3.5 Oil level sight glasses
Level indicators
Plugs
3.5 Oil level sight glasses, Level indicators, Plugs

**GN 743**
Oil level sight glasses
Aluminium / Float-glass
→ Page 902

**GN 743.8**
Oil level sight glasses
Brass / Float-glass
→ Page 906

**GN 7490**
Welding sockets
Steel
→ Page 911

**GN 743.1**
Oil level sight glasses
Aluminium / ESG-glass
→ Page 902

**GN 743.7**
Oil level sight glasses
with conical thread
Brass / Float-glass
→ Page 906

**GN 650**
Oil level indicators
Plastic
→ Page 912

**GN 743.2**
Oil level sight glasses
Brass / Float-glass
→ Page 903

**GN 744**
Prismatic oil level sight glasses
Aluminium / Plastic
→ Page 907

**GN 650.1**
Oil level indicators
Plastic / Stainless Steel-screw
→ Page 912

**GN 743.3**
Oil level sight glasses
Brass / ESG-glass
→ Page 903

**GN 537**
Oil level sight glasses
Aluminium / Perspex
→ Page 908

**GN 650.2**
Oil level indicators
Plastic with protective housing
→ Page 913

**GN 743.4**
Oil level sight glasses
Stainless Steel / Float-glass
→ Page 904

**GN 537.1**
Pin keys for installation of GN 537
→ Page 908

**GN 650.4**
Oil level indicators
narrow shape Plastic
→ Page 914

**GN 743.5**
Oil level sight glasses
Stainless Steel / ESG-glass
→ Page 904

**GN 541**
Oil level sight glasses
Plastic
→ Page 909

**GN 745**
Threaded plugs
Plastic
→ Page 915

**GN 743.6**
ATEX-Sight glasses
Aluminium / ESG-glass
→ Page 905

**GN 543.1**
Fixing nuts for oil level sight glasses
Brass
→ Page 910

**GN 745.1**
Aluminium discs
for GN 745 neutral
→ Page 915

Stainless Steel Ergostyle Softline Cleanline Sanline ATEX ESD Inch
### 3.5 Oil level sight glasses, Level indicators, Plugs

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<th>Part No.</th>
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<td>Connector pieces for oil drain valves</td>
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<td>ATEX-Breather caps</td>
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</table>
3.5 Oil level sight glasses, Level indicators, Plugs

Oil level sight glasses GN 743 / GN 743.1 offer genuine glass of high stability and scratch proof. The sealing is achieved with an O-ring on the periphery and not on the face edge of the glass. Leak tightness is therefore not affected by axial pressures.

The outside diameter of these oil level sight glasses with recessed hexagon is chosen to match mounting holes for tube connections according to DIN 3852.

The seal is housed in a groove and it can therefore not be lost. In addition, this groove prevents the seal from being extruded when the sight glass is tightened.

Oil level sight glasses GN 743 / GN 743.1 can be used on pressurised oil tanks. Tests regarding maximum pressure are available on request.

Assembly instruction:
For mounting on walls of less than 4 mm thickness please use a fixing nut GN 543.1.

see also...
- Stainless Steel-Oil level sight glasses GN 743.5 ➔ Page 904
- ATEX-Sight glasses GN 743.6 ➔ Page 905

Information

Body
Aluminium fine turned

Contrast screen
Technopolymer (Polysulfon)

**GN 743**
- temperature resistant up to 100 °C
- Sight glass Float-glass
- Sealing ring rubber NBR (Perbunan)

**GN 743.1**
- temperature resistant up to 180 °C
- Sight glass ESG-glass
- Sealing ring rubber FPM (Viton®)

Identification by not black finish of the sealing ring

**Elastomer characteristics ➔ Page 1140**

Accessory
- Fixing nut GN 543.1 ➔ Page 910

On request
- EPDM seal

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Specifications:
- Body
  - Aluminium fine turned

- Contrast screen
  - Technopolymer (Polysulfon)

- **GN 743**
  - temperature resistant up to 100 °C
  - Sight glass Float-glass
  - Sealing ring rubber NBR (Perbunan)

- **GN 743.1**
  - temperature resistant up to 180 °C
  - Sight glass ESG-glass
  - Sealing ring rubber FPM (Viton®)

- Identification by not black finish of the sealing ring

- **Elastomer characteristics ➔ Page 1140**

- **Assembly instruction:**
  - For mounting on walls of less than 4 mm thickness please use a fixing nut GN 543.1.

- **Stainless Steel-Oil level sight glasses GN 743.5 ➔ Page 904**

- **ATEX-Sight glasses GN 743.6 ➔ Page 905**

### Table

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**Information**

- Oil level sight glasses GN 743 / GN 743.1 offer genuine glass of high stability and scratch proof. The sealing is achieved with an O-ring on the periphery and not on the face edge of the glass. Leak tightness is therefore not affected by axial pressures.

- The outside diameter of these oil level sight glasses with recessed hexagon is chosen to match mounting holes for tube connections according to DIN 3852.

- The seal is housed in a groove and it can therefore not be lost. In addition, this groove prevents the seal from being extruded when the sight glass is tightened.

- Oil level sight glasses GN 743 / GN 743.1 can be used on pressurised oil tanks. Tests regarding maximum pressure are available on request.

**Assembly instruction:**

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- **Stainless Steel-Oil level sight glasses GN 743.5 ➔ Page 904**

- **ATEX-Sight glasses GN 743.6 ➔ Page 905**

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- **Stainless Steel-Oil level sight glasses GN 743.5 ➔ Page 904**

- **ATEX-Sight glasses GN 743.6 ➔ Page 905**

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- **Stainless Steel-Oil level sight glasses GN 743.5 ➔ Page 904**

- **ATEX-Sight glasses GN 743.6 ➔ Page 905**

### Table

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GN 743.2 | GN 743.3
Oil level sight glasses
Brass / Natural glass

Oil level sight glasses GN 743.2 / GN 743.3 offer genuine glass of high stability and scratch proof. The sealing is achieved with an O-ring on the periphery and not on the face edge of the glass. Leak tightness is therefore not affected by axial pressures.

The outside diameter of these oil level sight glasses with recessed hexagon is chosen to match mounting holes for tube connections according to DIN 3852.

The seal is housed in a groove and it can therefore not be lost. In addition, this groove prevents the seal from being extruded when the sight glass is tightened.

Oil level sight glasses GN 743.2 / GN 743.3 can be used on pressurised oil tanks. Tests regarding maximum pressure are available on request.

Assembly instruction:
For mounting on walls of less than 4 mm thickness please use a fixing nut GN 543.1.

see also...
- Stainless Steel-Oil level sight glasses GN 743.5 → Page 904
- ATEX-Sight glasses GN 743.6 → Page 905

### Specification
- **Body**
  - Brass
  - CuZn40Pb2
- **Contrast screen**
  - Technopolymer (Polysulfon)
- **GN 743.2**
  - temperature resistant up to 100 °C
  - Sight glass Float-glass
  - Sealing ring rubber NBR (Perbunan)
- **GN 743.3**
  - temperature resistant up to 180 °C
  - Sight glass ESG-glass
  - Sealing ring rubber FPM (Viton®)
- Identification by not black finish of the sealing ring
- **Elastomer characteristics → Page 1140**
- **RoHS compliant**

### Accessory
- Fixing nut GN 543.1 → Page 910

### Information

**Oil level sight glass**

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**Oil level sight glass**

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**Type**
- A with contrast screen
- B without contrast screen
Stainless Steel-Oil level sight glasses

GN 743.4
up to 100 °C

GN 743.5
up to 180 °C

Natural glass

Stainless Steel-Oil level sight glasses GN 743.4 / GN 743.5 offer genuine glass of high stability and scratch proof. The sealing is achieved with an O-ring on the periphery and not on the face edge of the glass. Leak tightness is therefore not affected by axial pressures.

The outside diameter of these oil level sight glasses with recessed hexagon is chosen to match mounting holes for tube connections according to DIN 3852.

The seal is housed in a groove and it can therefore not be lost. In addition, this groove prevents the seal from being extruded when the sight glass is tightened.

Stainless Steel-Oil level sight glasses GN 743.4 / GN 743.5 can be used on pressurised oil tanks. Tests regarding maximum pressure are available on request.

see also...

š Oil level sight glasses GN 743 / GN 743.1 (Alu-Body) → Page 902
š Oil level sight glasses GN 743.2 / GN 743.3 (Brass-Body) → Page 903

**Specification**

- **Body**
  - Stainless Steel AISI 303
- **Circlip**
  - Stainless Steel AISI 301
- **GN 743.4**
  - temperature resistant up to 100° C
  - Sight glass Float-glass
  - Sealing ring rubber NBR (Perbunan)
- **GN 743.5**
  - temperature resistant up to 180° C
  - Sight glass ESG-glass
  - Sealing ring rubber FPM (Viton®)
  - Identification by not black finish of the sealing ring
- **Elastomer characteristics → Page 1140**
- **Stainless Steel characteristics → Page 1144**
- **RoHS compliant**

**Information**

On request
- **EPDM seal**

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**Stainless Steel-Oil level sight glass**

GN 743.4-14-G\(\frac{3}{8}\)-B

**Stainless Steel-Oil level sight glass**

GN 743.5-24-G1-B
ATEX-Sight glasses GN 743.6 are suitable for use in an explosion risk environment. They comply with the guidelines 94/9/EG. Detailed documentation is available and forms part of an order for this product. A detailed operating instruction is included.

Further salient points of the oil level sight glasses GN 743.6 are:

- Genuine glass of high stability and scratch proof. The sealing is achieved with an O-ring on the periphery and not on the face edge of the glass. Leak tightness is therefore not affected by axial pressures.
- The sealing ring is embedded in a radial groove and cannot drop out, nor can it be extruded when tightening torque is applied.
- Sight glasses GN 743.6 can be used on pressurised oil tanks. Tests regarding maximum pressure are available on request.

Assembly instruction:
For mounting on walls of less than 4 mm thickness please use a fixing nut GN 543.1.

**Specification**

- Body
  - Aluminium
  - Surface fine turned
- Sight glass
  - ESG-glass
- Sealing ring
  - rubber FPM (Viton®)
- Circlip
  - Stainless Steel AISI 301
- Temperature range:
  - -20 °C up to +150 °C
- Elastomer characteristics → Page 1140
- Stainless Steel characteristics → Page 1144

**Information**

**Accessories**

- Fixing nuts GN 543.1 → Page 910
- EPDM seal

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</table>

**How to order**

GN 743.6-18-G¾

1. d₁
2. d₂
GN 743.7
up to 100 °C

GN 743.8
up to 180 °C

Oil level sight glasses
with conical thread

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### Speciﬁcation

- **Body**
  - Brass: CuZn40Pb2
- **Contrast screen**
  - Technopolymer (Polysulfon)
- **GN 743.7**
  - temperature resistant up to 100 °C
  - Sight glass Float-glass
  - O-Ring rubber NBR (Perbunan)
- **GN 743.8**
  - temperature resistant up to 180 °C
  - Sight glass ESG-glass
  - O-Ring rubber FPM (Viton®)
  - Identification by not black ﬁnish of the sealing ring
- **Elastomer characteristics → Page 1140**
- **RoHS compliant**

### Information

The conical thread of the oil level sight glasses GN 743.7 / GN 743.8 makes a metallic seal possible. When tightening the conical male thread R it blocks itself with the appropriate cylindrical female thread Rp. With the datum plane a the R-male thread has the same thread diameter as the Rp-female thread, so that it can be screwed in by hand. The strong tightening by means of a tool increases the length of engagement and seals the screw connection. Additionally a sealant (hemp or teflon band) is usually used. The R-thread is „roughened“, so that the sealant does not shift when screwing in.

**see also...**

- **More characteristics of these oil level sight glasses**
  - see GN 743.2 / GN 743.3 → Page 903

### Table

<table>
<thead>
<tr>
<th>d₁</th>
<th>d₂</th>
<th>a</th>
<th>d₃</th>
<th>d₄</th>
<th>e</th>
<th>l₁</th>
<th>l₂</th>
<th>l₃</th>
<th>s</th>
<th>p</th>
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<tbody>
<tr>
<td>11</td>
<td>R ½</td>
<td>6,4</td>
<td>16,7</td>
<td>Rp ½</td>
<td>22</td>
<td>13</td>
<td>6</td>
<td>10,1</td>
<td>19</td>
<td>1,34</td>
</tr>
<tr>
<td>11</td>
<td>¾ NPT</td>
<td>6,1</td>
<td>17,1</td>
<td>¾ NPT</td>
<td>22</td>
<td>15</td>
<td>6</td>
<td>-</td>
<td>19,1</td>
<td>1,41</td>
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<tr>
<td>14</td>
<td>R ½</td>
<td>8,2</td>
<td>21</td>
<td>Rp ½</td>
<td>27,5</td>
<td>17</td>
<td>7</td>
<td>13,2</td>
<td>24</td>
<td>1,81</td>
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<tr>
<td>14</td>
<td>½ NPT</td>
<td>8,1</td>
<td>21,2</td>
<td>½ NPT</td>
<td>27,5</td>
<td>16</td>
<td>7</td>
<td>-</td>
<td>23,8</td>
<td>1,81</td>
</tr>
<tr>
<td>18</td>
<td>R ¼</td>
<td>9,5</td>
<td>26,4</td>
<td>Rp ¼</td>
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<td>18</td>
<td>8</td>
<td>14,5</td>
<td>27</td>
<td>1,81</td>
</tr>
<tr>
<td>18</td>
<td>¾ NPT</td>
<td>8,6</td>
<td>26,6</td>
<td>¾ NPT</td>
<td>33</td>
<td>18</td>
<td>8</td>
<td>-</td>
<td>28,6</td>
<td>1,81</td>
</tr>
<tr>
<td>24</td>
<td>R 1</td>
<td>10,4</td>
<td>33,2</td>
<td>Rp 1</td>
<td>40,5</td>
<td>21</td>
<td>9</td>
<td>16,8</td>
<td>36</td>
<td>2,30</td>
</tr>
<tr>
<td>24</td>
<td>1 NPT</td>
<td>10,2</td>
<td>33,7</td>
<td>1 NPT</td>
<td>41,5</td>
<td>22</td>
<td>8</td>
<td>-</td>
<td>34,9</td>
<td>2,21</td>
</tr>
<tr>
<td>32</td>
<td>R 1 ¼</td>
<td>12,7</td>
<td>42</td>
<td>Rp 1 ¼</td>
<td>53</td>
<td>24</td>
<td>9</td>
<td>19,1</td>
<td>46</td>
<td>2,30</td>
</tr>
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<td>32</td>
<td>1 ¼ NPT</td>
<td>10,7</td>
<td>42,2</td>
<td>1 ¼ NPT</td>
<td>51,5</td>
<td>23</td>
<td>9</td>
<td>-</td>
<td>44,5</td>
<td>2,21</td>
</tr>
</tbody>
</table>

---

**On request**

- EPDM O-rings

---

**Elastomer characteristics → Page 1140**
Prismatic oil level sight glasses GN 744 use the so called prismatic effect of a cat’s eye to display the oil level unaffected by oil colour or oil viscosity. The advantage of this effect is particularly obvious in the case of under or overfilling or for inspection under unfavourable light conditions.

The seal is housed in a radial groove in the aluminium body and hence cannot be lost. In addition it cannot be extruded when thinning the sight glass.

Oil level sight glasses GN 744 can also be used on pressurised tanks. Data of pressure an vacuum pressure tests is available.

Assembly instruction:
For mounting on walls of less than 4 mm thickness please use a fixing nut GN 543.1.

### Specification
- **Body**
  - Aluminium
  - fine turned
- **Sight glass**
  - Plastic
  - crystal-clear Polyamide (PA-T)
  - temperature resistant up to 110 °C
- **Sealing ring**
  - rubber NBR (Perbunan)
- **Elastomer characteristics** → Page 1140
- **Plastic characteristics** → Page 1141

### Information

<table>
<thead>
<tr>
<th>d₁</th>
<th>d₂</th>
<th>d₃</th>
<th>l₁</th>
<th>l₂</th>
<th>s</th>
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<tbody>
<tr>
<td>14</td>
<td>G ½</td>
<td>M 20 x 1,5</td>
<td>-</td>
<td>26</td>
<td>8,5</td>
</tr>
<tr>
<td>18</td>
<td>G ¾</td>
<td>M 26 x 1,5</td>
<td>M 27 x 1,5</td>
<td>32</td>
<td>9</td>
</tr>
<tr>
<td>24</td>
<td>G 1</td>
<td>M 33 x 1,5</td>
<td>-</td>
<td>40</td>
<td>11</td>
</tr>
</tbody>
</table>

### Accessory
- **Fixing nuts GN 543.1** → Page 910

On request
- EPDM seal

### How to order
GN744-24-G1

1. d₁
2. d₂
**Oil level sight glasses**

Aluminium / Perspex

---

![Diagram of oil level sight glasses]

**Specifying**

- **Ring nut**  
  Aluminium
- **Sight glass**  
  Perspex (PMMA)  
  temperature resistant up to 80 °C
- **Sealing ring**  
  rubber NBR (Perbunan)
- **Contrast screen**  
  Plastic  
  white, with red oil level marks
- **Elastomer characteristics** → Page 1140
- **RoHS compliant**

**Information**

This oil level glass GN 542 does not require a thread.

The oil level sight glass is inserted into the bore \( d_2 \) to H11. By simply tightening the ring nut using the pin key the seal is pressed against the contact surface which, at the same time, will hold the sight glass in position. For removal reverse the procedure.

Their application is limited to non-pressurised or only slightly pressurised tanks.

---

**How to order**

<table>
<thead>
<tr>
<th>Code no. for Pin key for installation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> without oil level mark</td>
</tr>
<tr>
<td>16 20  9 25 2,2 21 5 15 3,5</td>
</tr>
<tr>
<td>22 28 10 35 3 30 6 15 4,5</td>
</tr>
<tr>
<td>32 38 12 45 3 40 8 18 5,5</td>
</tr>
<tr>
<td>50 58 14 64 3 58,5 10 22 5,5</td>
</tr>
</tbody>
</table>

---

**Accessory**

- Pin key for installation GN 537.1  
  (Code no. see table)
Oil level sight glasses GN 541 are practically indestructible. Even at high torque there is no danger of any breakage.

Oil level sight glasses GN 541 can also be used in tanks which are pressurised. The max permissible pressure is dependent on the tank size operating conditions (i.e. temperature). Test results are available.

**Assembly instruction:**
For mounting on walls of less than 4 mm thickness please use a fixing nut GN 543.1.

### Specification
- **Plastic**
  - Crystal-clear Polyamide (PA-T)
  - ageing resistant
  - high mechanical strength,
  - but not suitable for alcohol
  - temperature resistant up to 110 °C
  - solvent resistant,
  - but not suitable for alcohol
- **Sealing ring rubber NBR (Perbunan)**
- **Contrast screen Aluminium anodized, natural colour**
- **Elastomer characteristics → Page 1140**
- **Plastic characteristics → Page 1141**
- **RoHS compliant**

### Information

**How to order**

<table>
<thead>
<tr>
<th>d₁</th>
<th>d₂</th>
<th>l₁</th>
<th>l₂</th>
<th>s</th>
<th>recommended tightening torque in Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>G ¼</td>
<td>18</td>
<td>10</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>G ⅛</td>
<td>M 16 x 1,5</td>
<td>22</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>14</td>
<td>G ½</td>
<td>M 20 x 1,5</td>
<td>26</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>18</td>
<td>-</td>
<td>M 25 x 1,5</td>
<td>31</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>19</td>
<td>-</td>
<td>M 26 x 1,5</td>
<td>31</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>20</td>
<td>G ¾</td>
<td>M 27 x 1,5</td>
<td>31</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>22</td>
<td>-</td>
<td>M 30 x 1,5</td>
<td>35</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>25</td>
<td>G 1</td>
<td>M 35 x 1,5</td>
<td>40</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>30</td>
<td>G 1¼</td>
<td>M 40 x 1,5</td>
<td>47</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>

**Accessary**
- **Fixing nut GN 543.1 → Page 910**
3.5 Oil level sight glasses, Level indicators, Plugs

**Fixing nuts**

for oil level sight glasses

Fixing nuts GN 543.1 are used for mounting of oil level sight glasses on walls of less than 4 mm thickness.

<table>
<thead>
<tr>
<th>d₁</th>
<th>d₂ ±0,5 Bore-Ø</th>
<th>b</th>
<th>s</th>
<th>e</th>
</tr>
</thead>
<tbody>
<tr>
<td>G ⅛</td>
<td>16,7</td>
<td>3,5</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td>G ⅜</td>
<td>21</td>
<td>4</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>G ⅜</td>
<td>26,5</td>
<td>5</td>
<td>32</td>
<td>35,5</td>
</tr>
<tr>
<td>G ⅛</td>
<td>33,3</td>
<td>5</td>
<td>37</td>
<td>42,5</td>
</tr>
<tr>
<td>G 1⅛</td>
<td>42</td>
<td>5,5</td>
<td>46</td>
<td>52</td>
</tr>
<tr>
<td>G 2</td>
<td>59,7</td>
<td>6,5</td>
<td>65</td>
<td>73</td>
</tr>
</tbody>
</table>

**Information**

How to order

GN 543.1-G½

1 d₁
Welding sockets
with and without collar

<table>
<thead>
<tr>
<th>d₁</th>
<th>d₂</th>
<th>d₃</th>
<th>h₁</th>
<th>h₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/8</td>
<td>20</td>
<td>16</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>G 1/4</td>
<td>24</td>
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<td>3</td>
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<tr>
<td>G 3/8</td>
<td>28</td>
<td>22</td>
<td>14</td>
<td>4,5</td>
</tr>
<tr>
<td>G 1/2</td>
<td>32</td>
<td>26</td>
<td>16</td>
<td>4,5</td>
</tr>
<tr>
<td>G 3/4</td>
<td>40</td>
<td>32</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>G 1</td>
<td>50</td>
<td>40</td>
<td>20</td>
<td>7,5</td>
</tr>
<tr>
<td>G 1¼</td>
<td>60</td>
<td>50</td>
<td>22</td>
<td>7,5</td>
</tr>
<tr>
<td>G 1½</td>
<td>65</td>
<td>55</td>
<td>24</td>
<td>7,5</td>
</tr>
</tbody>
</table>

**Specification**
- Steel
  - weldable
  - turned
  - blank
- RoHS compliant

**Information**
Welding sockets GN 7490 are used in container construction or in hydraulics for mounting instruments such as oil level sight glasses or locking caps.

The plane surfaces are machined, with the effect that they can be used as sealing surface in connection with a sealing element or compound.

The favourably dimensioned wall thickness prevents deformation or burn-through during welding.

Type B is used if exact positioning through the mounting bore or a low construction height is required.

**How to order**
- Material
- d₁
- Type

GN 7490-ST-G1/2-B
**GN 650**
Set screw Steel

**GN 650.1**
Set screw Stainless Steel

---

**Oil level indicators**

![Diagram of oil level indicators](image)

**Type**
- **A** without thermometer
- **B** with thermometer

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>l1, b, d</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>l2, l3</td>
<td></td>
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</table>

**Table**

<table>
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<tr>
<th>l1</th>
<th>b</th>
<th>d</th>
<th>l2</th>
<th>l3</th>
<th>l4</th>
<th>l5</th>
<th>l6</th>
<th>l7</th>
<th>s (max. wall thickness)</th>
<th>Temperature scale °C</th>
<th>°F</th>
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<tr>
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<td>27</td>
<td>M10</td>
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<td>40</td>
<td>106</td>
<td>18</td>
<td>15</td>
<td>16</td>
<td>12</td>
<td>20 ... 100</td>
<td>68 ... 210</td>
</tr>
<tr>
<td>127</td>
<td>31</td>
<td>M12</td>
<td>23</td>
<td>80</td>
<td>161</td>
<td>23</td>
<td>17</td>
<td>17</td>
<td>12</td>
<td>0 ... 100</td>
<td>32 ... 210</td>
</tr>
<tr>
<td>254</td>
<td>35</td>
<td>M12</td>
<td>21</td>
<td>203</td>
<td>290</td>
<td>26</td>
<td>18</td>
<td>18</td>
<td>12</td>
<td>0 ... 100</td>
<td>32 ... 210</td>
</tr>
</tbody>
</table>

**Specification**

- **Body Plastic**
  - crystal-clear Polyamide (PA-T)
  - ageing resistant
  - high mechanical strength
  - temperature resistant up to 90 °C
  - solvent resistant, but not suitable for alcohol
  - avoid contact with hot water

- **Contrast screen Aluminium**
  - white lacquered
  - with two black marking lines / scale

- **GN 650**
  - O-Rings rubber NBR (Perbunan)
  - Set screw and nuts
  - Steel, zinc plated, blue passivated

- **GN 650.1**
  - O-Rings rubber FPM (Viton®)
  - Set screw and nuts
  - Stainless Steel AISI 303

- **RoHS compliant**

**Information**

A special feature of oil level indicators GN 650 / GN 650.1 is their reduced dimension. The liquid level is visible even from side positions.

The polyamide body consists of two parts which are ultrasonically welded together. The oil level indicators are individually air pressure tested for leaks at 3 bar.

All oil level indicators GN 650 / GN 650.1 can also be used on tanks which are pressurised. Pressure test results regarding resistance under pressure are available.

As a contrast screen, a white lacquered aluminium strip is used which shows marking lines or temperature scale. The scale is placed behind and outside the liquid column as a protective measure.

The shape of the oil level indicators offers a magnifying effect which makes the scale easily legible.

**see also...**

- **Oil level indicators GN 650.4**
  (reasonably priced, narrow Type) ➔ Page 914

---

**On request**

- **Oil level indicators GN 650 (AR)** suitable for alcohol
- **Oil level indicators GN 650.1 (BW)** suitable for hot water

---

**Oil level indicators**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>l1</td>
</tr>
<tr>
<td>2</td>
<td>Type</td>
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**Oil level indicators**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>l1</td>
</tr>
<tr>
<td>2</td>
<td>Type</td>
</tr>
</tbody>
</table>
Assembly instructions

The assembly of the oil level indicators GN 650 / GN 650.1 / GN 650.4 is very easy and economical. You need two drillings Ø 10.5 and/or Ø 12.5 mm in the distance l₁ in the container wall. The oil level indicator can also be installed directly i.e. without nut, if the container wall has a fitting thread.

All individual parts necessary for the assembly are provided: zinc-plated set screws with the drillings for oil, zinc-plated hexagon nuts, O-rings and serrated lock washers for safety. For perfect sealing by the O-rings the screws should not be too strongly tightened (max. 12 Nm). Recommended roughness of the sealing surface RA = 3 μm.

Protective housing

Oil level indicators GN 650 l₁ = 127 are also available with a guard (P) made of zinc die-casting (rear-end collision protection).
Oil level indicators
narrow shape

A special feature of oil level indicators GN 650.4 is their reduced dimension. The liquid level is visible even from side positions.

The polyamide body consists of two parts which are ultrasonically welded together. The oil level indicators are individually air pressure tested for leaks at 3 bar.

All oil level indicators GN 650.4 can also be used on tanks which are pressurised. Pressure test results regarding resistance under pressure are available.

As a contrast screen, a white lacquered aluminium strip is used which shows marking lines or temperature scale.

The scale is placed behind and outside the liquid column as a protective measure.

The protection frame is designed to increase the resistance of the indicator by absorbing all shocks. The protection frame is mounted to the indicator.

How to order
GN 650.4-127-A
1 $l_1$
2 Type

<table>
<thead>
<tr>
<th>$l_1$</th>
<th>$b_1$</th>
<th>$b_2$</th>
<th>$d$</th>
<th>$l_2$</th>
<th>$l_3$</th>
<th>$l_4$</th>
<th>$l_5$</th>
<th>$l_6$</th>
<th>$l_7$</th>
<th>$l_8$</th>
<th>$l_9$</th>
<th>$l_{10}$</th>
<th>$s$</th>
<th>Thermometer scale</th>
</tr>
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<td></td>
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<td></td>
<td></td>
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<td>°C</td>
</tr>
<tr>
<td>76</td>
<td>22</td>
<td>27</td>
<td>M</td>
<td>10</td>
<td>23</td>
<td>40</td>
<td>99</td>
<td>18</td>
<td>11,5</td>
<td>15</td>
<td>17,5</td>
<td>105</td>
<td>14,5</td>
<td>12</td>
</tr>
<tr>
<td>127</td>
<td>22</td>
<td>27</td>
<td>M</td>
<td>12</td>
<td>23</td>
<td>80</td>
<td>150</td>
<td>23</td>
<td>11,5</td>
<td>15</td>
<td>17,5</td>
<td>156</td>
<td>14,5</td>
<td>10</td>
</tr>
</tbody>
</table>

Information

Body
- Plastic crystal-clear Polyamide (PA 6-T)
- ageing resistant
- high mechanical strength
- temperature resistant up to 90 °C
- solvent resistant, but not suitable for alcohol
- avoid contact with hot water

Protection frame
- Plastic (Polyamide PA)
- glass fibre reinforced
- black, matt

Contrast screen
- Aluminium white lacquered
- with two black marking lines / scale

O-ring rubber NBR (Perbunan)

Set screw and nuts
- Steel, zinc plated, blue passivated

Elastomer characteristics → Page 1140

Plastic characteristics → Page 1141
### GN 745 | Threaded plugs

**Specification**
- Plastic (Polyamide PA)
  - glass fibre reinforced
  - black, matt
  - temperature resistant up to 130 °C
- Sealing ring rubber NBR (Perbunan)
- Elastomer characteristics ➔ Page 1140
- Plastic characteristics ➔ Page 1141
- RoHS compliant

**Information**
Suitable for threaded plugs GN 745 are self adhesive, matt anodized aluminium discs with graphic symbols (0.3 mm thick) which can be supplied.

**see also...**
- Plugs GN 741 / GN 742 (Aluminium) ➔ Page 916

**Accessory**

<table>
<thead>
<tr>
<th>d₁</th>
<th>d₂</th>
<th>l₁</th>
<th>l₂</th>
<th>s</th>
<th>e =</th>
</tr>
</thead>
<tbody>
<tr>
<td>G ⅛</td>
<td>M 10 x 1,5</td>
<td>M 12 x 1,5</td>
<td>2</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>G ¼</td>
<td>M 14 x 1,5</td>
<td>-</td>
<td>2</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>G ⅜</td>
<td>M 16 x 1,5</td>
<td>-</td>
<td>2</td>
<td>17,5</td>
<td>9</td>
</tr>
<tr>
<td>G ⅝*</td>
<td>M 18 x 1,5</td>
<td>M 20 x 1,5</td>
<td>2</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>G ¾*</td>
<td>M 22 x 1,5</td>
<td>M 25 x 1,5</td>
<td>M 26 x 1,5</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>G 1*</td>
<td>M 35 x 1,5</td>
<td>-</td>
<td>2</td>
<td>31</td>
<td>13</td>
</tr>
<tr>
<td>G 1¼</td>
<td>M 40 x 1,5</td>
<td>-</td>
<td>2</td>
<td>38</td>
<td>14</td>
</tr>
<tr>
<td>G 1½</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>46</td>
<td>15</td>
</tr>
</tbody>
</table>

* These sizes are also available as GN 745.2 with O-ring instead of a flat seal.

---

**Plug with flat seal**

**GN 745 - G¾-1**

<table>
<thead>
<tr>
<th>1</th>
<th>d₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Coding</td>
</tr>
</tbody>
</table>

**Plug with O-ring**

**GN 745.2 - G½-1**

<table>
<thead>
<tr>
<th>1</th>
<th>d₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Coding</td>
</tr>
</tbody>
</table>

**Aluminium disc**

**GN 740.1 - 25**

| 3 | d₃ |
### Threaded plugs

**GN 741**
- up to 100 °C
- Sealing ring rubber NBR (Perbunan)

**GN 742**
- up to 180 °C
- Sealing ring rubber FPM (Viton®)

#### Specification
- Aluminium
  - fine turned
  - Symbols laser engraved
- **GN 741**
  - temperature resistant up to 100 °C
  - Sealing ring rubber NBR (Perbunan)
- **GN 742**
  - temperature resistant up to 180 °C
  - Sealing ring rubber FPM (Viton®)
  - Identification by not black finish of seal
- **Elastomer characteristics** → Page 1140

#### Information
Threaded plugs GN 741 / GN 742 are fitted with outside diameter $d_1$ to suit screw holes with BSP threads to DIN 3852.

The sealing ring is bedded into a undercut groove which prevents it from dropping out and at the same time stops it from being extruded when tightening the cap.

**see also...**
- Threaded plugs **GN 745 (Plastic)** → Page 915
- Threaded plugs with catch **GN 441 / GN 442** → Page 919

#### On request
- with dipstick

<table>
<thead>
<tr>
<th>Type</th>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS</td>
<td>without vent drilling</td>
</tr>
<tr>
<td>ES</td>
<td>with DIN re-fill symbol</td>
</tr>
<tr>
<td>AS</td>
<td>with DIN drain symbol</td>
</tr>
</tbody>
</table>

### Table: Threaded plugs GN 741 / GN 742

<table>
<thead>
<tr>
<th>$d_1$</th>
<th>$d_2$</th>
<th>$d_3$ Vent drilling</th>
<th>$d_4$</th>
<th>$l_1$</th>
<th>$l_2$</th>
<th>$t$</th>
<th>$s$</th>
<th>$e \approx$</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 G ¼</td>
<td>M 14 x 1,5</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>M 5</td>
<td>15,5</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>22 G ½</td>
<td>M 16 x 1,5</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>M 5</td>
<td>15,5</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>26 G ¼</td>
<td>M 20 x 1,5</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>M 5</td>
<td>16</td>
<td>8,5</td>
<td>8</td>
</tr>
<tr>
<td>32 G ¼</td>
<td>M 26 x 1,5</td>
<td>M 27 x 1,5</td>
<td>-</td>
<td>2</td>
<td>M 5</td>
<td>17</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>40 G 1</td>
<td>M 33 x 1,5</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>M 5</td>
<td>19,5</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>50 G 1¼</td>
<td>M 40 x 1,5</td>
<td>M 42 x 1,5</td>
<td>M 42 x 2</td>
<td>2</td>
<td>M 5</td>
<td>21</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>60 G 1½</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>M 5</td>
<td>22</td>
<td>13</td>
<td>8</td>
</tr>
</tbody>
</table>

**Threaded plug**

**GN 741-26-G½-OS-1**

1. $d_1$
2. $d_2$
3. Type
4. Identification
Steel and Aluminium Plugs
GN 738 / GN 738.1 → Page 918
GN 741 / GN 742 → Page 916
GN 749 → Page 920
### GN 738
Up to 100 °C

### GN 738.1
Up to 180 °C

---

**Magnetic plugs**

---

<table>
<thead>
<tr>
<th>d₁</th>
<th>d₂</th>
<th>d₃</th>
<th>e ≈</th>
<th>l₁</th>
<th>l₂</th>
<th>l₃</th>
<th>s</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>G ¼</td>
<td>M 14 x 1,5</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>17,3</td>
<td>8</td>
</tr>
<tr>
<td>22</td>
<td>G ⅜</td>
<td>M 16 x 1,5</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>20,8</td>
<td>8</td>
</tr>
<tr>
<td>26</td>
<td>G ½</td>
<td>M 20 x 1,5</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>24,3</td>
<td>8,5</td>
</tr>
<tr>
<td>32</td>
<td>G ⅜</td>
<td>M 26 x 1,5</td>
<td>M 27 x 1,5</td>
<td>-</td>
<td>6</td>
<td>31,3</td>
<td>9</td>
</tr>
<tr>
<td>40</td>
<td>G 1</td>
<td>M 33 x 1,5</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>37</td>
<td>11</td>
</tr>
<tr>
<td>50</td>
<td>G 1½</td>
<td>M 40 x 1,5</td>
<td>M 42 x 1,5</td>
<td>M 42 x 2</td>
<td>6</td>
<td>47,3</td>
<td>12</td>
</tr>
<tr>
<td>60</td>
<td>G 1½</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>57,7</td>
<td>13</td>
</tr>
</tbody>
</table>

---

**Specification**

- Aluminium fine turned
- Magnet
  - Alloy: AlNiCo
- **GN 738**
  - Temperature resistant up to 100 °C
  - Sealing ring rubber NBR (Perbunan)
- **GN 738.1**
  - Temperature resistant up to 180 °C
  - Sealing ring rubber FPM (Viton®)
  - Identification by not black finish of seal

**Information**

Magnetic plugs GN 738 / GN 738.1 attract iron particles which might be suspended in the liquid.

To avoid breakage or de-magnetising, round rod magnets are fitted with a plastic distance and protection tube. This latter tube has to be removed prior to installing the plug.

The sealing ring is retained in a radial undercut in the mating face which prevents it from dropping off and at the same time it cannot extrude under pressure.

---

**Magnetic plugs up to 120 °C**

<table>
<thead>
<tr>
<th>1 d₁</th>
<th>2 d₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>GN 738-22 - G⅜</td>
<td></td>
</tr>
</tbody>
</table>

**Magnetic plugs up to 180 °C**

<table>
<thead>
<tr>
<th>1 d₁</th>
<th>2 d₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>GN 738.1-32-M26x1,5</td>
<td></td>
</tr>
</tbody>
</table>
### GN 441
- temperature resistant up to 100 °C
- Sealing ring rubber NBR (Perbunan)

### GN 442
- temperature resistant up to 200 °C
- Sealing ring rubber FPM (Viton®)

Identification by not black finish of the seal

- Aluminium
  - plastic coated black, RAL 9005, strukturmat
  - blank tumbled
- Elastomer characteristics → Page 1141
- RoHS compliant

On request
- Threaded plugs with dipstick

---

**Information**

Threaded plugs GN 441 / GN 442 with the external diameter d₁ match the screw-in holes for DIN 3852 pipe bolt connections.

The sealing ring is embedded in a radial recess on the plane side, which makes the sealing ring captive and cannot be squeezed out during tightening. The sealing is also relatively soft, enhancing the sealing effect also on uneven surfaces.

**see also...**

- Plugs GN 741 / GN 742 (with hexagon) → Page 916

---

**Specification**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>d₁</td>
<td>d₂</td>
<td>d₃ Vent hole</td>
<td>d₄</td>
</tr>
<tr>
<td>22</td>
<td>G ¼</td>
<td>M 16 x 1,5</td>
<td>2 M 5</td>
</tr>
<tr>
<td>26</td>
<td>G ½</td>
<td>M 20 x 1,5</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>l₁ ±0.5</td>
<td>l₂</td>
<td>l₃</td>
<td>s</td>
</tr>
<tr>
<td>26</td>
<td>8</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>27,5</td>
<td>8,5</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>29</td>
<td>9</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>32,5</td>
<td>11</td>
<td>18</td>
<td>7</td>
</tr>
</tbody>
</table>

* not available from stock, requires a minimum order quantity
### Specification
- **Steel**
  - Tensile strength class 5.8 (500 N/mm²)
  - Ultrasonically and tensile tested
  - Zinc plated, nano-passivated (silver / yellowish)
- **Type A**
  - Temperature resistant up to 100 °C
  - Sealing ring rubber NBR (Perbunan)
- **Type B**
  - Temperature resistant up to 180 °C
  - Sealing ring rubber FPM (Viton®)
  - Identification by not black finish of the seal
- **Elastomer characteristics → Page 1140**
- **RoHS compliant**

### Information
The dimensions of the threaded plugs GN 749 comply with DIN 908, but deviating from the latter is the elastic sealing ring (rubber). This sealing ring is retained in a radial undercut in the mating face which prevents it from dropping out and in particular it does not extrude when the plug is tightened.

The details relating to the permissible operating pressure are non-binding recommended values and rule out any liability. They constitute no general warranty of quality and condition. The user must determine from case to case whether a product is suitable for the intended use.

### How to order
1. **d1**:
2. **Type**

   - **GN 749-G¾-A**
   - **Type**
Threaded plugs DIN 906 are used to close bore holes with cylindrical internal thread. The tightness depends on the medium, pressure, temperature and material pairing. The design with GPC thread coating provides a higher degree of safety.

The official DIN 906 standard sheet also provides for thread sizes M33x2; M38x1,5; M39x2; M52x1,5; M52x2; M56x2 and M60x2.

**Information**

**Specification**

- Steel ST
  - ultrasonically and tensile tested
  - zinc plated, blue passivated
- Stainless Steel AISI 303 NI
- Thread coating GPC (Precote 5) → Page 1130
- Stainless Steel characteristics → Page 1144
- RoHS compliant

<table>
<thead>
<tr>
<th>d</th>
<th>d</th>
<th>h</th>
<th>s</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 8 x 1</td>
<td>M 8 x 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M 10 x 1</td>
<td>M 10 x 1</td>
<td>R 1/8</td>
<td>R 1/4</td>
</tr>
<tr>
<td>M 12 x 1,5</td>
<td>M 12 x 1,5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M 14 x 1,5</td>
<td>M 14 x 1,5</td>
<td>R 1/4</td>
<td>R 1/4</td>
</tr>
<tr>
<td>M 16 x 1,5</td>
<td>M 16 x 1,5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M 18 x 1,5</td>
<td>M 18 x 1,5</td>
<td>R 3/8</td>
<td>R 3/4</td>
</tr>
<tr>
<td>M 20 x 1,5</td>
<td>M 20 x 1,5</td>
<td>R 1/2</td>
<td>R 1/2</td>
</tr>
<tr>
<td>M 22 x 1,5</td>
<td>M 22 x 1,5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M 24 x 1,5</td>
<td>M 24 x 1,5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M 26 x 1,5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M 30 x 1,5</td>
<td>-</td>
<td>R 1/4</td>
<td>R 3/4</td>
</tr>
<tr>
<td>M 36 x 1,5</td>
<td>-</td>
<td>R 1</td>
<td>R 1</td>
</tr>
<tr>
<td>M 42 x 1,5</td>
<td>-</td>
<td>R 1 1/4</td>
<td>-</td>
</tr>
<tr>
<td>M 45 x 1,5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M 48 x 1,5</td>
<td>-</td>
<td>R 1 1/2</td>
<td>-</td>
</tr>
</tbody>
</table>
GN 552 Breather caps

Function and operational criteria of breather caps GN 552 see function description.

MAX-MIN lines can easily be marked on the two flat sides of the dipstick (see GN 109 → Page 925).

* Type with Dipstick (Type B) is only available for marks 0, 1 and 2 as follows:
  - Size 31 - all threads
  - Size 42 - G ¾ and G 1 only
  - Size 57 - G 1¼ and G 1½ only

see also...

- ATEX-Breather caps GN 552.6 → Page 924

Information

Speciation

- Plastic (Polyamide PA)
  - temperature resistant up to 120 °C
- Upper part (cap)
  - orange, RAL 2004
- Lower part (threaded part)
  - black
- Sealing ring rubber NBR (Perbunan)
- Air filter wire mesh
  - zinc plated
  - Filtration 50 to 60 μm
- Air filter PU-foam (Polyurethan)
  - Filterfeinheit 40 μm
  - temperature resistant up to 100 °C
- Dipstick Steel
  - phosphated
  - Level markings /
  - Special lengths GN 109 → Page 925
- RoHS compliant

How to order

GN552-42-G¾-A-1

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>d₁</td>
<td>d₂</td>
<td>d₃</td>
<td>d₄</td>
</tr>
<tr>
<td>31</td>
<td>G ¼</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>31</td>
<td>G ¾</td>
<td>M 16 x 1,5</td>
<td>M 18 x 1,5</td>
</tr>
<tr>
<td>31</td>
<td>G ½</td>
<td>M 20 x 1,5</td>
<td>M 22 x 1,5</td>
</tr>
<tr>
<td>42</td>
<td>G ¾</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>42</td>
<td>G ¼</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>42</td>
<td>G ¾</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>42</td>
<td>G 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>57</td>
<td>G ¾</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>57</td>
<td>G 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>57</td>
<td>G 1¼</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>57</td>
<td>G 1½</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Plastic (Polyamide PA)

- temperature resistant up to 120 °C

Information

How to order

GN552-42-G¾-A-1

<table>
<thead>
<tr>
<th>1</th>
<th>d₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>d₂</td>
</tr>
<tr>
<td>3</td>
<td>Type</td>
</tr>
<tr>
<td>4</td>
<td>Coding</td>
</tr>
</tbody>
</table>
Breather caps GN 552 are used in oil reservoirs which must be ventilated.

If the oil is agitated, e.g. by a gear running in an oil bath or sump, there is the risk that the oil will leak. With properly aligned and shaped splash guards (see schematic drawing), these breather caps prevent the oil from leaking without substantially disrupting the ventilation / breathing process (pressure compensation).

The splash guards can be left out if their function is no longer needed or if a higher air flow rate is desired (coding 3 and 4).

A filter is used to protect the oil from outside pollution (dust). The filter is mounted behind the splash guards to ensure it makes no contact with the oil and becomes saturated by capillary effect.

For a very high air flow rate (the level of the oil reservoir changing quickly), GN 663 breather caps should be used.

### Function

Air flow rate [l/min] in reliance on the pressure difference Δp [mbar] container / outside space with filter (40 μm):

<table>
<thead>
<tr>
<th>Type</th>
<th>With splash guards (coding 0, 1 and 2)</th>
<th>Without splash guards (coding 3 and 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q [l/min]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δp [mbar]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ATEX-Breather caps GN 552.6 are suitable for use in an explosion risk environment. They comply with the guidelines 94/9/EG.

MAX-MIN lines can easily be marked on the two flat sides of the dipstick (see GN 109 → Page 925).

A detailed operating instruction is included.

Function and operational criteria of breather caps see GN 552 → Page 922.

### Specification
- Plastic (Polyamide PA) temperature resistant up to 80 °C
- Upper part (cap) orange, RAL 2004
- Lower part (threaded part) black
- Sealing ring rubber NBR (Perbunan)
- Air filter PU-foam Polyurethane Filtration 40 μm
- Dipstick Steel
  - phosphated
  - Level markings / Special lengths GN 109 → Page 925
- Elastomer characteristics → Page 1140
- Plastic characteristics → Page 1141
- RoHS compliant

### Information

#### Type
- A without dipstick
- B* with dipstick

#### Coding
1. with splash guards, no filter
2. with splash guards, with PU filter

### How to order

**GN 552.6-31-G½-A-1**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>d₁</td>
<td>d₂</td>
<td>d₃</td>
<td>l₁</td>
</tr>
<tr>
<td>31</td>
<td>G ⅛</td>
<td>10</td>
<td>9,5</td>
</tr>
<tr>
<td>31</td>
<td>G ⅛</td>
<td>10</td>
<td>9,5</td>
</tr>
<tr>
<td>42</td>
<td>G ⅜</td>
<td>18</td>
<td>11,5</td>
</tr>
</tbody>
</table>

*not available from stock, requires a minimum order quantity

---

**[Image of ATEX-Breather caps]** ELESA original code: SFP. ATEX
**Information**

Level markings and special lengths GN 109 for oil dipsticks are available for the standards shown above. The dipstick is shortened to the length $l_1$ and the marking notches are milled in at $l_2$ or $l_3$ with the effect that they are easily visible. The maximum length $l_1$ is given in the appropriate standard. The length specifications $l_1$ to $l_3$ refer to the contact surface without seal, with a tolerance of ±1 mm to be taken into account. For critical applications and depending on standard, the seal must be taken into consideration with a thickness of as much as 2 mm.

If required, more than 2 notches may be cut which are then specified by the appropriate details on the position ($l_4$, ..., $l_x$). Also, texts such as MAX / MIN may be laser-engraved in addition to or instead of the notches by submitting the appropriate template.

---

**How to order (without marking notch)**

| GN109-85 | 1 | $l_1$ (Length oil dipstick) | Breather caps GN 552-31-M16x1.5-B-2 with oil dipstick in special length GN 109-85 |

**How to order (with one marking notch)**

| GN109-110-90 | 1 | $l_1$ (Length oil dipstick) | Breather caps GN 552-42-G3/4-B-1 with one level marking GN 109-110-90 |

| 2 | $l_2$ (Length notch) |

**How to order (with two marking notches)**

| GN109-90-80-50 | 1 | $l_1$ (Length oil dipstick) | ATEX-Breather caps GN 552.6-31-G1/2-B-1 with two level markings GN 109-90-80-50 |

| 2 | $l_2$ (Length 1st notch) |

| 3 | $l_3$ (Length 2nd notch) |
3.5 Oil level sight glasses, Level indicators, Plugs

Oil drain valves GN 880 may be used for draining non-pressurised oil. As well also conditionally as for vacuum drainage.

The flow volume (l/min.) depends on the viscosity of the medium, the filling quantity and the temperature. Guidance values available on request.

Other features are:
- easy and safe handling
- optimum flow rate
- high pressure resistance (up to 100 bar)
- high temperature resistance (-30 °C to +160 °C)
- 100 % leak tightness tested
- TÜV and DLG tested

see also...
- Connector pieces GN 880.1 → Page 928

**Specification**

- Valve body
  - Steel zinc plated, blue passivated
  - Brass
- Valve plate
  - Brass
  - O-ring rubber FPM (Viton®)
- Sealing disc DIN 7603 A Copper
- Protective cap
  - Plastic (Polyamide PA)
  - temperature resistant up to 120 °C
- Chain
  - Steel zinc plated, blue passivated
  - Eye brass
- Elastomer characteristics → Page 1140
- RoHS compliant

**Information**

Oil drain valves GN 880 may be used for draining non-pressurised oil. As well also conditionally for vacuum drainage.

The flow volume (l/min.) depends on the viscosity of the medium, the filling quantity and the temperature. Guidance values available on request.

Other features are:
- easy and safe handling
- optimum flow rate
- high pressure resistance (up to 100 bar)
- high temperature resistance (-30 °C to +160 °C)
- 100 % leak tightness tested
- TÜV and DLG tested

see also...
- Connector pieces GN 880.1 → Page 928

**How to order**

GN880-M20x1,5-ST-K

1. **d₁**
2. **Material**
3. **Type**
Operation description

After removing the protective cap secured against loss with a chain, turn in the matching connector pieces GN 880.1.

When the connector is screwed in, the valve plate will open and the oil will empty through the hose into a pan.

Take off the connector after the oil has drained. The valve plate will be lowered and closes off the drainage outlet.

The container with the oil drain vale is ready for filling again.

Other benefits of the oil drain valves GN 880:
- No risk of burns caused by hot oil
- No dirt caused by uncontrolled oil drainage
- Quick and easy
Connector pieces GN 880.1 are needed when using oil drain valves GN 880.

Screwing on the connector piece will activate the valve plate of the oil drain valve, allowing the oil to flow through the hose into a pan held ready. The plug prevents remaining oil from dripping out after discharging.

### Information

- **Oil drain valves GN 880 → Page 926**

### Specification

- Connecting nut with hose liner
  - Brass
- L bend 45° / 90°
  - Copper
- O-Ring
  - Rubber NBR (Perbunan)
- Drain hose
  - PVC, transparent
- Hose clip
  - Steel, zinc plated
- Plug
  - Plastic, LD-PE
- RoHS compliant

### On request

- other hose length
- Drain hose with inside webbing (Nylon)

### Table

<table>
<thead>
<tr>
<th>Size</th>
<th>d₁ Connection thread for GN 880</th>
<th>Length</th>
<th>d₂ Nipple</th>
<th>d₃ Nominal width Hose</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>M 22 x 1,5</td>
<td>250</td>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>26</td>
<td>M 26 x 1,5</td>
<td>250</td>
<td>500</td>
<td>1000</td>
</tr>
</tbody>
</table>
3.5 Oil level sight glasses, Level indicators, Plugs

**GN 881 | Breather valves**

Once the opening pressure given in the table is exceeded, breather valves GN 881 with gasket will vent into a container and so protect against excessive inside container pressure.

In its normal state, the gasket closes the container and so prevents dirt or dust getting inside the container.

The above diagram shows the air outlet as factor of the opening pressure.

The valves are checked for leak tightness and opening pressure.

### Information

**Specification**

- Valve body
  - Brass
- Breather cap
  - Plastic (Polyamide PA)
- Gasket
  - Brass with silicone-rubber coating (VMQ)
- Spring
  - Stainless Steel AISI 301
- Sealing DIN 7603 A
  - Soft iron 1.0338
- temperature resistant from -30 °C to +100 °C
- RoHS compliant

**On request**

- other materials
- with other opening pressure (20 mbar)
- with dipstick

### Table

<table>
<thead>
<tr>
<th>d₁</th>
<th>Opening pressure in mbar ±20%</th>
<th>d₂</th>
<th>d₃</th>
<th>e ≈</th>
<th>l₁</th>
<th>l₂</th>
<th>l₃</th>
<th>A/F</th>
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<tr>
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<tr>
<td>M 14 x 1,5</td>
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<td>22</td>
<td>23,5</td>
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<tr>
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<td>-</td>
<td>G ⅜</td>
<td>200</td>
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<td>22</td>
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<td>11,5</td>
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</tr>
<tr>
<td>M 18 x 1,5</td>
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<tr>
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<tr>
<td>-</td>
<td>G 1</td>
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<td>22</td>
<td>44</td>
<td>8</td>
<td>12</td>
<td>27</td>
</tr>
</tbody>
</table>

**How to order**

- d₁
- Opening pressure
- Material of the valve body
- Material of the breather cap

**Ordered as:**

GN881-G½-200-MS-K
## Breather filters

Breather filters GN 882 are used when the air exchange is to be allowed between the inside of the container and the ambient air. The filter prevents air-borne particles (e.g. dust) from being carried from the outside to the inside of the container. It also ensures that e.g. oil particles do not escape to the outside.

The above diagram shows the air passage as factor of the differential pressure.

### Specification

- **Valve body**
  - Brass
  - MS
- **Breather cap**
  - Plastic (Polyamide PA)
  - K
- **Air filter**
  - Stainless Steel-Wire mesh AISI 304
  - Filter category G2-G3
  - Mean separation rate (Am approx. 65 - 85 %, based on a particle size > 10 μm)
- **Sealing DIN 7603 A**
  - Soft iron 1.0338
- **temperature resistant from -30 °C to +100 °C**
- **RoHS compliant**

### Information

On request:
- other materials
- with dipstick

### How to order

<table>
<thead>
<tr>
<th>1</th>
<th>d₁</th>
<th>2</th>
<th>Material of the valve body</th>
<th>3</th>
<th>Material of the breather</th>
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<tbody>
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<td>M20 x 1,5</td>
<td>MS</td>
<td>K</td>
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<table>
<thead>
<tr>
<th>d₁</th>
<th>d₂</th>
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<th>e</th>
<th>l₁</th>
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<td>G ¼</td>
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<tr>
<td>M 30 x 1,5</td>
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<td>26</td>
</tr>
</tbody>
</table>
GN 883 Breather valves

3.5 Oil level sight glasses, Level indicators, Plugs

**Specification**

- Valve body
  Brass

- Ball
  Stainless Steel AISI 5210

- Spring
  Stainless Steel AISI 301

- Sealing DIN 7603 A
  Soft iron 1.0338
  (for d₁ = M10 x 1: PA6)

- Breather cap (Type B)
  Plastic

- temperature resistant from -30 °C to +100 °C

- RoHS compliant

**Information**

Once the opening pressure given in the table is exceeded, breather valves GN 883 will vent into a container and so protect against excessive inside container pressure. They also feature highly compact dimensions.

The simple function principle (pressure spring / ball) ensures long and trouble-free use of the valve acting to one side. The installation position is vertical to the top.

**How to order**

1. d₁
2. Opening pressure (min.)
3. Type
4. Material

GN 883-G3⁄8-20-A-MS