Clogging Indicators

Clogging indicators are devices that check the life time of the filter elements. They measure the pressure drop through the filter element directly connected to the filter housing. These devices trip when the clogging of the filter element causes a pressure drop increasing across the filter element.

Filter elements are efficient only if their Dirt Holding Capacity is fully exploited. This is achieved by using filter housings equipped with clogging indicators. The indicator is set to alarm before the element becomes fully clogged.

MP Filtri can supply indicators of the following designs:
- Vacuum switches and gauges
- Pressure switches and gauges
- Differential pressure indicators

These type of devices can be provided with a visual, electrical or both signals. The electronic differential pressure clogging indicator is also available. It provides both analogical 4-20 mA output and digital warning (75% of clogging) and alarm (clogging) outputs.
Suitable indicator types

**VACUUM INDICATORS**
Vacuum indicators are used on the Suction line to check the efficiency of the filter element. They measure the pressure downstream of the filter element. Standard items are produced with R 1/4" EN 10226 connection. Available products with R 1/8" EN 10226 to be fitted on MPS series.

**BAROMETRIC INDICATORS**
Pressure indicators are used on the Return line to check the efficiency of the filter element. They measure the pressure upstream of the filter element. Standard items are produced with R 1/8" EN 10226 connection.

**DIFFERENTIAL INDICATORS**
Differential indicators are used on the Pressure line to check the efficiency of the filter element. They measure the pressure upstream and downstream of the filter element (differential pressure). Standard items are produced with special connection G 1/2" size. Also available in Stainless Steel models.
VACUUM INDICATORS

Dimensions

VE*50
Electrical Vacuum Indicator

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>VE A 21 A A 50 P01</th>
<th>VE B 21 A A 50 P01</th>
</tr>
</thead>
</table>

Materials
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: NBR

Technical data
- Vacuum setting: -0.21 bar ±10%
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP65 according to EN 60529

Electrical data
- Electrical connection: EN 175301-803
- Resistive load: 5 A / 14 Vdc
  4 A / 30 Vdc
  5 A / 125 Vac
  4 A / 250 Vac
- Available Atex product: II 1GD Ex ia IIC Tx Ex ia IIIC Tx X
- CE certification

VE A 21 A A 50 P01

VL*51 - VL*52 - VL*53
Electrical/Visual Vacuum Indicator

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>VL A 21 A A xx P01</th>
<th>VL B 21 A A xx P01</th>
</tr>
</thead>
</table>

Materials
- Body: Brass
- Base: Transparent Nylon
- Contacts: Brass - Nylon
- Seal: NBR

Technical data
- Vacuum setting: -0.21 bar ±10%
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP65 according to EN 60529

Electrical data
- Electrical connection: EN 175301-803
- Type: 51 52 53
- Lamps: 24 Vdc 110 Vdc 230 Vac
- Resistive load: 1 A / 24 Vdc 1 A / 110 Vdc 1 A / 230 Vac

VL A 21 A A xx P01

VL*71
Electrical/Visual Vacuum Indicator

<table>
<thead>
<tr>
<th>Indicator code</th>
<th>VL A 21 A A 71 P01</th>
<th>VL B 21 A A 71 P01</th>
</tr>
</thead>
</table>

Materials
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: NBR

Technical data
- Vacuum setting: -0.21 bar ±10%
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP65 according to EN 60529

Electrical data
- Electrical connection: IEC 61076-2-101 D (M12)
- Lamps: 24 Vdc
- Resistive load: 0.4 A / 24 Vdc
VACUUM INDICATORS

**VWA - VVB**

Axial Vacuum Gauge

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>R</th>
<th>A/F</th>
<th>VE AA 50A21 P01</th>
</tr>
</thead>
<tbody>
<tr>
<td>VVA 16 P01</td>
<td>18</td>
<td>A/F</td>
<td>VE AA 50A21 P01</td>
</tr>
<tr>
<td>VVB 16 P01</td>
<td>24</td>
<td>A/F</td>
<td>VE AA 50A21 P01</td>
</tr>
</tbody>
</table>

**VVR - VVS**

Radial Vacuum Gauge

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>R</th>
<th>A/F</th>
<th>VL AB 71A21 P01</th>
</tr>
</thead>
<tbody>
<tr>
<td>VVR 16 P01</td>
<td>18</td>
<td>A/F</td>
<td>VE AA 50A21 P01</td>
</tr>
<tr>
<td>VVS 16 P01</td>
<td>28</td>
<td>A/F</td>
<td>VE AA 50A21 P01</td>
</tr>
</tbody>
</table>

**Materials**

- Case: Painted Steel
- Window: Transparent plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tube Cu-alloy soft soldered

**Technical data**

- Max working pressure: Static: 7 bar
  Fluctuating: 6 bar
  Short time: 10 bar
- Working temperature: From -40 °C to +60 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
  HFA, HFB, HFC according to ISO 2943
- Accuracy: Class 2.5 according to EN 13190
- Degree of protection: IP31 according to EN 60529

**DESIGNATION & ORDERING CODE**

**Series**

- VE Electrical vacuum indicator
- VL Electrical/Visual vacuum indicator
- VV Vacuum gauge

**Type VE - VL**

- A Connection EN 10226 - R1/4"
- B Connection EN 10226 - R1/8"

**Type VV**

- A Axial connection EN 10226 - R1/4"
- B Axial connection EN 10226 - R1/8"
- R Radial connection EN 10226 - R1/4"
- S Radial connection EN 10226 - R1/8"

**Vacuum setting**

- 16 0.16 bar
- 21 0.21 bar

**Seals**

- A NBR

**Thermostat**

- A Without

**Electrical connections**

- 50 Connection EN 175301-803
- 51 Connection EN 175301-803, transparent base with lamps 24 Vdc
- 52 Connection EN 175301-803, transparent base with lamps 110 Vdc
- 53 Connection EN 175301-803, transparent base with lamps 230 Vdc
- 71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc

**Option**

- P01 MP Filtri standard
- Pxx Customized
BAROMETRIC INDICATORS

Dimensions

### BEA*50

**Electrical Pressure Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 bar ±10%</td>
<td>BE A 15 H A 50 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>BE A 20 H A 50 P01</td>
</tr>
</tbody>
</table>

**Hydraulic symbol**

1. A/F 27
2. Max tightening torque: 25 N·m
3. EN 10226 - R1/8"

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: EN 175301-803
- Resistive load: 5 A / 14 Vdc
  4 A / 30 Vdc
  5 A / 125 Vac
  4 A / 250 Vac
- CE certification

On request this indicator can be provided with main connectors in use for wirings.

### BEM*41

**Electrical Pressure Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 bar ±10%</td>
<td>BE M 15 H A 41 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>BE M 20 H A 41 P01</td>
</tr>
</tbody>
</table>

**Hydraulic symbol**

1. A/F 27
2. Max tightening torque: 25 N·m
3. EN 10226 - R1/8"

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP67 according to EN 60529

**Electrical data**
- Electrical connection: Four-core cable
- Resistive load: 5 A / 14 Vdc
  4 A / 30 Vdc
  5 A / 125 Vac
  4 A / 250 Vac
- CE certification

On request this indicator can be provided with main connectors in use for wirings.

### BET*10

**Electrical Pressure Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 bar ±10%</td>
<td>BE T 20 H F 10 P01</td>
</tr>
<tr>
<td>2.5 bar ±10%</td>
<td>BE T 25 H F 10 P01</td>
</tr>
</tbody>
</table>

**Hydraulic symbol**

1. A/F 27
2. Max tightening torque: 25 N·m
3. EN 10226 - R1/8"

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25 °C to +100 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: AMP Superseal series 1.5
- Resistive load: 0.5 A / 48 Vdc
- Thermostat condition: Open up to 30 °C
- CE certification
## BAROMETRIC INDICATORS

### ELECTRICAL/VISUAL PRESSURE INDICATOR

**BL*51 - BL*52 - BL*53**

**Electrical/Visual Pressure Indicator**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 10226 - R1/8”</td>
<td></td>
</tr>
</tbody>
</table>

**Materials**
- Body: Brass
- Base: Transparent Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
- Degree of protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: EN 175301-803
- Type: 51 52 53
- Lamps: 24 Vdc 110 Vdc 230 Vac
- Resistive load: 1 A / 24 Vdc 1 A / 110 Vdc 1 A / 230 Vac

### BET*30

**Electrical Pressure Indicator**

- Max tightening torque: 25 N-m

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 bar ±10%</td>
<td>BE T 20 H F 30 P01</td>
</tr>
<tr>
<td>2.5 bar ±10%</td>
<td>BE T 25 H F 30 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: Brass
- Base: Transparent Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
- Degree of protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: EN 175301-803
- Type: 51 52 53
- Lamps: 24 Vdc 110 Vdc 230 Vac
- Resistive load: 1 A / 24 Vdc 1 A / 110 Vdc 1 A / 230 Vac

### BET*50

**Electrical Pressure Indicator**

- Max tightening torque: 25 N-m

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 bar ±10%</td>
<td>BE T 20 H F 50 P01</td>
</tr>
<tr>
<td>2.5 bar ±10%</td>
<td>BE T 25 H F 50 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25 °C to +100 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
- Degree of protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: EN 175301-803
- Type: 51 52 53
- Lamps: 24 Vdc 110 Vdc 230 Vac
- Resistive load: 0.5 A / 48 Vdc
- Thermostat condition: Open up to 30 °C
- CE certification
**Barometric Indicators**

### Dimensions

#### BL-71

**Electrical/Visual Pressure Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 bar ±10%</td>
<td>BL A 15 HA 71 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>BL A 20 HA 71 P01</td>
</tr>
</tbody>
</table>

**Hydraulic symbol**

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree of protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: IEC 61076-2-101 D (M12)
- Lamps: 24 Vdc
- Resistive load: 0.4 A / 24 Vdc

#### BVA

**Axial Pressure Gauge**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4 bar ±10%</td>
<td>BV A 14 P01</td>
</tr>
<tr>
<td>2.5 bar ±10%</td>
<td>BV A 25 P01</td>
</tr>
</tbody>
</table>

**Hydraulic symbol**

**Materials**
- Case: Painted Steel
- Window: Transparent plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tube Cu-alloy soft soldered

**Technical data**
- Max working pressure: Static: 7 bar
- Fluctuating: 6 bar
- Short time: 10 bar
- Working temperature: From -40 °C to +60 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Accuracy: Class 2.5 according to EN 13190
- Degree of protection: IP31 according to EN 60529

#### BVR

**Radial Pressure Gauge**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4 bar ±10%</td>
<td>BV R 14 P01</td>
</tr>
<tr>
<td>2.5 bar ±10%</td>
<td>BV R 25 P01</td>
</tr>
</tbody>
</table>

**Hydraulic symbol**

**Materials**
- Case: Painted Steel
- Window: Transparent plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tube Cu-alloy soft soldered

**Technical data**
- Max working pressure: Static: 7 bar
- Fluctuating: 6 bar
- Short time: 10 bar
- Working temperature: From -40 °C to +60 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Accuracy: Class 2.5 according to EN 13190
- Degree of protection: IP31 according to EN 60529
# Barometric Indicators

## Dimensions

### BVP - BVQ

**Visual Pressure Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 bar ±10%</td>
<td>BV P 15 H P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>BV Q 20 H P01</td>
</tr>
</tbody>
</table>

### Hydraulic Symbol

- Absence of pressure (no indicator)
- Presence of pressure (green button rises gradually)
- Clogged filter element (red button risen)

### Signals

- **EN 10226 - R1/8"**
  - Grey
  - Black
  - Brown
  - Yellow/Green

### Designation & Ordering Code

<table>
<thead>
<tr>
<th>Configuration</th>
<th>BE</th>
<th>M</th>
<th>15</th>
<th>H</th>
<th>A</th>
<th>41</th>
<th>P01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example 2</td>
<td>BL</td>
<td>A</td>
<td>20</td>
<td>H</td>
<td>A</td>
<td>71</td>
<td>P01</td>
</tr>
<tr>
<td>Example 3</td>
<td>BV</td>
<td>R</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td>P01</td>
</tr>
<tr>
<td>Example 4</td>
<td>BV</td>
<td>P</td>
<td>20</td>
<td>H</td>
<td></td>
<td></td>
<td>P01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>BE</th>
<th>BL</th>
<th>BV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Standard type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M With wired electrical connection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T With thermal switch</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pressure setting</th>
<th>BEA-BEM</th>
<th>BET</th>
<th>BLA</th>
<th>BVA-BVR</th>
<th>BVP-BVQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 1.4 bar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 1.5 bar</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 2.0 bar</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 2.5 bar</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seals</th>
<th>BE</th>
<th>BLA</th>
<th>BVA-BVR</th>
<th>BVP-BVQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>HNBR</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thermostat</th>
<th>BEA-BEM</th>
<th>BET</th>
<th>BLA</th>
<th>BV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Without</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F With</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Electrical connections

<table>
<thead>
<tr>
<th>Option</th>
<th>BEA</th>
<th>BEM</th>
<th>BET</th>
<th>BL</th>
<th>BV</th>
</tr>
</thead>
<tbody>
<tr>
<td>P01 MP Filtri standard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pxx Customized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Technical data

- **Body:** Brass
- **Cover / internal parts:** Nylon
- **Caps:** VMQ
- **Seal:** HNBR
- **Max working pressure:** 10 bar
- **Proof pressure:** 15 bar
- **Working temperature:** From -25 °C to +80 °C
- **Compatibility with fluids:** Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- **Degree of protection:** IP45 according to EN 60529

### Materials

- **Body:** Brass
- **Cover / internal parts:** Nylon
- **Caps:** VMQ
- **Seal:** HNBR

### Reset

- **BVP - Automatic reset**
- **BVQ - Manual reset**

### Connection

- **Connection Deutsch DT-04-2-P**
- **Connection via four-core cable**
- **Connection EN 175301-803, transparent base with lamps 24 Vdc**
- **Connection EN 175301-803, transparent base with lamps 110 Vdc**
- **Connection EN 175301-803, transparent base with lamps 230 Vdc**
- **Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc**

### Absence of pressure

- **(no indicator)**

### Presence of pressure

- **(green button rises gradually)**

### Clogged filter element

- **(red button risen)**

---

**Materials**

- **Body:** Brass
- **Cover / internal parts:** Nylon
- **Caps:** VMQ
- **Seal:** HNBR

**Technical data**

- **Max working pressure:** 10 bar
- **Proof pressure:** 15 bar
- **Working temperature:** From -25 °C to +80 °C
- **Compatibility with fluids:** Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- **Degree of protection:** IP45 according to EN 60529

**Designation & Ordering Code**

**Type**

- **Standard type**
- **With wired electrical connection**
- **With thermal switch**

**Pressure setting**

- **BEA-BEM**
- **BET**
- **BLA**

**Seals**

- **BE**
- **BLA**

**Thermostat**

- **BEA-BEM**
- **BET**

**Electrical connections**

- **BEA**
- **BEM**
- **BET**
- **BL**
- **BV**

**Option**

- **P01 MP Filtri standard**
- **Pxx Customized**
## Dimensions

<table>
<thead>
<tr>
<th>DEA®50</th>
<th>DEH®48</th>
<th>DEH®49</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical Differential Indicator</strong></td>
<td><strong>Hazardous Area Electronic Differential Indicator</strong></td>
<td><strong>Hazardous Area Electronic Differential Indicator</strong></td>
</tr>
<tr>
<td><strong>Settings</strong></td>
<td><strong>Ordering code</strong></td>
<td><strong>Ordering code</strong></td>
</tr>
<tr>
<td>1.2 bar ±10%</td>
<td>DE A 12 x A 50 P01</td>
<td>DE H 50 x A 48 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>DE A 20 x A 50 P01</td>
<td></td>
</tr>
<tr>
<td>5.0 bar ±10%</td>
<td>DE A 50 x A 50 P01</td>
<td></td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DE A 70 x A 50 P01</td>
<td></td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DE A 95 x A 50 P01</td>
<td></td>
</tr>
</tbody>
</table>

### Technical data
- **Max working pressure**: 420 bar
- **Proof pressure**: 630 bar
- **Burst pressure**: 1260 bar
- **Working temperature**: From -25 °C to +110 °C
- **Compatibility with fluids**: Mineral oils, Synthetic fluids
- **Degree of protection**: IP66 according to EN 60529
- **Degree of protection**: IP69K according to ISO 20653

### Electrical data
- **Electrical connection**: EN 175301-803
- **Resistive load**: 0.2 A / 115 Vdc

### Materials
- **Body**: Brass
- **Base**: Black Nylon
- **Contacts**: Silver
- **Seal**: HNBR - FPM

### Clogging Indicators

- **Ordering code**: DE A 50 x A 50 P01
  - **Material**: Body: Brass, Base: Black Nylon, Contacts: Silver, Seal: HNBR - FPM
  - **External dimensions**: A/F 30 mm, Max tightening torque: 65 N∙m

- **Ordering code**: DE H 50 x A 48 P01
  - **Material**: Body: AISI 316 Stainless steel, Contacts: Rhodium (tungsten optional), Seal: MFQ - FPM
  - **External dimensions**: M20 x 1.5, A/F 25 mm, Max tightening torque: 50 N∙m

- **Ordering code**: DE H 50 x A 49 P01
  - **Material**: Body: AISI 316 Stainless steel, Contacts: Rhodium (tungsten optional), Seal: MFQ - FPM
  - **External dimensions**: 1/2” NPT, A/F 25 mm, Max tightening torque: 50 N∙m

### Connection diagram

- **Electrical connection**: Red, White, Black
- **Red**: Certification / Approvals: ATEX, IECEx, TRCU, INMETRO Certification included as standard
- **Green**: Certification / Approvals: ATEX, IECEx, TRCU, INMETRO, UL/CSA Class I Division 1 Groups A-D, UL/CSA Class II Division 1 Groups E-G Certification included as standard

### Certification
- **ATEX, IECEx, TRCU, INMETRO, UL/CSA Class I Division 1 Groups A-D, UL/CSA Class II Division 1 Groups E-G**: Certification included as standard
### DEH*70
**Hazardous Area Electronic Differential Indicator**

<table>
<thead>
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<th>Settings</th>
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<tbody>
<tr>
<td>5.0 bar ±10%</td>
<td>DE H 50 x A 70 P01</td>
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<tr>
<td>7.0 bar ±10%</td>
<td>DE H 70 x A 70 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: AISI 316 Stainless steel housing with internal engineered resin switch
- Contacts: Rhodium
- Seal: MFQ - FPM

**Protection class**
- EX ia IIC T6: Intrinsically safe

**Temperature class**
- T6 (85 °C)

**Technical data**
- Max working pressure: 420 bar
- Working temperature: From -20 °C to +80 °C
- Connection type: 4 pole male M12 connector - plastic
- Contact type: SPCO/SPDT (Hermetically sealed - volt free contacts)
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP 66/67 according to EN 60529

**Electrical data**
- Current Ratings 24v DC 830mA - 110v AC 180mA

### DEM*10
**Electrical Differential Indicator**

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<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
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<tbody>
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<td>1.2 bar ±10%</td>
<td>DE M 12 x x 10 P01</td>
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<tr>
<td>2.0 bar ±10%</td>
<td>DE M 20 x x 10 P01</td>
</tr>
<tr>
<td>5.0 bar ±10%</td>
<td>DE M 50 x x 10 P01</td>
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<tr>
<td>7.0 bar ±10%</td>
<td>DE M 70 x x 10 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DE M 95 x x 10 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP66 according to EN 60529

**Electrical data**
- Electrical connection: AMP Superseal series 1.5
- Resistive load: 0.2 A / 115 Vdc
- Switching type: Normally open contacts (NC on request)
- Thermal lockout: Normally open up to 30 °C (option “F”)

### DEM*20
**Electrical Differential Indicator**

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<td>5.0 bar ±10%</td>
<td>DE M 50 x x 20 P01</td>
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<tr>
<td>7.0 bar ±10%</td>
<td>DE M 70 x x 20 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DE M 95 x x 20 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP66 according to EN 60529

**Electrical data**
- Electrical connection: AMP Time junior
- Resistive load: 0.2 A / 115 Vdc
- Switching type: Normally open contacts (NC on request)
- Thermal lockout: Normally open up to 30 °C (option “F”)
### DIFFERENTIAL INDICATORS

#### DEM*30

**Electrical Differential Indicator**

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<th>Setting</th>
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<tr>
<td>7.0 bar ±10%</td>
<td>DE M 70 x 30 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DE M 95 x 30 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529

**Electrical data**
- Electrical connection: Deutsch DT-04-2-P
- Resistive load: 0.2 A / 115 Vdc
- Switching type: Normally open contacts (NC on request)
- Thermal lockout: Normally open up to 30 °C (option “F”)

**Dimensions**

#### DEM*35

**Electrical Differential Indicator**

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<th>Setting</th>
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<td>5.0 bar ±10%</td>
<td>DE M 50 x 35 P01</td>
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<td>7.0 bar ±10%</td>
<td>DE M 70 x 35 P01</td>
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<td>9.5 bar ±10%</td>
<td>DE M 95 x 35 P01</td>
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</table>

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529

**Electrical data**
- Electrical connection: Deutsch DT-04-3-P
- Resistive load: 0.2 A / 115 Vdc
- Switching type: SPDT contact
- Thermal lockout: Normally open up to 30 °C (option “F”)

**Dimensions**

#### DLA*51 - DLA*52

**Electrical/Visual Differential Indicator**

<table>
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<th>Setting</th>
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<td>DL A 12 x A x x P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>DL A 20 x A x x P01</td>
</tr>
<tr>
<td>5.0 bar ±10%</td>
<td>DL A 50 x A x x P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DL A 70 x A x x P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DL A 95 x A x x P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: Brass
- Base: Transparent Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529
  - IP69K according to ISO 20653

**Electrical data**
- Electrical connection: EN 175301-803
- Type: 51, 52
- Lamps: 24 Vdc, 110 Vdc
- Resistive load: 1 A / 24 Vdc, 1 A / 110 Vdc

**Dimensions**
### DLA*71

**Electrical/Visual Differential Indicator**

<table>
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<th>Settings</th>
<th>Ordering code</th>
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</thead>
<tbody>
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<td>DLA 12 x A 71 P01</td>
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<td>2.0 bar ±10%</td>
<td>DLA 20 x A 71 P01</td>
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<tr>
<td>5.0 bar ±10%</td>
<td>DLA 50 x A 71 P01</td>
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<tr>
<td>7.0 bar ±10%</td>
<td>DLA 70 x A 71 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DLA 95 x A 71 P01</td>
</tr>
</tbody>
</table>

**Max tightening torque:** 65 N·m

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: IEC 61076-2-101 D (M12)
- Lamps: 24 Vdc
- Resistive load: 0.4 A / 24 Vdc

**Dimensions**
- Differential Indicators: DLA*71
- Materials:
  - Body: Brass
  - Base: Black Nylon
  - Contacts: Silver
  - Seal: HNBR - FPM
- Technical data:
  - Max working pressure: 420 bar
  - Proof pressure: 630 bar
  - Burst pressure: 1260 bar
  - Working temperature: From -25 °C to +110 °C
  - Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
  - Degree protection: IP65 according to EN 60529

### DLE*A50

**Electrical/Visual Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 bar ±10%</td>
<td>DLE 12 x A 50 P01</td>
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<tr>
<td>2.0 bar ±10%</td>
<td>DLE 20 x A 50 P01</td>
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<tr>
<td>5.0 bar ±10%</td>
<td>DLE 50 x A 50 P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DLE 70 x A 50 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DLE 95 x A 50 P01</td>
</tr>
</tbody>
</table>

**Max tightening torque:** 95 N·m

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: EN 175301-803
- Resistive load: 5 A / 250 Vac
- Available the connector with lamps

**Dimensions**
- Differential Indicators: DLE*A50
- Materials:
  - Body: Brass
  - Base: Black Nylon
  - Contacts: Silver
  - Seal: HNBR - FPM
- Technical data:
  - Max working pressure: 420 bar
  - Proof pressure: 630 bar
  - Burst pressure: 1260 bar
  - Working temperature: From -25 °C to +110 °C
  - Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
  - Degree protection: IP65 according to EN 60529

### DLE*F50

**Electrical/Visual Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 bar ±10%</td>
<td>DLE 12 x F 50 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>DLE 20 x F 50 P01</td>
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<tr>
<td>5.0 bar ±10%</td>
<td>DLE 50 x F 50 P01</td>
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<tr>
<td>7.0 bar ±10%</td>
<td>DLE 70 x F 50 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DLE 95 x F 50 P01</td>
</tr>
</tbody>
</table>

**Max tightening torque:** 95 N·m

**Materials**
- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

**Electrical data**
- Electrical connection: EN 175301-803
- Resistive load: 5 A / 250 Vac
- Thermal lockout setting: +30 °C

**Dimensions**
- Differential Indicators: DLE*F50
- Materials:
  - Body: Brass
  - Base: Black Nylon
  - Contacts: Silver
  - Seal: HNBR - FPM
- Technical data:
  - Max working pressure: 420 bar
  - Proof pressure: 630 bar
  - Burst pressure: 1260 bar
  - Working temperature: From -25 °C to +110 °C
  - Compatibility with fluids: Mineral oils, Synthetic fluids
  - HFA, HFB, HFC according to ISO 2943
  - Degree protection: IP65 according to EN 60529
Differential Indicators

**Electronic Differential Indicator**

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<thead>
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<th>Setting</th>
<th>Ordering Code</th>
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<tr>
<td>2.0 bar ±10%</td>
<td>DTA 20 x P01</td>
</tr>
<tr>
<td>5.0 bar ±10%</td>
<td>DTA 50 x P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DTA 70 x P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DTA 95 x P01</td>
</tr>
</tbody>
</table>

**Visual Differential Indicator**

- Body: Brass
- Internal parts: Brass - Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical Data**
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree protection: IP65 according to EN 60529

**Electrical Data**
- Electrical connection: IEC 61076-2-101 D (M12)
- Power supply: 24 Vdc
- Analogue output: From 4 to 20 mA
- Thermal lockout: 30 °C (all output signals stalled up to 30 °C)

**Hydraulic Symbol**

**Clogging Indicators**

**Visual Differential Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering Code</th>
</tr>
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<tbody>
<tr>
<td>1.2 bar ±10%</td>
<td>DVA 12 x P01</td>
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<tr>
<td>2.0 bar ±10%</td>
<td>DVA 20 x P01</td>
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<td>5.0 bar ±10%</td>
<td>DVA 50 x P01</td>
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<td>7.0 bar ±10%</td>
<td>DVA 70 x P01</td>
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<td>9.5 bar ±10%</td>
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**Visual Differential Indicator**

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<th>Ordering Code</th>
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<td>2.0 bar ±10%</td>
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<tr>
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<td>DVM 50 x P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DVM 70 x P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DVM 95 x P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: Brass
- Internal parts: Brass - Nylon
- Contacts: Silver
- Seal: HNBR - FPM

**Technical Data**
- Reset: Automatic reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree protection: IP65 according to EN 60529

**Electrical Data**
- Electrical connection: IEC 61076-2-101 D (M12)
- Power supply: 24 Vdc
- Analogue output: From 4 to 20 mA
- Thermal lockout: 30 °C (all output signals stalled up to 30 °C)
# Differential Indicators

## T2 Indicator Plug

<table>
<thead>
<tr>
<th>Seal</th>
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<tbody>
<tr>
<td>HNBR</td>
<td>T2 H</td>
</tr>
<tr>
<td>FPM</td>
<td>T2 V</td>
</tr>
</tbody>
</table>

- **Pressure setting**
  - 12 1.2 bar
  - 20 2.0 bar
  - 50 5.0 bar
  - 70 7.0 bar
  - 95 9.5 bar

- **Seals**
  - F MFQ
  - H HNBR
  - V FPM

- **Thermostat**
  - A Without thermostat
  - F With thermostat

- **Electrical connections**
  - 10 Connection AMP Superseal series 1.5
  - 20 Connection AMP Timer Junior
  - 30 Connection Deutsch DT-04-2-P
  - 35 Connection Deutsch DT-04-3-P
  - 48 Connection M20
  - 49 Connection 1/2” NPT
  - 50 Connection EN 175301-803
  - 51 Connection EN 175301-803, transparent base with lamps 24 Vdc
  - 52 Connection EN 175301-803, transparent base with lamps 110 Vdc
  - 70 Connection IEC 61076-2-101 D (M12)
  - 71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc

## Designation & Ordering Code - Differential Indicators

<table>
<thead>
<tr>
<th>Series</th>
<th>Configuration example 1: DE H 50 F P01</th>
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<tbody>
<tr>
<td>DE</td>
<td>Electrical or Electronic differential indicator</td>
</tr>
<tr>
<td>DL</td>
<td>Electrical / Visual differential indicator</td>
</tr>
<tr>
<td>DT</td>
<td>Electronic differential indicator</td>
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<tr>
<td>DV</td>
<td>Visual differential indicator</td>
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<td></td>
</tr>
<tr>
<td>H HNBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V FPM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thermostat</th>
<th>DEA</th>
<th>DLE</th>
<th>DEM</th>
<th>DLA</th>
<th>DLE</th>
<th>DT</th>
<th>DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Without thermostat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F With thermostat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Electrical connections

- 70 Connection IEC 61076-2-101 D (M12)
- 71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc

### Designation & Ordering Code - Differential Indicator Plug

<table>
<thead>
<tr>
<th>Series</th>
<th>Configuration example T2 H</th>
</tr>
</thead>
<tbody>
<tr>
<td>T2</td>
<td>Indicator plug</td>
</tr>
</tbody>
</table>

- **Seals**
  - H HNBR
  - V FPM

---

- **Materials**
  - Body: Phosphatized steel
  - Seal: HNBR / FPM

- **Max tightening torque**: 50 N·m

- **Indicator plug**
  - A/F 30
  - Max tightening torque: 50 N·m
### DEH*48
**Hazardous Area Electronic Differential Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 bar ±10%</td>
<td>DE H 50 x A 48 P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DE H 70 x A 48 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: AISI 316 Stainless steel
- Contacts: Rhodium (tungsten optional)
- Seal: MFQ - FPM

**Protection class**
EX ia IIC T4/T6: Intrinsically safe

**Temperature class**
T4 (135 °C) and T6 (85 °C)

**Technical data**
- Max working pressure: 420 bar
- Working temperature: From -60 °C to +120 °C
- Connection type: M20 x 1.5 - 3 core polyrad cable supplied with 5 meters
- Contact type: SPCO/SPDT (Hermetically sealed - volt free contacts)
- Compatibility with fluids: Metal oils, Synthetic fluids
- Degree of protection: IP 66/67/68 according to EN 60529

**Electrical data**
- Current Ratings: 24v DC 830mA - 110v AC 180mA
- Electrical Ratings: Ul 30V - Li 250mA - Pi 1.3W

---

### DEH*49
**Hazardous Area Electronic Differential Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 bar ±10%</td>
<td>DE H 50 x A 49 P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DE H 70 x A 49 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: AISI 316 Stainless steel
- Contacts: Rhodium (tungsten optional)
- Seal: MFQ - FPM

**Protection class**
Ex d IIC T4/T6: Flameproof

**Temperature class**
T4 (135 °C) and T6 (85 °C)

**Technical data**
- Max working pressure: 420 bar
- Working temperature: From -60 °C to +120 °C (ATEX, IECEx, TRCU, INMETRO)
  - From -60 °C to +105 °C (UL/CSA)
- Connection type: 1/2” NPT - 3 core polyrad cable supplied with 5 meters
- Contact type: SPCO/SPDT (Hermetically sealed - volt free contacts)
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP 66/67/68 according to EN 60529

**Electrical data**
- Current Ratings: 24v DC 830mA - 110v AC 180mA
- Electrical Ratings: Ul 30V - Li 250mA - Pi 1.3W

---

### DEH*70
**Hazardous Area Electronic Differential Indicator**

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 bar ±10%</td>
<td>DE H 50 x A 70 P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DE H 70 x A 70 P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: AISI 316 Stainless steel housing with internal engineered resin switch
- Contacts: Rhodium
- Seal: MFQ - FPM

**Protection class**
EX ia IIC T6: Intrinsically safe

**Temperature class**
T6 (85 °C)

**Technical data**
- Max working pressure: 420 bar
- Working temperature: From -20 °C to +80 °C
- Connection type: 4 pole male M12 connector - plastic
- Contact type: SPCO/SPDT (Hermetically sealed - volt free contacts)
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree of protection: IP 66/67 according to EN 60529

**Electrical data**
- Current Ratings: 24v DC 830mA - 110v AC 180mA
- Electrical Ratings: Ul 30V - Li 250mA - Pi 1.3W

---

Clogging Indicators
**STAINLESS STEEL DIFFERENTIAL INDICATORS**

### DEX*50

#### Electrical Differential Indicator

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 bar ±10%</td>
<td>DE X 50 x A 50 P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DE X 70 x A 50 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DE X 95 x A 50 P01</td>
</tr>
</tbody>
</table>

- **Materials**
  - Body: AISI 316L
  - Base: Black Nylon
  - Contacts: Silver
  - Seal: HNBR - MFQ

- **Technical data**
  - Max working pressure: 420 bar
  - Proof pressure: 630 bar
  - Burst pressure: 1260 bar
  - Working temperature: From -25 °C to +110 °C
  - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
  - Degree protection: IP66 according to EN 60529

- **Electrical data**
  - Electrical connection: EN 175301-803
  - Resistive load: 0.2 A / 115 Vdc

---

### DLX*51 - DLX*52

#### Electrical/Visual Differential Indicator

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 bar ±10%</td>
<td>DL X 50 x A x x P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DL X 70 x A x x P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DL X 95 x A x x P01</td>
</tr>
</tbody>
</table>

- **Materials**
  - Body: AISI 316L
  - Base: Transparent Nylon
  - Contacts: Silver
  - Seal: HNBR - MFQ

- **Technical data**
  - Max working pressure: 420 bar
  - Proof pressure: 630 bar
  - Burst pressure: 1260 bar
  - Working temperature: From -25 °C to +110 °C
  - Compatibility with fluids: Mineral oils, Synthetic fluids
  - Degree protection: IP66 according to EN 60529
  - IP69K according to ISO 20653

- **Electrical data**
  - Electrical connection: EN 175301-803
  - Type: 51 52
  - Lamps: 24 Vdc 110 Vdc
  - Resistive load: 1 A / 24 Vdc 1 A / 110 Vdc

---

### DVX

#### Visual Differential Indicator

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 bar ±10%</td>
<td>DV X 50 x P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DV X 70 x P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DV X 95 x P01</td>
</tr>
</tbody>
</table>

- **Materials**
  - Body: AISI 316L
  - Internal parts: AISI 316L - Nylon
  - Contacts: Silver
  - Seal: HNBR - MFQ

- **Technical data**
  - Reset: Automatic reset
  - Max working pressure: 420 bar
  - Proof pressure: 630 bar
  - Burst pressure: 1260 bar
  - Working temperature: From -25 °C to +110 °C
  - Compatibility with fluids: Mineral oils, Synthetic fluids
  - Degree protection: IP66 according to EN 60529

- **Hydraulic symbol**

- **Electrical symbol**

---
### Visual Differential Indicator

<table>
<thead>
<tr>
<th>Setting</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 bar ±10%</td>
<td>DVY 50 x P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DVY 70 x P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DVY 95 x P01</td>
</tr>
</tbody>
</table>

**Materials**
- Body: AISI 316L
- Internal parts: AISI 316L - Nylon
- Contacts: Silver
- Seal: HNBR / MFQ

**Technical data**
- Reset: Manual reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

### Indicator plug

<table>
<thead>
<tr>
<th>Seal</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HNBR</td>
<td>X2 H</td>
</tr>
<tr>
<td>MFQ</td>
<td>X2 F</td>
</tr>
</tbody>
</table>

**Materials**
- Body: AISI 316L
- Seal: HNBR / MFQ
### DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATORS

<table>
<thead>
<tr>
<th>Series</th>
<th>Configuration example 1:</th>
<th>Configuration example 2:</th>
<th>Configuration example 3:</th>
<th>Configuration example 4:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>DE H 50 F A 70 P01</td>
<td>DE X 50 H A 50 P01</td>
<td>DL X 95 V A 71 P01</td>
<td>DV Y 70 V 71 P01</td>
</tr>
</tbody>
</table>

#### Type
- **H**: Hazardous area
- **X**: Standard type
- **Y**: Optional type

#### Pressure setting
- 50: 5.0 bar
- 70: 7.0 bar
- 95: 9.5 bar

#### Seals
- **F**: MFQ
- **H**: HNBR
- **V**: FPM

#### Thermostat
- **A**: Without

#### Electrical connections
- **48**: Connection M20
- **49**: Connection 1/2” NPT
- **50**: Connection EN 175301-803
- **51**: Connection EN 175301-803, transparent base with lamps 24 Vdc
- **52**: Connection EN 175301-803, transparent base with lamps 110 Vdc
- **70**: Connection IEC 61076-2-101 D (M12)

### DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATOR PLUG

<table>
<thead>
<tr>
<th>Series</th>
<th>Configuration example</th>
<th>X2</th>
<th>H</th>
</tr>
</thead>
</table>

#### Seals
- **F**: MFQ
- **H**: HNBR
### Clogging Indicators

#### Filter family

<table>
<thead>
<tr>
<th>Filter series</th>
<th>Visual indicator</th>
<th>Electrical indicator</th>
<th>Electrical / Visual indicator</th>
<th>Electronic indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Filter series</strong></td>
<td><strong>Visual indicator</strong></td>
<td><strong>Electrical indicator</strong></td>
<td><strong>Electrical / Visual indicator</strong></td>
<td><strong>Electronic indicator</strong></td>
</tr>
<tr>
<td>SF 250 - 350</td>
<td>VVA16P01</td>
<td>VEA21A50P01</td>
<td>VLA21A51P01</td>
<td>VL21A52P01</td>
</tr>
<tr>
<td>SF 500 - 501 - 503 - 504 - 505</td>
<td>VRA16P01</td>
<td>VEA21A50P01</td>
<td>VLA21A51P01</td>
<td>VL21A52P01</td>
</tr>
<tr>
<td>SF 510 - 535 - 540</td>
<td>VRA16P01</td>
<td>VEA21A50P01</td>
<td>VLA21A51P01</td>
<td>VL21A52P01</td>
</tr>
<tr>
<td><strong>MPX-MPTX-MPT with bypass 1.75 bar</strong></td>
<td>BVA14P01</td>
<td>BMA15SA50P01</td>
<td>BLA15HA51P01</td>
<td>BLA15HA52P01</td>
</tr>
<tr>
<td><strong>MPX-MPTX-MPT with bypass 3 bar</strong></td>
<td>BVA25P01</td>
<td>BMA02SA50P01</td>
<td>BLA02HA51P01</td>
<td>BLA02HA52P01</td>
</tr>
<tr>
<td><strong>MPX-MPTX-MPT with bypass 2.5 bar</strong></td>
<td>BVA25P01</td>
<td>BMA02SA50P01</td>
<td>BLA02HA51P01</td>
<td>BLA02HA52P01</td>
</tr>
<tr>
<td><strong>MPX-MPTX-MPT with bypass 2.5 bar</strong></td>
<td>BVA25P01</td>
<td>BMA02SA50P01</td>
<td>BLA02HA51P01</td>
<td>BLA02HA52P01</td>
</tr>
<tr>
<td><strong>MPLX</strong></td>
<td>DVA20P01</td>
<td>DVA02A50P01</td>
<td>DLA20A52P01</td>
<td>DTA20A5P01</td>
</tr>
<tr>
<td><strong>Suction line</strong></td>
<td>WVB16P01</td>
<td>VEB21A50P01</td>
<td>VLB21A51P01</td>
<td>VLB21A52P01</td>
</tr>
<tr>
<td><strong>Return line</strong></td>
<td>WVB16P01</td>
<td>VEB21A50P01</td>
<td>VLB21A51P01</td>
<td>VLB21A52P01</td>
</tr>
<tr>
<td><strong>In-line</strong></td>
<td>DVA12P01</td>
<td>DVA02A50P01</td>
<td>DLA12A51P01</td>
<td>DLA12A52P01</td>
</tr>
<tr>
<td><strong>Bypass valve</strong></td>
<td>DVA50P01</td>
<td>DVA05A50P01</td>
<td>DLA50A51P01</td>
<td>DLA50A52P01</td>
</tr>
<tr>
<td><strong>Low &amp; Medium Pressure Filters</strong></td>
<td>DVA70P01</td>
<td>DVA07A50P01</td>
<td>DLA70A51P01</td>
<td>DLA70A52P01</td>
</tr>
<tr>
<td><strong>High Pressure Filters</strong></td>
<td>DVA70P01</td>
<td>DVA07A50P01</td>
<td>DLA70A51P01</td>
<td>DLA70A52P01</td>
</tr>
<tr>
<td><strong>Stainless Steel High Pressure Filters</strong></td>
<td>DVA70P01</td>
<td>DVA07A50P01</td>
<td>DLA70A51P01</td>
<td>DLA70A52P01</td>
</tr>
</tbody>
</table>

#### Quick Reference Guide

- **FHA 051**
- **FMM 050 - 150**
- **FHP 010 - 011 - 065 - 135 - 350 - 500**
- **FMN 050 - 150**
- **HFA 051**
- **RHM 006 - 007 - 010 - 065 - 065 - 135 - 320 - 500**
- **FHM 050 - 150**
- **FHM 325**
- **HFD 021 - 051 - 326 - 333**
- **FZH 010 - 011 - 039**
- **FZP 039 - 136**
- **FZB 039**
- **FZM 039**
- **FZD 051**
- **FZX 011**
- **FZB 039**
- **FZM 039**
- **FZD 010 - 021 - 051**

#### Hazardous area electronic indicator

- DEH50A48P01
- DEH50A49P01
- DEH50A49P01
- DEH50A49P01
- DEH50A49P01
- DEH50A49P01
- DEH50A49P01