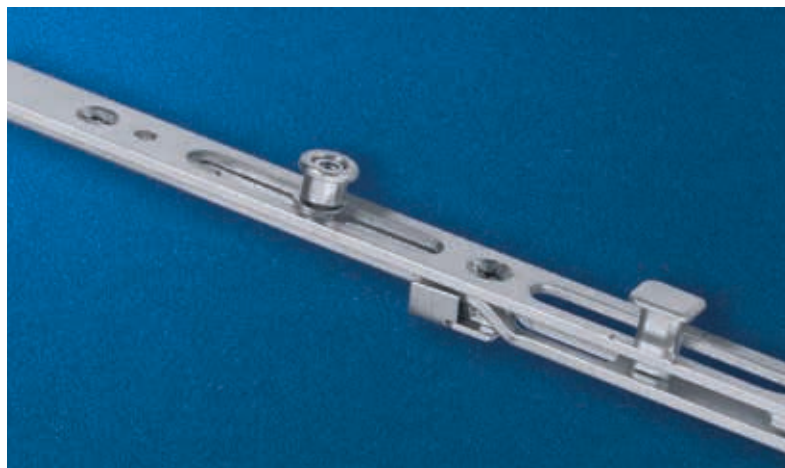


TECHNOLOGY IN MOTION

























MACO MULTI TREND

TURN AND TILT HARDWARE



Catalogue 2015



	For timber windows	MT =	MULTI TREND
	For PVC and aluminium windows	MP =	MULTI POWER
	Part number	DK =	Turn&tilt
	Tricoat number	KD =	Tilt&turn
	Sash rebate width (SRW) and sash rebate height (SRH)	DR =	Turn
	Sash rebate width (SRW), standard	FFB =	Sash rebate width (SRW)
	Sash rebate width with corner element B, D or F	FFH =	Sash rebate height (SRH)
	Sash rebate height (SRH)	FT =	Rebate depth
	Backset (BS)	L =	Air gap
	Handle height (HH)	V =	Offset
	Maximum sash weight	AS =	Surface-mounted
	Number of security cams (i.S.)	DT =	Double routing (Timber)
	Number of standard cams	TO =	Single routing (Timber)
	Sash lifter	TV =	Partially concealed hardware
	Screw diameter	VV =	Fully concealed hardware
	Faceplate width	i.S. =	Security cam
	Packer thickness	VZ =	Standard cam
	Screw	DM =	Backset (BS)
	Overall component width	GM =	Handle height (HH)
	Overall component length	ÜV =	Rebate leg screw-fixing
	Packing unit	Ü =	Rebate leg
	Packing unit per pallet	RZ =	Round cylinder (RC)
		PZ =	Profile cylinder (PC)
		EH =	Burglar resistant
		AR =	Guide ring
		BO =	Drill
		FR =	Milling cutter
		with ded. 170 =	Deduction (SRH includes 170 mm for corner element/end piece)
		AWB =	Application range
		SFG =	French casement drive gear
		HG =	rear-engaging
		ES =	adjustable

Note: If not otherwise specified, all dimensions are stated in millimetres and packing units in items per box.



MAYER & CO
BESCHLÄGE GMBH
ALPENSTRASSE 173
A-5020 SALZBURG

Confirmation for manufacturers

Dear Sirs and Madams,

This MACO catalogue has been prepared to provide you with a comprehensive overview of our product range. For legal reasons we must inform you that Mayer & Co is responsible only for the functionality and safety of our hardware products.



The responsibility for correct installation of hardware elements to the frame material (sashes and frames) and compliance with assembly instructions in this catalogue lies with the window and casement door manufacturer. The window and casement door manufacturer must observe load restrictions given in tables (see chapter 1.3.6) depending on actual maximum sash weight!

For information on proper use, refer in particular to section 1.1.5.1 „Product maintenance - General“ and 1.1.5.2 „Retaining the surface quality“ in this catalogue.

Assembly instructions are available for download at the MACO Extranet (extranet.maco.eu) and at www.maco.at. Instructions included on our package leaflets must be followed.

MACO provides operating and maintenance instructions to pass on to the home owner for download at www.maco.at. This information is also available in the form of window paper tags or stickers.

It is important to check the content of this document regularly as we amend and improve it frequently. Failure to comply with instructions may adversely affect the safe operation of windows and casement doors and may result in personal injury or property damage.

We trust that we have provided you with a valuable document that will prove helpful in your daily work!

Please fill in completely

We confirm receipt and approvingly acknowledge its contents.

Stamp:

_____ *Please print your name in capital letters*

Date: _____ Signature: _____

MACO sales manager: _____



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MACO provides operating and maintenance instructions to pass on to the home owner for download at www.maco.at. This information is also available in the form of window paper tags or stickers.

Instruction for retailers:

MACO provides a sufficient number of package leaflets. The retailer must ensure that a sufficient number of package leaflets shall be included with the product. The retailer must also ensure that the customer is informed about the relevant legally binding instructions and legal aspects of this document.

It is important to check the content of this document regularly as we amend and improve it frequently. Failure to comply with instructions may adversely affect the safe operation of windows and casement doors and may result in personal injury or property damage.

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


Stamp:

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1	Technical and General Information		7
2	Hardware Overviews		53
3	Drive gears		107
4	Corner elements		131
5	Centre locks / Horizontal tilt locks		137
6	Scissor stays		143
7	Turn-only hinges and compression devices		159
8	Scissor stay hinges		175
9	Pivot posts		185
10	French casement window hardware		213
11	Striker plates		223
12	Accessories MULTI TREND		241
13	Stackable pallets		251
14	Jigs		255
15	Basic packs		267
16	MACO TRONIC — Locking Monitoring		269
17	Directory		

MACO
MULTI TREND





1 Technical and General Information

1.1	Advice on product safety/product liability	8
1.2	Hardware definitions	11
1.3	Guidelines for safe processing	13
1.4	Notes of transport / handling of window units	20
1.5	Technical specifications and features	21
1.6	Profile specifications	22
1.6.1	Eurogroove	22
1.6.2	Recommendation for timber profiles	23
1.6.3	Examples for PVC profiles	24
1.7	MACO surfaces	25
1.8	Classification code in accordance with EN 13126-8	27
1.9	Tender specifications / General assembly instructions	28
1.9.1	Turn&tilt window 1-sashed	28
1.9.2	Turn&tilt window 2-sashed	29
1.9.3	Pitched window	30
1.9.4	Half round or elliptical arched window 1-sashed	31
1.9.5	Half round or elliptical arched window 2-sashed	32
1.9.6	Segmental arched window 1-sashed	33
1.9.7	Segmental arched window 2-sashed	34
1.9.8	Turn-only window 1-sashed	35
1.9.9	Turn-only window 2-sashed	36
1.9.10	Tilt-only windows	37
1.9.11	Window combinations 1	38
1.9.12	Window combinations 2	39
1.9.13	Burglar resistance standards	40
1.10	Certificates	41
1.10.1	RAL certificate - PVC windows	41
1.10.2	RAL certificate - timber window	42
1.10.3	RAL certificate - MULTI POWER	43
1.10.4	IFT certificate (QM328)	44
1.10.5	Quality management certificate	45
1.10.6	Environmental management certificate	46
1.10.7	Safety management certificate	47
1.10.8	PIV certificate - silver-look	48
1.10.9	Guarantee statement / Functional guarantee	49
1.10.10	CE - Declaration of non-objection	51
1.11	General terms and conditions	52



1 Technical and General Information

1.1 Advice on product safety/product liability

In accordance with the manufacturer's liability for his products defined in the Product Liability Act (PHG in Austria, ProdHaftG in Germany, PrHG in Switzerland, Codice del Consumo in Italy), the following information on turn-only and turn&tilt hardware for sashes in window and casement door must be heeded. Non-compliance shall release the manufacturer from this liability.

1.1.1 Product information and proper use

Turn-only and turn&tilt hardware in the terms of this definition is hardware for turn and/or tilt sashes in windows and casement doors made of timber. They are used to bring windows and/or casement doors to a turn position or to a tilt position that is restricted by the scissor stay design when the manual lever is operated. When closing the sash and locking the hardware, it is generally necessary to overcome the counter-force of the seal.

The sashes that are equipped with this turn-only and turn&tilt hardware can:

- turn
- turn and tilt or
- tilt and turn or
- tilt.

Turn-only and turn&tilt hardware is used on vertically installed windows and casement doors made of timber, PVC, aluminium or steel and their corresponding material combinations. Proper use includes compliance with all specifications made in the corresponding product documentation.

Differing applications do not correspond to their proper use. Burglar-resistant window and casement doors, windows and casement doors for damp rooms and those for use in environments with aggressive, corrosive air content, require hardware that has been adapted to the particular application and specifically agreed performance features. Open windows and casement door sashes achieve only a shielding function and do not satisfy the requirements for joint seals, protection against driving rain, sound absorption, thermal protection and burglary resistance.

In the case of wind and draught, the windows and casement door sashes must be closed and locked. Wind and draught in the terms of this definition apply when a window or casement door sash that is in one of the opening position opens or closes autonomously due to air pressure or draught and in an uncontrolled manner. The resistance against wind loads in a closed and locked state is dependent on the respective designs of windows & casement doors. Should wind loads in accordance with DIN EN 12210 (in particular pressure test p3) be accommodated, suitable hardware set combinations must be agreed for the respective window design and frame material and approved individually. Generally speaking, the hardware sliding

fulfils the requirements for barrier-free apartments in accordance with DIN 18025 or ÖNORM B 1600. This requires corresponding combinations and installation of hardware sets for windows and casement doors, which must be coordinated and agreed individually.

1.1.2 Incorrect use or misuse

The following cases, in particular, shall be deemed to be product misuse - i.e. utilization turn-only and turn&tilt hardware for windows and casement doors for purposes other than their specified proper use:

- If obstacles are inserted in the opening area, thereby preventing proper use of the product
- Additional loads act on windows or casement door sashes
- When opening and/or closing (turning or tilting), handling between the cover frame and the sash or when a person or limb is present in this area
- When the sash is not guided manually over the entire range of motion to the absolute closing or opening position
- The sash is pressed against the opening edge (window reveal).

1.1.3 Principles of liability

The relevant entire hardware set may only consist of hardware components from the MACO turn-only and turn&tilt MULTI TREND hardware. The component combination may neither be modified, extended nor restricted. In the case of non factory-approved combinations by and/or inappropriately assembled hardware, and/or the use of non-original and/or non factory-approved accessory components, no liability will be accepted.

All hardware for windows and French windows must be inspected and serviced systematically by qualified experts to ensure their functional integrity and safety. This maintenance must be carried out - verifiably and documented - in accordance with our maintenance documentation: otherwise, no liability can be accepted.

Our processing specifications in the product catalogues, installation instructions/information and leaflets are binding and must be heeded without restriction; otherwise, no liability can be accepted for the safety and/or durability of the hardware.

Where timber, PVC, light-metal or steel profiles are used, the specifications the profile manufacturer and/or system owner must be observed. The window fabricator is essentially responsible for ensuring compliance with the specified system-related dimensions (for example, the gasket gap dimensions). These specified system-related dimensions must 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 desi-

igned to permit partial or full adjustment of the certain system-related dimensions, provided that the hardware can have an effect on these. Should there be a deviation from these dimensions, resulting in a fault that has not been noted prior to window installation, no liability shall be accepted for the additional expenses incurred.

1.1.4 Product performance

The fundamental principle for the suitability of use of MACO hardware is compliance with all specification in the product documentation supplied by MACO. The documents are maintained in a document management system and the current edition is available at www.maco.at. The classification of the products according to EN 13126-8:2006 is shown at Certificates.

1.1.4.1 Maximum sash weights and sash rebate dimensions

The defined maximum sash weights for the individual hardware versions may under no circumstances be exceeded. The component that has the lowest permissible load-bearing capacity determines the max. Application diagrams, installation instructions/information and component assignments must be observed.

1.1.4.2 Hardware composition

The manufacturers guidelines regarding hardware composition (e.g. positioning of exterior handles, hardware design for burglary-resistant windows and window sashes) are legally binding.

1.1.5 Product maintenance

1.1.5.1 General

Inspection and service are fundamental components of maintenance. The verified maintenance is in turn basis for the legal warrant and/or our guarantee.

All inspection intervals and maintenance instructions must be observed. These details must be evident from the operating and maintenance instructions for the corresponding turn-only and/or turn&tilt hardware.

Settings and adjustments for the hardware, as well as replacement of components may only be carried out by specialists. Similarly, inserting and/or removing the sashes may only be carried out by specialists. When treating surfaces - e.g.: painting or glazing windows and casement doors, all hardware components must be excluded from this treatment and protected to prevent contamination.

1.1.5.2 Retaining the surface quality

The electrolytically applied zinc coatings are not affected in a normal room climate if no condensation collects on the hardware components (or occasional condensation can dry off quickly). To retain the surface quality of the hardware components over the long term and prevent damage due to corrosion, it is essential to observe the following points:

- The hardware and/or the rebate areas must be ventilated sufficiently – in particular during the building phase – so that they are not exposed to direct wetness impact or to condensation. If systematic ventilation is not possible, because fresh screed cannot be accessed or does not tolerate draughts, bring the windows to the tilt position and seal them off air-tight at the room side. Use condensation dryers to remove any humidity from the room air to outside the area.
- The hardware must be kept free of deposits and soiling through construction material (building dust, gypsum plaster, cement etc.). Aggressive vapours in the rebate area (e.g.: due to formic or acetic acids, ammonia, amine or ammonia compounds, aldehydes phenols, tannic acids, etc.) in conjunction with small formations of condensation can lead to fast corrosion on the hardware components. If such aggressive vapours do occur, a sufficient supply of fresh air to the rebate areas must generally be provided for windows and casement doors. This applies in particular to windows and casement doors made of oak or other wood types that have a high share of tannic acid. No acetic-acid or cross-linked acidic sealing compounds or those with the above mentioned contents may be used, since both direct contact with the sealing compound and its vapours can attack the surface.
- The hardware may only be cleaned with mild, pH-neutral cleaning agent in diluted form. Never use aggressive, acidic cleaning agents or abrasive cleansers that contain the ingredients listed in the section above.

1.1.6 Information and instruction duties

The following is available to comply with information and instruction obligation duties and perform maintenance work in accordance with the product liability legislation:

- for retailers: Catalogues, operation and maintenance instructions, assembly instructions/information and leaflets for components
- for manufacturers: Catalogues, tool drawings, operation and maintenance instructions, assembly instructions/information and leaflets for components
- for home owners and end users: Operating and maintenance instructions

To ensure the functional integrity of sliding hardware for the sashes of window and casement doors:

- Designers must request all relevant product information from the manufacturer and observe the details provided
- Specialised dealers are obliged to comply with all relevant product information and, in particular, request installation instructions/information, factory drawings, component leaflets, as well as operating and maintenance instructions from the manufacturer and hand these over to the processors
- Processors are obliged to comply with all relevant product information and, in particular, request operating and maintenance instructions from the manufacturer or specialized dealers and forward these to the end user.



All above mentioned reference material is available for download from our extranet (extranet.maco.eu) or from the MACO website (www.maco.eu).

1.1.7 Application for similar hardware

Hardware for sliding folding doors must be treated analogously with respect to product information for proper use, misuse, product performance, product maintenance, information & instruction obligations as the features apply.

1.1.8 Disclaimer

The manufacturer's liability can also be excluded, among other things:

- If the fault is attributed to a regulation or an official ruling, to which product compliance was stipulated
- Characteristics of the product, which have given rise to the

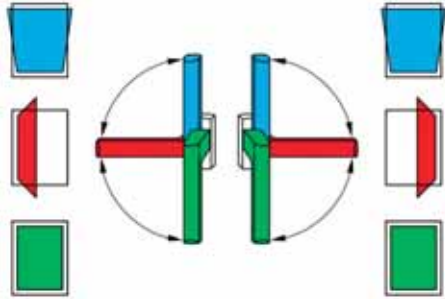
claim (against the manufacturer), could not be identified as a fault according to the conditions of science and technology at the time

- The claim (against the manufacturer) only involves a basic material or a part product that was manufactured, and the fault is due to the construction of the product that was incorporated into the basic material or the part product, or as a result of instructions issued by the manufacturer of this product.

In connection with Section 1.1 and its subsections, the guideline - Hardware for windows and balcony doors - Guidelines/ advice on the product and on liability (VHBH) of the Quality Assurance Association: Locks and Hardware (Gütegemeinschaft Schlösser und Beschläge e.V.) must be observed. Download at www.beschlagindustrie.de.

1.2 Hardware definitions

1.2.1 Turn&tilt hardware



Turn&tilt hardware open a lock windows and casement doors. Turn&Tilt hardware is used to operate a window handle to bring windows and casement doors from the locked mode, initially into the turn-mode (turn position), and finally into the tilt-mode (scissors-stay final position) (Refer to the following example for a depiction of a right or left handed active sash).

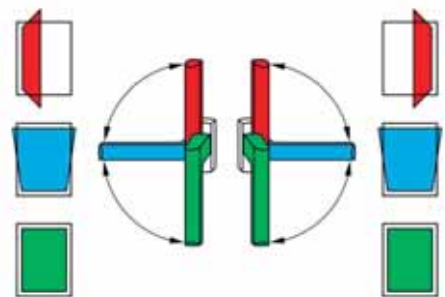
1.2.1.1 Single-handed turn&tilt hardware

The various hardware modes (locking, turn and tilt modes) can be achieved by operating one window handle.

1.2.1.2 Two-handed turn&tilt hardware

The various hardware modes (locking, turn and tilt modes) must be set by operating at least two window handles.

1.2.2 Tilt&turn hardware



Tilt&turn hardware opens and closes windows and glass doors. Tilt&Turn hardware is used to operate a window handle to bring windows and casement doors from the locked mode, initially into the tilt-mode (scissors-stay final position), and finally into the turn-mode (turn position) (Refer to the following example for a depiction of a right or left handed active sash).

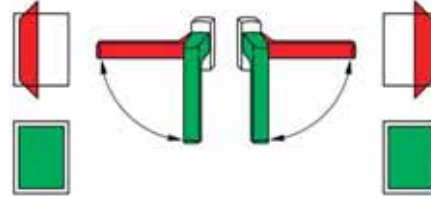
1.2.2.1 Single-handed tilt&turn hardware

The various hardware modes (locking, tilt and turn modes) can be achieved by operating the handle with one hand.

1.2.2.2 Two-handed tilt&turn hardware

The various hardware modes (locking, turn and tilt modes) must be set by operating at least two window handles.

1.2.3 Turn-only hardware



Turn-only hardware is used to operate a window handle to bring windows and casement doors from the locked mode into the turn position. As a rule, turn-only hardware is designed as single-handed turn-only hardware (see example for right or left fitted active sashes).

1.2.4 Hardware installation position

In the following definitions, hardware is understood to be all functional components, such as faceplates, locking elements and/or connecting rods, that enable the active sash to be brought into a locking or opening position (for example tilt-mode or turn-mode). This does not apply to the window handles.

The hinge installation location (for example scissors-stay with stay bearing and pivot rest with sash hinge) is defined separately in Section 1.2.5. In doing so, the window design description regarding the hardware installation location and the hinges can be specified independent of each other.

As a rule, the window handle to operate the active sash is mounted visibly. This is valid correspondingly for all required handles on double-handed operation versions. Differing versions are to be specified separately in the window design description.

1.2.4.1 Surface-mounted hardware

Hardware, whereby the functional components i.e. connecting rods or locking components remain visible, also when the sash is closed. For example, surface-mounted locking-rods are covered by this.

1.2.4.2 Concealed hardware

Hardware, whereby the functional components i.e. faceplates and/or connecting rods are installed in the rebate area between the sash and frame, and are only partially visible when the sash is closed.

The stipulations for this are:

- Opaque (impervious) sash and frame materials
- Window designs that accommodate the rebate area between the sash and frame to be covered from the inside and outside, when the sash is closed over



1.2.4.3 Semi-concealed hardware

Hardware whose functional components, such as fore-end tracks, drive rods, and frame components are built into the rebate area between the sash and frame, and are only partially visible when the sash is closed.

The following prerequisites may contribute to this:

- Partially transparent frame materials
- Window constructions in which the rebate area between the sash and frame is not completely covered from the outside and/or inside when the sash is closed.

This can occur for example in a window profile design which is flush to the surface, in which a joint visible from all directions (shadow grooves) between the sash and the frame allows visibility into the rebate area when the sash is closed.

1.2.5 Installation positions of bearing positions

The following defines the installation position for bearings. Different installation positions may be used for a particular window design.

Example:

Surface-mounted bearing at bottom and concealed bearing at top corner area.

1.2.5.1 Face-fixed bearing positions

Hardware in which all frame-mounted bearing positions are visible when the sash is closed. Usually in this case the corresponding sash-mounted bearing components are at least partially visible.

1.2.5.2 Concealed bearing positions

Hardware in which all frame-mounted bearing positions are invisible when the sash is closed.

The prerequisites for this are:

- Opaque frame materials
- Window constructions in which the rebate area between the sash and frame is covered from the outside and inside when the sash is closed.

1.2.5.3 Semi-concealed hinges

Hardware in which all frame-mounted bearing positions are only partially visible when the sash is closed.

The following stipulations may play a role:

- Partially translucent frame materials
- Window designs that accommodate the rebate area between the sash and frame not to be fully covered from the inside and outside, when the sash is closed over.
- Hardware whose bearing positions are let into the sash in such a way that although they are covered when the surface of the closed sash is viewed at a right angle, when viewed from the side they are at least partially visible.

This can occur for example in a window profile design which is flush to the surface, in which a joint visible from all directions (shadow groove) between the sash and the frame allows visibility into the rebate area when the sash is closed.

1.2.6 Sash weight

In this catalogue the term sash weight refers to the total mass of a sash; this includes the weight of all individual components comprising the sash (i.e. sash frame including reinforcements, sealings, glazing beads, glazing or filling, hardware, glass-rebate ventilators etc.).

1.3 Guidelines for safe processing

(TBDK directive of the Quality Assurance Association: Locks and Hardware) – Download at www.beschlagindustrie.de

1.3.1 Preface

In order to ensure the lasting functionality and thereby the safe use of windows and casement doors over their expected lifespan, the attachment of safety relevant hardware components is to be given particular emphasis. This includes supporting components such as stay bearings and corner bearings.

This directive sets binding values in tables 1 and 2 (see section 1.3.6) for forces in stay and corner bearings when installed; these must be ensured by the manufacturer of doors and casement doors in the use of turn-only and tilt&turn hardware in his product. At the same time, as a tool, it provides recommendations on how to fulfil these requirements.

The **responsibility** for sufficient **strength of the hardware components** lies with the **manufacturer of the hardware**.

The **responsibility** for the correct **attachment** to the **frame material** (sashes and frames), and for ensuring the requirements listed here lies with the **manufacturer** of windows and casement doors.

The forces given in tables 1 and 2 (see section 1.3.6) must be ensured by the manufacturer of windows and casement doors, depending

- on the maximum weight of the sash which he manufactures
- separate details from the hardware manufacturer combined with appropriate application diagrams.

Evidence as required by this directive may be made available to the manufacturer of windows and casement doors together with corresponding system descriptions and fabrication advice.

In order to continuously ensure compliance with the requirements listed here, the contents of this directive must be integrated into the window and casement door manufacturer's own internal production controls. Further information on internal production control can be found in EN 14351-1, for example.

1.3.2 Area of application

The present directive defines the requirements for the attachment of supporting hardware components for turn-only and tilt&turn hardware as per the definitions in section 1.2.

The requirements listed should be used correspondingly for comparable hardware for other types of openings.

The values in this directive apply to all materials from which the windows and casement doors are manufactured, and their combinations.

1.3.3 Lasting functionality – boundaries of guideline

1.3.3.1 Maximum total sash weight \leq 150 kg

1.3.3.1.1 Transfer of lasting functionality hardware testing

Turning and tilt&turn hardware are tested for lasting functionality against European standard EN 13126-8, acc. to QM328 or RAL-GZ 607/3. These are reproducible hardware tests. The results from these tests are interpreted through the corresponding hardware documentation and the stipulations in the present directive, so that they can be applied to windows and casement doors.

1.3.3.1.2 Resistance during repeated opening and closing operation

The testing procedure described under 1.3.3.1.1 proves the lasting functionality of hardware installed in a window or casement door. However, it does not replace testing according to EN 1191 regarding resistance of windows or casement doors during repeated opening and closing operation. EN 1191 standard includes the following criteria which are not considered in the testing procedure described under 1.3.3.1.1:

- Mechanical failure of crucial window or casement door components apart from the hardware and its connection
- Durability of the infill and its connection
- Durability of the sealing systems
- Compliance of the operating forces of the complete window or window door according to the requirements of EN 13115

Evidence determining the resistance of the window or window door to repeated opening and closing is to be provided by the manufacturer of the windows and window doors according to EN 1191. The results may be classified as per EN 12400.

In addition, all guidelines and information from the system supplier are to be complied with, regardless of the respective frame material.

1.3.3.2 Maximum total sash weight $>$ 150 kg

For sash weights $>$ 150 kg, the results of the lasting functionality tests for the hardware according to EN 13126-8, QM 328 or RAL-GZ 607/3 can no longer only be transmitted through the behaviour highlighted in 1.3.3.1.1 in the use of windows and casement doors.

For sash weights $>$ 150 kg, the manufacturer of the windows and casement doors must provide evidence of the resistance of the window or casement door during repeated opening and closing according to EN 1191. All guidelines and information from the system supplier are to be complied with, regardless of the respective frame material. The results may be classified as per EN 12400.

All requirements of the present directive are generally to be complied with, even for sash weights $>$ 150 kg.



1.3.4 Recommendations for attachment

It is generally recommended to use high quality screws of sufficient size. The screws used must be matched to the appropriate window material. Furthermore, the specifications in the installation instructions/information must be used and implemented.

1.3.5 Carrying out the tests

To carry out tests, the samples must be fitted out according to the production method of the manufacturer of windows and door windows, or to the appropriate system description. The samples selected must be representative of the production method, for example corresponding to the most disadvantageous situation (all screws, some of the screws, or no screws in the stiffening profile).

On the web site of the publisher of this directive (www.beschlagindustrie.de), a proposal for a form (test request) is available for download.

1.3.5.1 Sample preparation

- The samples should completely manufactured by the window manufacturer/system supplier in compliance with all details of the intended production method. For this, a detailed description of the sample and its manufacture is required, so that it can be extensively documented in the test report.
- At least 5 identical samples are required for testing. If necessary, 2 additional samples must be prepared for the determination of the tensile load; this may be carried out on the sample.
- The requirements for the tensile load are defined in tables 1 and 2 in section 1.3.6; usually this depends on the intended maximum mass of the sash (max. sash weight). If according to lift guideline "Creation of application diagrams for turn-only and tilt&turn hardware", alternative force requirements relating to the appropriate application diagrams must be complied with, these must be specified by the hardware manufacturer.
- The samples must be stored for at least 8 hours at a temperature of 15 to 30 °C before carrying out the test.

1.3.5.2 Sample documentation

The main components of the sample documentation are:

- Description of cover and sash frame (profile geometry, material, type and location of the reinforcement, use of additional insertion parts or other screw-fastening aids, etc.)
- Fitting components used (manufacturer, type)
- Maximum sash weight which may be fabricated by the window manufacturer or alternative details on the forces combined with the appropriate application diagrams
- Fixing devices/screws used (type, length, diameter, penetration depth, number of force-bearing threaded items, etc.)
- Type of threaded connection, for example with or without pre-drilling (diameter and depth) or of the alternative attachment, for example by clamping

- If necessary, description of further production details (for example torque or penetration stop during tightening, etc.)

1.3.5.3 Testing of stay bearings

1.3.5.3.1 Testing of profile pieces

- If screw positions are restricted for design reasons to the vertical frame profile, a profile piece of approx. 300 mm is sufficient for carrying out the test. The outer fastenings must be at least 50 mm away from the cut edges.
- The scissor stay hinge must be attached to the centre of the profile in the operational position.
- For the application of the tensile load, the sample is inserted into a support, for example as shown in figure 3. Here, the inner side of the profile piece is laid flat against the upper surface of the support bracket.

Comment: For systems which open outwards, the outer side of the profile piece is laid flat against the upper surface of the support bracket.

- The ends of the cavity in the support bracket must be positioned at least 10 mm from the ends of the stay bearing.

1.3.5.3.2 Testing of frame corners

- If screw positions are planned for design reasons on the vertical and horizontal profile piece (for example for bearing points which are covered), or this occurs in the area of a frame corner connection (for example with wooden windows), a frame corner must be used.
- The frame corner must be selected in such a way that the stay bearing can be screwed on completely. The external threaded hardware must be positioned at least 50 mm from the cut edges of the frame corner.
- The sample is inserted into a suitable holder for application of the tensile load, for example as shown in figure 4. Here, the inner side of the frame corner is laid flat against the upper surfaces of the support bracket.

Comment: For systems which open outwards, the outer side of the frame corner is laid flat against the upper surfaces of the support bracket.

- The ends of the cavity in the support bracket must be positioned at least 10 mm from the ends of the stay bearing.

1.3.5.3.3 Testing sequence

- Together with the stay bearing, a suitable stay arm is always used for transmission of force.
- Suitable measures are to be taken to prevent deformation of the stay arm or distortion of the stay angle hinge, in order that the force transmission point does not change.
- If necessary a pre-test on 2 samples is carried out in order to determine the tensile load which can be achieved with the sample.
- The test itself is carried out on 5 identical samples.
- The samples are loaded at a feed rate of 10 mm/min until the tensile load corresponding to the intended sash weight is



achieved. This maximum tensile load is maintained for a period of 5 seconds. After this, the load is relieved.

1.3.6 Requirements for the forces

The forces listed in tables 1 and 2 are derived from the values as per EN 13126-8. Alternative specifications to the forces in conjunction with the corresponding application diagrams must be determined and stated in accordance with ift guidelines "Creation of application diagrams for turn-only and turn&tilt hardware" by the hardware manufacturer.

Figures 1 and 2 show examples for surface-mounted hinges. However, they also apply accordingly for the "semi-concealed" and "concealed" installation positions corresponding to the definitions in section 1.2.

The forces listed in tables 1 and 2 are based on the lasting functionality as per EN 13126-8 and contain neither additional static loads nor additional loads as per EN 14608 or EN 14609. With regards to additional loads, separate testing as per these standards is required on the complete window or casement door system according to the desired classification as per EN 13115.



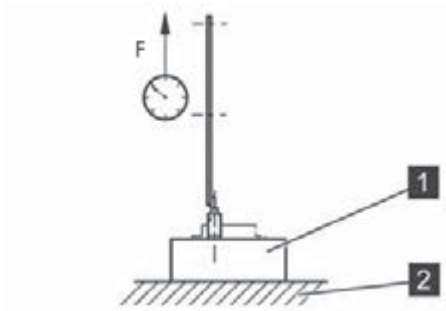


Fig. 1: Testing arrangement for the stay bearing, tractive force F as per table 1

Key

1. Frame material – attachment of the bearing position according to the production method of the window manufacturer
2. Clamping plate – preferably made from steel

Table 1

Testing with static load for hinges with a stay bearing

Application of load at 90° to the direction of opening as per Fig. 1

max. sash weight	Tractive force F	Related formulae, also for calculation of intermediate values:
kg	N	
50	1400	For fittings with maximum permitted sash masses (m_F) \leq 130 kg, also less than 50 kg, the following is valid: $F = 5 \times \frac{m_F \times 10 \times 1300}{1200 \times 2}$ m_F = maximum permitted sash weight in kg F = tractive force in N to be used for testing
60	1650	
70	1900	
80	2200	
90	2450	
100	2710	
110	3000	
120	3250	
130	3525	
140	3900	
150	4200	
160	4450	
170	4710	
180	5000	
190	5300	
200	5550	

Application of the load (tractive force F) at: 10 mm/min

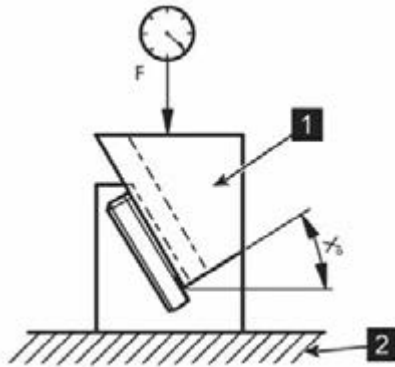


Fig. 2: Testing arrangement for the corner bearing, compressive force F as per table 2

Key

1. Corner area and installation of the corner bearing according to the production method of the window manufacturer
2. Clamping plate - preferably made from steel (angle $X = 30^\circ$)

Table 2

Load applied as per Fig. 2

max. sash weight kg	Compressive force F N
50	1450
60	1740
70	2225
80	2310
90	2600
100	2890
110	3180
120	3470
130	3760
140	4050
150	4340
160	4620
170	4910
180	5200
190	5490
200	5780

Related formulae, also for calculation of intermediate values:

For fittings with maximum permitted sash masses ($m_F \leq 130$ kg, also less than 50 kg, the following is valid:

$$F = 2,5 \times \sqrt{\left(\frac{m_F \times 10 \times 1300}{1200 \times 2}\right)^2 + (m_F \times 10)^2}$$

m_F = maximum permitted sash weight in kg

F = tractive force in N to be used for testing

For fittings with maximum permitted sash masses ($m_F > 130$ kg and greater than 200 kg, the following is valid:

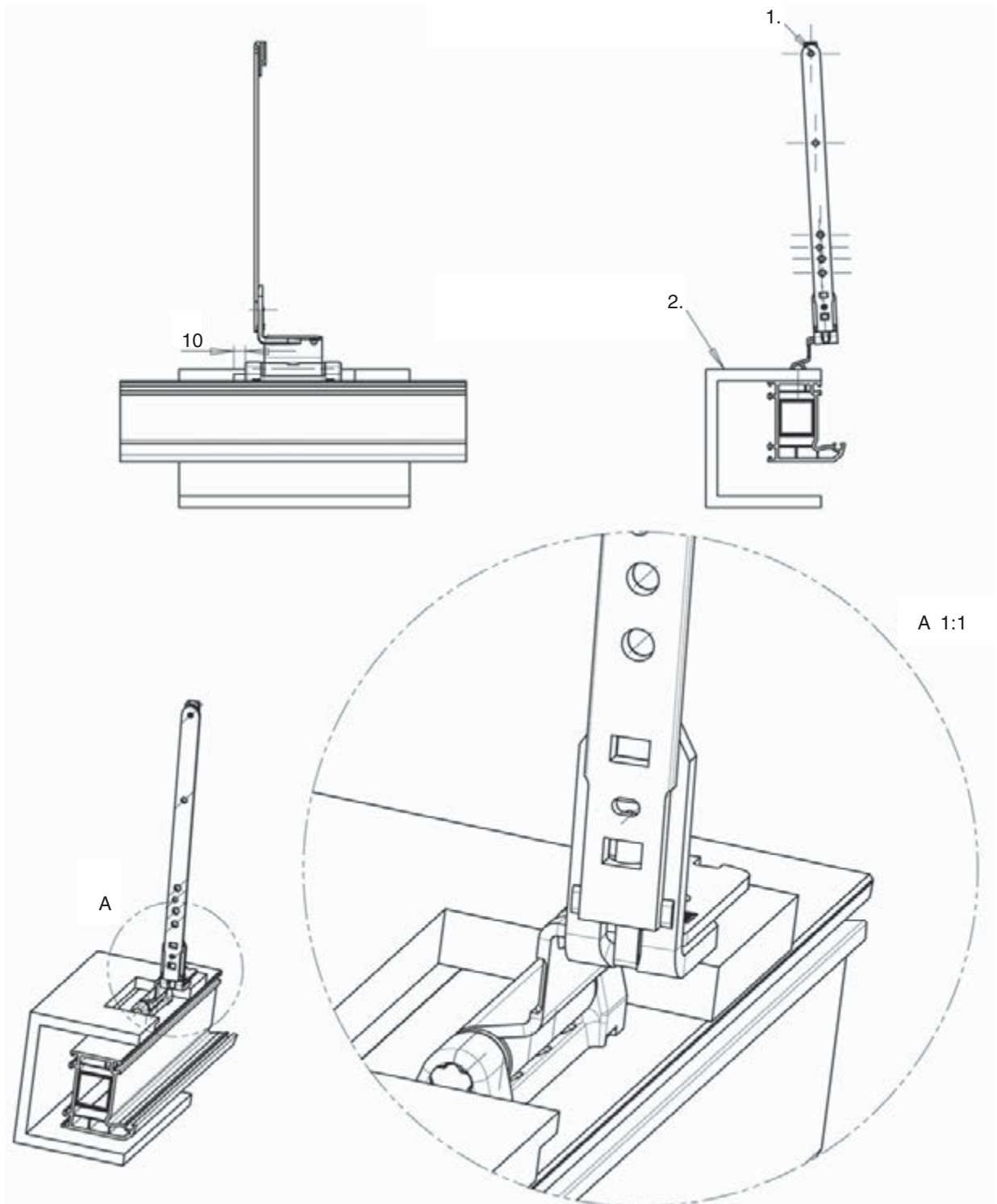
$$F = 2,5 \times \sqrt{\left(\frac{m_F \times 10 \times 1550}{1400 \times 2}\right)^2 + (m_F \times 10)^2}$$

m_F = maximum permitted sash weight in kg

F = tractive force in N to be used for testing

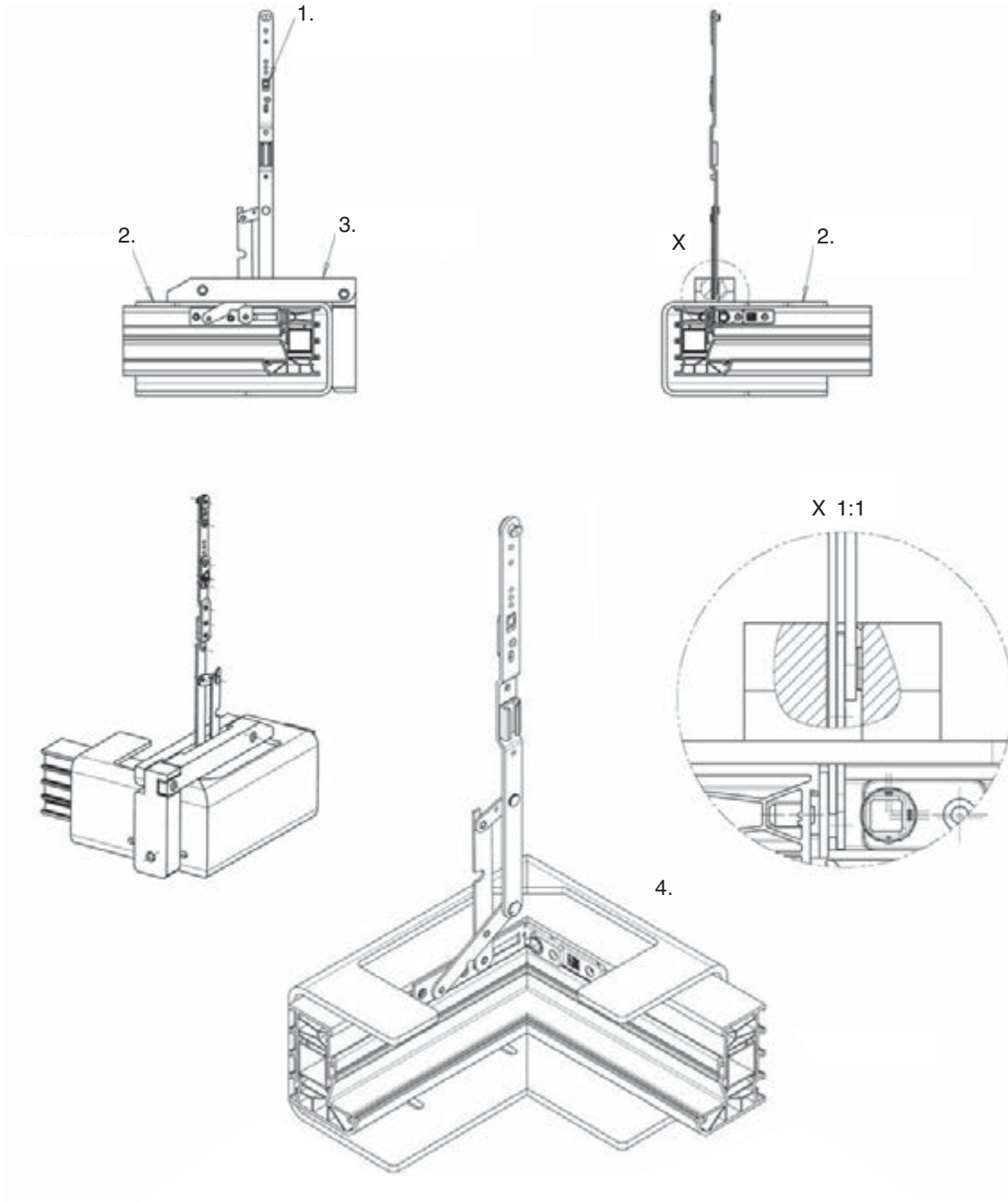
Application of the load (compressive force F) at:
10 mm/min

Figure 3: Test on a 300 mm length profile piece



1. Test force transmission point
2. Testing device

Figure 4: Testing on a frame corner



- 1. Test force transmission point
- 2. Testing device
- 3. Guide part
- 4. View without guide part



1.4 Notes of transport / handling of window units

Improper handling and improper transport of the windows and/or casement door elements can produce hazardous situations and cause serious accidents or lethal injury. To prevent this, the following instructions must be heeded:

During loading and unloading, select force application points which exclusively create reaction forces appropriate to the designed layout of the hardware components for the intended installation location.

During handling and transport, ensure that the hardware is in the locked position to prevent the sash from opening unexpectedly. Use suitable securing equipment to do this.

Use only transport fastenings designed for the respective clearance.

Wherever possible, transport the windows in the intended installation position. If transport in the intended installation position is not possible, unhinge the sash, and transport it separately from the frame to which it belongs.

During transport, loading, and unloading, especially if auxiliaries such as suction cups, transport nets, forklifts, or cranes are used for support, reaction forces may arise which could damage or overload the installed hardware. Therefore, observe the following instructions during all transport, loading, and unloading.

The type and the force application points when transporting, loading, and unloading have a significant effect on the reaction forces which arise.

Always choose the force application points so that the resulting reaction forces are dissipated appropriate to the design of the hardware components for the intended installation location. This applies particularly for the hinge positions.

During transport, loading, and unloading, especially if auxiliaries such as suction cups, transport nets, forklifts, or cranes are used for support, reaction forces may arise which could damage or overload the installed hardware.

Always use transport securing measures appropriate to the actual clearance (e.g. spacer blocks), in order to hold the sash in the intended position in the frame during transport, and thus to dissipate the resulting reaction forces directly from the sash via the frame.

Wherever possible, always transport window elements in the intended installation position, so that the resulting reaction forces are dissipated appropriate to the designed layout of the hardware components for the intended installation location. This applies particularly for the hinge positions. If transport in the intended installation position is not possible, unhinge the sash, and transport it separately from the frame to which it belongs.



1.5 Technical specifications and features

Technical specifications and features

- Faceplate width: 16 mm
- Backset: 15 mm / 6,5 mm
- Locking cam: 8 mm
- Lift of the locking cam: 2x19 mm
- Box diameter and strength: 25x12 mm
- Box depth with faceplate: 27.5 mm
- Square hole: 7 mm
- Special backset dimension (see technical information sheets)

1.5.1 Material and surfaces

Steel and die-cast zinc, stainless spring material for the corner elements and high quality PVC for various small components.

Steel components: Zinc-plated and passivated in accordance with ÖN EN ISO 2081:2009, tested to ÖN EN ISO 9227:2012 (salt spray test) and classified in accordance with ÖN EN 1670:2008.

Hinge components: Zinc-plated (silver-look) or powder-coated steel. Traffic white (RAL 9016) is standard for the powder-coated version; all other RAL classic colours possible (depending on volume).

Further information is provided in Section 1.7

1.5.2 Locking

The specially formed MULTI-locking cam can be easily adjusted by simply rotating it. Standard setting 10 mm; cam vertical 9 mm, cam horizontal 12 mm.

1.5.3 Scissor stays and pivot posts

The pivot posts (except for fully concealed pivots posts) are adjustable in three dimensions (height adjustment, side adjustment and gasket compression). The scissor stays can be raised and lowered and the gasket compression regulated.

1.5.4 Sash Lifting Device - Mishandling

Nearly all turn&tilt drive gears are fitted with a sash lifting mishandling safety device (drive gear fixed above 391 mm, variable above 601 mm). The mishandling safety device is designed in such a way as to prevent errors under normal operation from the turn/tilt or turn/tilt position. Additionally, the correctly adjusted sash lifter brings the sash to its originally set position.

1.5.5 MULTI TREND direct connection

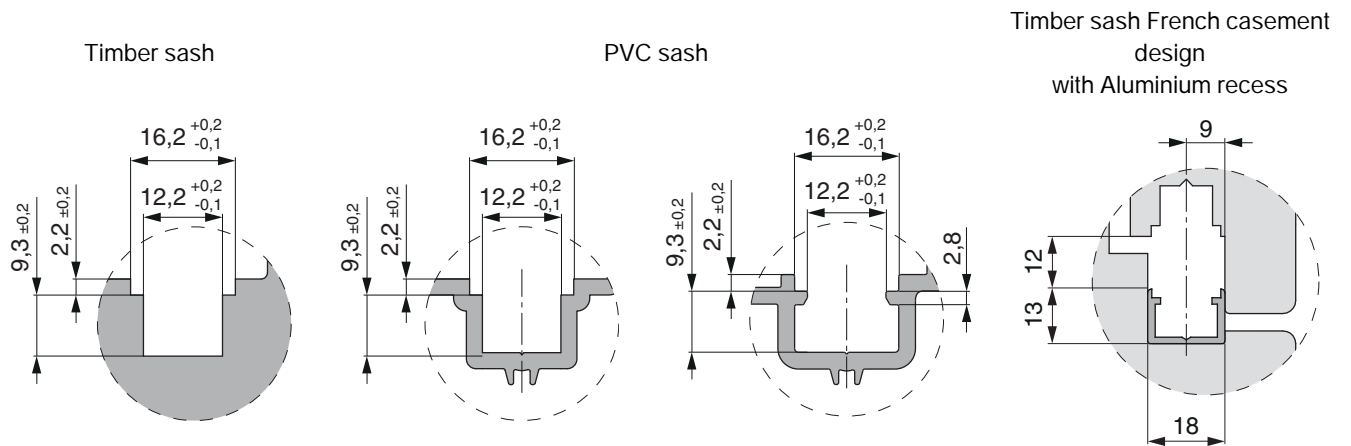
The special positive connection between the corner element and the scissor stays and drive gears is used to make a rigid connection between two faceplates side by side (for example, between drive gear and scissor stay).



1.6 Profile specifications

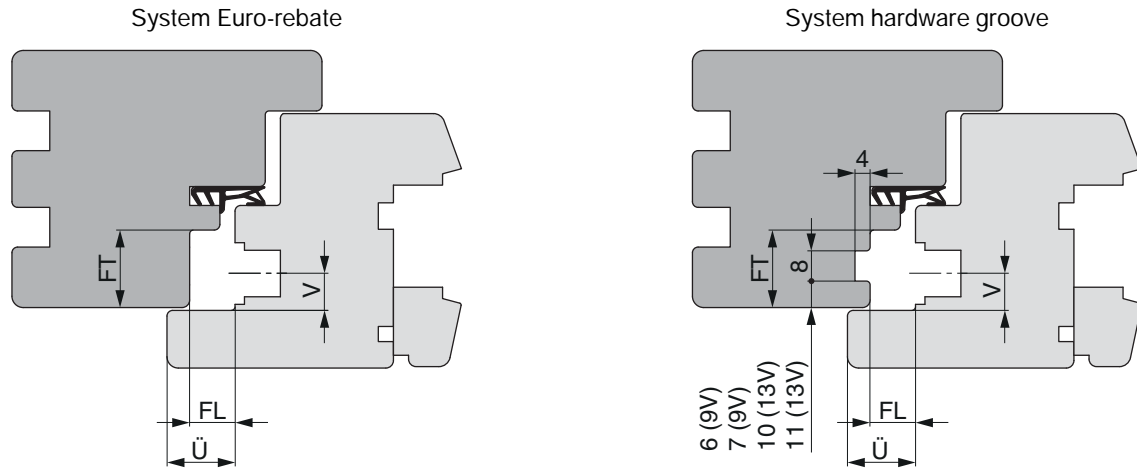
1.6.1 Eurogroove

For installation of turn-only and turn&tilt hardware the Eurogroove must be designed according to the following specifications:

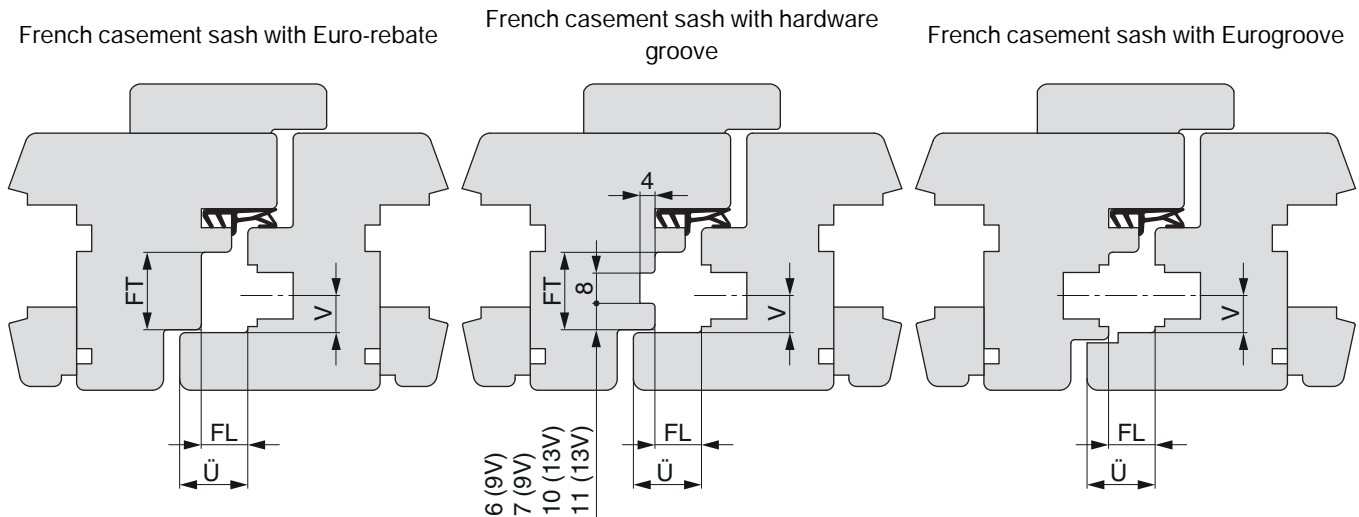


1.6.2 Recommendation for timber profiles

Single-sash



Double-sash (French casement)



Recommended values for air gap, rebate depth, offset and rebate leg:

FL = Air gap: 4 or 12 mm

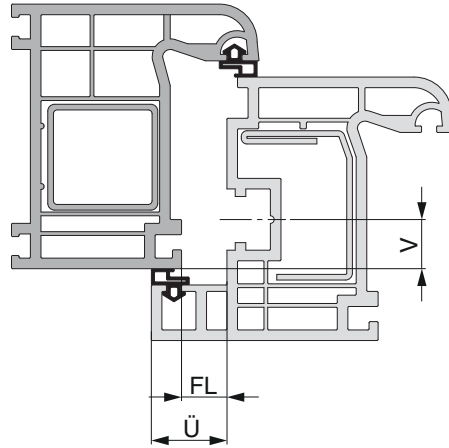
V = Offset: 9 or 13 mm

Ü = Rebate leg: 15 or 18 mm (4 FL) or 18 or 20 mm (12 FL)

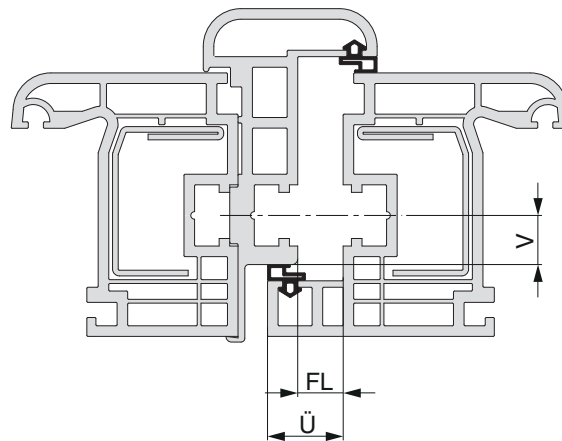
FT = Rebate depth: 18 or 20 mm (9V) or 22, 24 or 30 mm (13V)

1.6.3 Examples for PVC profiles

Single-sash



Double-sash (French casement)



Default values for air gap, rebate depth, offset and rebate leg:

FL = Air gap: 12 mm

V = Offset: 13 mm

Ü = Rebate leg: 20 mm

FT = Rebate depth: 24 or 30 mm



1.7 MACO surfaces

1.7.1 MACO silver-look

In order to conform with future requirements for healthy and ecologically non-hazardous manufacturing processes, MACO has abolished the use of cobalt-containing passivation since the beginning of 2014.

Back in the year 2000 MACO was the first manufacturer of building hardware to use chrome-VI-free silver passivation followed by silicate-based sealing in their electrogalvanising process.

This process achieved excellent surface characteristic results and was the first alternative to chromating with chromium VI.

Excellent resistance to corrosion due to environmentally-friendly procedure:

Within the framework of state-of-the-art systems and on-going development particularly in electroplating (e.g. sealing with Nano-structured silicon compounds), MACO has been successful in fulfilling the requirements of class 5 in accordance with EN ISO 1670:2008.

The coating process in question is exceptionally environmentally friendly process that does not require the use of cobalt and chromium VI.

Applications:

Electrogalvanised hardware have proved to be ideal for normal stresses.

Nevertheless, these are only applicable to a limited extent for higher stresses such as damp room, food processing companies, coastal areas, certain types of timber etc.

This is due to the chemical reaction of the zinc coating to aggressive materials.

In application areas for which a high chemical resistance is required, MACO recommends the use of TRICOAT-PLUS hardware.

Benefits for the manufacturer:

- high-quality silver-look surface finish
- The highest corrosion resistance with class 5 in accordance with EN ISO 1670:2008
- Well suited for normal environmental influences/application areas
- Certified quality through externally accredited test institutes and through internal tests such as. Salt spray tests in accordance with DIN EN ISO 9227, outdoor exposure tests, etc.
- Quality leadership on the strength of our decade-long experience in the field of electrogalvanising
- Our window and door hardware is enhanced in ten electrogalvanising plants in our state-of-the-art, in-house production facilities

1.7.2 MACO TRICOAT-PLUS

Our highly corrosion-resistant TRICOAT-PLUS surface finish is available for the MULTI MATIC hardware range.

1.7.3 Preservation of surface protection for hardware components

A series of regulations must be observed to ensure the proper functions of the window hardware.

The following points should be taken into account so that end users can enjoy perfect operation and aesthetics of the windows and hardware.

Causes of corrosion on hardware components:

Should signs of corrosion on hardware components develop after a short period of time in individual cases (despite surface protection), the following listed points are generally the cause of corrosion:

- The real cause of the corrosion is the oxygen. In practice however, corrosion only appears, when the relative humidity reaches a critical value of approx. 60 to 70% achieved.
- An additional cause of corrosion can be the formation of condensation on the metal components; caused by undershooting the dew point under strong temperature fluctuations.
- Corrosion attacks have increased due to gaseous air pollution (industrial atmosphere, car exhaust emissions) such as sulphur dioxide (SO₂) and nitrogen oxide gases (NO₂) and resulting compounds in the presence of humidity - sulphurous acid (H₂SO₃), sulphuric acid (H₂SO₄), nitric acid (HNO₃). This air pollution also has a corrosive effect in a dry condition.
- The location of the object affect must be taken into account in connection with point c) above, e.g. busy roads, industrial areas, waste water treatment plants, sea air, air containing chlorine, intensive livestock breeding etc.
- Also harmless materials such as paper/cardboard as well as different types of timber used in the fenestration industry partially contain aggressive components (aids, alkali, and chlorides) that can destroy the passivation upon contact and thus cause corrosion.
- Plaster, cement and other building materials e.g. acetic acid cross-linked silicone as is used frequently in the fenestration, industry, are additional causes for corrosion.
- A common and not sufficiently recognised source of damage is cleaning by chemical attack (acetic cleaning, agents, acidic cleaning agents with citric acid, cement residue remover with phosphoric acid, severe alkaline cleaning agents, etc.) or by means of mechanical abrasion (abrasive cleansers, steel wool), which destroys the passivation and as a result, speed up the corrosion attack.

Measures for looking after surfaces:

- The hardware and/or the rebate areas must be ventilated



sufficiently – in particular during the building phase – so that they are not exposed to direct wetness impact or to condensation.

- b) The hardware must be kept free of deposits and soiling through construction material (building dust, gypsum plaster, cement etc.), i.e. windows must be covered.
- c) Aggressive vapours in combination with low formation of condensation can cause a fast corrosion on hardware components.
- d) Timber frames and sashes with a high concentration of (tannic) acid must be treated with suitable surface coatings to

ensure that these contents do not evaporate from the timber.

- e) No acetic-acid or cross-linked acidic sealing compounds or those with the above mentioned contents may be used.
- f) The hardware may only be cleaned or polished with mild, pH-neutral cleaning agent in diluted form.
- g) The hardware must not be damaged with sharp edged tools.

Further information about MACO surface finishes is available at our extranet (extranet.maco.eu) or on our website (www.maco.at) or in the surface-finish brochure Order No. 49510.

1.8 Classification code in accordance with EN 13126-8



Consecutive number	Design of sash rebate	Design of sash hardware	Description of hardware specifications on frame side				Sash weight	Classification according to verification as per EN 13126-8								
			Rebated scissor stay support arm	Scissor stay hinge	Corner support	Pivot post		1	2	3	4	5	6	7	8	9
								Category of use	Lasting functionality	Mass (in kg)	Fire resistance	Safety of use	Corrosion resistance	Protective function	Application	Test quantities (in mm)
1.	Support pin long	MULTI TREND Standard	52486	52481	52479	52484	120 kg	-	4	120	0	1	5	-	8	1300/1200
2.	DT	MULTI TREND Standard	202534	202543	54710	52703	130 kg	-	4	130	0	1	5	-	8	1300/1200
3.	TO	MULTI TREND Standard	52388	52396	52394	52399	130 kg	-	4	130	0	1	5	-	8	1300/1200
4.	Support pin long	MULTI TREND RC 2	52486	52481	52479	52484	120 kg	-	4	120	0	1	5	-	8	900/2300
																1300/1200
5.	TO	MULTI TREND RC 2	55416	52414	55410	55412	130 kg	-	4	130	0	1	5	-	8	900/2300
																1300/1200
6.	Positioning pin	MULTI TREND RC 2	52486	52480	52478	52483	100 kg	-	4	100	0	1	5	-	8	900/2300
																1300/1200
7.	INVISIBLE	MULTI TREND Standard	-	206351	206327	206359	100 kg	-	4	100	0	1	5	-	8	900/2300
8.	MULTI MAMMUT Timber	MULTI TREND Standard	-	210600	210611	210594	180 kg	-	4	180	0	1	5	-	8	1550/1400
9.	MULTI POWER Timber	MULTI Standard	-	215767	215804	215810	130 kg	-	4	130	0	1	5	-	8	1300/1200
10.	MULTI POWER PVC	MULTI Standard	-	215775	215804	215814	130 kg	-	4	130	0	1	5	-	8	1300/1200

Observe all technical documentation of hardware manufacturer, especially corresponding application diagrams!

A list of all current classification keys is available at our extranet (<https://extranet.maco.eu>) or from www.maco.at under tab "Downloads" (ift Certificate of Conformity QM328).

1.9 Tender specifications / General assembly instructions

1.9.1 Turn&tilt window 1-sashed

Single-sash T&T window

Possible sizes: See areas of application

(1)

Single-handed T&T hardware "MACO MULTI TREND"

With sash lifter in turn and tilt position, with adjustable locking cam, scissor stays, pivot post, pivot post hinges, and window handles.

Horizontal centre lock: From a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer.

Vertical centre lock: From a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer.

Stabilizing scissor stay: From a SRW of 1400 mm or sash weight above 100kg.

Also possible: Anti-slam device in the scissor stay, night vent scissor stay, opening restriction 90°, MULTI-Vent, tilt restrictor, lockable window handles.

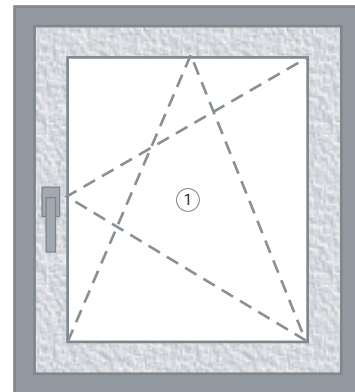
For windows that are only turned for cleaning: Concealed or self-closing turn lock.

For window designs with two adjacent handles: Use only turning locks or lockable window handles.

For balcony doors: Door catch and finger pull.

Alternative: Lockable doors - drive gear with cylinder, with handles and rosettes on inside and outside.

For a SRH below 600 mm, a scissor stay restrictor must be used.



1.9.2 Turn&tilt window 2-sashed

Double-sashed Turn&Tilt windows

Possible sizes: SRH as for single-sash T&T, SRW T&T sash up to 1550 mm

(1)

T&T sash

Text as for single-sash T&T- however: For timber windows from a SRW of 800 mm centre lock EH, single C and combination striker plate, for PVC windows from a SRW of 800 mm or according to the specifications of the profile manufacturer, EH centre lock and angle C.

(2)

French casement

Variant 1

Top and bottom shootbolt, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge.

Compression device from a SRH of 1000 mm, for PVC windows from SRH 800 mm or according to the specifications of the profile manufacturer.

For balcony doors: 2 concealed compression devices

Variant 2

French casement drive gear, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge.

Compression device from a SRH of 1000 mm, for PVC windows from 800 mm or according to the specifications of the profile manufacturer. From a SRH of 1000 mm, for PVC windows from SRW 800 mm or any according to the specifications of the profile manufacturer.

French casement drive gear with centre lock, adjustable top and bottom turn-only hinge, concealed compression device.

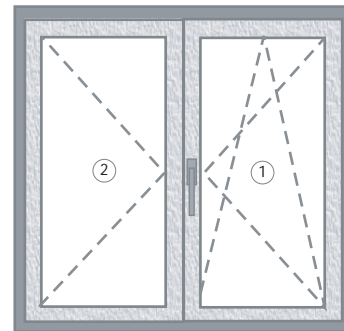
For balcony doors: 2 concealed centre hinges.

Also possible: Anti-slam device in the scissor stay, night vent scissor stay, opening restriction 90°, MULTI-Vent, tilt restrictor, lockable window handles.

If windows are only tilted or turned for cleaning: Use resting turn lock

For balcony doors: Door catch and finger pull

Alternative: Lockable door - drive gear with cylinder, handle and rosette on inside and outside.



1.9.3 Pitched window

Pitched windows

Possible sizes: (see areas of application)

(1)

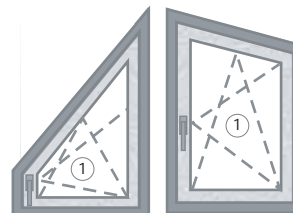
Single-handed T&T hardware "MACO MULTI TREND"

with sash lifter in the turn and tilt position with adjustable locking cam, adjustable pitched windows scissor stay with joint, adjustable pivot post and adjustable pivot post hinge, and window handle.

Horizontal centre lock: From a SRW of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer.

Vertical centre lock: From a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer.

Also possible: Anti-slam device in the scissor stay, lockable window handles, concealed self-catching turn lock.



1.9.4 Half round or elliptical arched window 1-sashed

Stabilizing scissor stay: from a SRW 1000 mm

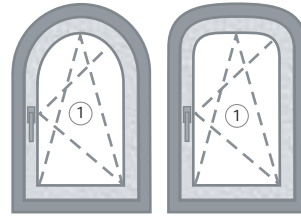
**Single-sash half round and elliptical arched
windows**

Possible sizes: (see areas of application)

(1)

**Single-handed T&T hardware "MACO MULTI
TREND"**

for arched window with sash lifter in the turn and tilt position
with adjustable locking cam, half-round scissor stay, adjustab-
le pivot post and adjustable pivot post hinge, and window
handle.



1.9.5 Half round or elliptical arched window 2-sashed

Double-sash half round and elliptical arched windows

(1)

T&T sash

Single-handed T&T hardware "MACO MULTI TREND" with sash lifter in the turn and tilt position with adjustable locking cam, half-round scissor stay, adjustable pivot post and adjustable pivot post hinge, and window handle.

Stabilizing scissor stay: From SRW 1000 mm

(2)

French casement

Variant 1

Top and bottom shootbolt, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge.

Compression device from a SRH of 1000 mm, for PVC windows from SRH 800 mm or according to the specifications of the profile manufacturer.

For balcony doors: 2 concealed compression devices

Variant 2

French casement drive gear, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge.

Concealed compression device from a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer. From a SRW of 1000 mm, for PVC windows from SRW 800 mm or any according to the specifications of the profile manufacturer.

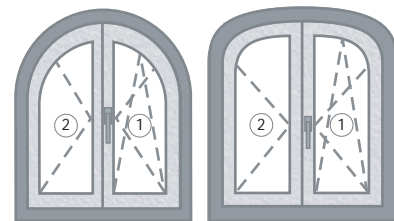
French casement drive gear with centre lock, adjustable top and bottom turn-only hinge, concealed compression device.

For balcony doors: 2 concealed centre hinges

For balcony doors: Door catch and finger pull

Alternative: Lockable door - drive gear with cylinder, handle and rosette on inside and outside.

Also possible: Lockable window handles, self-catching turn lock.



1.9.6 Segmental arched window 1-sashed

Single-sash segmental arched window

(1)

Up to an arch rise height of 10% of the SRW

Single-handed T&T hardware "MACO MULTI TREND" with sash lifter in the turn and tilt position with adjustable locking cam, adjustable pitched windows scissor stay with joint, adjustable pivot post and adjustable pivot post hinge, and window handle.

Horizontal centre lock: From a SRW of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturers.

Vertical centre lock: Compression device from a SRH of 1000 mm, for PVC windows from SRH 800 mm or according to the specifications of the profile manufacturers.

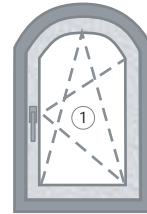
Also possible: Anti-slam device in the scissor stay, lockable window handles, concealed self-catching turn lock.

(2)

For an arch rise height of more than 10% of the SRW

Single-handed T&T hardware "MACO MULTI TREND" for round arched windows with sash lifter in the turn and tilt position with adjustable locking cam, half-round scissor stay, adjustable pivot post and adjustable pivot post hinge, and window handle.

Stabilizing scissor stay: From SRW 1000 mm



1.9.7 Segmental arched window 2-sashed

Double-sashed sash segmental arched window

(1)

T&T sash

Single-handed T&T hardware "MACO MULTI TREND" for round arched windows with sash lifter in the turn and tilt position with adjustable locking cam, half-round scissor stay, adjustable pivot post and adjustable pivot post hinge, and window handle.

Stabilizing scissor stay: From SRW 1000 mm

(2)

French casement

Variant 1

Top and bottom shootbolt, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge. Compression device from a SRH of 1000 mm, for PVC windows from SRH 800 mm or according to the specifications of the profile manufacturer.

For balcony doors: 2 concealed compression devices.

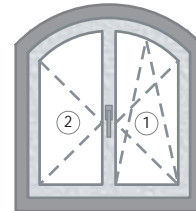
Variant 2

French casement drive gear, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustab-

le pivot post hinge. Concealed compression device from a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer. From a SRW of 1000 mm, for PVC windows from SRW 800 mm or any according to the specifications of the profile manufacturer. French casement drive gear with centre lock, adjustable top and bottom turn-only hinge, concealed compression device.

For balcony doors: 2 concealed centre hinges.

Also possible: Lockable window handles, self-catching turn lock.



1.9.8 Turn-only window 1-sashed

Single-sash turn-only window

Possible sizes: As a rule, these are the same as for T&T hardware.

Maximum sizes and the width/height relationship can be found on the sheet entitled "Application range".

(1)

"MACO MULTI turn-only drive gear"

and adjustable top turn-only hinge (to match the window design), adjustable pivot post and pivot post hinge, and window handles.

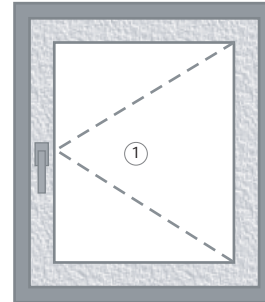
Compression device from a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer.

Top and bottom centre lock from a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer.

For balcony doors: Door catch, 2 concealed centre hinges.

Alternative: lockable door drive gear with cylinder, handles and rosette on the inside and outside or door lock for cylinder with latch and lever handle set.

Also possible: Lockable window handles, opening restriction 90°, MULTI-Vent, tilt restrictor.



1.9.9 Turn-only window 2-sashed

Double sash turn-only window

(1)

Turn-only sash

"MACO MULTI" turn-only drive gear adjustable top turn-only hinge (to match the window design), adjustable pivot post and pivot post hinge, and window handles. Compression device from a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer. Top and bottom centre lock from a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer.

For balcony doors: Door catch, 2 concealed centre hinges.

Alternative: lockable door drive gear with cylinder, handles and rosettes on the inside and outside or door lock for cylinder with latch and lever handle set.

Also possible: Lockable window handles, opening restriction 90°, MULTI-Vent, tilt restrictor

(2)

French casement

Variant 1

Top and bottom shootbolt, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge. Compression device from a SRH of 1000 mm, for PVC windows from SRH 800 mm or according to the specifications of the profile manufacturer.

For balcony doors: 2 concealed compression devices

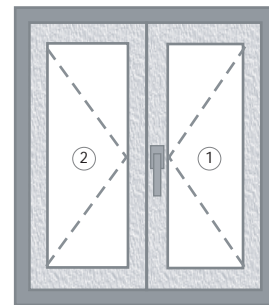
Variant 2

French casement drive gear, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge. Compression device from a SRH of 1000 mm, for PVC windows from 800 mm or according to the specifications of the profile manufacturer. From a SRW of 1000 mm, for PVC windows from SRW 800 mm or any according to the

specifications of the profile manufacturer. French casement drive gear with centre lock, adjustable top and bottom turn-only hinge, concealed compression device.

For balcony doors: 2 concealed centre hinges

reverse-action espagnolette, adjustable top turn-only hinge, adjustable pivot post and adjustable pivot post hinge. Compression device from a SRW of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer.



Caution

Window constructions exceeding SRW 1000 mm, PVC windows exceeding SRW 800 mm or according to the profile manufacturer's instructions not possible, since a reverse-action espagnolette cannot be connected to the centre lock.

Also possible: Lockable window handles, opening restriction 90°.

1.9.10 Tilt-only windows

Tilt-only sash (sash weight max. 80 kg)

(1)

Variant 1

Operating handle at the top, espagnolette with tilt-only stay arm, two tilt-only sash hinges and window handle.

For PVC from SRW 1000 mm, use a third tilt-only sash hinge.

For timber from SRW 1200 mm tilt-only sash hinge.

The installation of a restrictor and cleaning stay is prescribed.

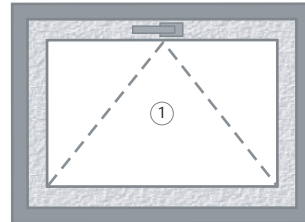
Variant 2

Operating handle on vertical sash profile Single-handed T&T hardware with adjustable locking cam, adjustable scissor stay, vertical and horizontal centre locks, and wind handles, without pivot post, two tilt-only sash hinges.

For PVC from SRW 1000 mm, use a third tilt-only sash hinge.

For timber from SRW 1200 mm tilt-only sash hinge.

The installation of a restrictor and cleaning stay is prescribed.



Caution

For cleaning, be sure to install a commercially available cleaning and restrictor stay (see product liability).

Observe the maximum sash weights of the cleaning and restrictor stay.

1.9.11 Window combinations 1

Window combination

Three-sash window without mullion

Two, three and multi-sashed windows with fixed mullion: To be treated as single-sashed windows for tendering purposes; when using paumelle hinges, for example, the maximum sash rebate width of both sashes is 1650 mm.

(1)

Turn&Tilt sash

Text as for single-sash T&T- however: For timber windows from a SRW of 800 mm centre lock EH, angle C and combination striker plate. For PVC windows from a SRW of 800 mm or according to the specifications of the profile manufacturers, EH centre lock and angle C.

(2)

French casement

Variant 1

Top and bottom shootbolt, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge.

Compression device from a SRH of 1000 mm, for PVC windows from SRH 800 mm or according to the specifications of the profile manufacturer.

For balcony doors: 2 concealed compression devices.

Variant 2

French casement drive gear, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge.

Compression device from a SRH of 1000 mm, for PVC windows from 800 mm or according to the specifications of the profile manufacturer. From a SRW of 1000 mm, for PVC windows from SRW 800 mm or any according to the specifications of the profile manufacturer. French casement drive gear with centre lock, adjustable top and bottom turn-only hinge, concealed compression device.

For balcony doors: 2 concealed centre hinges

Also possible: Anti-slam device in the scissor stay, night vent scissor stay, opening restriction 90°, MULTI-Vent, tilt restrictor, lockable window handles.

If windows are only tilted or turned for cleaning: Use resting turn lock.

For balcony doors: Door catch and finger pull

Alternative: Lockable doors - drive gear with cylinder, handles and rosettes on inside and outside. With turn hinges for three-sashed windows, clip-on sleeve for three-sashed windows and strikers.

(3)

Turn-only sash

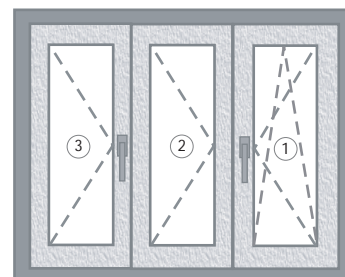
"MACO MULTI" turn-only drive gear and adjustable top turn-only hinge (to match the window design), adjustable pivot post hinge and window handles. Concealed compression device from a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacture. Top and bottom centre lock from a SRH of 1000 mm, for PVC windows from 800 mm or according to the specifications of the profile manufacturers.

For balcony doors: Door catch, 2 concealed centre hinges.

Alternative: Lockable door drive gear with cylinder, handle and rosette on inside and outside or: Door lock for cylinder with latch and lever handle set.

Also possible: Lockable window handles, opening restriction 90°, MULTI-Vent, tilt restrictor.

Also possible: Lockable window handle, opening restriction 90°.



1.9.12 Window combinations 2

Window combination

Three-part window without mullion

(1)

Turn&Tilt sash

Text as for single-sash T&T- however: For timber windows from a SRW of 800 mm centre lock EH, angle C and combination striker plate. For PVC windows from a SRW of 800 mm or according to the specifications of the profile manufacturers, EH centre lock and angle C.

(2)

French casement

Variant 1

Top and bottom shootbolt, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge. Compression device from a SRH of 1000 mm, for PVC windows from SRH 800 mm or according to the specifications of the profile manufacturer.

For balcony doors: 2 concealed compression devices.

Variant 2

French casement drive gear, adjustable top turn-only hinge (to match the window design), adjustable pivot post and adjustable pivot post hinge. Concealed compression device from a SRH of 1000 mm, for PVC windows from SRW 800 mm or according to the specifications of the profile manufacturer. From a SRW of 1000 mm, for PVC windows from SRW 800 mm or any according to the specifications of the profile manufacturer. French casement drive gear with centre lock, adjustable top and bottom turn-only hinge, concealed compression device.

For balcony doors: 2 concealed centre hinges.

Also possible: Anti-slam device in the scissor stay, night vent scissor stay, opening restriction 90°, MULTI-Vent, tilt restrictor, lockable window handles. If windows are only tilted or turned for cleaning: Use resting turn lock.

For balcony doors: Door catch and finger pull.

Alternative: Lockable door drive gear with cylinder, handles and rosette on inside and outside. With turn hinges for three-sashed windows, clip-on sleeve for three-sashed windows and striker.

(3)

Tilt-only sash

Variant 1

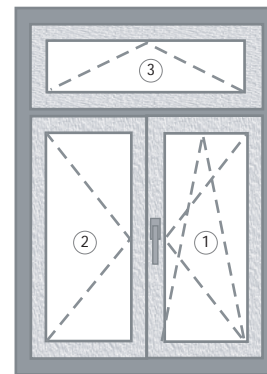
Operating handle at the top, espagnolette with mounted tilt-only stay arm, two tilt-only sash hinges and window handle.

From SRW 1400 mm, three tilt-only sash hinges.

Variant 2

Operating handle on vertical sash profile Single-handed T&T hardware with adjustable locking cam, adjustable scissor stay, vertical and horizontal centre locks, and wind handles, without pivot post, two tilt-only sash hinges.

From SRW 1400 mm: Stabilizing scissor stay and three tilt-only sash hinges



Caution

For cleaning, be sure to install a commercially available cleaning and restrictor stay (see product liability).

Maximum sash weight of the cleaning and restrictor stay.



1.9.13 Burglar resistance standards

(1)

Preventing break-in according to DIN 1627-30

Hardware according to the text for the respective type of opening (see A-K); burglar-resistance implemented in accordance with ÖNORM or DIN, resistance classes 1, 2 or 3.

Note: These standards dictate a complete examination of the finished window.

These include the following areas:

- a) Glazing
- b) Hardware
- c) Assembly and/or securing the window within the wall

The inspection should normally be implemented by the processor. We can provide a test certificate under certain conditions. The hardware must be matched properly to the material used. Our technical advisers are available for any additional information.

1.10 Certificates

1.10.1 RAL certificate - PVC windows

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VERLEIHUNGS-URKUNDE

Die Gütegemeinschaft Schlösser und Beschläge e.V. verleiht hiermit aufgrund der
ihrem Güteausschuss vorliegenden Prüfbericht dem Drehkippschlag
Based upon the test report which has been released by their quality assurance commission the quality assurance
association of locks and hardware hereby awards „Tilt and Turn Hardware“

MACO Multi Trend Kunststoff, System TR. 7

der Mitgliedsfirma
the membership company

**Mayer & Co. Beschläge GmbH,
A-5020 Salzburg**

das von RAL (Deutsches Institut für Gütesicherung und Kennzeichnung e.V.) anerkannte
und durch Eintragung beim Deutschen Patentamt als Kollektivmarke geschützte
Gütezeichen Schlösser und Beschläge mit der Inschrift „Drehkippschlag“
the RAL-quality label shown below, having been recognized by the German RAL Institute for Quality Assurance and labelling
and trademark-legally protected by the registration in the German Patent Agency „Tilt and Turn Hardware“



in der Klasse 120 kg, geprüft nach RAL-GZ 607/3, Ausgabe 2009
approved in class 120 kg, according to RAL-GZ 607/3, version 2009

Die Führung des Zeichens setzt die Einhaltung und Überwachung nach dieser Güte- und Prüfbestimmung
voraus. Die Kennzeichnung, die Gültigkeit und die wesentlichen Bestandteile des geprüften Produktes
sind in dem gleichlautenden Prüfbericht **Nr. 4-36/09** beschrieben.
Permission of using this RAL label is based on correct observation of RAL-GZ 607/3 - quality and testing instructions. Labelling,
validity and main components of tested product are detailed in test report no. 4-36/09 having same reference number

D-42551 Velbert, den 09. Dezember/ December 2009

Gütegemeinschaft Schlösser und Beschläge e.V.



Geschäftsführer



Gütegemeinschaft Schlösser und Beschläge e.V. · Offerstraße 12 · D-42551 Velbert · Fon 02051/9506-0 · Fax 02052/9506-20



1.10.2 RAL certificate - timber window

VERLEIHUNGS-URKUNDE

Die Gütegemeinschaft Schösser und Beschläge e.V. verleiht hiermit aufgrund der
ihrem Güteausschuss vorliegenden Prüfberichte dem Drehkippschlag
Based upon the test report which has been released by their quality assurance commission the quality assurance
association of locks and hardware hereby awards "Tilt and Turn Hardware"

MACO Multi Trend Holz, System DT. 12

der Mitgliedsfirma
the membership company

Mayer & Co. Beschläge GmbH, A-5020 Salzburg

das von RAL (Deutsches Institut für Gütesicherung und Kennzeichnung e.V.) anerkannte
und durch Eintragung beim Deutschen Patentamt als Kollektivmarke geschützte
Gütezeichen Schösser und Beschläge mit der Inschrift "Drehkippschlag"
the RAL-quality label shown below, having been recognized by the German RAL Institute for Quality Assurance and labelling
and trademark-legally protected by the registration in the German Patent Agency "Tilt and Turn Hardware"

in der Klasse 130 kg, geprüft nach RAL-GZ 607/3, Ausgabe 2009
approved in class 130 kg, according to RAL-GZ 607/3, version 2009

Die Führung des Zeichens setzt die Einhaltung und Überwachung nach dieser Güte- und Prüfbestimmung
voraus. Die Kennzeichnung, die Gültigkeit und die wesentlichen Bestandteile des geprüften Produktes
sind in dem gleichlautenden Prüfbericht Nr. 4-32/09 beschrieben.
Permission of using this RAL label is based on correct observation of RAL-GZ 607/3 - quality and testing instructions. Labelling,
validity and main components of tested product are detailed in test report no. 4-32/09 having same reference number

D-42551 Velbert, den 02. November 2009

Gütegemeinschaft Schösser und Beschläge e.V.

Geschäftsführer

DIN-PL-2415.00
Ausgabe 04/2009 (DIN 18101:2009)

Gütegemeinschaft Schösser und Beschläge e.V. · Offenstraße 12 · D · 42551 Velbert · Fon 02051/9506-0 · Fax 02052/9506-20



1.10.3 RAL certificate - MULTI POWER

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VERLEIHUNGS-URKUNDE

Der Güteausschuss der Gütegemeinschaft Schlösser und Beschläge e.V. verleiht hiermit aufgrund des vorliegenden Prüfberichtes gemäß RAL-GZ 607/3 dem Drehkippschlag

Based upon the test report according to RAL-GZ 607/3 which has been released by the quality assurance commission of the quality assurance association of locks and hardware hereby awards the 'Tilt and Turn Hardware'

Multi Power

der Mitgliedsfirma
the membership company

Mayer & Co Beschläge GmbH, A-5020 Salzburg

das von RAL (Deutsches Institut für Gütesicherung und Kennzeichnung e.V.) anerkannte und durch Eintragung beim Deutschen Patentamt als Kollektivmarke geschützte Gütezeichen Schlösser und Beschläge mit der Inschrift „Drehkippschlag“

The RAL-quality label shown below, having been recognized by the German RAL Institute for Quality Assurance and labelling and trademark-legally protected by the registration in the German Patent Agency 'Tilt and Turn Hardware'

in der Klasse 150 kg, Bauart: PVC, geprüft nach RAL-GZ 607/3, Ausgabe 2009
approved in class 150 kg, type: PVC, according to RAL-GZ 607/3, version 2009

Die Führung des Zeichens setzt die Einhaltung und Überwachung nach dieser Güte- und Prüfbestimmung voraus. Die Kennzeichnung, die Gültigkeit und die wesentlichen Bestandteile des geprüften Produktes sind in dem gleichlautenden Prüfbericht **Nr. 4-8/14** beschrieben.

Permission of using this RAL quality label is based on the surveillance and the quality- and testing instructions of RAL-GZ 607/3. The labelling, the validity and the main components of the tested product are specified in the test report no. 4-8/14.

D-42551 Velbert, den 21. Oktober/ October 2014

Gütegemeinschaft Schlösser und Beschläge e.V.

Geschäftsführer/ Managing Director

Gütegemeinschaft Schlösser und Beschläge e.V. · Ofterstraße 12 · D - 42551 Velbert · Fon 02051/9506-0 · Fax 02052/9506-20

1.10.4 IFT certificate (QM328)



Beschläge / Hardware

Produktfamilien
product families

Dreh- und Drehkippsbeschläge für Fenster und Fenstertüren
turn and tilt-turn hardware for windows and casement doors

Produkt
product

MULTI MATIC, MULTI MATIC KS, MULTI TREND

Einsatzbereich
field of application

Systeme mit entsprechender Beschlagaufnahme
systems with suitable hardware groove

max. Flügelgewicht
max. casement weight

180 kg

Hersteller
manufacturer

Mayer & Co. Beschläge GmbH

Alpenstraße 173, A 5020 Salzburg

Produktionsstandort
production site

Mayer & Co. Beschläge GmbH
Alpenstraße 173, A 5020 Salzburg
Maco Produktions GmbH
Industriestraße 1, A 8784 Trieben



Mit diesem Zertifikat wird bescheinigt, dass die benannten Beschläge den Anforderungen des ift-Zertifizierungsprogramms für Beschläge (QM328 : 2013-11) entsprechen.

Grundlagen sind durch das Prüflabor erstellte Produktfamilien der aufgeführten Beschläge, Prüfung durch das Prüflabor nach EN 13126-8 : 2006 und EN 1191 : 2000 unter Berücksichtigung der Anwendungsdiagramme, eine werkseigene Produktionskontrolle des Herstellers und eine Fremdüberwachung der Fertigung durch die Überwachungsstelle in den benannten Standorten. Das Zertifikat ist nur in Verbindung mit dem dazugehörigen Überwachungsvertrag gültig.

Die Gültigkeitsdauer des Zertifikates beträgt 5 Jahre. Mit der Erteilung des Zertifikates ist eine regelmäßige Fremdüberwachung des Herstellers verbunden.

Das Zertifikat darf nur unverändert vervielfältigt werden. Alle Änderungen der Voraussetzungen für die Zertifizierung sind dem ift-Q-Zert mit den erforderlichen Nachweisen unverzüglich schriftlich anzuzeigen.

Das Unternehmen ist berechtigt, die Beschläge gemäß der ift-Zeichensatzung mit dem „ift-zertifiziert“-Zeichen zu kennzeichnen.

Dieses Zertifikat enthält 2 Anlagen:

- 1: Übersicht der Produktfamilien
- 2: Austauschbarkeit nach EN 14351-1

The present certificate attests that the hardware mentioned fulfils the requirements of the ift-certification scheme for hardware (QM328 : 2013-11).

Basis of the certificate are the product families of the hardware listed that have been compiled by the test laboratory, tests performed by the test laboratory as per EN 13126-8 : 2006 and EN 1191 : 2000 based on the application diagrams, factory production control by the manufacturer and third-party surveillance audits of the production by the surveillance bodies at the sites mentioned. The certificate is valid only in conjunction with the corresponding surveillance contract.

The certificate is valid for a period of 5 years. Award of the certificate is subject to regular third-party surveillance of the manufacturer.

The reproduction of the certificate without any change whatsoever from the original, is permitted. Any changes to the prerequisites applicable to certification shall be immediately communicated in writing to ift-Q-Zert accompanied by the necessary evidence.

The company is authorised to affix the "ift-certified"-mark to the hardware according to the "ift Rules for use of the "ift-certified"-mark.

This Certificate contains 2 Annexes:

- 1: List of product families
- 2: Interchangeability as per EN 14351-1



EN 1191
EN 12400

Klasse 2



Dauerfunktion
resistance to repeated opening and closing



EN 12046-1
EN 13115

Klasse 2



Bedienungskräfte
operating forces



EN ISO 9227
EN 1670
Klasse 5

Korrosionsschutz
corrosion protection

Rosenheim
08. Juli 2014

Christian Kehrer
Leiter ift Zertifizierungs- und Überwachungsstelle
Head of ift Certification and Surveillance Body

Ulrich Sieberath
Institutsleiter
Director of Institute

Vertrag-Nr. / Contract No.: 228 6036771

Zertifikat-Nr. / Certificate No.: 228 6036771-1-10

Gültig bis / Valid:

17. März 2019



1.10.5 Quality management certificate



qualityaustria
Succeed with Quality

CERTIFICATE



This Quality Austria Certificate confirms the application and further development of an effective

QUALITY MANAGEMENT SYSTEM
complying with the requirements of standard
ISO 9001:2008

Quality Austria Training, Certification and Evaluation Ltd. awards this Quality Austria Certificate to the following organisation(s):

Mayer & Co Beschläge GmbH
A-5020 Saizburg, Alpenstraße 173

Sites:
MACO Produktions GmbH
A-8784 Trieben, Industriestraße 1
MACO Baubeschlag Produktions & Betriebs GmbH
A-5570 Mauterndorf im Lungau, Steindorf 57

Registration No.: 11971/0
Date of initial issue: 26 March 2012
Valid until: 31 March 2015

Vienna, 26 March 2012

Quality Austria Training,
Certification and Evaluation Ltd.

Schiber E. Bauer
Konrad Schieber
General Manager

Eckehard Bauer, MSc
Specialist representative

The validity of the Quality Austria Certificate will be maintained via annual surveillance audits and one renewal audit after three years.

The current validity of the certificate is documented exclusively on the Internet under
<http://www.qualityaustria.com/verifcert> EAC: 17

Quality Austria Training, Certification and Evaluation Ltd. is accredited according to the Austrian Accreditation Act by the (MAA) Federal Ministry of Economic Affairs and Labour.

Quality Austria is accredited as an organisation for environmental verification by the Ministry of Agriculture, Forestry, Environment and Water Management.

Quality Austria is authorised by the Austrian Government of the Automobile Industry.

For accreditation and registration rules please refer to the application regulations published in the Federal Law Gazette of recognition documents.

Quality Austria is the Austrian member of Other International Organizations (MAA).

Doc. No. IQ-24-001
EAC-17-2015-437-0000
EAC-17-2015-437-0000










1.10.6 Environmental management certificate



qualityaustria
Succeed with Quality

CERTIFICATE

Quality Austria Training, Certification and Evaluation Ltd. awards this Quality Austria Certificate to the following organisation(s):

Mayer & Co Beschläge GmbH
A-5020 Salzburg, Alpenstraße 173

Sites:
MACO Produktions GmbH
A-8784 Trleben, Industriestraße 1
MACO Baubeschlag Produktions & Betriebs GmbH
A-5570 Maurterndorf im Lungau, Steindorf 57

This Quality Austria Certificate confirms the application and further development of an effective

ENVIRONMENTAL MANAGEMENT SYSTEM
complying with the requirements of standard
ISO 14001:2004

Registration No.: 017280
Date of initial issue: 26 March 2012
Valid until: 25 March 2015

Vienna, 26 March 2012

Quality Austria Training, Certification and Evaluation Ltd.

Schiber
Konrad Schelber
General Manager

DI Dr. Andreas Markom
Fachbeauftragter

The validity of the Quality Austria Certificate will be maintained via annual surveillance audits and one renewal audit after three years.

The current validity of the certificate is documented exclusively on the internet under <http://www.qualityaustria.com/en/cert> EAC: 17

Quality Austria Training, Certification and Evaluation Ltd. is accredited according to the national standards of the Austrian Republic (BREM) for the fields of Economic Affairs and (Labors).

Quality Austria is accredited for environmental certification by the BAW/BW Federal Ministry of Agriculture, Forestry, Environment and Water Management.

Quality Austria is authorized by the CA (Association of the Automobile Industry).

For publications and regulations that have been published in the Federal Law Gazette or other official documents.

Quality Austria is the Austrian member of IQNet International Certification Network.

Doc. No. IQ-34-2012
4704000-7843-4877-531
3-RECH-30003

1.10.8 PIV certificate - silver-look



PIV Prüfinstitut Schlösser und Beschläge Velbert Wallstraße 41 D-42551 Velbert Fon +49(0)2051/9506-5 Fax +49(0)2051/9506-69 piv.velbert@t-online.de www.piv-velbert.de

PRÜFZEUGNIS

DIN EN 1670:2007-06
Test Certificate

Nr. /No. 20-3/08

<p>Der Firma We confirm, that the manufacturer</p> <p>wird bescheinigt, dass sie am at the date of</p> <p>die Anforderungen der DIN EN 1670 Salzsprühnebelprüfung nach EN ISO 9227 meets the requirements of DIN EN 1670 salt spray test according to EN ISO 9227</p> <p>für das Produkt for the product</p> <p>mit der Oberfläche with the surface</p> <p>in der Klasse in the class</p> <p>erfüllt hat.</p> <p>Diesem Prüfzeugnis liegt der Prüfbericht Nr. 20-3/08 des PIV als Beurteilungsgrundlage zugrunde. Die Gültigkeit des Prüfzeugnisses bleibt so lange erhalten, wie sich die Prüfgrundlage und /oder das geprüfte Produkt nicht ändern. <small>This certificate is based on the evaluation of test report No. 20-3/08 by PIV Velbert. Test certificate retains it's validity as long as the products is not been modified on any manner.</small></p> <p>42551 Velbert, den 08. Februar 2008</p> <div style="text-align: center;">   </div> <p>R. Ehle Dipl.-Ing.</p> <p><small>Dies ist eine Urkundenseite. Teilweise Veröffentlichung oder veränderte Wiedergabe ist untersagt. Mischachtung bedeutet Urkundenfälschung. This is a document page. Partly publications or changes is forbidden. Disregard means document forgery.</small></p> <p><small>Akkreditierte Prüfstelle nach DIN EN ISO/IEC 17025 Akkreditierte Zertifizierungsstelle nach DIN EN 45011 (PIV CERT) Prüf-, Überwachungs- und Zertifizierungsstelle nach dem Bauproduktengesetz (BauPG) RAL-Prüfstelle für Schlösser und Beschläge nach RAL-RG 607 / IF Überwachungs- und Zertifizierungsstelle nach Landesbauordnung (LBO) Bau-BG-Prüfstelle für Fahrwerkrollen - DIN CERTCO anerkannte Prüfstelle</small></p>	<p>Mayer & Co Beschläge GmbH A-5020 Salzburg</p> <p>04. Februar 2008</p> <p>Dreh/Kipp-Beschlagteile</p> <p>MACO -SILBER LOOK</p> <p>5</p> <p>Institutsleitung: Rainer Ehle, Dipl.- Ing.</p> <div style="text-align: center;">  <small>Deutscher Akademischer Prüf- und Zertifizierungs- Dienstleistung DAP-PL-3418.00 4. Ausgabe vom 19.01.2011</small> </div> <p>Es gelten unsere Geschäftsbedingungen</p>
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1.10.9 Guarantee statement / Functional guarantee

10 Year functional guarantee

For turn-only and turn&tilt hardware systems MACO MULTI TREND and MACO MULTI MATIC

MAYER & CO Beschläge GmbH, A-5020 Salzburg, Alpenstrasse 173 grants a functional guarantee of 10 years, in excess of the legal period, for the MACO MULTI TREND hardware systems and MACO MULTI MATIC turn-only and T&T hardware, commencing on the date for delivery of the hardware to the fabricator.

Guarantee conditions

The guarantee applies only to fabricators of MACO hardware.

Guarantee claim

This guarantee covers the functionality of the MACO MULTI TREND hardware systems and MACO MULTI MATIC turn-only and T&T hardware and encompasses all defects that can be verified to result from defective manufacturing or material defects. A warranty claim shall be deemed valid if the hardware can no longer be brought to the designated switch positions in the course of proper use, and subject to compliance with all conditions of warranty.

Guarantee services

- Replacement of the defective component or supply of a component with equivalent functionality free of charge
- Further reimbursements are excluded by MACO

Conditions of guarantee

- Compliance with all MACO specifications and processing instructions
- Verifiable professional installation of the window or window unit
- Verifiable compliance with all obligations to provide instructions to the end user
- Proper use in accordance with the product-specific MACO catalogues
- Demonstrable maintenance (through fabricator's service or guarantee certificate) according to MACO operating and maintenance instructions
- The hardware combination is made up exclusively of MACO hardware
- Timely replacement of worn parts
- Return of the defective parts together with the original invoice

Guarantee exclusion

- Operational malfunction due to defects in the turn-only or T&T window (e.g. distortion, incorrect installation, tension)
- Operational malfunction due to damage to the hardware resulting from chemical or mechanic influences or improper use
- Improper handling, storage or transport
- Unsuitable or improper use
- Modifications or self-repair
- Natural wear, soiling or salt deposits
- Use of aggressive or abrasive cleaning agents
- Electrical, electronic and magnetic components
- Hardware components that are used in the public and commercial sectors



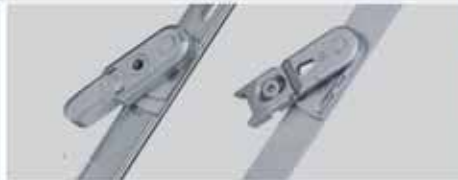
TECHNOLOGY IN MOTION



10-YEAR FUNCTIONAL GUARANTEE

MACO MULTI TREND and
MACO MULTI MATIC
TURN-ONLY AND T&T HARDWARE

According to the MACO warranty conditions detailed on the back.



KR Dipl.-Ing. Ernst Mayer
CEO

Dipl.-Kfm. Jürgen Pratschke
CEO





MAYER & CO BESCHLÄGE GMBH
ALPENSTRASSE 173
A-5020 SALZBURG
TEL. +43 662 6196-0
FAX +43 662 6106-1449
maco@maco.at www.maco.at

Salzburg, January 2014



1.10.10 CE - Declaration of non-objection



 TECHNIK DIE BEWEGT		Declaration of non-objection
<p>Product groups included in the declaration Development, manufacturing and sales of:</p> <ul style="list-style-type: none"> • MULTI turn-only and turn&tilt hardware, • EMOTION handles, • RAIL-SYSTEMS sliding hardware, • PROTECT door locks, • ESPAGS espagnolettes, • RUSTICO shutter hardware, • PRO-DOOR door hinges • MACO VENT ventilation valves • as well as remaining window hardware and accessories. 		
<p>Use of products Window and door elements of the construction industry</p>		
<p>Manufacturer / Supplier Company Mayer & Co Beschläge GmbH</p>		
<p>Street / PO box Alpenstraße 173 / PO Box 94</p>		
<p>Country code / Postcode / City AT / 5020 / Salzburg</p>		
<p>Phone / Fax / E-Mail +43 662 6196-0 / +43 662 886196-0 / maco@maco.at</p>		
<p>The Building Products Guideline (BPR) 305/2011 EU specifies how buildings are required to be designed and constructed to avoid any hazards to the safety of persons, pets or goods, or to the environment. These regulations have a direct impact on the requirements for building products. They are intended, primarily in the field of product quality, to guarantee compliance with legal regulations with regard to the so-called "essential requirements" from a building or building products respectively; this also includes the "harmlessness in terms of health".</p>		
<p>The products of Mayer & Co Beschläge do comply with the requirements of EN 14351-1:2010 "Windows and doors – Product standard, performance characteristics" in the particular item 4.6 Dangerous Substances, as well as with EU Directive 2002/95/EU from the European Parliament and the Council of 8th June 2011 on the restriction of the use of certain dangerous substances.</p>		
<p>We hereby declare that our products meet, according to the abovementioned standards, the "restriction of the use of certain dangerous substances", and consequently are harmless.</p>		
 KR DI Ernst Mayer	 Dkfm. Jürgen Pratschke	
Salzburg, November 2014		
<p>MAYER & CO BESCHLÄGE GMBH ALPENSTRASSE 173 A-5020 SALZBURG TEL. +43 662 6196-0 FAX 101</p>		
		Page 1 of 1



1.11 General terms and conditions

Our general terms and conditions are available for download from our website (www.maco.at) or from our extranet (extranet.maco.eu).



2 Hardware Overviews

2.1	Application Ranges _____	54
2.1.1	Manufacturers application advice	54
2.1.2	Application Range Diagrams	56
2.2	Turn&tilt standard window 1-sashed _____	62
2.3	Turn&tilt standard window 2-sashed _____	64
2.4	MULTI MAMMUT _____	66
2.5	TWIN-FIT _____	68
2.6	MULTI POWER _____	70
2.7	Comfort scissor _____	72
2.8	Turn-only window _____	74
2.9	Tilt-only window _____	76
2.10	Turn&tilt half round window 1-sashed _____	78
2.11	Turn&tilt pitched window 1-sashed _____	80
2.12	Multi-sashed window with multi-sash centre frame hinges _____	82
2.13	Multi-sashed window, turn-only, turn-only, turn&tilt _____	84
2.14	Multi-sashed window, turn&tilt, turn-only, turn&tilt _____	86
2.15	Fully concealed drive gears INVISIBLE _____	88
2.16	Partially concealed drive gears _____	90
2.17	Partially concealed drive gears for half round window _____	92
2.18	Turn&tilt rectangular window EH (RC2) 1-sashed _____	94
2.19	Turn&tilt rectangular window EH (RC2) 2-sashed _____	96
2.20	Turn&tilt half round window EH (RC2) 1-sashed _____	98
2.21	Turn&tilt half round window EH (RC2) 2-sashed _____	100
2.22	Turn&tilt pitched window EH (RC2) 1-sashed _____	102
2.23	Turn&tilt pitched window EH (RC2) 2-sashed _____	104
2.24	General security information _____	106
2.24.1	General	106
2.24.2	MACO security levels	106
2.24.3	Security level according to EN 1627-1630	106



2 Hardware Overviews

2.1 Application Ranges

2.1.1 Manufacturers application advice

This catalogue applies only for the installation of MACO MULTI TREND turn-only and turn&tilt hardware for windows and casement doors. The hardware is designed for the following sash rebate dimensions and sash weights:

1. Maximum sash weights

The following listed maximum sash weights for the individual hardware versions may not be exceeded. The component that has the lowest permissible load-bearing capacity determines the max. sash weight. Application diagrams and component assignment must be observed.

2. Sash sizes

The description of the application diagrams show the relationships between the permissible sash rebate widths and sash rebate heights, depending on various glass weights and/or total glass thickness. The resulting sash rebate dimensions or sash formats (portrait and/or landscape format) - as well as the maximum sash weight - may not be exceeded under any circumstance.

3. Composition of the hardware

The manufacturer's regulations governing the combination of hardware are binding (for example, the application of additional stay arms, the hardware design for burglar-resistant window and casement doors, sashes etc.)

sash-rebate dimensions BS 15

Max.	SRW 1650	but only up to 2,4m ² or 3m ² total surface area, or 130 kg sash weight and a SRH:SRW side ratio max. 1:1.5 (refer to application diagrams!)	
	SRH 2600		
	SRW 1800	but only up to 3.6 m ² total surface area or 180 kg sash weight and a SRH:SRW side ratio of max. 1:1.5 (refer to application diagram for 180 kg!)	
	SRH 2800		
Min.	SRW 320	Standard	
	SRH 360		
	SRW 280	with corner element F, scissor stay size 00 and drive gear size 00	
	SRH 320		
	SRW 350		with corner element F (with locking cam fitted on top), scissor stay size 00 and drive gear size 00
	SRH 295		

sash-rebate dimensions BS 6.5

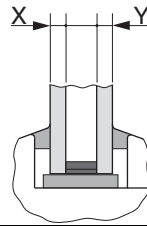
Max.	SRW 1650	but only up to 2,4m ² or 3m ² total surface area, or 130 kg sash weight and a SRH:SRW side ratio max. 1:1.5 (refer to application diagrams!)	
	SRH 2600		
	SRW 1800	but only up to 3.6 m ² total surface area or 180 kg sash weight and a SRH:SRW side ratio of max. 1:1.5 (refer to application diagram for 180 kg!)	
	SRH 2800		
Min.	SRW 320	Standard	
	SRH 455		
	SRW 320	with corner element F, scissor stay size 00 and drive gear size 00	
	SRH 365		
	SRW 260		with corner element F (with locking cam fitted on top), scissor stay size 00 and drive gear size 00
	SRH 455		



calculation of glass weight

glass thickness (mm)	8	10	12	14	16	18	20	22	24
weight kg/m ²	20	25	30	35	40	45	50	55	60






1 mm = 2.5 kg/m²

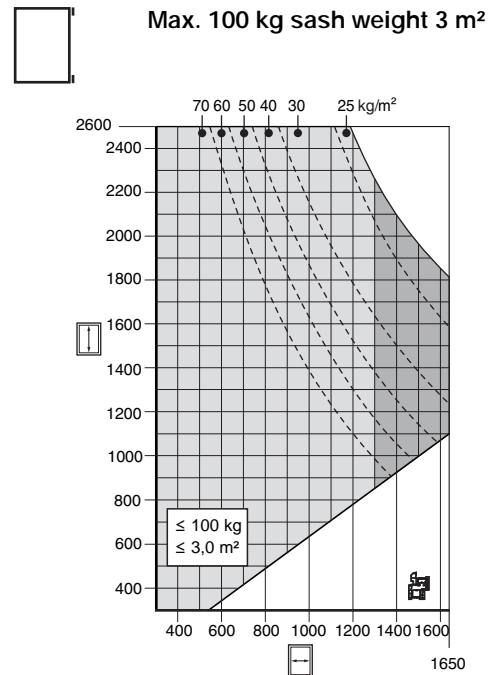
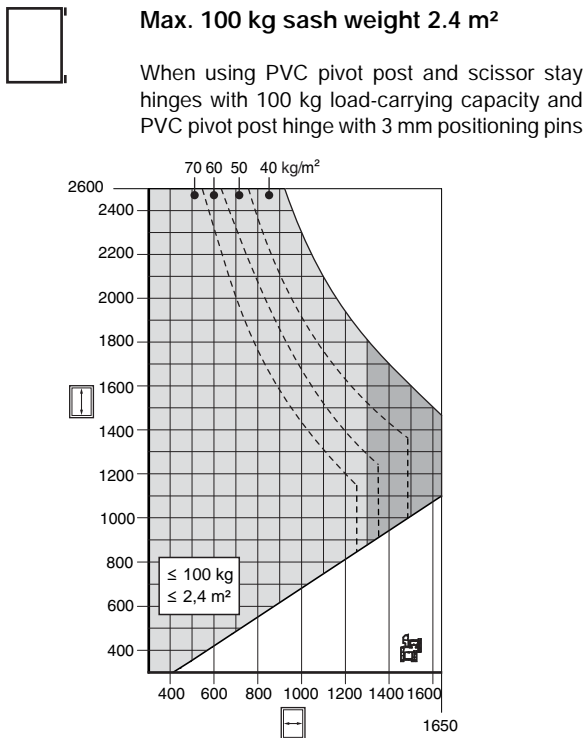
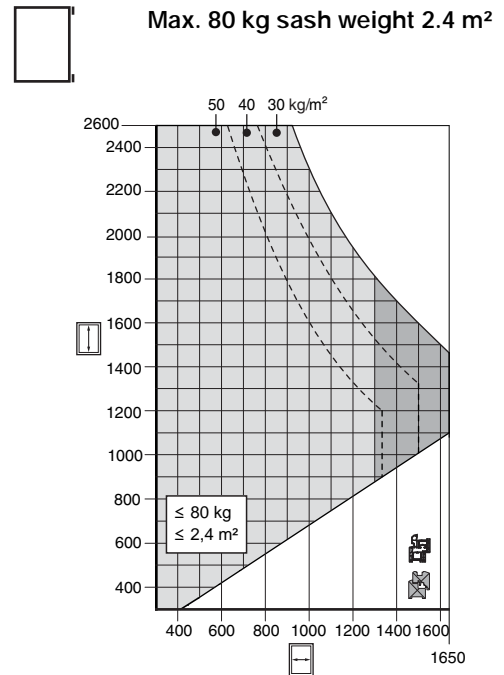
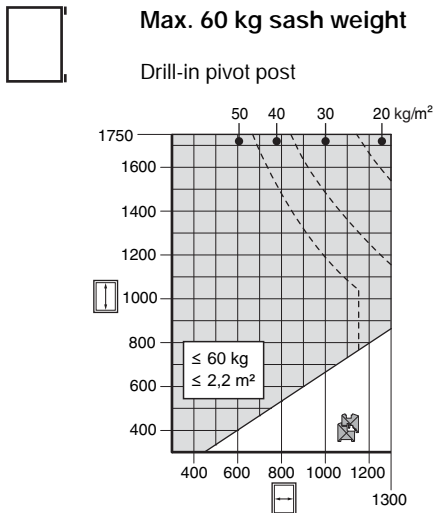


Total glass thickness = x + y



2.1.2 Application Range Diagrams

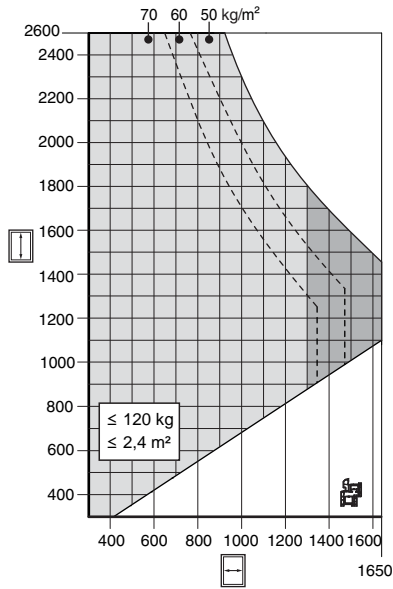
- Key
-  Permitted range
 -  Additional scissor stay mandatory!
 -  Prohibited range
 -  for PVC profiles
 -  for timber profiles



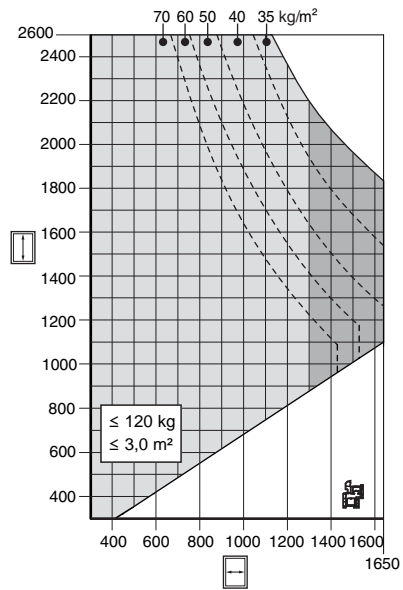


Max. 120 kg sash weight 2.4 m²

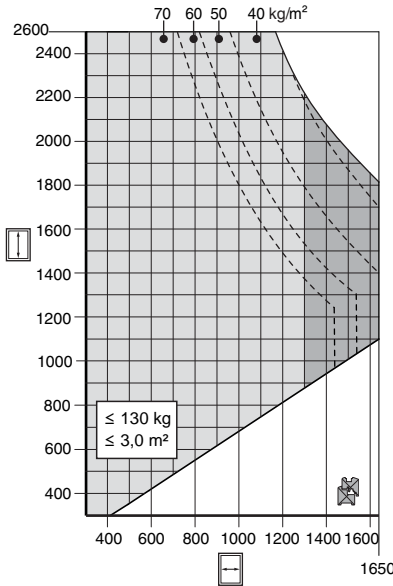
When using PVC pivot post and scissor stay hinges with 120 kg load-carrying capacity and PVC pivot post hinge with 3 mm positioning pins



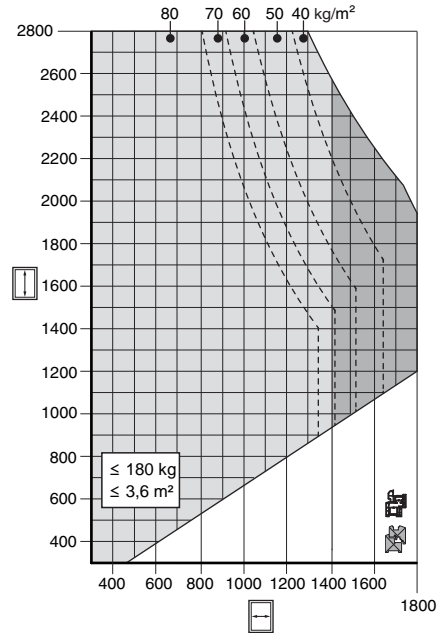
Max. 120 kg sash weight 3 m²



Max. 130 kg sash weight 3 m²

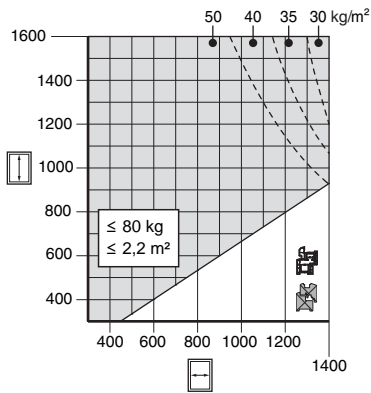


MULTI MAMMUT
Sash weight max. 180 kg or 3.6 m²

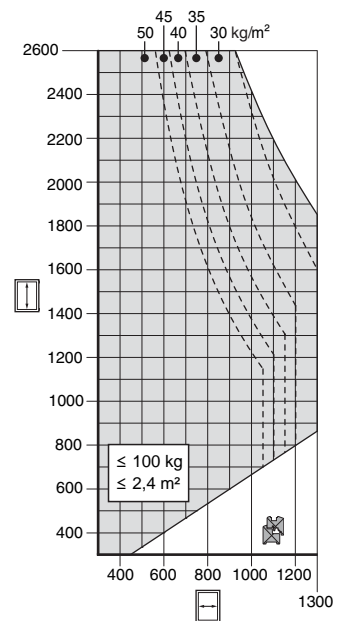




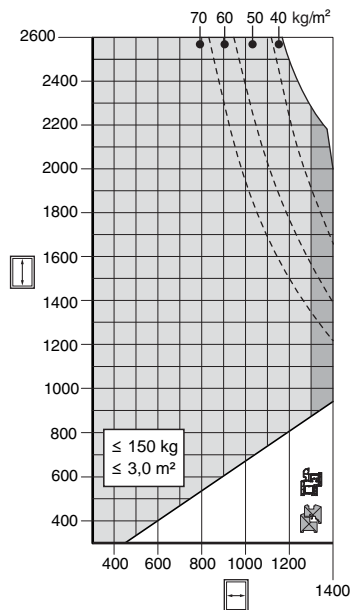
Comfort hardware
Sash weight max. 80 kg



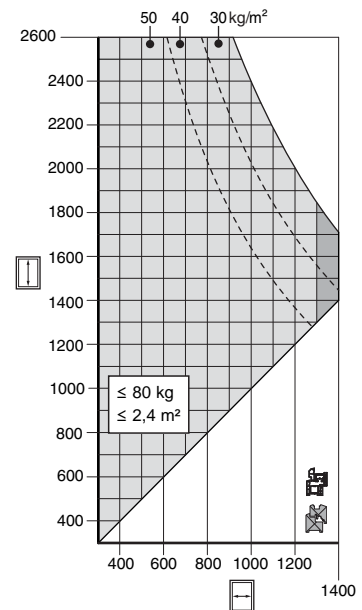
TV + INVISIBLE
Sash weight max. 100 kg or 2.4 m²



MULTI POWER
Sash weight max. 150 kg



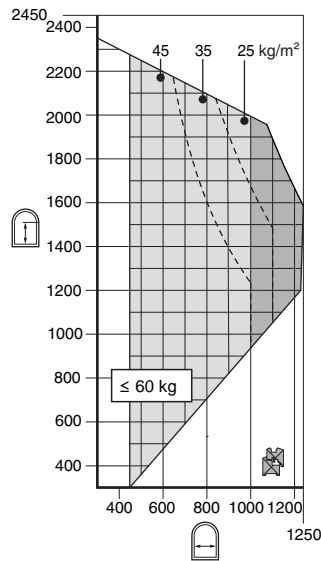
MULTI POWER
Sash weight max. 80 kg





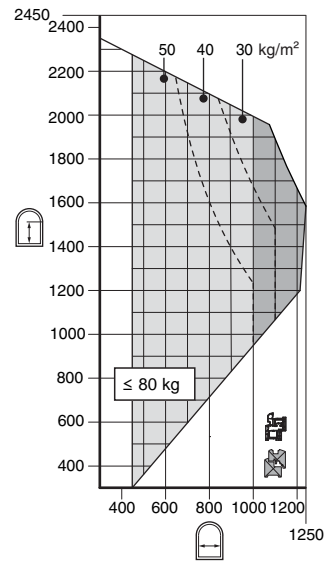
Max. 60 kg sash weight

SRH = start of arch



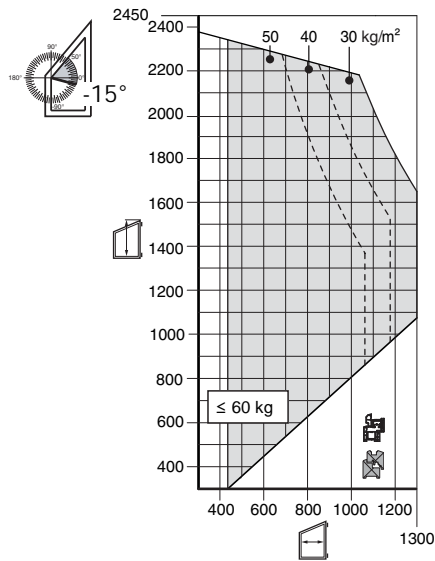
Max. 80 kg sash weight

SRH = start of arch



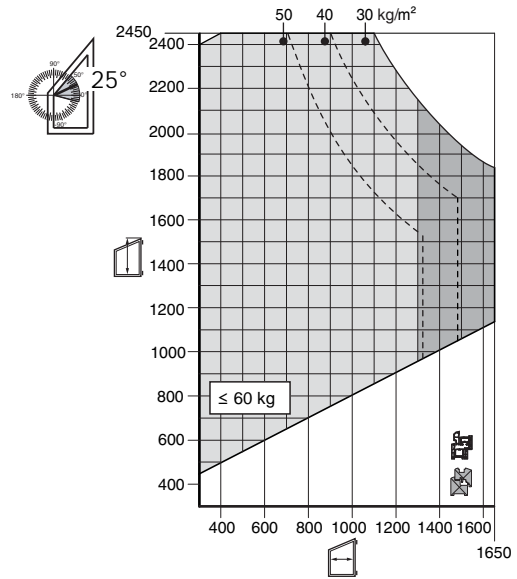
Max. 60 kg sash weight

SRH = refers to max. hinge-sided sash height



Max. 60 kg sash weight

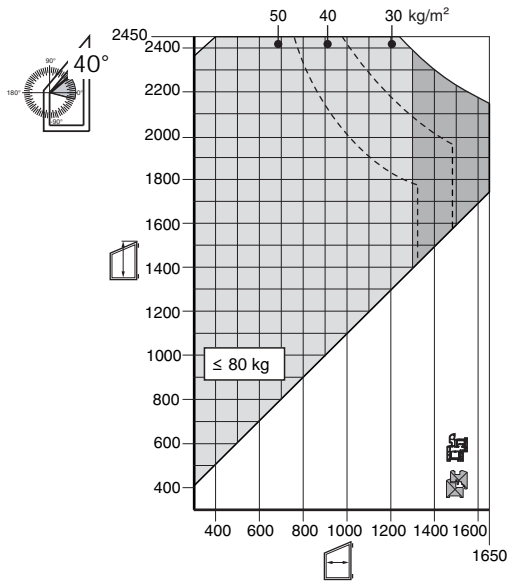
SRH = refers to max. hinge-sided sash height





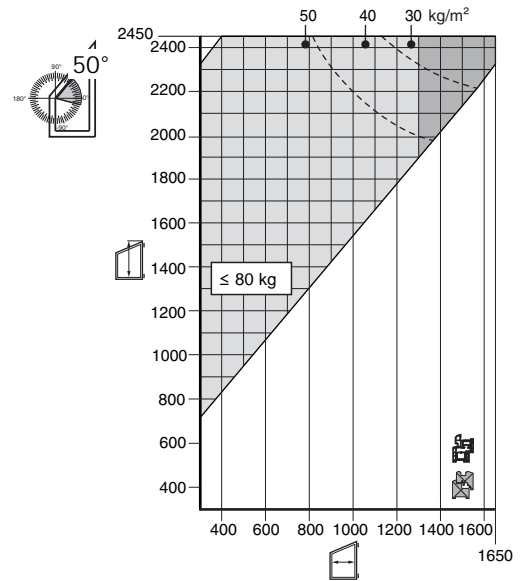
Max. 80 kg sash weight

SRH = refers to max. hinge-sided sash height



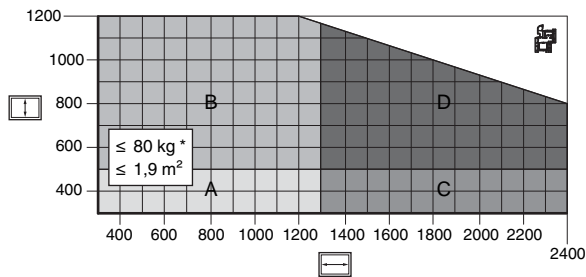
Max. 80 kg sash weight

SRH = refers to max. hinge-sided sash height



Tilt-only windows max. 80 kg sash weight

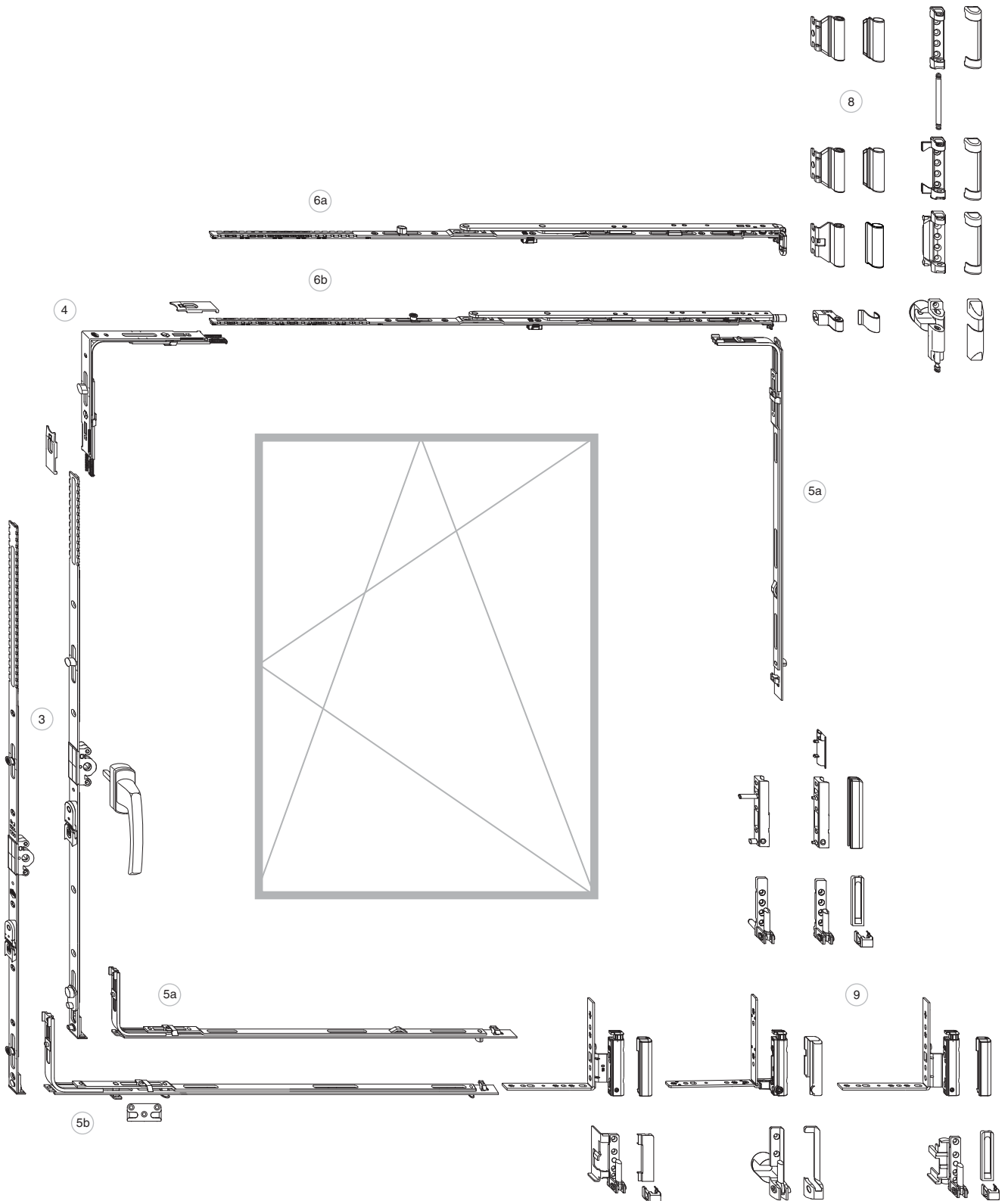
- A - 1 Tilt-Only stay arm + restrictor and cleaning stay size 1
- B - 1 Tilt stay + restrictor and cleaning stay size 2
- C - 2 Tilt stays + restrictor and cleaning stay size 1
- D - 2 Tilt stays + restrictor and cleaning stay size 2



Note: Always observe the application diagram for restrictor and cleaning stays! Download under www.maco.at



2.2 Turn&tilt standard window 1-sashed



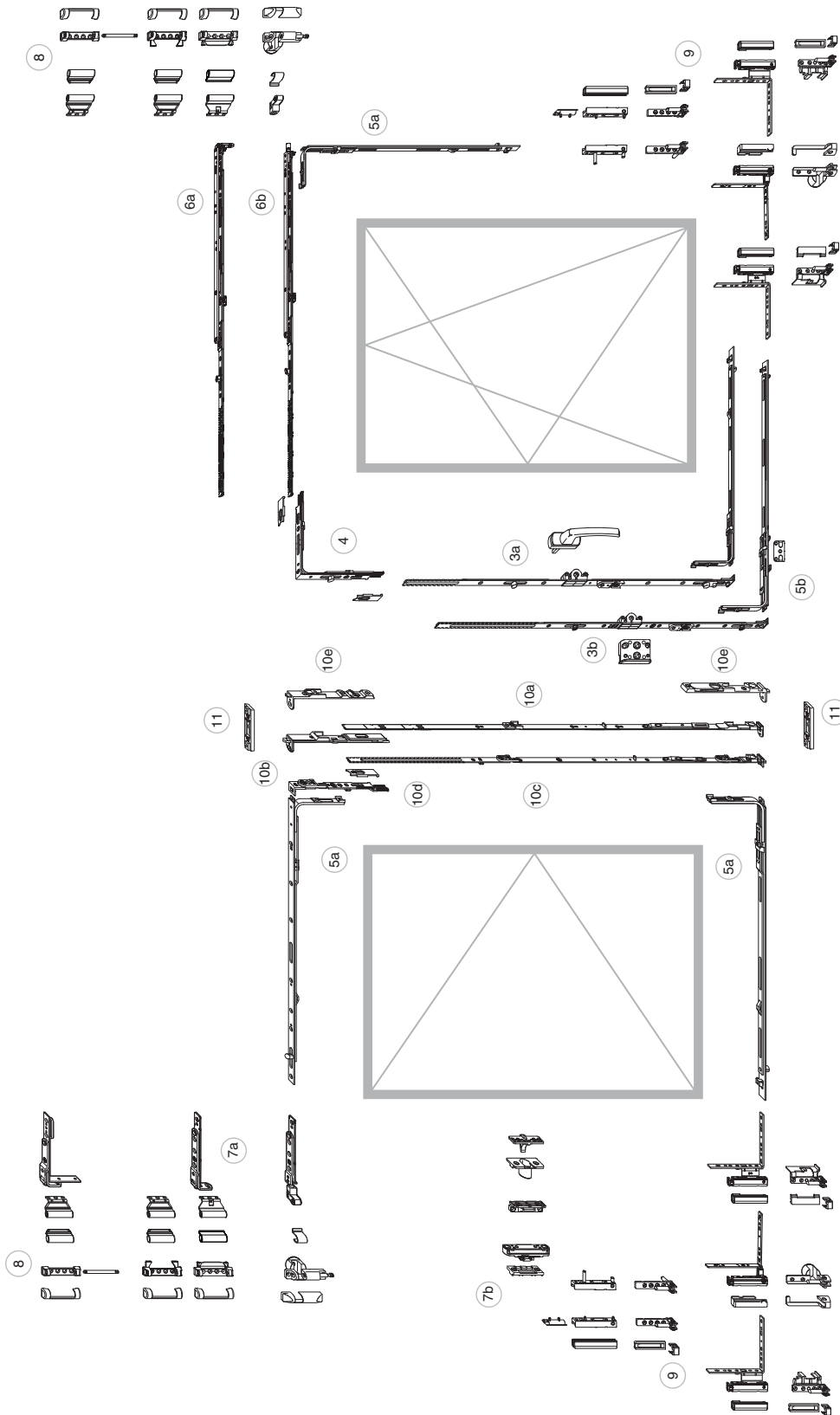


Selection guide			Page
3	3.1	Turn&tilt drive gears	→108
4	4.1	Corner element	→132
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6a	6.1	Rebated scissor stay	→144
6b	6.2.1	Scissor stay i.S. without scissor stay support arm	→147
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186





2.3 Turn&tilt standard window 2-sashed



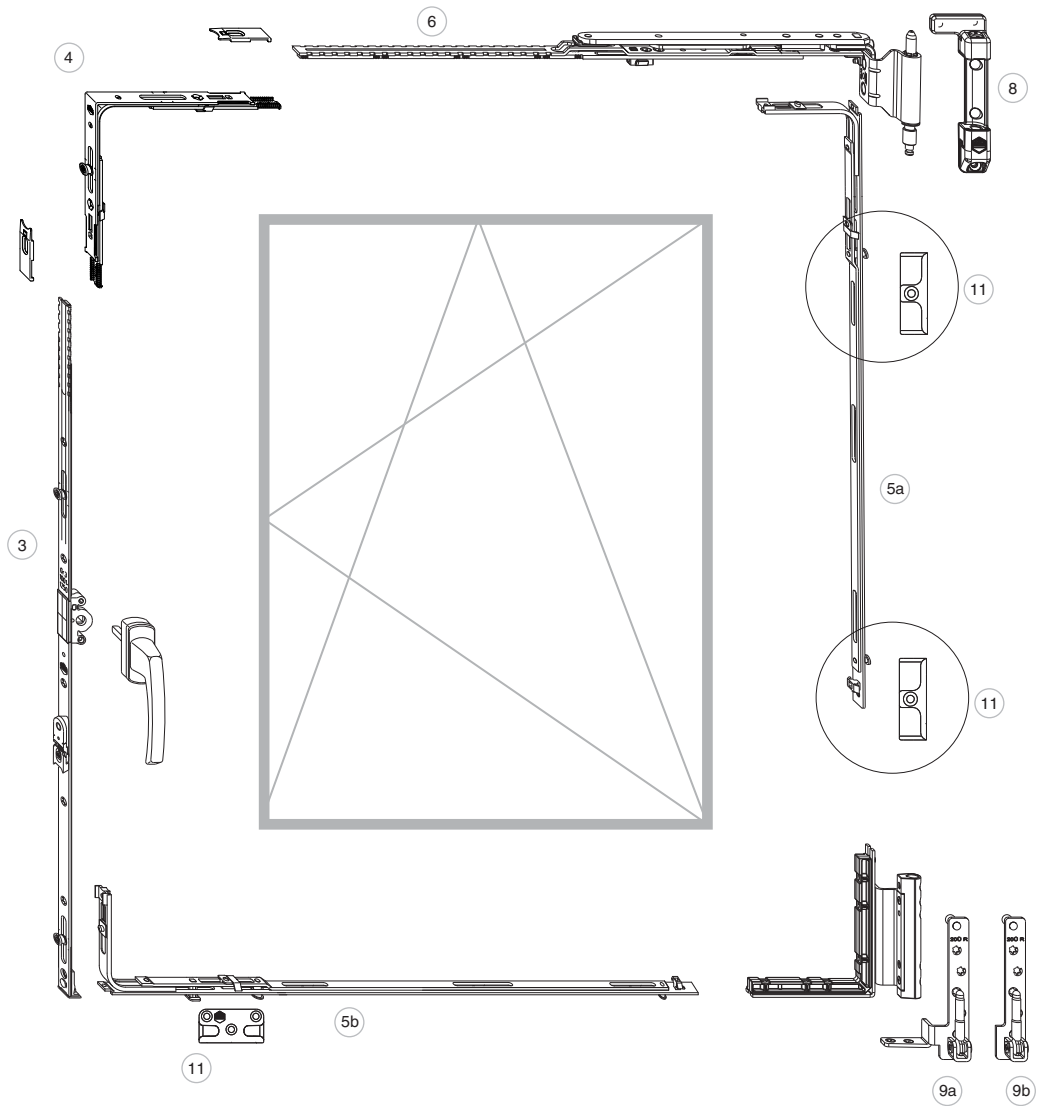


Selection guide			Page
3a	3.1	Turn&tilt drive gears	→108
3b	3.7.4	Intermediate drive gear	→129
4	4	Corner elements	→132
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6a	6.1	Rebated scissor stay	→144
6b	6.2.1	Scissor stay i.S. without scissor stay support arm	→147
7a	7.1	Turn-only hinges	→160
7b	7.9	Compression devices	→170
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186
10a	10.1.1	French casement drive gear for hardware groove	→214
10b	10.1.1.3	End piece for hardware groove	→214
10c	10.1.2	French casement drive gear for Euroroove	→215
10d	10.1.2.8	End pieces for Eurogroove	→217
10e	10.2	Shootbolts	→220
11	11.5.6	Shootbolt striker plates 12 mm air gap flat, 18 mm rebate depth	→231





2.4 MULTI MAMMUT



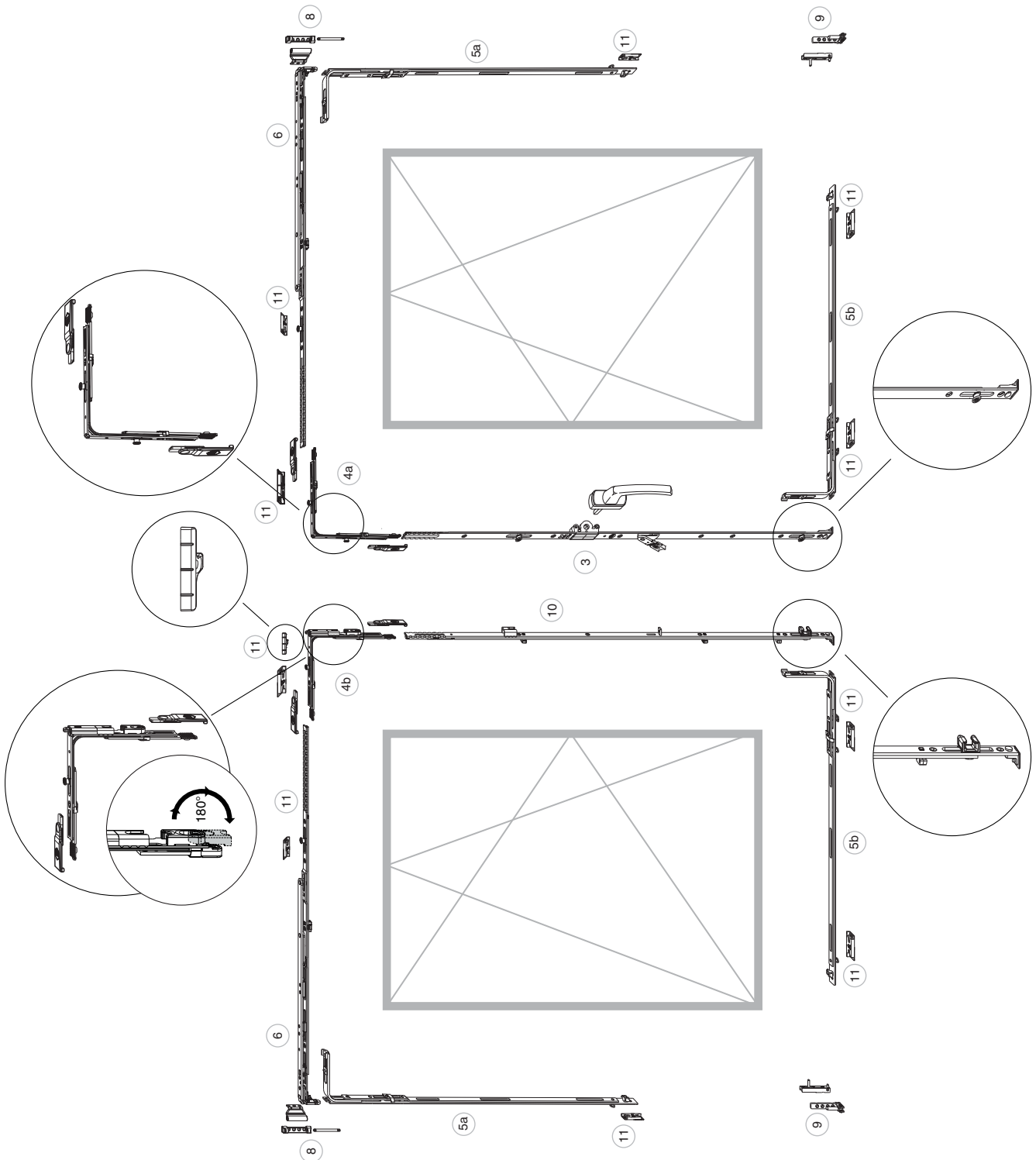


Selection guide			Page
3	3.1	Turn&tilt drive gears	→108
4	4.1	Corner element	→132
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6	6.4	Rebated scissor stay MULTI MAMMUT	→149
8	8.8	Scissor stay hinge MULTI MAMMUT	→180
9a	9.7.1	Pivot post timber MULTI MAMMUT	→198
9b	9.7.2	Pivot post PVC MULTI MAMMUT	→198
11	11	Striker plates	→224





2.5 TWIN-FIT



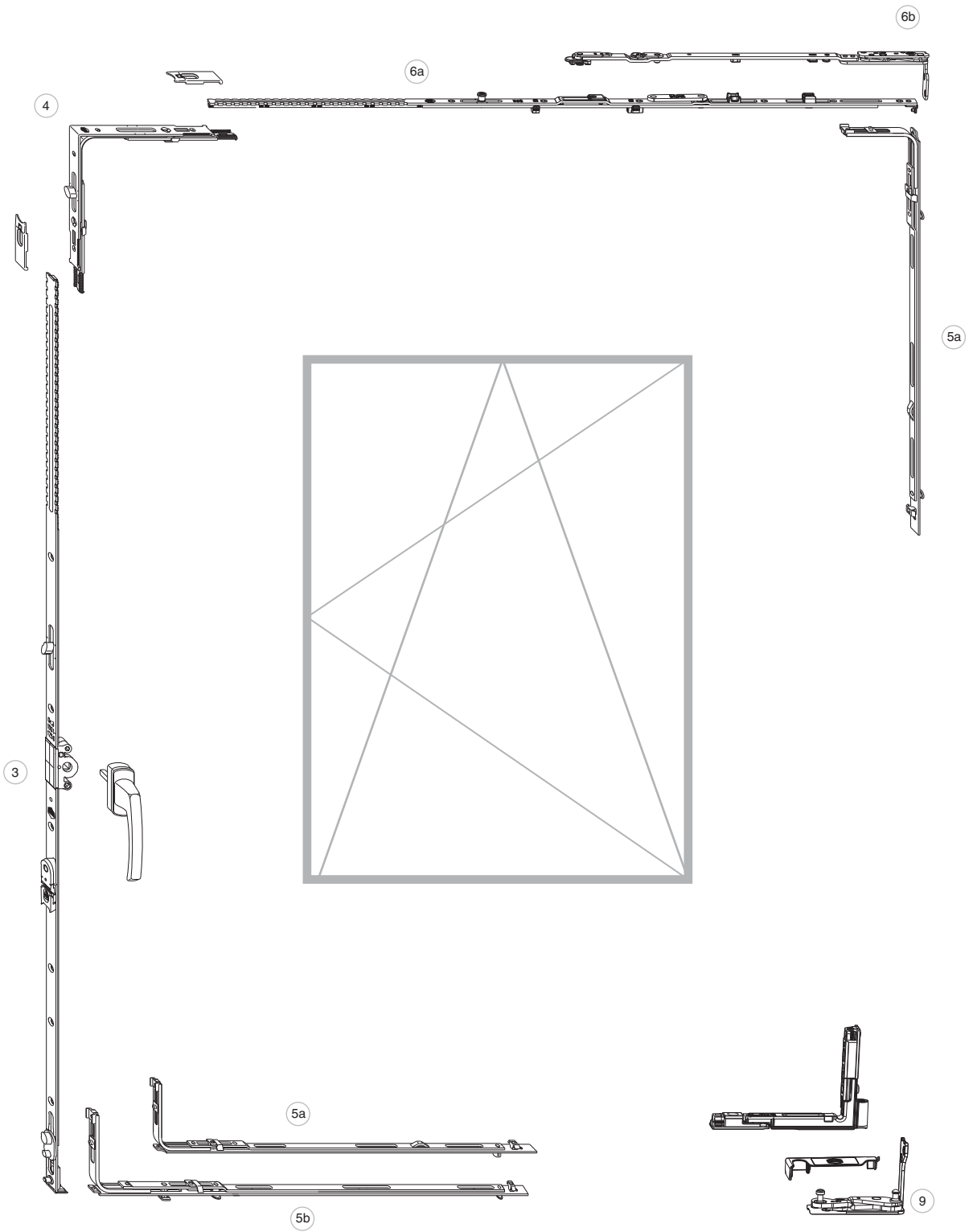


Selection guide			Page
3	3.1	Turn&tilt drive gears	→108
4a	4.1.1	Corner element	→132
4b	4.1.2	Corner element for double tilt	→132
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6	6	Scissor stays	→144
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186
10	10.1.2.6	French casement drive gear for double-tilt	→216
11	11	Striker plates	→224





2.6 MULTI POWER

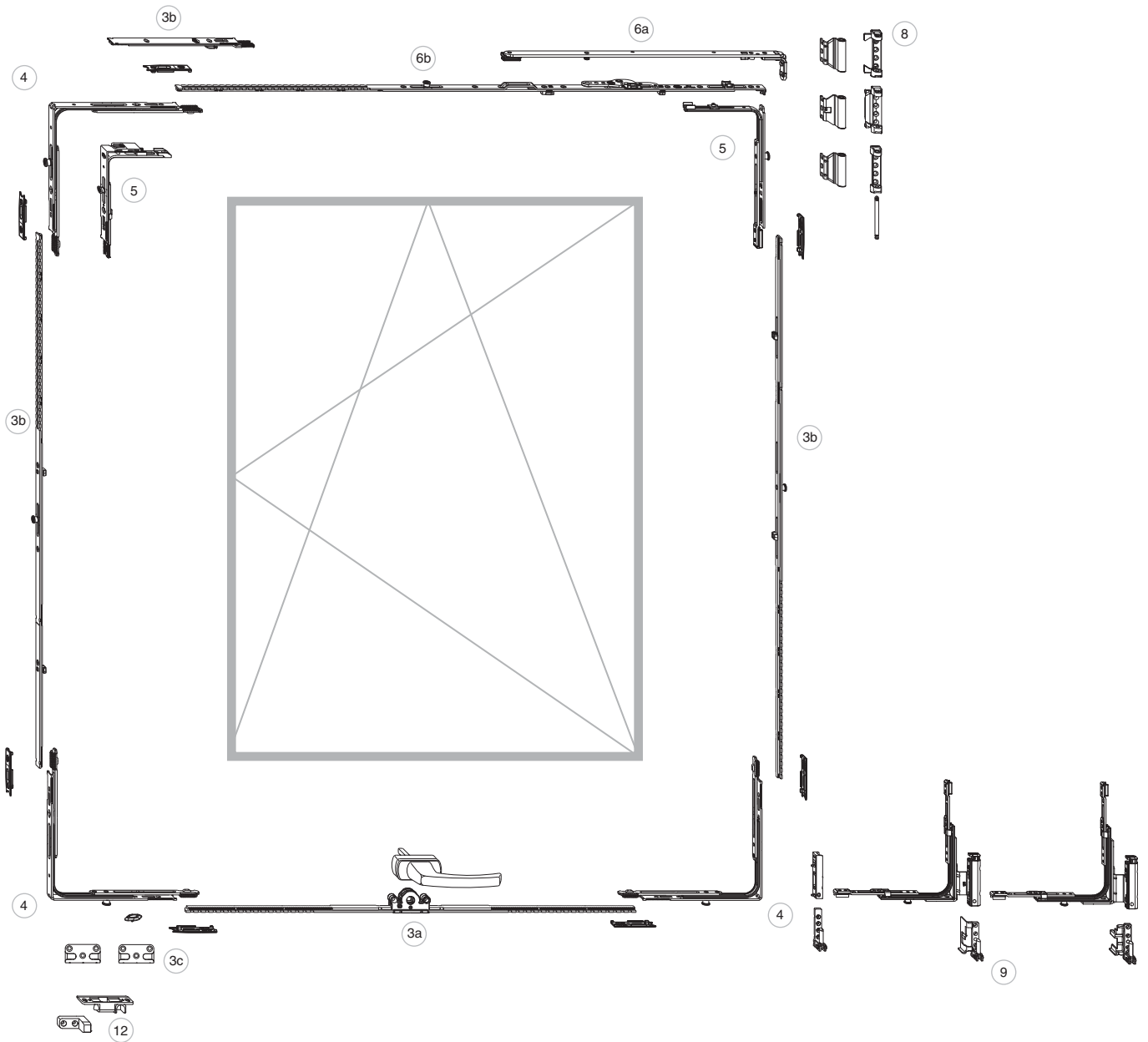




Selection guide			Page
3	3	Drive gears	→108
4	4.1	Corner element	→132
5a	5.1.5	Centre lock i.S. EH	→139
5b	5.2.1	Horizontal tilt lock i.S.	→140
6a	6.7.1	Turn&tilt / tilt-first scissor stay faceplates MULTI POWER	→154
6b	6.11.1	Stabilizing scissor stay	→157
9	9.10	Pivot post MULTI POWER	→202



2.7 Comfort scissor

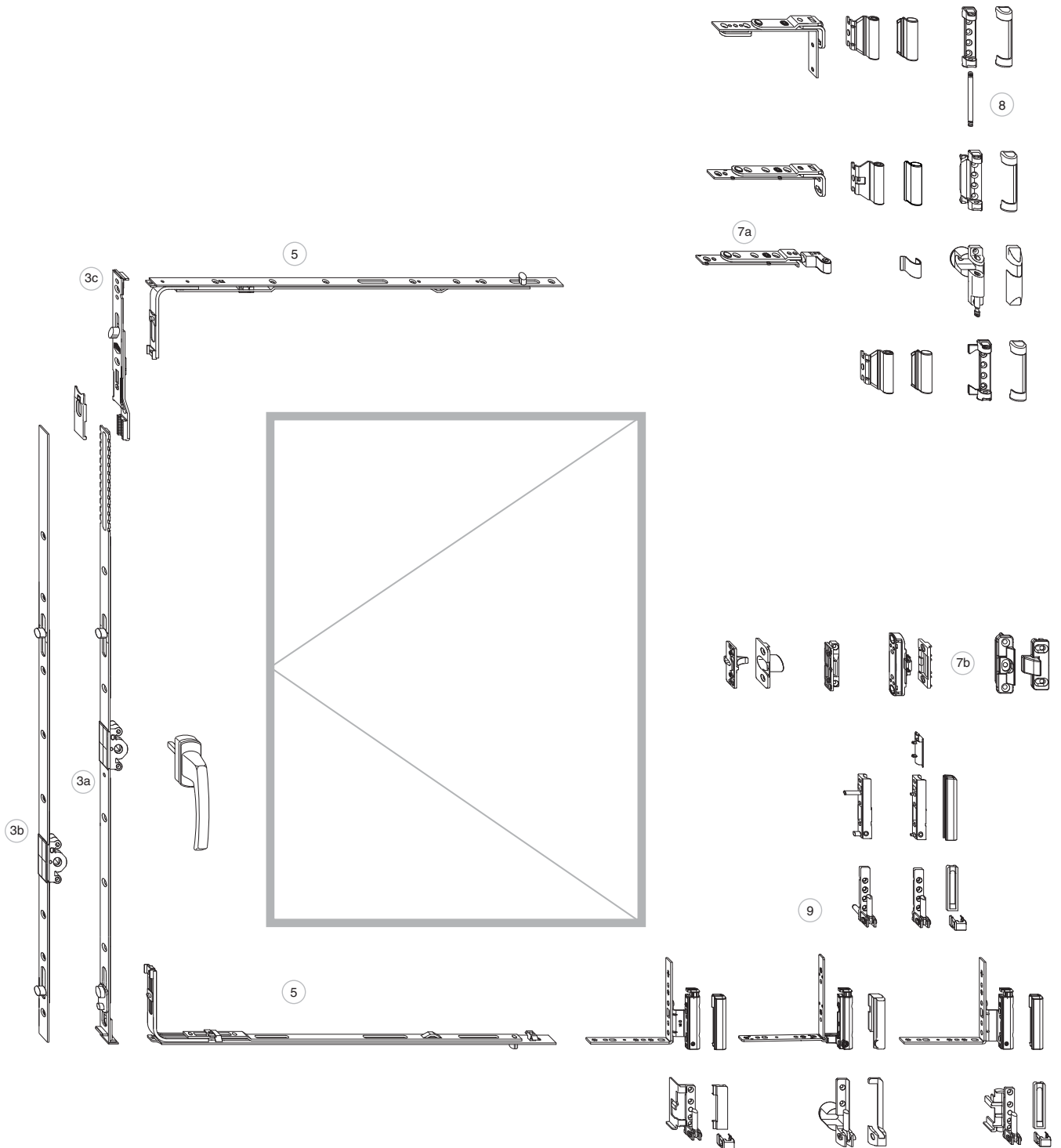




Selection guide		Page
3a	3.2.1.5 Turn-only drive gear BS 15 VHH	→118
3b	3.6 Extension pieces	→128
3c	3.7.3 Run-up block plate	→129
4	4.1.1 Corner element	→132
5	5.4 Corner element	→141
6a	6.3.1 Scissor stay arm for comfort scissor stay	→148
6b	6.3.2 Scissor stay faceplate for i.S. comfort scissors	→148
8	8 Scissor stay hinges	→176
9	9 Pivot posts	→186
12	12.3 Self-catching turn locks	→242



2.8 Turn-only window

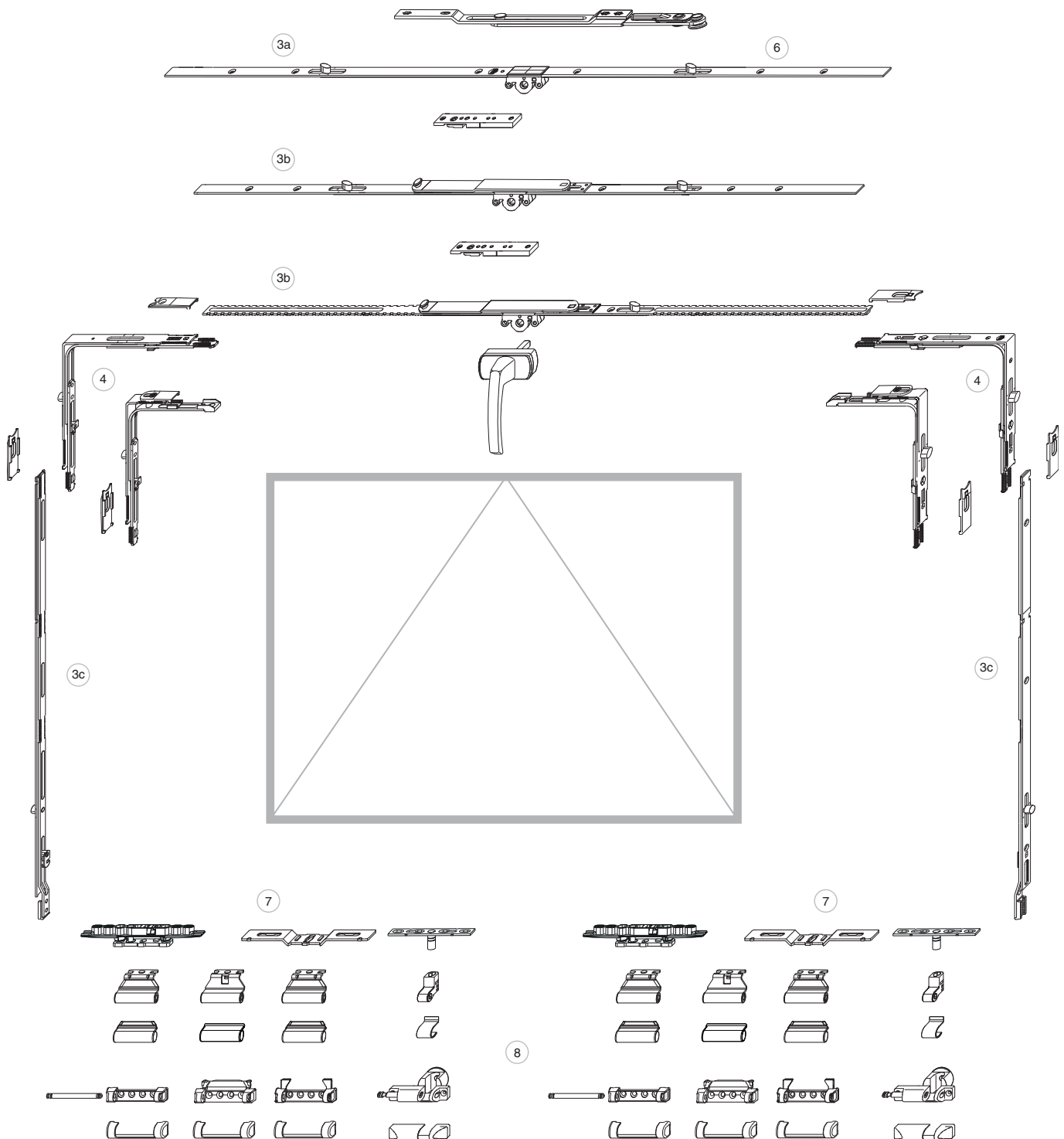




Selection guide			Page
3a	3.2	Turn-only drive gears	→117
3b	3.3	Espagnolettes	→121
3c	3.4	End pieces	→126
5	5.1.1	Centre lock	→138
7a	7.1	Turn-only hinges	→160
7b	7.9	Compression devices	→170
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186



2.9 Tilt-only window



Caution:

For PVC from SRW 1000 mm, use a third tilt-only hinge!

For timber from SRW 1200 mm, use a third tilt-only hinge!

Always comply with the FPKF guideline "Restrictor and cleaning stays for tilt-only sashes and tilt skylights". (www.schlossindustrie.de)

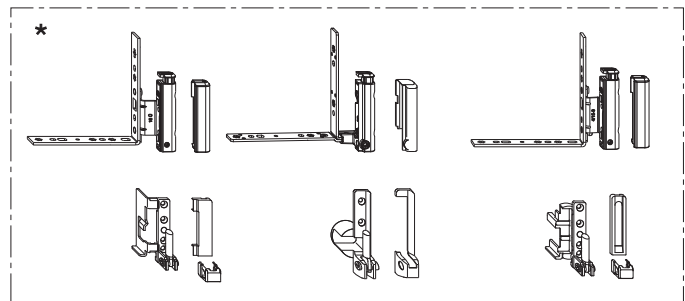
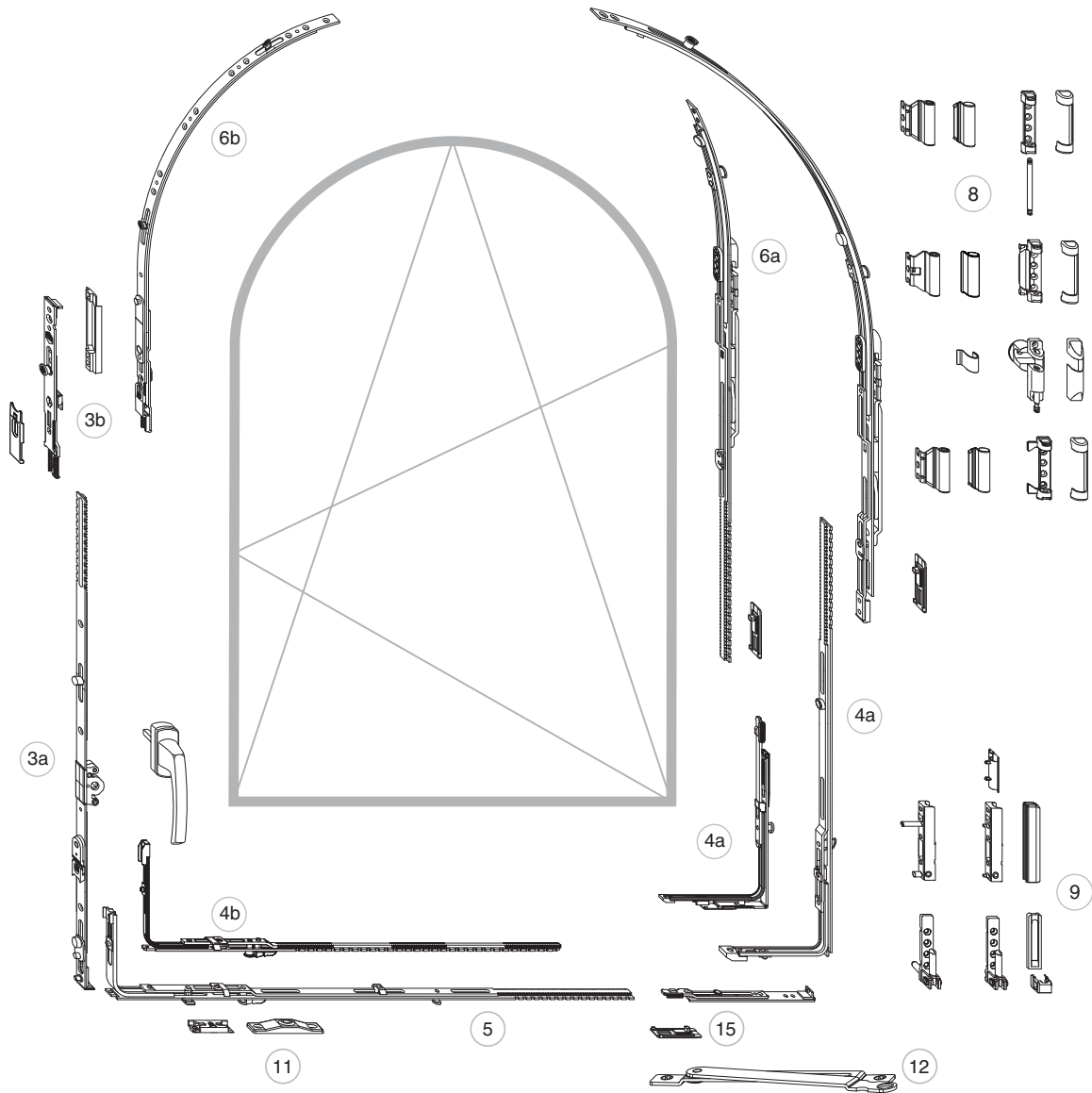
Note: Always observe the application diagram for restrictor and cleaning stays! Download under www.maco.at



Selection guide			Page
3a	3.3	Espagnolettes	→121
3b	3.3.3	Espagnolettes with mounted tilt-only stay arm	→125
3c	3.6	Extension pieces	→128
4	4	Corner elements	→132
6	6.8	Tilt stays	→155
7	7.2	Tilt-only and turn-only hinges	→161
8	8	Scissor stay hinges	→176



2.10 Turn&tilt half round window 1-sashed



Caution:

Use stabilizing scissor stay from SRW 1070 mm!

Application diagram for windows up to max. 80 kg sash weight!

***Caution:**

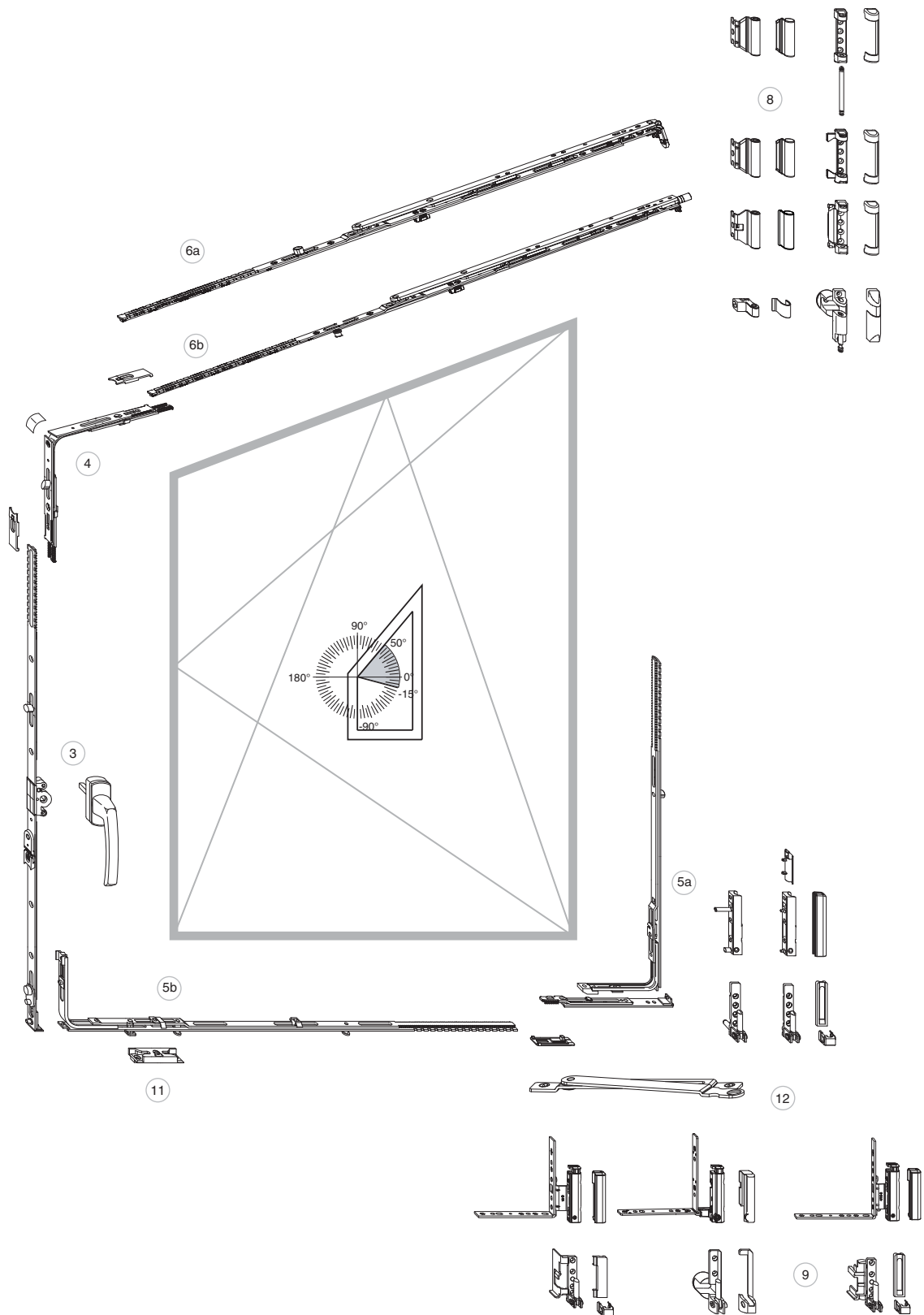
Do not use with corner element B!



Selection guide			Page
3a	3	Drive gears	→108
3b	3.4	End pieces	→126
4a	4.3	Corner element for half round and pitched window	→134
4b	4.4	Corner element for half round windows	→134
5	5.2.2	Horizontal tilt lock for half round and pitched window	→140
6a	6.1.7	Rebated scissor stays for half round windows i.S. 9 mm and 13 mm offset	→145
6b	6.11.1	Stabilizing scissor stay	→157
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186
12	12.11	Turn restrictors	→245
15	15.1	Basic pack for half round and pitched windows	→268



2.11 Turn&tilt pitched window 1-sashed



Caution:

Application diagram for windows up to max. 80 kg sash weight!

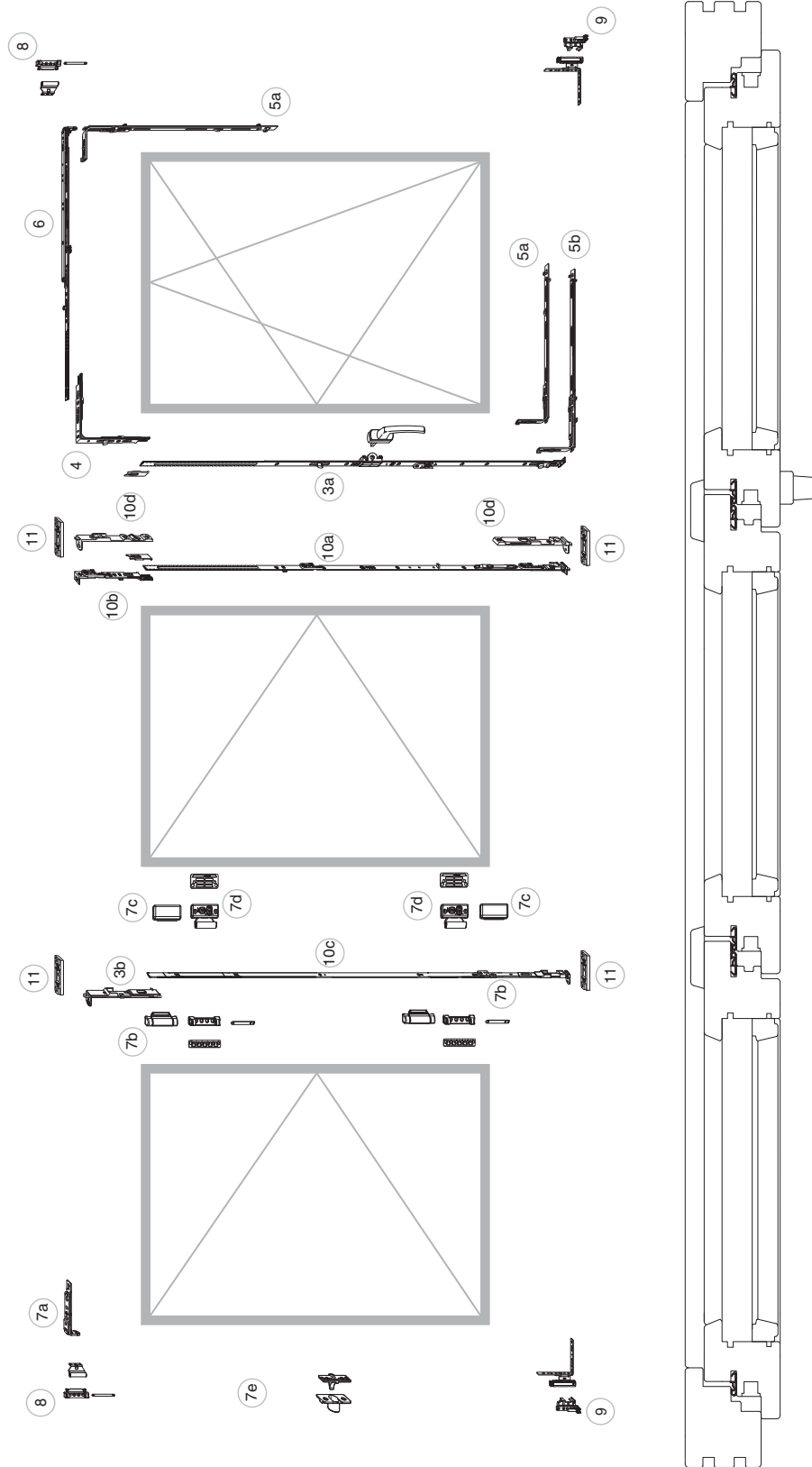


Selection guide			Page
3	3	Drive gears	→108
4	4.2	Corner elements for pitched window	→134
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6a	6.1.5	Rebated scissor stay for pitched window	→145
6b	6.2.1	Scissor stay i.S. without scissor stay support arm	→147
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186
11	11	Striker plates	→224
12	12.11	Turn restrictors	→245





2.12 Multi-sashed window with multi-sash centre frame hinges



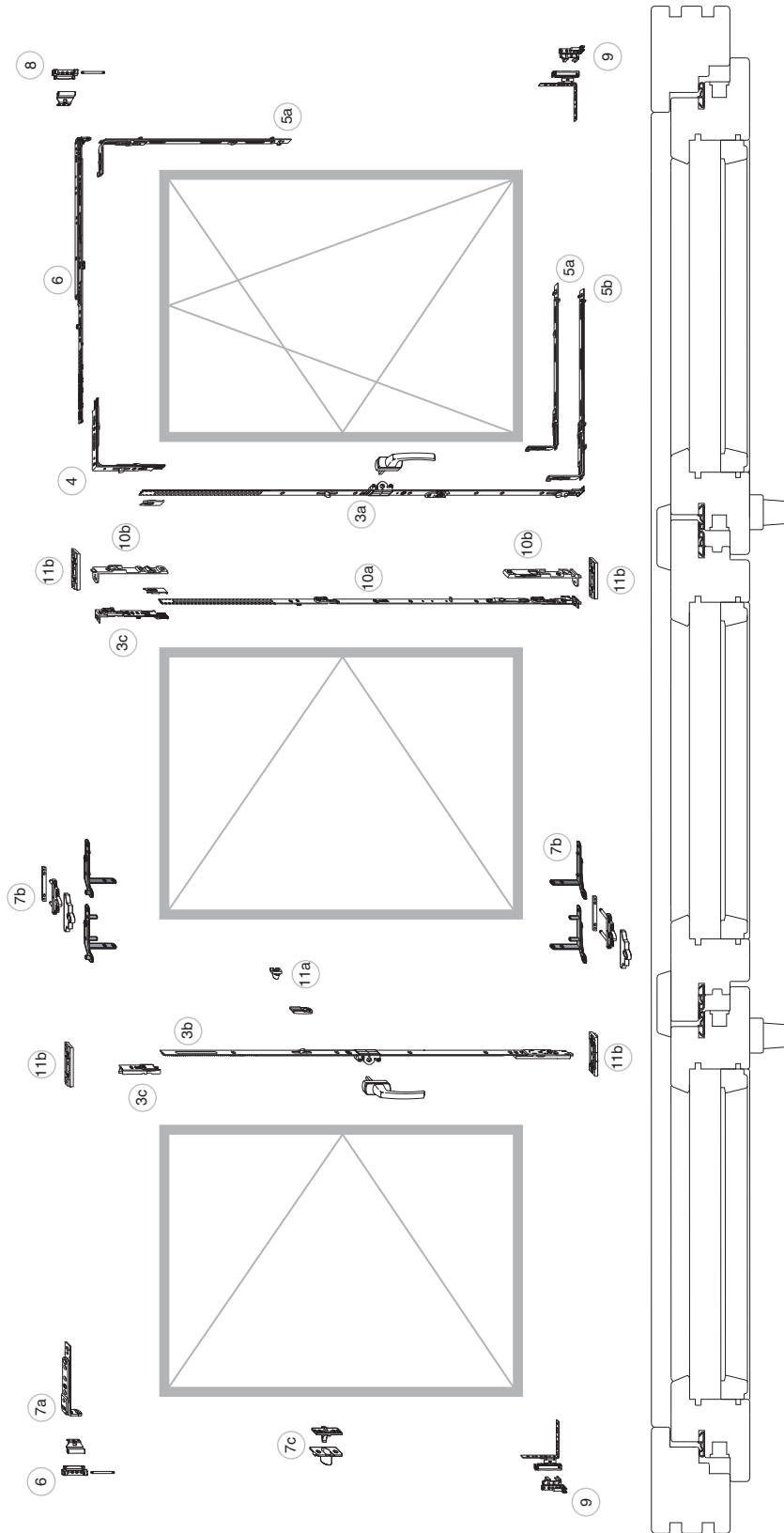


Selection guide			Page
3a	3.1	Turn&tilt drive gears	→108
3b	3.4	End pieces	→126
4	4.1	Corner element	→132
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6	6.1	Rebated scissor stay	→144
7a	7.1	Turn-only hinges	→160
7b	7.8.1	Multi-sash centre frame hinge bearing	→168
7c	7.8.3	Multi-sash centre sash hinge	→168
7d	7.8.4	Packers for multi-sash centre sash hinge	→169
7e	7.9	Compression devices	→170
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186
10a	10.1	French casement drive gears	→214
10b	10.1.2.8	End pieces for Eurogroove	→217
10c	10.1.4	French casement drive gear 180°	→219
10d	10.2	Shootbolts	→220
11	11.1.1.7	Shootbolt striker plates for 4 mm air gap	→225





2.13 Multi-sashed window, turn-only, turn-only, turn&tilt

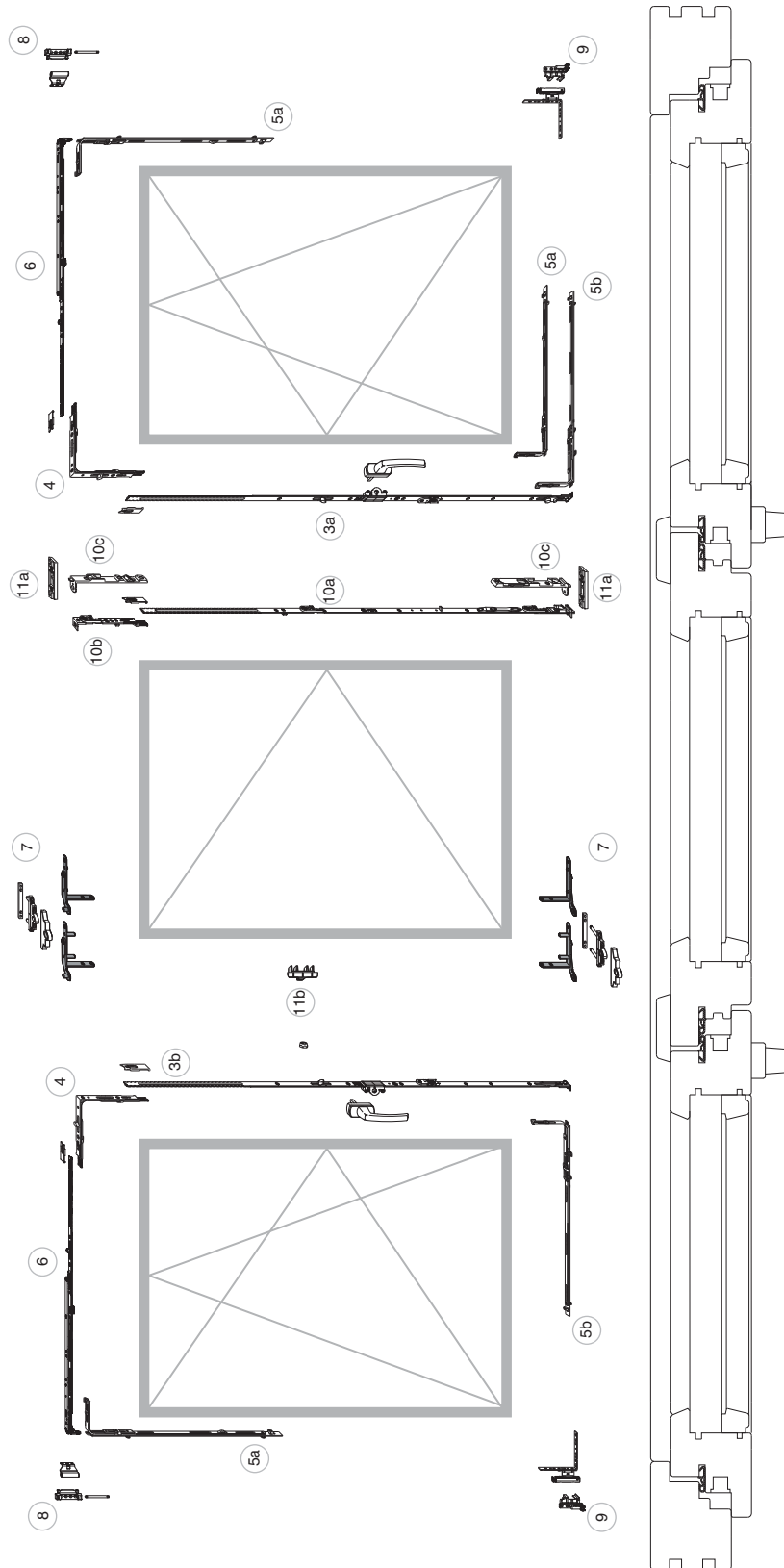




Selection guide			Page
3a	3.1	Turn&tilt drive gears	→108
3b	3.3	Espagnolettes	→121
3c	3.4	End pieces	→126
4	4.1	Corner element	→132
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6	6	Scissor stays	→144
7a	7.1	Turn-only hinges	→160
7b	7.7.1	Turn-only hinge 3-sashed	→167
7c	7.9	Compression devices	→170
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186
10a	10.1	French casement drive gears	→214
10b	10.2	Shootbolts	→220
11a	11.1.1.7	Shootbolt striker plates for 4 mm air gap	→225
11b	11.10	Striker plates for 3-sashed windows	→238



2.14 Multi-sashed window, turn&tilt, turn-only, turn&tilt

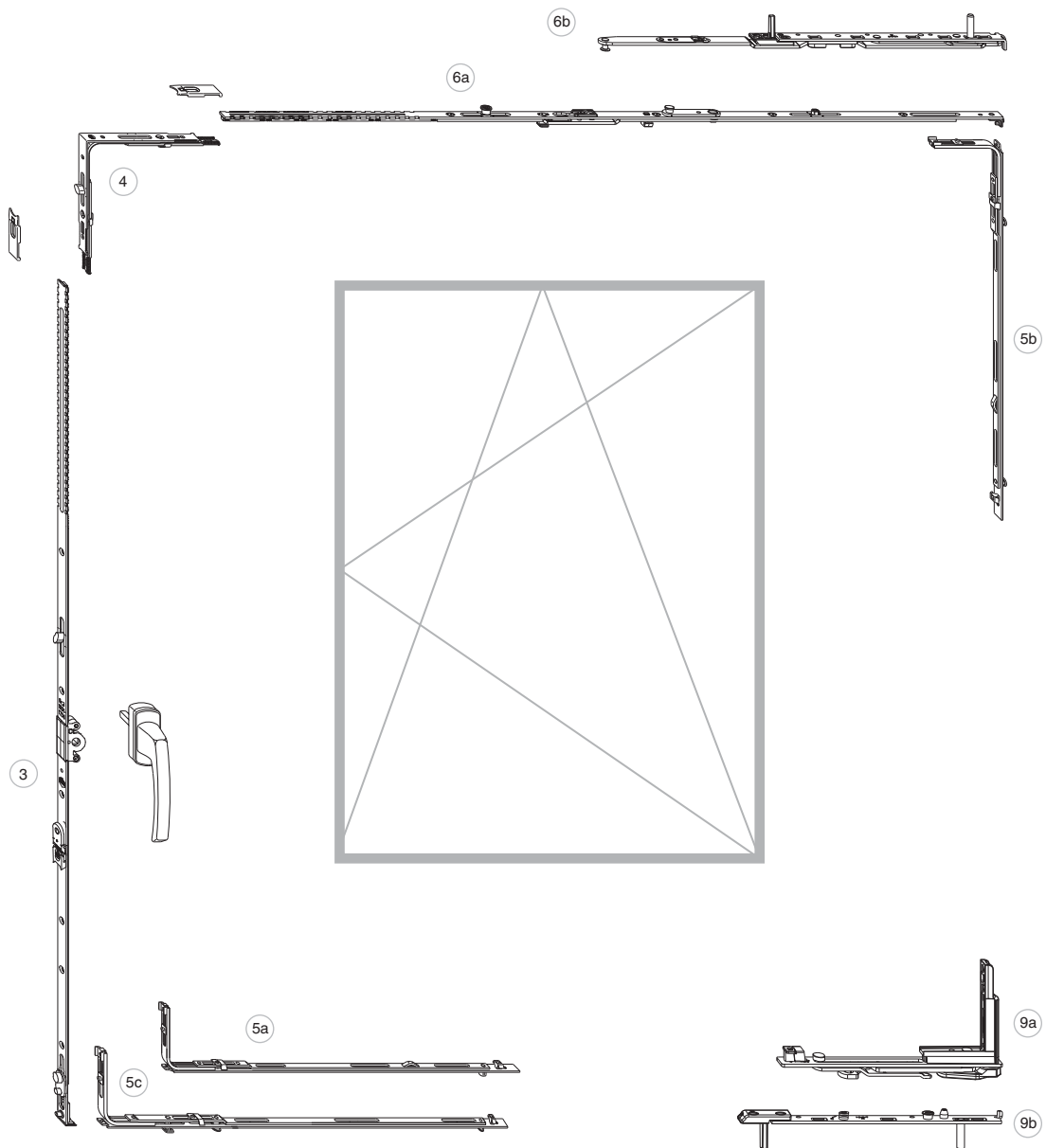




Selection guide			Page
3a	3.1	Turn&tilt drive gears	→108
3b	3.2	Turn-only drive gears	→117
4	4	Corner elements	→132
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6	6.1	Rebated scissor stay	→144
7	7.7.1	Turn-only hinge 3-sashed	→167
8	8	Scissor stay hinges	→176
9	9	Pivot posts	→186
10a	10.1	French casement drive gears	→214
10b	10.1.1.3	End piece for hardware groove	→214
10c	10.2	Shootbolts	→220
11a	11.1.1.7	Shootbolt striker plates for 4 mm air gap	→225
11b	11.10	Striker plates for 3-sashed windows	→238



2.15 Fully concealed drive gears INVISIBLE



Caution:

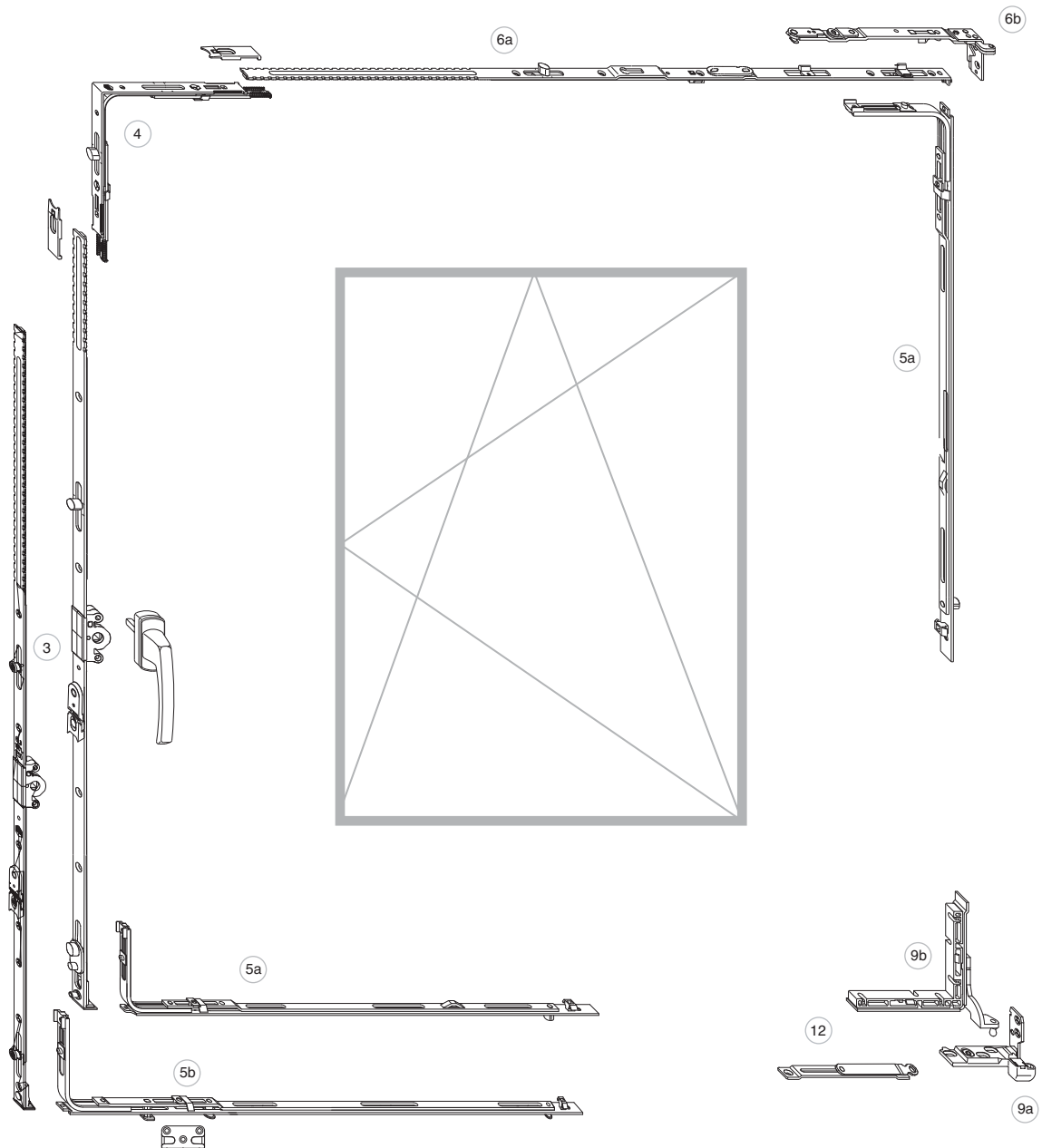
For hardware compilation for turn-only, 2-sashed, 3-sashed and tilt-only windows see installation instructions!



Selection guide			Page
3	3	Drive gears	→108
4	4	Corner elements	→132
5a	5.1	Centre locks	→138
5b	5.1.5	Centre lock i.S. EH	→139
5c	5.2	Horizontal tilt locks	→140
6a	6.6.1	T&T / tilt-first scissor stay faceplates INVISIBLE	→152
6b	6.6.2	T&T scissor stay arms with hinge INVISIBLE	→152
9a	9.9.1	Pivot posts INVISIBLE	→201
9b	9.9.2	Corner support INVISIBLE	→201



2.16 Partially concealed drive gears



Caution:

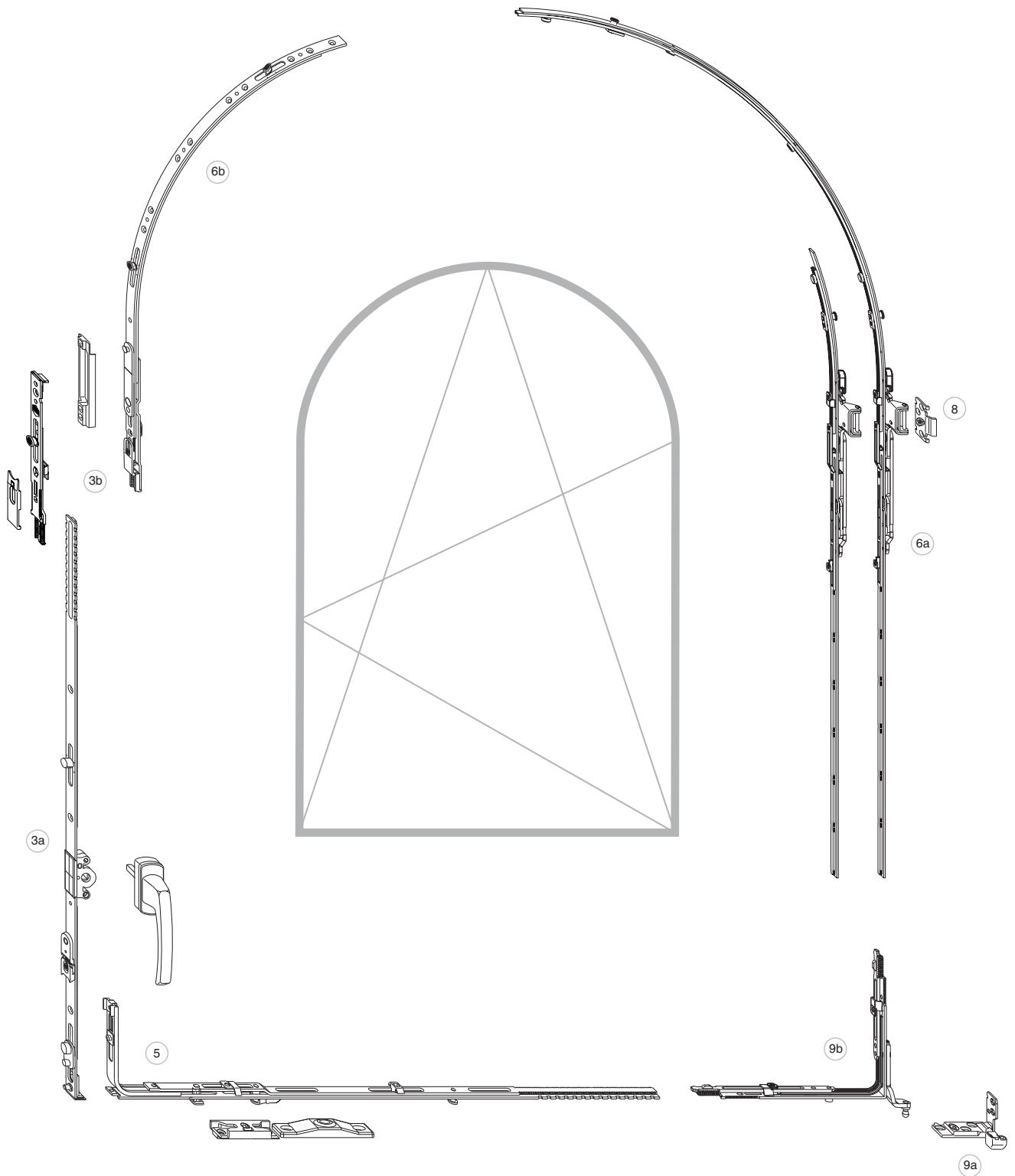
Application diagram for windows up to max. 100 kg sash weight!



Selection guide			Page
3	3	Drive gears	→108
4	4	Corner elements	→132
5a	5.1	Centre locks	→138
5b	5.2	Horizontal tilt locks	→140
6a	6.5.1	Scissor stay faceplate TV	→151
6b	6.5.2	Scissor stay arm TV	→151
9a	9.8	Pivot post TV	→200
9b	9.8.2	Corner support TV	→200
12	12.11	Turn restrictors	→245



2.17 Partially concealed drive gears for half round window



Caution:

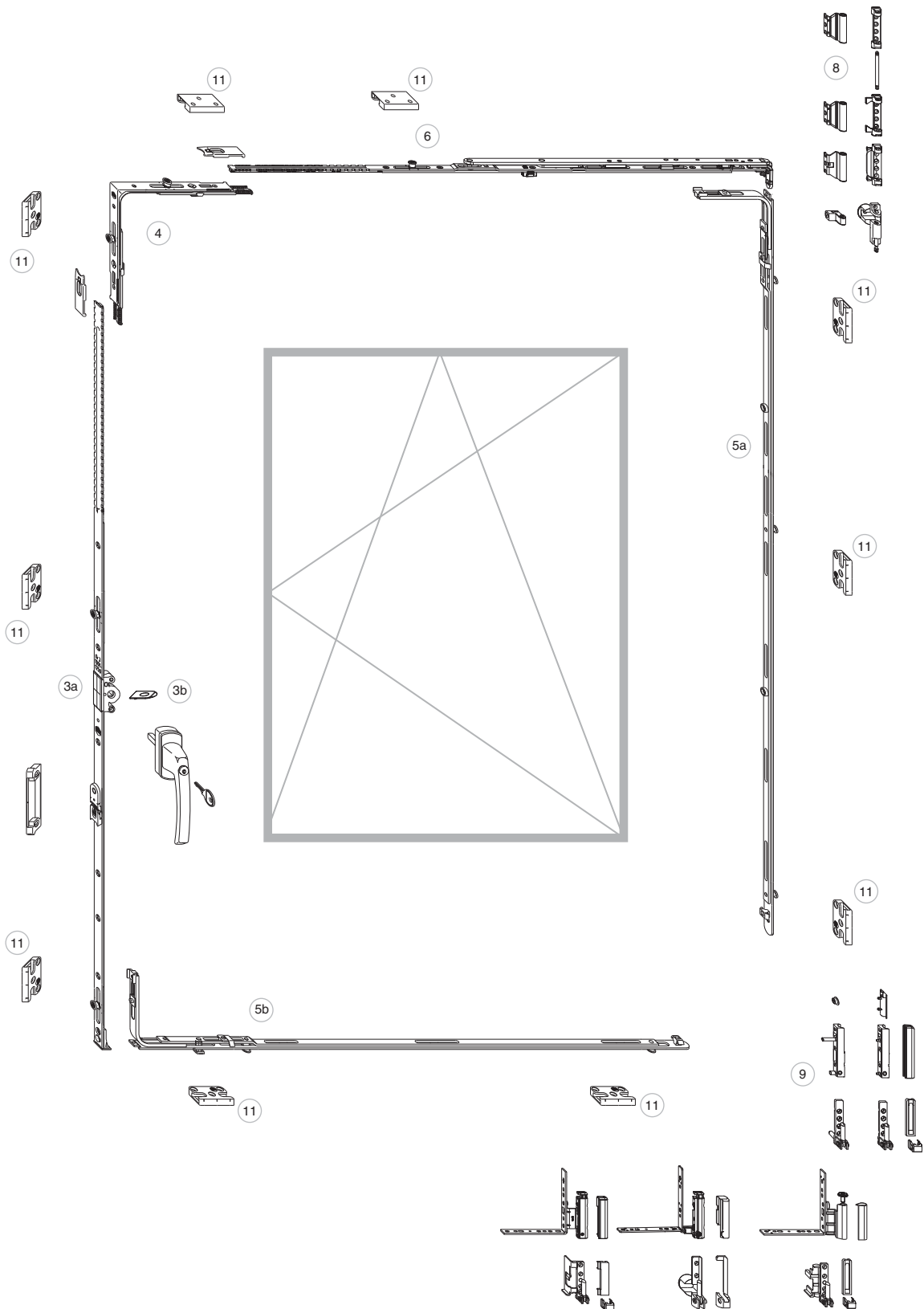
Application diagram for windows up to max. 60 kg sash weight!



Selection guide			Page
3a	3.1	Turn&tilt drive gears	→108
3b	3.4.2	End piece 180°	→126
5	5.2.2	Horizontal tilt lock for half round and pitched window	→140
6a	6.5.3	Rebated scissor stay i.S. for half round window	→151
6b	6.11.1	Stabilizing scissor stay	→157
8	8.9	Scissor stay hinge TV for half round window	→180
9a	9.8.1	Pivot post TV timber	→200
9b	9.8.3	Corner support for half round window TV	→200



2.18 Turn&tilt rectangular window EH (RC2) 1-sashed

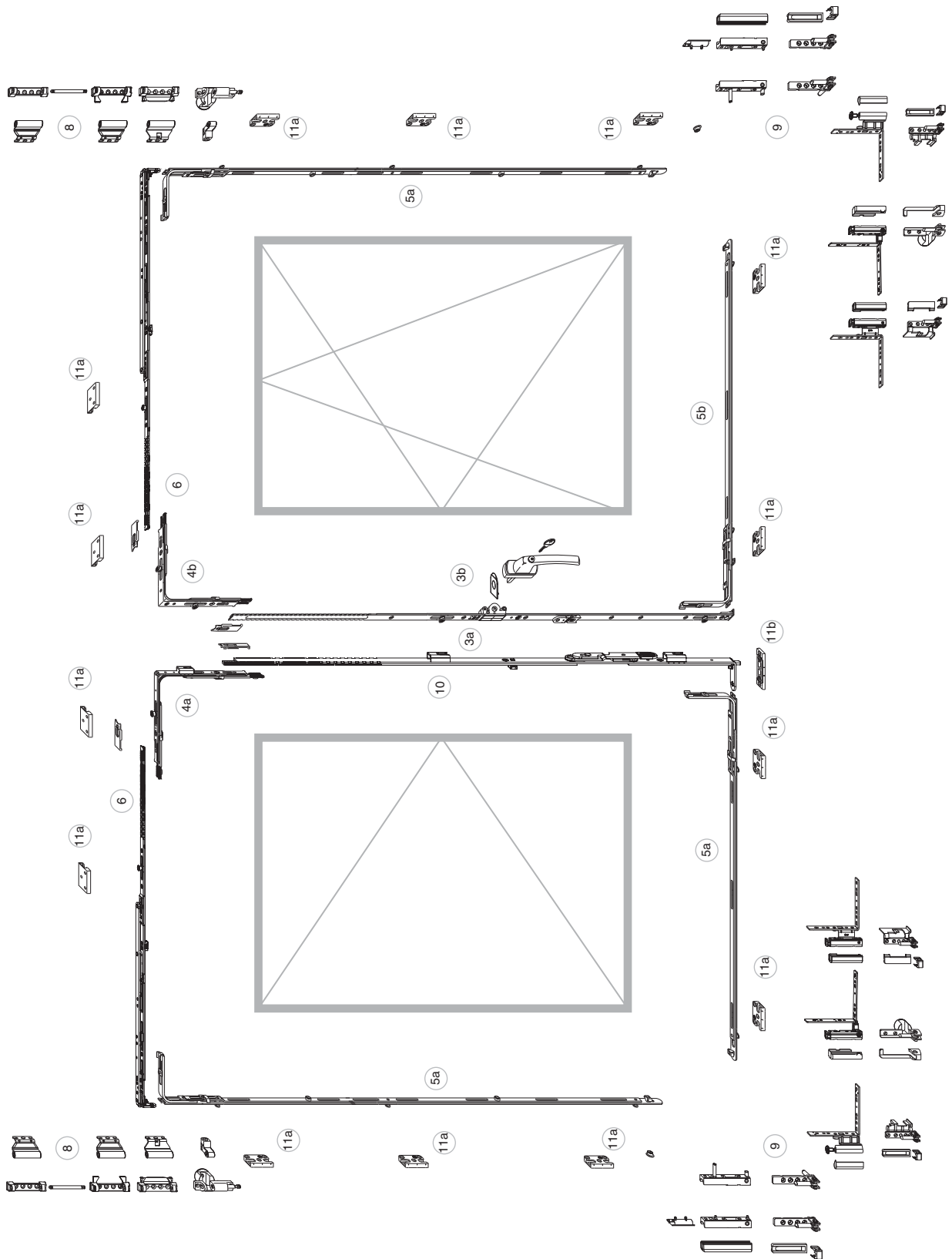




Selection guide		Page
3a	3.1.1.5 Turn&tilt drive gear BS 15 FHH i.S. EH	→109
3b	3.7.6 Anti drill plate for drive gear	→130
4	4.1.3 Corner element i.S.	→133
5a	5.1.5 Centre lock i.S. EH	→139
5b	5.2.1 Horizontal tilt lock i.S.	→140
6	6.1.2 Rebated scissor stay i.S.	→144
8	8 Scissor stay hinges	→176
9	9 Pivot posts	→186
11	11.5.4 Striker plates 12 mm air gap flat i.S. 18 mm rebate depth	→231



2.19 Turn&tilt rectangular window EH (RC2) 2-sashed

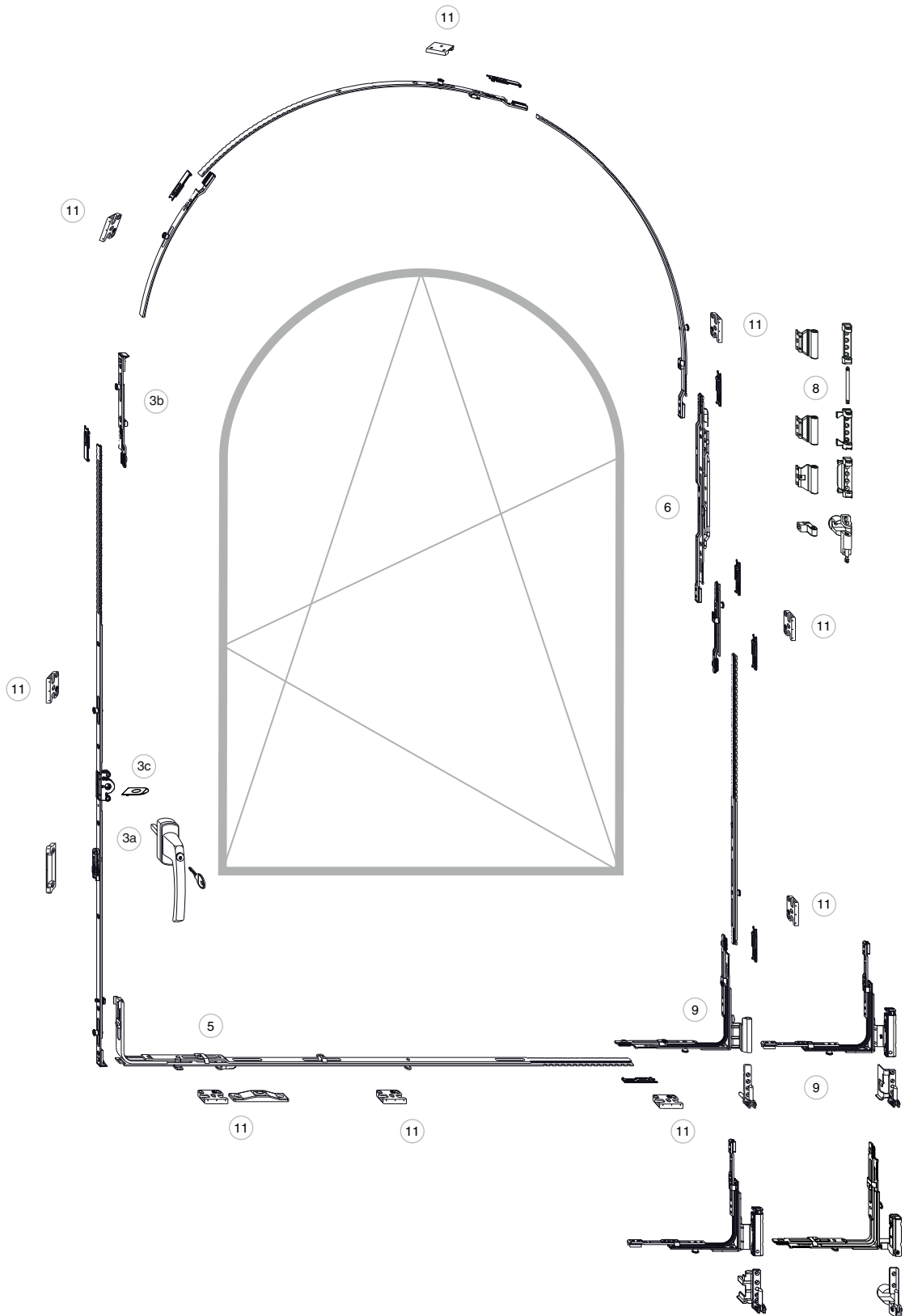




Selection guide		Page
3a	3.1.1.5 Turn&tilt drive gear BS 15 FHH i.S. EH	→109
3b	3.7.6 Anti drill plate for drive gear	→130
4a	4.1.1 Corner element	→132
4b	4.1.3 Corner element i.S.	→133
5a	5.1.5 Centre lock i.S. EH	→139
5b	5.2.1 Horizontal tilt lock i.S.	→140
6	6.1.2 Rebated scissor stay i.S.	→144
8	8 Scissor stay hinges	→176
9	9 Pivot posts	→186
10	10.1.2.4 French casement drive gear with mounted striker plate i.S.	→216
11a	11.5.4 Striker plates 12 mm air gap flat i.S. 18 mm rebate depth	→231
11b	11.5.6 Shootbolt striker plates 12 mm air gap flat, 18 mm rebate depth	→231



2.20 Turn&tilt half round window EH (RC2) 1-sashed

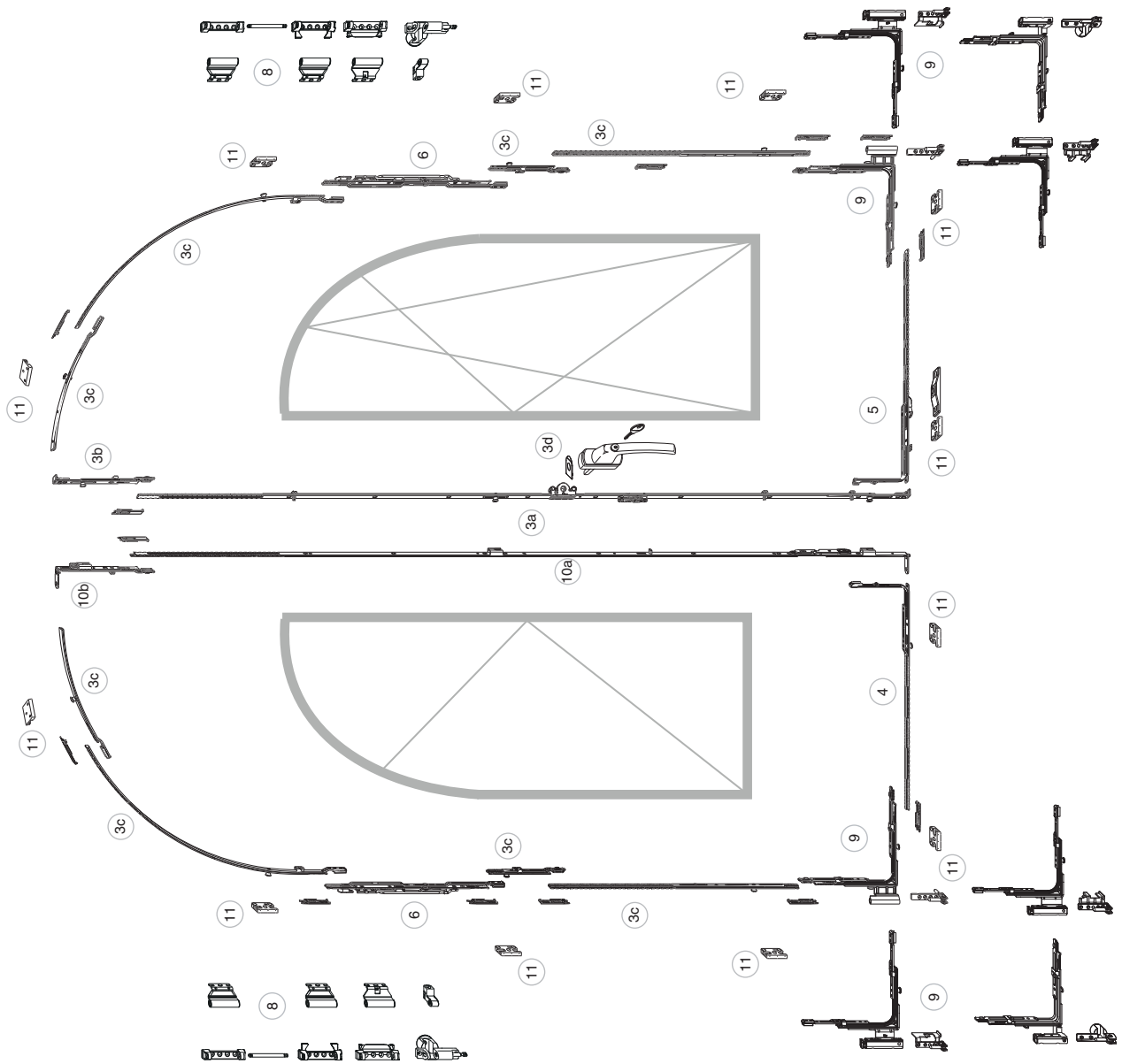




Selection guide		Page
3a	3.1.1.5 Turn&tilt drive gear BS 15 FHH i.S. EH	→109
3b	3.4 End pieces	→126
3c	3.7.6 Anti drill plate for drive gear	→130
5	5.2 Horizontal tilt locks	→140
6	6.1.7 Rebated scissor stays for half round windows i.S. 9 mm and 13 mm offset	→145
8	8 Scissor stay hinges	→176
9	9 Pivot posts	→186
11	11.5.4 Striker plates 12 mm air gap flat i.S. 18 mm rebate depth	→231



2.21 Turn&tilt half round window EH (RC2) 2-sashed

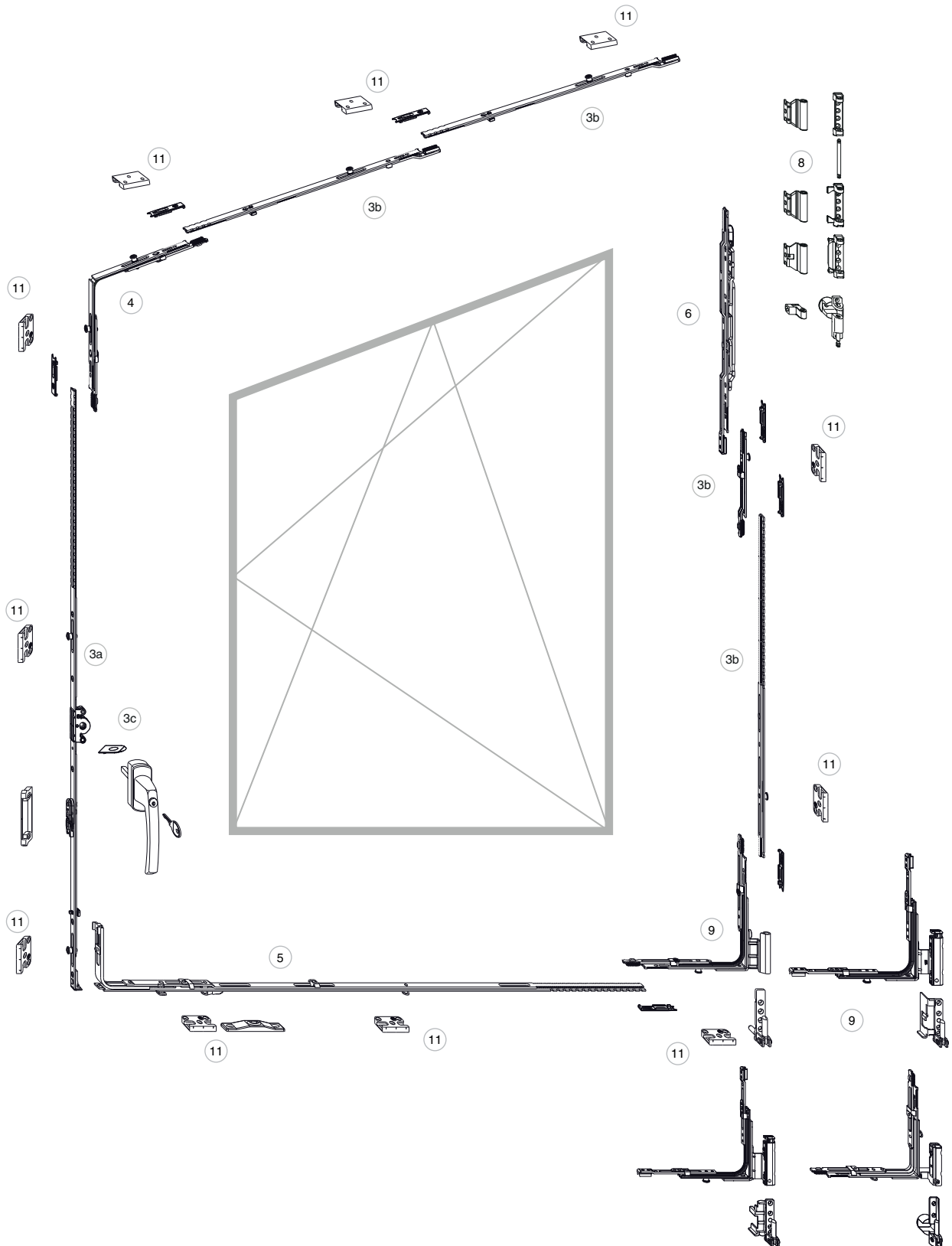




Selection guide		Page
3a	3.1.1.5 Turn&tilt drive gear BS 15 FHH i.S. EH	→109
3b	3.4 End pieces	→126
3c	3.6 Extension pieces	→128
3d	3.7.6 Anti drill plate for drive gear	→130
4	4.4 Corner element for half round windows	→134
5	5.2 Horizontal tilt locks	→140
6	6.1.7 Rebated scissor stays for half round windows i.S. 9 mm and 13 mm offset	→145
8	8 Scissor stay hinges	→176
9	9 Pivot posts	→186
10a	10.1.2.4 French casement drive gear with mounted striker plate i.S.	→216
10b	10.1.2.8 End pieces for Eurogroove	→217
11	11.5.4 Striker plates 12 mm air gap flat i.S. 18 mm rebate depth	→231



2.22 Turn&tilt pitched window EH (RC2) 1-sashed

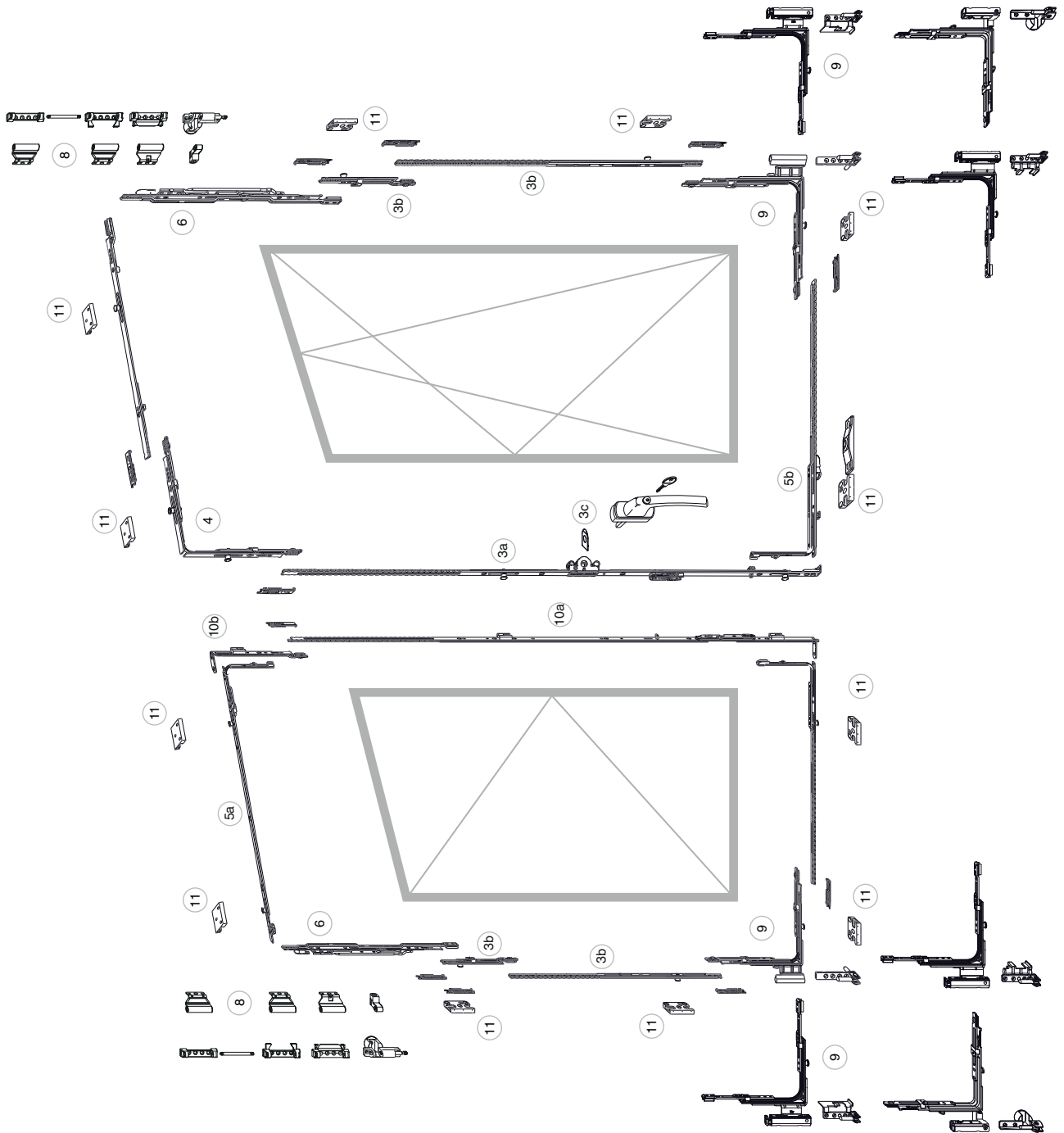




Selection guide		Page
3a	3.1.1.5 Turn&tilt drive gear BS 15 FHH i.S. EH	→109
3b	3.6 Extension pieces	→128
3c	3.7.6 Anti drill plate for drive gear	→130
4	4.2 Corner elements for pitched window	→134
5	5.2.1 Horizontal tilt lock i.S.	→140
6	6.1.7 Rebated scissor stays for half round windows i.S. 9 mm and 13 mm offset	→145
8	8 Scissor stay hinges	→176
9	9 Pivot posts	→186
11	11.5.4 Striker plates 12 mm air gap flat i.S. 18 mm rebate depth	→231



2.23 Turn&tilt pitched window EH (RC2) 2-sashed





Selection guide		Page
3a	3.1.1.5 Turn&tilt drive gear BS 15 FHH i.S. EH	→109
3b	3.6 Extension pieces	→128
3c	3.7.6 Anti drill plate for drive gear	→130
4	4.2 Corner elements for pitched window	→134
5a	5.1.5 Centre lock i.S. EH	→139
5b	5.2.2 Horizontal tilt lock for half round and pitched window	→140
6	6.1.7 Rebated scissor stays for half round windows i.S. 9 mm and 13 mm offset	→145
8	8 Scissor stay hinges	→176
9	9 Pivot posts	→186
10a	10.1.2.4 French casement drive gear with mounted striker plate i.S.	→216
10b	10.1.2.8 End pieces for Eurogroove	→217
11	11.5.4 Striker plates 12 mm air gap flat i.S. 18 mm rebate depth	→231



2.24 General security information

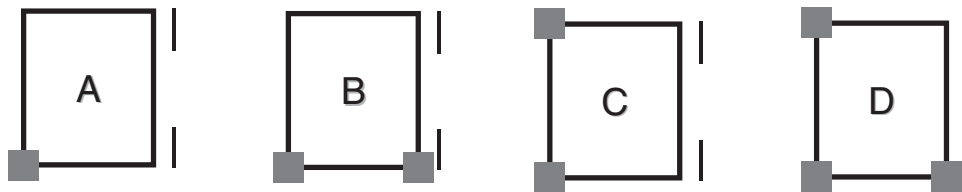
2.24.1 General

Generally, a variety of design variants are possible for a window or French door. Besides the requirements for corrosion resistance, the end user's demands for convenience, colour design and, above all, security are decisive for the selection of

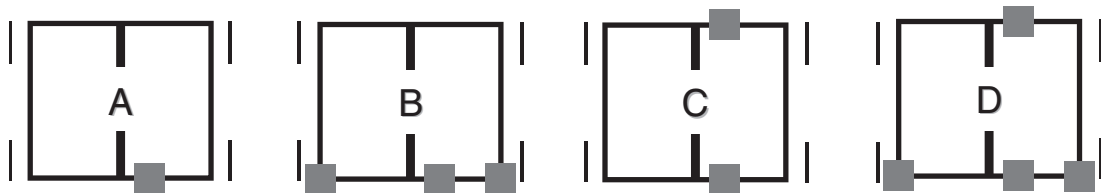
the hardware components. The combination and/or design of various hardware components allows a variety of security levels.

2.24.2 MACO security levels

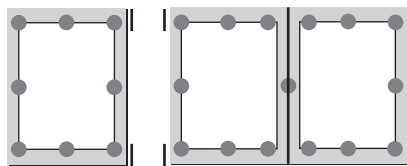
Basic security for single-sash windows and balcony doors



Basic security for double-sash windows and balcony doors



2.24.3 Security level according to EN 1627-1630



Further and/or supplementary information on the topic of security and the exact design of the hardware is provided in our brochures MACO security, MACO MULTI burglary resistance

in timber and PVC windows and MULTI TREND system matrix RC 1 / RC 2 / RC 3. All documents are available at our extranet (extranet.maco.eu) or on our website (www.maco.at).



3 Drive gears

3.1	Turn&tilt drive gears	108
3.1.1	Turn&tilt drive gears BS 15	108
3.1.2	Turn&tilt drive gear BS 6.5	111
3.1.3	Turn&tilt drive gear special BS i.S.	113
3.1.4	Turn&tilt drive gear lockable special BS i.S.	115
3.2	Turn-only drive gears	117
3.2.1	Turn-only drive gear BS 15	117
3.2.2	Turn-only drive gear BS 6.5	119
3.2.3	Turn-only drive gear special BS	120
3.3	Espagnolettes	121
3.3.1	Espagnolette BS 15	121
3.3.2	Espagnolette BS 6.5	123
3.3.3	Espagnolettes with mounted tilt-only stay arm	125
3.4	End pieces	126
3.4.1	End piece with 90° restriction	126
3.4.2	End piece 180°	126
3.4.3	End piece with 90° restriction and reverse action Shootbolt	126
3.4.4	End piece 180° with reverse action Shootbolt	126
3.4.5	End piece for half round windows	126
3.5	Tilt lock bolt for drive gears	127
3.6	Extension pieces	128
3.6.1	Extension pieces	128
3.7	Drive gear Accessories	129
3.7.1	Door catch	129
3.7.2	Faceplate restrainer for espagnolette	129
3.7.3	Run-up block plate	129
3.7.4	Intermediate drive gear	129
3.7.5	Intermediate drive gear accessories	130
3.7.6	Anti drill plate for drive gear	130
3.7.7	Drill-in bush	130









3 Drive gears

3.1 Turn&tilt drive gears

3.1.1 Turn&tilt drive gears BS 15



52404

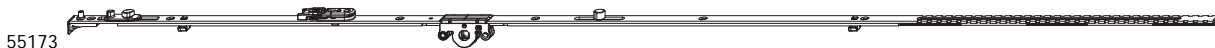
3.1.1.1 Turn&tilt drive gear BS 15 FHH									
		with ded. 170							
silver	size 00	15	0	120	370 - 620	-	20	52400¹	
	size 1A	15	1	300	391 - 600	1	20	52948²	
	size 0	15	0	170	431 - 680	-	20	52401	
	size 1	15	0	300	601 - 800	-	20	52402	
	size 1B	15	0	300	601 - 800	1	20	52403³	
	size 2	15	1	400	801 - 1.000	1	20	52404	
	size 3	15	1	500	1.001 - 1.250	1	20	52405	
	size 4	15	1	600	1.251 - 1.500	1	10	52406	
	size 5	15	1	700	1.501 - 1.750	1	10	52407	
	size 6A	15	2	1.050	1.651 - 1.850	1	10	55158	
	size 6	15	2	1.050	1.851 - 2.100	1	10	52408⁴	
	size 7	15	2	1.050	2.101 - 2.350	1	10	52410	
	with door catch								
	size 6A	15	2	1.050	1.651 - 1.850	1	10	52409	
	size 6	15	2	1.050	1.851 - 2.100	1	10	52844⁴	
	size 7	15	2	1.050	2.101 - 2.350	1	10	52411	

¹ Only possible in combination with tilt-only lock 59929, 203279, 205922 and 205923.









² Only for Half Round Windows

³ This espagnolette is only suitable for 1-sashed windows.

⁴ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.



55173

3.1.1.2 Turn-only-drive gear BS 15 FHH with low handle position									
		with ded. 170							
silver	size 0	15	0	220	480 - 750	0	20	55174	
	size 1	15	1	300	850 - 1.100	0	20	55175	
	size 2	15	1	400	1.050 - 1.300	1	20	55173	
	size 4	15	1	400	1.251 - 1.500	1	10	203863	
	size 4B	15	1	500	1.251 - 1.500	1	10	52817	
	size 5B	15	1	500	1.501 - 1.750	1	10	52818	

52853



3.1.1.3 Turn&tilt drive gear BS 15 FHH i.S. / VZ									No	No Tricoat
		with ded. 170								
silver	size 1	15	0	1	300	601 - 800	-	20	52852	
	size 2	15	1	1	400	801 - 1.000	1	20	52853	
			0	1	400	801 - 1.000	1	20	55994	
	size 3	15	1	1	500	1.001 - 1.250	1	20	52854	
			0	1	500	1.001 - 1.250	1	20	55995	
	size 4	15	1	1	600	1.251 - 1.500	1	10	52855	
			0	1	600	1.251 - 1.500	1	10	55996	
	size 5	15	1	1	700	1.501 - 1.750	1	10	52856	
			0	1	700	1.501 - 1.750	1	10	55997	
	size 6	15	2	1	1.050	1.851 - 2.100	1	10	52857 ¹	
			0	2	1.050	1.851 - 2.100	1	10	55998 ¹	
	size 6A	15	0	2	1.050	1.651 - 1.850	1	10	220118	
	size 7	15	0	2	1.050	2.101 - 2.350	1	10	55999	

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

55470



3.1.1.4 Turn-only and turn&tilt-drive gear i.S. BS 15 FHH with low handle position								No	No Tricoat	
		with ded. 170								
silver	size 0	15	0	220	480 - 750	0	20	55174		
	size 1	15	1	300	850 - 1.100	0	20	55469		
	size 2	15	1	400	1.050 - 1.300	1	20	55470		
	size 4B	15	1	500	1.251 - 1.500	1	10	55471		
	size 5B	15	1	500	1.501 - 1.750	1	10	55472		

52927



3.1.1.5 Turn&tilt drive gear BS 15 FHH i.S. EH								No	No Tricoat	
		with ded. 170								
silver	size 2	15	2	400	801 - 1.000	1	20	52927		
	size 3	15	2	500	1.001 - 1.250	1	20	52928		
	size 4	15	2	600	1.251 - 1.500	1	10	52929		
	size 5	15	2	700	1.501 - 1.750	1	10	52930		
	size 6	15	3	1.050	1.851 - 2.100	1	10	52931 ¹		

¹ From S.R.H. 2100 mm use bolt extensions.



55854



3.1.1.6 Turn&tilt drive gear BS 15 FHH i.S. without tilt lock bolt								No	No Tricoat
		with ded. 170							
silver	size 00	15	1	120	370 - 620	-	20	204001 ¹	
	size 0	15	1	170	431 - 680	-	20	55851	
	size 1	15	1	300	601 - 800	-	20	55852	
	size 1B	15	1	300	601 - 800	1	20	55853 ²	
	size 2	15	2	400	801 - 1.000	1	20	55854	
	size 1	15	2	300	850 - 1.100	-	20	204705	
	size 3	15	2	500	1.001 - 1.250	1	20	55855	
	size 2	15	2	400	1.050 - 1.300	1	20	204707	
	size 4	15	2	600	1.251 - 1.500	1	10	55856	
	size 4B	15	2	500	1.251 - 1.500	1	10	204708	
	size 5	15	3	600	1.501 - 1.750	1	10	205998	
				700	1.501 - 1.750	1	10	55857	
	size 5B	15	2	500	1.501 - 1.750	1	10	204711	
	size 6A	15	3	1.050	1.651 - 1.850	1	10	55859	
	size 6	15	3	1.050	1.851 - 2.100	1	10	55858 ³	
size 7	15	3	1.050	2.101 - 2.350	1	10	55861		
with door catch	size 6A	15	3	1.050	1.651 - 1.850	1	10	203907	
	size 6	15	3	1.050	1.851 - 2.100	1	10	203906 ³	
	size 7	15	3	1.050	2.101 - 2.350	1	10	203908	

¹ Only possible in combination with tilt-only lock 59929, 203279, 205922 and 205923.

² Suitable only on 1 sashed windows, except in combination with a French casement drive-gear for EH hardware groove.

³ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

52966



3.1.1.7 Turn&tilt drive gear BS 15 VHH								No	No Tricoat
		with ded. 170							
silver	size 1	15	0	500 - 650	0	20	52422		
	size 1A	15	0	601 - 900	1	20	52423		
	size 2	15	0	651 - 900	0	20	52966		
	size 2A	15	0	751 - 900	1	20	52424 ¹		
	size 3	15	1	901 - 1.300	1	20	52425		
	size 4	15	1	1.301 - 1.800	1	10	52426		
	size 4A	15	2	1.301 - 1.800	1	10	54952 ¹		
	size 5	15	2	1.801 - 2.350	1	10	52427		

¹ For 2-sashed windows suitable only in conjunction with a shootbolt.

55950



3.1.1.8 Turn&tilt drive gear BS 15 VHH i.S.								No	No Tricoat
		with ded. 170							
silver	size 3	15	1	901 - 1.300	1	20	55950		
	size 4	15	1	1.301 - 1.800	1	10	55443		
	size 5	15	2	1.801 - 2.350	1	10	55951		

3.1.2 Turn&tilt drive gear BS 6.5



3.1.2.1 Turn&tilt drive gear BS 6.5 FHH								No	No Tricoat	
		with ded. 170								
silver	size 0	6,5	0	170	451 - 600	-	20	52415		
	size 1	6,5	0	300	601 - 800	-	20	52416		
	size 1B	6,5	0	300	601 - 800	1	20	55062 ¹		
	size 2	6,5	1	400	801 - 1.000	1	20	52417		
	size 3	6,5	1	500	1.001 - 1.250	1	20	52418		
	size 4	6,5	1	600	1.251 - 1.500	1	10	52419		
	size 5	6,5	1	700	1.501 - 1.750	1	10	52420		
	with door catch		size 6	6,5	2	1.050	1.851 - 2.100	1	10	206306 ²
			size 6	6,5	2	1.050	1.851 - 2.100	1	10	52421 ²
			size 6A	6,5	2	1.050	1.651 - 1.850	1	10	203265

¹ This espagnolette is only suitable for 1-sashed windows.

² This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

59937









3.1.2.2 Turn&tilt drive gear BS 6.5 FHH with low handle position								No	No Tricoat
		with ded. 170							
silver	size 4B	6,5	1	500	1.251 - 1.500	1	10	59937	
	size 5B	6,5	1	500	1.501 - 1.750	1	10	59938	



3.1.2.3 Turn&tilt drive gear BS 6.5 FHH i.S.								No	No Tricoat
		with ded. 170							
silver	size 2	6,5	1	400	801 - 1.000	1	20	55464	
	size 3	6,5	1	500	1.001 - 1.250	1	20	55465	
	size 4	6,5	1	600	1.251 - 1.500	1	10	55466	
	size 5	6,5	1	700	1.501 - 1.750	1	10	55467	
	size 6	6,5	2	1.050	1.851 - 2.100	1	10	55468 ¹	

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.






203756 

3.1.2.4 Turn&tilt drive gear BS 6.5 FHH i.S. without tilt lock bolt								No	No Tricoat	
silver	size 0	6,5	0	170	451 - 600	0	20	203753 ¹		
			1	170	451 - 600	0	20	205722		
	size 1	6,5	1	300	601 - 800	0	20	203754		
			2	300	850 - 1.100	0	20	209748		
	size 1B	6,5	1	300	601 - 800	1	20	203755 ¹		
	size 2	6,5	2	400	801 - 1.000	1	20	203756		
	size 2A	6,5	2	400	1.050 - 1.300	1	10	208973		
	size 3	6,5	2	500	1.001 - 1.250	1	20	203758		
	size 4	6,5	2	600	1.251 - 1.500	1	10	203760		
	size 4A	6,5	2	500	1.251 - 1.500	1	10	208966		
	size 5	6,5	2	700	1.501 - 1.750	1	10	203762		
			3	600	1.501 - 1.750	1	10	206024		
	size 6	6,5	3	1.050	1.851 - 2.100	1	10	203763 ²		
	with door catch	size 6	6,5	3	1.050	1.851 - 2.100	1	10	203822 ²	
	with door catch	size 6A	6,5	3	1.050	1.651 - 1.850	1	10	203846	
				3	1.050	1.651 - 1.850	1	10	203827	

¹ This espagnolette is only suitable for 1-sashed windows.






² This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

52428 

3.1.2.5 Turn&tilt drive gear BS 6.5 VHH							No	No Tricoat
silver	size 1	6,5	0	570 - 650	0	20	206548	
	size 2	6,5	0	651 - 900	0	20	54564	
	size 2A	6,5	1	751 - 900	1	20	52428 ¹	
	size 3	6,5	1	901 - 1.300	1	20	52429	
	size 4	6,5	1	1.301 - 1.800	1	10	52430	
	size 5	6,5	2	1.801 - 2.200	1	10	52431	

¹ For 2-sashed windows suitable only in conjunction with a shootbolt.

55480 







3.1.2.6 Turn&tilt drive gear BS 6.5 VHH i.S.							No	No Tricoat
silver	size 2A	6,5	1	751 - 900	1	10	55480 ¹	
	size 3	6,5	1	901 - 1.300	1	10	55481	
	size 4	6,5	1	1.301 - 1.800	1	10	55482	
	size 5	6,5	2	1.801 - 2.350	1	10	55483	

¹ For 2-sashed windows suitable only in conjunction with a shootbolt.

3.1.3 Turn&tilt drive gear special BS i.S.

220059









3.1.3.1 Turn&tilt drive gear special BS FHH i.S.								No	No Tricoat	
		with ded. 170								
silver	size 0	25	0	170	431 - 680	-	10	220056		
	size 3	25	1	500	1.001 - 1.250	1	10	220059		
	size 4B	40	1	500	1.251 - 1.500	1	10	202040		
	size 5	50	1	700	1.501 - 1.750	1	10	57212		
	size 6	40	2	1.050	1.851 - 2.100	1	10	202260 ¹		
		45	2	1.050	1.851 - 2.100	1	10	202456 ¹		
		30	2	1.050	1.851 - 2.100	1	10	220019 ¹		
		35	2	1.050	1.851 - 2.100	1	10	220471 ¹		
		25	2	1.050	1.851 - 2.100	1	10	55034 ¹		
	size 6A	50	2	1.050	1.851 - 2.100	1	10	57213		
		45	3	1.050	1.851 - 2.100	1	10	59907 ¹		
		30	2	1.050	1.651 - 1.850	1	10	20020		
	size 7	25	2	1.050	1.651 - 1.850	1	10	55036		
		35	2	1.050	1.651 - 1.850	1	10	57231		
		30	2	1.050	2.101 - 2.350	1	10	220472		
size 7	35	2	1.050	2.101 - 2.350	1	10	220473			
	50	2	1.050	2.101 - 2.350	1	10	57214			
	40	2	1.050	2.101 - 2.350	1	10	57293			

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

204003




3.1.3.2 Turn&tilt drive gear special BS FHH i.S. without tilt lock bolt								No	No Tricoat	
		with ded. 170								
silver	size 0	25	1	170	431 - 680	-	20	207005		
	size 1	30	1	300	601 - 800	-	20	207004		
	with door catch	size 6	30	3	1.050	1.851 - 2.100	1	10	204003 ¹	
			40	3	1.050	1.851 - 2.100	1	10	204006	
	size 6A	30	3	1.050	1.651 - 1.850	1	10	204002		
		40	3	1.050	1.651 - 1.850	1	10	204005		
	size 7	30	3	1.050	2.101 - 2.350	1	10	204004		
		40	3	1.050	2.101 - 2.350	1	10	204007		

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

54790



3.1.3.3 Turn&tilt drive gear special BS VHH i.S.							No	No Tricoat
		with ded. 170						
silver	size 1	25	0	500 - 650	0	10	55182 ¹	
		35	0	500 - 650	0	10	55242 ¹	
		40	0	500 - 650	0	10	55243 ¹	
	size 2	30	0	500 - 650	0	10	55911 ¹	
		25	0	651 - 900	0	10	54773 ¹	
		35	0	651 - 900	0	10	55244 ¹	
	size 2A	40	0	651 - 900	0	10	55245 ¹	
		30	0	651 - 900	0	10	55318 ¹	
		40	0	751 - 900	1	10	55184 ^{1,2}	
	size 3	25	0	751 - 900	1	10	55406 ^{1,2}	
		30	0	751 - 900	1	10	58007 ^{1,2}	
		50	1	901 - 1.300	1	10	206594 ¹	
	size 4	25	1	901 - 1.300	1	10	54790 ¹	
		40	1	901 - 1.300	1	10	55185 ¹	
		35	1	901 - 1.300	1	10	55254 ¹	
		30	1	901 - 1.300	1	10	58008 ¹	
	size 5	25	1	1.301 - 1.800	1	10	54791 ¹	
		40	1	1.301 - 1.800	1	10	55186 ¹	
		35	1	1.301 - 1.800	1	10	55255 ¹	
		30	1	1.301 - 1.800	1	10	58009 ¹	
		45	2	1.801 - 2.350	1	10	202261 ¹	
	size 5	35	2	1.801 - 2.350	1	10	54782 ¹	
		40	2	1.801 - 2.350	1	10	55187 ¹	
		50	2	1.801 - 2.350	1	10	57929 ¹	
30		2	1.801 - 2.350	1	10	58010 ¹		
25		2	1.801 - 2.350	1	10	59927 ¹		

¹ Can also be supplied in quantities less than one packaging unit.

² For 2-sashed windows suitable only in conjunction with a shootbolt.

3.1.4 Turn&tilt drive gear lockable special BS i.S.

58443

3.1.4.1 Turn&tilt drive gear lockable special BS i.S. for PC FHH



				with ded. 170				No	Tricoat	
silver	size 6A	25	2	1.050	1.651 - 1.850	1	10	55096 ¹		
		35	2	1.050	1.651 - 1.850	1	10	57256 ¹		
		30	2	1.050	1.651 - 1.850	1	10	59942 ¹		
	size 6	40	2	1.050	1.851 - 2.100	1	10	52830 ^{1,2}		
		35	2	1.050	1.851 - 2.100	1	10	54566 ^{1,2}		
		45	2	1.050	1.851 - 2.100	1	10	54568 ^{1,2}		
		50	2	1.050	1.851 - 2.100	1	10	54741 ^{1,2}		
		30	2	1.050	1.851 - 2.100	1	10	58442 ^{1,2}		
		25	2	1.050	1.851 - 2.100	1	10	58443 ^{1,2}		
	size 7	25	2	1.050	2.101 - 2.350	1	10	52825 ¹		
		40	2	1.050	2.101 - 2.350	1	10	52831 ¹		
		35	2	1.050	2.101 - 2.350	1	10	54569 ¹		
		45	2	1.050	2.101 - 2.350	1	10	54571 ¹		
		30	2	1.050	2.101 - 2.350	1	10	54794 ¹		
	with door catch	size 6	40	2	1.050	1.851 - 2.100	1	10	55082 ^{1,2}	
			45	2	1.050	1.851 - 2.100	1	10	57835 ^{1,2}	
			50	2	1.050	1.851 - 2.100	1	10	58133 ^{1,2}	
		size 7	40	2	1.050	2.101 - 2.350	1	10	55083 ¹	
			45	2	1.050	2.101 - 2.350	1	10	57836 ¹	
			50	2	1.050	2.101 - 2.350	1	10	58134 ¹	

¹ Can also be supplied in quantities less than one packaging unit.

² This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

207344

3.1.4.2 Turn&tilt drive gear lockable special BS i.S. for PC FHH without tilt lock bolt



				with ded. 170				No	Tricoat	
silver	with door catch	size 6	30	3	1.050	1.851 - 2.100	1	10	203912 ^{1,2}	
			40	3	1.050	1.851 - 2.100	1	10	203913 ^{1,2}	
			50	3	1.050	1.851 - 2.100	1	10	203914 ^{1,2}	
			35	3	1.050	1.851 - 2.100	1	10	205661 ^{1,2}	
			25	3	1.050	1.851 - 2.100	1	10	207344 ^{1,2}	
		size 6A	30	3	1.050	1.651 - 1.850	1	10	203909 ¹	
			40	3	1.050	1.651 - 1.850	1	10	203910 ¹	
			50	3	1.050	1.651 - 1.850	1	10	203911 ¹	
		size 7	35	3	1.050	1.651 - 1.850	1	10	205660 ¹	
			30	3	1.050	2.101 - 2.350	1	10	203915 ¹	
			40	3	1.050	2.101 - 2.350	1	10	203916 ¹	
			50	3	1.050	2.101 - 2.350	1	10	203917 ¹	
			35	3	1.050	2.101 - 2.350	1	10	205662 ¹	

¹ Can also be supplied in quantities less than one packaging unit.

² This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.



55945

3.1.4.3 Turn&tilt drive gear lockable special BS i.S. for PC VHH



No

No
Tricoat

		with ded. 170							
silver	size 4	35	1	1.301 - 1.800	1	10	201187 ¹		
		50	1	1.301 - 1.800	1	10	206595 ¹		
		40	1	1.301 - 1.800	1	10	55899 ¹		
		25	1	1.301 - 1.800	1	10	55945 ¹		
		30	1	1.301 - 1.800	1	10	55946 ¹		
	size 5	35	2	1.801 - 2.350	1	10	202722 ¹		
		30	2	1.801 - 2.350	1	10	59494 ¹		
		45	2	1.801 - 2.350	1	10	209548 ¹		

¹ Can also be supplied in quantities less than one packaging unit.

55473

3.1.4.4 Turn&tilt drive gear lockable special BS i.S. for RC FHH



No

No
Tricoat

		with ded. 170							
silver	size 6	35	2	1.050	1.851 - 2.100	1	10	55473 ¹	
		40	2	1.050	1.851 - 2.100	1	10	55474 ¹	
		45	2	1.050	1.851 - 2.100	1	10	55475 ¹	
		50	2	1.050	1.851 - 2.100	1	10	55476 ¹	
	size 7	35	2	1.050	2.101 - 2.350	1	10	55477	
		40	2	1.050	2.101 - 2.350	1	10	55478	
		45	2	1.050	2.101 - 2.350	1	10	55479	

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

207371

3.1.4.5 Turn&tilt drive gear lockable special BS i.S. for RC FHH without tilt lock bolt



No

No
Tricoat

		with ded. 170								
silver	with door catch	size 6	30	3	1.050	1.851 - 2.100	1	10	207371 ¹	
			40	3	1.050	1.851 - 2.100	1	10	207374 ¹	
	size 6A	30	3	1.050	1.651 - 1.850	1	10	207370		
		40	3	1.050	1.651 - 1.850	1	10	207373		
	size 7	30	3	1.050	2.101 - 2.350	1	10	207372		
		40	3	1.050	2.101 - 2.350	1	10	207375		

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.

209363

3.1.4.6 Turn&tilt drive gear lockable special BS i.S.



No

No
Tricoat

		with ded. 170							
silver	size 4	40	1	1.301 - 1.800	1	10	209363		
	size 5	40	2	1.801 - 2.350	1	10	208972		

3.2 Turn-only drive gears

3.2.1 Turn-only drive gear BS 15



3.2.1.1 Turn-only drive gear BS 15 FHH							No	No Tricoat
with ded. 170								
silver	size 00	15	0	120	370 - 620	20	52400	
	size 0	15	0	170	431 - 680	20	52401	
	size 1	15	0	300	601 - 800	20	52402	
	size 2	15	1	400	801 - 1.000	20	55135	
	size 3	15	1	500	1.001 - 1.250	20	55137	
	size 4	15	1	600	1.251 - 1.500	10	55138	
	size 5	15	1	700	1.501 - 1.750	10	55139	
	size 6	15	2	1.050	1.851 - 2.100	10	55218 ¹	
	size 6A	15	2	1.050	1.651 - 1.850	10	55882	
	size 7	15	2	1.050	2.101 - 2.350	10	55219	

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.



3.2.1.2 Turn-only drive gear BS 15 FHH i.S.							No	No Tricoat
with ded. 170								
silver	size 2	15	1	400	801 - 1.000	20	55952	
	size 3	15	1	500	1.001 - 1.250	10	55953	
	size 4	15	1	600	1.251 - 1.500	10	55954	
	size 5	15	1	700	1.501 - 1.750	10	55955	
	size 6	15	2	1.050	1.851 - 2.100	10	58222 ¹	

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.



3.2.1.3 Turn-only drive gear BS 15 FHH with low handle position							No	No Tricoat
with ded. 170								
silver	size 2	15	1	400	1.050 - 1.300	20	55153 ¹	
	size 4A	15	1	500	1.251 - 1.500	10	55159 ¹	

¹ Not a stocked part - Minimum order quantity and lead-time upon request.



3.2.1.4 Turn-only drive gear BS 15 FHH without cam							No	No Tricoat
with ded. 170								
silver	size 0	15	170	431 - 680	20	52967		
	size 1	15	300	601 - 800	20	52968		
	size 2	15	400	801 - 1.000	20	52969		
	size 3	15	500	1.001 - 1.250	20	52970		
	size 4	15	600	1.251 - 1.500	10	52971		
	size 5	15	700	1.501 - 1.750	10	52972		
	size 6	15	1.050	1.851 - 2.100	10	52973 ¹		
	size 7	15	1.050	2.101 - 2.350	10	52974		

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.



54883



3.2.1.5 Turn-only drive gear BS 15 VHH								No	No Tricoat
					with ded. 170				
silver	size 1	15	0	500 - 650	20			52422	
	size 2	15	0	651 - 900	20			52966	
	size 3	15	1	901 - 1.300	20			54883	
	size 4	15	1	1.301 - 1.800	10			54888	
	size 4A	15	2	1.301 - 1.800	10			59906	
	size 5	15	2	1.801 - 2.350	10			55047	

55956



3.2.1.6 Turn-only drive gear BS 15 VHH i.S.								No	No Tricoat
					with ded. 170				
silver	size 3	15	1	901 - 1.300	20			55956	
	size 4	15	1	1.301 - 1.800	10			55957	
	size 5	15	2	1.801 - 2.350	10			55958	






55390



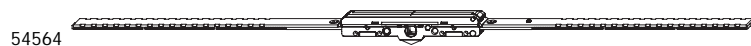
3.2.1.7 Turn-only drive gear BS 15 VHH without cam								No	No Tricoat
					with ded. 170				
silver	size 3	15		901 - 1.300	20			55390	
	size 4	15		1.301 - 1.800	10			55391	
	size 5	15		1.801 - 2.350	10			55392	





3.2.2 Turn-only drive gear BS 6.5



3.2.2.1 Turn-only drive gear BS 6.5 FHH							No	No Tricoat	
		with ded. 170							
silver	size 0	6,5	0	170	451 - 600	20	52415		
	size 1	6,5	0	300	601 - 800	20	52416		
	size 2	6,5	1	400	801 - 1.000	20	55162		
	size 3	6,5	1	500	1.001 - 1.250	20	55165		
	size 4	6,5	1	600	1.251 - 1.500	10	55166		
	size 5	6,5	1	700	1.501 - 1.750	10	55163		
	size 6	6,5	2	1.050	1.851 - 2.100	10	55164 ¹		

¹ This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.










3.2.2.2 Turn-only drive gear BS 6.5 VHH						No	No Tricoat		
		with ded. 170							
silver	size 1	6,5	0	570 - 650	20	206548			
	size 2	6,5	0	651 - 900	20	54564			
	size 3	6,5	1	901 - 1.300	20	54624			
	size 4	6,5	1	1.301 - 1.800	10	55160			
	size 5	6,5	2	1.801 - 2.200	10	55161			

3.2.3 Turn-only drive gear special BS

55404









3.2.3.1 Turn-only drive gear special BS FHH i.S.								
with ded. 170								
silver	size 6	45	2	1.050	1.851 - 2.100	10	220015^{1,2}	
		40	2	1.050	1.851 - 2.100	10	55332^{1,2}	
		25	2	1.050	1.851 - 2.100	10	55404^{1,2}	
		50	2	1.050	1.851 - 2.100	10	58265^{1,2}	
		30	2	1.050	1.851 - 2.100	10	58559^{1,2}	
		35	2	1.050	1.851 - 2.100	10	59940^{1,2}	
	size 7	30	2	1.050	2.101 - 2.350	10	201096¹	
		45	2	1.050	2.101 - 2.350	10	201099¹	
		50	2	1.050	2.101 - 2.350	10	220040¹	
		40	2	1.050	2.101 - 2.350	10	55372¹	
		25	2	1.050	2.101 - 2.350	10	55405¹	
		35	2	1.050	2.101 - 2.350	10	59941¹	

¹ Can also be supplied in quantities less than one packaging unit.

² This espagnolette can be used from a S.R.H. of 1750 mm (low doors) in connection with corner element B.



57225






3.2.3.2 Turn-only drive gear special BS VHH i.S.							
with ded. 170							
silver	size 3	25	1	901 - 1.300	10	57225	
		30	1	901 - 1.300	10	58444	
	size 4	25	1	1.301 - 1.800	10	57226	
		30	1	1.301 - 1.800	10	57436	
	size 5	25	2	1.801 - 2.350	10	57227	
		30	2	1.801 - 2.350	10	58445	

3.3 Espagnolettes

3.3.1 Espagnolette BS 15







55364

3.3.1.1 Espagnolette BS 15 FHH							No	No Tricoat
silver	size 1	15	2	170	400 - 600	20	55363	
	size 2	15	2	300	601 - 800	20	55364	
	size 3A	15	2	300	801 - 1.000	20	57845	
	size 3	15	2	400	801 - 1.000	20	55365	
	size 4B	15	3	400	1.001 - 1.300	10	57846	
	size 4	15	3	500	1.001 - 1.300	10	55366	
	size 5	15	3	600	1.251 - 1.500	10	55367	
	size 6	15	3	400	1.301 - 1.500	10	57847	
	size 5B	15	3	500	1.301 - 1.500	10	57850	
	size 7B	15	3	400	1.501 - 1.800	10	57848	
	size 7A	15	3	500	1.501 - 1.800	10	57851	
	size 7	15	3	700	1.501 - 1.800	10	55368	
	size 9	15	4	1.050	1.801 - 2.000	10	55131	
size 9B	15	4	400	1.801 - 2.100	10	57849		
size 9A	15	3	500	1.801 - 2.100	10	57852		
size 11A	15	3	1.050	1.851 - 2.600	10	59445		
size 10	15	4	1.050	2.001 - 2.200	10	55132		
size 11	15	4	1.050	2.201 - 2.400	10	55133		
size 12	15	4	1.050	2.401 - 2.600	10	57861		







52464

3.3.1.2 Espagnolette BS 15 centred						No	No Tricoat
silver	size 1	15	2	300 - 500	20	52463	
	size 2	15	2	501 - 700	20	52464	
	size 3	15	2	701 - 1.000	20	52465	
	size 4	15	4	1.001 - 1.400	10	206011	
				3	1.001 - 1.400	10	52466
	size 5	15	4	1.401 - 1.800	10	206016	
				3	1.401 - 1.800	10	55037
	size 6	15	4	1.801 - 2.400	10	206023	



57818

3.3.1.3 Espagnolette BS 15 centred i.S.						No	No Tricoat
silver	size 1	15	2	300 - 500	20	57817	
	size 2	15	2	501 - 700	20	57818	
	size 3	15	2	701 - 1.000	20	59495	
	size 4	15	3	1.001 - 1.400	10	59496	
	size 5	15	3	1.401 - 1.800	10	59497	



57853



3.3.1.4 Espagnolette BS 15 reverse action						No	No Tricoat
silver	15	0	190	351 - 600	10	55144	
			300	500 - 800	10	55052	
		1	300	801 - 1.000	10	57853	
			400	801 - 1.000	10	55053	
				1.001 - 1.300	10	55908	
			500	1.001 - 1.300	10	55054	
			600	1.251 - 1.500	10	55055	
			400	1.301 - 1.500	10	57854	
			500	1.301 - 1.500	10	57857	
		2	400	1.501 - 1.800	10	57855	
			500	1.501 - 1.800	10	57858	
		1	700	1.501 - 1.800	10	55056	
		2	400	1.801 - 2.100	10	57856	
			500	1.801 - 2.100	10	57859	
			1.050	1.801 - 2.100	10	55257	
				2.101 - 2.350	10	55258	
		3	1.050	2.351 - 2.550	10	55259	

3.3.2 Espagnolette BS 6.5

55885

3.3.2.1 Espagnolette BS 6.5 FHH							No	No Tricoat
silver	size 1	6,5	2	170	450 - 600	10	58422	
	size 2	6,5	2	300	500 - 800	20	55885	
	size 2A	6,5	2	300	651 - 800	10	203280	
	size 3	6,5	2	400	801 - 1.000	10	55886	
	size 3A	6,5	3	400	951 - 1.150	10	203281	
	size 4	6,5	3	170	1.001 - 1.300	10	211538	
				500	1.001 - 1.300	10	55887	
	size 4A	6,5	3	500	1.151 - 1.300	10	203282	
	size 5	6,5	3	600	1.301 - 1.500	10	55888	
	size 6	6,5	3	700	1.501 - 1.800	10	55889	
	size 6A	6,5	3	700	1.651 - 1.800	10	203283	
	size 7	6,5	4	1.050	1.801 - 2.000	10	55890	
	size 8	6,5	4	1.050	2.001 - 2.200	10	55891	

206544

3.3.2.2 Espagnolette BS 6.5 centred i.S.						No	No Tricoat
silver	size 1	6,5	2	370 - 500	10	206543	
	size 2	6,5	2	501 - 700	10	206544	
	size 3	6,5	2	701 - 1.000	10	206545	
	size 4	6,5	3	1.001 - 1.400	10	206546	
	size 5	6,5	3	1.401 - 1.800	10	206547	

55893

3.3.2.3 Espagnolette BS 6.5 reverse action							No	No Tricoat
silver	6,5	0	300	550 - 800	10	55892		
		1	400	801 - 1.000	10	55893		
			500	1.001 - 1.300	10	55894		
			600	1.251 - 1.500	10	55895		
			700	1.501 - 1.800	10	55896		
		2	1.050	1.801 - 2.100	10	55897		
				2.101 - 2.350	10	55898		



202352



3.3.2.4 Espagnolette BS 6.5 reverse action with drive gear casing							No	No Tricoat
silver	6,5	0	170	370 - 600	10	202350 ¹		
			300	601 - 800	10	202351 ¹		
			400	801 - 1.000	10	202352 ¹		
				1.001 - 1.250	10	202353 ¹		
			500	1.001 - 1.250	10	202354 ¹		
			170	1.001 - 1.300	10	211349 ¹		
			500	1.251 - 1.500	10	202355 ¹		
			600	1.251 - 1.500	10	202357 ¹		
			2	500	1.501 - 1.800	10	202356 ¹	
				600	1.501 - 1.800	10	202358 ¹	
				700	1.501 - 1.800	10	202360 ¹	
				600	1.801 - 2.100	10	202359 ¹	
				700	1.801 - 2.100	10	202361 ¹	
			1.050	1.801 - 2.100	10	202362 ¹		
				2.101 - 2.350	10	202363 ¹		

¹ NOTE: Shootbolt protrusion at bottom 14 mm! For 12 mm air gap at bottom, the area of the lock striker must be widened.

3.3.3 Espagnolettes with mounted tilt-only stay arm

54556



57813



3.3.3.1 Espagnolettes with mounted tilt-only centre stay arm							No	No Tricoat
silver	size 1	15	2	0	650 - 1.000	20	54556 ¹	
			0	2	650 - 1.000	20	57813 ¹	
	size 2	15	3	0	1.001 - 1.300	10	54557 ¹	
			0	3	1.001 - 1.300	10	57814 ¹	
	size 3	15	3	0	1.301 - 1.700	10	54558 ¹	
			0	3	1.301 - 1.700	10	57815 ¹	

¹ The MACO product liability stipulates the additional use of a commercially available restrictor and cleaning stay. Note the max. sash weight for the restrictor and cleaning stay).

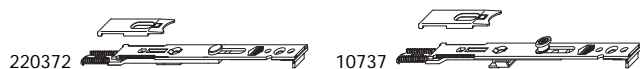
57816








3.3.3.2 Espagnolettes with mounted tilt-only stay arm VHH							No	No Tricoat
silver	size 1	15	1	0	500 - 1.300	20	54559 ¹	
			0	1	500 - 1.300	20	57816 ¹	
	size 2	15	0	2	1.301 - 1.700	10	207999 ¹	
		size 3	15	0	3	1.701 - 2.310	10	203497 ¹

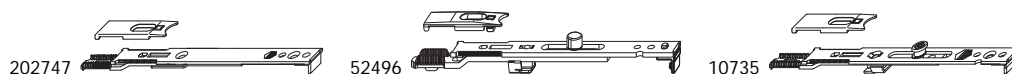
¹ The MACO product liability stipulates the additional use of a commercially available restrictor and cleaning stay. Note the max. sash weight for the restrictor and cleaning stay).






3.4 End pieces



3.4.1 End piece with 90° restriction						
silver	top end piece with 90° limitation	0	0	20	220372¹	
	top end piece with 1 VZ with 90° limitation	1	0	20	10538¹	
	top end piece with 1 i.S. with 90° limitation	0	1	20	10737¹	

¹ Connection plate included.






3.4.2 End piece 180°						
silver	top end piece with 1 VZ 180°	1	0	20	52496^{1,2}	
	top end piece with 1 i.S. 180°	0	1	20	10735^{1,2}	
	top and bottom end piece 180°	0	0	20	202747^{1,2}	

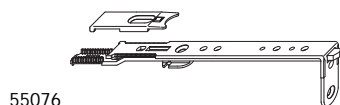
¹ Connection plate included.




² Only in connection with horizontal tilt lock when used at bottom.



3.4.3 End piece with 90° restriction and reverse action Shootbolt				
silver	top end piece 50 mm for turn-only/tilt-only espagnolettes with main-lock case and reverse-action	100	202349	
	top end piece for reverse-action espagnolette 2-sashed with extendable shootbolt-protrusion	100	10837	
	top end piece with 90° limitation with shootbolt	20	10795¹	
	bottom end piece with reverse action for turn-only sashes with shootbolt	20	52841	

¹ Only for 2-sashed windows!







3.4.4 End piece 180° with reverse action Shootbolt				
silver	top end piece 180° with shootbolt	20	55076^{1,2}	

¹ Connection plate included.

² Only for 2-sashed windows!



3.4.5 End piece for half round windows					
silver	top end piece with 2 i.S. for half round turn-only windows	2	10	57927¹	
	top end piece with 3 i.S. for half round turn-only windows	3	10	206685	

¹ Connection plate included.



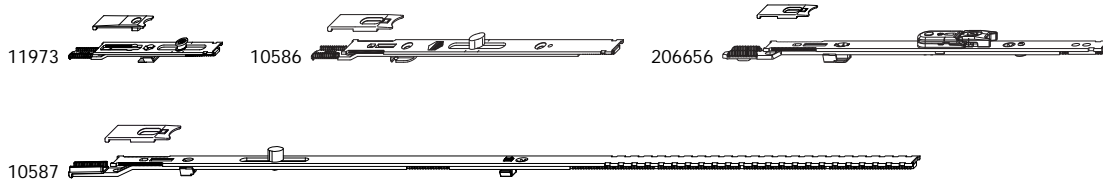
3.5 Tilt lock bolt for drive gears						
silver	tilt lock bolt for windows	0	500 - 1.800	20	52432 ¹	
	tilt lock bolt bottom	1	500 - 2.350	20	203436 ^{1,2}	
	tilt lock bolt for doors	0	1.801 - 2.350	20	52433 ¹	




¹ Connection plate included.

² Only in connection with horizontal tilt lock when used at bottom.



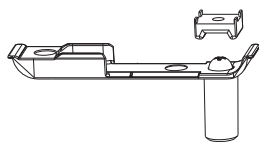
3.6 Extension pieces



3.6.1 Extension pieces				L		No	No Tricoat	
silver	extension piece EH not croppable	0	1	130	20	11973		
				250	20	10719		
	extension piece with sash lifter	0	0	250	20	206656¹		
	extension piece not croppable	0	0	250	20	10585¹		
	extension piece croppable to 400/250 mm		1	0	250	20	10586¹	
			0	1	600	20	10720	
			1	0	600	20	10587¹	
			0	0	600	20	202338	

¹ Can also be supplied in quantities less than one packaging unit.

3.7 Drive gear Accessories



10944

52502



44349



3.7.1 Door catch			No	No Tricoat
silver	door catch for 4 mm air gap	20	10944	
	door catch for timber and PVC	50	52502	
RAL 9022 pearl light grey / silver	packer 3 mm	100	44349 ¹	

¹ Only in combination with door catch 52502.



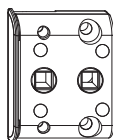
94074

3.7.2 Faceplate restrainer for espagnolette			No	No Tricoat
silver	faceplate restrainer for espagnolette	100	94074	



97537

3.7.3 Run-up block plate			No	No Tricoat
silver	run-up block plate high for sash lifter	100	97537	

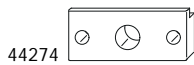



10804

T 3.7.4 Intermediate drive gear			No	No Tricoat
silver	with spindle			
	4 air gap/15 rebate leg/9 offset	-3,5 20	10945 ¹	
	12 air gap/18 rebate leg/9 offset	-6 20	10804 ¹	
	12 air gap/18 rebate leg/13 offset	-6 20	102233 ¹	
	12 air gap/20 rebate leg/9 offset	-6 20	10920 ¹	
	12 air gap/20 rebate leg/13 offset	-6 20	102234 ¹	

¹ Available for PVC windows upon request.

3.7.5 Intermediate drive gear accessories




T 3.7.5.1 Spacer for intermediate drive gear			No	No Tricoat
silver	spacer for intermediate drive gear 13mm offset 10 mm (for SV150-180, SV415a-418-155)	100	43509	
	spacer for intermediate drive gear 13mm offset 10 mm (for SV33, SV103)	100	356970	
	spacer for intermediate drive gear 13mm offset without rebate leg gasket	100	360220	
	spacer for intermediate drive gear 9mm offset 5 mm (for SV150-180, SV415a-418-155)	100	44274 ¹	
	spacer for intermediate drive gear 9mm offset 6 mm (for SV33, SV103)	100	44250 ^{1,2}	
	spacer for intermediate drive gear 9mm offset 7 mm (for SV33, SV103)	100	44300 ³	
	spacer for intermediate drive gear 9mm offset without rebate leg gasket, 1 mm distance	100	360221	

¹ For rebate leg gasket 9 mm offset, without overlap gasket 13 mm offset.

² For rebate leg gasket SV33, SV103.

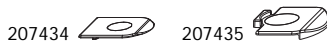
³ For rebate leg gasket plus 1 mm.




T 3.7.5.2 Spindle for intermediate drive gear			No	No Tricoat
silver	spindle for intermediate drive gear 7x20mm profile thickness	100	32365	
	spindle for intermediate drive gear 7x26mm profile thickness	100	32412 ¹	
	spindle for intermediate drive gear 7x30mm profile thickness	100	93228 ²	

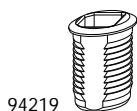
¹ For rebate leg gasket 9 mm offset, without overlap gasket 13 mm offset.


² For rebate leg gasket 13 mm offset.



3.7.6 Anti drill plate for drive gear			No	No Tricoat
silver	anti-drill plate BS 15 hardened	50	207434 ¹	
	anti-drill plate BS 6.5 hardened	50	207435 ¹	

¹ Certified security according to DIN-V ENV 1627



3.7.7 Drill-in bush			No	No Tricoat
silver	drill-in bush for shootbolt 8x4 silver	100	94219	

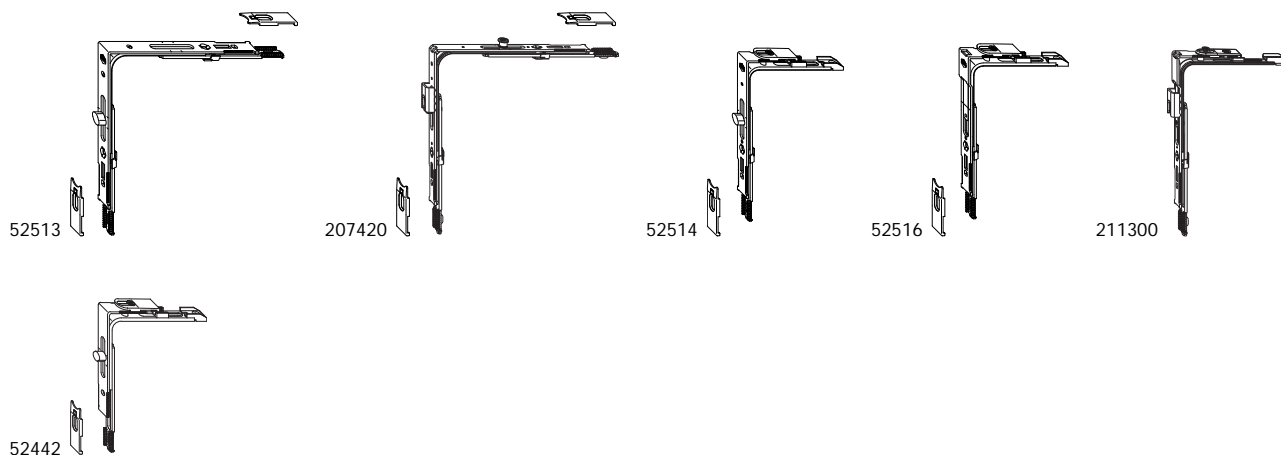


4 Corner elements

4.1	Corner element _____	132
4.1.1	Corner element	132
4.1.2	Corner element for double tilt	132
4.1.3	Corner element i.S.	133
4.1.4	Corner elements for Multi-Stepped Ventilation	133
4.2	Corner elements for pitched window _____	134
4.2.1	Corner element for pitched window i.S.	134
4.3	Corner element for half round and pitched window _____	134
4.4	Corner element for half round windows _____	134
4.5	Accessories for corner elements _____	135
4.5.1	Lifting wedge and screw	135
4.5.2	Connecting plate for corner elements	135
4.5.3	Connection plate for double tilt	135
4.5.4	Travel restriction	135
4.5.5	Catching plate and cylinder screw for multi-stepped ventilation	135

4 Corner elements

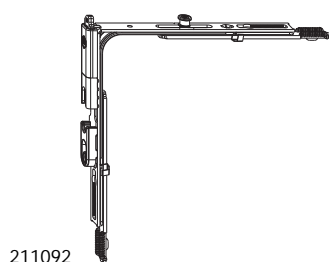
4.1 Corner element



4.1.1 Corner element					No	No Tricoat
silver	A with 1 VZ	400 - 1.650	370 - 2.350	50	52513 ¹	
	A with striker and slider-stop with 1 i.S.	400 - 1.650	370 - 2.350	50	207420 ¹	
	B with 1 VZ	280 - 650	370 - 2.350	50	52514 ^{1,2}	
	B without cam	280 - 650	370 - 2.350	50	224920 ¹	
	C for night ventilation with 1 VZ	400 - 1.650	370 - 2.350	50	54796 ¹	
	C with 2 VZ	400 - 1.650	370 - 2.350	50	52515 ¹	
	D with shootbolt	280 - 650	370 - 2.350	50	52516 ¹	
	D with shootbolt protrusion and welded-on striker	280 - 650	370 - 2.350	50	211300 ¹	
	E with 1 VZ for turn-only window	400 - 1.650	370 - 2.350	50	219064 ¹	
	F with 1 VZ	280 - 650	320 - 2.300	50	52442 ¹	

¹ Connection plate included.

² For SRW 280-285, remove groove fastening from corner element B!



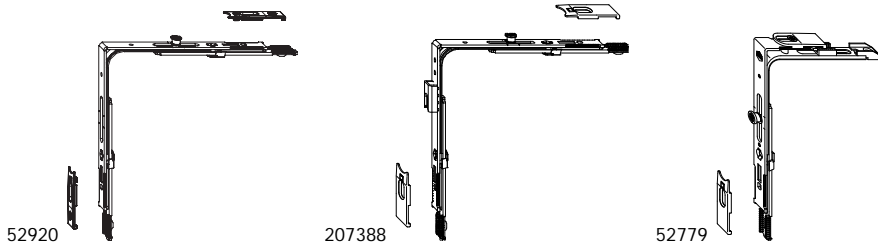
211092

4.1.2 Corner element for double tilt						No	No Tricoat
silver	double-tilt with 1 i.S.	right	400 - 1.050	601 - 1.500	20	211092 ¹	
		left	400 - 1.050	601 - 1.500	20	211093 ¹	
	for double-tilt with 2 i.S.		400 - 1.650	370 - 2.350	20	104087 ^{2,3}	

¹ Use connection plate 102432.

² For first opening sash.

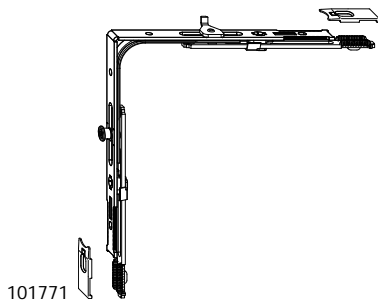
³ Connection plates 102432 included.



4.1.3 Corner element i.S.					No	No Tricoat
silver	A with 1 i.S.	400 - 1.650	370 - 2.350	50	52920 ^{1,2}	
	A with welded-on striker with 1 i.S.	400 - 1.650	370 - 2.350	50	207388 ^{1,2}	
	B with 1 i.S.	280 - 650	370 - 2.350	50	52779 ^{1,2}	
	C for night ventilation with 1 i.S.	400 - 1.650	370 - 2.350	50	52937 ^{1,2}	
	C with 1 i.S. and 1 VZ	400 - 1.650	370 - 2.350	50	52935 ^{1,2}	
	C with 2 i.S.	400 - 1.650	370 - 2.350	50	52936 ^{1,2}	
	E with 1 i.S. for turn-only window	400 - 1.650	370 - 2.350	50	219065 ^{1,2}	
F with 1 i.S.	280 - 650	320 - 2.300	50	52926 ^{1,2}		

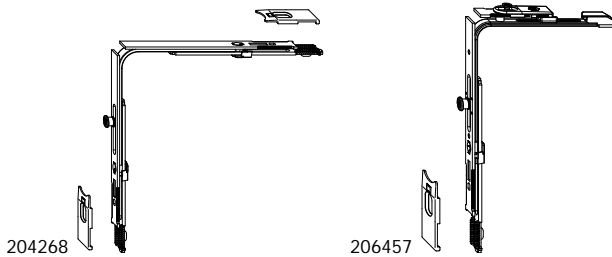
¹ PLEASE NOTE: Not enclosed in stacking pallets.

² Connection plate included.

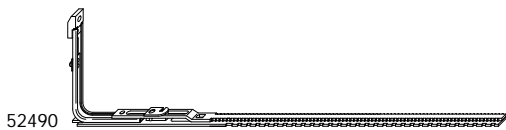


4.1.4 Corner elements for Multi-Stepped Ventilation					No	No Tricoat
silver	with 5 ventilation positions with 1 i.S. for multi-stepped ventilation	400 - 1.000	800 - 1.700	30	101771	
	with 7 ventilation positions with 1 i.S. for multi-stepped ventilation	400 - 1.000	800 - 1.700	30	101772	

4.2 Corner elements for pitched window



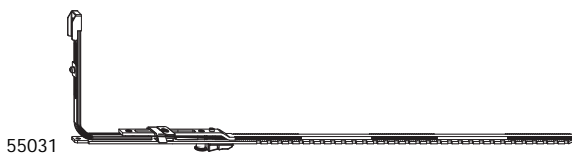
4.2.1 Corner element for pitched window i.S.					
silver	for night ventilation with 1 i.S. for pitched windows	400 - 1.550	20	224147	
	with 1 VZ for pitched windows	400 - 1.650	20	224149	
	A with 1 i.S. for pitched windows	400 - 1.650	20	204268	
	B with 1 i.S. for pitched windows	280 - 650	50	206457	
	C with 2 i.S. for pitched windows	400 - 1.650	20	220038	



4.3 Corner element for half round and pitched window							
silver	lifting wedge and screw M4x8 for half round and pitched windows				20	10943¹	
	without lifting wedge						
	size 1	0	370 - 620	500 - 750	10	52490^{1,2}	
		1	370 - 620	500 - 750	10	57396^{1,2}	
	size 2	0	621 - 820	751 - 950	10	52491^{1,2}	
		1	621 - 820	751 - 950	10	57397^{1,2}	
	size 3	1	821 - 1.070	951 - 1.200	10	52912^{1,2}	
		2	821 - 1.070	951 - 1.200	10	57398^{1,2}	
	size 4	1	1.071 - 1.250	1.201 - 1.450	10	52913^{1,2}	
		2	1.071 - 1.250	1.201 - 1.450	10	57399^{1,2}	

¹ Can also be supplied in quantities less than one packaging unit.

² IMPORTANT for timber windows: If corner element is vertically located in connection with TO corner supports, the vertical leg of the TO corner support must be shortened by 11mm.






4.4 Corner element for half round windows							
silver	with lifting wedge						
	size 1	1	370 - 620	500 - 750	10	55031¹	
	size 2	1	621 - 820	751 - 950	10	55032¹	
	size 3	2	821 - 1.070	951 - 1.200	10	57437¹	
	size 4	2	1.071 - 1.250	1.201 - 1.450	10	57438¹	

¹ Can also be supplied in quantities less than one packaging unit.




4.5 Accessories for corner elements



4.5.1 Lifting wedge and screw				
silver	lifting wedge and screw M4x8 for half round and pitched windows	20	10943 ¹	




¹ Can also be supplied in quantities less than one packaging unit.






4.5.2 Connecting plate for corner elements				
silver	connecting plate For corner element B+D+F short	100	94047	
	connecting plate For corner element Loose short External serration	100	204142 ¹	
	connecting plate For corner element Loose long External serration	200	52522	
	connecting plate For corner element Pre-assembled long Internal serration	100	94050	

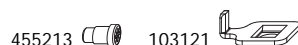
¹ Use only with top installed cam and i.S. striker.






4.5.3 Connection plate for double tilt				
silver	connecting plate for corner element double-tilt internal serration	20	102432	



4.5.4 Travel restriction				
silver	surface mounted PVC travel restrictor 90° surface-mounted	200	357081	
	surface mounted PVC travel restrictor surface-mounted PVC	200	43625	



4.5.5 Catching plate and cylinder screw for multi-stepped ventilation				
silver	Short catching plate for multi-stepped ventilation	1	103121	
	cylinder screw cross recess M5x12	30	455213	



MACO
MULTI TREND



Corner elements

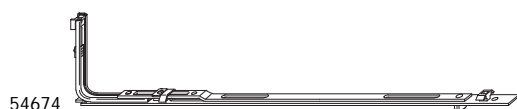







5 Centre locks / Horizontal tilt locks

5.1	Centre locks	138
5.1.1	Centre lock	138
5.1.2	Centre lock with long face plate	138
5.1.3	Centre lock i.S.	138
5.1.4	Centre lock with long face plate i.S.	139
5.1.5	Centre lock i.S. EH	139
5.1.6	Centre lock DIN security	139
5.2	Horizontal tilt locks	140
5.2.1	Horizontal tilt lock i.S.	140
5.2.2	Horizontal tilt lock for half round and pitched window	140
5.3	Accessories for centre locks / Horizontal tilt locks	141
5.3.1	Faceplate strip cover	141
5.3.2	Run up block for horizontal tilt lock	141
5.4	Corner element	141

5 Centre locks / Horizontal tilt locks

5.1 Centre locks

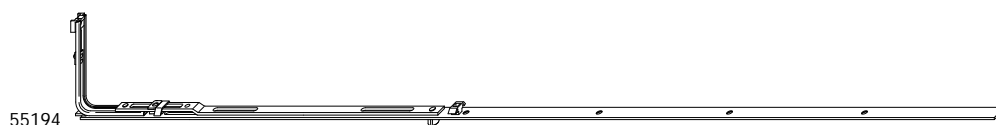







5.1.1 Centre lock						
silver	300	1	601 - 750	20	52453 ¹	
	828	1	1.501 - 1.750	20	52457	
	1.178	2	1.751 - 1.950	10	52458	
	400	1	751 - 1.050	20	54674 ¹	
	528	1	1.051 - 1.300	20	54675	
	628	1	1.301 - 1.500	20	54676 ²	
	1.678	3	1.951 - 2.350	10	59920	
extendable	1.178	2	1.951 - 2.600	10	52823 ³	

¹ It is not possible to connect this to espagnolette size 00.

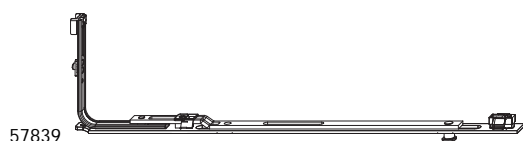
² Application area for 2-sashed windows: SRW 801-1300.






³ Max. application range in connection with bolt extension.



5.1.2 Centre lock with long face plate						
silver	628	1	1.301 - 1.500	10	55060	
	828	1	1.501 - 1.750	10	55061	
	400	1	751 - 1.050	10	55194 ¹	
	528	1	1.051 - 1.300	10	55195	
	1.178	2	1.751 - 1.950	10	55196	

¹ It is not possible to connect this to espagnolette size 00.



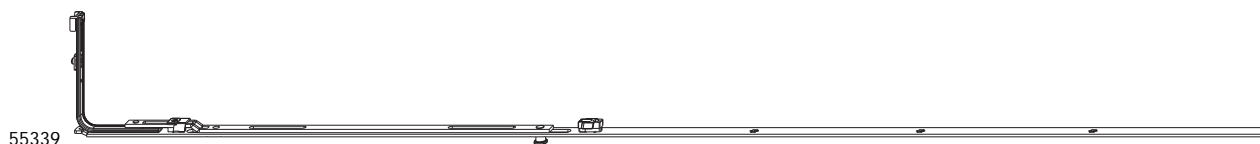
5.1.3 Centre lock i.S.						
Use as centre lock.						
silver	125	1	280 - 600	20	52772 ^{1,2}	
	400	1	751 - 1.050	20	55334 ¹	
	528	1	1.051 - 1.300	20	55335	
	628	1	1.301 - 1.500	20	55336 ³	
	828	1	1.501 - 1.750	20	55337	
	1.178	2	1.751 - 1.950	10	55338	
	300	1	601 - 750	20	57839 ¹	
extendable	1.178	2	1.951 - 2.600	10	55344 ⁴	

¹ It is not possible to connect this to espagnolette size 00.

² Application range on 2-sashed windows: S.R.W. 280-800.

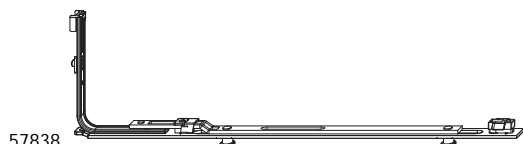
³ Application area for 2-sashed windows: SRW 801-1300.

⁴ Max. application range in connection with bolt extension.



5.1.4 Centre lock with long face plate i.S.						
Use as centre lock.						
silver	400	1	751 - 1.050	10	55339¹	
	528	1	1.051 - 1.300	10	55340	
	628	1	1.301 - 1.500	10	55341	
	828	1	1.501 - 1.750	10	55342	
	1.178	2	1.751 - 1.950	10	55343	

¹ It is not possible to connect this to espagnolette size 00.



5.1.5 Centre lock i.S. EH								
silver	125	1	280 - 480	280 - 600	20	52772		
	300	2	481 - 600	601 - 750	20	57838¹		
	400	2	601 - 800	751 - 1.050	20	52773²		
	528	2		1.051 - 1.300	20	52774		
	628	2	801 - 1.000	1.301 - 1.500	20	52775³		
	828	2	1.001 - 1.200	1.501 - 1.750	20	52776		
	1.028	3	1.201 - 1.300	1.201 - 1.400	10	55441¹		
	1.178	3	1.301 - 1.500	1.751 - 1.950	10	57277		
	extendable	1.178	3		1.951 - 2.600	10	10905⁴	
		1.678	4		1.951 - 2.350	10	59921	
	2.178	5		2.351 - 2.600	10	209636		

¹ To be used on B.R.G.2 (RC) windows in accordance with EN 1627-30.

² It is not possible to connect this to espagnolette size 00.

³ Application area for 2-sashed windows: SRW 801-1300.

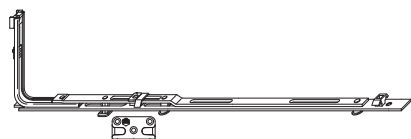
⁴ Max. application range in connection with bolt extension.









5.1.6 Centre lock DIN security							
		Corner element with 1 i.S.		Corner element with 2 i.S.			
silver	size 2	2	630 - 850	800 - 1.000	10	52914	
	size 3	3	851 - 1.100	1.001 - 1.250	10	52915	
	size 4	3	1.001 - 1.350	1.251 - 1.500	10	52916¹	
	size 6	4	1.700 - 1.950	1.850 - 2.100	10	52917	

¹ For application range S.R.H. 1501-1849mm use extensions with i.S. cams.

5.2 Horizontal tilt locks

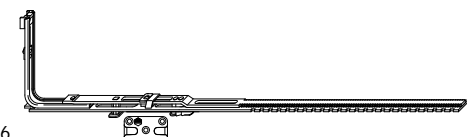


52767






5.2.1 Horizontal tilt lock i.S.							
		Use as centre lock		For basic security			
silver	175	1	280 - 480	280 - 600	20	52812 ^{1,2}	
					20	59929 ²	
	300	2	481 - 600	601 - 750	20	57207 ^{1,2}	
	400	2	601 - 800	751 - 1.050	20	203279 ²	
					20	52767 ^{1,2}	
	528	2		1.051 - 1.300	20	205922 ²	
					20	52768 ^{1,2}	
	628	2	801 - 1.000	1.301 - 1.500	20	205923 ²	
					20	52769 ^{1,2}	
	828	2	1.001 - 1.200	1.501 - 1.650	20	52770 ²	
1.028	3	1.201 - 1.300	1.651 - 2.350	10	55879 ²		
1.178	3	1.301 - 1.500	1.651 - 2.350	10	52771 ²		

¹ It is not possible to connect this to espagnolette size 00.

² Not suitable for 4mm air gap; use centre lock EH instead.



500016

5.2.2 Horizontal tilt lock for half round and pitched window							
silver	with lifting wedge	size 1	1	450 - 620	10	500016 ^{1,2}	
		size 2	1	621 - 870	10	500017 ^{1,2}	
		size 3	2	821 - 1.070	10	500018 ^{1,2}	
		size 4	2	1.071 - 1.250	10	500019 ^{1,2}	
	without lifting wedge	size 1	1	450 - 620	10	52782 ^{2,3}	
		size 2	1	621 - 870	10	52783 ^{2,3}	
		size 3	2	871 - 1.070	10	52784 ^{2,3}	
		size 4	2	1.071 - 1.250	10	52785 ^{2,3}	


¹ For arched and pitched windows

² Do not use for 4 mm air gap.


³ Only for pitched windows

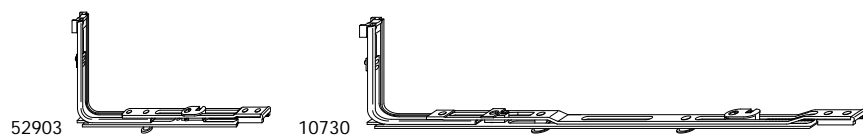
5.3 Accessories for centre locks / Horizontal tilt locks



94019 

5.3.1 Faceplate strip cover		L		No	No Tricoat
silver	faceplate strip cover	1.400	10	94019	
		2.200	10	94020	

44228 

5.3.2 Run up block for horizontal tilt lock			No	No Tricoat
silver	run-up block for striker plate	100	44228	



5.4 Corner element			L		No	No Tricoat
silver	extendable	1	170	20	52903 ¹	
		2	315	20	10730 ¹	

¹ Connection plate included.



MACO
MULTI TREND



Centre locks / Horizontal tilt locks



6 Scissor stays







6.1	Rebated scissor stay _____	144
6.2	Scissor stay TO _____	147
6.3	Comfort scissor stay _____	148
6.4	Rebated scissor stay MULTI MAMMUT _____	149
6.5	Scissor stay TV _____	151
6.6	Scissor Stay INVISIBLE _____	152
6.7	Scissor stay MULTI POWER _____	154
6.8	Tilt stays _____	155
6.9	Horizontal tilt stays _____	155
6.10	Restrictor and cleaning stays _____	156
6.11	Accessories scissor stay _____	157

6 Scissor stays

6.1 Rebated scissor stay

52446








6.1.1 Rebated scissor stay							
silver	size 00	0	400 - 430	280 - 310	10	52443 ¹	
	size 0	0	431 - 600	311 - 500	10	52444 ¹	
	size 1	1	646 - 800		10	206756 ¹	
		0	601 - 800		10	52445 ¹	
	size 2	1	801 - 1.050		10	52446 ¹	
	size 3	1	1.051 - 1.300		10	52447 ¹	
	size 4	1	1.301 - 1.400		10	52448 ¹	

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.

52904









6.1.2 Rebated scissor stay i.S.						
silver	size 2	1	801 - 1.050	10	52904 ¹	
	size 3	1	1.051 - 1.300	10	52905 ¹	
	size 4	1	1.301 - 1.400	10	52906 ¹	

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.

52664








6.1.3 Night vent Rebated scissor stay							
silver	right	size 0	0	431 - 600	311 - 500	10	52660 ¹
		size 1	1	646 - 800		10	206757 ¹
			0	601 - 800		10	52662 ¹
		size 2	1	801 - 1.050		10	52664 ¹
		size 3	1	1.051 - 1.300		10	52666 ¹
	left	size 0	0	431 - 600	311 - 500	10	52661 ¹
		size 1	1	646 - 800		10	206758 ¹
			0	601 - 800		10	52663 ¹
		size 2	1	801 - 1.050		10	52665 ¹
		size 3	1	1.051 - 1.300		10	52667 ¹

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.

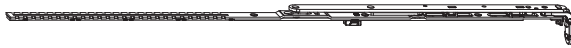
55959



6.1.4 Night vent Rebated scissor stay i.S.						
silver	right	size 2	1	801 - 1.050	10	55959 ¹
		size 3	1	1.051 - 1.300	10	55961 ¹
	left	size 2	1	801 - 1.050	10	55960 ¹
		size 3	1	1.051 - 1.300	10	55962 ¹

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.

52498



6.1.5 Rebated scissor stay for pitched window						No	No Tricoat
		Pitched length					
silver	size 0	0	430 - 630	10		52497	
	size 1	0	500 - 800	10		52498	
	size 2	1	801 - 1.050	10		52499	
	size 3	1	1.051 - 1.300	10		52500	

57919

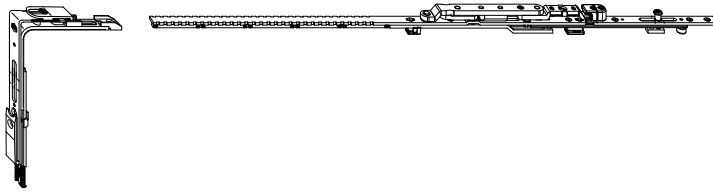


6.1.6 Rebated scissor stay for pitched window i.S.						No	No Tricoat
		Pitched length					
silver	size 2	1	801 - 1.050	10		57919	
	size 3	1	1.051 - 1.300	10		57920	

10724



10525



58183



6.1.7 Rebated scissor stays for half round windows i.S. 9 mm and 13 mm offset								No	No Tricoat
silver	with upward coupling possibility	0		370 - 1.250	80	10		58183	
	with corner element B	size 0	1	390 - 500	370 - 620	80	10	10525 ^{1,2}	
		size 1	1		370 - 620	80	10	10976	
		size 2	2		621 - 1.250	80	10	10724	

¹ Consists of corner element B 54554 and scissor stay 57921.

² PLEASE NOTE: No corner support with rebate screw-fixing possible! Max. timber sash weight 60kg!

103748









6.1.8 Rebated scissor stays for half round windows i.S. for 13 mm offset								No	No Tricoat
silver	with corner element B	size 0	1	390 - 500	370 - 620	80	10	103748	
		size 1	1		370 - 620	80	10	103749	
		size 2	2		621 - 1.250	80	10	103750	



52960








6.1.9 Tilt-first rebated scissor stays							
silver	size 00	0	400 - 430	280 - 310	10	220122 ¹	
	size 0	0	431 - 600	311 - 500	10	52958 ¹	
	size 1	0	601 - 800		10	52959 ¹	
	size 2	1	801 - 1.050		10	52960 ¹	
	size 3	1	1.051 - 1.300		10	52961 ¹	

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.

220474



6.1.10 Tilt-first rebated scissor stays i.S.						
silver	size 2	1	801 - 1.050	10	220474	
	size 3	1	1.051 - 1.300	10	220475	

6.2 Scissor stay TO

52907

6.2.1 Scissor stay i.S. without scissor stay support arm						No	No Tricoat
silver	size 00	0	400 - 430	280 - 310	10	55150 ¹	
	size 0	0	431 - 600	311 - 500	10	55155 ¹	
	size 1	0	601 - 800		10	55156 ¹	
	size 2	1	801 - 1.050		10	52907 ¹	
	size 3	1	1.051 - 1.300		10	52908 ¹	
	size 4	1	1.301 - 1.400		10	52909 ¹	

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.

57924

6.2.2 Scissor stay for pitched window i.S.					No	No Tricoat	
silver			Pitched length				
	size 0	0	430 - 630	10	55152		
	size 1	0	500 - 800	10	55376		
	size 2	1	801 - 1.050	10	57924		
	size 3	1	1.051 - 1.300	10	57925		



6.2.3 Scissor stay for half round window i.S.							No	No Tricoat
silver	with corner element B	size 0	1	390 - 500	370 - 620	80	10	10836 ^{1,2}
		size 1	1		370 - 620	80	10	10978
		size 2	2		621 - 1.250	80	10	10726

¹ Consists of corner element B 54554 and scissor stay 57921.






² PLEASE NOTE: No corner support with rebate screw-fixing possible! Max. timber sash weight 60kg!

52964

6.2.4 Tilt-first scissor stays						No	No Tricoat
silver	size 00	0	400 - 430	280 - 310	10	220127	
	size 0	0	431 - 600	311 - 500	10	52962	
	size 1	0	601 - 800		10	52963	
	size 2	1	801 - 1.050		10	52964	
	size 3	1	1.051 - 1.300		10	52965	







6.3 Comfort scissor stay



6.3.1 Scissor stay arm for comfort scissor stay						
silver	right	490 - 1.400	80	10	215051 ¹	
	left	490 - 1.400	80	10	215052 ¹	

¹ Can also be supplied in quantities less than one packaging unit.








6.3.2 Scissor stay faceplate for i.S. comfort scissors								
silver	right	size 1	0	601 - 800	500 - 600	10	215057 ¹	
		size 2	1	801 - 1.050		10	215059 ¹	
	left	size 1	0	601 - 800	500 - 600	10	215058 ¹	
		size 2	1	801 - 1.050		10	215060 ¹	

¹ Can also be supplied in quantities less than one packaging unit.

6.4 Rebated scissor stay MULTI MAMMUT



223462






6.4.1 Rebated scissor stays MULTI MAMMUT 9 mm offset								No	No Tricoat	
silver	right	12/18-9	size 0	0	426 - 670	310 - 425	180	10	223456	
			size 1	1	671 - 900	601 - 670	180	10	223458	
			size 2	1	901 - 1.200		180	10	223460	
			size 3	2	1.201 - 1.500		180	5	223462 ¹	
	left	12/18-9	size 0	0	426 - 670	310 - 425	180	10	223457	
			size 1	1	671 - 900	601 - 670	180	10	223459	
			size 2	1	901 - 1.200		180	10	223461	
			size 3	2	1.201 - 1.500		180	5	223463 ¹	
	right	12/20-9	size 0	0	426 - 670	310 - 425	180	10	223472	
			size 1	1	671 - 900	601 - 670	180	10	223474	
			size 2	1	901 - 1.200		180	10	223476	
			size 3	2	1.201 - 1.500		180	5	223478 ¹	
left	12/20-9	size 0	0	426 - 670	310 - 425	180	10	223473		
		size 1	1	671 - 900	601 - 670	180	10	223475		
		size 2	1	901 - 1.200		180	10	223477		
		size 3	2	1.201 - 1.500		180	5	223479 ¹		
RAL 9016 traffic white	right	12/18-9	size 0	0	426 - 670	310 - 425	180	10	223488	
			size 1	1	671 - 900	601 - 670	180	10	223490	
			size 2	1	901 - 1.200		180	10	223492	
			size 3	2	1.201 - 1.500		180	5	223494 ¹	
	left	12/18-9	size 0	0	426 - 670	310 - 425	180	10	223489	
			size 1	1	671 - 900	601 - 670	180	10	223491	
			size 2	1	901 - 1.200		180	10	223493	
			size 3	2	1.201 - 1.500		180	5	223495 ¹	
	right	12/20-9	size 0	0	426 - 670	310 - 425	180	10	223504	
			size 1	1	671 - 900	601 - 670	180	10	223506	
			size 2	1	901 - 1.200		180	10	223508	
			size 3	2	1.201 - 1.500		180	5	223510 ¹	
left	12/20-9	size 0	0	426 - 670	310 - 425	180	10	223505		
		size 1	1	671 - 900	601 - 670	180	10	223507		
		size 2	1	901 - 1.200		180	10	223509		
		size 3	2	1.201 - 1.500		180	5	223511 ¹		

¹ From SRW 1401 mm, use of the stabilizing stay is recommended





223470

6.4.2 Rebated scissor stays MULTI MAMMUT 13 mm offset								No	No Tricoat	
silver	right	12/18-13	size 0	0	426 - 670	310 - 425	180	10	223464	
			size 1	1	671 - 900	601 - 670	180	10	223466	
			size 2	1	901 - 1.200		180	10	223468	
			size 3	2	1.201 - 1.500		180	5	223470 ¹	
	left	12/18-13	size 0	0	426 - 670	310 - 425	180	10	223465	
			size 1	1	671 - 900	601 - 670	180	10	223467	
			size 2	1	901 - 1.200		180	10	223469	
			size 3	2	1.201 - 1.500		180	5	223471 ¹	
	right	12/20-13	size 0	0	426 - 670	310 - 425	180	10	223480	
			size 1	1	671 - 900	601 - 670	180	10	223482	
			size 2	1	901 - 1.200		180	10	223484	
			size 3	2	1.201 - 1.500		180	5	223486 ¹	
left	12/20-13	size 0	0	426 - 670	310 - 425	180	10	223481		
		size 1	1	671 - 900	601 - 670	180	10	223483		
		size 2	1	901 - 1.200		180	10	223485		
		size 3	2	1.201 - 1.500		180	5	223487 ¹		
RAL 9016 traffic white	right	12/18-13	size 0	0	426 - 670	310 - 425	180	10	223496	
			size 1	1	671 - 900	601 - 670	180	10	223498	
			size 2	1	901 - 1.200		180	10	223500	
			size 3	2	1.201 - 1.500		180	5	223502 ¹	
	left	12/18-13	size 0	0	426 - 670	310 - 425	180	10	223497	
			size 1	1	671 - 900	601 - 670	180	10	223499	
			size 2	1	901 - 1.200		180	10	223501	
			size 3	2	1.201 - 1.500		180	5	223503 ¹	
	right	12/20-13	size 0	0	426 - 670	310 - 425	180	10	223512	
			size 1	1	671 - 900	601 - 670	180	10	223514	
			size 2	1	901 - 1.200		180	10	223516	
			size 3	2	1.201 - 1.500		180	5	223518 ¹	
left	12/20-13	size 0	0	426 - 670	310 - 425	180	10	223513		
		size 1	1	671 - 900	601 - 670	180	10	223515		
		size 2	1	901 - 1.200		180	10	223517		
		size 3	2	1.201 - 1.500		180	5	223519 ¹		

¹ From SRW 1401 mm, use of the stabilizing stay is recommended

6.5 Scissor stay TV

52753

6.5.1 Scissor stay faceplate TV							No	No Tricoat
silver	right	size 0	0	431 - 630	311 - 500	10	52753	
		size 1	0	601 - 800		10	54918	
		size 2	1	801 - 1.050		10	52757	
		size 3	1	1.051 - 1.300		10	54920	
	left	size 0	0	431 - 630	311 - 500	10	52754	
		size 1	0	601 - 800		10	54919	
		size 2	1	801 - 1.050		10	52758	
		size 3	1	1.051 - 1.300		10	54921	

54926

T 6.5.2 Scissor stay arm TV						No	No Tricoat	
silver	right	9mm offset	size 0-1	311 - 800	100	10	54926 ¹	
			size 2-3	801 - 1.300	100	10	54928 ¹	
	left	9mm offset	size 0-1	311 - 800	100	10	54927 ¹	
			size 2-3	801 - 1.300	100	10	54929 ¹	
	right	13mm offset	size 0-1	311 - 800	100	10	54884 ¹	
			size 2-3	801 - 1.300	100	10	54924 ¹	
	left	13mm offset	size 0-1	311 - 800	100	10	54885 ¹	
			size 2-3	801 - 1.300	100	10	54925 ¹	

¹ Available for PVC windows upon request.





58298

6.5.3 Rebated scissor stay i.S. for half round window							No	No Tricoat	
silver	right	9mm offset	size 0	1	370 - 620	60	10	58298	
			size 2	2	621 - 1.250	60	10	58350	
	left	9mm offset	size 0	1	370 - 620	60	10	58299	
			size 2	2	621 - 1.250	60	10	58351	
	right	13mm offset	size 0	1	370 - 620	60	10	55357	
			size 2	2	621 - 1.250	60	10	55434	
	left	13mm offset	size 0	1	370 - 620	60	10	55358	
			size 2	2	621 - 1.250	60	10	55435	

6.6 Scissor Stay INVISIBLE

206318



6.6.1 T&T / tilt-first scissor stay faceplates INVISIBLE						No	No Tricoat
silver	size 0	0	490 - 710	395 - 600	20	206316 ^{1,2}	
	size 1	0	711 - 800		20	206317 ^{1,2}	
	size 2	1	801 - 1.050		20	206318 ^{1,2,3}	




¹ Can also be supplied in quantities less than one packaging unit.

² Suitable for 9V and 13V.

³ Max. application range 1310 mm with extension piece.





206337



6.6.2 T&T scissor stay arms with hinge INVISIBLE						No	No Tricoat	
silver	right	9mm offset 18mm rebate depth	size 0	395 - 710	80	10	212670	
			size 1-2	711 - 1.300	80	10	212666	
	left	9mm offset 18mm rebate depth	size 0	395 - 710	80	10	212671	
			size 1-2	711 - 1.300	80	10	212667	
7mm screw axis	right	9mm offset	size 0	395 - 710	100	10	206332	
			size 1-2	711 - 1.300	100	10	206345	
	left	9mm offset	size 0	395 - 710	100	10	206333	
			size 1-2	711 - 1.300	100	10	206346	
13mm screw axis	right	13mm offset	size 0	395 - 710	100	10	206334	
			size 1-2	711 - 1.300	100	10	206347	
	left	13mm offset	size 0	395 - 710	100	10	206335	
			size 1-2	711 - 1.300	100	10	206348	
	right	9mm offset	size 0	395 - 710	100	10	206336	
			size 1-2	711 - 1.300	100	10	206349	
	left	9mm offset	size 0	395 - 710	100	10	206337	
			size 1-2	711 - 1.300	100	10	206350	
	right	13mm offset	size 0	395 - 710	100	10	206338	
			size 1-2	711 - 1.300	100	10	206351	
	left	13mm offset	size 0	395 - 710	100	10	206339	
			size 1-2	711 - 1.300	100	10	206352	

207762



6.6.3 Tilt-first scissor stay faceplates INVISIBLE						No	No Tricoat
silver	size 0	0	490 - 710	395 - 600	20	207762 ^{1,2}	
	size 1	0	711 - 800		20	207763 ^{1,2}	
	size 2	1	801 - 1.050		20	207764 ^{1,2,3}	

¹ Can also be supplied in quantities less than one packaging unit.

² Suitable for 9V and 13V.

³ Max. application range 1310 mm with extension piece.



207685








6.6.4 Tilt-first scissor stay arms with hinge INVISIBLE								 Tricoat	
silver	right	9mm offset 18mm rebate depth	size 0	395 - 710	80	10	212674		
			size 1-2	711 - 1.300	80	10	212678		
	left	9mm offset 18mm rebate depth	size 0	395 - 710	80	10	212675		
			size 1-2	711 - 1.300	80	10	212679		
	7mm screw axis	right	9mm offset	size 0	395 - 710	100	10	207685	
				size 1-2	711 - 1.300	100	10	207695	
		left	9mm offset	size 0	395 - 710	100	10	207686	
				size 1-2	711 - 1.300	100	10	207696	
		right	13mm offset	size 0	395 - 710	100	10	207687	
				size 1-2	711 - 1.300	100	10	207697	
	left	13mm offset	size 0	395 - 710	100	10	207688		
			size 1-2	711 - 1.300	100	10	207698		
	13mm screw axis	right	9mm offset	size 0	395 - 710	100	10	207689	
				size 1-2	711 - 1.300	100	10	207699	
		left	9mm offset	size 0	395 - 710	100	10	207690	
				size 1-2	711 - 1.300	100	10	207700	
		right	13mm offset	size 0	395 - 710	100	10	207691	
				size 1-2	711 - 1.300	100	10	207701	
	left	13mm offset	size 0	395 - 710	100	10	207692		
			size 1-2	711 - 1.300	100	10	207702		






6.7 Scissor stay MULTI POWER

224107 




6.7.1 Turn&tilt / tilt-first scissor stay faceplates MULTI POWER							L			No	No Tricoat
silver	size 0	0	500 - 600	385 - 500	474	150	20	224105			
	size 1	0	601 - 800					669	150	20	224106
	size 2	1	801 - 1.050	919	150	20	224107				
	size 3	1	1.051 - 1.300	1.159	150	20	224108 ¹				

¹ A stabilizing scissor stay is compulsory from a SRW of 1301 mm.

217474 

6.7.2 Turn&tilt scissor stay arms with hinge for timber MULTI POWER				L				No	No Tricoat	
silver	right	9mm offset	size 0-1	timber 24mm rebate depth	330	385 - 800	150	10	217468	
			size 2-3	timber 24mm rebate depth	442	801 - 1.300	150	10	217472	
	left	9mm offset	size 0-1	timber 24mm rebate depth	330	385 - 800	150	10	217469	
			size 2-3	timber 24mm rebate depth	442	801 - 1.300	150	10	217473	
	right	13mm offset	size 0-1	timber 24mm rebate depth	330	385 - 800	150	10	217470	
			size 2-3	timber 24mm rebate depth	442	801 - 1.300	150	10	217474	
	left	13mm offset	size 0-1	timber 24mm rebate depth	330	385 - 800	150	10	217471	
			size 2-3	timber 24mm rebate depth	442	801 - 1.300	150	10	217475	

217482 

6.7.3 T&T scissor stay arms with hinge for PVC MULTI POWER				L				No	No Tricoat	
silver	right	9mm offset	size 0-1	PVC 30mm rebate depth	330	385 - 800	150	10	217476	
			size 2-3	PVC 30mm rebate depth	442	801 - 1.300	150	10	217480	
	left	9mm offset	size 0-1	PVC 30mm rebate depth	330	385 - 800	150	10	217477	
			size 2-3	PVC 30mm rebate depth	442	801 - 1.300	150	10	217481	
	right	13mm offset	size 0-1	PVC 30mm rebate depth	330	385 - 800	150	10	217478	
			size 2-3	PVC 30mm rebate depth	442	801 - 1.300	150	10	217482	
	left	13mm offset	size 0-1	PVC 30mm rebate depth	330	385 - 800	150	10	217479	
			size 2-3	PVC 30mm rebate depth	442	801 - 1.300	150	10	217483	

217490



6.7.4 Tilt-first scissor stay arms with hinge for timber MULTI POWER					L				No	No Tricoat
silver	right	9mm offset	size 0-1	timber 24mm rebate depth	330	385 - 800	150	10	217484	
			size 2-3	timber 24mm rebate depth	442	801 - 1.300	150	10	217488	
	left	9mm offset	size 0-1	timber 24mm rebate depth	330	385 - 800	150	10	217485	
			size 2-3	timber 24mm rebate depth	442	801 - 1.300	150	10	217489	
	right	13mm offset	size 0-1	timber 24mm rebate depth	330	385 - 800	150	10	217486	
			size 2-3	timber 24mm rebate depth	442	801 - 1.300	150	10	217490	
	left	13mm offset	size 0-1	timber 24mm rebate depth	330	385 - 800	150	10	217487	
			size 2-3	timber 24mm rebate depth	442	801 - 1.300	150	10	217491	

217498



6.7.5 Tilt-first scissor stay arms with hinge for PVC MULTI POWER					L				No	No Tricoat
silver	right	9mm offset	size 0-1	PVC 30mm rebate depth	330	385 - 800	150	10	217492	
			size 2-3	PVC 30mm rebate depth	442	801 - 1.300	150	10	217496	
	left	9mm offset	size 0-1	PVC 30mm rebate depth	330	385 - 800	150	10	217493	
			size 2-3	PVC 30mm rebate depth	442	801 - 1.300	150	10	217497	
	right	13mm offset	size 0-1	PVC 30mm rebate depth	330	385 - 800	150	10	217494	
			size 2-3	PVC 30mm rebate depth	442	801 - 1.300	150	10	217498	
	left	13mm offset	size 0-1	PVC 30mm rebate depth	330	385 - 800	150	10	217495	
			size 2-3	PVC 30mm rebate depth	442	801 - 1.300	150	10	217499	

209723

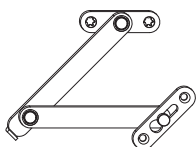


101548



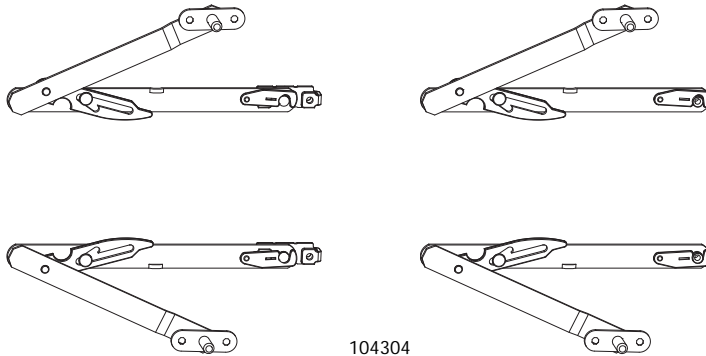
6.8 Tilt stays					L		No	No Tricoat
silver	tilt stay with fixing tab				205	20	209723	
	tilt stay with fixing tab with screwhole mounting				205	20	101548	

11026



6.9 Horizontal tilt stays					L		No	No Tricoat
silver					190	20	11026	
					250	20	11027	

6.10 Restrictor and cleaning stays



455347

104304

6.10.1 Restrictor and cleaning stays							
silver	Restrictor and cleaning stay with fixing tab	size 1	300 - 500	40	10	455347 ¹	
		size 2	501 - 1.200	40	10	455348 ²	
	restrictor and cleaning stay with screw hole fixing	size 1	300 - 500	40	10	104304 ³	
		size 2	501 - 1.200	40	10	104305 ³	

¹ application range fully concealed hardware: 520 - 620 mm

² application range fully concealed hardware: 621 - 1200 mm

³ Restrictor and cleaning stay with hole suspension mount

6.10.2 Accessories for restrictor and cleaning stay

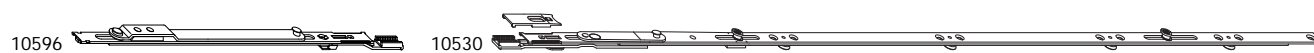
455386

P 6.10.2.1 Spacer plates						
silver	spacer plate for restrictor and cleaning stay	1 mm		20	455386	
		3 mm		20	455349	
		5° pitched		20	455388	
		6 mm		20	455387	

368425

6.10.2.2 Hinge bolt						
silver	hinge bolt with screw hole for restrictor and cleaning stay		40	100	368425	

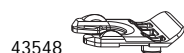
6.11 Accessories scissor stay



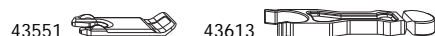
6.11.1 Stabilizing scissor stay		L		No	No Tricoat
silver	stabilizing scissor stay for turn&tilt	350	20	10596 ¹	
	stabilizing scissor stay for tilt-first	350	20	11246 ¹	
	stabilizing scissor stay for night vent left	350	20	203522 ¹	
	stabilizing scissor stay for night vent right	350	20	203521 ¹	
	stabilizing scissor stay for half round windows	945	10	10530 ²	

¹ If the scissors-stay stop is used with the T&T scissor stay, use stabilizing scissor stay limiter order no 43613. From SRW 1401 mm or a sash weight above 100 kg, use of the stabilizing scissor stay is compulsory!

² The use of an additional scissor-stay is mandatory from 1070 mm SRW or 60 kg sash weight.



6.11.2 Scissor stay anti-slam device			No	No Tricoat
RAL 9016 traffic white	for scissor stay, sizes 2-4 or 1050/1300	100	43549	
black	for scissor stay, sizes 00-1 or 400/600/800	100	43548	

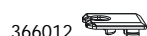


6.11.3 Scissor stay restrictor			No	No Tricoat
RAL 9016 traffic white	for scissor stay, sizes 2-4 or 1050/1300	100	43552 ^{1,3}	
	for stabilizing scissor stay	100	43613 ¹	
black	for scissor stay, sizes 00-1 or 400/600/800	100	43551 ^{1,2}	

¹ Scissor stay restrictor absolutely necessary for SRH below 600 mm. A scissor stay restrictor may be necessary for a SRH above 600 mm, if required by the window profile and/or the window geometry.

² Opening dimension: 75 mm on scissors-stay sizes 00 & 0, and 60 mm on scissors-stay size 1.

³ Opening dimension: 80 mm on scissors-stay size 2, and 60 mm on scissors-stay sizes 3 & 4.



6.11.4 MULTI POWER scissor stay restrictor			No	No Tricoat
blue	for scissor stay MULTI POWER, sizes 0/1 or 600/800	100	366011 ¹	
brown	for scissor stay MULTI POWER, sizes 2/3 or 1050/1300	100	366012 ²	

¹ Opening dimension: 75 mm for scissor stay sizes 600; 60 mm for size 800.

² Opening dimension: 80 mm on scissors-stay sizes 150; 60 mm on size 1300.



6.11.5 Anti-slam device / scissor stay restrictor for MULTI MAMMUT scissor stay			No	No Tricoat
silver	Anti-slam device with high catching force for 180 kg scissor stay	50	368075	
	Anti-slam device with low catching force for 180 kg scissor stay	50	368076	
	Anti-slam device for scissor stay restrictor for 180 kg scissor stays	50	368077	

MACO
MULTI TREND



Scissor stays



7 Turn-only hinges and compression devices

7.1	Turn-only hinges _____	160
7.2	Tilt-only and turn-only hinges _____	161
7.3	Turn-only hinge TV _____	162
7.4	Tilt-only / turn-only hinges INVISIBLE _____	163
7.5	Tilt-only / turn-only hinge MULTI POWER _____	164
7.6	Turn-only hinge MULTI MAMMUT _____	166
7.7	Turn-only hinge 3-sashed _____	167
7.8	Multi-sash centre frame hinge _____	168
7.9	Compression devices _____	170
7.10	Cover caps _____	173

7 Turn-only hinges and compression devices

7.1 Turn-only hinges



7.1.1 Turn-only hinges AS/DT/PVC		L	kg	Units	No	No Tricoat
silver	turn-only hinge croppable with scissors stay end-bracket without rebated scissor stay support arm	430	130	10	207115	
	turn-only hinge on top DT timber	152	130	50	52702 ¹	
	turn-only hinge on top PVC + AS corner hinge version	143	120	50	52462 ²	

¹ For 13 mm offset without Eurogroove use spacer clips 357881.

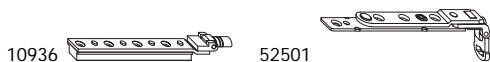
² Only suitable for timber windows with hardware groove.



T	7.1.2 Turn-only hinges TO	L	kg	Units	No	No Tricoat
	turn-only hinge croppable TO without scissor stay support arm	430	130	10	207116	
	turn-only hinge on top TO 15 rebate leg	143	130	50	55417	
	turn-only hinge on top TO 18 rebate leg	143	130	50	54777	
	turn-only hinge on top TO 20 rebate leg	143	130	50	54719	
	turn-only hinge on top TO without scissor stay support arm timber	143	130	50	220076	



T	7.1.3 Turn-only hinge packer	L	kg	Units	No	No Tricoat
	natural packer for Eurogroove for turn-only hinge top DT/TO			100	41103	



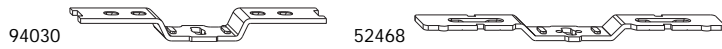
7.1.4 Turn-only hinges for pitched windows AS/DT/TO		L	kg	Units	No	No Tricoat
silver	turn-only hinge on top for pitched windows TO with packer	125	80	20	10936 ¹	
	turn-only hinge on top for pitched windows DT + AS corner hinge version	140	80	50	52501	

¹ Can also be supplied in quantities less than one packaging unit.



7.1.5 Extension faceplate for turn-only hinges		L	kg	Units	No	No Tricoat
silver	DT/TO	180		20	360327	
	AS/PVC	180		20	215572	

7.2 Tilt-only and turn-only hinges



7.2.1 Tilt-only and turn-only hinge AS/DT/PVC		L	kg	cube	No	No Tricoat
silver	tilt-only hinge and turn-only hinge AS/PVC	130	80	100	94030 ^{1,2}	
	tilt-only hinge and turn-only hinge AS/DT	159	80	100	52468 ^{1,3}	

¹ When our restrictor and cleaning stays are used, the maximum sash weight is 40 kg. Observe FPKF guideline of the Gütegemeinschaft Schlösser und Beschläge (quality community for locks and hardware)!

² For Eurogroove

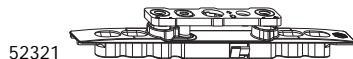
³ Without Eurogroove



T 7.2.2 Tilt-only and turn-only hinge TO		L	kg	cube	No	No Tricoat
silver	tilt-only hinge and turn-only hinge TO with spacers	100	80	50	54775 ^{1,2}	

¹ When our restrictor and cleaning stays are used, the maximum sash weight is 40 kg. Observe FPKF guideline of the Gütegemeinschaft Schlösser und Beschläge (quality community for locks and hardware)!

² Without Eurogroove



7.2.3 Adjustable tilt-only and turn-only hinge AS/DT/PVC		L	kg	cube	No	No Tricoat
silver	tilt-only hinge and turn-only hinge AS/DT/PVC adjustable	146	80	50	52321 ^{1,2}	

¹ When our restrictor and cleaning stays are used, the maximum sash weight is 40 kg. Observe FPKF guideline of the Gütegemeinschaft Schlösser und Beschläge (quality community for locks and hardware)!

² For Eurogroove



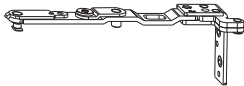
7.3 Turn-only hinge TV



54917

7.3.1 Turn-only hinge faceplate TV		L	kg	boxes	No	No Tricoat
silver	turn-only hinge - sash part TV with packer	187	100	100	54917 ¹	

¹ For Eurogroove



54915

T 7.3.2 Turn-only hinge for turn-only hinge faceplate TV timber		L	kg	boxes	No	No Tricoat
silver	right 9mm offset	170	100	100	54915	
	left 9mm offset	170	100	100	54916	
	right 13mm offset	170	100	100	54922	
	left 13mm offset	170	100	100	54923	



203801

57280

7.3.3 Turn-only hinge (sash part) for half round window TV		L	kg	boxes	No	No Tricoat
silver	9mm offset	150	60	20	203801	
	13mm offset	150	60	50	57280	

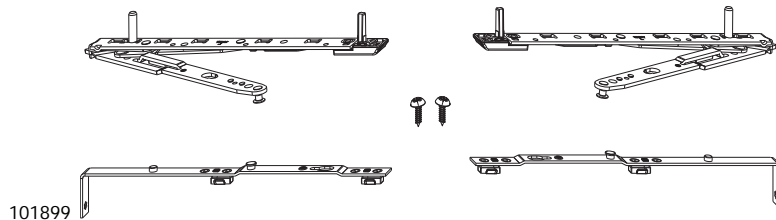
7.4 Tilt-only / turn-only hinges INVISIBLE



208993

7.4.1 Tilt and turn hinge faceplate INVISIBLE		L	kg		No	No Tricoat
silver	turn-only and tilt-only faceplate VV INVISIBLE	290	100	20	208993 ¹	

¹ For combination with smallest scissor stay VV Invisible (395-710).



101899

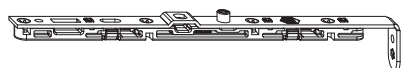
7.4.2 Basic carton tilt-only INVISIBLE					No	No Tricoat
silver	tilt-only 18mm rebate depth 9mm offset	520 - 1.200	300 - 2.400	10	103302	
	7 mm screw axis	tilt-only 9mm offset	520 - 1.200	300 - 2.400	10	101899 ¹
		tilt-only 13mm offset	520 - 1.200	300 - 2.400	10	101900 ¹
	13 mm screw axis	tilt-only 9mm offset	520 - 1.200	300 - 2.400	10	101901 ¹
		tilt-only 13mm offset	520 - 1.200	300 - 2.400	10	101902 ¹

¹ From SRH 520 mm: use restrictor and cleaning stay!



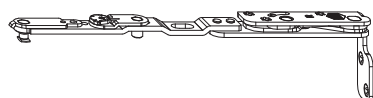
7.5 Tilt-only / turn-only hinge MULTI POWER

7.5.1 Turn-only and tilt-only faceplate / Turn-only and tilt-only support arm with hinge MULTI POWER








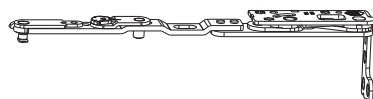
217729

7.5.1.1 Tilt-only / turn-only hinge faceplate fix MULTI POWER								
silver				255 - 1.400	150	20	217729	








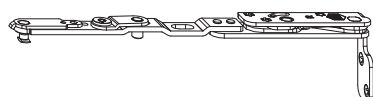
217691

7.5.1.2 Turn-only hinge arm with hinge for timber MULTI POWER								
silver	timber 24mm rebate depth	right	9mm offset	255 - 1.400	150	10	217689	
		left	9mm offset	255 - 1.400	150	10	217690	
		right	13mm offset	255 - 1.400	150	10	217691	
		left	13mm offset	255 - 1.400	150	10	217692	








217695

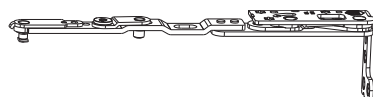
7.5.1.3 Turn-only hinge arms with hinge for PVC/timber MULTI POWER								
silver	PVC 30mm rebate depth	right	9mm offset	255 - 1.400	150	10	217693	
		left	9mm offset	255 - 1.400	150	10	217694	
		right	13mm offset	255 - 1.400	150	10	217695	
		left	13mm offset	255 - 1.400	150	10	217696	








217723

7.5.1.4 Tilt-only hinge arm with hinge for timber MULTI POWER								
silver	timber 24mm rebate depth	right	9mm offset	255 - 1.200	80	10	217721 ¹	
		left	9mm offset	255 - 1.200	80	10	217722 ¹	
		right	13mm offset	255 - 1.200	80	10	217723 ¹	
		left	13mm offset	255 - 1.200	80	10	217724 ¹	

¹ SRW max. 2400 mm. The sash must be stabilized (e.g. taped).






217727

7.5.1.5 Tilt-only hinge arms with hinge for PVC/timber MULTI POWER								
silver	PVC 30mm rebate depth	right	9mm offset	255 - 1.200	80	10	217725 ¹	
		left	9mm offset	255 - 1.200	80	10	217726 ¹	
		right	13mm offset	255 - 1.200	80	10	217727 ¹	
		left	13mm offset	255 - 1.200	80	10	217728 ¹	

¹ SRW max. 2400 mm. The sash must be stabilized (e.g. taped).




7.5.2 Turn-only hinge arm with hinge 3-sashed
MULTI POWER

217715 

T	7.5.2.1 Turn-only hinge arms with hinge 3-sashed timber MULTI POWER							No	No Tricoat
	silver	timber 24mm rebate depth	right	9mm offset					
		right	9mm offset	255 - 1.400	80	10	217713 ¹		
		left	9mm offset	255 - 1.400	80	10	217714 ¹		
		right	13mm offset	255 - 1.400	80	10	217715 ¹		
		left	13mm offset	255 - 1.400	80	10	217716 ¹		

¹ Separate application drawing MULTI POWER 3-sashed, no horizontal formats permitted.

217719 

P	7.5.2.2 Turn-only hinge arms with hinge 3-sashed PVC/timber MULTI POWER							No	No Tricoat
	silver	PVC 30mm rebate depth	right	9mm offset					
		right	9mm offset	255 - 1.400	80	10	217717 ¹		
		left	9mm offset	255 - 1.400	80	10	217718 ¹		
		right	13mm offset	255 - 1.400	80	10	217719 ¹		
		left	13mm offset	255 - 1.400	80	10	217720 ¹		

¹ Separate application drawing MULTI POWER 3-sashed, no horizontal formats permitted.





7.6 Turn-only hinge MULTI MAMMUT

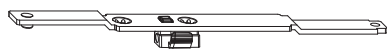


223742

7.6.1 Croppable turn-only hinge MULTI MAMMUT								
silver	right	12/18-9	426 - 1.800	180	10	223742 ¹		
	left	12/18-9	426 - 1.800	180	10	223743 ¹		
	right	12/18-13	426 - 1.800	180	10	223744 ¹		
	left	12/18-13	426 - 1.800	180	10	223745 ¹		
	right	12/20-9	426 - 1.800	180	10	223746 ¹		
	left	12/20-9	426 - 1.800	180	10	223747 ¹		
	right	12/20-13	426 - 1.800	180	10	223748 ¹		
	left	12/20-13	426 - 1.800	180	10	223749 ¹		
	RAL 9016 traffic white	right	12/18-9	426 - 1.800	180	10	223750 ¹	
		left	12/18-9	426 - 1.800	180	10	223751 ¹	
right		12/18-13	426 - 1.800	180	10	223752 ¹		
left		12/18-13	426 - 1.800	180	10	223753 ¹		
right		12/20-9	426 - 1.800	180	10	223754 ¹		
left		12/20-9	426 - 1.800	180	10	223755 ¹		
right		12/20-13	426 - 1.800	180	10	223756 ¹		
left		12/20-13	426 - 1.800	180	10	223757 ¹		

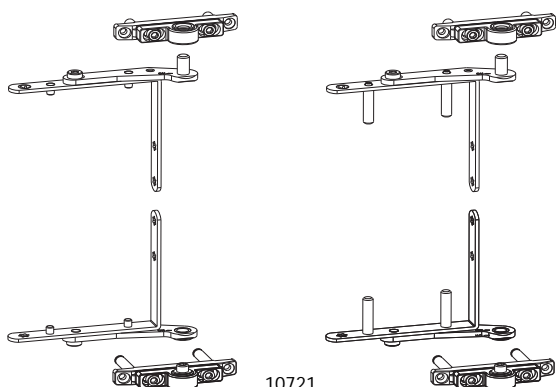
¹ Application range if used as "fixed turn-only hinge". Application range 400-635 mm if used as "croppable turn-only hinge", above this range use faceplate extension or centre lock. Minimum application range for vertical use.

202867



7.6.2 Faceplate extension for turn-only hinge MULTI MAMMUT					
silver			20	202867	

7.7 Turn-only hinge 3-sashed



10755

10721

7.7.1 Turn-only hinge 3-sashed				kg	cube	No	No Tricoat
silver	right	PVC	top + bottom	60	20	10755 ¹	
	left	PVC	top + bottom	60	20	10756 ¹	
	right	timber	top + bottom	80	20	10721 ^{1,2}	
	left	timber	top + bottom	80	20	10722 ^{1,2}	
RAL 9016 traffic white	right	PVC	top + bottom	60	20	10901 ^{1,1,2}	
	left	PVC	top + bottom	60	20	10902 ^{1,1,2}	
	right	timber	top + bottom	80	20	11251 ^{1,2}	
	left	timber	top + bottom	80	20	11252 ^{1,2}	

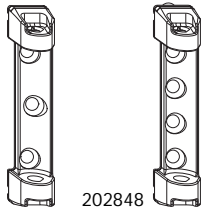
¹ No cover caps are enclosed in the packaging for the frame components for pure silver sash components.

² CAUTION: When using the 2mm and 4mm packers, the max. sash weight is 60 kg!

43709

T	7.7.2 Packer for turn-only hinge 3-sashed	cube	No	No Tricoat
	silver packer 4 mm for 3-sashed turn-only hinge	100	43709	
	white packer 4 mm for 3-sashed turn-only hinge	100	44199	
	RAL 9022 pearl light grey / silver packer 2 mm for 3-sashed turn-only hinge	100	354023	

7.8 Multi-sash centre frame hinge



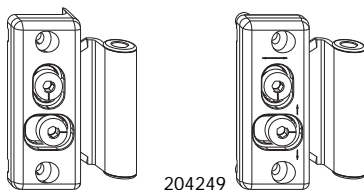
57930 202848

7.8.1 Multi-sash centre frame hinge bearing				kg	cube	No	No Tricoat
silver	scissor stay hinge PVC	with 3mm positioning pin	PVC	100	100	52480	
	multi-sash centre frame hinge bearing	with centering tip	timber	60	50	57930	
		with 7 mm supporting pin	timber/PVC	60	50	202848	
RAL 9016 traffic white	multi-sash centre frame hinge bearing	with 7 mm supporting pin	PVC	60	50	205705	



44470

P 7.8.2 Packer for multi-sash centre frame hinge bearings				kg	cube	No	No Tricoat
RAL 9016 traffic white	packer with 3mm positioning pin for multi-sash centre frame hinge			100		44477	
	packer with 7 mm supporting pin for multi-sash centre frame hinge			100		44470	
Brown F5	packer with 3mm positioning pin for multi-sash centre frame hinge			100		44481	
	packer with 7 mm supporting pin for multi-sash centre frame hinge			100		44474	
RAL 9022 pearl light grey / silver	packer with 3mm positioning pin for multi-sash centre frame hinge			100		44482	
	packer with 7 mm supporting pin for multi-sash centre frame hinge			100		44475	




57892 204249

7.8.3 Multi-sash centre sash hinge				kg	cube	No	No Tricoat
silver			timber	60	50	57892	
	with 3mm positioning pin	40 mm cam distance	PVC	60	50	220241	
	with 7 mm supporting pin	36 mm cam distance	timber	60	50	204249	
		40 mm cam distance	PVC	60	50	220240	

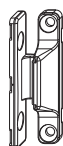


44463

P 7.8.4 Packers for multi-sash centre sash hinge 			No	No Tricoat
RAL 9016 traffic white	packer with 3mm positioning pin for multi-sash centre frame hinge - sash component	100	44463	
	packer with 7 mm supporting pin for multi-sash centre frame hinge - sash component	100	44456	
Brown F5	packer with 3mm positioning pin for multi-sash centre frame hinge - sash component	100	44467	
	packer with 7 mm supporting pin for multi-sash centre frame hinge - sash component	100	44460	
RAL 9022 pearl light grey / silver	packer with 3mm positioning pin for multi-sash centre frame hinge - sash component	100	44468	
	packer with 7 mm supporting pin for multi-sash centre frame hinge - sash component	100	44461	



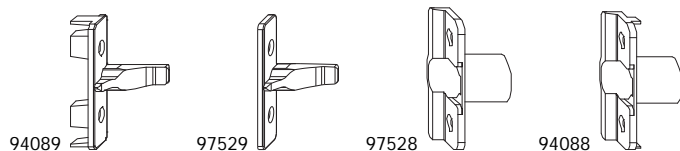
7.9 Compression devices



52389

7.9.1 Surface-mounted compression device				No	No Tricoat
silver	sash and frame component	timber	100	52389 ¹	
		PVC	100	54783 ¹	
	sash and frame component for 5° pitch	PVC	100	57810 ¹	
	sash and frame component for rebate leg gasket	timber	100	55028 ¹	
	sash component for rebate screw-fixing	PVC 18mm rebate leg	100	220074 ¹	
	sash component	timber/PVC/alu-timber	100	94217 ¹	
RAL 9016 traffic white	frame component	timber/PVC/alu-timber	100	94218 ¹	
	sash and frame component	timber	100	206585 ¹	
	sash and frame component for 5° pitch	PVC	100	27248 ¹	
	sash and frame component for rebate leg gasket	timber	100	21062 ¹	

¹ Not suitable for fully concealed hardware!

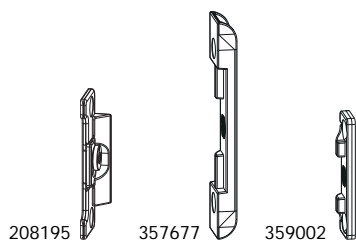


T	7.9.2 Drill-in Compression device for Timber			No	No Tricoat	
silver	sash component 9 / 13 mm offset	for Eurogroove	100	94089 ^{1,2,3}		
	sash component 9mm offset	without Eurogroove	100	97529 ^{2,3}		
	sash component 13mm offset	without Eurogroove	100	360009 ^{2,3}		
	frame component	for 4 mm air gap, 9 mm offset		100	360006 ^{2,3}	
		for 4 mm air gap, 13 mm offset		100	358996 ^{2,3}	
		Euro-rebate 18mm rebate depth 9mm offset		100	354090 ^{2,3}	
		Euro-rebate 20mm rebate depth 9mm offset		100	97528 ^{2,3}	
		Euro-rebate 24mm rebate depth 13mm offset		100	357741 ^{2,3}	
		hardware groove 20mm rebate depth 9mm offset		100	94088 ^{2,3}	
		hardware groove 25mm rebate depth 9mm offset		100	94258 ^{2,3}	
		Euro-rebate 28mm rebate depth 9mm offset		100	94042 ^{2,3}	
		Euro-rebate 30mm rebate depth 13mm offset		100	368015 ^{2,3}	

¹ For Eurogroove the corner hinge spacer bar 40485 may be used.

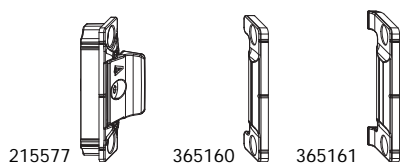
² Suitable for MULTI POWER, INVISIBLE, TV, MULTI MAMMUT, TO, DT and AS.

³ For windows - Group C5 EN 12210



T 7.9.3 Concealed compression device adjustable for timber without Eurogroove			No	No Tricoat
silver	sash component 9mm offset	without Eurogroove	100	220220 ¹
	sash component 13mm offset	without Eurogroove	100	208195 ¹
	frame component	for 4 mm air gap, 9 mm offset	100	94484 ¹
		for 4 mm air gap, 13 mm offset	100	357677 ¹
		Euro-rebate 18mm rebate depth 9mm offset	100	94477 ¹
		Euro-rebate 20mm rebate depth 9mm offset	100	98265 ¹
		Euro-rebate 24mm rebate depth 13mm offset	100	359002 ¹
		Hardware groove 6/8/4	100	94478 ¹
		hardware groove 7/8/4	100	94479 ¹

¹ Not suitable for fully concealed hardware!

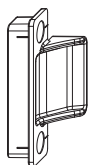


T 7.9.4 Concealed compression device adjustable for timber with Eurogroove			No	No Tricoat	
silver RAL 9022 pearl light grey / silver	sash component	for Eurogroove	100	215577 ^{1,2}	
	frame component	Euro-rebate 18mm rebate depth 9mm offset	100	365159 ^{1,2}	
		Euro-rebate 20mm rebate depth 9mm offset	100	365160 ^{1,2}	
		Euro-rebate 24mm rebate depth 13mm offset	100	365161 ^{1,2}	
		hardware groove 7/8/4	100	367938 ^{1,2}	
		Euro-rebate 30mm rebate depth 13mm offset	100	367510 ^{1,2}	
		frame component with positioning pins 8 x 4 mm	Euro-rebate 24mm rebate depth 13mm offset	100	367494 ^{1,2}
		frame component with positioning pins 12 x 3 mm	Euro-rebate 24mm rebate depth 13mm offset	100	367652 ^{1,2}




¹ Suitable for: MULTI POWER, INVISIBLE, TV, MULTI MAMMUT, TO, DT, AS

² For windows - Group C3 EN 12210





94185

P 7.9.5 Concealed compression device for PVC						
silver	sash component	PVC	100	94185^{1,2}		
	sash component with 5 mm positioning pin	PVC	100	354795^{1,2}		
	sash component adjustable	PVC	100	218543^{1,3}		
Frame component PVC, see profile sheet						

¹ Suitable for: MULTI POWER, INVISIBLE, TV, MULTI MAMMUT, AS

² For windows - Group C5 EN 12210

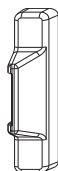
³ For windows - Group C3 EN 12210

7.10 Cover caps



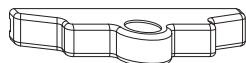
43568

7.10.1 Cover caps for surface-mounted compression devices - sash component					No	No Tricoat
RAL 9016 traffic white	sash component	dyed	100	41339		
		dyed 5° angle	100	40691		
RAL 9022 pearl light grey / silver	sash component	dyed	100	43568		
		dyed 5° angle	100	364114		
silver	sash component	painted	100	364107		
		painted 5° angle	100	364112		
champagne	sash component	painted	100	41699		
		painted 5° angle	100	364111		
titanium	sash component	painted	100	40757		
		painted 5° angle	100	364110		
light bronze	sash component	dyed	100	41582		
		dyed 5° angle	100	364108		
RAL 9001 cream white	sash component	dyed	100	41231		
		dyed 5° angle	100	41361		
Brown F5	sash component	dyed	100	41340		
		dyed 5° angle	100	40692		
chrome-look	sash component	metallised	100	44236		
		metallised 5° angle	100	364113		
gold look	sash component	metallised	100	40553		
		metallised 5° angle	100	364109		






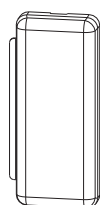
43569

7.10.2 Cover caps for surface-mounted compression devices - frame component					No	No Tricoat
RAL 9016 traffic white	frame component	dyed	100	41342		
RAL 9022 pearl light grey / silver	frame component	dyed	100	43569		
silver	frame component	painted	100	364106		
champagne	frame component	painted	100	41701		
titanium	frame component	painted	100	40756		
light bronze	frame component	dyed	100	41583		
RAL 9001 cream white	frame component	dyed	100	41233		
Brown F5	frame component	dyed	100	41343		
chrome-look	frame component	metallised	100	44235		
gold look	frame component	metallised	100	40551		



42714

7.10.3 Cover caps for 3-sashed windows - frame component						
RAL 9016 traffic white	frame component	dyed	20	42714		
RAL 9022 pearl light grey / silver	frame component	dyed	50	43618		
silver	frame component	painted	50	44287		
champagne	frame component	painted	50	41698		
titanium	frame component	painted	50	40734		
light bronze	frame component	dyed	20	41642		
RAL 9001 cream white	frame component	dyed	100	364093		
Brown F5	frame component	dyed	20	42723		
chrome-look	frame component	metallised	20	44294		
gold look	frame component	metallised	50	40737		



43800

7.10.4 Cover caps for multi-sash centre sash hinge - sash component						
RAL 9016 traffic white	sash component	dyed	50	43800		
RAL 9022 pearl light grey / silver	sash component	dyed	100	44102		
silver	sash component	painted	50	44289		
champagne	sash component	painted	50	44288		
titanium	sash component	painted	50	43803		
light bronze	sash component	dyed	50	43801		
RAL 9001 cream white	sash component	dyed	50	44295		
Brown F5	sash component	dyed	50	43804		
chrome-look	sash component	metallised	50	44286		
gold look	sash component	metallised	50	43802		



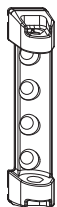
8 Scissor stay hinges

8.1	Scissor stay hinge PVC	176
8.1.1	Scissor stay hinge PVC	176
8.2	Scissor stay hinge AS	176
8.2.1	Scissor stay hinge AS	176
8.3	Rebated scissor stay support arm AS/PVC	177
8.4	Rebated scissor stay support arm AS/PVC with pre-mounted cover cap in RAL 9016 traffic white	177
8.5	Scissor stay hinge DT	178
8.5.1	Scissor stay hinge DT	178
8.5.2	Rebated scissor stay support arm DT	178
8.6	Scissor stay hinge TO	179
8.6.1	Scissor stay hinge TO	179
8.6.2	Scissor stay support arm TO / routed scissor stay hinge	179
8.7	Routed scissor stay hinge	180
8.7.1	Routed scissor stay hinge	180
8.8	Scissor stay hinge MULTI MAMMUT	180
8.9	Scissor stay hinge TV for half round window	180
8.10	Cover caps	181
8.10.1	Cover cap for scissor stay hinge AS/DT/PVC	181
8.10.2	Cover cap for rebated scissor stay support arm AS/PVC	181
8.10.3	Cover cap for rebated scissor stay support arm DT	182
8.10.4	Cover cap for scissor stay hinge TO	182
8.10.5	Cover cap for scissor stay support arm TO	182
8.11	Accessories for scissor stay hinge	183
8.11.1	Scissor stay hinge pin AS/DT/PVC	183
8.11.2	Catch for scissor stay hinge pin TO	183
8.11.3	Dirt cover for scissor stay hinge MULTI MAMMUT	183
8.11.4	Accessories for scissor stay hinge MULTI MAMMUT	183



8 Scissor stay hinges

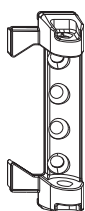
8.1 Scissor stay hinge PVC



52480

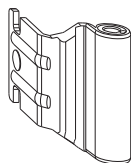
P 8.1.1 Scissor stay hinge PVC		kg	cube	No	No Tricoat
silver	with 3mm positioning pin	100	100	52480	
	with 7 mm supporting pin	120	100	52481	
RAL 9016 traffic white	with 3mm positioning pin	100	100	204039	
	with 7 mm supporting pin	120	100	204779	

8.2 Scissor stay hinge AS

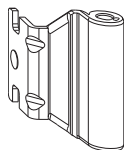


54694

8.2.1 Scissor stay hinge AS			kg	cube	No	No Tricoat
silver	12/18	120	50	54694		
	12/20	120	50	54695		
RAL 9016 traffic white	12/18	120	50	207876		
	12/20	120	50	207877		



58477



52486

8.3 Rebated scissor stay support arm AS/PVC



No

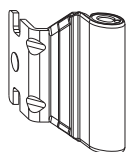
No
Tricoat

silver

12/18-9	100	54706	
12/18-10	100	58619	
12/18-11	100	206998	
12/18-13	100	54709	
12/18-14	100	56771	
12/18-26	100	58477	
12/20-9	100	52487	
12/20-10	100	52489	
12/20-11	100	52488	
12/20-13	100	52486	
12/20-14	100	55359	
12/20-15	100	55883	
12/20-26	100	59469	
12/21-13	100	58004	
12/22-9	100	55085	
12/22-10	100	220039	
12/22-13	100	55051	

RAL 9016 traffic white

12/18-9	100	207882	
12/18-10	100	207883	
12/18-11	100	207884	
12/18-13	100	207885	
12/18-14	100	207886	
12/20-9	100	207268	
12/20-10	100	207888	
12/20-11	100	207889	
12/20-13	100	206588	
12/20-14	100	207890	
12/20-15	100	207891	
12/21-13	100	207267	
12/22-9	100	207892	
12/22-10	100	207894	
12/22-13	100	207895	



55009

8.4 Rebated scissor stay support arm AS/PVC with pre-mounted cover cap in RAL 9016 traffic white



No

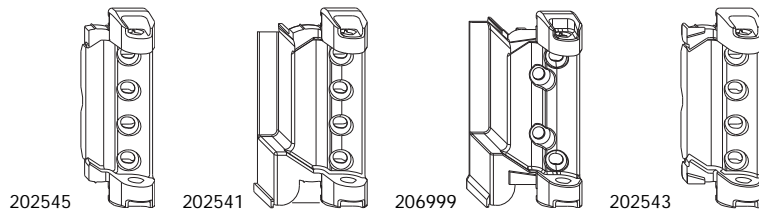
No
Tricoat

silver

12/18-9	100	201062	
12/18-14	100	201063	
12/20-9	100	54799	
12/20-10	100	55126	
12/20-11	100	201066	
12/20-13	100	55009	
12/20-14	100	201064	
12/20-15	100	201067	
12/21-13	100	58006	
12/22-9	100	201068	
12/22-10	100	201087	
12/22-13	100	201094	



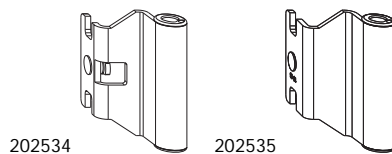
8.5 Scissor stay hinge DT



T 8.5.1 Scissor stay hinge DT		kg		No		No Tricoat		
silver	4/15	130	50	202545 ¹				
	right 4/18-9	130	50	202541 ¹				
	left 4/18-9	130	50	202542 ¹				
	right 4/18-13	130	50	206999 ¹				
				50	219171 ^{1,2}			
	left 4/18-13	130	50	207000 ¹				
				50	219172 ^{1,2}			
		12/18	130	50	202543 ¹			
		12/20	130	50	202544 ¹			
	RAL 9016 traffic white	right 4/18-9	130	50	207878 ¹			
left 4/18-9		130	50	207879 ¹				
right 4/18-13		130	50	207006 ¹				
left 4/18-13		130	50	207007 ¹				
		12/18	130	50	207880 ¹			
		12/20	130	50	207881 ¹			

¹ Angled screw-fixing required from 100kg.

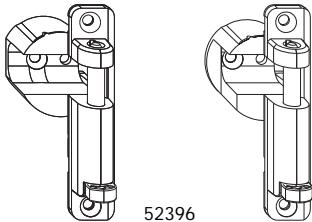
² Use for 22 mm milling depth



T 8.5.2 Rebated scissor stay support arm DT		kg		No		No Tricoat		
silver	4/15-9	130	50	202533				
	4/18-9 and 12/18-9	130	50	202534				
	4/18-13 and 12/18-13	130	50	202535				
	12/18-11	130	50	202539				
	12/18-14	130	50	206718				
	12/20-9	130	50	202536				
	12/20-13	130	50	202537				
	12/20-14	130	100	211576				
	RAL 9016 traffic white	4/15-9	130	100	207896			
		12/18-11	130	50	208936			
12/18-14		130	50	215096				
12/20-9		130	100	207899				
12/20-13		130	50	212826				
4/18-9 and 12/18-9		130	100	207897				
	4/18-13 and 12/18-13	130	100	207898				

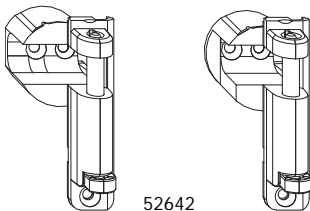
8.6 Scissor stay hinge TO

8.6.1 Scissor stay hinge TO



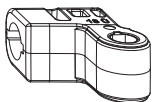
55235 52396

T 8.6.1.1 Scissor stay hinge TO				kg	cube	No	No Tricoat
silver	right	4/15-9	130	50	55414		
		left	4/15-9	130	50	55415	
	right	4/18-9	130	50	55235		
		left	4/18-9	130	50	55236	
	right	12/18-9	130	50	52396		
		left	12/18-9	130	50	52397	
	right	12/20-9	130	50	54716		
		left	12/20-9	130	50	54717	
RAL 9016 traffic white	right	12/18-9	130	50	22519		
	left	12/18-9	130	50	22517		



207061 52642

T 8.6.1.2 Scissor stay hinge TO 80 kg short				kg	cube	No	No Tricoat
silver	short	right	4/15-9	80	50	207061	
		left	4/15-9	80	50	207062	
		right	12/18-9	80	50	52642	
		left	12/18-9	80	50	52643	

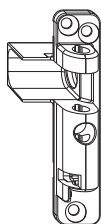


55416

T 8.6.2 Scissor stay support arm TO / routed scissor stay hinge				kg	cube	No	No Tricoat
silver	15 rebate leg		130	50	55416		
	18 rebate leg		130	50	52388		
	20 rebate leg		130	50	54718		
	18 rebate leg		130	50	22526		
RAL 9016 traffic white							



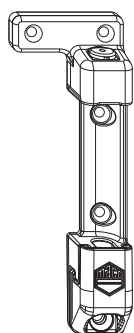
8.7 Routed scissor stay hinge



58076

8.7.1 Routed scissor stay hinge		kg	cube	No	No Tricoat
silver	right	80	50	58076 ¹	
	left	80	50	58077 ¹	

¹ Scissor stay hinge bolt 39146 and retainer for scissor stay hinge bolt 58240 included.



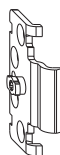
210600

8.8 Scissor stay hinge MULTI MAMMUT		kg	cube	No	No Tricoat
silver	with 9 mm supporting pins	right	180	20	210600 ¹
		left	180	20	210601 ¹
RAL 9016 traffic white	with 9 mm supporting pins	right	180	20	212542 ¹
		left	180	20	212543 ¹

¹ Sash rebate depth min. 20 mm



58354




55354

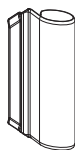
T	8.9 Scissor stay hinge TV for half round window		kg	cube	No	No Tricoat
silver	9mm offset		60	50	58354	
	13mm offset		60	100	55354	

8.10 Cover caps




42083

8.10.1 Cover cap for scissor stay hinge AS/DT/PVC			No	No Tricoat
RAL 9016 traffic white	dyed	100	42083	
RAL 9022 pearl light grey / silver	dyed	100	43761	
silver	painted	100	44290	
champagne	painted	100	42103	
titanium	painted	100	42099	
light bronze	dyed	100	42097	
RAL 9001 cream white	dyed	100	42191	
Brown F5	dyed	100	42189	
chrome-look	metallised	100	44243	
gold look	metallised	100	42098	



42084

8.10.2 Cover cap for rebated scissor stay support arm AS/PVC			No	No Tricoat
RAL 9016 traffic white	dyed	100	42084	
RAL 9022 pearl light grey / silver	dyed	100	43760	
silver	painted	100	44291	
champagne	painted	100	42108	
titanium	painted	100	42107	
light bronze	dyed	100	42105	
RAL 9001 cream white	dyed	100	42194	
Brown F5	dyed	100	42192	
chrome-look	metallised	100	44244	
gold look	metallised	100	42106	





354669

T 8.10.3 Cover cap for rebated scissor stay support arm DT			No	No Tricoat
RAL 9016 traffic white	dyed	100	354669	
RAL 9022 pearl light grey / silver	dyed	100	354674	
silver	painted	100	360952	
champagne	painted	100	354673	
titanium	painted	100	354672	
light bronze	dyed	100	354670	
RAL 9001 cream white	dyed	100	356597	
Brown F5	dyed	100	354675	
chrome-look	metallised	100	354676	
gold look	metallised	100	354671	



360239

T 8.10.4 Cover cap for scissor stay hinge TO				No	No Tricoat
RAL 9016 traffic white	right	dyed	100	41241	
	left	dyed	100	41242	
silver	right	painted	50	360239	
	left	painted	50	360240	
champagne	right	painted	50	41696	
	left	painted	50	41695	
titanium	right	painted	50	40761	
	left	painted	50	40763	
light bronze	right	dyed	50	41574	
	left	dyed	50	41576	
Brown F5	right	dyed	50	40746	
	left	dyed	50	40747	
chrome-look	right	metallised	50	360853	
	left	metallised	50	360854	
gold look	right	metallised	50	40503	
	left	metallised	50	40505	



360241

T 8.10.5 Cover cap for scissor stay support arm TO			No	No Tricoat
RAL 9016 traffic white	dyed	100	41240	
silver	painted	100	360241	
champagne	painted	50	41697	
titanium	painted	50	40760	
light bronze	dyed	50	41587	
Brown F5	dyed	50	40745	
chrome-look	metallised	50	360855	
gold look	metallised	50	40508	

8.11 Accessories for scissor stay hinge



94491

8.11.1 Scissor stay hinge pin AS/DT/PVC			No	No Tricoat
silver		200	94491	



58240

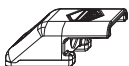
T	8.11.2 Catch for scissor stay hinge pin TO			No	No Tricoat
	silver		100	58240 ¹	

¹ For scissor stay hinge TO



364716

8.11.3 Dirt cover for scissor stay hinge MULTI MAMMUT			No	No Tricoat
RAL 9016 traffic white	dyed		100	364716
RAL 9022 pearl light grey / silver	dyed		100	364565
titanium	dyed		100	367573



364675



364676



362336

8.11.4 Accessories for scissor stay hinge MULTI MAMMUT			No	No Tricoat
silver	scissor stay hinge pin safety device for scissor stay hinge 180 kg	20	364675	
	countersunk screw M5x12 for slide-over lock for scissor stay hinge pin	20	364676	
RAL 9016 traffic white	scissor stay hinge pin safety device for scissor stay hinge 180 kg	20	364677	
	countersunk screw M5x12 for slide-over lock for scissor stay hinge pin	400	364678	
	clip-on bush 10 mm, 180kg fittings	50	362336	

MACO
MULTI TREND



Scissor stay hinges



9 Pivot posts

9.1	Matrix for pivot posts and corner supports	186
9.2	Pivot post PVC	188
9.3	Pivot post AS	190
9.4	Pivot post DT	192
9.5	Pivot post TO	196
9.6	Drill-in pivot post	197
9.7	Pivot post MULTI MAMMUT	198
9.8	Pivot post TV	200
9.9	Pivot post INVISIBLE	201
9.10	Pivot post MULTI POWER	202
9.11	Cover caps	204
9.12	Accessories for pivot post	211












































9 Pivot posts

9.1 Matrix for pivot posts and corner supports

9.1.1 timber

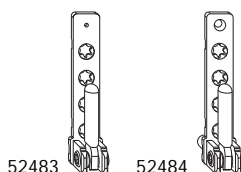
Pivot post	Drill-in pivot post	Pivot post AS	Pivot post AS for rebated corner support AS/PVC	Pivot post DT	Pivot post TO	Pivot post TV	Pivot post INVISIBLE	Pivot post MULTI POWER	Pivot post MULTI MAMMUT
Corner support									
Drill-in corner support	 60 kg max. 2,2 m ²	--	--	--	--	--	--	--	--
Corner support AS with rebate-leg	--	 120 kg* max. 3,0 m ²	--	--	--	--	--	--	--
Rebated corner support AS/PVC without rebate-leg	--	--	 120 kg* max. 3,0 m ²	--	--	--	--	--	--
Corner support DT without rebate-leg	--	--	--	 100 kg max. 3,0 m ²	--	--	--	--	--
Corner support DT with rebate-leg	--	--	--	 130 kg max. 3,0 m ²	--	--	--	--	--
Corner support TO with rebate-leg	--	--	--	--	 130 kg max. 3,0 m ²	--	--	--	--
Corner support TV	--	--	--	--	--	 100 kg max. 2,4 m ²	--	--	--
Corner support INVISIBLE	--	--	--	--	--	--	 100 kg* max. 2,4 m ²	--	--
Corner support MULTI POWER	--	--	--	--	--	--	--	 150 kg max. 3,0 m ²	--
Corner support MULTI MAMMUT	--	--	--	--	--	--	--	--	 180 kg max. 3,6 m ²
* Observe max. load or size restrictions (80 kg / 2.4 m ²) for certain components!									
Above pivot post / corner support combinations may only be combined with scissor stay hinges of the same bearing type!									

9.1.2 PVC

Pivot post	Pivot post with Ø 3 mm positioning pin	Pivot post with Ø 7 mm supporting pins, 3 mm long	Pivot post with Ø 7 mm supporting pins, 12 mm / 23 mm long	Pivot post AS for rebated corner support AS/PVC	Pivot post AS	Pivot post INVISIBLE	Pivot post MULTI POWER	Pivot post MULTI MAMMUT
Corner support	 52483	 52485						
Corner support PVC with Ø 3 mm positioning pin  52478	 100 kg  max. 2,4 m ²	 100 kg  max. 2,4 m ²	 120 kg  max. 2,4 m ²	--	--	--	--	--
Corner support PVC with Ø 5 mm supporting pins  52479	 100 kg  max. 3,0 m ²	 100 kg  max. 3,0 m ²	 120 kg  max. 3,0 m ²	--	--	--	--	--
Rebated corner support AS/PVC without rebate-leg 	 * 100 kg  max. 3,0 m ²	 * 100 kg  max. 3,0 m ²	 * 120 kg  max. 3,0 m ²	 * 120 kg  max. 3,0 m ²	--	--	--	--
Corner support AS with rebate-leg 	--	--	--	--	 * 120 kg  max. 3,0 m ²	--	--	--
Corner support INVISIBLE 	--	--	--	--	--	 * 100 kg  max. 2,4 m ²	--	--
Corner support MULTI POWER 	--	--	--	--	--	--	 150 kg  max. 3,0 m ²	--
Corner support MULTI MAMMUT 	--	--	--	--	--	--	--	 180 kg  max. 3,6 m ²
* Observe max. load or size restrictions (80 kg / 2,4 m ²) for certain components!								
Above pivot post / corner support combinations may only be combined with scissor stay hinges of the same bearing type!								

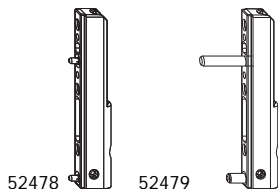


9.2 Pivot post PVC



P 9.2.1 Pivot post PVC

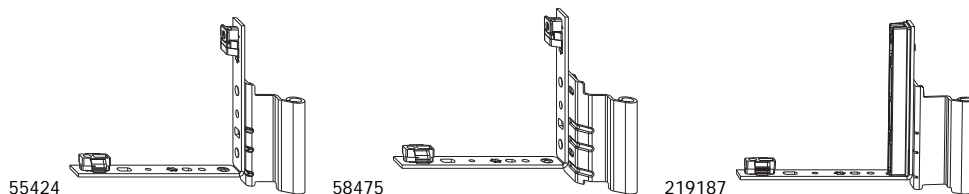
		kg		No	No Tricoat
silver	with 3mm positioning pin	100	100	52483	
	with 7 mm supporting pins 3 mm long	100	100	52485	
	with 7 mm supporting pins 12 mm long	120	100	52764	
	with 7 mm supporting pins 23 mm long	120	100	52484	
RAL 9016 traffic white	with 3mm positioning pin	100	100	206802	
	with 7 mm supporting pins 3 mm long	100	100	206586	
	with 7 mm supporting pins 12 mm long	120	100	207902	
	with 7 mm supporting pins 23 mm long	120	100	207278	



P 9.2.2 Corner support PVC

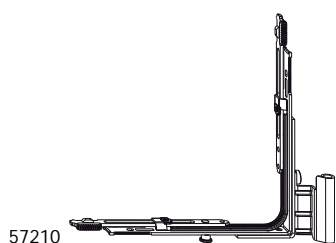
		kg		No	No Tricoat
silver	with 3mm positioning pin	120	100	52478 ¹	
	with 5 mm supporting pin 17 mm long	120	100	206196	
	with 5 mm supporting pins 23 mm long	120	100	52479	
RAL 9016 traffic white	with 3mm positioning pin	120	100	206848 ¹	
	with 5 mm supporting pins 23 mm long	120	100	206584	

¹ Maximum sash total surface 2.4 m².



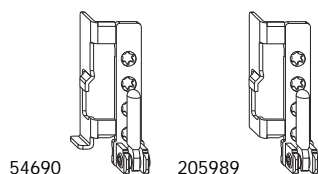
9.2.3 Rebated corner support AS/PVC without UV		kg	cube	No	No Tricoat
silver	right 12/18-9	120	100	214391 ¹	
	left 12/18-9	120	100	214392 ¹	
	right 12/18-11	120	100	55424 ¹	
	left 12/18-11	120	100	55425 ¹	
	right 12/18-13	120	100	59444 ¹	
	left 12/18-13	120	100	59443 ¹	
	right 12/18-26	80	100	58475 ¹	
	left 12/18-26	80	100	58476 ¹	
	right 12/20-9	120	100	54890 ¹	
	left 12/20-9	120	100	54891 ¹	
	right 12/20-13	120	100	54892 ¹	
	left 12/20-13	120	100	54893 ¹	
	right 12/20-14	120	100	212967 ¹	
	left 12/20-14	120	100	212968 ¹	
	right 12/20-26	80	100	59916 ¹	
	left 12/20-26	80	100	59917 ¹	
	right 12/22-13	120	100	219187 ¹	
	left 12/22-13	120	100	219188 ¹	
RAL 9016 traffic white	right 12/18-9	120	100	214507 ¹	
	left 12/18-9	120	100	214508 ¹	
	right 12/18-11	120	100	207916 ¹	
	left 12/18-11	120	100	207917 ¹	
	right 12/20-9	120	100	207918 ¹	
	left 12/20-9	120	100	207919 ¹	
right 12/20-13	120	100	207920 ¹		
left 12/20-13	120	100	207921 ¹		

¹ Not for use with half-round or pitched windows; use on profile system with overlap gasket upon request.



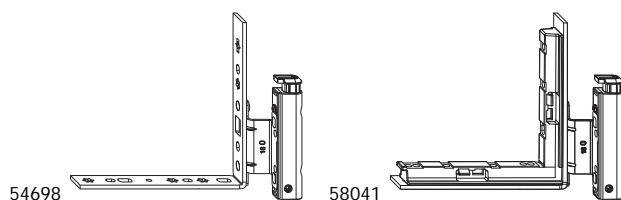
9.2.4 Rebated corner support AS/PVC without UV EH		kg	cube	No	No Tricoat
silver	with 1 i.S.	right 12/20-13	120	20	57210
		left 12/20-13	120	20	57209

9.3 Pivot post AS



9.3.1 Pivot post AS for corner support AS with ÜV			kg		No	No Tricoat
silver	right	12/18	120	50	54690 ¹	
	left	12/18	120	50	54691 ¹	
	right	12/18 bottom 5 air gap	80	50	205989 ¹	
	left	12/18 bottom 5 air gap	80	50	205990 ¹	
	right	12/20	120	50	54692 ¹	
	left	12/20	120	50	54693 ¹	
RAL 9016 traffic white	right	12/18	120	50	207904 ¹	
	left	12/18	120	50	207905 ¹	
	right	12/20	120	50	207906 ¹	
	left	12/20	120	50	207907 ¹	

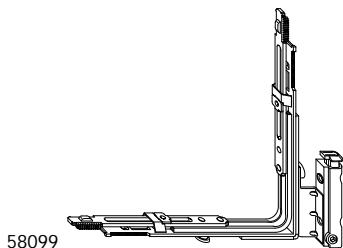
¹ Only suitable with corner element and corner support AS with ÜV!



9.3.2 Corner support AS with ÜV			kg		No	No Tricoat		
silver	with rebate-leg screw-fixing	right	12/18-9	120	50	54698 ¹		
		left	12/18-9	120	50	54699 ¹		
		right	12/18-11	120	50	206996 ¹		
		left	12/18-11	120	50	206997 ¹		
		right	12/18-13	120	50	54700 ¹		
		left	12/18-13	120	50	54701 ¹		
		right	12/20-9	120	50	54702 ¹		
		left	12/20-9	120	50	54703 ¹		
		right	12/20-13	120	50	54704 ¹		
		left	12/20-13	120	50	54705 ¹		
		pre-assembled spacer bar for corner hinge	right	12/18-9	120	50	58041 ^{1,2}	
			left	12/18-9	120	50	58042 ^{1,2}	
			right	12/20-13	120	50	222168 ^{1,2}	
			left	12/20-13	120	50	222169 ^{1,2}	
RAL 9016 traffic white	with rebate-leg screw-fixing	right	12/18-9	120	50	207922 ¹		
		left	12/18-9	120	50	207923 ¹		
		right	12/18-11	120	50	207924 ¹		
		left	12/18-11	120	50	207925 ¹		
		right	12/18-13	120	50	207926 ¹		
		left	12/18-13	120	50	207927 ¹		
		right	12/20-9	120	50	207928 ¹		
		left	12/20-9	120	50	207929 ¹		
		right	12/20-13	120	50	207930 ¹		
		left	12/20-13	120	50	207931 ¹		
		pre-assembled spacer bar for corner hinge	right	12/20-13	120	50	207932 ^{1,2}	
			left	12/20-13	120	50	207933 ^{1,2}	

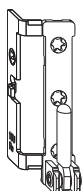
¹ Use on profile systems with overlap gasket upon request.

² Not suitable for half round and pitched windows.



58099

9.3.3 Corner support AS with UV EH				kg	cube	No	No Tricoat
silver	with 1 i.S.	right	12/18-9	120	20	58099	
		left	12/18-9	120	20	58100	
		right	12/18-13	120	20	58095	
		left	12/18-13	120	20	58096	
		right	12/20-9	120	20	58101	
		left	12/20-9	120	20	58102	
		right	12/20-13	120	20	58097	
		left	12/20-13	120	20	58098	



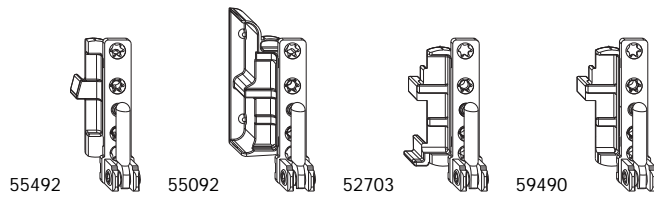
214104

9.3.4 Pivot post AS for rebated corner support AS/PVC without rebate-leg screw fixing				kg	cube	No	No Tricoat
silver	right	12/18	120	50	214104 ¹		
	left	12/18	120	50	214105 ¹		
	right	12/20	120	50	214106 ¹		
	left	12/20	120	50	214107 ¹		
RAL 9016 traffic white	right	12/18	120	50	214112 ¹		
	left	12/18	120	50	214113 ¹		
	right	12/20	120	50	214114 ¹		
	left	12/20	120	50	214115 ¹		

¹ Suitable only with rebated corner support AS/PVC without UV.



9.4 Pivot post DT



T 9.4.1 Pivot post DT		kg	cube	No	No Tricoat	
silver	right 4/15	130	50	55492 ¹		
	left 4/15	130	50	55493 ¹		
	right 4/18	130	50	55092 ^{1,2,3}		
	left 4/18	130	50	55093 ^{1,2,3}		
	right 12/18	130	50	52703 ¹		
	left 12/18	130	50	52704 ¹		
	right 12/20	130	50	54726 ¹		
	left 12/20	130	50	54727 ¹		
	for balcony doors	right 12/18	130	50	59490 ¹	
		left 12/18	130	50	59491 ¹	
		right 12/20	130	50	58601 ¹	
		left 12/20	130	50	58602 ¹	
	RAL 9016 traffic white	right 4/15	130	50	207908 ¹	
		left 4/15	130	50	207909 ¹	
right 4/18		130	50	207910 ^{1,4}		
left 4/18		130	50	207911 ^{1,4}		
right 12/18		130	50	207912 ¹		
left 12/18		130	50	207913 ¹		
right 12/20		130	50	207914 ¹		
left 12/20		130	50	207915 ¹		

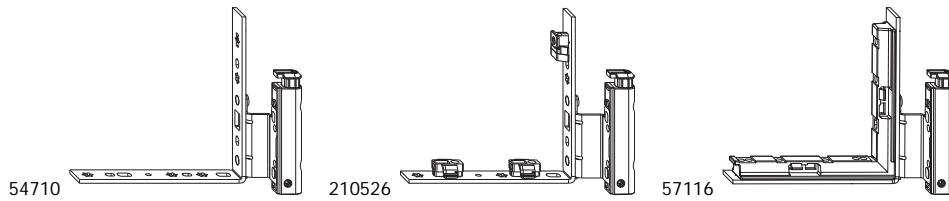
¹ For sash weights above 100 kg or a raw thickness below 0.62 g/cm³, insert a countersunk self-tapping screw 4 x 40 mm flush below the pivot post!

² For milling depth 24.5 mm, use packer 360464!

³ For milling depth 22 mm, use packer 366541!

⁴ For milling depth 24.5 mm, use packer 360465!

9.4.2 Corner support DT



T

9.4.2.1 Corner support DT with ÜV

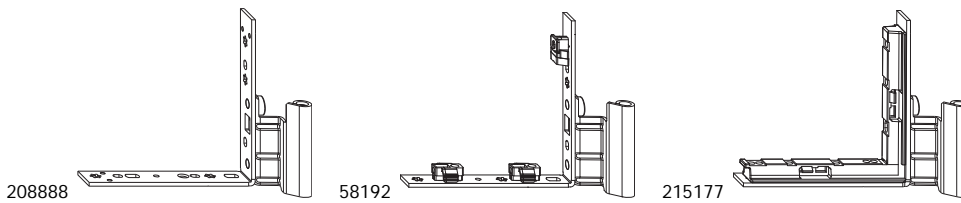


No

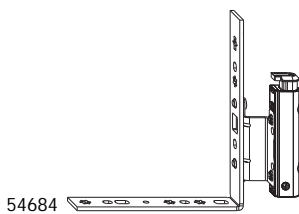
No
Tricoat

Color	Mounting	Right/Left	Height	Weight (kg)	Volume (m³)	Product No.	Tricoat	
silver	with rebate-leg screw-fixing	right	4/15-9	130	50	55494		
		left	4/15-9	130	50	55495		
		right	4/18-9	130	50	220048		
		left	4/18-9	130	50	220051		
		right	4/18-13	130	50	207870		
		left	4/18-13	130	50	207871		
		right	12/18-9	130	50	54710		
		left	12/18-9	130	50	54711		
		right	12/18-13	130	50	55452		
		left	12/18-13	130	50	55453		
		right	12/20-9	130	50	54712		
		left	12/20-9	130	50	54713		
	right	12/20-13	130	50	220045			
	left	12/20-13	130	50	220046			
	with rebate-leg screw-fixing for Eurogroove	right	4/18-9	130	50	210526		
		left	4/18-9	130	50	210527		
		right	4/18-13	130	50	210524		
		left	4/18-13	130	50	210525		
	with rebate-leg screw-fixing and pre-assembled spacer bar for corner support	right	12/18-9	130	50	57116		
		left	12/18-9	130	50	57117		
		right	12/18-11	130	50	201016		
		left	12/18-11	130	50	201017		
		right	12/18-13	130	50	209594		
		left	12/18-13	130	50	209595		
right		12/20-13	130	50	214774			
left		12/20-13	130	50	214775			
right		12/18-14	130	50	206994			
left		12/18-14	130	50	206995			
RAL 9016 traffic white		with rebate-leg screw-fixing	right	4/15-9	130	50	207940	
			left	4/15-9	130	50	207941	
	right		4/18-9	130	50	207942		
	left		4/18-9	130	50	207943		
	right		4/18-13	130	50	207872		
	left		4/18-13	130	50	207873		
	right		12/18-9	130	50	207944		
	left		12/18-9	130	50	207945		
	right		12/18-13	130	50	207946		
	left		12/18-13	130	50	207947		
	right		12/20-9	130	50	207948		
	left		12/20-9	130	50	207949		
	right	12/20-13	130	50	213683			
	left	12/20-13	130	50	213684			
	with rebate-leg screw-fixing for Eurogroove	right	4/18-13	130	50	218074		
		left	4/18-13	130	50	218075		
	with rebate-leg screw-fixing and pre-assembled spacer bar for corner support	right	12/18-11	130	50	209500		
		left	12/18-11	130	50	209501		
		right	12/18-13	130	50	211720		
		left	12/18-13	130	50	211721		



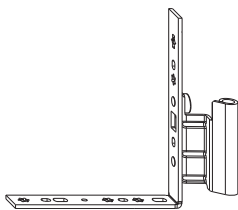


T 9.4.2.2 Corner support DT without ÜV		kg		No		No Tricoat		
silver	right	4/18-9	100	50	55097			
		left	4/18-9	100	50	55098		
	right	12/18-9	100	50	52706			
		left	12/18-9	100	50	52707		
	right	12/18-13	100	50	208888			
		left	12/18-13	100	50	208889		
	right	12/20-9	100	50	54728			
		left	12/20-9	100	50	54729		
	right	12/20-13	100	50	212209			
		left	12/20-13	100	50	212210		
	for Eurogroove	right	4/18-9	100	50	58192		
		left	4/18-9	100	50	58193		
	pre-assembled spacer bar for corner hinge	right	12/20-9	100	50	215177		
		left	12/20-9	100	50	215178		
RAL 9016 traffic white	right	4/18-9	100	50	207934			
		left	4/18-9	100	50	207935		
	right	12/18-9	100	50	207936			
		left	12/18-9	100	50	207937		
	right	12/20-9	100	50	207938			
		left	12/20-9	100	50	207939		



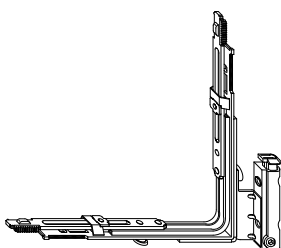
T 9.4.2.3 Corner support DT for casement door with ÜV		kg		No		No Tricoat	
silver	for balcony doors with rebate-leg screw-fixing	right	12/18-9	130	50	54684	
		left	12/18-9	130	50	54685	
		right	12/18-13	130	50	209411	
		left	12/18-13	130	50	209412	
		right	12/20-9	130	50	54688	
		left	12/20-9	130	50	54689	
		right	12/20-13	130	50	209413	
		left	12/20-13	130	50	209414	

57232



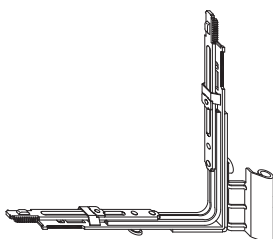
T 9.4.2.4 Corner support DT for casement door without ÜV				kg		No	No Tricoat
silver	for balcony doors	right	12/18-9	100	50	57232	
		left	12/18-9	100	50	57233	
		right	12/18-13	100	50	209407	
		left	12/18-13	100	50	209408	
		right	12/20-13	100	50	209409	
		left	12/20-13	100	50	209410	

55872



T 9.4.2.5 Corner support DT with ÜV EH				kg		No	No Tricoat
silver	with 1 i.S.	right	12/18-9	130	20	55872	
		left	12/18-9	130	20	55873	
		right	12/18-13	130	20	55868	
		left	12/18-13	130	20	55869	
		right	12/20-9	130	20	55874	
		left	12/20-9	130	20	55875	
		right	12/20-13	130	20	203361	
		left	12/20-13	130	20	203362	

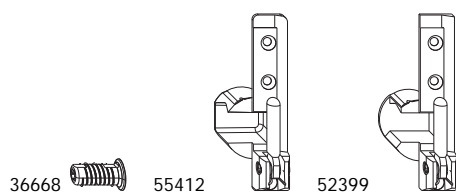
58103



T 9.4.2.6 Corner support DT without ÜV EH				kg		No	No Tricoat
silver	with 1 i.S.	right	4/18-9	100	20	58103	
		left	4/18-9	100	20	58104	

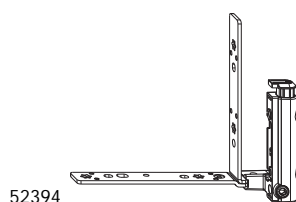


9.5 Pivot post TO

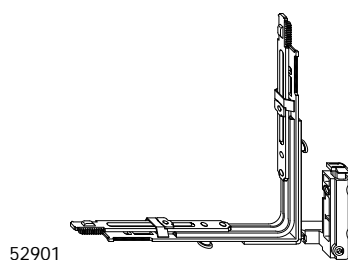


T 9.5.1 Pivot post TO				kg		No	No Tricoat
silver	support rawplug	timber			50	36668 ¹	
		right	4/15	130	50	55412 ¹	
		left	4/15	130	50	55413 ¹	
		right	4/18	130	50	55237 ¹	
		left	4/18	130	50	55238 ¹	
		right	12/18	130	50	52399 ¹	
		left	12/18	130	50	52398 ¹	
		right	12/20	130	50	54722 ¹	
		left	12/20	130	50	54723 ¹	
RAL 9016 traffic white		right	4/15	130	50	52511 ¹	
		left	4/15	130	50	52512 ¹	
		right	12/18	130	50	22520 ¹	
		left	12/18	130	50	22522 ¹	

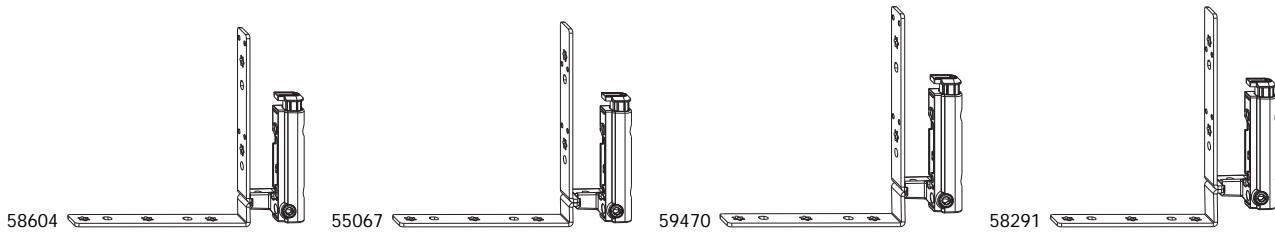
¹ For sash weight above 100 kg or a raw thickness below 0.62 g/cm³, use supporting dowel.



T 9.5.2 Corner support TO with ÜV				kg		No	No Tricoat
silver	with rebate-leg screw-fixing	right	4/15-9	130	50	55410	
		left	4/15-9	130	50	55411	
		right	4/18-9	130	50	55239	
		left	4/18-9	130	50	55240	
		right	12/18-9	130	50	52394	
		left	12/18-9	130	50	52395	
		right	12/20-9	130	50	54724	
		left	12/20-9	130	50	54725	
RAL 9016 traffic white	with rebate-leg screw-fixing	right	12/18-9	130	50	22523	
		left	12/18-9	130	50	22524	



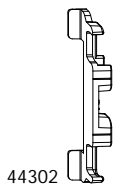
T 9.5.3 Corner support TO with ÜV EH				kg		No	No Tricoat
silver	with 2 i.S.	right	12/18-9	130	20	52901	
		left	12/18-9	130	20	52900	



T 9.5.4 Corner support TO for casement door with UV



silver	for balcony doors with rebate-leg screw-fixing	right	4/15-9	130	50	58604	
		left	4/15-9	130	50	58605	
		right	4/18 and 12/18-9	130	50	55067	
		left	4/18 and 12/18-9	130	50	55068	
		right	12/20-9	130	50	58470	
		left	12/20-9	130	50	58471	
	for balcony doors with rebate-leg screw-fixing 11mm rebate leg at bottom	right	4/15-9	130	50	59470	
		left	4/15-9	130	50	59471	
	for balcony doors with rebate-leg screw-fixing 4 air gap on the bottom	right	12/18-9	130	50	58291	
		left	12/18-9	130	50	58292	

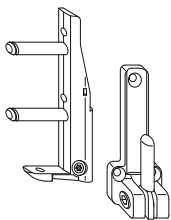


44302

T 9.5.5 Accessories for pivot post TO



RAL 9022 pearl light grey / silver	stop	4 mm	100	44302	
		5 mm	100	43719	
		6 mm	100	44354	



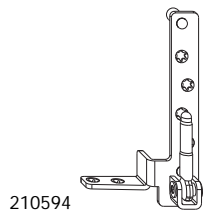
10915

T 9.6 Drill-in pivot post

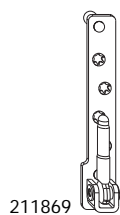


silver		60	20	10915	
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9.7 Pivot post MULTI MAMMUT

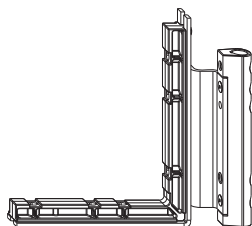


T 9.7.1 Pivot post timber MULTI MAMMUT				kg		No	No Tricoat
silver	with 9 mm supporting pins	right	12/18	180	20	210594	
		left	12/18	180	20	210595	
		right	12/20	180	20	210605	
		left	12/20	180	20	210606	
RAL 9016 traffic white	with 9 mm supporting pins	right	12/18	180	20	222500	
		left	12/18	180	20	222501	
		right	12/20	180	20	222502	
		left	12/20	180	20	222503	



P 9.7.2 Pivot post PVC MULTI MAMMUT				kg		No	No Tricoat
silver	with 9 mm supporting pins	right	12/20	180	20	211869	
		left	12/20	180	20	211870	
RAL 9016 traffic white	with 9 mm supporting pins	right	12/20	180	20	212540	
		left	12/20	180	20	212541	

210613

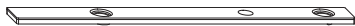


9.7.3 Corner support MULTI MAMMUT						No	No Tricoat
silver	pre-assembled spacer bar for corner hinge	right	12/18-9	180	20	210613	
		left	12/18-9	180	20	210614	
		right	12/18-13	180	20	210611	
		left	12/18-13	180	20	210612	
		right	12/20-9	180	20	210617	
		left	12/20-9	180	20	210618	
		right	12/20-13	180	20	210615	
		left	12/20-13	180	20	210616	
RAL 9016 traffic white	pre-assembled spacer bar for corner hinge	right	12/18-9	180	20	222506	
		left	12/18-9	180	20	222507	
		right	12/18-13	180	20	222504	
		left	12/18-13	180	20	222505	
		right	12/20-9	180	20	222510	
		left	12/20-9	180	20	222511	
		right	12/20-13	180	20	222508	
		left	12/20-13	180	20	222509	

362336



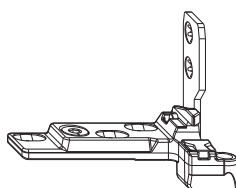
363306



9.7.4 Accessories pivot post MULTI MAMMUT						No	No Tricoat
			clip-on bush 10 mm, 180kg fittings		50	362336	
silver			fitting piece for corner support 180 kg	2 mm	50	363306	
				3 mm	50	363307	



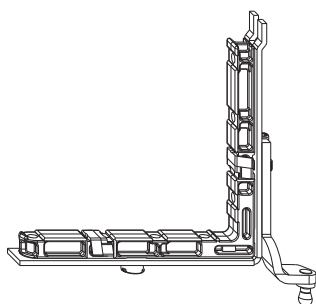
9.8 Pivot post TV



54930

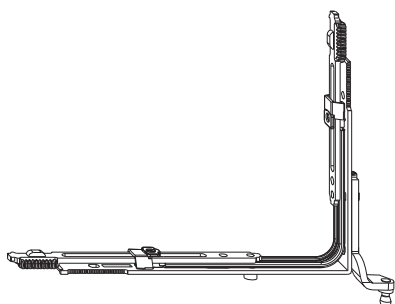
T	9.8.1 Pivot post TV timber			kg	No	No	Tricoat
silver	right	Euro-rebate 20mm rebate depth 9mm offset		100	50	54930 ¹	
	left	Euro-rebate 20mm rebate depth 9mm offset		100	50	54931 ¹	
	right	Euro-rebate 24mm rebate depth 13mm offset		100	50	55291 ¹	
	left	Euro-rebate 24mm rebate depth 13mm offset		100	50	55292 ¹	

¹ Available for PVC windows upon request.



54932

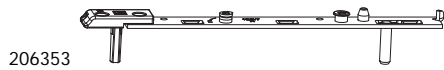
9.8.2 Corner support TV			kg	No	No	Tricoat
silver	right	9mm offset	100	50	54932	
	left	9mm offset	100	50	54933	
	right	13mm offset	100	50	58131	
	left	13mm offset	100	50	58132	



58352

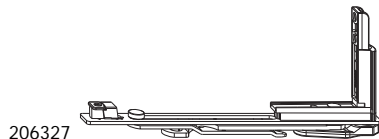
9.8.3 Corner support for half round window TV			kg	No	No	Tricoat
silver	right	9mm offset	60	10	58352	
	left	9mm offset	60	10	58353	
	right	13mm offset	60	10	55353	
	left	13mm offset	60	10	55355	

9.9 Pivot post INVISIBLE



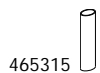
206353

9.9.1 Pivot posts INVISIBLE				kg		No	No Tricoat
silver	right	9mm offset	timber rebate depth 18 mm	80	20	212659	
	left	9mm offset	timber rebate depth 18 mm	80	20	212660	
7 mm screw axis	right	9mm offset	PVC	100	20	206353	
	left	9mm offset	PVC	100	20	206354	
	right	13mm offset	PVC	100	20	206355	
	left	13mm offset	PVC	100	20	206356	
13 mm screw axis	right	9mm offset	timber	100	20	206357	
	left	9mm offset	timber	100	20	206358	
	right	13mm offset	timber	100	20	206359	
	left	13mm offset	timber	100	20	206360	



206327

9.9.2 Corner support INVISIBLE				kg		No	No Tricoat
silver	timber rebate depth 18 mm	right	9mm offset	80	20	212663	
		left	9mm offset	80	20	212664	
	right		100	20	206327		
	left		100	20	206328		

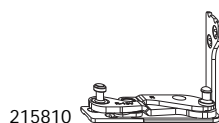


465315

T 9.9.3 Accessories for INVISIBLE						No	No Tricoat
clip-on bush 8mm, Invisible				400		465315	

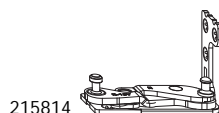


9.10 Pivot post MULTI POWER



T 9.10.1 Pivot post timber MULTI POWER			kg		No	No Tricoat
silver	right	timber 24mm rebate depth 9mm offset	150	20	215812 ¹	
	left	timber 24mm rebate depth 9mm offset	150	20	215813 ¹	
	right	timber 24mm rebate depth 13mm offset	150	20	215810 ¹	
	left	timber 24mm rebate depth 13mm offset	150	20	215811 ¹	
	right	timber 30mm rebate depth 13mm offset	150	20	214252 ¹	
	left	timber 30mm rebate depth 13mm offset	150	20	214253 ¹	

¹ Use support rawplug 36668 for sash weights over 100 kg.



P 9.10.2 Pivot post PVC MULTI POWER			kg		No	No Tricoat
silver	right	PVC 30mm rebate depth 9mm offset	150	20	215816	
	left	PVC 30mm rebate depth 9mm offset	150	20	215817	
	right	PVC 30mm rebate depth 13mm offset	150	20	215814	
	left	PVC 30mm rebate depth 13mm offset	150	20	215815	



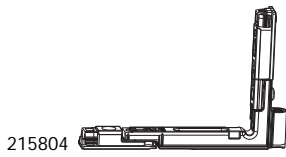
T 9.10.3 Pivot post 3-sashed timber MULTI POWER			kg		No	No Tricoat
silver	right	timber 24mm rebate depth 9mm offset	80	20	215830 ¹	
	left	timber 24mm rebate depth 9mm offset	80	20	215831 ¹	
	right	timber 24mm rebate depth 13mm offset	80	20	215828 ¹	
	left	timber 24mm rebate depth 13mm offset	80	20	215829 ¹	


¹ Separate application drawing MULTI POWER 3-sashed, no horizontal formats permitted.

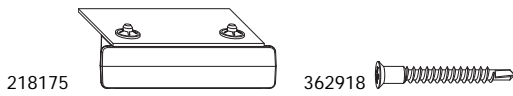



9.10.4 Pivot post 3-sashed PVC MULTI POWER			kg		No	No Tricoat
silver	right	PVC 30mm rebate depth 9mm offset	80	20	215834 ¹	
	left	PVC 30mm rebate depth 9mm offset	80	20	215835 ¹	
	right	PVC 30mm rebate depth 13mm offset	80	20	215832 ¹	
	left	PVC 30mm rebate depth 13mm offset	80	20	215833 ¹	

¹ Separate application drawing MULTI POWER 3-sashed, no horizontal formats permitted.



9.10.5 Corner support MULTI POWER			kg		No	No Tricoat
silver	right	9mm offset	150	20	215806	
	left	9mm offset	150	20	215807	
	right	13mm offset	150	20	215804	
	left	13mm offset	150	20	215805	



9.10.6 Accessories for MULTI POWER		Ø	L		No	No Tricoat
	mounting cover			5	218175	
silver	special drilling screw for VV130 Phillips	4,5	38	500	362918	
	special drilling screw for VV130 T20	4,5	38	500	367828	
	support rawlplug pivot post TO timber		19	50	36668	
black	clip-on part corner support MULTI POWER for 18 mm air gap			117	20	368390




9.11 Cover caps

9.11.1 Pivot post cover caps




41742

9.11.1.1 Short cover caps for pivot posts AS/DT/PVC			No	No Tricoat
RAL 9016 traffic white	dyed	100	41742	
RAL 9022 pearl light grey / silver	dyed	100	43566	
silver	painted	100	360232	
champagne	painted	100	42049	
titanium	painted	100	42048	
light bronze	dyed	100	41762	
RAL 9001 cream white	dyed	100	42207	
Brown F5	dyed	100	42195	
chrome-look	metallised	100	44241	
gold look	metallised	100	41763	



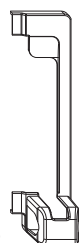
41743

9.11.1.2 Long cover caps for pivot posts DT/PVC			No	No Tricoat
RAL 9016 traffic white	dyed	100	41743	
RAL 9022 pearl light grey / silver	dyed	100	43567	
silver	painted	100	360231	
champagne	painted	100	42058	
titanium	painted	100	42057	
light bronze	dyed	100	41752	
RAL 9001 cream white	dyed	100	42215	
Brown F5	dyed	100	42208	
chrome-look	metallised	100	44242	
gold look	metallised	100	41760	



43622

9.11.1.3 Long cover caps for pivot post AS				No	No Tricoat
RAL 9016 traffic white	right	dyed	100	43622	
	left	dyed	100	43623	
RAL 9022 pearl light grey / silver	right	dyed	100	43743	
	left	dyed	100	43744	
silver	right	painted	100	363353	
	left	painted	100	363354	
champagne	right	painted	100	43733	
	left	painted	100	43734	
titanium	right	painted	100	43731	
	left	painted	100	43732	
light bronze	right	dyed	100	43727	
	left	dyed	100	43728	
RAL 9001 cream white	right	dyed	100	43739	
	left	dyed	100	43740	
Brown F5	right	dyed	100	43735	
	left	dyed	100	43736	
chrome-look	right	metallised	100	364087	
	left	metallised	100	364088	
gold look	right	metallised	100	43729	
	left	metallised	100	43730	



362609

9.11.1.4 Cover caps pivot post AS for rebated corner support AS/PVC				No	No Tricoat
RAL 9016 traffic white	right	dyed	100	362609	
	left	dyed	100	362610	
RAL 9022 pearl light grey / silver	right	dyed	100	363998	
	left	dyed	100	363999	
silver	right	painted	100	364004	
	left	painted	100	364005	
champagne	right	painted	100	364096	
	left	painted	100	364097	
titanium	right	painted	100	363996	
	left	painted	100	363997	
light bronze	right	dyed	100	364094	
	left	dyed	100	364095	
RAL 9001 cream white	right	dyed	100	364000	
	left	dyed	100	364001	
Brown F5	right	dyed	100	364018	
	left	dyed	100	364019	
chrome-look	right	metallised	100	364098	
	left	metallised	100	364099	
gold look	right	metallised	100	364016	
	left	metallised	100	364017	





360235

T 9.11.1.5 Cover caps for pivot post TO						No	No Tricoat
RAL 9016 traffic white	right	dyed			50	43572	
	left	dyed			50	43573	
silver	right	painted			50	360235	
	left	painted			50	360236	
champagne	right	painted			50	41692	
	left	painted			50	41691	
titanium	right	painted			50	40762	
	left	painted			50	40764	
light bronze	right	dyed			50	41612	
	left	dyed			50	41613	
Brown F5	right	dyed			50	41202	
	left	dyed			50	41203	
chrome-look	right	metallised			50	360856	
	left	metallised			50	360857	
gold look	right	metallised			50	40489	
	left	metallised			50	40490	
white	right	dyed		for timber profiles	50	40345	
	left	dyed		for timber profiles	50	40346	



364498



365224

T 9.11.1.6 Cover caps timber MULTI POWER						No	No Tricoat
RAL 9022 pearl light grey / silver	right	timber 24mm rebate depth	dyed		20	364498	
	left	timber 24mm rebate depth	dyed		20	364499	
	right	timber 30mm rebate depth	dyed		20	365224	
	left	timber 30mm rebate depth	dyed		20	365225	




364500

P 9.11.1.7 Cover caps PVC MULTI POWER						No	No Tricoat
RAL 9022 pearl light grey / silver	right	PVC 30mm rebate depth	dyed		20	364500	
	left	PVC 30mm rebate depth	dyed		20	364501	

9.11.2 Cover caps for corner support




42087

P 9.11.2.1 Cover caps for corner support PVC			No	No Tricoat
RAL 9016 traffic white	dyed	100	42087	
RAL 9022 pearl light grey / silver	dyed	100	43940	
silver	painted	100	360233	
champagne	painted	100	42096	
titanium	painted	100	42095	
light bronze	dyed	100	42093	
RAL 9001 cream white	dyed	100	42188	
Brown F5	dyed	100	42186	
chrome-look	metallised	100	44245	
gold look	metallised	100	42094	




41740

9.11.2.2 Cover caps for rebated corner supports AS/PVC and corner supports DT without UV				No	No Tricoat
RAL 9016 traffic white	right	dyed	100	41740	
	left	dyed	100	41741	
RAL 9022 pearl light grey / silver	right	dyed	100	43564	
	left	dyed	100	43565	
silver	right	painted	100	363116	
	left	painted	100	363117	
champagne	right	painted	100	42064	
	left	painted	100	42061	
titanium	right	painted	100	42063	
	left	painted	100	42060	
light bronze	right	dyed	100	41764	
	left	dyed	100	41770	
RAL 9001 cream white	right	dyed	100	43553	
	left	dyed	100	43554	
Brown F5	right	dyed	100	42599	
	left	dyed	100	42598	
chrome-look	right	metallised	100	44239	
	left	metallised	100	44240	
gold look	right	metallised	100	41769	
	left	metallised	100	41771	






363403

9.11.2.3 Cover caps for corner support and corner support with tab				No	No Tricoat
RAL 9016 traffic white	right	dyed	100	362333	
	left	dyed	100	362334	
RAL 9022 pearl light grey / silver	right	dyed	100	363508	
	left	dyed	100	363509	
silver	right	painted	100	363403	
	left	painted	100	363404	
champagne	right	painted	100	364102	
	left	painted	100	364103	
titanium	right	painted	100	363137	
	left	painted	100	363138	
light bronze	right	dyed	100	364100	
	left	dyed	100	364101	
RAL 9001 cream white	right	dyed	100	363510	
	left	dyed	100	363511	
Brown F5	right	dyed	100	364029	
	left	dyed	100	364030	
chrome-look	right	metallised	100	364104	
	left	metallised	100	364105	
gold look	right	metallised	100	364027	
	left	metallised	100	364028	



43587

9.11.2.4 Cover caps for corner support AS/DT with UV				No	No Tricoat
RAL 9016 traffic white	right	dyed	100	43587	
	left	dyed	100	43588	
RAL 9022 pearl light grey / silver	right	dyed	100	43597	
	left	dyed	100	43608	
silver	right	painted	100	360953	
	left	painted	100	360954	
champagne	right	painted	100	43593	
	left	painted	100	43604	
titanium	right	painted	100	43592	
	left	painted	100	43603	
light bronze	right	dyed	100	43590	
	left	dyed	100	43601	
RAL 9001 cream white	right	dyed	100	43598	
	left	dyed	100	43609	
Brown F5	right	dyed	100	43595	
	left	dyed	100	43606	
chrome-look	right	metallised	100	44246	
	left	metallised	100	44247	
gold look	right	metallised	100	43591	
	left	metallised	100	43602	



43570

T 9.11.2.5 Cover caps for corner support TO with UV					No	No Tricoat
RAL 9016 traffic white	right	dyed		50	43570	
	left	dyed		50	43571	
silver	right	painted		50	360237	
	left	painted		50	360238	
champagne	right	painted		50	41694	
	left	painted		50	41693	
titanium	right	painted		50	40758	
	left	painted		50	40759	
light bronze	right	dyed		50	41614	
	left	dyed		50	41615	
Brown F5	right	dyed		50	41204	
	left	dyed		50	41205	
chrome-look	right	metallised		50	360858	
	left	metallised		50	360859	
gold look	right	metallised		50	40460	
	left	metallised		50	40462	
white	right	dyed	for timber profiles	50	40343	
	left	dyed	for timber profiles	50	40344	



43651

P 9.11.2.6 Dirt covers for corner support PVC					No	No Tricoat
RAL 9016 traffic white		dyed		100	40341	
RAL 9022 pearl light grey / silver		dyed		100	43651	
titanium		dyed		100	209669	
RAL 9007 grey aluminium		dyed		100	224132	
RAL 8019 grey brown		dyed		100	203287	



43626

9.11.2.7 Dirt covers for corner support AS/DT/TO with UV					No	No Tricoat
RAL 9016 traffic white		dyed		100	42166	
RAL 9022 pearl light grey / silver		dyed		100	43626	
titanium		dyed/coated		100	358989	
RAL 1023 yellow		dyed		100	40342	
RAL 8019 grey brown		dyed		100	360230	



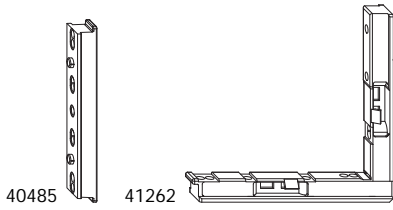



9.11.2.8 Dirt covers for corner support AS/PVC and corner support DT without UV			No	No Tricoat
RAL 9016 traffic white	dyed	100	42185	
RAL 9022 pearl light grey / silver	dyed	100	43701	
RAL 8022 black brown	dyed	100	368556	



9.11.2.9 Dirt covers for corner support MULTI MAMMUT			No	No Tricoat
RAL 9016 traffic white	dyed	100	364726	
RAL 9022 pearl light grey / silver	dyed	100	363148	
titanium	dyed	100	367573	

9.12 Accessories for pivot post



9.12.1 Spacer for corner support					No	No Tricoat
black	packer	for rebated corner support AS/DT/TO	100	40485		
	packer with faceplate for 1 mm offset	for rebated corner support AS/DT/TO	100	40486		
	spacer bar for corner support	for corner support TO	100	41262		
		for corner support AS/DT	100	44234		







10 French casement window hardware

10.1 French casement drive gears	214
10.1.1 French casement drive gear for hardware groove	214
10.1.2 French casement drive gear for Euroroove	215
10.1.3 French casement drive gears for intermediate profile (without striker plates)	218
10.1.4 French casement drive gear 180°	219
10.1.5 Stop for sash lifter	219
10.1.6 Extensions for French casement drive gear	219
10.2 Shootbolts	220
10.2.1 Shootbolt bottom	220
10.2.2 Shootbolt top	220
10.2.3 Shootbolt bottom/top	220
10.3 Accessories for French casement windows	221
10.3.1 Gap covers	221




10 French casement window hardware

10.1 French casement drive gears

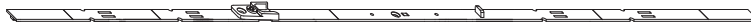
10.1.1 French casement drive gear for hardware groove

52835





10.1.1.1 French casement drive gear for hardware groove FHH					No	No Tricoat
silver	size 1	300	500 - 800	10	52832 ¹	
	size 2A	400	801 - 1.000	10	52833	
	size 2C	400	1.050 - 1.300	10	203058	
	size 3	500	1.001 - 1.250	10	52834	
	size 4	600	1.251 - 1.500	10	52835	
	size 4A	500	1.251 - 1.500	10	55168	
	size 5	700	1.501 - 1.750	10	52836	
	size 5B	500	1.501 - 1.750	10	58091	
	size 6	1.050	1.851 - 2.100	10	52837	
	size 6A	1.050	1.660 - 1.850	10	54594	
	size 7	1.050	2.101 - 2.350	10	52838	

¹ Can be used for fixed and variable/centred handle-height.



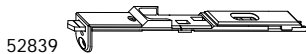
10713




10.1.1.2 French casement drive gear for hardware groove VHH				No	No Tricoat
silver	size 3	900 - 1.300	10	10713 ¹	
	size 4	1.301 - 1.900	10	10714 ¹	
	size 5	1.800 - 2.350	10	52975 ²	

¹ Includes 54648 and 52839.

² Includes 54649 and 52839.



10.1.1.3 End piece for hardware groove			No	No Tricoat
silver	top end piece with shootbolt hardware groove	20	52839	



10.1.1.4 Accessories for french casement drive gears for hardware groove			No	No Tricoat
silver	cover for hardware groove sash component RAL 9022 pearl light grey / silver	100	43791	
	stop for sash lifter silver	100	355824	
	fixing clamp for French casement drive gear hardware groove silver	100	94035	
	latch striker for timber and PVC 1 fixed slot silver	50	35178	
	striker plate hardware groove silver	50	94221	
	faceplate restrainer for French casement drive gear silver	50	94036	
	extension for French casement drive gear for hardware groove croppable to 400/250 mm L=600 silver	20	10711	

10.1.2 French casement drive gear for Euroroove



10.1.2.1 French casement drive gear for Eurogroove FHH					No	No Tricoat
silver	size 1	300	550 - 800	10	54964 ¹	
	size 2	400	801 - 1.000	10	54965 ¹	
	size 3	500	1.001 - 1.250	10	54966	
	size 4	600	1.251 - 1.500	10	54968	
	size 4A	500	1.251 - 1.500	10	54967	
	size 5	600	1.501 - 1.750	10	206029	
		700	1.501 - 1.750	10	54970	
	size 5B	500	1.501 - 1.750	10	54969	
	size 6	1.050	1.851 - 2.100	10	54972	
	size 6A	1.050	1.661 - 1.850	10	54971	
	size 7	1.050	2.101 - 2.350	10	54973	

¹ Can be used for fixed and variable/centred handle-height.



10.1.2.2 French casement drive gear for Eurogroove FHH with high operating lever					No	No Tricoat
For profile systems without intermediate profile						
silver	size 1	300	550 - 800	10	222060 ¹	
	size 2	400	801 - 1.000	10	220073 ¹	
	size 3	500	1.001 - 1.250	10	220075	
	size 4	600	1.251 - 1.500	10	222062	
	size 4A	500	1.251 - 1.500	10	222061	
	size 5	700	1.501 - 1.750	10	222064	
	size 5B	500	1.501 - 1.750	10	222063	
	size 6	1.050	1.851 - 2.100	10	220084	
	size 6A	1.050	1.661 - 1.850	10	220083	
size 7	1.050	2.101 - 2.350	10	220085		

¹ Can be used for fixed and variable/centred handle-height.



10.1.2.3 French casement drive gear for Eurogroove VHH				No	No Tricoat
For profile systems without intermediate profile					
silver	size 3	925 - 1.300	10	11011 ¹	
	size 4	1.301 - 1.800	10	11012 ²	
	size 5	1.801 - 2.350	10	11013 ²	






¹ Bottom end piece 55005 included.

² Bottom end piece 55008 included.



220001








10.1.2.4 French casement drive gear with mounted striker plate i.S.							
silver	right	size 1	300	550 - 800	10	220007 ¹	
	left	size 1	300	550 - 800	10	220001 ¹	
	right	size 2	400	801 - 1.000	10	220008 ¹	
	left	size 2	400	801 - 1.000	10	220002 ¹	
	right	size 3	500	1.001 - 1.250	10	220009 ¹	
	left	size 3	500	1.001 - 1.250	10	220003 ¹	
	right	size 4	600	1.251 - 1.500	10	220010 ¹	
	left	size 4	600	1.251 - 1.500	10	220004 ¹	
	right	size 5	700	1.501 - 1.750	10	220011 ¹	
	left	size 5	700	1.501 - 1.750	10	220005 ¹	
	right	size 6	1.050	1.851 - 2.100	10	220012 ¹	
	left	size 6	1.050	1.851 - 2.100	10	220006 ¹	
	right	size 6A	1.050	1.651 - 1.850	10	206764 ¹	
	left	size 6A	1.050	1.651 - 1.850	10	206763 ¹	

¹ Only for windows produced in accordance with EN standards.

202025








10.1.2.5 French casement drive gear without mounted striker plate							
silver	right	size 1	300	550 - 800	10	202032 ¹	
	left	size 1	300	550 - 800	10	202025 ¹	
	right	size 2	400	801 - 1.000	10	202033 ¹	
	left	size 2	400	801 - 1.000	10	202026 ¹	
	right	size 3	500	1.001 - 1.250	10	202034 ¹	
	left	size 3	500	1.001 - 1.250	10	202028 ¹	
	right	size 4	600	1.251 - 1.500	10	202035 ¹	
	left	size 4	600	1.251 - 1.500	10	202029 ¹	
	right	size 5	700	1.501 - 1.750	10	202036 ¹	
	left	size 5	700	1.501 - 1.750	10	202030 ¹	
	right	size 6	1.050	1.851 - 2.100	10	202037 ¹	
	left	size 6	1.050	1.851 - 2.100	10	202031 ¹	
	right	size 6A	1.050	1.651 - 1.850	10	206766 ¹	
	left	size 6A	1.050	1.651 - 1.850	10	206765 ¹	

¹ Only for burglary inhibited B.R.G.3 (RC) windows produced in accordance with EN standards.

210444




10.1.2.6 French casement drive gear for double-tilt							
silver	size 1	300	601 - 800	10	210444		
	size 2	400	801 - 1.000	10	210445		
	size 3	500	1.001 - 1.250	10	210446		
	size 4	600	1.251 - 1.500	10	210447		

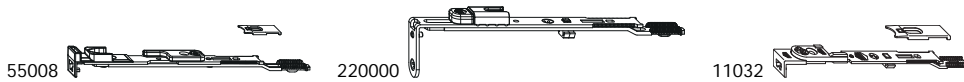
10.1.2.7 Accessories for french casement drive gears for Eurogroove




T

10.1.2.7.1 Aluminium profile for French casement drive gear

		No	No Tricoat
Aluminium profile for French casement drive-gear L=1.000mm	10	37535	
Aluminium profile for French casement drive-gear L=1.250mm	10	37536	
Aluminium profile for French casement drive-gear L=1.500mm blank	10	37537	
Aluminium profile for French casement drive-gear L=1.800mm	10	37554	
Aluminium profile for French casement drive-gear L=2.350mm blank	10	37538	
Aluminium profile for French casement drive-gear L=2.600mm blank	10	357399	
Aluminium profile for French casement drive-gear L=6.000mm blank	10	37571	
Clip on end piece for aluminium channel Overlapping casement gear	100	40522	





10.1.2.8 End pieces for Eurogroove

			No	No Tricoat
silver	end piece for French casement drive gear EH fixed handle height with welded-on striker, with locking-block and connecting-plate	20	220000	
	end piece for French casement drive gear with mounted striker	20	11032	
	end piece for French casement drive gear without mounted striker	20	55049	
	bottom end piece i.S. for French casement drive gear EH variable size 3 with operating lever left	20	208778	
	bottom end piece i.S. for French casement drive gear EH variable size 3 with operating lever right	20	208787	
	bottom end piece i.S. for French casement drive gear EH variable sizes 4+5	20	208929	
	bottom end piece with striker and 18 mm shootbolt protrusion	20	205093	
	bottom end piece with mounted striker	20	55008	



10.1.2.9 French casement drive gear EH VHH

				No	No Tricoat
silver	size 3	925 - 1.300	10	208877	
	right size 4	1.301 - 1.800	10	208958	
	left size 4	1.301 - 1.800	10	208878	
	right size 5	1.801 - 2.350	10	208959	
	left size 5	1.801 - 2.350	10	208879	



10.1.3 French casement drive gears for intermediate profile (without striker plates)



10.1.3.1 French casement drive gear for intermediate profile FHH



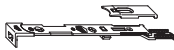
For profile systems without intermediate profile

silver	size 1	300	550 - 800	10	55011 ¹
	size 2	400	801 - 1.000	10	55012 ¹
	size 3	500	1.001 - 1.250	10	55013
	size 4	600	1.251 - 1.500	10	55014
	size 5	700	1.501 - 1.750	10	55015
	size 6	1.050	1.851 - 2.100	10	55016
	size 7	1.050	2.101 - 2.350	10	55017

¹ Can be used for fixed and variable/centred handle-height.



11017



10.1.3.2 French casement drive gear for intermediate profile VHH



For profile systems without intermediate profile

silver	size 3	900 - 1.300	10	11017 ¹
	size 4	1.301 - 1.800	10	11018 ²
	size 5	1.801 - 2.350	10	11019 ²

¹ End pieces 55021 (bottom) and 55041 (top) included.

² 2 x end pieces 55049 included.

10.1.3.3 Accessories for French casement drive gear for intermediate profile



10.1.3.3.1 Operating lever for French casement drive gear



silver	reverse-action lever for French casement drive gear without striker with spacer sleeve 13 mm silver	20	11055 ¹
	reverse-action lever for French casement drive gear without striker with spacer sleeve 36 mm silver	20	11806 ¹
	reverse-action lever for French casement drive gear without striker with spacer sleeve 43 mm silver	20	10828 ¹

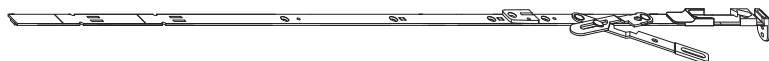
¹ Includes packer 41651.






10.1.3.3.2 Corner retainer



black	corner retainer for shootbolt and French casement drive gear for Eurogroove black	100	44249
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55976

10.1.4 French casement drive gear 180°					No	No Tricoat
silver	right size 2	400	800 - 1.000	10	55976	
	left size 2	400	800 - 1.000	10	55972	
	right size 3	500	1.001 - 1.250	10	55977	
	left size 3	500	1.001 - 1.250	10	55973	
	right size 4	600	1.251 - 1.500	10	55978	
	left size 4	600	1.251 - 1.500	10	55974	
	right size 5	700	1.501 - 1.750	10	55979	
	left size 5	700	1.501 - 1.750	10	55975	
	right size 6	1.050	1.851 - 2.100	10	55982	
	left size 6	1.050	1.851 - 2.100	10	55980	
	right size 7	1.050	2.101 - 2.350	10	55983	
	left size 7	1.050	2.101 - 2.350	10	55981	


355824



10.1.5 Stop for sash lifter			No	No Tricoat
silver		100	355824	

10711

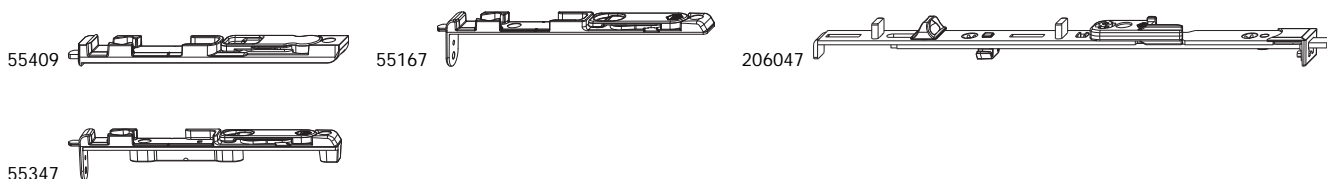



10.1.6 Extensions for French casement drive gear		L		No	No Tricoat
silver	extension for French casement drive gear EH with welded-on striker croppable to 400/250 mm	600	20	220013 ¹	
	extension for French casement drive gear for hardware groove croppable to 400/250 mm	600	20	10711	
	extension for French casement drive gear for intermediate profile croppable to 400/250 mm	600	20	202038	
	extension for French casement drive gear with pre-mounted striker croppable to 400/250 mm	600	20	55006	



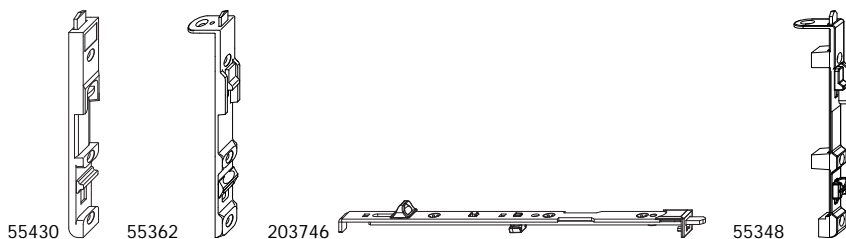
¹ Only for burglary inhibited B.R.G.3 (RC) windows produced in accordance with EN standards.


10.2 Shootbolts



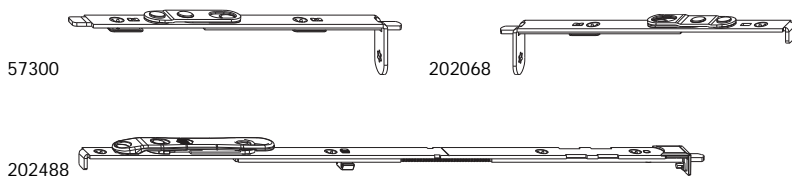
10.2.1 Shootbolt bottom		L		No	No Tricoat
silver	shootbolt R8 bottom MT/MM 4mm air gap	170	20	55409	
	shootbolt bottom MT/MM Euro-rebate 18mm rebate depth 9mm offset	170	20	55167	
	shootbolt bottom MT/MM hardware groove	170	20	52504	
	shootbolt bottom for Eurogroove	252	20	206047	
	shootbolt bottom left MT/MM for Eurogroove	170	20	55347	
	shootbolt bottom right MT/MM for Eurogroove	170	20	55351	


For other shootbolts, see profile sheet



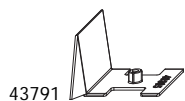
10.2.2 Shootbolt top		L		No	No Tricoat
silver	shootbolt R8 top 4mm air gap	170	20	55430	
	shootbolt top Euro-rebate	170	20	55362	
	shootbolt top hardware groove	170	20	52505	
	shootbolt top for Eurogroove	252	20	203746	
	shootbolt top left for Eurogroove	170	20	55348	
	shootbolt top right for Eurogroove	170	20	55352	


For other shootbolts, see profile sheet



10.2.3 Shootbolt bottom/top		L		No	No Tricoat
silver	flat shootbolt bottom and top hardware groove	187	20	57300	
	flat shootbolt bottom and top MT/MM for Eurogroove	180	20	202068	
	shootbolt bottom and top for Eurogroove	425	20	202488	

10.3 Accessories for French casement windows



10.3.1 Gap covers					No	No Tricoat
RAL 9022 pearl light grey / silver	for Eurogroove	right	for 9 mm offset dyed	100	44179	
			for 13mm offset dyed	100	44267	
		left	for 9 mm offset dyed	100	44178	
			for 13mm offset dyed	100	44266	
	for hardware groove		dyed	100	43791	



MACO
MULTI TREND



French casement window hardware



11 Striker plates




11.1	Striker plates 4 mm air gap _____	224
11.2	Striker plates 12 mm air gap, 6/8/4 hardware groove _____	227
11.3	Striker plates 12 mm air gap, 7/8/4 hardware groove _____	228
11.4	Striker plates 12 mm air gap hardware groove 6/8/4 and 7/8/4 _____	230
11.5	Striker plates 12 mm air gap flat, 18 mm rebate depth _____	231
11.6	Striker plates 12 mm air gap flat, 20 mm rebate depth _____	233
11.7	Striker plates 12 mm air gap flat, 24 mm rebate depth _____	235
11.8	Striker plates 12 mm air gap Euro-rebate 18-24 mm rebate depth _____	237
11.9	Striker plates for opposite Eurogroove _____	238
11.10	Striker plates for 3-sashed windows _____	238
11.11	Accessoires for striker plates _____	239

11 Striker plates

11.1 Striker plates 4 mm air gap

11.1.1 Striker plates 4 mm air gap






T 11.1.1.1 Striker plates 4 mm air gap				
silver	striker plate for 4 mm air gap	200	30545 ^{1,2}	
	striker plate for 4 mm air gap, 13 mm offset	right 200 left 200	363020 ^{1,2} 363021 ^{1,2}	
	- 1 mm gasket-compression	right 200 left 200	357671 ^{2,3} 357672 ^{2,3}	

¹ 9 mm offset 18 mm milling depth.

² Routing length 90 mm

³ 13 mm offset 22 mm milling depth .






T 11.1.1.2 Striker plates 4 mm air gap for 3-sashed window				
silver	striker plate for 3-sashed window for 4 mm air gap	200	34998 ^{1,2}	
	striker plate for 3-sashed window for 4 mm air gap, 13 mm offset	right 100 left 100	364602 ^{2,3} 364604 ^{2,3}	

¹ 9 mm offset 18 mm milling depth.

² Routing length 90 mm

³ 13 mm offset 22 mm milling depth .



T 11.1.1.3 Sash lifter for 4 mm air gap				
silver	lifting component for 4 mm air gap	100	95117 ^{1,2}	
	with door catch	20	29586 ^{1,3}	
	lifting component for 4 mm air gap, 13 mm offset	100	358435 ^{2,4}	
	with door catch	right 20 left 20	209339 ^{3,4} 209346 ^{3,4}	

¹ 9 mm offset 18 mm milling depth.

² Routing length 90 mm

³ Routing length 208mm

⁴ 13 mm offset 22 mm milling depth .

96565

T 11.1.1.4 Striker Plate 4 mm air gap i.S.				No	No Tricoat
silver	striker plate i.S. for 4 mm angled screw-fixing air gap	right	100	96565 ^{1,2}	
		left	100	96566 ^{1,2}	
	striker plate i.S. for 4 mm angled screw-fixing air gap without reinforcement rings	right	100	357958 ^{1,2}	
		left	100	357959 ^{1,2}	
	striker plate i.S. for 4 mm angled screw-fixing air gap, 13 mm offset	right	100	357673 ^{2,3}	
		left	100	357674 ^{2,3}	
	- 1 mm gasket-compression	right	100	360102 ^{2,3}	
		left	100	360103 ^{2,3}	

¹ 9 mm offset 18 mm milling depth.

² Routing length 90 mm

³ 13 mm offset 22 mm milling depth .

96200

T 11.1.1.5 Tilt-only striker plates i.S. 4 mm air gap				No	No Tricoat
silver	horizontal i.S. tilt striker for 4 mm air gap	angled screw-fixing right	100	96200 ^{1,2}	
		angled screw-fixing left	100	96201 ^{1,2}	
	horizontal i.S. tilt striker for 4 mm air gap, 13 mm offset	angled screw-fixing right	100	357678 ^{2,3}	
		angled screw-fixing left	100	357679 ^{2,3}	

¹ 9 mm offset 18 mm milling depth.

² Routing length 90 mm

³ 13 mm offset 22 mm milling depth .

97377

T 11.1.1.6 Tilt-first striker plates i.S. 4 mm air gap				No	No Tricoat
silver	tilt-first striker i.S. for 4 mm air gap	right and left	100	97377 ^{1,2}	

¹ 9 mm offset 18 mm milling depth.

² Routing length 113 mm.

23883 220089

T 11.1.1.7 Shootbolt striker plates for 4 mm air gap				No	No Tricoat
silver	shootbolt striker for 4 mm air gap	1 slot	100	55112 ^{1,2}	
		2 slots	100	23883 ^{1,2}	
		+ 1 mm gasket-compression	100	26083 ^{1,2}	
		3 slots	100	220089 ^{1,3,4}	
	shootbolt striker for 4 mm air gap, 13 mm offset	2 slots	100	209338 ^{2,5}	

¹ 9 mm offset 18 mm milling depth.

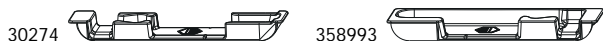
² Routing length 90 mm


³ Routing length 120 mm.

⁴ For windows - Group C5 EN 12210

⁵ 13 mm offset 22 mm milling depth .






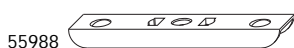
T 11.1.1.8 Tilt-only striker plates 4 mm air gap			No	No Tricoat
silver	tilt striker for 4 mm air gap	right and left	100	30274 ^{1,2}
	tilt striker for 4 mm air gap, 13 mm offset	right	100	358993 ^{2,3}
		left	100	358994 ^{2,3}


¹ 9 mm offset 18 mm milling depth.
² Routing length 90 mm
³ 13 mm offset 22 mm milling depth .



T 11.1.1.9 Sash lifter striker plates for half round and pitched windows 4 mm air gap			No	No Tricoat
silver	sash lifter striker plate for half round and pitched windows for 4 mm air gap		50	55214 ^{1,2}
	sash lifter striker plate for half round and pitched windows for 4 mm air gap, 13 mm offset		50	209364 ^{2,3}

¹ 9 mm offset 18 mm milling depth.
² Routing length 90 mm
³ 13 mm offset 22 mm milling depth .




T 11.1.1.10 Striker plates for opening restrictor			No	No Tricoat
silver	striker plate for opening restrictor for 4 mm angled screw-fixing air gap		50	55988 ^{1,2}
	striker plate for opening restrictor for 4 mm air gap, 13 mm offset		100	209365 ^{2,3}

¹ 9 mm offset 18 mm milling depth.
² Routing length 90 mm
³ 13 mm offset 22 mm milling depth .




T 11.1.1.11 Night vent striker plate			No	No Tricoat
silver	night-vent striker plate Euro-rebate 18 mm		100	25118



T 11.1.1.12 Striker plates for espagnolette			No	No Tricoat
silver	striker plate for espagnolette with preassembled tilt-only stay arm Euro-rebate 18 mm		100	55277




T 11.1.1.13 Stabilizing scissor stay casing			No	No Tricoat
silver	stabilising scissor stay case Euro-rebate 18 mm		100	52794




T 11.1.1.14 Run-up plate			No	No Tricoat
	Run-up plate 4mm air gap, silver		500	94022

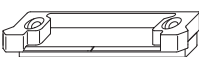
11.2 Striker plates 12 mm air gap, 6/8/4 hardware groove


34921 

T	11.2.1 Striker plates for 12 mm air gap, 6/8/4 hardware groove		No	No Tricoat
silver	striker plate for hardware groove 6/8/4	200	34921	
	- 1 mm gasket-compression	200	34979	


34917 

T	11.2.2 Striker plates for 3-sashed window, 12 mm air gap, 6/8/4 hardware groove		No	No Tricoat
silver	striker plate for 3-sashed window hardware groove	200	34917	


95114 

T	11.2.3 Sash lifter, 12 mm air gap, 6/8/4 hardware groove		No	No Tricoat
silver	lifting component for hardware groove 6/8/4	100	95114	


96563 

T	11.2.4 Striker plates i.S. for 12 mm air gap, 6/8/4 hardware groove		No	No Tricoat
silver	striker plate i.S. for hardware groove 6/8/4	100	96563	
	angled screw-fixing			
	- 1 mm gasket-compression	100	96263	


23886 

T	11.2.5 Shootbolt striker plates for 12 mm air gap, 6/8/4 hardware groove		No	No Tricoat
silver	shootbolt striker hardware groove	100	23886	
	2 slots			
	shootbolt striker for hardware groove 6/8/4	100	26610	
	2 slots			
	+ 1 mm gasket-compression	100		


33932 

T	11.2.6 Tilt-only striker plates for 12 mm air gap, 6/8/4 hardware groove		No	No Tricoat
silver	tilt striker for hardware groove 6/8/4	100	33932	
		right and left		

56930 

T	11.2.7 Striker plates for espagnolette 12 mm air gap, 6/8/4 hardware groove		No	No Tricoat
silver	striker plate for espagnolette with preassembled tilt-only stay arm for hardware groove 6/8/4	100	56930	


25928 

T	11.2.8 Night vent striker plates 12 mm air gap, 6/8/4 hardware groove		No	No Tricoat
silver	night-vent striker plate for hardware groove 6/8/4	100	25928	



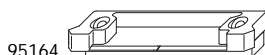
11.3 Striker plates 12 mm air gap, 7/8/4 hardware groove




T 11.3.1 Striker plates for 12 mm air gap, 7/8/4 hardware groove			No	No Tricoat
silver	striker plate for hardware groove 7/8/4	200	34902	
	- 1 mm gasket-compression	200	34969	
	angled screw-fixing	200	34522	




T 11.3.2 Striker plates for 3-sashed window, 12 mm air gap, 7/8/4 hardware groove			No	No Tricoat
silver	striker plate for 3-sashed window for hardware groove 7/8/4	200	34988	




T 11.3.3 Sash lifter 12 mm air gap, 7/8/4 hardware groove			No	No Tricoat
silver	lifting component for hardware groove 7/8/4	100	95164	




T 11.3.4 Striker plates i.S. for 12 mm air gap, 7/8/4 hardware groove			No	No Tricoat
silver	striker plate i.S. for hardware angled screw-fixing groove 7/8/4	100	96564	
	- 0.8 mm gasket-compression	100	360564	
	- 1 mm gasket-compression	100	96264	
	striker plate i.S. for hardware angled screw-fixing groove 7/8/4 without reinforcement rings	100	363486	



T 11.3.5 Tilt-first striker plates for 12 mm air gap, 7/8/4 hardware groove			No	No Tricoat
silver	tilt-first striker i.S. for hardware groove 7/8/4	right 100	97103	
		left 100	97104	



T 11.3.6 Shootbolt striker plates for 12 mm air gap, 7/8/4 hardware groove			No	No Tricoat
silver	shootbolt striker hardware groove 2 slots	100	23886	
	shootbolt striker for hardware groove 6/8/4 + 1 mm gasket-compression	100	26610	
	shootbolt striker for hardware groove 7/8/4 1 fixed slot	100	98110 ¹	
	2 slots - 1 mm gasket-compression	100	26026	

¹ For windows - Group C5 EN 12210



33970

T	11.3.7 Tilt-only striker plates for 12 mm air gap, 7/8/4 hardware groove		No	No Tricoat
silver	tilt striker for hardware groove 7/8/4	right 100 left 100	33970 33971	



56910

T	11.3.8 Striker plates for espagnolette 12 mm air gap, 7/8/4 hardware groove		No	No Tricoat
silver	striker plate for espagnolette with preassembled tilt-only stay arm for hardware groove 7/8/4	100	56910	



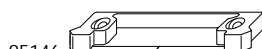
25838

T	11.3.9 Night vent striker plates 12 mm air gap, 7/8/4 hardware groove		No	No Tricoat
silver	night-vent striker plate for hardware groove 7/8/4	100	25838	



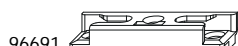
34937

T	11.3.10 Striker plates 12 mm air gap, 7/8/4 hardware groove with positioning pin		No	No Tricoat
silver	striker plate for hardware groove 7/8/4 with angled screw-fixing positioning pins 12 x 3 mm	200	34937	



95146

	11.3.11 Sash lifter 12 mm air gap, 7/8/4 hardware groove with positioning pin		No	No Tricoat
silver	lifting component for hardware groove 6/8/4 with positioning pins 12 x 3 mm	100	95146	



96691

T	11.3.12 Striker plates i.S. 12 mm air gap hardware groove, 7/8/4 with positioning pin		No	No Tricoat
silver	striker plate i.S. for hardware groove 7/8/4 with angled screw-fixing positioning pins 12 x 3 mm	100	96691	




26734

T	11.3.13 Shootbolt striker 12 mm air gap, 7/8/4 hardware groove with positioning pin		No	No Tricoat
silver	shootbolt striker for hardware groove 7/8/4 with 2 slots positioning pins 12 x 3 mm	100	26734	




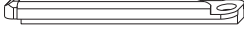
11.4 Striker plates 12 mm air gap hardware groove 6/8/4 and 7/8/4

25924 

T	11.4.1 Sash lifter striker for arched and pitched windows		No	No Tricoat
silver	sash lifter striker plate for half round and pitched windows hardware groove	50	25924	

40349  54697 


T	11.4.2 Striker plates for opening restrictor		No	No Tricoat
silver	striker plate for opening restrictor Euro- rebate 18 mm	angled screw-fixing	50	54697
	packer for striker for opening restrictor for timber		100	40349

55066 


T	11.4.3 Stabilizing stay housing		No	No Tricoat
silver	stabilising scissor stay case hardware groove		100	55066

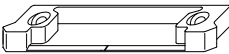
11.5 Striker plates 12 mm air gap flat, 18 mm rebate depth


34943  34980  357844 

T 11.5.1 Striker plates 12 mm air gap flat, 18 mm rebate depth					No	No Tricoat
silver	striker plate Euro-rebate 18 mm	double screw fixing		200	34943	
		angled screw-fixing		200	34980	
			+ 1 mm gasket-compression	200	359769	
			- 1 mm gasket-compression	200	357844	


34958 

T 11.5.2 Striker plates for 3-sashed windows, 12 mm air gap flat, 18 mm rebate depth					No	No Tricoat
silver	striker plate for 3-sashed window Euro-rebate			200	34958	


95113 

T 11.5.3 Lifting component 12 mm air gap flat, 18 mm rebate depth					No	No Tricoat
silver	lifting component Euro-rebate 18 mm	angled screw-fixing		100	95113	


96860 

T 11.5.4 Striker plates 12 mm air gap flat i.S. 18 mm rebate depth					No	No Tricoat
silver	striker plate i.S. Euro-rebate 18 mm	angled screw-fixing		100	96860	
			+ 1 mm gasket-compression	100	359770	
			- 0.7 mm gasket-compression	100	96660	
	striker plate i.S. Euro-rebate 18 mm without reinforcement rings	angled screw-fixing		100	355606	

94192 


T 11.5.5 Tilt-first striker plates 12 mm air gap flat i.S. 18 mm rebate depth					No	No Tricoat
silver	tilt-first striker i.S. Euro-rebate 18 mm		right	100	94192	
			left	100	94193	

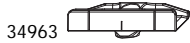
98021  23731 


T 11.5.6 Shootbolt striker plates 12 mm air gap flat, 18 mm rebate depth					No	No Tricoat
silver	shootbolt striker Euro-rebate 18 mm	1 fixed slot		100	98021 ¹	
		2 slots		100	23731	
			+ 1 mm gasket-compression	100	26745	
		2 slots with angled screw-fixing		100	26741	
		3 slots		100	26308 ¹	

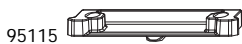
¹ For windows - Group C5 EN 12210




T	11.5.7 Tilt-only striker plates 12 mm air gap flat, 18 mm rebate depth			No	No Tricoat
	silver	tilt striker Euro-rebate 18 mm			




T	11.5.8 Striker plates 12 mm air gap flat, 18 mm rebate depth with positioning pin			No	No Tricoat
	silver	striker plate Euro-rebate 18 mm with positioning pins 12 x 3 mm			




	11.5.9 Sash lifter 12 mm air gap flat, 18 mm rebate depth with positioning pin			No	No Tricoat
	silver	lifting component Euro-rebate 18 mm with positioning pins 12 x 3 mm			




T	11.5.10 Striker plates 12 mm air gap flat i.S. 18 mm rebate depth with positioning pin			No	No Tricoat			
	silver	striker plate i.S. Euro-rebate 18 mm with positioning pins 12 x 3 mm				angled screw-fixing	100	96690
						- 0.7 mm gasket-compression	100	96890





T	11.5.11 Shootbolt striker plates 12 mm air gap flat, 18 mm rebate depth with positioning pin			No	No Tricoat
	silver	shootbolt striker Euro-rebate 18 mm with positioning pins 12 x 3 mm			

11.6 Striker plates 12 mm air gap flat, 20 mm rebate depth


34981 

T 11.6.1 Striker plates 12 mm air gap flat, 20 mm rebate depth				No	No Tricoat
silver	striker plate Euro-rebate 20 mm	angled screw-fixing	200	34981	
		- 1 mm gasket-compression	200	355396	
	striker plate Euro-rebate 20 mm without reinforcement rings	angled screw-fixing	200	34986	

34958 


T 11.6.2 Striker plates 12 mm air gap flat for 3-sashed windows 20 mm rebate depth				No	No Tricoat
silver	striker plate for 3-sashed window Euro-rebate		200	34958	

361960 


T 11.6.3 Striker plates rear-engaging 12 mm air gap flat, 20 mm rebate depth				No	No Tricoat
silver	striker plate HG Euro-rebate 20 mm	angled screw-fixing	200	361960 ¹	

¹ Only for i.S. cam!


95116 

T 11.6.4 Sash lifter 12 mm air gap flat, 20 mm rebate depth				No	No Tricoat
silver	lifting component Euro-rebate 20 mm	angled screw-fixing	100	95116	

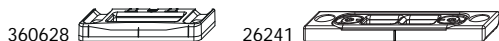
96561 


T 11.6.5 Striker plates 12 mm air gap flat i.S. 20 mm rebate depth				No	No Tricoat
silver	striker plate i.S. Euro-rebate 20 mm	angled screw-fixing	100	96561	
		- 0.7 mm gasket-compression	100	96861	
	striker plate i.S. Euro-rebate 20 mm without reinforcement rings	angled screw-fixing	100	96779	
		- 0.7 mm gasket-compression	100	96641	

94116 

T 11.6.6 Tilt-first striker plates 12 mm air gap flat i.S. 20 mm rebate depth				No	No Tricoat
silver	tilt-first striker i.S. Euro-rebate 20 mm	right and left	100	94116	




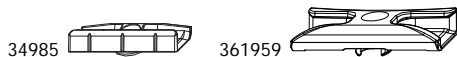



T 11.6.7 Shootbolt striker plates 12 mm air gap flat, 20 mm rebate depth				No	No Tricoat
silver	shootbolt striker Euro-rebate 20 mm	1 fixed slot 2 slots	100	360628 ¹	
			100	26241	
			100	208439	
		+ 1 mm gasket-compression	100	214779 ¹	
	shootbolt striker Euro-rebate 20 mm steel plate	2 slots	100	214779 ¹	

¹ For windows - Group C5 EN 12210

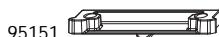



T 11.6.8 Tilt-only striker plates 12 mm air gap flat, 20 mm rebate depth				No	No Tricoat
silver	tilt striker Euro-rebate 20 mm		100	363300	
		right and left			




T 11.6.9 Striker plates 12 mm air gap flat, 20 mm rebate depth with positioning pin				No	No Tricoat
silver	striker plate Euro-rebate 20 mm with positioning pins 12 x 3 mm	angled screw-fixing	200	34985	
	striker plate HG Euro-rebate 20 mm with positioning pins 12 x 3 mm	angled screw-fixing	200	361959 ¹	

¹ Only for i.S. cam!




T 11.6.10 Sash lifter, 12 mm air gap flat, 20 mm rebate depth with positioning pin				No	No Tricoat
silver	lifting component Euro-rebate 20 mm with positioning pins 12 x 3 mm		100	95151	



T 11.6.11 Striker plates 12 mm air gap flat i.S. 20mm rebate depth with positioning pin				No	No Tricoat
silver	striker plate i.S. Euro-rebate 20 mm with positioning pins 12 x 3 mm	angled screw-fixing	100	96692	



T 11.6.12 Shootbolt striker plates 12 mm air gap flat, 20 mm rebate depth with positioning pin				No	No Tricoat
silver	shootbolt striker Euro-rebate 20 mm with positioning pins 12 x 3 mm	2 slots	100	206977	

11.7 Striker plates 12 mm air gap flat, 24 mm rebate depth

34934

T 11.7.1 Striker plates for 12 mm air gap flat, 24 mm rebate depth					No	No Tricoat
silver	striker plate 24mm rebate depth, 13mm offset	angled screw-fixing		200	34934	
			- 1 mm gasket-compression	200	359297	
	striker plate 24mm rebate depth, 13mm offset without reinforcement rings	angled screw-fixing		100	362812	

360849

T 11.7.2 Striker plates rear-engaging 12 mm air gap flat, 24 mm rebate depth					No	No Tricoat
silver	striker plate HG 24mm rebate depth, 13mm offset	angled screw-fixing		200	360849 ¹	

¹ Only for i.S. cam!

95934

T 11.7.3 Sash lifters 12 mm air gap flat, 24 mm rebate depth					No	No Tricoat
silver	lifting component 24mm rebate depth, 13mm offset	angled screw-fixing		100	95934	

96934

T 11.7.4 Striker plates 12mm air gap flat i.S., 24mm rebate depth					No	No Tricoat
silver	striker plate i.S. 24mm rebate depth, 13mm offset	angled screw-fixing		100	96934	
			- 1 mm gasket-compression	100	360611	
			striker plate i.S. 24mm rebate depth, 13mm offset without reinforcement rings	angled screw-fixing	100	359532

360624 203329

T 11.7.5 Shootbolt striker plates 12 mm air gap flat, 24 mm rebate depth					No	No Tricoat	
silver	shootbolt striker 24mm rebate depth, 13mm offset	1 fixed slot		100	360624 ¹		
			2 slots	100	203329		
		2 slots with angled screw-fixing		100	212474 ²		
			+ 1 mm gasket-compression	100	211369		
		shootbolt striker 24mm rebate depth, 13mm offset without reinforcement rings	2 slots with angled screw-fixing	+ 1 mm gasket-compression	100	212343	
		shootbolt striker Euro-rebate 20 mm steel plate	2 slots		100	214779 ¹	


¹ For windows - Group C5 EN 12210


² Height + 1 mm


359003

T 11.7.6 Tilt-only striker plates 12 mm air gap flat, 24 mm rebate depth					No	No Tricoat
silver	tilt striker 24mm rebate depth, 13mm offset		right	100	359003	
			left	100	359004	


206200 

T	11.7.7 Sash lifter striker plates for half round and pitched windows				No	No Tricoat
	silver	sash lifter striker plate for half round and pitched windows 24mm rebate depth, 13mm offset		50	206200	


207432 


T	11.7.8 Striker plates for opening restrictor				No	No Tricoat
	silver	striker plate for opening restrictor Euro-rebate 20 mm	angled screw-fixing	50	207432	

356961 


T	11.7.9 Striker plates 12 mm air gap flat i.S., 24 mm rebate depth with positioning pin				No	No Tricoat
	silver	striker plate 24mm rebate depth, 13mm offset with positioning pins 12 x 3 mm	angled screw-fixing	200	356961	
			+ 1.2 mm gasket-compression	200	357213	
		striker plate HG 24mm rebate depth, 13mm offset with positioning pins 12 x 3 mm		200	360154 ¹	

¹ Only for i.S. cam!


357740 

	11.7.10 Sash lifters 12 mm air gap flat, 24 mm rebate depth with positioning pin				No	No Tricoat
	silver	lifting component 24mm rebate depth, 13mm offset with positioning pins 12 x 3 mm	angled screw-fixing	100	357740	

356962 

T	11.7.11 Striker plates 12 mm air gap flat i.S., 24 mm rebate depth with positioning pin				No	No Tricoat
	silver	striker plate i.S. 24mm rebate depth, 13mm offset with positioning pins 12 x 3 mm	angled screw-fixing	100	356962	
			- 1 mm gasket-compression	100	360610	
		striker plate i.S. 24mm rebate depth, 13mm offset with positioning pins 12 x 3 mm without reinforcing rings	angled screw-fixing	100	360372	


207368 

T	11.7.12 Shootbolt striker plates 12 mm air gap flat, 24 mm rebate depth with positioning pin				No	No Tricoat
	silver	shootbolt striker 24mm rebate depth, 13mm offset with positioning pins 12 x 3 mm	2 slots	100	207368	
			+ 1 mm	100	213399 ¹	


¹ Height + 1 mm


11.8 Striker plates 12 mm air gap Euro-rebate 18-24 mm rebate depth


25114 

T	11.8.1 Sash lifter striker for arched and pitched windows		No	No Tricoat
silver	sash lifter striker plate for half round and pitched windows Euro-rebate 18 mm	50	25114	

55277 

T	11.8.2 Striker plate for espagnolette		No	No Tricoat
silver	striker plate for espagnolette with preassembled tilt-only stay arm Euro-rebate 18 mm	100	55277	


207432 

T	11.8.3 Strikers for opening restrictors FT 20 - 24 mm		No	No Tricoat
silver	striker plate for opening restrictor Euro-rebate 20 mm	angled screw-fixing	50	207432

25118 

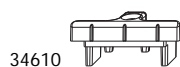
T	11.8.4 Night vent striker FT 18 - 24 mm		No	No Tricoat
silver	night-vent striker plate Euro-rebate 18 mm		100	25118

52794 




T	11.8.5 Stabilizing scissor stay housing FT 18 - 24 mm		No	No Tricoat
silver	stabilising scissor stay case Euro-rebate 18 mm		100	52794



11.9 Striker plates for opposite Eurogroove






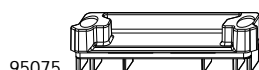
34610

11.9.1 Striker plates for opposite Eurogroove				
silver	striker plate opposite hardware groove	200	34610	
	- 1 mm gasket-compression	200	34606	



34618

11.9.2 Striker plates for 3-sashed windows for opposite Eurogroove				
silver	striker plate for 3-sashed window opposite hardware groove	200	34618	

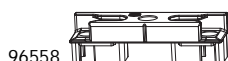


95075




11.9.3 Sash lifter for opposite Eurogroove				
silver	lifting component opposite hardware groove	100	95075	

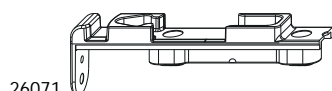


355221



96558

11.9.4 Striker plates i.S. for opposite Eurogroove				
silver	striker plate i.S. opposite hardware groove	100	355221	
	- 0.8 mm gasket-compression	100	96558	



26071

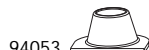
11.9.5 Tilt-only striker plates for opposite Eurogroove				
silver	tilt striker for PVC	right and left	100	26071






355920



55039



94053

11.10 Striker plates for 3-sashed windows				
silver	clip-on bush for i.S. cam	100	355920	
	clip-on bush for locking cam	100	94031	
	clip-on striker for 3-sashed windows	100	55039 ¹	
	clip-on striker for i.S. cams	3-sashed	100	205563
	locking cam Euro-rebate	3-sashed	100	94053
	locking cam hardware groove	3-sashed	100	94037
	locking cam opposite hardware groove	3-sashed	100	94038

¹ NOTE: Not suitable for i.S. cams!



11.11 Accessoires for striker plates



43754

11.11.1 Adaptor for EH striker plates



No

No
Tricoat

Adapter for burglar-resistant striker

50

43754¹

¹ This adapter can not be used in connection with 4mm air gap.

355615



11.11.2 Run-up block for horizontal tilt lock bolt



No

No
Tricoat

silver

run-up block for 2-sashed windows for striker i.S. MM

100

355615



MACO
MULTI TREND



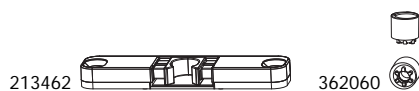
Striker plates






12 Accessories MULTI TREND

12.1	Door catch and bullet catch for 2-sashed windows _____	242
12.2	PVC bullet catch for 2-sashed windows _____	242
12.3	Self-catching turn locks _____	242
12.4	Concealed turn locks 4 mm air gap _____	243
12.5	Concealed turn locks MT 12 mm air gap _____	243
12.6	MULTI VENT ventilation control elements _____	243
12.7	Ventilation control elements _____	244
12.8	Ventilation control elements for French casement windows _____	244
12.9	Turn-only hinge safety device _____	244
12.10	Turn restrictors _____	245
12.11	Turn restrictors _____	245
12.12	Turn restrictors MULTI POWER _____	246
12.13	Packers MULTI POWER _____	247
12.14	Opening restrictors / brake stays _____	248
12.15	Anti-unhinge device "Safety Pin" for PVC and timber _____	248
12.16	Secondary glazing-bar hinges for glazing-bar frame _____	249
12.17	Glazing-bar catches for glazing-bar cross and glazing-bar frame _____	249
12.18	Drill-in glazing-bar catches _____	249
12.19	Universal coupling hinges _____	249
12.20	Universal coupling catches _____	249
12.21	Coupling hardware for Aluminium front profiles _____	250
12.22	Run-up blocks _____	250
12.23	Chipboard screws _____	250
12.24	Serrated carrier connectors _____	250
12.25	Clip-on bush _____	250
12.26	Cropping press / replacement blade _____	250


12 Accessories MULTI TREND



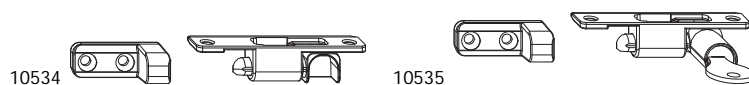
12.1 Door catch and bullet catch for 2-sashed windows				
	packer for bullet catch for Eurogroove	100	362059 ¹	
silver	bullet catch timber 18mm rebate depth 9mm offset and 22mm rebate depth 13mm offset	50	213461	
	bullet catch timber 20mm rebate depth 9mm offset and 24mm rebate depth 13mm offset	50	213462	
	bullet catch hardware groove	50	214804	
	bullet-catch roll for timber 13mm offset with plate	50	215374	
	bullet-catch roll for timber 9mm offset with plate	50	215372	
	bullet-catch roll Eurogroove with plate	50	215373	
	bullet-catch roll steel	100	362446	
RAL 9022 pearl light grey / silver	bullet-catch roll	100	362060	




¹ Use for installation into Eurogroove!

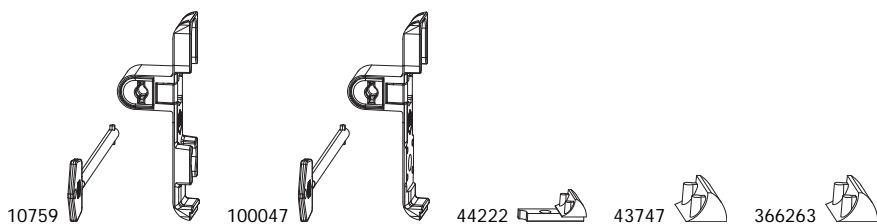


12.2 PVC bullet catch for 2-sashed windows				
silver	2-sashed bullet catch 4mm air gap 9mm offset mill-in	50	220080 ¹	
	2-sashed bullet catch without Eurogroove	50	57891	
	2-sashed bullet catch for Eurogroove	50	55189	
	bullet-catch roll Euro-rebate 10x7 mm	100	44174	
	bullet-catch roll hardware groove 10x7 mm with lip	100	44175	
	bullet-catch roll Euro-rebate 10x9 mm	100	94111	

¹ Routing length 120 mm.



12.3 Self-catching turn locks				
	key for self-catching turn restrictor lockable	100	40401	
silver	turn-restrictor self-catching	20	10534	
	turn-restrictor self-catching lockable	20	10535	
	packer for frame component self-catching turn restrictor 2 mm	20	366651	
RAL 9016 traffic white	turn-restrictor self-catching	20	12067	
	turn-restrictor self-catching lockable	20	12069	
RAL 8019 grey brown	turn-restrictor self-catching	20	12068	
	turn-restrictor self-catching lockable	20	12070	



T 12.4 Concealed turn locks 4 mm air gap

			No	No Tricoat
silver	concealed turn restrictor for 4 mm air gap, 9 mm offset	20	10759 ^{1,2,3,4}	
	right concealed turn restrictor 4mm air gap 13mm offset	20	103874 ^{2,3,5,6}	
	left concealed turn restrictor 4mm air gap 13mm offset	20	103875 ^{2,3,5,6}	
	concealed turn restrictor 4mm air gap 11mm offset	20	103873 ^{2,3,5,6}	
	concealed turn restrictor 2-sashed 4mm air gap	20	100047 ^{1,2,3,4}	
RAL 9016 traffic white	concealed turn restrictor for 4 mm air gap, 9 mm offset	20	12769 ^{1,2,3,4}	
RAL 9022 pearl light grey / silver	right adapter spacer for turn restrictor cases Hardware groove 6/8/4	100	44222	
	left adapter spacer for turn restrictor cases Hardware groove 6/8/4	100	44223	
	adapter spacer for turn restrictor cases Euro-rebate	100	43747	
	adapter spacer for turn restrictor cases 12 air gap	20	366263	

¹ 9 mm offset: 18 mm milling depth

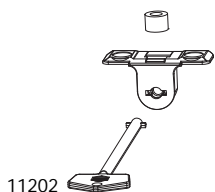
² For 4 mm air gap 90 mm milling length.

³ Box contents: Turn lock and tilt-stay key.

⁴ For timber 18 mm rebate depth 9 mm offset use end cap 43747 and for hardware groove 6/8/4 end cap 44222 on the right and/or 44223 on the left.

⁵ Use end cap 366263 for 12 mm air gap.

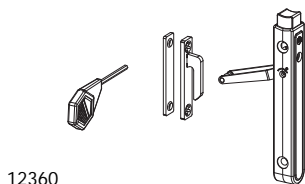
⁶ 11 + 13 mm offset: 22 mm milling depth



12.5 Concealed turn locks MT 12 mm air gap

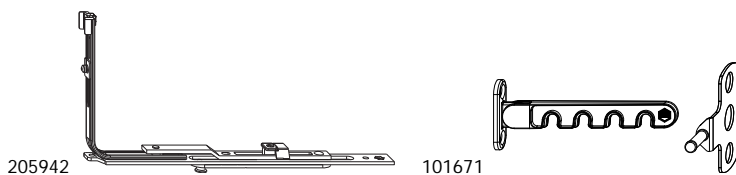
			No	No Tricoat
silver	concealed turn restrictor lockable 9mm offset	20	11202 ¹	
	concealed turn restrictor lockable 13mm offset	20	11203 ¹	

¹ Box contents: Turn lock, bolt for turn lock, Sped-Form screw, tilt-stay key.



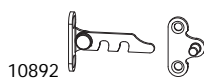
12.6 MULTI VENT ventilation control elements

			No	No Tricoat
RAL 9016 traffic white	Multi-vent ventilation control element	20	12360	
RAL 9001 cream white	Multi-vent ventilation control element	20	101524	
RAL 8019 grey brown	Multi-vent ventilation control element	20	12361	
white	packer 5°	100	42509	
	packer 15°	100	42514	
brown	packer 5°	100	42502	
	packer 15°	100	42513	

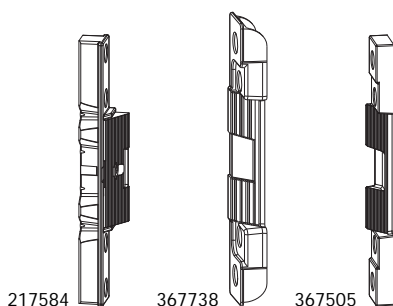


12.7 Ventilation control elements				No	No Tricoat
silver			20	205942 ¹	
		13mm offset	20	206807 ¹	
	right		50	10890	
	left		50	10891	
RAL 9016 traffic white	right		50	10137	
	left		50	10138	
	left/right	to be attached on HARMONY handle	50	101671	
		to be attached on RHAPSODY handle	50	101672	
black	right		50	12460	
	left		50	12461	
RAL 9022 pearl light grey / silver	left/right	to be attached on HARMONY handle	50	101673	
		to be attached on RHAPSODY handle	50	101674	

¹ In combination with stabilizing scissor stay casing.



12.8 Ventilation control elements for French casement windows				No	No Tricoat
silver	right		50	10892	
	left		50	10893	
RAL 9016 traffic white	right	with 20 mm pin	50	100139	
			50	13295	
	left	with 20 mm pin	50	100138	
			50	10132	



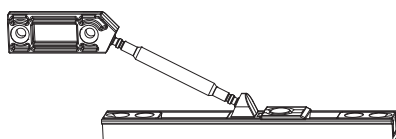
12.9 Turn-only hinge safety device				No	No Tricoat
silver	turn-only hinge safety device - sash component		20	217584 ¹	
	turn-only hinge safety device - frame component 4mm air gap 13mm offset		20	367738 ^{2,3}	
	turn-only hinge safety device - frame component for 4 mm air gap, 9 mm offset		20	368014 ^{3,4}	
	turn-only hinge safety device - frame component for 12mm air gap		20	367505	
	turn-only hinge safety device - frame component hardware groove		20	367722	

¹ For PVC and timber/alu profiles — see profile data sheets.

² 9 mm offset 18 mm milling depth.

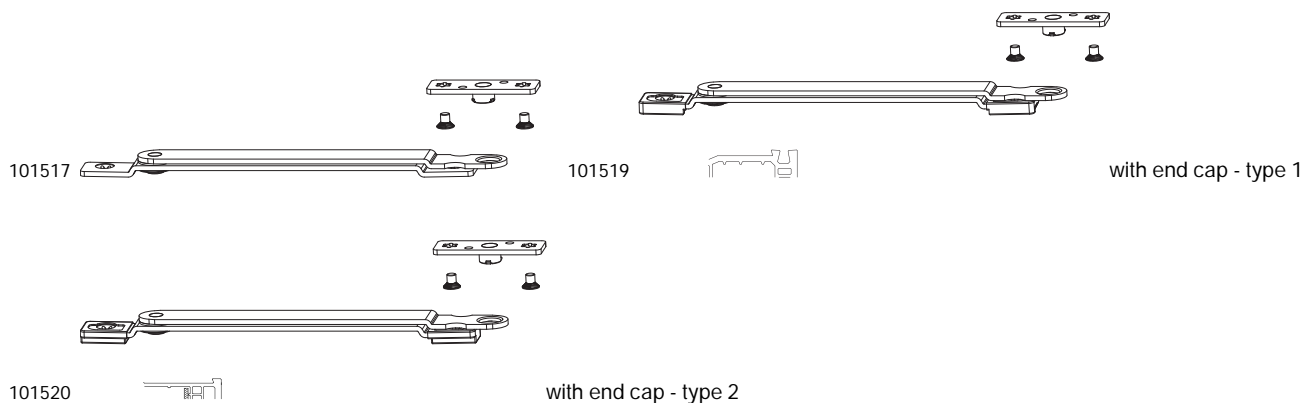
³ Routing length 90 mm

⁴ 13 mm offset 22 mm milling depth .



214718

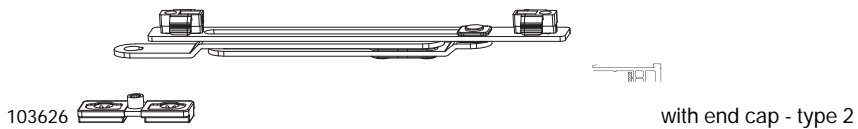
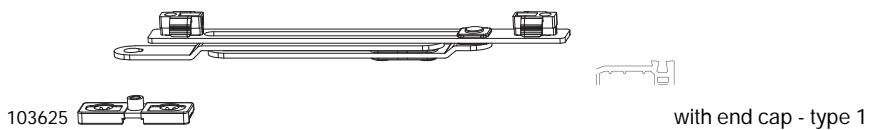
12.10 Turn restrictors			No	No Tricoat
silver	concealed vertical turn limiting restrictor timber	20	214718	
	concealed turn restrictor TV PVC	20	214715	
	concealed turn restrictor TV timber	20	214717	
	concealed vertical turn limiting restrictor PVC	20	214716	
grey F1	packer for vertical turn limiting restrictor PVC 5 mm	20	363128	
	packer for vertical turn limiting restrictor PVC 4 mm groove width	20	363124	
	packer for vertical turn limiting restrictor PVC 3 mm	20	363127	
	adapter for vertical turn limiting restrictor timber 26-28mm rebate depth	50	363194	
	adapter for vertical turn limiting restrictor timber hardware groove	50	363220	
	adapter for vertical turn limiting restrictor timber 30mm rebate depth	100	363195	
	adapter for vertical turn limiting restrictor timber 22-24mm rebate depth	20	363193	








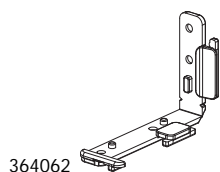
12.11 Turn restrictors					No	No Tricoat
silver	independent turn limiting restrictor timber Euro-rebate	240 - 1.300	80	20	101517 ^{1,2}	
	independent turn limiting restrictor timber hardware groove	240 - 1.300	80	20	101518 ^{1,2}	
	independent turn limiting restrictor PVC / TV PVC end cap - type 1	240 - 1.300	80	20	101519 ^{1,2}	
	independent turn limiting restrictor PVC / TV PVC end cap - type 2	240 - 1.300	80	20	101520 ^{1,2}	
	screw for turn-restrictor for half round window			100	101655	
	turn-restrictor TV timber Euro-rebate	240 - 1.300	80	20	206207	
	turn-restrictor TV timber hardware groove	240 - 1.300	80	20	206208	
	turn-restrictor TV PVC with end cap - type 1	240 - 1.300	80	20	206209	
	turn-restrictor TV PVC with end cap - type 2	240 - 1.300	80	20	206210	
	packer for independent turn limiting restrictor sash component for Eurogroove			100	40456	

¹ In combination with horizontal 175 tilt lock, the application area increases by 230 mm.

² Cannot be used in connection with rebate pivot-rest hinges without overlap screw-fixing.



12.12 Turn restrictors MULTI POWER						
silver	timber Euro-rebate	330 - 1.400	150	20	103623	
	timber hardware groove	330 - 1.400	150	20	103624	
	PVC with end cap - type 1	330 - 1.400	150	20	103625	
	PVC with end cap - type 2	330 - 1.400	150	20	103626	



P 12.13 Packers MULTI POWER



No

No
Tricoat

grey F1	type01	pivot post left/scissor stay hinge right for MULTI POWER	100	364063 ¹	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364062 ¹	
	type02	pivot post left/scissor stay hinge right for MULTI POWER	100	364065 ²	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364064 ²	
	type03	pivot post left/scissor stay hinge right for MULTI POWER	100	364067 ³	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364066 ³	
	type04	pivot post left/scissor stay hinge right for MULTI POWER	100	364069 ⁴	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364068 ⁴	
	type05	pivot post left/scissor stay hinge right for MULTI POWER	100	364071 ⁵	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364070 ⁵	
	type06	pivot post left/scissor stay hinge right for MULTI POWER	100	364073 ⁶	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364072 ⁶	
	type07	pivot post left/scissor stay hinge right for MULTI POWER	100	364075 ⁷	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364074 ⁷	
	type08	pivot post left/scissor stay hinge right for MULTI POWER	100	364077 ⁸	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364076 ⁸	
	type09	pivot post left/scissor stay hinge right for MULTI POWER	100	364175 ^{9,10}	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364174 ^{9,10}	
	type10	pivot post left/scissor stay hinge right for MULTI POWER	100	364177 ¹¹	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364176 ¹¹	
	type11	pivot post left/scissor stay hinge right for MULTI POWER	100	364179 ¹²	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364178 ¹²	
	type12	pivot post left/scissor stay hinge right for MULTI POWER	100	364181 ^{9,13}	
		pivot post right/scissor stay hinge left for MULTI POWER	100	364180 ^{9,13}	
	type13	pivot post left/scissor stay hinge right for MULTI POWER	100	366340 ¹⁴	
		pivot post right/scissor stay hinge left for MULTI POWER	100	366339 ¹⁴	
	type14	pivot post left/scissor stay hinge right for MULTI POWER	100	367263 ¹⁵	
		pivot post right/scissor stay hinge left for MULTI POWER	100	367262 ¹⁵	
	type15	pivot post left/scissor stay hinge right for MULTI POWER	100	367848 ¹⁶	
		pivot post right/scissor stay hinge left for MULTI POWER	100	367847 ¹⁶	
	type16	pivot post left/scissor stay hinge right for MULTI POWER	100	368311 ¹⁷	
		pivot post right/scissor stay hinge left for MULTI POWER	100	368310 ¹⁷	
	type17	pivot post left/scissor stay hinge right for MULTI POWER	100	369288 ¹⁸	
		pivot post right/scissor stay hinge left for MULTI POWER	100	369287 ¹⁸	
RAL 9022 pearl light grey / silver	groove 10/14 Heroal	pivot post and scissor stay hinge MULTI POWER	100	366922	

¹ Aluplast AD 2000, Veka Softline 70 AD + MD + Topline + Swingline, Brüggmann AD + MD, Alphacan System Alpha 70 + 80, Schüco Corona CT70 / SI 82

² Aluplast AD 4000, Aluplast MD 5000 + 6000 + 8000, Schüco Corona AS

³ Gromathic AD 3100

⁴ Rehau Brilliant Design AD

⁵ Profine Trocal Innonova 70 A3/A5/M5

⁶ Gealan S7000 + 8000

⁷ Salamander 2D + 3D + Streamline 76

⁸ Rehau Geneo AD + MD + Brilliant Design MD + Thermo Design

⁹ Use pivot post MULTI POWER timber 24 mm rebate depth.

¹⁰ Profine Trocal System 88 + Innonova 2000

¹¹ Aluplast Energeto

¹² Inoutic AD

¹³ Inoutic Prestige MD

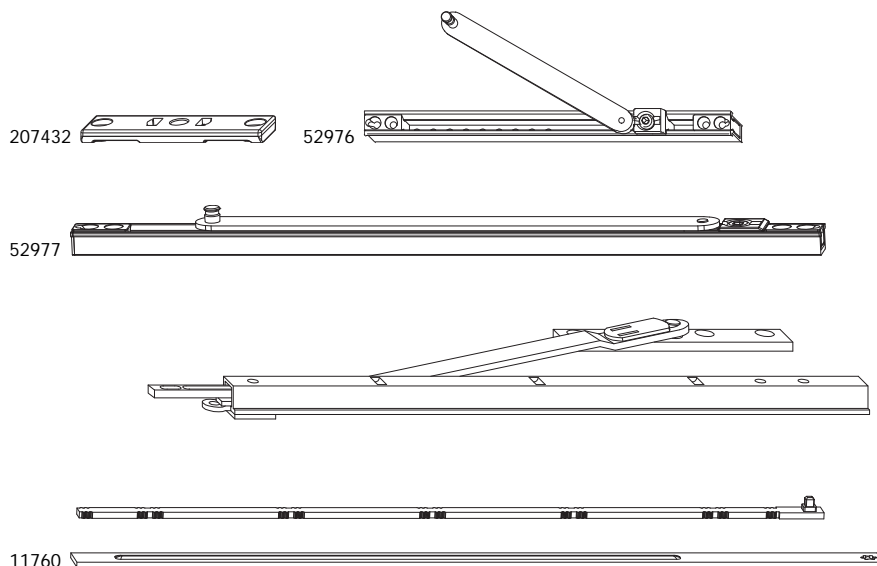
¹⁴ Kömmerling Eurofutur AD + MD + 3S + MPF, KBE 70 AD + MD



¹⁵ KB07 KBE 70 AD, KB08 KBE 70 MD, KB13 KBE System 88, Trocal 76 AD; Deceuninck Zendow

¹⁶ Wymar 3000 AD / MD

¹⁷ Swish 24-7 / Profile 22

¹⁸ Deceuninck Zendow 3000 with transom recess.



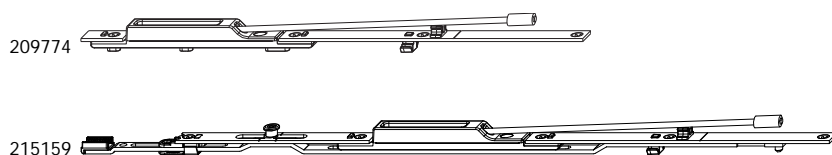
12.14 Opening restrictors / brake stays		L			No	No Tricoat
silver	striker plate for opening restrictor for PVC	78		20	10757	
	striker plate for opening restrictor Euro-rebate 20 mm	80		50	207432	
	opening restrictor with brake arm length 145 mm	244	280 - 380	20	52976 ^{1,2}	
	opening restrictor with brake arm length 210 mm	244	360 - 449	20	216367 ^{1,2}	
	opening restrictor with brake arm length 250 mm	244	381 - 470	20	52978 ²	
		333	471 - 1.650	20	52977 ^{2,3}	
	opening restrictor with brake arm length 274 mm	333	480 - 1.800	20	214328 ⁴	
	brake stay with adaptor size 1	270	520 - 800	20	11760	
	brake stay with adaptor size 2	420	801 - 1.650	20	103241	



¹ Crop the corner support at the notch

² In combination with horizontal 175 tilt lock, the application area increases by 230 mm.

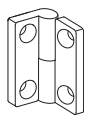
³ In connection with MULTI POWER application range 470 - 1400 mm.

⁴ In connection with 180 kg application range from 695 mm.




12.15 Anti-unhinge device "Safety Pin" for PVC and timber				No	No Tricoat
silver	centre lock cable junction TR to MM	280 - 2.600	20	206538	
	Anti-unhinge safety device for PVC and timber bottom		20	209774 ¹	
	top anti-unhinge device for PVC & timber, extendable, 1 i.S.		20	215159	
yellow	right base plate for anti-unhinge device angled screw-fixing with positioning pins for timber and PVC		20	102301	
	left base plate for anti-unhinge device angled screw-fixing with positioning pins for timber and PVC		20	102302	
	packer for PVC hinged plate 2 mm		50	363605	
	packer for PVC hinged plate 3 mm		50	363606	

¹ Must be used from SRH 1850 mm!




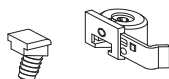
11154

T 12.16 Secondary glazing-bar hinges for glazing-bar frame			No	No Tricoat
white	right	50	11472	
	left	50	11473	
brown	right	50	11154	
	left	50	11155	




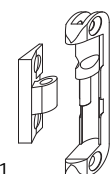
10992

T 12.17 Glazing-bar catches for glazing-bar cross and glazing-bar frame			No	No Tricoat
white	for 26 mm glazing-bar cross	50	11470	
	for 33 mm glazing-bar cross	50	11471	
brown	for 22 mm glazing-bar cross	50	13130	
	for 26 mm glazing-bar cross	50	11153	
	for 33 mm glazing-bar cross	50	10992	




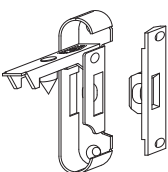
12387

T 12.18 Drill-in glazing-bar catches			No	No Tricoat
white		50	12388	
brown		50	12387	




101251

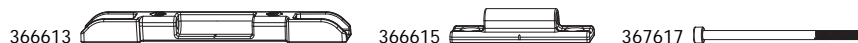
T 12.19 Universal coupling hinges			No	No Tricoat
silver	universal coupling hinge with 2mm air gap	50	101248	
	universal coupling hinge without air gap	50	101251	



101252

T 12.20 Universal coupling catches			No	No Tricoat
silver	universal coupling catch with 2mm air gap	50	101250	
	universal coupling catch without air gap	50	101252	





12.21 Coupling hardware for Aluminium front profiles			No	No Tricoat
Tricoat	coupling hinge for alu front profiles	20		366613
	coupling hinge roll for alu front profiles 15 mm high	20		366614
	coupling hinge roll for alu front profiles 16 mm high	20		366615
	shaft pin for coupling hinge	20		367617

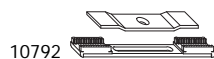


T	12.22 Run-up blocks		No	No Tricoat
	Run-up plate 4mm air gap, silver	500	94022 ¹	
	Lifting Block 12mm Air Gap for Sash Silver	50	44351 ¹	
	Lifting Block 12mm Air Gap for Frame Silver	50	44350 ¹	

¹ Only for 20 mm flat rebate.



T	12.23 Chipboard screws	L	Ø		No	No Tricoat
	silver	for timber Pozidrive 7 mm head	30	4	2.000	11256
		for timber Pozidrive 8 mm head	40	4	500	100051
		for timber Pozidrive 7 mm head	45	5	500	100049

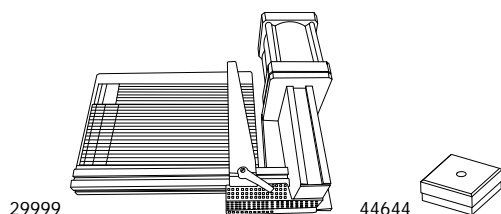


12.24 Serrated carrier connectors			No	No Tricoat
	toothed bar connector with faceplate restrainer, silver	50	10792 ¹	

¹ Can also be supplied in quantities less than one packaging unit.



12.25 Clip-on bush			No	No Tricoat
	clip-on bush for i.S. cam 3-sashed silver	100	355920	



12.26 Cropping press / replacement blade			No	No Tricoat
	hardware cropper for MT	1	29999	
	replacement blade for hardware cropper top	50	44644	
	replacement blade for hardware cropper bottom	50	44645	



13 Stackable pallets

13.1	Turn&tilt drive gear BS 15 FHH	252
13.2	Turn&tilt drive gear BS 15 FHH i.S. without tilt lock bolt	252
13.3	Turn&tilt drive gear BS 15 FHH i.S. / VZ	252
13.4	Turn&tilt drive gear BS 15 VHH	252
13.5	Turn&tilt drive gear BS 6.5 FHH	252
13.6	Turn&tilt drive gear BS 6.5 VHH	252
13.7	Corner elements	252
13.8	Centre locks	252
13.9	Centre locks i.S.	253
13.10	Horizontal tilt locks i.S.	253
13.11	Scissor stay with pre-assembled scissor stay support arm, 18 mm rebate leg	253
13.12	Night vent scissor stay with pre-assembled scissor stay support arm, 18 mm rebate leg	253
13.13	Rebated scissor stays	253
13.14	Rebated scissor stays i.S.	253
13.15	Night vent rebated scissor stays	254
13.16	Night vent rebated scissor stays i.S.	254
13.17	French casement drive gear for hardware groove FHH	254
13.18	French casement drive gear for Eurogroove FHH	254



13 Stackable pallets

13.1 Turn&tilt drive gear BS 15 FHH								No	No Tricoat
silver	size 2	15	1	400	801 - 1.000	1	320	52412	
	size 3	15	1	500	1.001 - 1.250	1	320	52413	
	size 4	15	1	600	1.251 - 1.500	1	320	52414	
13.2 Turn&tilt drive gear BS 15 FHH i.S. without tilt lock bolt								No	No Tricoat
silver	size 2	15	2	400	801 - 1.000	1	320	207397	
	size 3	15	2	500	1.001 - 1.250	1	320	204400	
	size 4	15	2	600	1.251 - 1.500	1	320	204401	
	size 5	15	3	600	1.501 - 1.750	1	560	205998	
13.3 Turn&tilt drive gear BS 15 FHH i.S. / VZ								No	No Tricoat
silver	size 3	15	1	500	1.001 - 1.250	1	320	57335	
13.4 Turn&tilt drive gear BS 15 VHH								No	No Tricoat
silver	size 3	15	1	901 - 1.300	1	320	54542		
13.5 Turn&tilt drive gear BS 6.5 FHH								No	No Tricoat
silver	size 1	6,5	0	300	601 - 800	0	560	54165	
	size 2	6,5	1	400	801 - 1.000	1	320	54166	
13.6 Turn&tilt drive gear BS 6.5 VHH								No	No Tricoat
silver	size 2A	6,5	1	751 - 900	1	430	54126		
13.7 Corner elements					No	No Tricoat			
silver	connecting plate loose external serration			28.800	52522				
	A with 1 VZ separate connecting plate	400 - 1.650	370 - 2.350	1.000	54591 ¹				
	A with 1 i.S. separate connecting plate	400 - 1.650	370 - 2.350	1.000	52778 ¹				
	A with striker and slider-stop with 1 i.S. separate connecting plate	400 - 1.650	370 - 2.350	2.400	207420 ¹				
	C for night ventilation with 1 VZ separate connecting plate	400 - 1.650	370 - 2.350	1.000	10743 ¹				
	D with shootbolt protrusion and welded-on striker separate connecting plate	280 - 650	370 - 2.350	2.700	211300 ¹				
13.8 Centre locks					No	No Tricoat			
silver	400	1	751 - 1.050	560	52454 ¹				
	528	1	1.051 - 1.300	560	52455				
	628	1	1.251 - 1.500	560	52456				

¹ Connection plates 52522 not included.

¹ It is not possible to connect this to espagnolette size 00.

13.9 Centre locks i.S.						No	No Tricoat
silver	125	1	280 - 480	280 - 600	1.000	211844	
	400	2	601 - 800	751 - 1.050	560	57338	
	528	2		1.051 - 1.300	560	59498	
	628	2	801 - 1.000	1.301 - 1.500	560	201762	
	828	2	1.001 - 1.200	1.501 - 1.750	400	57337	

13.10 Horizontal tilt locks i.S.						No	No Tricoat
			Use as centre lock	For basic security			
silver	175	1	280 - 480	280 - 600	4.800	207857	
					1.000	54125	
	300	2	481 - 570	601 - 750	560	207399	
	400	2	601 - 800	751 - 1.050	560	54162	
	528	2		1.051 - 1.300	560	54163	
	628	2	801 - 1.000	1.301 - 1.500	560	54164	

13.11 Scissor stay with pre-assembled scissor stay support arm, 18 mm rebate leg					No	No Tricoat
silver	size 0	0	431 - 600	560	58556 ¹	
	size 1	0	601 - 800	480	58557 ¹	
	size 2	1	801 - 1.050	480	58558 ¹	

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.

13.12 Night vent scissor stay with pre-assembled scissor stay support arm, 18 mm rebate leg					No	No Tricoat	
silver	right	size 0	0	431 - 600	560	52676 ¹	
		size 1	0	601 - 800	480	52678 ¹	
		size 2	1	801 - 1.050	400	52680 ¹	
	left	size 0	0	431 - 600	560	52677 ¹	
		size 1	0	601 - 800	480	52679 ¹	
		size 2	1	801 - 1.050	400	52681 ¹	

¹ When used at bottom, only in connection with horizontal tilt lock. From SRW 1401 mm use of the stabilizing stay is prescribed.




13.13 Rebated scissor stays					No	No Tricoat
silver	size 0	0	431 - 600	560	52449 ¹	
	size 1	0	601 - 800	480	52450 ¹	
	size 2	1	801 - 1.050	480	52451 ¹	
		0	801 - 1.050	480	55081 ¹	
	size 3	1	1.051 - 1.300	400	52452 ¹	

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.




13.14 Rebated scissor stays i.S.					No	No Tricoat
silver	size 2	1	801 - 1.050	480	57336 ¹	
	size 3	1	1.051 - 1.300	400	207398 ¹	

¹ The stabilizing stay is compulsory from a S.R.W. of 1,401 mm or more than 100 kg sash weight.









13.15 Night vent rebated scissor stays						No	No Tricoat
silver	right	size 0	0	431 - 600	560	54539¹	
		size 1	0	601 - 800	480	54544¹	
		size 2	1	801 - 1.050	480	54546¹	
	left		0	801 - 1.050	480	55360¹	
		size 3	1	1.051 - 1.300	400	54548¹	
		size 0	0	431 - 600	560	54543¹	
		size 1	0	601 - 800	480	54545¹	
		size 2	1	801 - 1.050	480	54547¹	
			0	801 - 1.050	480	55361¹	
		size 3	1	1.051 - 1.300	400	54549¹	

¹ When used at bottom, only in connection with horizontal tilt lock. From SRW 1401 mm use of the stabilizing stay is prescribed.

13.16 Night vent rebated scissor stays i.S.						No	No Tricoat
silver	right	size 2	1	801 - 1.050	480	204398¹	
	left	size 2	1	801 - 1.050	480	204399¹	

¹ When used at bottom, only in connection with horizontal tilt lock. From SRW 1401 mm use of the stabilizing stay is prescribed.

13.17 French casement drive gear for hardware groove FHH						No	No Tricoat
silver		size 3	500	1.001 - 1.250	500	55080	

13.18 French casement drive gear for Eurogroove FHH						No	No Tricoat
silver		size 3	500	1.001 - 1.250	500	57339	
		size 5	600	1.501 - 1.750	960	206029	



14 Jigs

14.1	Jigs timber 4 mm air gap	256
14.1.1	Routing jigs pivot post and scissor stay hinge TO 4 mm air gap	256
14.1.2	Routing jigs scissor stay hinge pitched window TO 4 mm air gap	256
14.1.3	Routing jigs pivot post and scissor stay hinge DT 4 mm air gap	256
14.1.4	Positioning jigs and routing jigs for centre locks and scissor stays MT 4 mm air gap	256
14.1.5	Routing jigs for drive gears MT 4 mm air gap	256
14.1.6	Routing jigs for 2-sashed windows for drive gears, centre locks and shootbolts MT 4 mm air gap	257
14.1.7	Routing jigs for round arch 4 mm air gap	257
14.1.8	Jigs spare parts 4 mm air gap	257
14.1.9	Drilling jigs compression device 4 mm air gap	257
14.1.10	Jigs for intermediate drive gears 4 mm air gap	257
14.1.11	Drilling jigs for door catch 4 mm air gap	257
14.2	Jigs timber 12 mm air gap	258
14.2.1	Routing jigs pivot post and scissor stay hinge TO 12 mm air gap	258
14.2.2	Routing jigs scissor stay hinges pitched windows TO 12 mm air gap	258
14.2.3	Routing jigs pivot post and scissor stay hinge DT 12 mm air gap	258
14.2.4	Routing jigs scissor stay hinges pitched windows DT 12 mm air gap	258
14.2.5	Jigs for compression devices 12 mm air gap	258
14.2.6	Drilling jigs for Safety Pin 12 mm air gap	258
14.2.7	Striker plate jigs timber 12 mm air gap	258
14.2.8	Jigs for 3-sashed timber windows	259
14.2.9	Jigs for intermediate drive gears 12 mm air gap timber	259
14.2.10	Jigs for compression devices 12 mm air gap	259
14.3	Jigs timber 4+12 mm air gap	260
14.3.1	Drilling jigs	260
14.3.2	Routing jigs and milling jigs	260
14.3.3	Routing jigs mill-in scissor stay hinge 4+12 mm air gap	260
14.3.4	Routing jigs mill-in scissor stay hinge for pitched windows 4+12 mm air gap	260
14.4	Jigs PVC	261
14.4.1	Jigs for pivot post and scissor stay hinge	261
14.4.2	Jigs for corner support	261
14.4.3	Jigs for pivot post and scissor stay hinge pitched windows	261
14.4.4	Striker plate jigs PVC	261
14.4.5	Jigs individual components sash lifter PVC	262
14.4.6	Jigs individual components striker plate brackets PVC	262
14.4.7	Jigs for 3-sashed PVC windows	262
14.4.8	Jigs for intermediate drive gears PVC	262
14.5	Jigs timber and PVC	263
14.5.1	Jigs for drive gear drill-hole	263
14.5.2	Striker plate jigs timber 12 mm air gap and PVC	263
14.5.3	Striker plate jigs	264
14.5.4	Jigs for compression devices	264
14.5.5	Jigs for centre lock size 2-4 hinge-side	264
14.5.6	Jigs individual components striker plate retainer	264
14.5.7	Jigs individual components striker plate brackets compression device	264
14.5.8	Drilling jigs INVISIBLE	264
14.5.9	Drilling and routing jigs MULTI POWER	265
14.5.10	Drilling and routing jigs MULTI MAMMUT	265
14.5.11	Drilling and routing jigs	265
14.5.12	Adjustment keys	265



14 Jigs

14.1 Jigs timber 4 mm air gap

14.1.1 Routing jigs pivot post and scissor stay hinge TO 4 mm air gap						No	No Tricoat
routing template for pivot post and scissor stay hinge	timber	TO FR16/AR27	4 mm air gap / 15 mm rebate leg	1		22016 ¹	
		TO FR34/AR40	4 mm air gap / 15 mm rebate leg	1		21723 ¹	
			4 mm air gap / 18 mm rebate leg	1		21724 ¹	

¹ FR: Router / AR: Guide ring

14.1.2 Routing jigs scissor stay hinge pitched window TO 4 mm air gap						No	No Tricoat
routing template for pitched window scissor stay hinge	timber	TO FR16/AR27	4 mm air gap / 15 mm rebate leg	1		28122 ¹	
		TO FR34/AR40	4 mm air gap / 15 mm rebate leg	1		22021 ¹	
			4 mm air gap / 18 mm rebate leg	1		22022 ¹	

¹ FR: Router / AR: Guide ring

14.1.3 Routing jigs pivot post and scissor stay hinge DT 4 mm air gap						No	No Tricoat
routed frame for pivot post and scissor stay hinge	timber	DT FR16/AR27		1		206751 ^{1,2}	
routing template for pivot post and scissor stay hinge	timber	DT FR16/AR27	4 mm air gap / 15 mm rebate leg	1		101551 ²	
			4 mm air gap / 18 mm rebate leg	1		101550 ²	
			4 air gap/18 rebate leg/13 offset	1		102890 ²	

¹ Order routing plates 101551, 101550, 102890.

² FR: Router / AR: Guide ring

14.1.4 Positioning jigs and routing jigs for centre locks and scissor stays MT 4 mm air gap								No	No Tricoat
striker positioning jig scissor stay MT	timber	size 2-4	4mm air gap	801 - 1.400			1	211050 ¹	
routing template for bottom centre lock MT	timber		4mm air gap	751 - 1.650			1	20845	
routing template for hinge side centre lock MT	timber		4mm air gap	751 - 2.350			1	20844	
routing template for bottom centre lock MT	timber	horizontal	i.S.	4mm air gap	751 - 1.500		1	206193	

¹ For striker plates for timber windows 12 mm air gap at top

14.1.5 Routing jigs for drive gears MT 4 mm air gap							No	No Tricoat	
routing template for drive gear FHH MT	timber	self-tightening	size 2-5	4mm air gap	801 - 1.750		1	22126	
			size 6A	4mm air gap	1.651 - 1.851		1	11031	
			Gr.6-7	4mm air gap	1.851 - 2.350		1	29282	
routing template for door catch MT	timber		4mm air gap				1	21728	

14.1.6 Routing jigs for 2-sashed windows for drive gears, centre locks and shootbolts MT 4 mm air gap									No	No Tricoat
routing template for 2-sashed windows	timber	shootbolt	FR16/AR27		4mm air gap		1	21598 ¹		
routing template for bottom centre lock MT	timber	i.S.	2-sashed		4mm air gap		1	206192		
routing template for 2-sashed windows MT	timber	shootbolt and lifting component	FR16/AR27	espagnolette size 2	4mm air gap	801 - 1.000	1	23055 ¹		
routing template for drive gear FHH MT	timber	shootbolts and strikers	2-sashed sizes 2-5		4mm air gap	801 - 1.750	1	21236		
			2-sashed sizes 6 A		4mm air gap	1.651 - 1.851	1	11210		
			2-sashed sizes 6-7		4mm air gap	1.851 - 2.350	1	10506		

¹ FR: Router / AR: Guide ring

14.1.7 Routing jigs for round arch 4 mm air gap									No	No Tricoat
routing template MT/MM for half round windows stabilizing scissor stay case and strikers	timber				4mm air gap		1	41537		
routing template MT/MM for half round scissor stay	timber				4mm air gap		1	28337		

14.1.8 Jigs spare parts 4 mm air gap									No	No Tricoat
clamp for routing jig	timber		2 pcs. with screws				10	11195		
routing jig 122/1+2	timber		replacement part for routing jig		4mm air gap		1	22127		
routing jig 123/1+2	timber		replacement part for routing jig		4mm air gap		1	20924		
routing jig 124/1+2	timber		replacement part for routing jig		4mm air gap		1	20925		
routing jig 125/1+2	timber		replacement part for routing jig		4mm air gap		1	20926		

14.1.9 Drilling jigs compression device 4 mm air gap									No	No Tricoat
drilling block for compression device	timber	drill-in	9mm offset		4mm air gap		1	23871		
			13mm fittings axis		4mm air gap		1	214542		


14.1.10 Jigs for intermediate drive gears 4 mm air gap									No	No Tricoat
routing template for intermediate drive gear	timber		FR16/AR27/BO12		4 mm air gap / 15 mm rebate leg		1	28377 ¹		

¹ FR: Router / AR: Guide ring


14.1.11 Drilling jigs for door catch 4 mm air gap									No	No Tricoat
drill jig for door catch	timber				4mm air gap		1	20554		



14.2 Jigs timber 12 mm air gap

T 14.2.1 Routing jigs pivot post and scissor stay hinge TO 12 mm air gap						No	No Tricoat
routing template for pivot post and scissor stay hinge	timber	TO FR34/AR40	12 mm air gap / 18 mm rebate leg	1	21725 ¹		
			12 mm air gap / 20 mm rebate leg	1	21726 ¹		
			hardware groove 12 mm air gap / 18 mm rebate leg	1	220023 ¹		
			hardware groove 12 mm air gap / 20 mm rebate leg	1	220022 ¹		


¹ FR: Router / AR: Guide ring

T 14.2.2 Routing jigs scissor stay hinges pitched windows TO 12 mm air gap						No	No Tricoat
routing template for pitched window scissor stay hinge	timber	TO FR34/AR40	12 mm air gap / 18 mm rebate leg	1	22019 ¹		
			12 mm air gap / 20 mm rebate leg	1	22020 ¹		


¹ FR: Router / AR: Guide ring


T 14.2.3 Routing jigs pivot post and scissor stay hinge DT 12 mm air gap						No	No Tricoat
routing template for pivot post and scissor stay hinge	timber	DT FR34/AR40	12 air gap/18RL + 12 air gap/20RL	1	20890 ¹		

¹ FR: Router / AR: Guide ring


T 14.2.4 Routing jigs scissor stay hinges pitched windows DT 12 mm air gap						No	No Tricoat
routing template for pitched window scissor stay hinge	timber	DT FR34/AR40	12 air gap/18RL + 12 air gap/20RL	1	23957 ¹		

¹ FR: Router / AR: Guide ring

T 14.2.5 Jigs for compression devices 12 mm air gap						No	No Tricoat
striker positioning jig for compression device	timber	drill-in	sash component	1	29489		
drilling block for compression device	timber	drill-in		12mm air gap 9mm offset	1	22482	
drill jig for compression device	timber	drill-in	frame components	12mm air gap 9mm offset	1	29490	
drilling block for compression device	timber	drill-in		Euro-rebate 24mm rebate depth 13mm offset	1	206881	
drill jig for compression device	timber	drill-in		Euro-rebate 24mm rebate depth 13mm offset	1	207300	

T 14.2.6 Drilling jigs for Safety Pin 12 mm air gap						No	No Tricoat
drill jig for safety pin	timber			Euro-rebate 18mm rebate depth 9mm offset	1	212948	
				Euro-rebate 24mm rebate depth 13mm offset	1	212949	

14.2.7 Striker plate jigs timber 12 mm air gap

14.2.7.1 Striker plate jigs for drive gear FHH 12 mm air gap						No	No Tricoat
striker positioning jig for drive gear FHH	timber	bracket for striker 34950		1	14584 ¹		
		with 48 mm retainer	with long stop	1	11545 ¹		
		with retainer for 12 mm Euro-rebate		1	10363 ¹		

¹ Contents of package: Jig for drive gear, centre locks, scissor stay

14.2.7.2 Striker plate jigs for drive gear VHH 12 mm air gap						No	No Tricoat
striker positioning jig for timber drive gear	variable (centred)	with retainer for 12 mm Euro-rebate		1		10373 ¹	

¹ Contents of package: Jig for drive gear, centre locks, scissor stay

14.2.7.3 Striker plate jigs 2-sashed for drive gear FHH 12mm air gap						No	No Tricoat
striker positioning jig for timber drive gear FHH	2-sashed	with 48 mm retainer	only on the espagnolette side	1		10497 ¹	
		with 68 mm retainer	only on the espagnolette side	1		10496 ¹	

¹ Contents of package: Jig for drive gear

14.2.7.4 Striker jigs 2-sashed for variable drive gear 12mm air gap						No	No Tricoat
striker positioning jig for timber drive gear	variable (centred) 2-sashed	with 48 mm retainer	only on the espagnolette side	1		10500	
		with 68 mm retainer	only on the espagnolette side	1		10499	

T 14.2.7.5 Jigs individual components sash lifter timber						No	No Tricoat
lifting component retainer	timber	with long stop	12 air gap	1		441295	
		9mm offset	Euro-rebate	100		43514	
			Euro-rebate 24mm rebate depth 13mm offset	20		359411	

14.2.7.6 Jigs individual components striker plate brackets						No	No Tricoat
striker plate retainer	timber	for striker plate 48 mm with long stop		1		441296	
		for striker plate 48 mm	Euro-rebate 24mm rebate depth 13mm offset	20		359407	
		for striker plate 68 mm i.S.	Euro-rebate 9mm offset	20		359409	
		for striker plate 34943	Euro-rebate	10		40107	
		for striker plate 34980	Euro-rebate	20		41272	
		for striker plate 68 mm i.S.	Euro-rebate 24mm rebate depth 13mm offset	20		359410	

T 14.2.8 Jigs for 3-sashed timber windows						No	No Tricoat
drill jig for 3-sashed turn-only hinge	timber			1		12506	
jig for multi-sash centre frame hinge	timber			1		11025	

T 14.2.9 Jigs for intermediate drive gears 12 mm air gap timber						No	No Tricoat
routing template for intermediate drive gear	timber	FR16/AR27/BO12	9mm offset	12 air gap/18RL + 12 air gap/20RL	1	28376 ¹	
			13mm fittings axis	12 air gap/18RL + 12 air gap/20RL	1	206581 ¹	

¹ FR: Router / AR: Guide ring

T 14.2.10 Jigs for compression devices 12 mm air gap						No	No Tricoat
striker positioning jig for compression device	timber	drill-in	sash component	1		29489	
drilling block for compression device	timber	drill-in		1		22482	
drill jig for compression device	timber	drill-in	frame components	1		29490	
drilling block for compression device	timber	drill-in		1		206881	
drill jig for compression device	timber	drill-in		1		207300	



14.3 Jigs timber 4+12 mm air gap

T	14.3.1 Drilling jigs		No	No Tricoat
	frame drilling jig for drill-in pivot post timber	1	21058	
	drill jig for support rawlplug timber	1	28780	
	drill jig for drill-in bush timber	1	21000	
	drill jig for drill-in pivot post timber	1	20550	
	drill jig for glazing-bar catch timber	10	24871	
	14.3.2 Routing jigs and milling jigs		No	No Tricoat
	routing template MT/MM for turn lock concealed	1	212591	
T	14.3.3 Routing jigs mill-in scissor stay hinge 4+12 mm air gap		No	No Tricoat
	routing template for routed scissor stay hinge FR16/AR27 timber	1	28336 ¹	
	¹ FR: Router / AR: Guide ring			
T	14.3.4 Routing jigs mill-in scissor stay hinge for pitched windows 4+12 mm air gap		No	No Tricoat
	routing template for pitched window routed scissor stay hinge FR16/AR27 timber	1	24291 ¹	
	¹ FR: Router / AR: Guide ring			

14.4 Jigs PVC

14.4.1 Jigs for pivot post and scissor stay hinge



No

No
Tricoat

stop block for drilling jig		tilt-only	for scissor stay hinge	1	101458	
frame drilling jig for pivot post and scissor stay hinge	PVC		with 3 mm pin	1	21958	
		self-tightening	with 3 mm pin	1	29480	
			with 7 mm pin	1	21694	
		self-tightening	with 7 mm pin	1	28597	

P 14.4.2 Jigs for corner support



No

No
Tricoat

drill jig for corner support	PVC		5 mm positioning pins	1	21562	
			with 3 mm pin	1	21564	
		5° angle	5 mm positioning pins	1	23279	
			with 3 mm pin	1	28235	

P 14.4.3 Jigs for pivot post and scissor stay hinge pitched windows



No

No
Tricoat

frame drilling jig for pitched window scissor stay hinge	PVC		with 3 mm pin	1	24003	
			with 7 mm pin	1	24004	

14.4.4 Striker plate jigs PVC

14.4.4.1 Striker plate jigs for drive gear FHH



No

No
Tricoat

striker positioning jig for drive gear FHH	PVC	with 48 mm retainer	for 3.5 mm wall-thickness	1	10365 ¹	
			for 5.5 mm wall-thickness	1	10366 ¹	
		with 68 mm retainer	for 3.5 mm wall-thickness	1	10367 ¹	

¹ Contents of package: Jig for drive gear, centre locks, scissor stay

14.4.4.2 Striker plate jigs for gear drive VHH



No

No
Tricoat

striker positioning jig for drive gear	PVC	with 48 mm retainer	variable (centred)	for 3.5 mm wall-thickness	1	10368 ¹	
				for 5.5 mm wall-thickness	1	10369 ¹	
		with 68 mm retainer	variable (centred)	for 3.5 mm wall-thickness	1	10372 ¹	

¹ Contents of package: Jig for drive gear, centre locks, scissor stay

14.4.4.3 Striker plate jigs for drive gear FHH i.S. PVC



No

No
Tricoat

striker positioning jig for drive gear FHH	PVC	for striker plate 50 mm	size 2-4	1	214018	
			size 5-7	1	214017	
			i.S.	1	52947 ¹	

¹ Striker plate i.S. instead of tilt-only striker plate and corner element

14.4.4.4 Striker plate jigs for centre lock i.S.







No

No
Tricoat

striker positioning jig for hinge side centre lock	PVC	for striker plate 50 mm	i.S.	280 - 1.950	1	52938	
		striker plates 3 pcs. 50 mm	i.S.	280 - 1.950	1	214022	
striker positioning jig for bottom centre lock	PVC	for striker plate 50 mm	i.S.	280 - 1.500	1	52939	
		striker plates 3 pcs. 50 mm	i.S.	280 - 1.500	1	214021	
jig for horizontal tilt lock bolt	PVC	with 50 mm retainer		280 - 1.500	1	52940	



14.4.5 Jigs individual components sash lifter PVC						No	No Tricoat
lifting component retainer MT PVC					100	42941	
P	14.4.6 Jigs individual components striker plate brackets PVC					No	No Tricoat
	striker plate retainer	PVC	for striker plate 50 mm	i.S.	10	43702	
P	14.4.7 Jigs for 3-sashed PVC windows					No	No Tricoat
	drill jig for 3-sashed turn-only hinge		PVC		1	13029	
	jig for multi-sash centre frame hinge	PVC	with 3 mm pin	drilling-hole pattern 11.5/5/23.5	1	11888	
			with 7 mm pin	drilling-hole pattern 11.5/5/23.5	1	11889	
14.4.8 Jigs for intermediate drive gears PVC						No	No Tricoat
routing template for intermediate drive gear frontal					1	202641	

14.5 Jigs timber and PVC

14.5.1 Jigs for drive gear drill-hole



No

No
Tricoat

drill jig for drive gear drill-hole	for 3mm drillbits	1	11023
	for 3mm and 12mm drill bit	1	10523
drill jig for lockable door espagnolettes BS 25-50 mm	profile width max. 110 mm	1	214634

14.5.2 Striker plate jigs timber 12 mm air gap and PVC

14.5.2.1 Striker plate jigs for drive gear FHH



No

No
Tricoat

striker positioning jig for drive gear FHH	with 48 mm retainer	1	10362 ¹
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¹ Contents of package: Jig for drive gear, centre locks, scissor stay

14.5.2.2 Striker plate jigs for drive gear VHH



No

No
Tricoat

striker positioning jig for drive gear A1	with 48 mm retainer	variable (centred)	1	57220
striker positioning jig for drive gear	with 48 mm retainer	variable (centred)	1	10370 ¹

¹ Contents of package: Jig for drive gear, centre locks, scissor stay

14.5.2.3 Striker plate jigs 2-sashed for drive gear FHH



No

No
Tricoat

striker positioning jig for drive gear FHH	for striker plate 48 mm	2-sashed size 1-4	1	209961 ¹
	for striker plate 68 mm	2-sashed size 1B-4	1	210978 ¹
	for striker plate 48 mm	2-sashed size 5-7	1	209962 ¹
	for striker plate 68 mm	2-sashed size 5-7	1	210977 ¹

¹ Only for adjacent hardware groove

14.5.2.4 Striker plate jigs for fixed espagnolette BS 6.5 and BS 15



No

No
Tricoat

jig for espagnolette	with 48 mm retainer	size 1, BS 6.5 mm	1	206039
		size 1-2	1	206040
		size 3-4	1	206041
		size 3A, BS 6.5 mm	1	206042
		size 5-7	1	206043
		size 7-12	1	206044

14.5.2.5 Striker plate jigs for centre espagnolette



No

No
Tricoat

jig for centred handle-height turn-only/tilt-only espagnolette	with 48 mm retainer	size 1	1	206055
		size 2	1	206057
		size 3	1	206058
		size 4	1	206059
		size 5	1	206060

14.5.2.6 Striker plate jigs drive gear FHH i.S.



No


No
Tricoat

striker positioning jig for drive gear FHH	for striker plate 68 mm	i.S.	1	20056 ¹
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¹ Striker plate i.S. instead of tilt-only striker plate and corner element




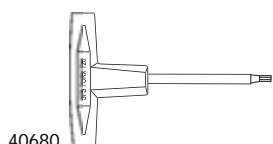
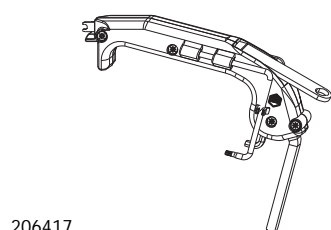
14.5.2.7 Striker plate jigs for centre lock i.S.								
striker positioning jig for hinge side centre lock	for striker plate 68 mm	i.S.		280 - 1.950	1		20070	
	striker plates 3 pcs. 68 mm	i.S.		280 - 1.950	1		214020	
striker positioning jig for bottom centre lock	for striker plate 68 mm	i.S.	280 - 1.500		1		20064	
	striker plates 3 pcs. 68 mm	i.S.	280 - 1.500		1		214019	
jig for horizontal tilt lock bolt		with 68 mm retainer	280 - 1.500		1		29310	
14.5.2.8 Striker jigs for 2-sashed Centre locks								
jig for horizontal tilt lock bolt		with 68 mm retainer	2-sashed		1		52387	
jig for centre shootbolt striker	timber	with 48 mm retainer	2-sashed		1		21398	
14.5.3 Striker plate jigs								
striker positioning jig scissor stay		with 48 mm retainer	for 180kg	601 - 1.500	1		213310	
jig for night-vent corner element					1		205653	
jig for night-vent striker					1		20018	
14.5.4 Jigs for compression devices								
drilling block for compression device			surface-mounted		1		22809	
drill jig for compression device		with positioning jig-rod	surface-mounted		1		11029	
jig for compression device			concealed ES+TV sash and frame component		1		57247	
14.5.5 Jigs for centre lock size 2-4 hinge-side								
striker plate retainer set 48 mm					1		100030	
	PVC	for 3.5mm wall-thickness	with 48 mm retainer		1		100033	
		for 5.5mm wall-thickness	with 48 mm retainer		1		100034	
striker plate retainer set 50 mm	PVC				1		100031	
striker plate retainer set 68 mm					1		100032	
jig for centre lock		without retainer	size 2-4	1.501 - 2.600	1		352701 ¹	
¹ Jig rod without striker plate retainer								
14.5.6 Jigs individual components striker plate retainer								
striker plate retainer		for striker plate 48 mm			10		40116	
		for striker plate 68 mm	i.S.		1		13318	
		for striker plate 80 mm			20		359148	
14.5.7 Jigs individual components striker plate brackets compression device								
striker plate retainer for compression device		concealed ES+TV sash and frame component			1		441345	
			timber		1		361815	
14.5.8 Drilling jigs INVISIBLE								
Drilling jig accessories for VV flush					1		102980	
drill jig for pivot post and scissor stay hinge VV		7 mm screw axis			1		102977	
		13 mm screw axis			1		102978	
			Euro-rebate 18mm rebate depth 9mm offset		1		102979	


14.5.9 Drilling and routing jigs MULTI POWER					No	No Tricoat
drill jig for pivot post and scissor stay hinge	right	MULTI POWER	timber 24mm rebate depth	1	217092	
	left	MULTI POWER	timber 24mm rebate depth	1	217093	
	right/left	MULTI POWER	PVC 30mm rebate depth	1	217094	
	right	MULTI POWER	groove 10/14 Heroal	1	219539	
	left	MULTI POWER	groove 10/14 Heroal	1	219540	
routed frame		MULTI POWER		1	225618 ¹	
Routing insert for pivot post	right/left	MULTI POWER		1	368035	
Routing insert for scissor stay hinge	right/left	MULTI POWER		1	368036	
Routing insert for 3-sashed turn-only hinge	right/left	MULTI POWER		1	368094	
stop block	alu	MULTI POWER	flush	1	368038	

¹ Order routing jig for pivot post, scissor stay hinge or 3-sash turn-only hinge (frame part) separately.

14.5.10 Drilling and routing jigs MULTI MAMMUT					No	No Tricoat
drill jig for pivot post and scissor stay hinge	right	for 180kg		1	213096	
	left	for 180kg		1	213097	
routing jig for corner support & rebated scissor stay support arm	timber	for 180kg		1	213099	

14.5.11 Drilling and routing jigs					No	No Tricoat
drill jig for turn lock	self-closing		timber/PVC	10	40157	
drill jig for Multi-Vent tilt restrictor			timber/PVC/alu-timber	1	42505	
routing template for turn lock MT/MM	concealed			1	212591	



14.5.12 Adjustment keys					No	No Tricoat
universal access key				20	40720	
adjusting spanner/key for i.S. cams, bent twice, 145 mm long T15				50	465776	
adjusting spanner/key for i.S. cams, bent twice, 75 mm long T15				50	44192	
Adjusting spanner/key For i.S. cams - 4mm Allen key and T 15				100	43647	
adjusting spanner/key for locking cams and scissor stays				50	20947	
adjusting spanner/key allen key, bent twice, 145 mm long SW4				50	454888	
adjusting spanner/key allen key, bent twice, 75 mm long SW4				50	41017	
pin pull-handle for rebated scissor stay TX20				50	40680	
MACO allen key 2.5 mm for sash-lifter L/R-handed changing SW2.5				100	24239	
mark				100	42465	
multifunctional key				20	206417	
key for scissor stay hinge pin				20	28620	

MACO
MULTI TREND



Jigs

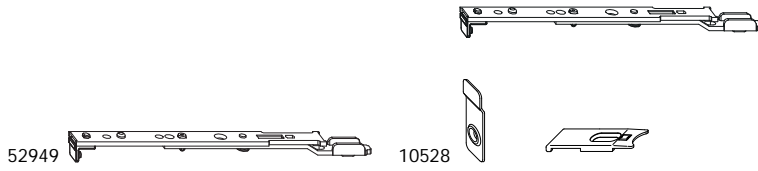



15 Basic packs

15.1	Basic pack for half round and pitched windows	268
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15 Basic packs



15.1 Basic pack for half round and pitched windows			No	No Tricoat
silver	corner connector bottom for half round silver	20	52949	
	tilt&turn basic pack half round and pitched window 12 air gap silver	10	10528¹	

¹ Contents of package: 52949, 52522, 94067 and 40637. Also available below minimum packing unit.

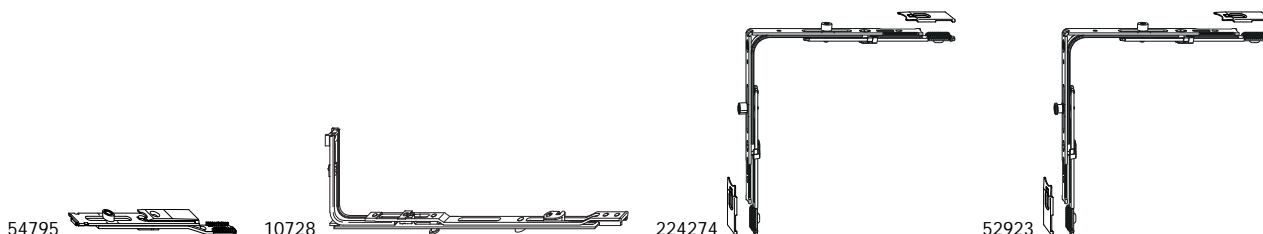




16 MACO TRONIC — Locking Monitoring

16.1	Lock and tilt monitoring_____	270
16.2	Reed contact for lock and tilt monitoring acc. to VdS B/C, EN 50131-2-6 level 2 _____	270
16.3	Reed contact for heating control _____	270
16.4	Magnetic switch for locking monitoring acc. to VdS C _____	270
16.5	Moulded parts for Reed contact _____	271
16.6	Cam for locking monitoring_____	271
16.7	Adaptor with contact sensor _____	271
16.8	Contact sensors and accessories _____	271
16.9	Contactless electronic cable junction _____	271
16.10	Cable junction accessories _____	272
16.11	Exit air control _____	272
16.12	Detachable cable junction for alarm support with accessories _____	272
16.13	Test device for reed contacts _____	272




16 MACO TRONIC — Locking Monitoring



16.1 Lock and tilt monitoring			L		No	No Tricoat
silver	with 1 contact sensor SKB-Z extension piece		200	10	465387	
	with 1 contact sensor extension piece not croppable		130	20	54795	
	with 1 i.S. and 1 contact sensor corner centre lock extendable			20	10728	
	with 1 i.S. and 1 contact sensor tilt lock bolt horizontal			20	57234	
	corner element C separate connecting plate with 1 contact sensor	400 - 1.650		50	224274	
	corner element C separate connecting plate with 1 i.S. and 1 contact sensor	400 - 1.650		50	52923	

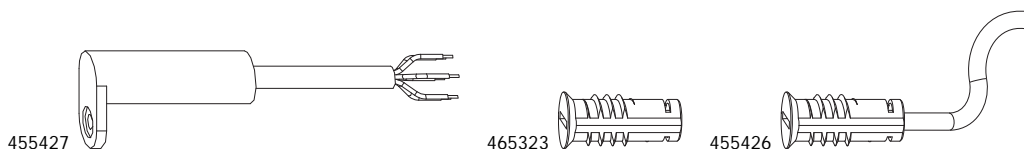



16.2 Reed contact for lock and tilt monitoring acc. to VdS B/C, EN 50131-2-6 level 2			No	No Tricoat
grey	6 m cable (0.14 mm ²)	10	363177	
	10 m cable (0.14 mm ²)	10	363178	
	15 m cable (0.14 mm ²)	10	363179 ¹	

¹ Reed contact for lock monitoring RVS cable 15 m is not approved by VdS



16.3 Reed contact for heating control			No	No Tricoat
grey	6 m cable (0.14 mm ²)	10	363180	
	15 m cable (0.14 mm ²)	10	363181	

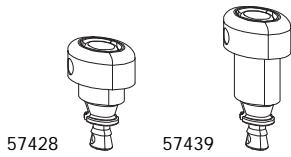


16.4 Magnetic switch for locking monitoring acc. to VdS C			No	No Tricoat
silver	screw-in magnet in zink case	100	465323	
	magnetic contact for combined opening and locking monitoring 6 m cable (0.14 mm ²)	10	455427	
	screw-in magnetic contact VS for locking and tilt monitoring 6 m cable (0.14 mm ²)	10	455426	

363182

16.5 Moulded parts for Reed contact			No	No Tricoat
white	injection-moulded part for dry reed contact type 1 RVS (PVC)	10	363182 ¹	
	injection-moulded part for dry reed contact type 2 RVS (PVC)	10	363183 ¹	
	injection-moulded part for dry reed contact type 3 RVS (PVC)	10	363184 ¹	
	injection-moulded part for dry reed contact type 4 RVS (PVC)	10	363185 ¹	
	injection-moulded part for dry reed contact type 5 RVS (PVC+timber)	10	363186 ¹	
	injection-moulded part for dry reed contact type 6 RVS (PVC)	10	363187 ¹	

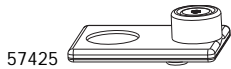
¹ To select the correct Profile Packer please refer to the latest Profile Datasheet.



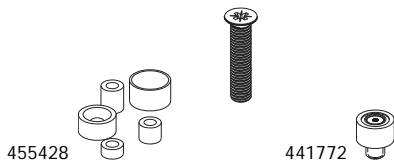
16.6 Cam for locking monitoring			No	No Tricoat
	contact sensor cam short 10x13.4	50	57428 ¹	
	contact sensor cam long Ø 10 x 17.7 mm	50	57439 ²	
	magnetic disc 8x1 mm	200	465416	

¹ Only for horizontal tilt locks above 400 mm component length (position drill-hole and slot: 300 mm).

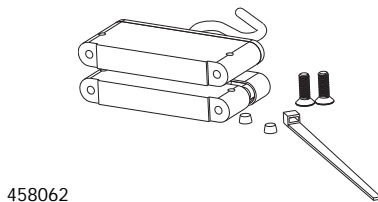
² Suitable with corner element A.



16.7 Adaptor with contact sensor			No	No Tricoat
silver	adaptor with contact sensor	50	57425	

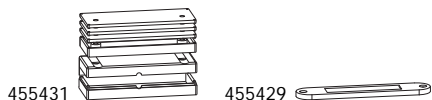





16.8 Contact sensors and accessories			No	No Tricoat
white	surface mounted contact sensor	10	455428	
	cam for locking monitoring M5 Ø 10 x 10 mm	100	441772	

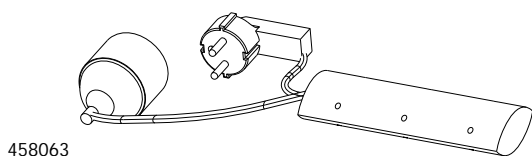





16.9 Contactless electronic cable junction			No	No Tricoat
	electronic transmitter without contacts for alarm glass and glass breakage sensors	1	458062	





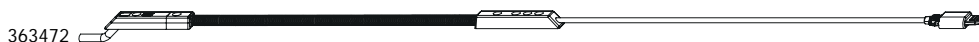
16.10 Cable junction accessories				
white	construction case set for electronic cable junction without contacts	1	455431	
	fixing frame for electronic cable junction without contacts	1	455429	
brown	construction case set for electronic cable junction without contacts	1	455432	
	fixing frame for electronic cable junction without contacts	1	455430	






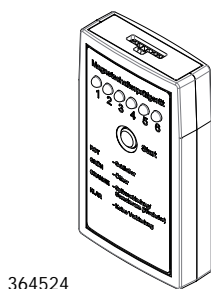
16.11 Exit air control				
exit air control		1	458063 ¹	
		1	458064 ²	




¹ Box contents: 1 x controller, 1 x magnetic switch, 1 x contact sensor, 6 x packers for PVC profiles

² Box contents: 1 x controller, 1 x radio sensor, 1 x radio magnet




16.12 Detachable cable junction for alarm support with accessories				
	detachable cable junction 6-pin 1 m / 2 m cable	1	458281	
	detachable cable junction for alarm contact 6 m cable (0.14 mm ²)	1	363472	
stainless steel	cable junction cover plate, timber	1	363473	
	cable junction cover plate, PVC for alarm contact	1	363474	





16.13 Test device for reed contacts				
test device for reed contacts		1	364524	



17 Directory

№		Page
1		
100030	1	264
100031	1	264
100032	1	264
100033	11	264
100034	1	264
100047	20	243
100049	500	250
100051	500	250
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10587	20	128

№		Page
10596	20	157
10711	20	214, 219
10713	10	214
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№		Page
13295	50	244
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2		
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203436	20	127
203497	10	125
203521	20	157
203522	20	157
203746	20	220



№		Page	№		Page	№		Page
203753	20	112	206335	10	152	207692	10	153
203754	20	112	206336	10	152	207695	10	153
203755	20	112	206337	10	152	207696	10	153
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203827	10	112	206350	10	152	207763	20	152
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№  **Page**

208879	10	217
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210618	20	199
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211093	20	132
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211538	10	123
211576	100	178
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211721	50	193
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212474	100	235
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212541	20	198
212542	20	180
212543	20	180
212591	1	260,265
212659	20	201
212660	20	201
212663	20	201




№  **Page**

212664	20	201
212666	10	152
212667	10	152
212670	10	152
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212674	10	153
212675	10	153
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214328	20	248
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214715	20	245
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214774	50	193
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214779	100	234,235
214804	50	242
215051	10	148
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215058	10	148
215059	10	148
215060	10	148
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215159	20	248
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21562	1	261
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215835	20	202
21598	1	257
216367	20	248
21694	1	261

№  **Page**

217092	1	265
217093	1	265
217094	1	265
21723	1	256
21724	1	256
21725	1	258
21726	1	258
21728	1	256
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217584	20	244
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217696	10	164
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217725	10	164
217726	10	164
217727	10	164
217728	10	164
217729	20	164
218074	50	193
218075	50	193
218175	5	203
218543	100	172
219064	50	132
219065	50	133
219171	50	178
219172	50	178
219187	100	189
219188	100	189
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219540	1	265
21958	1	261
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220002	10	216
220003	10	216
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220007	10	216
220008	10	216
220009	10	216
220010	10	216
220011	10	216
220012	10	216
220013	20	219
220015	10	120
220019	10	113



№		Page	№		Page	№		Page
220020	10	113	223492	10	149	28376	1	259
220022	1	258	223493	10	149	28377	1	257
220023	1	258	223494	5	149	28597	1	261
220038	20	134	223495	5	149	28620	20	265
220039	100	177	223496	10	150	28780	1	260
220040	10	120	223497	10	150	29282	1	256
220045	50	193	223498	10	150	29310	1	264
220046	50	193	223499	10	150	29480	1	261
220048	50	193	223500	10	150	29489	1	258,259
220051	50	193	223501	10	150	29490	1	258,259
220056	10	113	223502	5	150	29586	20	224
220059	10	113	223503	5	150	29999	1	250
220073	10	215	223504	10	149	3		
220074	100	170	223505	10	149	30274	100	226
220075	10	215	223506	10	149	30545	200	224
220076	50	160	223507	10	149	32365	100	130
220080	50	242	223508	10	149	32412	100	130
220083	10	215	223509	10	149	33932	100	227
220084	10	215	223510	5	149	33970	100	229
220085	10	215	223511	5	149	33971	100	229
220089	100	225	223512	10	150	33981	100	232
220118	10	109	223513	10	150	34522	200	228
220122	10	146	223514	10	150	34606	200	238
220127	10	147	223515	10	150	34610	200	238
22016	1	256	223516	10	150	34618	200	238
22019	1	258	223517	10	150	34902	200	228
22020	1	258	223518	5	150	34917	200	227
22021	1	256	223519	5	150	34921	200	227
22022	1	256	223742	10	166	34934	200	235
220220	100	171	223743	10	166	34937	200	229
220240	50	168	223744	10	166	34943	200	231
220241	50	168	223745	10	166	34958	200	231,233
220372	20	126	223746	10	166	34963	200	232
220471	10	113	223747	10	166	34969	200	228
220472	10	113	223748	10	166	34979	200	227
220473	10	113	223749	10	166	34980	200	231
220474	10	146	223750	10	166	34981	200	233
220475	10	146	223751	10	166	34985	200	234
22126	1	256	223752	10	166	34986	200	233
22127	1	257	223753	10	166	34988	200	228
222060	10	215	223754	10	166	34998	200	224
222061	10	215	223755	10	166	35178	50	214
222062	10	215	223756	10	166	352701	1	264
222063	10	215	223757	10	166	354023	100	167
222064	10	215	224105	20	154	354090	100	170
222168	50	190	224106	20	154	354669	100	182
222169	50	190	224107	20	154	354670	100	182
222500	20	198	224108	20	154	354671	100	182
222501	20	198	224132	100	209	354672	100	182
222502	20	198	224147	20	134	354673	100	182
222503	20	198	224149	20	134	354674	100	182
222504	20	199	224274	50	270	354675	100	182
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№  **Page**

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№  **Page**

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№  **Page**

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№		Page	№		Page	№		Page
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№		Page	№		Page	№		Page
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No		Page	No		Page	No		Page
54972	10	215	55245	10	114	55855	20	110
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55054	10	122	55351	20	220	55894	10	123
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55060	10	138	55354	100	180	55897	10	123
55061	10	138	55355	10	200	55898	10	123
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55066	100	230	55358	10	151	55908	10	122
55067	50	197	55359	100	177	55911	10	114
55068	50	197	55360	480	254	55945	10	116
55076	20	126	55361	480	254	55946	10	116
55080	500	254	55362	20	220	55950	20	110
55081	480	253	55363	20	121	55951	10	110
55082	10	115	55364	20	121	55952	20	117
55083	10	115	55365	20	121	55953	10	117
55085	100	177	55366	10	121	55954	10	117
55092	50	192	55367	10	121	55955	10	117
55093	50	192	55368	10	121	55956	20	118
55096	10	115	55372	10	120	55957	10	118
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55112	100	225	55391	10	118	55960	10	144
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55132	10	121	55405	10	120	55972	10	219
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55156	10	147	55424	100	189	55983	10	219
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55159	10	117	55430	20	220	55994	20	109
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55167	20	220	55465	20	111	56930	100	227
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55187	10	114	55474	10	116	57220	1	263
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55236	50	179	55492	50	192	57277	10	139
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59927	10	114
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59938	10	111
59940	10	120
59941	10	120
59942	10	115

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94020	10	141
94022	500	226,250
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94031	100	238
94035	100	214
94036	50	214
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94053	100	238
94074	100	129
94088	100	170
94089	100	170
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94185	100	172
94192	100	231
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94217	100	170
94218	100	170
94219	100	130
94221	50	214
94258	100	170
94477	100	171
94478	100	171
94479	100	171
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95075	100	238
95113	100	231
95114	100	227
95115	100	232
95116	100	233
95117	100	224
95146	100	229
95151	100	234
95164	100	228
95934	100	235
96200	100	225
96201	100	225
96263	100	227
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96690	100	232
96691	100	229

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96779	100	233
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96890	100	232
96934	100	235
97103	100	228
97104	100	228
97377	100	225
97528	100	170
97529	100	170
97537	100	129
98021	100	231
98110	100	228
98265	100	171



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