

PORTAL

PORTAL FS^{PLUS}

Product catalogue:
PORTAL hardware for FS^{PLUS} fold and slide elements
made of timber or PVC profiles.

Window systems

Door systems

Comfort systems

CATALOGUE PORTAL

Contents of this catalogue part

Contents

Page

| | | |
|-----|---------------------------------|-----|
| 6.1 | General information..... | 5 |
| 6.2 | Hardware overviews FS PLUS..... | 15 |
| 6.3 | Accessories..... | 107 |

Technische und farbliche Änderungen vorbehalten.

CATALOGUE PORTAL

6.1. General information

Contents

Page

| | |
|---|----|
| Target group of this documentation | 6 |
| Correct use | 6 |
| Improper use | 6 |
| Safety notices | 6 |
| Information regarding the use of this catalogue | 6 |
| Liability | 13 |
| EU Declaration of Conformity | 13 |
| Environmental protection | 13 |

Technische und farbliche Änderungen vorbehalten.

Target group of this documentation

This documentation is intended to be used by specialist wholesalers and fabricators only.

Correct use

- All products shown and described in the catalogue are used for the manufacture of windows and/or French doors only.
- SIEGENIA hardware components must only be combined with SIEGENIA accessories.

Improper use

- All windows and/or French doors fitted with SIEGENIA hardware must not be built into tilting or inclining facades.

Safety notices

- For your safety assemble your complete set of fittings from the SIEGENIA hardware components only. Otherwise damage could occur, for which we accept no liability.
- All hardware components must be properly assembled as per the description in the assembly instructions. Do not overtighten the screws!
- Never use acid curing sealants as they may cause the hardware components to corrode.
- The size ranges given for the SIEGENIA FS PORTAL hardware must not be exceeded.
- For timber elements, the standards specified by DIN 68 121 (timber profiles for windows and French doors) apply for timber quality and design.

Feedback on documentation

We welcome your comments and suggestions on how to improve our documentation. Please e-mail us your comments to 'dokumentation@siegenia.com'.

Information regarding the use of this catalogue

- For pieces numbered 1/2, 1 piece, or' if necessary, 2 pieces can be used or for 1 - 4, 1, 2, 3 or 4 pieces can be used if required.

| Abbreviations used in PORTAL product catalogues | |
|---|--------------------------------------|
| BS | Hinge side |
| BSO | Hinge side, top |
| BSU | Hinge side, bottom |
| CS | Sliding door |
| DF | Turning sash |
| DH | Turn resistance |
| DKB | Turn & tilt fitting |
| DS | Secondary sash gear (integr. handle) |
| DSG | Secondary sash gear, reverse action |
| E | Anti-intruder |
| EB | Corner hinge; notch hinge jig |
| EL | Bottom hinge |
| F | Guiding rail; folding sash |
| FA | Sash clearance |
| FB | Sash width |
| FBS | Mishandling device |
| FEB | Rebate corner hinge |
| FFB | Sash rebate width |
| FFH | Sash rebate height |
| FH | Sash height; sash lift |
| FHD | Sash timber width |
| FI | Airgap |
| FS | Fold & slide door fitting |
| G | Handle position |
| GH | Handle for drive gear |
| GS | Basic security |
| H | Timber; rear |
| HH | Lift & slide timber |
| HK | Lift & slide PVCu |
| HS | Lift & slide fitting |
| HS-H | Lift & slide fitting timber elements |
| HSK | Lift, tilt & slide fitting |
| HS-KF | Lift & slide PVCu elements |
| KF | PVC window |
| KH | Lift, tilt & slide timber |
| KK | Lift, tilt & slide PVCu |
| KRB | Tilt lock component |
| KRL | Tilt lock bearing |
| KSB | Tilt striker plate |
| LH | left |
| LM | Aluminium |
| MV | Centre lock |
| OKFF | Finished floor level |
| ON | Without groove |
| OS | without lock |
| PDB | Profile data sheet |
| PSK | Parallel tilt & slide hardware |

| Abbreviations used in PORTAL product catalogues | |
|---|---|
| PSK-Z | Parallel tilt & slide fitting, handle driven |
| PZD | Pozidriv |
| RAB | Frame width |
| RAH | Frame height |
| RH | right |
| RFB | Frame rebate width |
| RFH | Frame rebate height |
| S | mirror image |
| SEC | Secustik® - The window handle with the built-in security you can hear |
| S-ES | Steel-enhanced security |
| SL | Top hinge |
| SW | Key dimension |
| TBT | Tilt before turn |
| TL | Component for doors (door length) |
| TS | Silver titanium |
| U | bottom |
| Üb | Rebate width |
| UE | Opening monitoring |
| VKE | Sales unit (quantity) |
| VPE | Packaging unit (type) |
| VSL | Locking side |
| VSO | Locking side, top |
| LSB | Locking side, bottom |
| W-H | Stay hinge, timber |
| WK | Resistance requirements (intruder resistance) |
| W-KF | Stay hinge, PVCu windows |
| Z | handle driven |
| ZV | Central locking gear: |
| 220 | Schemes 220, 440 and 660 |

Pictograms used in PORTAL product catalogues



Fig. 1: Pictogram for timber elements



Fig. 2: Pictogram for PVC elements



Fig. 3: Pictogram for jigs

Important instructions for retailers and fabricators

Preliminary and applicable documents TBDK, VHBH and VHBE

- Guidelines on product liability:
TBDK - fixing of bearing hardware components of turn-only and turn & tilt hardware with definitions of turn-only and turn & tilt hardware as well as their potential installation positions,
VHBH - hardware for windows and French doors - specifications/notes on product and on liability,
VHBE - hardware for windows and French doors - specifications and notes for end users
- Operating, care and maintenance instructions
- All of these documents can be found under PORTAL "product catalogue > Proper Use".

Directives of the Trade Organisation for Locks and Fittings (Gütegemeinschaft Schlösser und Beschläge e. V.)

The directives of the Trade Organisation for Locks and Fittings provide comprehensive information on the correct operation and maintenance of hardware for windows and French doors. We deem these directives to be binding.

You can find the latest versions of the directives here in a range of languages:

<http://www.beschlagindustrie.de/ggsb/richtlinien.asp>



TBDK – Attachment of supporting fitting components for turn-only and tilt & turn fittings

with definitions for turn-only and tilt & turn fittings and their possible installation positions.

VHBH – Hardware for windows and French doors

Guidelines/advice on the product and on liability

VHBE – Hardware for windows and patio doors

Guidelines/advice for end-users

Further relevant documents

You can find further documents such as assembly instructions, profile-related assembly instructions, maintenance instructions and operating instructions in our documentation portal:

<http://produktdokumentation.siegenia-aubi.com>



Hardware systems

The size ranges that are specified are binding for the hardware solutions that are included in this document. The following specifications must also be adhered to:

- **For PVC elements**

The specifications of the profile manufacturers or system providers also apply, especially with regard to possible restrictions on sash dimensions, sash weight and lock distance. Where special manufacturing instructions or fabrication guidelines exist, these must be explicitly adhered to. The specifications given for torques must be adhered to.

- **For timber elements**

The specifications of DIN 68 121 (timber windows and French doors).

Hardware area of application

All hardware solutions are intended for installation on **inward** opening windows and French doors. Exceptions can be made for fitting solutions designated for use with outward opening windows and French doors. The specified steel hardware components are electro-galvanised and then finished using a special process. They are not suitable for use:

- In damp locations
- In environments where the air contains aggressive, corrosive components
- In environments where the air contains salt
- With timbers containing aggressive substances

Please contact your SIEGENIA sales consultant in such cases.

Hardware solutions FS PLUS

The illustrations below of hardware solutions for burglar resistance on fold & slide windows and fold & slide French doors are recommendations only. You will find hardware compositions for the achievement of the necessary resistance classes with profile-dependent central locking gear components for sashes and frames in the FAVORIT and TITAN catalogue.

Special measures must be taken in order for test certificates to be obtained, depending on the regulation/test standard and target resistance class, with regard to the type of timber, profiling, reinforcement and the screwing of hardware.

The specifications relating to this in the "Anti-intruder features of a PVC window", or "Anti-intruder features of a timber element" sections in this document section and references to DIN EN 1627 - 1630 in the "Security and Standards" section must be observed. In individual cases, contact SIEGENIA with regard to appropriate testing versions.

Excessive strain

Bearing components can break if they are exposed to excessive strain. This may lead to the window sash falling out, causing serious injuries. If it is anticipated that the bearing components may be subject to excessive strain under certain conditions (use in schools, nursery schools, etc.), appropriate measures must be taken to prevent this from happening, such as using lockable handles.

In case of doubt, please contact your SIEGENIA sales consultant.

Complete set of hardware

Your complete set of hardware should **solely** be composed of SIEGENIA hardware components. Otherwise damage could occur, for which we accept no liability.

Mounting the hardware components

All hardware components must be mounted properly. When doing so, pay particular attention to the mounting position and ensure that all hardware components on the hinge side are firmly attached.

In particular hinge pins for sash hinges must be pressed in to the stop if they are pushed in **from below**.

These procedures must be carried out by experienced professionals only.

Mounting the hardware components

- Handle: countersunk screws M 5 x .. , in accordance with DIN 965-4.8; the screws should be long enough that they engage a minimum of 6 mm into the screw thread of the component (outside handle, sliding grip or gear). The maximum torque may not exceed 2 Nm.
- Remaining hardware components:
Window screws for PVC windows
Window screws for timber windows - Note: pre-drilling is required for softwoods!
Window screws with a galvanised surface must be used for hardware components with galvanised and passivated surfaces for "Titan Silver" in order to prevent contact corrosion.
Window screws with a Zn-Ni or Deltatone with Delta-Seal surface must be used for hardware components with "E-Look" surfaces in order to prevent contact corrosion.
- Do not overtighten the screws!

Surface treatment for timber elements

Timber windows and door elements should only be surface treated **before** the hardware components are assembled. Treating these surfaces at a later stage can reduce the functional capacity of the hardware components.

Inserting blocks

When inserting blocks, please observe technical guideline no. 3 from the German Glazing Trade [Glaserhandwerk], "Blocking glazing units" [Klotzung von Verglasungseinheiten].

Sealants

Never use acid curing sealants as they may cause the hardware components to corrode.

Cleaning

Keep the rebates free from deposits and dirt, especially from residues of cement and plaster. Avoid exposing the fitting directly to water and do not let cleaning agents come into contact with the fitting.

Information for end users

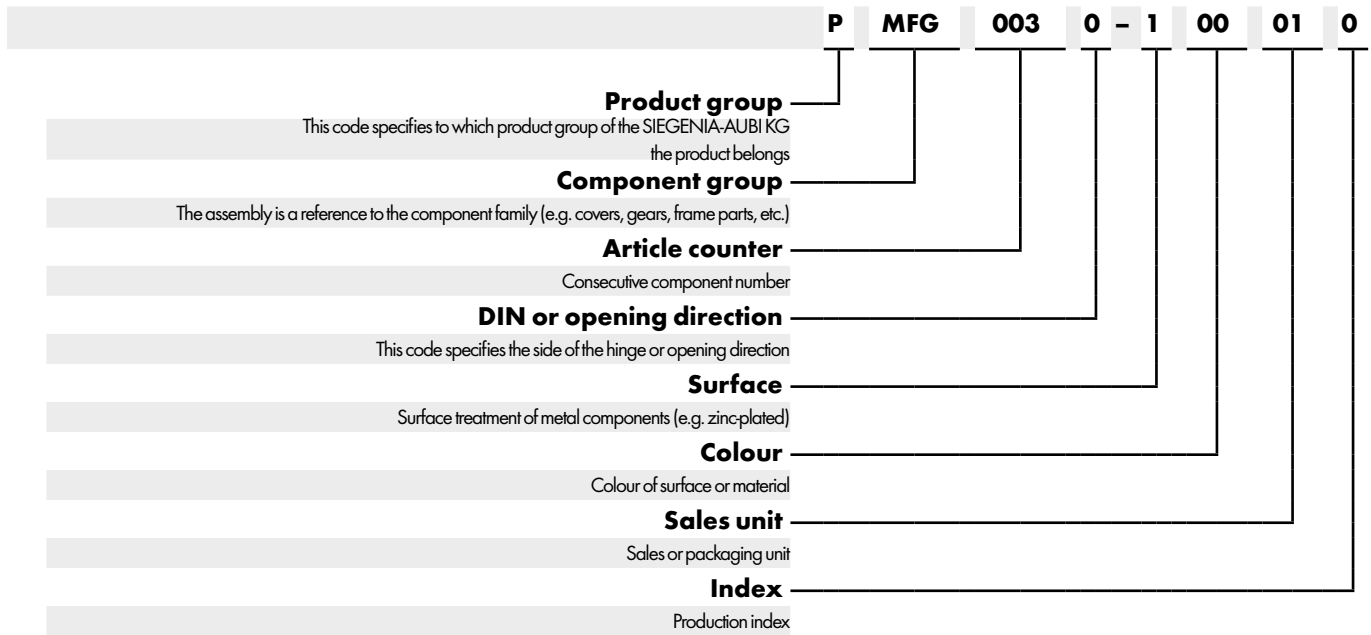
If required, affix the user information "Label for protection of hardware" (order no. H4001.2806) to the installed window or door element in a place that can be seen easily.

Provide the user with the following documents:

- Operating and Care Instructions order no. xxxx

Material numbers key

The material number is a code for components and consists of eight segments. The material number allows products to be precisely assigned to their corresponding component drawing, surface, colour and other properties



P MFG 003 0 - 1 00 01 0

1 2 3 4 5 6 7 8

| 1 Product group | | | | | |
|-----------------|----------------------------|----------|------------------------|----------|-----------------------|
| A | A300 | G | Building technology | T | TITAN |
| B | BASICline | K | Small parts | Z | Accessories (general) |
| C | Casement | L | Ventilation technology | | |
| D | Door (door lock programme) | M | Aluminium | | |
| F | FAVORIT | P | PORTAL | | |

| 2 Component group | | | | | |
|-------------------|--|----------|------------------------------|----------|---------------------------------------|
| A | Jig | H | handles | S | Stays |
| B | Hinge side parts | K | Cover caps | U | Monitoring (AEROCONTROL/radio sensor) |
| D | Seal, distance piece, documentation | L | Bogie wheels | V | Extension |
| E | Corner drives, locking bolts, locking part | M | Mixed packages | Z | Linkages/accessories |
| F | Sash components | P | Profiles/PORTAL profile sets | | |
| G | Gear | R | Frame parts | | |

The abbreviations ONLY apply to the 1st digit. Further digits are assigned individually.

| 3 Article counter | |
|---|--|
| <i>The articles are assigned consecutive numbers from 001 to 999.</i> | |

| 4 DIN or opening direction | | | | | |
|----------------------------|------------------------|----------|-----------|----------|----------|
| 0 | Independent of opening | 1 | DIN right | 2 | DIN left |

| 5 Surface | | | | | |
|-----------|-------------------------------------|----------|--|----------|--------------------------------|
| 0 | Neutral (finished surface) e.g. PVC | 2 | E-Look (galvanised) | 6 | Clear - chromated (galvanised) |
| 1 | Titanium silver (galvanised) | 5 | Aluminium, suitable for anodising, painting or coating | L | Painted |

| 6 Colour | | | | | |
|-----------|------------------------|-----------|-------------------------|-----------|-----------------------------|
| 01 | RAL 9001 cream | 21 | RAL 7035 light grey | 33 | si-brown |
| 02 | RAL 9003 signal white | 23 | RAL 9005 jet black | 34 | Titan matt bright |
| 03 | RAL 9010 pure white | 24 | EV1 silver anodised | 38 | Si-old gold |
| 04 | RAL 9016 traffic white | 26 | EV2 new silver anodised | E6 | RAL 7040 window grey |
| 11 | RAL 8019 grey brown | 30 | C33 medium bronze | H4 | F 9 aluminium-steel colours |
| 12 | RAL 8022 black brown | 32 | C34 dark bronze | | |

These specifications do not apply to custom stock colours. For further colours please inquire.

| 7 Packaging unit | | | | | |
|------------------|-----------|-----------|------------|-----------|------------|
| 01 | 1 piece | 04 | 25 piece | 07 | 250 pieces |
| 02 | 10 pieces | 05 | 50 piece | 08 | 500 pieces |
| 03 | 20 pieces | 06 | 100 pieces | | |

For further packaging units please inquire.

| 8 Processing index | |
|--|--|
| <i>The processing index indicates the processing status and is assigned consecutively.</i> | |

Liability

Intended use

Any use of this product that is not in accordance with its correct use, or any adaptation of or modification to the product and its associated components for which our express consent has not been obtained, is strictly prohibited. We accept no liability whatsoever for any material losses or injury to people caused by failure to comply with this stipulation.


Liability for defects

Our products are guaranteed – subject to correct installation and proper use – for a period of one year from the date of receipt by a company (according to our general terms and conditions) or as otherwise agreed, and for a period of two years for end consumers, in accordance with statutory provisions. As part of our ongoing improvements, we reserve the right to replace individual components or entire products. Consequential losses resulting from defects are excluded from the warranty within the limits of the law. The warranty shall become void if modifications that are not authorised by us or have not been described in this documentation are performed on the product and/or individual components, or if the product and/or individual components is/are dismantled or partly dismantled, and the defect is due to the changes made.

Disclaimer of liability

The product and its components are subject to stringent quality controls. As a result, they function reliably and safely when used correctly. Our liability for consequential losses and/or claims for damages is excluded, except in the case of wilful misconduct or gross negligence, or where we are responsible for injury to life, physical injury or damage to health. Strict liability under the German Product Liability Act (Produkthaftungsgesetz) remains unaffected. Liability for the culpable violation of significant contractual obligations also remains unaffected; liability in this case is limited to losses that are specific to the contract and that could have been foreseen. The above regulations do not imply a change in the burden of proof to the detriment of the consumer.

EU Declaration of Conformity

 We, SIEGENIA KG, declare under our own responsibility that the product complies with the provisions of Directives 2008/108/EC and 2006/95/EC of the Council of the European Union.

Environmental protection

Although our products do not fall within the scope of the German Electrical and Electronic Equipment Act, SIEGENIA will continue to meet the requirements of this Act and will endeavour to completely eliminate the use of substances that are hazardous to the environment as soon as this becomes technically feasible. Electrical products should not be disposed of as household waste.

CATALOGUE PORTAL

6.2. Hardware overviews FS PORTAL PLUS

Contents

Page

| | | |
|--------|---|-----|
| 6.2.1 | Scheme overview and general information..... | 16 |
| 6.2.2 | Size ranges | 22 |
| 6.2.3 | Table of intersection points | 23 |
| 6.2.4 | Hardware FS PLUS - intersection point A hinge side FAVORIT - timber elements 12 mm airgap | 24 |
| 6.2.5 | Hardware FS PLUS - intersection point A hinge side FAVORIT - PVC elements 12 mm chamber dimension | 26 |
| 6.2.6 | Hardware FS PLUS - intersection point A hinge side TITAN - timber elements 12 mm airgap | 28 |
| 6.2.7 | Hardware FS PLUS - intersection point A hinge side TITAN - PVC elements 12 mm chamber dimension..... | 30 |
| 6.2.8 | Hardware FS PLUS - intersection point A hinge side - FS - inside timber/ PVC elements..... | 32 |
| 6.2.9 | Hardware FS PLUS - intersection point A hinge side - FS - outside timber/ PVC elements | 34 |
| 6.2.10 | Hardware FS PLUS - intersection point B hinges - FS -17/38 timber/ PVC elements inside | 36 |
| 6.2.11 | Hardware FS PLUS - intersection point B hinges - FS -17/48 timber/ PVC elements inside | 38 |
| 6.2.12 | Hardware FS PLUS - intersection point B hinges - FS -27/48 timber/ PVC elements inside | 40 |
| 6.2.13 | Hardware FS PLUS - intersection point B hinges - FS 27/48 - timber/ PVC elements outside | 42 |
| 6.2.14 | Hardware FS PLUS - intersection point B - central locking gear FAVORIT - inside | 44 |
| 6.2.15 | Hardware FS PLUS - intersection point B - central locking gear TITAN AF - inside | 46 |
| 6.2.16 | Hardware FS PLUS - intersection point B - central locking gear TITAN AF - outside | 48 |
| 6.2.17 | Hardware FS PLUS - intersection point C hinges - FS 17/38 - inside timber elements..... | 50 |
| 6.2.18 | Hardware FS PLUS - intersection point C hinges - FS 17/38 - inside PVC elements | 52 |
| 6.2.19 | Hardware FS PLUS - intersection point C hinges - FS 27/48 - inside PVC elements | 54 |
| 6.2.20 | Hardware FS - intersection point C hinges - FS 17/38 - inside timber elements barrier-free | 56 |
| 6.2.21 | Hardware FS PLUS - intersection point C hinges - FS 17/38 - inside timber elements barrier-free | 58 |
| 6.2.22 | Hardware FS - intersection point C hinges - FS 17/38 - inside PVC elements barrier-free | 60 |
| 6.2.23 | Hardware FS - intersection point C hinges - FS 17/38 - inside PVC elements barrier-free | 62 |
| 6.2.24 | Hardware FS - intersection point C hinges - FS 27/48 - inside PVC elements barrier-free | 64 |
| 6.2.25 | Hardware FS PLUS - intersection point C hinges - FS 27/48 - inside timber elements barrier-free | 66 |
| 6.2.26 | Hardware FS PLUS - intersection point C hinges - FS 27/48 - outside timber/ PVC elements | 68 |
| 6.2.27 | Hardware FS PLUS - intersection point D - inside timber/PVC elements | 70 |
| 6.2.28 | Hardware FS - intersection point D - inside timber/PVC elements barrier-free | 72 |
| 6.2.29 | Hardware FS PLUS - intersection point D - inside timber/PVC elements barrier-free | 74 |
| 6.2.30 | Hardware FS PLUS - intersection point D - outside timber elements | 76 |
| 6.2.31 | Hardware FS PLUS - intersection point D - central locking gear FAVORIT - inside | 78 |
| 6.2.32 | Hardware FS PLUS - intersection point D - central locking gear TITAN AF - inside..... | 80 |
| 6.2.33 | Hardware FS PLUS - intersection point D - central locking gear TITAN AF - outside | 82 |
| 6.2.34 | Hardware FS PLUS - intersection point E - central locking gear FAVORIT - inside | 84 |
| 6.2.35 | Hardware FS PLUS - intersection point E - central locking gear TITAN AF - inside | 86 |
| 6.2.36 | Hardware FS PLUS - intersection point E - central locking gear TITAN AF - outside | 88 |
| 6.2.37 | Hardware FS PLUS - intersection point F - central locking gear FAVORIT - inside | 90 |
| 6.2.38 | Hardware FS PLUS - intersection point F - central locking gear TITAN AF - inside | 92 |
| 6.2.39 | Hardware FS PLUS - intersection point F - central locking gear TITAN AF - outside | 94 |
| 6.2.40 | Hardware FS PLUS - profile set - inside | 96 |
| 6.2.41 | Hardware FS PLUS - profile set - inside | 98 |
| 6.2.42 | Hardware FS PLUS - cover caps for profile set - inside..... | 99 |
| 6.2.43 | Hardware FS PLUS - sealing brush for profile set - inside..... | 100 |
| 6.2.44 | Hardware FS PLUS - profile set barrier-free - inside..... | 102 |
| 6.2.45 | Hardware FS - profile set barrier-free - inside (old) | 104 |
| 6.2.46 | Hardware FS - profile set barrier-free - single parts..... | 106 |

Technische und farbliche Änderungen vorbehalten.

6.2.1 Scheme overview and general information

Scheme overview

All schemes can also be implemented in mirror image.

Note: definition of the intersection points e. g. A = intersection point in DIN direction, A_s = intersection point in mirror image,

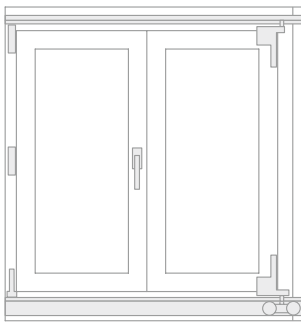
D = intersection point in DIN direction, D_{220} = intersection point in scheme 220, 440 and 660, D_{ZV} = central locking at intersection point D. see notes page 134.

For scheme 220, 440 and 660, please observe the additional notes in the assembly instructions FSde1006!

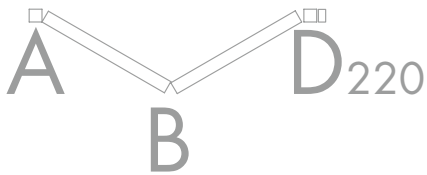
You will find the assembly instructions FSde1006 as a PDF file on the SIEGENIA homepage

[Assembly instructions FSde1006](#)

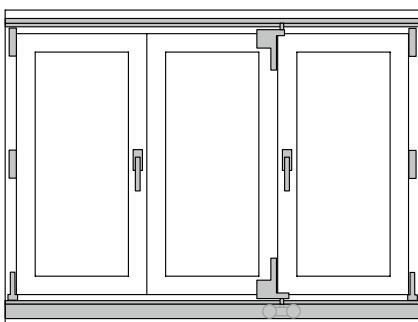
Scheme 220



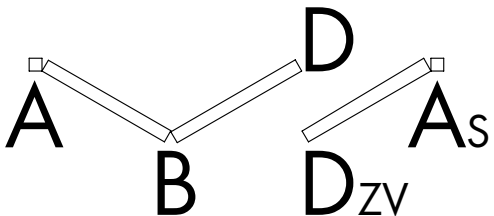
2 folding sash/0 sash providing access
Access through the first folding sash
Sash rebate width at least 700 mm



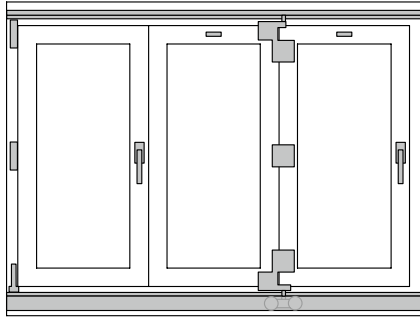
Scheme 321



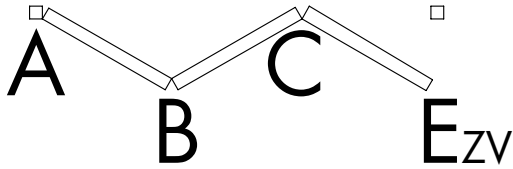
2 folding sash/1 sash providing access



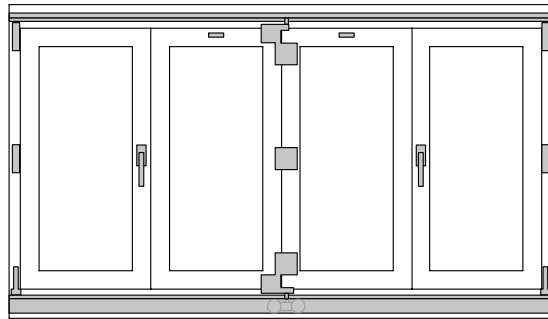
Scheme 330



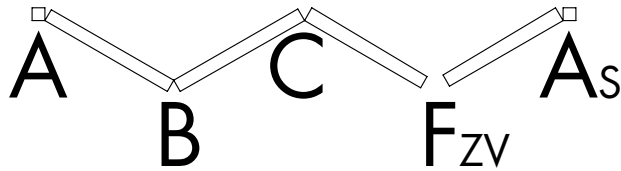
3 folding sash/0 sash providing access
Access through the first folding sash



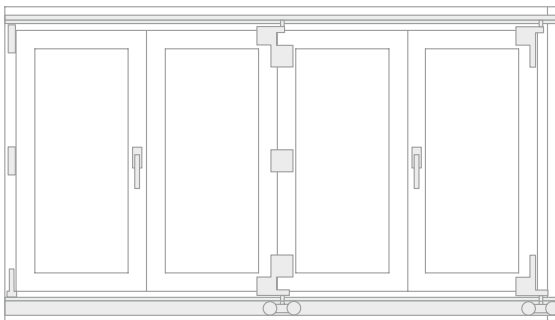
Scheme 431



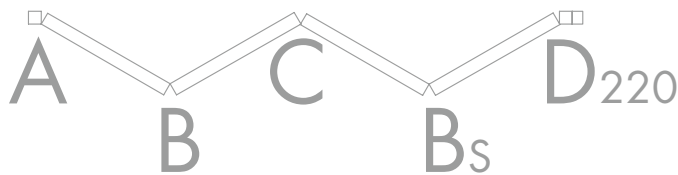
3 folding sash/1 sash providing access



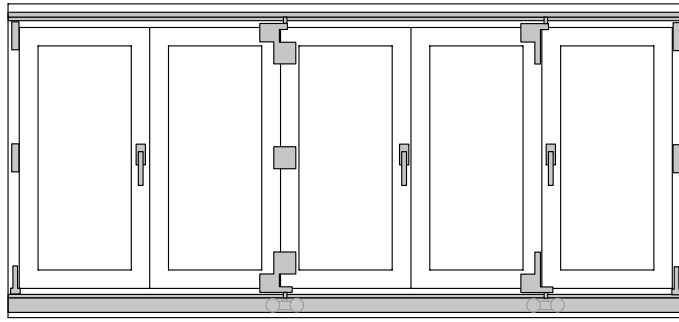
Scheme 440



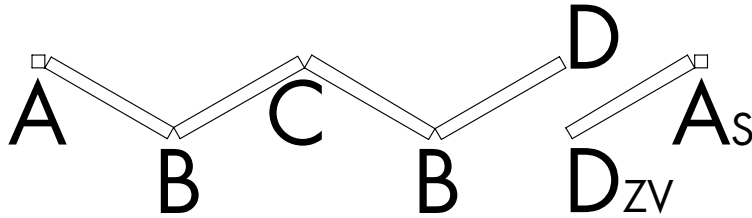
4 folding sash/0 sash providing access
Access through the first folding sash
Sash rebate width at least 700 mm



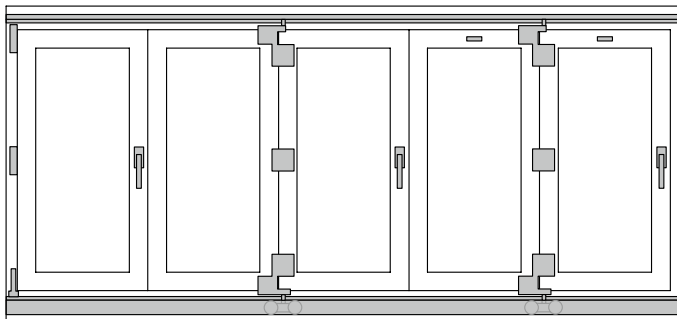
Scheme 541



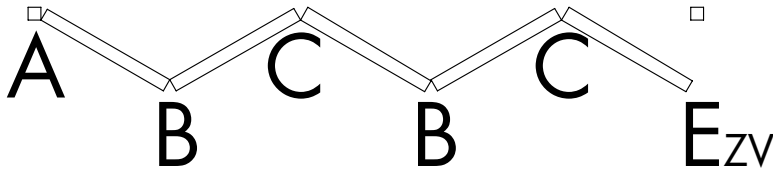
4 folding sash/1 sash providing access



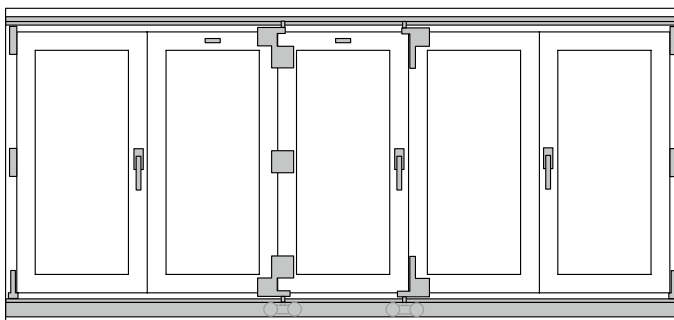
Scheme 550



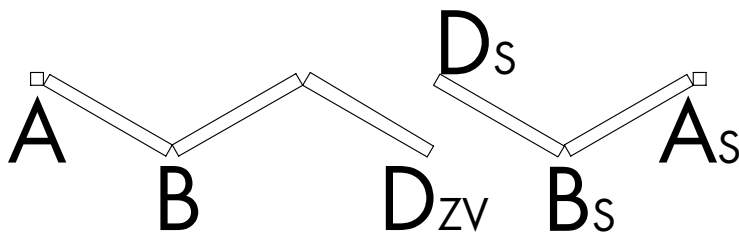
5 folding sash/0 sash providing access
Access through the first folding sash



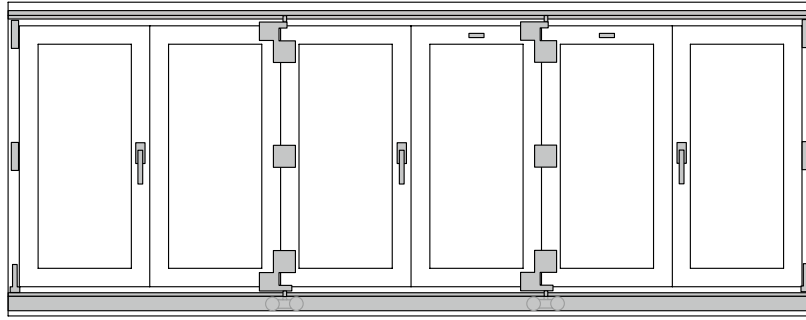
Scheme 532



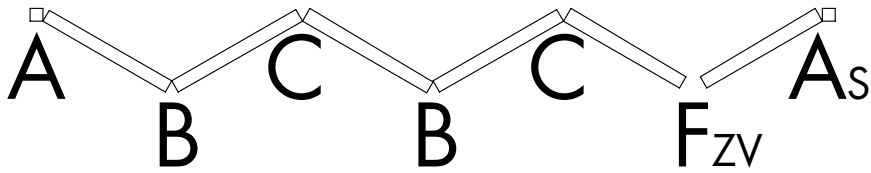
3+2 folding sash/0 sash providing access
Access through the first folding sash



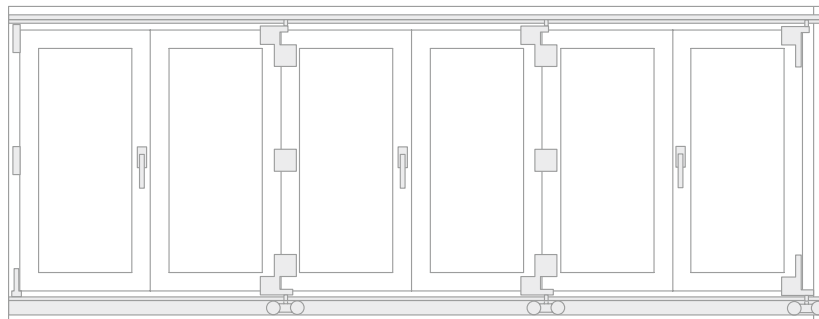
Scheme 651



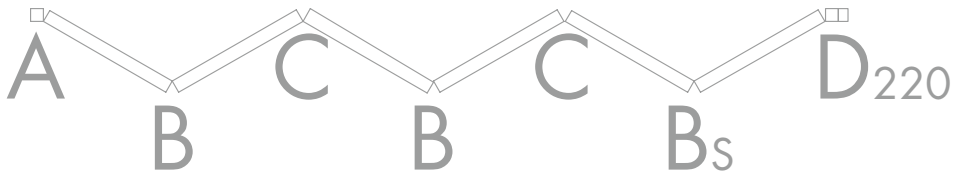
5 folding sash/
1 sash providing access



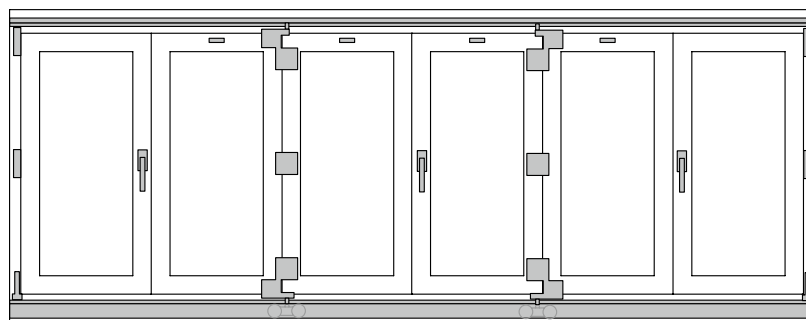
Scheme 660



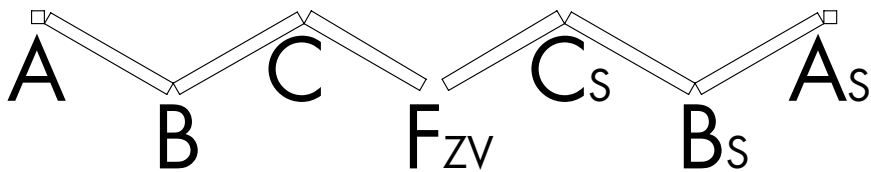
6 folding sash/
0 sash providing access
Access through the first folding sash
Sash rebate width at least 700 mm



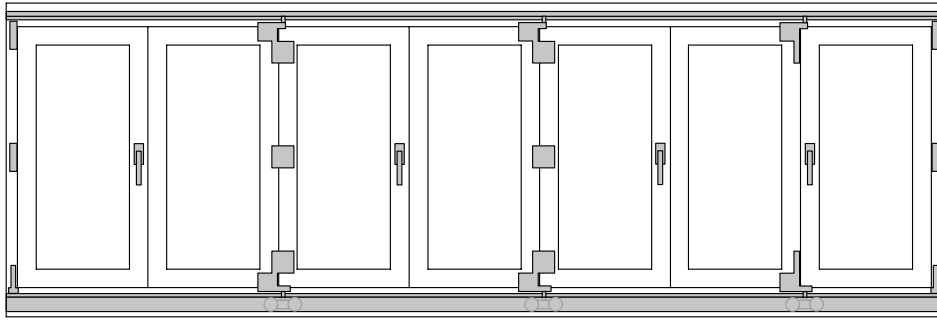
Scheme 633



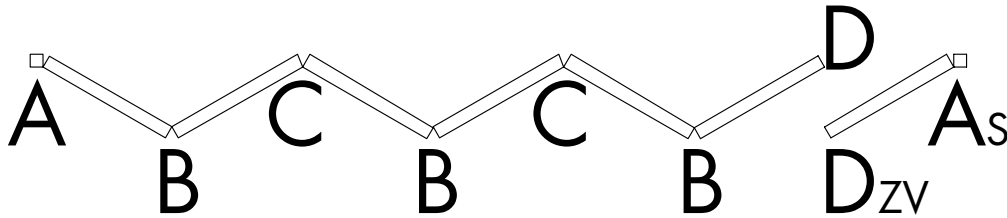
3+3 folding sash/
0 sash providing access
Access through the first folding sash



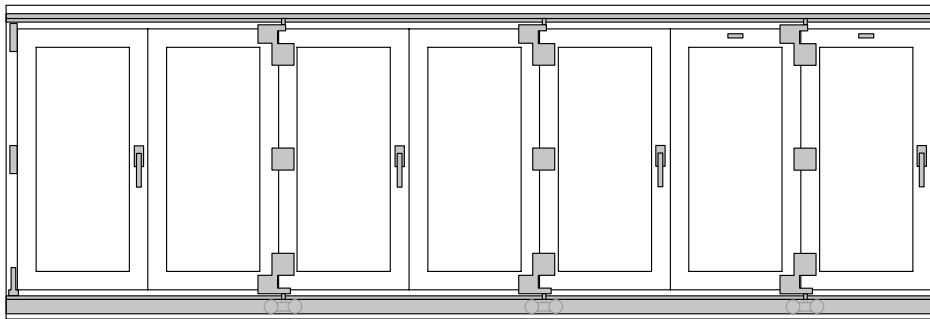
Scheme 761



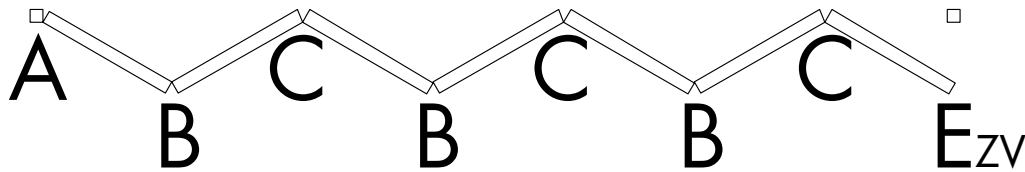
6 folding sash/1 sash providing access



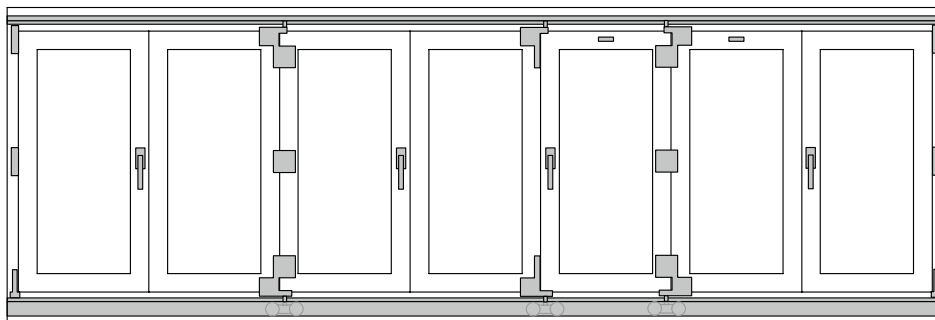
Scheme 770



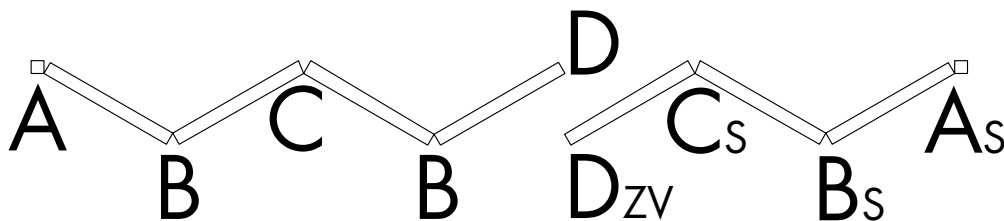
7 Folding sash/
0 sash providing access
Access through the first folding sash



Scheme 743



4+3 folding sash/
0 sash providing access
Access through the first folding sash



Note:

You can find profile-related information concerning striker plates and frame parts in the TITAN profile data sheets

⚠ ATTENTION The size ranges given for the SIEGENIA PORTAL FS PLUS hardware must not be exceeded.

- For timber elements

the standards specified by DIN 68 121 (timber profiles for windows and French doors) apply for profile section, timber quality and design, especially with regard to possible restrictions on permissible sash dimensions and/or sash weight.


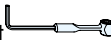
- For PVC elements

the specifications of the profile manufacturers or system owners also apply, especially with regard to possible restrictions on permissible sash dimensions and/or sash weight.

6.2.2 Size ranges

| | | |
|--|------|---|
| The size ranges specified above must not be exceeded. | | |
| Sash rebate width (FFB) | (mm) | 330 to 900 |
| Sash rebate height (FFH) | (mm) | 840 to 2360 |
| Frame width (RAB) | (mm) | Fig. 1: depends on profile system; determined by the sash rebate width |
| Sash weight | (kg) | max. 80 |
| Backset standard gear | (kg) | 16 |
| Backset lockable gear | (mm) | 40 |
| Handle position variable | (mm) | 420 to 1180 |
| Groove axis | (mm) | 9 and 13 |
| Rebate height | (mm) | 13 to 24 |
| Sash rebate width (FFB) for sash providing access should be larger than 600 mm, for scheme 220, 440, 660 larger than 700 mm Components for rebate heights 19 to 24 mm, see accessories page | | |

Adjustment options

| | | |
|---|------|-------|
| Elevating adjustment of the bogie wheels  SW 5 | (mm) | +3/-2 |
| Sash pressure adjustment  SW 4/SW 11 | (mm) | ±1 |

Vertical sections

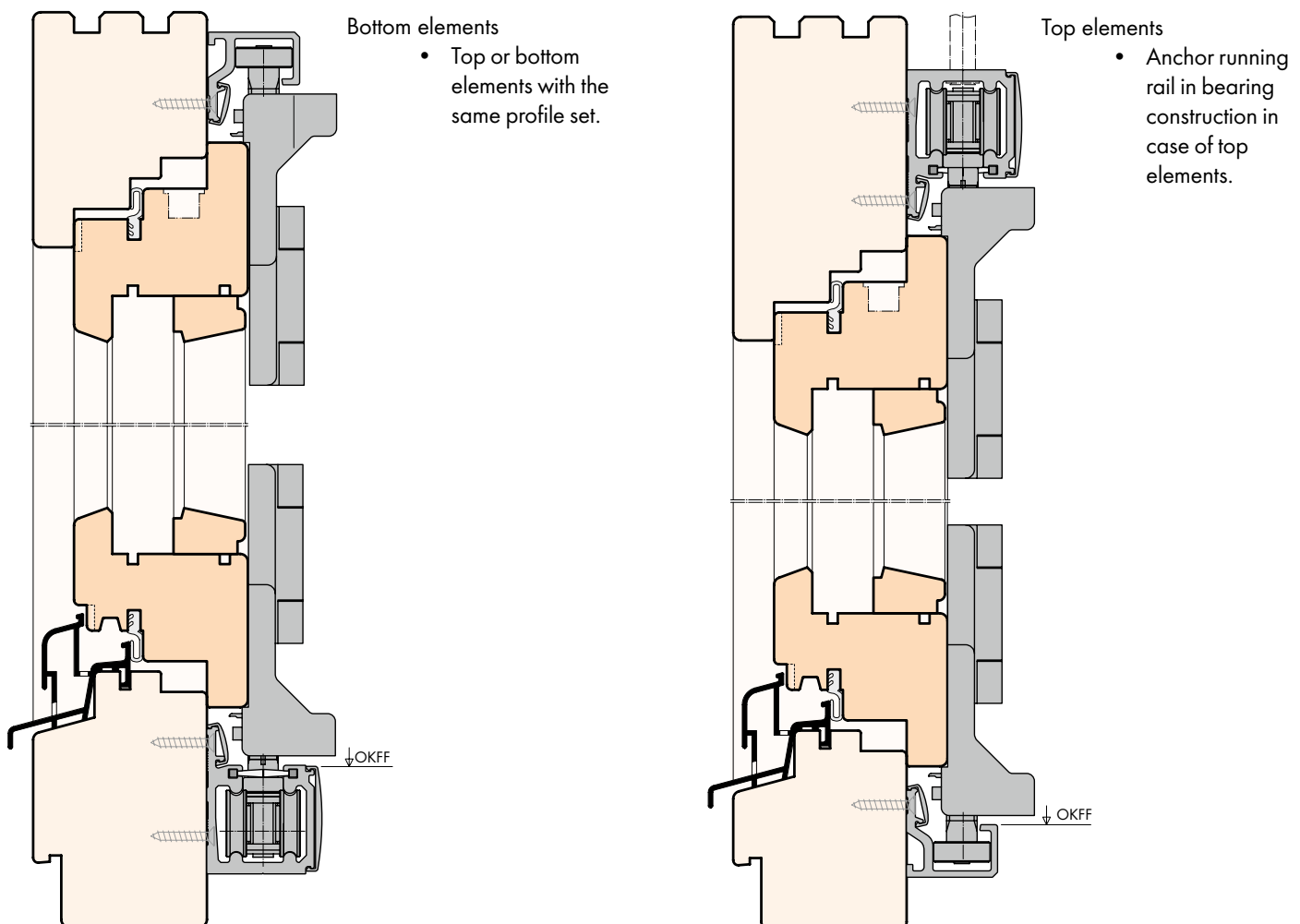


Fig. 2: Vertical cross-sections timber elements top / bottom running

6.2.3 Table of intersection points

| Scheme | Required number of intersection points according to the schemes | | | | | |
|--------|---|---|---|---|---|---|
| | Intersection points | | | | | |
| | A | B | C | D | E | F |
| 220 | 1 | 1 | - | 1 | - | - |
| 321 | 2 | 1 | - | 1 | - | - |
| 330 | 1 | 1 | 1 | - | 1 | - |
| 431 | 2 | 1 | 1 | - | - | 1 |
| 440 | 1 | 2 | 1 | 1 | - | - |
| 541 | 2 | 2 | 1 | 1 | - | - |
| 550 | 1 | 2 | 2 | - | 1 | - |
| 532 | 2 | 2 | - | 1 | - | - |
| 651 | 2 | 2 | 2 | - | - | 1 |
| 660 | 1 | 3 | 2 | 1 | - | - |
| 633 | 2 | 2 | 2 | - | - | 1 |
| 761 | 2 | 3 | 2 | 1 | - | - |
| 770 | 1 | 3 | 3 | - | 1 | - |
| 743 | 2 | 3 | 2 | 1 | - | - |

A profile set is necessary for all top or bottom running schemes. See pages: 95 - 105

6.2.4 Hardware FS PLUS - intersection point A hinge side FAVORIT - timber elements 12 mm airgap

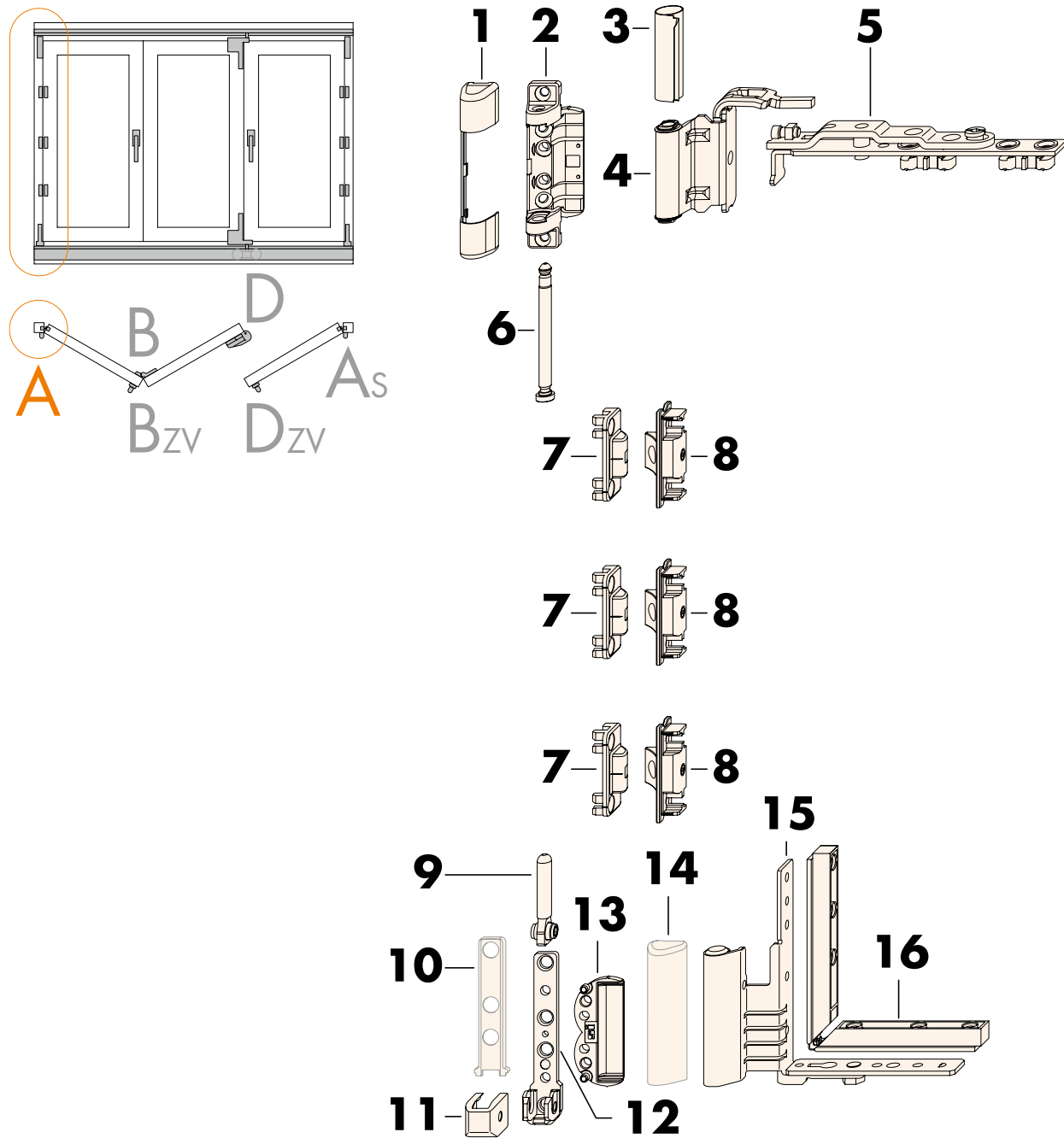


Fig. 3: Diagram of hardware FS PLUS - intersection point A, hinge side FAVORIT - timber elements 12 mm airgap

Overview of set intersection point A, hinge side FAVORIT - timber elements 12 mm airgap

| No. | Material description | Material number | ...Colour number | | | |
|-----|-------------------------------------|-----------------|--------------------------------------|--------|-------------------|-------------------|
| | | | Base... | silver | RAL 9003 white | RAL 8022 brown |
| 1 | Cover cap S | FKSL0010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 2 | Top hinge DH 130 kg | | see Profile data sheet TITAN, FBSL02 | | | |
| 3 | Cover cap W | FKWB0020- | L2401_ | 00201_ | 01201_ | 03101_ |
| 4 | Stay hinge DH | | see Profile data sheet TITAN, FBWB | | | |
| 5 | Stay 7 DF | 707340 | | | | |
| 6 | Top hinge pin Ø 6 | FBSB0010- | 10001_ | | | |
| 7 | Frame part MV | | see Profile data sheet TITAN, ZRZM01 | | | |
| 8 | Sash part MV | | see Profile data sheet TITAN, ZFMV01 | | | |
| 9 | Bottom hinge pin Ø 7 ¹ | FBLB0060- | 10001_ | | | |
| 10 | Cover cap EL O | FKEO0010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 11 | Cover cap EL U ¹ | FKEU0010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 12 | Bottom hinge | | see Profile data sheet TITAN, | | | |
| 13 | Filling piece H | | see Profile data sheet TITAN, | | | |
| 14 | Cover cap rebate corner hinge right | FKFE0011- | L2401_ | 00201_ | 01201_ | 03101_ |
| | Cover cap rebate corner hinge left* | FKFE0012- | L2401_ | 00201_ | 01201_ | 03101_ |
| 15 | Rebate corner hinge H | | see Profile data sheet TITAN, FBFE01 | | | |
| 16 | Distance piece H | | see Profile data sheet TITAN, FBDS | | | |

Frame part MV and sash part MV

Sash rebate height up to 1000 mm 1 piece each

Sash rebate height 1001 to 1500 mm 2 pieces each

Sash rebate height 1601 to 2400 mm 3 pieces each

6.2.5 Hardware FS PLUS - intersection point A hinge side FAVORIT - PVC elements 12 mm chamber dimension

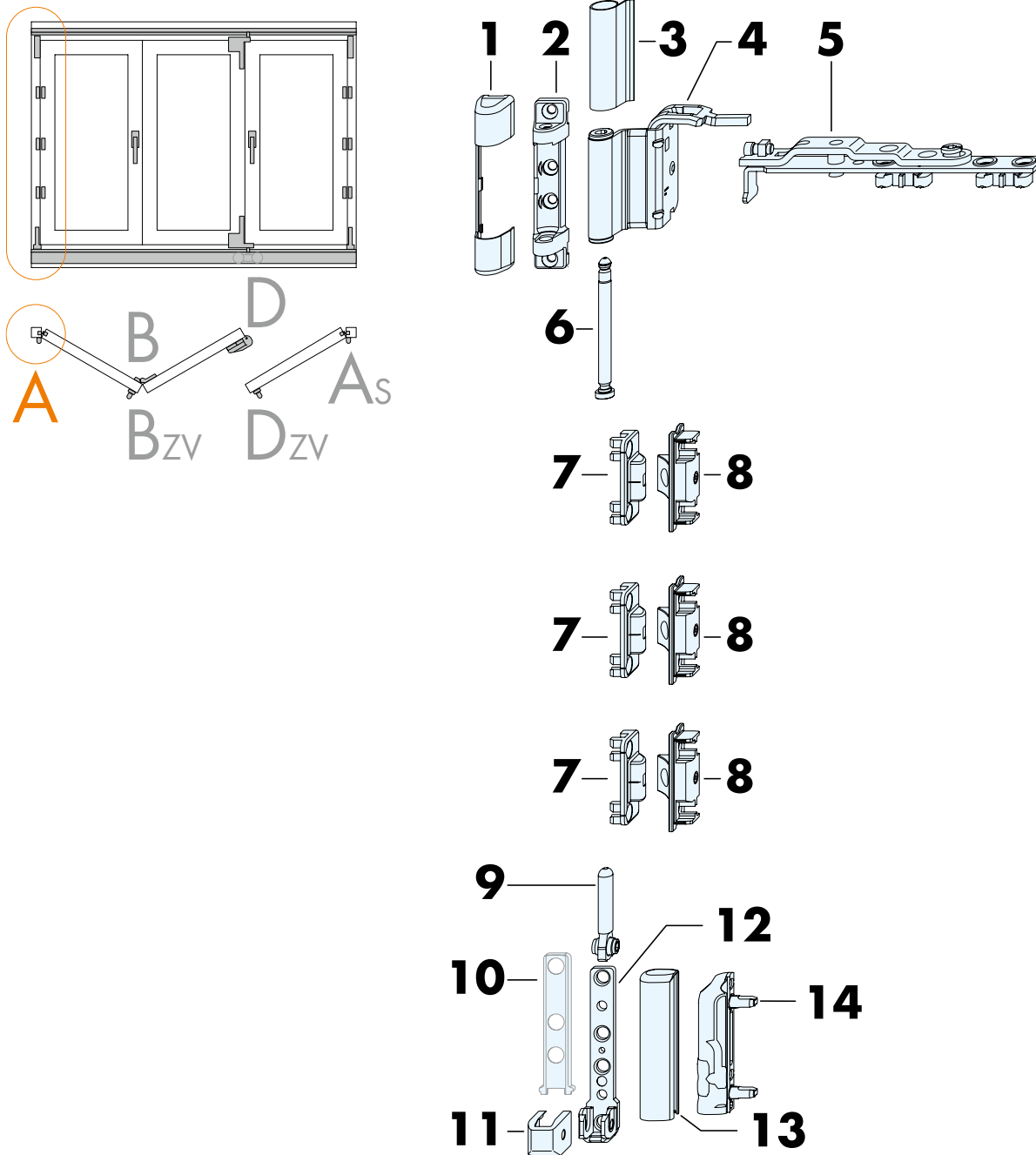


Fig. 4: Diagram of hardware FS PLUS - intersection point A, hinge side FAVORIT - PVC elements 12 mm chamber dimension

Overview of set intersection point A, hinge side FAVORIT - PVC elements 12 mm chamber dimension

| No. | Material description | Material number | ...Colour number | | | |
|-----|-----------------------------------|-----------------|--------------------------------------|--------|-------------------|-------------------|
| | | | Base... | silver | RAL 9003 white | RAL 8022 brown |
| 1 | Cover cap S | FKSL0010- | | | | |
| 2 | Top hinge DH 130 kg | | see Profile data sheet TITAN, FBSL02 | | | |
| 3 | Cover cap W PVC | FKWB0010- | | | | |
| 4 | Stay hinge DH | | see Profile data sheet TITAN, FBWB | | | |
| 5 | Stay 7 DF | 707340 | | | | |
| 6 | Top hinge pin Ø 6 | FBSB0010-- | 10001_ | | | |
| 7 | Frame part MV | | see Profile data sheet TITAN, ZRZM01 | | | |
| 8 | Sash part MV | | see Profile data sheet TITAN, ZFMV01 | | | |
| 9 | Bottom hinge pin Ø 7 ¹ | FBLB0060- | 10001_ | | | |
| 10 | Cover cap EL O | FKEO0010- | 10001_ | | | |
| 11 | Cover cap EL U ¹ | FKEU0010- | 52501_ | 50201_ | 51201_ | 53101_ |
| 12 | Bottom hinge | | see Profile data sheet TITAN, FBEL01 | | | |
| 13 | Cover cap EB | FKEB0011- | 52501_ | 50201_ | 51201_ | 53101_ |
| 14 | Corner hinge PVC | | see Profile data sheet TITAN, TBEB61 | | | |

Frame part MV and sash part MV

Sash rebate height up to 1000 mm 1 piece each

Sash rebate height 1001 to 1500 mm 2 pieces each

Sash rebate height 1601 to 2400 mm 3 pieces each

6.2.6 Hardware FS PLUS - intersection point A hinge side TITAN - timber elements 12 mm airgap

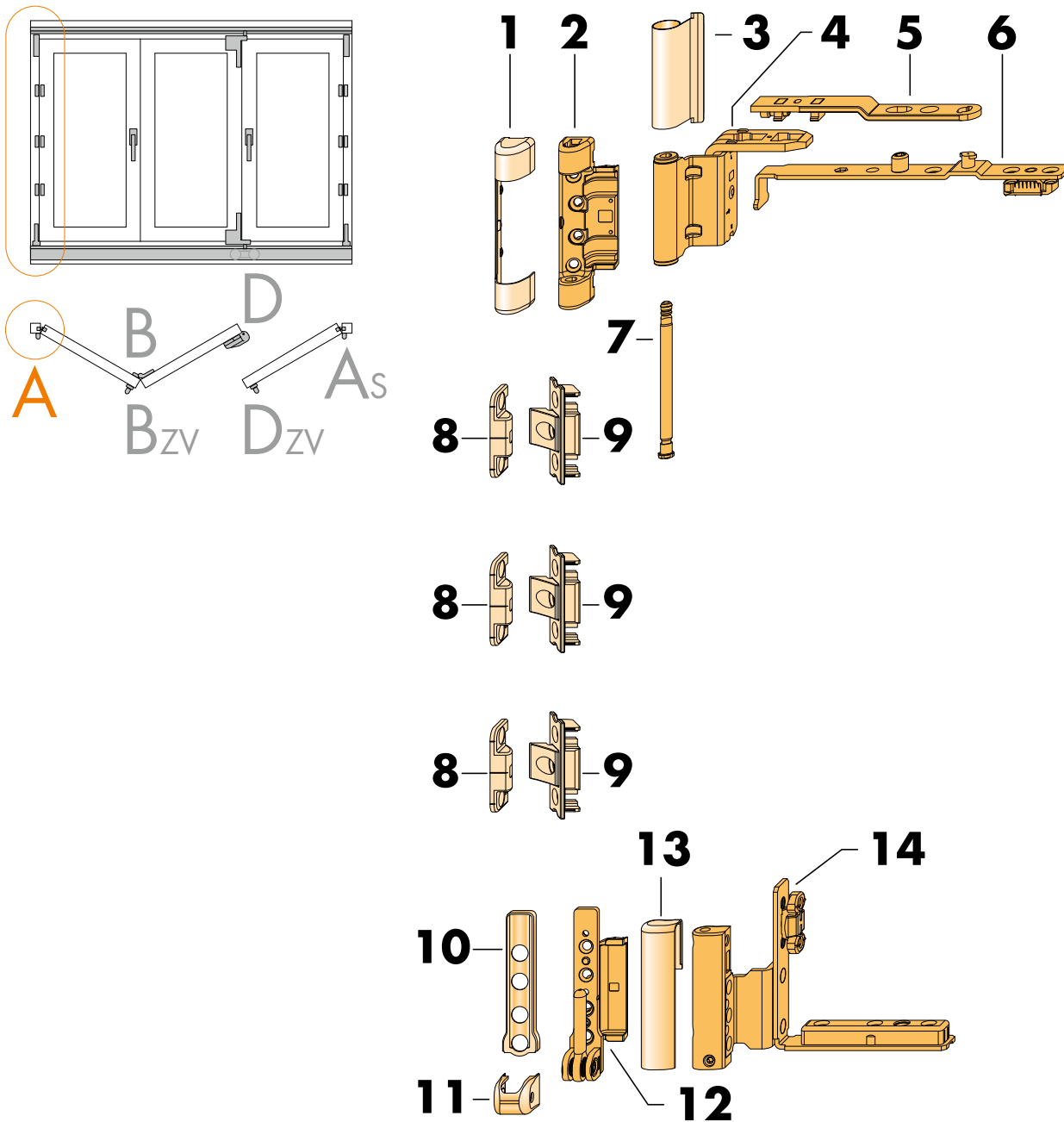


Fig. 5: Diagram of hardware FS PLUS - intersection point A, hinge side TITAN - timber elements 12 mm airgap

Overview of set intersection point A, hinge side TITAN - timber elements 12 mm airgap

| No. | Material description | Material number | | | | |
|-----|-------------------------------------|-----------------|--------------------------------------|---------------------------------------|-------------------|------------------|
| | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| 1 | Cover cap S | TKSL0020- | L2401_ | 00201_ | 01201_ | 03101_ |
| 2 | Top hinge 130 kg | | see Profile data sheet TITAN, TBSL62 | | | |
| 3 | Cover cap W H | TKWB7010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 4 | Stay hinge DH | | see Profile data sheet TITAN, TBWB61 | | | |
| 5 | Stay arm DF | TSAD0010- | 10001_ | | | |
| 6 | Stay sash part DF/MN | TSSD0020- | 10001_ | | | |
| 7 | Top hinge pin Poly | TBSB6020- | 10001_ | | | |
| 8 | Frame part MV | | see Profile data sheet TITAN, ZRZM01 | | | |
| 9 | Sash part MV | | see Profile data sheet TITAN, ZFMV01 | | | |
| 10 | Cover cap EL O MB | TKEO0010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 11 | Cover cap EL U ¹ | TKEU0010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 12 | Bottom hinge | | see Profile data sheet TITAN, TBEL02 | | | |
| 13 | Cover cap rebate corner hinge right | TKFE7011- | L2401_ | 00201_ | 01201_ | 03101_ |
| | Cover cap rebate corner hinge left* | TKFE7012- | L2401_ | 00201_ | 01201_ | 03101_ |
| 14 | Rebate corner hinge H | | see Profile data sheet TITAN, TBFE02 | | | |

Frame part MV and sash part MV

Sash rebate height up to 1000 mm 1 piece each

Sash rebate height 1001 to 1500 mm 2 pieces each

Sash rebate height 1601 to 2400 mm 3 pieces each

6.2.7 Hardware FS PLUS - intersection point A hinge side TITAN - PVC elements 12 mm chamber dimension

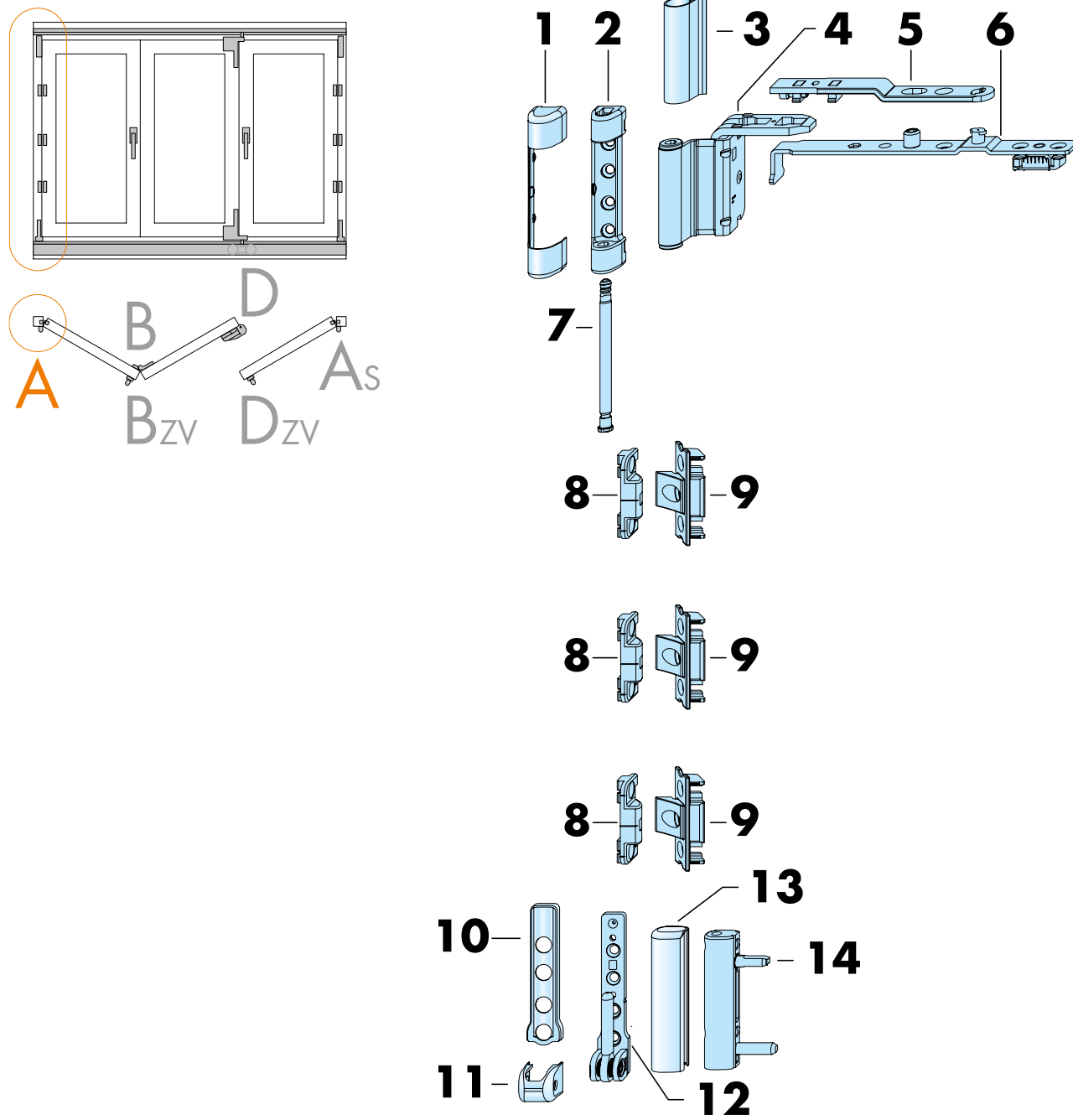


Fig. 6: Diagram of hardware FS PLUS - intersection point A, hinge side TITAN - PVC elements 12 mm chamber dimension

Overview of set intersection point A, hinge side TITAN - PVC elements 12 mm chamber dimension

| No. | Material description | Material number | ...Colour number | | | |
|-----|-----------------------------------|-----------------|--------------------------------------|--------|-------------------|-------------------|
| | | | Base... | silver | RAL 9003 white | RAL 8022 brown |
| 1 | Cover cap S | TKSL0020- | L2401_ | 00201_ | 01201_ | 03101_ |
| 2 | Top hinge DH 130 kg | | see Profile data sheet TITAN, FBSL02 | | | |
| 3 | Cover cap W PVC | TKWB0010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 4 | Stay hinge DH | | see Profile data sheet TITAN, FBWB | | | |
| 5 | Stay arm DF | TSAD0010- | | | | |
| 6 | Stay sash part DF/MN | TSSD0020- | | | | |
| 6 | Top hinge pin Ø 6 | TBSB0010-- | | 10001_ | | |
| 7 | Frame part MV | | see Profile data sheet TITAN, ZRZM01 | | | |
| 8 | Sash part MV | | see Profile data sheet TITAN, ZFMV01 | | | |
| 9 | Bottom hinge pin Ø 7 ¹ | TBLB0060- | | 10001_ | | |
| 10 | Cover cap EL O MB | TKEO0010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 11 | Cover cap EL U ¹ | TKEU0010- | L2401_ | 00201_ | 01201_ | 03101_ |
| 12 | Bottom hinge 130 kg | - | see Profile data sheet TITAN, TBEL02 | | | |
| 13 | Cover cap EB | TKEB0020- | L2401_ | 00201_ | 01201_ | 03101_ |
| 14 | Corner hinge PVC 100 kg | | see Profile data sheet TITAN, TBEB62 | | | |

Frame part MV and sash part MV

Sash rebate height up to 1000 mm 1 piece each

Sash rebate height 1001 to 1500 mm 2 pieces each

Sash rebate height 1601 to 2400 mm 3 pieces each

6.2.8 Hardware FS PLUS - intersection point A hinge side - FS - inside timber/ PVC elements

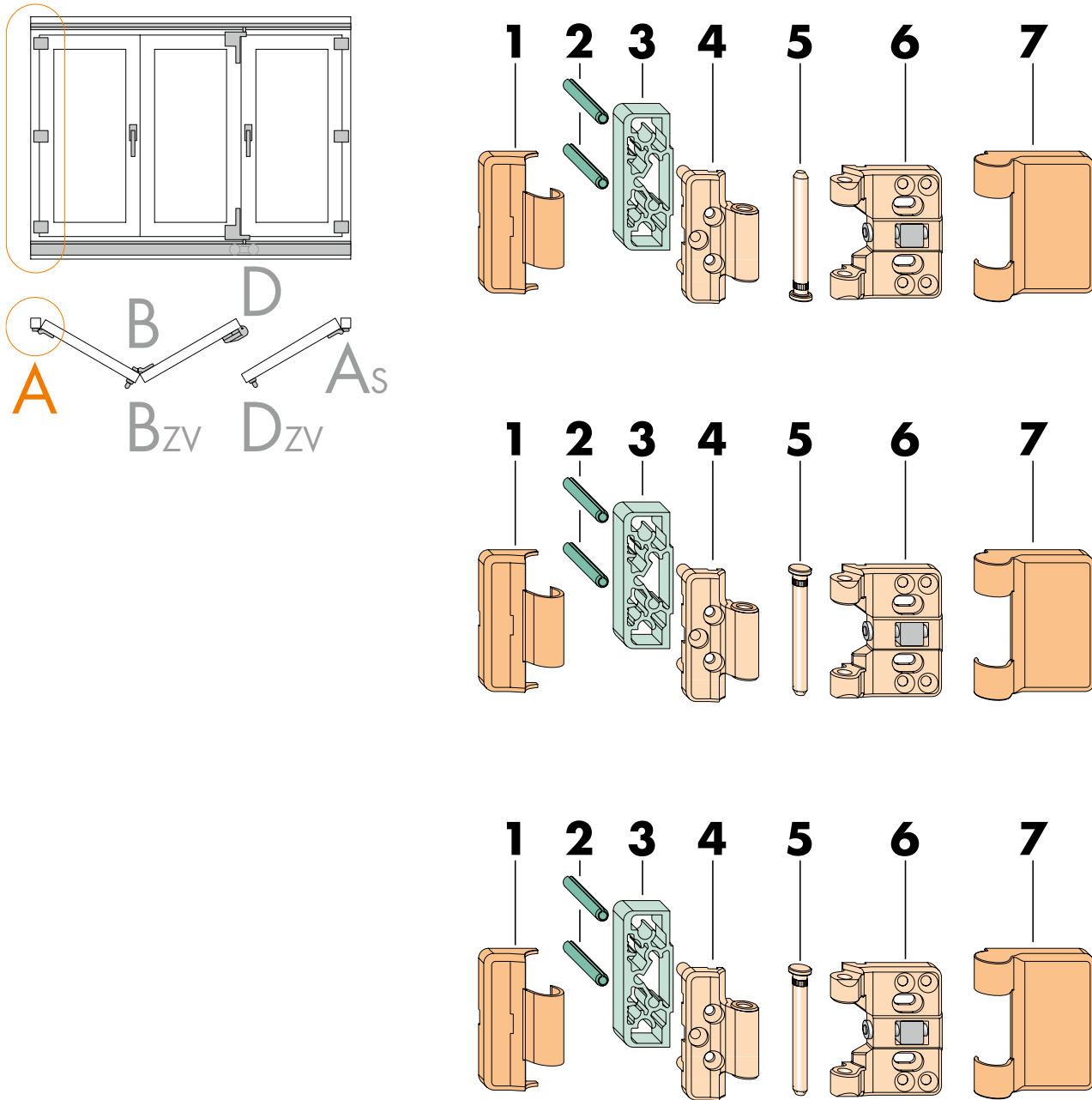
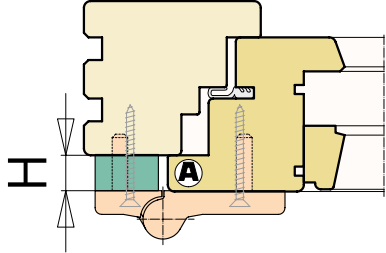


Fig. 7: Diagram of hardware - intersection point A hinge side - FS - inside timber/ PVC elements

Overview of set - intersection point A hinge side - FS - inside timber/ PVC elements

| No. | Material description | Size | Material number | | | | |
|-----|---|------|-----------------|------------------|-------------------|-------------------|------------------|
| | | | Base... | ...Colour number | | | |
| | | | | silver | RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 17/38 TS <i>consisting of:</i> | | PMFG0030- | 10001_ | | | |
| 4 | Sash hinge, wide 38 TS | | | | | | |
| 5 | Hinge pin TS | | | | | | |
| 6 | Sash hinge, narrow 17 TS | | | | | | |
| | Bag cover caps sash hinge 17/38 <i>consisting of:</i> | | PMAG0010- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap FB, narrow 17 | | | | | | |
| 7 | Cover cap FB, wide 38 | | | | | | |
| | | | | | | | |
| 2 | Dowel pin Ø 6.8 x 50 <i>required for size 19 - 22</i> | | KDNA0180- | 00001_ | | | |
| 3 | Distance piece FS  H = size in mm | 13 | | - | 826379 | - | - |
| | | 14 | | 852965 | 826416 | - | - |
| | | 15 | | 852972 | 826454 | - | - |
| | | 16 | | 852989 | 826492 | - | - |
| | | 17 | | 852996 | 826539 | - | - |
| | | 18 | | 853009 | 826577 | - | - |
| | | 19 | | 853016 | 826614 | - | - |
| | | 20 | | 853023 | 826652 | - | - |
| | | 21 | | 853030 | 826690 | - | - |
| | | 22 | | 853047 | 826737 | - | - |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.9 Hardware FS PLUS - intersection point A hinge side - FS - outside timber/ PVC elements

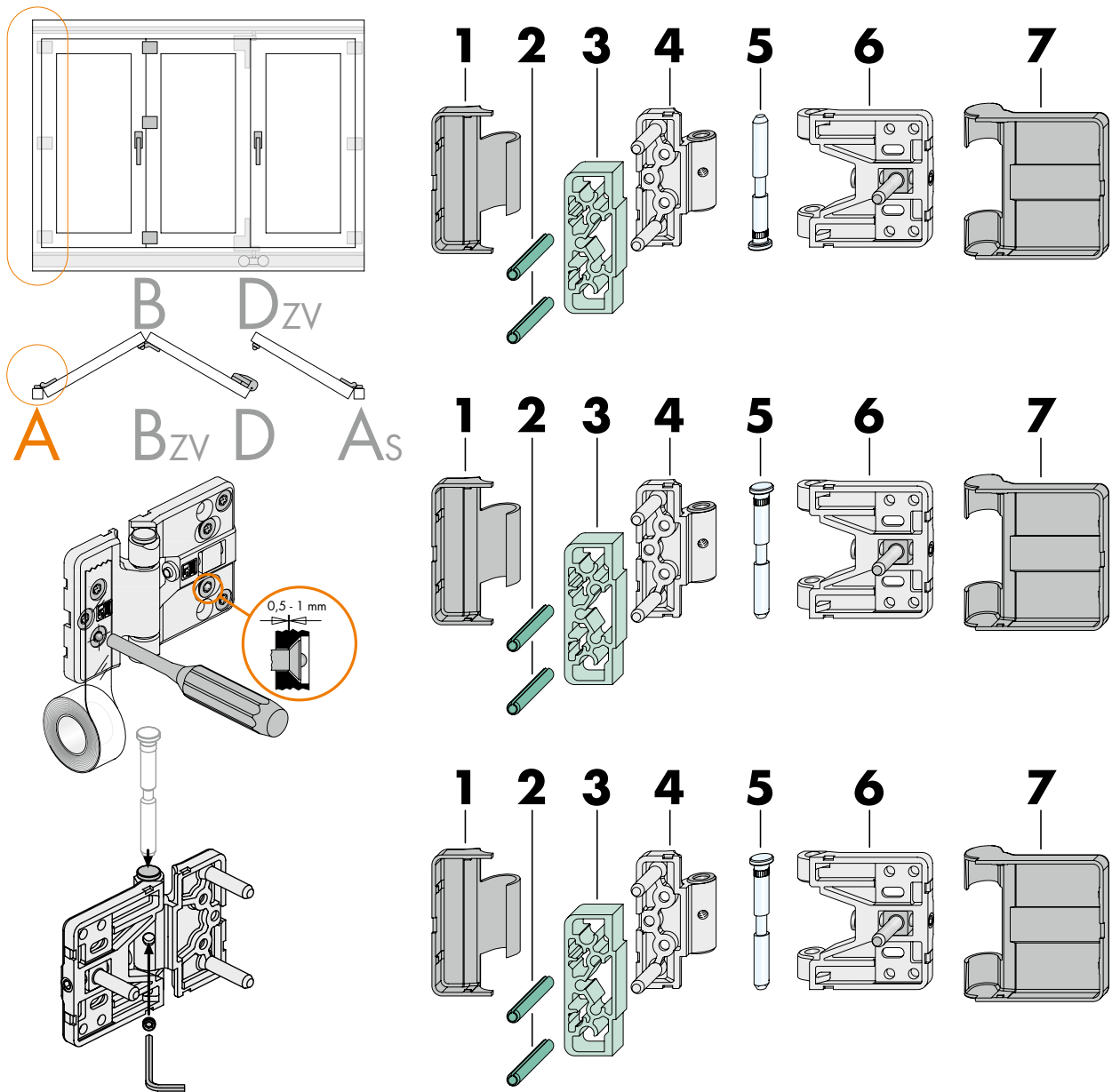
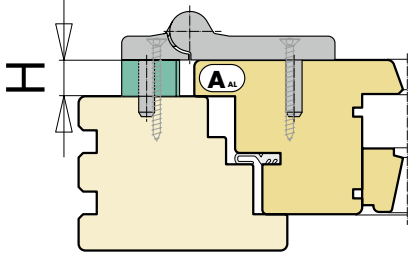


Fig. 8: Diagram of hardware - intersection point A hinge side - FS - outside timber/ PVC elements

Overview of set - intersection point A hinge side - FS - outside timber/ PVC elements

| No. | Material description | Size | Material number | | | | |
|-----|--|------|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 17/48 TS <i>consisting of:</i> | | PMFG0040- | 10001_ | | | |
| 4 | Sash hinge, wide 48 TS | | | | | | |
| 5 | Hinge pin TS | | | | | | |
| 6 | Sash hinge, narrow 17 TS | | | | | | |
| | Bag of accessories FS PORTAL AL <i>consisting of:</i> | | | | | | |
| | CSK head screw 5 x 45 Tx 25 | | | | | | |
| | Ball 3.5 | | | | | | |
| | Grub screw M 6 x 4 A2 | | | | | | |
| | Bag of cover caps sash hinge 17/48 <i>consisting of:</i> | | PMAG0050- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap FB, narrow 17 | | | | | | |
| 7 | Cover cap FB, wide 48 | | | | | | |
| | | | | | | | |
| 2 | Dowel pin Ø 6.8 x 50 <i>required for size 19 - 22</i> | | KDNA0180- | 00001_ | | | |
| 3 | Distance piece FS  H = size in mm | 13 | | - | 826379 | - | - |
| | | 14 | | 852965 | 826416 | - | - |
| | | 15 | | 852972 | 826454 | - | - |
| | | 16 | | 852989 | 826492 | - | - |
| | | 17 | | 852996 | 826539 | - | - |
| | | 18 | | 853009 | 826577 | - | - |
| | | 19 | | 853016 | 826614 | - | - |
| | | 20 | | 853023 | 826652 | - | - |
| | | 21 | | 853030 | 826690 | - | - |
| | | 22 | | 853047 | 826737 | - | - |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.10 Hardware FS PLUS - intersection point B hinges - FS 17/38 - inside timber/ PVC elements

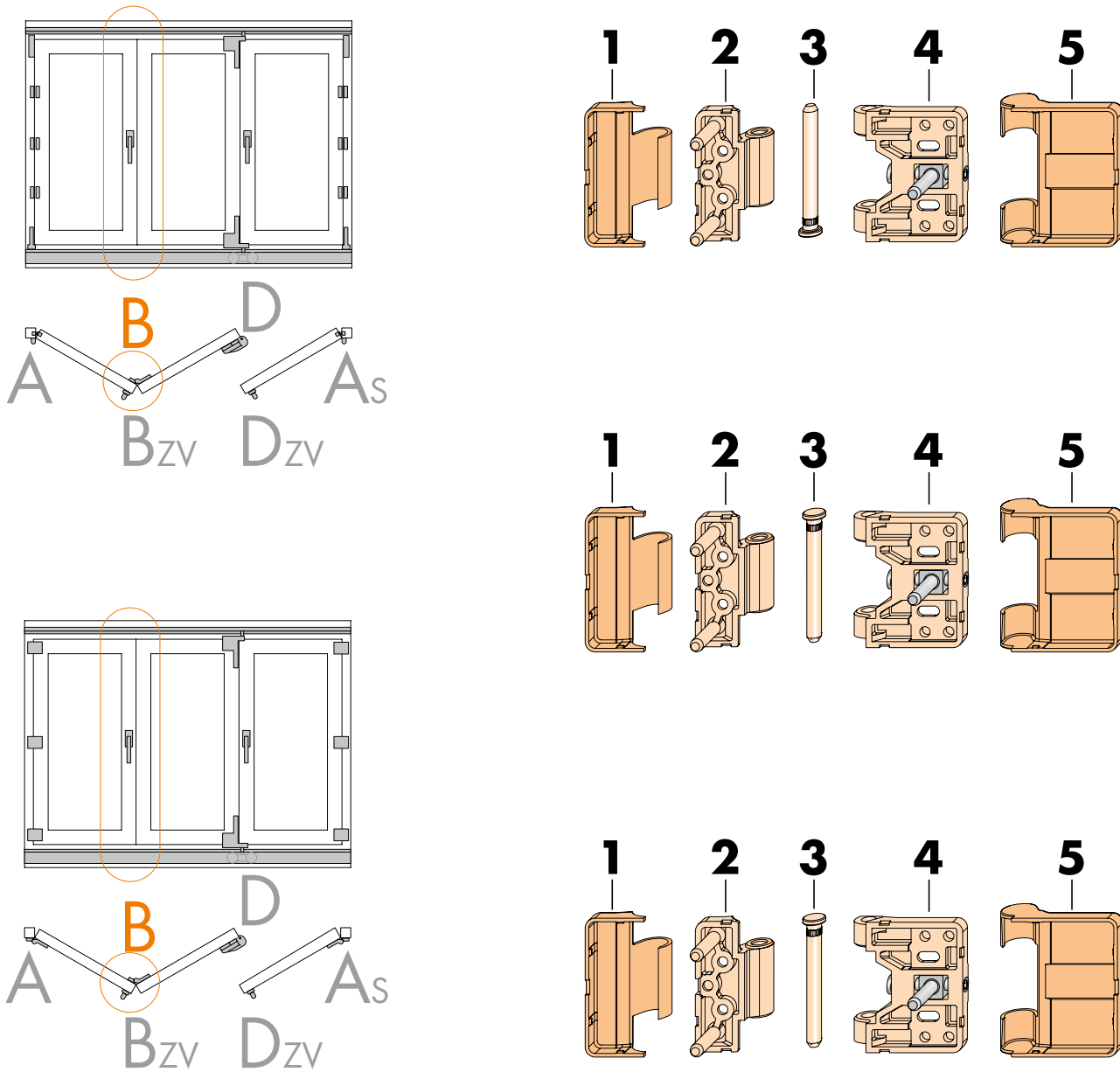


Fig. 9: Overview of hardware - intersection point B hinges - FS 17/38 - inside timber/ PVC elements

Overview of set - intersection point B hinges - FS 17/38 - inside timber/ PVC elements

| No. | Material description | Size | Material number | | | | |
|-----|--|------|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 17/38 TS <i>consisting of:</i> | | PMFG0030- | 10001_ | | | |
| 2 | Sash hinge, narrow 17 TS | | | | | | |
| 3 | Hinge pin TS | | | | | | |
| 4 | Sash hinge, wide 38 TS | | | | | | |
| | Bag cover caps sash hinge 17/38 <i>consisting of:</i> | | PMAG0010- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap FB, narrow 17 | | | | | | |
| 5 | Cover cap FB, wide 38 | | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.11 Hardware FS PLUS - intersection point B hinges - FS 17/48 - inside timber/ PVC elements

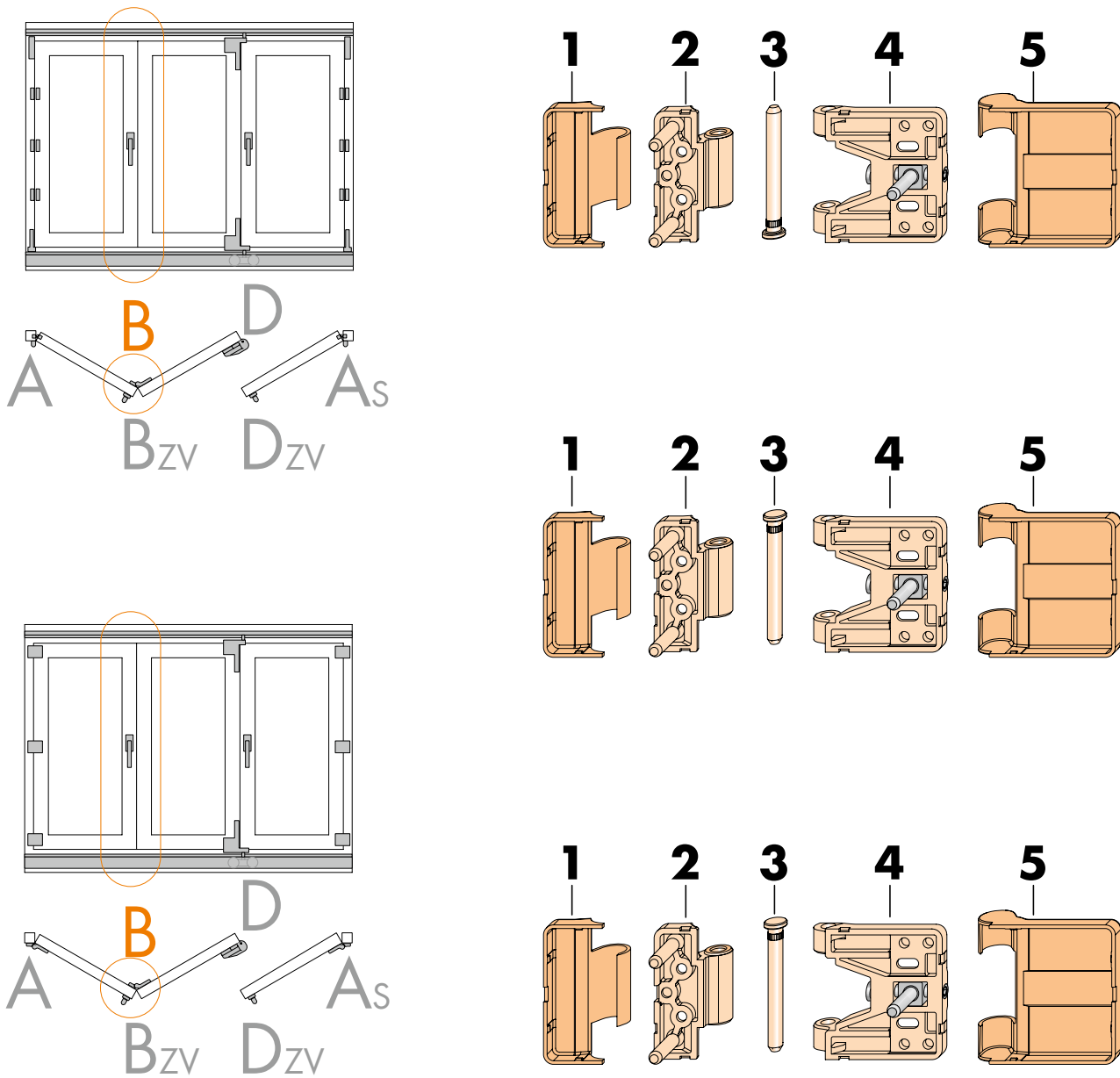


Fig. 10: Overview of hardware - intersection point B hinges - FS 17/48 - inside timber/ PVC elements

Overview of set - intersection point B hinges - FS 17/48 - inside timber/ PVC elements

| No. | Material description | Size | Material number | | | | |
|-----|---|------|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 17/48 TS <i>consisting of:</i> | | PMFG4000- | 10001_ | | | |
| 2 | Sash hinge, narrow 17 TS | | | | | | |
| 3 | Hinge pin TS | | | | | | |
| 4 | Sash hinge, wide 48 TS | | | | | | |
| | Bag of cover caps sash hinge 17/48 <i>consisting of:</i> | | PMAG0050- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap FB, narrow 17 | | | | | | |
| 5 | Cover cap FB, wide 48 | | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.12 Hardware FS PLUS - intersection point B hinges - FS 27/48 - inside timber/ PVC elements

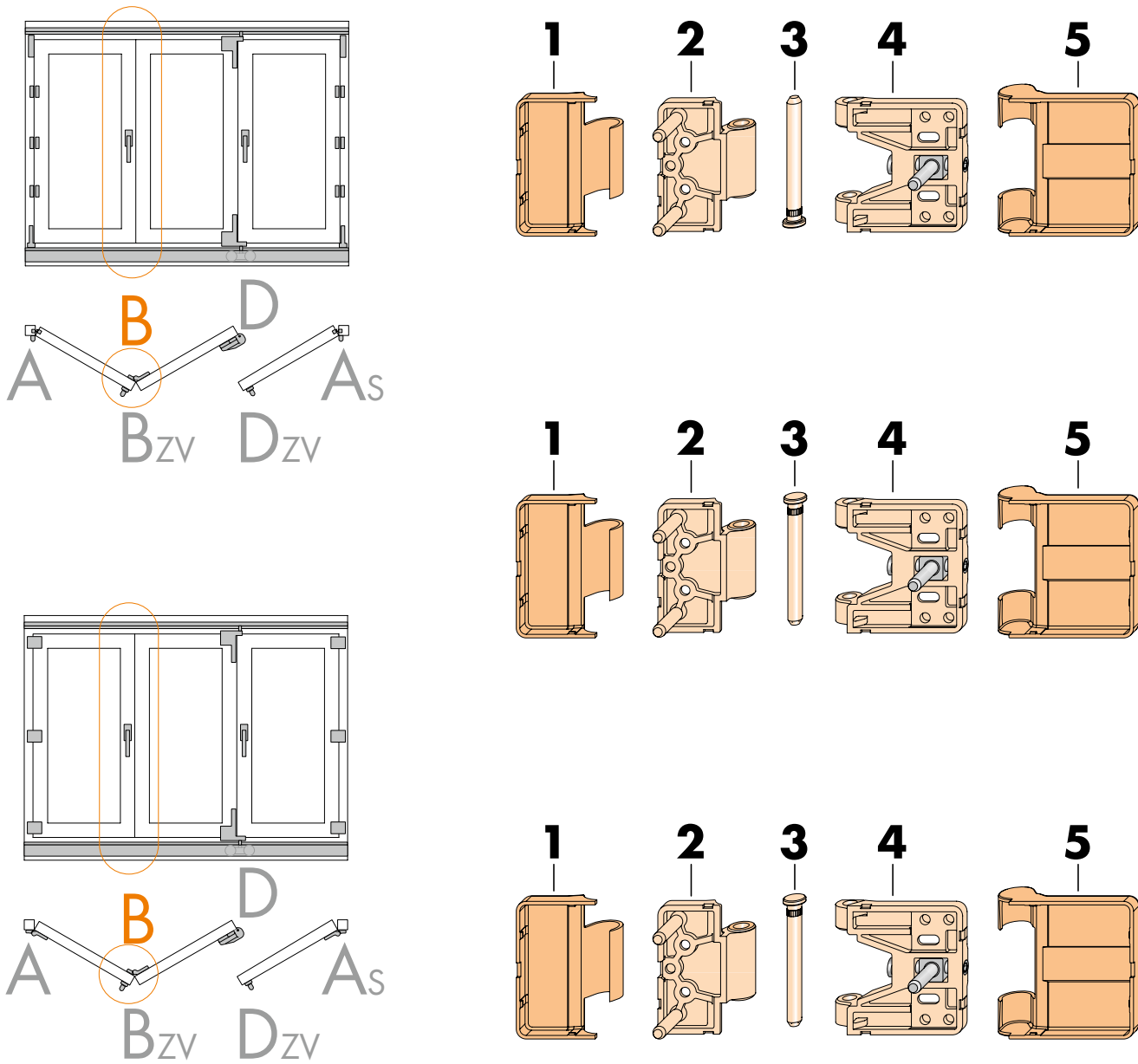


Fig. 11: Overview of hardware - intersection point B hinges - FS 27/48 - inside timber/ PVC elements

Overview of set - intersection point B hinges - FS 27/48 - inside timber/ PVC elements

| No. | Material description | Size | Material number | | | | |
|-----|---|------|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 27/48 TS <i>consisting of:</i> | | PMFG4020- | 10001_ | | | |
| 2 | Sash hinge, narrow 27 TS | | | | | | |
| 3 | Hinge pin TS | | | | | | |
| 4 | Sash hinge, wide 48 TS | | | | | | |
| | Bag of cover caps sash hinge 27/48 <i>consisting of:</i> | | PMAG0020- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap FB, narrow 27 | | | | | | |
| 5 | Cover cap FB, wide 48 | | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.13 Hardware FS PLUS - intersection point B hinges - FS 27/48 - outside timber/ PVC elements

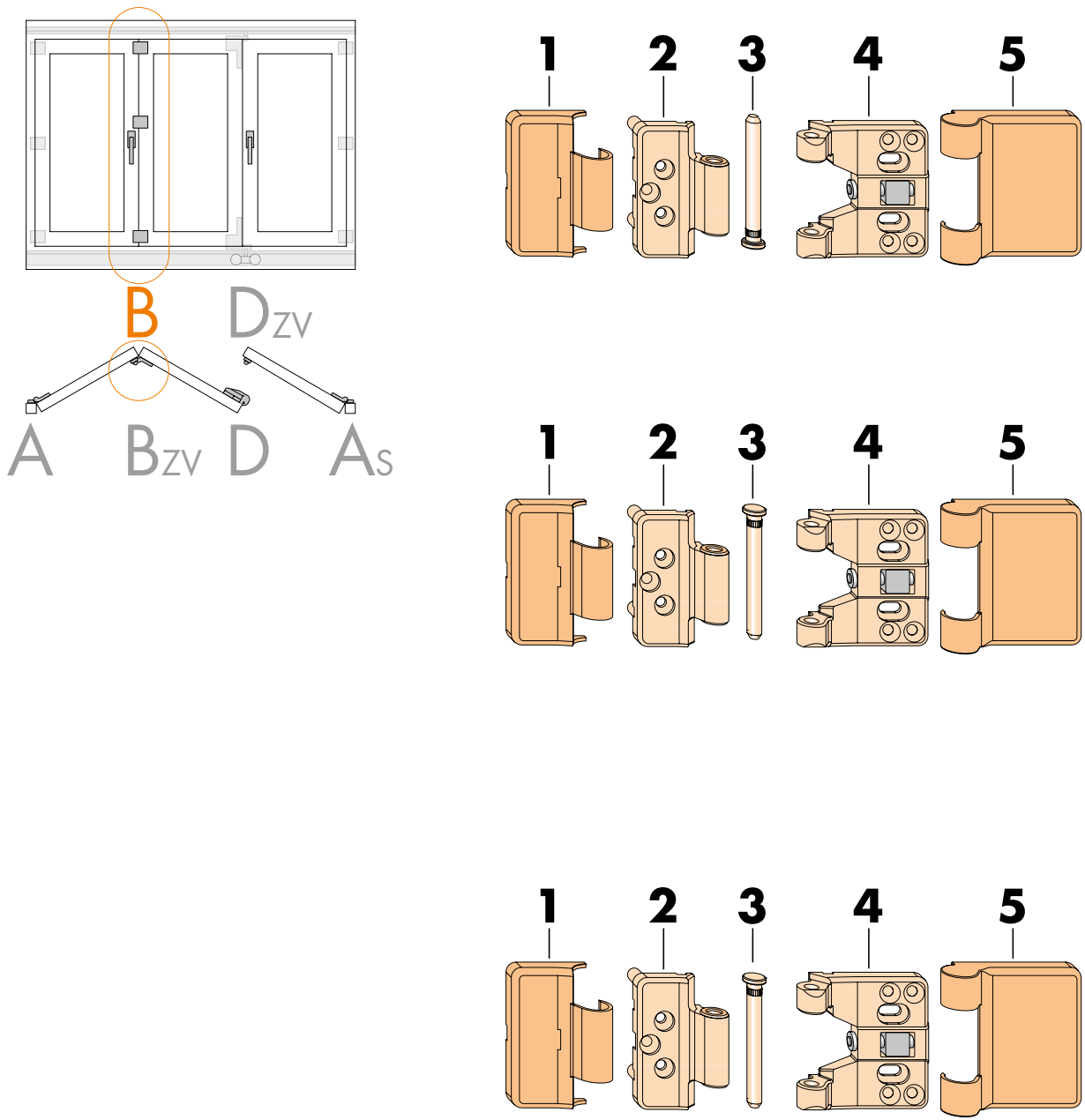


Fig. 12: Overview of hardware - intersection point B hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point B hinges - FS - outside timber/ PVC elements

| No. | Material description | Size | Material number | | | | |
|-----|---|------|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 27/48 TS <i>consisting of:</i> | | PMFG4020- | 10001_ | | | |
| 2 | Sash hinge, narrow 27 TS | | | | | | |
| 3 | Hinge pin TS | | | | | | |
| 4 | Sash hinge, wide 48 TS | | | | | | |
| | Bag of cover caps sash hinge 27/48 <i>consisting of:</i> | | PMAG0020- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap FB, narrow 27 | | | | | | |
| 5 | Cover cap FB, wide 48 | | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.14 Hardware FS PLUS - intersection point B - central locking gear FAVORIT - inside

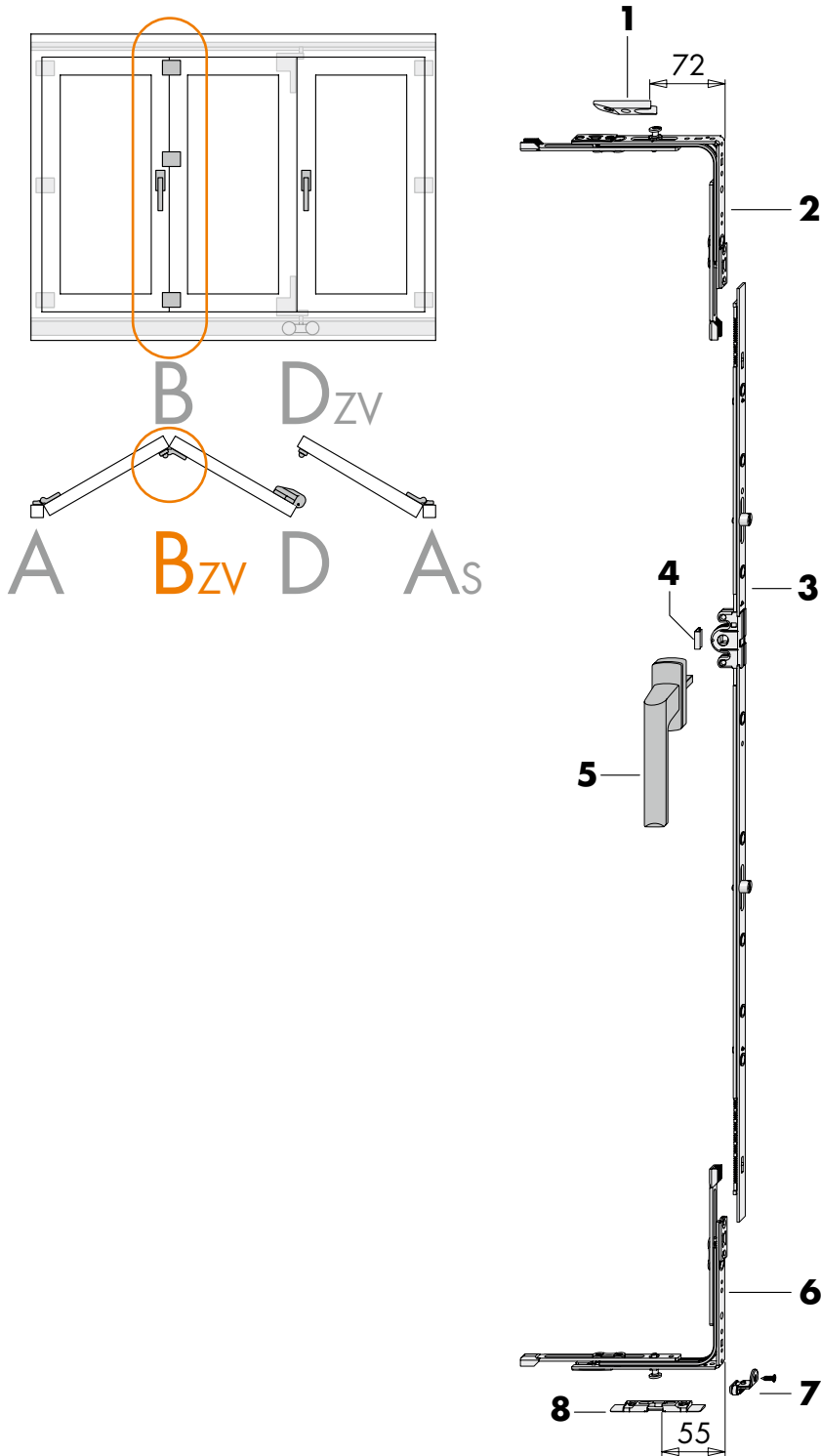


Fig. 13: Overview of hardware intersection point B, central locking gear FAVORIT - inside

Overview of set intersection point B, central locking gear FAVORIT - inside

| No. | Material description | | | | Material number |
|-----|---------------------------------|---------|-------------|-----------------|-------------------------------|
| | | Backset | FFH | Handle position | |
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive VS S-ES | | | | FEUL0090-10001_- |
| 3 | Gear 15 FAV size 60/G300 | 15 | 601 - 800 | 300 | FGKK4030-10001_ |
| | Gear 15 FAV size 80/G400 1V | 15 | 801 - 1000 | 400 | FGKK4050-10001_ |
| | Gear 15 FAV size 100/G500 1V | 15 | 1001 - 1200 | 500 | FGKK4060-10001_ |
| | Gear 15 FAV size 120/G600 1V | 15 | 1201 - 1400 | 600 | FGKK4070-10001_ |
| | Gear 15 FAV size 140/G700 2V | 15 | 1401 - 1600 | 700 | FGKK4200-10001_ |
| | Gear 15 FAV size 160/G700 2V 70 | 15 | 1601 - 1800 | 700 | FGKK4090-10001_ |
| | Gear 15 FAV size 180/G1000 2V | 15 | 1801 - 2000 | 1000 | FGKK4220-10001_ |
| | Gear 15 FAV size 200/G1000 3V | 15 | 2001 - 2400 | 1000 | FGKK4230-10001_ |
| 4 | Limitation piece | | | | 800768 |
| 5 | Handle Si-line / Handle Globe | | | | See from page 105 81 |
| 6 | Corner drive VS S-ES | | | | FEUL0090-10001_- |
| 7 | Sash height | | | | See profile data sheets TITAN |
| 8 | Tilt lock bearing | | | | See profile data sheets TITAN |

6.2.15 Hardware FS PLUS - intersection point B - central locking gear TITAN AF - inside

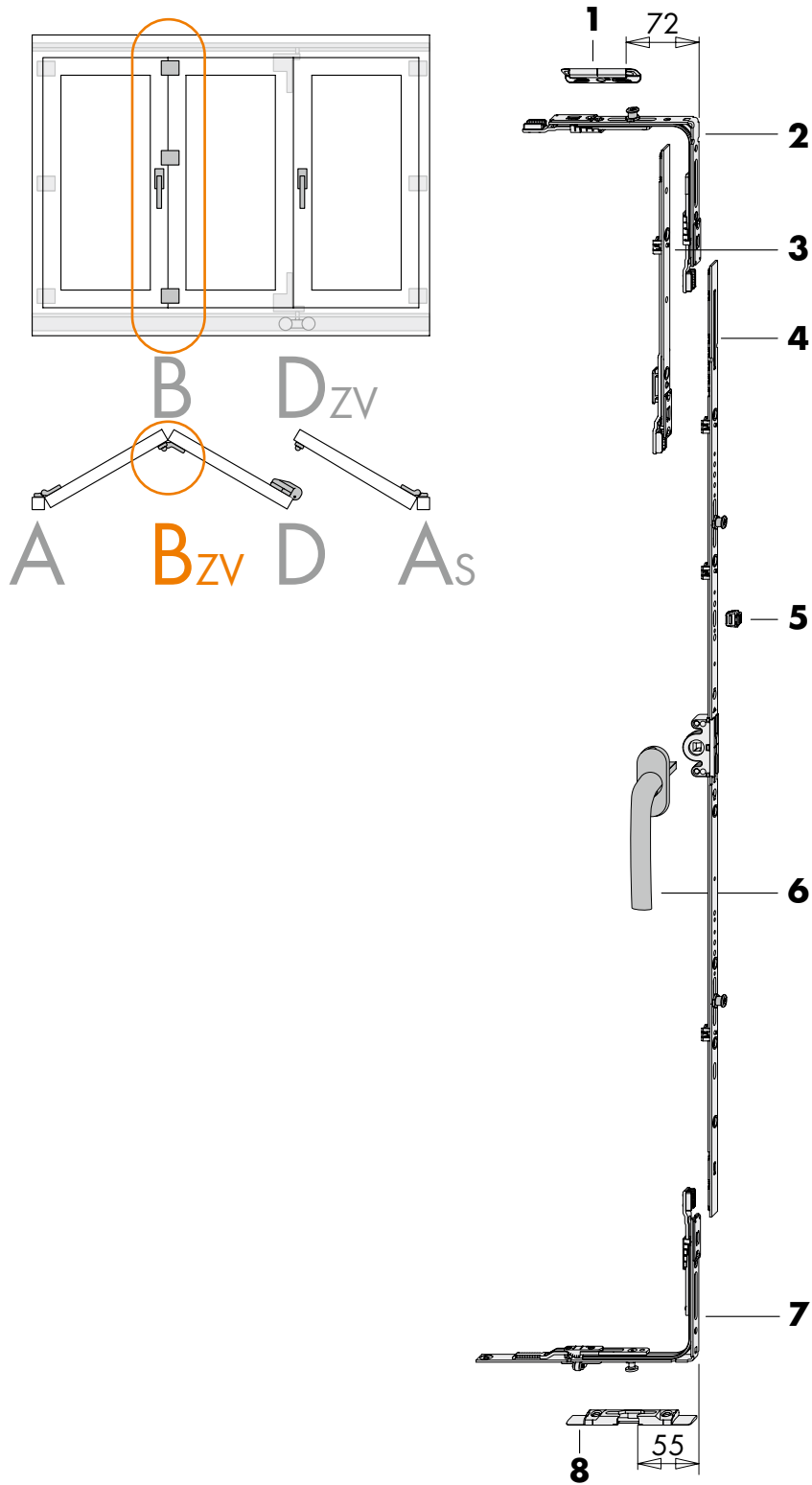


Fig. 14: Overview of hardware intersection point B, central locking gear TITAN AF - inside

Overview of set intersection point B, central locking gear TITAN AF - inside

| No. | Material description | Backset | FFH | | Handle position | Material number |
|-----|-------------------------------|---------|--------------|------|-----------------|-------------------------------|
| | | | | | | |
| 1 | Striker plate | | | | | See profile data sheets TITAN |
| 2 | Corner drive AF VSO/K+ DF 1RS | | | | | TEUL4110-10001_- |
| 3 | Locking bolt AF VSO RSA 11 | | 2200 - 2400 | | | TESC2030-10001_ |
| 4 | Gear 15 AF size 60/G300 | 15 | 601 - 800 | 300 | | TGKK4030-10001_ |
| | Gear 15 AF size 80/G400 1RS | 15 | 801 - 1000 | 400 | | TGKK4050-10001_ |
| | Gear 15 AF size 100/G500 1RS | 15 | 1001 - 1200 | 500 | | TGKK4060-10001_ |
| | Gear 15 AF size 120/G600 1RS | 15 | 1201 - 1400 | 600 | | TGKK4070-10001_ |
| | Gear 15 AF size 140/G700 2RS | 15 | 1401 - 1600 | 700 | | TGKK4080-10001_ |
| | Gear 15 AF size 160/G700 2RS | 15 | 1601 - 1800 | 700 | | TGKK4090-10001_ |
| | Gear 15 AF size 180/G1000 2RS | 15 | 1801 - 2000 | 1000 | | TGKK4100-10001_ |
| | Gear 15 AF size 200/G1000 3RS | 15 | 2001 - 2400* | 1000 | | TGKK4110-10001_ |
| 5 | Travel restrictor | | | | | TFHB0020-09901_ |
| 6 | Handle Si-line / Handle Globe | | | | | See from page 105 81 |
| 7 | Corner drive AF VSU/K+ 1S | | | | | TEUL5010-10001_- |
| 8 | Tilt lock bearing | | | | | See profile data sheets TITAN |

* Sash rebate height 2200 - 2400 only with additional locking bolt AF VSO RSA 11

6.2.16 Hardware FS PLUS - intersection point B - central locking gear TITAN AF - outside

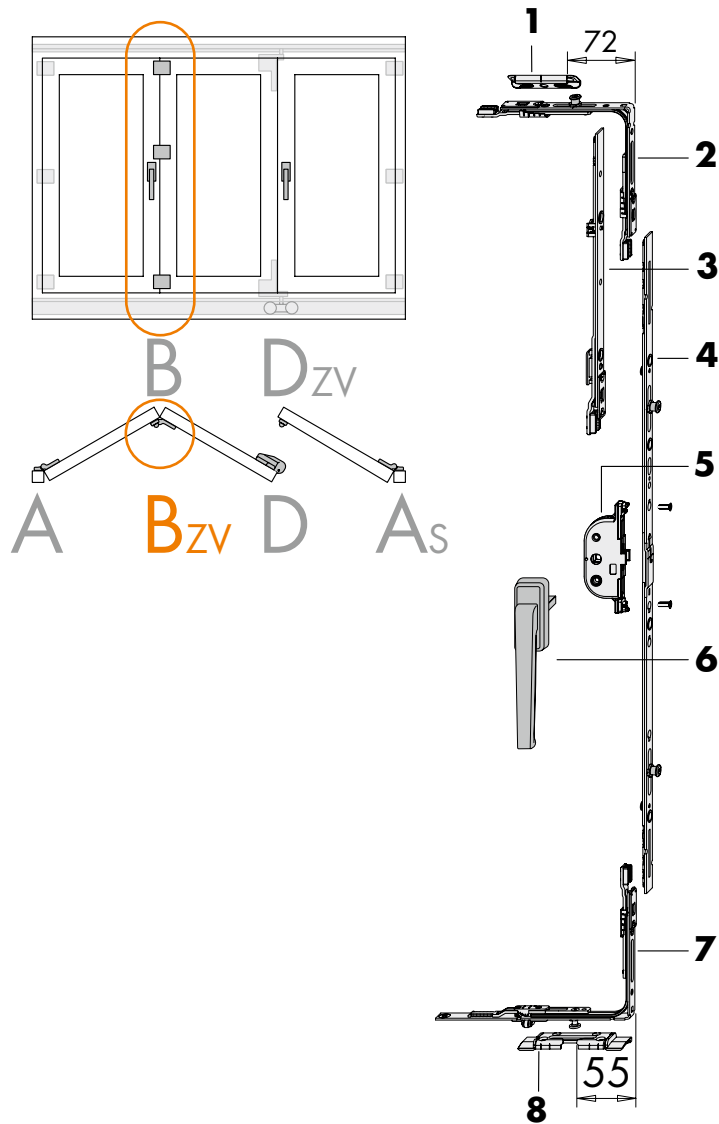


Fig. 15: Overview of hardware intersection point B, central locking gear TITAN AF - outside

Overview of set intersection point B, central locking gear TITAN AF - outside

| No. | Material description | Backset | FFH | | Material number |
|-----|----------------------------------|---------|--------------|-----------------|-------------------------------|
| | | | | Handle position | |
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive AF VSO/K+ DF 1RS | | | | TEUL4110-10001_ |
| 3 | Locking bolt AF VSO RSA 11 | | 2200 - 2400 | | TESC2030-10001_ |
| 4 | Gear OS-AF size 80/G400 1RS | | 801 - 1000 | 400 | TGKK0550-10001_ |
| | Gear OS-AF size 100/G500 1RS | | 1001 - 1200 | 500 | TGKK0560-10001_ |
| | Gear OS-AF size 120/G600 1RS | | 1201 - 1400 | 600 | TGKK0570-10001_ |
| | Gear OS-AF size 140/G700 1RS | | 1401 - 1600 | 700 | TGKK0580-10001_ |
| | Gear OS-AF size 160/G700 2RS 70 | | 1601 - 1800 | 700 | TGKK0750-10001_ |
| | Gear OS-AF size 180/G1000 2RS 70 | | 1801 - 2000 | 1000 | TGKK0620-10001_ |
| | Gear OS-AF size 200/G1000 3RS 70 | | 2001 - 2400* | 1000 | TGKK0630-10001_ |
| 5 | Gear set 30 M5 | 30 | | | TMSL4300-10001_ |
| | Gear set 35 M5 | 35 | | | TMSL4350-10001_ |
| | Gear set 40 M5 | 40 | | | TMSL4400-10001_ |
| | Gear set 45 M5 | 45 | | | TMSL4450-10001_ |
| | Gear set 50 M5 | 50 | | | TMSL4500-10001_ |
| | Gear set 55 M5 | 55 | | | TMSL4550-10001_ |
| 6 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 7 | Corner drive AF VSU/K+ 1S | | | | TEUL5010-10001_ |
| 8 | Tilt lock bearing | | | | See profile data sheets TITAN |

* Sash rebate height 2200 - 2400 only with additional locking bolt AF VSO RSA 11

6.2.17 Hardware FS PLUS - intersection point C hinges - FS 17/38 - inside timber elements

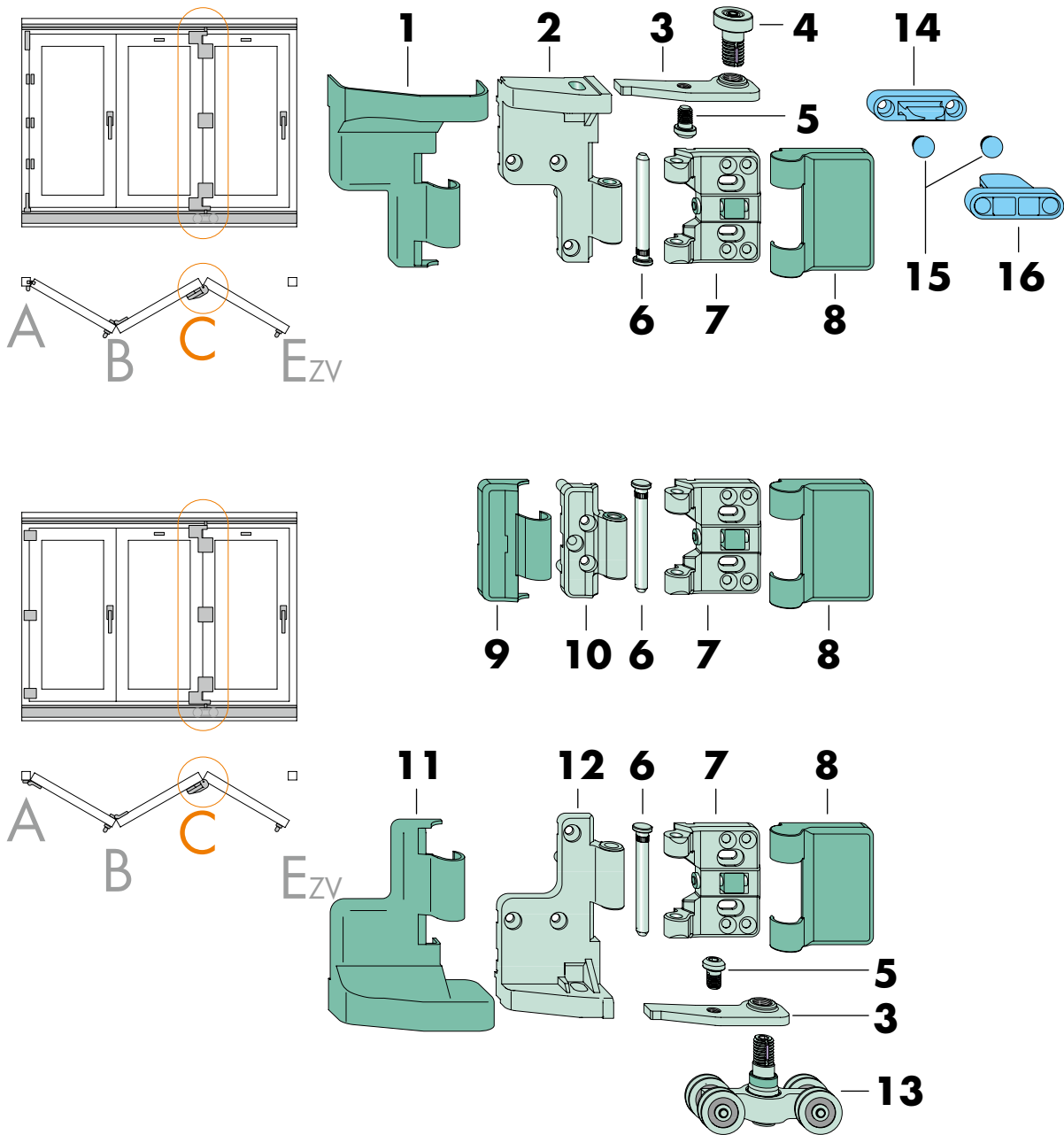


Fig. 16: Overview of hardware - intersection point C hinges - FS 17/38 - inside timber elements

Overview of set - intersection point C hinges - FS 17/38 - inside timber elements

| No. | Material description | Material number | | | |
|-----|--|-----------------|-------------------|-------------------|------------------|
| | | Base... | ...Colour number | | |
| | | silver | RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton bogie wheels D FS PLUS <i>consisting of:</i> | PMLG0130- | 10001_ | | |
| 2 | Bottom hinge D, right TS | | | | |
| 3 | Supporting plate TS | | | | |
| 4 | Guide PLUS | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | |
| 6 | Hinge pin TS | | | | |
| 7 | Sash hinge, wide 38 TS | | | | |
| 10 | Sash hinge, narrow 17 TS | | | | |
| 12 | Bottom hinge D, left TS | | | | |
| 13 | Bogie wheels PLUS | | | | |
| | Bag of cover caps bogie wheels D FS <i>consisting of:</i> | PMAG0040- | 02501_ | 00201_ | 01201_ 03101_ |
| 1 | Cover cap ED, right | | | | |
| 8 | Cover cap FB, wide 38 | | | | |
| 9 | Cover cap FB, narrow 17 | | | | |
| 11 | Cover cap ED, left | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ |
| 14 | Supporting piece F | | | | |
| 15 | Bag closing cap | | | | |
| 16 | Supporting piece D | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.18 Hardware FS PLUS - intersection point C hinges - FS 17/38 - inside PVC elements

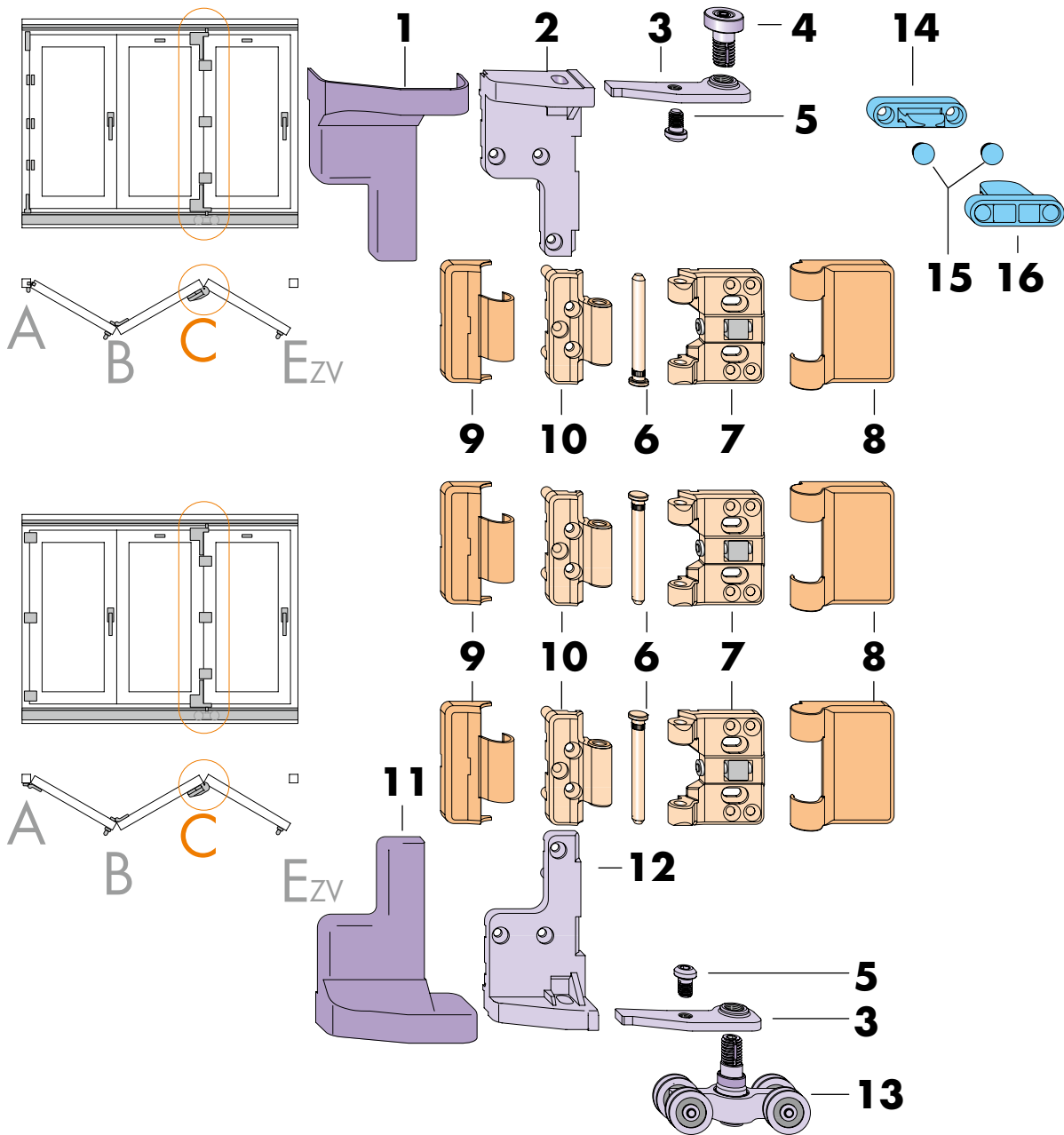


Fig. 17: Overview of hardware - intersection point B hinges - FS 27/48 - outside PVC elements

Overview of set - intersection point C hinges - FS 17/38 - inside PVC elements

| No. | Material description | Material number | | | | |
|-----|--|-----------------|------------------|-------------------|-------------------|------------------|
| | | Base... | ...Colour number | | | |
| | | | silver | RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 17/38 TS <i>consisting of:</i> | PMFG0030- | 10001_ | | | |
| 10 | Sash hinge, narrow 17 TS | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 38 TS | | | | | |
| | Bag cover caps sash hinge 17/38 <i>consisting of:</i> | PMAG0010- | 02501_ | 00201_ | 01101_ | 03101_ |
| 8 | Cover cap FB, wide 38 | | | | | |
| 9 | Cover cap FB, narrow 17 | | | | | |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | PMLG0110- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 12 | Bottom hinge, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 8 | Cover cap FB, wide 38 | | | | | |
| 9 | Cover cap FB, narrow 17 | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.19 Hardware FS PLUS - intersection point C hinges - FS 27/48 - inside PVC elements

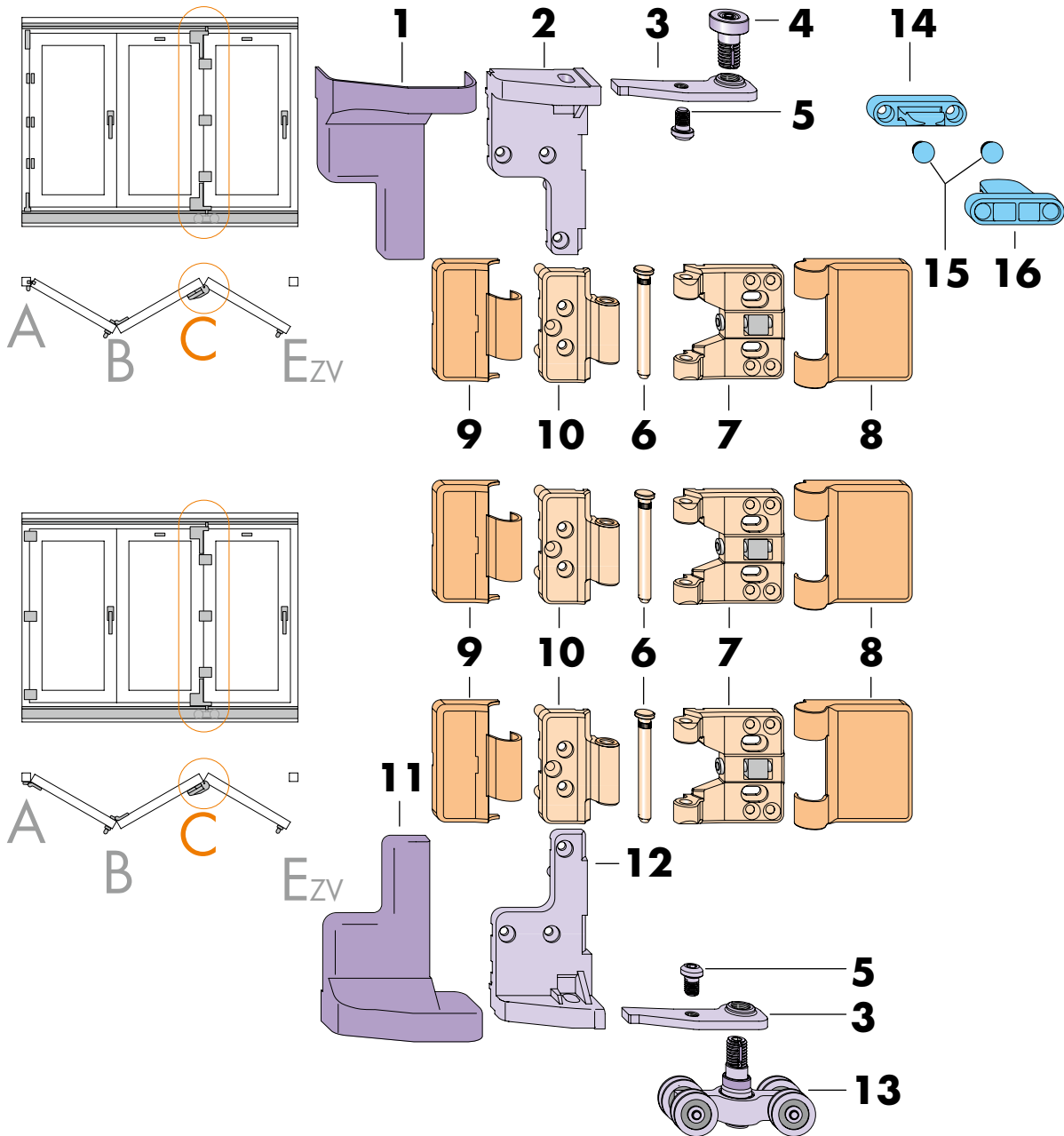


Fig. 18: Overview of hardware - intersection point B hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point C hinges - FS 27/48 - inside PVC elements

| No. | Material description | Material number | | | | |
|-----|--|-----------------|------------------|-------------------|-------------------|------------------|
| | | Base... | ...Colour number | | | |
| | | | silver | RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 27/48 TS <i>consisting of:</i> | PMFG0030- | 10001_ | | | |
| 10 | Sash hinge, narrow 27 TS | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 48 TS | | | | | |
| | Bag cover caps sash hinge 27/48 <i>consisting of:</i> | PMAG0010- | 02501_ | 00201_ | 01101_ | 03101_ |
| 8 | Cover cap FB, wide 48 | | | | | |
| 9 | Cover cap FB, narrow 27 | | | | | |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | PMLG0110- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 12 | Bottom hinge, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.20 Hardware FS - intersection point C hinges - FS 17/38 - inside timber elements barrier-free

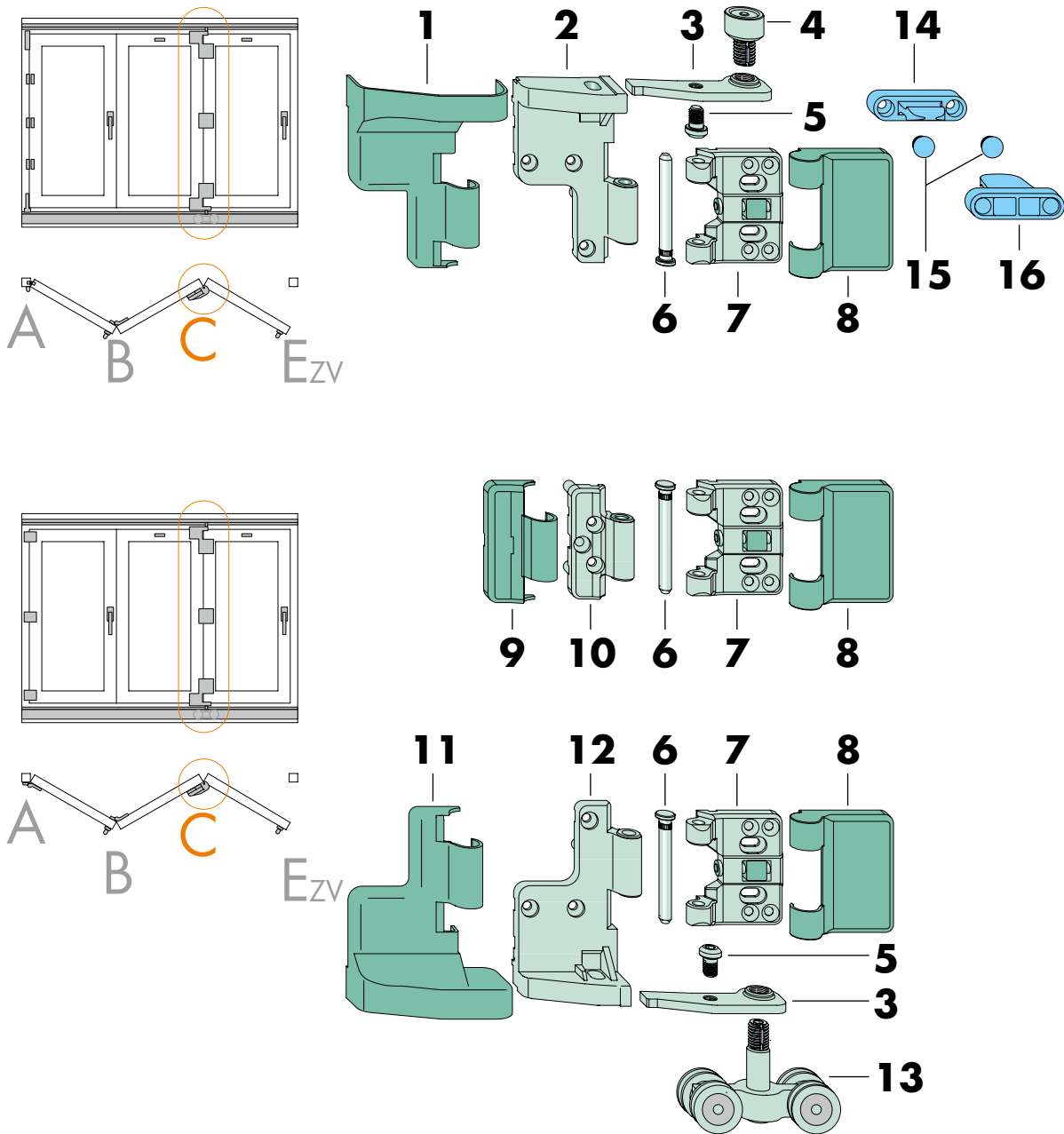


Fig. 19: Overview of hardware - intersection point B hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point C hinges - FS 17/38 - inside timber elements barrier-free

| No. | Material description | Material number | | | | |
|-----|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton bogie wheels D FS PLUS <i>consisting of:</i> | PMLG0040- | 10001_ | | | |
| 2 | Bottom hinge D, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 38 TS | | | | | |
| 10 | Sash hinge, narrow 17 TS | | | | | |
| 12 | Bottom hinge D, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels D FS <i>consisting of:</i> | PMAG0040- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 8 | Cover cap FB, wide 38 | | | | | |
| 9 | Cover cap FB, narrow 17 | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.21 Hardware FS PLUS - intersection point C hinges - FS 17/38 - inside timber elements barrier-free

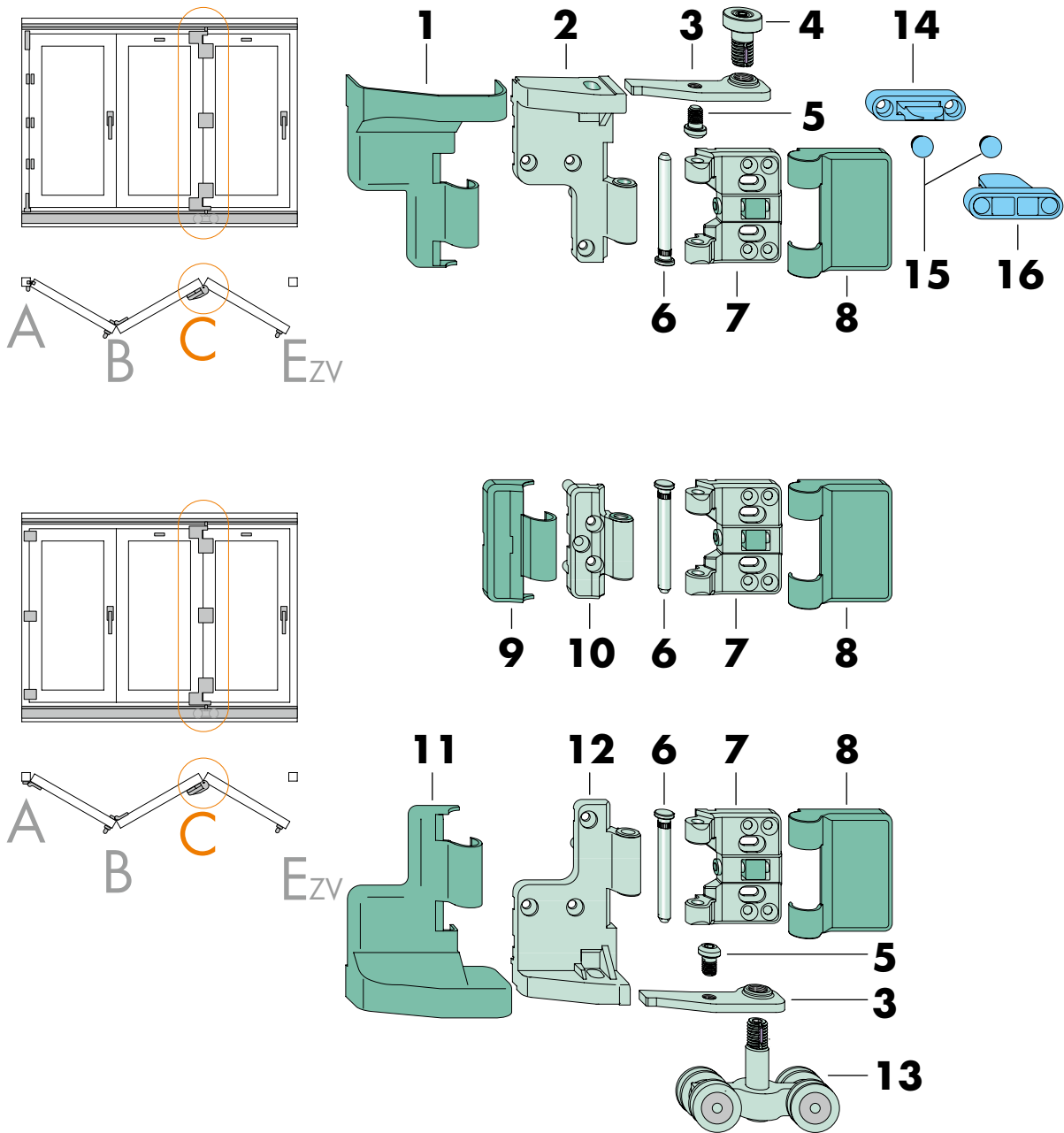


Fig. 20: Overview of hardware - intersection point B hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point C hinges - FS 17/38 - inside timber elements barrier-free

| No. | Material description | Material number | | | | |
|-----|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton bogie wheels D FS PLUS <i>consisting of:</i> | PMLG0160- | 10001_ | | | |
| 2 | Bottom hinge D, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 38 TS | | | | | |
| 10 | Sash hinge, narrow 17 TS | | | | | |
| 12 | Bottom hinge D, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels D FS <i>consisting of:</i> | PMAG0040- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 8 | Cover cap FB, wide 38 | | | | | |
| 9 | Cover cap FB, narrow 17 | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

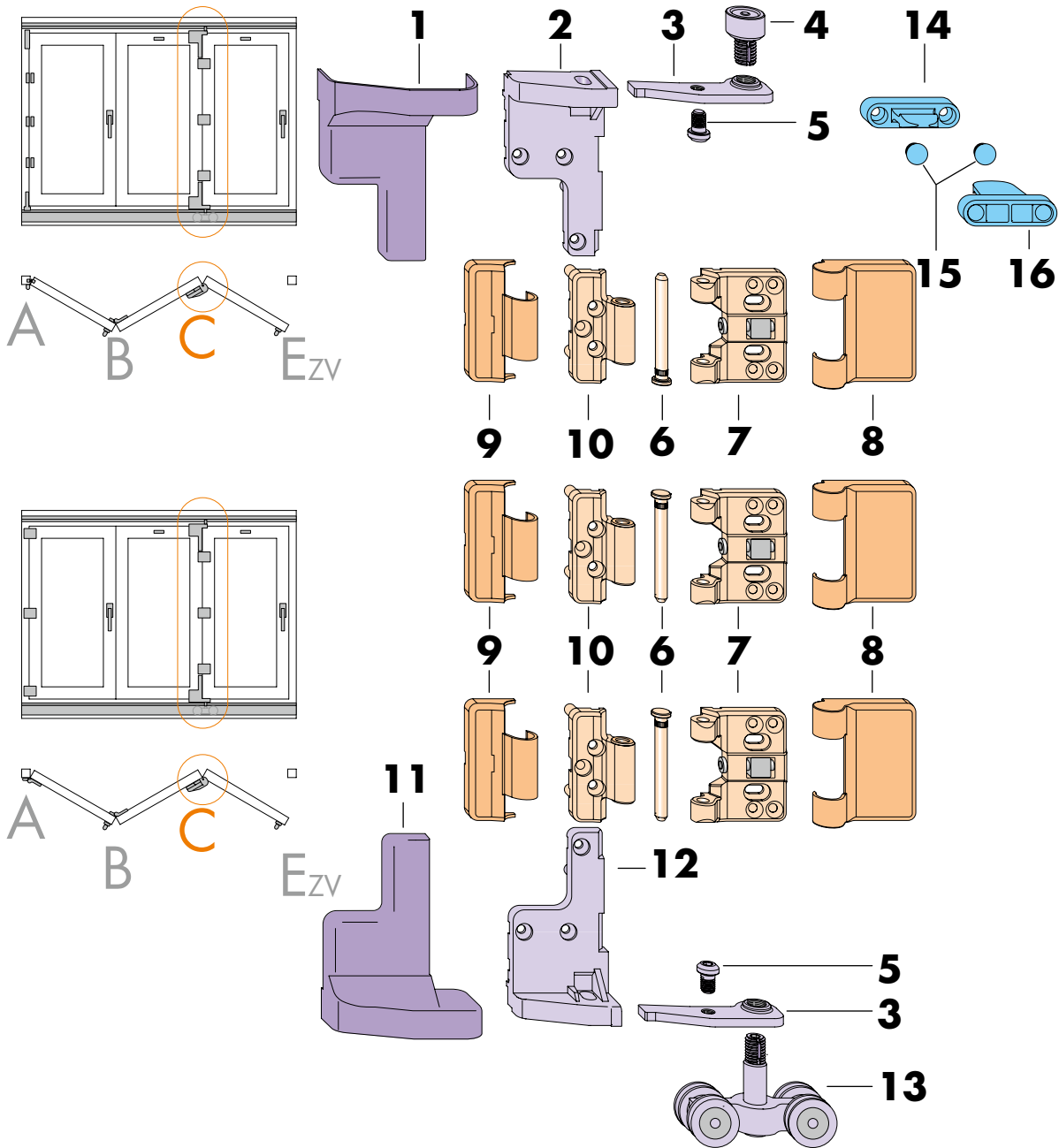


Fig. 21: Overview of hardware - intersection point C hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point C hinges - FS 17/38 - inside PVC elements barrier-free

| No. | Material description | Material number | | | | |
|-----|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 17/38 TS <i>consisting of:</i> | PMFG0030- | 10001_ | | | |
| 10 | Sash hinge, narrow 17 TS | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 38 TS | | | | | |
| | Bag cover caps sash hinge 17/38 <i>consisting of:</i> | PMAG0010- | 02501_ | 00201_ | 01101_ | 03101_ |
| 8 | Cover cap FB, wide 38 | | | | | |
| 9 | Cover cap FB, narrow 17 | | | | | |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | PMLG0110- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 12 | Bottom hinge, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.23 Hardware FS PLUS - intersection point C hinges - FS 17/38 - inside PVC elements barrier-free

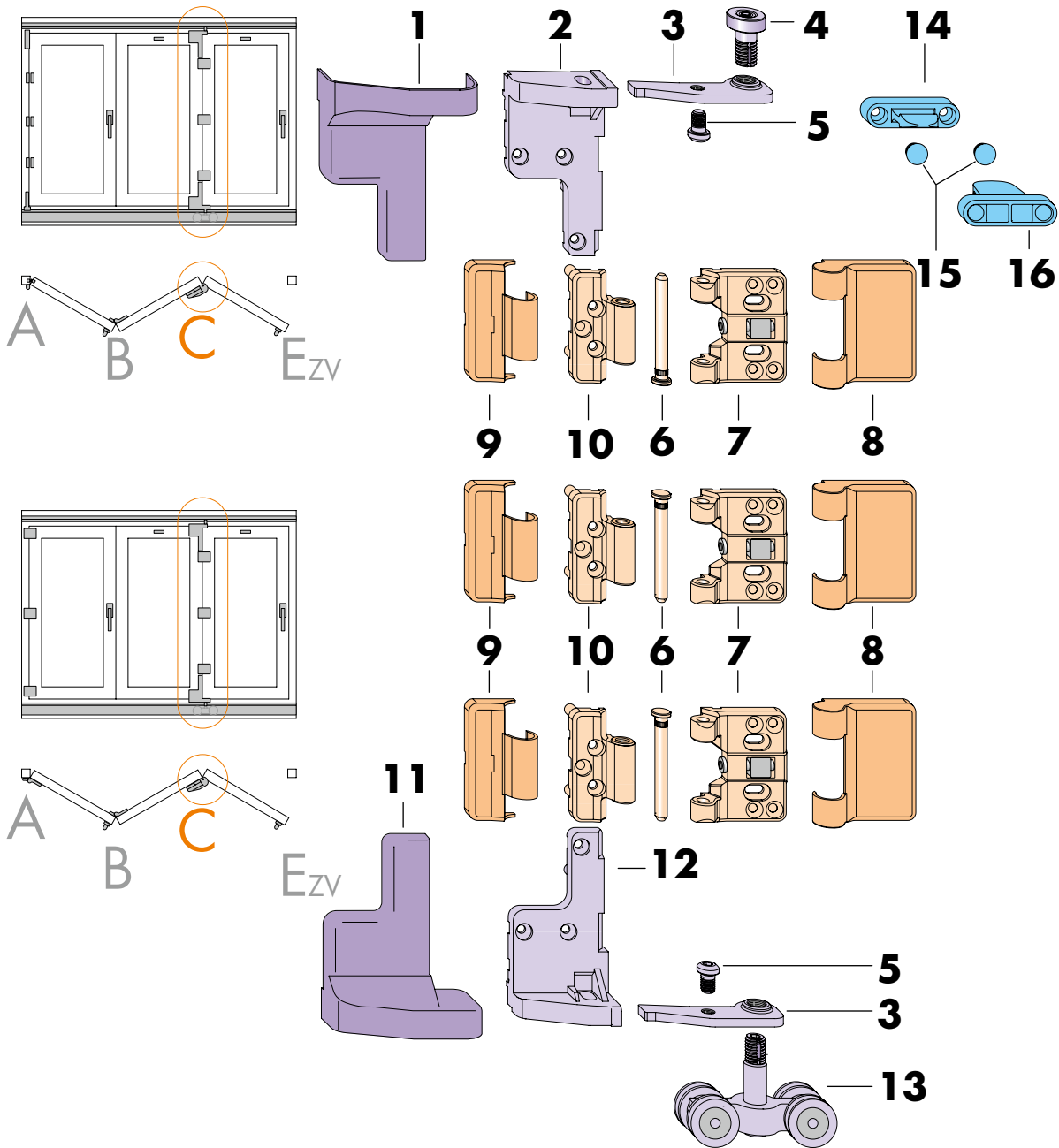


Fig. 22: Overview of hardware - intersection point C hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point C hinges - FS 17/38 - inside PVC elements barrier-free

| No. | Material description | Material number | | | | |
|-----|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 17/38 TS <i>consisting of:</i> | PMFG0030- | 10001_ | | | |
| 10 | Sash hinge, narrow 17 TS | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 38 TS | | | | | |
| | Bag cover caps sash hinge 17/38 <i>consisting of:</i> | PMAG0010- | 02501_ | 00201_ | 01101_ | 03101_ |
| 8 | Cover cap FB, wide 38 | | | | | |
| 9 | Cover cap FB, narrow 17 | | | | | |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | PMLG0170- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 12 | Bottom hinge, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.24 Hardware FS - intersection point C hinges - FS 27/48 - inside PVC elements barrier-free

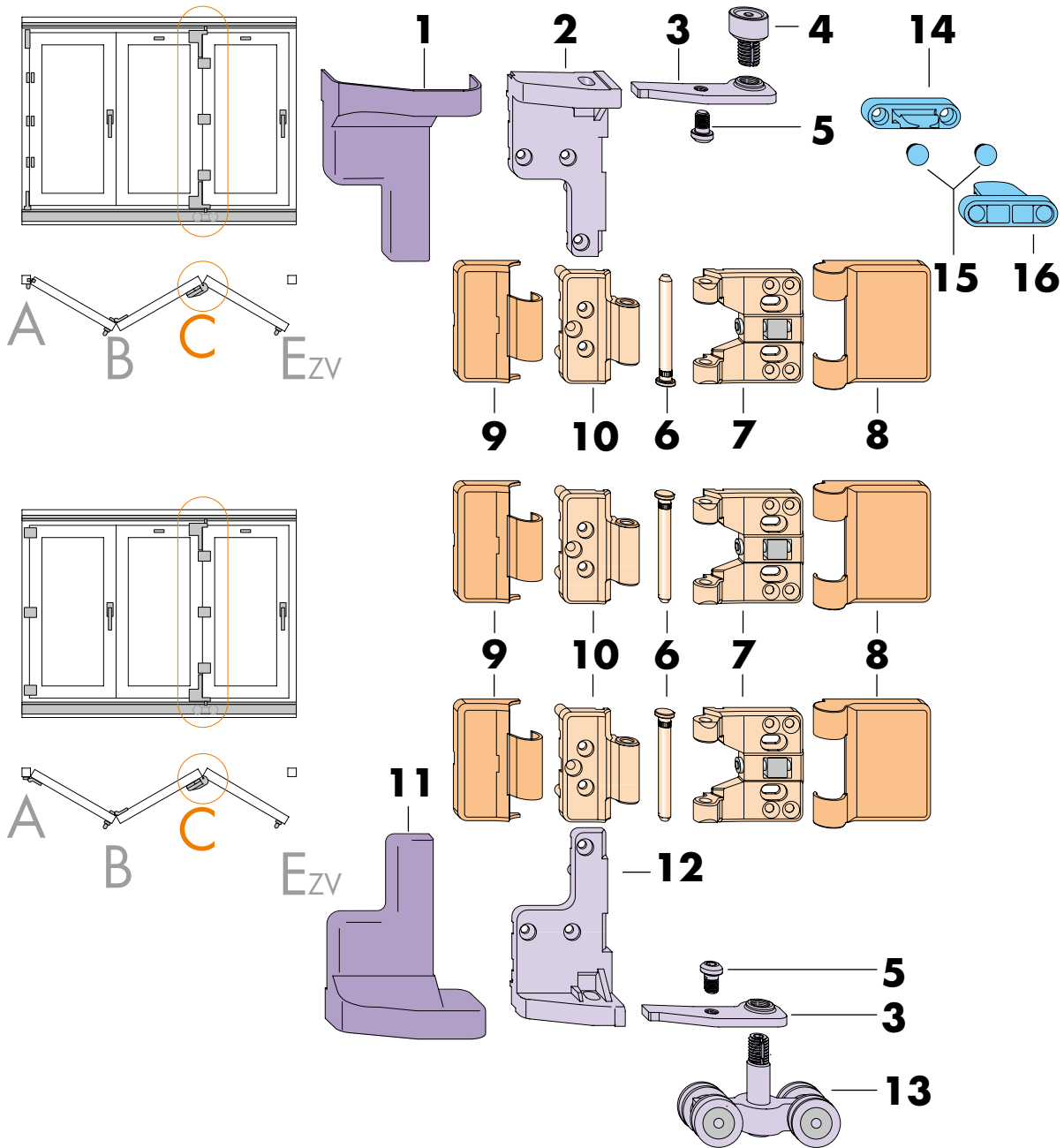


Fig. 23: Overview of hardware - intersection point C hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point C hinges - FS 27/48 - inside PVC elements barrier-free

| No. | Material description | Material number | | | | |
|-----|--|-----------------|------------------|-------------------|-------------------|------------------|
| | | Base... | ...Colour number | | | |
| | | | silver | RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 27/48 TS <i>consisting of:</i> | PMFG4020- | 10001_ | | | |
| 10 | Sash hinge, narrow 27 TS | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 48 TS | | | | | |
| | Bag cover caps sash hinge 27/48 <i>consisting of:</i> | PMAG0020- | 02501_ | 00201_ | 01101_ | 03101_ |
| 8 | Cover cap FB, wide 48 | | | | | |
| 9 | Cover cap FB, narrow 28 | | | | | |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | PMLG0110- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 12 | Bottom hinge, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.25 Hardware FS PLUS - intersection point C hinges - FS 27/48 - inside timber elements barrier-free

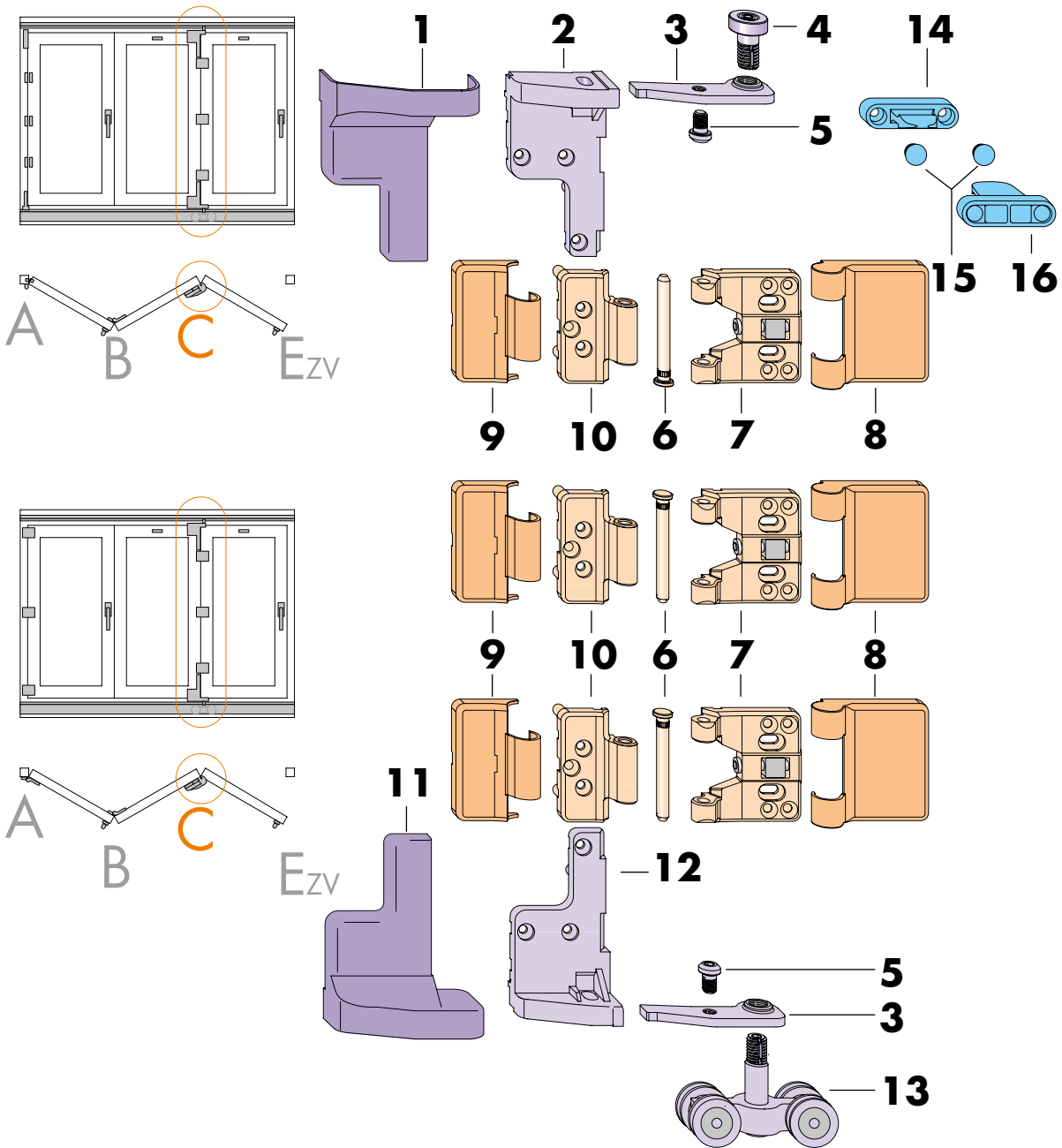


Fig. 24: Overview of hardware - intersection point C hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point C hinges - FS 27/48 - inside PVC elements barrier-free

| No. | Material description | Material number | | | | |
|-----|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 27/48 TS <i>consisting of:</i> | PMFG0030- | 10001_ | | | |
| 10 | Sash hinge, narrow 27 TS | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 48 TS | | | | | |
| | Bag cover caps sash hinge 27/48 <i>consisting of:</i> | PMAG0010- | 02501_ | 00201_ | 01101_ | 03101_ |
| 8 | Cover cap FB, wide 48 | | | | | |
| 9 | Cover cap FB, narrow 28 | | | | | |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | PMLG0170- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 12 | Bottom hinge, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.26 Hardware FS PLUS - intersection point C hinges - FS 27/48 - outside timber/ PVC elements

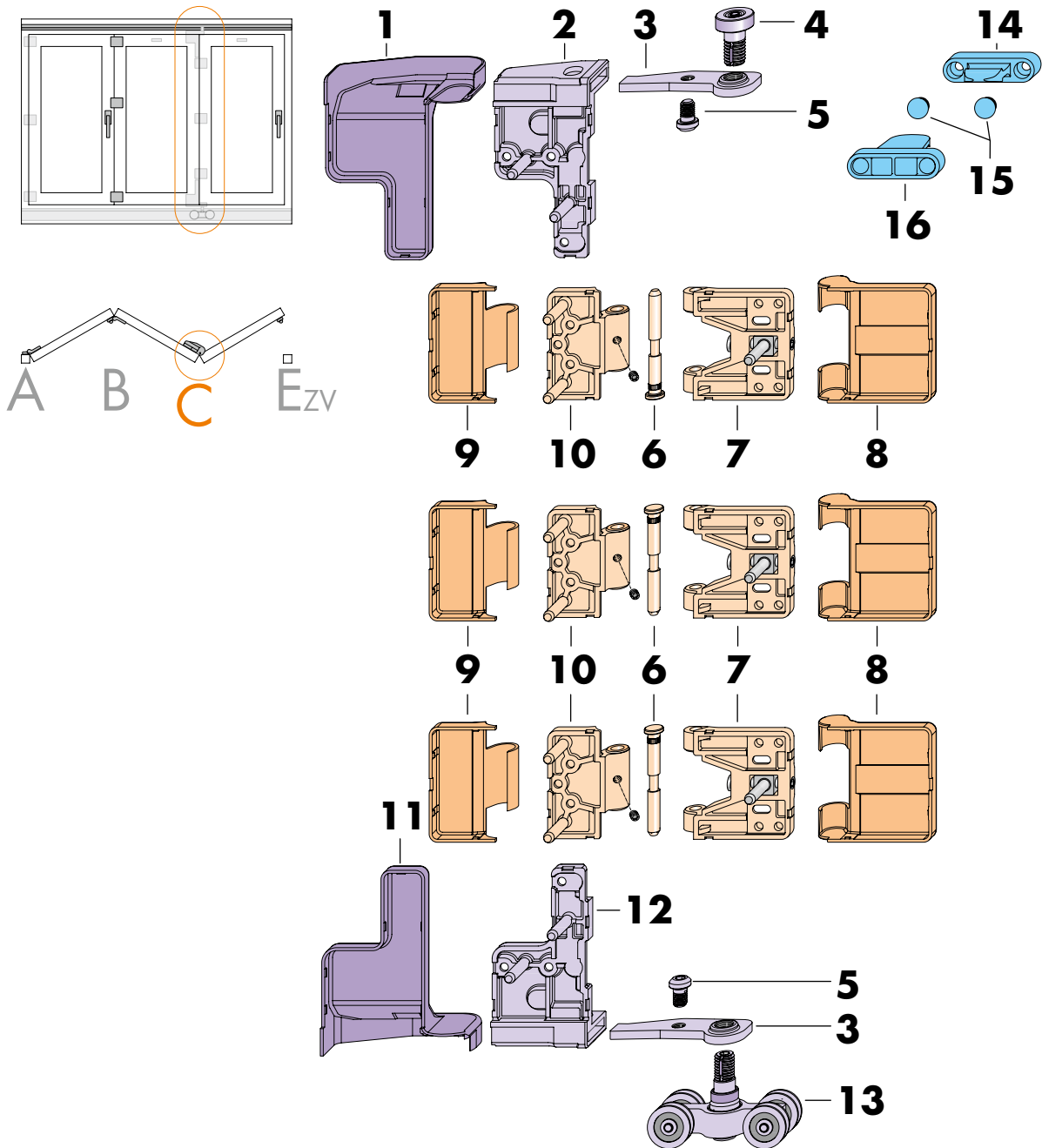


Fig. 25: Overview of hardware - intersection point C hinges - FS 27/48 - outside timber/ PVC elements

Overview of set - intersection point C hinges - FS 27/48 - outside timber/ PVC elements

| No. | Material description | Material number | | | | |
|-----|--|-----------------|------------------|-------------------|-------------------|------------------|
| | | Base... | ...Colour number | | | |
| | | | silver | RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton sash hinge FS 27/48 TS <i>consisting of:</i> | PMFG0050- | 10001_ | | | |
| 10 | Sash hinge, narrow 27 TS | | | | | |
| 6 | Hinge pin TS | | | | | |
| 7 | Sash hinge, wide 48 TS | | | | | |
| | Ball 3.5 | | | | | |
| | Grub screw M 6 x 4 A2 | | | | | |
| | Bag cover caps sash hinge 27/48 <i>consisting of:</i> | PMAG0050- | 02501_ | 00201_ | 01101_ | 03101_ |
| 8 | Cover cap FB, wide 48 | | | | | |
| 9 | Cover cap FB, narrow 27 | | | | | |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | PMLG0150- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | |
| 3 | Supporting plate TS | | | | | |
| 4 | Guide PLUS | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | |
| 12 | Bottom hinge, left TS | | | | | |
| 13 | Bogie wheels PLUS | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | |
| 11 | Cover cap ED, left | | | | | |
| | Bag supporting piece FS <i>consisting of:</i> | PMZG0020- | 02101_ | 00201_ | 01101_ | |
| 14 | Supporting piece F | | | | | |
| 15 | Bag closing cap | | | | | |
| 16 | Supporting piece D | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.27 Hardware FS PLUS - intersection point D - inside timber/PVC elements

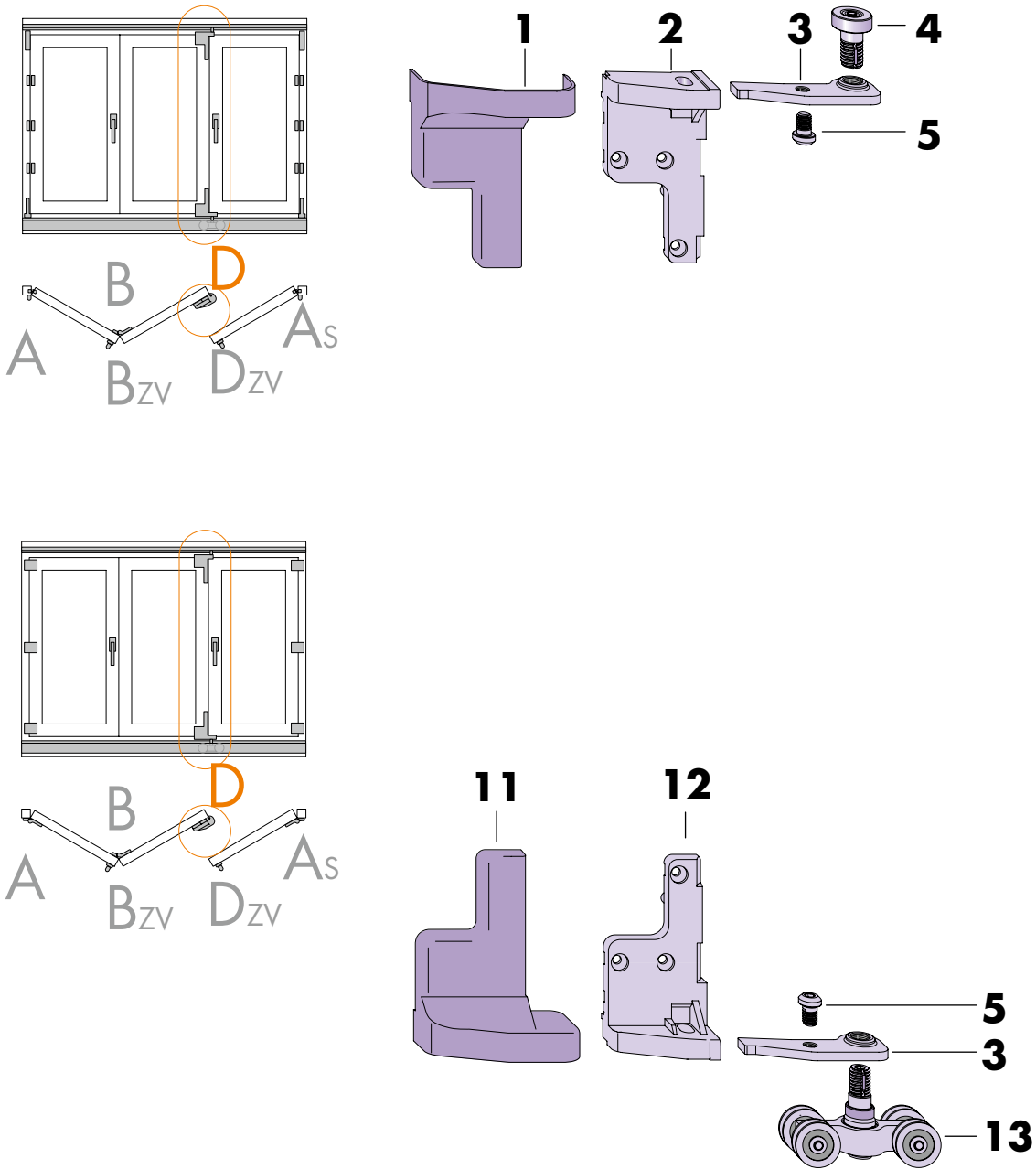


Fig. 26: Overview of hardware - intersection point D - inside timber/ PVC elements

Overview of set - intersection point D hinges - FS 17/38 - inside timber /PVC elements

| No. | Material description | | Material number | | | | |
|-----|--|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | | PMLG0110- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | | |
| 3 | Supporting plate TS | | | | | | |
| 4 | Guide PLUS | | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | | |
| 12 | Bottom hinge, left TS | | | | | | |
| 13 | Bogie wheels PLUS | | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | | |
| 8 | Cover cap FB, wide 38 | | | | | | |
| 9 | Cover cap FB, narrow 17 | | | | | | |
| 11 | Cover cap ED, left | | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.28 Hardware FS - intersection point D - inside timber/PVC elements barrier-free

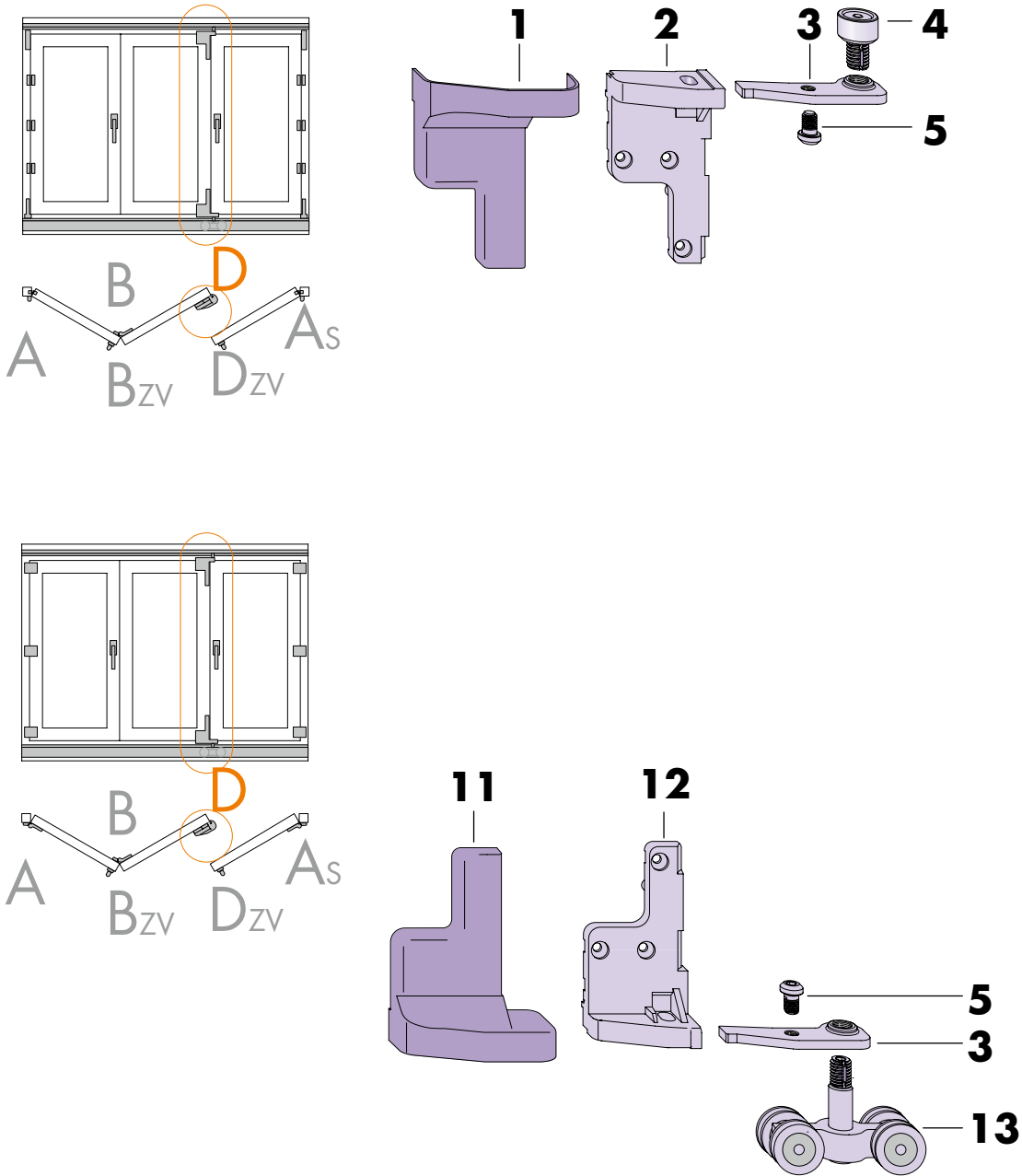


Fig. 27: Overview of hardware - intersection point D - inside timber/ PVC elements barrier-free

Overview of set - intersection point D - inside timber /PVC elements barrier-free

| No. | Material description | | Material number | | | | |
|-----|--|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | | PMLG0050- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | | |
| 3 | Supporting plate TS | | | | | | |
| 4 | Guide PLUS | | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | | |
| 12 | Bottom hinge, left TS | | | | | | |
| 13 | Bogie wheels PLUS | | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | | |
| 11 | Cover cap ED, left | | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.29 Hardware FS PLUS - intersection point D - inside timber/PVC elements barrier-free

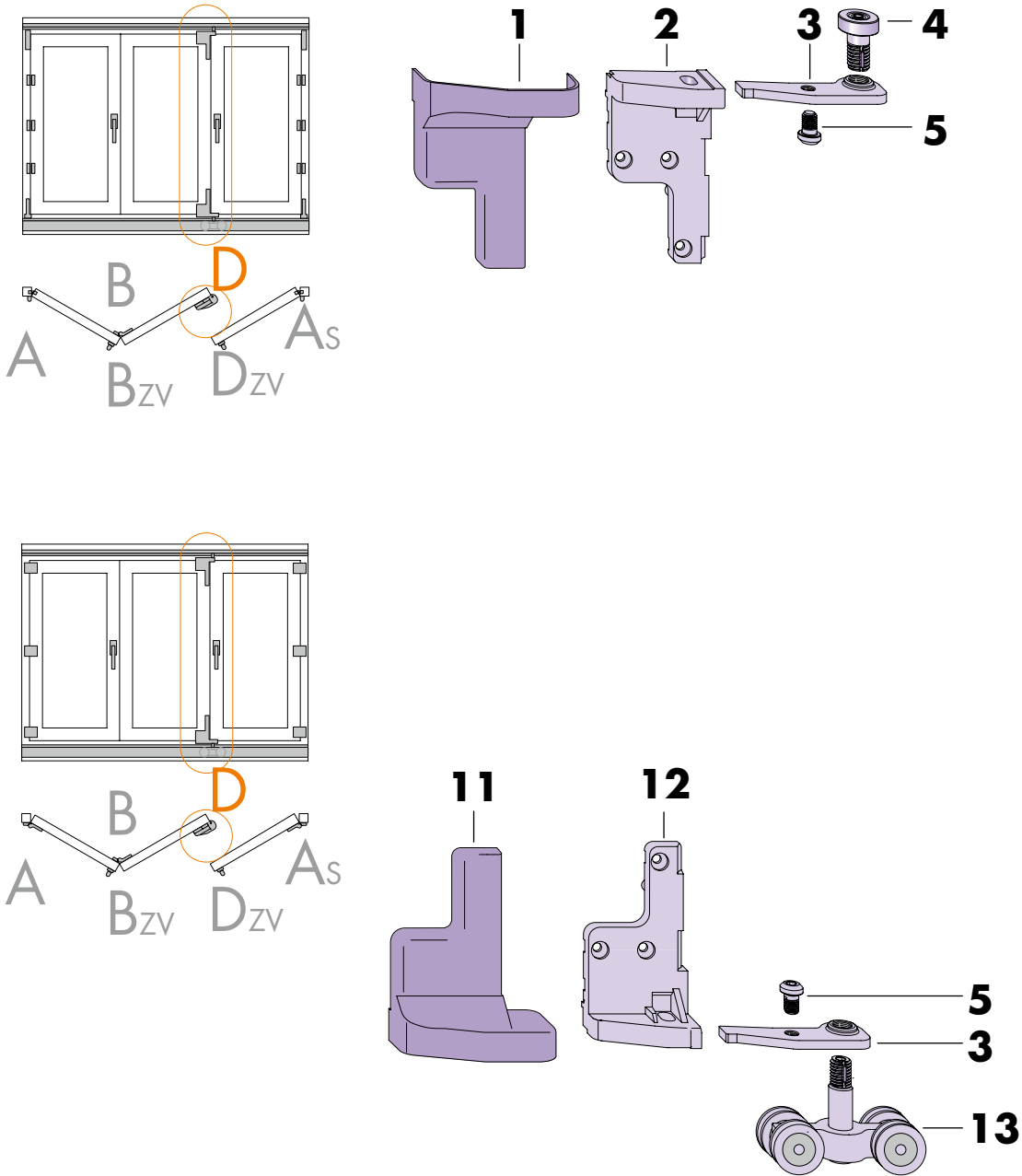


Fig. 28: Overview of hardware - intersection point D - inside timber/ PVC elements barrier-free

Overview of set - intersection point D - timber - PVC - inside PVC elements barrier-free

| No. | Material description | | Material number | | | | |
|-----|--|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | | PMLG0170- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | | |
| 3 | Supporting plate TS | | | | | | |
| 4 | Guide PLUS | | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | | |
| 12 | Bottom hinge, left TS | | | | | | |
| 13 | Bogie wheels PLUS | | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | | |
| 11 | Cover cap ED, left | | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.30 Hardware FS PLUS - intersection point D - outside timber elements

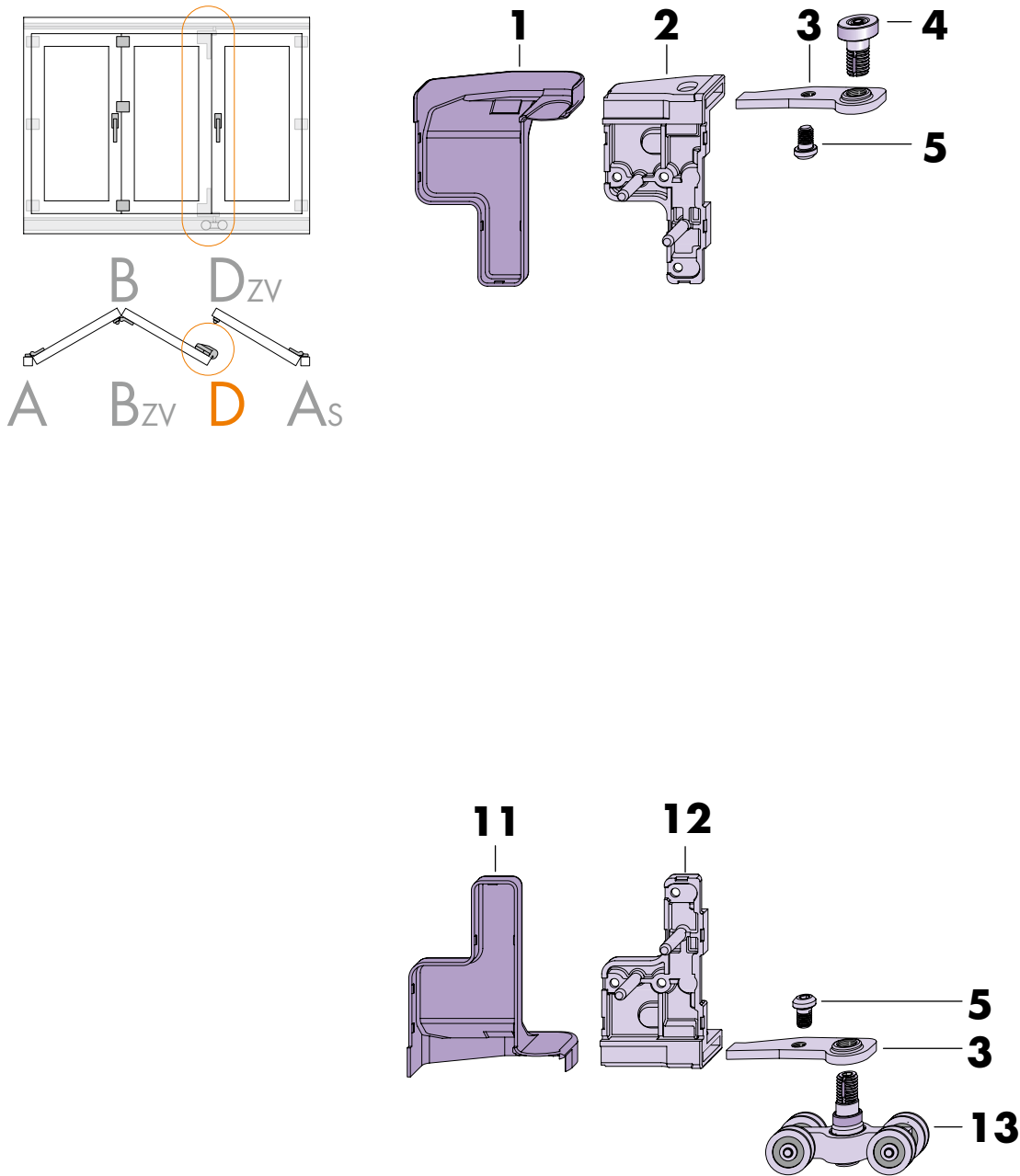


Fig. 29: Overview of hardware - intersection point D - outside timber/ PVC elements

Overview of set - intersection point D - outside timber/ PVC elements

| No. | Material description | | Material number | | | | |
|-----|--|--|-----------------|--------|---------------------------------------|-------------------|------------------|
| | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown | medium bronze |
| | Carton bogie wheels FS PLUS <i>consisting of:</i> | | PMLG0150- | 10001_ | | | |
| 2 | Bottom hinge, right TS | | | | | | |
| 3 | Supporting plate TS | | | | | | |
| 4 | Guide PLUS | | | | | | |
| 5 | Cheese head screw M 8 x 16 | | | | | | |
| 12 | Bottom hinge, left TS | | | | | | |
| 13 | Bogie wheels PLUS | | | | | | |
| | Bag of cover caps bogie wheels FS <i>consisting of:</i> | | PMAG0030- | 02501_ | 00201_ | 01201_ | 03101_ |
| 1 | Cover cap ED, right | | | | | | |
| 8 | Cover cap FB, wide 38 | | | | | | |
| 9 | Cover cap FB, narrow 17 | | | | | | |
| 11 | Cover cap ED, left | | | | | | |

Sash hinges FS

Sash rebate height up to 1500 mm 2 sash hinges each

Sash rebate height 1501 mm to 2400 mm 3 sash hinges each

6.2.31 Hardware FS PLUS - intersection point D - central locking gear FAVORIT - inside

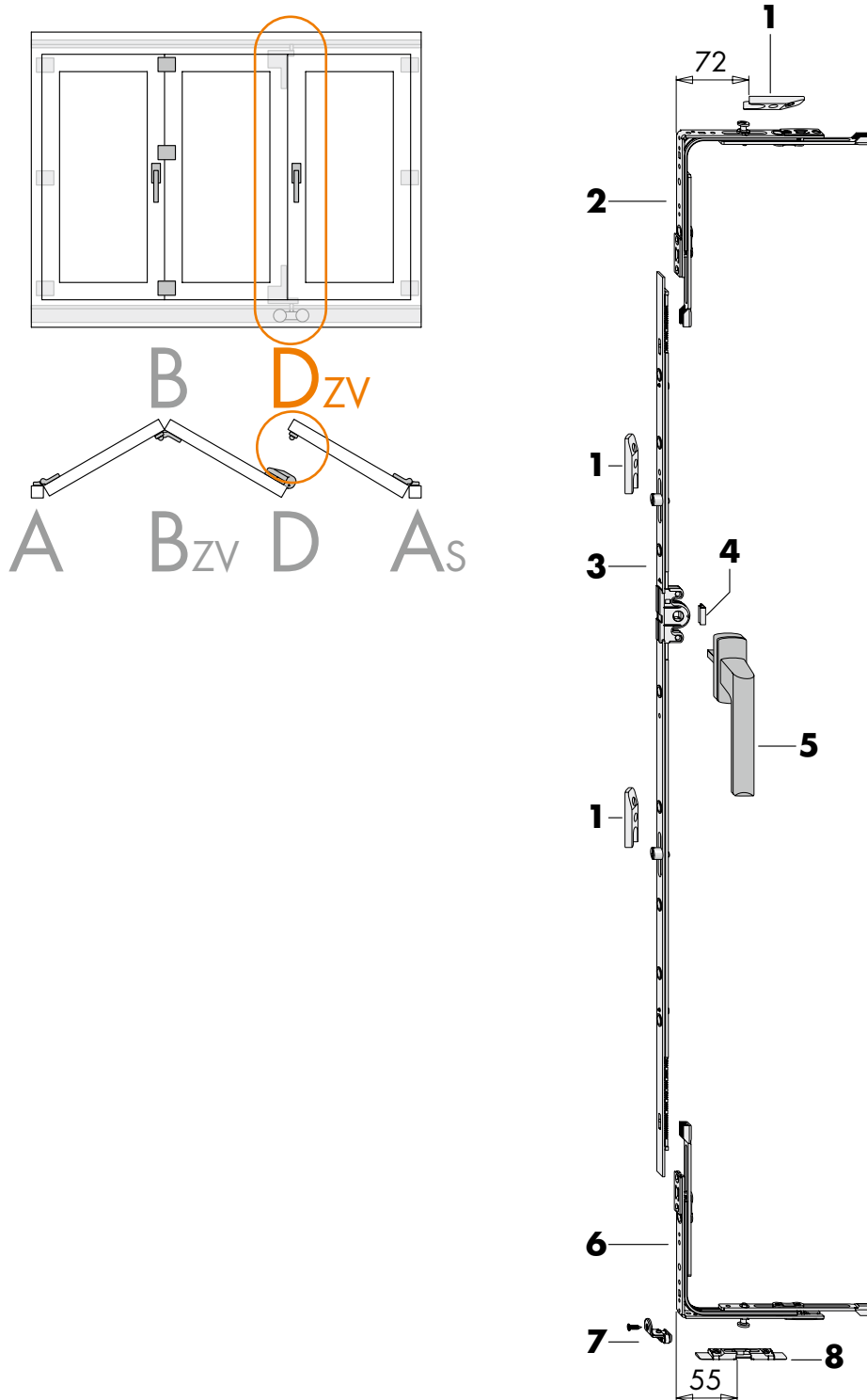


Fig. 30: Overview of hardware intersection point D - central locking gear FAVORIT - inside

Overview of set intersection point D, central locking gear FAVORIT - inside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|---------------------------------|---------|-------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive VS S-ES | | | | FEUL0090-10001_- |
| 3 | Gear 15 FAV size 60/G300 | 15 | 601 - 800 | 300 | FGKK4030-10001_ |
| | Gear 15 FAV size 80/G400 1V | 15 | 801 - 1000 | 400 | FGKK4030-10001_ |
| | Gear 15 FAV size 100/G500 1V | 15 | 1001 - 1200 | 500 | FGKK4060-10001_ |
| | Gear 15 FAV size 120/G600 1V | 15 | 1201 - 1400 | 600 | FGKK4070-10001_ |
| | Gear 15 FAV size 140/G700 2V | 15 | 1401 - 1600 | 700 | FGKK4200-10001_ |
| | Gear 15 FAV size 160/G700 2V 70 | 15 | 1601 - 1800 | 700 | FGKK4090-10001_ |
| | Gear 15 FAV size 180/G1000 2V | 15 | 1801 - 2000 | 1000 | FGKK4220-10001_ |
| | Gear 15 FAV size 200/G1000 3V | 15 | 2001 - 2400 | 1000 | FGKK4230-10001_ |
| 4 | Limitation piece | | | | 800768 |
| 5 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 6 | Corner drive VS S-ES | | | | FEUL0090-10001_- |
| 7 | Sash height | | | | See profile data sheets TITAN |
| 8 | Tilt lock bearing | | | | See profile data sheets TITAN |

6.2.32 Hardware FS PLUS - intersection point D - central locking gear TITAN AF - inside

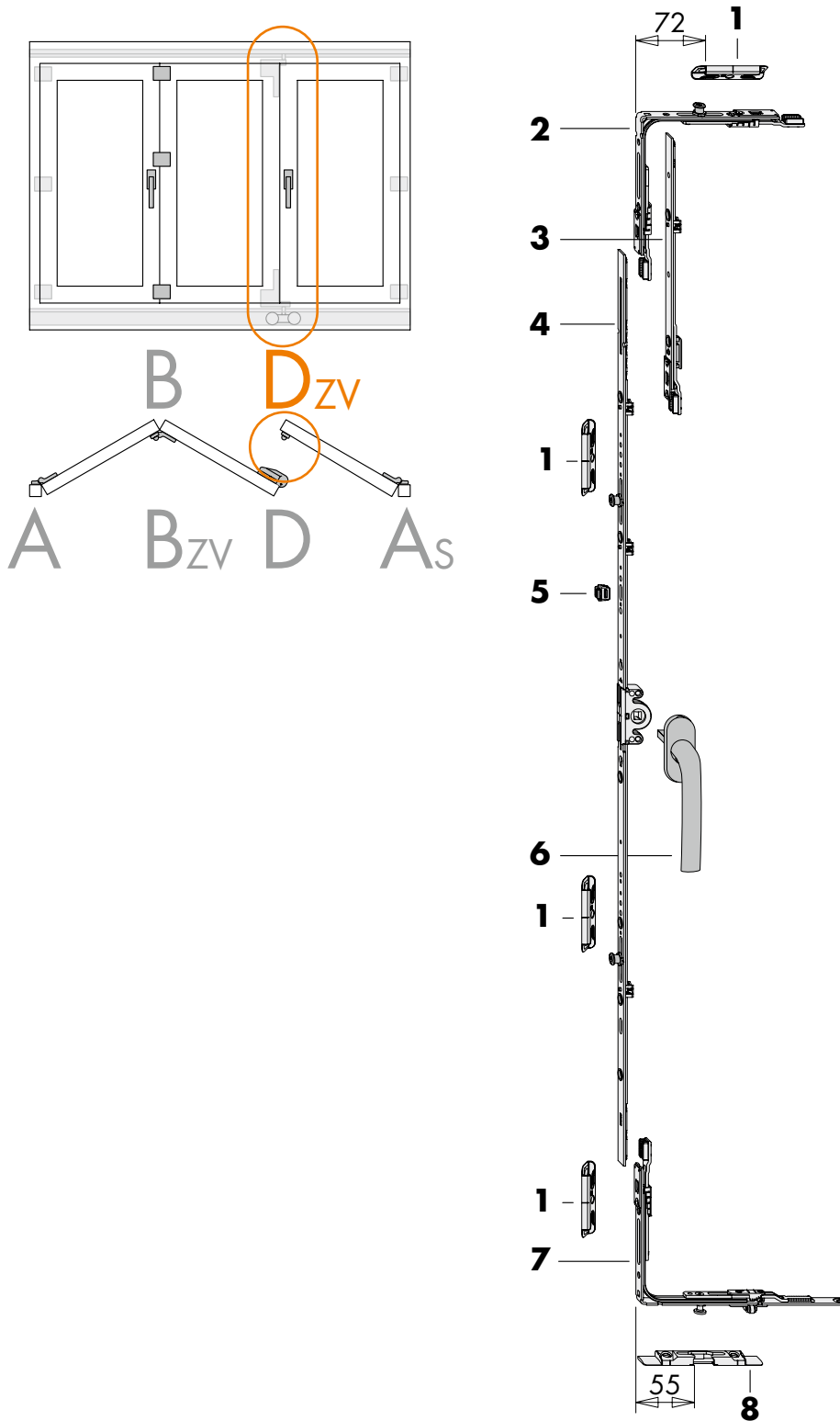


Fig. 31: Overview of hardware intersection point D, central locking gear TITAN AF - inside

Overview of set intersection point D, central locking gear TITAN AF - inside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|-------------------------------|---------|--------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive AF VSO/K+ DF 1RS | | | | TEUL4110-10001_- |
| 3 | Locking bolt AF VSO RSA 11 | | 2200 - 2400 | | TESC2030-10001_ |
| 4 | Gear 15 AF size 60/G300 | 15 | 601 - 800 | 300 | TGKK4030-10001_ |
| | Gear 15 AF size 80/G400 1RS | 15 | 801 - 1000 | 400 | TGKK4050-10001_ |
| | Gear 15 AF size 100/G500 1RS | 15 | 1001 - 1200 | 500 | TGKK4060-10001_ |
| | Gear 15 AF size 120/G600 1RS | 15 | 1201 - 1400 | 600 | TGKK4070-10001_ |
| | Gear 15 AF size 140/G700 2RS | 15 | 1401 - 1600 | 700 | TGKK4080-10001_ |
| | Gear 15 AF size 160/G700 2RS | 15 | 1601 - 1800 | 700 | TGKK4090-10001_ |
| | Gear 15 AF size 180/G1000 2RS | 15 | 1801 - 2000 | 1000 | TGKK4100-10001_ |
| | Gear 15 AF size 200/G1000 3RS | 15 | 2001 - 2400* | 1000 | TGKK4110-10001_ |
| 5 | Travel restrictor | | | | TFHB0020-09901_ |
| 6 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 7 | Corner drive AF VSU/K+ 1S | | | | TEUL5010-10001_- |
| 8 | Tilt lock bearing | | | | See profile data sheets TITAN |

6.2.33 Hardware FS PLUS - intersection point D - central locking gear TITAN AF - outside

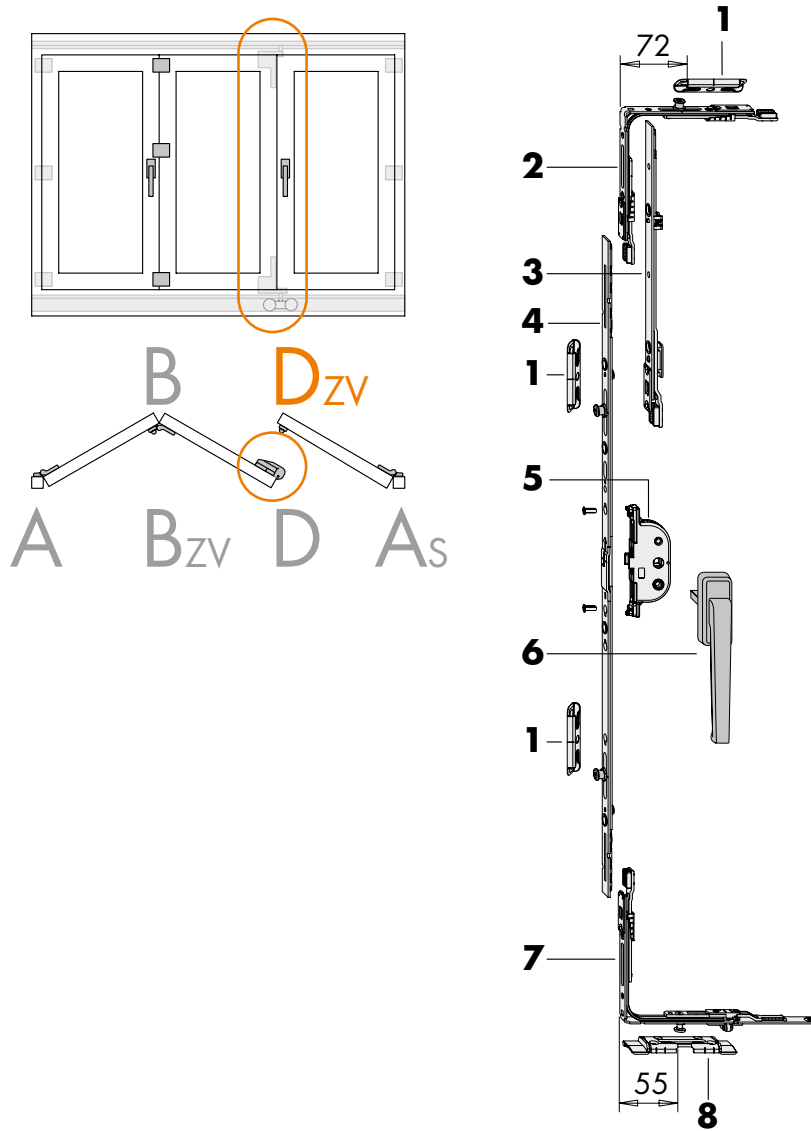


Fig. 32: Diagram of hardware intersection point D, central locking gear TITAN AF - outside

Overview of set intersection point D, central locking gear TITAN AF - outside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|----------------------------------|---------|--------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive AF VSO/K+ DF 1RS | | | | TEUL4110-10001_- |
| 3 | Locking bolt AF VSO RSA 11 | | 2200 - 2400 | | TESC2030-10001_ |
| 4 | Gear OS-AF size 80/G400 1RS | | 801 - 1000 | 400 | TGKK0550-10001_ |
| | Gear OS-AF size 100/G500 1RS | | 1001 - 1200 | 500 | TGKK0560-10001_ |
| | Gear OS-AF size 120/G600 1RS | | 1201 - 1400 | 600 | TGKK0570-10001_ |
| | Gear OS-AF size 140/G700 1RS | | 1401 - 1600 | 700 | TGKK0580-10001_ |
| | Gear OS-AF size 160/G700 2RS 70 | | 1601 - 1800 | 700 | TGKK0750-10001_ |
| | Gear OS-AF size 180/G1000 2RS 70 | | 1801 - 2000 | 1000 | TGKK0620-10001_ |
| | Gear OS-AF size 200/G1000 3RS 70 | | 2001 - 2400* | 1000 | TGKK0630-10001_ |
| 5 | Gear set 30 M5 | 30 | | | TMSL4300-10001_ |
| | Gear set 35 M5 | 35 | | | TMSL4350-10001_ |
| | Gear set 40 M5 | 40 | | | TMSL4400-10001_ |
| | Gear set 45 M5 | 45 | | | TMSL4450-10001_ |
| | Gear set 50 M5 | 50 | | | TMSL4500-10001_ |
| | Gear set 55 M5 | 55 | | | TMSL4550-10001_ |
| 6 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 7 | Corner drive AF VSU/K+ 1S | | | | TEUL5010-10001_- |
| 8 | Tilt lock bearing | | | | See profile data sheets TITAN |

* Sash rebate height 2200 - 2400 only with additional locking bolt AF VSO RSA 11

6.2.34 Hardware FS PLUS - intersection point E - central locking gear FAVORIT - inside

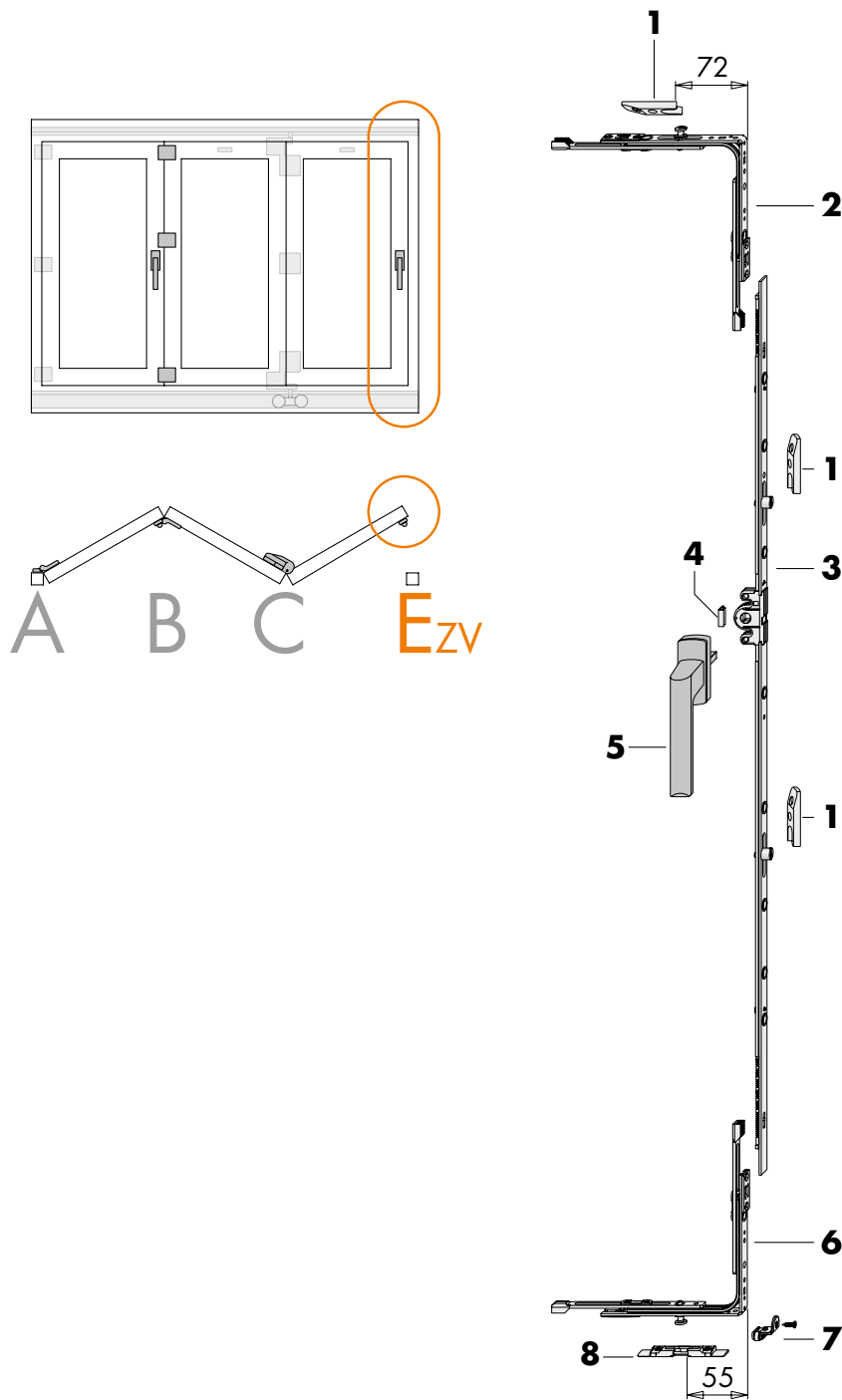


Fig. 33: Overview of hardware intersection point E - central locking gear FAVORIT - inside

Overview of set intersection point E, central locking gear FAVORIT - inside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|---------------------------------|---------|-------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive VS S-ES | | | | FEUL0090-10001_- |
| 3 | Gear 15 FAV size 60/G300 | 15 | 601 - 800 | 300 | FGKK4030-10001_ |
| | Gear 15 FAV size 80/G400 1V | 15 | 801 - 1000 | 400 | FGKK4030-10001_ |
| | Gear 15 FAV size 100/G500 1V | 15 | 1001 - 1200 | 500 | FGKK4060-10001_ |
| | Gear 15 FAV size 120/G600 1V | 15 | 1201 - 1400 | 600 | FGKK4070-10001_ |
| | Gear 15 FAV size 140/G700 2V | 15 | 1401 - 1600 | 700 | FGKK4200-10001_ |
| | Gear 15 FAV size 160/G700 2V 70 | 15 | 1601 - 1800 | 700 | FGKK4090-10001_ |
| | Gear 15 FAV size 180/G1000 2V | 15 | 1801 - 2000 | 1000 | FGKK4220-10001_ |
| | Gear 15 FAV size 200/G1000 3V | 15 | 2001 - 2400 | 1000 | FGKK4230-10001_ |
| 4 | Limitation piece | | | | 800768 |
| 5 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 6 | Corner drive VS S-ES | | | | FEUL0090-10001_- |
| 7 | Sash height | | | | See profile data sheets TITAN |
| 8 | Tilt lock bearing | | | | See profile data sheets TITAN |

6.2.35 Hardware FS PLUS - intersection point E - central locking gear TITAN AF - inside

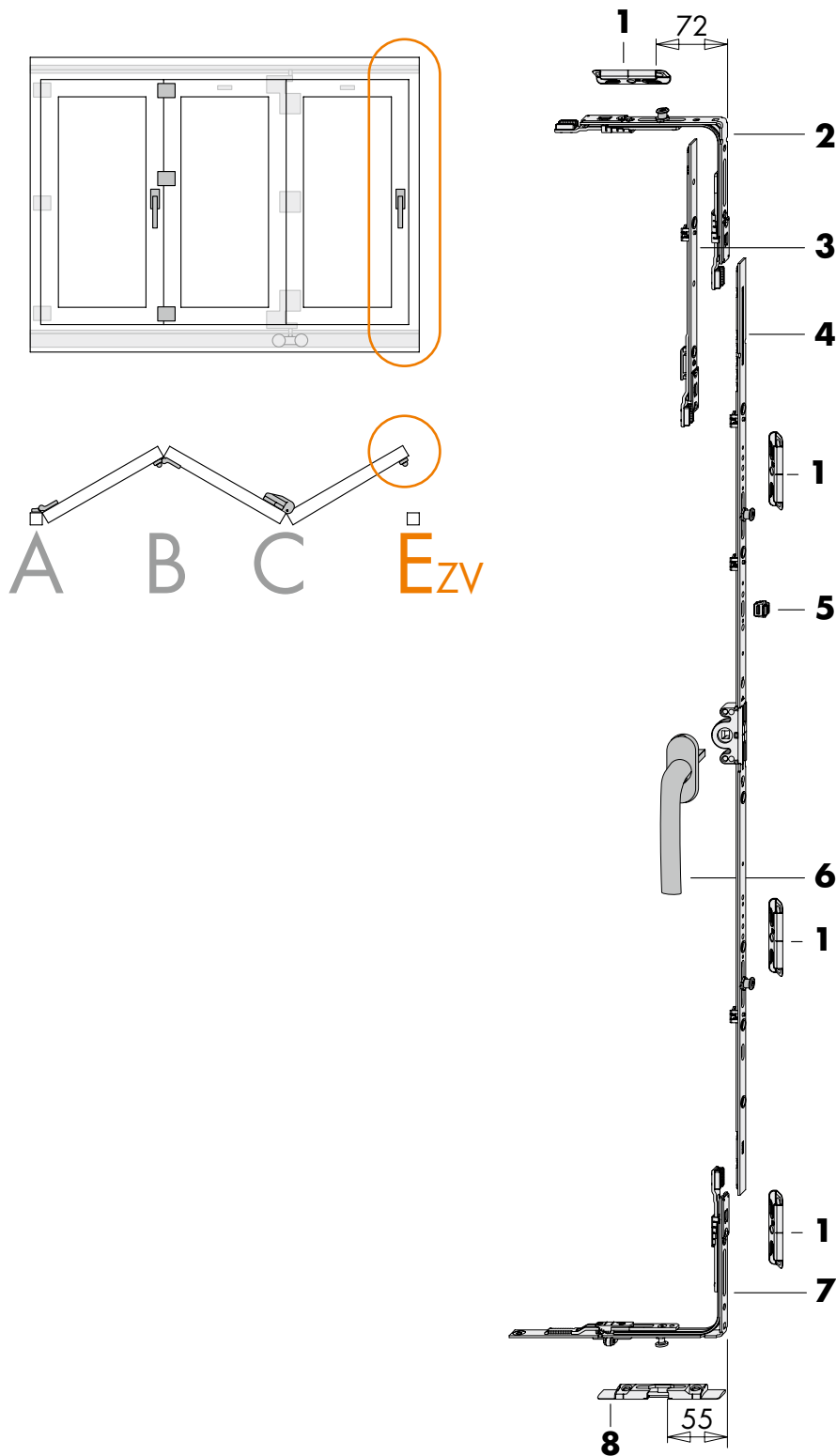


Fig. 34: Overview of hardware intersection point E, central locking gear TITAN AF - inside

Overview of set intersection point E, central locking gear TITAN AF - inside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|-------------------------------|---------|--------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive AF VSO/K+ DF 1RS | | | | TEUL4110-10001_- |
| 3 | Locking bolt AF VSO RSA 11 | | 2200 - 2400 | | TESC2030-10001_ |
| 4 | Gear 15 AF size 60/G300 | 15 | 601 - 800 | 300 | TGKK4030-10001_ |
| | Gear 15 AF size 80/G400 1RS | 15 | 801 - 1000 | 400 | TGKK4050-10001_ |
| | Gear 15 AF size 100/G500 1RS | 15 | 1001 - 1200 | 500 | TGKK4060-10001_ |
| | Gear 15 AF size 120/G600 1RS | 15 | 1201 - 1400 | 600 | TGKK4070-10001_ |
| | Gear 15 AF size 140/G700 2RS | 15 | 1401 - 1600 | 700 | TGKK4080-10001_ |
| | Gear 15 AF size 160/G700 2RS | 15 | 1601 - 1800 | 700 | TGKK4090-10001_ |
| | Gear 15 AF size 180/G1000 2RS | 15 | 1801 - 2000 | 1000 | TGKK4100-10001_ |
| | Gear 15 AF size 200/G1000 3RS | 15 | 2001 - 2400* | 1000 | TGKK4110-10001_ |
| 5 | Travel restrictor | | | | TFHB0020-09901_ |
| 6 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 7 | Corner drive AF VSU/K+ 1S | | | | TEUL5010-10001_- |
| 8 | Tilt lock bearing | | | | See profile data sheets TITAN |

* Sash rebate height 2200 - 2400 only with additional locking bolt AF VSO RSA 11

6.2.36 Hardware FS PLUS - intersection point E - central locking gear TITAN AF - outside

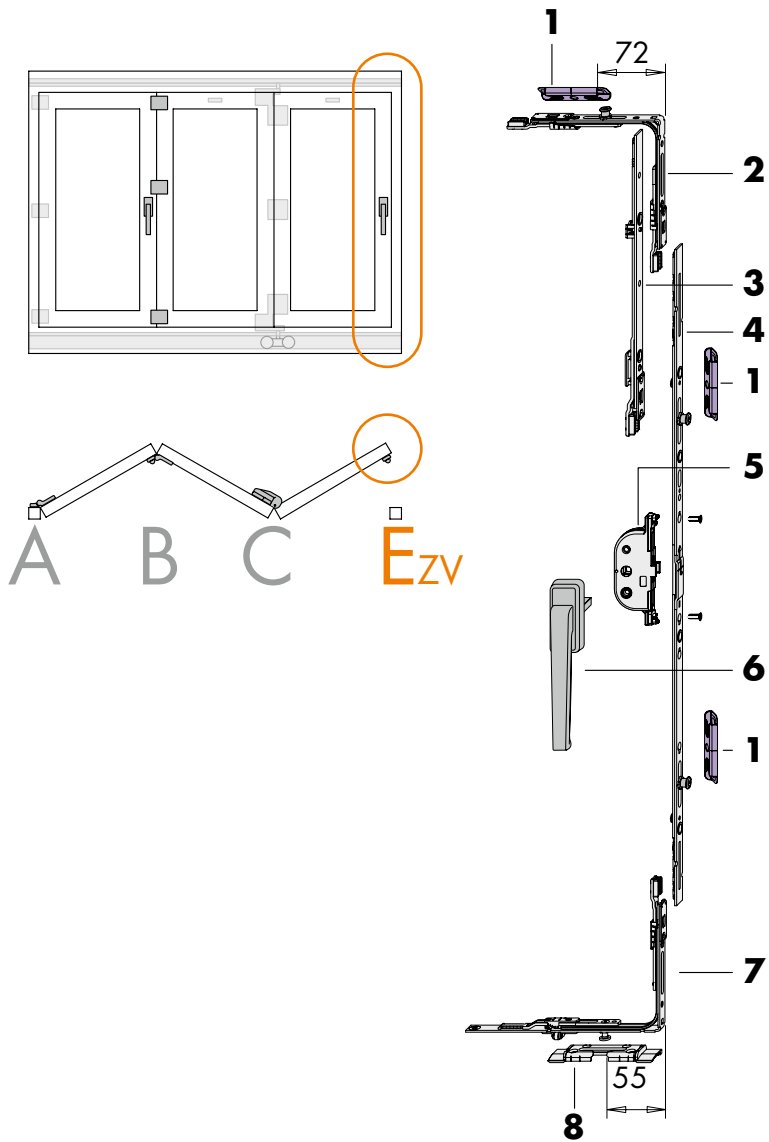


Fig. 35: Overview of hardware intersection point E, central locking gear TITAN AF - outside

Overview of set intersection point E, central locking gear TITAN AF - outside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|----------------------------------|---------|--------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive AF VSO/K+ DF 1RS | | | | TEUL4110-10001_- |
| 3 | Locking bolt AF VSO RSA 11 | | 2200 - 2400 | | TESC2030-10001_ |
| 4 | Gear OS-AF size 80/G400 1RS | | 801 - 1000 | 400 | TGKK0550-10001_ |
| | Gear OS-AF size 100/G500 1RS | | 1001 - 1200 | 500 | TGKK0560-10001_ |
| | Gear OS-AF size 120/G600 1RS | | 1201 - 1400 | 600 | TGKK0570-10001_ |
| | Gear OS-AF size 140/G700 1RS | | 1401 - 1600 | 700 | TGKK0580-10001_ |
| | Gear OS-AF size 160/G700 2RS 70 | | 1601 - 1800 | 700 | TGKK0750-10001_ |
| | Gear OS-AF size 180/G1000 2RS 70 | | 1801 - 2000 | 1000 | TGKK0620-10001_ |
| | Gear OS-AF size 200/G1000 3RS 70 | | 2001 - 2400* | 1000 | TGKK0630-10001_ |
| 5 | Gear set 30 M5 | 30 | | | TMSL4300-10001_ |
| | Gear set 35 M5 | 35 | | | TMSL4350-10001_ |
| | Gear set 40 M5 | 40 | | | TMSL4400-10001_ |
| | Gear set 45 M5 | 45 | | | TMSL4450-10001_ |
| | Gear set 50 M5 | 50 | | | TMSL4500-10001_ |
| | Gear set 55 M5 | 55 | | | TMSL4550-10001_ |
| 6 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 7 | Corner drive AF VSU/K+ 1S | | | | TEUL5010-10001_- |
| 8 | Tilt lock bearing | | | | See profile data sheets TITAN |

* Sash rebate height 2200 - 2400 only with additional locking bolt AF VSO RSA 11

6.2.37 Hardware FS PLUS - intersection point F - central locking gear FAVORIT - inside

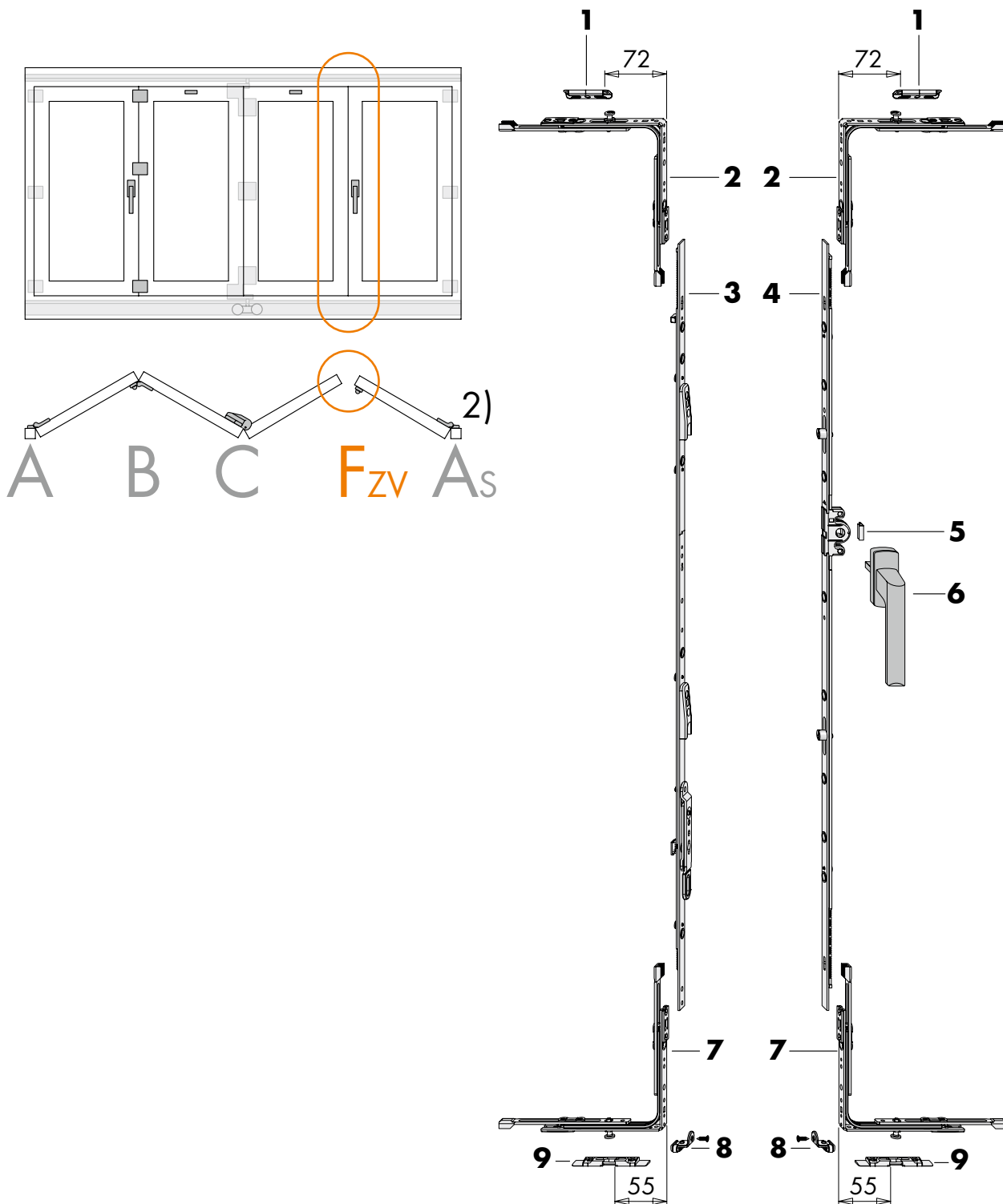


Fig. 36: Overview of hardware intersection point F, central locking gear FAVORIT - inside

Overview of set intersection point F, central locking gear FAVORIT - inside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|--|---------|-------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive VS S-ES | | | | FEUL0090-10001_- |
| 3 | Gear secondary sash 1 6 FAV size 60/G300 | | 601 - 800 | | FGKS4030-10001_ |
| | Gear secondary sash 1 6 FAV size 80/G400 1SB | | 801 - 1000 | | FGKS4050-10001_ |
| | Gear secondary sash 1 6 FAV size 100/G500 1SB | | 1001 - 1200 | | FGKS4060-10001_ |
| | Gear secondary sash 1 6 FAV size 120/G600 1SB | | 1201 - 1400 | | FGKS4070-10001_ |
| | Gear secondary sash 1 6 FAV size 140/G700 1SB | | 1401 - 1600 | | FGKS4290-10001_ |
| | Gear secondary sash 1 6 FAV size 160/G700 1SB | | 1601 - 1800 | | FGKS4330-10001_ |
| | Gear secondary sash 1 6 FAV size 180/G1000 2SB | | 1801 - 2000 | | FGKS4100-10001_ |
| | Gear secondary sash 1 6 FAV size 200/G1000 2SB | | 2001 - 2400 | | FGKS4280-10001_ |
| 4 | Gear 15 FAV size 60/G300 | 15 | 601 - 800 | 300 | FGKK4030-10001_ |
| | Gear 15 FAV size 80/G400 1V | 15 | 801 - 1000 | 400 | FGKK4030-10001_ |
| | Gear 15 FAV size 100/G500 1V | 15 | 1001 - 1200 | 500 | FGKK4060-10001_ |
| | Gear 15 FAV size 120/G600 1V | 15 | 1201 - 1400 | 600 | FGKK4070-10001_ |
| | Gear 15 FAV size 140/G700 2V | 15 | 1401 - 1600 | 700 | FGKK4200-10001_ |
| | Gear 15 FAV size 160/G700 2V 70 | 15 | 1601 - 1800 | 700 | FGKK4090-10001_ |
| | Gear 15 FAV size 180/G1000 2V | 15 | 1801 - 2000 | 1000 | FGKK4220-10001_ |
| | Gear 15 FAV size 200/G1000 3V | 15 | 2001 - 2400 | 1000 | FGKK4230-10001_ |
| 5 | Limitation piece | | | | 800768 |
| 6 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 7 | Corner drive VS S-ES | | | | FEUL0090-10001_- |
| 8 | Sash height | | | | See profile data sheets TITAN |
| 9 | Tilt lock bearing | | | | See profile data sheets TITAN |

6.2.38 Hardware FS PLUS - intersection point F - central locking gear TITAN AF - inside

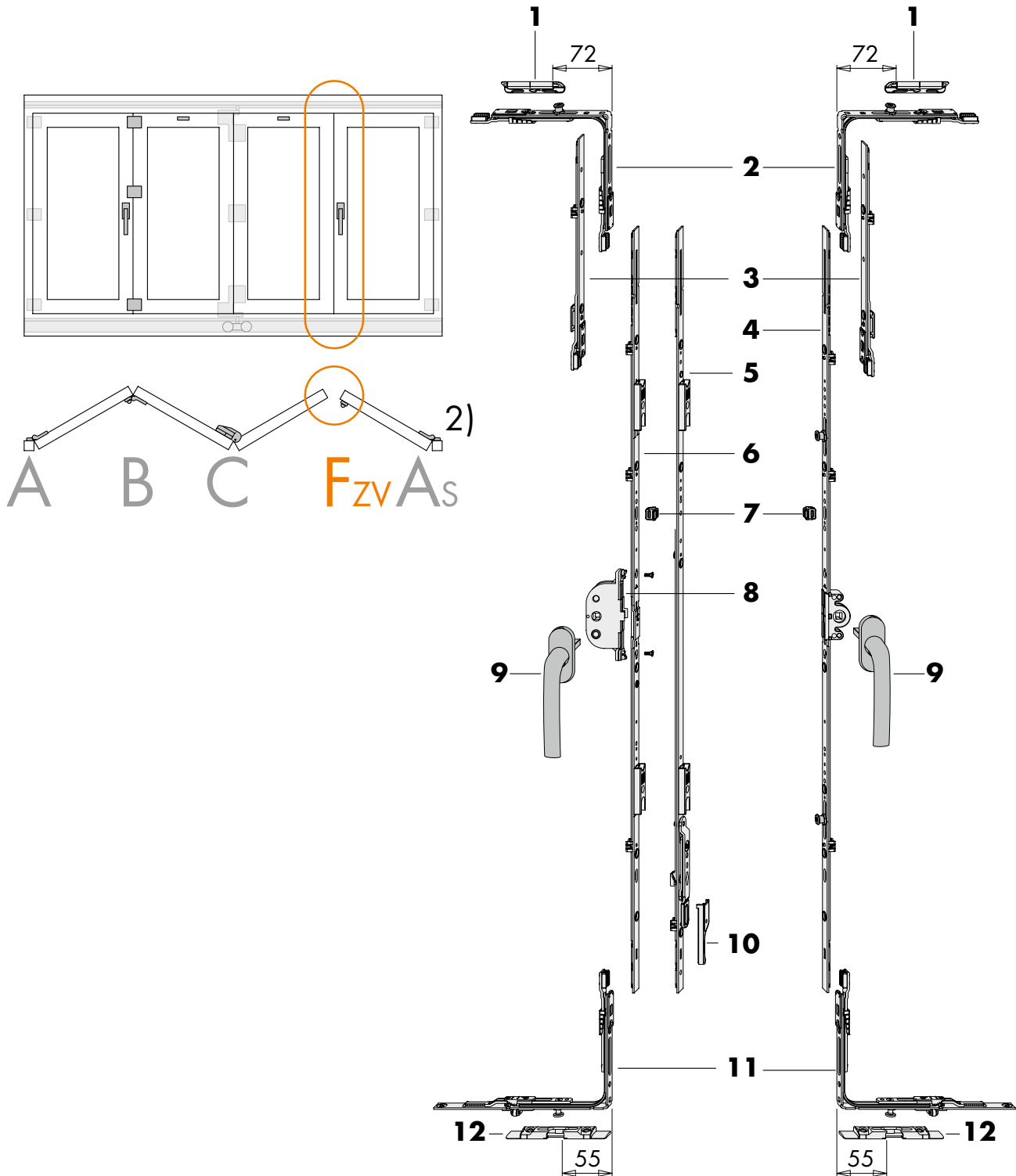


Fig. 37: Overview of hardware intersection point F, central locking gear TITAN AF - inside

Overview of set intersection point F, central locking gear TITAN AF - inside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|---|---------|--------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive AF VSO/K+ DF 1RS | | | | TEUL4110-10001_- |
| 3 | Locking bolt AF VSO RSA 11 | | 2200 - 2400 | | TESC2030-10001_ |
| 4 | Gear 15 AF size 60/G300 | 15 | 601 - 800 | 300 | TGKK4030-10001_ |
| | Gear 15 AF size 80/G400 1RS | 15 | 801 - 1000 | 400 | TGKK4050-10001_ |
| | Gear 15 AF size 100/G500 1RS | 15 | 1001 - 1200 | 500 | TGKK4060-10001_ |
| | Gear 15 AF size 120/G600 1RS | 15 | 1201 - 1400 | 600 | TGKK4070-10001_ |
| | Gear 15 AF size 140/G700 2RS | 15 | 1401 - 1600 | 700 | TGKK4080-10001_ |
| | Gear 15 AF size 160/G700 2RS | 15 | 1601 - 1800 | 700 | TGKK4090-10001_ |
| | Gear 15 AF size 180/G1000 2RS | 15 | 1801 - 2000 | 1000 | TGKK4100-10001_ |
| | Gear 15 AF size 200/G1000 3RS | 15 | 2001 - 2400* | 1000 | TGKK4110-10001_ |
| 5 | Gear secondary sash 16 size 60 | | 601 - 800 | | TGKS4030-10001_ |
| | Gear secondary sash 16 size 80/G400 1RS | | 801 - 1000 | | TGKS4050-10001_ |
| | Gear secondary sash 16 size 100/G500 1RS | | 1001 - 1200 | | TGKS4060-10001_ |
| | Gear secondary sash 16 size 120/G600 1RS | | 1201 - 1400 | | TGKS4070-10001_ |
| | Gear secondary sash 16 size 140/G700 2RS | | 1401 - 1600 | | TGKS4080-10001_ |
| | Gear secondary sash 16 size 160/G700 2RS | | 1601 - 1800 | | TGKS4090-10001_ |
| | Gear secondary sash 16 size 180/G1000 2RS | | 1801 - 2000 | | TGKS4100-10001_ |
| | Gear secondary sash 16 size 200/G1000 3RS | | 2001 - 2400* | | TGKS4110-10001_ |
| 6 | Gear OS-AF size 60/G300 | | 601 - 800 | | TGKK0650-10001_ |
| | Gear OS-AF size 80/G400 1RS | | 801 - 1000 | | TGKK0660-10001_ |
| | Gear OS-AF size 100/G500 1RS | | 1001 - 1200 | | TGKK0670-10001_ |
| | Gear OS-AF size 120/G600 1RS | | 1201 - 1400 | | TGKK0680-10001_ |
| | Gear OS-AF size 140/G700 2RS | | 1401 - 1600 | | TGKK0760-10001_ |
| | Gear OS-AF size 160/G700 2RS | | 1601 - 1800 | | TGKK0770-10001_ |
| | Gear OS-AF size 180/G1000 2RS | | 1801 - 2000 | | TGKK0720-10001_ |
| | Gear OS-AF size 200/G1000 3RS | | 2001 - 2400* | | TGKK0730-10001_ |
| 7 | Travel restrictor | | | | TFHB0020-09901_ |
| 8 | Gear set 30 M5 | 30 | | | TMSL4300-10001_ |
| | Gear set 35 M5 | 35 | | | TMSL4350-10001_ |
| | Gear set 40 M5 | 40 | | | TMSL4400-10001_ |
| | Gear set 45 M5 | 45 | | | TMSL4450-10001_ |
| | Gear set 50 M5 | 50 | | | TMSL4500-10001_ |
| | Gear set 55 M5 | 55 | | | TMSL4550-10001_ |
| 9 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 10 | Handle VL secondary sash right | | | | THVL0011-10001_ |
| | Handle VL secondary sash left | | | | THVL0012-10001_ |
| 11 | Corner drive AF VSU/K+ 1S | | | | TEUL5010-10001_- |
| 12 | Tilt lock bearing | | | | See profile data sheets TITAN |

* Sash rebate height 2200 - 2400 only with additional locking bolt AF VSO RSA 11

6.2.39 Hardware FS PLUS - intersection point F - central locking gear TITAN AF - outside

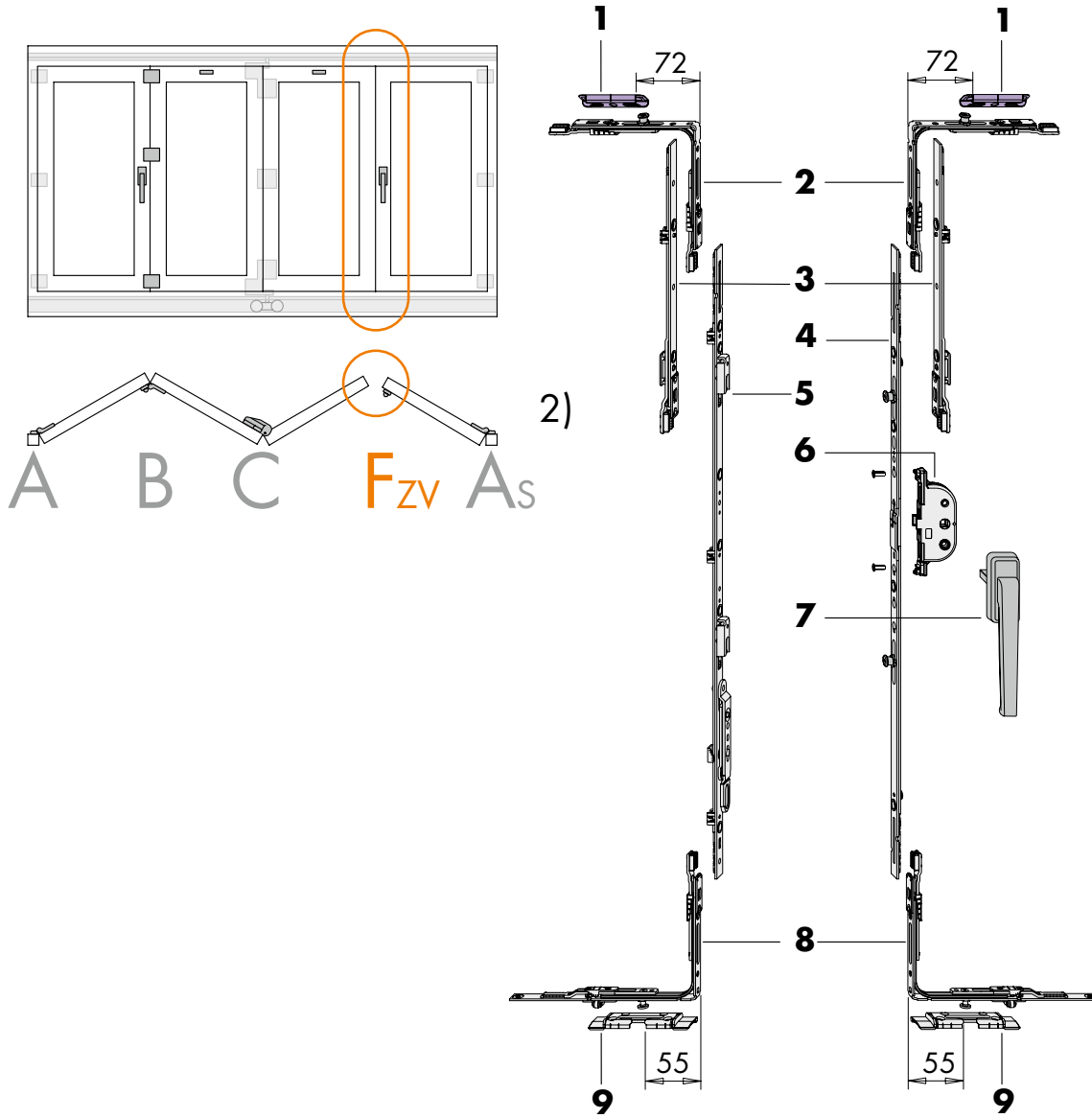


Fig. 38: Diagram of hardware intersection point F, central locking gear TITAN AF - outside

Overview of set intersection point F, central locking gear TITAN AF - outside

| No. | Material description | Backset | FFH | Handle position | Material number |
|-----|---|---------|--------------|-----------------|-------------------------------|
| 1 | Striker plate | | | | See profile data sheets TITAN |
| 2 | Corner drive AF VSO/K+ DF 1RS | | | | TEUL4110-10001_ |
| 3 | Locking bolt AF VSO RSA 11 | | 2200 - 2400 | | TESC2030-10001_ |
| 4 | Gear OS-AF size 80/G400 1RS | | 801 - 1000 | 400 | TGKK0550-10001_ |
| | Gear OS-AF size 100/G500 1RS | | 1001 - 1200 | 500 | TGKK0560-10001_ |
| | Gear OS-AF size 120/G600 1RS | | 1201 - 1400 | 600 | TGKK0570-10001_ |
| | Gear OS-AF size 140/G700 1RS | | 1401 - 1600 | 700 | TGKK0580-10001_ |
| | Gear OS-AF size 160/G700 2RS 70 | | 1601 - 1800 | 700 | TGKK0750-10001_ |
| | Gear OS-AF size 180/G1000 2RS 70 | | 1801 - 2000 | 1000 | TGKK0620-10001_ |
| | Gear OS-AF size 200/G1000 3RS 70 | | 2001 - 2400* | 1000 | TGKK0630-10001_ |
| 5 | Gear secondary sash 16 size 80/G400 1RS | | 801 - 1000 | | TGKS4050-10001_ |
| | Gear secondary sash 16 size 100/G500 1RS | | 1001 - 1200 | | TGKS4060-10001_ |
| | Gear secondary sash 16 size 120/G600 1RS | | 1201 - 1400 | | TGKS4070-10001_ |
| | Gear secondary sash 16 size 140/G700 2RS | | 1401 - 1600 | | TGKS4080-10001_ |
| | Gear secondary sash 16 size 160/G700 2RS | | 1601 - 1800 | | TGKS4090-10001_ |
| | Gear secondary sash 16 size 180/G1000 2RS | | 1801 - 2000 | | TGKS4100-10001_ |
| | Gear secondary sash 16 size 200/G1000 3RS | | 2001 - 2400* | | TGKS4110-10001_ |
| 6 | Gear set 30 M5 | 30 | | | TMSL4300-10001_ |
| | Gear set 35 M5 | 35 | | | TMSL4350-10001_ |
| | Gear set 40 M5 | 40 | | | TMSL4400-10001_ |
| | Gear set 45 M5 | 45 | | | TMSL4450-10001_ |
| | Gear set 50 M5 | 50 | | | TMSL4500-10001_ |
| | Gear set 55 M5 | 55 | | | TMSL4550-10001_ |
| 7 | Handle Si-line / Handle Globe | | | | See from page 105 |
| 8 | Corner drive AF VSU/K+ 1S | | | | TEUL5010-10001_ |
| 9 | Tilt lock bearing | | | | See profile data sheets TITAN |

* Sash rebate height 2200 - 2400 only with additional locking bolt AF VSO RSA 11

6.2.40 Hardware FS PLUS - profile set - inside or outside

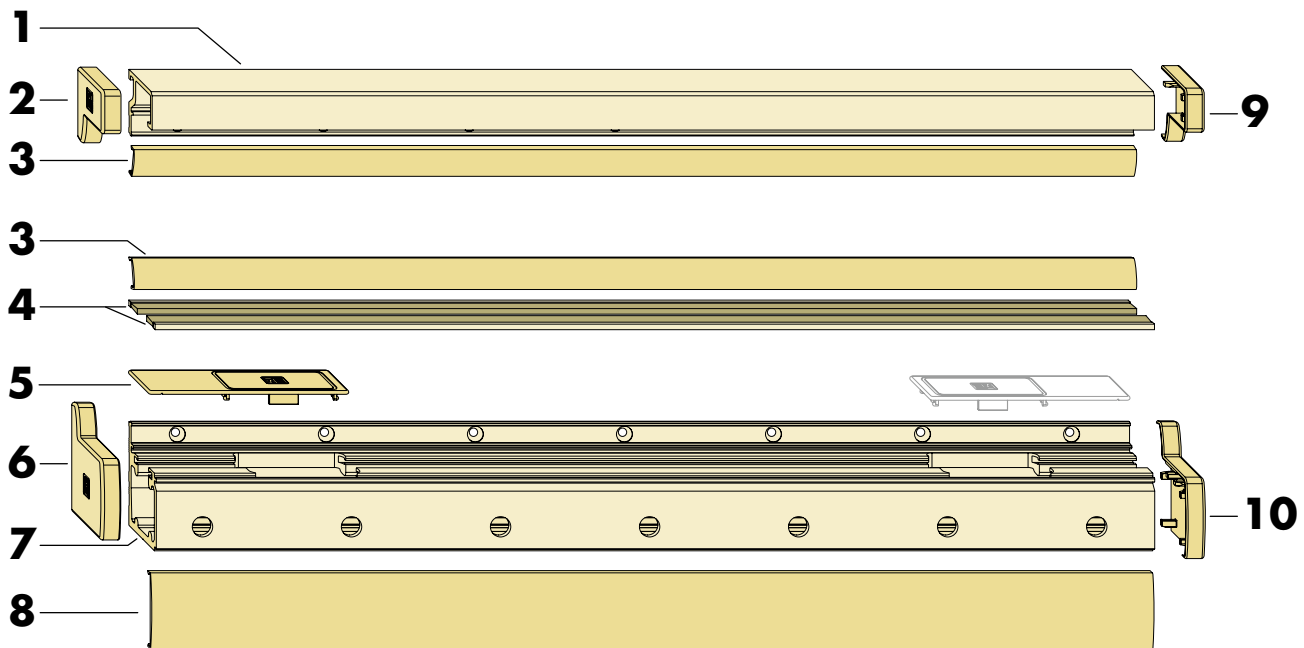


Fig. 39: Diagram of hardware profile set - inside or outside

Overview of set FS PLUS profile set - inside or outside

| No. | Material description | Size | Length | RAB | Material number | | | |
|-----|-----------------------|------|--------|-------------|-----------------|--------|-------------------|-------------------|
| | | | | | Base... | silver | RAL 9003 white | RAL 8022 brown |
| | Profile set FS PLUS | 250 | 2500 | - 2500 | PMPG0100- | 52501_ | 50201_ | 51201_ |
| | | 350 | 3500 | 2501 - 3500 | PMPG0110- | 52501_ | 50201_ | 51201_ |
| | | 450 | 4500 | 3501 - 4500 | PMPG0120- | 52501_ | 50201_ | 51201_ |
| | consists of: | 670 | 6700 | 4501 - 6500 | PMPG0130- | 52501_ | 50201_ | 51201_ |
| 1 | Guiding rail PLUS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 2 | End cap F FS left | | | | | | | |
| 3 | Cover rail PLUS F | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 4 | Sealing brush FS PLUS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 5 | Cover cap L FS | | | | | | | |
| 6 | End cap L FS left | | | | | | | |

Overview of set FS PLUS profile set - inside or outside

| No. | Material description | Size | Length | RAB | Material number | | | |
|-----|----------------------|------|--------|-------------|-----------------|------------------|--------|-------------------|
| | | | | | Base... | ...Colour number | silver | RAL 9003 white |
| 7 | Running rail PLUS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 8 | Cover rail PLUS L | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 6500 | | | | |
| 9 | End cap F FS right | | | | | | | |
| 10 | End cap L FS right | | | | | | | |

6.2.41 Hardware FS PLUS - profile set - inside or outside

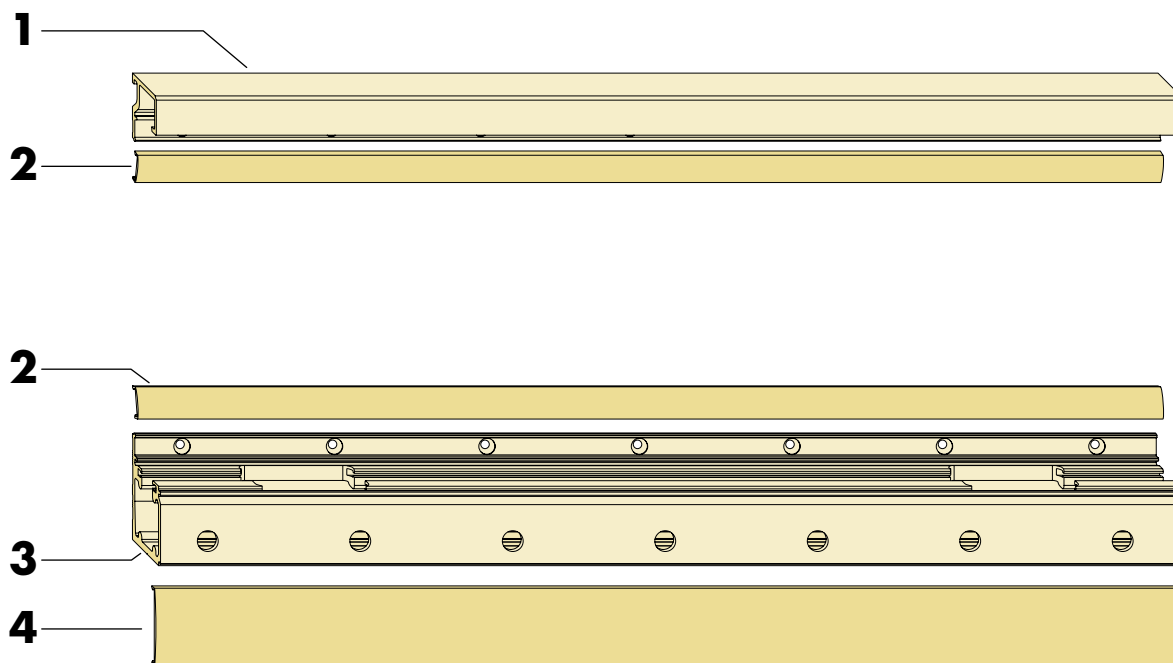


Fig. 40: Diagram of hardware profile set - inside or outside

Overview of set FS PLUS profile set - inside or outside

| No. | Material description | Size | Length | RAB | Material number | | | |
|-----|----------------------|------|--------|-------------|-----------------|--------|---------------------------------------|-------------------|
| | | | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown |
| | Profile set FS PLUS | 250 | 2500 | - 2500 | PMPG0200- | 52501_ | 50201_ | 51201_ |
| | | 350 | 3500 | 2501 - 3500 | PMPG0210- | 52501_ | 50201_ | 51201_ |
| | | 450 | 4500 | 3501 - 4500 | PMPG0220- | 52501_ | 50201_ | 51201_ |
| | consists of: | 670 | 6700 | 4501 - 6500 | PMPG0230- | 52501_ | 50201_ | 51201_ |
| 1 | Guiding rail PLUS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 2 | Cover rail PLUS F | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 3 | Running rail PLUS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 4 | Cover rail PLUS L | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |

6.2.42 Hardware FS PLUS - cover caps for profile set - inside or outside

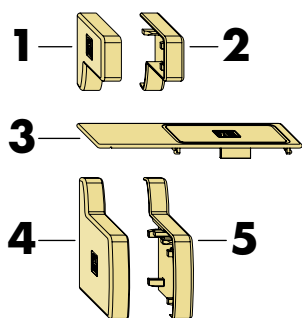


Fig. 41: Diagram of hardware cover caps for profile set - inside or outside

Cover caps for FS PLUS profile set - inside or outside

| No. | Material description | Size | Length | RAB | Material number | | | |
|-----|---|------|--------|-----|-----------------|--------|---------------------------------------|-------------------|
| | | | | | Base... | silver | ...Colour number RAL 9003 white | RAL 8022 brown |
| | Bag of cover caps - FS PLUS consists of: | | | | PMAG0060- | 02501_ | 00201_ | 01201_ |
| 1 | End cap F FS left | | | | | | | |
| 2 | End cap F FS right | | | | | | | |
| 3 | Cover cap L FS | | | | | | | |
| 4 | End cap L FS left | | | | | | | |
| 5 | End cap L FS right | | | | | | | |

6.2.43 Hardware FS PLUS - sealing brush for profile set - inside

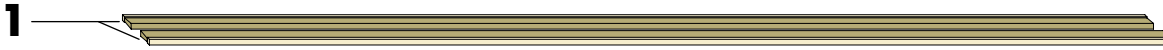


Fig. 42: Diagram of hardware cover caps for profile set - inside

Overview of set FS PLUS profile set - inside

| No. | Material description | Size | Length | | Material number |
|-----|-----------------------|------|--------|--|-----------------|
| 1 | Sealing brush FS PLUS | 670 | 6700 | | PPDG0020-09901_ |
| | | 9M | 9000 | | PPDG0030-09901_ |
| | | 14M | 14000 | | PPDG0040-09901_ |

6.2.44 Hardware FS PLUS - profile set barrier-free - inside

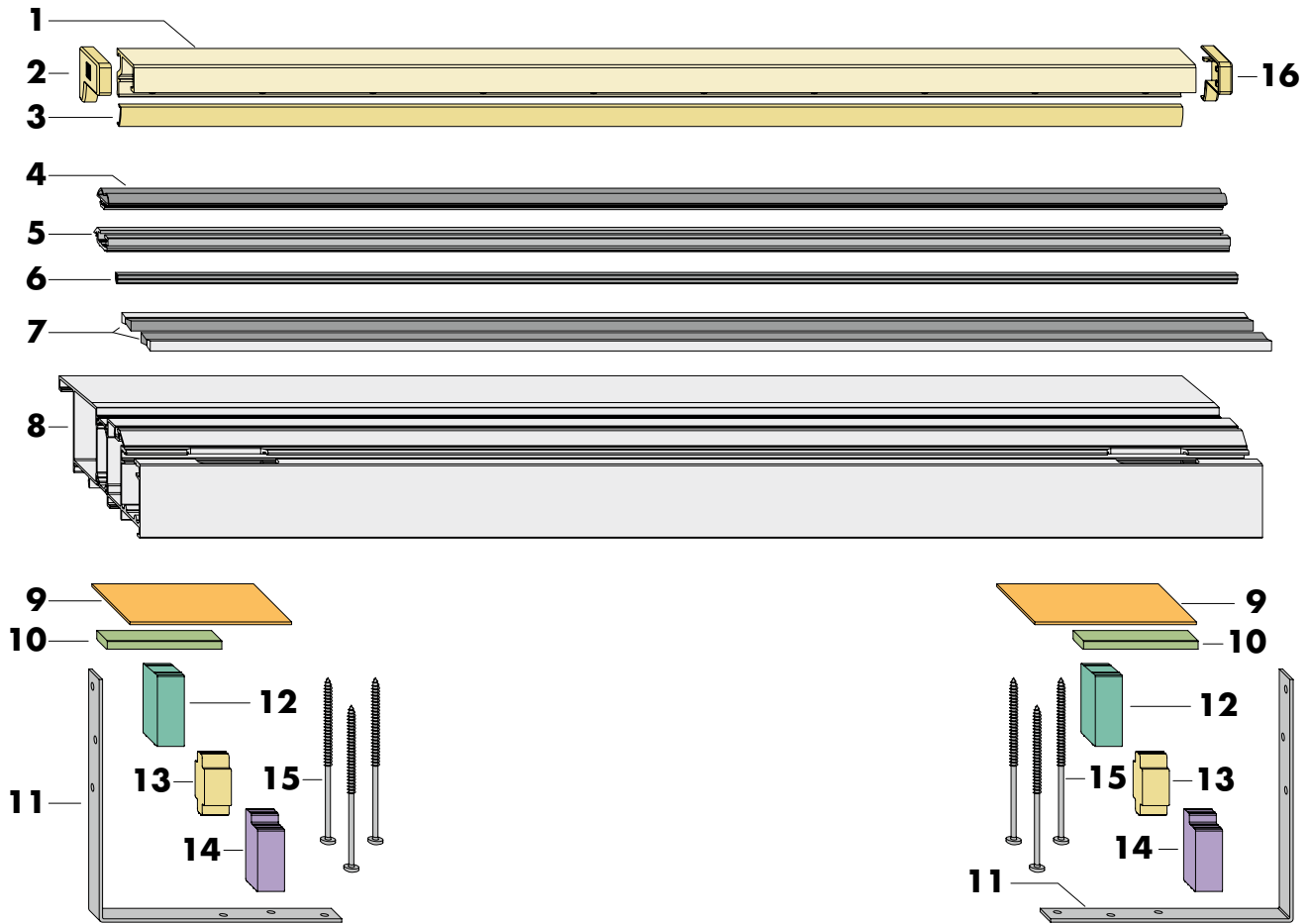


Fig. 43: Diagram of hardware FS PLUS profile set barrier-free - inside

Overview of set FS PLUS profile set barrier-free - inside

| No. | Material description | Size | Length | RAB | Material number | | | |
|-----|----------------------|------|--------|-------------|-----------------|--------|---------------------------------------|----------------|
| | | | | | Base... | silver | ...Colour number RAL 9003 white | dark bronze |
| | Profile set FS PLUS | 250 | 2500 | - 2500 | PMBG0110- | 52501_ | 50201_ | 51201_ |
| | | 350 | 3500 | 2501 - 3500 | PMBG0110- | 52501_ | 50201_ | 51201_ |
| | | 450 | 4500 | 3501 - 4500 | PMBG0110- | 52501_ | 50201_ | 51201_ |
| | consists of: | 670 | 6700 | 4501 - 6500 | PMBG0110- | 52501_ | 50201_ | 51201_ |
| 1 | Guiding rail PLUS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 2 | End cap PLUS F Li | | | | | | | |
| 3 | Cover rail PLUS F | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |

Overview of set FS PLUS profile set barrier-free - inside

| No. | Material description | Size | Length | RAB | Material number | | | |
|-----|---|------|--------|-------------|-----------------|------------------|-------------------|----------------|
| | | | | | Base... | ...Colour number | | |
| | | | | | | silver | RAL 9003 white | dark bronze |
| 4 | Seal FS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 5 | Sealing strip FS | | | | | | | |
| 6 | Infill strip | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 7 | Brush seal | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 6500 | | | | |
| 8 | Threshold FS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 6500 | | | | |
| | Carton frame corner connection FS consists of: | | | | PMRG0010- | 00001_ | | |
| 9 | Sealing plate FS | | | | | | | |
| 10 | Sealing part FS | | | | | | | |
| 11 | Corner angle FS | | | | | | | |
| 12 | Supporting part FS 1 | | | | | | | |
| 13 | Supporting part FS 3 | | | | | | | |
| 14 | Supporting part FS 2 | | | | | | | |
| 15 | Clamping screws D 6 x 130 | | | | | | | |

6.2.45 Hardware FS - profile set barrier-free - inside (old)

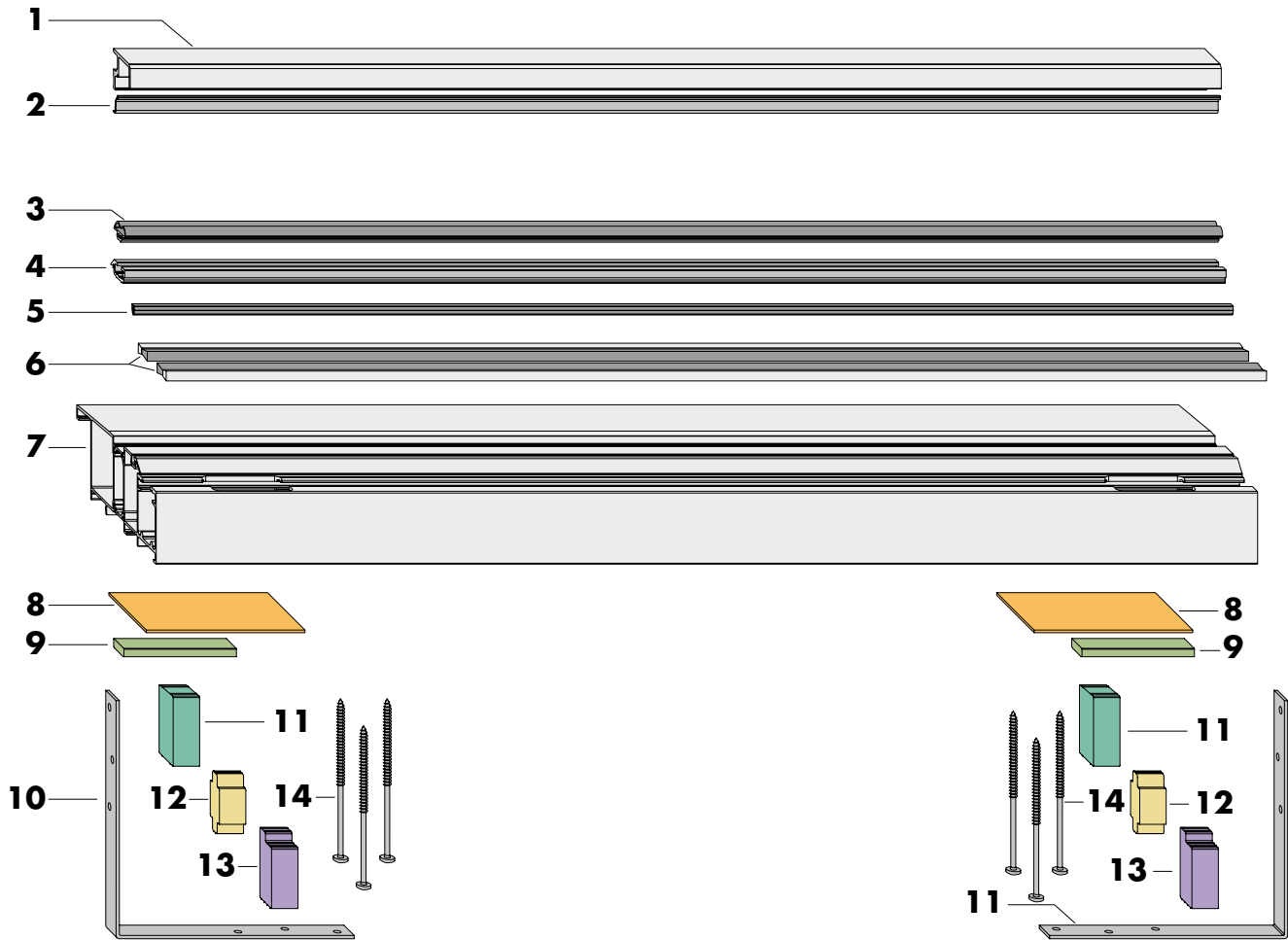


Fig. 44: Diagram of hardware profile set barrier-free - inside (old)

Overview of set FS profile set barrier-free - inside

| No. | Material description | Size | Length | RAB | Material number | | | |
|-----|----------------------|------|--------|-------------|-----------------|------------------|-------------------|----------------|
| | | | | | Base... | ...Colour number | | |
| | | | | | | silver | RAL 9003 white | dark bronze |
| | Profile set FS | 250 | 2500 | - 2500 | PMBG0010- | 52501_ | - | - |
| | | 350 | 3500 | 2501 - 3500 | PMBG0020- | 52501_ | - | - |
| | | 450 | 4500 | 3501 - 4500 | PMBG0030- | 52501_ | - | - |
| | consists of: | 670 | 6700 | 4501 - 6500 | PMBG0040- | 52501_ | - | - |
| 1 | Guiding rail | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 2 | Cover rail F | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |

Overview of set FS profile set barrier-free - inside

| No. | Material description | Size | Length | RAB | Material number | | | |
|-----|---|------|--------|-------------|-----------------|--------|---------------------------------------|----------------|
| | | | | | Base... | silver | ...Colour number RAL 9003 white | dark bronze |
| 3 | Seal FS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 4 | Sealing strip FS | | | | | | | |
| 5 | Infill strip | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 - 6500 | | | | |
| 6 | Brush seal | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 6500 | | | | |
| 7 | Threshold FS | 250 | 2500 | - 2500 | | | | |
| | | 350 | 3500 | 2501 - 3500 | | | | |
| | | 450 | 4500 | 3501 - 4500 | | | | |
| | | 670 | 6700 | 4501 6500 | | | | |
| | Carton frame corner connection FS consists of: | | | | PMRG0010- | 00001_ | | |
| 8 | Sealing plate FS | | | | | | | |
| 9 | Sealing part FS | | | | | | | |
| 10 | Corner angle FS | | | | | | | |
| 11 | Supporting part FS 1 | | | | | | | |
| 12 | Supporting part FS 3 | | | | | | | |
| 13 | Supporting part FS 2 | | | | | | | |
| 14 | Clamping screws D 6 x 130 | | | | 844953 | | | |

6.2.46 Hardware FS - profile set barrier-free - single parts

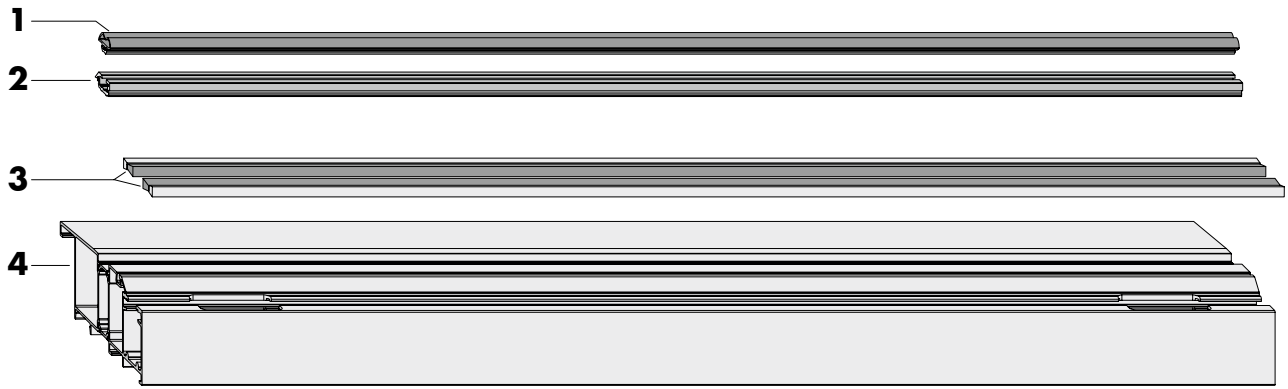


Fig. 45: Diagram of hardware profile set barrier-free - inside single parts

Overview of set FS PLUS profile set barrier-free - inside single parts

| No. | Material description | Size | Length | | Material number |
|-----|----------------------|------|--------|-------------|-----------------|
| 3 | Seal FS | 670 | 6700 | - | PDPG0010-09901_ |
| 4 | Sealing strip FS | 670 | 6700 | | PPDG0010-02301_ |
| 6 | Brush seal | 670 | 6700 | | PPDG0020-09901_ |
| 7 | Threshold FS | 250 | 2500 | - 2500 | PPBG0010-52401_ |
| | | 350 | 3500 | 2501 - 3500 | PPBG0020-52401_ |
| | | 450 | 4500 | 3501 - 4500 | PPBG0030-52401_ |
| | | 670 | 6700 | 4501 6500 | PPBG0040-52401_ |

CATALOGUE PORTAL

6. 3. Accessories PORTAL FS PLUS

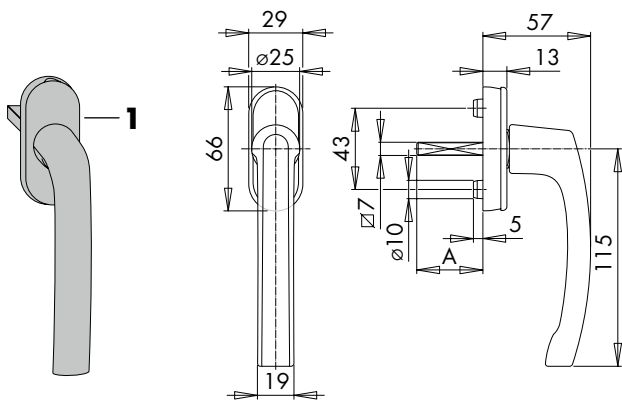
Contents

Page

| | | |
|----------|---|-----|
| 6.3.1 | Handle Globe | 108 |
| 6.3.2 | Handle Globe SEC | 109 |
| 6.3.3 | Handle Globe lockable | 110 |
| 6.3.4 | Handle Globe DKN | 111 |
| 6.3.5 | Handle Globe removable | 112 |
| 6.3.6 | Handle Globe flat | 113 |
| 6.3.7 | Handle Globe TL/PZ | 114 |
| 6.3.8 | Handle Globe TL/PZ outside flat | 115 |
| 6.3.9 | Handle Si-line | 116 |
| 6.3.10 | Handle Si-line lockable | 117 |
| 6.3.11 | Handle Si-line flat | 118 |
| 6.3.12 | Handle Si-line removable | 119 |
| 6.3.13 | Handle Si-line TL/PZ | 120 |
| 6.3.14 | Handle Si-line TL/PZ outside flat | 121 |
| 6.3.15 | Bar handle | 122 |
| 6.3.16 | Handle PORTAL FS flat | 123 |
| 6.3.17 | AEROCNTROL | 124 |
| 6.3.18 | Accessories individual parts | 125 |
| 6.3.18.1 | Sleeve nut M 5 | 125 |
| 6.3.18.2 | Key 2W 145 | 125 |
| 6.3.18.3 | Distance piece | 126 |
| 6.3.18.4 | Supporting plate A0089 | 126 |
| 6.3.18.5 | Packer E | 127 |
| 6.3.18.6 | Packer FB | 127 |
| 6.3.18.7 | Sash hinge FS-RS | 128 |
| 6.3.19 | Jigs | 129 |
| 6.3.20.1 | Adjustment instructions | 133 |
| 6.3.20.2 | Notes on scheme 220, 440 and 660 | 134 |

Technische und farbliche Änderungen vorbehalten.

6.3.1 Handle Globe



Dimension A = spindle length

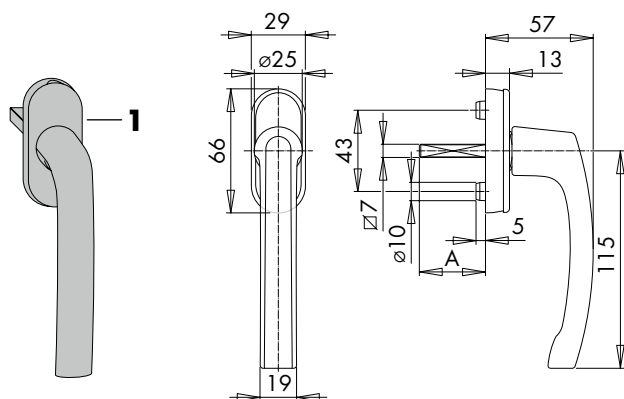
Lug diameter 12 mm and alternative spindle lengths available upon request

Fig. 46: Figure Handle Globe

| | | handles | | | | | | | | | | | | | |
|-----|----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Globe | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|----------------------|-------------|-----------------------------|-----------------|-----------------|
| | | | | 1 pieces | 100 pieces |
| 1 | Handle Globe 31 | 31 | RAL 9016 traffic white | ZHGS0010-00401_ | ZHGS0010-00406_ |
| | | | EV 1 silver | ZHGS0010-02401_ | ZHGS0010-02406_ |
| | | | F 3 matt gold | ZHGS0010-0I201_ | ZHGS0010-0I206_ |
| | Handle Globe 35 | 35 | RAL 9016 traffic white | ZHGS0020-00401_ | ZHGS0020-00406_ |
| | | | RAL 8022 black brown | ZHGS0020-01201_ | ZHGS0020-01206_ |
| | | | EV 1 silver | ZHGS0020-02401_ | ZHGS0020-02406_ |
| | | | F 9 aluminium-steel colours | ZHGS0020-0H401_ | ZHGS0020-0H406_ |
| | | | F 3 matt gold | ZHGS0020-0I201_ | ZHGS0020-0I206_ |
| | | | F 4 bronze | ZHGS0020-0K601_ | ZHGS0020-0K606_ |
| | Handle Globe 40 | 40 | RAL 9016 traffic white | ZHGS1000-00401_ | ZHGS1000-00406_ |
| | | | RAL 8022 black brown | ZHGS1000-01201_ | ZHGS1000-01206_ |
| | | | EV 1 silver | ZHGS1000-02401_ | ZHGS1000-02406_ |
| | | | F 9 aluminium-steel colours | ZHGS1000-0H401_ | ZHGS1000-0H406_ |
| | | | F 4 bronze | ZHGS1000-0K601_ | ZHGS1000-0K606_ |

6.3.2 Handle Globe SEC



Impedes the distortion of the square spindle and therefore prevents the window gear from being pushed from the outside.

Dimension A = spindle length

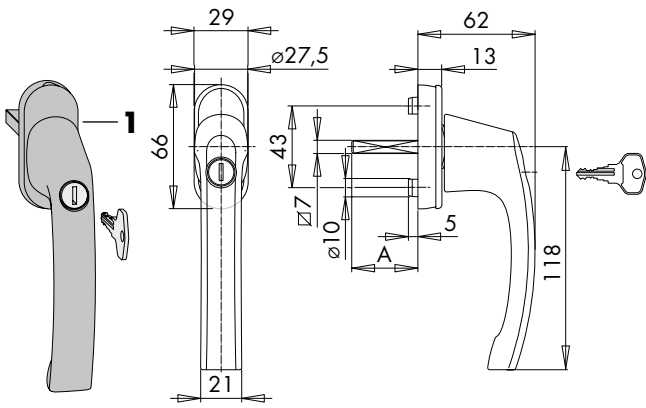
Lug diameter 12 mm and alternative spindle lengths available upon request

Fig. 47: Figure Handle Globe SEC

| | | handles | | | | | | | | | | | | | |
|-----|----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Globe SEC | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----------------------------|----------------------|-------------|-----------------------------|-----------------|-----------------|
| | | | | 1 pieces | 100 pieces |
| 1 | Handle Globe SEC 25 | 25 | RAL 9016 traffic white | ZHGS0100-00401_ | ZHGS0100-00406_ |
| | | | RAL 8022 black brown | ZHGS0100-01201_ | ZHGS0100-01206_ |
| | | | F 9 aluminium-steel colours | ZHGS0100-0H401_ | ZHGS0100-0H406_ |
| | | | F 4 bronze | ZHGS0100-0K601_ | ZHGS0100-0K606_ |
| | Handle Globe SEC 31 | 31 | RAL 9016 traffic white | ZHGS0050-00401_ | ZHGS0050-00406_ |
| | | | EV 1 silver | ZHGS0050-02401_ | ZHGS0050-02406_ |
| | | | F 9 aluminium-steel colours | ZHGS0050-0H401_ | ZHGS0050-0H406_ |
| | | | F 3 matt gold | - | ZHGS0050-0I206_ |
| | Handle Globe SEC 35 | 35 | RAL 9016 traffic white | ZHGS0060-00401_ | ZHGS0060-00406_ |
| | | | RAL 8022 black brown | ZHGS0060-01201_ | ZHGS0060-01206_ |
| | | | EV 1 silver | ZHGS0060-02401_ | ZHGS0060-02406_ |
| | | | F 9 aluminium-steel colours | ZHGS0060-0H401_ | ZHGS0060-0H406_ |
| | | | F 3 matt gold | ZHGS0060-0I201_ | ZHGS0060-0I206_ |
| | | | F 4 bronze | ZHGS0060-0K601_ | ZHGS0060-0K606_ |
| | Handle Globe SEC 40 | 40 | RAL 9016 traffic white | ZHGS0110-00401_ | ZHGS0060-00406_ |
| | | | RAL 8022 black brown | ZHGS0110-01201_ | ZHGS0110-01206_ |
| EV 1 silver | | | ZHGS0110-02401_ | ZHGS0110-02406_ | |
| F 9 aluminium-steel colours | | | ZHGS0110-0H401_ | ZHGS0110-0H406_ | |
| F 3 matt gold | | | ZHGS0110-0I201_ | ZHGS0110-0I206_ | |
| F 4 bronze | | | ZHGS0110-0K601_ | ZHGS0110-0K606_ | |

6.3.3 Handle Globe lockable



Lockable with push cylinder

Handle Globe ABS40: 40 Nm resistance to turning and breaking off

Handle Globe ABS100: 100 Nm resistance to turning and breaking off in accordance with DIN EN 1627

Dimension A = spindle length

Lug diameter 12 mm and alternative spindle lengths available upon request

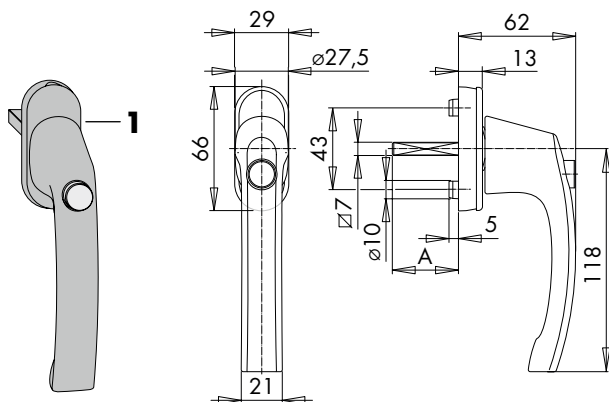
Fig. 48: Figure Handle Globe lockable

| | | handles | | | | | | | | | | | | | |
|-----|----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Globe ABS... | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----------------------------|-----------------------|-------------|-----------------------------|-----------------|-----------------|
| | | | | 1 pieces | 10 pieces |
| 1 | Handle Globe ABS40 31 | 31 | EV 1 silver | ZHGA0010-02401_ | ZHGA0010-02402_ |
| | Handle Globe ABS40 35 | 35 | RAL 9016 traffic white | ZHGA0020-00401_ | ZHGA0020-00402_ |
| | | | RAL 8022 black brown | ZHGA0020-01201_ | ZHGA0020-01202_ |
| | | | EV 1 silver | - | ZHGA0020-02402_ |
| | | | F 9 aluminium-steel colours | ZHGA0020-0H401_ | ZHGA0020-0H402_ |
| | | | F 4 bronze | ZHGA0020-0K401_ | ZHGA0020-0K402_ |
| | Handle Globe ABS40 40 | 40 | RAL 9016 traffic white | ZHGA0070-00401_ | ZHGA0070-00402_ |
| | | | RAL 8022 black brown | ZHGA0070-01201_ | ZHGA0070-01202_ |
| | | | EV 1 silver | ZHGA0070-02401_ | ZHGA0070-02402_ |
| F 9 aluminium-steel colours | | | ZHGA0070-0H401_ | ZHGA0070-0H402_ | |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|------------------------|-------------|-------------|-----------------|-----------------|
| | | | | 1 pieces | 10 pieces |
| 1 | Handle Globe ABS100 31 | 31 | EV 1 silver | ZHGA0030-02401_ | ZHGA0030-02402_ |
| | Handle Globe ABS100 40 | 40 | EV 1 silver | ZHGA0090-02401_ | ZHGA0090-02402_ |

6.3.4 Handle Globe DKN



lockable with pressure key (DKN)

Impedes the distortion of the square spindle and therefore prevents the window gear from being pushed from the outside.

Dimension A = spindle length

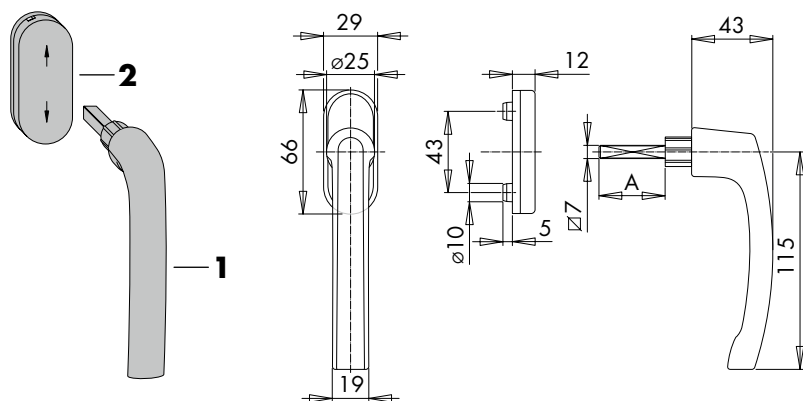
Lug diameter 12 mm and alternative spindle lengths available upon request

Fig. 49: Figure Handle Globe DKN

| | | handles | | | | | | | | | | | | | |
|-----|---|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Globe DKN (lockable with pressure key) | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|-----------------------------|-----------------|------------------------|-----------------|-----------------|
| | | | | 1 pieces | 10 pieces |
| 1 | Handle Globe DKN 35 | 35 | RAL 9016 traffic white | ZHGD0020-00401_ | ZHGD0020-00402_ |
| | | | EV 1 silver | ZHGD0020-02401_ | ZHGD0020-02402_ |
| | Handle Globe DKN 40 | | RAL 9016 traffic white | ZHGD0030-00401_ | ZHGD0030-00402_ |
| | | | RAL 8022 black brown | ZHGD0030-01201_ | ZHGD0030-01202_ |
| | | | EV 1 silver | ZHGD0030-02401_ | ZHGD0030-02402_ |
| | F 9 aluminium-steel colours | ZHGD0030-0H401_ | ZHGD0030-0H402_ | | |

6.3.5 Handle Globe removable



Dimension A = spindle length

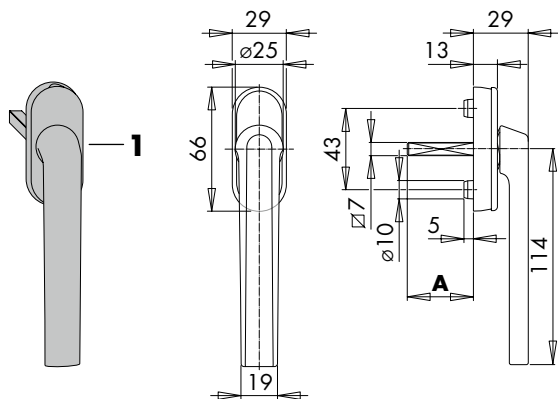
Lug diameter 12 mm and alternative spindle lengths available upon request

Fig. 50: Figure Handle Globe removable

| | | handles | | | | | | | | | | | | | |
|-----|---------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Globe removable 45 | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| 2 | Rose Globe .. | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|---------------------------|-------------|-----------------------------|-----------------|-----------------|
| | | | | 1 pieces | 10 pieces |
| 1 | Handle Globe removable 45 | 45 | RAL 9016 traffic white | ZHGN0010-00401_ | ZHGN0010-00402_ |
| 2 | Rose Globe .. | | RAL 9016 traffic white | ZHGR0030-00401_ | ZHGR0030-00402_ |
| | | | F 9 aluminium-steel colours | ZHGR0030-0H401_ | ZHGR0030-0H402_ |

6.3.6 Handle Globe flat



Dimension A = spindle length

Fig. 51: Figure Handle Globe flat

| | | handles | | | | | | | | | | | | | |
|-----|----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Globe flat 35 | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|----------------------|-------------|------------------------|-----------------|-----------------|
| | | | | 1 pieces | 100 pieces |
| 1 | Handle Globe flat 35 | 35 | RAL 9016 traffic white | ZHGF0040-00401_ | ZHGF0040-00406_ |

6.3.7 Handle Globe TL/PZ

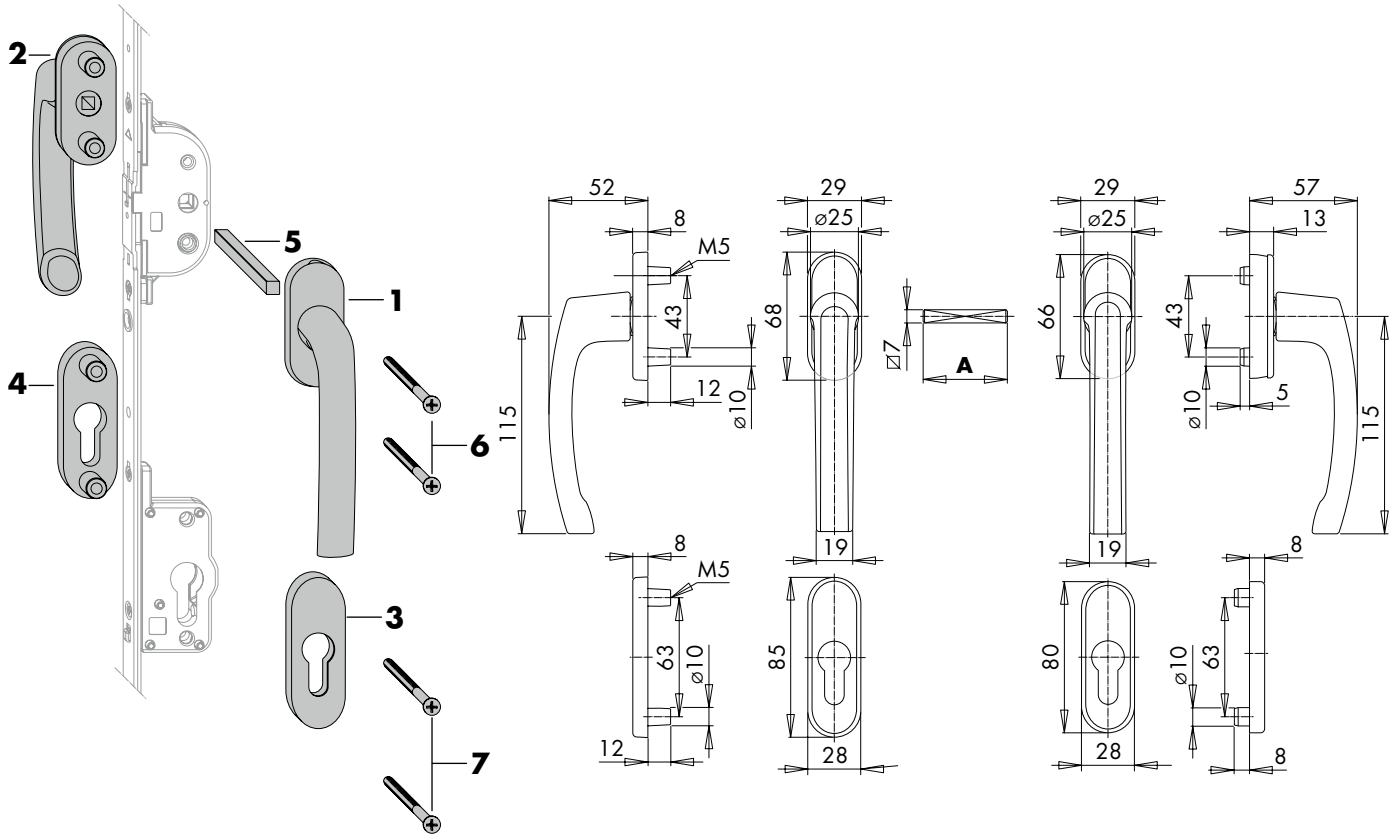


Fig. 52: Figure Handle Globe TL/PZ

Dimension A = spindle length

Suitable for standard profile cylinders

| | | handles | | | | | | | | | | | | | |
|-------|----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 - 4 | Handle Globe TL/PZ | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| 5 - 7 | Accessories TL/PZ | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-------|----------------------------|-------------|-----------------------------|-----------------|-----------------|
| | | | | 1 pieces | 10 pieces |
| 1 - 4 | Handle Globe TL/PZ | | RAL 9016 traffic white | ZHGP0010-00401_ | ZHGP0010-00402_ |
| | | | EV 1 silver | - | ZHGP0010-02402_ |
| | | | F 9 aluminium-steel colours | ZHGP0010-0H401_ | ZHGP0010-0H402_ |
| | | | F 4 bronze | ZHGP0010-0K601_ | ZHGP0010-0K602_ |
| 5 - 7 | Accessories TL/PZ PD 55-64 | 115 | Titanium silver | ZMZP0030-10001_ | - |
| | Accessories TL/PZ PD 65-74 | 125 | Titanium silver | ZMZP0020-10001_ | - |
| | Accessories TL/PZ PD 75-84 | 135 | Titanium silver | ZMZP0010-10001_ | - |
| | Accessories TL/PZ PD 85-94 | 145 | Titanium silver | ZMZP0040-10001_ | - |

6.3.8 Handle Globe TL/PZ outside flat

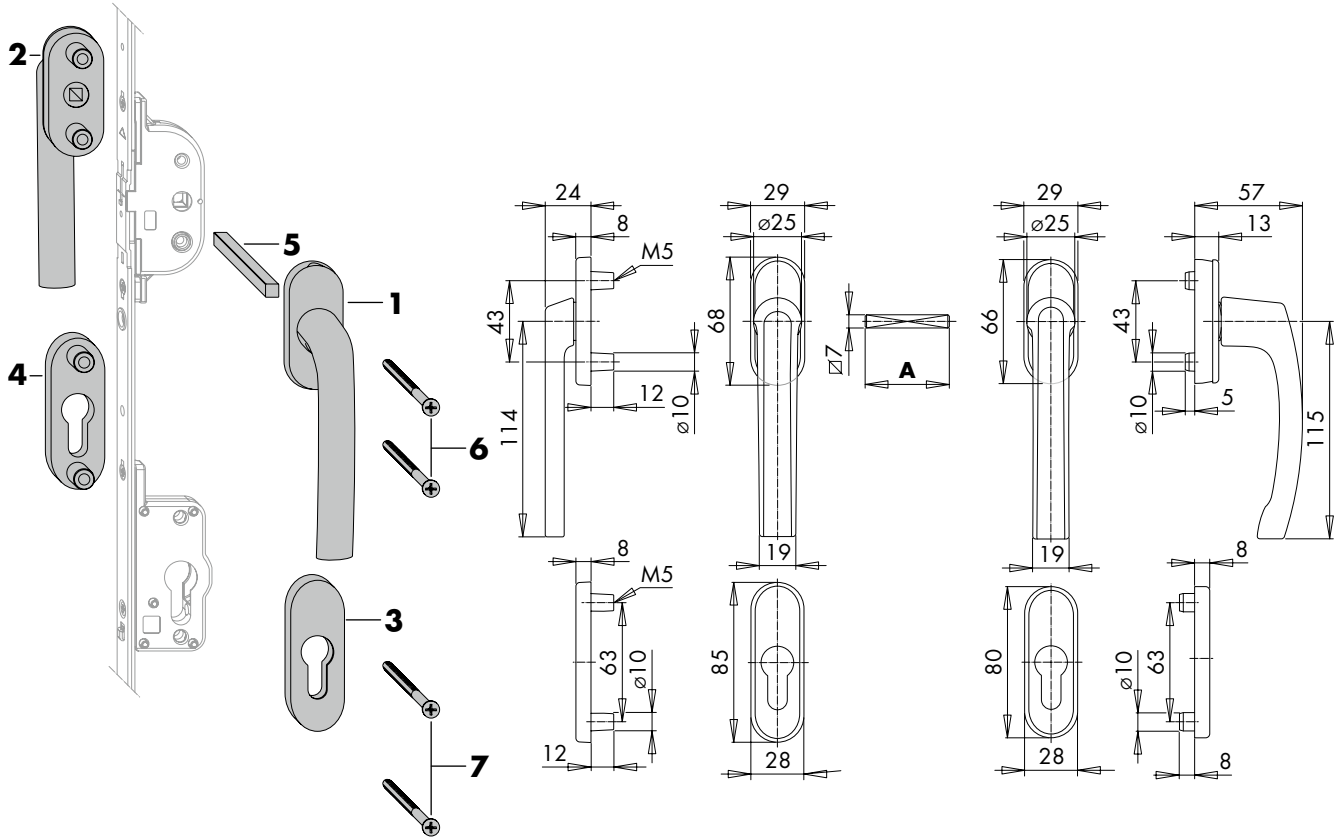


Fig. 53: Figure Handle Globe TL/PZ outside flat

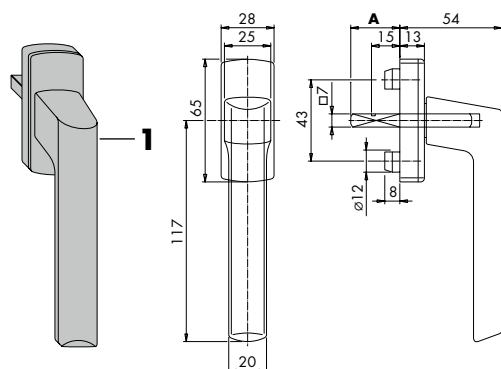
Dimension A = spindle length

Suitable for standard profile cylinders

| | | handles | | | | | | | | | | | | | |
|-------|---------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 - 4 | Handle Globe outside flat | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| 5 - 7 | Accessories TL/PZ | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-------|---------------------------------|-------------|-----------------------------|-----------------|-----------------|
| | | | | 1 pieces | 10 pieces |
| 1 - 4 | Handle Globe TL/PZ outside flat | | RAL 9016 traffic white | ZHGP0020-00401_ | ZHGP0020-00402_ |
| | | | EV 1 silver | - | ZHGP0020-02402_ |
| | | | F 9 aluminium-steel colours | ZHGP0020-0H401_ | ZHGP0020-0H402_ |
| | | | F 4 bronze | ZHGP0020-0K601_ | ZHGP0020-0K602_ |
| 5 - 7 | Accessories TL/PZ PD 55-64 | 115 | Titanium silver | ZMZP0030-10001_ | - |
| | Accessories TL/PZ PD 65-74 | 125 | Titanium silver | ZMZP0020-10001_ | - |
| | Accessories TL/PZ PD 75-84 | 135 | Titanium silver | ZMZP0010-10001_ | - |
| | Accessories TL/PZ PD 85-94 | 145 | Titanium silver | ZMZP0040-10001_ | - |

6.3.9 Handle Si-line



Dimension A = spindle length
Lug diameter 12 mm

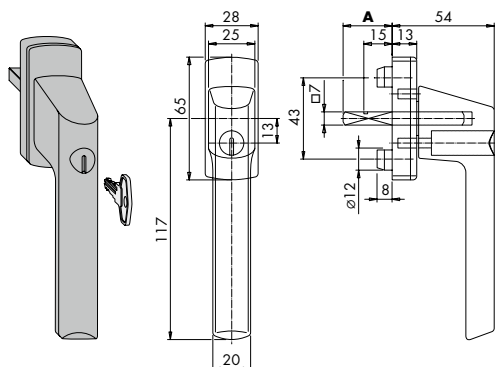
Fig. 54: Figure Handle Si-line

| | | handles | | | | | | | | | | | | | |
|-----|----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Si-line | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|-------------------------|-------------|------------------------|-----------------|-----------------|
| | | | | 1 pieces | 10/100 piece |
| 1 | Handle Globe Si-line 26 | 26 | RAL 9016 traffic white | 872130 | 259078* |
| | | | EV 1 silver | 872123 | 259061 |
| | Handle Globe Si-line 31 | 31 | RAL 9003 signal white | 844052 | 234990 |
| | | | RAL 8019 grey brown | 844069 | 235003 |
| | | | EV 1 silver | 864715 | 252314 |
| | | | EV 2 champagne | 869024 | 239070 |
| | | | Titan matt bright | 848647 | 238981 |
| | | | Si-gold matt | 848654 | 238998 |
| | Handle Globe Si-line 35 | 35 | RAL 9003 signal white | 853856 | 243947 |
| | | | RAL 8019 grey brown | 853863 | 243954 |
| | | | RAL 8022 black brown | 895986 | 307250 |
| | | | EV 1 silver | 869055 | 256473 |
| | | | EV 2 champagne | 869352 | 256756 |
| | | | Titan matt bright | 869079 | 256497 |
| | Handle Globe Si-line 40 | 40 | RAL 9003 signal white | 868973 | 256374 |
| | | | RAL 8019 grey brown | ZHSS3210-01101_ | ZHSS3210-01106_ |
| | | | Titan matt bright | ZHSS3210-03401_ | ZHSS3210-03406_ |
| | Handle Globe Si-line 45 | 45 | RAL 9003 signal white | ZHSS0030-00201_ | ZHSS0030-00206_ |
| | | | EV 1 silver | ZHSS0030-02401_ | ZHSS0030-02406_ |

* 7 Packaging unit 10 piece

6.3.10 Handle Si-line lockable



Lockable with push cylinder

Handle Si-line lockable: 100 Nm resistance to turning and breaking off in accordance with DIN EN 1627

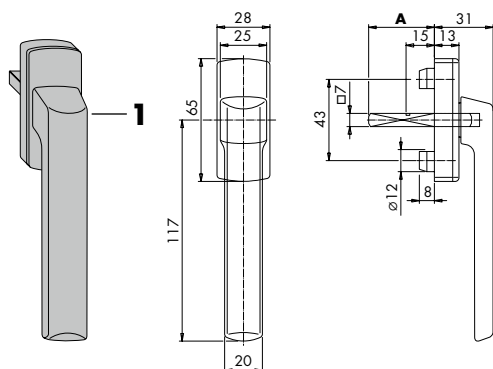
Dimension A = spindle length

Fig. 55: Figure Handle Si-line lockable

| | | handles | | | | | | | | | | | | | |
|-----|-------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | handle Si-line lockable | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----------------------|-----------------------|-------------------|------------------------|-----------------|-----------------|
| | | | | 1 pieces | 10 pieces |
| 1 | Handle Si-line ABS 26 | 26 | RAL 9016 traffic white | ZHSA3000-00401_ | ZHGS3000-00402_ |
| | Handle Si-line ABS 31 | 31 | RAL 9003 signal white | 852392 | 242629 |
| | | | RAL 8019 grey brown | - | 242636 |
| | | | EV 1 silver | 868249 | 255902 |
| | | | EV 2 champagne | 861783 | 249734 |
| | | | Titan matt bright | 861776 | 249727 |
| | | | Si-gold matt | 861790 | 249741 |
| | Handle Si-line ABS 35 | 35 | RAL 9003 signal white | 862575 | 250471 |
| | | | RAL 8019 grey brown | 862582 | 250488 |
| | | | EV 1 silver | 880647 | 268360 |
| Titan matt bright | | | 900567 | 316740 | |
| Handle Si-line ABS 40 | 40 | Titan matt bright | ZHSA3020-03401_ | ZHSA3020-03402_ | |

6.3.11 Handle Si-line flat



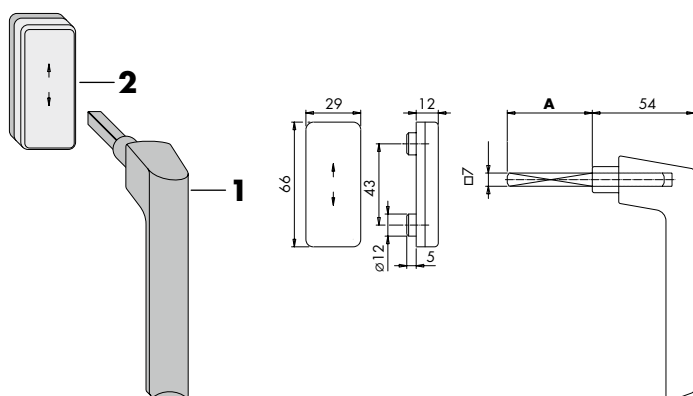
Dimension A = spindle length
Lug diameter 12 mm

Fig. 56: Figure Handle Si-line flat

| | | handles | | | | | | | | | | | | | |
|-----|----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Si-line flat | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|----------------------|-------------|-----------------------|-----------------|-----------|
| | | | | 1 pieces | 10 pieces |
| 1 | Handle Si-line flat | 35 | RAL 9003 signal white | 892473 | 300510 |
| | | | RAL 8019 grey brown | 892480 | 300527 |
| | | | EV 1 silver | 892428 | 300466 |

6.3.12 Handle Si-line removable



Dimension A = spindle length

Lug diameter 12 mm

Fig. 57: Figure Handle Si-line removable

| | | handles | | | | | | | | | | | | | |
|-----|--------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle Si-line removable | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| 2 | Rose Si-line .. | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|--------------------------|-------------|-----------------------|-----------------|-----------------|
| | | | | 1 pieces | 25/10 piece |
| 1 | Handle Si-line removable | 45 | RAL 9003 signal white | ZHAN0010-00201_ | ZHAN0010-00204_ |
| 2 | Rose Si-line .. | | RAL 9003 signal white | 862605 | 250495 |
| | | | RAL 8019 grey brown | 869833 | 257418 |
| | | | EV 1 silver | 869826 | 257401 |
| | | | RAL 9005 jet black | ZHSR0010-52301_ | ZHSR0010-52302_ |

Handle Si-line removable: Packaging unit 25 piece

Rose Si-line ..: Packaging unit 10 piece

6.3.13 Handle Si-line TL/PZ

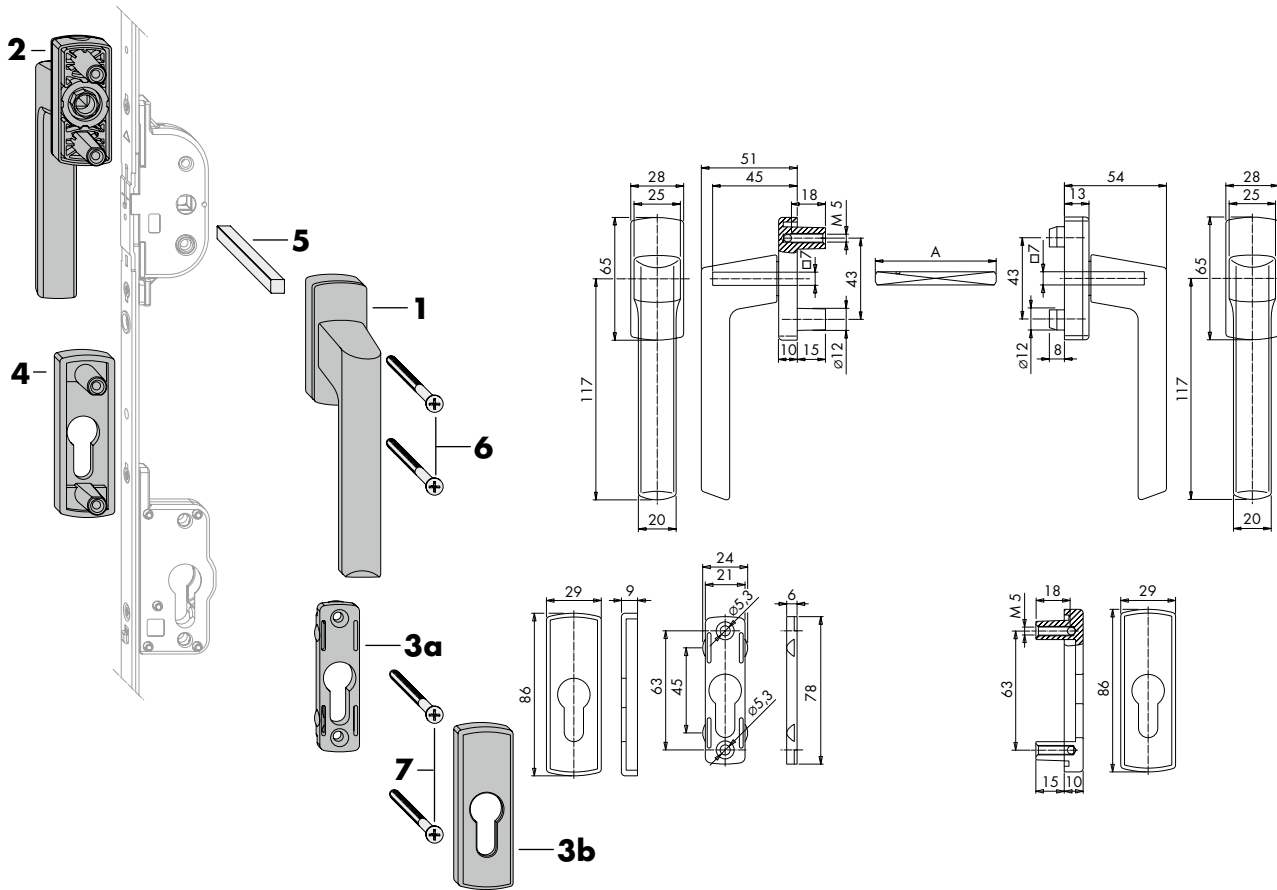


Fig. 58: Figure Handle Si-line TL/PZ

Dimension A = spindle length

Lug diameter 12 mm

| | | handles | | | | | | | | | | | | | |
|-----|------------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Bag of handles Si-line TL/PZ | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| 5-7 | Accessories TL/PZ ... | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|------------------------------|-------------|-----------------------|-----------------|-----------|
| | | | | 1 pieces | 10 pieces |
| 1 | Bag of handles Si-line TL/PZ | | RAL 9003 signal white | 871423 | 258538 |
| | | | RAL 8019 grey brown | 871430 | 258545 |
| | | | Si-silver | 871379 | 258484 |
| | | | Titan matt bright | 871393 | 258507 |
| | | | Si-gold matt | 871416 | 258521 |
| 5-7 | Accessories TL/PZ PD 55-64 | 115 | Titanium silver | ZMZP0030-10001_ | - |
| | Accessories TL/PZ PD 65-74 | 125 | Titanium silver | ZMZP0020-10001_ | - |
| | Accessories TL/PZ PD 75-84 | 135 | Titanium silver | ZMZP0010-10001_ | - |
| | Accessories TL/PZ PD 85-94 | 145 | Titanium silver | ZMZP0040-10001_ | - |

6.3.14 Handle Si-line TL/PZ outside flat

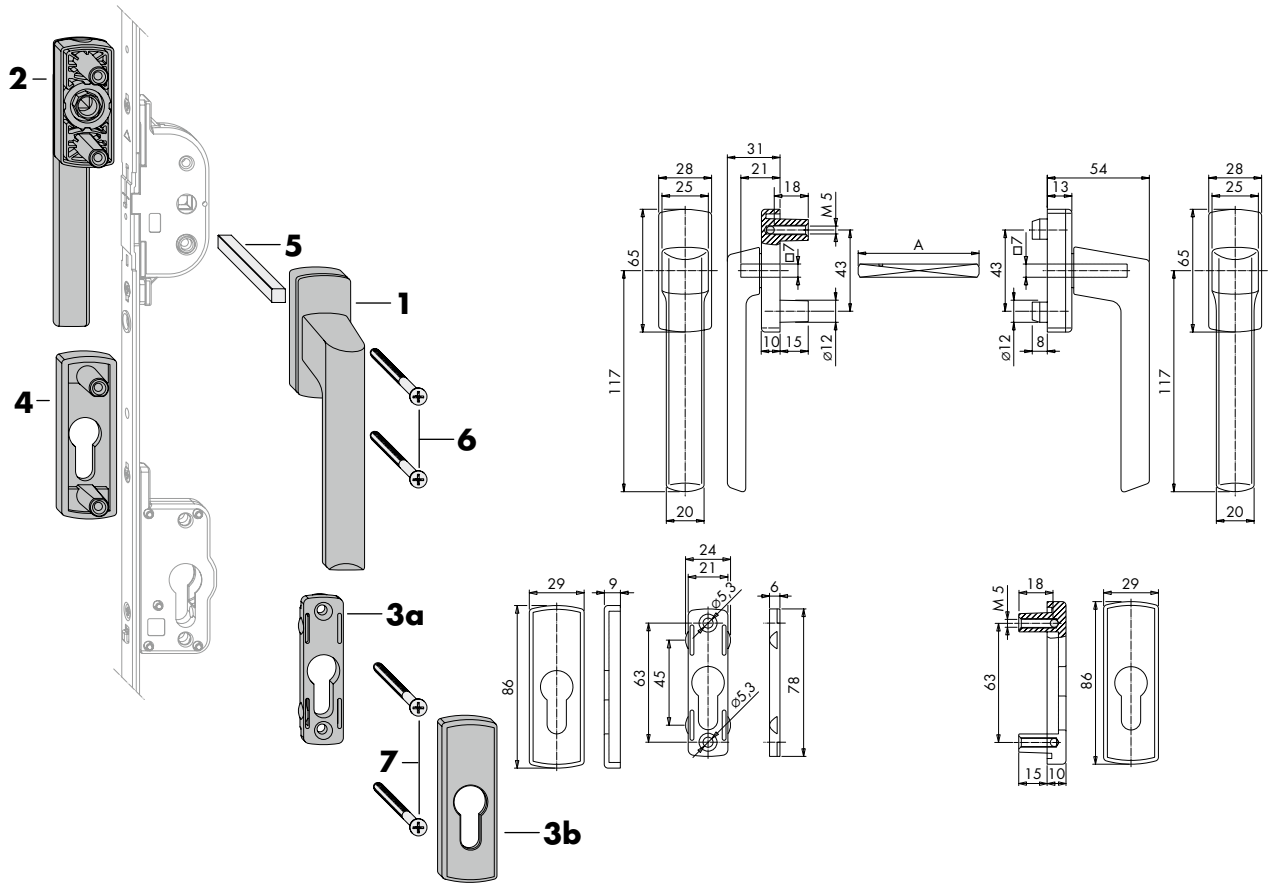


Fig. 59: Figure Handle Si-line TL/PZ flat

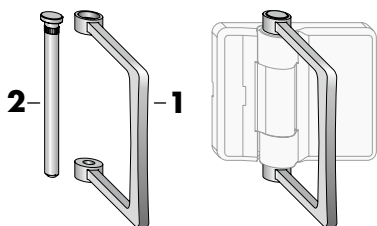
Dimension A = spindle length

Lug diameter 12 mm

| | | handles | | | | | | | | | | | | | |
|-----|-----------------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Bag of handles Si-line TL/PZ flat | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| 5-7 | Accessories TL/PZ ... | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|-----------------------------------|-------------|-----------------------|-----------------|-----------|
| | | | | 1 pieces | 10 pieces |
| 1 | Bag of handles Si-line TL/PZ flat | | RAL 9003 signal white | 870488 | 257944 |
| | | | RAL 8019 grey brown | 870495 | 257951 |
| | | | EV 1 silver | 870433 | 257890 |
| | | | Titan matt bright | 870457 | 257913 |
| | | | Si-gold matt | 870471 | 257937 |
| 5-7 | Accessories TL/PZ PD 55-64 | 115 | Titanium silver | ZMZP0030-10001_ | - |
| | Accessories TL/PZ PD 65-74 | 125 | Titanium silver | ZMZP0020-10001_ | - |
| | Accessories TL/PZ PD 75-84 | 135 | Titanium silver | ZMZP0010-10001_ | - |
| | Accessories TL/PZ PD 85-94 | 145 | Titanium silver | ZMZP0040-10001_ | - |

6.3.15 Bar handle



The bar handle can only be used with sash hinges FS 17/38, 17/48, 27/48

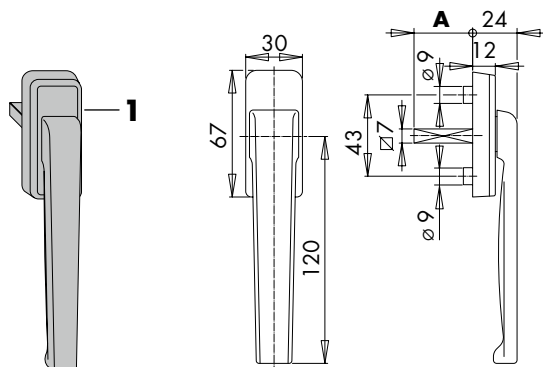
Fig. 60: Figure Bar handle

| | | handles | | | | | | | | | | | | | |
|------|----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1, 2 | Bar handle | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Colour | Material number | |
|------|----------------------|------------------------|-----------------|--|
| | | | 1 pieces | |
| 1, 2 | Bar handle | RAL 9016 traffic white | PMHG0010-00401_ | |
| | | RAL 8019 grey brown | PMHG0010-01101_ | |
| | | Si-silver | PMHG0010-02501_ | |
| | | Mill finish | PMHG0010-50001_ | |

Mill finish = uncoated

6.3.16 Handle PORTAL FS flat



Dimension A = spindle length

Fig. 61: Figure Handle PORTAL FS flat

| | | handles | | | | | | | | | | | | | |
|-----|-----------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| No. | Material description | Quantity for scheme | | | | | | | | | | | | | |
| | | 220 | 321 | 330 | 431 | 440 | 541 | 550 | 532 | 651 | 660 | 633 | 761 | 770 | 743 |
| 1 | Handle PORTAL FS flat | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |

| No. | Material description | Dimension A | Colour | Material number | |
|-----|-----------------------|-------------|----------------------|-----------------|-----------------|
| | | | | 1 pieces | 10 pieces |
| 1 | Handle PORTAL FS flat | 50 | white | PHIG0010-50201_ | PHIG0010-50202_ |
| | | | RAL 8022 black brown | PHIG0010-51201_ | PHIG0010-51202_ |
| | | | RAL 8019 grey brown | PHIG0010-51101_ | PHIG0010-51102_ |
| | | | EV 1 silver | PHIG0010-52401_ | PHIG0010-52402_ |
| | | | C 33 medium bronze | PHIG0010-53001_ | PHIG0010-53002_ |
| | | | Si-gold matt | PHIG0010-53701_ | PHIG0010-53701_ |

6.3.17 AEROCONTROL

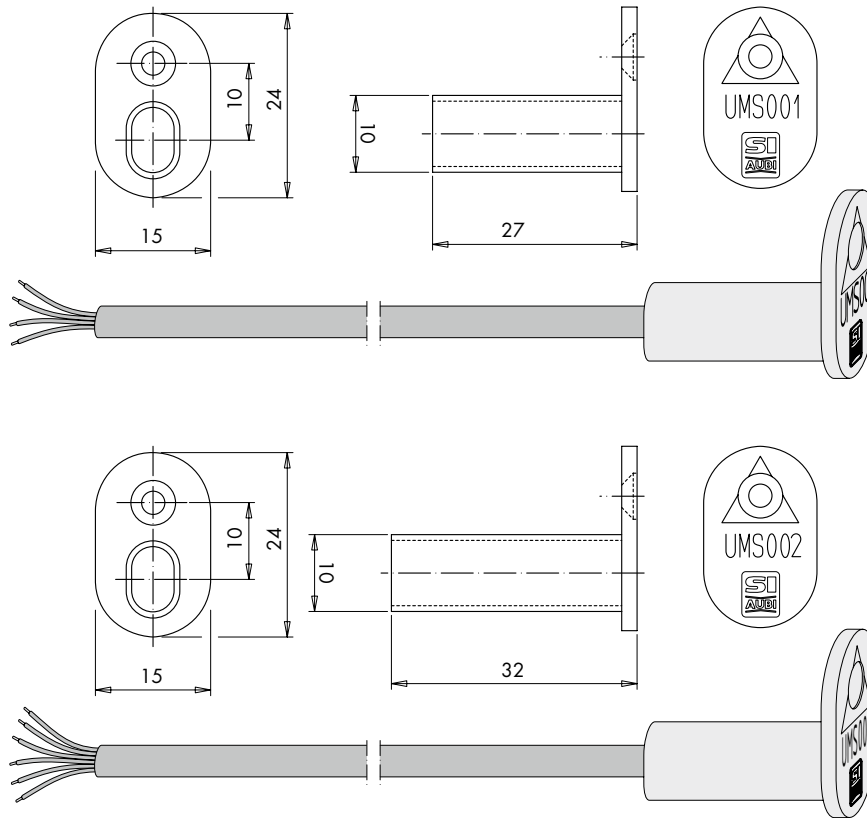


Fig. 62: Figure of AEROCONTROL magnetic switch

| AEROCONTROL magnetic switch + | | | | | |
|-------------------------------|--------------------------------------|--------|--------------|----------------|-----------------|
| No. | Material description | Colour | Cable length | Packaging unit | Material number |
| 1 | VDS-UEBW.4P. magnetic switch UMS 001 | white | 6000 mm | 1 | 899526 |
| | | white | 6000 mm | 25 | 315101 |
| | | white | 10000 mm | 1 | 899601 |
| | | white | 10000 mm | 25 | 315187 |
| | | silver | 6000 mm | 1 | 899533 |
| | | silver | 6000 mm | 25 | 315118 |
| 2 | VDS-UEB.6P. magnetic switch UMS 002 | white | 6000 mm | 1 | 894415 |
| | | white | 6000 mm | 25 | 303993 |
| | | silver | 6000 mm | 1 | 899496 |
| | | silver | 6000 mm | 25 | 315071 |
| 3 | VDS-UEBW.6P. magnetic switch UMS 003 | white | 6000 mm | 1 | 899564 |
| | | white | 6000 mm | 25 | 315149 |
| | | white | 10000 mm | 25 | 315194 |
| | | silver | 6000 mm | 1 | 899571 |
| | | silver | 6000 mm | 25 | 315156 |

6.3.18 Accessories individual parts

6.3.18.1 Sleeve nut M 5



Fig. 63: Figure of sleeve nut M 5

| Sleeve nut M 5 | | | |
|----------------|---|----------------|-----------------|
| No. | Material description | Packaging unit | Material number |
| 1 | Sleeve nut M 5 for fixing the handle Si-line | 1 | 800287 |
| | | | |
| | | | |
| | | | |
| | | | |

6.3.18.2 Key 2W 145

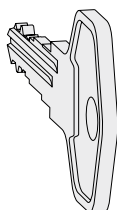


Fig. 64: Figure of key 2W 145

| Key 2W 145 | | | |
|------------|---|----------------|-----------------|
| No. | Material description | Packaging unit | Material number |
| 1 | Key 2W 145 For Si-line handles that are lockable in the grip | 1 | 892510 |
| | | | |
| | | | |
| | | | |
| | | | |

6.3.18.3 Distance piece

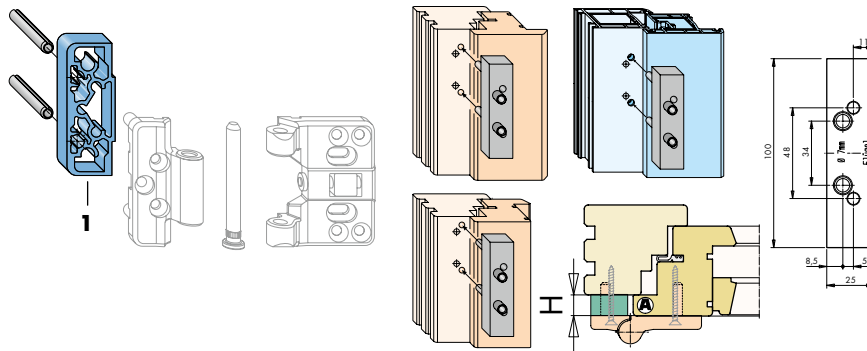


Fig. 65: Figure distance piece / jig for bolt

| Distance piece | | | | | | | |
|----------------|---|------|-------------|----------------|------------------------------------|-----------------------|---------------------|
| No. | Material description | | | Packaging unit | Material number | | |
| | | Size | Dimension H | | EV 1 silver | RAL 9003 signal white | RAL 8019 grey brown |
| 1 | Distance piece | 8 | 8 | 1 100 | PDZG0110-52401_ PDZG0110-52406_ | - | - |
| | • Only fits with sash hinge 17 | 13 | 13 | 1 | - | 826379 | 826386 |
| | • With timber elements, do not overfold > 90° | 14 | 14 | 1 | 852965 | 826416 | 826423 |
| | • Can also be used with a sash providing access (same optics) | 15 | 15 | 1 | 852972 | 826454 | 826461 |
| | • 2 bolts must be used for distance piece size 19 - 22! | 16 | 16 | 1 | 852989 | 826492 | 826508 |
| | | 17 | 17 | 1 | 852996 | 826539 | 826546 |
| | | 18 | 18 | 1 | 853009 | 826577 | 826584 |
| | | 19 | 19 | 1 | 853016 | 826614 | 826621 |
| | | 20 | 20 | 1 | 853023 | 826652 | 826669 |
| | | 21 | 21 | 1 | 853030 | 826690 | 826706 |
| | | 22 | 22 | 1 | 853047 | 826737 | 826744 |
| | Bolt ISO 8752-A2 Ø 6.8 x 50 | | | 1 | KDNA0180-00001_ | | |
| | Jig 644/Dist. pce-FS-001 for bolt | | | 1 | 154069 | | |

6.3.18.4 Supporting plate A0089

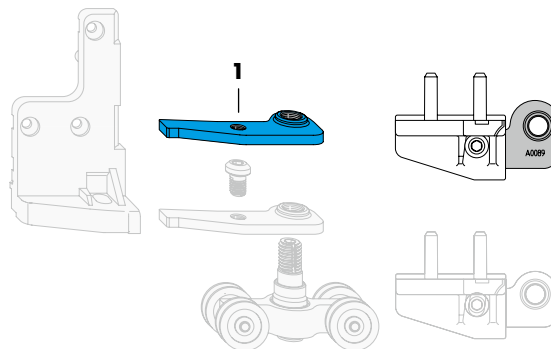


Fig. 66: Figure of supporting plate A0089

| Supporting plate A0089 | | | |
|------------------------|--|----------------|-----------------|
| No. | Material description | Packaging unit | Material number |
| 1 | Supporting plate FS barrier-free A0089 For rebate heights 19 to 24 mm | 1 | PLZG0030-10001_ |

6.3.18.5 Packer E

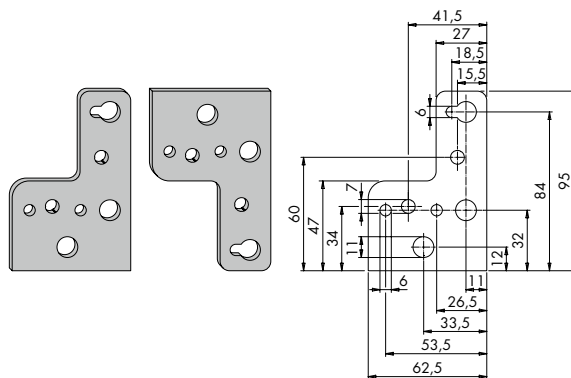


Fig. 67: Figure of packer E

| Packer E | | | | | |
|----------|---|----------------|-----------------|-----------------------|---------------------|
| No. | Material description | Packaging unit | Material number | | |
| | | | EV 1 silver | RAL 9003 signal white | RAL 8019 grey brown |
| 1 | Packer E • Packer E 3 mm thick for bottom hinge and bottom hinge D | 1 | 895603 | 800775 | 800799 |

6.3.18.6 Packer FB

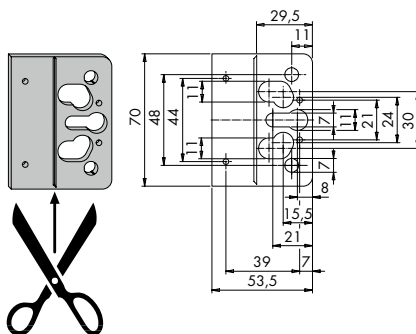


Fig. 68: Figure of packer FB

| Packer FB | | | | | |
|-----------|---|----------------|-----------------|-----------------------|---------------------|
| No. | Material description | Packaging unit | Material number | | |
| | | | EV 1 silver | RAL 9003 signal white | RAL 8019 grey brown |
| 1 | Packer FB • Packer FB 3 mm thick for sash hinges 17/38 • after detachment at the predetermined breaking point also suitable for sash hinge 17 | 1 | 861219 | 800782 | 800805 |

6.3.18.7 Sash hinge FS-RS

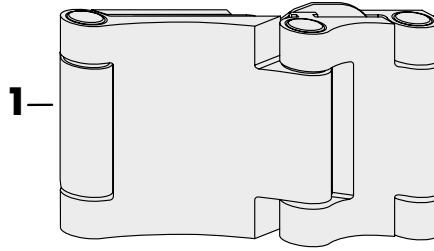

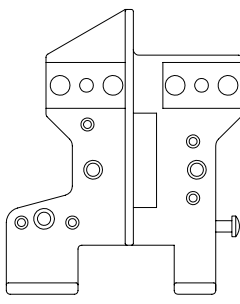
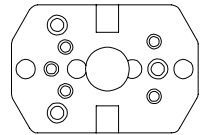
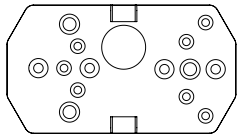
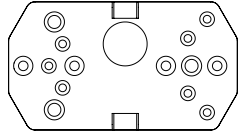
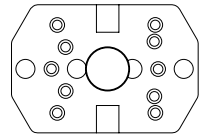

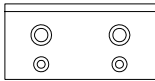


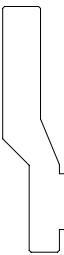
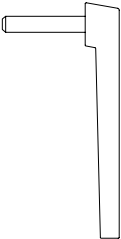



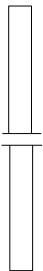
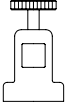
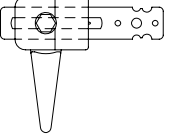
Fig. 69: Figure of sash hinge FS-RS


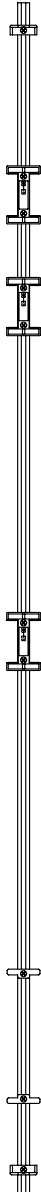
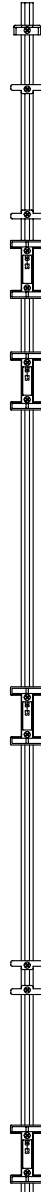




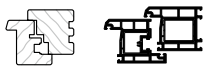

| Sash hinge FS-RS | | | | |
|------------------|--|----------------|-----------------|-----------------------|
| No. | Material description | Packaging unit | Material number | |
| | | | EV 1 silver | RAL 9003 signal white |
| 1 | Sash hinge FS-RS | 1 | PMFG0020-52501_ | PMFG0020-50201_ |
| | <ul style="list-style-type: none"> • Makes it possible to clean the outside surface of the pane from inside • suitable for timber and PVC elements • For use and installation, see assembly instructions H48.FS-1007EN-00 AA FS PORTAL SASH HINGE FS-RS (CLEANING) • For operation, it is essential to adhere to the operating instructions H47.FS-0001EN-00 BA SASH HINGE FS-RS (CLEANING POSITION)! • for sash rebate height 840 to 1400 mm 2 piece required for each intersection point B • for sash rebate height 1401 to 2360 mm 3 piece required for each intersection point B | | | |

6.3.19 Jigs

| Jigs (drilling and milling jigs)  | | | |
|---|--|--------------------------------|------------------------|
| | Material description | Tool | Material number |
| Basic equipment | | | |
|  | <p>Jig EB 644-1 17/38</p> <p>for bottom hinge</p> <ul style="list-style-type: none"> Required: 2 piece | Drill: Ø7.0 Ø4.2 | PAHG0070-52101_ |
|  | <p>Jig EB 644-2 17/38</p> <p>for sash hinge 17/38</p> <ul style="list-style-type: none"> Required: 1 piece .. 6 pieces | Drill: Ø7.0 Ø4.2 | PAHG0060-52101_ |
|  | <p>Jig EB 644-2 17/48</p> <p>for sash hinge 17/48</p> <ul style="list-style-type: none"> Required: 1 piece .. 6 pieces | Drill: Ø7.0 Ø4.2 | PAHG0010-52101_ |
|  | <p>Jig EB 644-2 27/48</p> <p>for sash hinge 27/48</p> <ul style="list-style-type: none"> Required: 1 piece .. 6 pieces | Drill: Ø7.0 Ø4.2 | PAHG0020-52101_ |
|  | <p>Jig EB 644-2 1RS</p> <p>for sash hinge RS</p> <ul style="list-style-type: none"> Required: 3 piece | Drill: Ø4.0 timber Ø4.2 PVC | PAHG0030-52101_ |

| Jigs (drilling and milling jigs)  | | | |
|--|---|--------------------------------|------------------------|
| | Material description | Tool | Material number |
|  | <p>Jig EB 644-3</p> <p>For supporting piece FS</p> <ul style="list-style-type: none"> Required: 1 piece | Drill: Ø4.2 | 143087 |
|  | <p>Jig FS distance piece</p> <p>for distance pieces</p> <ul style="list-style-type: none"> Required: 1 piece | Drill: Ø6.5 | 154069 |
|  | <p>Jig FS-BS REV timber</p> <p>for drilling mounting holes vertical framing timber</p> <ul style="list-style-type: none"> Required: 1 piece | Drill: Ø3.5 | PAHG0050-0D301_ |
|  | <p>Jig REV threshold FS</p> <p>as stop for vertical framing timber</p> <ul style="list-style-type: none"> Required: 3 piece | Drill: Ø4.0 timber Ø4.2 PVC | PAHG0040-0D301_ |
|  | <p>Jig EB 644-4</p> <p>for drill centring on guiding and running rails</p> <ul style="list-style-type: none"> Required: 1 piece | Drill: Ø3.5 | 143094 |

| Jigs (drilling and milling jigs)  | | | |
|--|---|------|-----------------|
| | Material description | Tool | Material number |
|  | Adjusting rod for EB 644-1 and 644-2... • Required: 2 piece | | 143117 |
|  | Stop for adjusting rod • Required: 2 piece | | 143100 |
|  | Clamping device for EB 644-1 and 644-2... • Required: 12 piece | | 139202 |
| Without illustration: | Countersunk screw M 5 x 16 for fixing the clamping device • Required: 24 piece | | 801147 |

| Jigs (drilling and milling jigs)  | | | |
|---|---|--|------------------------|
| | Material description | Tool | Material number |
| Additional jigs 2 | | | |
| <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>1</p>  </div> <div style="text-align: center;"> <p>2</p>  </div> <div style="text-align: center;"> <p>3</p>  </div> <div style="text-align: center;"> <p>4</p>  </div> </div> | <p>1 Striker jig EL 643-2 timber VS</p>  | <p>for striker plates and distance pieces on the locking side for timber elements</p> <p>Size range: Sash rebate height 1691 to 2360 mm</p> | PAEL0010-52401_ |
| | <p>2 Striker jig EL 643-2 timber BS</p>  | <p>for striker plates and distance pieces on the locking side for timber elements</p> <p>Size range: Sash rebate height 1691 to 2360 mm</p> | PAEL0020-52401_ |
| | <p>3 Striker jig EL 643-2 timber and PVC</p>  | <p>for striker plates and locking pieces top and bottom crosswise for timber and PVC elements</p> <p>Size range: Sash rebate width 770 to 2000 mm</p> | PAEL4000-52401_ |
| | <p>4 Striker jig EL 643-2 PVC</p>  | <p>for striker plates and distance pieces on the locking and hinge side for PVC elements</p> <p>Size range: Sash rebate height 1691 to 2360 mm</p> | PAEL4010-52401_ |

6.3.20.1 Adjustment instructions

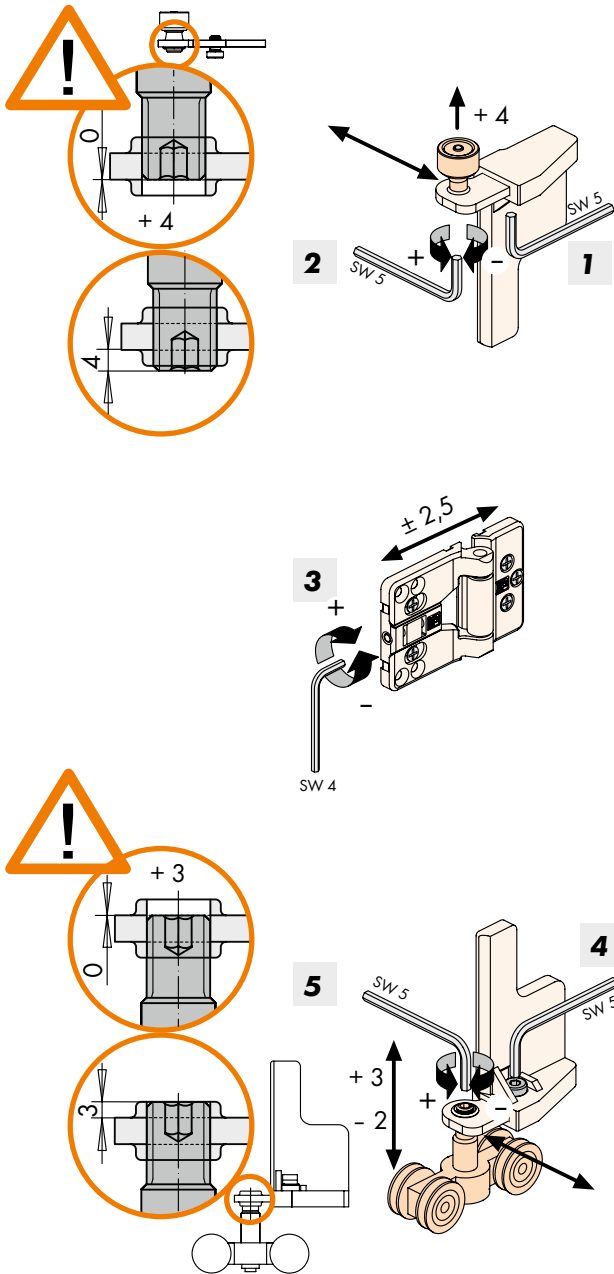


Fig. 70: Figure Adjustment instructions

1. Sash pressure adjustment of the bottom hinge top

- Loosen cheese head screw M 8 x 12 on bottom hinge using Allen key SW 5.
- Press sash firmly into place.
- Tighten cheese head screw M 8 x 12 using Allen key SW 5.

2. Height of guides after adjustment

- Adjust the height of the guide on the self-locking threaded bolt of the guide using Allen key SW 5.



The maximum elevating adjustment may not be exceeded.

3. Adjusting the gap width on the sash hinges

- › Release sash hinges successively, adjust and then re-mount them.
- Release fixing screws slightly.
- Adjust the horizontal gap width of the sash with Allen key SW 4.
- Re-tighten fixing screws.

4. Sash pressure adjustment of the bottom hinge bottom

- Loosen cheese head screw M 8 x 12 on bottom hinge using Allen key SW 5.
- Press sash firmly into place.
- Tighten cheese head screw M 8 x 12 using Allen key SW 5.

5. Adjusting the height of the sash on the bogie wheels



The maximum elevating adjustment may not be exceeded.

- Adjust the height of the sash on the self-locking threaded bolt of the bogie wheels using Allen key SW 5.

Adjustment options for FAVORIT-/TITAN iP components

Side adjustment of the top stay and bottom hinge

Pressure setting of the top stay

Pressure and elevating adjustment of the rebate corner hinge

Sash pressure adjustment via eccentric locking cam

See maintenance instructions FAVORIT Si-line / TITAN AF-Timber.

6.3.20.2 Notes on scheme 220, 440 and 660

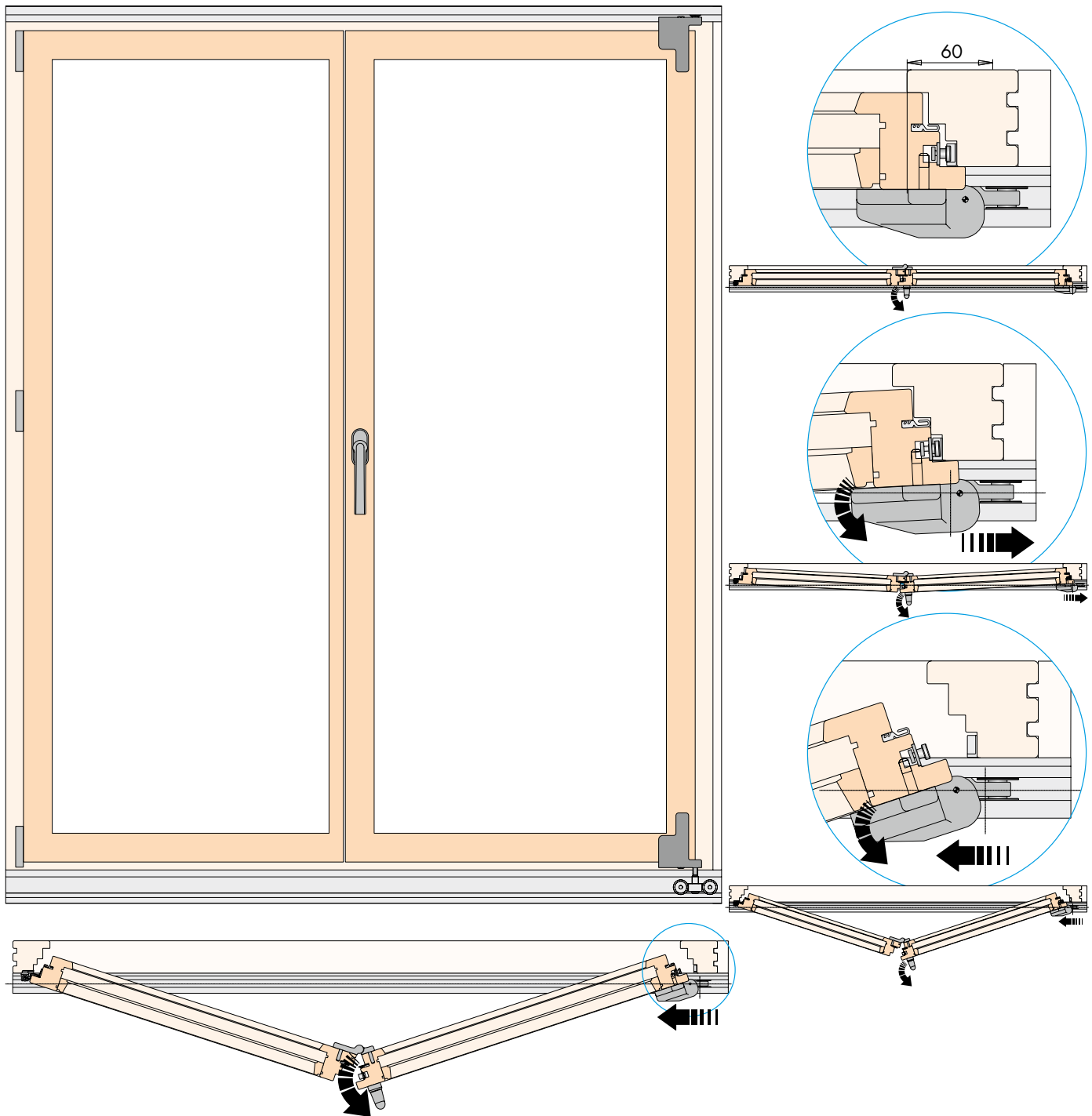


Fig. 71: Figure Notes on scheme 220, 440 and 660

When opening, two, four and six-sash fold and slide elements initially move a few millimetres contrary to the opening direction due to the pivot.

With the SIEGENIA solution for fold and slide elements scheme 220, 440 and 660, the time-consuming reworking of the front vertical rebate is omitted. The system-dependent 12 mm airgap can be retained. The FS bottom hinges at intersection point D_{220} are inwardly offset by 12 mm. The intersection point B is executed as a mirror image to enable the locking part to be constructed with standard central locking gear components.

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brings spaces to life

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