bullet catch track



CTL_94_EN_v0 · 03 / 2017 · **87** Roto











Flush-encased gearbox

Roto Patio Alversa	92
Roto AL	93
Geared-handle	
Insertable connector-bolt	94
Adjustable centre section	94
SEC geared-handle protection	95



6 Espagnolettes

6.1 Flush-encased gearbox

6.1.1 Roto Patio Alversa

6.1.1.1 Standard













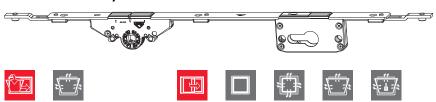






	·•·	-		Nο
Flush-encased gearbox	25	280	1 piece(s)	625430
	30	280	1 piece(s)	625431
	35	280	1 piece(s)	625432
	40	280	1 piece(s)	625433

6.1.1.2 Security



	·•·	-		No
Lockable flush-encased gearbox	25	475	1 piece(s)	625438
	30	475	1 piece(s)	625439
	35	475	1 piece(s)	625440
	40	475	1 piece(s)	625441



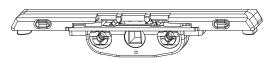
INFO

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









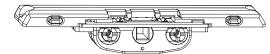






	·•·		Nο
Flush-encased gearbox without mishandling device	5.50	10 piece(s)	378338

6.1.2.2 Security















		·••		Nο
AL SE	C flush-encased gearbox without mishandling device	6 mm	10 piece(s)	457210
		i		No
Cylinder screw M5 x 6	For SEC flush-encased ge	arbox	1 000 piece(s)	335249



INFO

Order 2 cylinder screws and 2 SEC connectors \rightarrow from page 137 depending on the SEC flush-encased gearbox

Roto

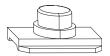
6.2 Geared-handle



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

















6.2.2 Adjustable centre section

















	i		No
Adjustable centre section	For Roto Line Alversa geared-handle	1 piece(s)	779637

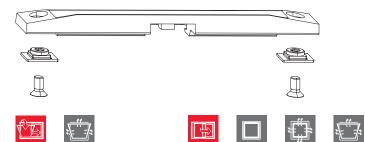


6.2.3 SEC geared-handle protection

for Roto Line AL lockable geared-handle

6.2.3.1 Security

Sets



		Nº
SEC geared-handle protection set	10 piece(s)	728952

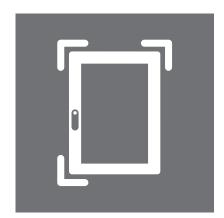
Contents

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

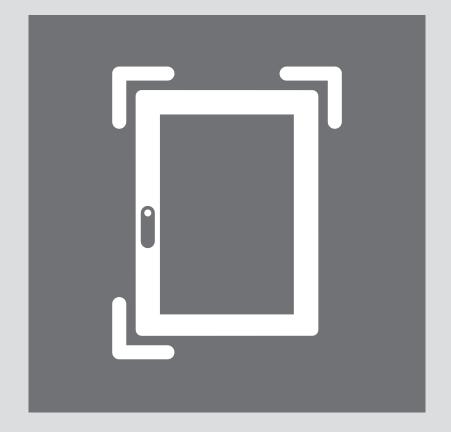
Individual components



			Nο
SEC geared-handle protection	For Roto Line AL geared-handle	10 piece(s)	487407











Without mishandling device

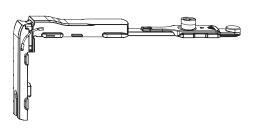
See page 100



7 Corner drives

7.1 Without mishandling device















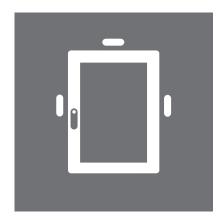




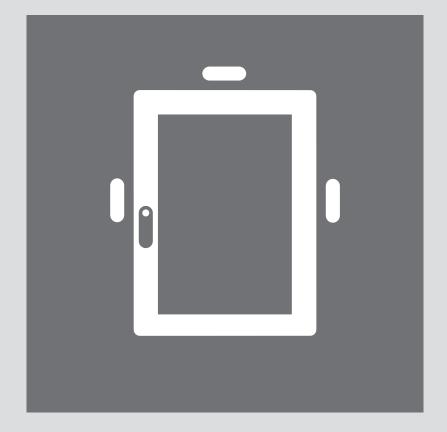
		No
Corner drive set	1 piece(s)	626523

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









Subject to change



Mishandling device

Strikers Standard 107 Security 108 Night ventilation Standard 109 Tilt strikers Standard 110 Guide strikers Standard 111 Comfort set Comfort scissor stay 112



112

8 Frame components



INFO

Further frame components are available upon request.

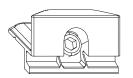




8.1 Strikers

8.1.1 Standard

Locking set



















	<u> </u>		No
Locking set	V.01	1 piece(s)	791720
	V.02	1 piece(s)	791721

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

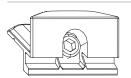


Striker set



INFO

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













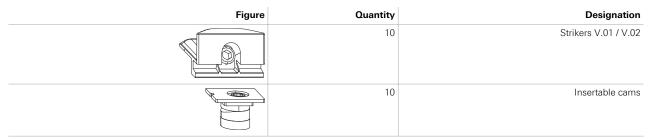






	₹ Ľ		No
Striker set	V.01	1 piece(s)	786321
	V.02	1 piece(s)	786322

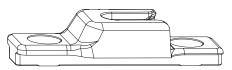
Contents





8.1.2 Security

Individual components















	<u> </u>		No
SEC striker	V.01	100 piece(s)	212637
	V.02	100 piece(s)	212638

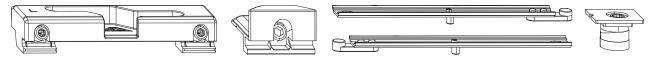
For compatible SEC insertable cams, see → from page 137



8.2 Night ventilation

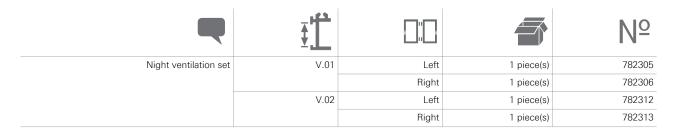
8.2.1 Standard

Sets









Contents

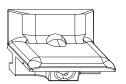
Figure	Quantity	Designation
	4	Night ventilation strikers left / right
	4	Strikers V.01 / V.02
	2	Night ventilation tracks 1
	2	Night ventilation tracks 2
	4	Insertable cams

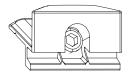


Tilt strikers 8.3

8.3.1 **Standard**

Sets







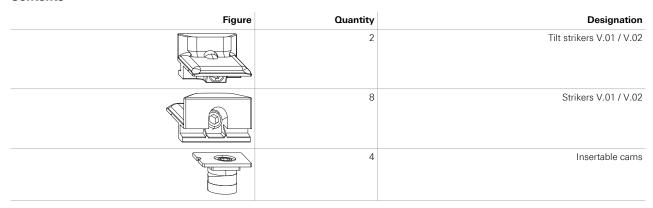




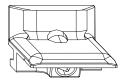


	₹ Ĺ		No
Tilt striker set	V.01	1 piece(s)	779421
	V.02	1 piece(s)	779422

Contents



Individual components









	₹ Ľ		No
Tilt striker	V.01	2 piece(s)	786223
	V.02	2 piece(s)	786224



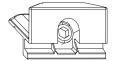


8.4 Guide strikers

8.4.1 Standard

Sets











	₹ Ĺ		No
Guide striker set	V.01	1 piece(s)	776011
	V.02	1 piece(s)	776014

Contents

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



Individual components



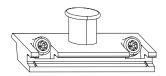




	<u> ‡</u>		No
Guide strikers	_	2 piece(s)	776013

8.5 Comfort set

8.5.1 Comfort scissor stay







	立		No
Comfort scissor stay frame component	V.01	1 piece(s)	772684
	V.02	1 piece(s)	786361

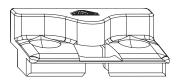


INFO

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

8.5.2 Mishandling device



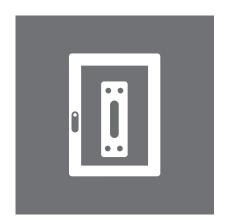




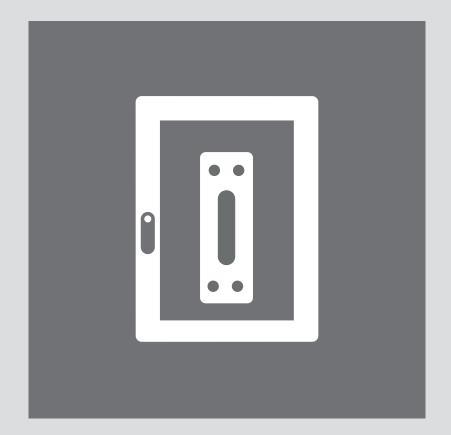


	立		Nο
Comfort scissor stay frame component	V.01	1 piece(s)	786328
	V.02	1 piece(s)	786329













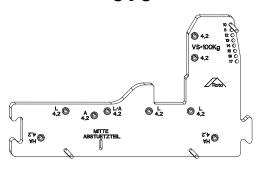
Subject to change

Drilling jigs See page 118 Installation jigs See page 120 Tools See page 121



Jigs

Drilling jigs 9.1

















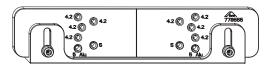




Bogies



778522











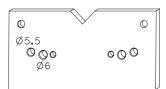








778555

















		_

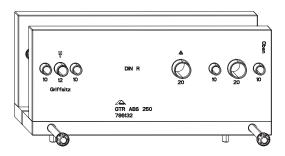
Roto Line AL geared-handle

333473

Nο

Nο























Lockable T&T espagnolette

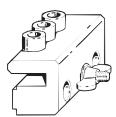
Nο

786132



INFO

Use the "Lockable T&T espagnolette" drilling jig for: Flush-encased gearbox without profile cylinder Flush-encased gearbox with profile cylinder













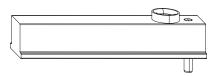




Nο

Flush-encased gearbox with / without mishandling device

212155















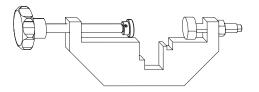
Scissor-stay retention





778523

Installation jigs















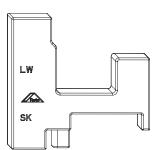






Nο

778520













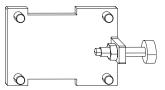






782190

Nο



















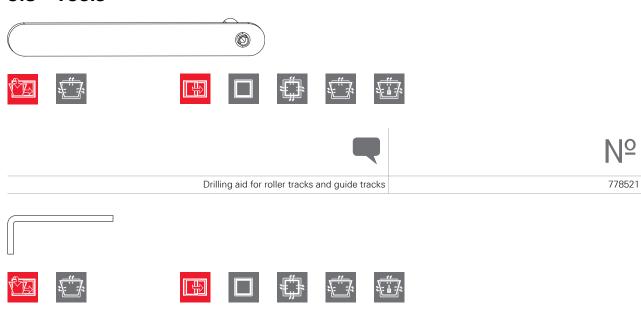
Bottom guide block

778524

Nο



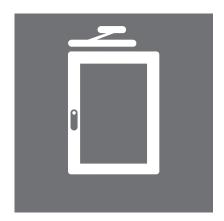
9.3 Tools



	No
ISR T10 Torx key	625172
ISR T15 Torx key	625173
ISR T25 Torx key	563971



 $\texttt{CTL_94_EN_v0} \cdot 03 \, / \, 2017 \cdot \boldsymbol{121}$









Bogie set	
Bogies	126
Tandem bogies	126
Reinforcement bracket set	
Cover caps	127
Track set	
Roller tracks	128
Guide tracks	128
Stay-connecting profiles	128
Cover profile bogies	129
Guide track cover profile	129
Cover caps for cover profile bogies	129
Connecting rod	130
Small components pack	131
Scissors-slider set Fixed top guide block Tiltable top guide block	133
Tiltable top guide block	133
Travel restrictor	101
See page	134
Geared-handle support set	
See page	135
Connecting rods	
See page	136
Security components	
SEC drilling protection	137
SEC coupler component	137
SEC connector	137
SEC locking cam	138
SEC rebate clearance reduction	139
Run-up block	140

Roto NT grease



10 Individual parts & accessories

10.1 Bogie set

10.1.1 Bogies











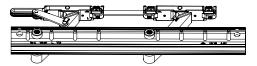


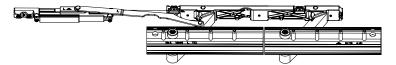




		i	1 }}}//////			Nο
Bogie	max. 160 kg	Without leading bogie	N	Left	1 piece(s)	764398
			N	Right	1 piece(s)	764399
			Y	Left	1 piece(s)	794239
			Y	Right	1 piece(s)	794240
		With leading bogie	N	Left	1 piece(s)	794201
			N	Right	1 piece(s)	794202

10.1.2 Tandem bogies





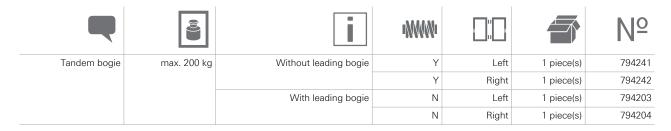








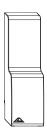






10.2 Reinforcement bracket set

10.2.1 Cover caps















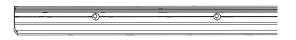


	3			No
Cover caps	R01.5	Silver	1 pair(s)	772861
	R05.4	Dark bronze	1 pair(s)	773234
	R06.2	Jet black	1 pair(s)	772860
	R07.2	Traffic white	1 pair(s)	772859



10.3 Track set

10.3.1 Roller tracks

















	3		←		No
Roller track	R01.1	Natural silver	6 070	1 piece(s)	785094
	R05.4	Dark bronze	6 070	1 piece(s)	785136
	R06.2	Jet black	6 070	1 piece(s)	785138
	Roh	Uncoated	6 070	1 piece(s)	785137

10.3.2 Guide tracks



























785139



















			-		No
Stay-connecting profile	R01.5	Silver	5 220	1 piece(s)	785152
	R05.4	Dark bronze	5 220	1 piece(s)	785153
	R06.2	Jet black	5 220	1 piece(s)	785154
	R07.2	Traffic white	5 220	1 piece(s)	785155
	Roh	Uncoated	5 220	1 piece(s)	785151



10.3.4 Cover profile bogies















	3		←		No
Cover profile bogie	R01.5	Silver	5 220	1 piece(s)	772637
	R05.4	Dark bronze	5 220	1 piece(s)	772638
	R06.2	Jet black	5 220	1 piece(s)	772640
	R07.2	Traffic white	5 220	1 piece(s)	772639
	Roh	Uncoated	5 220	1 piece(s)	772636

10.3.5 Guide track cover profile















	3		i			No
Guide track cover profile	R05.4	Dark bronze	_	6 070	1 piece(s)	785659
	R06.2	Jet black	_	6 070	1 piece(s)	785143
	R07.2	Traffic white	_	6 070	1 piece(s)	785141
	SF	Special colour	RAL 7004 Signal grey	6 070	1 piece(s)	785140

10.3.6 Cover caps for cover profile bogies







	3			No
Cover caps for cover profile bogies	R01.1	Natural silver	1 pair(s)	785661
	R05.4	Dark bronze	1 pair(s)	785156
	R06.2	Jet black	1 pair(s)	785158
	R07.2	Traffic white	1 pair(s)	785157



10.3.7 Connecting rod

















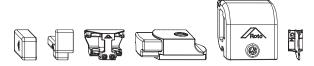
	-			No
Connecting rod	3 630	10	1 piece(s)	785149





10.3.8 Small components pack

Standard parts bag

















				Nο
Standard small components pack	R01.5	Silver	1 piece(s)	786157
	R05.4	Dark bronze	1 piece(s)	786158
	R06.2	Jet black	1 piece(s)	786159
	R07.2	Traffic white	1 piece(s)	786160
	Roh	Uncoated	1 piece(s)	786156

Contents

Designation	Quantity	Figure
End caps for guide track	2	
End caps for stay-connecting profile	2	
Bottom guide block	1	
Top buffer stop	1	
Bottom buffer stop	1	Rote
Rubber buffer stop	1	
Cover support bracket	1	
Flat-headed self-tapping screws ST3.9 x 9.5 T15	10	Not dep.
Countersunk tapping-screws ST3.9 x 45 T15	40	Not dep.



Small components pack

Small components pack with additional parts, wide sashes

























Small components pack for additional parts for wide sashes

1 piece(s)

785793

Contents

Designation	Quantity	Figure
Connecting-rod support-block	1	
Cover support bracket	1	



INFO

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





10.4 Scissors-slider set

10.4.1 Fixed top guide block









			Nο
Fixed top guide block	_	1 piece(s)	785868

10.4.2 Tiltable top guide block









			Nº
Tiltable top guide block	Left	1 piece(s)	772255
	Right	1 piece(s)	785867



CTL_94_EN_v0 · 03 / 2017 · **133**

10.5 Travel restrictor











INFO

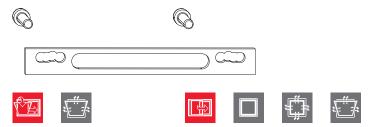
For diagram C, the travel restrictor is used in all PS variants.





10.6 Geared-handle support set

Sets

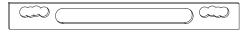


	i	#			Nο
AL geared handle support set	For Roto Line AL geared-handle	2	M5X12	10 piece(s)	335002

Contents

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

Individual components













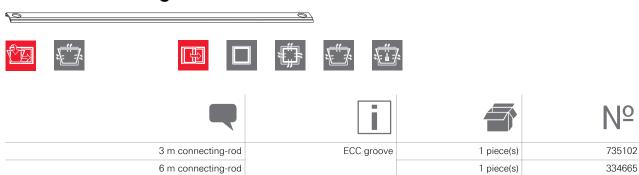


	i	#	J imus		No
AL geared handle support	For Roto Line AL geared-handle	-	_	100 piece(s)	331937



CTL_94_EN_v0 · 03 / 2017 · **135**

10.7 Connecting rods







10.8 Security components

10.8.1 SEC drilling protection









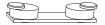






	i		No
SEC anti-drilling protection	For Roto Line lock. handles	10 piece(s)	487406

10.8.2 SEC coupler component











	i		Nο
SEC coupler component	For connecting the connecting-rod to a bullet catch or night ventilation track in RC2 / RC2N $$	20 piece(s)	348576

10.8.3 SEC connector



















10.8.4 SEC locking cam















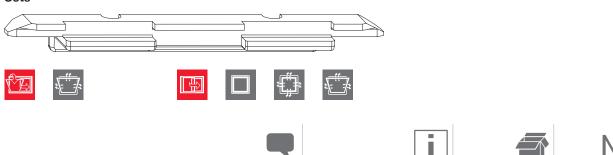
		No
SEC insertable cam	100 piece(s)	447245





10.8.5 SEC rebate clearance reduction

Sets



Contents

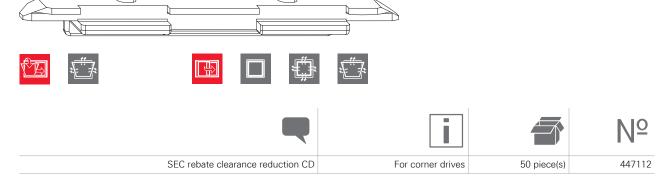
Designation	Quantity	Figure
SEC rebate clearance reduction CD	1	
Countersunk tapping-screw ST 4.8 x 16	1	

For corner drives

10 piece(s)

728950

Individual components



Individual components



SEC rebate clearance reduction set

	i		No
SEC rebate clearance reduction ESP	For Roto Line lock. handles	50 piece(s)	334360

CTL_94_EN_v0 · 03 / 2017 · **139**

Individual components









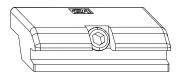






	i		Nο
Countersunk tapping-screw ST4.8 x 16	For SEC rebate clearance reduction ESP	1 000 piece(s)	212754

10.8.6 Run-up block















	₹ Ľ		No
Run-up block	V.01	100 piece(s)	684282
	V.02	100 piece(s)	684283





10.9 Roto NT grease

	i		No
Roto NT grease	20 ml tube, white	1 piece(s)	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