

Roto In-line Sliding

Hardware Systems for Simple Sliding Windows and Doors

Catalogue for sliding windows and doors

PVC, timber, aluminium



Liability exclusion

All specifications in this catalogue were diligently compiled and validated. Changes due to technical progress, changes in legislation and the passage of time are unavoidable. We therefore hope you understand that we cannot be held liable for the accuracy or completeness of the contents. All rights, in particular the right to copy and circulate, reserved.

Imprint

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Roto Frank AG
Wilhelm-Frank-Platz 1
70771 Leinfelden-Echterdingen
Germany
Telephone: +49 711 7598 0
Telefax: +49 711 7598 253
info@roto-frank.com
www.roto-frank.com

Roto Info	4
Espagnolettes	Single action espagnolettes..... 17 with adjustable cams18 with 5 mm hooks.....22 with 14 mm hooks.....24 Reverse action espagnolettes 29 Gearboxes30 Extensions.....34 Shootbolts36 Detailed dimensions.....37
Rollers	Single rollers..... 40 Tandem rollers 42
Handles	Pop-up handles 50 RotoLine sliding handles..... 52
Strikers	Single strikers..... 60 One- and two-piece strikers 61
Accessories	Buffer stops..... 70 Anti-mishandling device/ Info-clip..... 71 Separators 72
Generic profiles	Generic aluminium profile 80 Generic timber profile..... 82
Guide to hardware PVC	84
Guide to hardware ALU	94
Guide to hardware TIMBER.....	98

Roto Info

Window and door technology



Leinfelden-Echterdingen production plant: Roto group headquarters



Roto Frank Austria GmbH
Kalsdorf (AUT)



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



Roto Frank AG
Leinfelden-Echterdingen (GER)



Roto Frank AG
Velbert production plant (GER)



Roto Elzett Certa Kft.
Lövé (HUN)



Elzett Sopron Kft.
Sopron (HUN)
(50 %)



OOO Roto Frank
Moscow (RUS)



Roto Lož d.o.o.
Lož (SLO)
(50 %)



Roto Frank of America Inc.
Chester, Ct. (USA)



Entrance area of the Leinfelden-Echterdingen production-plant

The Roto group of companies – leading the way for over 70 years

Only a few brands in the construction world can look back at a similar success story, and only a few are at the forefront over decades. Roto is one of the leading manufacturers of window and door technology worldwide and a major supplier of roof and solar technology.

Our history begins, as in the case of many successful companies, with the name of a personality: Wilhelm Frank. He became a pioneer with his ideas; the first industrially-produced Tilt&Turn hardware in 1935. Our company founder was a classic Swabian inventor. Under his direction and that of his immediate successors, Roto developed with its headquarters in Leinfelden-Echterdingen (Stuttgart), from being a one man operation to an international group of companies.

Over 4000 employees around the globe work on the task of recognising customers' needs early on and developing products to enhance the increased value of windows and doors for mankind.

Creating inner – and with it permanent – values is our utmost objective. A good example of this is our In-line Sliding hardware system for sliding windows and doors. It facilitates not only an optimal use of space, but also convinces with its convenient and practical operation. This is ensured by a straightforward, future-orientated technology. Roto offers numerous solutions that are specially coordinated with the individual markets requirements.

Roto Door offers intelligent, secure and convenient multi point locking systems and hinge systems for conventional house and apartment doors that meet all technical requirements. Depending on the demand on ease of operation and security – from straightforward rim locks right up to motorised automatic multi point locks that can be operated using radio-controlled technology like modern garage doors – you can be sure to find the appropriate products in our extensive product range. An extensive range of accessories complement the product range.

A state of the art cross linked network of nine production plants worldwide warrants a high level of flexibility, productivity and supply security.

With our international distribution network consisting of over 40 own subsidiaries, representations and trading partners, we ensure that we are always close to our customers. Both the customers and Roto benefit equally from the continuous close dialogue with planning engineers, dealers and window & door fabricators.

Storage conditions

■ **Component protection against dirt and dust**

Always keep the hardware bundles closed, and always cover up hardware bundles or opened goods (i. e. with a layer of cardboard).

■ **Component protection against mechanical damage**

Transport and handling of the hardware bundles only to be carried out with suitable transport or conveying means (forklift trucks, hoisting devices/cranes and elevators, roller belts, etc.). Maximum pallet and cardboard-box stack-heights (during transport) in accordance with the printed instructions on the packaging are to be strictly adhered.

■ **Component protection against direct humidity and wetness**

The components may not get wet. The packaging must remain dry. 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 when raining (i. e. on-site transport). Storage may only be carried out in suitable, closed rooms and not outdoors. Condensation is to be absolutely avoided during the entire transport and storage duration.

■ **Should hardware bundles nevertheless get wet...**

Immediately unpack the components from the wet bundles, dry the components and check for signs of corrosion. In any case repack the usable components when dry with new packing material.

Environment

Environmental compatibility classification of Roto hardware

■ Environmental compatibility classification of Roto hardware

It is our goal to manage with the lowest possible energy and fuel consumption levels in the manufacturing of our hardware components and strive to produce hardware components with great durability. In this case care is taken of our natural resources, minimising energy consumption and using raw materials in an ecology-minded manner.

■ Environmental impacts resulting from the hardware

The surface finish composition of our treated surfaces is abrasion-resistant.

No environmental pollution is caused by hardware components upon stipulated application. The grease we use is environmentally friendly.

■ Environmental compatibility of the packaging

We use disposable packaging material made of reinforced cardboard, steel/PVC packaging tape, polyethylene (PE) sheeting, timber frames, cable ties, elastomer cord as well as reusable packaging, reusable "Schäfer" boxes, crate pallets and 'EURO' pallets.

■ Environmental compatibility 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 nation-wide at the telephone exchange of ISD INTERSEROH GmbH in Cologne under the following telephone number: +49-2203-9147-322. The Roto INTERSEROH registered number is 25582.

Roto environmental management system

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

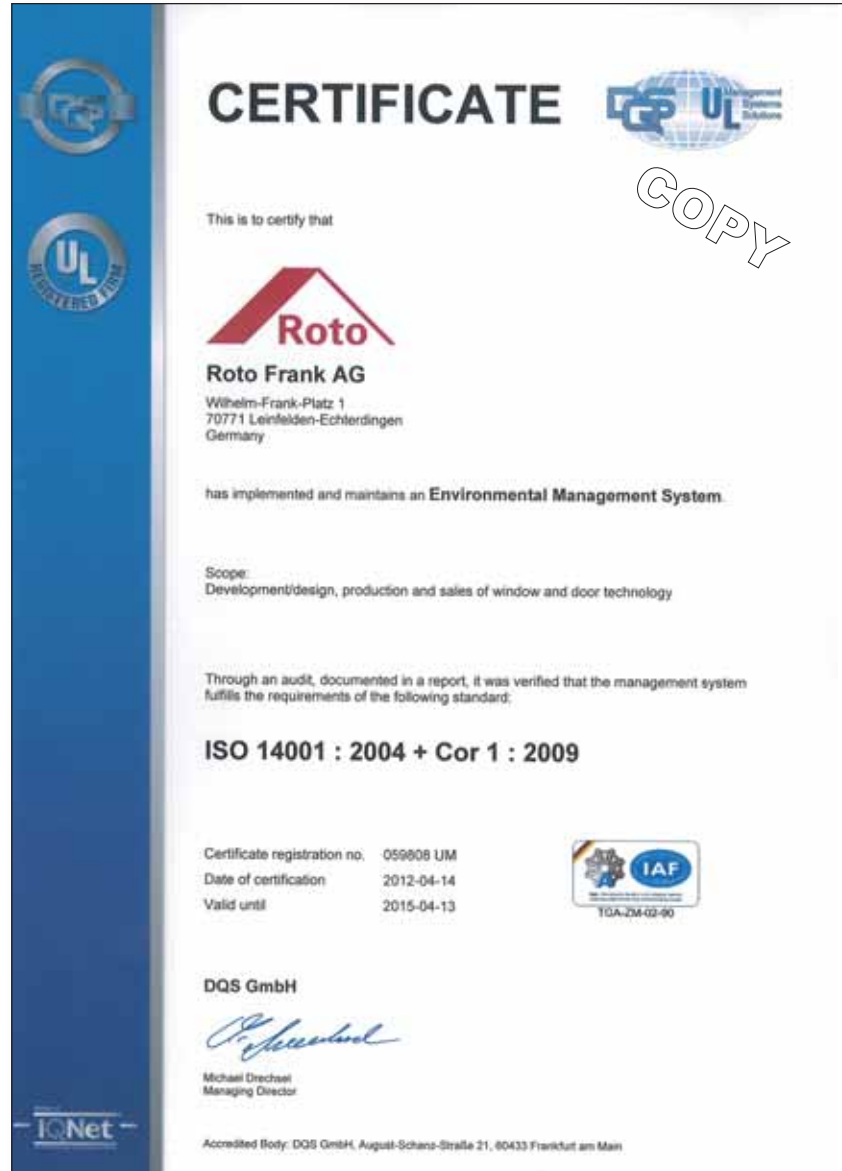
Roto considers the environmental compatibility of products and environmentally sound procedures right from the beginning, during development, design, planning, production, and logistics.

The certification underlines the environmental awareness in Roto:

Roto pursues occupational safety, accident prevention and plant safety as their fundamental goal within the guidelines of industrial safety.

Roto views environmental protection as an integral part of all entrepreneurial activities and decisions are shaped by ecology-minded behaviour, environmental compatibility of the products and procedures, as well as preservation of existing resources.

In addition, the high durability of Roto products is a contribution to the preservation of existing resources.



Roto quality management system

The certification in accordance with the international standard DIN EN ISO 9001 certifies that Roto has systematically planned, documented, and appropriately implemented the entire design, production, and sales processes. Starting with development and design through to quality planning, from production and assembly, right through to sales and customer services.

The certification is an external indication of the high-quality philosophy practised in Roto:

Roto's aim is: Continuous product and service improvement for our customers benefit.

Roto offers its customers innovative and technically pretentious architectural hardware technology.

Roto products are supplied punctually worldwide with constant guaranteed quality.

Roto views integrated quality containing all company activities as the key to long-term company success.

Roto employees are supported in their personal development and challenging work; Roto employees practise high-quality philosophy in their daily work. They work service- and goal oriented.

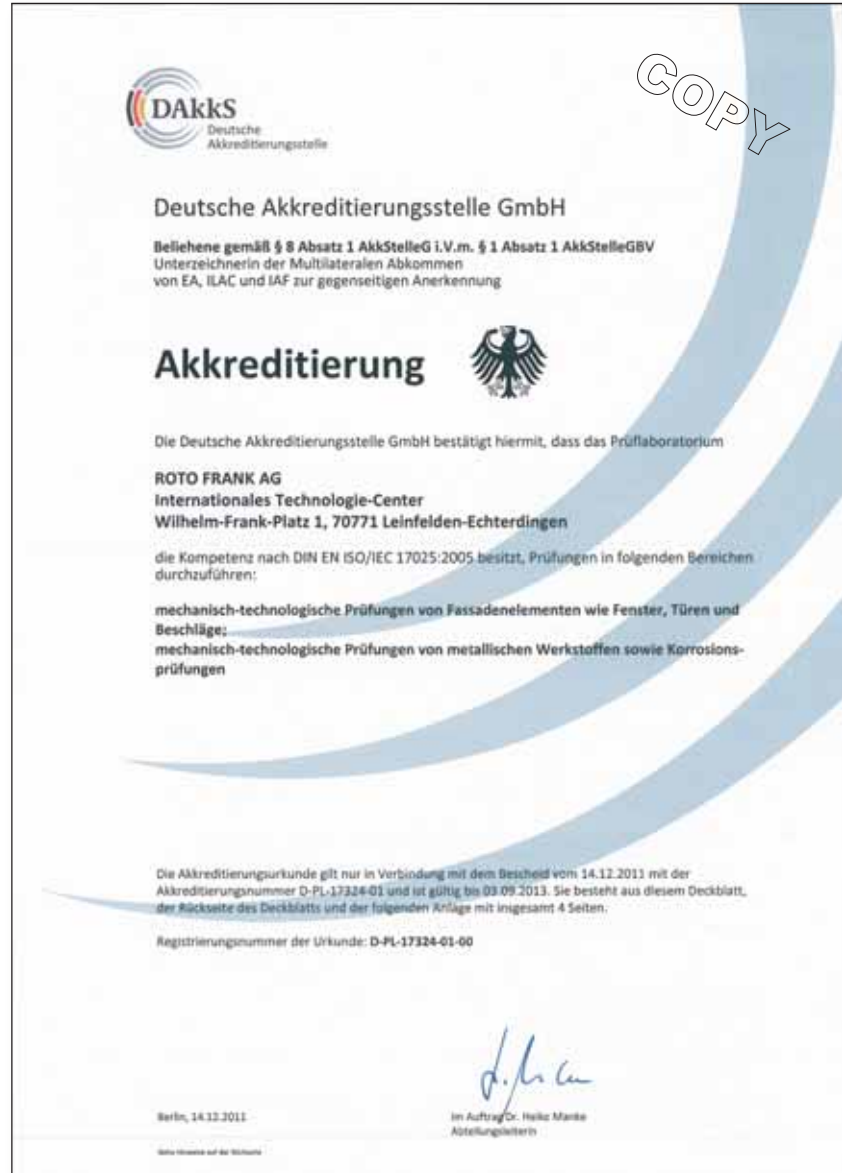


Roto test centre – International Technology Centre (ITC)

The Roto company-group benefits from their modern test centre (ITC) at the Leinfelden headquarters since October 1996. This is at disposal for both our own material and product testing, as well as for finished window tests from Roto market partners.

The Roto test centre (ITC) is accredited in accordance with DIN EN ISO/IEC 17025 by the German Accreditation Council (DAR=Deutscher Akkreditierungsrat). It was confirmed by means of the accreditation from the German Accreditation System GmbH (DAP=Deutsche Akkreditierungssystem GmbH), that the Roto test centre has the competence to carry out tests in areas such as mechanical-technological tests of facade elements such as windows, doors and hardware, as well as metallic material tests.

The attainment of the accreditation in accordance with DIN EN ISO/IEC 17025 represents the highest distinction for a test institute in private industry. The preconditions 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.



Product liability guidelines

Hardware for windows and balcony doors

According to the defined manufacturer's liability described in paragraph 4 of the "product liability law", the following information regarding Turn-Only, Tilt&Turn and sliding hardware for window and balcony door sashes should be observed. Non-compliance exempts the manufacturer of his liability.

1. Product information and stipulated application

1.1 Turn-Only and Tilt&Turn hardware

Definition: Turn-Only and Tilt&Turn hardware as covered by this definition is one-hand-operation Turn-Only and Tilt&Turn hardware for windows and balcony doors in building construction. This is used to enable windows and balcony-door sashes into a turning position by operating a 'hand-lever' (handle) or into a limited tilting position in the case of the scissors (sash-stay) version.

Application: Turn-Only and Tilt&Turn hardware is used on vertically installed windows and balcony doors made of timber, PVC, aluminium or steel and their corresponding material combinations. Conventional Turn-Only and Tilt&Turn hardware as covered by this definition, locks window and balcony door sashes or enables various ventilating positions. When closing, the gasket counter force must be overcome as a rule.

1.2 Sliding hardware

Definition: Sliding hardware as covered by this definition, is hardware for sliding sashes for balcony doors and windows that are mainly used as glazed exterior structures. In combination with the sliding sashes, fixed-glazing-units and/or further sashes i. e. Turn-Only sashes for cleaning purposes can be situated in a window element.

Application: Sliding hardware is used on vertically installed windows and balcony door sashes made of timber, PVC, aluminium or steel, and their corresponding material combinations. Sliding hardware as covered by this definition is equipped with a locking mechanism that fastens the sliding sash as well as rollers located on the bottom horizontal plane of the sliding sash. In addition, scissor stay-arms for tilting and mechanisms to lift and/or parallel-retract

the sashes can be specified. By means of the hardware, the sashes are locked, brought into the ventilation position and pushed to the side.

Depending on the outside temperature, relative air humidity of the ambient air, as well as the application location of the sliding element, a temporary formation of condensation water on the aluminium track on the inside may occur. This is particularly promoted when the air circulation is hindered; for example due to deep reveals, curtains as well as unfavourable radiator positioning and the like.

1.3 Differing application – Liability exclusion

All applications differing from section 1.1 and/or 1.2 are regarded as non-stipulated applications and excludes any liability on our part.

1.4 Advice concerning restrictions of use

Opened balcony doors and window sashes, as well as window and balcony door sashes not locked or in the tilted modus, provide only a shielding function and do not meet any demands on joint impermeability, water tightness, sound reduction, heat-insulation and burglary resistance.

In the case of wind and draught, the window and balcony door sashes must be closed and locked. Wind and draught is present, if a window or balcony door sash while in one of its opening positions, can open or close on its own, in an uncontrolled manner by means of either air pressure or air suction.

A static opening position of windows and balcony door sashes can only be achieved by means of additional hardware.

1.5 Particular necessary agreements for extended requirements

Burglar-resistant windows and balcony doors, windows and balcony doors for damp rooms and those for use in environments with aggressive, corrosive air content, require hardware adapted for the respective application and individually agreed upon performance features.

The resistance against wind loads in a closed and locked state is dependent on the respective designs of windows & balcony doors. If wind loading tests need to be carried out (for example in accordance with DIN EN 12210 – in particular pressure test p3), suitable hardware compilations are to be matched in relation to the respective window design and frame material, and each case individually agreed upon.

Generally speaking, the hardware defined in § 1.1 and/or § 1.2 fulfils the requirements for barrier-free dwellings (for example, in accordance with DIN 18025). However corresponding hardware compilations and installations for windows and balcony doors are necessary, which must be coordinated and each case individually agreed upon.

2. Misuse

Misuse – therefore not the stipulated product utilisation – occurs in particular with hardware for windows and balcony doors as described in section 1.1 and/or 1.2 in particular:

- if obstacles are inserted in the opening vicinity between frame and sash, thus preventing or inhibiting its proper specified use,
- if additional loads are put on windows or balcony-door sashes (for example if children swing on the window or balcony door sash),
- if window and balcony door sashes are pressed adversatively or uncontrolled (for example by the wind) up against the window reveals, so that the hardware or the frame material or other individual window or balcony door components are damaged or destroyed and/or if consequential damage can arise.
- If while closing (or sliding) someone reaches between the sash and frame, and/or a person (or parts thereof) are in the vicinity (can cause bodily harm/be lethal).

Product liability guidelines

Hardware for windows and balcony doors

3. Liability

The respective entire hardware set may only consist of hardware components from Roto's NT system. In the case of non factory-approved combinations by Roto Frank AG and/or inappropriately assembled hardware, and/or the use of non-original and/or non factory-approved accessory components, no liability is accepted.

For professional screw-fixing, the Quality Assurance Association: Locks and Hardware's directive 'TBDK' (Fixing load-bearing Turn-Only and Tilt&Turn hardware components) is to be adhered to.

When using PVC or light metal profiles, the profile manufacturers and/or system owners information is to be observed.

The window fabricator is essentially responsible for the compliance of the specified system-related dimensions (for example, the gasket gap dimensions). These specified system-related dimensions are to be checked regularly, in particular when using new hardware components for the first time, and also during production as well as during the window installation process. The hardware components are designed in such a manner, that the system-related dimensions can be adjusted, provided the hardware can have an effect on these. Should there be a deviation from these dimensions that leads to a fault that has not been noted before the window installation, no liability is accepted for the additional expenses incurred.

4. Product performance – Manufacturers application advice

4.1 Maximum sash weights

The listed maximum sash weights for the individual hardware versions may not be exceeded. The component with the least permissible load-carrying capacity determines the max. sash weight. Application diagrams and component classification are to be adhered to (Refer to chapter Diagrams/Profile cross sections).

4.2 Sash sizes

The description of the application diagrams in the planning documentation, product catalogues or installation instructions depict the relationships between the permissible sash rebate widths and sash rebate heights, depending on various glass weights and/or thickness. The resulting sash dimensions or sash formats (portrait and/or landscape format) – as well as the maximum sash weight – may not under any circumstance be exceeded.

4.3 Hardware combination

The manufacturer's regulations that deal with the combination of hardware are obligatory (for example: the application of additional stay arms, the hardware design for burglar-resistant window sashes and balcony door leaves etc.).

5. Product maintenance

Security relevant hardware components are to be examined at least once a year for stability and wear and tear. Depending on the requirements, the fixing screws are to be tightened and/or parts to be replaced. In addition to this, the following maintenance work is to be carried out at least once a year:

- All movable parts and all locking points of the hardware are to be lubricated and tested.
- Only cleaning and maintenance agents that do not damage the corrosion protection of the hardware components are to be used.

The hardware adjustments – particularly in the vicinity of the pivot rests, the bogies and the scissors-stay – as well as replacing parts and the unhinging & hinging of the active sash are to be carried out by a specialist company.

When coating – for example when painting or varnishing – the windows' and balcony doors hardware is to be excluded from this process and is also to be protected against any impurities (paint/varnish splashes).

5.1 Preservation of the surface finish

Electrolytically applied zinc coatings are not attacked in a normal room climate, if no condensation can form on the hardware or occasionally formed condensation can dry rapidly.

In order to permanently preserve the hardware's surface quality and to avoid deterioration by corrosion, it is imperative to observe the following points:

- The hardware and/or the rebate areas are to be ventilated sufficiently in particular during the building phase so that they are not exposed either to direct wetness or to condensation. In any case, necessary steps are to be taken to ensure that moist ambient air (long-term) cannot condense in the rebate areas.
- The hardware is to be kept free from deposits and soiling from building materials (building dust, plaster, cement etc.). Possible soiling from plaster, mortar or similar materials is to be removed with water before it cures.
- Aggressive vapours (for example: by means of formic acid or acetic acid, ammonia, amine or ammonia compounds, aldehydes, phenols, tannic acid etc.) in connection with even small formations of condensation can lead to fast corrosion of the hardware. For this reason, evaporation in the vicinity of the windows is to be absolutely avoided.
- On windows and balcony doors made of oak or other types of timber with a high concentration of (tannic-) acid, ensure that by means of a suitable window surface treatment, these content substances can not evaporate out of the timber. The hardware may not come in direct contact with untreated timber surfaces.

(Continued on the next page)

Product liability guidelines

Hardware for windows and balcony doors

- Furthermore no acetic-acid or crosslinked acidic sealing compounds or those with the above mentioned contents may be used, since both the direct contact with the sealing compound and it's vaporisation can attack the hardware's surface.

- The hardware may only be cleaned with mild, pH-neutral cleaning agent in diluted form. Under no circumstances may aggressive, acidiferous cleaners or abrasive cleaning agents whose contents are listed in the above paragraph be used.

- Basically only zinc-plated and passivated screws are to be used for fixing the hardware components. By no means may stainless-steel screws be used, as this promotes the corrosion of zinc-plated surfaces.

6. Obligation to issue information and instructions

The following documentation in particular is available in order to fulfil the information and instruction duties, as well as implementing

maintenance operations. This documentation is to be passed on to dealers, intermediaries, fabricators and end users.

- Planning documentation
- Product catalogues
- Installation instructions
- Maintenance and care instructions as well as operating instructions

This is described subsequently as 'product information' – whether in whole or in part.

In order to safeguard the relevant function of windows and balcony doors:

- Planning engineers are obliged to request and comply with the manufacturers or authorised dealers 'product information'.
- Specialised dealers are obliged to observe the 'product information' from the manufacturer – particularly valid for advertising measure – and to pass this on to subsequent dealers and/or fabricators, and to point out to them that they are also obliged to pass this on to their customers.

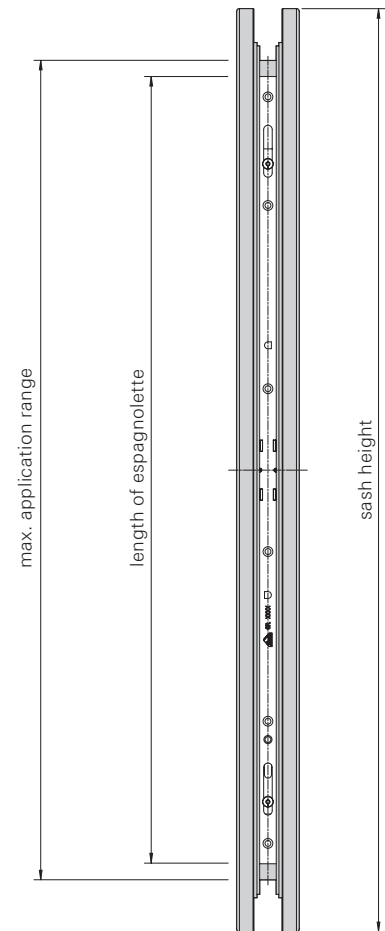
- Fabricators are obliged to observe the 'product information' and in particular, to pass on service & maintenance instructions as well as operating manuals to the builders and end-users.

7. Use of related hardware

The variations possible within individual hardware systems (for example Tilt- Only and Top-Hung hardware, or hardware that provides a circumferential ventilation-gap by parallel-retracting the sash instead of, or in addition to the tilted position) are to be treated according to the corresponding valid features of product information, stipulated application, misuse, product performance, product maintenance, information & instruction obligations.

General advice concerning the catalogue

- All dimensions in mm.
- The depicted illustrations and/or technical drawings are not to scale.
- The width-height ratio of a sliding sash should be 1 : 2.5 maximum.
- Application range: The maximum length of the espagnolette is shown in the illustration.



RotoSil surface

A new surface protection procedure has been developed by Roto for the Roto hardware product range based upon galvanising, chromating and an additional sealing. RotoSil enables the hardware components to appear in a smooth silver tone. The quality requirements in accordance with RAL-RG 607/3 are exceeded by a multiple; also the protective effect against acids has been decisively improved. The surface protection regulations of the RAL quality assurance association in Velbert-Germany are more than fulfilled.

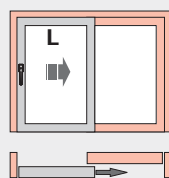
Tests are constantly being carried out according to the usual guidelines for multi point locking systems concerning corrosion resistance.

Comprehensive quality assurance offers you a constant level of high-quality products.

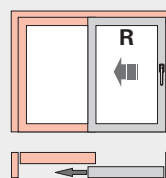
Given the proper care and presuming that the surface-finish is not damaged and aggressive cleaners are not used, long-term durability without retro-treatment is provided.

Diagrams

Diagram A



DIN left



DIN right

Diagram C

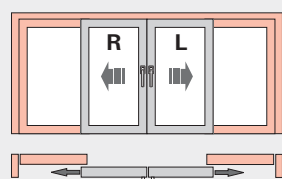


Diagram D

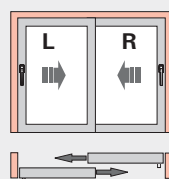


Diagram F

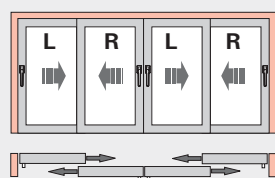


Diagram G2

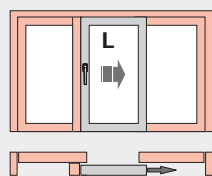
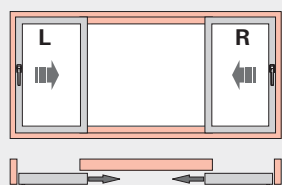
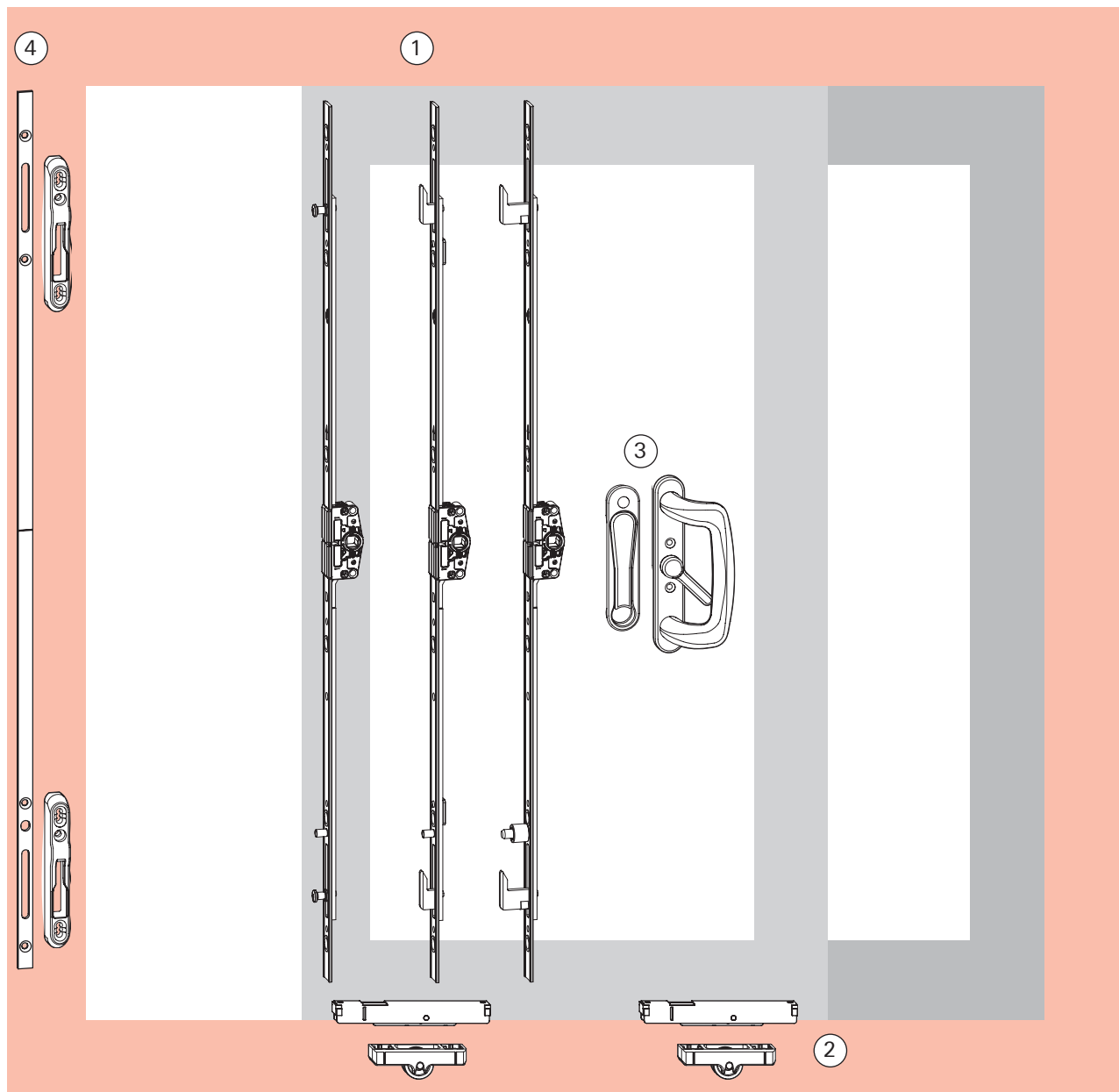


Diagram K



Single action

Hardware overview



1	Espagnolettes	page 17
2	Rollers	page 40
3	Handles	page 50
4	Strikers	page 60
	Accessories	page 70

All hardware components exist in different variations. In applications with two movable sashes double the amount of hardware is needed.

Single action espagnolettes

Advantages of the system

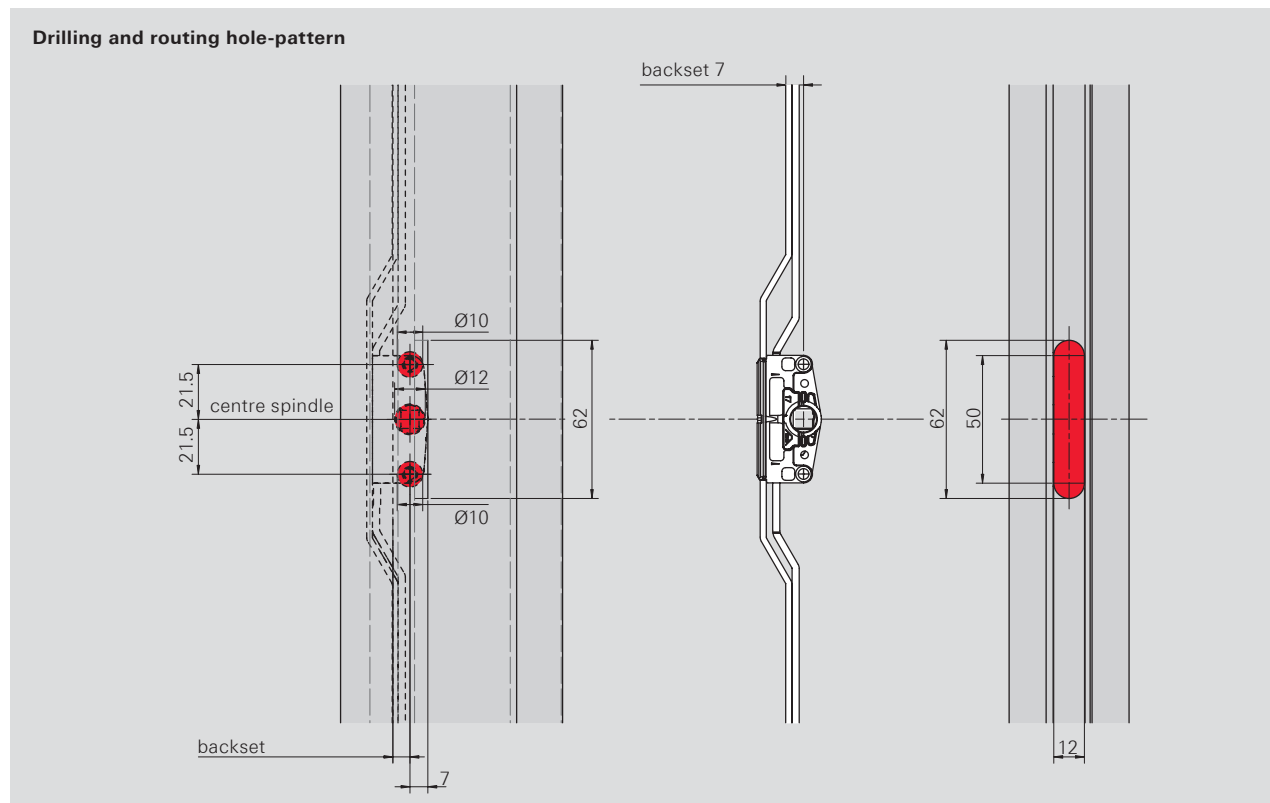
- designed for use on timber, PVC and aluminium systems with a minimum eurogroove depth of 5 mm
- profiled faceplate for enhanced stability and aesthetic appearance
- faceplate width 16 mm
- easy installation due to one-piece assembly and centre-fixing
- anti-lift pin integrated as standard
- precise design of internal components ensures a smooth, reliable operation
- all surfaces are coated in RotoSil (silver finish)

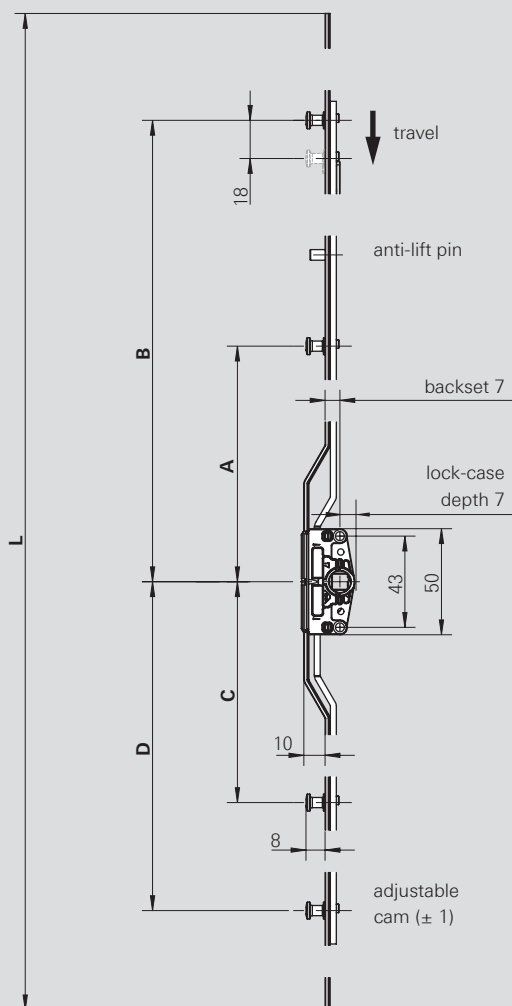
Unsurpassed versatility

The modular In-line Sliding system offers numerous solutions to configure a locking system which suits the individual requirements in security, comfort and design. Concerning the single action espagnolettes Roto offers the following options:

- 7, 17 or 22 mm backsets available
- 7 different lengths of espagnolettes: 240–1800 mm
- 2–4 point security
- different options for locking points:
 - adjustable mushroom cams (8 mm)
 - 5 mm hooks
 - 14 mm hooks
- lockable and non-lockable versions
- one-piece or individual striker options

Single action espagnolettes with adjustable cams backset 7 mm





Espagnolette, backset 7 mm

Application range/mm	Length/mm	Cams	Material no.
400 – 600	400	2	628429
601 – 800	600	2	628430
801 – 1000	800	2	628431
1001 – 1200	1000	3	628432
1201 – 1800	1200	3	628433
1801 – 2900	1800	4	628434

Detailed dimensions

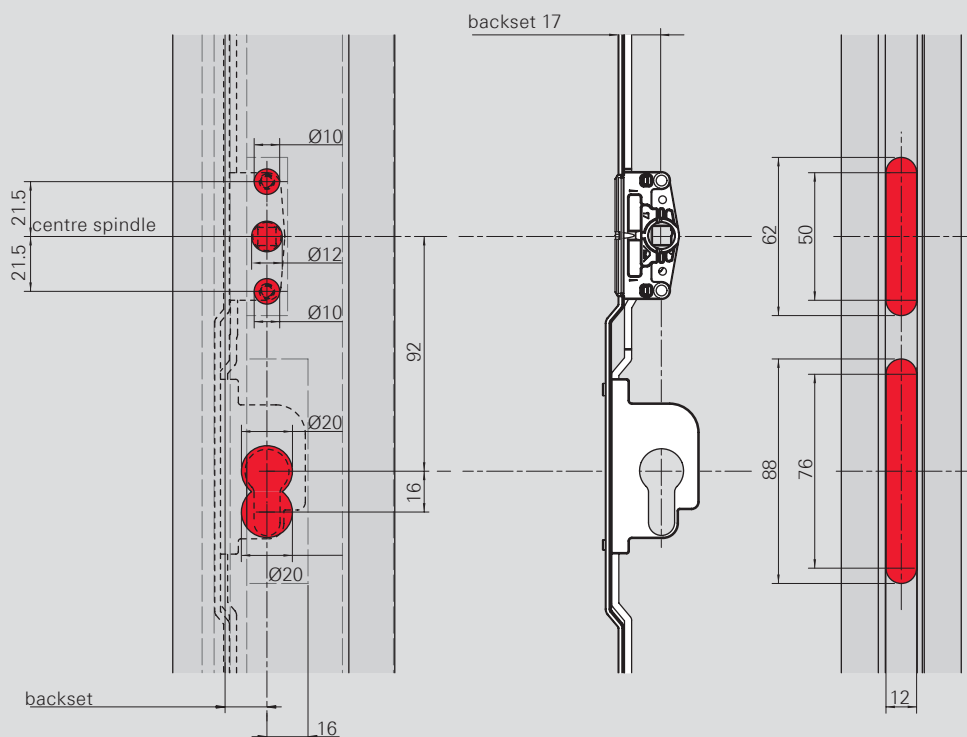
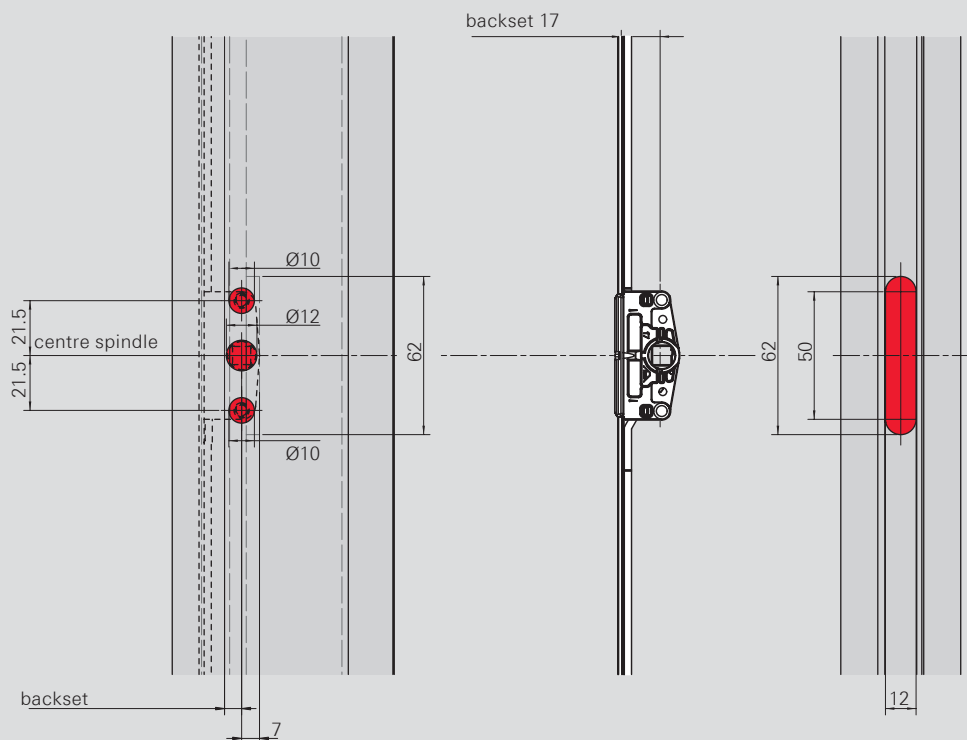
Locking points in closed position

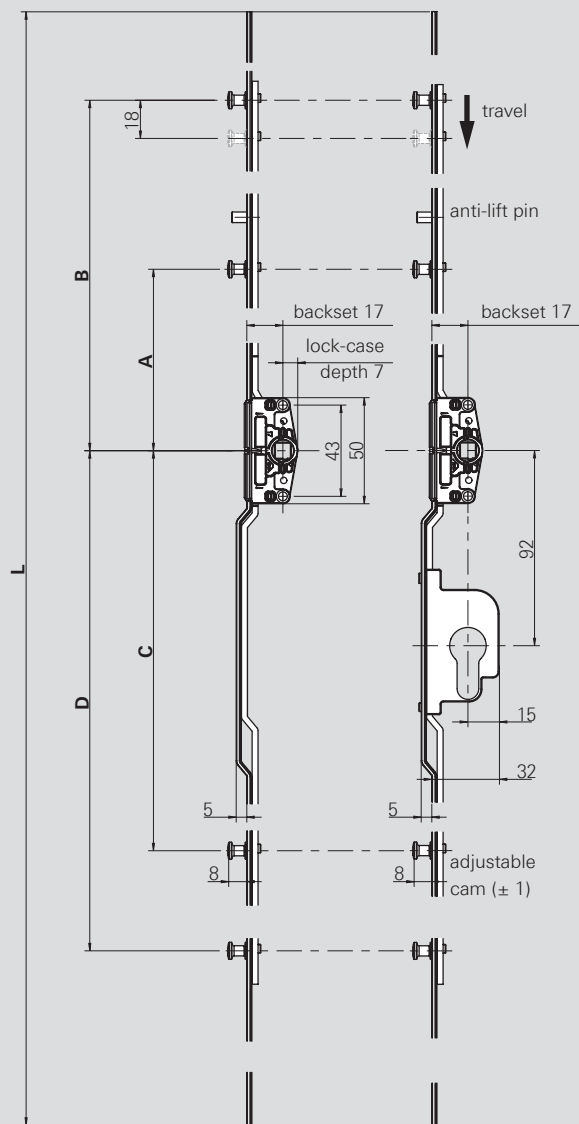
Espagnolette, backset 7 mm

L	A	B	C	D
400	–	146	–	124
600	–	246	–	224
800	–	346	–	324
1000	131	446	–	424
1200	131	546	–	524
1800	469	814	427	771

Single action espagnolettes with adjustable cams backset 17 mm

Drilling and routing hole-pattern





Espagnolette, backset 17 mm

Application range/mm	Length/mm	Cams	Material no.
240 – 400	240	2	628482
401 – 600	400	2	628483
601 – 800	600	2	628484
801 – 1000	800	2	628495
1001 – 1200	1000	3	628496
1201 – 1800	1200	3	628497
1801 – 2900	1800	4	628498

Espagnolette, backset 17 mm, lockable

Application range/mm	Length/mm	Cams	Material no.
1800 – 2900	1800	4	628499

Detailed dimensions

Locking points in closed position

Espagnolette, backset 17 mm

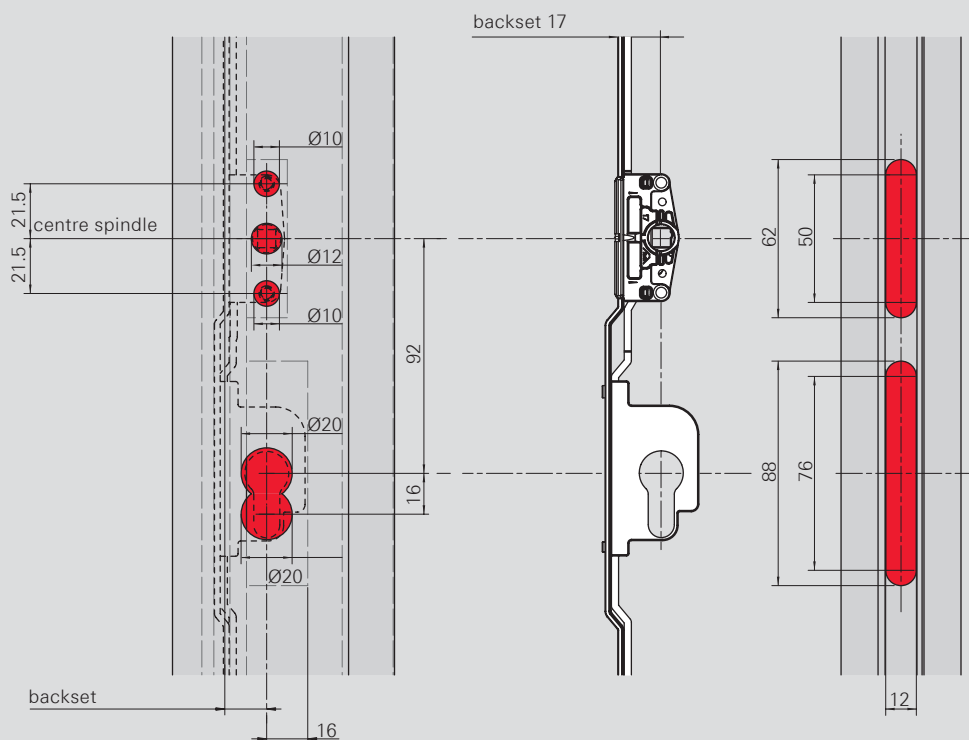
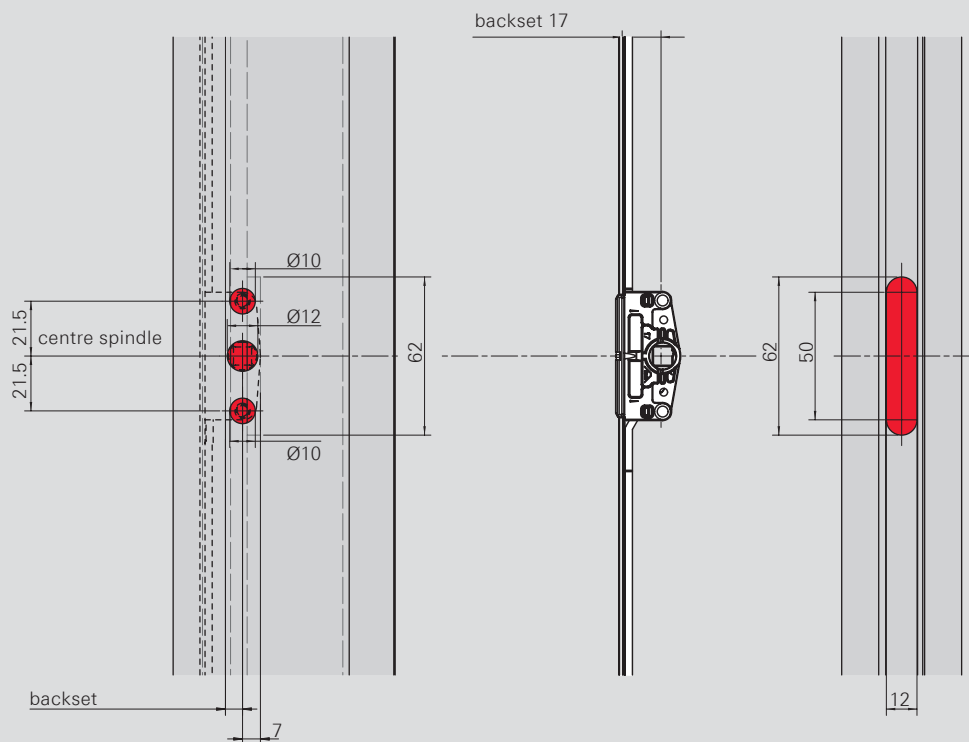
L	A	B	C	D
240	–	91	–	69
400	–	146	–	124
600	–	246	–	224
800	–	346	–	324
1000	131	446	–	424
1200	131	546	–	524
1800	469	814	427	771

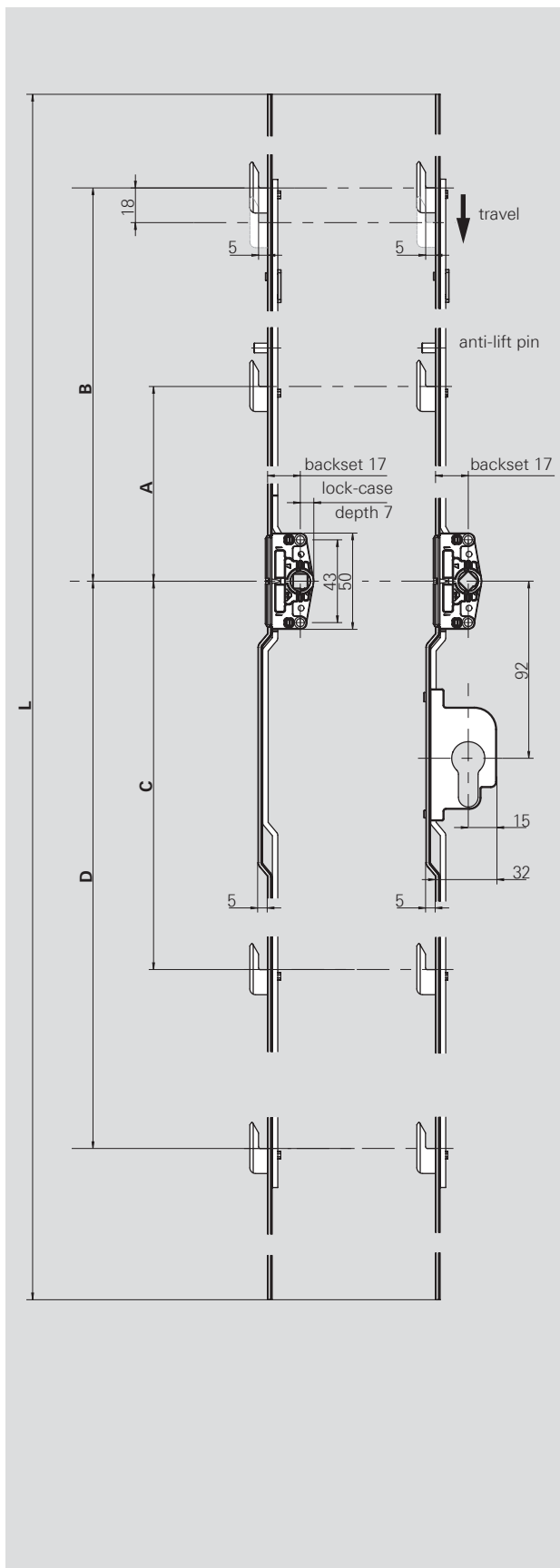
Espagnolette, backset 17 mm, lockable

L	A	B	C	D
1800	469	814	427	771

Single action espagnolettes with 5 mm hooks backset 17 mm

Drilling and routing hole-pattern





Espagnolette, backset 17 mm

Application range/mm	Length/mm	Hooks 5 mm	Material no.
600 – 1800	600	2	628500
1801 – 2900	1800	4	628501

Espagnolette, backset 17 mm, lockable

Application range/mm	Length/mm	Hooks 5 mm	Material no.
1801 – 2900	1800	4	628502

Detailed dimensions

Locking points in closed position

Espagnolette, backset 17 mm

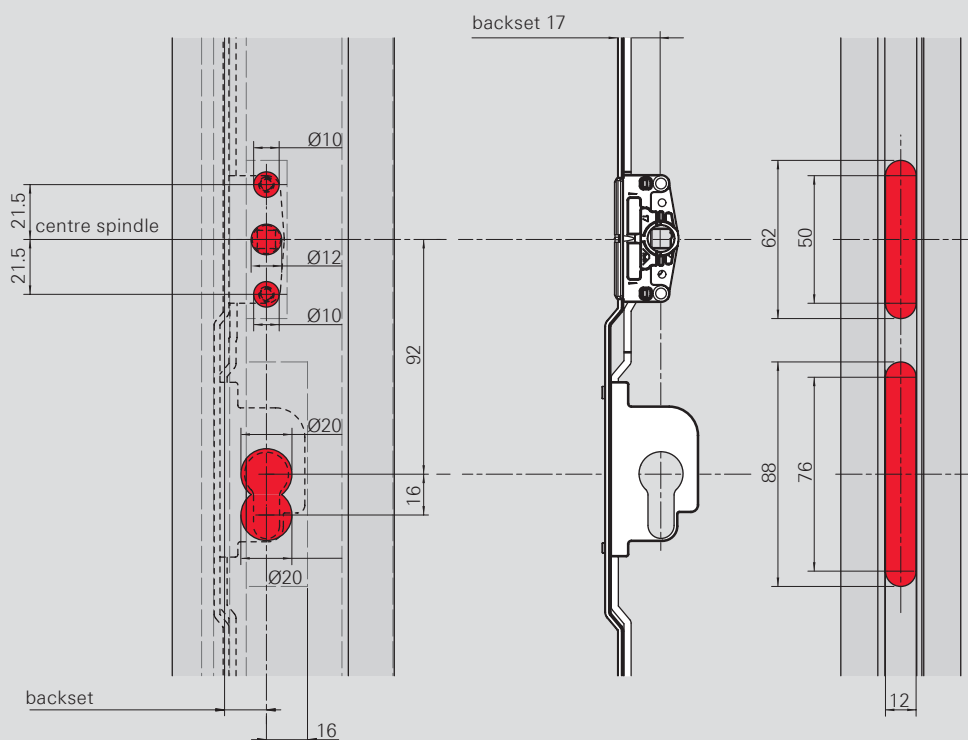
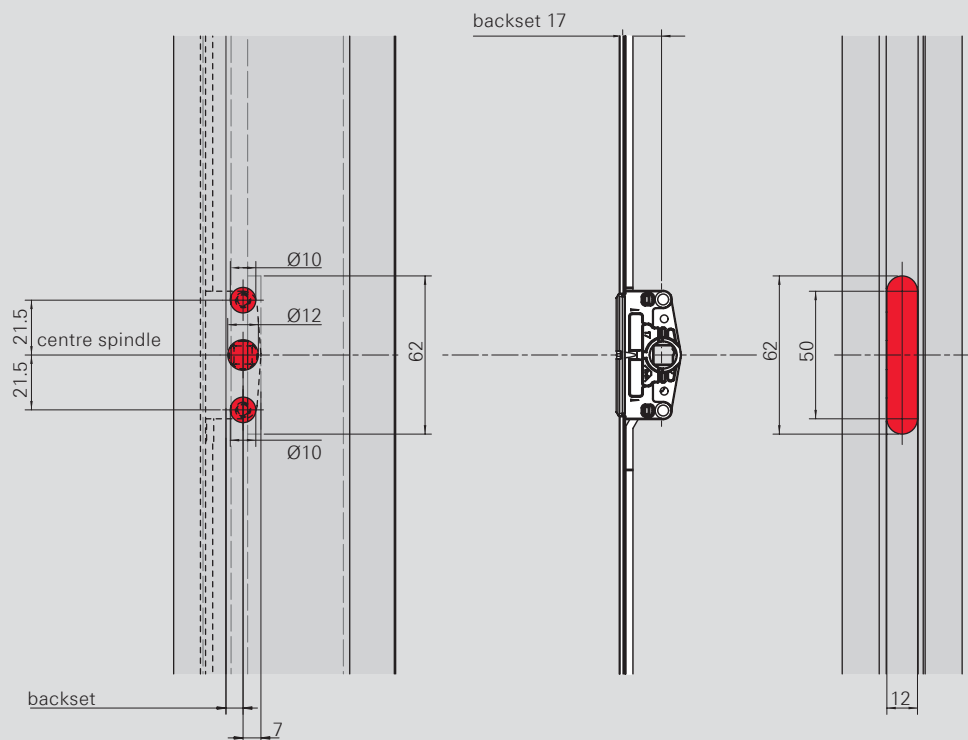
L	A	B	C	D
600	–	250	–	220
1800	473	818	423	767

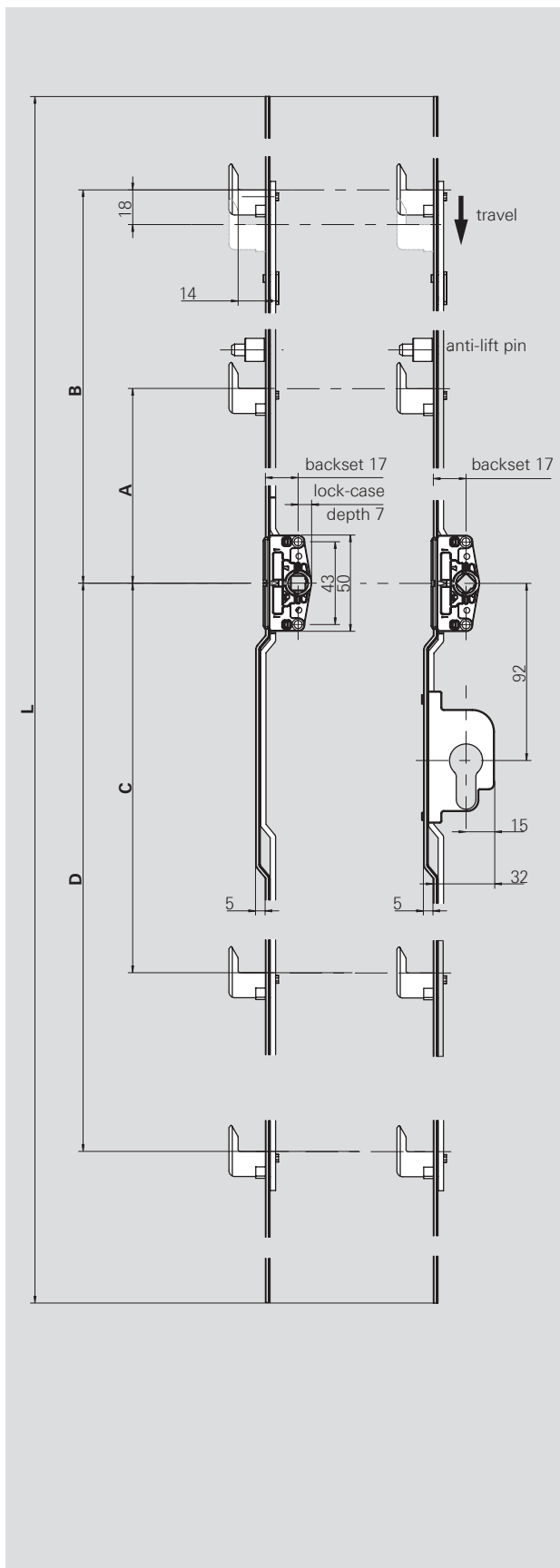
Espagnolette, backset 17 mm, lockable

L	A	B	C	D
1800	473	818	423	767

Single action espagnolettes with 14 mm hooks backset 17 mm

Drilling and routing hole-pattern





Espagnolette, backset 17 mm

Application range/mm	Length/mm	Hooks 14 mm	Material no.
600 – 1800	600	2	628503
1801 – 2900	1800	4	628504

Espagnolette, backset 17 mm, lockable

Application range/mm	Length/mm	Hooks 14 mm	Material no.
1801 – 2900	1800	4	628505

Detailed+ dimensions

Locking points in closed position

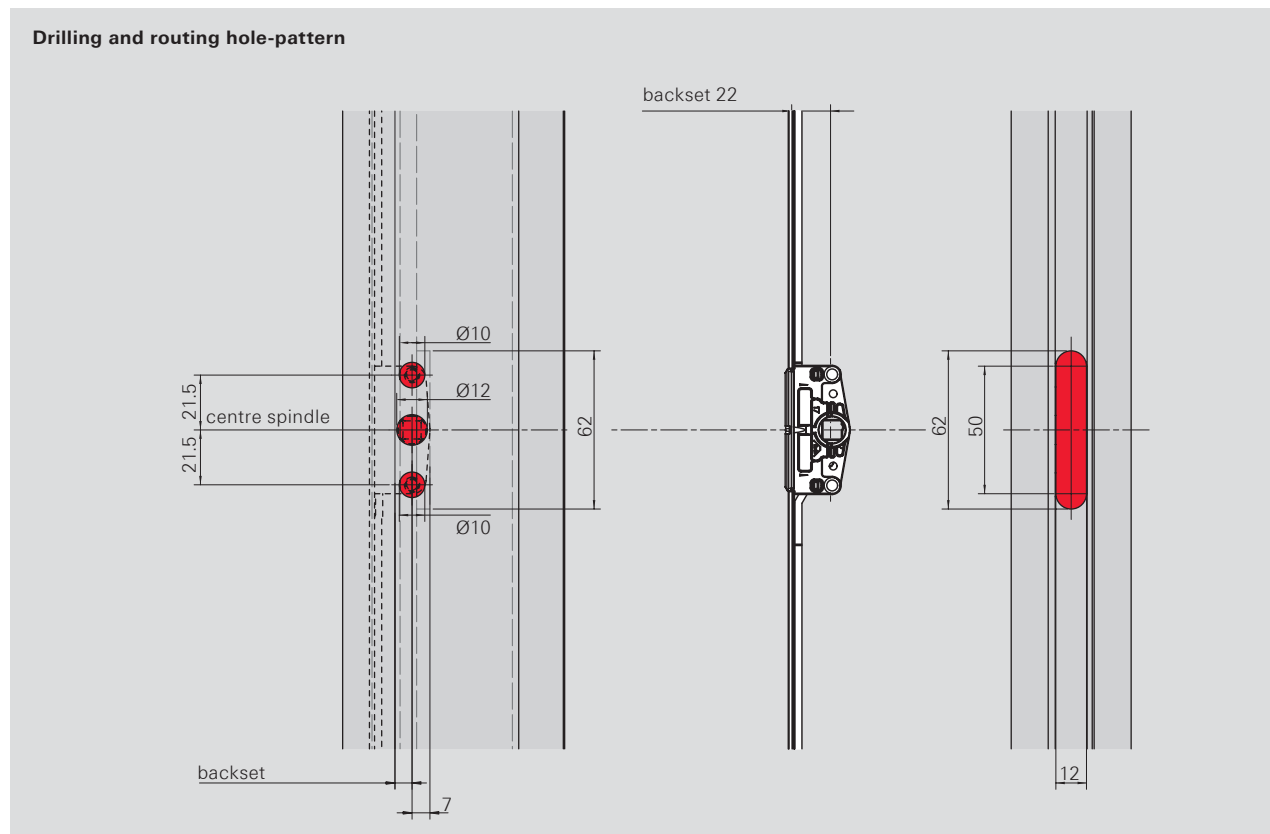
Espagnolette, backset 17 mm

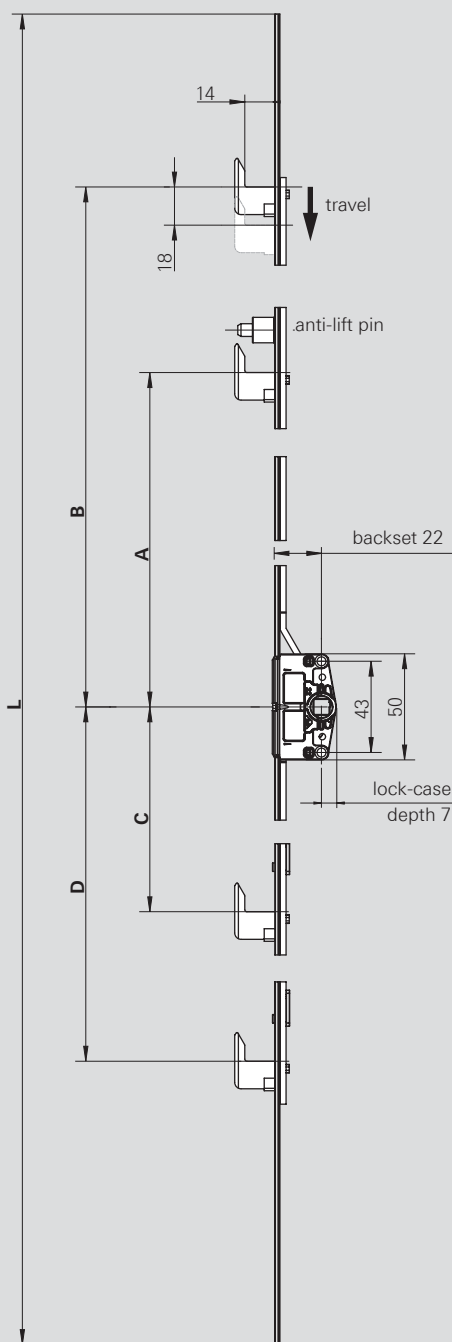
L	A	B	C	D
600	–	250	–	220
1800	473	818	423	767

Espagnolette, backset 17 mm, lockable

L	A	B	C	D
1800	473	818	423	767

Single action espagnolettes
with 14 mm hooks
backset 22 mm





Espagnolette, backset 22 mm

Application range/mm	Length/mm	Hooks 14 mm	Material no.
600 – 1800	600	2	628507
1801 – 2900	1800	4	628508

Detailed dimensions

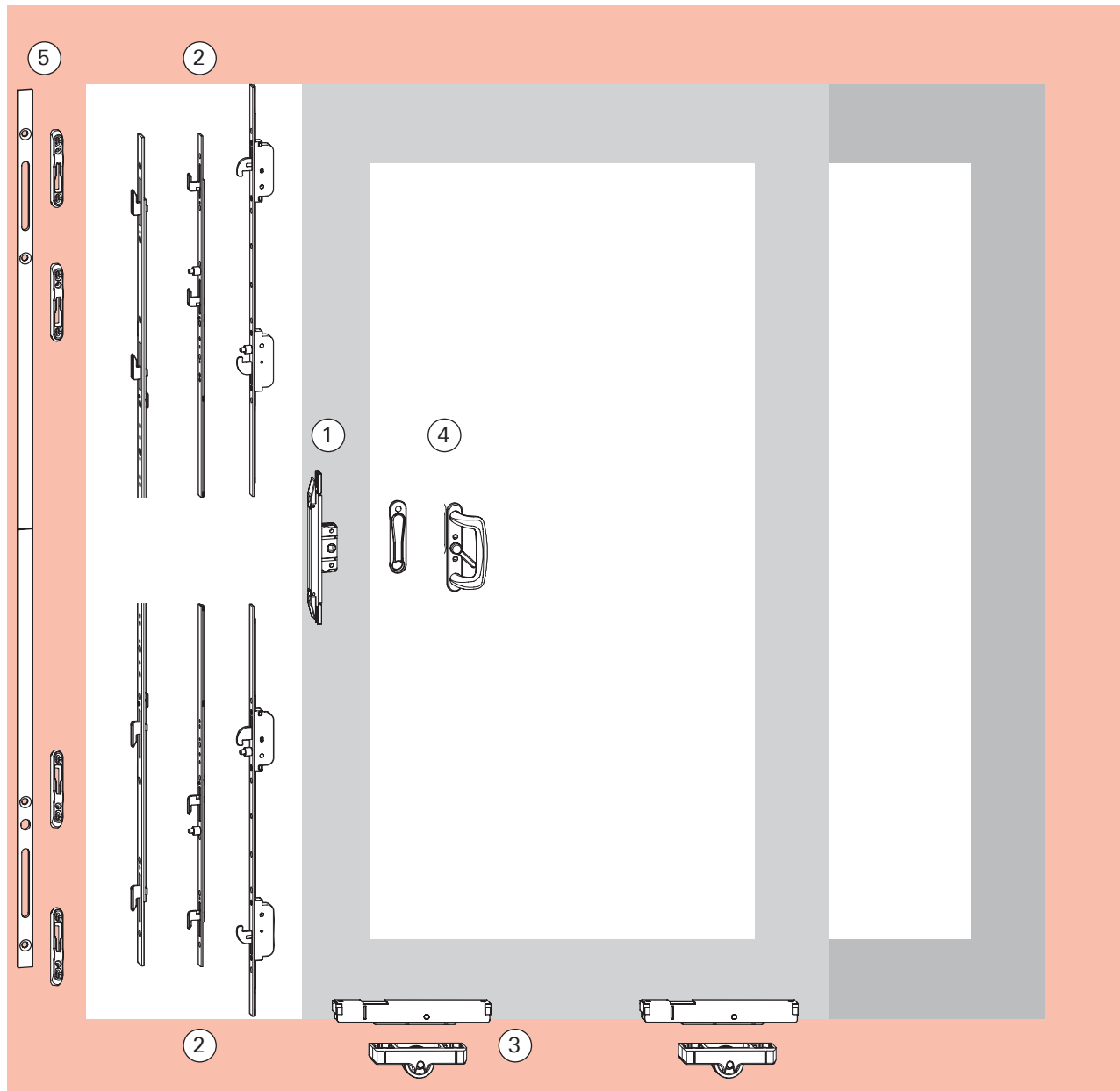
Locking points in closed position

Espagnolette, backset 22 mm

L	A	B	C	D
600	–	250	–	220
1800	473	818	423	767

Reverse action

Hardware overview



1	Gearboxes	page 30
2	Extensions	page 34
3	Rollers	page 40
4	Handles	page 50
5	Strikers	page 60
	Accessories	page 70

All hardware components exist in different variations. In applications with two movable sashes double the amount of hardware is needed.

Reverse action espagnolettes

Advantages of the system

- reverse action multi-point locking system for enhanced security
- designed for use on timber, PVC and aluminium systems with a minimum eurogroove depth of 5 mm
- profiled faceplate for enhanced stability and aesthetic appearance
- faceplate width 16 mm
- extensions with centre-fixing
- precise design of internal components ensures a smooth, reliable operation
- all surfaces are coated in RotoSil (silver finish)

Unsurpassed versatility

The modular In-line Sliding system offers numerous solutions to configure a locking system which suits the individual requirements in security, comfort and design. Concerning the reverse action espagnolettes Roto offers the following options:

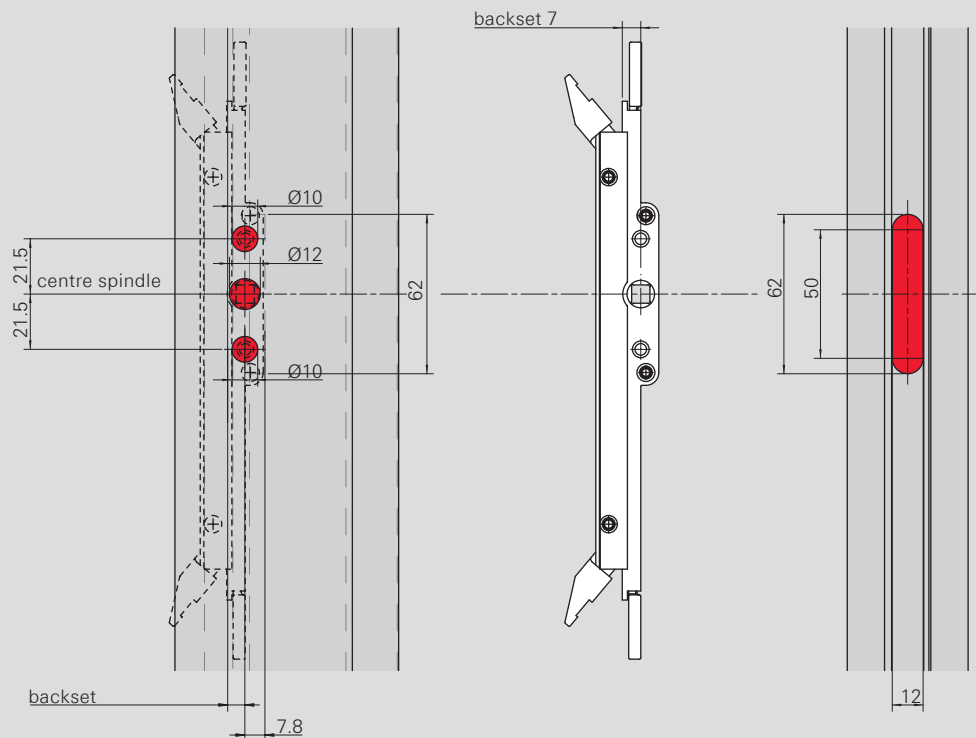
- backset 7, 17, 20 or 22 mm available
- 3-pieced: various gearboxes (lockable or non-lockable) can be combined with different extensions
- 3 different lengths of extensions
- 2 or 4 point security
- different options for locking points
 - 5 mm hooks
 - 14 mm hooks
 - claws
- one-piece or individual striker options

Reverse action espagnolettes

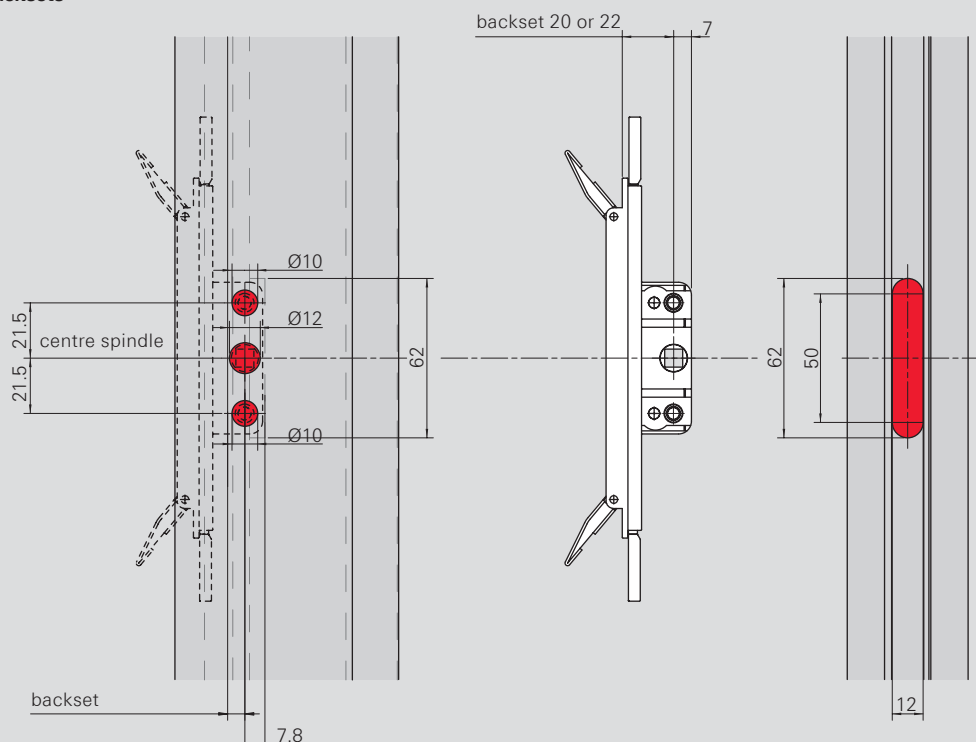
Gearboxes

non-lockable

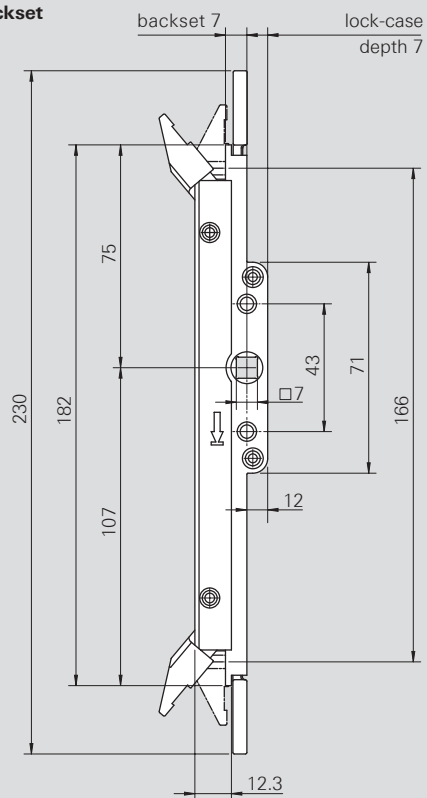
Drilling and routing hole-pattern
7 mm backset



Drilling and routing hole-pattern
20 & 22 mm backsets



7 mm backset



Gearbox, backset 7 mm

334587

Faceplate 182 mm

Gearbox, backset 20 mm

387923

Faceplate 140 mm

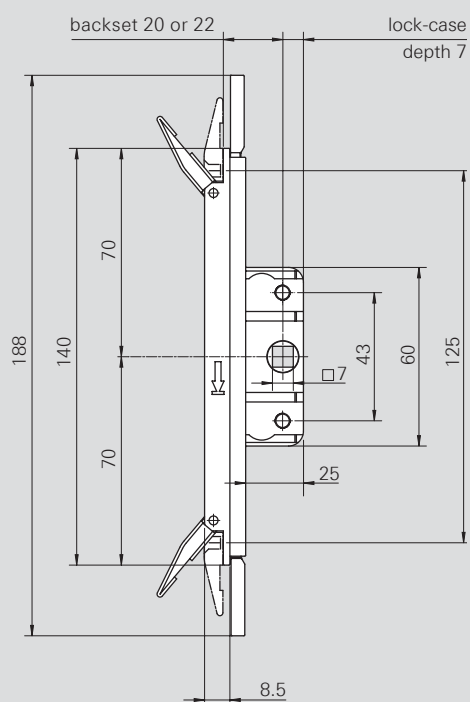
Gearbox, backset 22 mm

387924

Faceplate 140 mm

- An arrow on the gearbox indicates direction of the handle when in the closed position.
- A 'snap down' fixing plate retains the extensions and ensures the drive rod is held in position. These are then held in place with screws providing secure protection against any attack.
- All parts are pre-set in the open position for easy fitting. Initial operation of the handle releases the mechanism.

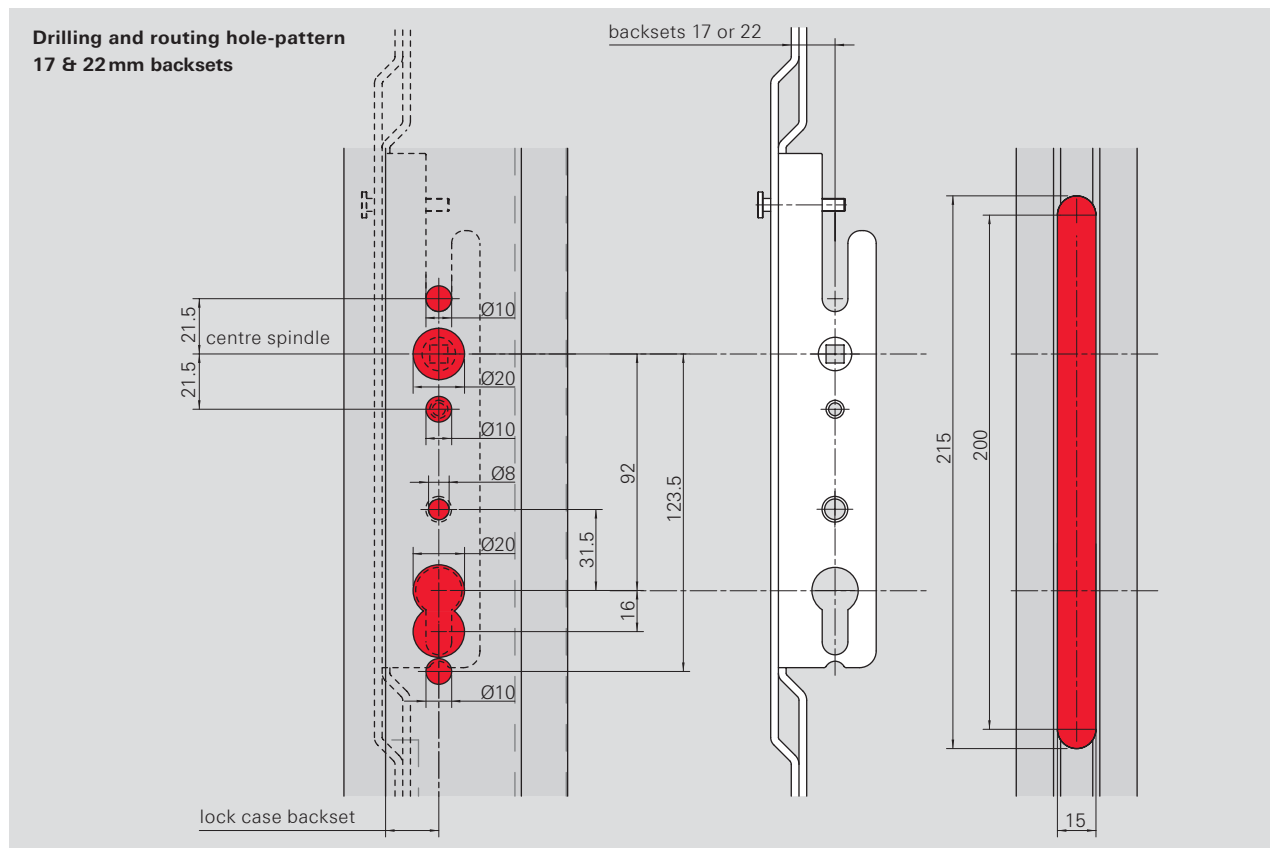
20 & 22 mm backsets



Reverse action espagnolettes

Gearboxes

lockable



[illegible]

Technical drawing of a lock assembly showing dimensions and components. The drawing includes the following labels and dimensions:

- backset 22**: Dimension for the backset.
- anti-mishandling device**: Label for the anti-mishandling device.
- centre spindle**: Label for the centre spindle.
- lock-case depth**: Label for the lock-case depth.
- Dimensions**:
 - 190 (Total height)
 - 448 (Centre spindle offset)
 - 400 (Lock body height)
 - 222 (Lock body depth)
 - 3 (Backset offset)
 - 4.5 (Lock body offset)
 - 21.5 (Lock body offset)
 - 10 (Lock body offset)
 - 16 (Lock body offset)
 - 7 (Lock body offset)
 - 200 (Lock body depth)
 - 92 (Lock body depth)
 - 70 (Lock body depth)
 - 30 (Lock body depth)
 - 17 (Lock body depth)
 - 35 (Lock body depth)
 - Ø6.5 (Lock body diameter)
 - Ø8 (Lock body diameter)

Faceplate 400 mm, including anti-mishandling device

Faceplate 400mm, including anti-mishandling device

- ### Function of anti-mishandling device

The anti-mishandling device allows the locking points to be moved only when the door is closed, therefore eliminating the possibility of damage arising from the door being slammed shut with the hardware in the "locked" position.

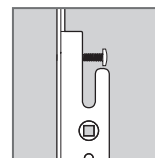
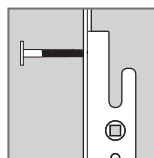
Two different types of screw are supplied with the gearboxes: the flat-headed plunger and the silver cross-headed screw; only one of each should be fitted to a gearbox, depending on whether or not the anti-mishandling function is required:

flat-headed plunger

Screw the flat-headed plunger into the socket in the faceplate and adjust to suit the gap between faceplate and frame. An allen key size 3 mm should be used.

cross-headed screw

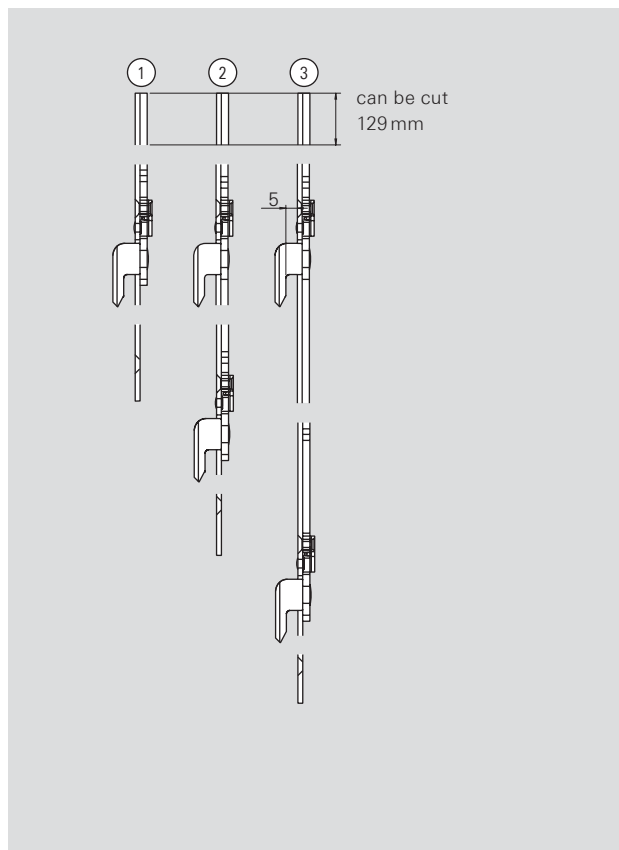
Take the silver cross-headed screw, insert it into the socket on the back of the gearbox and tighten.
A Phillips-type screwdriver should be used.



For the application of the lockable gearbox in a 9mm Eurogroove this separator has to be fixed on the backside of the gearbox at the top and bottom end.

Reverse action espagnolettes

Extensions



Extensions with 5 mm hooks

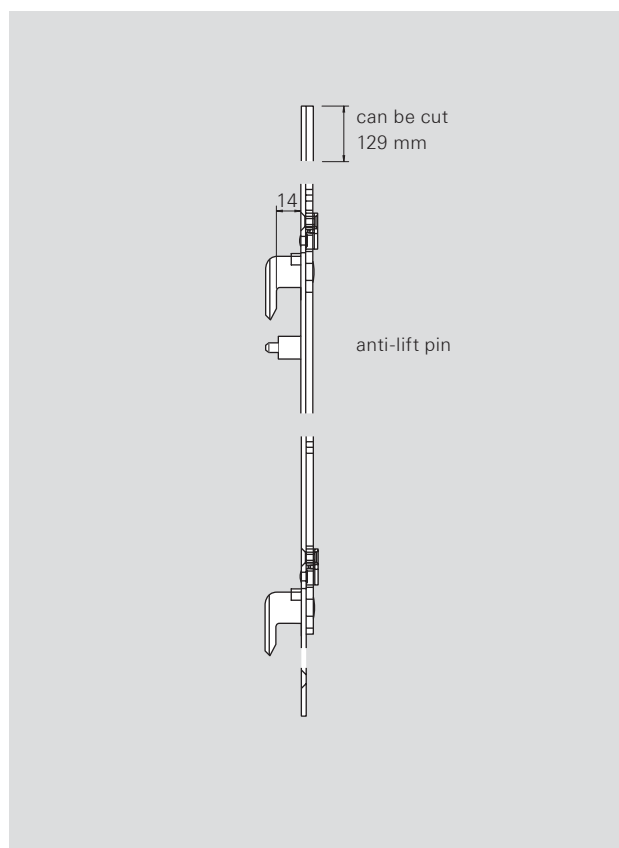
Can be cut 129 mm.

Position	Application range/mm	Faceplate length/mm	Hooks 5 mm	Material no.
①	660 – 999 ⁽¹⁾	390	1	629346
	702 – 1041 ⁽²⁾			
	920 – 1259 ⁽³⁾			
②	1000 – 1399 ⁽¹⁾	560	2	629347
	1042 – 1441 ⁽²⁾			
	1260 – 1659 ⁽³⁾			
③	1400 – 2900 ⁽¹⁾	760	2	629348
	1442 – 2900 ⁽²⁾			
	1660 – 2900 ⁽³⁾			

1) Application range when using gearbox, faceplate 140 mm

2) Application range when using gearbox, faceplate 182 mm

3) Application range when using gearbox, faceplate 400 mm (lockable)



Extensions with 14 mm hooks

Can be cut 129 mm.

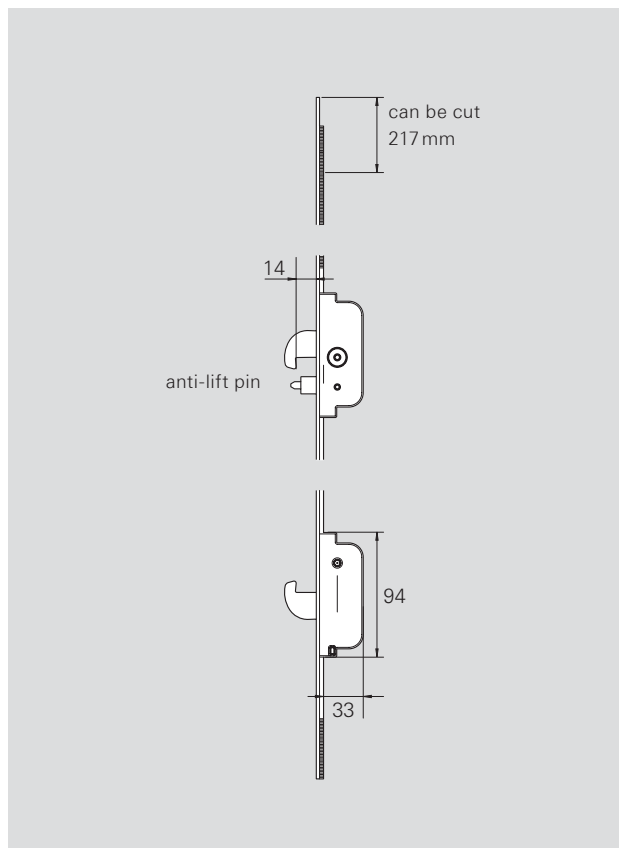
Application range/mm	Faceplate Length/mm	Hooks 14 mm	Material no.
1400 – 2900 ⁽¹⁾	760	2	629304
1442 – 2900 ⁽²⁾			
1660 – 2900 ⁽³⁾			

1) Application range when using gearbox, faceplate 140 mm

2) Application range when using gearbox, faceplate 182 mm

3) Application range when using gearbox, faceplate 400 mm (lockable)

Extensions



Extension with 14 mm claws

Can be cut 217 mm.

Application range/mm	Faceplate Length/mm	Claws	Material no.
1226 – 2900 ¹⁾	760	2	629419
1486 – 2900 ²⁾			

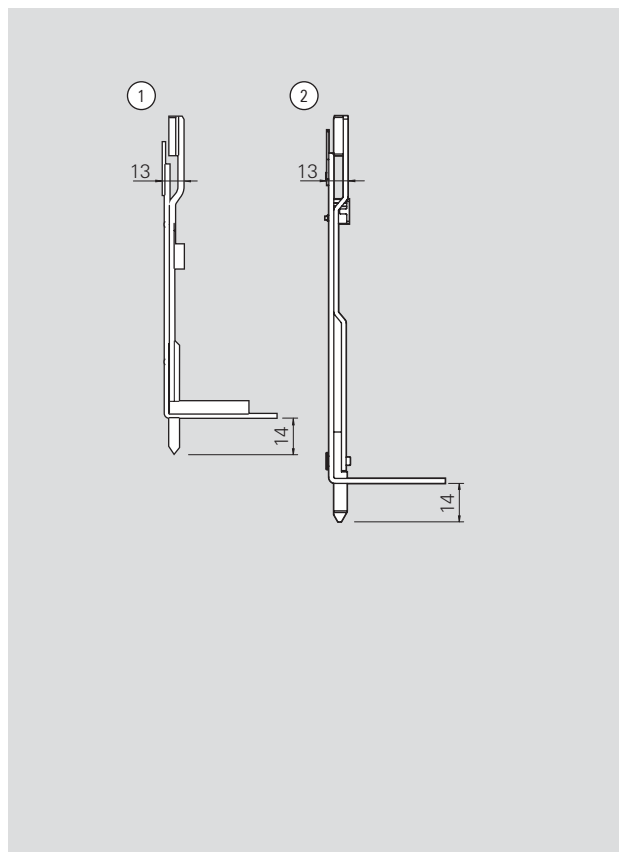
1) Application range when using gearbox, faceplate 140 mm

2) Application range when using gearbox, faceplate 400 mm (lockable)

The application range stated does not include the shootbolts.

Reverse action espagnolettes

Shootbolts



Shootbolts

Can only be combined with the extension with claws.

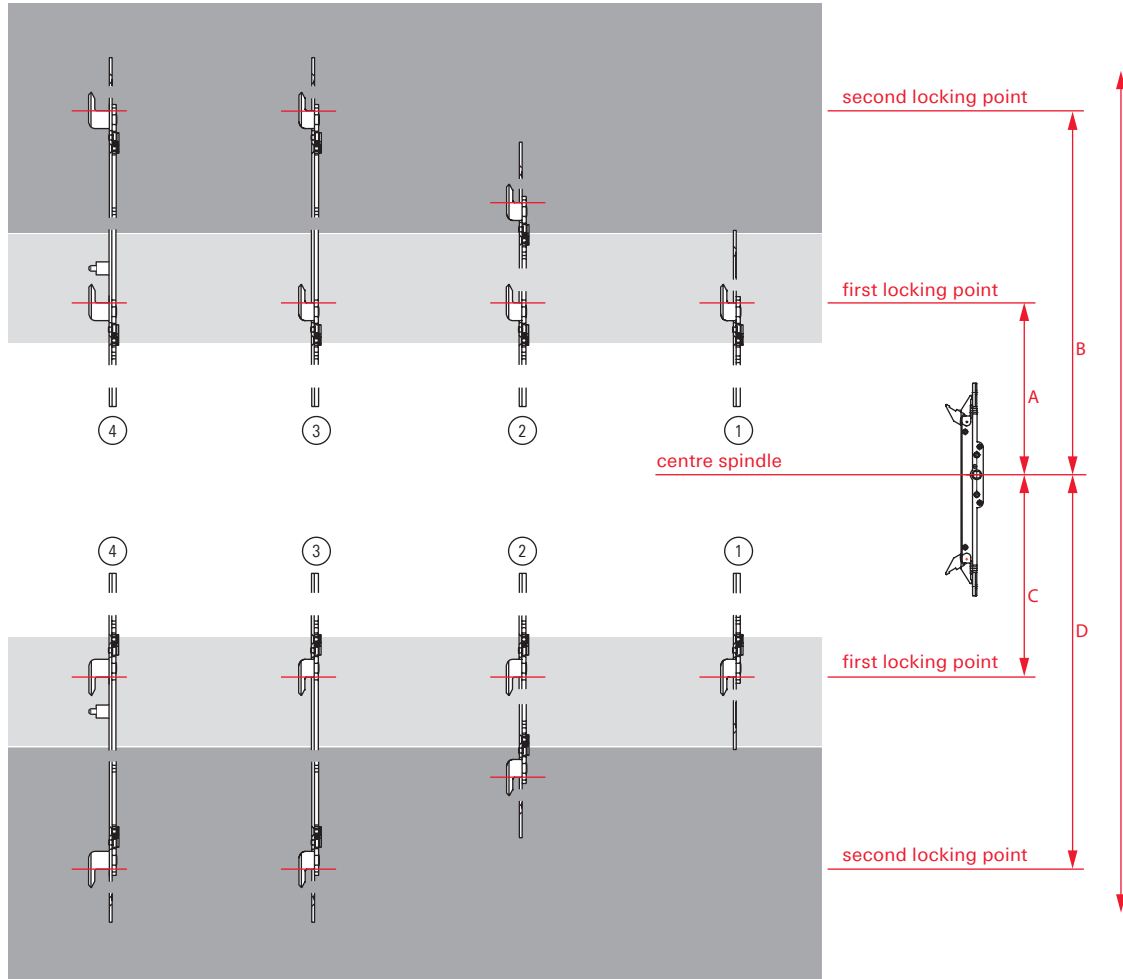
Position	Application range/mm	Faceplate length/mm	Material no.
①	1496 – 1930 ¹⁾	135	471149
	1756 – 2190 ²⁾		
②	1626 – 2060 ¹⁾	200	257400
	1886 – 2320 ²⁾		

1) Application range when using gearbox, faceplate 140 mm

2) Application range when using gearbox, faceplate 400 mm (lockable)

Detailed dimensions

Gearbox non-lockable, backset 7 mm



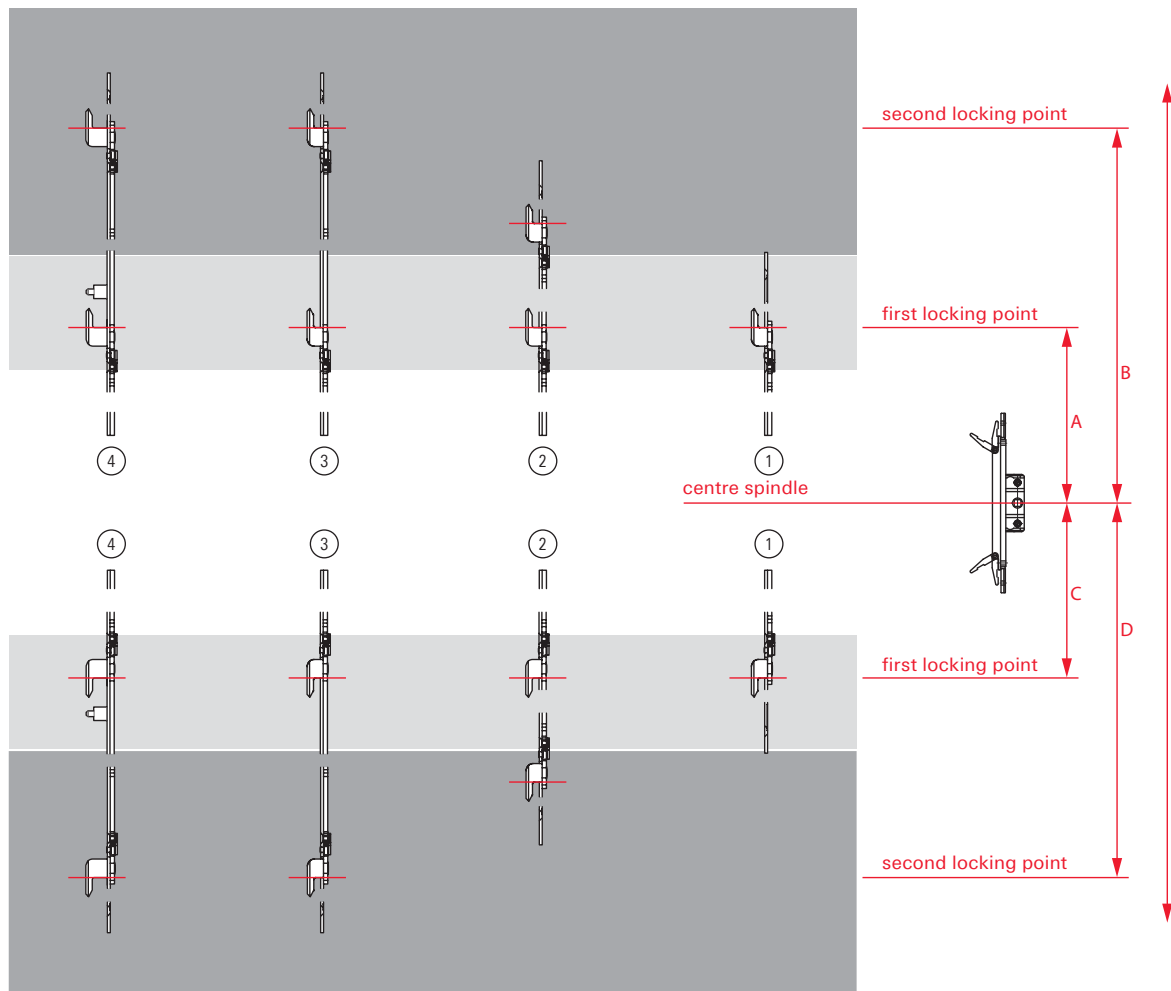
Gearbox, backset 7 mm, faceplate 182 mm

	extension	length/mm	L	A	B	C	D
①	5 mm hooks	390	960	402	—	434	—
②	5 mm hooks	560	1300	402	581	434	613
③	5 mm hooks	760	1700	402	747	434	779
④	14 mm hooks	760	1700	402	747	434	779

The dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation. The locking points are shown in closed position. The travel of the locking points is 18 mm.

Detailed dimensions

Gearboxes non-lockable, backset 20 & 22 mm



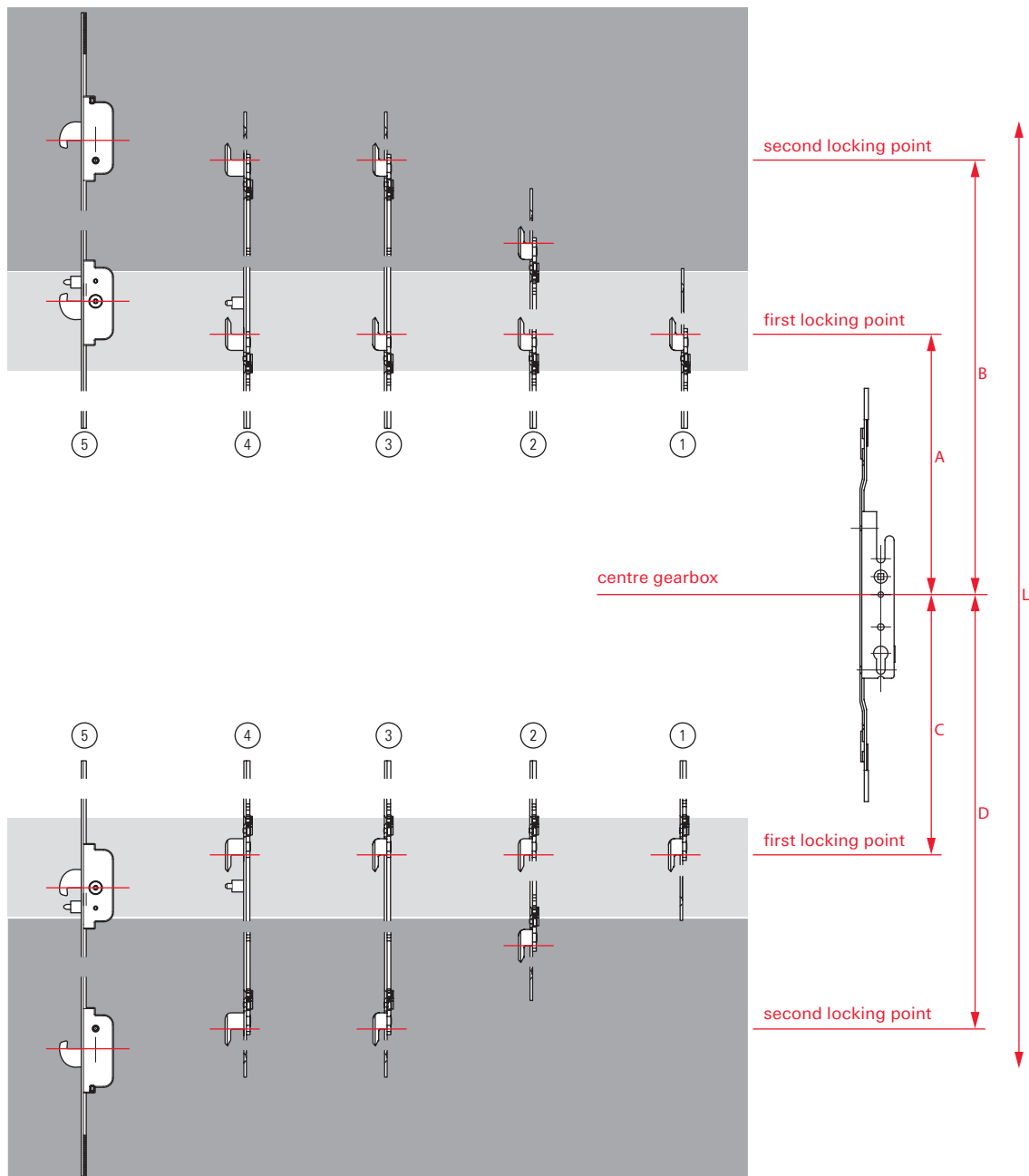
Gearbox, backset 20 mm, faceplate 140 mm

Gearbox, backset 22 mm, faceplate 140 mm

	extension	length/mm	L	A	B	C	D
①	5mm hooks	390	918	397	—	397	—
②	5mm hooks	560	1258	397	576	397	576
③	5mm hooks	760	1658	397	742	397	742
④	14 mm hooks	760	1658	397	742	397	742

The dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation. The locking points are shown in closed position. The travel of the locking points is 18 mm.

Detailed dimensions Gearboxes lockable



Gearbox lockable, backset 17 mm, faceplate 400 mm

Gearbox lockable, backset 22 mm, faceplate 400 mm

	extension	length/mm	L	A	B	C	D
①	5 mm hooks	390	1178	529	—	529	—
②	5 mm hooks	560	1518	529	708	529	708
③	5 mm hooks	760	1918	529	874	529	874
④	14 mm hooks	760	1918	529	874	529	874
⑤	14 mm claws	760	1920	530	830	530	830

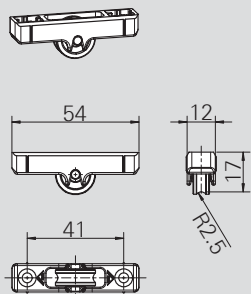
The dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation. The locking points are shown in closed position. The travel of the locking points is 20 mm.

Single rollers

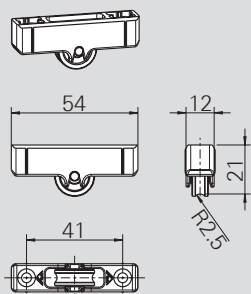
Characteristics of the single roller:

- precise design of components ensures a smooth operation
- compatible with the majority of standard radiused tracks
- available with zinc die-cast or glass fibre reinforced plastic body
- no routing required – 12 mm outer carriage locates in the eurogroove
- tested according to EN13126 part15 class 4

height 17 mm



height 21 mm



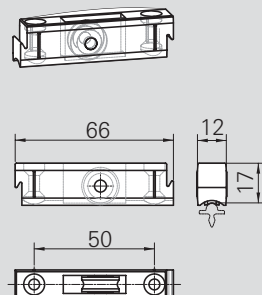
Fixed height single roller with plastic body

- body of glass fibre reinforced plastic
- maximum sash weights of 50 kg
- with ball-bearing
- 12 mm wide to fit conventional eurogrooves
- available in 2 fixed heights of 17 mm and 21 mm

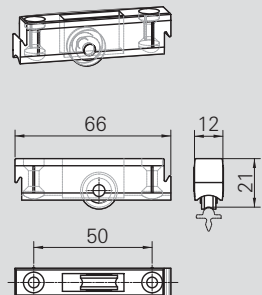
Single roller, with ball-bearing 50 kg

width (mm)	height (mm)	track	Material no.
12	17	R	622665
12	21	R	622666

height 17 mm



height 21 mm



Fixed height single roller with zinc die-cast body

- maximum sash weights of 50 kg
- with slide bearing
- 12 mm wide to fit conventional eurogrooves
- available in 2 fixed heights of 17 mm and 21 mm
- can be connected together
- Yellow passivated finish to comply with requirements of standard DIN 50021 (salt spray test with different sodium chloride solutions)

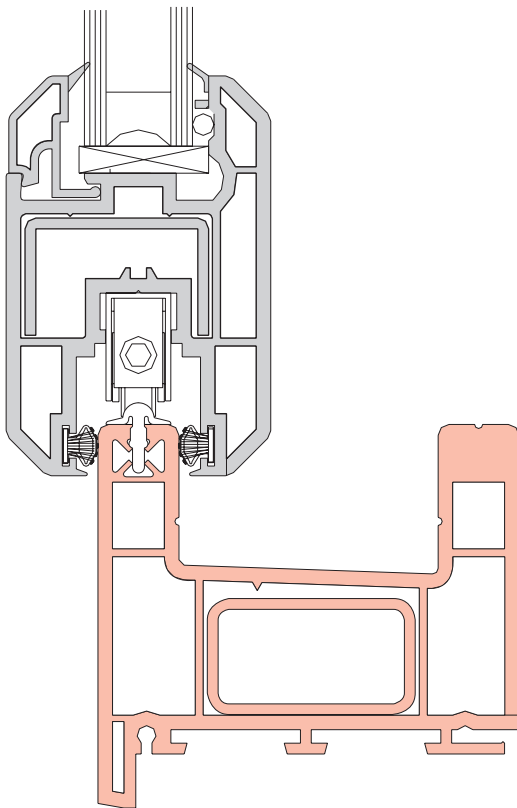
Single roller, with slide bearing 50 kg

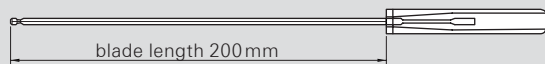
width (mm)	height (mm)	track	Material no.
12	17	R	297217
12	21	R	297218

Tandem rollers

Characteristics of the tandem roller:

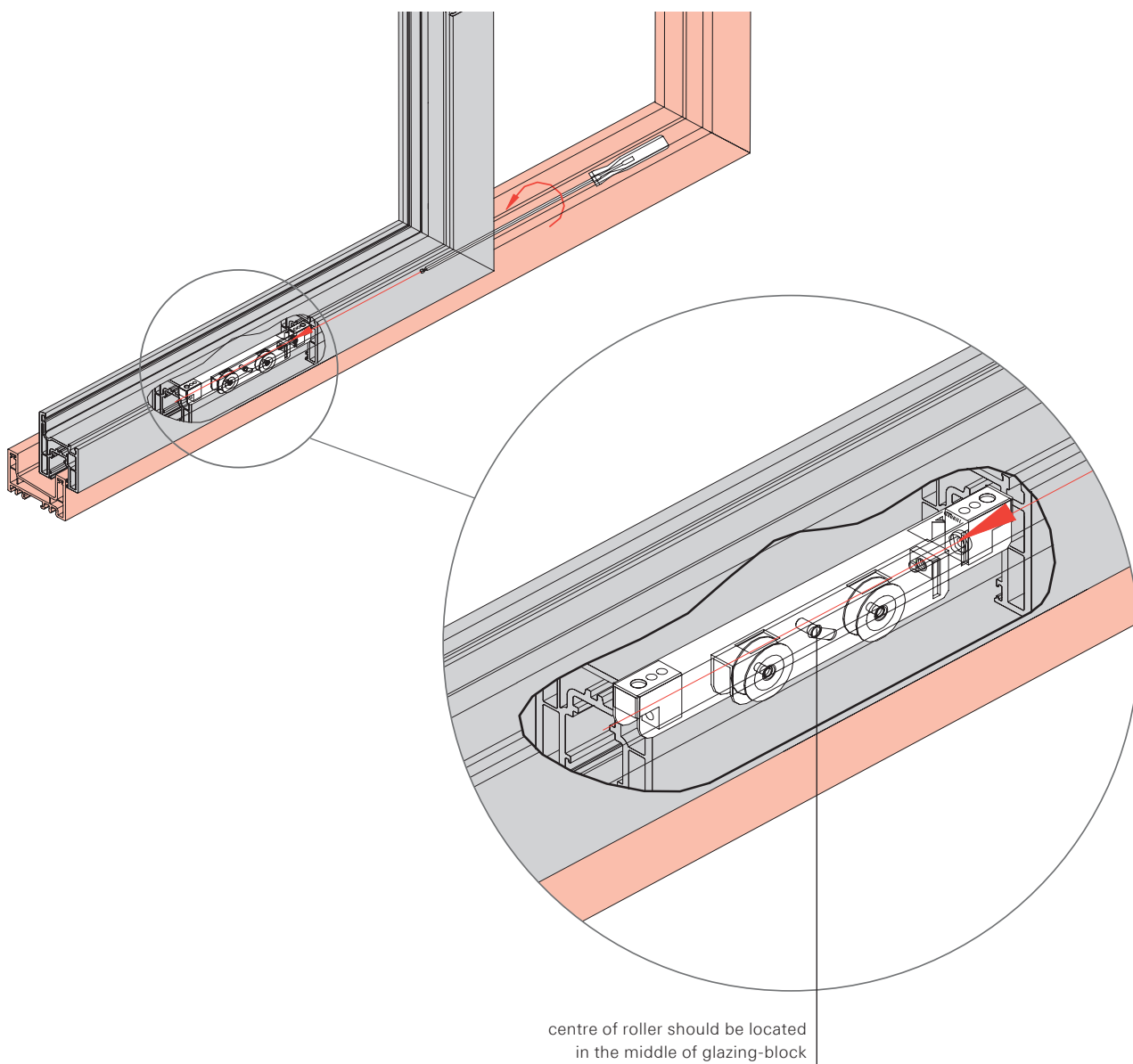
- precise design of components ensures a smooth operation
- compatible with the majority of standard radiused tracks
- made of a steel body
- plastic end blocks, making it easier to locate height adjuster and fixing screws
- no routing required – 12 mm outer carriage locates in the eurogroove
- tested according to EN13126 part15 class 4





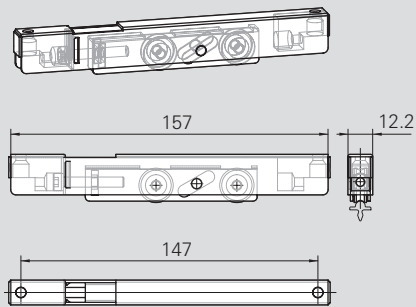
Roller height adjustment tool
for all tandem rollers

263088

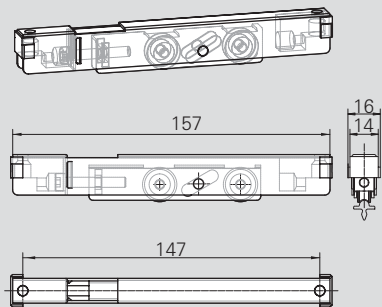


Tandem rollers

width 12.2 mm



width 14.0 mm



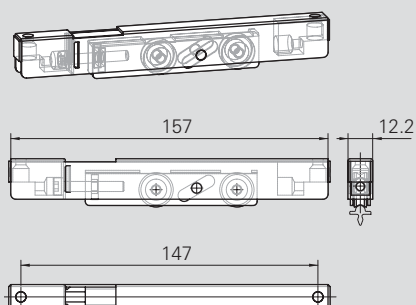
Adjustable, standard tandem rollers

- maximum sash weight of 120 kg
- with ball-bearing
- available in two widths; 12 mm for conventional eurogrooves and 14 mm for wider eurogrooves
- height adjustable from 19 mm to 26 mm
- silver, zinc-plated finish with extra corrosion protection (EN 1670, class 4 - 240 h)

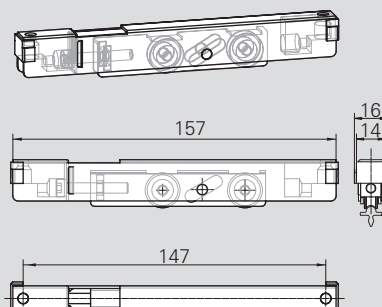
Tandem roller standard, with ball-bearing 120 kg

width (mm)	height (mm)	track	Material no.
12.2	19 – 26	R	615951
14.0	19 – 26	R	622876

width 12.2 mm



width 14.0 mm



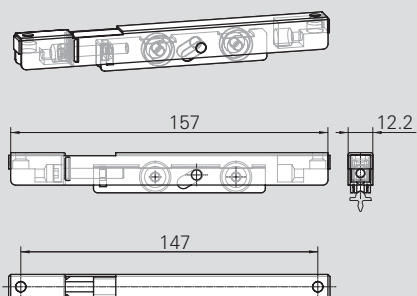
Adjustable, standard tandem rollers

- maximum sash weight of 80 kg
- with slide bearing
- available in two widths; 12 mm for conventional eurogrooves and 14 mm for wider eurogrooves
- height adjustable from 19 mm to 26 mm
- Yellow passivated finish to comply with requirements of standard DIN 50021 (salt spray test with different sodium chloride solutions)

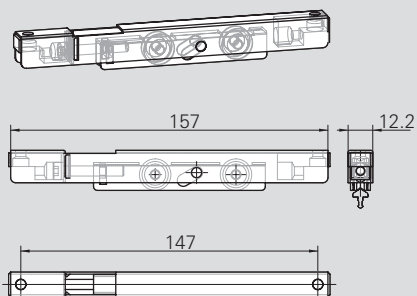
Tandem roller standard, with slide bearing 80 kg

width (mm)	height (mm)	track	Material no.
12.2	19 – 26	R	280445
14.0	19 – 26	R	312896

R-track



V-track



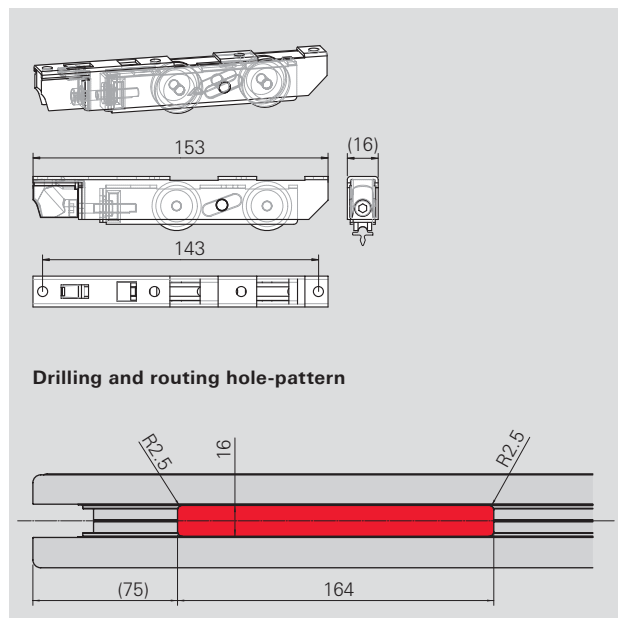
Adjustable, slimline tandem rollers

- maximum sash weight of 100 kg
- with slide bearing
- available in two formats; one for a R-track (radiused), and one for a V-track
- 12 mm wide to fit conventional eurogrooves
- height adjustable from 15 mm to 18.5 mm
- Yellow passivated finish to comply with requirements of standard DIN 50021 (salt spray test with different sodium chloride solutions)

Tandem roller slimline, with slide bearing 100 kg

width (mm)	height (mm)	track	Material no.
12.2	15 – 18.5	R 	312897
12.2	15 – 18.5	V 	297216

Tandem rollers

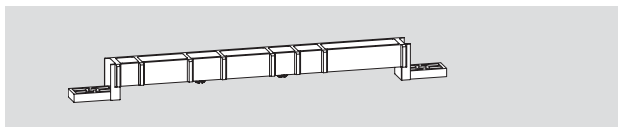


Adjustable, standard tandem rollers

- maximum sash weight of 200 kg
- with ball-bearing
- 16 mm wide
- different packer options
- height adjustable from 23.5 - 28.5 mm
- silver, zinc-plated finish with extra corrosion protection (EN 1670, class 4 - 240 h)

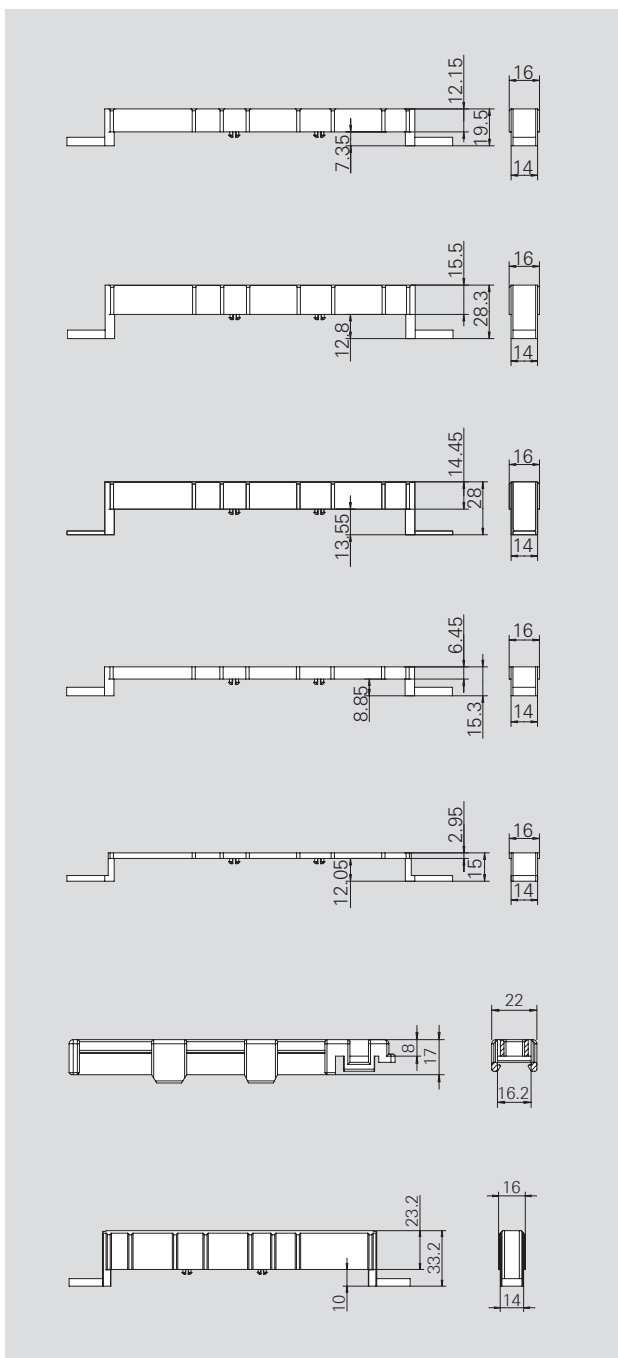
Tandem roller standard, with ball-bearing 200 kg

width (mm)	height (mm)	track	Material no.
16	23.5 - 28.5	R 	603430



Packers for tandem roller standard 200kg (603430)

- adapter for rollers
- different options for different profiles available



Packer set P001

603431

(Aluplast SF 73)

Content

2 packers

4 screws

Packer set P002

603432

(Deceuninck Zendow/Tecnocor 2, frame no. 3450, sash no. 3465)

Content

2 packers

4 screws

Packer set P003

603433

(Rehau S 717)

Content

2 packers

4 screws

Packer set P004

603434

(Kömmerling SF2)

Content

2 packers

4 screws

Packer set P005

603535

(Kömmerling SF3)

Content

2 packers

4 screws

Packer P006

606569

(Schüco S150)

for 22 mm
groove

Packer set P007

621100

(Veka Ekosol 70, Veka Ekosol 90)

Content

2 packers

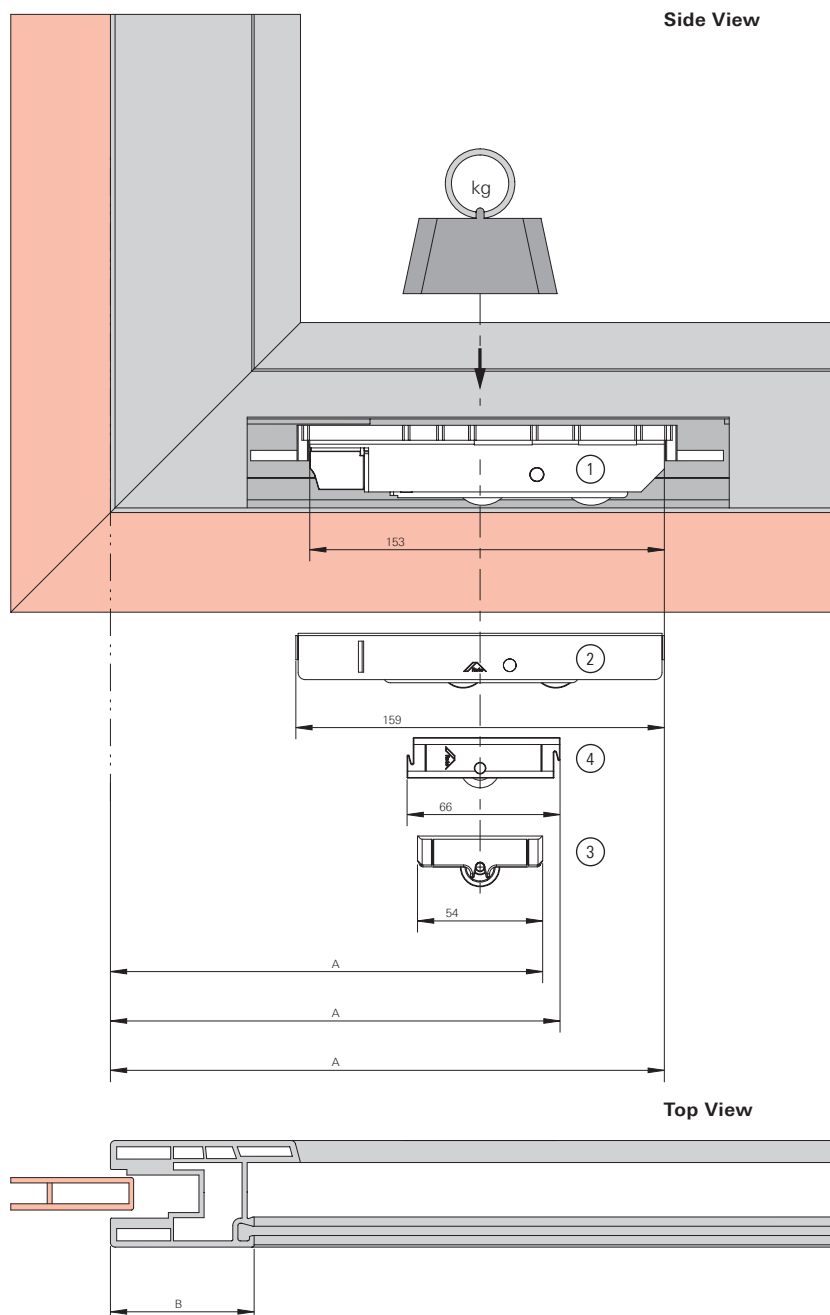
4 screws

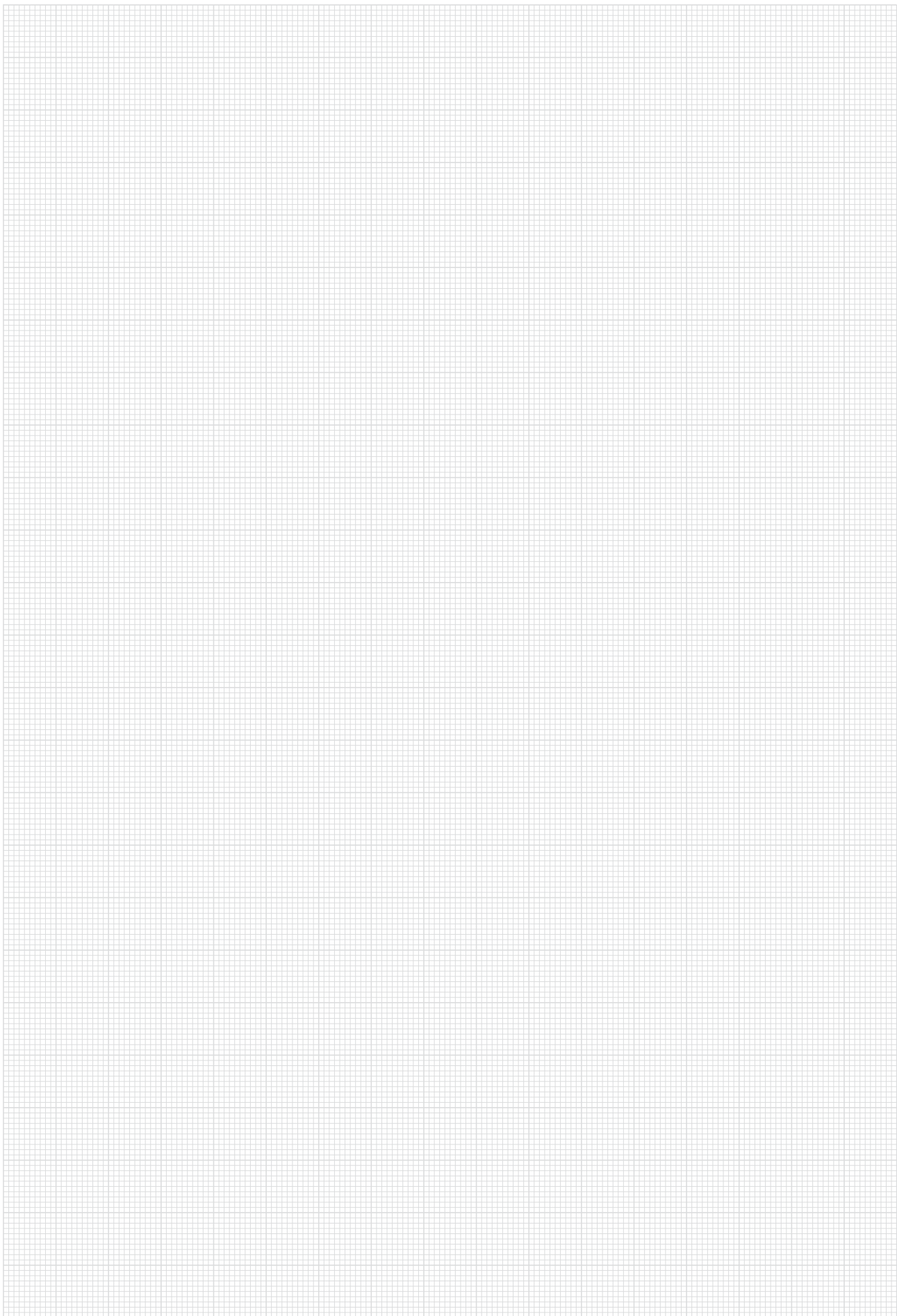
Installation of rollers

For the ideal position of the different rollers in the sash profile please use the following formula.

- | | |
|--|--------------------------|
| ① Tandem roller (200 kg) | $A = B + 177 \text{ mm}$ |
| ② Tandem rollers (80 kg & 120 kg) | $A = B + 177 \text{ mm}$ |
| ③ Single rollers with plastic body (50 kg) | $A = B + 132 \text{ mm}$ |
| ④ Single rollers with zinc die-cast body (50 kg) | $A = B + 125 \text{ mm}$ |

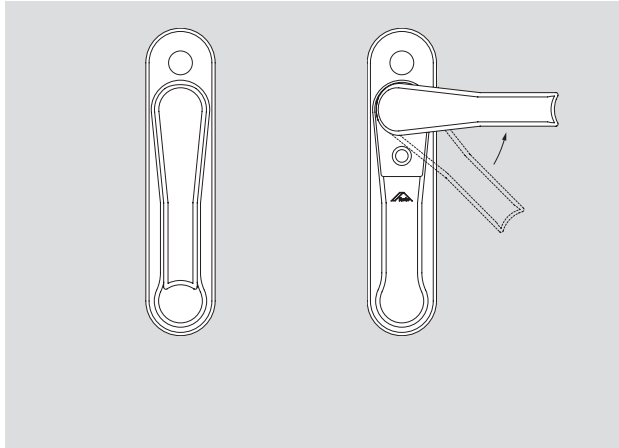
The centre of the roller should be located in the middle of the glazing-block.



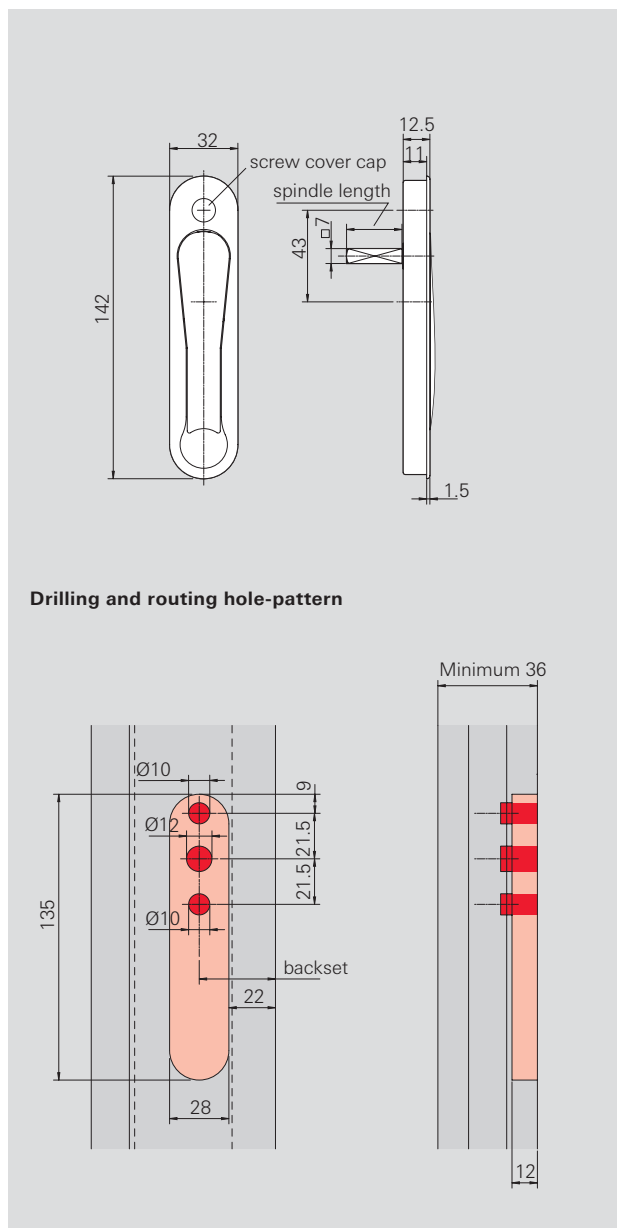


Pop-up handles

Standard



Roto's "pop-up" handle provides an ideal solution to the problem where two sliding sashes overlap. The handle sits almost flush with the profile, but by simply lifting it from the backplate and turning, operation of the gearing is made possible with minimum effort. Once completed the handle can then be placed back in its original position, allowing the sliding sashes to overlap.



Pop-up Handle, Spindle Length 21 mm

Code	Colour	Screw cover cap	Material no.
R 06.2	jet black, RAL 9005	black	535466
R 07.2	traffic white, RAL 9016	white	535465
	light grey, RAL 7035	black	538246

Pop-up Handle, Spindle Length 26 mm

Code	Colour	Screw cover cap	Material no.
R 04.1	grey brown, RAL 8019	black	323277
R 06.2	jet black, RAL 9005	black	493898
R 07.1	pure white, RAL 9010	white	323275
R 07.2	traffic white, RAL 9016	white	312766
R 07.3	cream white, RAL 9001	black	494495
	gold	black	323279
	brushed stainless steel	black	323280
	uncoated	black	312769
	special RAL colour ⁽¹⁾	black	494670

Pop-up Handle, Spindle Length 26mm with customer logo¹⁾

Code	Colour	Screw cover cap	Material no.
R 04.1	grey brown, RAL 8019	black	513658
R 06.2	jet black, RAL 9005	black	513642
R 07.1	pure white, RAL 9010	white	513643
R 07.2	traffic white, RAL 9016	white	513644
R 07.3	cream white, RAL 9001	black	513655
	gold	black	513656
	brushed stainless steel	black	513657
	special RAL colour ¹⁾	black	494671

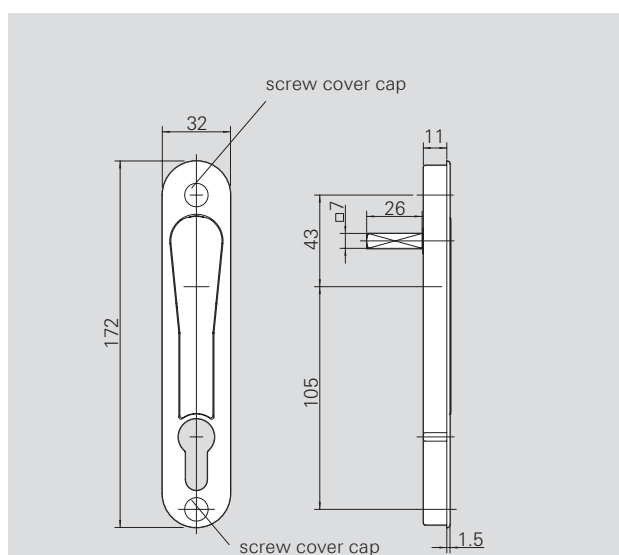
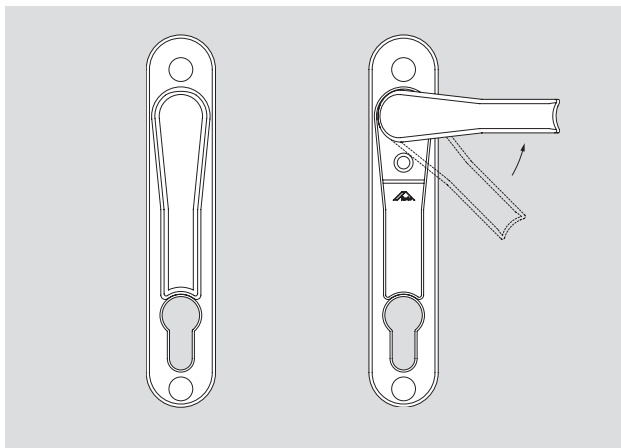
Pop-up Handle, Spindle Length 45 mm

Code	Colour	Screw cover cap	Material no.
R 06.2	jet black, RAL 9005	black	561198
	gold	black	561196
	brushed stainless steel	black	561197
	uncoated	black	632007

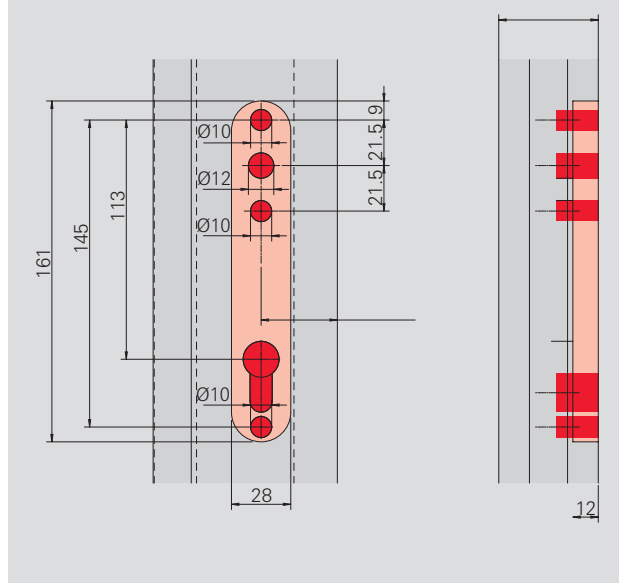
1) Special RAL colours (powder coated) and handles with customer logo (pad printing) can be ordered via Roto Frank Velbert. Price and availability on request (minimum order quantity 30 pieces for each item). As this concerns special RAL colours no sample parts are foreseen.

Pop-up handles

Lockable



Drilling and routing hole-pattern

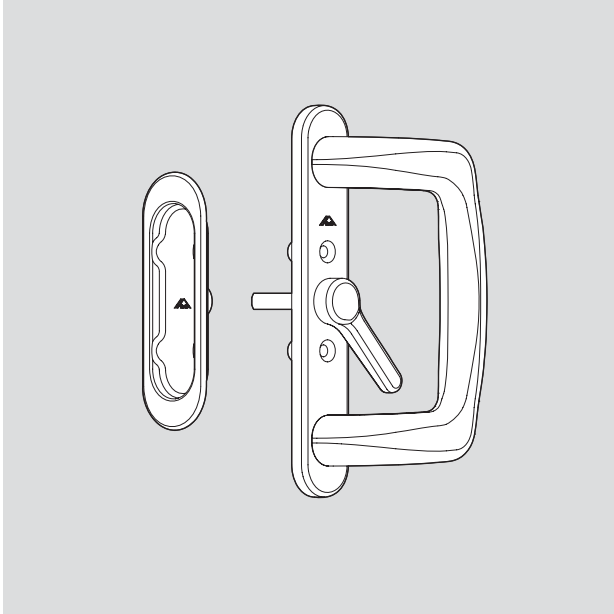


Pop-up Handle lockable, SpindleLength 26mm

Code	Colour	Screw cover cap	Material no.
R 04.1	grey brown, RAL 8019	black	323283
R 07.1	pure white, RAL 9010	white	323281
R 07.2	traffic white, RAL 9016	black	323282
	gold	black	323286
	brushed stainless steel	black	323287

Profile cylinder is not included (see catalogue BK 18).

RotoLine sliding handles



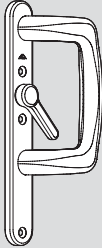
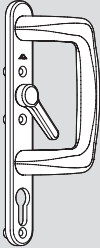
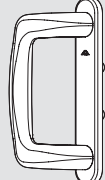
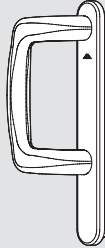
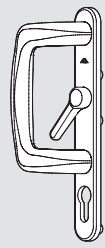
RotoLine sliding handles offer customers the utmost flexibility in use: Three interior handle variants and four exterior handle variants can be combined according to individual preferences. Each handle variant is available in seven standard colours and also uncoated. Thus, different colours can be combined on the inside and outside.

In addition, the optimised technology and high degree of stability achieved with the metal operating lever are convincing arguments for using RotoLine sliding handles.

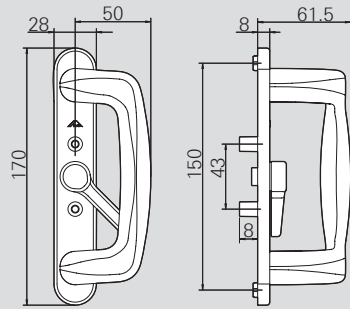
The installation is simple: interior and exterior handles are connected by the use of accessory kits. For security reasons the external handles have a concealed fixing so that they can not be disassembled.

Using this “three part system” sash profile depths between 38–77 mm can be covered.

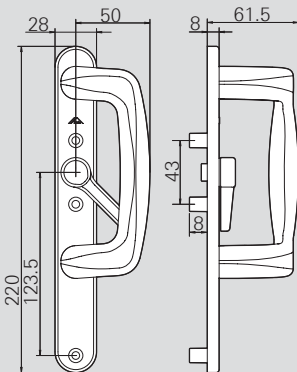
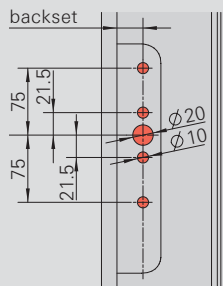
Depending on the preferred handle combination,
different accessory kits need to be used:

Interior handles Exterior handles			
			
	Please use accessory kit type 1	Please use accessory kit type 1	Please use accessory kit type 1
	Please use accessory kit type 2	Please use accessory kit type 2	Please use accessory kit type 2
	Please use accessory kit type 2	Please use accessory kit type 2	Please use accessory kit type 2
			Please use accessory kit type 3

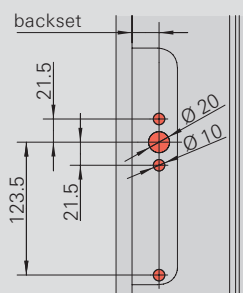
RotoLine sliding handles
 Interior handles



Drilling and routing hole-pattern



Drilling and routing hole-pattern

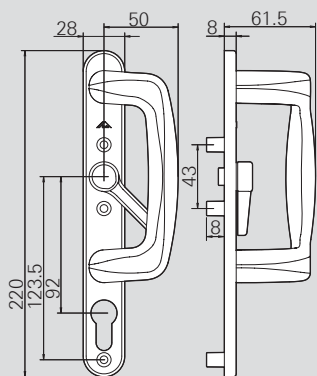


Non-locking pull handle with lever

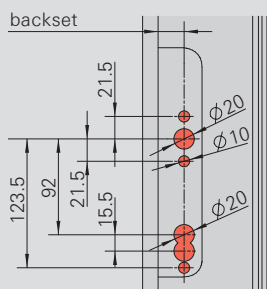
Code	Colour	Material no.
R 01.4	chrome polished	613220
R 01.5	silver	613222
R 03.2	gold	613223
R 04.1	grey brown, RAL 8019	613224
R 06.2	jet black, RAL 9005	613225
R 07.2	traffic white, RAL 9016	613226
R 07.3	cream white, RAL 9001	613227
	uncoated	613228

Non-locking pull handle with long-plate and lever

Code	Colour	Material no.
R 01.4	chrome polished	613229
R 01.5	silver	613230
R 03.2	gold	613231
R 04.1	grey brown, RAL 8019	613232
R 06.2	jet black, RAL 9005	613233
R 07.2	traffic white, RAL 9016	613234
R 07.3	cream white, RAL 9001	613235
	uncoated	613237



Drilling and routing hole-pattern

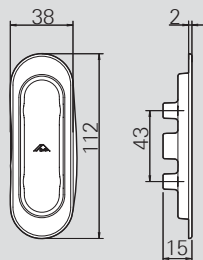


Locking pull handle with lever

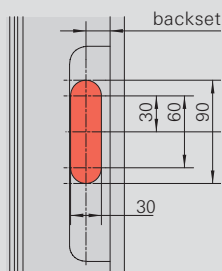
Code	Colour	Material no.
R 01.4	chrome polished	613238
R 01.5	silver	613239
R 03.2	gold	613240
R 04.1	grey brown, RAL 8019	613241
R 06.2	jet black, RAL 9005	613242
R 07.2	traffic white, RAL 9016	613243
R 07.3	cream white, RAL 9001	613244
	uncoated	613245

RotoLine sliding handles

Exterior handles

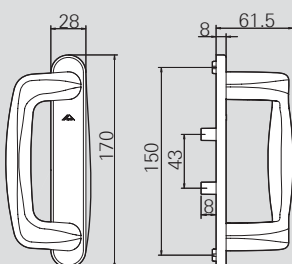


Drilling and routing hole-pattern

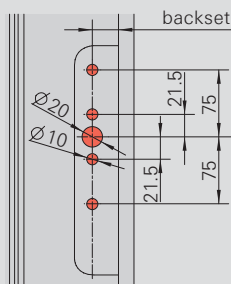


Flush-mounted finger pull

Code	Colour	Material no.
R 01.4	chrome polished	613182
R 01.5	silver	613183
R 03.2	gold	613184
R 04.1	grey brown, RAL 8019	613185
R 06.2	jet black, RAL 9005	605551
R 07.2	traffic white, RAL 9016	605543
R 07.3	cream white, RAL 9001	608183
	uncoated	487261

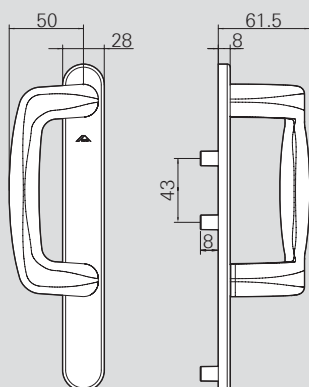


Drilling and routing hole-pattern

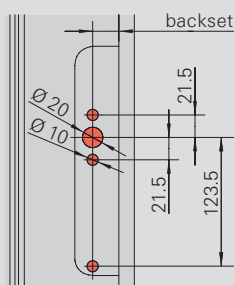


Non-locking pull handle

Code	Colour	Material no.
R 01.4	chrome polished	613186
R 01.5	silver	613187
R 03.2	gold	613188
R 04.1	grey brown, RAL 8019	613189
R 06.2	jet black, RAL 9005	613190
R 07.2	traffic white, RAL 9016	613191
R 07.3	cream white, RAL 9001	613192
	uncoated	613193

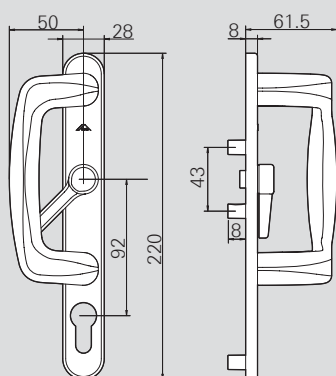


Drilling and routing hole-pattern

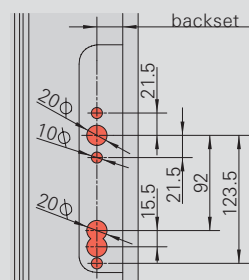


Non-locking pull handle with long-plate

Code	Colour	Material no.
R 01.4	chrome polished	613194
R 01.5	silver	613195
R 03.2	gold	613196
R 04.1	grey brown, RAL 8019	613197
R 06.2	jet black, RAL 9005	613198
R 07.2	traffic white, RAL 9016	613199
R 07.3	cream white, RAL 9001	613200
	uncoated	613201



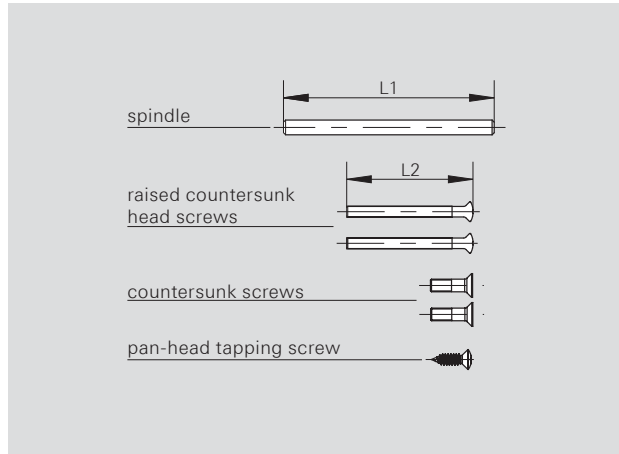
Drilling and routing hole-pattern



Locking pull handle with lever

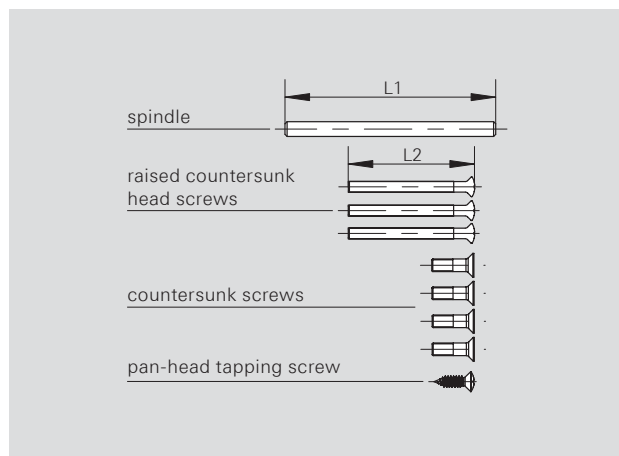
Code	Colour	Material no.
R 01.4	chrome polished	613202
R 01.5	silver	613203
R 03.2	gold	613204
R 04.1	grey brown, RAL 8019	613215
R 06.2	jet black, RAL 9005	613216
R 07.2	traffic white, RAL 9016	613217
R 07.3	cream white, RAL 9001	613218
	uncoated	613219

RotoLine sliding handles



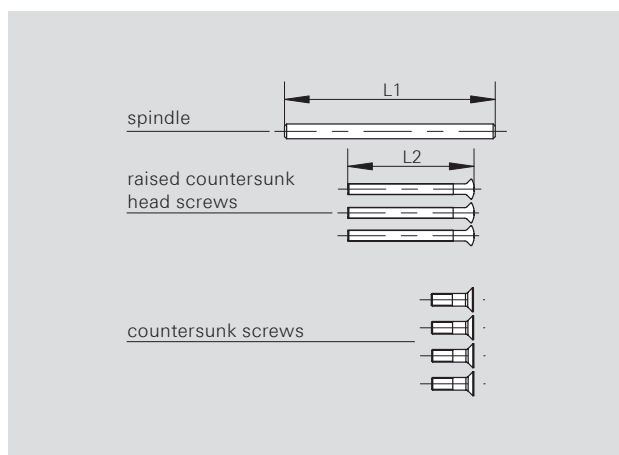
Accessory kit – Type 1

Sash profile depth (mm)	L1 (mm)	L2 (mm)	Material no.
72 – 76	80	75	613168
67 – 71	70	70	613169
62 – 66	70	65	613170
57 – 61	60	60	613171
51 – 56	60	55	613172
46 – 50	50	50	613173



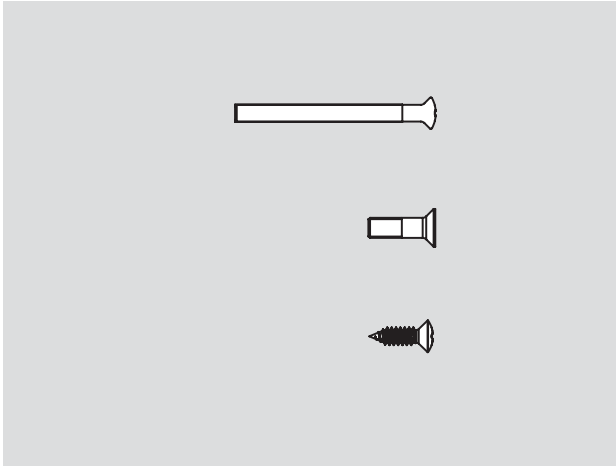
Accessory kit – Type 2

Sash profile depth (mm)	L1 (mm)	L2 (mm)	Material no.
68 – 77	87	80	613174
58 – 67	77	70	613175
48 – 57	67	60	613176
38 – 47	57	50	613177



Accessory kit – Type 3

Sash profile depth (mm)	L1 (mm)	L2 (mm)	Material no.
68 – 77	100	80	613178
58 – 67	90	70	613179
48 – 57	80	60	613180
38 – 47	70	50	613181



Function of different screws

Raised countersunk head screws

For screwing interior and exterior handle to each other.

Countersunk screws

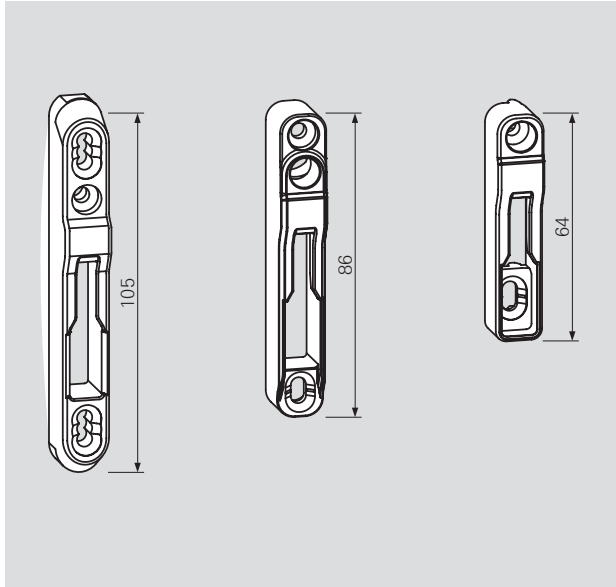
For fixation of pull handle to the plate.

Pan-head tapping screw

For the bottom screw hole if long and short handles are combined.

(no counterpart screw hole on other side)

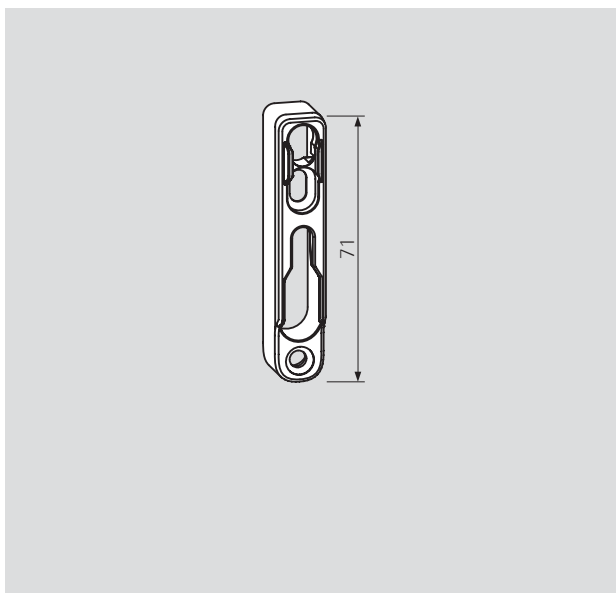
Single strikers



Standard single strikers

Roto offers three different basic striker designs. All standard single strikers can be used universally on all locking points, no matter if espagnolettes with cams, 5mm hooks, 14mm hooks or claws are used. Even on the locking point with anti-lift pin nearby no other strikers are needed. All variants have an opening for the anti-lift pin. Due to the completely closed design the strikers are very strong. In case of mishandling they are prevented from breaking or any other damage. All strikers are zinc-die cast parts and come with a silver RotoSil surface.

Different designs are needed for the individual profile geometries. Please refer to the guide to hardware (page 84 ff.) for choosing the applicable striker. For the correct positioning of the strikers in the frame please see the following pages.

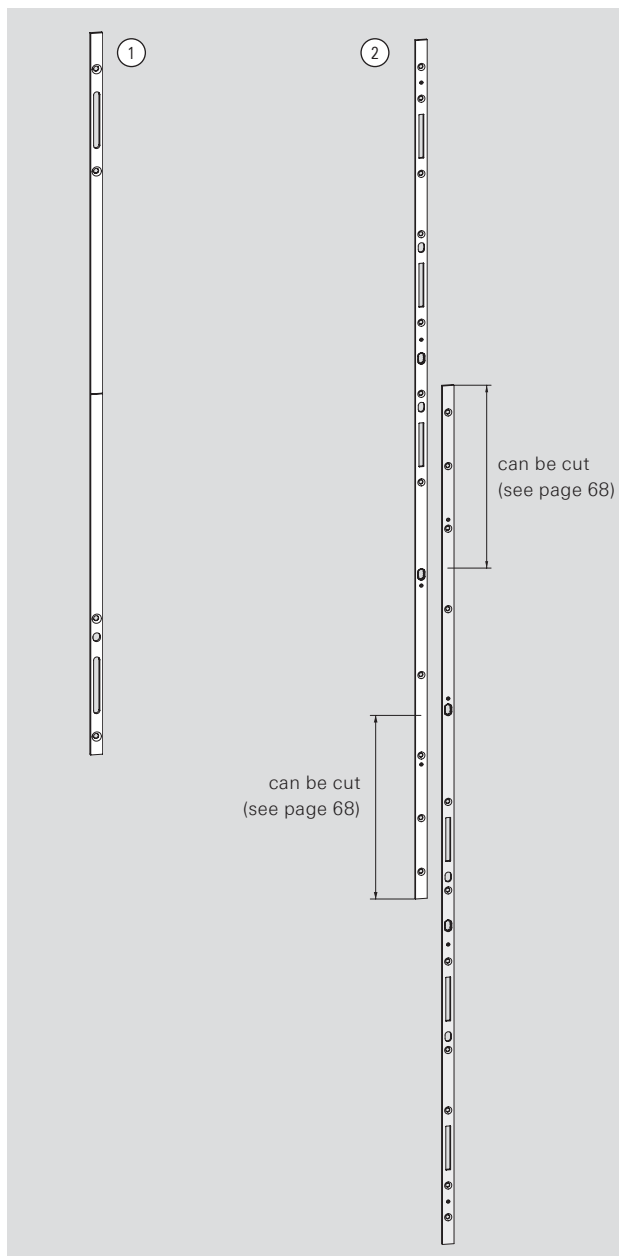


Special single striker for millings

617133

This striker is designed especially for the use with espagnolettes with cams. Its geometry offers a high range of possibilities for millings.

One- and two-piece strikers



One-piece / two-piece strikers

Instead of single strikers for each locking point also one- or two-piece strikers can be used. Their flat design offers an appealing look. For reverse-action espagnolettes two-piece strikers are needed. They can be cut to the suitable length, please see page 68 for the installation.

1 One-piece strikers

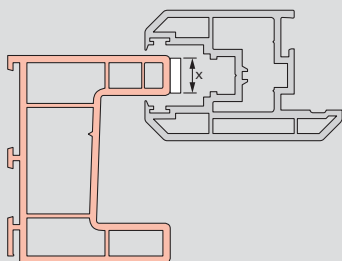
Length (mm)	Width (mm)	Typology	Material no.
600	10		629563
1800	10		629564
1800	15		629565

2 Two-piece strikers can be cut (see page 68).

Length (mm)	Width (mm)	Typology	Material no.
960	13		474143
960	15		629569
960	16.2		385189

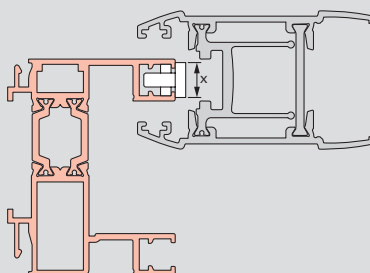
2 pieces are needed per sash.

profile section PVC

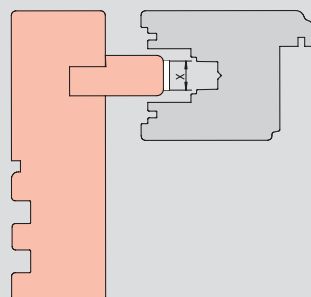


x = width of striker

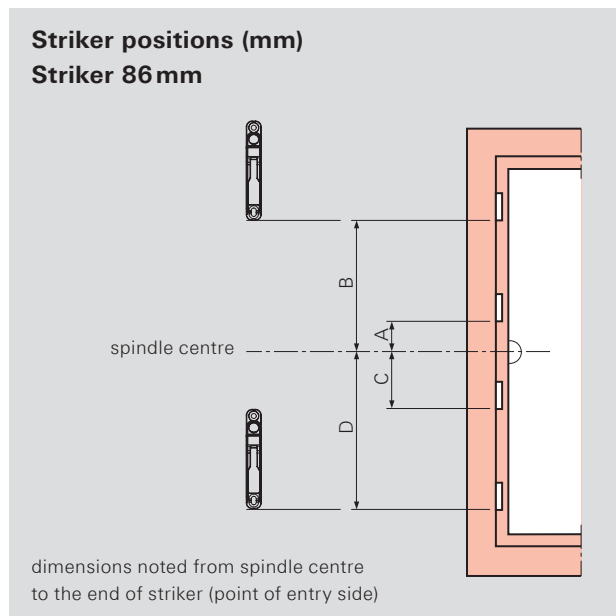
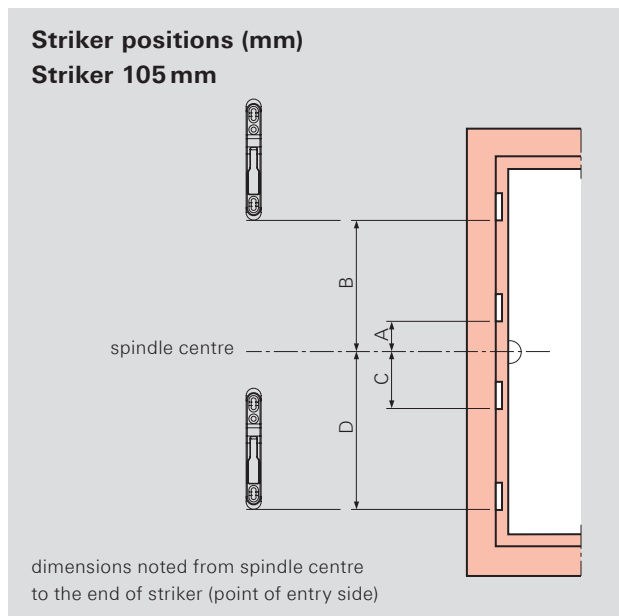
profile section aluminium



profile section timber



Installation of strikers Single action espagnolettes



Espagnolette, cam, backset 7						
length	cams	A	B	C	D	
400	2	–	93	–	177	
600	2	–	193	–	277	
800	2	–	293	–	377	
1000	3	78	393	–	477	
1200	3	78	493	–	577	
1800	4	416	761	480	824	

Espagnolette, cam, backset 17						
length	cams	A	B	C	D	
240	2	–	38	–	122	
400	2	–	93	–	177	
600	2	–	193	–	277	
800	2	–	293	–	377	
1000	3	78	393	–	477	
1200	3	78	493	–	577	
1800	4	416	761	480	824	
1800	lockable	4	416	761	480	824

Espagnolette, hook 5, backset 17						
length	hooks	A	B	C	D	
600	2	–	193	–	277	
1800	4	416	761	480	824	
1800	lockable	4	416	761	480	824

Espagnolette, hook 14, backset 17						
length	hooks	A	B	C	D	
600	2	–	193	–	277	
1800	4	416	761	480	824	
1800	lockable	4	416	761	480	824

Espagnolette, hook 14, backset 22						
length	hooks	A	B	C	D	
600	2	–	193	–	277	
1800	4	416	761	480	824	

Espagnolette, cam, backset 7						
length	cams	A	B	C	D	
400	2	–	100	–	170	
600	2	–	200	–	270	
800	2	–	300	–	370	
1000	3	85	400	–	470	
1200	3	85	500	–	570	
1800	4	423	768	473	817	

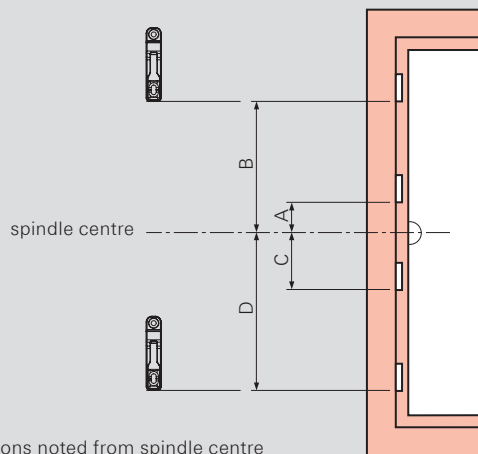
Espagnolette, cam, backset 17						
length	cams	A	B	C	D	
240	2	–	45	–	115	
400	2	–	100	–	170	
600	2	–	200	–	270	
800	2	–	300	–	370	
1000	3	85	400	–	470	
1200	3	85	500	–	570	
1800	4	423	768	473	817	
1800	lockable	4	423	768	473	817

Espagnolette, hook 5, backset 17						
length	hooks	A	B	C	D	
600	2	–	200	–	270	
1800	4	423	768	473	817	
1800	lockable	4	423	768	473	817

Espagnolette, hook 14, backset 17						
length	hooks	A	B	C	D	
600	2	–	200	–	270	
1800	4	423	768	473	817	
1800	lockable	4	423	768	473	817

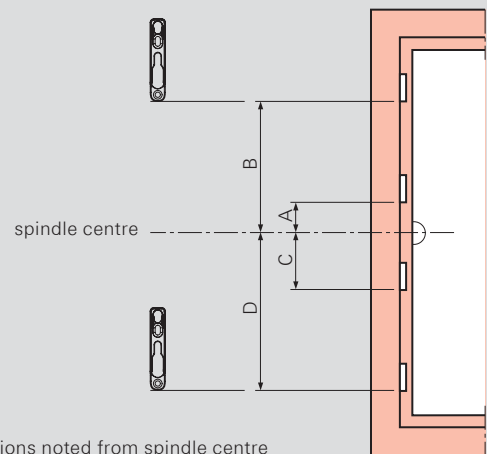
Espagnolette, hook 14, backset 22						
length	hooks	A	B	C	D	
600	2	–	200	–	270	
1800	4	423	768	473	817	

Striker positions (mm) Striker 64 mm



dimensions noted from spindle centre
to the end of striker (point of entry side)

Striker positions (mm) Striker 71 mm (for cams only)



dimensions noted from spindle centre
to the end of striker (point of entry side)

Espagnolette, cam, backset 7

length	cams	A	B	C	D
400	2	–	112	–	158
600	2	–	212	–	258
800	2	–	312	–	358
1000	3	97	412	–	458
1200	3	97	512	–	558
1800	4	435	780	461	805

Espagnolette, cam, backset 17

length	cams	A	B	C	D
240	2	–	57	–	103
400	2	–	112	–	158
600	2	–	212	–	258
800	2	–	312	–	358
1000	3	97	412	–	458
1200	3	97	512	–	558
1800	4	435	780	461	805
1800 lockable	4	435	780	461	805

Espagnolette, hook 5, backset 17

length	hooks	A	B	C	D
600	2	–	212	–	258
1800	4	435	780	461	805
1800 lockable	4	435	780	461	805

Espagnolette, hook 14, backset 17

length	hooks	A	B	C	D
600	2	–	212	–	258
1800	4	435	780	461	805
1800 lockable	4	435	780	461	805

Espagnolette, hook 14, backset 22

length	hooks	A	B	C	D
600	2	–	212	–	258
1800	4	435	780	461	805

Espagnolette, cam, backset 7

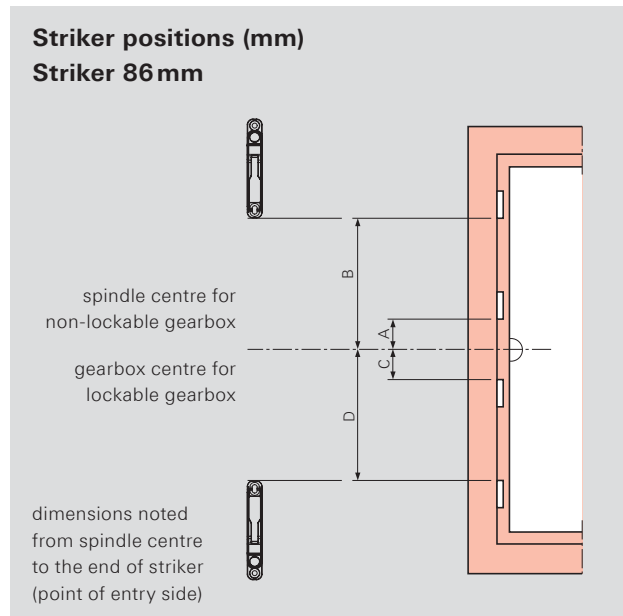
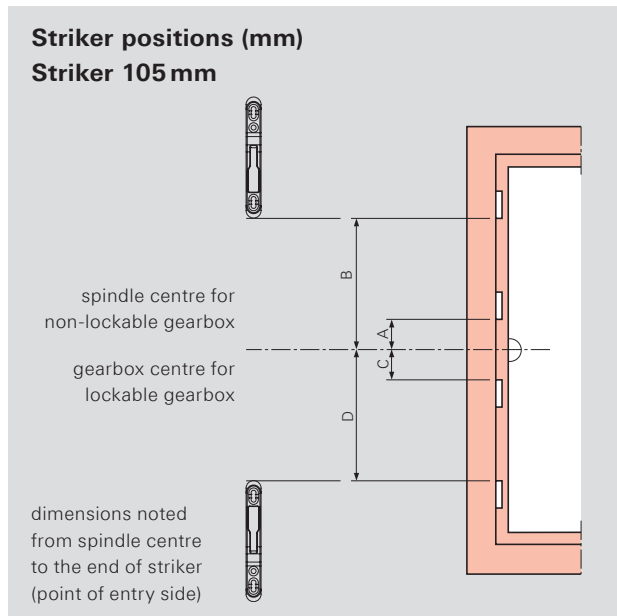
length	cams	A	B	C	D
400	2	–	109	–	161
600	2	–	209	–	261
800	2	–	309	–	361
1000	3	94	409	–	461
1200	3	94	509	–	561
1800	4	432	777	464	808

Espagnolette, cam, backset 17

length	cams	A	B	C	D
240	2	–	54	–	106
400	2	–	109	–	161
600	2	–	209	–	261
800	2	–	309	–	361
1000	3	94	409	–	461
1200	3	94	509	–	561
1800	4	432	777	464	808
1800 lockable	4	432	777	464	808

Installation of strikers

Reverse action espagnolettes with hooks



Gearbox, backset 7 mm, faceplate 182 mm					
extension	length	A	B	C	D
5 mm hooks	390	346	–	378	–
	560	346	525	378	557
	760	346	691	378	723
14 mm hooks	760	346	691	378	723

Gearbox, backset 20 mm, faceplate 140 mm					
Gearbox, backset 22 mm, faceplate 140 mm					
extension	length	A	B	C	D
5 mm hooks	390	341	–	341	–
	560	341	520	341	520
	760	341	686	341	686
14 mm hooks	760	341	686	341	686

Gearbox lockable, backset 17 mm, faceplate 400 mm					
Gearbox lockable, backset 22 mm, faceplate 400 mm					
extension	length	A	B	C	D
5 mm hooks	390	471	–	471	–
	560	471	650	471	650
	760	471	816	471	816
14 mm hooks	760	471	816	471	816

Dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation.

Gearbox, backset 7 mm, faceplate 182 mm					
extension	length	A	B	C	D
5 mm hooks	390	353	–	385	–
	560	353	532	385	564
	760	353	698	385	730
14 mm hooks	760	353	698	385	730

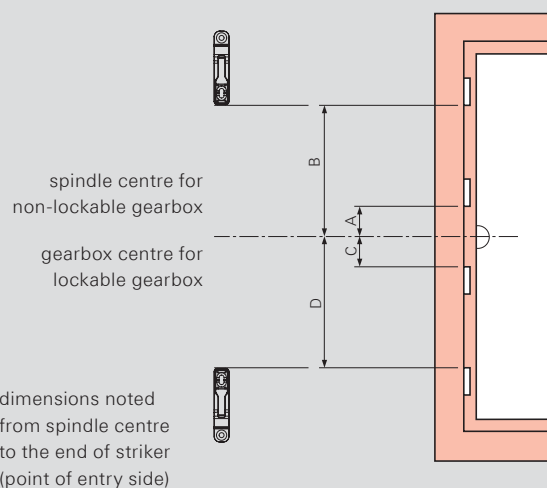
Gearbox, backset 20 mm, faceplate 140 mm					
Gearbox, backset 22 mm, faceplate 140 mm					
extension	length	A	B	C	D
5 mm hooks	390	348	–	348	–
	560	348	527	348	527
	760	348	693	348	693
14 mm hooks	760	348	693	348	693

Gearbox lockable, backset 17 mm, faceplate 400 mm					
Gearbox lockable, backset 22 mm, faceplate 400 mm					
extension	length	A	B	C	D
5 mm hooks	390	478	–	478	–
	560	478	657	478	657
	760	478	823	478	823
14 mm hooks	760	478	823	478	823

Dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation.

Striker positions (mm)

Striker 64 mm



Gearbox, backset 7 mm, faceplate 182 mm

extension	length	A	B	C	D
5 mm hooks	390	365	–	397	–
	560	365	544	397	576
	760	365	710	397	742
14 mm hooks	760	365	710	397	742

Gearbox, backset 20 mm, faceplate 140 mm

Gearbox, backset 22 mm, faceplate 140 mm

extension	length	A	B	C	D
5 mm hooks	390	360	–	360	–
	560	360	539	360	539
	760	360	705	360	705
14 mm hooks	760	360	705	360	705

Gearbox lockable, backset 17 mm, faceplate 400 mm

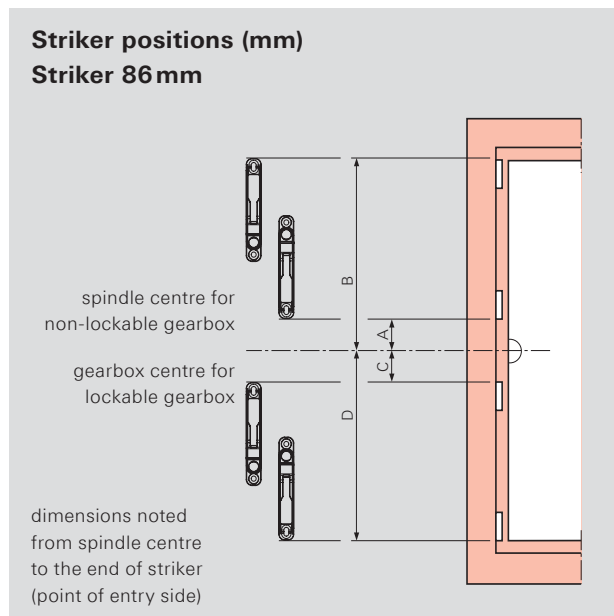
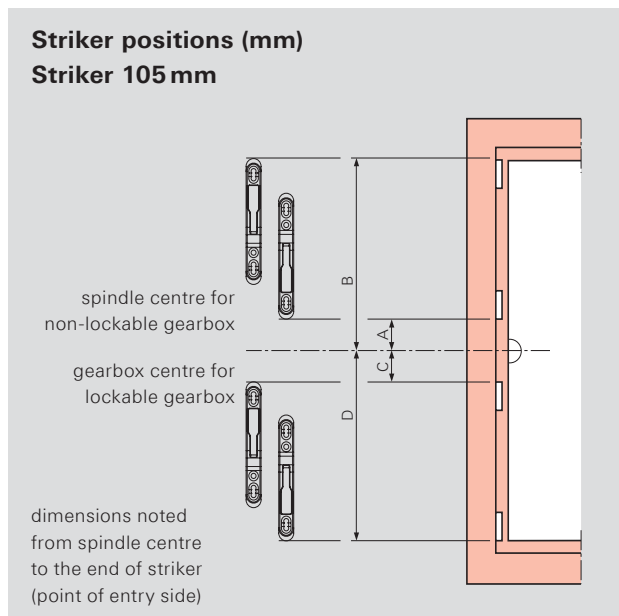
Gearbox lockable, backset 22 mm, faceplate 400 mm

extension	length	A	B	C	D
5 mm hooks	390	490	–	490	–
	560	490	669	490	669
	760	490	835	490	835
14 mm hooks	760	490	835	490	835

Dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation.

Installation of strikers

Reverse action espagnolettes with claws



Gearbox lockable, backset 17 mm, faceplate 400 mm

Gearbox lockable, backset 22 mm, faceplate 400 mm

extension	length	A	B	C	D
14 mm claws	760	472	888	472	888

Dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation.

Gearbox lockable, backset 17 mm, faceplate 400 mm

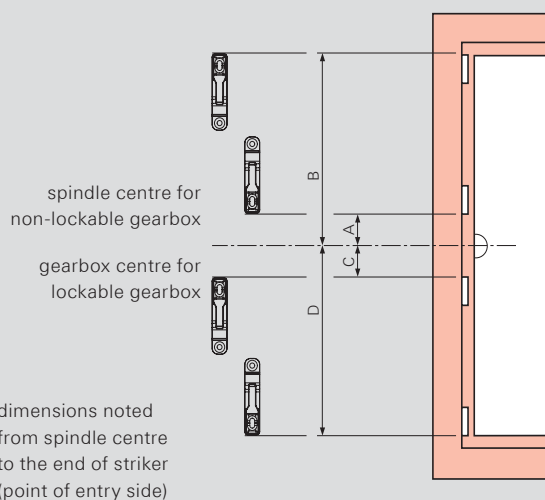
Gearbox lockable, backset 22 mm, faceplate 400 mm

extension	length	A	B	C	D
14 mm claws	760	479	881	479	881

Dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation.

Striker positions (mm)

Striker 64 mm



Gearbox lockable, backset 17 mm, faceplate 400 mm

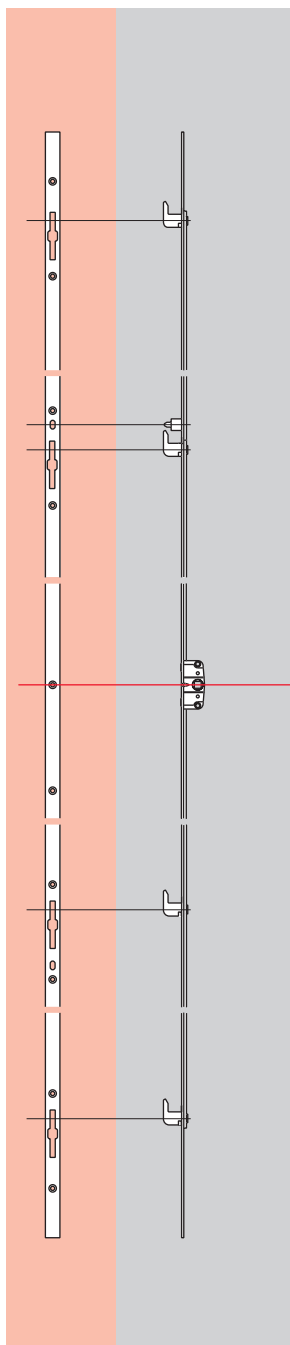
Gearbox lockable, backset 22 mm, faceplate 400 mm

extension	length	A	B	C	D
14 mm claws	760	491	869	491	869

Dimensions noted refer to the original length of the extensions. If the extensions are cut the dimensions change in the same relation.

Installation of one- and two-piece strikers

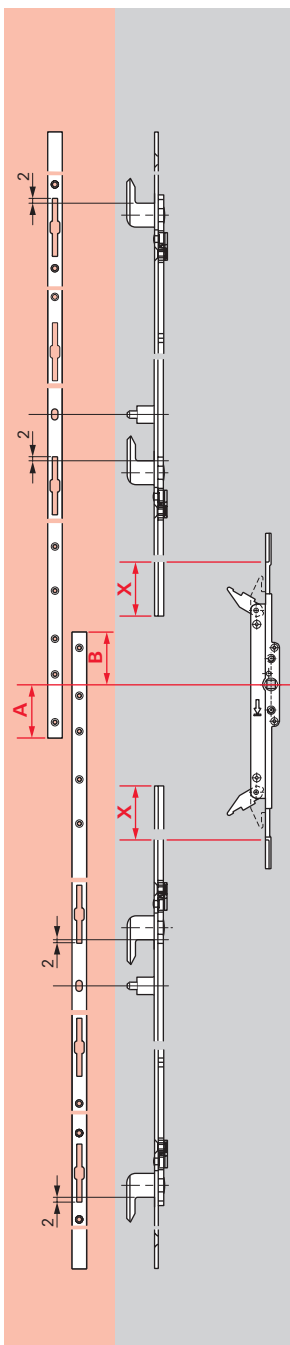
One-piece striker for single action espagnolettes



No cutting necessary.

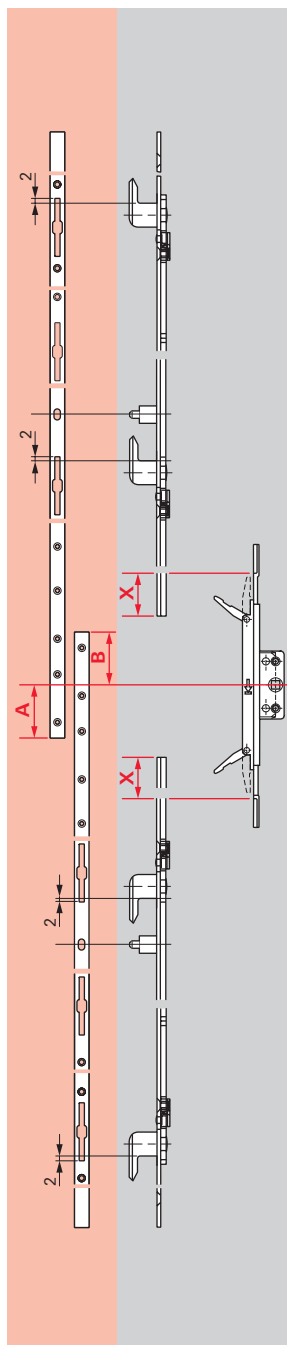
Two-piece striker for reverse action espagnolettes,

gearbox non-lockable
backset 7 mm



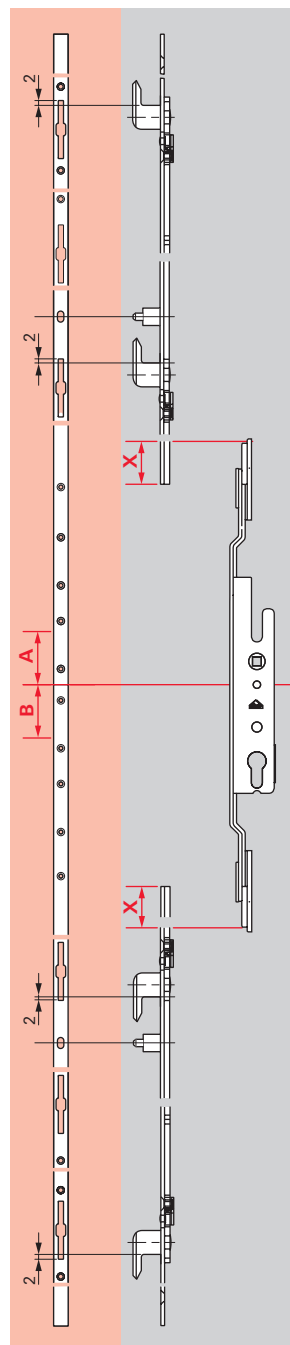
	if extensions are...	
	not cut	cut X
cut A	126	126 + X
cut B	94	94 + X

gearbox non-lockable
backset 20 & 22 mm



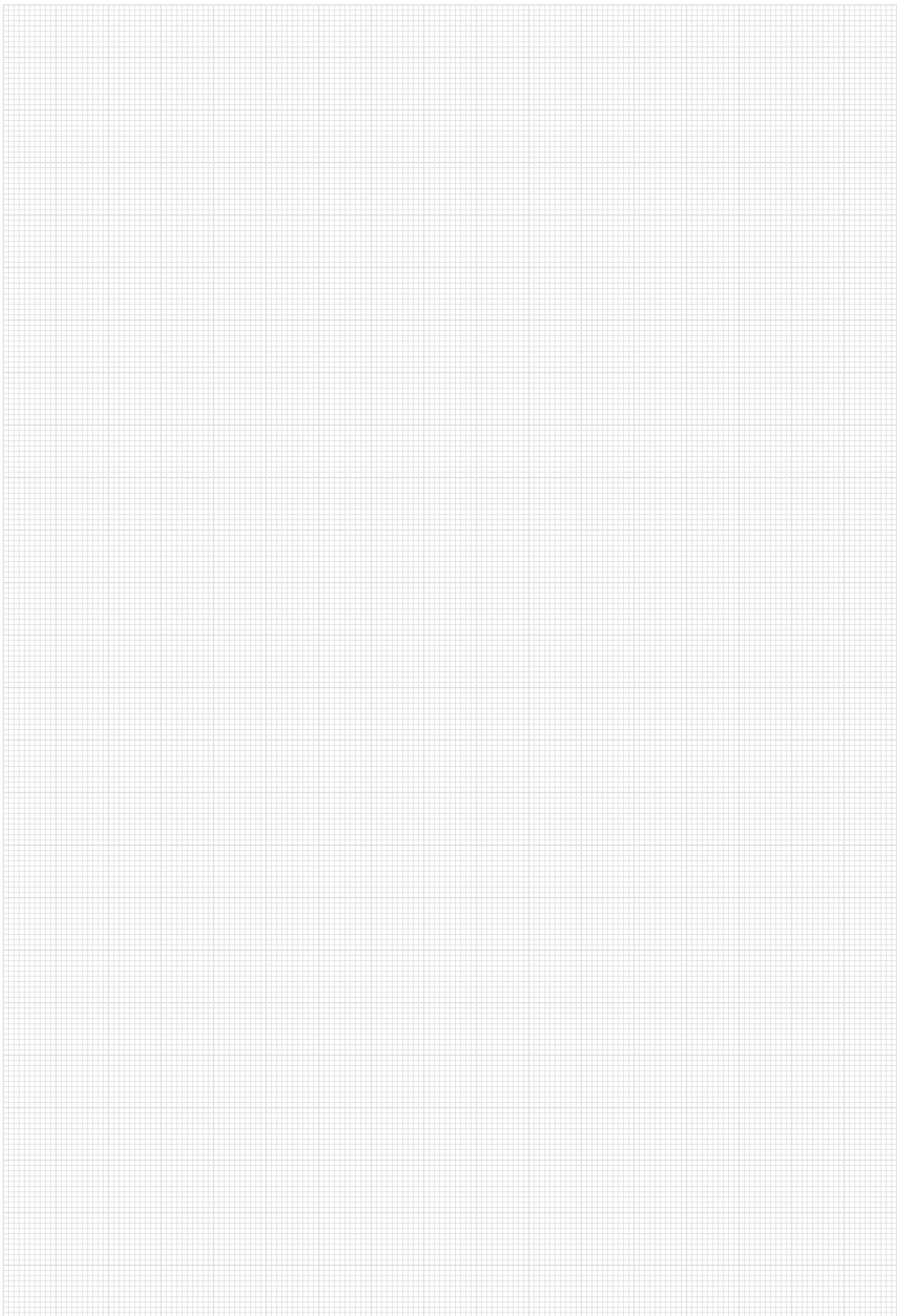
	if extensions are...	
	not cut	cut X
cut A	131	131 + X
cut B	131	131 + X

gearbox lockable
backset 17 & 22 mm

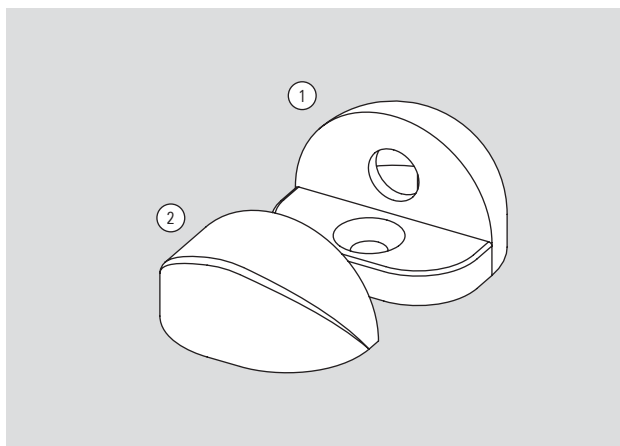


	if extensions are...	
	not cut	cut X
cut A	0	X
cut B	0	X

1. Calculate the length which has to be cut from each piece of the two-piece striker (A/B) using the table.
2. Install the two pieces butting against each other. The joint has to be at the same height as the centre of the spindle (for lockable gearboxes at the centre of the gearbox). See drawings above.



Buffer stops



The buffer stop prevents the frame from being damaged when the window or door is being slammed shut.

In case of diagrams with 2 overlapping movable sashes (diagram D and F) and the use of no pop-up handle on the backmost sash the handle on the backmost sash is protected as well.

1 + 2 Buffer stop (includes rubber part, without screws)

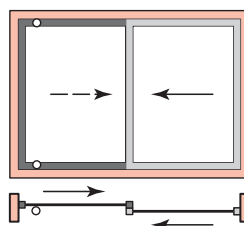
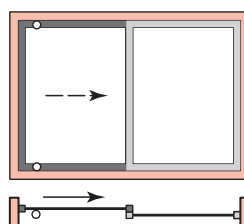
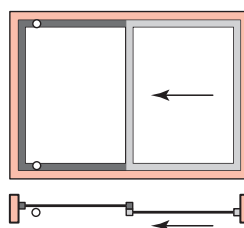
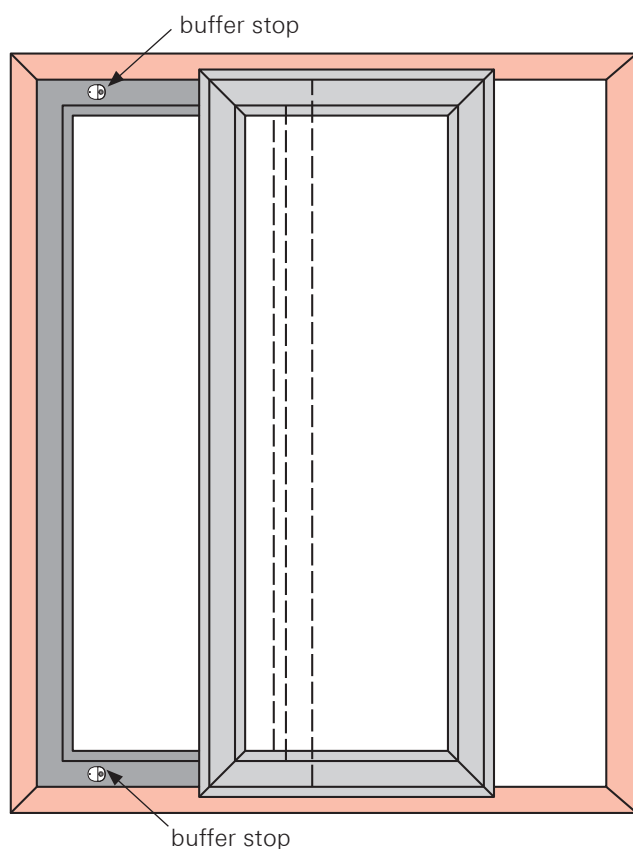
Code	Colour	Material no.
R 04.1	grey brown, RAL 8019	317251
R 06.2	jet black, RAL 9005	335555
R 07.2	traffic white, RAL 9016	317250
	white aluminium, RAL 9006	449963

1 Buffer stop (without rubber part)

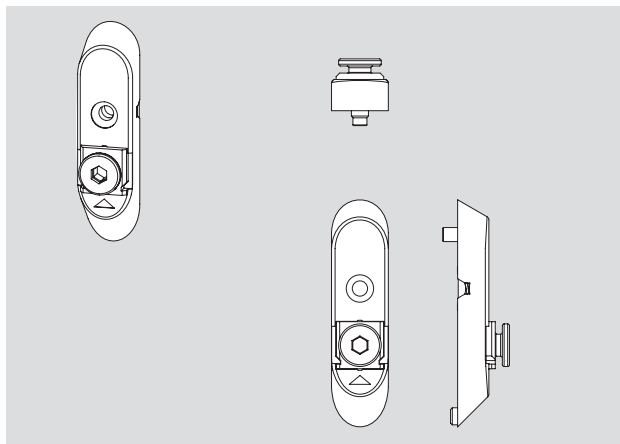
Code	Colour	Material no.
	uncoated	317249

2 Rubber part

Code	Colour	Material no.
R 06.2	jet black, RAL 9005	317252



Anti-mishandling device / Info-clip

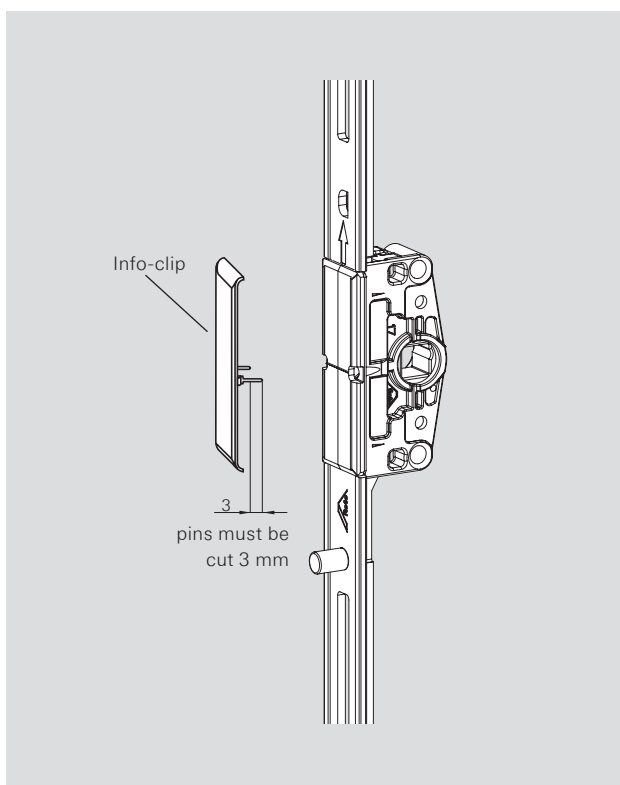


Anti-mishandling device

343733

This device allows the locking points to be moved only when the door has been closed, thus preventing damage to the mechanism. Possible damage arising from the door being slammed shut with the hardware in the locked position is eliminated.

Can be used in combination with espagnolettes with 14 mm hooks or claws.



Info-clip

Display information (i.e. company logo) clipped on to the espagnolette gear casing

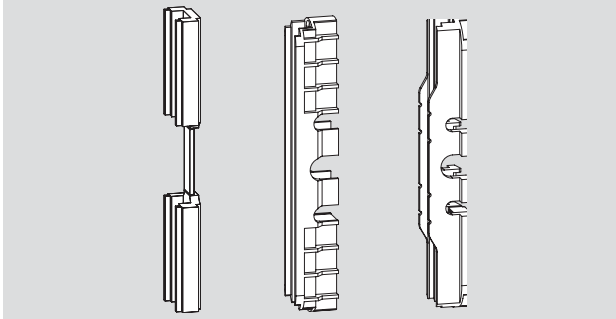
Print	Primary colour	
Blank	R06.2 jet-black	230694
Blank	R07.1/2 white	230696
Unicolour printing	R06.2 jet-black	230692
Unicolour printing	R07.1/2 white	230695
Bicolour printing	R07.1/2 white	230697

Upon submitting your order request, please enclose the artwork (format: approx. 15 x 40 mm).

Application range:

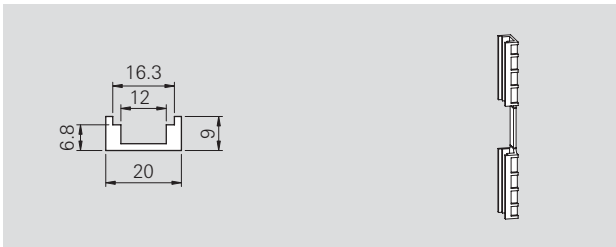
Suitable for all single-action espagnolettes.

Separators



Roto's espagnolettes can be used universally in PVC, timber and aluminium windows and doors. For the use in aluminium profiles, separators can be used as adapters. In order to suit individual profile geometries, different separators are available.

For the correct positioning please refer to the illustration on page 76.



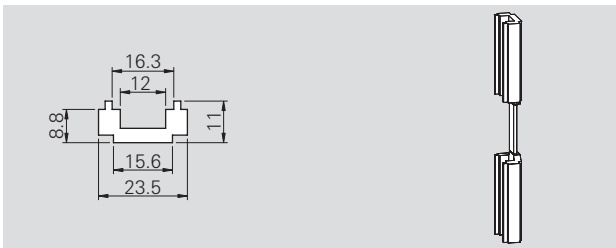
Separator set S001

478410

Content

6 separators (3x2 pieces)

6 screws



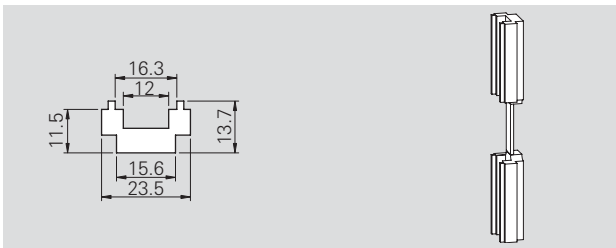
Separator set S002

478411

Content

6 separators (3x2 pieces)

6 screws



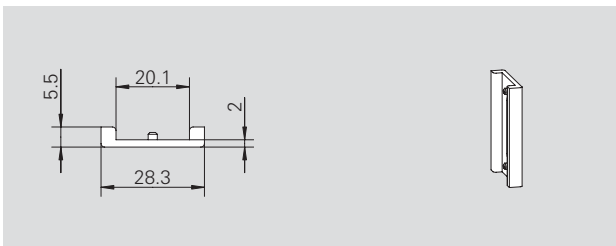
Separator set S003

478412

Content

6 separators (3x2 pieces)

6 screws



Separator set S005

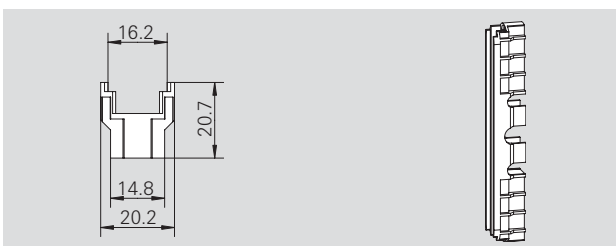
491665

To be used in combination with S001, S002 or S003

Content

6 separators

6 screws



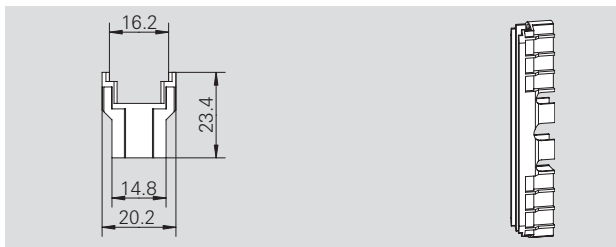
Separator set S006

564313

Content

3 separators

6 screws



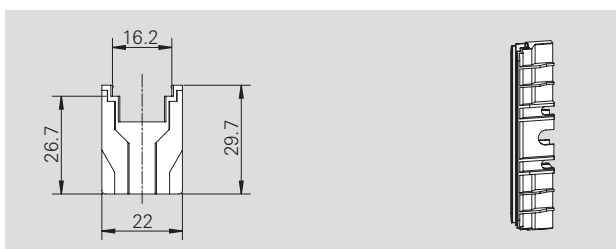
Separator set S007

564314

Content

3 separators

6 screws



Separator set S008 ⁽¹⁾

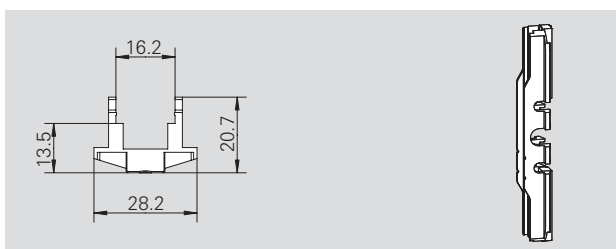
600608

Content

5 separators

10 screws

⁽¹⁾ for lift & slide standard groove 22 mm



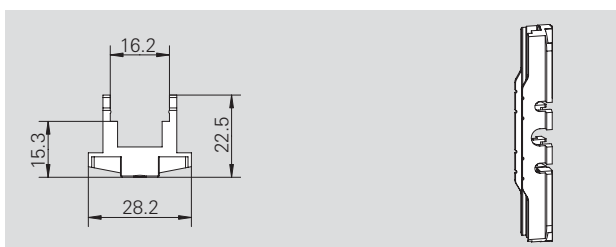
Separator set S009

604564

Content

5 separators

10 screws



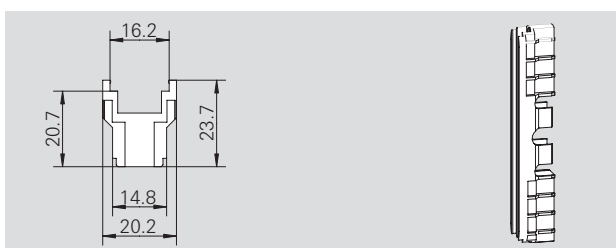
Separator set S010

604565

Content

5 separators

10 screws



Separator set S011

604566

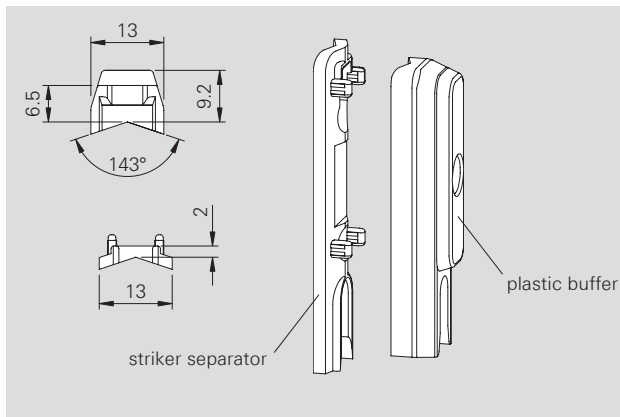
Content

5 separators

10 screws

Accessories for aluminium sliding windows and doors

Special strikers for aluminium

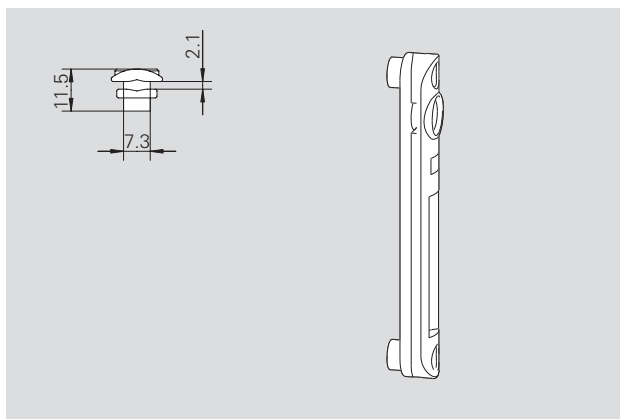


Striker set 1 for aluminium

478413

Content

- 2 metal strikers
- 2 plastic buffers
- 2 striker separators 2mm
- 4 screws

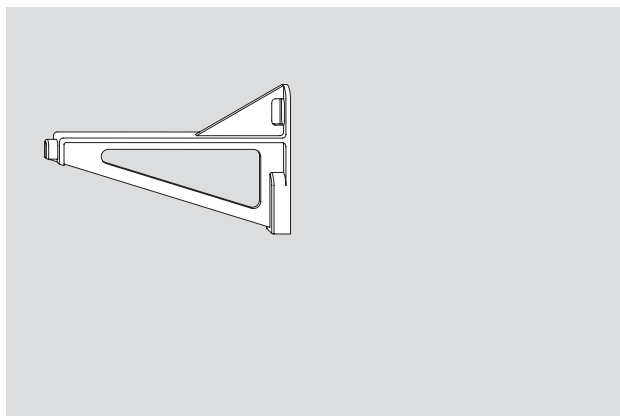


Striker set 2 for aluminium

564311

Content

- 2 metal strikers
- 4 headless screws

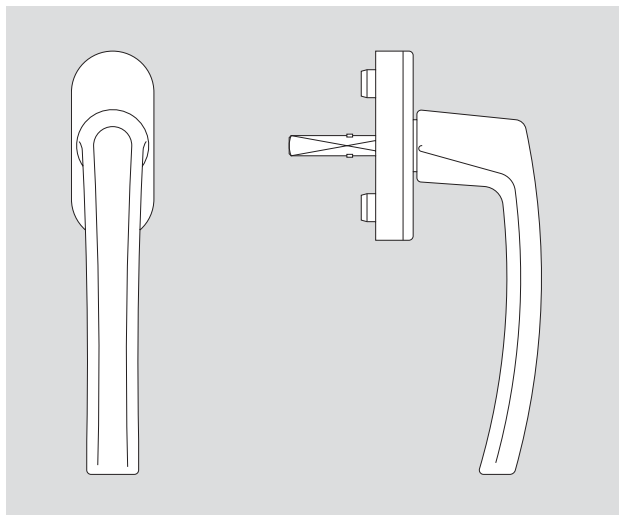


Jig for positioning the striker 478 413

631078

Accessories for aluminium sliding windows and doors

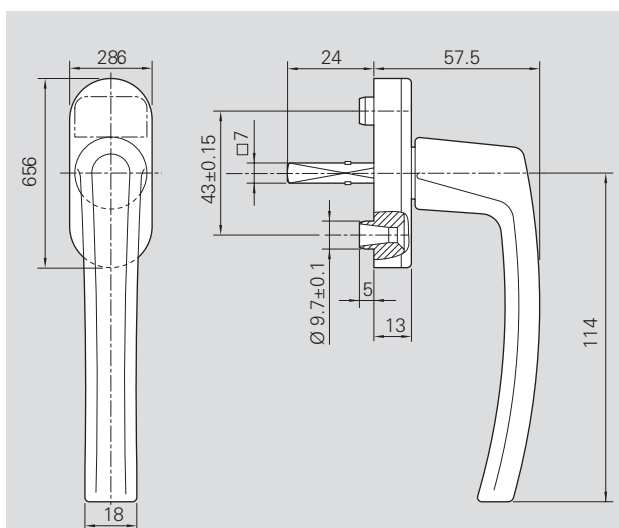
RotoLine handle



RotoLine handles, spindle length 24 mm

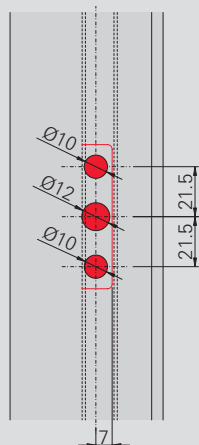
Code	Colour	Material no.
R 06.2M	matt black, RAL 9005 matt	490546
R 07.2	traffic white, RAL 9016	490545

10 mm dia. lugs, Roto Logo, M5 x 35 screws

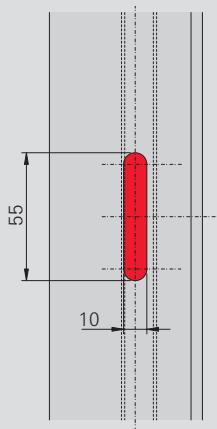


Drilling and routing hole-pattern

Option 1



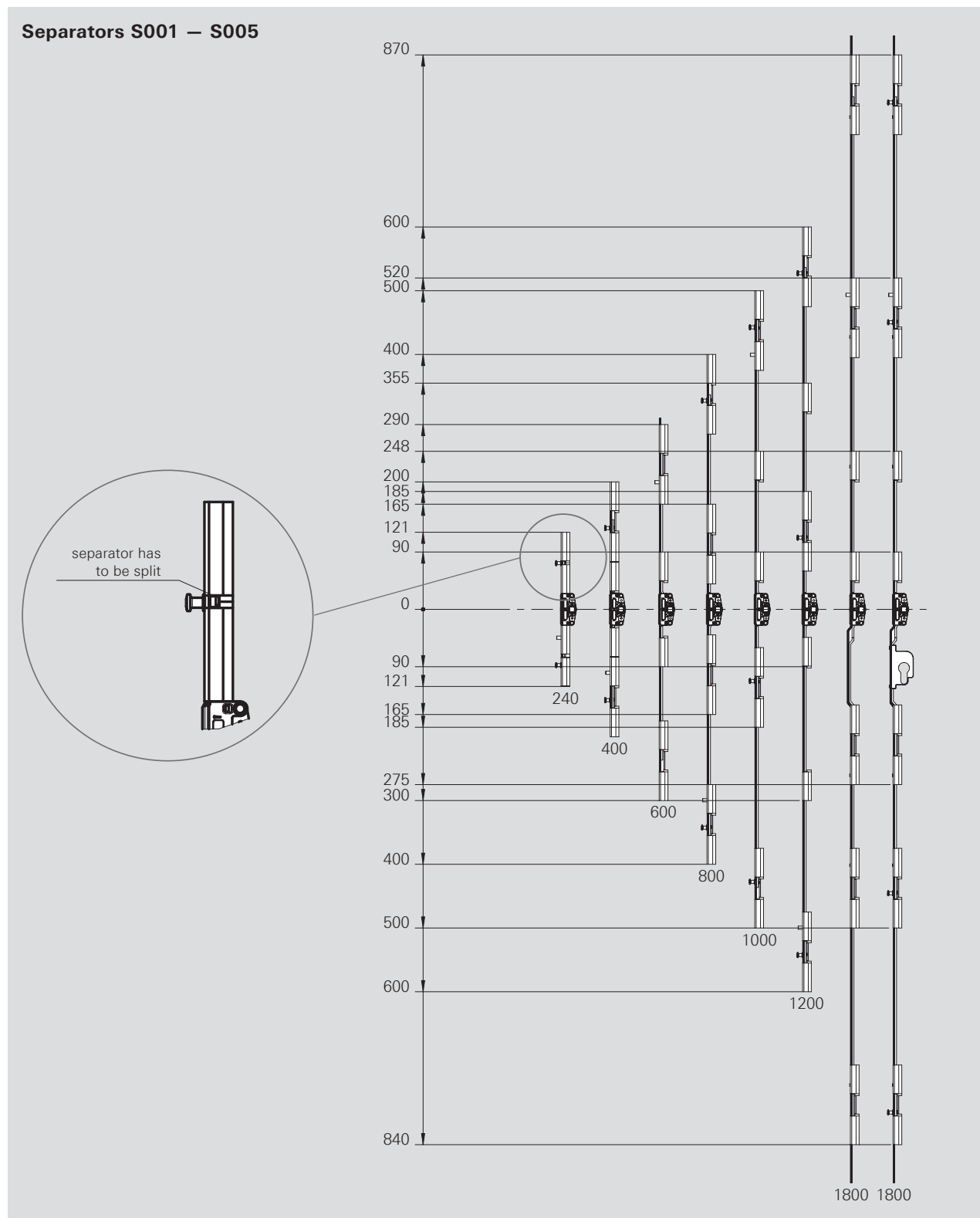
Option 2



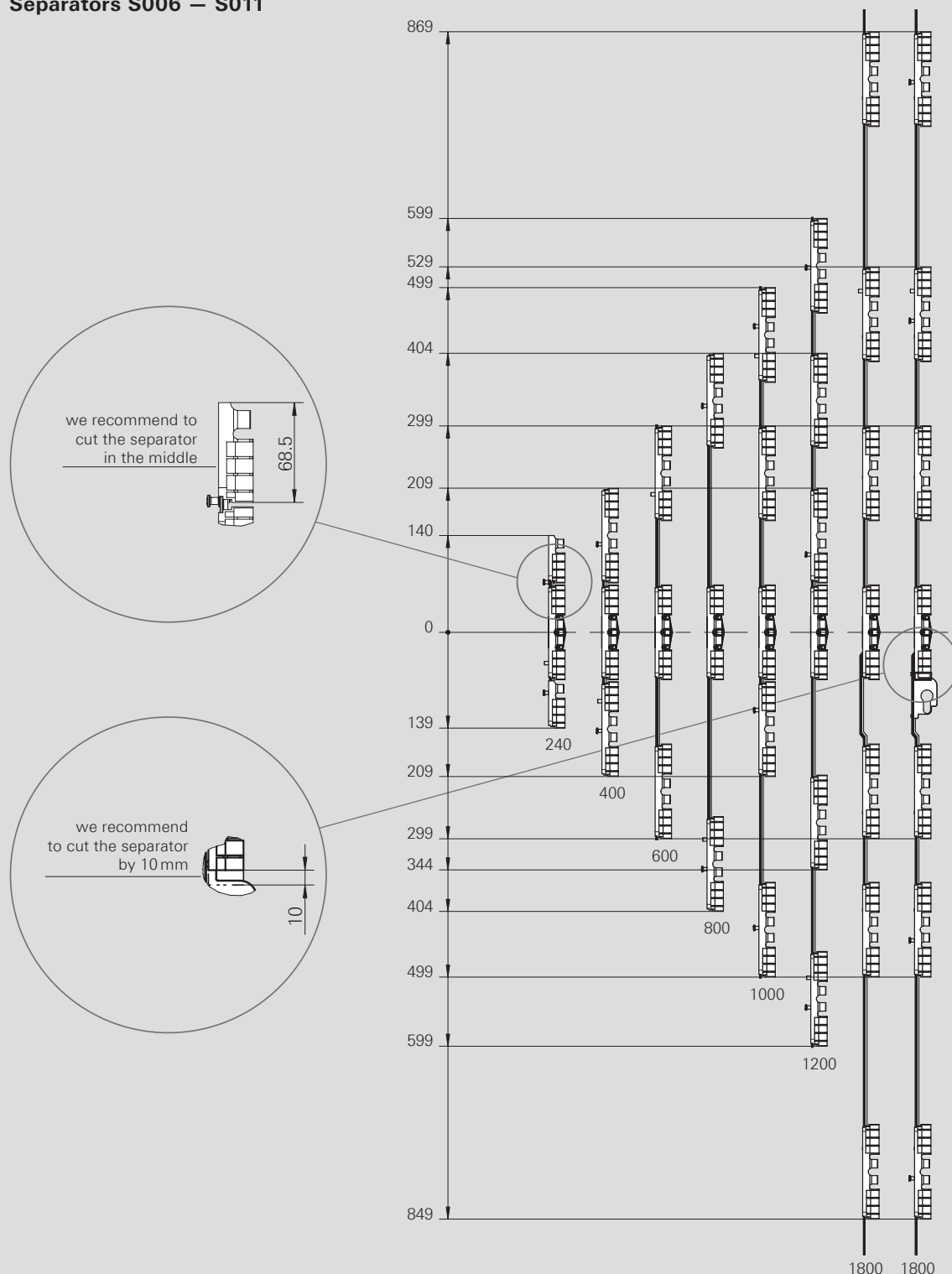
Accessories for aluminium sliding windows and doors

Installation of separators

Recommended positions for separators



Separators S006 – S011



Accessories for aluminium sliding windows and doors

Installation of aluminium sliding system

1. Drilling for the handle's position – apply the following formula: $HC = [A+B] - C$

HC = handle centre

A = wing dimension

B = espagnolette backset

C = separator height

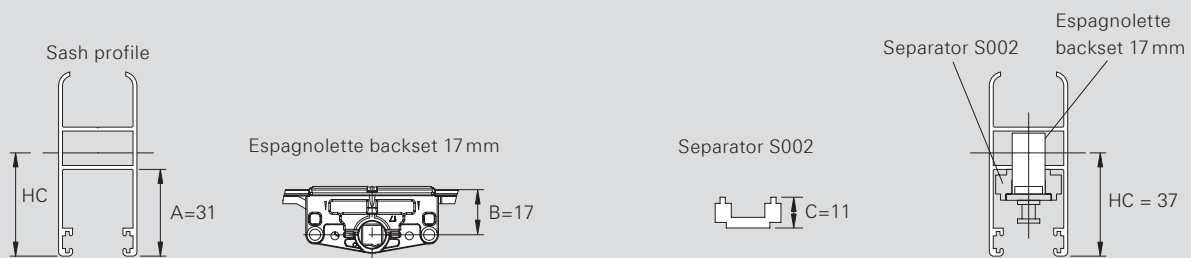
Example:

$$HC = [A+B] - C$$

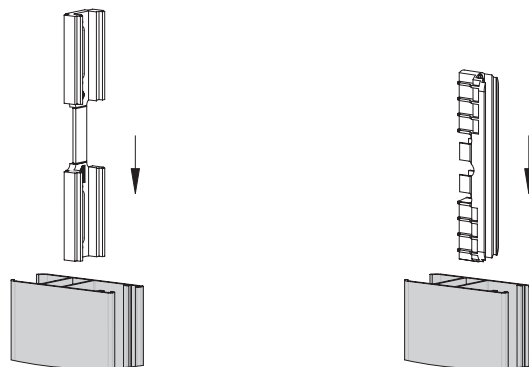
$$HC = [31+17] - 11$$

$$HC = 37$$

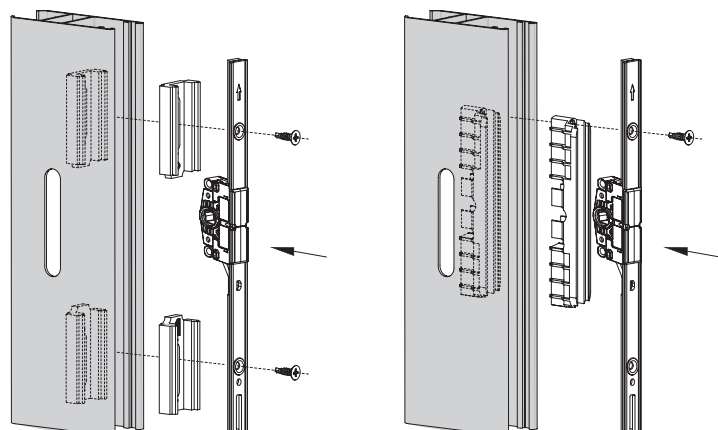
The handle's drilling centre is 37 mm from the edge of the sash profile.



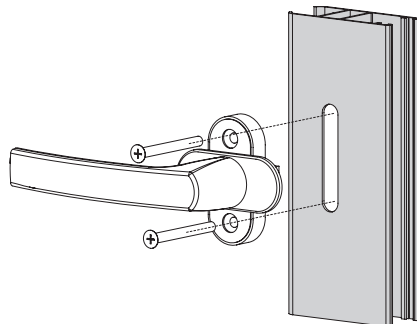
2. Insert the separator before assembling the profiles. Split separator at location of gearbox.



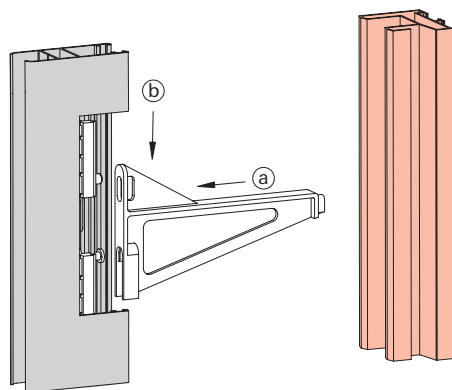
3. Install the espagnolette and screw-fix.



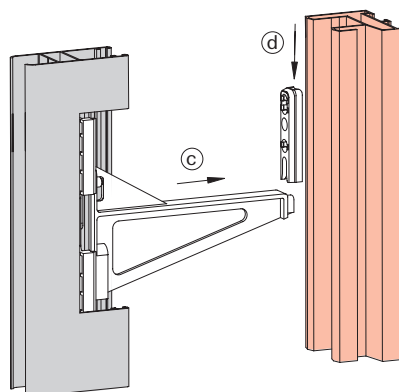
4. Mount the handle (see AB 502 GB) and put the espagnolette in closed position.



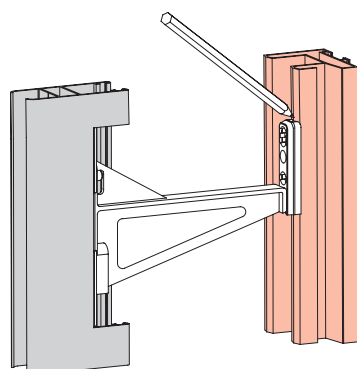
5. Position the jig (631078) in the espagnolette.



6. Put the striker on the opposite side of the jig as shown in the drawing.



7. Make a reference on the frame. Screw-fix the striker with a recommended torque of 1.5 – 2 Nm and clip on the plastic buffer.

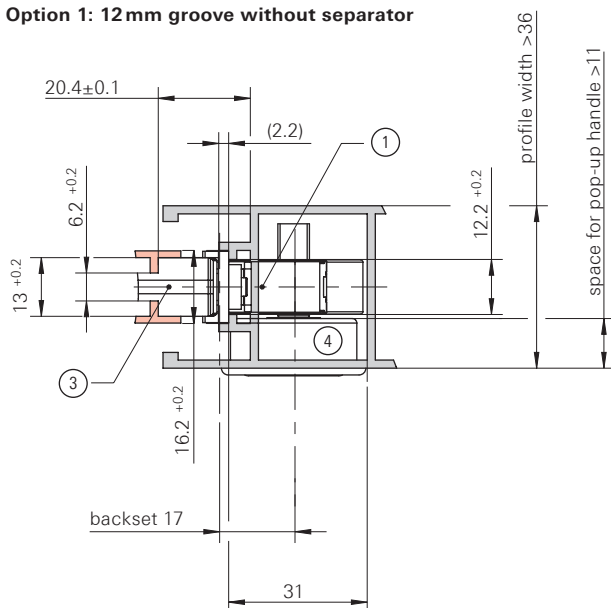


Generic aluminium profile

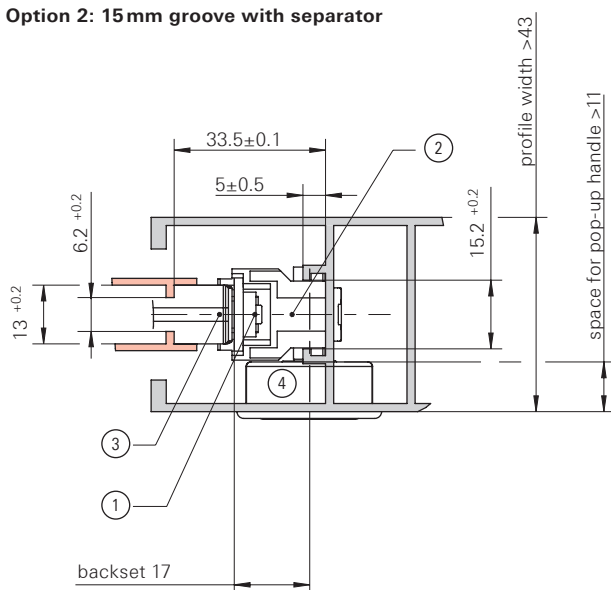
The following illustration shows the basic requirements that an aluminium profile should fulfil to suit Roto's In-line Sliding hardware.

Horizontal cross-section

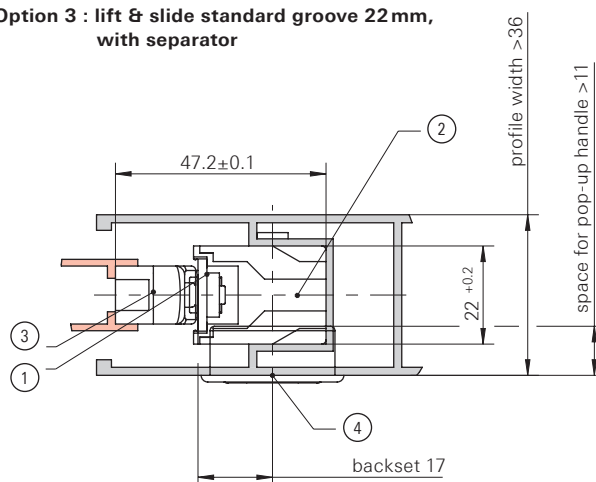
Option 1: 12 mm groove without separator



Option 2: 15 mm groove with separator

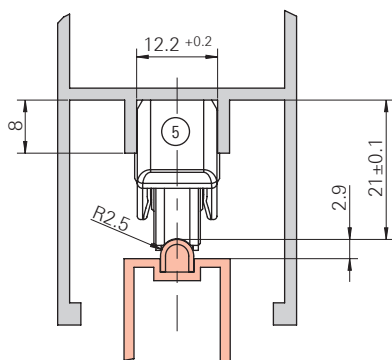


Option 3 : lift & slide standard groove 22 mm, with separator

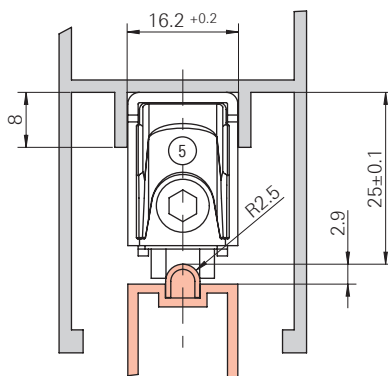


Vertical cross-section

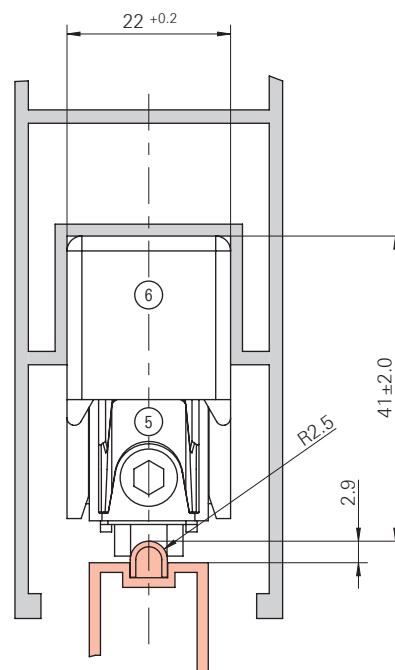
Groove for single rollers (50 kg) and tandem rollers (80 kg & 120 kg)



Groove for tandem roller (200 kg)



Lift & slide standard groove 22 mm for tandem roller (200 kg) with packer



1	Espagnolettes Single action espagnolettes with cams, backset 17 mm	page 20
2	Separators Separator set S006 (Option 2)	page 72
	Separator set S008 (Option 3)	page 73
3	Strikers Striker 629560 (Option 1 + 2)	page 60
	Striker 629557 (Option 3)	page 60
4	Handles Pop-up handles ¹⁾	page 50
	RotoLine sliding handles	page 52
5	Rollers Single rollers (50 kg)	page 40
	Tandem rollers (80 kg & 120 kg)	page 44
	Tandem roller (200 kg)	page 46
6	Packers	page 47

1) shown in illustration

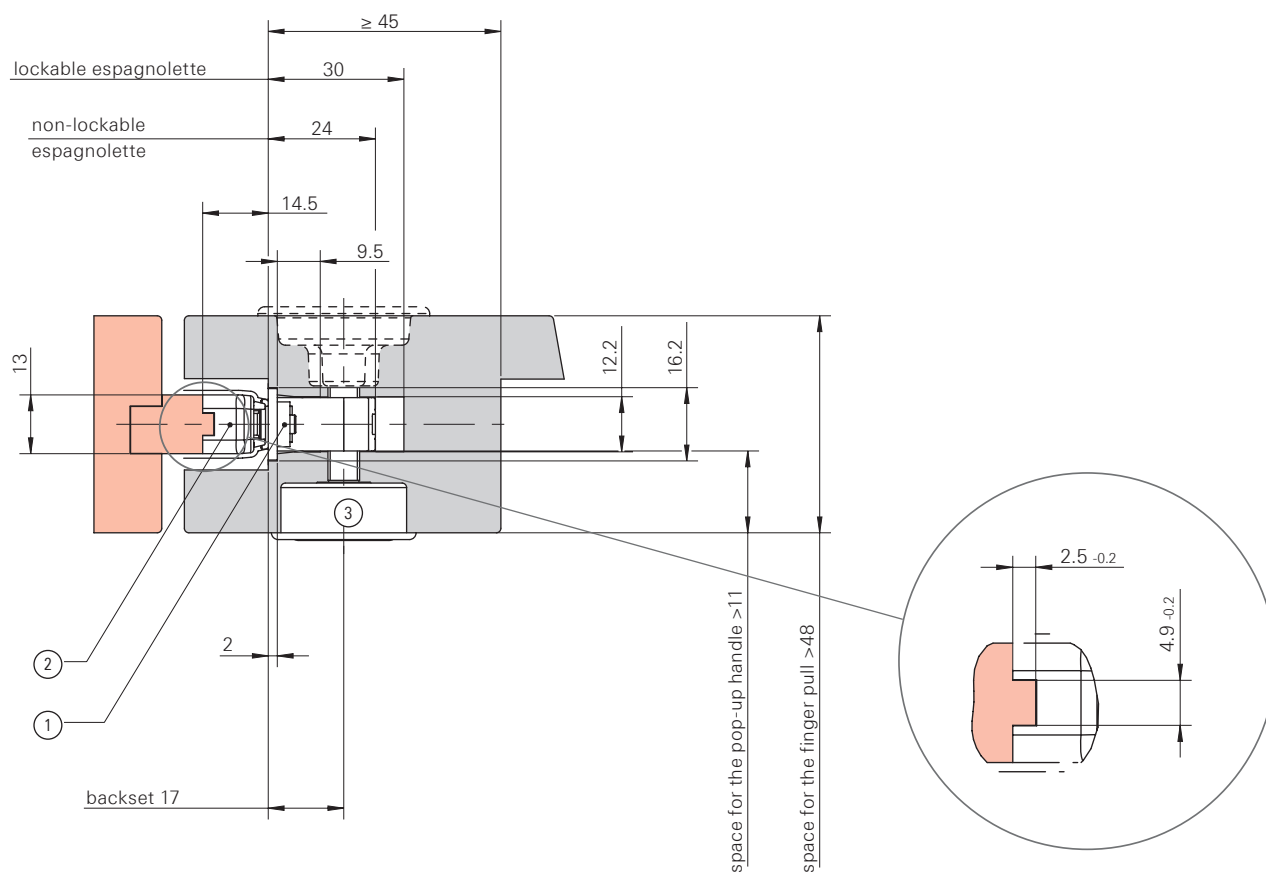
The suggested hardware is just a recommendation.

In case other Roto hardware is desired (e.g. reverse action espagnolettes, other locking point options, one-piece striker) please contact your Roto technical sales partner.

Generic timber profile

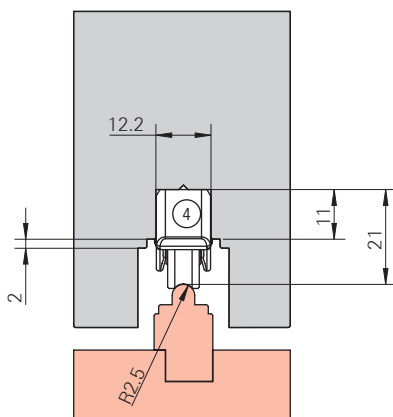
The following illustration shows the basic requirements that a timber profile should fulfil to suit Roto's In-line Sliding hardware.

Horizontal cross-section

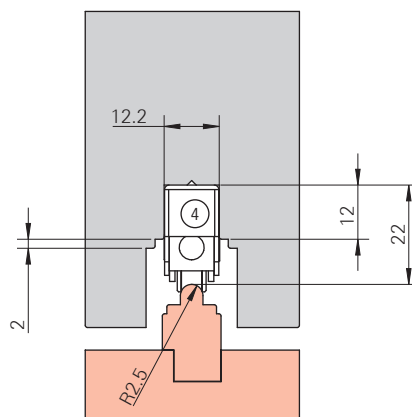


Vertical cross-section

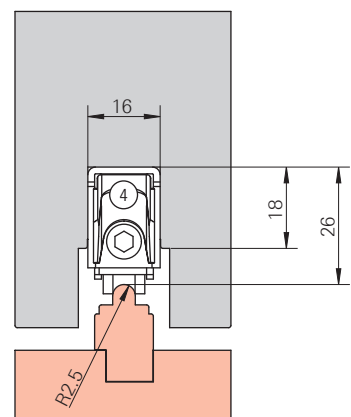
**Groove for single rollers
(50 kg)**



**Groove for tandem rollers
(80 kg & 120 kg)**



**Groove for tandem roller
(200 kg)**



1	Espagnolettes Single action espagnolettes with cams, backset 17 mm	page 20
2	Strikers Striker 629561	page 60
3	Handles Pop-up handles ¹⁾ RotoLine sliding handles ²⁾	page 50 page 52
4	Rollers Single rollers (50 kg) Tandem rollers (80 kg & 120 kg) Tandem roller (200 kg)	page 40 page 44 page 46

1) shown in illustration

2) RotoLine finger pull shown in illustration

The suggested hardware is just a recommendation.

In case other Roto hardware is desired (e. g. reverse action espagnolettes, other locking point options) please contact your Roto technical sales partner.

				SINGLE-ACTION ESPAGNOLETTES								REVERSE ACTION ESPAGNOLETTES				
profile				cam 8 mm			hook 5 mm		hook 14 mm			gearbox		extensions		
				page 18			page 22		page 24			page 30		page 34		
Extrusor	Series	Frame	Sash	7mm backset	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	22mm backset	non-lockable	lockable	hook 5mm	hook 14mm	claws
Alphacan	Esthea 2	53/62	53/63	Yes								334587		Yes		
Aluplast	S60 Duo-rail	100070	100x72	Yes								334587		Yes		
Aluplast	S60 Mono-rail	100070	100x73	Yes								334587		Yes		
Aluplast	S73	100080	100x82	Yes												
					Yes											
							Yes									
												334587		Yes		
												387923		Yes		
Aluplast	Multi-sliding 115	100096/100095	100x93	Yes												
					Yes											
							Yes									
												334587		Yes		
												387923		Yes		
Aluplast	Multi-sliding 80	100090	100x93	Yes												
					Yes											
							Yes									
												334587		Yes		
												387923		Yes		
Aluplast	Multi-sliding	100097	100x93	Yes												
					Yes											
							Yes									
												334587		Yes		
												387923		Yes		
Deceuninck	Monorail	P3400	P3410	Yes												
					Yes											
						Yes										
							Yes									
								Yes								
												334587		Yes		
												387923		Yes		
													387934	Yes		
Deceuninck	Zendow/ Tecnocor 2	3450	3460	Yes												
												334587		Yes		
Deceuninck	Zendow/ Tecnocor 2	3450	3465	Yes												
					Yes											
						Yes										
							Yes									
								Yes								
												334587		Yes		
												387923		Yes		
Dimex	Perfekt 60	610800	610700	Yes												
												334587			Yes	
Dimex	Perfekt 70	610900	611000	Yes												
					Yes											
							Yes									
								Yes								
												387923		Yes		

ROLLERS			HANDLES				STRIKERS			ACCESSORIES
single roller 50 kg	tandem roller 120/80 kg	tandem roller 200 kg	pop-up handles	ROL sliding handle combinations with...		ROL tilt& turn handles	single strikers	one-piece striker	two-piece striker (RA)	misc. device
page 40	page 44	page 46	page 50	page 52			page 60	page 61	page 61	page 70
				finger pull outside	pull handle outside (* lockable from inside+outside)			600/1800mm	960mm	
			spindle length (mm)	spindle length (mm)	spindle length (mm)	spindle length (mm)	...striker length			
	615951/ 280445		26	50	67	35	629557 milled_86mm			
			26	50	67	35	629557 milled_86mm			
622665/ 297217	312897		26			30	629557 milled_86mm			
			26			30	629557 milled_86mm			
622665/ 297217	312897					24	629557 milled_86mm			
						24	629557 milled_86mm			
	615951/ 280445	603430+ 603431	26	50	57	30	629559_86mm			
			26	50	57	30	629559_86mm			
			26	50	57	30	629559_86mm			
			26	50	57	30	629559_86mm			
			26	50	57	30	629559_86mm			
	615951/ 280445		26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
	615951/ 280445		26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
	615951/ 280445		26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
	615951/ 280445		26	70	87	40	629557_86mm			
			26	70	87	40	629557_86mm			
			26	70	87(100*)	40	629557_86mm			
			26	70	87	40	629557_86mm			
			26	70	87(100*)	40	629557_86mm			
			26	70	87	40	629557_86mm			
			26	70	87	40	629557_86mm			
			26	70	87	40	629557_86mm			
			26	70	87(100*)	40	629557_86mm			
	312897		26	50	67	30	483605_105mm			
			26	50	67	30	483605_105mm			
	312897	603430+ 603432	26	50	67	30	483605_105mm			
			26	50	67	30	483605_105mm			
			26	50	67(80*)	30	483605_105mm			
			26	50	67	30	483605_105mm			
			26	50	67(80*)	30	483605_105mm			
			26	50	67	30	483605_105mm			
			26	50	67	30	483605_105mm			
	615951/ 280445		26		57	30	629553_86mm			
			26		57	30			474143	Yes
	615951/ 280445		26	50	57	30	629553_86mm			
			26	50	57	30	629553_86mm			
			26	50	57	30	629553_86mm			
			26	50	57 (70*)	30	629553_86mm			
			26	50	57	30	629553_86mm			

				SINGLE-ACTION ESPAGNOLETTES								REVERSE ACTION ESPAGNOLETTES					
profile				cam 8 mm			hook 5 mm		hook 14 mm			gearbox		extensions			
				page 18			page 22		page 24			page 30		page 34			
Extrusor	Series	Frame	Sash	7mm backset	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	22mm backset	non-lockable	lockable	hook 5mm	hook 14mm	claws	
Gargiulo	Perfetto	5101	5102		Yes												
							Yes										
												387923		Yes			
Gealan	3000	3029	3369 / 3083	Yes													
					Yes												
							Yes										
												334587		Yes			
												387923		Yes			
														Yes			
KBE (Profine)	Premiline	6052	6040	Yes													
KBE (Profine)	Premiline	6052	6041	Yes													
					Yes												
						Yes											
							Yes										
												334587		Yes			
												387923		Yes			
												387934	Yes				
Kömmerling (Profine)	SF2	1385	1386	Yes													
												334587		Yes			
Kömmerling (Profine)	SF3	1397	1396	Yes													
												334587		Yes			
												334587			Yes		
LB Profile	PAD	610040	611020	Yes													
					Yes												
						Yes											
							Yes										
								Yes									
									Yes								
										Yes							
											Yes						
												Yes					
														334587		Yes	
										387923		Yes					
											387934	Yes					
Plastival (Profialis)	PF5900	F006	F070	Yes													
					Yes												
							Yes							387923		Yes	
													334587		Yes		
Profex (Profialis)	Response	2800	2810 / 2820	Yes													
					Yes												
							Yes										
													387923		Yes		
													334587		Yes		
Rehau	S 717	557000	557090	Yes													
														334587		Yes	

ROLLERS			HANDLES				STRIKERS			ACCESSORIES
single roller 50 kg	tandem roller 120/80 kg	tandem roller 200 kg	pop-up handles	ROL sliding handle combinations with...		ROL tilt& turn handles	single strikers	one-piece striker	two-piece striker (RA)	misc. device
page 40	page 44	page 46	page 50	page 52			page 60	page 61	page 61	page 70
				finger pull outside	pull handle outside (* lockable from inside+outside)			600/1800mm	960mm	
			spindle length (mm)	spindle length (mm)	spindle length (mm)	spindle length (mm)	..._striker length			
	615951/ 280445		21	50	57	30	629557 milled_86mm			
			21	50	57	30	629557 milled_86mm			
			21	50	57	30	629557 milled_86mm			
	615951/ 280445		26	50	67	35	629553_86mm			
			26	50	67	35	629553_86mm			
			26	50	67	35	629553_86mm			
			26	50	67	35	629553_86mm			
			26	50	67	35	629553_86mm			
			26	50	67	35			474143	Yes
	312897		26	60	67	35	629554/629555_64mm			
	615951/ 280445		26	60	67	35	629554/629555_64mm			
			26	60	67	35	629554/629555_64mm			
			26	60	67(80*)	35	629554/629555_64mm			
			26	60	67	35	629554/629555_64mm			
			26	60	67	35	629554/629555_64mm			
			26	60	67	35	629554/629555_64mm			
			26	60	67(80*)	35	629554/629555_64mm			
622666/ 297218	622876/ 312896	603430+ 603434	26	50	67	35	629516/629518_64mm			
			26	50	67	35	629516/629518_64mm			
622665/ 297217	312897	603430+ 603535	26		57	30	629553_86mm			
			26		57	30	629553_86mm			
			26		57	30			474143	Yes
622666/ 297218	615951/ 280445		45	60	77	40	629557 milled_86mm			
			45	60	77	40	629557 milled_86mm			
				60	77(90*)	40	629557 milled_86mm			
			45	60	77	40	629557 milled_86mm			
				60	77(90*)	40	629557 milled_86mm			
			45	60	77	40			474143	Yes
				60	77(90*)	40			474143	Yes
			45	60	77	40			474143	Yes
			45	60	77	40	629557 milled_86mm			
			45	60	77	40	629557 milled_86mm			
				60	77(90*)	40	629557 milled_86mm			
	615951/ 280445		21	50	57	30	629556 milled_86mm			
			21	50	57	30	629556 milled_86mm			
			21	50	57	30	629556 milled_86mm			
			21	50	57	30	629556 milled_86mm			
			21	50	57	30	629556 milled_86mm			
622666/ 297218	615951/ 280445		26	50	67	30	629553_86mm			
			26	50	67	30	629553_86mm			
			26	50	67	30	629553_86mm			
			26	50	67	30	629553_86mm			
			26	50	67	30	629553_86mm			
	312897	603430+ 603433		50	57	30	629551_86mm			
				50	57	30	629551_86mm			

				SINGLE-ACTION ESPAGNOLETTES								REVERSE ACTION ESPAGNOLETTES				
profile				cam 8 mm			hook 5mm		hook 14mm			gearbox		extensions		
				page 18			page 22		page 24			page 30		page 34		
Extrusor	Series	Frame	Sash	7mm backset	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	22mm backset	non-lockable	lockable	hook 5mm	hook 14mm	claws
Rehau	S 717	557000	557140	Yes												
					Yes											
						Yes										
							Yes									
								Yes								
Rehau	S 781	614823	614833									334587		Yes		
												387923		Yes		
													387934	Yes		
Rehau	S 920	500013	500033	Yes												
					Yes											
						Yes										
							Yes									
								Yes								
											387923		Yes			
Rehau	S 920	500013	500043													
					Yes											
						Yes										
							Yes									
								Yes								
											387923		Yes			
Rehau	Euroslide	500033	500013		Yes											
												387923		Yes		
					Yes											
												387923		Yes		
Roplasto	4003	725000	724000	Yes												
					Yes											
Schuco	Corona S 74	885600	885700	Yes												
					Yes											
							Yes									
								Yes								
												334587		Yes		
												334587			Yes	
Tecnocom	Serie 74-76	1250	1010													
					Yes											
						Yes										
							Yes									
								Yes								
									Yes							
Tecnocom	Serie 74-76	1250	1011													
							Yes									
												334587		Yes		

ROLLERS			HANDLES				STRIKERS		ACCESSORIES	
single roller 50 kg	tandem roller 120/80 kg	tandem roller 200 kg	pop-up handles	ROL sliding handle combinations with...		ROL tilt& turn handles	single strikers	one-piece striker	two-piece striker (RA)	misc. device
page 40	page 44	page 46	page 50	page 52			page 60	page 61	page 61	page 70
				finger pull outside	pull handle outside (* lockable from inside+outside)			600/1800mm	960mm	
			spindle length (mm)	spindle length (mm)	spindle length (mm)	spindle length (mm)	...striker length			
	312897	603430+ 603433	26	50	57	30	629551_86mm			
			26	50	57	30	629551_86mm			
			26	50	57(70*)	30	629551_86mm			
			26	50	57	30	629551_86mm			
			26	50	57(70*)	30	629551_86mm			
			26	50	57	30	629551_86mm			
			26	50	57	30	629551_86mm			
			26	50	57(70*)	30	629551_86mm			
	312897		21		57	30	629557 milled_86mm			
			21		57	30	629557 milled_86mm			
					57(70*)	30	629557 milled_86mm			
			21		57	30	629557 milled_86mm			
					57(70*)	30	629557 milled_86mm			
			21		57	30	629557 milled_86mm			
					57(70*)	30	629557 milled_86mm			
622665/ 297217	312897		21		57	30	629551_86mm			
			21		57	30	629551_86mm			
622665/ 297217	312897		21		57	30	629551_86mm			
			21		57	30	629551_86mm			
					57(70*)	30	629551_86mm			
			21		57	30	629551_86mm			
					57(70*)	30	629551_86mm			
622665/ 297217	312897		21		57	30	627910_71mm			
			21		57	30	627910_71mm			
622665/ 297217	312897		21		57	30	627910_71mm			
			21		57	30	627910_71mm			
	615951/ 280445		21		57	30	629557 milled_86mm			
			21		57	30	629557 milled_86mm			
	615951/ 280445		21	50	67	32	629553_86mm			
			21	50	67	32	629553_86mm			
			21	50	67	32	629553_86mm			
			21	50	67	32		629563/ 629564		Yes
			21	50	67	32	629553_86mm			
			21	50	67	32			474143	Yes
			21	50	67	32	629553_86mm			
			21	50	67	32			474143	Yes
	615951/ 280445		26	50	57	37	629560_64mm			
			26	50	57(70*)	37	629560_64mm			
			26	50	57	37	629560_64mm			
			26	50	57(70*)	37	629560_64mm			
			26	50	57	37			474143	Yes
			26	50	57(70*)	37			474143	Yes
			26	50	57	37			474143	Yes
			26	50	57	37	629560_64mm			
			26	50	57(70*)	37	629560_64mm			
	615951/ 280445		26	50	67	37	629560_64mm			
			26	50	67	37	629560_64mm			
			26	50	67	37	629560_64mm			

				SINGLE-ACTION ESPAGNOLETTES									REVERSE ACTION ESPAGNOLETTES				
profile				cam 8 mm			hook 5 mm		hook 14 mm			gearbox		extensions			
				page 18			page 22		page 24			page 30		page 34			
Extrusor	Series	Frame	Sash	7mm backset	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	22mm backset	non-lockable	lockable	hook 5mm	hook 14mm	claws	
Tecnocom	Serie 74-76	1240	1012	Yes													
							Yes										
												334587		Yes			
Veka	Softline Ekosol	105.245	105.240	Yes													
												334587		Yes			
												334587			Yes		
Veka	Softline Ekosol	105.245	105.241	Yes													
					Yes												
						Yes											
							Yes										
								Yes									
									Yes								
										Yes							
											Yes						
												334587		Yes			
												334587			Yes		
												387923		Yes			
												387923			Yes		
												387934	Yes				
												387934		Yes			
												387934			Yes		
Veka	Ekosol 70	105.351	105.321	Yes													
					Yes												
						Yes											
							Yes										
								Yes									
									Yes								
										Yes							
											Yes						
												334587		Yes			
												334587			Yes		
												387923		Yes			
												387923			Yes		
												387934	Yes				
												387934		Yes			
															Yes		
																Yes	
Veka	Ekosol 70	105.351	105.322	Yes													
					Yes												
							Yes										
								Yes									
										Yes				334587	Yes		
											334587			Yes			

ROLLERS			HANDLES				STRIKERS		ACCESSORIES	
single roller 50 kg	tandem roller 120/80 kg	tandem roller 200 kg	pop-up handles	ROL sliding handle combinations with...		ROL tilt& turn handles	single strikers	one-piece striker	two-piece striker (RA)	misc. device
page 40	page 44	page 46	page 50	page 52			page 60	page 61	page 61	page 70
				finger pull outside	pull handle outside (* lockable from inside+outside)			600/1800mm	960mm	
			spindle length (mm)	spindle length (mm)	spindle length (mm)	spindle length (mm)	..._striker length			
	615951/280445		21		67	30	629560_64mm			
			21		67	30	629560_64mm			
			21		67	30	629560_64mm			
622666/297218	615951/280445		21	50	57	30	629560_64mm			
			21	50	57	30	629560_64mm			
			21	50	57	30			474143	Yes
622666/297218	615951/280445		21	50	57	30	629560_64mm			
			21	50	57	30	629560_64mm			
				50	57(70*)	30	629560_64mm			
			21	50	57	30	629560_64mm			
				50	57(70*)	30	629560_64mm			
			21	50	57	30		629565		Yes
				50	57(70*)	30		629565		Yes
			21	50	57	30	629560_64mm			
			21	50	57	30			474143	Yes
			21	50	57	30	629560_64mm			
			21	50	57	30			474143	Yes
				50	57(70*)	30	629560_64mm			
				50	57(70*)	30			474143	Yes
				50	57(70*)	30			474143	
622666/297218	615951/280445	603430+621100	21	50	57	35	629560_64mm			
			21	50	57	35	629560_64mm			
				50	57(70*)	35	629560_64mm			
			21	50	57	35	629560_64mm			
				50	57(70*)	35	629560_64mm			
			21	50	57	35			474143	Yes
				50	57(70*)	35	629560_64mm			Yes
			21	50	57	35			474143	Yes
			21	50	57	35	629560_64mm			
			21	50	57	35			474143	Yes
			21	50	57	35	629560_64mm			
			21	50	57	35			474143	Yes
				50	57(70*)	35	629560_64mm			
				50	57(70*)	35			474143	Yes
622666/297218	615951/280445		21	50	57	30	629560_64mm			
			21	50	57	30	629560_64mm			
			21	50	57	30	629560_64mm			
			21	50	57	30			474143	Yes
			21	50	57	30	629560_64mm			
			21	50	57	30			474143	Yes

				SINGLE-ACTION ESPAGNOLETTES								REVERSE ACTION ESPAGNOLETTES				
profile				cam 8 mm			hook 5 mm		hook 14 mm			gearbox		extensions		
				page 18			page 22		page 24			page 30		page 34		
Extrusor	Series	Frame	Sash	7mm backset	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	22mm backset	non-lockable	lockable	hook 5mm	hook 14mm	claws
Veka	Ekosol 90	105.310	105.312	Yes												
					Yes											
						Yes										
							Yes									
								Yes								
										Yes						
											Yes					
												Yes				
													Yes			
															334587	
											334587			Yes		
											387923		Yes			
											387923			Yes		
													387934	Yes		
													387934		Yes	
Veka	Softline 73	105.701	105.702	Yes												
					Yes											
												387923			Yes	
Veka	Softline 73	105.717	105.715	Yes												
					Yes											
						Yes										
							Yes									
											387923			Yes		
Veka	Sunline	105.370	105.371	Yes												
												334587		Yes		
WHS	HALO	P10150	P10151	Yes												
												334587		Yes		

ROLLERS			HANDLES				STRIKERS			ACCESSORIES
single roller 50 kg	tandem roller 120/80 kg	tandem roller 200 kg	pop-up handles	ROL sliding handle combinations with...		ROL tilt& turn handles	single strikers	one-piece striker	two-piece striker (RA)	misc. device
page 40	page 44	page 46	page 50	page 52			page 60	page 61	page 61	page 70
				finger pull outside	pull handle outside (* lockable from inside+outside)			600/1800mm	960mm	
			spindle length (mm)	spindle length (mm)	spindle length (mm)	spindle length (mm)	..._striker length			
	615951/ 280445	603430+ 621100	26	60	77	37	629560_64mm			
			26	60	77	37	629560_64mm			
			26	60	77(90*)	37	629560_64mm			
			26	60	77	37	629560_64mm			
			26	60	77(90*)	37	629560_64mm			
			26	60	77	37			474143	Yes
			26	60	77(90*)	37	629560_64mm			Yes
			26	60	77	37			474143	Yes
			26	60	77	37	629560_64mm			
			26	60	77	37			474143	Yes
			26	60	77	37	629560_64mm			
			26	60	77(90*)	37	629560_64mm			
			26	60	77(90*)	37			474143	Yes
			622666/ 297218	615951/ 280445		21	50	57	30	629560_64mm
21	50	57				30	629560_64mm			
21	50	57				30			474143	Yes
622666/ 297218	615951/ 280445		21	50	57	30	629560_64mm			
			21	50	57	30	629560_64mm			
				50	57(70*)	30	629560_64mm			
			21	50	57	30	629560_64mm			
622665/ 297217	312897				57	30	629560_64mm			
					57	30	629560_64mm			
622665/ 297217	312897				57	30	491666_105mm			
					57	30	491666_105mm			

SINGLE				SINGLE-ACTION ESPAGNOLETTES								REVERSE ACTION ESPAGNOLETTES				
Profile				cam 8 mm			hook 5 mm		hook 14 mm			gearbox		extensions		
				page 18			page 22		page 24			page 30		page 34		
Extruder	Series	Frame	Sash	7mm backset	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	22mm backset	non-lockable	lockable	hook 5mm	hook 14mm	claws
Alcemar	M1			Yes												
Alcemar	M5			Yes												
Aluar	Modena 45				Yes											
Alu. Torralba	BN-670	BN-671	BN-676	Yes			Yes									
Akotherm	AT200/215	3611	2018		Yes		Yes									
Aluminco	Serie 230	230-122	230-203								Yes					
Alumil	S100	S116	S102								Yes					
Alumil	S300	S303	S301								Yes					
Alumil	M9052	M14501-1	M9052-2	Yes			Yes									
Alumil	M14000	M14383	M14250								Yes					
Alumil	M14500	M5401	M14202								Yes					
Aluval	Aluprom-18	18200	18303	Yes			Yes									
Arexco	Therm break			Yes												
Balkan	Classic Thermo 445	AL 445-105	AL 445-253		Yes											
Europa	600	TV6 621	TV6 610	Yes												
					Yes		Yes									
Europa	600	TV6 620	TV6 610	Yes												
					Yes		Yes									
Europa	2000	TV 2217	TV 2030	Yes												
					Yes		Yes									
Europa	2500	TV 2516	TV 2520	Yes												
					Yes		Yes									
Europa	2500 Hybrid	TV 2563	TV 2570	Yes												
					Yes		Yes									
Europa	6000	TH 6121	TH 6025	Yes												
					Yes		Yes									
Exalco	Albio-225	225-02	225-06								Yes					
Galisur	PR-65				Yes											
							Yes									
Heroal	Serie 020S	6372	6351		Yes											
							Yes									
Hydro	Rotonda 700				Yes											

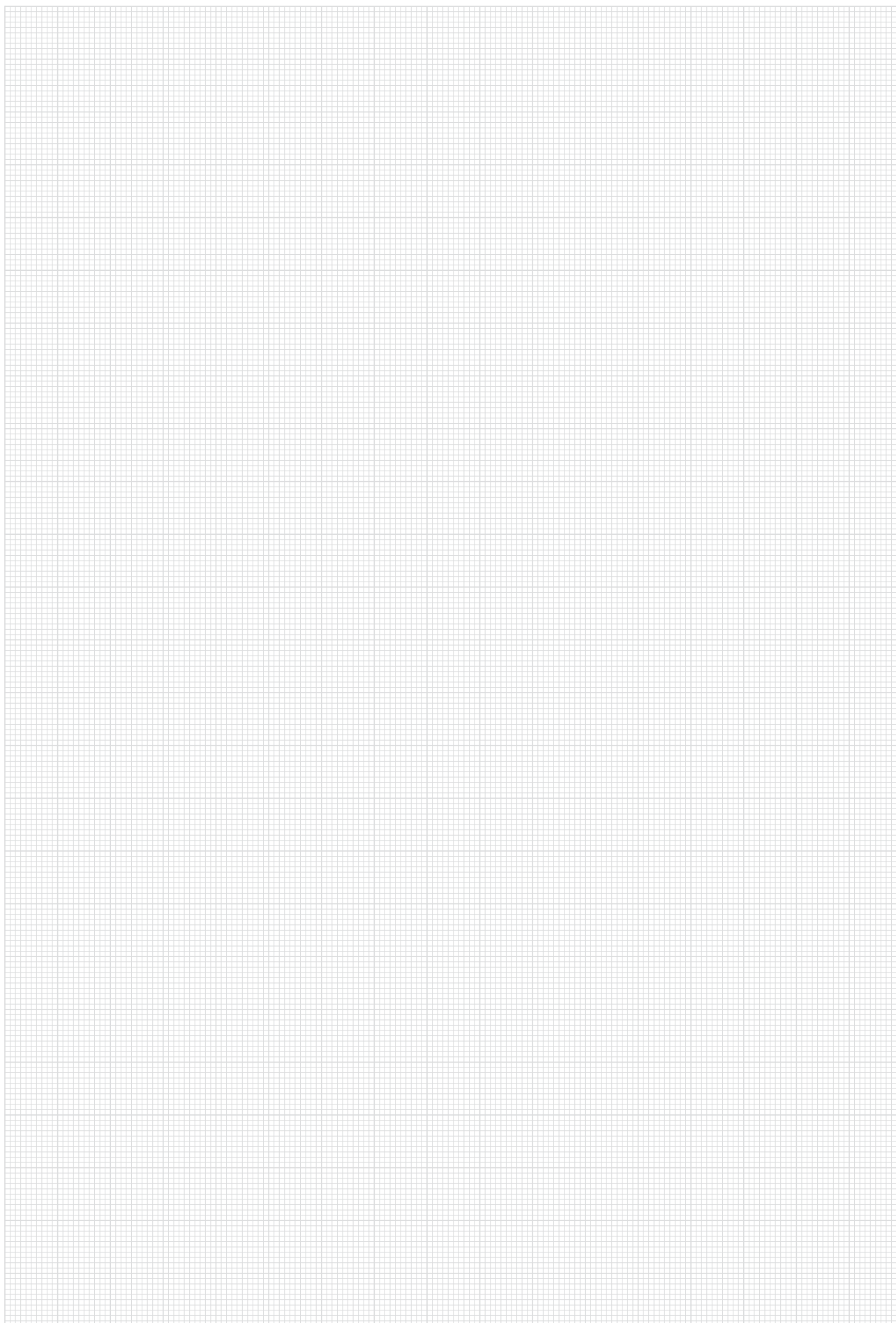
ROLLERS			HANDLES				STRIKERS			ACCESSORIES	SEPARATORS
single roller 50 kg	tandem roller 120/80 kg	tandem roller 200 kg	pop-up handles	ROL sliding handle combinations with...		ROL tilt& turn handles	single strikers	one-piece striker	two-piece striker (RA)	Misc. device	
page 40	page 44	page 46	page 50	page 52			page 60	page 61	page 61	page 70	page 72
				finger pull outside	pull handle outside (* lockable from inside+outside)			600/ 1800mm	960mm		
			spindle length (mm)	spindle length (mm)	spindle length (mm)	spindle length (mm)	...striker length				
						24	630006 milled_71mm				478411
						30	630007 milled_71mm				478411
						24	478413				478412
						24	478413				478411
						24	478413				478411
						30	478413				478412
						30	478413				478412
			21			30	608770			Yes	564313
						24	629557 milled_86mm			Yes	Alumil M12353
						30	629557 milled_86mm			Yes	Alum. S345 +660.01.345.00
						24	478413				478411
						24	478413				478411
						30	629557 milled_86mm			Yes	Alumil M12353
						30	629557 milled_86mm			Yes	Alumil M12353
						24	478413				478411
						24	478413				478411
						24	478413				478412
						24	629557 milled_86mm				564313
			21			30	604563_105mm				604565
			21			30	604563_105mm				
			21			30	604563_105mm				604565
			21			30	478413				604564
			21			30	478413				
			21			30	478413				604564
			21			30	604563_105mm				604565
			21			30	604563_105mm				
			21			30	604563_105mm				604565
			21			30	629558_86mm				604566
			21			30	629558_86mm				
			21			30	629558_86mm				604566
			21			30	629558_86mm				604566
			21			30	629558_86mm				
			21			30	629558_86mm				604566
						24	604563_105mm				478411
						24	604563_105mm				
						24	604563_105mm				478411
					57	30	491666_105mm			Yes	478410+491665
					57(70*)	30	491666_105mm			Yes	478410+491665
					57(70*)	30	491666_105mm			Yes	478410+491665
						24	478413				478412
						24	478413				478412
			21		57	30	629557 milled_86mm				564313
			21		57	30	629557 milled_86mm				564313
						24	478413				478412

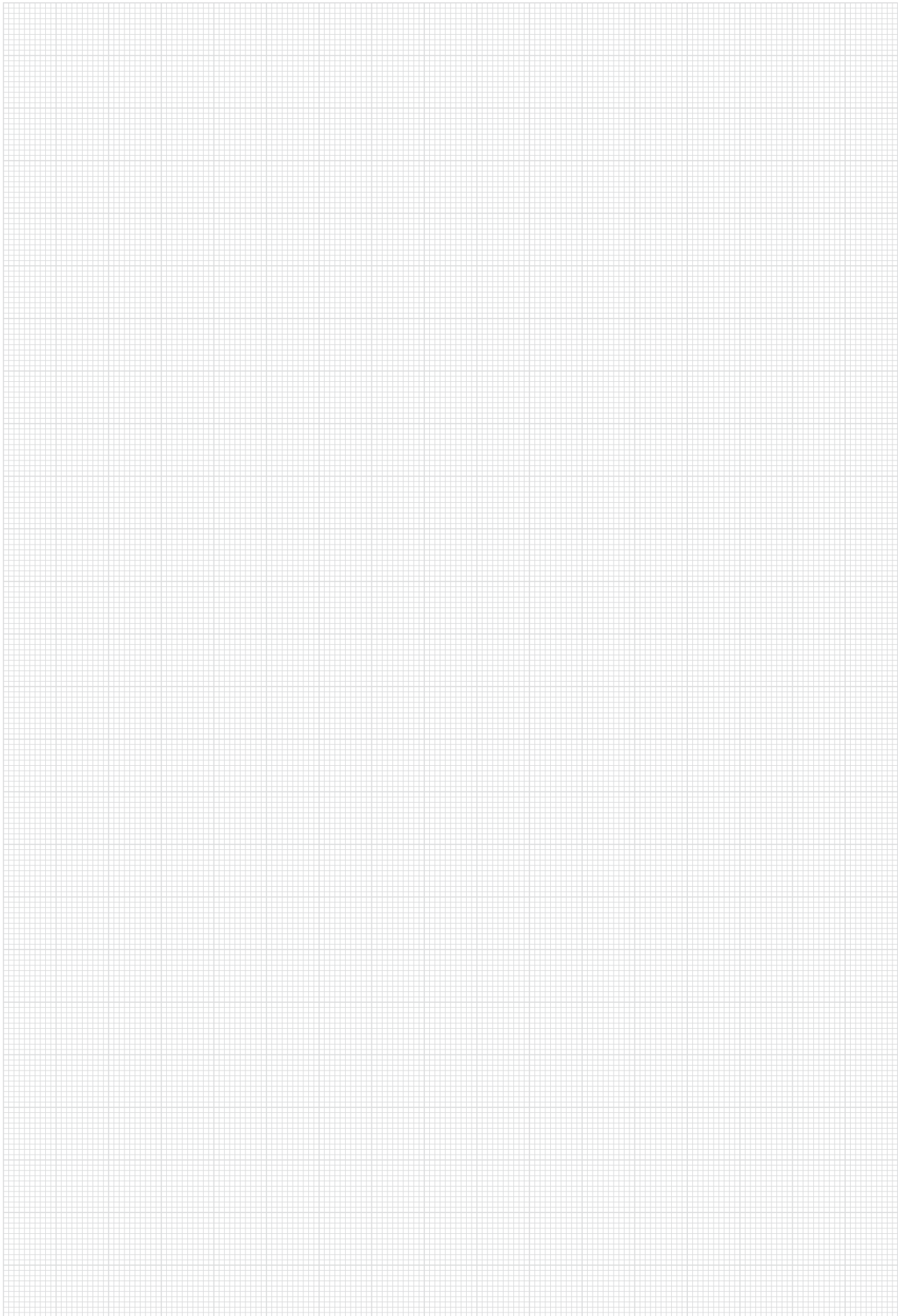
SINGLE				SINGLE-ACTION ESPAGNOLETTES								REVERSE ACTION ESPAGNOLETTES				
Profile				cam 8 mm			hook 5mm		hook 14mm			gearbox		extensions		
				page 18			page 22		page 24			page 30		page 34		
Extrusor	Series	Frame	Sash	7mm backset	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	22mm backset	non-lockable	lockable	hook 5mm	hook 14mm	
Hydro	Rotonda 700 RPT				Yes											
Hydro	HA110				Yes											
Hydro	HA62C				Yes											
Itesal	800				Yes											
Metales Extruidos	Klmacro CPR	19550	PR008		Yes											
							Yes									
Metales Extruidos	Klmacro CPR	21611	20636		Yes											
							Yes									
Metales del Talar	Mass						Yes									
Metales del Talar	Actual 45						Yes									
Profilco	PR-35	35-208	35-301						Yes							
Profilco	PR-35	35-208	35-303						Yes							
Profilco	PR-45	45-205	45-305						Yes							
Regicarp	Serie RE 70 RPT 100				Yes											
								Yes								
Reynaers	CP 130	006.1984. XX	006.1986. XX		Yes											
						Yes										
Sapa	Ouvrant Standard				Yes											
							Yes									
Sapa	Ouvrant forte charge				Yes											
							Yes									
Veralu									Yes							
									Yes							
													387934		Yes	
													387934			Yes

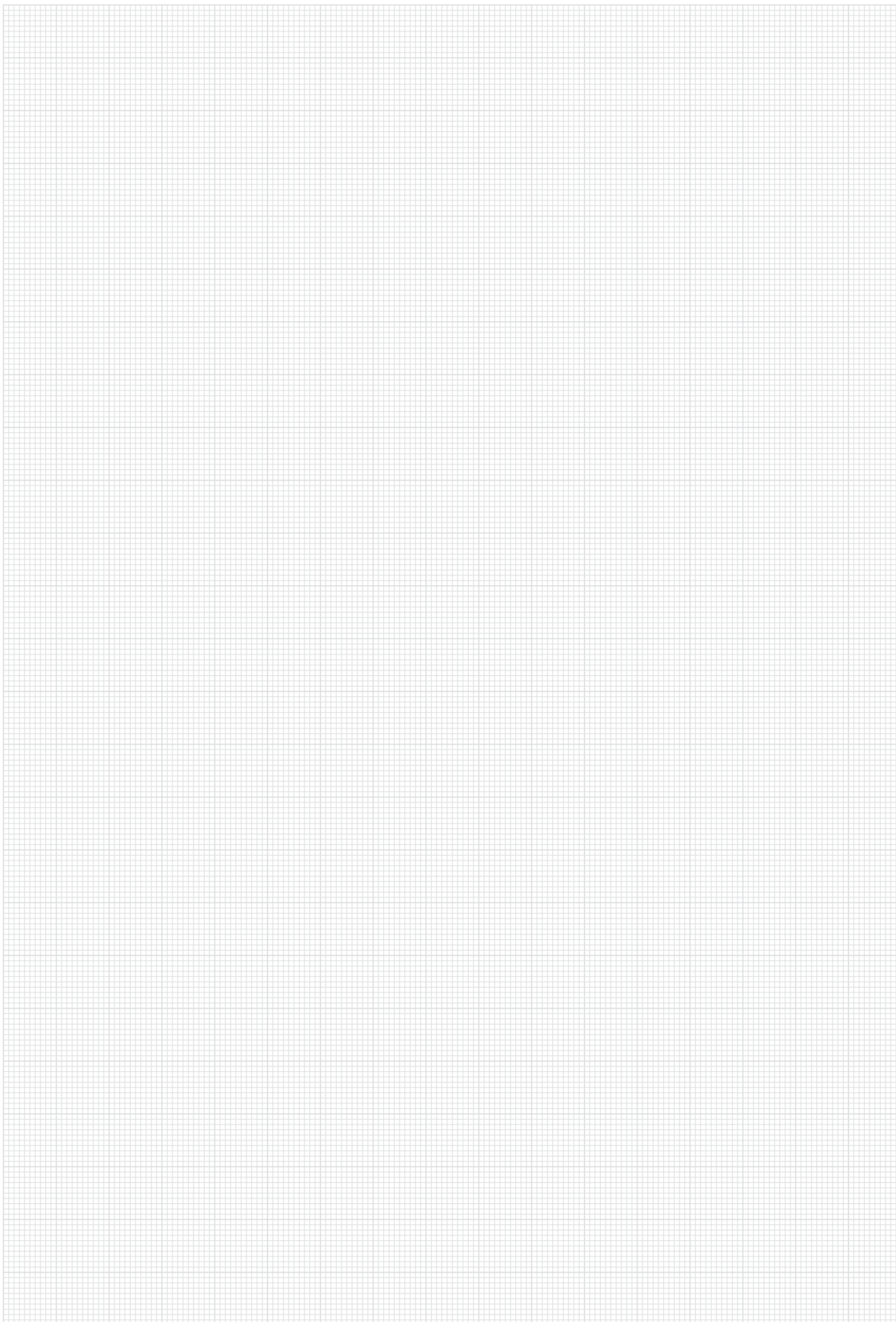
ROLLERS			HANDLES				STRIKERS			ACCESSORIES	SEPARATORS
single roller 50 kg	tandem roller 120/80 kg	tandem roller 200 kg	pop-up handles	ROL sliding handle combinations with...		ROL tilt& turn handles	single strikers	one-piece striker	two-piece striker (RA)	Misc. device	
page 40	page 44	page 46	page 50	page 52			page 60	page 61	page 61	page 70	page 72
				finger pull outside	pull handle outside (* lockable from inside+outside)			600/ 1800mm	960mm		
			spindle length (mm)	spindle length (mm)	spindle length (mm)	spindle length (mm)	...striker length				
						24	478413				478412
						24	478413				478412
						24	478413				478412
			21			24	478413				478410+491665
						24	629557 milled_86mm				
						24	629557 milled_86mm				
						24	629557 milled_86mm				
						24	629557 milled_86mm				
			21			30	478413				478411
						24	478413				478412
			21			24	564311				564313
			21			24	564311				564313
						24	564311				564314
						24	629551_86mm				564313
						24	629551_86mm				564313
			26	60	77	40	629553_86mm				600608
			26	60	77(90*)	40	629553_86mm				600608
			21			30	629557 milled_86mm				
			21			30	629557 milled_86mm				
			21			30	629557 milled_86mm				
			21			30	629557 milled_86mm				
		561194 +packer	21	60	67	30	629562_86mm				
			21	60	67	30	629562_86mm				
			21	60	67(80*)	30	629562_86mm				
			21	60	67(80*)	30	629562_86mm				

profile				SINGLE-ACTION ESPAGNOLETTES									REVERSE ACTION ESPAGNOLETTES			
				cam 8 mm			hook 5 mm		hook 14 mm				gearbox		extensions	
				page 18			page 22		page 24				page 30		page 34	
manufacturer	Series	Frame	Sash	7mm backset	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	17mm backset	17mm backset lockable	22mm backset	non-lockable	lockable	hook 5mm	hook 14mm	claws
Leitz	IV58				Yes											
						Yes										
							Yes									
								Yes								
												387923			Yes	
													387934		Yes	
														387934		

ROLLERS			HANDLES				STRIKERS		ACCESSORIES	
single roller 50 kg	tandem roller 120/80 kg	tandem roller 200 kg	pop-up handles	ROL sliding handle combinations with...		ROL tilt& turn handles	single strikers	one-piece striker	two-piece striker (RA)	misc. device
page 40	page 44	page 46	page 50	page 52			page 60	page 61	page 61	page 70
				finger pull outside	pull handle outside + lockable from inside+outside)			600/1800mm	960mm	
			spindle length (mm)	spindle length (mm)	spindle length (mm)	spindle length (mm)	...striker length			
	615951/280445	603430	26	60	77	37	629557 milled_86mm			
			26	60	77(90*)	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77(90*)	37	629557 milled_86mm			
			26	60	77	37	629557 milled_86mm			
			26	60	77(90*)	37	629557 milled_86mm			
			26	60	77(90*)	37	629557 milled_86mm			Yes









Creates inner values

Roto Frank AG
Window and door technology

Wilhelm-Frank-Platz 1
70771 Leinfelden-Echterdingen
Telefon +49 711 7598 0
Telefax +49 711 7598 253
info@roto-frank.com

www.roto-frank.com



BKWK/BBN Stand: June 2012 Änderungen vorbehalten. CTL_9_EN_v1
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