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.
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</table>
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>I</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VE A 21 A A 50 P01</td>
</tr>
<tr>
<td>2</td>
<td>VE B 21 A A 50 P01</td>
</tr>
</tbody>
</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 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)
- Resistive load: 0.4 A / 24 Vdc

**Hydraulic symbol**

**Electrical symbol**

![Hydraulic symbol]

![Electrical symbol]

**VL*51 - VL*52 - VL*53**

**Electrical/Visual Vacuum Indicator**

<table>
<thead>
<tr>
<th>R</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VL A 21 A A xx P01</td>
</tr>
<tr>
<td>2</td>
<td>VL B 21 A A xx P01</td>
</tr>
</tbody>
</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 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

**VL*71**

**Electrical/Visual Vacuum Indicator**

<table>
<thead>
<tr>
<th>Connections</th>
<th>Indicator code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VL A 21 A A 71 P01</td>
</tr>
<tr>
<td>2</td>
<td>VL B 21 A A 71 P01</td>
</tr>
</tbody>
</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 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
### VACUUM INDICATORS

#### Dimensions

**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

#### Conversion to SI units

<table>
<thead>
<tr>
<th>cmHg</th>
<th>bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>-12</td>
<td>-0.16</td>
</tr>
<tr>
<td>-18</td>
<td>-0.24</td>
</tr>
<tr>
<td>-76</td>
<td>-1.01</td>
</tr>
</tbody>
</table>

### Designation & Ordering code

**Configuration example 1:**
- VE A 21 A A 50 P01

**Configuration example 2:**
- VL B 21 A A 71 P01

**Configuration example 3:**
- VV R 16 P01

**Vacuum setting**
- VE: 16 -0.16 bar, 21 -0.21 bar
- VL: 16 -0.16 bar, 21 -0.21 bar

**Seals**
- A NBR

**Thermostat**
- A Without

**Electrical connections**
- VE: 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
- VL: 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**

- **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: EN 175301-803
  - Resistive load: 5 A / 14 Vdc
    - 4 A / 30 Vdc
    - 5 A / 125 Vac
    - 4 A / 250 Vac

**Ordering code:**

<table>
<thead>
<tr>
<th>Settings</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**

**Electrical symbol**

- CE certification

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

### BEM*41
**Electrical Pressure Indicator**

- **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: Four-core cable
  - Resistive load: 5 A / 14 Vdc
    - 4 A / 30 Vdc
    - 5 A / 125 Vac
    - 4 A / 250 Vac

**Ordering code:**

<table>
<thead>
<tr>
<th>Settings</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**

**Electrical symbol**

- CE certification

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

### BET*10
**Electrical Pressure Indicator**

- **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: AMP Supersenseal series 1.5
  - Resistive load: 0.5 A / 48 Vdc
  - Thermostat condition: Open up to 30 °C

**Ordering code:**

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

**Hydraulic symbol**

**Electrical symbol**

- CE certification
**Barometric Indicators**

**Electrical/Visual Pressure Indicator**

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

**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
- Degree of protection: IP65 according to ISO 2943

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

---

**Electrical Pressure Indicator**

**BET*30**

**Materials**
- Body: Brass
- Base: Transparent 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: Deutsch DT-04-2-P
- Resistive load: 0.5 A / 48 Vdc
- Thermostat condition: Open up to 30 °C
- CE certification

---

**BET*50**

**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: EN 175301-803
- 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>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 bar ±10%</td>
<td>BL A 15 H A 71 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>BL A 20 HA 71 P01</td>
</tr>
</tbody>
</table>

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>Settings</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>

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>Settings</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>

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

Clogging Indicators

- 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
BAROMETRIC INDICATORS

---

### Visual Pressure Indicator

**Type BE - BL**

- **A** Standard type
- **M** With wired electrical connection
- **T** With thermal switch

**Technical data**

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

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

**Pressure setting**

- **14** 1.4 bar
- **15** 1.5 bar
- **20** 2.0 bar
- **25** 2.5 bar

**Seals**

- **H** HNBR

**Thermostat**

- **A** Without
- **F** With

**Electrical connections**

- **10** Connection AMP Superseal series 1.5
- **30** Connection Deutsch DT-04-2-P
- **41** Connection via four-core cable
- **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

---

### Designation & Ordering code

**Configuration examples**

1. **BE** M 15 H A 41 P01
2. **BL** A 20 H A 71 P01
3. **BV** P 20 H P01
4. **BV** P 15 H P01

---

**Hydraulic symbol**

**Signals**

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

---

**Hydraulic symbol**

- **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**

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

**Pressure setting**

- **14** 1.4 bar
- **15** 1.5 bar
- **20** 2.0 bar
- **25** 2.5 bar

**Seals**

- **H** HNBR

**Thermostat**

- **A** Without
- **F** With

**Electrical connections**

- **10** Connection AMP Superseal series 1.5
- **30** Connection Deutsch DT-04-2-P
- **41** Connection via four-core cable
- **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

---

**Designation & Ordering code**

- **BEA-BEM**
- **BET**
- **BLA**
- **BVA-BVR**
- **BVP-BVQ**

---

**Options**

- **P01** MP Filtri standard
- **PxX** Customized
**DEA 50**

**Electrical Differential Indicator**

- **Setting**
  - 1.2 bar ±10%: DE A 12 x A 50 P01
  - 2.0 bar ±10%: DE A 20 x A 50 P01
  - 5.0 bar ±10%: DE A 50 x A 50 P01
  - 7.0 bar ±10%: DE A 70 x A 50 P01
  - 9.5 bar ±10%: DE A 95 x A 50 P01

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

**Connection diagram**
- Red
- Black
- White

**Hydraulic symbol**
- A/F 30
- Max tightening torque: 65 N∙m

**DEH 48**

**Hazardous Area Electronic Differential Indicator**

- **Setting**
  - 5.0 bar ±10%: DE H 50 x A 48 P01
  - 7.0 bar ±10%: DE H 70 x A 48 P01

**Technical data**
- Max working pressure: 420 bar
- Working temperature: From -60 °C to +125 °C
- Connection type: M20 x 1.5 - 3 core polyrad cable supplied with 5 meters
- Contact type: SPCO/SPDT (Hermetically sealed - volt free contacts)
- Degree of protection: IP 66/67/68 according to EN 60529

**Electrical data**
- Current Ratings: 24v DC 830mA - 110v AC 180mA
- Electrical Ratings: 20 W VA

**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)

**Connection diagram**
- Red
- White
- Black

**DEH 49**

**Hazardous Area Electronic Differential Indicator**

- **Setting**
  - 5.0 bar ±10%: DE H 50 x A 49 P01
  - 7.0 bar ±10%: DE H 70 x A 49 P01

**Technical data**
- Max working pressure: 420 bar
- Working temperature: From -60 °C to +105 °C: ATEX, IECEx, TRCU, INMETRO
  - From -60 °C to +120 °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)
- Degree of protection: IP 66/67/68 according to EN 60529

**Electrical data**
- Current Ratings: 24v DC 830mA - 110v AC 180mA
- Electrical Ratings: 24 VDC 110 VAC
- Max switching current: 830mA
- Max voltage: 150 V AC/DC
- Power watts: 20 W VA

**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)

**Connection diagram**
- Red
- Green
- White
- Black

**Clogging Indicators**

**Dimensions**

- **DEA 50**
- **DEH 48**
- **DEH 49**
DIFFERENTIAL INDICATORS

Dimensions

**DEH*70**

**Hazardous Area**

**Electronic Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</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>

**Connection diagram**

- 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 Ui 30V - Li 250mA - Pi 1.3W

**DEM*10**

**Electrical Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 bar ±10%</td>
<td>DE M 12 x x 10 P01</td>
</tr>
<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>
</tr>
<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>

**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”)

**DEH*20**

**Electrical Differential Indicator**

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

**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”)

**Materials**

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

**CE**

EX ia IIC T6: Intrinsically safe

**Temperature class**

T6 (85 °C)

**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*30

**Electrical Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 bar ±10%</td>
<td>DE M 12 x 30 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>DE M 20 x 30 P01</td>
</tr>
<tr>
<td>5.0 bar ±10%</td>
<td>DE M 50 x 30 P01</td>
</tr>
<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
- 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”)

### DEM*35

**Electrical Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 bar ±10%</td>
<td>DE M 12 x 35 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>DE M 20 x 35 P01</td>
</tr>
<tr>
<td>5.0 bar ±10%</td>
<td>DE M 50 x 35 P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DE M 70 x 35 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DE M 95 x 35 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 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”)

### DES*10

**Electrical Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 bar ±10%</td>
<td>DE S 25 H A 10 P01</td>
</tr>
<tr>
<td>4.0 bar ±10%</td>
<td>DE S 40 H A 10 P01</td>
</tr>
</tbody>
</table>

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

**Technical data**
- Max working pressure: 16 bar
- Proof pressure: 24 bar
- Burst pressure: 48 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree protection: IP67 according to EN 60529

**Electrical data**
- Electrical connection: AMP Superseal series 1.5
- Resistive load: 0.2 A / 24 Vdc
- Switching type: Normally open contacts (NC on request)
**Dimensions**

### DIFFERENTIAL INDICATORS

#### DES*30

**Electrical Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 bar ±10%</td>
<td>DE S 25 H A 30 P01</td>
</tr>
<tr>
<td>4.0 bar ±10%</td>
<td>DE S 40 H A 30 P01</td>
</tr>
</tbody>
</table>

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

**Technical data**
- Max working pressure: 16 bar
- Proof pressure: 24 bar
- Burst pressure: 48 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree protection: IP67 according to EN 60529

**Electrical data**
- Electrical connection: Deutsch DT-04-2-P
- Resistive load: 0.2 A / 24 Vdc
- Switching type: Normally open contacts (NC on request)

#### DES*80

**Electrical Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 bar ±10%</td>
<td>DE S 25 H A 80 P01</td>
</tr>
<tr>
<td>4.0 bar ±10%</td>
<td>DE S 40 H A 80 P01</td>
</tr>
</tbody>
</table>

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

**Technical data**
- Max working pressure: 16 bar
- Proof pressure: 24 bar
- Burst pressure: 48 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree protection: IP67 according to EN 60529

**Electrical data**
- Electrical connection: Stud #10-32 UNF
- Resistive load: 0.2 A / 24 Vdc
- Switching type: Normally open contacts (NC on request)

#### DLA*51 - DLA*52

**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>DL A 12 x A xx P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>DL A 20 x A xx P01</td>
</tr>
<tr>
<td>5.0 bar ±10%</td>
<td>DL A 50 x A xx P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DL A 70 x A xx P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DL A 95 x A xx 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
- 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

#### Clogging Indicators

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

**Technical data**
- Max working pressure: 2 bar
- Proof pressure: 3 bar
- Burst pressure: 6 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
- Degree protection: IP67 according to EN 60529

**Electrical data**
- Electrical connection: Deutsch DT-04-2-P
- Resistive load: 0.2 A / 24 Vdc
- Switching type: Normally open contacts (NC on request)
**Differential Indicators**

**Electrical/Visual Differential Indicator**

**DLA**71

### 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:** IP65 according to EN 60529

### Electrical data
- **Electrical connection:** EN 175301-803
- **Resistive load:** 0.4 A / 250 Vac

**DLE**A50

### 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:** IP69K according to ISO 20653

### Electrical data
- **Electrical connection:** IEC 61076-2-101 D (M12)
- **Lamps:** 24 Vdc
- **Resistive load:** 0.4 A / 250 Vac

**DLE**F50

### 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:** IP65 according to EN 60529

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

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

**Dimensions**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 bar ±10%</td>
<td>DL A 12 x A 71 P01</td>
</tr>
<tr>
<td>2.0 bar ±10%</td>
<td>DL A 20 x A 71 P01</td>
</tr>
<tr>
<td>5.0 bar ±10%</td>
<td>DL A 50 x A 71 P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DL A 70 x A 71 P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DL A 95 x A 71 P01</td>
</tr>
</tbody>
</table>

**A/F 30**

Max tightening torque: 65 N·m

**A/F 32**

Max tightening torque: 95 N·m
### Electronic Differential Indicator

**DTA**

**DTA**

**Visual Differential Indicator**

**Visual Differential Indicator**

**Visual Differential Indicator**

**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 HFA, HFB, HFC according to ISO 2943
- 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)

**Dimensions**

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

**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
DVS

**Visual Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 bar ±10%</td>
<td>DV S 25 H P01</td>
</tr>
<tr>
<td>4.0 bar ±10%</td>
<td>DV S 40 H P01</td>
</tr>
</tbody>
</table>

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

**Technical data**
- Reset: Automatic reset
- Max working pressure: 16 bar
- Proof pressure: 24 bar
- Burst pressure: 48 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: IP67 according to EN 60529

**Hydraulic symbol**

![Hydraulic symbol](image1)

**T2**

**Indicator plug**

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

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

**Clear / Red clogging indicator**

![Clogging indicator](image2)

**Max tightening torque**

- A/F 17: 20 N∙m
- A/F 30: 50 N∙m
**DIFFERENTIAL INDICATORS**

### Designation & Ordering code

<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>
<th>Configuration example 5:</th>
<th>Configuration example 6:</th>
<th>Configuration example 7:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE Electrical or Electronic differential indicator</td>
<td>DE</td>
<td>H</td>
<td>50</td>
<td>F</td>
<td>A</td>
<td>70</td>
<td>P01</td>
</tr>
<tr>
<td>DL Electrical / Visual differential indicator</td>
<td>DE</td>
<td>M</td>
<td>50</td>
<td>H</td>
<td>F</td>
<td>50</td>
<td>P01</td>
</tr>
<tr>
<td>DT Electronic differential indicator</td>
<td>DE</td>
<td>S</td>
<td>25</td>
<td>H</td>
<td>A</td>
<td>10</td>
<td>P01</td>
</tr>
<tr>
<td>DV Visual differential indicator</td>
<td>DL</td>
<td>E</td>
<td>70</td>
<td>V</td>
<td>A</td>
<td>71</td>
<td>P01</td>
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<td>A</td>
<td>50</td>
<td>H</td>
<td>F</td>
<td>70</td>
<td>P01</td>
</tr>
<tr>
<td></td>
<td>DV</td>
<td>M</td>
<td>95</td>
<td>V</td>
<td>E</td>
<td>70</td>
<td>P01</td>
</tr>
<tr>
<td></td>
<td>DV</td>
<td>S</td>
<td>40</td>
<td>H</td>
<td>F</td>
<td>70</td>
<td>P01</td>
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</table>

### Type DE - DL - DT

<table>
<thead>
<tr>
<th>Type DE - DL - DT</th>
<th>DE</th>
<th>DL</th>
<th>DT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Standard type</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>E For high power supply</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H Hazardous area</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>S Compact version</td>
<td>•</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Pressure setting

<table>
<thead>
<tr>
<th>Pressure setting</th>
<th>DEA</th>
<th>DER</th>
<th>DEM</th>
<th>DES</th>
<th>DLA</th>
<th>DLE</th>
<th>DTA</th>
<th>DVA</th>
<th>DVM</th>
<th>DVS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 1.2 bar</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</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>
<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>
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<td>•</td>
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<td>•</td>
</tr>
<tr>
<td>40 4.0 bar</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>50 5.0 bar</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>70 7.0 bar</td>
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<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>•</td>
</tr>
<tr>
<td>95 9.5 bar</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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### Seals

<table>
<thead>
<tr>
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<th>DER</th>
<th>DEM</th>
<th>DES</th>
<th>DLA</th>
<th>DLE</th>
<th>DTA</th>
<th>DVA</th>
<th>DVM</th>
<th>DVS</th>
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<tbody>
<tr>
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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>
<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>
<td>•</td>
<td>•</td>
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</tr>
</tbody>
</table>

### Thermostat

<table>
<thead>
<tr>
<th>Thermostat</th>
<th>DEA</th>
<th>DER</th>
<th>DEM</th>
<th>DES</th>
<th>DLA</th>
<th>DLE</th>
<th>DTA</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

<table>
<thead>
<tr>
<th>Electrical connections</th>
<th>DEA</th>
<th>DER</th>
<th>DEM</th>
<th>DES</th>
<th>DLA</th>
<th>DLE</th>
<th>DTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Connection AMP Superseal series 1.5</td>
<td>•</td>
<td>•</td>
<td></td>
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<td></td>
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<tr>
<td>20 Connection AMP Timer Junior</td>
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<td>48 Connection M20</td>
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<td>49 Connection 1/2” NPT</td>
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<tr>
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<td>•</td>
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<td>51 Connection EN 175301-803, transparent base with lamps 24 Vdc</td>
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<tr>
<td>52 Connection EN 175301-803, transparent base with lamps 110 Vdc</td>
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<tr>
<td>70 Connection IEC 61076-2-101 D (M12)</td>
<td>•</td>
<td>•</td>
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<tr>
<td>71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc</td>
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<td>80 Connection Stud #10-32 UNF</td>
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### Option

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<tr>
<th>Option</th>
<th>P01</th>
<th>MP Filtri standard</th>
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<tbody>
<tr>
<td>Pxx</td>
<td>Customized</td>
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</tbody>
</table>

### DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATOR PLUG

<table>
<thead>
<tr>
<th>Series</th>
<th>Configuration example</th>
<th>T2</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>T2 Indicator plug</td>
<td>T2</td>
<td>H</td>
<td></td>
</tr>
</tbody>
</table>
### STAINLESS STEEL DIFFERENTIAL INDICATORS

#### DEH*48

**Hazardous Area Electronic Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</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>

- **Dimensions**: 114 x 67.5 x 28 mm
- **A/F**: 25 mm
- **Max tightening torque**: 50 N·m

- **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 +125 °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: 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

- **Connection diagram**

#### DEH*49

**Hazardous Area Electronic Differential Indicator**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Ordering code</th>
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<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>

- **Dimensions**: 114 x 67.5 x 28 mm
- **A/F**: 25 mm
- **Max tightening torque**: 50 N·m

- **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: Supply Voltage 24V DC, Max switching current 830mA, Max voltage 150 V AC/DC, Power watts 20 W VA

- **Connection diagram**

#### DEH*70

**Hazardous Area Electronic Differential Indicator**

<table>
<thead>
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<th>Settings</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>

- **Dimensions**: 90 x 42.5 x 26.5 mm
- **A/F**: 25 mm
- **Max tightening torque**: 50 N·m

- **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

- **Connection diagram**
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>DX X 50 x A x P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DX X 70 x A x P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DX X 95 x A x 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, 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

---

### 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>DLX 50 x A x x x P01</td>
</tr>
<tr>
<td>7.0 bar ±10%</td>
<td>DLX 70 x A x x x P01</td>
</tr>
<tr>
<td>9.5 bar ±10%</td>
<td>DLX 95 x A x 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, 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

---

### 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, HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

---

A/F 30
Max tightening torque: 65 N·m

A/F 30
Max tightening torque: 65 N·m

A/F 28
Max tightening torque: 65 N·m
### Visual Differential Indicator

**DVY**

**Visual Differential Indicator**

<table>
<thead>
<tr>
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<th>Ordering code</th>
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<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

**X2**

**Indicator plug**

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<tbody>
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<td>X2 H</td>
</tr>
<tr>
<td>MFQ</td>
<td>X2 F</td>
</tr>
</tbody>
</table>

**Materials**

- **Body**: AISI 316L
- **Seal**: HNBR / MFQ

**Technical data**

- **Max tightening torque**: 65 N·m
- **Max tightening torque**: 50 N·m
### STAINLESS STEEL DIFFERENTIAL INDICATORS

<table>
<thead>
<tr>
<th>Series</th>
<th>Configuration example 1:</th>
<th>DE</th>
<th>H</th>
<th>50</th>
<th>F</th>
<th>A</th>
<th>70</th>
<th>P01</th>
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</thead>
<tbody>
<tr>
<td>DE Electrical or Electronic differential indicator</td>
<td>Configuration example 2:</td>
<td>DE</td>
<td>X</td>
<td>50</td>
<td>H</td>
<td>A</td>
<td>50</td>
<td>P01</td>
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<tr>
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<td>Configuration example 3:</td>
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<td>A</td>
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<td>P01</td>
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<td>DV Visual differential indicator</td>
<td>Configuration example 4:</td>
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<td>●</td>
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<td>Y Optional type</td>
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<th>DEX</th>
<th>DLX</th>
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<td>95 9.5 bar</td>
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<th>DLX</th>
<th>DVX-DVY</th>
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<tr>
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<th>DEX</th>
<th>DLX</th>
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<tbody>
<tr>
<td>48 Connection M20</td>
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<tr>
<td>49 Connection 1/2” NPT</td>
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</tr>
<tr>
<td>50 Connection EN 175301-803</td>
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<tr>
<td>51 Connection EN 175301-803, transparent base with lamps 24 Vdc</td>
<td>●</td>
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<td>52 Connection EN 175301-803, transparent base with lamps 110 Vdc</td>
<td>●</td>
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<td>70 Connection IEC 61076-2-101 D (MT2)</td>
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### DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATOR PLUG

<table>
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<th>Series</th>
<th>Configuration example</th>
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<th>H</th>
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<tbody>
<tr>
<td>X2 Indicator plug</td>
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<th>DLX</th>
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### Option

- P01 MP Filtri standard
- Pxx Customized
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<th>Filter series</th>
<th>Electrical indicator</th>
<th>Electrical / Visual indicator</th>
<th>Electronic indicator</th>
<th>Visual indicator</th>
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<tbody>
<tr>
<td>SFX060-080-110-160</td>
<td>VEB21AA50P01</td>
<td>VLB21AA51P01</td>
<td>VLB21AA52P01</td>
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<td>VLB21AA71P01</td>
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<tr>
<td>SFX060-080-110-160</td>
<td>VEA21AA50P01</td>
<td>VLB21AA51P01</td>
<td>VLB21AA52P01</td>
<td>VLB21AA53P01</td>
<td>VLB21AA71P01</td>
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<td>With bypass valve</td>
<td>RFEX060-080-110-160</td>
<td>BEA15HA50P01</td>
<td>BLA15HA51P01</td>
<td>BLA15HA52P01</td>
<td>BLA15HA53P01</td>
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<td>RFEX060-080-110-160</td>
<td>BEM20HA41P01</td>
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<td>BEA15HA50P01</td>
<td>BLA15HA51P01</td>
<td>BLA15HA52P01</td>
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<tr>
<td>Suction line</td>
<td>MRSX 116 - 165</td>
<td>VEB21AA50P01</td>
<td>VLB21AA51P01</td>
<td>VLB21AA52P01</td>
<td>VLB21AA53P01</td>
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<td>Return line</td>
<td>LMP 124 MULTIPORT</td>
<td>BEA25HA50P01</td>
<td>BLA25HA51P01</td>
<td>BLA25HA52P01</td>
<td>BLA25HA53P01</td>
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<tr>
<td>Suction line</td>
<td>MPS 050 - 070 - 100 - 150</td>
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<td>VLB21AA51P01</td>
<td>VLB21AA52P01</td>
<td>VLB21AA53P01</td>
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<tr>
<td>Return line</td>
<td>MPS 050 - 070 - 100 - 150</td>
<td>BEA15HA50P01</td>
<td>BLA15HA51P01</td>
<td>BLA15HA52P01</td>
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<td>In-line</td>
<td>MPS 051 - 071 - 101 - 151</td>
<td>DEA12xA50P01</td>
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<td>DLA12xA52P01</td>
<td>DLA12xA53P01</td>
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<td>MPS 301 - 351</td>
<td>DEM12xA0xP01</td>
<td>DLE12xA50P01</td>
<td>DLE12xA52P01</td>
<td>DLE12xF50P01</td>
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<td></td>
<td>MSH 050 - 070 - 100 - 150</td>
<td>DEM12xA0xP01</td>
<td>DLE12xF50P01</td>
<td>DLE20xF50P01</td>
<td>DLE20xF50P01</td>
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<td>Filter series</td>
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<td>Electrical / Visual indicator</td>
<td>Electronic indicator</td>
<td>Visual indicator</td>
</tr>
<tr>
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</tr>
<tr>
<td>With bypass valve</td>
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<td>DES25HA10P01</td>
<td>DVS25HP01</td>
<td>DVS25HP01</td>
<td>DVS40BP01</td>
</tr>
<tr>
<td>Without bypass valve</td>
<td>LFE060-080-110-160</td>
<td>DES40HA10P01</td>
<td>DVS40HP01</td>
<td>DVS25HP01</td>
<td>DVS40BP01</td>
</tr>
</tbody>
</table>

**LOW & MEDIUM PRESSURE FILTERS**

- LMP 110 - 112 - 116 - 118 - 119 MULTIPORT
- LMP 120 - 122 - 123 MULTIPORT
- LMP 210 - 211 - LDP
- LMP 400 - 401 & 430 - 431
- LMP 500 - 501 - 502 - 503 - 504
- LMD 211 - 400 - 401 - 431 - LDD

**HIGH PRESSURE FILTERS**

- LMP 110 - 112 - 116 - 118 - 119 MULTIPORT
- LMP 120 - 122 - 123 MULTIPORT
- LMP 210 - 211 - LDP
- LMP 400 - 401 & 430 - 431
- LMP 500 - 501 - 502 - 503 - 504
- LMD 211 - 400 - 401 - 431 - LDD

**STAINLESS STEEL HIGH PRESSURE FILTERS**

- FHP 010 - 011 - 065 - 135 - 350 - 500
- FMM 050 - 150
- FHA 051
- HMM 006 - 007 - 010 - 050 - 065 - 135 - 320 - 500
- FHP 050 - 135 - 320
- FHB 050 - 135 - 320

- FMD 021 - 051 - 326 - 333

**Hazardous area electronic indicator**

- DVS25HP01
- DVS40BP01
- DVS40BP01

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**Quick Reference Guide**

Clogging Indicators
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