Door Pulls
& Glass Door Hardware
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& Glass Door Hardware

North American Manual
North American Manual

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Lever, Knob & Trim Designs

Sliding Door Hardware

**Door Pulls & Glass Door Hardware**

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# Door Pulls & Glass Door Hardware

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FSB was established in 1881. Together with a modest workforce, company founder Franz Schneider produced antique-style brass cabinet fittings.

In the early 1920s, the first door and window fittings appeared in the FSB production program. The design of these years echoed the modernism of the Bauhaus era. Silver metal components were combined with black composite features.

Beginning with in-house designer Johannes Potente in the 1950s, FSB created the first handles which exemplify minimalism, modernism and ergonomics. FSB is still known for the use of these design principles today.

Four of Potente’s lever designs have been included in the permanent collection of the Museum of Modern Art (MoMA).

Inspired by an international design workshop held in Brakel in 1986, FSB began engaging the market with contemporary designs in an initiative dubbed “Tour d’Europe.” Throughout this initiative FSB created design suites with such renowned designers as Philippe Starck, Jasper Morrison, Richard Rogers and many others.

For the past two decades, FSB has continued to work with Architects and Designers to create handles – each with their own personality.

FSB dramatically increased its product range for North America, and issued an expanded catalog of more than 500 pages. This brochure gives an introduction to the breadth and style of our entire product offering, which can be found in our North American Manual. To request a manual, or view more detailed information, go to www.fsbna.com.
New Products

**Hinges**
FSB introduces a new line of hinges unique in their construction, finish and performance. FSB stainless steel two-knuckle and three-knuckle hinges utilize carbon steel and oil-impregnated sintered bronze bearings to minimize friction, thereby reducing wear and maintenance. FSB stainless steel hinges may be supplied to simulate nearly all of our standard finishes, and are supplied with low-profile button-tip finials, giving the protruding hinge barrel an elegant, clean look.

**Sliding Door Hardware**
Building owners are demanding more efficient use of space. Consequently, architects and designers are utilizing many more sliding and pocket doors.

In recognition of this trend FSB has developed an entire range of flush mounted trim for passage, privacy and entry applications. We demonstrate our penchant for devising aesthetically pleasing technical solutions by offering the market’s first flush pulls with spring loaded covers, as pictured above.

A complete overview of these products is provided in the “Sliding Door Hardware” section.

**Bronze**
There is an increase in an “old meets new aesthetic” in which designers are combining traditional finishes with more minimal and modern design. For years, FSB has offered ten of our best selling handles in solid brass, either polished or oxidized to give them varying degrees of antiquing to suit the designers’ needs.

FSB now introduces Bronze as a new material for our lever handles and accessories. The special appeal of bronze is the patina that develops on its surface. In the course of daily use, polished bronze parts darken naturally, becoming more distinguished with time.

We have created a complete section titled “Brass and Bronze Products” to cover all the products we offer in these two exceptional base materials. We offer eight bronze handles and ten brass handles for projects that may benefit from this “old meets new” aesthetic. All brass and bronze products can be oxidized to varying degrees of darkness, depending on “the mood” a designer would like to create.

**Glass Door Hardware**
Creating more open spaces has become a cornerstone of modern architecture. Utilizing large pieces of glass, whether for windows, doors, or walls, facilitates this objective.

FSB has broadened its glass door program to include locks and hinges for swinging glass doors as well as exposed rolling gears for sliding glass doors. These products can be found in the section “Door Pulls and Glass Door Hardware”.

Materials and Finishes

Most of our hardware is available in aluminum and stainless steel as a base material. We offer up to 6 finishes on certain base materials with 19 finishes overall. Aluminum is either anodized or powder coated.

To confirm a particular finish is available for a specific product, consult each page. On overview pages, and all pages throughout this catalog, only the base material is indicated. It can be assumed that all finishes shown to the right of the base material below are available whenever a base material is indicated for a product. If, by exception, a specific finish is not available for a given base material, it will be stated by the detail page for that product.

<table>
<thead>
<tr>
<th>Base Material</th>
<th>FSB Finish (BHMA Code)</th>
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<tbody>
<tr>
<td>Aluminum Anodized</td>
<td>0105 Natural Color (628)</td>
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<tr>
<td></td>
<td>0205 German Silver (Champagne) Color</td>
</tr>
<tr>
<td></td>
<td>0305 Brass Color (688)</td>
</tr>
<tr>
<td></td>
<td>0405 Bronze Color (709)</td>
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<tr>
<td></td>
<td>0704 Dark Bronze Color (710)</td>
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<tr>
<td></td>
<td>1005 AluGrey</td>
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<tr>
<td>Aluminum Powder Coated</td>
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<tr>
<td></td>
<td>8220 White (714E)</td>
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<tr>
<td></td>
<td>8320 Red</td>
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<td>Stainless Steel</td>
<td>6204 Satin (630)</td>
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<tr>
<td></td>
<td>6205 Mirror Polished (629)</td>
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<tr>
<td></td>
<td>6206 Matte</td>
</tr>
<tr>
<td>Bronze</td>
<td>7305 Polished Oil Rubbed</td>
</tr>
<tr>
<td></td>
<td>7615 Artificially Aged and Oil Rubbed (615)</td>
</tr>
<tr>
<td></td>
<td>7625 Patinated and Oil Rubbed (613)</td>
</tr>
<tr>
<td>Brass</td>
<td>4205 Polished Lacquered (605)</td>
</tr>
<tr>
<td></td>
<td>4305 Polished Oil Rubbed (721)</td>
</tr>
<tr>
<td></td>
<td>4694 Oxidized Lacquered</td>
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<td>4404 Oxidized Oil Rubbed (607)</td>
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<tr>
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<td>0405</td>
<td></td>
</tr>
<tr>
<td>0704</td>
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<td>8120</td>
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</tbody>
</table>
Over the past decade, FSB has added a fully-fledged alternative to its traditional tubular pull-handle range with a comprehensive collection of oval designs. Both sets of designs can be fixed in a wide variety of ways. The traditional range of push/pull pad handles and profiles with brackets has also been further developed.

Materials

In principle, FSB supplies its entire pull-handle range in either aluminum, stainless steel, brass and bronze, with stainless steel being particularly recommended for heavy-duty applications. Aluminum surfaces can easily get blemished in such circumstances, though this "aging process" in no way impairs the functioning of the handle. Owing to their tendency to corrode, brass and bronze pulls are only offered with an oil rubbed finish. When ordering non-oxidized product that has not been lacquered, it takes several years before a natural brown protective patina forms on brass or bronze handles.

Fixing Scenarios

Pulls can be either face or through fixed to doors made of the most diverse of materials. In the case of through-bolted fixing, either a pair of pulls or a single handle can be fitted. FSB offers the four fixing options below:
- back-to-back fixing,
- through-bolted fixing,
- concealed fixing with expansion plug (for solid doors),
- concealed fixing with drop clamp (for hollow doors).

This section has clear identifying symbols that can be found on all relevant product pages. (Examples show fixing for tubular pulls).

Regarding the issue of concealed versus through-bolted fixing, FSB wishes to point out that, on account of the compression ring technique deployed by FSB, concealed fixing is both aesthetically pleasing and sufficiently durable as a rule. This needs to be qualified, however, in the case of heavy-duty applications, (i.e. in schools, office blocks and other public institutions): here, we emphatically recommend through-bolt fixing, which ensures that the trim remains fit for use even after years of heavy treatment, since the forces involved are absorbed on both sides of the door.

Safety Clearance (S)

When fitting a handle to the closing face of a door, a safety clearance needs to be allowed for between the handle and the edge of the door and the jamb. The assembly scenario is made more readily comprehensible by the following sketch.

Ideally, safety clearances as recommended by FSB should be adhered to. Nevertheless, conditions at the point of assembly are crucial. It is particularly advisable to make use of offset pulls purpose-designed by FSB for especially narrow stiles, which sets the handle sufficiently far away from the edge.
FSB has developed over the past decade an alternative to traditional pulls of circular cross-section. Adopting the formula “diagonal + oval = ideal gripping” identified by FSB reduces the amount of effort required to take hold of and operate the handles on entrance doors.

The oval styling offers the market a new gripping quality for eye and hand which FSB has had copyright protected. The experience FSB has amassed now allows it to supply almost all its traditional styles both as circular pulls and as optimized-grip oval variants.

A new flattened oval pull series airily and elegantly underpins architectural solutions.

The proven FSB range of tubular pulls has profited from the burst of innovation in the sphere of oval designs. New shapes and brackets have been added. This is particularly true of the lightweight pull series in 20 mm tubular material, for which a new design-conscious bracket fixture has been developed that FSB has likewise had utility and design patented. Hence, this lightweight pull-handle series in its familiar “straight, rectangular, triangular and crescent” styles can continue its victorious campaign against the traditional “heavyweights”.

Custom lengths can be provided for several of our round and oval pulls. Where it is possible we provide a sheet to be populated with the desired dimensions. If no such sheet exists, the ability to provide custom lengths is indicated with a “99” following the pull handle number. When ordering, please provide the overall length desire.

Explanation:
The European (German DIN) specifications “European right hand (r.h.)” respective “European left hand (l.h.)” refer to the positioning of the hinges on the opening face of the door.
Overview

6501 6504 6506 xx 6507 xx 6510 6514 6526

6533 6534 6535 6536 6537 6538 6540
Page 18  Page 18  Page 19  Page 19  Page 20  Page 21  Page 22

6541 6542 6543 6546 6599 6602 6605

6610 6611 6612 6613 6615 6616 6620

6621 6630 6635 6636 6642 6643 6650
Page 33  Page 34  Page 36  Page 37  Page 38  Page 38  Page 40
Stock Items
(in Natural Color Aluminum and Satin Stainless Steel)

Base Material
- Aluminum
- Stainless Steel
- Bronze
- Brass
- Alu + Color
- Plastic Black

6652, 6653, 6655, 6662, 6669, 6674, 6675

6652 Page 41
6653 Page 42
6655 Page 43
6662 Page 44
6669 Page 45
6674 Page 46
6675 Page 47

6677, 6688, 6679, 6681, 6682, 6683, 6685

6677, 6688 Page 52
6679 Page 48
6681 Page 34
6682 Page 50
6683 Page 49
6685 Page 51

6108, 6112, 6113, 6181, 6184, 6254, 6268

6108 Page 55
6112 Page 56
6113 Page 56
6181 Page 57
6184 Page 57
6254 Page 58
6268 Page 58

2160, 3601, 3603, 3617, 6628, 6629, 5325

2160 Page 59
3601 Page 59
3603 Page 60
3617 Page 60
6628 Page 61
6629 Page 61
5325 Page 61
The “heavyweights” of the long-running standard program are juxtaposed with a “lighter than air” series of pull handles (20 mm) in several shapes on plain brackets (25 mm). For detailed information on fixing, please turn to page 66.
Pull Handles
Round Series

6504
Ø 20 mm
- Aluminum
- Stainless Steel
- Brass

Safety clearance 59 mm
Fixing M8

For detailed information on fixing, please turn to page 66.

Back-to-Back Fixing
Through-Bolted Fixing
Concealed Fixing
With Expansion Plug
Concealed Fixing
With Drop Clamp
Pull Handles
Round Series

6506 xx
xx = 65 (r. h.) or 75 (l. h.)
Ø 35 mm

- Aluminum
- Stainless Steel
- Bronze

Illustration r. h., outside view
hanging details, see page 11.
Safety clearance 47 mm
Fixing M8

6507 xx
xx = 65 (r. h.) or 75 (l. h.)
Ø 35 mm

- Aluminum
- Stainless Steel
- Bronze

Illustration r. h., outside view
hanging details, see page 11.
Safety clearance 47 mm
Fixing M8

For detailed information on fixing, please turn to page 66.
Pull Handles
Round Series

6514
- Stainless Steel
- Safety clearance 55 mm
- Fixing M8

Item nos.  Ø  A
6514 38  30  350
6514 45  30  450

For detailed information on fixing, please turn to page 66.
With the publication of its 02/03 Manual, FSB supplemented its proven and long-successful in-line pull series in aluminum and stainless steel with a particularly safe-to-grip design featuring heavily offset fixing points on which the ends of brackets are incorporated into the pull section. The in-line pull sections are supplied with a diameter of 35 mm in either aluminum or stainless steel. The brackets are made of aluminum and anodized in the metal’s natural color. The standard version has an A dimension of 350 mm and a length of 570 mm. Other center-to-center dimensions and lengths are possible.

For detailed information on fixing, please turn to page 71.
To order custom designs in the pull handle series 6526, please use a copy of this page:

First specify the model desired citing the applicable order code above. Then enter the quantity required and overall length in the table below. Then enter details of the distances between brackets and, where applicable, their distance from the end of the handle in mm.

To ensure stability, the distance between brackets should not exceed 1,200 mm.

<table>
<thead>
<tr>
<th>Qte.</th>
<th>Overall length</th>
<th>Distance between brackets</th>
<th>Edge spacing*</th>
<th>Fixing method</th>
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<tbody>
<tr>
<td></td>
<td>L</td>
<td>A₁</td>
<td>A₂</td>
<td>A₃</td>
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</tbody>
</table>

*least. 40 mm
max. 350 mm
The flattened oval pull handle series 6533, 6534, 6535 and 6536 see FSB's philosophy of the ovaly gripping hand and the diagonal moving arm put to effect in telling manner.

The circular fastening section has been shortened and the grip tilted towards the user by dint of a flattened oval cross-section. The hand therefore enjoys optimum clearance whilst, stylistically, these airy, elegant handles display a decidedly architectural dimension.

Guaranteeing FSB's usual production excellence are the traditional casting technique for aluminum and an innovative internal high-pressure metal forming process for the stainless steel variant.

For detailed information on fixing, please turn to page 66.
Pull Handles
Oval Series

For detailed information on fixing, please turn to page 66.

Back-to-Back Fixing  Through-Bolted Fixing  Concealed Fixing
With Expansion Plug  With Drop Clamp
Door pulls 6537 are visually related to the 300 mm range of pulls.

For detailed information on fixing, please turn to page 66.
Door pulls 6538 are visually related to the 300 mm range of pulls.

If selecting stainless steel, this pull is available up to 1400 mm in total length by simply adding 99 after 6538 and your length (L) in parentheses.
Example: 6538 99 (L = 40").
Pull Handles

6540
- Stainless Steel
- Matches FSB lever handle model 1035.
- Safety clearance 45 mm

6541
- Stainless Steel (grip)
- Aluminum (corners)
- Matches FSB lever handle model 1077.
- Safety clearance 51 mm

For detailed information on fixing, please turn to page 66.

Back-to-Back Fixing  Through-Bolted Fixing  Concealed Fixing With Expansion Plug  Concealed Fixing With Drop Clamp
Pull Handles
Oval Series

6542
Stainless Steel
Matches FSB lever handle models 1107/1108.

<table>
<thead>
<tr>
<th>Item nos.</th>
<th>Ø</th>
<th>A</th>
<th>C</th>
<th>D</th>
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<td>6542 6095</td>
<td>40</td>
<td>600</td>
<td>75</td>
<td>45</td>
<td>53</td>
</tr>
</tbody>
</table>

S = Safety clearance

For detailed information on fixing, please turn to page 66.
Pull Handles

6543
- Aluminum
- Stainless Steel

Matches FSB lever handle model 1102.

Safety clearance 48 mm

For detailed information on fixing, please turn to page 72.

6546
- Stainless Steel

Matches FSB lever handle model 1102.

Available length up to 1200 mm

Safety clearance 51 mm

For detailed information on fixing, please turn to page 66.
Pull Handles

6599 0036
Stainless Steel
Matches FSB lever handle model 1003.
Safety clearance 55 mm

For detailed information on fixing, please turn to page 72.
Pull Handles
Round Series

6602 38
- Aluminum
- Stainless Steel
- Bronze
- (only 6602 38)
- Brass
- Aluminum + Color

Matches FSB lever handle model 1075.

Fixing Ø = 20 mm M6
Ø ≥ 25 mm M8

Item-nos. Ø R A C D S
6627 34 20 25 200 75 30 45
6670 34 25 40 200 80 35 48
6670 37 25 40 300 80 35 48
6670 38 25 40 350 80 35 48
6602 38 30 55 350 90 35 51
6603 38 35 60 350 95 45 56
6604 38 40 60 350 105 45 65

6670 99* 25 40 200–1200 80 35 48
6602 99* 30 55 300–1200 90 35 51
6603 99* 35 60 300–1200 95 45 56
6604 99* 40 60 350–1200 105 45 65

S = Safety clearance
* = Simply specify the desired CTC in parenthesis after the product code. Example: 6670 99 (500 CTC)

For detailed information on fixing, please turn to page 66.
Pull Handles
Round Series

6605
- Aluminum
- Stainless Steel
- Brass
- Aluminum + Color

Safety clearance 45 mm
Fixing M8

<table>
<thead>
<tr>
<th>Item nos.</th>
<th>Ø</th>
<th>R1</th>
<th>R2</th>
<th>A</th>
<th>B</th>
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<tr>
<td>6605 38</td>
<td>25</td>
<td>260</td>
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<td>350</td>
<td>68</td>
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<td>6605 50</td>
<td>25</td>
<td>400</td>
<td>40</td>
<td>500</td>
<td>88</td>
</tr>
</tbody>
</table>

For detailed information on fixing, please turn to page 66.
Pull Handles
Oval Series

6610
- Aluminum
- Stainless Steel

Matches FSB lever handle model 1025.

Safety clearance 45 mm
Fixing M6

6611 xx

xx = 24 (r.h.) or 25 (l.h.)
- Aluminum
- Stainless Steel

Matches FSB lever handle model 1028.

Safety clearance 60 mm
Fixing M6

Illustration r.h., outside view, handing details, see page 11.

For detailed information on fixing, please turn to page 68.
Pull Handles
Oval Series

6612
- Aluminum
- Stainless Steel
Matches FSB lever handle model 1026.
Safety clearance 48 mm
Fixing M6

6613
- Aluminum
- Stainless Steel
Safety clearance 48 mm
Fixing M6

For detailed information on fixing, please turn to page 68.
Pull Handles
Round Series

In door pull series FSB 6615 (Ø 30 mm), fixing is by means of laterally offset strap-type brackets. The fastening and gripping sides are separated from one another and hence protect hands. The innovative combination of fixing strap and pull lends the design an airy, vivacious appearance.

6615

Stainless Steel

For detailed information on fixing, please turn to page 69.
Pull Handles
Oval Series

6616
Stainless Steel

In door pull series FSB 6616 (Ø 40 × 28 mm), fixing is by means of laterally offset strap-type brackets. The fastening and gripping sides are separated from one another and hence protect hands. The innovative combination of fixing strap and pull lends the design an airy, vivacious appearance.

Item nos. Ø A L
6616 35 40 × 28 350 550
6616 45 40 × 28 450 650
6616 99* 40 × 28 451–2100

* = Simply specify the desired CTC in parentheses after the product code. Example: 6616 99 (500 CTC)

For detailed information on fixing, please turn to page 69.

Back-to-Back Fixing
Through-Bolted Fixing
Concealed Fixing
With Expansion Plug
The stiles on glass doors have become narrower in recent years. FSB has responded by producing a filigree handle series in stainless steel (Ø 25 mm). The straight bar handle features a clearance between the fixing center and the center of the bar of no less than 57 mm.

With the curved version, the clearance is a mighty 130 mm. Both are supplied as standard with an A dimension of 450 mm and an overall length of 600 mm. Optionally, they can both extend over the entire door. The standard measurement for the end sections is 75 mm.

FSB recommends a distance between brackets of at most 1,200 mm.

For detailed information on fixing, please turn to page 70.
Pull Handles
Round Series

6621
Ø 25 mm
Stainless Steel
A1 = 450 mm
Overall length 600 mm.

Item nos. Ø A1 A2 A3 Length Ending
6621 45 25 450 n/a n/a 600 mm 75 mm
6621 99* 25 450 X X X 600 mm 75 mm

* For customized lengths with multiple brackets, please provide dimensions for A2 and/or A3.
For example: 6621 99 (A2 = 400, A3 = 400).

For detailed information on fixing, please turn to page 70.

Back-to-Back Fixing Through-Bolted Fixing Concealed Fixing With Expansion Plug
Pull Handles
Round Series

6630 00
Ø 30 mm
- Stainless Steel

Standard length 400 mm
(also available in custom designs, see fax form next page).

Fixing M8

6681 00
Ø 30 mm
- Aluminum
- Stainless Steel
- Bronze

Standard length 400 mm
(also available in custom designs, see fax form next page).

Safety clearance 38 mm
Fixing M8

For detailed information on fixing, please turn to page 66.
Pulls above provided with standard cap below.

Back-to-Back Fixing
Through-Bolted Fixing
Concealed Fixing
With Expansion Plug
Concealed Fixing
With Drop Clamp
Pull Handles
Round Series

To order custom designs in the pull handle series 6630 or 6681, please use a copy of this page:
- First specify the model desired citing the applicable order code above.
- Then enter the quantity required and overall length in the table below.
- Then enter details of the distances between brackets and, where applicable, their distance from the end of the handle in mm.
- To ensure stability, the distance between brackets should not exceed 1,200 mm.
- Finally, please pick the cap required for standard versions with a diameter of 30 Ø.

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Overall length</th>
<th>Optional Caps</th>
<th>Distance between brackets</th>
<th>Edge spacing*</th>
<th>Fixing method</th>
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<tbody>
<tr>
<td>L</td>
<td>.00</td>
<td>.10  .20</td>
<td>A1  A2  A3  R1  R2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* least. 30 mm
max. 350 mm

The custom designs in the pull handle series 6630 and 6681 can be supplied with two custom caps, one a shallow curvature (10), the other a stepped flat cap (20).
Pull Handles
Oval Series

6635
Stainless Steel

Door pull design FSB 6635 was the first member of the oval family. A hefty oval tube (Ø 40 × 28 mm) was required to be ergonomically designed to ensure hands could grip safely and purposefully. This objective was achieved by welding handle and brackets together in a mitre-joint. The upshot was a design in stark contrast to the gentle curves of its tubular counterparts. The market was immediately receptive.

<table>
<thead>
<tr>
<th>Item nos.</th>
<th>Ø</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>6635 38</td>
<td>40 × 28</td>
<td>350</td>
</tr>
<tr>
<td>6635 45</td>
<td>40 × 28</td>
<td>450</td>
</tr>
<tr>
<td>6635 99*</td>
<td>40 × 28</td>
<td>451–2100</td>
</tr>
</tbody>
</table>

* = Simply specify the desired CTC in parenthesis after the product code. Example: 6635 99 (500 CTC)

When locating the fixing points, especially on narrow stiles of glass doors, please note the off-center location of the threaded holes from the center of the contact plane of the handle. The measurement’s difference is exactly 6 mm, in the case of FSB 6635.

For detailed information on fixing, please turn to page 65.
Door pull design FSB 6636 is a variation on the now classic first design FSB 6635. The visual severity of the first model is softened by having the brackets slope towards the grip. The angle between the two is 135°. The new design qualities really come into their own given shorter lengths.

Item nos. Ø A
6636 38 40 x 28 350
6636 45 40 x 28 450
6636 99* 40 x 28 451–2100

* = Simply specify the desired CTC in parenthesis after the product code. Example: 6636 99 (500 CTC)

When locating the fixing points, especially on narrow stiles of glass doors, please note the off-center location of the threaded holes from the center of the contact plane of the handle. The measurement's difference is exactly 4 mm, in the case of FSB 6636.

For detailed information on fixing, please turn to page 65.
Pull Handles
Round Series

6642
Ø 30 mm
Brackets
- Aluminum
Grip
- Aluminum or Stainless Steel
Standard length 400 mm
(Also available in custom designs, see fax form next page).
Safety clearance 38 mm
Fixing M6

6643
Ø 30 mm
Brackets
- Aluminum
Grip
- Aluminum or Stainless Steel
Standard length 400 mm
(Also available in custom designs, see fax form next page).
Fixing M6

For detailed information on fixing of the pull handles 6642 and 6643, please turn to page 72.
To order custom designs in the pull handle series 6642 or 6643, please use a copy of this page:

- First specify the model desired citing the applicable order code above.
- Then enter the quantity required and overall length in the table below.
- Then enter details of the distances between brackets and, where applicable, their distance from the end of the handle in mm.
- To ensure stability, the distance between brackets should not exceed 1200 mm.

<table>
<thead>
<tr>
<th>Qte.</th>
<th>Overall length L</th>
<th>Distance between brackets A₁</th>
<th>A₂</th>
<th>A₃</th>
<th>Edge spacing* R₁</th>
<th>R₂</th>
<th>Fixing method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Least. 40 mm max. 350 mm
FSB could not resist squeezing all the experience gained in fashioning the 40 × 28 mm oval tube into a smaller diameter. And thus it was that the standard in-line pull FSB 6650 came into being. It features a skewed oval grip 36 by 22 mm in diameter affixed to circular brackets. If so desired, FSB 6650 can also be supplied in other lengths.

Safety clearance 49 mm
Fixing M8

<table>
<thead>
<tr>
<th>Item nos.</th>
<th>Ø</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>6650 38</td>
<td>36 × 22</td>
<td>350</td>
</tr>
<tr>
<td>6650 99*</td>
<td>36 × 22</td>
<td>351–1500</td>
</tr>
</tbody>
</table>

* = Simply specify the desired CTC in parenthesis after the product code. Example: 6650 99 (500 CTC)

For detailed information on fixing, please turn to page 66.
Pull Handles
Oval Series

Handle models FSB 6650 (inline), FSB 6682 (U-shape), FSB 6652 (semicircular) and FSB 6685 (triangular) are living proof that tested designs featuring new oval cross-sections have the edge over their round counterparts both optically and in terms of gripping ergonomics. The hand glides effortlessly around them.

Safety clearance 53 mm
Fixing M8

For detailed information on fixing, please turn to page 66.
Pull Handles
Round Series

6653
Ø 30 mm
Stainless Steel
Safety clearance 55 mm
Fixing M8

For detailed information on fixing, please turn to page 66.

Back-to-Back Fixing  Through-Bolted Fixing  Concealed Fixing With Expansion Plug  Concealed Fixing With Drop Clamp
Pull Handles
Round Series

6655
Ø 35 mm

- Aluminum
- Stainless Steel

Safety clearance 55 mm
Fixing M8

For detailed information on fixing, please turn to page 66.
Pull Handles
Round Series

6662
- Aluminum
- Stainless Steel
- Brass
- Aluminum + Color

Fixing Ø = 20 mm M6
Ø ≥ 25 mm M8

<table>
<thead>
<tr>
<th>Items-nos.</th>
<th>Ø</th>
<th>R</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>S</th>
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</thead>
<tbody>
<tr>
<td>6660 34</td>
<td>20</td>
<td>25</td>
<td>200</td>
<td>100</td>
<td>75</td>
<td>30</td>
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<tr>
<td>6661 34</td>
<td>25</td>
<td>40</td>
<td>200</td>
<td>100</td>
<td>80</td>
<td>35</td>
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</tr>
<tr>
<td>6661 37</td>
<td>25</td>
<td>40</td>
<td>300</td>
<td>100</td>
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<tr>
<td>6661 38</td>
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<td>140</td>
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<tr>
<td>6661 99*</td>
<td>25</td>
<td>40</td>
<td>200–1200</td>
<td>100</td>
<td>80</td>
<td>35</td>
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</tr>
<tr>
<td>6662 99*</td>
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<td>55</td>
<td>300–1200</td>
<td>140</td>
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</tr>
<tr>
<td>6663 99*</td>
<td>35</td>
<td>60</td>
<td>300–1200</td>
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<tr>
<td>6664 99*</td>
<td>40</td>
<td>60</td>
<td>350–1200</td>
<td>150</td>
<td>120</td>
<td>45</td>
<td>52</td>
</tr>
</tbody>
</table>

S = Safety clearance
* = Simply specify the desired CTC in parenthesis after the product code. Example: 6661 99 (500 CTC)

For detailed information on fixing, please turn to pages 66, 67 and 68.
Pull Handles
Round Series

6669
- Stainless Steel
- Bronze
  (only 6669 38 and 6669 99 with available length up to 1200 mm)

Matches FSB lever handle model 1076.
Fixing M8

<table>
<thead>
<tr>
<th>Items nos.</th>
<th>Ø</th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>6606 38</td>
<td>25</td>
<td>350</td>
<td>75</td>
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<td>50</td>
</tr>
<tr>
<td>6669 38</td>
<td>30</td>
<td>350</td>
<td>80</td>
<td>35</td>
<td>55</td>
</tr>
<tr>
<td>6669 99*</td>
<td>30</td>
<td>special length</td>
<td>80</td>
<td>35</td>
<td>55</td>
</tr>
<tr>
<td>6607 38</td>
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<td>350</td>
<td>85</td>
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<tr>
<td>6609 38</td>
<td>40</td>
<td>350</td>
<td>90</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>6609 99*</td>
<td>40</td>
<td>special length</td>
<td>90</td>
<td>45</td>
<td>60</td>
</tr>
</tbody>
</table>

S = Safety clearance
* = Simply specify the desired CTC in parenthesis after the product code. Example: 6669 99 (500 CTC)

For detailed information on fixing, please turn to page 66.
Pull Handles
Round Series

6674
Stainless Steel

Door pull FSB 6674 takes the offset strap-type brackets from the FSB 6615 series and fuses these with the sweep of the crescent-shaped round pull (Ø 30 mm).
This pull series is only supplied with A dimensions of 210 mm and 350 mm.

For detailed information on fixing, please turn to page 69.
Pull Handles
Oval Series

6675

Stainless Steel

Door pull FSB 6675 takes the offset strap-type brackets from the FSB 6616 series and fuses these with the sweep of the crescent-shaped oval pull (Ø 40 x 28 mm).

This pull series is only supplied with A Dimensions of 210 mm and 350 mm.

<table>
<thead>
<tr>
<th>Items nos.</th>
<th>Ø</th>
<th>R</th>
<th>A</th>
<th>B</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>6675 21</td>
<td>40 x 28</td>
<td>485</td>
<td>210</td>
<td>132</td>
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<tr>
<td>6675 35</td>
<td>40 x 28</td>
<td>1420</td>
<td>350</td>
<td>129</td>
<td>745</td>
</tr>
</tbody>
</table>

For detailed information on fixing, please turn to page 69.
Pull Handles Round Series

6679
- Aluminum
- Stainless Steel
- Brass
- Aluminum + Color

Fixing Ø = 20 mm M6
Ø ≥ 25 mm M8

Items-nos. Ø R A B C D S
6649 34 20 25 200 90 75 30 41
6679 34 25 40 200 83 80 35 42
6679 37 25 40 300 133 80 35 42
6679 38 25 40 350 158 80 35 42
6623 38 30 55 350 152 90 35 43
6624 38 35 60 350 150 95 45 45
6625 38 40 60 350 150 105 45 49

S = Safety clearance

For detailed information on fixing, please turn to pages 66, 67 and 68.
Pull Handles
Round Series

6683
- Aluminum
- Stainless Steel
- Bronze
- Brass
- Aluminum + Color

Fixing $\phi = 20$ mm M6
$\phi \geq 25$ mm M8

<table>
<thead>
<tr>
<th>Items-nos.</th>
<th>$\phi$</th>
<th>R1</th>
<th>R2</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>S</th>
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<tr>
<td>6626 34</td>
<td>20</td>
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<td>42</td>
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<tr>
<td>6673 37</td>
<td>25</td>
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<td>300</td>
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<td>80</td>
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<td>42</td>
</tr>
<tr>
<td>6673 38</td>
<td>25</td>
<td>175</td>
<td>40</td>
<td>350</td>
<td>215</td>
<td>80</td>
<td>35</td>
<td>42</td>
</tr>
<tr>
<td>6683 38</td>
<td>30</td>
<td>175</td>
<td>55</td>
<td>350</td>
<td>230</td>
<td>90</td>
<td>35</td>
<td>43</td>
</tr>
<tr>
<td>6659 38</td>
<td>35</td>
<td>175</td>
<td>60</td>
<td>350</td>
<td>235</td>
<td>95</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>6678 38</td>
<td>40</td>
<td>175</td>
<td>60</td>
<td>350</td>
<td>235</td>
<td>120</td>
<td>45</td>
<td>52</td>
</tr>
</tbody>
</table>

S = Safety clearance

For detailed information on fixing, please turn to pages 66, 67 and 68.

Back-to-Back Fixing
Through-Bolted Fixing
Concealed Fixing With Expansion Plug
Concealed Fixing With Drop Clamp
Door handle FSB 6682 is the U-shaped design in handle series 6650 (inline, ref. to page 40), 6652 (semicircular, ref. to page 41) and 6685 (triangular, besides).

In all four cases, the easy-grip oval tube with a diameter of 36 × 22 mm is supported on round fixing brackets.

Safety clearance 53 mm
Fixing M8

For detailed information on fixing, please turn to page 66.
Pull Handles
Oval Series

6685
Stainless Steel

The triangular tubular pull became a top-seller, echoing as it does the diagonal trussing so commonly to be found on front doors. The oval-section pull handle 6685 adds ergonomically enhanced gripping qualities to what are already very fine visuals.

Safety clearance 53 mm
Fixing M8

For detailed information on fixing, please turn to page 66.
Pull Handles
Round Series

6677 00
Ø 25 mm
Stainless Steel
Safety clearance 65 mm
Fixing M8

6688 00
Ø 25 mm
Stainless Steel
Safety clearance 48 mm
Fixing M8

For detailed information on fixing, please turn to page 66.

Back-to-Back Fixing  Through-Bolted Fixing  Concealed Fixing
With Expansion Plug  Concealed Fixing
With Drop Clamp
The wave handle is offered in aluminum, stainless steel and brass with the following specifications:

- Torsion radius: 800 mm
- Handle diameter: 30 mm
- Bracket diameter: 35 mm

For quoting purposes, we require the following details together with a dimensioned sketch:

1. Width of door
2. Size A required
3. Frame widths
4. Profile section
5. In case of glass doors: distance of fixing holes from edge

For detailed information on fixing, please turn to page 66.
The stainless steel pull handle designs shown here are intended as creative aids for architects, planners, designers, retailers and builder clients alike.

Please always give details of the door's type, material and weight. We must have accurate drawings before we can supply quotes or implement orders.

For detailed information on fixing, please turn to page 66.
Push and Pull
Pad Handles

The round M8 fixing sets are suitable for these pad handles. For details page 66. Fixing accessories are shown in “Components” section.
Push and Pull Pad Handles

6112
- Aluminum
- Fixing M6

6113
- Aluminum
- Fixing M6

For detailed information on fixing, please turn to page 72, fixing accessories are shown in "Components" section.
Push and Pull
Pad Handles

6181 62
- Aluminum
- Pad 150 x 150 mm
- Dimension A 90 mm
- c:c screw holes 70 mm

6181 70
- Aluminum
- Pad 180 x 180 mm
- Dimension A 120 mm
- c:c screw holes 100 mm

6181 74
- Aluminum
- Pad 200 x 200 mm
- Dimension A 120 mm
- c:c screw holes 100 mm

6184 62
- Aluminum
- Plastic-Pad, black

Fixing accessories are shown in “Components” section.

Screw hole Ø 8.5 mm
Push and Pull Pad Handles

Fixing accessories are shown in “Components” section.

Screw hole Ø 8.5 mm
### Pull Handles

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>2160</td>
<td>Pull Handle</td>
<td>Aluminum</td>
</tr>
<tr>
<td>3601</td>
<td>Pull Handle</td>
<td>Aluminum</td>
</tr>
<tr>
<td>3602</td>
<td>Pull Handle</td>
<td>Aluminum</td>
</tr>
</tbody>
</table>
Pull Handles

3603
- Aluminum

3604
- Aluminum

3617
- Aluminum

3618
- Aluminum
Double-action swing doors in restaurants, canteens, hospitals and so forth are generally fitted with both push and pull plates for added protection.

An alternative arrangement is conceivable in the gripping area, however. Furnishing the two faces of the door with the combination shown above allows the desired direction of swing to be implied.
FSB’s Threaded Insert Fixing Method

FSB’s threaded insert method is a practically-minded and, at the same time, enhanced means of fixing concealed pulls to solid doors, and in the process allowing distension forces to be absorbed far more effectively by the door stile.

Regardless of door thickness or stile type, a single type of threaded insert 34 mm long is used.

The self-tapping thread creates an excellent bond with comparatively little play between door stile and threaded insert, thus ensuring an even and effective frictional connection – assuming the accurate drilling of 12.5 mm-diameter borehole has been made.

Step One
Whether a manual or a power drill is used, threaded inserts require holes 12.5 mm in diameter to be drilled.

Step Two
Then the threaded insert is screwed in using a size 8 Allen key until the washer at the end of the threaded insert lies flush against the stile. FSB recommends an Allen key with handle, as this is the best way of guaranteeing the requisite force is exerted.

Step Three
The “mounting post” is screwed into the threaded insert.

Step Four
The handle is then placed on the projecting “mounting post”.

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Regardless of door thickness or stile type, a single type of threaded insert 34 mm long is used.

The self-tapping thread creates an excellent bond with comparatively little play between door stile and threaded insert, thus ensuring an even and effective frictional connection – assuming the accurate drilling of 12.5 mm-diameter borehole has been made.
FSB Clamping Rose Fastening

The FSB clamping rose fastening is a new method of assembling door-pulls whereby the pull is tightened fast against the surface of the door. Visible fixing screws are done away with.

All door pulls with round necks are supplied as female parts with an internal left-handed thread 18 × 1.5 mm (M8 fixing) or 14 × 1.5 mm (M6 fixing). A clamping rose fastening comprises a plastic washer, a steel washer, a clamping element (with “lock-tight”), a rotating rose and a spacer sleeve that are securely held in place by a plastic clip and pre-attached to the end of the handle.

FSB Clamping Rose Fastening

The new FSB clamping rose fastening allows all FSB door pulls with round necks to be screwed tight against the surface of the door by means of an easy-to-operate clamping rose. Radial play allowed for by FSB ensures the necessary tolerances during fitting. Assembly is as follows:

Step One
First install the “mounting post”. How this is done depends on which fixing method you are using (back-to-back fixing, through-bolted fixing or concealed fixing).

Step Two
Then detach the clamping elements from the end of the pull by turning them counterclockwise. Remove the plastic clip and slip the plastic washer, the steel washer, the clamping rose and the clamping element over the mounting post in that order. Using the spacer sleeve, screw the elements together, ensuring that the clamping rose and clamping element remain free to rotate.

Step Three
Place the handle on the fixing points and tighten against the door by alternately turning the clamping roses in a clockwise direction.

A turning device for the FSB clamping rose is supplied with the product.
## Borehole Dimensions

The illustrations below provide the bore hole dimensions for all FSB pulls based on type of door and fixing method.

<table>
<thead>
<tr>
<th>Fixing method</th>
<th>Glass door</th>
<th>Wood door</th>
<th>Metal door</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back-to-Back Fixing</td>
<td><img src="image1" alt="Diagram" /></td>
<td><img src="image2" alt="Diagram" /></td>
<td><img src="image3" alt="Diagram" /></td>
</tr>
<tr>
<td>Through-Bolted Fixing</td>
<td><img src="image4" alt="Diagram" /></td>
<td><img src="image5" alt="Diagram" /></td>
<td><img src="image6" alt="Diagram" /></td>
</tr>
<tr>
<td>Concealed Fixing</td>
<td><img src="image7" alt="Diagram" /></td>
<td><img src="image8" alt="Diagram" /></td>
<td><img src="image9" alt="Diagram" /></td>
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<tr>
<td>Concealed Fixing</td>
<td><img src="image10" alt="Diagram" /></td>
<td><img src="image11" alt="Diagram" /></td>
<td><img src="image12" alt="Diagram" /></td>
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</table>

*Inside / Outside dimensions are provided for each fixing method.*
Fixing Methods
Pull Handles

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<thead>
<tr>
<th>Fixing method</th>
<th>Fixing accessories</th>
<th>Item nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back-to-Back Fixing</td>
<td>2 each socket head cup screws M8</td>
<td>0582 1008 glass door 8 –10 mm</td>
</tr>
<tr>
<td></td>
<td>4 each plastic washers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 each lids stainless steel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Borehole Ø 13 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0582 3038 38 – 44 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0582 3045 45 – 49 mm</td>
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<td></td>
<td></td>
<td>0582 3050 50 – 54 mm</td>
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<td>0582 3055 55 – 59 mm</td>
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<td>0582 3060 60 – 64 mm</td>
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<td>0582 3065 65 – 69 mm</td>
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<td>0582 3070 70 – 74 mm</td>
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<td>0582 3075 75 – 79 mm</td>
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<td>0582 3080 80 – 84 mm</td>
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<td></td>
<td></td>
<td>0582 2008 glass door 8 –10 mm</td>
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<td>Through-Bolted Fixing</td>
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<td>4 each plastic washers</td>
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<td>2 each fixing washers with caps</td>
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</tr>
<tr>
<td></td>
<td>stainless steel</td>
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<td>Borehole Ø 13 mm</td>
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<td>0582 4080 80 – 84 mm</td>
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<tr>
<td>Concealed Fixing With Expansion Plug</td>
<td>2 each socket head cup screws M8</td>
<td>0582 0335 length of dowel 34 mm</td>
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<tr>
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<tr>
<td></td>
<td>2 each expansion plugs brass dull nickel finish</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 each lids stainless steel</td>
<td></td>
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<tr>
<td></td>
<td>Borehole Ø 12.5 mm (wood doors), Ø 13 mm (metal doors)</td>
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When selecting and ordering pull handles, please note that the pulls in this series are produced as threaded-part and through-bolted fixing sections.
### Fixing Methods
#### Pull Handles

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<thead>
<tr>
<th>Fixing method</th>
<th>Fixing accessories</th>
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<tbody>
<tr>
<td><strong>Back-to-Back Fixing</strong></td>
<td>2 each set screws M8</td>
<td>0580 1008 glass door 8 – 10 mm</td>
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<tr>
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<td></td>
<td>0580 3035 35 – 54 mm</td>
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<td>0580 3055 55 – 74 mm</td>
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<tr>
<td></td>
<td></td>
<td>0580 3075 75 – 94 mm</td>
</tr>
<tr>
<td></td>
<td>Borehole Ø 13 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Through-Bolted Fixing</strong></td>
<td>2 each set screws M8</td>
<td>0580 2308 glass door 8 – 10 mm</td>
</tr>
<tr>
<td></td>
<td>2 each fixing nuts with caps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grip diameter 25/30 mm</td>
<td>0580 4335 35 – 44 mm</td>
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<td></td>
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<td>0580 4345 45 – 54 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0580 4355 55 – 64 mm</td>
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<td>0580 4365 65 – 74 mm</td>
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<tr>
<td></td>
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<td>0580 4375 75 – 84 mm</td>
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<tr>
<td></td>
<td>Grip diameter 35/40 mm</td>
<td>0580 2408 glass door 8 – 10 mm</td>
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<td></td>
<td>0580 4435 35 – 44 mm</td>
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<td>0580 4445 45 – 54 mm</td>
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<td>0580 4455 55 – 64 mm</td>
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<td>0580 4465 65 – 74 mm</td>
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<td></td>
<td>0580 4475 75 – 84 mm</td>
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<tr>
<td></td>
<td>Borehole Ø 13/18 mm,</td>
<td>please turn to page 64</td>
</tr>
<tr>
<td></td>
<td>please turn to page 64</td>
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## Fixing Methods
### Pull Handles

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<tr>
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<tbody>
<tr>
<td>Concealed Fixing</td>
<td>2 each set screws M8</td>
<td>0580 0335</td>
</tr>
<tr>
<td>With Expansion Plug</td>
<td>2 each expansion plugs brass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dull nickel finish</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Borehole</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ø 12.5 mm (wood doors),</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ø 13 mm (metal doors)</td>
<td></td>
</tr>
<tr>
<td>Concealed Fixing</td>
<td>1 plastic washer</td>
<td>0580 9002</td>
</tr>
<tr>
<td>With Drop Clamp</td>
<td>1 clamp</td>
<td>0580 9016</td>
</tr>
<tr>
<td></td>
<td>Borehole</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ø 13 mm</td>
<td></td>
</tr>
</tbody>
</table>

- Fixing accessories:
  - 0580 0335: length of dowel 34 mm
  - 0580 9002: 2 – 15 mm
  - 0580 9016: 16 – 30 mm
## Fixing Methods

### Pull Handles

#### Pull handle series round M6

3684, 3688, 6610, 6611, 6612,
6613, 6626, 6627, 6642, 6643,
6649, 6660

<table>
<thead>
<tr>
<th>Fixing method</th>
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<tbody>
<tr>
<td>Back-to-Back Fixing</td>
<td>2 each set screws M6</td>
<td>0580 1208 glass door 8 – 10 mm</td>
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<tr>
<td></td>
<td></td>
<td>0580 3235 35 – 54 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0580 3255 55 – 74 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0580 3275 75 – 94 mm</td>
</tr>
<tr>
<td></td>
<td>2 each set screws M6</td>
<td>0580 0435 length of dowel 34 mm</td>
</tr>
<tr>
<td></td>
<td>2 each fixing nuts with caps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Borehole Ø 13 mm</td>
<td></td>
</tr>
<tr>
<td>Through-Bolted Fixing</td>
<td>Grip diameter 20/25 mm</td>
<td>0580 2208 glass door 8 – 10 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0580 4235 35 – 44 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0580 4245 45 – 54 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0580 4255 55 – 64 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0580 4265 65 – 74 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0580 4275 75 – 84 mm</td>
</tr>
<tr>
<td></td>
<td>Borehole Ø 13/18 mm, please turn to page 64</td>
<td></td>
</tr>
<tr>
<td>Concealed Fixing</td>
<td>2 each set screws M6</td>
<td>0580 9202 2 – 15 mm</td>
</tr>
<tr>
<td>With Expansion Plug</td>
<td>2 each expansion plugs brass</td>
<td>0580 9216 16 – 30 mm</td>
</tr>
<tr>
<td></td>
<td>dull nickel finish</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Borehole Ø 12.5 mm (wood doors),</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ø 13 mm (metal doors)</td>
<td></td>
</tr>
<tr>
<td>Concealed Fixing</td>
<td>1 plastic washer</td>
<td></td>
</tr>
<tr>
<td>With Drop Clamp</td>
<td>1 clamp</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Borehole Ø 13 mm</td>
<td></td>
</tr>
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# Fixing Methods

## Pull Handles

### Pull handle series
- 6615
- 6616
- 6674
- 6675

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<thead>
<tr>
<th>Fixing method</th>
<th>Fixing accessories</th>
<th>Item nos.</th>
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<tbody>
<tr>
<td>Back-to-Back Fixing</td>
<td>2 each countersunk screws M8 with sleeve nuts M8 stainless steel</td>
<td>0583 1008 glass door 8 – 10 mm</td>
</tr>
<tr>
<td></td>
<td>4 each plastic washers</td>
<td>0583 3034 34 – 43 mm</td>
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<tr>
<td></td>
<td>4 each plastic washers</td>
<td>0583 3044 44 – 53 mm</td>
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<td></td>
<td>4 each plastic washers</td>
<td>0583 3054 54 – 63 mm</td>
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<tr>
<td></td>
<td>4 each plastic washers</td>
<td>0583 3064 64 – 73 mm</td>
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<tr>
<td></td>
<td>4 each plastic washers</td>
<td>0583 3074 74 – 83 mm</td>
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<tr>
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<td>Borehole Ø 13 mm</td>
<td></td>
</tr>
</tbody>
</table>

| Through-Bolted Fixing             | 2 each countersunk screws M8 with sleeve nuts M8 stainless steel | 0583 2008 glass door 8 – 10 mm |
|                                   | 2 each washers stainless Steel                                 | 0583 4036 36 – 45 mm |
|                                   | 4 each plastic washers                                        | 0583 4046 46 – 55 mm |
|                                   | 4 each plastic washers                                        | 0583 4056 56 – 65 mm |
|                                   | 4 each plastic washers                                        | 0583 4066 66 – 75 mm |
|                                   | 4 each plastic washers                                        | 0583 4076 76 – 85 mm |
|                                   | Borehole Ø 13 mm                                              |                 |

| Concealed Fixing                   | 2 each countersunk screws M8 stainless steel                   | 0583 0335 length of dowel 34 mm |
| With Expansion Plug                | 2 each expansion plugs brass dull nickel finish                |                               |
|                                   | 2 each plastic washers                                        |                               |
|                                   | Borehole Ø 12.5 mm (wood doors), Ø 13 mm (metal doors)        |                               |
Fixing Methods
Pull Handles

## Pull handle series
6620
6621

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<th>Item nos.</th>
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<td>2 each countersunk screw M8 with sleeve nuts M8 stainless steel</td>
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<tr>
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<td>4 each plastic washers</td>
<td>0584 3035 35 – 44 mm</td>
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<tr>
<td></td>
<td>4 each plastic washers</td>
<td>0584 3045 45 – 54 mm</td>
</tr>
<tr>
<td></td>
<td>4 each plastic washers</td>
<td>0584 3055 55 – 64 mm</td>
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<td>4 each plastic washers</td>
<td>0584 3065 65 – 74 mm</td>
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<td>4 each plastic washers</td>
<td>0584 3075 75 – 84 mm</td>
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<td>Borehole Ø 13 mm</td>
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<td>0584 2008 glass door 8– 10 mm</td>
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<td>2 each washers stainless steel</td>
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<td>2 each washers stainless steel</td>
<td>0584 4045 45 – 55 mm</td>
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<td></td>
<td>2 each washers stainless steel</td>
<td>0584 4055 55 – 65 mm</td>
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<td></td>
<td>2 each plastic washers</td>
<td>0584 4065 65 – 75 mm</td>
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<td>2 each plastic washers</td>
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<tr>
<td>Concealed Fixing With Expansion Plug</td>
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<td>2 each expansion plugs brass dull nickel finish</td>
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<td>Borehole Ø 12.5 mm (wood doors), Ø 13 mm (metal doors)</td>
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Fixing Methods
Pull Handles

**Pull handle series**

6526

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<td>0587 1008 glass door 8 – 10 mm</td>
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<td>0587 3035 35 – 54 mm</td>
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<td>0587 3055 55 – 74 mm</td>
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<tr>
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<td></td>
<td>Borehole Ø 13 mm</td>
</tr>
<tr>
<td><strong>Through-Bolted Fixing</strong></td>
<td>2 each set screws M8</td>
<td>0587 2308 glass door 8 – 10 mm</td>
</tr>
<tr>
<td></td>
<td>2 each fixing nuts with caps</td>
<td>0587 4335 35 – 44 mm</td>
</tr>
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<td></td>
<td></td>
<td>0587 4345 45 – 54 mm</td>
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<td>0587 4355 55 – 64 mm</td>
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<td></td>
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</tr>
<tr>
<td><strong>Concealed Fixing</strong></td>
<td>2 each set screws M8</td>
<td>0587 0335 length of dowel 34 mm</td>
</tr>
<tr>
<td>With Expansion Plug</td>
<td>2 each expansion plugs brass dull nickel finish</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Borehole</td>
</tr>
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### Pull Handles

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<td>0580 1208 glass door 8 – 10 mm</td>
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<td>0580 3235 35 – 54 mm</td>
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<td>0580 0435 length of dowel 34 mm</td>
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<td>With Expansion Plug</td>
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<td></td>
<td>brass dull nickel finish</td>
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</tr>
<tr>
<td></td>
<td>Borehole</td>
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<td>Ø 12.5 mm (wood doors), Ø 13 mm (metal doors)</td>
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</tr>
</tbody>
</table>
Overview

Stock Items
(in Natural Color
Aluminum and Satin
Stainless Steel)

Base Material
- Aluminum
- Stainless Steel
- Bronze
- Brass

4220 41/51
4220 42/52
4220 45/55
4223 41/51
4223 42/52

4223 45/55
4224 42/52
4224 45/55
8812
4228

2302 07
2322 07
2329 07
2339 07
2374 07

4299 00xx
4299 00xx
3684
3686
3688

8820
8821
4230
Glass Door Trim

4220 41 r.h.  
4220 51 l.h.  
- Aluminum  
- Stainless Steel  
Rectangular lockset plate with cover plates with heavy-duty glass door lock (DIN 18251, analogous to Class 4) designed for use with PZ cylinder CTC 72 mm

4220 42 r.h.  
4220 52 l.h.  
- Aluminum  
- Stainless Steel  
Rectangular lockset plate with cover plates with heavy-duty glass door lock (DIN 18251, Class 4) designed for use with PZ cylinder CTC 72 mm

Technical notes:
Dimensions given assume glass 8 mm thick. Lockset plates for glass doors are prepared at the factory for glass 8 mm, 10 mm and 12 mm thick. For further technical notes refer to pages 80–85.

The handle shown is illustrative. Virtually any other FSB handle could be used instead.

Options:
- Passage
- Privacy (with or without indicator): Please indicate when ordering, as trim is fitted with thumbturn and indicator (1735 0054) as standard.

Handles, strikes, and PZ cylinder must be ordered separately.

On versions 4220 42 and 4220 52 roses must also be ordered separately.
Strike Box for Twin-leaf Glass Doors

Rectangular strike box to suit lockset plates for glass doors 4220 41/51 and 4220 42/52. The strike must be ordered in the hand opposite of the lock.

Technical notes:
Dimensions given assume glass 8 mm thick. Strike boxes are prepared at the factory for glass 8 mm, 10 mm and 12 mm thick.
Glass Door Trim

4223 41 r. h.
4223 51 l. h.
- Aluminum
- Stainless Steel

Rectangular lockset plate rounded corners with cover plates with heavy-duty glass door lock (DIN 18251, Class 4) designed for use with PZ cylinder CTC 72 mm

4223 42 r. h.
4223 52 l. h.
- Aluminum
- Stainless Steel

Rectangular lockset plate rounded corners with cover plates with heavy-duty glass door lock (DIN 18251, Class 4) designed for use with PZ cylinder CTC 72 mm

Technical notes:
Dimensions given assume glass 8 mm thick. Lockset plates for glass doors are prepared at the factory for glass 8 mm, 10 mm and 12 mm thick. For further technical notes refer to pages 80–85.

The handle shown is illustrative. Virtually any other FSB handle could be used instead.

Handles, strikes, and PZ cylinder must be ordered separately.

Options:
- Passage
- Privacy (with or without indicator): Please indicate when ordering, as trim is fitted with thumbturn and indicator (1735 0054) as standard.

shown here European (DIN) r. h.
Strike Box for Twin-leaf Glass Doors

4223 45 r.h.
4223 55 l.h.

<table>
<thead>
<tr>
<th>Material</th>
<th>Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>r.h.</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>l.h.</td>
</tr>
</tbody>
</table>

Rectangular strike box rounded corners to suit lockset plates for glass doors 4223 41/51 and 4223 42/52.

The strike must be ordered in the hand opposite of the lock.

shown here European (DIN) l.h.

Technical notes:

Dimensions given assume glass 8 mm thick. Strike boxes are prepared at the factory for glass 8 mm, 10 mm and 12 mm thick.
Glass Door Trim
Compact Strike Box

Door frames that are not to the European (DIN) specification can, of course, also be used – though the flush-frame effect cannot then be guaranteed. The trim can also be used in conjunction with partition systems.

The door’s transparency is underscored by the tight dimensions of the lock cover, which at 170 mm by 89 mm is some 10% smaller than in standard glass door trim. This paring-down was achieved by developing a special-purpose lock that encompasses the door handle over its entire bushing area whilst also dependably withstanding the mechanical forces exerted on large-format glass doors.

We have developed a special heavy-duty bearing for high frequency transited doors involving an expansion sleeve in Teflon-coated stainless steel that encompasses the door handle over its entire bushing area whilst also dependably withstanding the mechanical forces exerted on large-format glass doors.

The strike must be ordered in the hand opposite of the lock.

Options:
- Passage
- Privacy (with or without indicator): Please indicate when ordering, as trim is fitted with thumbturn and indicator (1735 0054) as standard.

Technical notes:
Dimensions given assume glass 8 mm thick. Lockset plates for glass doors are prepared at the factory for glass 8 mm, 10 mm and 12 mm thick. Strike boxes are prepared at the works for glass 8 mm and 10 mm thick. Hardware for glass 12 mm thick is available to order.

For further technical notes refer to pages 80–85.

The handle shown is illustrative. Virtually any other FSB handle could be used instead. Handles, strikes, and PZ cylinder must be ordered separately.

We have developed a special heavy-duty bearing for high frequency transited doors involving an expansion sleeve in Teflon-coated stainless steel that encompasses the door handle over its entire bushing area whilst also dependably withstanding the mechanical forces exerted on large-format glass doors.

The strike must be ordered in the hand opposite of the lock.

Options:
- Passage
- Privacy (with or without indicator): Please indicate when ordering, as trim is fitted with thumbturn and indicator (1735 0054) as standard.

Technical notes:
Dimensions given assume glass 8 mm thick. Lockset plates for glass doors are prepared at the factory for glass 8 mm, 10 mm and 12 mm thick. Strike boxes are prepared at the works for glass 8 mm and 10 mm thick. Hardware for glass 12 mm thick is available to order.

For further technical notes refer to pages 80–85.

The handle shown is illustrative. Virtually any other FSB handle could be used instead. Handles, strikes, and PZ cylinder must be ordered separately.
European Profile
Cylinders (PZ)

FSB's shortest cylinder is 64 mm. The 8812 0064 will work, but will extend beyond the face of the plate an extra 4–7 mm per side.

The ideal cylinder length for glass door locks is 50 or 55 mm depending on the lock design.

Please see specifics on pages 84 and 85. These shorter cylinders would need to be procured separately.

For 8, 10 and 12 mm door thickness.

Keyway
“C-type” 5 pin on each side. Supplied keyed alike up to 20 as standard. May be keyed differently or master keyed on request.

Keys
Nickel plated brass, supplied with two keys per cylinder.

Cylinder Finish
Nickel plated brass.

Thumblturn and Finishes
· US 28 (matches FSB 0105) Aluminum Natural Color Anodized
· US 32 D (matches FSB 6204) Satin Stainless Steel

Key

8812 0064
Cylinder length 2 1/2” (64 mm) for 1 3/8” – 1 3/4” door thickness including lock case

Key × Key

8812 0164
Cylinder length 2 1/2” (64 mm) for 1 3/8” – 1 3/4” door thickness including lock case

Key × Thumblturn

8812 0230
Cylinder length 1 3/8” (40 mm) for 1 3/8” – 1 3/4” door thickness including lock case

1/2” Cylinder Thumblturn only

1744 turnpiece

8812 0264
Cylinder length 2 1/2” (64 mm) for 1 3/8” – 1 3/4” door thickness including lock case

Key × Thumblturn

8812 0330
Cylinder length 1 3/8” (40 mm) for 1 3/8” – 1 3/4” door thickness including lock case

1/2” Cylinder Thumblturn only

1709 turnpiece
Lock and Strike Handing for Glass Doors

Handing for Surface Locks

Important Notice: Handing for surface mounted locks differs to the handing for bored locks. With surface mounted locks there is no LHR and RHR functionality with the locks as there is no bevel associated with the lock. Consequently, the locks are only ordered LH or RH.

Handing of Doors with Surface Locks

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>outside</td>
<td>outside</td>
<td>outside</td>
<td>outside</td>
</tr>
</tbody>
</table>

Glass Lock and Strike Box Handing

Order **Left Hand Lock** and **Right Hand Strike Box** (Lock on the inside per picture above)

Order **Right Hand Lock** and **Left Hand Strike Box** (Lock on the inside per picture above)

Order **Left Hand Lock** and **Right Hand Strike Box** (Lock on the outside per picture above)

Order **Right Hand Lock** and **Left Hand Strike Box** (Lock on the outside per picture above)
Glass Door Locks
Installation

slamming face  opening face

shown here: 4220/4223 41 RH

shown here: 4220/4223 42 RH
Straight-Cornered Hinges for Glass Doors

4228

- Satin chromium-plated Steel
- Stainless Steel

VARIANT glass door hinge in satin chromium-plated steel to suit Aluminum, AluGrey® or Stainless Steel finishes with hinge connector

To suit 4220 and 4224 Series lockset plates for glass doors

4228 0101
VARIANT VXG 7990/100K heavy-duty hinge for glass doors on rabbeted, wood, steel or aluminum frames with three-dimensionally adjustable mating elements

4228 0102
VARIANT VNG 7990/100K heavy-duty hinge for glass doors on rabbeted steel frames with three-dimensionally adjustable mating elements

4228 0103
VARIANT VG 8790K heavy-duty hinge for glass doors on rabbeted steel frames

4228 xx04
xx = 41 (r.h.) or 51 (l.h.) VARIANT VG 3990K heavy-duty hinge for glass doors on rabbeted wooden soffit and blockwood frames

Technical notes:

Loading capacity 60 kg

Glass door hinges prepared at the factory for glass 8 mm and 10 mm thick.
For further technical notes see pages 86 and 87.
Door Dimensions
acc. DIN 18101

T.D.I.U.S.* 750 \times 2000 \quad 875 \times 2000 \quad 1000 \times 2000
Frame rabbet dimensions 716 \times 1983 \quad 841 \times 1983 \quad 966 \times 1983
Standard glass dimensions 709 \times 1972 \quad 843 \times 1972 \quad 959 \times 1972

T.D.I.U.S.* 750 \times 2125 \quad 875 \times 2125 \quad 1000 \times 2125
Frame rabbet dimensions 716 \times 2108 \quad 841 \times 2108 \quad 966 \times 2108
Standard glass dimensions 709 \times 2097 \quad 834 \times 2097 \quad 959 \times 2097

* = theoretical dimensions in unfinished state
Technical Notes
4220 and 4223 Series

Handle specification
Series 4220 41/51 and 4223 41/51 lockset plates for glass doors require specially adapted pairs of lever handles, one of which has a truncated shank.

Our In-house Sales Service personnel implement this specification when orders are made.

Bearings
Series 4220 42/52 and 4223 42/52 lockset plates for glass doors may be fitted either with standard bearings and pairs of lever handles, with or without roses, or with heavy-duty hardware having AGL® bearings and roses.

Profile cylinder version
On aesthetic grounds, profile cylinders 27.5/27.5 mm long are recommended for all lockset plates for glass doors owing to the comparatively short projections involved.

Privacy version
All lockset plates for glass doors can also be used in privacy trim. The 4220 and 4223 Series models can be fitted with any indicator FSB supplies (please refer to “Lever, Knob and Trim Designs” section).

Please order these separately; they are assembled on site. The hardware is suitable for doors opening either inwards or outwards.

The dimensions given assume glass 8 mm thick. Lockset plates for glass doors are prepared at the works for glass 8 mm, 10 mm and 12 mm thick.

Order details required:
We do not supply our lockset plates for glass doors complete with handles. When ordering handles, please specify that they are for glass doors and 4220 or 4223 Series hardware as well as advising:
- the lever handle model required
- the type of hardware (standard or heavy-duty bearings)
- surface lock handing
Technical Notes
4224 Series

Handle specification
Series 4224 lockset plates for glass doors require specially adapted lever handle sets featuring a spindle projection that differs from the FSB standard. Our In-house Sales Service personnel implement this specification when orders are made.

Bearsings
The bearings used for the 4224 Series take the form of heavy-duty Teflon-coated sleeves that encompass the door handle over its entire bushing area whilst also dependably withstanding the mechanical forces exerted on large-format glass doors. There is no need to additionally fit roses in heavy-duty bearings.

Profile cylinder version
On aesthetic grounds, profile cylinders either 25/25 mm or 27.5/27.5 mm long are recommended for all lockset plates for glass doors owing to the comparatively short projections involved. Checks should be made on a case-by-case basis as to whether 25/25mm profile cylinders are fit to function in closing systems.

Privacy version
Please specify indicating variant when ordering, since the trim is fitted with indicator 1735 0054 (please refer to “Lever, Knob and Trim Designs” section) as standard at the factory. The indicator is not assembled on site. The hardware is suitable for doors opening either inwards or outwards.

The dimensions given assume glass 8 mm thick. Lockset plates for glass doors are prepared at the works for glass 8 mm and 10 mm thick. Hardware prepared for glass 12 mm thick can be obtained on request.

Order details required:
We do not supply our lockset plates for glass doors complete with handles. When ordering handles, please specify that they are for glass doors and 4224 Series hardware as well as advising:

- the lever handle model required
- surface lock handing
The positioning of hinge connectors relative to the hinge datum line also necessitates adapting boreholes in the glass door. This should be borne in mind most notably in the cases of VX and VN commercial hinges.
VARIANT commercial hinge for glass doors on rabbeted timber, steel or aluminium frames with three-dimensionally adjustable mating elements VX

- suitable for wholly glazed doors with standard vertical borehole layout
- for glass 8 and 10 mm thick
- twistproof threaded stud
- concealed, no-maintenance axial-radial sliding bearings
- combinable with mating element:
  - for blockwork frames
  - VX 7601 3D
- for sofit frames
- VX 7602 3D
- for blockwork frames
- VX 7605 3D
- for steel frames
- VX 7611 3D
- for aluminium frames
- VX 7612 3D
- non-handed
- VX 7621 3D

VARIANT commercial hinge for glass doors on rabbeted steel frames with three-dimensionally adjustable mating elements

- suitable for wholly glazed doors with standard vertical borehole layout
- for glass 8 and 10 mm thick
- twistproof threaded stud
- concealed, no-maintenance axial-radial sliding bearings
- combinable with mating element VN 7608/120 3D
- non-handed

VARIANT commercial hinge for glass doors on rabbeted steel frames

- suitable for wholly glazed doors with standard vertical borehole layout
- for glass 8 and 10 mm thick
- for mating elements V 8600 or V 8610
- non-handed

VARIANT commercial hinge for glass doors on rabbeted wooden soffit and blockwork frames

- suitable for wholly glazed doors with standard vertical borehole layout
- for glass 8 and 10 mm thick
- for mating elements of the V 3600, V 3610, V 3630, V 3650 series and clamping block V 3604 or V 3607
- necessary to indicate DIN handing

For further information on hinges, hinge connectors, frame fastening elements etc., please contact FSB.
Fixed Knobs for Glass Doors

Deadknobs are generally fitted directly to glass doors. There are no locks involved.

The knobs are joined together at the assembly stage by means of an 8 mm square spindle (for two female parts).
Fixed Knobs
for Glass Doors

Deadknobs are generally fitted directly to glass doors. There are no locks involved. The knobs are joined together at the assembly stage by means of an 8 mm square spindle (for two female parts).
Flush Pulls for Glass Doors

4299 00xx

- \( xx = 12 \) (10 mm door thickness)
- \( xx = 19 \) (8 mm door thickness)

- Stainless Steel

Flush pull for glass doors

4299 00xx

- \( xx = 26 \) (10 mm door thickness)
- \( xx = 21 \) (8 mm door thickness)

- Stainless Steel

Flush pull for glass doors
Pulls for Glass Doors

3684 2114
- Aluminum
  Design: Ton Haas

3688 2114
- Stainless Steel
  Design: Christoph Ingenhoven

Back-to-back and through-bolted fixing, cf. Page 64
Sliding Door Handle
Door Holder

3686
- Aluminum
- Stainless Steel

Sliding door handle for fixing in pairs

Design: Jahn/Lykouria

4230 xxxx
- Stainless Steel

(A) (B)

Items-nos. width thickness overall of glass

xxx = 0000 27 mm 8 mm
xxx = 1000 29 mm 10 mm
xxx = 1200 31 mm 12 mm
Top Mounted System

The high quality stainless steel sliding door gear for glass doors are the visible combination of functionality and appealing design.

The system is suitable for wall as well as ceiling installation and therefore it is usable in various building situations.

Product features

- Due to the small dimensions of the carrier rollers there is enough mounting clearance even for low ceilings
- Track can be mounted to a wall or ceiling
- Rail consists of full material with flat turned ends provided with chamfers
- Door leaf holder with a diameter of 35 mm contributes to an optimal clamping area
- The bottom roller is precisely adjustable by an eccentric screw. It consists of a plastic roller and can be adjusted to lie exactly under the rail. Thus the roll characteristic of the sliding door can be adjusted individually

Application range

- For every glass strength (ESG 8/10/12 mm) there is a precision-floor guide available. It consists of wear-free felt and therefore it is extremely noiseless
- High quality plastic bearing surfaces of the rollers for extreme quiet running with a minimum energy expenditure
- For every glass strength (ESG 8/10/12 mm) there is a precision-floor guide available. It consists of wear-free felt and therefore it is extremely noiseless
- High quality plastic bearing surfaces of the rollers for extreme quiet running with a minimum energy expenditure

Table glass strength ESG (toughened safety glass)

<table>
<thead>
<tr>
<th>Dim.</th>
<th>8 mm</th>
<th>10 mm</th>
<th>12 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>13.0 mm</td>
<td>11.0 mm</td>
<td>9.0 mm</td>
</tr>
<tr>
<td>B</td>
<td>7.5 mm</td>
<td>5.5 mm</td>
<td>3.5 mm</td>
</tr>
<tr>
<td>C</td>
<td>24.0 mm</td>
<td>26.0 mm</td>
<td>28.0 mm</td>
</tr>
</tbody>
</table>

for wall mounting

Projected solutions on request.

Installation drawing

Drawing-No. 10801-ep01 and 10801-ep02

<table>
<thead>
<tr>
<th>Set for wall mounting</th>
<th>ID No.</th>
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<tbody>
<tr>
<td>Set for ceiling mounting</td>
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</table>

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Set for wall mounting</td>
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</tr>
<tr>
<td>Set for ceiling mounting</td>
<td>122581</td>
</tr>
<tr>
<td>Floor guide, stainless steel</td>
<td></td>
</tr>
<tr>
<td>· for toughened safety glass 8 mm</td>
<td>121003</td>
</tr>
<tr>
<td>· for toughened safety glass 10 mm</td>
<td>121004</td>
</tr>
<tr>
<td>· for toughened safety glass 12 mm</td>
<td>121005</td>
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</tbody>
</table>

Table glass strength ESG (toughened safety glass)

for ceiling mounting

<table>
<thead>
<tr>
<th>Dim.</th>
<th>8 mm</th>
<th>10 mm</th>
<th>12 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>24.0 mm</td>
<td>26.0 mm</td>
<td>28.0 mm</td>
</tr>
<tr>
<td>B</td>
<td>33.5 mm</td>
<td>32.5 mm</td>
<td>31.5 mm</td>
</tr>
</tbody>
</table>
Installation for wall mounting

- Ø58.5
- Ø25
- Ø50
- Ø25
- 42.5
- 100
- Recommendation
- 70
- 20
- 566
- 150
- Ø16
- Ø35
- B
- A
- Digging safety device adjustable via eccentric screw
- Glass thickness 8/10/12 mm
- Floor guides made of stainless steel

Installation for ceiling mounting

- Ø58.5
- Ø25
- Ø50
- Ø25
- 42.5
- 100
- Recommendation
- 70
- 20
- 566
- 150
- Ø16
- Ø35
- B
- A
- Digging safety device adjustable via eccentric screw
- Glass thickness 8/10/12 mm
- Floor guides made of stainless steel
Floor Mounted System

**Product features**
- High quality sliding door hardware combines aesthetics and function
- Guide rail can be mounted on a wall or ceiling allowing a flexibility installation
- The overall weight of the sliding door is carried by a track on the floor, thereby a usage in various building situations is possible, e.g. in areas where a suspension can not be mounted
- High quality plastic bearing surfaces of the rollers for extreme quiet running with a minimum energy expenditure

**Application range**
- For sliding doors and elements in interior and exterior areas
- For door leaf weights up to 135 kg (297 lbs)
- Application also with suspended ceilings cause the overall weight of the sliding door is carried by a track on the floor
- For living as well as office areas

**Installation drawing**

Drawing-No. 10801-ep03

---

**Description ID No.**

<table>
<thead>
<tr>
<th>Description</th>
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<td>adhesive 10 mm</td>
<td>119409</td>
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<tr>
<td>Set for wall mounting, screwed 10 mm</td>
<td>123250</td>
</tr>
</tbody>
</table>

Projected solutions on request.

Visible rollers on floor mounted semicircular ¼"rail. The floor rail carries the door weight. At the top a u-shaped profile guides the door. Especially for areas where wall or ceiling mounting is not possible.
Roller-guided Sliding Door Gears

Product Information for Sliding Door Gears

In accordance with the definition of the liability of manufacturers for their products set out in § 4 of the "Produkthaftungsgesetz" (German Manufacturer’s Liability Law), the following information on sliding door gear should be observed. Failure to do so absolves the manufacturer from liability.

Product Information and Use in Accordance with intended Purpose

Sliding door gear, according to this definition, are fittings for doors and other push-able elements, henceforth called objects, which are not normally moved faster than walking pace. Sliding door gear is used in vertically fitted doors made of wood, plastic, glass, aluminum or steel and appropriate combinations of these materials. A floor guide is provided at the lower horizontal edge of the door. Special versions of products must be specified for damp rooms, direct exposure to the elements, exposure to cross winds, for installation near the sea and in highly corrosive conditions.

Correct installation by qualified personnel is a particularly important aspect of use for intended purpose. The object must be sufficiently rigid at all of these points. The function of the gear must not be hindered or altered by installation. A buffer must be used in order to limit the displacement path.

Misuse

Misuse – in other words use in a manner not in accordance with the intended purpose – can be said to occur in the following cases in particular:

- if the gear is used with a higher max. load than specified in the catalogue and in the other product documents,
- if incorrectly installed or attached,
- if ambient temperatures are too high or too low,
- if particularly aggressive media can affect the gear,
- if subjected to inordinately great pushing or pulling loads,
- if the position of the track deviates too greatly from the horizontal,
- if foreign bodies get into the track,
- if the rollers are operated too fast,
- if alterations are carried out without the manufacturer’s authorization,
- if additional loads act upon the door or object,
- if someone is trapped between the door and the door frame while the door is being pushed or closed, or if a person or part of the body is in this area.

Product Performance

In cases where the performance of the product is not specifically described in the catalogues, brochures, instructions etc., special requirements must be discussed with and agreed by the manufacturer. Our regulations, which affect the composition of the sliding door gear, are binding.

Product Maintenance

Components of sliding door gear which are relevant to safety must be regularly inspected for proper fixing and signs of wear. Fixing screws are to be re-tightened and faulty components must be replaced. In addition, the following maintenance work must be carried out at least once a year:

- All moving parts are to be tested for free movement.
- Components of running carriages with metal rollers, the moving parts must be greased (type of grease to be used on request). Plastic rollers must not be greased.
- Only use cleaning agents which do not impair the anti-corrosion protection of the gear.
- Faulty sliding door gears must be replaced.
- Adjustment work on the gears and the replacement must be carried out by qualified personnel.

Duty of Information and Instructions

The following sources of information are available to planners, specialist dealers, administrative personnel, building contractors and users by way of fulfillment of the duty of information and instruction:

- catalogues, brochures
- quotations, descriptions of offer
- mounting and installation drawings, maintenance and operation instructions.

In order to ensure correct use, proper functioning and maintenance and care of sliding door gear,

- architects and planners must request and apply the necessary product information,
- specialist dealers must take account of the product information and notes in the price lists, and in particular must request all necessary instructions and pass these on to the installation personnel,
- installation personnel must take account of all product information, and in particular must request operating and maintenance instructions and pass these on to the ordering party and the user.