# Lever handles and door knobs for framed doors

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanations</td>
<td>282</td>
</tr>
<tr>
<td>Overview</td>
<td>284</td>
</tr>
<tr>
<td>Lever handles for framed doors</td>
<td>286</td>
</tr>
<tr>
<td>Door knobs for framed doors</td>
<td>292</td>
</tr>
<tr>
<td>Roses for framed doors</td>
<td>296</td>
</tr>
<tr>
<td>Backplate for framed doors</td>
<td>299</td>
</tr>
<tr>
<td>Lever handle for unlatching</td>
<td>298</td>
</tr>
<tr>
<td>handle for pulling and pushing</td>
<td></td>
</tr>
<tr>
<td>Grip handle furniture for framed doors</td>
<td>300</td>
</tr>
</tbody>
</table>
Furniture for framed doors

As well as a complete range of different types of handle (levers, knobs and pulls) for frame doors in metal, plastic or wood, FSB also supplies fixing systems specifically adapted to the requirements of frame doors and hardware that have undergone constant refinement over the years.

“Classic” problems: Fixing on frame doors

A consequence of said spatial constraints is that there may be some difficulty fixing the hardware: short backsets and the absence of through fixing options within frame door locks has led - against better judgment - to the face fixing of frame door hardware becoming common practice, one that has repeatedly given rise to hardware that wobbles and works loose.

FSB fixing system for frame door fittings - Generation 2008

Spurred on variously by Wittgenstein’s breakthrough, our knowledge of the notorious fixing problems involved and innovations developed in co-operation with Sächsische Schloßfabrik (SSF), FSB has re-aligned its fixing system for frame door fittings and placed it on new system-led technical foundations.

Fastenings supplied with product

In the past we have frequently had to follow up notifications of faulty goods arising from their having been fitted improperly or contrary to our recommended course of action. With the appearance of the present Manual, therefore, FSB is adopting a new policy of supplying matching fastenings with products. Fastenings comprise non-loosening M5 screws and rivet nuts to suit the bases for frame door fittings. The heads of these rivet nuts (Ø 11 mm) fit exactly into the underside of FSB fittings for frame doors. The combination of rivet nuts, bases (with integrated anti-slip/screw-retention devices) and non-loosening screws ensures that hardware can be fitted so as not to work loose.

Accordingly, FSB will not in future entertain any faulty-product complaints where use has not been made of FSB fastenings.
Rugged connection

Use should be made of solid spindles 0172/0173 to ensure that the two female handles are firmly secured and hence that the forces exerted when operating the handles are channelled into the frame door’s stile. The cup points required to fasten the female handles to the spindle are supplied as standard. They can also be ordered as spares under product code 0450 (cf. page 551).

Antislip/screw-retention device

Regardless of whether they incorporate rivet nuts and/or non-loosening screws, all FSB roses forming part of hardware for frame doors have screw bushings fitted with rubbery plastic retarder plugs. These protrude slightly beyond the reverse of the rose and are compressed when the screws are tightened. Hence, they act as an antislip device against their host surface whilst also providing the necessary axial and radial tension to hold the screws tight.

Locks by FSB: fastening system with through fixing option

Competent product solutions ought to be a matter of course for a highly evolved society, as should equally dependable functioning over a product’s full life cycle. FSB puts this conviction to effect with the appearance of its German 2008|09 Manual: FSB has thus optionally adapted the fixing system for its frame door hardware to FSB 02 Series frame door locks with through fixing points (Fig. 3). This essentially involves a special fastening set (Order Code 0526 10, Fig. 2) – cf. page 551, with which FSB frame door hardware can be fitted to order at the works. The set contains screws for the applicable door thickness plus metal lugs that are precision-fitted into the bases at the works instead of the usual rubber retarder plugs and are additionally secured with an M5 screw on one side. This form of fastening does away with rivet nuts, moreover, since the metal lugs are inserted into the frame door stile from both sides, thus assuming the function of said rivet nuts. Preparation of the half-sets at the FSB works beforehand in both cases leads to a real and tangible reduction in assembly times, as just two screws are needed to through-fix frame door furniture (as opposed to four for two face-fixed half sets). A first impression of the FSB 02 lock series with through fixing function is given on page 531ff.

FSB Positive Mechanism

Virtually the entire FSB range for narrow-frame doors features a positive mechanism as a means of supporting the lock springs that permits a max. angle of operation of 45° (Fig 4). Please note: The positive mechanism remains inactive until the lever handles are assembled by inserting and securing the spindle. It is integrated into the baserose and does not engage in the state supplied.
Overview

- 0605  Page 286
- 0634  Page 286
- 0683  Page 286
- 7202  Pages 286, 63
- 7204  Pages 287

- 7206  Pages 287
- 7210  Pages 287
- 7215  Pages 287, 62
- 7216  Pages 288
- 7219  Page 288

- 7223  Pages 288, 62
- 7240  Pages 288
- 7242  Pages 289
- 7244  Pages 289
- 7245  Pages 289, 62

- 7246  Pages 289
- 7247  Pages 290
- 7263  Pages 290, 62
- 7270  Pages 290
- 7276  Pages 290

- 7278  Pages 291
- 7293  Pages 291
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>0602, 2302</td>
<td>Alu + Colour, Black</td>
<td>292, 64</td>
</tr>
<tr>
<td>0604, 2304</td>
<td>AluGrey</td>
<td>294</td>
</tr>
<tr>
<td>0609, 2309</td>
<td>Stainless Steel</td>
<td>293, 65</td>
</tr>
<tr>
<td>0629, 2329</td>
<td>Plastics, Black</td>
<td>293, 65</td>
</tr>
<tr>
<td>0638, 2346</td>
<td>Bronze</td>
<td>292, 64</td>
</tr>
<tr>
<td>0638, 2346 02</td>
<td></td>
<td>295</td>
</tr>
<tr>
<td>0638, 2346 08</td>
<td></td>
<td>295</td>
</tr>
<tr>
<td>0643 02, 2343 02</td>
<td></td>
<td>295</td>
</tr>
<tr>
<td>0654, 2354</td>
<td></td>
<td>294</td>
</tr>
<tr>
<td>7816</td>
<td>Aluminium</td>
<td>300</td>
</tr>
<tr>
<td>7816</td>
<td>Stainless Steel</td>
<td>301</td>
</tr>
<tr>
<td>1550</td>
<td>Bronze</td>
<td>299</td>
</tr>
<tr>
<td>1718</td>
<td>1719</td>
<td>285</td>
</tr>
<tr>
<td>1717</td>
<td>285</td>
<td></td>
</tr>
<tr>
<td>1752</td>
<td>1755</td>
<td>285</td>
</tr>
<tr>
<td>1758</td>
<td>1757</td>
<td>285</td>
</tr>
<tr>
<td>1769</td>
<td>1730</td>
<td>285</td>
</tr>
<tr>
<td>1777</td>
<td>1727</td>
<td>285</td>
</tr>
<tr>
<td>0418</td>
<td></td>
<td>285</td>
</tr>
</tbody>
</table>
Lever handles for framed doors

**0605 13** 8 mm □
- Aluminium
- Alu + Color

**0634 02** 8 mm □
- Aluminium
- Alu + Color

**0683 11** 8 mm □
- Aluminium
- Stainless steel

**0683 12** 9 mm □
- Aluminium
- Stainless steel

Suitable for backset bigger than 40 mm
Design: Hadi Teherani

**7202 25** 8 mm □
- Aluminium
- AluGrey
- Stainless steel
- Bronze

**7602 25** 9 mm □
- Aluminium
- AluGrey
- Stainless steel
- Bronze

Design: Alessandro Mendini

Lever handles for framed doors fixed on oval rose, with concealed fixing and support mechanism
8 mm □-hole
9 mm □-hole for fire and smoke stop doors*

C.C screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. section 9b, page 543

Rose for framed doors:
FSB 1757 (PZ) cf. page 296

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.
* acc. to German DIN standard
Lever handles for framed doors

Lever handles for framed doors fixed on oval rose, with concealed fixing and support mechanism
8 mm □-hole
9 mm □-hole for fire and smoke stop doors*

C.C screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. section 9b, page 543

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.

* acc. to German DIN standard

Design: Peter Bastian

Design: Christoph Mäckler

7204 25 8 mm □
7604 25 9 mm □
Aluminium

7206 25 8 mm □
7606 25 9 mm □
Aluminium
AluGrey
Stainless steel
Bronze

7210 25 8 mm □
7610 25 9 mm □
Aluminium
AluGrey
Stainless steel

7215 25 8 mm □
7615 25 9 mm □
Aluminium
AluGrey
Stainless steel
Bronze

Rose for framed doors:
FSB 1757 (PZ) cf. page 296

Fixing accessories cf. section 9b, page 543

Rose for framed doors:
FSB 1757 (PZ) cf. page 296

* acc. to German DIN standard
Lever handles for framed doors

Design: Hartmut Weise

Lever handles for framed doors fixed on oval rose, with concealed fixing and support mechanism 8 mm □-hole 9 mm □-hole for fire and smoke stop doors*

C.C screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. section 9b, page 543

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.

* acc. to German DIN standard

<table>
<thead>
<tr>
<th>Code</th>
<th>Material Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>7216 25</td>
<td>8 mm □</td>
</tr>
<tr>
<td>7616 25</td>
<td>9 mm □</td>
</tr>
<tr>
<td>7219 25</td>
<td>8 mm □</td>
</tr>
<tr>
<td>7619 25</td>
<td>9 mm □</td>
</tr>
<tr>
<td>7223 25</td>
<td>8 mm □</td>
</tr>
<tr>
<td>7623 25</td>
<td>9 mm □</td>
</tr>
<tr>
<td>7240 25</td>
<td>8 mm □</td>
</tr>
<tr>
<td>7640 25</td>
<td>9 mm □</td>
</tr>
</tbody>
</table>

Aluminium
AluGrey
Stainless steel
Bronze

Design: Hartmut Weise

C.C screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. section 9b, page 543

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.

* acc. to German DIN standard
Lever handles for framed doors

**Design: Hartmut Weise**

**Design: Jasper Morrison**

**Design: Alu + Color**

Lever handles for framed doors fixed on oval rose, with concealed fixing and support mechanism
8 mm □-hole
9 mm □-hole for fire and smoke stop doors*

C.C screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. section 9b, page 543

Rose for framed doors:
FSB 1757 (PZ) cf. page 296

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.

* acc. to German DIN standard

7242 25 8 mm □
7642 25 9 mm □
- Aluminium
- AluGrey
- Stainless steel

7244 25 8 mm □
7644 25 9 mm □
- Aluminium
- AluGrey
- Stainless steel

7245 25 8 mm □
7645 25 9 mm □
- Aluminium
- AluGrey
- Stainless steel
- Bronze

7246 25 8 mm □
7646 25 9 mm □
- Aluminium
- AluGrey
- Stainless steel
- Alu + Color
Lever handles for framed doors

<table>
<thead>
<tr>
<th>Material</th>
<th>Code</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>7247 25</td>
<td>Aluminium</td>
<td>8 mm □</td>
</tr>
<tr>
<td>7647 25</td>
<td>AluGrey</td>
<td>9 mm □</td>
</tr>
<tr>
<td>7263 25</td>
<td>Aluminium</td>
<td>8 mm □</td>
</tr>
<tr>
<td>7663 25</td>
<td>AluGrey</td>
<td>9 mm □</td>
</tr>
<tr>
<td>7270 25</td>
<td>Aluminium</td>
<td>8 mm □</td>
</tr>
<tr>
<td>7670 25</td>
<td>AluGrey</td>
<td>9 mm □</td>
</tr>
<tr>
<td>7276 25</td>
<td>Aluminium</td>
<td>8 mm □</td>
</tr>
<tr>
<td>7676 25</td>
<td>AluGrey</td>
<td>9 mm □</td>
</tr>
</tbody>
</table>

Design: Hans Kollhoff

Lever handles for framed doors fixed on oval rose, with concealed fixing and support mechanism 8 mm □-hole 9 mm □-hole for fire and smoke stop doors*
C.C screwholes 50 mm, for countersunk screws M5 Fixing accessories cf. section 9b, page 543
Rose for framed doors: FSB 1757 (PZ) cf. page 296

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.

* acc. to German DIN standard
# Lever handles for framed doors

| Design: Christoph Ingenhoven | 7278 25 8 mm □  
| 7678 25 9 mm □  
| Aluminium  
| AluGrey  
| Stainless steel |
| 7293 25 8 mm □  
| 7693 25 9 mm □  
| Aluminium  
| AluGrey  
| Stainless steel |

Lever handles for framed doors fixed on oval rose, with concealed fixing and support mechanism

- 8 mm □-hole
- 9 mm □-hole for fire and smoke stop doors*

C.C screw holes 50 mm, for countersunk screws M5

Fixing accessories cf. section 9b, page 543

Rose for framed doors:

FSB 1757 (PZ) cf. page 296

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.

* acc. to German DIN standard
Door knobs for framed doors

**0602 2853** turnable

**2302 2801** fixed

- Aluminium (X = 85 mm)
- AluGrey (X = 85 mm)
- Stainless steel (X = 81 mm)
- Bronze (X = 80 mm)

Turnable 8 mm □-hole

Fixed version with Fixing M 12

---

**0638 2853** turnable

**2346 2801** fixed

- Aluminium
- AluGrey
- Stainless steel
- Bronze

Turnable 8 mm □-hole

Fixed version with Fixing M 12

---

C.C screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. section 9b, page 543

Rose for framed doors: FSB 1757 (PZ) cf. page 296
Protection roses for framed doors cf. page 51 or 450

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.

* acc. to German DIN standard
Door knobs for framed doors

0629 2853 turnable
2329 2801 fixed

- Aluminium (Ø = 50 mm)
- AluGrey (Ø = 50 mm)
- Stainless steel (Ø = 55 mm)
- Bronze (Ø = 50 mm)

Turnable 8 mm □-hole
Fixed version with Fixing M 12

0609 2853 turnable
2309 2801 fixed

- Aluminium
- AluGrey
- Stainless steel
- Bronze

Turnable 8 mm □-hole
Fixed version with Fixing M 12

C.C screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. section 9b, page 543

Rose for framed doors:
FSB 1757 (PZ) cf. page 296
Protection roses for framed doors cf. page 51 or 450

FSB Mortice locks* for framed doors with through fixing function cf. page 531ff.
* acc. to German DIN standard
Door knobs for framed doors

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Material</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>0654 28</td>
<td>Turnable</td>
<td>Stainless steel</td>
<td>Turnable 8 mm □-hole Fixed version with Fixing M 12</td>
</tr>
<tr>
<td>2354 28</td>
<td>Fixed</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>0604 28</td>
<td>Turnable</td>
<td>Aluminium</td>
<td>Turnable 8 mm □-hole Fixed version with Fixing M 12</td>
</tr>
<tr>
<td>2304 28</td>
<td>Fixed</td>
<td>Aluminium</td>
<td></td>
</tr>
<tr>
<td>0418 03</td>
<td></td>
<td>Stainless steel</td>
<td>8 mm □ Spindle projecting standard 40 mm</td>
</tr>
</tbody>
</table>

C.C screwholes 50 mm, for countersunk screws M5. Fixing accessories cf. section 9b, page 543.
Rose for framed doors: FSB 1757 (PZ) cf. page 296.
Protection roses for framed doors cf. page 51 or 450.
For the deployment on multi-point locks, FSB supplies an easy-action turnable knob on a circular or oval rose for concealed face fixing.
Door knobs for framed doors

- **0643 02** turnable
  - **2343 02** fixed
  - Aluminium
  - Turnable 8 mm □-hole

- **0638 02** turnable
  - **2346 02** fixed
  - Aluminium
  - Turnable 8 mm □-hole

**C:C** screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. section 9b, page 543
Rose for framed doors: FSB 1757 (PZ) cf. page 296
Protection roses for framed doors cf. page 51 or 450
Roses for framed doors

<table>
<thead>
<tr>
<th>Model</th>
<th>Image</th>
<th>Dimensions</th>
<th>Finishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1758</td>
<td><img src="image1.png" alt="Image" /></td>
<td>32.5 x 70</td>
<td>Aluminium, AluGrey, Stainless steel, Bronze</td>
</tr>
<tr>
<td>1757</td>
<td><img src="image2.png" alt="Image" /></td>
<td>32.5 x 70</td>
<td>Aluminium, AluGrey, Stainless steel, Bronze</td>
</tr>
<tr>
<td>1718</td>
<td><img src="image3.png" alt="Image" /></td>
<td>32.5 x 70</td>
<td>Aluminium, Stainless steel</td>
</tr>
<tr>
<td>1719</td>
<td><img src="image4.png" alt="Image" /></td>
<td>32.5 x 70</td>
<td>Aluminium, Stainless steel</td>
</tr>
</tbody>
</table>

C.C screwholes 50 mm, for countersunk screws M5
Fixing accessories cf. sections 9b, spindles and screws
### Sliding escutcheons

**Self adhesive escutcheons**

<table>
<thead>
<tr>
<th>Model</th>
<th>Size</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1776</td>
<td>6 mm</td>
<td>Aluminium</td>
</tr>
<tr>
<td>1777</td>
<td>9 mm</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>1779</td>
<td>14 mm</td>
<td>Alu + Color</td>
</tr>
</tbody>
</table>

C:C screwholes 50 mm, for countersunk screws M5

<table>
<thead>
<tr>
<th>Model</th>
<th>Size</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1726</td>
<td>6 mm</td>
<td>Aluminium</td>
</tr>
<tr>
<td>1727</td>
<td>9 mm</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>1728</td>
<td>14 mm</td>
<td>Alu + Color</td>
</tr>
</tbody>
</table>

C:C screwholes 50 mm, for countersunk screws M5

<table>
<thead>
<tr>
<th>Model</th>
<th>Size</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1768</td>
<td>3 mm</td>
<td>Aluminium</td>
</tr>
<tr>
<td>1769</td>
<td>7 mm</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>1729</td>
<td>3 mm</td>
<td>Aluminium</td>
</tr>
<tr>
<td>1730</td>
<td>7 mm</td>
<td>Stainless steel</td>
</tr>
</tbody>
</table>

Fixing accessories cf. sections 9b, spindles and screws
Roses for framed doors

1752
- Aluminium
- Stainless steel
- Alu + Color

C:C screwholes 50 mm, for countersunk screws M5

1755
- Aluminium
- Stainless steel
- Alu + Color

C:C screwholes 50 mm, for countersunk screws M5

1717
- Aluminium
- Stainless steel
- Alu + Color

C:C screwholes 50 mm, for countersunk screws M5

Lever handle for unlatching handle for pulling and pushing

We know from sorry experience that architects, interior designers and clients often disregard the recommendations of the hardware industry in respect of emergency-exit doors, allowing them to be used for general public transit. Such furniture is only intended for emergency application, however and subjecting it to regular heavy use can cause spindles to break, backplates and roses to work loose and locks to suffer damage. The following procedure has proved effective in such scenarios:
The door lever handle furniture is fitted together with a pull. In this disparate match, the lever handle has the task of releasing the panic lock, whilst the robust pull suggests itself as a means of pulling or pushing the door. It has been our observation that people very soon grasp how difficult it is to move a heavy emergency-exit door, with door-closer attached using a lightweight lever handle. It is only a matter of time, therefore, before attention switches to the sturdier fixed pull handle.

Where there is a likelihood – against the advice of the industry – of emergency-exit doors being used as standard transit points, FSB recommends fitting a lever/pull combination from the outset, instead of waiting until damage has occurred.
Lever handle furniture for framed doors fixed on an oval backplate, with concealed fixing
8 mm hole and support mechanism
Size A spacing 70, 72 mm and 92 mm PZ

Necessary order details:
- door thickness in mm
- PZ spacing

Item nos.:

Lever handle furniture 7816 01
Entrance door furniture 7816 13
Balcony door furniture 7816 02

7816
- Aluminium
- Alu + Color
- Stainless steel
Grip handle furniture for framed doors fixed on an oval backplate, with concealed fixing 8 mm hole and support mechanism
Size A spacing 70, 72 mm and 92 mm PZ

Necessary order details:
- door thickness in mm
- PZ spacing

Item nos.:

Grip handle furniture
7816 09
EZK - the smart door handle
EZK – the smart door handle

“Simple is better than complicated.”

That’s the dictum of Dieter Rams, former designer-in-chief at Braun AG.

Or – in other words: technology should serve people in the first instance - and not the other way round.

We at FSB felt that there was a case for looking into the merits of electronic access control systems not only on aesthetic grounds but also and in particular taking account of user-driven and hence ergonomic factors.

We set ourselves the goal of easing and accelerating this routine, of heeding the inherently human need for simplification: we directly connected the process of electronic identification with a mechatronic module squeezed into the handle rose. Forming the heart of this masterpiece of precision mechanics is an electronically-controlled engaging device that ensures immediate operation of the lock via the door handle upon positive identification being forthcoming.

EZK is just the thing for major buildings, notably of a corporate, administrative or official nature, where levels of public traffic or dealings with sensitive or personal data are increasingly lending prominence to aspects of organisational security as opposed to “high-profile” anti-burglary measures.

The same applies to hotels: although “organisational security” assumes different forms here, the structural requirements are virtually the same as for office blocks. Of particular significance for hoteliers is the great convenience of operation of EZK, since access identification takes place without contact and hence quite effortlessly.

Also available are a plethora of interfaces for hotel booking systems. Combining the system with BlueChip cylinders, moreover, allows time/cost-cutting organisational solutions to be devised for staff areas or external points of access (also cf. page 306).

EZK embodies a modular organisation concept that is precision-tailored to the aspirations and needs of users as well as being readily adaptable or expandable. Planning and installation are single-source – performed by FSB, one of the most celebrated brands known to the project building sector.

The baserose houses a mechatronically controlled engaging device that allows the door to be operated upon positive identification being forthcoming (1).

A connection with the handle rose, the heart of the EZK system solution, is established by means of a cable run within the lock mortise (2).

The electronics have been designed to fit into a europrofile cylinder. The module is inserted into the lock and secured from the other side (3).
Planning merits of EZK

- self-supporting closing system with no on-site preparations for power supply and no connections to external interfaces
- simple and flexible applications, suits all EPC locks as laid down in DIN
- effortlessly retrofitted to existing doors
- matching member of the FSB range of door and window hardware and products for the interior design of buildings, with unitary finishes in Aluminium, AluGrey, Stainless steel and Bronze
- single-source product involving one interlocutor

(Selection of available lever designs)
EZK - convenient solutions

User-friendly and cost-effective solution for hotels

There are comparable requirements for hotels: here, too, it is necessary in particular to handle frequently changing room occupancies of limited duration. There is also a need to be able to respond with no delay, fuss, risk or expense to keys or identifying media being mislaid or pocketed by mistake.

What makes EZK so compelling for hotel guests is its great convenience: passive transponder technology (the “smartness” being in the hardware and not the card) renders the insertion of keys or the manual releasing of bolts to open doors obsolete. The virtually silent mechatronics under the handle rose allow the door to be opened instantly. At the same time, designer handles assure a tasteful ambience with a living-room feel.

The “Hotel Function” software interface makes for troublefree link-ups with the “Fidelio”, “Protel” and “Hotline” hotel booking systems. Additionally available is a “time function” that automatically deletes access authorisation after a defined time.

EZK ideally maps the “suite function”: it is possible, for instance, to provide access to two separate rooms from a single point - an ideal solution for families. Or else one room can have another one added, where so requested by a guest, by entering extended access authorisations on the guest’s card.
EZK - security solutions

System benefit: secures external points of access

Besides its multifarious merits in respect of lost keys, EZK is a system solution that, amongst other things, enables processes and work routines in hotels to be organised more efficiently and hence economically. Depending on the booking category involved, separate access authorisations can be awarded to guests for exclusive hotel areas (wellness, spa) just as they can to external service providers (laundries) that may, for instance, regularly require a means of access from outside to the washing store.

Proven BlueChip technology facilitates easy integration of BlueChip profile cylinders into the EZK hardware system, furthermore. These cylinders allow locks to be operated – as in mechanical closing systems – by inserting and rotating a key. Thus it is likewise possible to integrate all FSB fittings – including, for instance, FSB security hardware or armoured roses in combination with no-frills FSB door pulls – into a fully-fledged electronic access control system serving to safeguard external points of access.

BlueChip cylinders guarantee security-level protection – notably at external points of access – in compliance with DIN 18 257 and VDS Security Class B assuming all the hardware elements involved have been tested and certificated to DIN EN 1906 - which is certainly the case with the whole range of FSB security fittings. Convenient, security-driven solutions can be put to effect in combination with wall scanners and e-openers or motor-operated closing elements.

EZK guarantees fine visuals and a living-room feel and can also be retrofitted to existing doors.

Convenient, security-driven solutions can be put to effect in combination with wall scanners and e-openers or motor-operated closing elements.
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency-exit hardware</td>
<td>6c</td>
</tr>
<tr>
<td>Technical information</td>
<td>310</td>
</tr>
<tr>
<td>Crossbar fitting 7980</td>
<td>311</td>
</tr>
<tr>
<td>Crossbar fitting 7970</td>
<td>316</td>
</tr>
</tbody>
</table>
Crossbar fittings

Through its crossbar fittings, FSB offers a means of opening doors whereby the turning of a lever is replaced by a pushing motion acting on the lock or latch. Via a horizontal bar extending the entire width of the door, force exerted is transmitted to the lock follower by a bevel gear pair acting directly through the spindle. The door can be opened by pressing against any part of the crossbar.

In the Federal Republic of Germany and some other countries, crossbar fittings of this type have hitherto predominantly been used on panic doors in combination with the appropriate mortise locks. Other hardware systems for panic doors are also available on the European market, however. The differing views on the fitting out of fire-escape, emergency-exit and panic doors have now been harmonised through the drafting of European standards binding upon all EU Member States. The requirements for emergency exit devices are laid down and set out in DIN EN 179 and those for panic doors in DIN EN 1125. The hardware package for panic doors is made up of a bolting element (lock), a bolt receiver (striking plate) and a horizontal bar.

Crossbar fitting DIN EN 1125

The standard prescribes the use of panic exit devices wherever high levels of public traffic are to be expected and where panic may arise due to unfamiliarity with the surroundings. Besides design-engineering requirements, there are also exacting stipulations as regards fitness for function. The hardware must, for example, be capable of opening the panic door through exertion on the bar of a force of just 220 N even whilst the closing device is being subjected to a load of 1,000 N. The fulfilment of this and further stipulations such as service longevity and ability to withstand misuse has to be demonstrated by means of tests and certification procedures in respect of the system as a whole conducted by an independent test institute. The CE kitemark on the hardware ensures that only tested fittings conforming to the applicable standards can be fitted.

FSB’s crossbar hardware only forms part of any panic-exit system. It has been adapted to lock systems by a variety of leading makers, and tested and certified for use with same.

Crossbar fitting 7970

FSB continues to supply its proven 7970 crossbar fitting for doors not requiring to be designed to conform to DIN EN 1125.

To prevent the crossbar fitting striking the frame when the door is opened, it is necessary to maintain a distance between the frame and the centre of the bar of at least 30 mm. Please bear this in mind when selecting the profile and door configuration.

310
Crossbar fitting
DIN EN 1125

Description of function:

Bevel gearing and spindle combine to convert pressure exerted on the crossbar into rotary motion acting on the lock follower. A fixed stop is fitted as a means of absorbing the requisite test forces. A spring ensures that the crossbar fitting returns to its original position once it has been operated.

Size and connecting dimensions for crossbar fittings with 72 mm spacing:

- 7980 9 mm □
  - Aluminium
  - Stainless steel

Size and connecting dimensions for crossbar fittings with 92 mm spacing:

- 45
- 50
- 46
- 58
- 112
- 185
- 72
- 118
- 111
Crossbar fitting for leading doors with 92 mm spacing

7980 ..12 9 mm □
- Aluminium
- Stainless steel

Crossbar fitting for leading doors, fire safety variant

Spacing 92 mm

Wilka locks* \( a = 30^\circ \)
7980 1112 r.h. fitting
7980 2112 l.h. fitting

Winkhaus locks* \( a = 40^\circ \)
7980 1312 r.h. fitting
7980 2312 l.h. fitting

Determining length of crossbar:

Width of door minus (2 x backset) minus 68 mm = Crossbar length

Order details:
- Material/finish
- Thickness of door
- Width of door
- Backset
- Dimension XI
- Dimension XA

Order details:
- Material/finish
- Thickness of door
- Width of door
- Backset

To prevent the crossbar fitting striking the frame when the door is opened, it is necessary to maintain a distance between the frame and the centre of the bar of at least 30 mm. Please bear this in mind when selecting the profile and door configuration.

* Locks not included in the goods supplied.

min. 30

Illustration r.h.

Illustration l.h.
Crossbar fitting for trailing doors
Reverse fitting

Determining length of crossbar:
Width of door minus (2 x backset) minus 68 mm = Crossbar length

Order details:
Material/finish
Thickness of door
Width of door
Backset
Dimension XI

Outside fitting options
FSB supplies lever handle model 1146 as standard.

Reverse lever handle backplate with concealed fixing, fire safety variant, designed for 92 mm spacing.

Reverse knob backplate with concealed fixing, fire safety variant, designed for 92 mm spacing.

FSB blind backplate concealed fixing for fire doors to German DIN standard.
Crossbar fitting for leading doors with 72 mm spacing

7980 .110 9 mm □

- Aluminium
- Stainless steel

Crossbar fitting for leading doors, fire safety variant
Spacing 72 mm
BMH locks* a = 30°
7980 1110 r.h. fitting
7980 2110 l.h. fitting

Determining length of crossbar:
Width of door minus (2 x backset) minus 68 mm
= Crossbar length

Order details:
Material/finish
Thickness of door
Width of door
Backset
Dimension XI
Dimension XA

Order details:
Material/finish
Thickness of door
Width of door
Backset

To prevent the crossbar fitting striking the frame when the door is opened, it is necessary to maintain a distance between the frame and the centre of the bar of at least 30 mm. Please bear this in mind when selecting the profile and door configuration.

* Locks not included in the goods supplied.
Crossbar fitting for trailing doors
Reverse fitting

<table>
<thead>
<tr>
<th>Material/finish</th>
<th>Thickness of door</th>
<th>Width of door</th>
<th>Backset</th>
<th>Determining length of crossbar:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7980 0010</td>
<td>9 mm</td>
<td>9 mm</td>
<td>9 mm</td>
<td>Width of door minus (2 x backset) minus 68 mm = Crossbar length</td>
</tr>
<tr>
<td>7980 0110</td>
<td>9 mm</td>
<td>9 mm</td>
<td>9 mm</td>
<td>Reverse fitting options</td>
</tr>
<tr>
<td>7980 0000</td>
<td>9 mm</td>
<td>9 mm</td>
<td>9 mm</td>
<td>FSB supplies lever handle model 1146 as standard.</td>
</tr>
</tbody>
</table>

Reverse lever handle backplate with concealed fixing, fire safety variant, designed for 92 mm spacing.
Reverse knob backplate with concealed fixing, fire safety variant, designed for 92 mm spacing.
Blank reverse backplate with concealed fixing, fire safety variant.

FSB supplies lever handle model 1146 as standard.
Crossbar fitting

Description of function:
Bevel gearing and spindle combine to convert pressure on the cross bar into rotary motion acting on the lock follower. An adjustable stop protects the lock follower and is set at the fixing stage to suit the operating arc.

Size and connecting dimensions for crossbar fittings with 72 mm spacing

Size and connecting dimensions for crossbar fittings with 92 mm spacing
Crossbar fitting

Crossbar fitting for leading doors, fire safety variant
9 mm □

Crossbar fitting for trailing doors, fire safety variant
9 mm □

Reverse lever handle backplate with concealed fixing, fire safety variant.
9 mm □

Reverse knob backplate with concealed fixing, fire safety variant.
9 mm □

Blank reverse backplate with concealed fixing, fire safety variant.
9 mm □

Determining length crossbar:

Width of door minus (2 x backset) minus 68 mm = Crossbar length

Order details:
Material/finish
Thickness of door
Width of door
Backset
Dimension XI
Dimension XA
Gymnasium fittings and XXL lever handles

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gymnasium fittings</td>
<td>320</td>
</tr>
<tr>
<td>FSB Lever handleset Ergo</td>
<td>322</td>
</tr>
<tr>
<td>FSB XXL lever handles</td>
<td>322</td>
</tr>
</tbody>
</table>
Gymnasium fittings

FSB has devised two models of gymnasium fittings for such applications. The FSB 7949 model is angular with mitred corners. FSB 7950, by contrast, features rounded edges.

Flush handles FSB 7949 and 7950 are combined on the reverse side with hardware from the FSB heavy-duty programme, with the option of either a backplate or rose.

Doors to which flush handles are to be fitted must be at least 55 mm thick. To rule out any chance of injury, it should be ensured when being fitted that there is sufficient backset and the rim rests fully flush against the door.

8 + 9 mm □-spindle

Backplate version to suit PZ 72 and 92 mm

Inner backplate PZ 72 mm: 1450 03 | 1451 03
Inner backplate PZ 92 mm: 1452 03 | 1453 03

Roses version to suit PZ 72 and 92 mm

Roses:
1731 | 1735 resp.
1707 | 1708

* Rose/backplate variant with lever handle on reverse please order separately.

7949
Stainless steel

Applications exist in which it is not permissible for the handle to protrude above the surface of the door, in the case of sliding-door designs, for instance, or gymnasium doors. Doors to which flush handles are to be fitted must be at least 55 mm thick. To rule out any chance of injury, it should be ensured when being fitted that there is sufficient backset and the rim rests fully flush against the door.

Backplate version*
Roses version*
Gymnasium fittings

Backplate version to suit PZ 72 and 92 mm

Inner backplate PZ 72 mm:
1450 03 | 1451 03

Inner backplate PZ 92 mm:
1452 03 | 1453 03 bzw.
1410 03 | 1418 03

Roses version to suit PZ 72 and 92 mm

Roses:
1731 | 1735 resp.
1707 | 1708

With the PZ 92 backplate, through fixing is only possible below the lever bearing.

* Rose/backplate variant with lever handle on reverse please order separately.

Backplate version*

Roses version*
FSB XXL lever handle
Ergo door handle

Ergo lever handle 7655 solves almost all ergonomic problems associated with heavily used doors.

Theses are the principal benefits of the FSB 7655 Ergo handle:

- the triangular alignment of the handle accords with the user’s direction of movement at any given time.
- this angular form accommodates the sequence of movements involved in operating the door.
- its fullness and sectional styling echo the hollowing of the human hand as it closes to grip.
- its two-way alignment offers a firm hold should elbows be needed for its operation.

Ergo lever handle furniture, FSB model 7655, turns within a non-detachable bearing and is suitable for fire doors. Owing to its large projection the Ergo handle operates with a 9 mm spindle.

---

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
<th>Material</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>7617</td>
<td>9 mm</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>7655</td>
<td>9 mm</td>
<td>Stainless steel</td>
<td></td>
</tr>
</tbody>
</table>

FSB XXL lever handle
Ergo door handle

EN 179
The XXL door levers FSB produces are a particularly popular choice for use on hospital ward doors. Architects are always coming to us demanding extra-long door handles. These are the three designs that have established themselves in the marketplace over the years. For reasons of stability, FSB only supplies its XXL lever handles with a 9 mm spindle. We recommend DIN heavy-duty (Class 5) locks, cf. page 531 ff.
**Furniture for glass door**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanations</td>
<td>326</td>
</tr>
<tr>
<td>Overview</td>
<td>327</td>
</tr>
<tr>
<td>Glass door furniture</td>
<td>328</td>
</tr>
<tr>
<td><strong>Compact</strong></td>
<td></td>
</tr>
<tr>
<td>Compact strike box</td>
<td>329</td>
</tr>
<tr>
<td>for double-leaf glass doors</td>
<td></td>
</tr>
<tr>
<td>Glass door furniture</td>
<td>330</td>
</tr>
<tr>
<td><strong>Rectangular</strong></td>
<td></td>
</tr>
<tr>
<td>Rectangular strike box</td>
<td>331</td>
</tr>
<tr>
<td>for double-leaf glass doors</td>
<td></td>
</tr>
<tr>
<td>Glass door furniture</td>
<td>332</td>
</tr>
<tr>
<td><strong>Softly rectangular</strong></td>
<td></td>
</tr>
<tr>
<td>Softly rectangular strike box</td>
<td>333</td>
</tr>
<tr>
<td>for double-leaf glass doors</td>
<td></td>
</tr>
<tr>
<td>Hinges for glass doors</td>
<td>334</td>
</tr>
<tr>
<td>Pull handles for glass doors</td>
<td>336</td>
</tr>
<tr>
<td>Sliding door handle</td>
<td>337</td>
</tr>
<tr>
<td>Door holder</td>
<td>337</td>
</tr>
<tr>
<td>Doorknobs for glass doors</td>
<td>338</td>
</tr>
<tr>
<td>Flush pull for glass doors</td>
<td>340</td>
</tr>
</tbody>
</table>
Glass door furniture

Coordinating hardware designs for doors, glass doors and windows strikes FSB as being logical, such consistency being an indispensable form of overall architectural expression in modern buildings. Glass doors in particular have an important part to play here. They create more light, link up spaces and are conducive to a great sense of roominess. The innate transparency of glass doors means that great care needs to be taken when designing hardware for them, however. It is the lock, handles and hinges, after all, that lend a glass door its visual identity. One of the compelling innovations presented in this Manual is a new compact glass door lock concept developed in cooperation with Ingenhoven Architects that, as well as being extremely compactly dimensioned and operating without handle roses even in the heavy-duty variant, can be fitted flush with the door frame (assuming the latter is to the DIN standard). Our glass door furniture is ideally complemented by components produced by system partners Gira (ITS 30 installation system for partition systems), Mabeg (Comform wayfinding system) and Inotec (ITS 30 escape route lighting system) that are suitably proportioned and go well with FSB’s AluGrau® colour shade. Please request exhaustive product information from the respective makers. All the hardware variants covered in this section can be combined with virtually all lever handle models in the FSB range.

Matching hinges complete FSB’s collection of glass door fittings

Lever handle furniture to match glass door locks As well as supplying its own glass door fittings, FSB can also – with few exceptions – adapt its entire range of lever handles/door knobs to glass door fittings commonly marketed by its competitors. This entails minor technical modifications regarding the handle connection and fixing procedure. To rule out any misunderstandings, detailed information concerning the lock (e.g. maker’s name and product code) is required when ordering lever handles and door knobs for glass door locks. Please order well in advance to allow for the requisite modifications. We cannot supply these items from stock.

Door pulls for glass doors

Door pulls of round or oval cross-section can be used in a great variety of ways either as a means of operating glass doors or as a design feature with protective properties and have fastenings specifically intended for back-to-back or face fixing respectively. FSB can either make use of existing custom solutions for glass doors or develop bespoke fixing solutions and handle designs. The standard fixing solutions for glass doors and the pull handle models variously available are shown on pages 414ff.
Overview

- **Overview**

- **New products 09/10**
  - Aluminium
  - Bronze
  - AluGrey
  - Brass
  - Stainless steel

**Images and Pages**

- 4220 41/51  
  Page 330
- 4220 42/52  
  Page 330
- 4223 41/51  
  Page 332
- 4223 42/52  
  Page 332
- 4224 42/52  
  Page 328

- 4220 45/55  
  Page 331
- 4223 45/55  
  Page 333
- 4224 45/55  
  Page 329

- 2302 07  
  Page 339
- 2322 07  
  Page 339
- 2329 07  
  Page 339
- 2374 07  
  Page 339
- 2339 07  
  Page 338

- 3684  
  Page 336
- 3686  
  Page 337
- 3688  
  Page 336
- 4299  
  Page 340

- 4227  
  Page 335
- 4228  
  Page 334
- 4230  
  Page 337
**Glass door furniture**

**Compact**

The FSB 4224 lockset plate for glass doors terminates flush with any DIN frame, thus visually unifying frame and hardware. Door frames that are not to the DIN specification can, of course, also be used – though the flush-frame effect cannot then be guaranteed. The furniture can also be used in conjunction with partition systems. The glass door’s transparency is underscored by the tight dimensions of the lock cover, which is some 10% smaller than in standard glass door furniture. This paring-down was achieved by developing a special-purpose lock that is every bit as rugged and functional as larger models as well as being suitable for all sizes of glass door. We have developed a special heavy-duty bearing for heavily frequented 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.

**Technical notes:**

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 for glass 12 mm thick is available to order. For further technical notes, refer to page 371. The strike box shown does not form part of the goods supplied.

The handles shown are merely illustrative. Virtually any FSB handle can be used. For technical details please refer to page 342.

**Options:**

- warded lock (BB)
- no keyway
- indicating/bathroom furniture: Please specify when ordering, as furniture is fitted with indicating furniture 1735 0054 as standard at the works. Indicating furniture is not fitted on site.
Strike box
for double-leaf glass doors

Illustration l.h.

Technical notes:

Dimensions given assume glass 8 mm thick. Strike box plates for glass doors are prepared at the works for glass 8 mm and 10 mm thick. Hardware for glass 12 mm thick is available to order.
Glass door furniture
Rectangular

Illustration DIN r.h.

Technical notes:
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 for glass 12 mm thick is available to order. For further technical notes, refer to page 371. The strike box shown does not form part of the goods supplied.

The handles shown are merely illustrative. Virtually any FSB handle can be used. For technical details please refer to page 342.

Options:
– warded lock (BB)
– no keyway
– indicating/bathroom furniture: Please specify when ordering according to FSB indicating bathroom furniture shown on page 150. Indicating/bathroom furniture will be fitted on site.

Rectangular lockset plate with heavy-duty lock for glass doors (DIN 18251, Class 4) designed for use with Euro-profile cylinder centres 72 mm 8 mm steel-bushed split follower latch cast steel bolt head bright nickel-plated zinc die casting handle bushing glass-fibre reinforced polyamide to suit all FSB lever handles

Rectangular lockset plate with heavy-duty lock for glass doors (DIN 18251, Class 4) designed for use with Euro-profile cylinder and lifter assembly centres 72 mm 8 mm steel-bushed split follower latch cast steel bolt head bright nickel-plated zinc die casting handle bushing glass-fibre reinforced polyamide to suit FSB commercial hardware with roses

4220 41 r.h.
4220 51 l.h.
- Aluminium
- AluGrey
- Stainless steel

4220 42 r.h.
4220 52 l.h.
- Aluminium
- AluGrey
- Stainless steel
Strike box for double-leaf glass doors

Illustration l.h.

Technical notes:

Dimensions given assume glass 8 mm thick. Strike box plates for glass doors are prepared at the works for glass 8 mm and 10 mm thick. Hardware for glass 12 mm thick is available to order.
Glass door furniture
Softly rectangular

4223 41 r.h.  
4223 51 l.h.
- Aluminium
- AluGrey
- Stainless steel

Softly rectangular lockset plate with heavy-duty lock for glass doors (DIN 18251, Class 4) designed for use with Euro-profile cylinder and lifter assembly centres 72 mm 8 mm steel-bushed split follower latch cast steel bolt head bright nickel-plated zinc die casting handle bushing glass-fibre reinforced polyamide to suit all FSB lever handles

4223 42 r.h.  
4223 52 l.h.
- Aluminium
- AluGrey
- Stainless steel

Softly rectangular lockset plate with heavy-duty lock for glass doors (DIN 18251, Class 4) designed for use with Euro-profile cylinder and lifter assembly centres 72 mm 8 mm steel-bushed split follower latch cast steel bolt head bright nickel-plated zinc die casting handle bushing glass-fibre reinforced polyamide to suit FSB commercial hardware with roses

Technical notes:
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 for glass 12 mm thick is available to order. For further technical notes, refer to page 371. The strike box shown does not form part of the goods supplied.

The handles shown are merely illustrative. Virtually any FSB handle can be used. For technical details please refer to page 342.

Options:
- warded lock (BB)
- no keyway
- indicating/bathroom furniture: Please specify when ordering according to FSB indicating bathroom furniture shown on page 150. Indicating/bathroom furniture will be fitted on site.
Strike box
for double-leaf glass doors

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

- Aluminium
- AluGrey
- Stainless steel

Softly rectangular strike box
To match lockset plate
4223 41/51 and 4223 42/52

Illustration l.h.

Technical notes:

Dimensions given assume
glass 8 mm thick. Strike box
plates for glass doors are pre-
pared at the works for glass
8 mm and 10 mm thick.
Hardware for glass 12 mm
thick is available to order.
Hinges for glass doors

4228

- Satin chromium-plated steel
- Stainless steel

VARIANT glass door hinge in satin chromium-plated steel to suit Aluminium and AluGrey finishes or in stainless steel with hinge connector

To match lockset plate 4220 41/51 and 4220 42/52

4228 0101
VARIANT VXG 7990/100K commercial hinge for glass doors on rebated timber, steel or aluminium frames with three-dimensionally adjustable mating elements

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

4228 0103
VARIANT VG 8790K commercial hinge for glass doors on rebated wooden soffit and blockwork frames

4228 ..04
41 r.h. | 51 l.h.
VARIANT VG 3990K commercial hinge for glass doors on rebated wooden soffit and blockwork frames

Technical notes:

Loading capacity 60 kg (two hinges)

Loading capacity 90 kg (three hinges)

Hinges for glass doors are prepared at the works for glass 8 mm and 10 mm thick. For further technical notes please refer to page 344 and 345.
Hinges for glass doors

4227
- Satin chromium-plated steel
- Stainless steel

VARIANT glass door hinge in satin chromium-plated steel to suit Aluminium and AluGrey finishes or in stainless steel with hinge connector

To match lockset plate 4223 41/51 and 4223 42/52

4227 0101
VARIANT VXG 7990/100 commercial hinge for glass doors on rebated timber, steel or aluminium frames with three-dimensionally adjustable mating elements

4227 0102
VARIANT VNG 7990/100 commercial hinge for glass doors on rebated steel frames with three-dimensionally adjustable mating elements

4227 0103
VARIANT VG 8790 commercial hinge for glass doors on rebated steel frames

4227 ..04
41 r.h. | 51 l.h.
VARIANT VG 3990 commercial hinge for glass doors on rebated wooden soffit and blockwork frames

Technical notes:

Loading capacity 60 kg
(two hinges)

Loading capacity 90 kg
(three hinges)

Hinges for glass doors are prepared at the works for glass 8 mm and 10 mm thick. For further technical notes please refer to page 344 and 345
Pull handles for glass doors

3684 2114
- Aluminium
- AluGrey
Design: Ton Haas

3688 2114
- AluGrey
- Stainless steel
Design: Christoph Ingenhoven

For detailed information on fixing, please turn to page 414ff.
Sliding door handle
Door holder

3686
- Aluminium
- AluGrey
- Stainless steel

Sliding door handle for fixing in pairs
Design: Jahn/Lykouria

4230
- Stainless steel

<table>
<thead>
<tr>
<th>Thickness of glass (B)</th>
<th>Width overall (A)</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 mm</td>
<td>27 mm</td>
<td>4230 0000</td>
</tr>
<tr>
<td>10 mm</td>
<td>29 mm</td>
<td>4230 1000</td>
</tr>
<tr>
<td>12 mm</td>
<td>31 mm</td>
<td>4230 1200</td>
</tr>
</tbody>
</table>
Doorknob for glass doors

2339 07
- Aluminium
- Bore hole Ø 13 mm
- Design: Philippe Starck

Deadknob
Doorknobs 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 pull for glass doors

4299 ....

- Stainless steel

.... 0012 for glass doors
10 mm thick

.... 0019 for glass doors
8 mm thick

Adhesive not included in the goods supplied.
Door dimensions
acc. DIN 18101

T.D.I.U.S.*  
Frame rebate dimensions  
Standard glass dimensions

<table>
<thead>
<tr>
<th>T.D.I.U.S.*</th>
<th>Frame rebate dimensions</th>
<th>Standard glass dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 × 2000</td>
<td>716 × 1983</td>
<td>709 × 1972</td>
</tr>
<tr>
<td>875 × 2000</td>
<td>841 × 1983</td>
<td>834 × 1972</td>
</tr>
<tr>
<td>1000 × 2000</td>
<td>966 × 1983</td>
<td>959 × 1972</td>
</tr>
</tbody>
</table>

T.D.I.U.S.*  
Frame rebate dimensions  
Standard glass dimensions

<table>
<thead>
<tr>
<th>T.D.I.U.S.*</th>
<th>Frame rebate dimensions</th>
<th>Standard glass dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 × 2125</td>
<td>716 × 2108</td>
<td>709 × 2097</td>
</tr>
<tr>
<td>875 × 2125</td>
<td>841 × 2108</td>
<td>834 × 2097</td>
</tr>
<tr>
<td>1000 × 2125</td>
<td>966 × 2108</td>
<td>959 × 2097</td>
</tr>
</tbody>
</table>

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

Lever handle specification
A modified lever handle set is required for glass door lockset plates 4220 41/51 and 4223 41/51. Lever handle sets will be shortened one-side at the works to make sure lever handle connecting is adjusted on lock dimensions inside.

Bearings
Lockset plates 4220 42/52 and 4223 42/52 can be fitted with either standard roses and lever handle sets or commercial fittings with compensating bearing for heavy or big-sized glass doors.

Lock cylinders
For aesthetic and functional reasons FSB recommends lock cylinders with minimum 55 mm (27.5 mm on both sides).

Indicating/bathroom furniture
Lockset plates for glass doors 4220/4223 series are also available in a bathroom version. They can be fitted with FSB standard indicating furniture shown on page 150 and are suitable for doors opening both inwards and outwards.

Technical notes:
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:
Lever handles are not supplied as part of these hardware sets. Please order the desired model separately, indicating that it is used on glass door furniture 4220/4223 series.

Please specify also lockset plate type regarding with or without roses and type of bearing and DIN handing.
Technical notes
Series 4224

Lever handle specification

A modified lever handle set is required for glass door lockset plates 4224. Male lever handle will be adapted to a special spindle projection (differing from FSB standard) at the works to make sure lever handle connecting is adjusted on lock dimensions inside.

Bearing

Lockset plates 4224 will be supplied without roses for aesthetic reasons. A heavy-duty bearing is included as standard and fits functionality with heavy and big-sized glass doors.

Lock cylinders

For aesthetic reasons FSB recommends lock cylinders with minimum length 50 mm (25 mm on both sides) or 55 mm (27.5 mm on both sides). For lock cylinders with length 50 mm its necessary to make sure its ability within key systems.

Indicating/bathroom furniture

Lockset plates for glass doors 4224 series are also available in a bathroom version. They will be fitted with FSB indicating furniture 1735 0054 (cf. page 150) at the works by request. Indicating furniture is suitable for doors opening both inwards and outwards.

Technical notes:

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:

Lever handles are not supplied as part of these hardware sets. Please order the desired model separately, indicating that it is used on glass door furniture 4224 series. Please specify also DIN handing.
The positioning of hinge connectors relative to the hinge datum line also necessitates adapting bore holes 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 rebated 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 7602 3D
  - for steel frames VX 7611 3D
  - for aluminium frames VX 7621 3D
- non-handed

VARIANT commercial hinge for glass doors on rebated 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 rebated 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 rebated 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

SIMONSWERK engineering and quality are a byword for safety and stability to the highest professional standards. For further information on hinges, hinge connectors, frame fastening elements etc., please consult the latest SIMONSWERK manual.

SIMONSWERK GmbH
Baubeschlagtechnik
Bosfelder Weg 5
33378 Rheda-Wiedenbrück
Germany

Telephone +49 5242 413-0
Telefax +49 5242 413-210
www.simonswerk.de
mail@simonswerk.de
Functional and associative aspects.

The formal implications of using colour are manifold. Colour makes houses larger or smaller, makes them stand out against or blend in with Nature. Besides its spatial (physiological) effect, colour also has the psychological effect of triggering associations. A darker shade of light blue applied to the outside of buildings can, for instance, have nautical connotations and, applied to the interior, intuitively make reference to the function of having a bath. Whilst social concerns were in no way a decisional driving force for Le Corbusier, colour was nevertheless expected to be of service to humanity in architecture. He saw his investigations as aiming to provide people’s individual tendencies and inner needs with tools conducive to “self-revelation”. His deliberations are also to be seen as a reaction against the sometimes oppressive external impact of large edifices. Colour was a multilayered means of visual expression for Le Corbusier: an element engendering identity and meaning that completes architecture without alienating it.