Hinges for Heavy-Duty Doors

SIMONSWERK
VARIANT® VN

Toto kování zakoupíte u společnosti EFB spol. s r.o.
www.obchod.luxusnikovani.cz
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<td>100</td>
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<tr>
<td>VN 5959/120 N</td>
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### Technical Information

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Toto kování zakoupíte u společnosti EFB spol. s r.o.
www.obchod.luxusnikovani.cz
«VARIANT VN» – The proven hinge system for heavy-duty doors

The demands on hinges for heavy duty use are often very diverse and particular. The VARIANT VN hinge system has been developed for use in the heavy duty sector and is characterised by the versatility of its application options.

In addition to maintenance-free slide bearing technology, it can be combined with the large number of receivers from the VARIANT product range to produce the most varied of applications, such as accommodating the receiver in the door leaf for example. Hinges from the VARIANT VN range are suitable for unrestricted use on fire doors. Many of the hinge types are now successfully certified in accordance with the CE directive.

For years, the extensive VARIANT VN range of hinges has provided a multitude of tailored hinge solutions for an almost limitless number of applications.

SIMONSWERK – Quality Made in Germany

SIMONSWERK is one of Europe’s leading manufacturers and has been developing high-quality hinge systems for doors and windows for around 120 years. The focus for this extensive product range lies in the very latest design and the ultimate in product perfection.

The company’s approx. 500 employees are committed to innovative product development and the manufacture and sale of their hinges under the motto “The right hinge for every application”. With an extensive product range and many special customer solutions, SIMONSWERK covers almost every area where hinges are required. The company manufactures hinges for applications in wood, aluminium, steel, PVCu and glass. The usage areas include residential, heavy duty, exterior doors, windows and metalworking.

With a subsidiary in Poland and a subsidiary in United Kingdom, SIMONSWERK now serves around 60 foreign markets in Europe, America, Asia and Australia. All over the world, fabricators, dealers and architects increasingly opt for the high-quality hinge systems from SIMONSWERK.
SIMONSWERK
VARIANT® VN

VN 1939/100
for rebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>rebated</th>
<th>up to 100 kg</th>
</tr>
</thead>
</table>

**Technical Details**

<table>
<thead>
<tr>
<th>Parameter</th>
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<tr>
<td>Load capacity</td>
<td>100.0 kg</td>
</tr>
<tr>
<td>Knuckle length</td>
<td>95.0 mm</td>
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<tr>
<td>Knuckle diameter</td>
<td>20.0 mm</td>
</tr>
<tr>
<td>Hole / pin diameter</td>
<td>10.0 mm</td>
</tr>
<tr>
<td>Material thickness</td>
<td>3.5 mm</td>
</tr>
<tr>
<td>Cutter diameter</td>
<td>24.0 mm</td>
</tr>
<tr>
<td>Screw length</td>
<td>5.0x50.0 mm</td>
</tr>
</tbody>
</table>

**Descriptive Text**

SIMONSWERK VARIANT heavy duty hinge VN 1939/100 for rebated doors with block frames. CE-certified, load capacity 100 kg, knuckle length 95 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

**Installation Tools**

- Jig: Universal milling frame
- Template for universal milling frame

Detailed information at www.bandsysteme.com

**Finish**

See page 34 for the range of finishes.

**Note**

Version available with non removable pin (MSTS).
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

**Functional range**

Fire resistance, Smoke resistance

**Quality marks**
VN 3939/100
for rebated heavy-duty doors with casing frames and block frames

<table>
<thead>
<tr>
<th>Technical Details</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Load capacity</td>
<td>100.0 kg</td>
</tr>
<tr>
<td>Knuckle length</td>
<td>95.0 mm</td>
</tr>
<tr>
<td>Knuckle diameter</td>
<td>20.0 mm</td>
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<tr>
<td>Hole/pin diameter</td>
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<td>3.5 mm</td>
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<tr>
<td>Cutter diameter</td>
<td>24.0 mm</td>
</tr>
<tr>
<td>Screw length</td>
<td>5.0x50.0 mm</td>
</tr>
</tbody>
</table>

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 3939/100 for rebated doors with casing or block frames with SIMONSWERK VARIANT hinge pocket of series V 3600, V 3610, V 3630, V 3650 and V 3690 or with block frames with SIMONSWERK VARIANT clamping block V 3604, V 3607 or SIMONSWERK VARIANT clamp V 3605. CE certified, load capacity 100 kg, knuckle length 95 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Combination
Receiver
Block frame
Clamping block V 3604, V 3607
Clamp V 3605
Casing frame
Hinge pocket series V 36...

See page 22 and following

Installation Tools
Jig
Universal milling frame
Template for universal milling frame
No. 5 250563.5

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
The hinge system can also be used on block frames.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks

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SIMONSWERK
VARIANT® VN

VN 8939/100
for rebated heavy-duty doors with steel frames

Steel frame | rebated | up to 100 kg

Technical Details
Load capacity 100.0 kg
Knuckle length 95.0 mm
Knuckle diameter 20.0 mm
Hole / pin diameter 10.0 mm
Material thickness 3.5 mm
Cutter diameter 24.0 mm
Screw length 5.0x50.0 mm

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 8939/100 for rebated doors with steel frames with SIMONSWERK VARIANT hinge pocket V 8600 or V 8610. CE certified, load capacity 100 kg, knuckle length 95 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Combination
Receiver Hinge pocket V 8600, V 8610
See page 22 and following

Installation Tools
Jig Universal milling frame
Template for universal milling frame No. 5 250563 5
Detailed information at www.bandsysteme.com

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
Please consider DIN reference.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks

Toto kování zakoupíte u společnosti EFB spol. s r.o.
www.obchod.luxusnikovani.cz
VN 1939/120
for rebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>rebated</th>
<th>up to 120 kg</th>
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<tbody>
<tr>
<td>Load capacity</td>
<td>120.0 kg</td>
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<tr>
<td>Knuckle length</td>
<td>120.0 mm</td>
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<tr>
<td>Knuckle diameter</td>
<td>20.0 mm</td>
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<td>Hole/pin diameter</td>
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<tr>
<td>Material thickness</td>
<td>3.5 mm</td>
<td></td>
</tr>
<tr>
<td>Cutter diameter</td>
<td>24.0 mm</td>
<td></td>
</tr>
<tr>
<td>Screw length</td>
<td>5.0x50.0 mm</td>
<td></td>
</tr>
</tbody>
</table>

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 1939/120 for rebated doors with block frames. CE-certified, load capacity 120 kg, knuckle length 120 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Installation Tools
- Universal milling frame
- Template for universal milling frame
  - Frame: No. 5 250574 6
  - Door: No. 5 250564 5

Detailed information at www.bandsysteme.com

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
A reinforcing dowel 12.0x50.0 mm per hinge leaf is recommended when the door is subject to heavy usage.
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks
SIMONSWERK
VARIANT® VN

VN 1939/160
for rebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>rebated</th>
<th>up to 160 kg</th>
</tr>
</thead>
</table>

Technical Details

| Load capacity | 160.0 kg |
| Knuckle length | 160.0 mm |
| Knuckle diameter | 22.5 mm |
| Hole / pin diameter | 10.0 mm |
| Material thickness | 3.5 mm |
| Cutter diameter | 24.0 mm |
| Screw length | 5.0x50.0 mm |

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 1939/160 for rebated doors with block frames. CE-certified, load capacity 160 kg, knuckle length 160 mm, knuckle diameter 22.5 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Installation Tools

| Jig | Universal milling frame |
| Template for universal milling frame | Frame: No. 5 250559 6 |
| Door: No. 5 250560 5 |

Detailed information at www.bandsysteme.com

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
A reinforcing dowel 12.0x50.0 mm per hinge is recommended when the door is subject to heavy usage.
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks

Toto kování zakoupíte u společnosti EFB spol. s r.o.
www.obchod.luxusnikovani.cz
VN 3838/160
for rebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>rebated</th>
<th>up to 160 kg</th>
</tr>
</thead>
</table>

Technical Details
- **Load capacity**: 160.0 kg
- **Knuckle length**: 160.0 mm
- **Knuckle diameter**: 22.5 mm
- **Hole / pin diameter**: 10.0 mm
- **Material thickness**: 3.5 mm
- **Cutter diameter**: 24.0 mm
- **Screw length**: 5.0x50.0 mm

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 3838/160 for rebated doors with block frames. CE-certified, load capacity 160 kg, knuckle length 160 mm, knuckle diameter 22.5 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Installation Tools
- **Jig**: Universal milling frame
- **Plug-on drilling jig VN 3800/160**
- **Serial drilling jig VN 3800/160**
- **Template for universal milling frame**: No. 5 250560 $
- Detailed information at www.bandsysteme.com

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
A reinforcing dowel 12.0x50.0 mm per hinge is recomended when the door is subject to heavy usage.
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks

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SIMONSWERK
VARIANT® VN

VN 2828/100
for rebated flush heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>rebated flush</th>
<th>up to 80 kg</th>
</tr>
</thead>
</table>

Technical Details
- Load capacity: 80.0 kg
- Knuckle length: 95.0 mm
- Knuckle diameter: 20.0 mm
- Hole / pin diameter: 10.0 mm
- Material thickness: 3.5 mm
- Cutter diameter: 24.0 mm
- Screw length: 5.0x50.0 mm

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 2828/100 for rebated flush doors with block frames. CE-certified, load capacity 80 kg, knuckle length 95 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Installation Tools
- Jig: Universal milling frame
- Template for universal milling frame: No. 5 250566 S
- Detailed information at www.bandsysteme.com

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks

Toto kování zakoupíte u společnosti EFB spol. s r.o.
www.obchod.luxusnikovani.cz
VN 2828/120

for rebated flush heavy-duty doors with block frames

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<thead>
<tr>
<th>Block frame</th>
<th>rebated flush</th>
<th>up to 100 kg</th>
</tr>
</thead>
</table>

**Technical Details**

- **Load capacity**: 100.0 kg
- **Knuckle length**: 120.0 mm
- **Knuckle diameter**: 20.0 mm
- **Hole / pin diameter**: 10.0 mm
- **Material thickness**: 3.5 mm
- **Cutter diameter**: 24.0 mm
- **Screw length**: 5.0x50.0 mm

**Descriptive Text**

SIMONSWERK VARIANT heavy duty hinge VN 2828/120 for rebated flush doors with block frames. CE-certified, load capacity 100 kg, knuckle length 120 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

**Installation Tools**

- Universal milling frame
- Template for universal milling frame

Detailed information at www.bandsysteme.com

**Finish**

See page 34 for the range of finishes.

**Note**

- Version available with non removable pin (MSTS).
- A reinforcing dowel 12.0x50.0 mm per hinge leaf is recommended when the door is subject to heavy usage.
- The hinge system can also be used on blind frames.
- Page 32 contains detailed information about the load capacity stated above.

**Functional range**

- Fire resistance, Smoke resistance

**Quality marks**

[Image of quality marks]
SIMONSWERK
VARIANT® VN

VN 5959/120 N
for rebated flush heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>rebated flush</th>
<th>up to 100 kg</th>
</tr>
</thead>
</table>

Technical Details

- Load capacity: 100.0 kg
- Knuckle length: 120.0 mm
- Knuckle diameter: 20.0 mm
- Hole / pin diameter: 10.0 mm
- Material thickness: 3.5 mm
- Cutter diameter: 24.0 mm
- Screw length: 5.0x50.0 mm

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 5959/120 N for rebated flush doors with block frames. CE-certified, load capacity 100 kg, knuckle length 120 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Installation Tools

- Jig
- Universal milling frame
- Template for universal milling frame
  - Frame: No. S 250576 6
  - Door: No. S 250575 6

Detailed information at www.bandsysteme.com

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
A reinforcing dowel 12.0x50.0 mm per hinge leaf is recommended when the door is subject to heavy usage.
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks

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www.obchod.luxusnikovani.cz
VN 2828/160
for rebated flush heavy-duty doors with block frames

Block frame | rebated flush | up to 120 kg
---|---|---

Technical Details
- **Load capacity**: 120.0 kg
- **Knuckle length**: 160.0 mm
- **Knuckle diameter**: 22.5 mm
- **Hole / pin diameter**: 10.0 mm
- **Material thickness**: 3.5 mm
- **Cutter diameter**: 24.0 mm
- **Screw length**: 5.0x50.0 mm

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 2828/160 for rebated flush doors with block frames. CE-certified, load capacity 120 kg, knuckle length 160 mm, knuckle diameter 22.5 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Installation Tools
- **Jig**
- **Universal milling frame**
- **Template for universal milling frame**
- **No. 5 250561 5**
- **Detailed information at www.bandsysteme.com**

Finish
See page 34 for the range of finishes.

Note
- Version available with non removable pin (MSTS).
- A reinforcing dowel 12.0x50.0 mm per hinge leaf is recommended when the door is subject to heavy usage.
- The hinge system can also be used on blind frames.
- Page 32 contains detailed information about the load capacity stated above.

Functional range
- Fire resistance, Smoke resistance

Quality marks
- CE
- ift
SIMONSWERK
VARIANT® VN

VN 5959/160 N
for rebated flush heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>rebated flush</th>
<th>up to 120 kg</th>
</tr>
</thead>
</table>

Technical Details
Load capacity 120.0 kg
Knuckle length 160.0 mm
Knuckle diameter 22.5 mm
Hole / pin diameter 10.0 mm
Material thickness 3.5 mm
Cutter diameter 24.0 mm
Screw length 5.0x50.0 mm

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 5959/160 N for rebated flush doors with block frames. CE-certified, load capacity 120 kg, knuckle length 160 mm, knuckle diameter 22.5 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Installation Tools
Jig
Template for universal milling frame
Frame: No. 5 250578 6
Door: No. 5 250577 6

Detailed information at www.bandsysteme.com

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
A reinforcing dowel 12.0x50.0 mm per hinge leaf is recommended when the door is subject to heavy usage.
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks

ZERTIFIZIERT
Quality marks
HEAVY DUTY DOOR
SIMONSWERK VARIANT® VN

VN 3849/100
for unrebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>unrebated</th>
<th>up to 80 kg</th>
</tr>
</thead>
</table>

**Technical Details**
- Load capacity: 80.0 kg
- Knuckle length: 95.0 mm
- Knuckle diameter: 20.0 mm
- Hole / pin diameter: 10.0 mm
- Material thickness: 3.5 mm
- Cutter diameter: 24.0 mm
- Screw length: 5.0x50.0 mm

**Descriptive Text**
SIMONSWERK VARIANT heavy duty hinge VN 3849/100 for unrebated doors with block frames. CE-certified, load capacity 80 kg, knuckle length 95 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

**Installation Tools**
- Jig: Universal milling frame
- Template for universal milling frame: No. 5 250565 5
- Detailed information at www.bandsysteme.com

**Finish**
See page 34 for the range of finishes.

**Note**
Version available with non removable pin (MSTS).
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

**Functional range**
Fire resistance, Smoke resistance

**Quality marks**

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www.obchod.luxusnikovani.cz
**SIMONSWERK**

**VARIANT® VN**

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**VN 2929/100**

for unrebad heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>unrebad</th>
<th>up to 100 kg</th>
</tr>
</thead>
</table>

**Technical Details**

- Load capacity: 100.0 kg
- Knuckle length: 95.0 mm
- Knuckle diameter: 20.0 mm
- Hole / pin diameter: 10.0 mm
- Material thickness: 3.5 mm
- Cutter diameter: 24.0 mm
- Screw length: 5.0x50.0 mm

**Descriptive Text**

SIMONSWERK VARIANT heavy duty hinge VN 2929/100 for unrebad doors with block frames. CE-certified, load capacity 100 kg, knuckle length 95 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

**Installation Tools**

- Jig: Universal milling frame
- Template for universal milling frame: No. S 250565 S
- Detailed information at www.bandsysteme.com

**Finish**

See page 34 for the range of finishes.

**Note**

Version available with non removable pin (MSTS).
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

**Functional range**

- Fire resistance
- Smoke resistance

**Quality marks**

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www.obchod.luxusnikovani.cz
** VN 3949/100 **

for unrebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>unrebated</th>
<th>up to 100 kg</th>
</tr>
</thead>
</table>

** Technical Details **

- **Load capacity**: 100.0 kg
- **Knuckle length**: 95.0 mm
- **Knuckle diameter**: 20.0 mm
- **Hole / pin diameter**: 10.0 mm
- **Material thickness**: 3.5 mm
- **Cutter diameter**: 24.0 mm
- **Screw length**: 5.0x50.0 mm

** Descriptive Text **

SIMONSWERK VARIANT heavy duty hinge VN 3949/100 for unrebated doors with block frames with SIMONSWERK VARIANT clamping block V 3604 or SIMONSWERK VARIANT clamp V 3605. CE-certified, load capacity 100 kg, knuckle length 95 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

** Combination **

- **Receiver**: Clamping block V 3604
- **Clamp**: V 3605

See page 22 and following

** Installation Tools **

- **Jig**: Universal milling frame
- **Template for universal milling frame**: No. 5 250565 5
- **Detailed information at www.bandsysteme.com**

** Finish **

See page 34 for the range of finishes.

** Note **

- Version available with non removable pin (MSTS).
- The hinge system can also be used on blind frames.
- Page 32 contains detailed information about the load capacity stated above.

** Functional range **

- Fire resistance, Smoke resistance

** Quality marks **

[Quality mark images]
SIMONSWERK
VARIANT® VN

VN 8849/100
for unrebated heavy-duty doors with steel frames

<table>
<thead>
<tr>
<th>Steel frame</th>
<th>unrebated</th>
<th>up to 100 kg</th>
</tr>
</thead>
</table>

Technical Details
- Load capacity: 100.0 kg
- Knuckle length: 95.0 mm
- Knuckle diameter: 20.0 mm
- Hole / pin diameter: 10.0 mm
- Material thickness: 3.5 mm
- Cutter diameter: 24.0 mm
- Screw length: 5.0x50.0 mm

Descriptive Text
SIMONSWERK VARIANT heavy duty hinge VN 8849/100 for unrebated doors with steel frames with SIMONSWERK VARIANT receiver V 8600 or V 8610. CE certified, load capacity 100 kg, knuckle length 95 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

Combination
Receiver | Hinge pocket V 8600, V 8610
See page 22 and following

Installation Tools
- Jig | Universal milling frame
- Template for universal milling frame | No. 5 250565 5
Detailed information at www.bandsysteme.com

Finish
See page 34 for the range of finishes.

Note
Version available with non removable pin (MSTS).
Please consider DIN reference.
Page 32 contains detailed information about the load capacity stated above.

Functional range
Fire resistance, Smoke resistance

Quality marks

Toto kování zakoupíte u společnosti EFB spol. s r.o.
www.obchod.luxusnikovani.cz
**VN 2929/120**

for unrebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>unrebated</th>
<th>up to 120 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load capacity</td>
<td>120.0 kg</td>
<td></td>
</tr>
<tr>
<td>Knuckle length</td>
<td>120.0 mm</td>
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</tr>
<tr>
<td>Knuckle diameter</td>
<td>20.0 mm</td>
<td></td>
</tr>
<tr>
<td>Hole / pin diameter</td>
<td>10.0 mm</td>
<td></td>
</tr>
<tr>
<td>Material thickness</td>
<td>3.5 mm</td>
<td></td>
</tr>
<tr>
<td>Cutter diameter</td>
<td>24.0 mm</td>
<td></td>
</tr>
<tr>
<td>Screw length</td>
<td>5.0x50.0 mm</td>
<td></td>
</tr>
</tbody>
</table>

**Technical Details**

SIMONSWERK VARIANT heavy duty hinge VN 2929/120 for unrebated doors with block frames. CE-certified, load capacity 120 kg, knuckle length 120 mm, knuckle diameter 20 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

**Installation Tools**

- Universal milling frame
- Template for universal milling frame No. 5 250354.5

Detailed information at www.bandsysteme.com

**Finish**

See page 34 for the range of finishes.

**Note**

Version available with non removable pin (MSTS).
A reinforcing dowel 12.0x50.0 mm per hinge leaf is recommended when the door is subject to heavy usage.
The hinge system can also be used on blind frames.
Page 32 contains detailed information about the load capacity stated above.

**Functional range**

Fire resistance, Smoke resistance

**Quality marks**

See page 34 for the range of finishes.
**SIMONSWERK**
**VARIANT® VN**

**VN 2927/160 Planum**
with reduced, slim knuckle for unrebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>unrebated</th>
<th>up to 160 kg</th>
</tr>
</thead>
</table>

**Technical Details**

- **Load capacity**: 160.0 kg
- **Knuckle length**: 160.0 mm
- **Knuckle diameter**: 15.0 mm
- **Material thickness**: 3.0 mm
- **Cutter diameter**: 24.0 mm
- **Screw length**: 5.0x50.0 mm

**Descriptive Text**

SIMONSWERK VARIANT heavy duty hinge VN 2927/160 Planum with reduced, slim knuckle for unrebated doors with block frames with three-dimensionally adjustable SIMONSWERK receiver UK 3D. CE-certified, load capacity 160 kg, knuckle length 160 mm, knuckle diameter 15 mm, right hand and left hand applicable. Internal, fixed hinge pin, concealed, maintenance-free axial-radial slide bearings. Finish...

**Combination**

- **Receiver**: UK 3D
- **UK 3D T30**

see page 30 and following

**Installation Tools**

- **Jig**: Universal milling frame
- **Template for universal milling frame**: Frame: No. 5 250353 5
  Door: No. 5 250358 6

Detailed information at www.bandsysteme.com

**Finish**

See page 34 for the range of finishes.

**Note**

Adapted for the installation of doors within the project sector the slimline, diameter-reduced hinge knuckle is ideal for slim, recessed frame facings. A reinforcing dowel 12.0x50.0 mm per hinge is recommended when the door is subject to heavy usage. The hinge system can also be used on blind frames. Page 32 contains detailed information about the load capacity stated above.

**Functional range**

Fire resistance, Smoke resistance

**Quality marks**

![CE](image_url)
**VN 2929/160**

for unrebated heavy-duty doors with block frames

<table>
<thead>
<tr>
<th>Block frame</th>
<th>unrebated</th>
<th>up to 160 kg</th>
</tr>
</thead>
</table>

**Technical Details**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Load capacity</td>
<td>160.0 kg</td>
</tr>
<tr>
<td>Knuckle length</td>
<td>160.0 mm</td>
</tr>
<tr>
<td>Knuckle diameter</td>
<td>22.5 mm</td>
</tr>
<tr>
<td>Hole / pin diameter</td>
<td>10.0 mm</td>
</tr>
<tr>
<td>Material thickness</td>
<td>3.5 mm</td>
</tr>
<tr>
<td>Cutter diameter</td>
<td>24.0 mm</td>
</tr>
<tr>
<td>Screw length</td>
<td>5.0 x 50.0 mm</td>
</tr>
</tbody>
</table>

**Descriptive Text**

SIMONSWERK VARIANT heavy duty hinge VN 2929/160 for unrebated doors with block frames. CE-certified, load capacity 160 kg, knuckle length 160 mm, knuckle diameter 22.5 mm, right hand and left hand applicable. Internal, torsion-proof pin, concealed, maintenance-free, generously dimensioned axial-radial slide bearings. Finish...

**Installation Tools**

- Jig: Universal milling frame
- Template for universal milling frame: No. 5 250353 5
- Detailed information at www.bandsysteme.com

**Finish**

See page 34 for the range of finishes.

**Note**

Version available with non removable pin (MSTS).

A reinforcing dowel 12.0x50.0 mm per hinge leaf is recommended when the door is subject to heavy usage.

The hinge system can also be used on blind frames.

Page 32 contains detailed information about the load capacity stated above.

**Functional range**

Fire resistance, Smoke resistance

**Quality marks**

![Quality marks]
**VARIANT V 3604/18.5**

Clamping block for block frames and blind frames

<table>
<thead>
<tr>
<th>VARIANT V</th>
<th>Block frame</th>
<th>Clamping block</th>
</tr>
</thead>
</table>

**Technical Details**

- **Cutter diameter**: 12.0 mm

**Combination**

- **Hinge**: VARIANT VN
- **Combination**: VN 3949/100, VN 3939/100, VN 3939/100 FD, VN 3939/100 FV, VN 3939/100 FV FD, VN 3938/160, VN 3938/160 FD

**Installation Tools**

- **Serial routing jig clamping block**: VARIANT V 3604
- **Drilling/routing jig**: VARIANT V 3604

Detailed information at www.bandsysteme.com

**Finish**

- Galvanised, yellow galvanised

---

**VARIANT V 3605**

Clamp for block frames and blind frames

<table>
<thead>
<tr>
<th>VARIANT V</th>
<th>Block frame</th>
<th>Clamp</th>
</tr>
</thead>
</table>

**Technical Details**

- **Cutter diameter**: 12.0 mm

**Combination**

- **Hinge**: VARIANT VN
- **Combination**: See V 3604/18.5

**Accessories**

- **Cover cap**: V 3605

**Installation Tools**

- **Drilling/routing jig**: VARIANT V 3605

Detailed information at www.bandsysteme.com

**Finish**

- Galvanised

---

Toto kování zakoupíte u společnosti EFB spol. s r.o.
www.obchod.luxusnikovani.cz
**VARIANT V 3600 series**

Hinge pocket for timber frames

**VARIANT V**

<table>
<thead>
<tr>
<th>Casing frame</th>
<th>Hinge pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
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</table>

**Combination**

<table>
<thead>
<tr>
<th>Hinge</th>
<th>Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARIANT VN</td>
<td>VN 3939/100, VN 3939/100 FD</td>
</tr>
<tr>
<td></td>
<td>VN 3939/100 FV, VN 3939/100 FV FD</td>
</tr>
<tr>
<td></td>
<td>VN 3938/160, VN 3938/160 FD</td>
</tr>
</tbody>
</table>

**Accessories**

| Cover cap 10 mm |

**Installation Tools**

<table>
<thead>
<tr>
<th>Jig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial drilling jig VARIANT V metal pocket</td>
</tr>
<tr>
<td>Plastic drilling jig VARIANT V</td>
</tr>
<tr>
<td>Rebate hole drilling jig VARIANT V</td>
</tr>
</tbody>
</table>

Detailed information at [www.bandsysteme.com](http://www.bandsysteme.com)

**Types**

<table>
<thead>
<tr>
<th>Hinge pocket</th>
<th>Types</th>
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<tbody>
<tr>
<td>V 3600/9.8</td>
<td>V 3600/5.8 (Installation height 5.8 mm), V 3603/7.8 (Installation height 7.8 mm)</td>
</tr>
</tbody>
</table>

Detailed information on model variants at [www.bandsysteme.com](http://www.bandsysteme.com)

---

**VARIANT V 3610 series**

Hinge pocket for timber frames

**VARIANT V**

<table>
<thead>
<tr>
<th>Casing frame</th>
<th>Hinge pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Combination**

<table>
<thead>
<tr>
<th>Hinge</th>
<th>Combination</th>
</tr>
</thead>
<tbody>
<tr>
<td>VARIANT VN</td>
<td>See series V 3600</td>
</tr>
</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Reinforcing plate V 3610</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover cap 10 mm</td>
</tr>
</tbody>
</table>

**Installation Tools**

<table>
<thead>
<tr>
<th>Jig</th>
</tr>
</thead>
<tbody>
<tr>
<td>See series V 3600</td>
</tr>
</tbody>
</table>

**Types**

<table>
<thead>
<tr>
<th>Hinge pocket</th>
<th>Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>V 3611/5.8</td>
<td>V 3612/7.8 (Installation height 7.8 mm), V 3613/8.8 (Installation height 8.8 mm), V 3614/9.8 (Installation height 9.8 mm)</td>
</tr>
</tbody>
</table>

Detailed information on model variants at [www.bandsysteme.com](http://www.bandsysteme.com)

**Finish**

Galvanised

**Note**

Hinge pockets are individually specified according to reference height and tube lengths, upon request. The clamping system matches with the frame parts VARIANT by exactly coordinated dovetailing. Only this combination guarantees a high clamping effect and pull-out strength. Please specify frame-line width when ordering jigs.
VARIANT V 3630 series
Hinge pocket for timber frames

<table>
<thead>
<tr>
<th>Combination</th>
<th>Hinge pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hinge</td>
<td>VARIANT VN</td>
</tr>
<tr>
<td></td>
<td>VN 3939/100</td>
</tr>
<tr>
<td></td>
<td>VN 3939/100 FD</td>
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<tr>
<td></td>
<td>VN 3939/100 FV</td>
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<tr>
<td></td>
<td>VN 3939/100 FV FD</td>
</tr>
<tr>
<td></td>
<td>VN 3938/160</td>
</tr>
<tr>
<td></td>
<td>VN 3938/160 FD</td>
</tr>
</tbody>
</table>

| Accessories | Cover cap 10 mm |

<table>
<thead>
<tr>
<th>Installation Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jig</td>
</tr>
<tr>
<td>Plastic drilling jig VARIANT V</td>
</tr>
<tr>
<td>Rebate hole drilling jig VARIANT V</td>
</tr>
<tr>
<td>Serial drilling jig VARIANT plastic pocket</td>
</tr>
</tbody>
</table>

Detailed information at www.bandsysteme.com

<table>
<thead>
<tr>
<th>Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hinge pocket</td>
</tr>
<tr>
<td>V 3630/5.0-14.5</td>
</tr>
<tr>
<td>(Installation height 5.0 mm, tube length 14.5 mm)</td>
</tr>
<tr>
<td>V 3631/5.8-14.5</td>
</tr>
<tr>
<td>(Installation height 5.8 mm, tube length 14.5 mm)</td>
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<tr>
<td>V 3632/6.8-14.5</td>
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<tr>
<td>(Installation height 6.8 mm, tube length 14.5 mm)</td>
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<tr>
<td>V 3633/7.8-14.5</td>
</tr>
<tr>
<td>(Installation height 7.8 mm, tube length 14.5 mm)</td>
</tr>
</tbody>
</table>

Detailed information on model variants at www.bandsysteme.com

Finish
Jet black

Note
Hinge pockets are individually specified according to reference height and tube lengths, upon request. The clamping system matches with the frame parts VARIANT by exactly coordinated dovetailing. Only this combination guarantees a high clamping effect and pull-out strength. Please specify frame-line width when ordering jigs.
VARIANT V 3650 series
Hinge pocket for timber frames

VARIANT V
<table>
<thead>
<tr>
<th>Casing frame</th>
<th>Hinge pocket</th>
</tr>
</thead>
</table>

Combination
<table>
<thead>
<tr>
<th>Hinge</th>
<th>VARIANT VN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VN 3939/100</td>
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<tr>
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<td>VN 3939/100 FD</td>
</tr>
<tr>
<td></td>
<td>VN 3939/100 FV</td>
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<td>VN 3939/100 FV FD</td>
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<tr>
<td></td>
<td>VN 3938/160</td>
</tr>
<tr>
<td></td>
<td>VN 3938/160 FD</td>
</tr>
</tbody>
</table>

Accessories
| Cover cap 10 mm |

Installation Tools
<table>
<thead>
<tr>
<th>Jig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic drilling jig VARIANT V</td>
</tr>
<tr>
<td>Rebate hole drilling jig VARIANT V</td>
</tr>
<tr>
<td>Serial drilling jig VARIANT plastic pocket</td>
</tr>
</tbody>
</table>

Detailed information at www.bandsysteme.com

Types
<table>
<thead>
<tr>
<th>Hinge pocket</th>
<th>V 3653/8-0.13 5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(Installation height 8.0 mm, tube length 13.5 mm)</td>
</tr>
<tr>
<td></td>
<td>V 3653/8-0.14 5</td>
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<tr>
<td></td>
<td>(Installation height 8.0 mm, tube length 14.5 mm)</td>
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</table>

Detailed information on model variants at www.bandsysteme.com

Finish
Jet black

Note
Hinge pockets are individually specified according to reference height and tube lengths, upon request. The clamping system matches with the frame parts VARIANT by exactly coordinated dovetailing. Only this combination guarantees a high clamping effect and pull-out strength. Please specify frame-line width when ordering jigs.
VARIANT V 3690 series
Hinge pocket for timber frames

<table>
<thead>
<tr>
<th>VARIANT V</th>
<th>Casing frame</th>
<th>Hinge pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination</td>
<td>VARIANT VN</td>
<td>VN 3939/100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 3939/100 FD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 3939/100 FV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 3939/100 FV FD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 3938/160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 3938/160 FD</td>
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</tbody>
</table>

Accessories
Reinforcing plate V 3690
Cover cap 10 mm

Installation Tools
Jig
On request

Types
Hinge pocket
V 3692/7.8-14.5
(Installation height 7.8 mm, tube length 14.5 mm)
V 3693/9.0-16.5
(Installation height 9.0 mm, tube length 16.5 mm)

Detailed information on model variants at www.bandsysteme.com

Finish
Galvanised

Note
Hinge pockets are individually specified according to reference height and tube lengths, upon request. The clamping system matches with the frame parts VARIANT by exactly coordinated dovetailing. Only this combination guarantees a high clamping effect and pull-out strength. Please specify frame-line width when ordering jigs.
### VARIANT V 8600
weld-in pocket for steel frames

<table>
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<th>Steel frame</th>
<th>Hinge pocket</th>
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<tbody>
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<td>Hinge</td>
<td>VARIANT VN</td>
<td>VN 8939/100</td>
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<td>VN 8947/160 U 3D</td>
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</table>

### Finish
Galvanised

### Note
Plaster-proof design with a retractable clamping- and centre piece
VARIANT V 8610
weld-in pocket for steel frames

<table>
<thead>
<tr>
<th>Combination</th>
<th>Steel frame</th>
<th>Hinge pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hinge</td>
<td>VARIANT VN</td>
<td>VN 8939/100</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>VN 8938/160</td>
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<tr>
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<td>VN 8938/160 FD</td>
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<td>VN 8947/160</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 8947/160 U 3D</td>
</tr>
<tr>
<td></td>
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<td>VN 8947/160 U FD</td>
</tr>
</tbody>
</table>

Finish
Galvanised

Note
Plaster-proof design with a retractable clamping- and centre piece
GLOBUS UK 3D rebate
for rebated timber doors

GLOBUS || Receiver

Technical Details
Cutter diameter 24.0 mm

Descriptive Text
SIMONSWERK receiver UK 3D rebated in door leaf for rebated timber doors with SIMONSWERK heavy-duty hinges GLOBUS with three-dimensional adjustment and heavy-duty hinges VARIANT VN 3737/160 3D, VN 8937/160 U 3D. Three-dimensionally, continuously adjustable: Side +/- 3.0 mm, height +/- 2.5 mm, compression +/- 1.0 mm. Finish...

Combination
Heavy duty hinge | VARIANT VN | VN 3737/160 3D
| | VN 8937/160 U 3D
| | GLOBUS | On request

Installation Tools
Jig | Universal milling frame
Template for universal milling frame | No. 5 250358 6
Detailed information at www.bandsysteme.com

Finish
Galvanised, nickelled, powder coated
SIMONSWERK RECEIVERS

GLOBUS UK 3D
for unrebated timber doors

**Technical Details**

| Cutter diameter | 24.0 mm |

**Descriptive Text**

SIMONSWERK receiver UK 3D in door leaf for unrebated timber doors with SIMONSWERK heavy-duty hinges GLOBUS with three-dimensional adjustment and heavy-duty hinges VARIANT VN 2927/160 Planum, VN 3747/160 3D, VN 8947/160 U 3D. Three-dimensionally, continuously adjustable: Side +/- 3.0 mm, height +/- 2.5 mm, compression +/- 1.0 mm. Finish...

**Combination**

<table>
<thead>
<tr>
<th>Heavy duty hinge</th>
<th>VARIANT VN</th>
</tr>
</thead>
<tbody>
<tr>
<td>VN 2927/160 Planum</td>
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<tr>
<td>VN 3747/160 3D</td>
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</tr>
<tr>
<td>VN 8947/160 U 3D</td>
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<tr>
<td>GLOBUS</td>
<td>On request</td>
</tr>
</tbody>
</table>

**Installation Tools**

<table>
<thead>
<tr>
<th>Jig</th>
<th>Universal milling frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Template for universal milling frame</td>
<td>No. 5 250358 6</td>
</tr>
</tbody>
</table>

Detailed information at www.bandsysteme.com

**Finish**

Galvanised, nickelled, satin chromed/F 1, powder coated
**GLOBUS UK 3D T30**

for rebated and unrebated fire resistant doors

<table>
<thead>
<tr>
<th>GLOBUS Receiver</th>
</tr>
</thead>
</table>

**Technical Details**

Cutter diameter: 24.0 mm

**Descriptive Text**

SIMONSWERK receiver UK 3D T30 in door leaf for rebated and unrebated fire resistant doors with SIMONSWERK heavy-duty hinges GLOBUS with three-dimensional adjustment and heavy-duty hinges VARIANT VN 2927/160 Planum, VN 3737/160 3D, VN 3747/160 3D, VN 8937/160 U 3D, VN 8947/160 U 3D. Three-dimensionally, continuously adjustable: Side +/- 3.0 mm, height +/- 2.5 mm, compression +/- 1.0 mm. Finish...

**Combination**

<table>
<thead>
<tr>
<th>Heavy duty hinge</th>
<th>VARIANT VN</th>
<th>VN 2927/160 Planum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>VN 3737/160 3D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 3747/160 3D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 8937/160 U 3D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VN 8947/160 U 3D</td>
</tr>
<tr>
<td>GLOBUS Receiver</td>
<td></td>
<td>On request</td>
</tr>
</tbody>
</table>

**Installation Tools**

Jig: On request

**Finish**

Galvanised, nickelled, satin chromed/F 1, powder coated

**Functional range**

Fire resistance, Smoke resistance
HINGE LOAD CAPACITY

Selection criteria

When selecting or defining a hinge, the load itself is often equated to the door weight. However, due to a number of different factors, the load on the hinge can often be many times more than the door weight.

Even when all these different criteria have been considered, an additional reserve should always be calculated when selecting the hinge. This is especially relevant in public buildings, where particular loads occur because it’s not always possible to calculate the high frequency of opening and usage (schools, housing developments etc.), the hinges should be upgraded by size, even if this is unnecessary based purely on the door weight.

Ultimately a hinge is only as good as its subsequent application. That’s why proper fitting and professional installation are absolutely essential. Only hinges that are fixed correctly can fulfil their designated function.

The material strength of the component to be fitted and the force-fit connection to the brickwork or frame is the basis for the respective hinge function. We are happy to help should you have any questions regarding the right hinge selection for a specific case.

Third hinge

In addition to the factors described above, the use of a third hinge can have a significant impact on the load capacity. However, it’s important to bear in mind that the stated capacity cannot simply be multiplied by a factor of 1.5. The load capacity can only be influenced positively if a 3rd hinge is used in the upper third. SIMONSWERK recommends that a 3rd hinge is used 370 mm below the top hinge (based on the upper hinge reference line). This will increase the stated load capacity by approx. 30%.

Extra wide doors

SIMONSWERK heavy-duty hinges are generally designed for the stated load capacities. Please note that from a door width of 100 cm, when the hinge spacing remains constant, the load capacities are reduced as a percentage to the extent by which the 100 cm door width is exceeded (e.g. door width of 125 cm = load capacity / 25%). An accurate, professional fitting in accordance with the SIMONSWERK installation instructions is always a prerequisite.

The load specifications for SIMONSWERK hinges refer to a maximum door weight, in consideration of the named factors that influence the load on the hinges.

All specifications are based on the following references:

<table>
<thead>
<tr>
<th>Door leaf size</th>
<th>1000 x 2000 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of</td>
<td>2 hinges</td>
</tr>
<tr>
<td>Hinge spacing</td>
<td>1435 mm</td>
</tr>
</tbody>
</table>

To avoid consequential damage, the following criteria must be considered when selecting a hinge:

- Installation site (residential property, public building, school, head office, housing developments etc.)
- Element’s material type
- Frequency of opening
- Door dimensions (e.g. extra wide)
- Position of the hinges
- Installation of the hinges
- Outward opening doors (porch)
- Door stoppers
- Door closers
- Wall soffits, etc.
Reinforcing dowel (TZ)

Depending on the application area, design and door usage, the use of reinforcing dowels may be recommended to stabilise the hinge leaves. Reinforcing dowels relieve the load on the fastening screws and stabilise the hinge leaves in the door leaf hole. Hinges with a height of 160 mm or 120 mm can be fitted with an additional reinforcing dowel in the centre screw hole. The reinforcing dowel should be ordered separately. With a material thickness of 3.0 mm or 3.5 mm, the reinforcing dowel will need to be 12 x 50 mm (M 5 screw). With a material thickness of 4.0 mm, use a reinforcing dowel of 12 x 60 mm (M 6 screw).

Rebate seal

For some VN hinges, versions for acoustic seal are available on request.

Screws

The countersunk screw holes on SIMONSWERK heavy-duty hinges are designed for German chipboard screws. For use in practice we recommend screws (e.g. Spax) with a 4.5–5.0 mm diameter. On hinges with a material thickness of 4 mm, the countersunk holes are designed for a 6 mm screw diameter. The outer fastening screws for the covers in the VARIANT VN series should be at least 6 x 40 mm.

In general we recommend that screw holes are predrilled to ensure an optimum hold and thereby guarantee the stated load capacities.

Non removable pin (MSTS)

On request, all SIMONSWERK hinges with a continuous hinge pin are also available with a non removable pin, for use on outward opening doors.

Material

SIMONSWERK exclusively uses tested, high-quality materials on all its hinge versions.

Finials for VARIANT VN heavy-duty hinges

SIMONSWERK designer door hinges are showpieces for sophisticated door appearance. Highly successful on interior and exterior doors, they also “wave the flag” in the heavy-duty sector. With basic and soft finials, VARIANT VN heavy-duty hinges in 100 mm and 160 mm sizes are also available in two outstanding designs in high-quality finishes.
**APPLICATION**

**Special designs**

If you have special designs and none of the hinges featured in this catalogue are suitable, please send us a dimensioned cross sectional drawing of the component design, if possible on a 1:1 scale – ideally in CAD format, e.g. DXF. SIMONSWERK will quickly check whether any of our hinges can be modified to suit your requirements.

**Scale, scaled drawing**

All CAD drawings have been produced to scale and are shown on a scale of 1:3 (photo and technical drawing).
Scale of 1:3 corresponds to 33.3 % (exception: chapter on application technology).

**Knuckle**

VARIANT heavy-duty hinges are available in the standard dimensions of 160, 120 and 100 mm. The knuckles of the 100 and 120 mm hinges have a 20 mm, the knuckles of the 160 mm hinges a 22.5 mm diameter. There is also one ø 15 mm version as a filigree alternative for design-oriented door elements.

**Finishes for heavy-duty hinges VARIANT VN**

A wide range of finishes give planners the ability to match the various hardware components such as handles and hinges. All heavy-duty hinges are available in the „galvanised“ version. Stainless steel hinges are also available with PVD coating. Other finishes, in RAL colours for example, are available on request.

- Bronze finish dark
- Bronze finish bright
- Bronze finish polished
- Polished brassed
- Stainless steel satin brushed
- Polished stainless steel
- Satin nickelled
- Polished chromed
- Satin chromed
Corrosion protection

When selecting a suitable finish or material, corrosion protection often plays a decisive role alongside the inclusive visual image of the door and hardware. In practice it is important to have both components working in harmony, to maintain a lasting, overall impression.

The main materials and finishes from SIMONSWERK are tested in accordance with the specifications of DIN EN 1670 and are classified as follows:

<table>
<thead>
<tr>
<th>Material</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless steel</td>
<td>Class 4</td>
</tr>
<tr>
<td>Stainless steel look (aluminium)</td>
<td>Class 4</td>
</tr>
<tr>
<td>Powder coated (coloured)</td>
<td>Class 4</td>
</tr>
<tr>
<td>Top zinc</td>
<td>Class 4</td>
</tr>
<tr>
<td>Galvanised</td>
<td>Class 3</td>
</tr>
<tr>
<td>Polished chromed</td>
<td>Class 2</td>
</tr>
<tr>
<td>Satin chromed</td>
<td>Class 1</td>
</tr>
</tbody>
</table>

Class 1 = 24 hour salt spray test
Class 2 = 48 hour salt spray test
Class 3 = 96 hour salt spray test
Class 4 = 240 hour salt spray test

All other finishes not listed here satisfy only optical requirements.

In damp locations and on components exposed to the elements, we recommend the use of stainless steel hinges only, as this is the only material proved to be corrosion resistant over the long term.

Even stainless steel material can reach its limits under extreme conditions (such as coastal regions, indoor swimming pools, rooms with aggressive air, etc.). Continual maintenance will guard against the onset of light surface and flash rust. Cleaning periods depend on usage and the degree of pollution. Further information on caring for stainless steel material can be found at [www.bandsysteme.com](http://www.bandsysteme.com).

Specific material usage can improve stainless steel’s resistance to corrosion. We would be happy to advise you.
CONTAINS

SIMONSWERK
VARIANT® VN

FURTHER BRANDS MADE BY SIMONSWERK

SIMONSWERK
TECTUS®

SIMONSWERK
VARIANT® VX

SIMONSWERK
VARIANT® VG

SIMONSWERK
VARIANT® V

SIMONSWERK
BAKA®

SIMONSWERK
SIKU®

SIMONSWERK
ALPRO®

Brochure VARIANT® VN 04/2011
5 800310 0 00001/1.0

SIMONSWERK do not accept responsibility for misprints and subsequent specification changes although every effort has been made to avoid any errors during preparation of this brochure.

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