

Less is more:
flush hardware solutions by FSB



Less is more

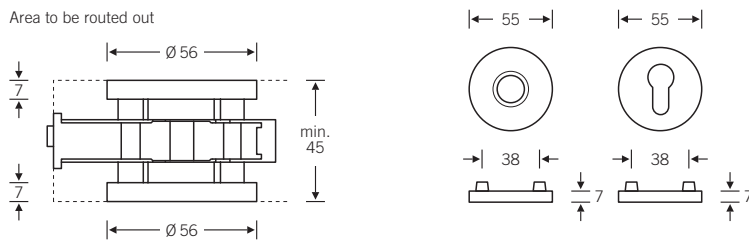
Less is more: an architecture espousing reduction and the formal integration of technical/functional items manifests itself in, for instance, non-rebated doors. FSB has been setting standards for some time now with a range of flush furniture that has been embraced in equal measure by architects and design-conscious house builders. With the appearance of its 2008/09 Manual, the company is presenting a refined, conceptually even more advanced generation of flush products that extend the architectural approach of formal reductionism to doors and windows as a whole. But, enough said, the following pages speak volumes about FSB's flush hardware solutions. The overview alongside indicates exactly which solutions are at your disposal.

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It is not out of modesty that we set our fittings so deep as to be virtually imperceptible. Rather, FSB is echoing trends in architecture towards reducing structures and functional detail to what is absolutely necessary.

Flush furniture for door thicknesses of 45 mm upwards



7201

7601

- Aluminium
- AluGrey
- Stainless steel
- Bronze

- 1310 Door handle furniture
- 1410 Entrance door furniture
- 1554 Indicating furniture

Technical prerequisites:

The door must be at least 45 mm thick. With rebated doors, the position of the lock mortise needs to be borne in mind. The recess for the rose needs to be 56 mm in diameter, centred on the lock follower, and routed out to a depth of 7 mm. The remaining material between the bottom of the recess and the lock case is required to be stable and firm enough to ensure secure fastening without any pressure being exerted upon the lock. For the purpose of accommodating the lugs, boreholes 9 mm in diameter and at 38 mm centres need to be drilled to a depth of at least 7 mm – please use the FSB 0460 universal template for this.

The male section of the lever handle furniture is pre-assembled for insertion into the prepared recesses.

It is secured by means of the AGL® Plus carrier unit on the female handle side. The proven AGL® Plus assembly technique involving a fixing lever and bayonet locking is adopted for final assembly.

Order details required:

- AGL® Plus or FS furniture
- door thickness
- door handle model
- material/finish
- quantity
- in the case of entrance door furniture, the knob model desired (the thumb-turn bolt supplied with bathroom/indicating furniture depends on the door handle model selected)

Please request other keyways or cylinder centres individually

Furniture specification:

Inseparable door handle/rose furniture rotatable within Teflon-coated metal bearings acting to compensate tolerances (AGL® Plus, 7201) or in bearings for fire-safety and smoke doors (FS, 7601),

Prepared for fitting flush to the door, can be disassembled, only in combination with roses 1731/1735

EPC c:c 72 + 92 mm
(also supplied as half sets for main entrance doors)

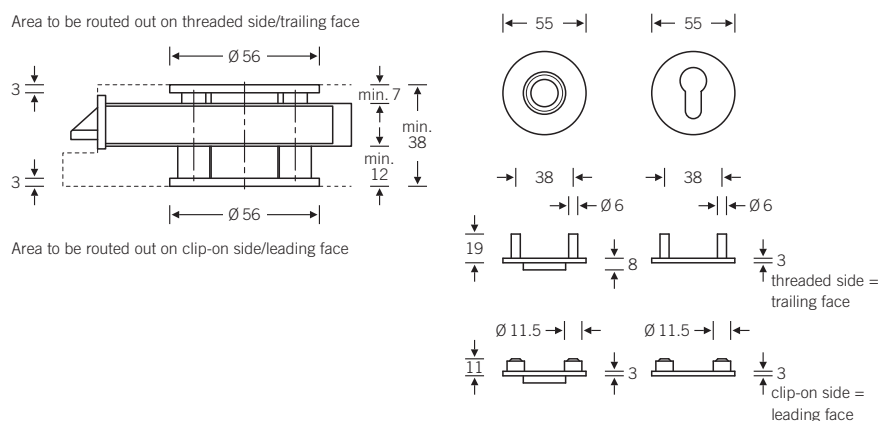
System-dedicated routing jig:
FSB 0462, cf. Page 19

- Heavy-duty AGL® Plus hardware
- Fire-safety furniture

For further technical notes cf. Page 20



Flush roses for 38–44 mm door thicknesses



1736

1737

- Aluminium
- AluGrey
- Stainless steel
- Bronze

Technical prerequisites:

The door must be 38–44 mm thick. Please bear the position of the lock mortise in mind. The recess for the rose needs to be 56 mm in diameter, centred on the lock follower, and routed out to a depth of 3 mm. The remaining material between the bottom of the recess and the lock case is required to be stable and firm enough to ensure secure fastening without any pressure being exerted upon the lock. Drill fixing holes on both sides ($\varnothing 9$ mm) with the aid of the FSB 0460 universal template. Then expand the holes for the handle and key roses drilled on the clip-on side (= leading face) to a diameter and depth of 12 mm. Assembly involves first inserting the threaded bushes welded onto the roses on the threaded-side into the 9 mm boreholes and screwing them tight from the other side.

This is performed by means of special sleeves pressed into the 12 mm boreholes on the opposite side, which subsequently also accommodate the clips on the roses on the clip-on side. A large stabilising washer is used to distribute forces equally and help position the special sleeves while they are being secured. The door handle is fitted in the proven FSB manner.

Order details required:

- door handle model
- material/finish
- quantity
- in the case of rebated doors plus asymmetrical door handles, the handing of the door to DIN

Specification:

loose handle/key rose pairs for flush fitting, only in combination with specially prepared FSB door handle pairs, door handle pair and rose pairs can be disassembled

EPC c:c 72 mm

System-dedicated routing jig:
FSB 0462, cf. Page 19

Standard hardware

For further technical notes cf. Page 20

Keyways and bathroom/indicating variants



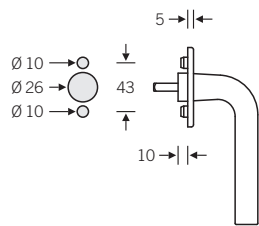
BB PZ WC R

Please request other keyways or cylinder centres individually.



All FSB window handles with click-stop mechanisms can be supplied with shallow roses. Please request individually.

Window handles with shallow roses



34.. 07

37.. 07

- Aluminium
- AluGrey
- Stainless steel

Window handle with shallow rose and built-in click-stop mechanism, for fitting to timber and plastic profiles, in some cases also to metal profiles (case-by-case dimensional examination of profile required)

lug diameter 10 mm
43 mm fixing centres
7 mm \square spindle, 30 mm projection

Assembly is in the usual manner except that, in addition to the two fixing holes (43 mm centres), a borehole 26 mm in diameter needs to be drilled midway between them to accommodate the click-stop mechanism built into the handle.



Flush fit: recessed pull and sliding door melt into one – the door's exclusive design is brought out to the full.

Open and closed recessed pulls

FSB offers a formally and functionally innovative hardware solution for sliding doors in the form of closed and open recessed pulls. Made in stainless steel and aluminium, the new handles take up the architectural trend towards flush integration of technical/functional features.

Blanking flap: smooth as you like

Our new closed flush pulls ensure a uniform appearance for the door leaf. The operating aperture is always blanked out by a flap that springs neatly into the closed position when the hardware is not being used. Two modes of assembly are possible: the shallow outside edge may be surface-mounted to the door or be fully recessed.

The handles are designed in such a way that untidily or inaccurately routed edges can be concealed by means of their outside edge when surface-mounted. But the fittings really come into their own if completely flush recessed. Hardware and door are suffused into a single entity – the door's design credentials are significantly enhanced.

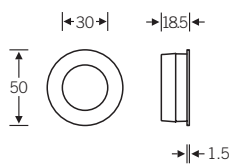
The closed version boasts more than just aesthetic qualities, though. The user soon learns to appreciate the playful pleasure of flicking the flap alternately to the left and right. The leaf or frame is machined to accept the hardware, which is then clipped or glued in place as required. Flush pulls are generally fitted to timber doors.

Right pull for every door

FSB manufactures small flush pulls for lightweight doors, as well as larger variants for heavy-duty doors, in square/rectangular and round/oblong designs respectively. Round flush pull 4254 requires a cut-out just 17 mm in depth, for example. It is just the job for small, lightweight sliding doors as well as for fitted furnishings or furniture in general. Customised forms of external styling and integrated keyways (warded [BB], CH, europrofile [PZ], oval cylinder [OZ] or round cylinder [RZ] depending on the lock used) are also individually available.

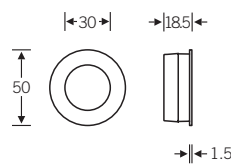
4254

- Aluminium
- Stainless steel



4254 0001

- Aluminium
- Stainless steel



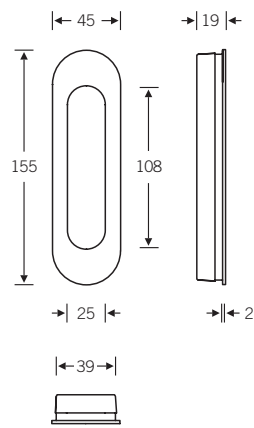
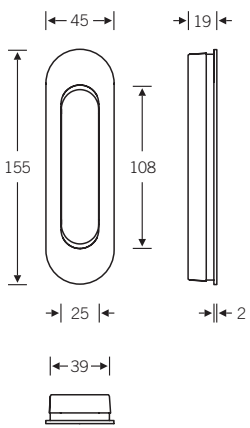
4250

- Aluminium
- Stainless steel



4250 0001

- Aluminium
- Stainless steel



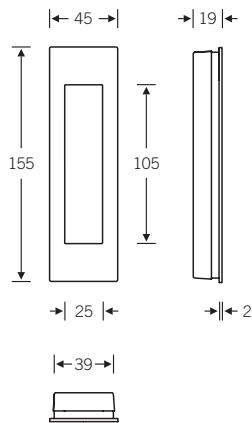
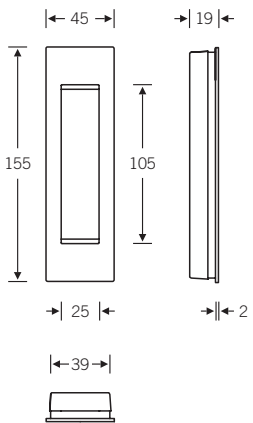
4251

- Aluminium
- Stainless steel



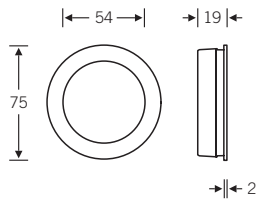
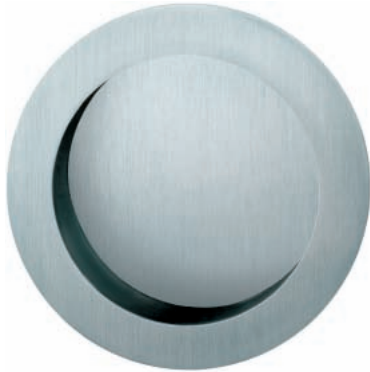
4251 0001

- Aluminium
- Stainless steel



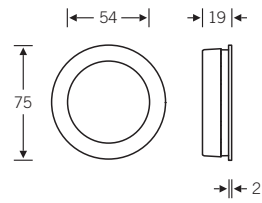
4252

- Aluminium
- Stainless steel



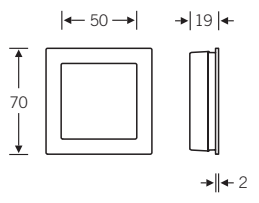
4252 0001

- Aluminium
- Stainless steel



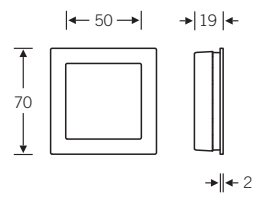
4253

- Aluminium
- Stainless steel



4253 0001

- Aluminium
- Stainless steel

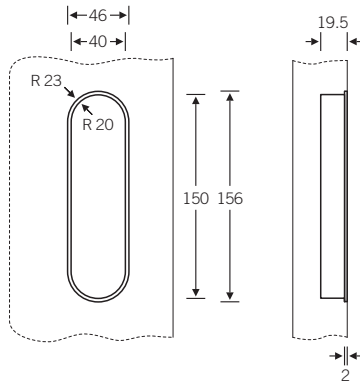


Routing dimensions

We recommend checking that recessed pulls – most notably the flush variants – sit and can be fitted properly by carrying out trial routing exercises.

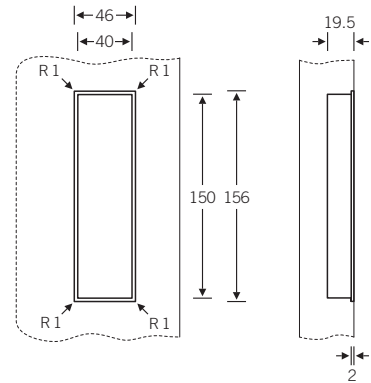
4250 / 4250 0001

surface-mounted: 150 × R 20 × 17.5 mm
flush: cf. drawing



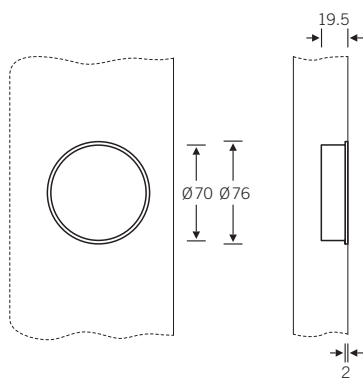
4251 / 4251 0001

surface-mounted: 150 × 40 × 17.5 mm
flush: cf. drawing



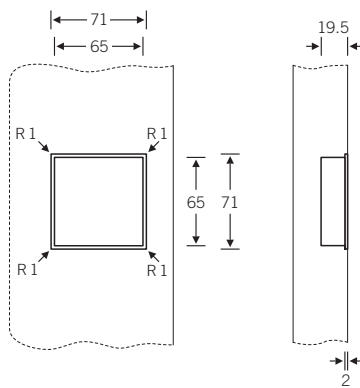
4252 / 4252 0001

surface-mounted: Ø 70 × 17.5 mm
flush: cf. drawing



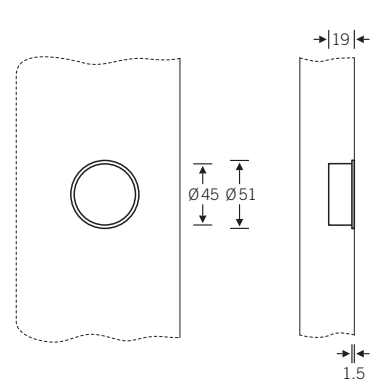
4253 / 4253 0001

surface-mounted: 65 × 65 × 17.5 mm
corner radius R 15
flush: cf. drawing



4254 / 4254 0001

surface-mounted: Ø 45 × 17.5 mm
flush: cf. drawing

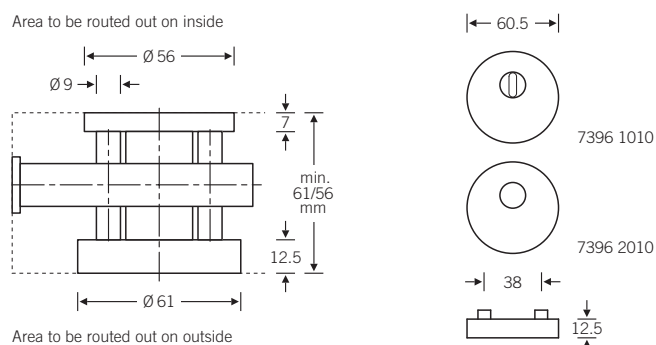




Our 7396 Series flush armoured roses echo the formal concept underpinning our flush furniture for internal doors, systematically advancing it to the sphere of main entrance doors.



Flush armoured roses



7396 ..10

- Aluminium
- AluGrey
- Stainless steel
- Bronze
- Messing

Both versions have been tested and certificated to DIN 18257 ES 1, rose on inside: FSB 1735

DIN EN 1906 Security Class 2
Reg No. 3V06

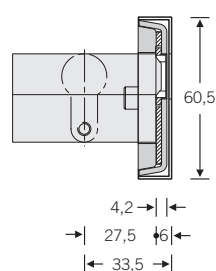
It is the distance from the lock centre to the outside of the door as opposed to the door's thickness that ultimately determines whether 7396 Series armoured roses can be flush-fitted: said distance needs to be at least 33.5 mm in the case of FSB 7396 1010 and a modest 29 mm in the case of FSB 7396 2010.

The lower dimension for 7396 2010 is due to the securing disc being omitted, making 7396 2010 a first-class choice in cases involving awkward dimensional configurations as regards door thickness and lock position: where a door is overly thin or the position of the lock less than ideal, 7396 2010 facilitates compensation of cylinder projections up to 4.5 mm greater and door thicknesses up to 4.5 mm less than with the 7396 1010 model. Omitting the securing disc does not affect the Security Class,

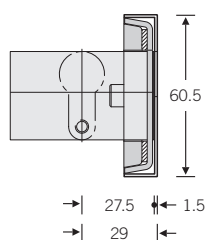
moreover – both versions accordingly have an S2 classification under DIN EN 1906. A further distance of 27.5 mm from the lock centre to the inside of the door is required to be able to flush-fit the inside rose too. This gives rise to a minimum door thickness of 56.5 mm, which is merely theoretical in nature, however: the crucial dimensions for flush-fitting purposes are the 33.5 mm and 29 mm already referred to. The flush-recessing of hardware necessitates routing out an area 61.5 mm in diameter and 12.5 mm deep on the outside of the door and an area 56 mm in diameter and 7 mm deep on the inside. The lug boreholes ($\varnothing 9$ mm) need to be 38 mm apart and at least 7 mm deep on both sides. The areas machined subsequently require sealing – particularly on the outside of the door – so as to guarantee reliable, long-term protection against moisture and wetness (e.g. driving rain).

Since flush fitting has no bearing on the Security Class, armoured roses can of course also be allowed to project by a few millimetres or, indeed, they can be “classically” surface-mounted, a solution every bit as visually impressive given the elemental geometry imbuing 7396. Similarly, the client can dispense with inward flush fixing so as to harmonise the rose with classic hardware on all other internal doors. Please request solutions of this kind individually. These options and a wide variety of available materials open up the greatest possible degree of flexibility as regards design and price to fabricators and architects seeking to fulfil bespoke customer aspirations.

7396 1010



7396 2010



Order details required:

- door thickness
- version 7396 1010 or 2010
- material/finish
- quantity

Universal template

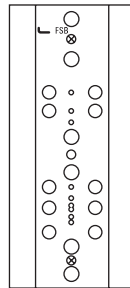


0460

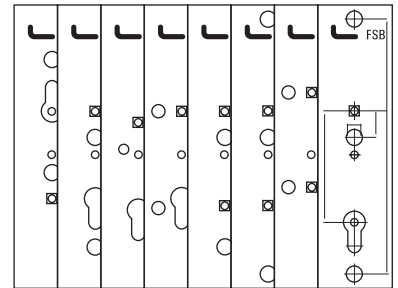
Complementing its broad range of special-purpose templates, FSB has developed a universal template containing almost all borehole layouts in use. This universal template is an essential tool for any professional installer. Furthermore, it is ideal for preparing the fixing holes for flush furniture and roses, since – like the FSB 0462 routing jig – it is precision-aligned over lock follower and keyway.

Contents:

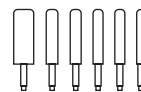
- 1 Metal template
- 2 Borehole layout templates
- 3 Guide pins
- 4 Knurled screw
- 5 Bit



1



2



3



4



5

Routing jig for flush furniture



0462

Routing jig 0462 is used as follows: push the centring device into the bore-holes on the timber routing jig and place the assembly against the door. Slot the guide pins on the centring device into the follower and the cylinder or other key hole and align the routing jig parallel to the door leaf. Then secure the routing jig to the door with C-clamps at the position thus arrived at. Now remove the centring device and rout out

- to a depth of 7 mm in the case of flush furniture for door thicknesses of 45 mm upwards (FSB 7201/7601)
- and to a depth of 3 mm in the case of flush roses for door thicknesses between 38–44 mm (FSB 1736/1737).

Use a top router with a cutter 20 mm in diameter and a ring 30 mm in diameter for this. Then repeat the process on the other side.

Versions:

- 0462 0000 9600
(EPC 72 + 92 mm, WC 78 mm)
- 0462 0000 0001
(EPC 88 mm, BB 90 mm, WC/R/7/90 mm - Austrian standard)

Technical Notes

All details given in this brochure draw on the latest engineering practice and the experience we have gained in fitting flush furniture to a variety of types of door.

With such a wide variety of types and designs of door on the market, however, FSB cannot make specific pronouncements regarding how suitable any given door is for the fitting of flush furniture.

Suitability of doors for the fitting of flush furniture and roses

Doors should be used which, in the lock area at least (minimum width 120 mm from forend), feature timbering more rugged than, for instance, tubular particle board. Solid wood products such as multiplex, laminated timber board, plywood or solid wood are preferable.

The remaining material between the recess and the lock surface must be stable and firm enough to ensure the hardware can be fastened without exerting pressure on the lock. A remaining wall thickness of 5 mm is to be ensured for solid-wood and multiplex designs and of 7 mm for plywood and laminated wood. This applies both to non-rebated and rebated doors, and both to flush roses (door thicknesses from 38–44 mm) and flush furniture (door thicknesses of 45 mm upwards).

Instructions

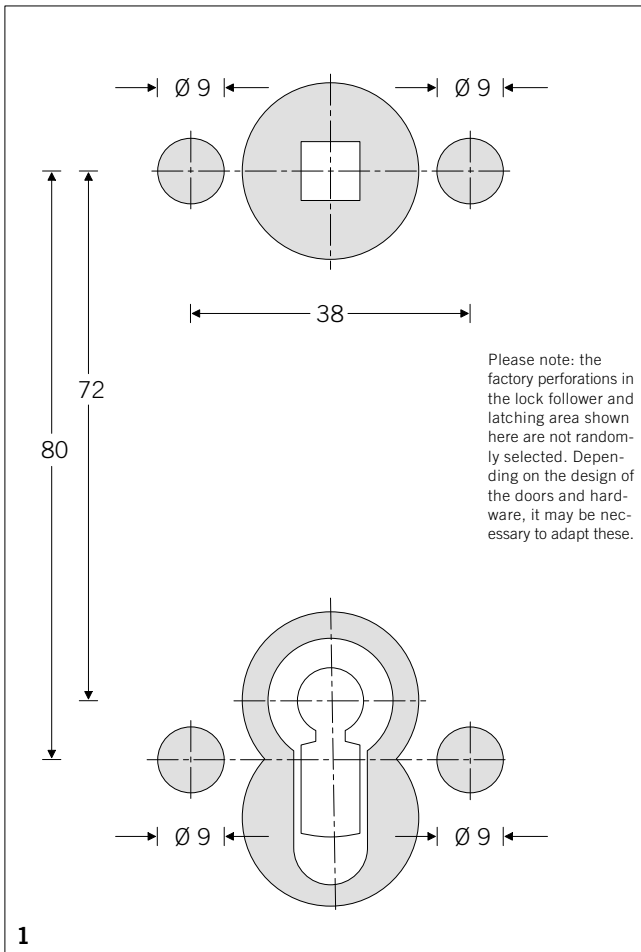


Fig. 1
Dimensioned drawing (full-scale) for the borehole layout on doors for the fitting of rose hardware. The c:c distance lock follower/cylinder plug (or centre of rotation of key) is 72 mm.

The drilling positions may be determined using either

- a paper template,
- a metal fixing template
- or a universal fixing template (order code 0 0460 0000 0000)

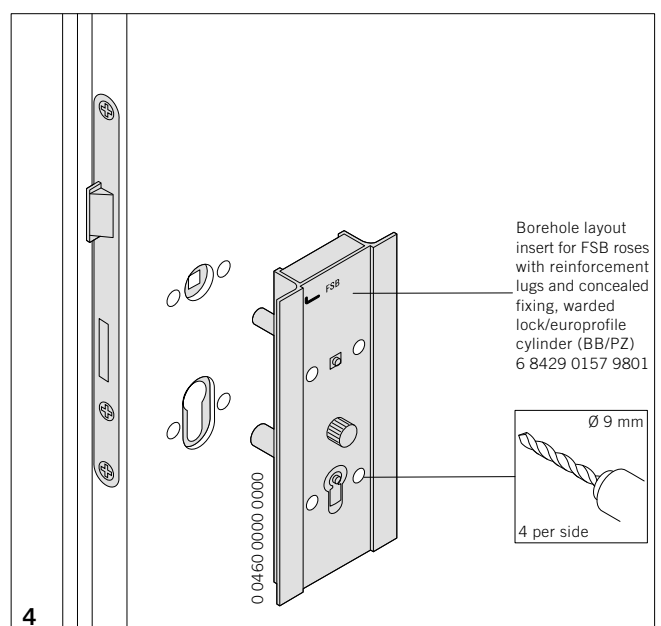
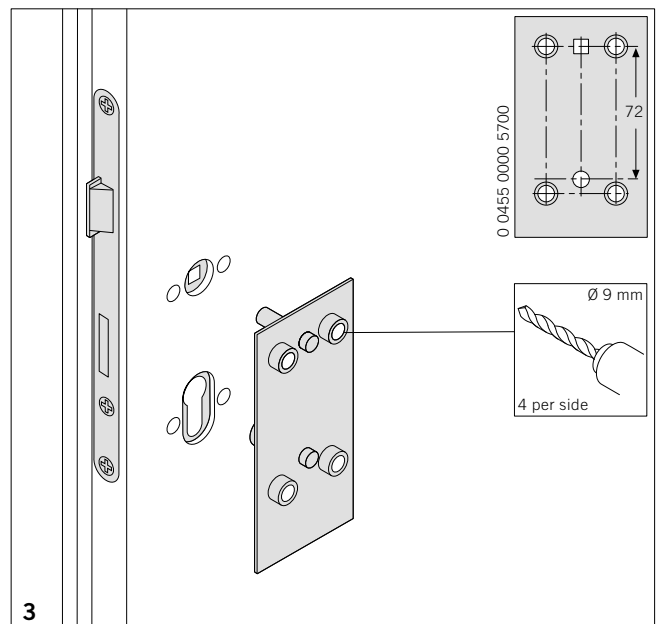
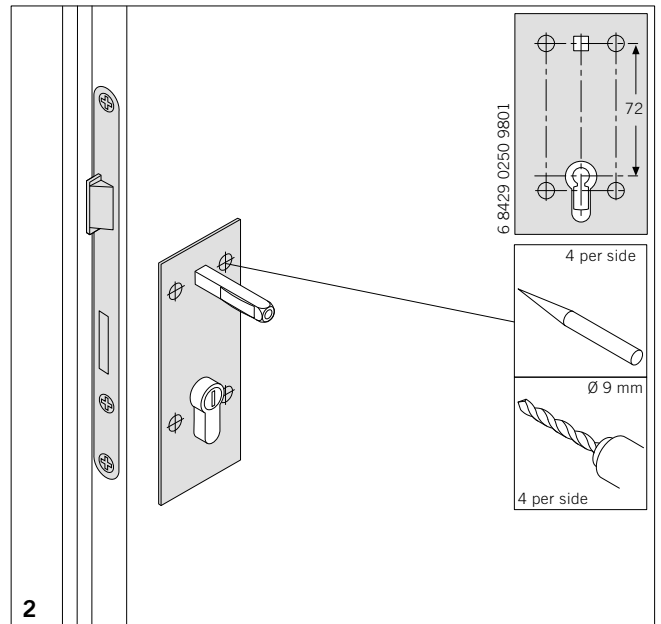
Fig. 2
Paper template: slot the enclosed paper template over the fitted lock cylinder (or inserted key) and the inserted spindle. Mark out the drilling positions and drill with a 9 mm-diameter bit as far as the lock case. Repeat the process on the other side.

Fig. 3
Metal fixing template: slot the guide pins on the template into the follower and lock cylinder cut-out (or keyhole). Drill four 9 mm diameter holes through the drilling bushes as far as the lock case on both sides.

Fig. 4
Universal fixing template: follow instructions for use. Select borehole layout (borehole layout insert) and secure with knurled screw. Slot guide pins into place. Drill four 9 mm diameter holes through the drilling bushes as far as the lock case on both sides.

Important note: the drawings in this assembly guide are not to scale.

The hardware should be assembled by a specialist.



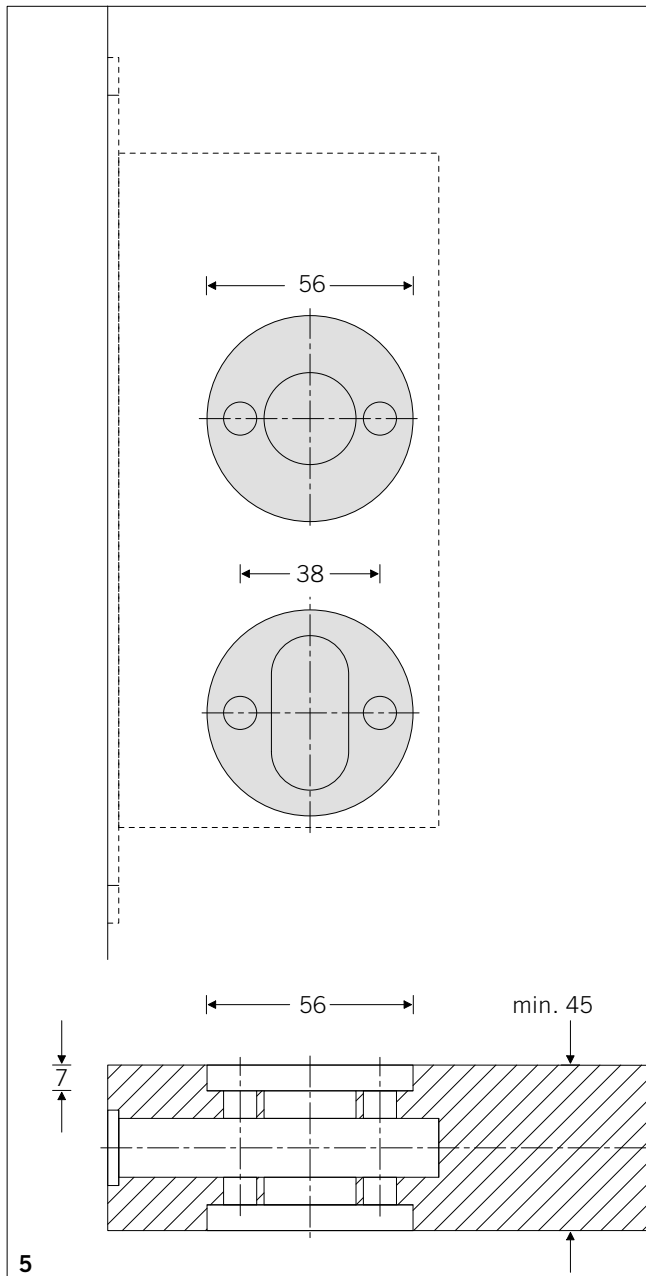


Fig. 5

Requirements for the door

The door must be at least 45 mm thick. Important note: on rebated doors, please take account of the positioning of the lock mortise! The rose recesses must be 56 mm in diameter and be centred on the lock follower or the middle of the keyhole respectively. They are to be routed out to a depth of 7 mm. The boreholes to accommodate the roses' reinforcement lugs should be drilled with a 9mm-Ø bit at 38 mm centres and to a depth of at least 7 mm.

The remaining material between the recess and the lock surface must be stable and firm enough to ensure the hardware can be fastened without exerting pressure on the lock.

General point:

Doors should be used which, in the lock area at least (minimum width 120 mm from forend), feature timbering more rugged than, for instance, tubular particle board. Solid wood products such as multiplex, laminated timber board, plywood or solid wood are preferable.

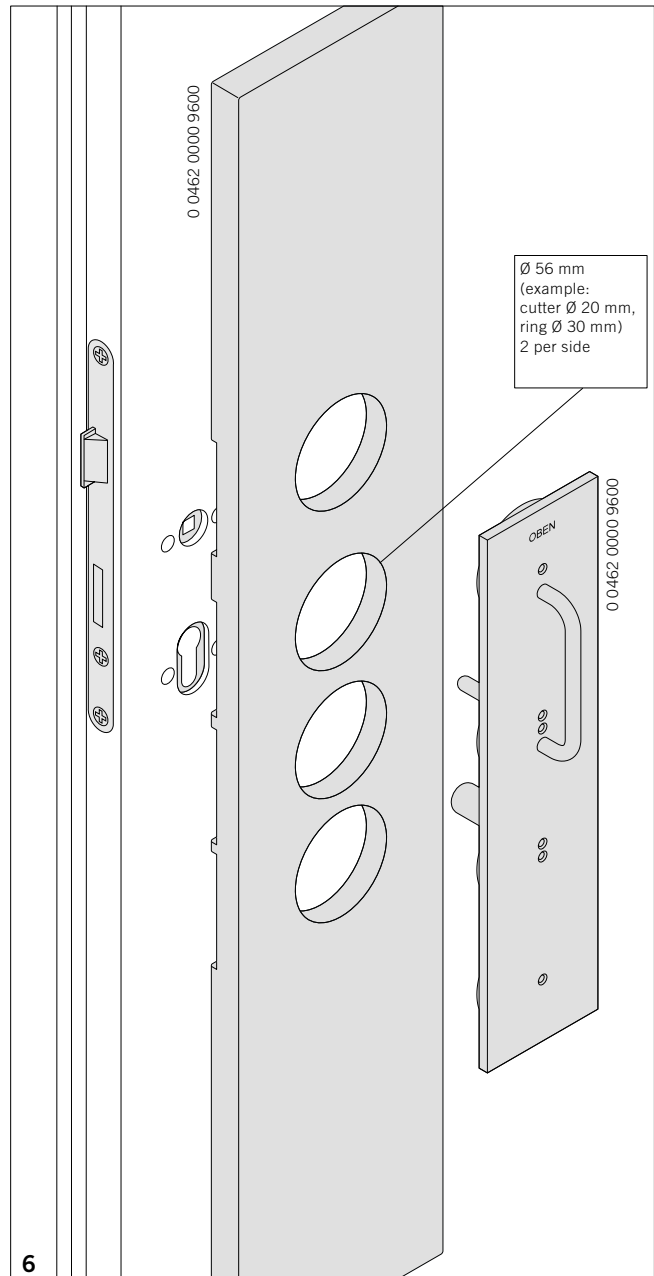


Fig. 6

A routing jig (order code 0 0462 0000 9600) is available for producing the recesses.

- Insert the centring device into the boreholes in the timber routing jig and place the assembly against the door, slotting the guide pins on the centring device into the lock follower and euro-profile cylinder keyhole (or warded lock keyhole) respectively.
- Secure the timber routing jig to the door using C-clamps.
- Now remove the centring device and rout out the recess to a diameter of 56 mm and a depth of 7 mm (cutter 20 mm Ø, ring 30 mm Ø)
- Repeat procedure on other side.

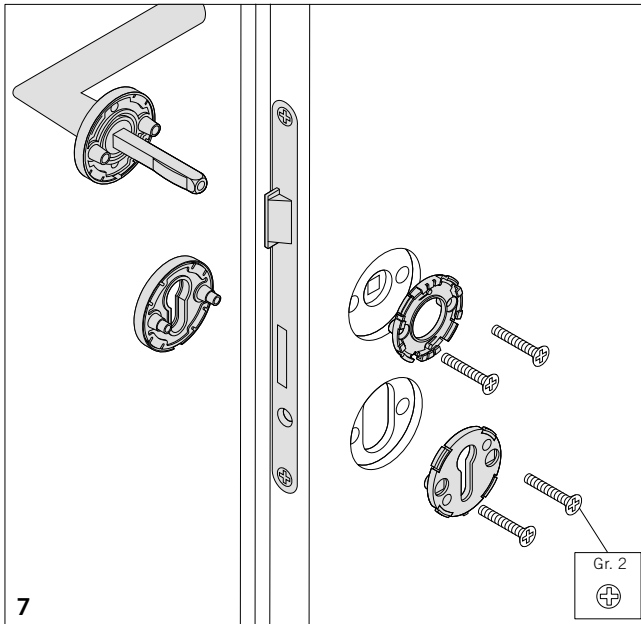


Fig. 7
Assembling door handles
Push the male handle, which is free to rotate within a non-detachable baserose, through the lock follower. Slot the baserose into the boreholes in the door. Screw the baseroses tight using the M5 screws and the previously inserted sleeve nuts.

Key roses
Do not fit the europrofile cylinder at this stage!

Screw the key rose bases tight using the M5 screws and the previously inserted sleeve nuts.

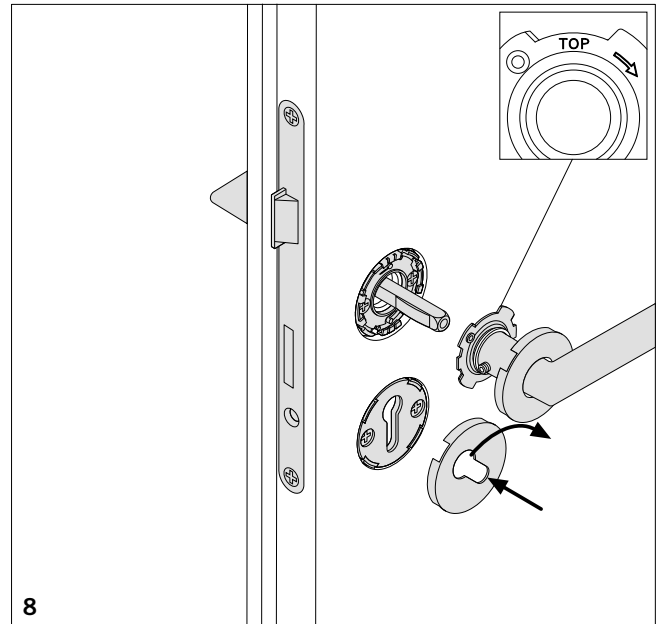


Fig. 8
Assembling door handles
Push the female handle (complete with bearing carrier and cover roses) over the spindle and into position. Arrange the bearing carrier so the word 'TOP' is uppermost and fit it into the baserose.

Key roses
Push the key rose home and rotate through 45°.

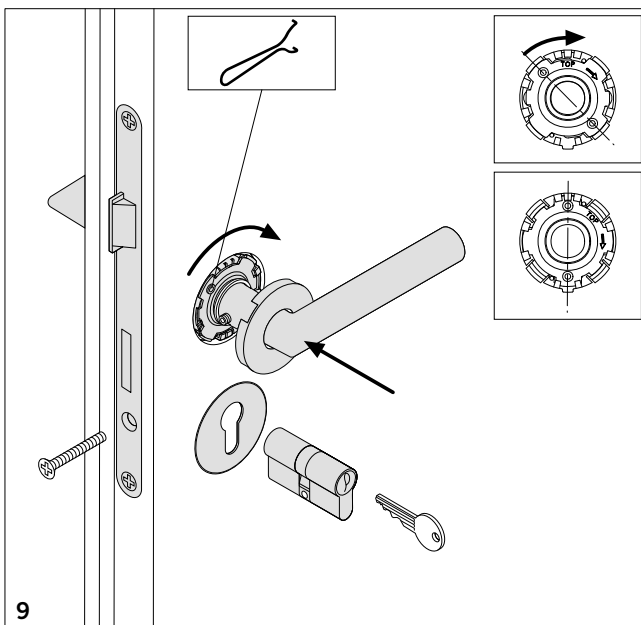


Fig. 9
Assembling door handles
Press the baserose firmly home and rotate (approx. 45° in a clockwise direction) using the special tool provided. The bearing carrier is rigidly secured once the fitting tool has been removed.

Key roses
The europrofile cylinder can now be inserted. Please heed the makers' instructions. Once fitted, the cylinder also serves as a means of preventing the cover rose from rotating.

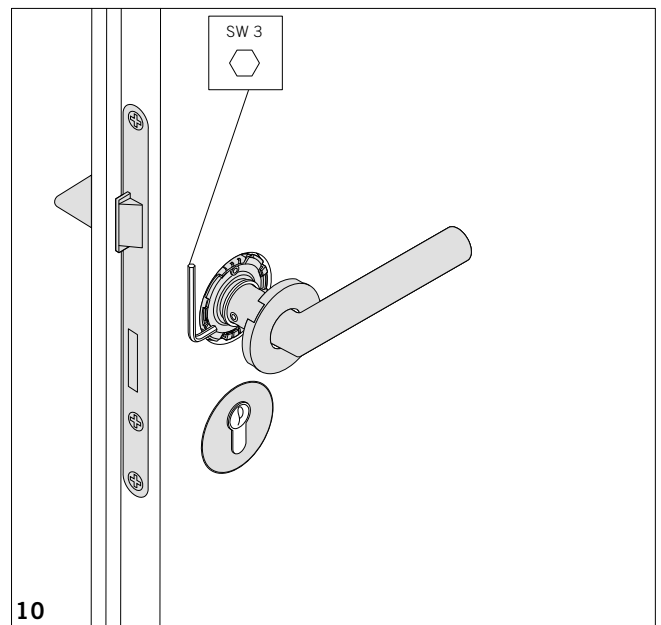


Fig. 10
Assembling door handles
Turn the grub screw against mounting pressure until the clamping spring is audibly pierced (the screw then turns more easily for a while). Then securely tighten the screw.

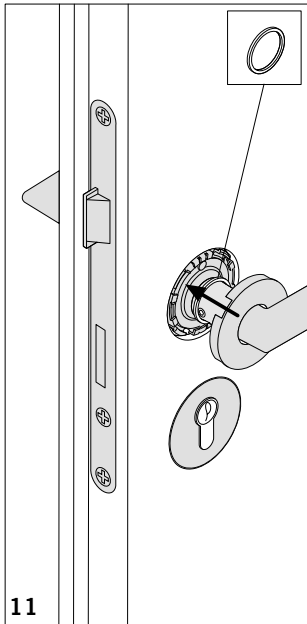


Fig. 11
Assembling door handles
Place cover roses in position and slot home.

The neoprene ring (between the cover rose and the bearing carrier) is designed to create a slight amount of useful tension during assembly.

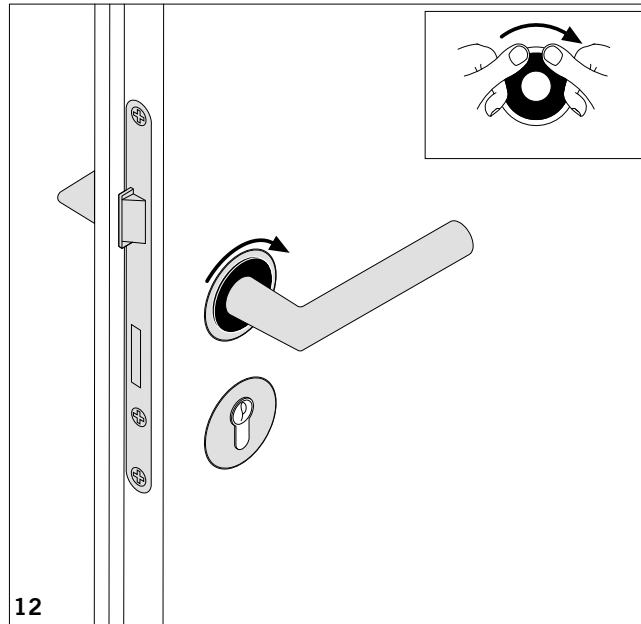


Fig. 12
Assembling door handles
Rotate the cover rose through 45° using the rubber ring (protects against scratches as well as serving as a means of moving the rose).

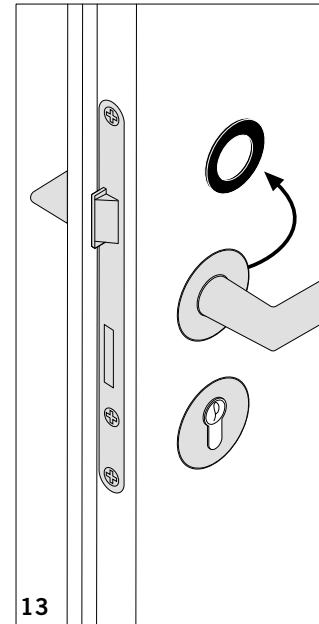
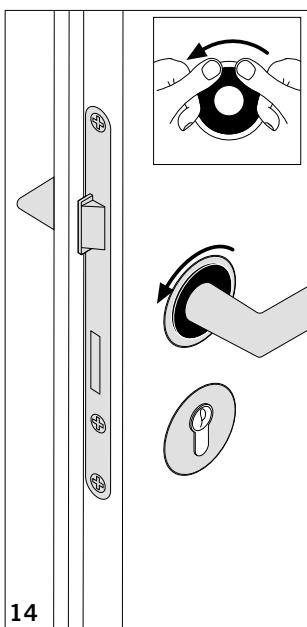


Fig. 13
Assembling door handles
Remove rubber ring and store in a safe place (in case hardware needs to be disassembled).



Figs. 14+15
Disassembling door handles
Clip on the rubber ring and rotate the cover rose through approx. 45°. Once disengaged, the rose ceases to be flush and can be easily removed.

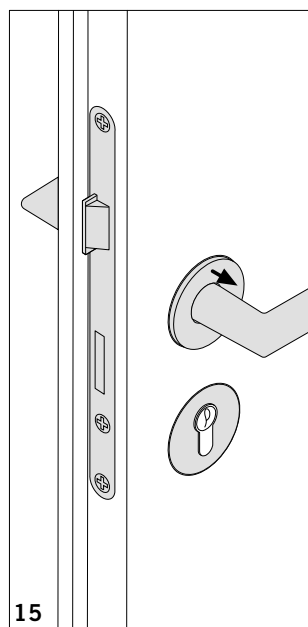
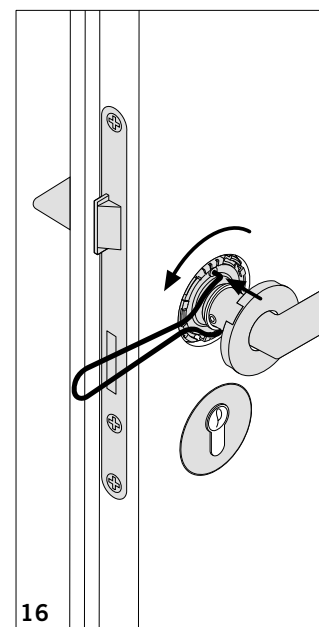


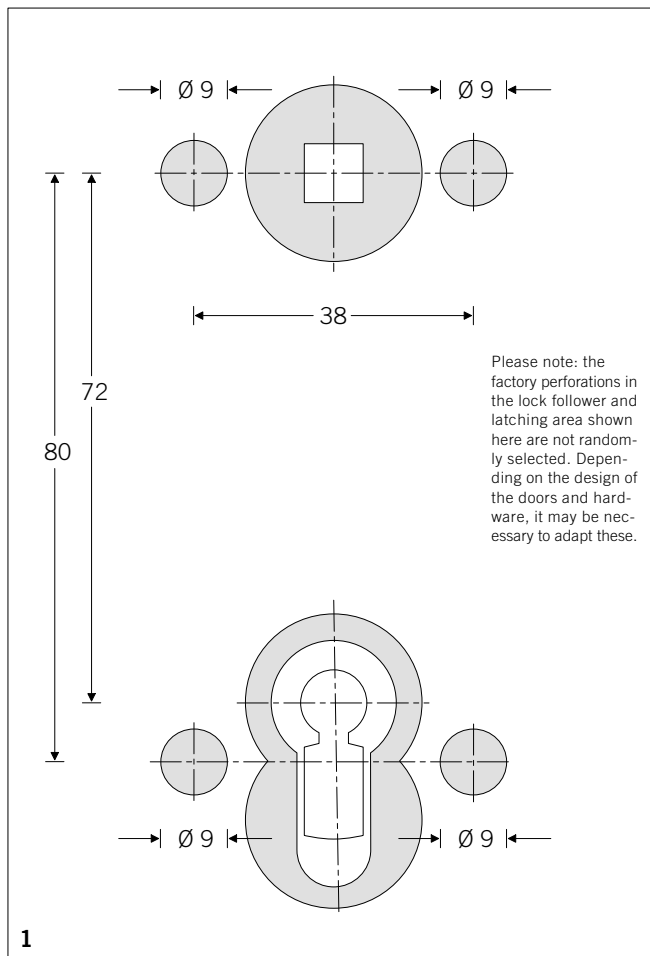
Fig. 16
Disassembling door handles
· Remove the cover roses
· Disconnect the two handles

Engage the fitting tool in the snap-in holes on the bearing carrier, thus unlocking it. Turn the tool approx. 45° in an anticlockwise direction. The bearing carrier can now be removed together with the female handle.



Important! This guide contains details that are also of significance for the user. Please pass it on to the user once assembly has been completed.

FSB Quality Assurance:



Please note: the factory perforations in the lock follower and latching area shown here are not randomly selected. Depending on the design of the doors and hardware, it may be necessary to adapt these.

Fig. 1
 Dimensioned drawing (full-scale) for the borehole layout on doors for the fitting of rose hardware. The c:c distance lock follower/cylinder plug (or centre of rotation of key) is 72 mm.

The drilling positions may be determined using either

- a paper template,
- a metal fixing template
- or a universal fixing template (order code 0 0460 0000 0000)

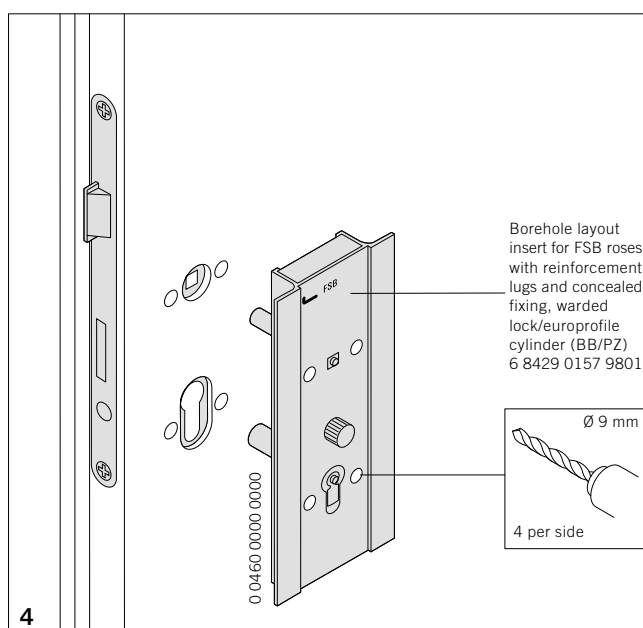
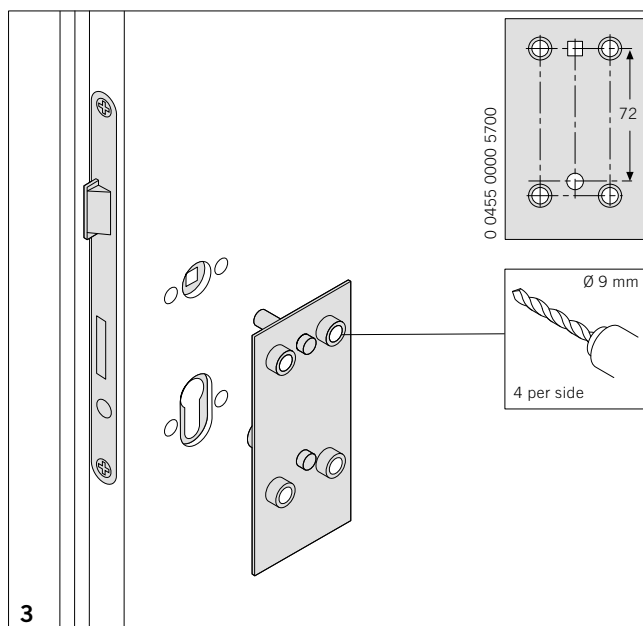
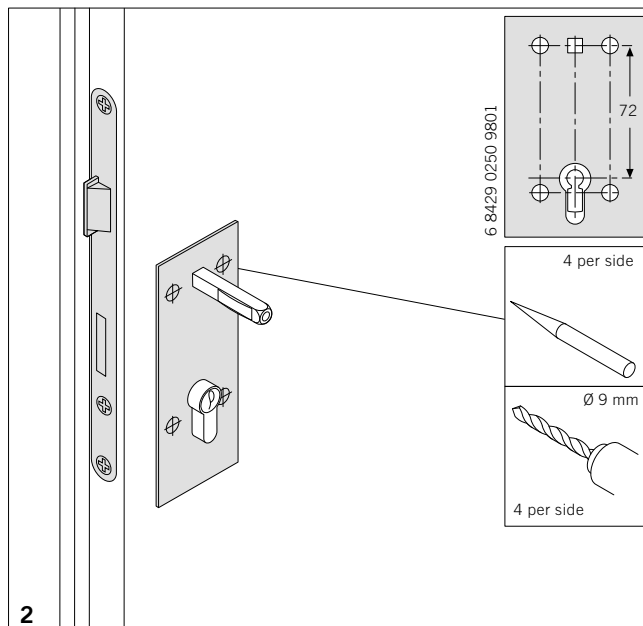
Fig. 2
 Paper template: slot the enclosed paper template over the fitted lock cylinder (or inserted spindle). Mark out the drilling positions and drill with a 9 mm-diameter bit as far as the lock case. Repeat the process on the other side.

Fig. 3
 Metal fixing template: slot the guide pins on the template into the follower and lock cylinder cut-out (or keyhole). Drill four 9 mm diameter holes through the drilling bushes as far as the lock case on both sides.

Fig. 4
 Universal fixing template: follow instructions for use. Select borehole layout (borehole layout insert) and secure with knurled screw. Slot guide pins into place. Drill four 9 mm diameter holes through the drilling bushes as far as the lock case on both sides.

Important note: the drawings in this assembly guide are not to scale.

The hardware should be assembled by a specialist.



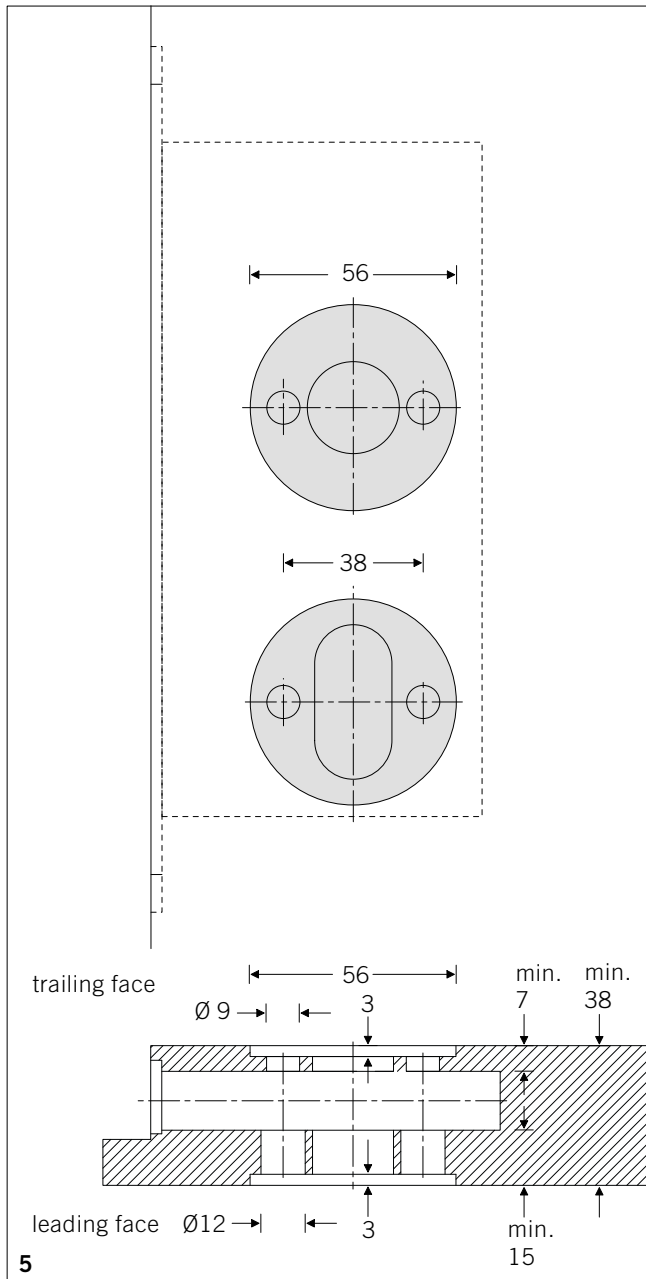


Fig. 5
Requirements for the door
The door must be between 38 mm and 44 mm thick. Important note: please take account of the positioning of the lock mortise! The rose recesses must be 56 mm in diameter and be centred on the lock follower or the middle of the keyhole respectively. They are to be routed out to a depth of 3 mm. The boreholes for the threaded rose lugs on the trailing face should be drilled with a 9 mm-diameter bit at 38 mm centres as far as the lock case; those for the clip-on rose lugs on the leading face should be drilled with a 12 mm-diameter bit at 38 mm centres as far as the lock case

The remaining material between the recess and the lock surface must be stable and firm enough to ensure the hardware can be fastened without exerting pressure on the lock.

General point:
Doors should be used which, in the lock area at least (minimum width 120 mm from forend), feature timbering more rugged than, for instance, tubular particle board. Solid wood products such as multiplex, laminated timber board, plywood or solid wood are preferable.

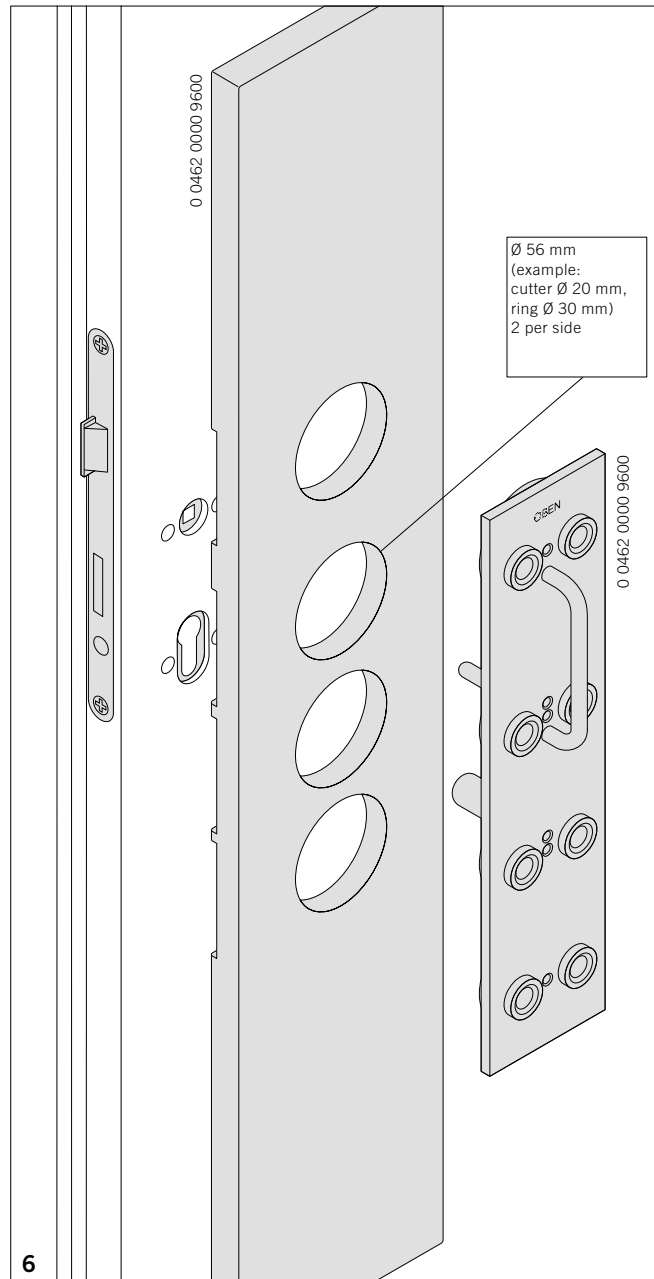


Fig. 6
A routing jig is available for the areas to be routed out and for the 12 mm-diameter boreholes. (Order code: 0 0462 0000 9600)

- Insert the centring device into the boreholes in the timber routing jig and place the assembly against the door, slotting the guide pins on the centring device into the lock follower and euro-profile cylinder keyhole (or warded lock keyhole) respectively.
- Secure the timber routing jig to the door using C-clamps.
- Now remove the centring device and rout out the recess to a diameter of 56 mm and a depth of 3 mm (cutter 20 mm Ø, ring 30 mm Ø).
- Repeat procedure on other side.

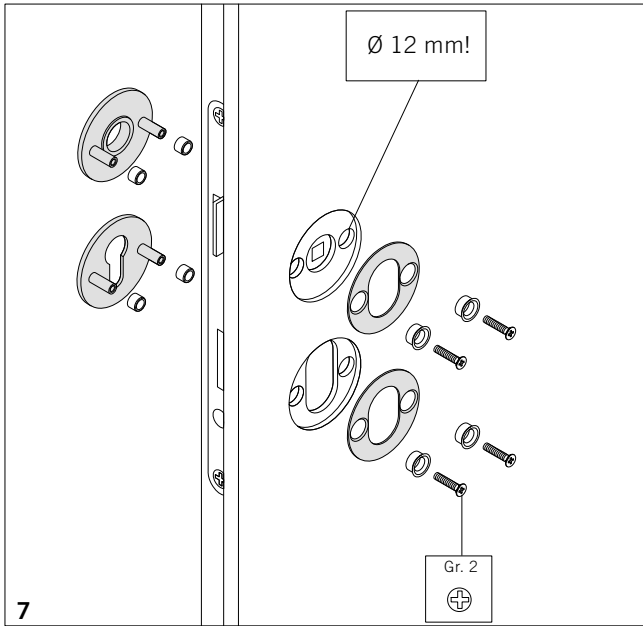


Fig. 7
Assembling roses

Slip the plastic sleeves over the threaded bolts. Insert the threaded roses into the 9 mm-diameter boreholes in the areas routed out on the trailing face of the door. Insert the baseplates and retention sleeves into the 9 mm-diameter boreholes in the

areas routed out on the leading face of the door and secure the two sides with the M4 screws.

Screwing the two sides together must not lead to pressure being exerted on the lock.

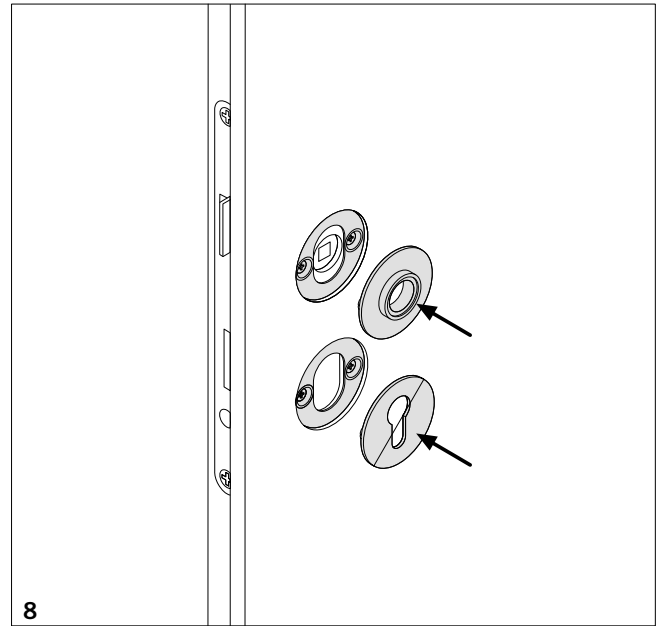


Fig. 8
Assembling roses

Press the clip-on roses into the retention sleeves thus secured, ensuring that the area routed out is not damaged in the process.

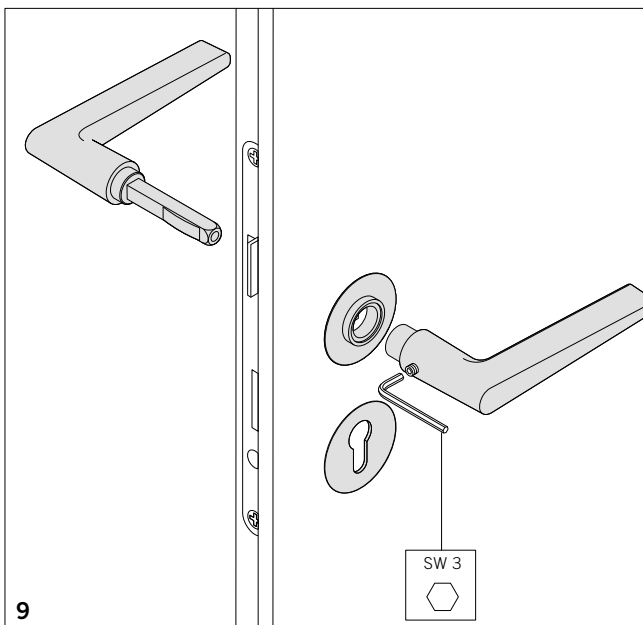


Fig. 9
Assembling door handles

Pass the male handle on the trailing face (with shortened bushing) through the lock follower. Push the female handle on the leading face over the spindle. Turn the grub screw against mounting

pressure until the clamping spring is audibly pierced (the screw then turns more easily for a while). Then securely tighten the screw.

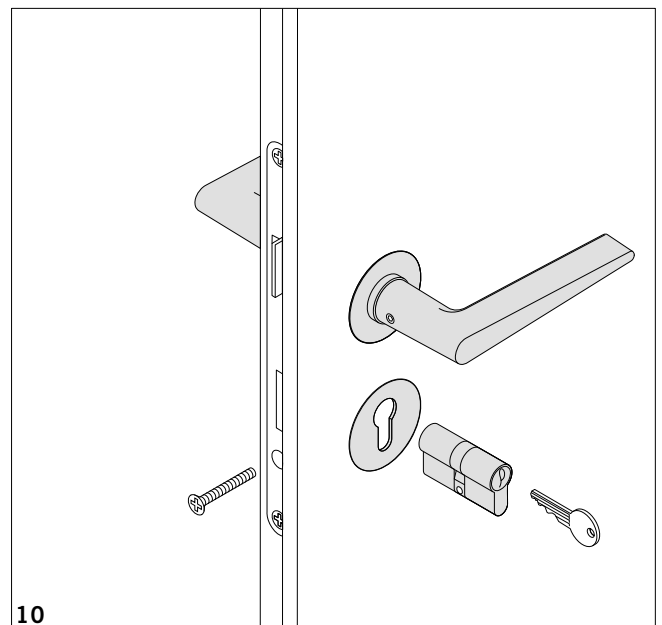


Fig. 10
Europrofile cylinder

The europrofile cylinder can now be inserted. Please heed the makers' instructions.

Important! This guide contains details that are also of significance for the user. Please pass it on to the user once assembly has been completed.

FSB Quality Assurance:

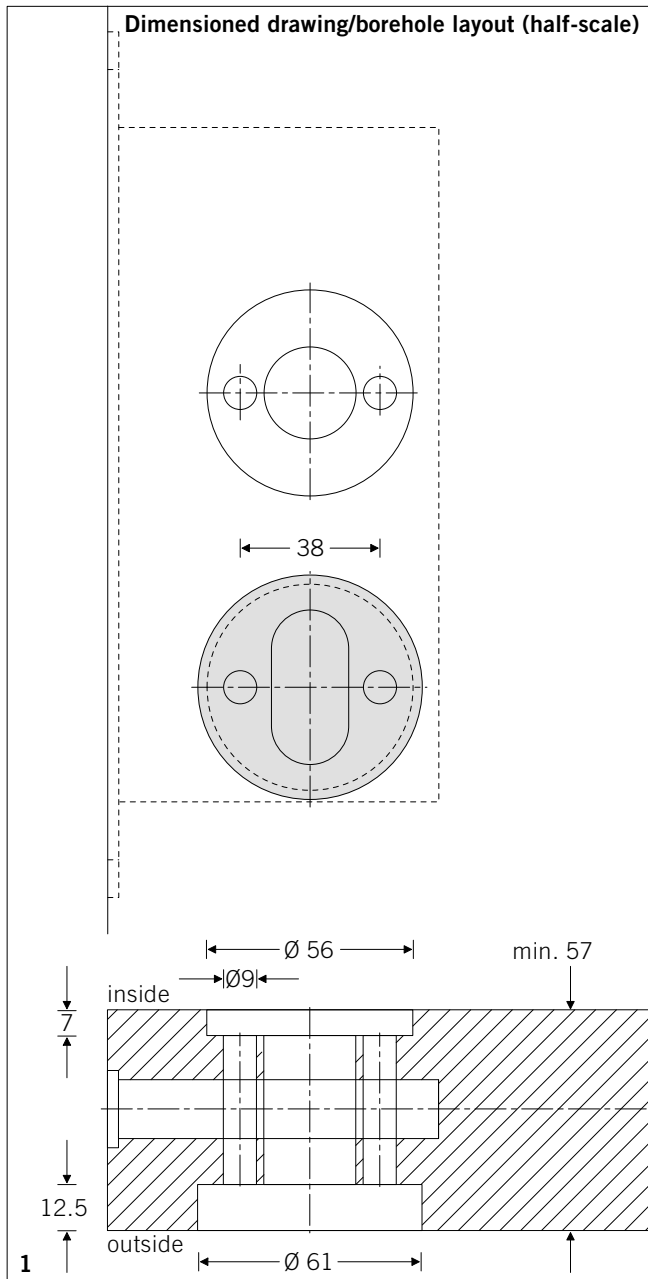


Fig. 1

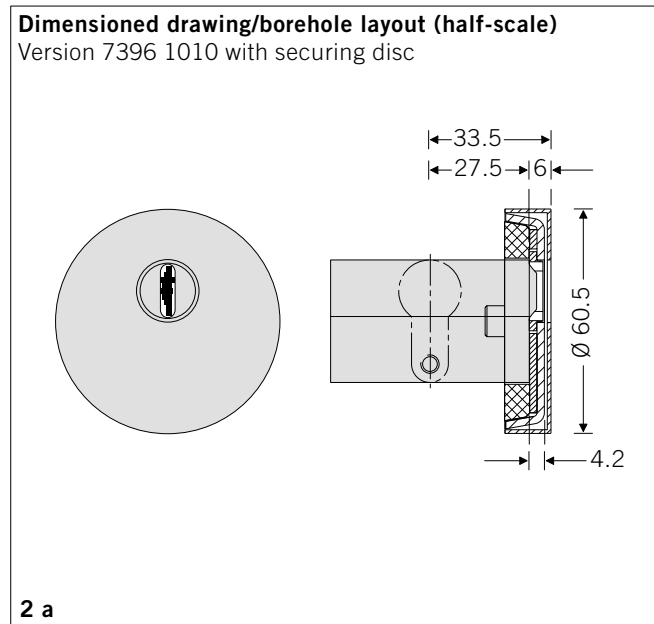
Dimensioned drawing (half-scale) for the borehole layout on doors fitted with flush armoured roses.

The area routed out for the rose must be 61 mm in diameter and 12.5 mm deep on the outside of the door and 56 mm in diameter and 7 mm deep on the inside of the door. For the purpose of accommodating the lugs, boreholes 9 mm in diameter and at 38 mm centres need to be drilled to a depth of at least 7 mm.

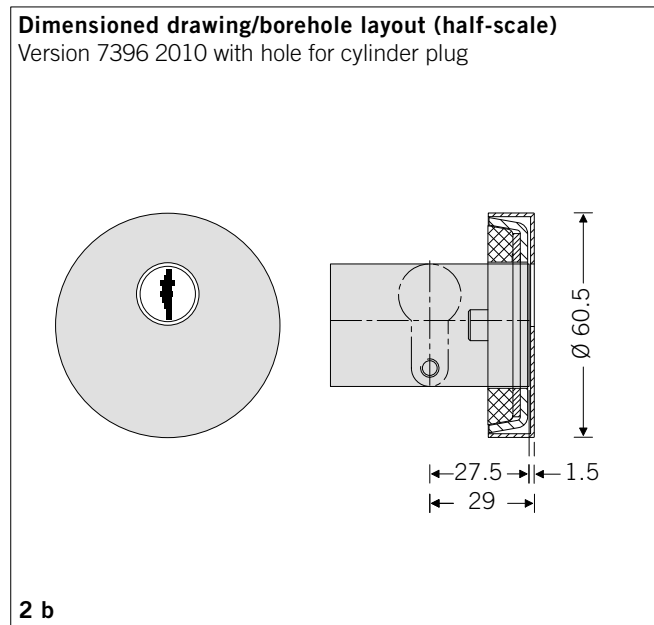
It needs to be ensured that machined and transitional areas on the outside of the door are sealed against incursions of moisture (driving rain) etc.

Important note: the drawings in this assembly guide are not to scale.

The hardware should be assembled by a specialist.



2 a



2 b

Fig. 2 a + b

Dimensioned drawings (half-scale) for the use of flush armoured roses

- Version 7396 1010 with securing disc,
- Version 7396 2010 with hole for cylinder plug.

Selection of door thickness and cylinder:

- the shortest cylinder length is 27.5 mm; lengths in 5 mm increments are possible from 30 mm upwards.

Minimum "Door surface to lock centre" dimension:

- outside
- 33.5 mm for 7396 1010
- 29 mm for 7396 2010
- inside
- 27.5 mm for 7396 1010
- 27.5 mm for 7396 2010

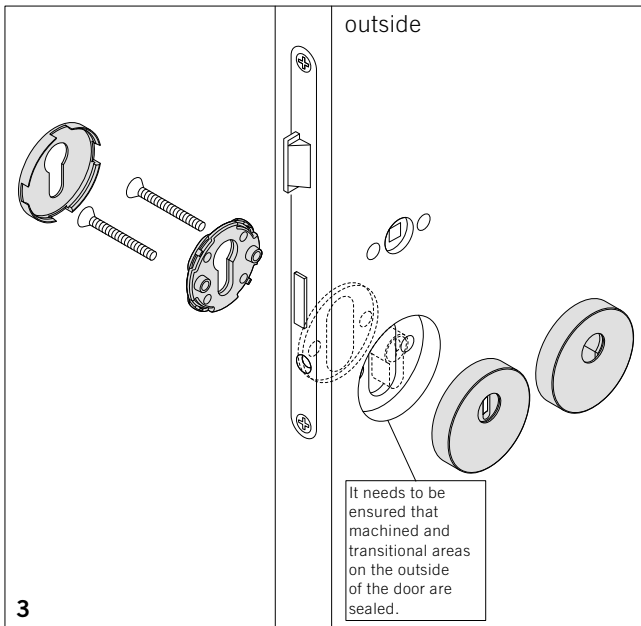


Fig. 3
Assembling key roses

Do not fit the europrofile cylinder at this stage!

Push the armoured rose home and secure the key baseroses with the M5 screws.

Where it is not possible to fit a rose completely flush owing to cylinder length or door thickness, it can be allowed to project by 1–2 mm. The depth of the area routed out needs to be altered accordingly. This does not impair the hardware's security function.

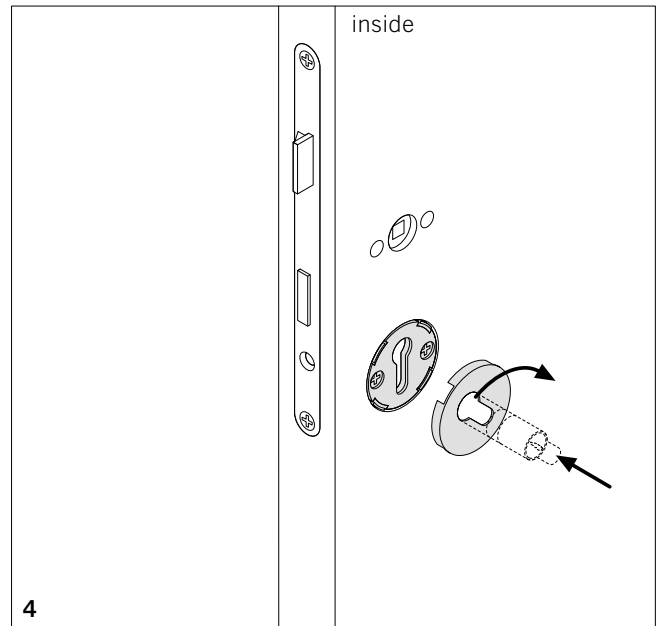


Fig. 4
Key roses, inside

Press the key rose home and rotate through 45°.

The (only partly inserted) europrofile cylinder may be used to aid the guidance/rotation process.

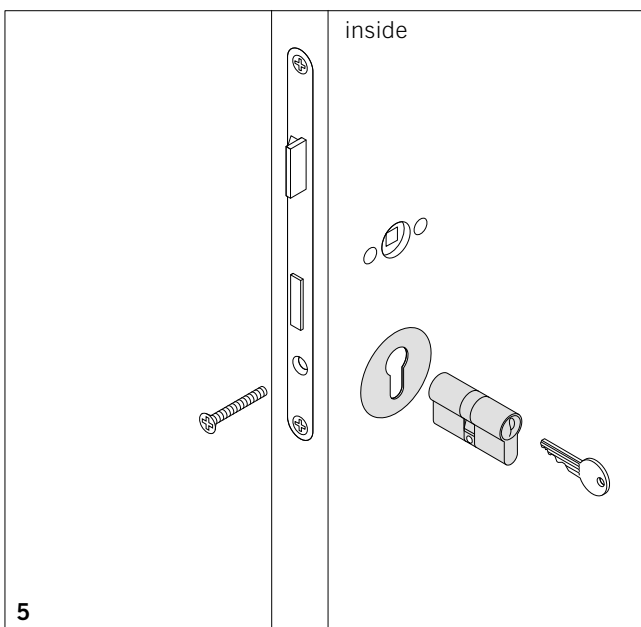


Fig. 5
Assembling key roses

The europrofile cylinder can now be inserted. Please heed the makers' instructions.

Once fitted, the cylinder also serves as a means of preventing the cover rose from rotating.

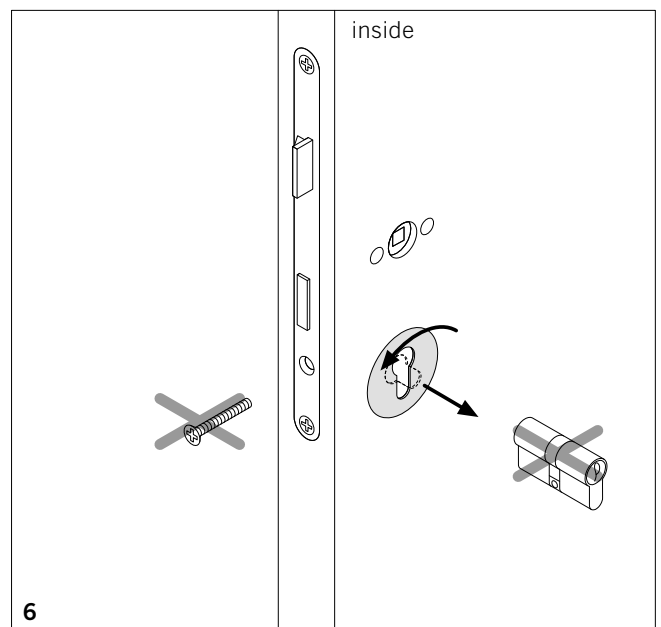


Fig. 6
Disassembling key roses

Having removed the cylinder, use it to rotate the key rose through approx. 30°. Insert one jaw of a ring/open-jawed spanner (toolsize 13) into the cylinder hole, push a pencil or similar object through the ring end and gently prise the rose off.

Important! This guide contains details that are also of significance for the customer/user. Please pass it on to the customer/user once assembly has been completed.

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