Filter elements are efficient only if their Dirt Holding Capacity is fully exploited. This is achieved by using filter housings equipped with clogging indicators. These devices trip when the clogging of the filter element causes an increasing in pressure drop across the filter element. 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 model (only available for differential type indicators) with warning signals (75% of clogging) and alarm (clogging).
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.
# Quick reference guide

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## Visual Indicator Filter Series

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<td>DVA20xP01&lt;br&gt;DVM20xP01</td>
<td>DLA20xA51P01&lt;br&gt;DLA20xA52P01&lt;br&gt;DLA20xA71P01&lt;br&gt;DLE20xA50P01&lt;br&gt;DLE20xF50P01</td>
<td>DTA20xF70P01</td>
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<tr>
<td><strong>LMP 110 · 112 · 116 · 118 · 119</strong>&lt;br&gt;<strong>LMP 120 · 122 · 123</strong>&lt;br&gt;<strong>LMP 210 · 211</strong>&lt;br&gt;<strong>LMP 400 · 401 · 430 · 431</strong>&lt;br&gt;<strong>LMP 900 · 901 · 950 · 951</strong>&lt;br&gt;<strong>LMD 400 · 401 · 431 · 951</strong>&lt;br&gt;Without bypass valve</td>
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## High Pressure In-Line filters

| **FMP 039 · 065 · 135 · 320**<br>**FMM 050**<br>**FHP 010 · 011 · 065 · 135 · 320 · 500**<br>**FHB 050 · 135 · 320**<br>**FHM 006 · 007 · 010 · 050 · 135 · 320 · 500**<br>**FHF 325**<br>**FHD 021 · 051 · 326 · 333**<br>With bypass valve | DVA50xP01<br>DVM50xP01 | DLA50xA51P01<br>DLA50xA52P01<br>DLA50xA71P01<br>DLE50xA50P01<br>DLE50xF50P01 | DTA50xF70P01 |
| **FMP 039 · 065 · 135 · 320**<br>**FMM 050**<br>**FHP 010 · 011 · 065 · 135 · 320 · 500**<br>**FHB 050 · 135 · 320**<br>**FHM 006 · 007 · 010 · 050 · 135 · 320 · 500**<br>**FHF 325**<br>**FHD 021 · 051 · 326 · 333**<br>Without bypass valve | DVA70xP01<br>DVM70xP01 | DLA70xA51P01<br>DLA70xA52P01<br>DLA70xA71P01<br>DLE70xA50P01<br>DLE70xF50P01 | DTA70xF70P01 |

## Stainless Steel High Pressure In-Line filters

| **FZB 039**<br>**FZM 039**<br>**FZP 039 · 136**<br>**FZH 010 · 011 · 039**<br>**FZD 051**<br>With bypass valve | DVX50xP01<br>DY50xP01 | DLX50xA51P01<br>DLX50xA52P01 | |
| **FZB 039**<br>**FZM 039**<br>**FZP 039 · 136**<br>**FZH 010 · 011 · 039**<br>**FZD 010 · 021 · 051**<br>Without bypass valve | DVX70xP01<br>DY70xP01 | DLX70xA51P01<br>DLX70xA52P01 | |
**Electrical Vacuum Indicator**

**Materials:**
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

**Technical data:**
- Indicator type: Electrical vacuum indicator
- Setting pressure: -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
- Electrical data:
  - Resistive load: 5 A / 14 Vdc
  - Electrical connections: 51 - EN 175301-803 (24 Vdc lamps)

**Protection degree:** IP 65 in accordance to EN 60529

**Available connections:**
- R 1/4" EN 10226 (VEA21AAx5P01)
- R 1/8" EN 10226 (VEB21AA50P01)

**Electrical/Visual Vacuum Indicator**

**Materials:**
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

**Technical data:**
- Indicator type: Electrical/Visual vacuum indicator
- Setting pressure: -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
- Electrical data:
  - Resistive load: 5 A / 14 Vdc
  - Electrical connections: 51 - EN 175301-803 (24 Vdc lamps)

**Protection degree:** IP 65 in accordance to EN 60529

**Available connections:**
- R 1/4" EN 10226 (VLA21AAxxP01)
- R 1/8" EN 10226 (VLB21AA71P01)

**Electrical/Visual Vacuum Indicator**

**Materials:**
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

**Technical data:**
- Indicator type: Electrical/Visual vacuum indicator
- Setting pressure: -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
- Electrical data:
  - Resistive load: 5 A / 14 Vdc
  - Electrical connections: 51 - EN 175301-803 (24 Vdc lamps)

**Protection degree:** IP 65 in accordance to EN 60529

**Available connections:**
- R 1/4" EN 10226 (VLA21AAxxxP01)
- R 1/8" EN 10226 (VLB21AA71P01)
**Axial Vacuum Gauge**

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

**Technical data:**
- Indicator type: Axial vacuum gauge
- 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 fluids in according to ISO 2943
- Accuracy class: cl. 2.5
- Protection degree: IP 31 in according to EN 60529

**Available connections:**
- R 1/4" EN 10226 (VVA16P01)
- R 1/8" EN 10226 (VVB16P01)

---

**Radial Vacuum Gauge**

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

**Technical data:**
- Indicator type: Radial vacuum gauge
- 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 fluids in according to ISO 2943
- Accuracy class: cl. 2.5
- Protection degree: IP 31 in according to EN 60529

**Available connections:**
- R 1/4" EN 10226 (VVR16P01)
- R 1/8" EN 10226 (VVS16P01)
### Ordering information VE - VL - VV

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1. **Series**
   - VE: Electrical indicator
   - VL: Electrical/Visual indicator
   - VV: Visual indicator

2. **Type**
   - VE - VL series
     - A: R 1/4” EN 10226 connection
     - B: R 1/8” EN 10226 connection
   - VV series
     - A: Axial vacuometer
       - R 1/4” EN 10226 connection
     - B: Axial vacuometer
       - R 1/8” EN 10226 connection
     - R: Radial vacuometer
       - R 1/4” EN 10226 connection
     - S: Radial vacuometer
       - R 1/8” EN 10226 connection

3. **Setting pressure**
   - VEA - VLA series
     - 21: -0.21 bar
   - VVA - VVR series
     - 16: -0.16 bar

4. **Seals (excluded for VV)**
   - A: NBR
   - On request

5. **Thermostat (excluded for VV)**
   - A: Without thermostat

6. **Electrical connection (excluded for VV)**
   - VEA series
     - 50: EN 175301-803 connector
   - VLA series
     - 51: EN 175301-803 clear connector with 24 V lamps
     - 52: EN 175301-803 clear connector with 110 V lamps
     - 53: EN 175301-803 clear connector with 230 V lamps
     - 71: M12 IEC 61076-2-101 clear connector with 24 V lamps

7. **Option**
   - P01: MP Filtri standard
   - Pxx: Customer request
BAROMETRIC INDICATORS

Electrical Pressure Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

Technical data:
- Indicator type: Electrical pressure indicator
- 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 fluids in according to ISO 2943

Electrical data:
- Resistive load: 5 A / 14 Vdc
  4 A / 30 Vdc
  5 A / 125 Vac
  5 A / 250 Vac
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 65 in according to EN 60529
- Available Alex product: II 1GD Ex ia IIC T6 Ex ia IIC T6°C X

Available setting:
1.5 bar ±10% (BEA15HA50P01)
2 bar ±10% (BEA20HA50P01)

Electrical Pressure Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR

Technical data:
- Indicator type: Electrical pressure indicator
- 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 fluids in according to ISO 2943

Electrical data:
- Resistive load: 4 A / 115 Vdc
  5 A / 14 Vdc
  5 A / 125 Vac
  5 A / 250 Vac
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 67 in according to EN 60529
- On request this indicator can be provided with main connectors in use for wirings.

Available setting:
1.5 bar ±10% (BEM15HA41P01)
2 bar ±10% (BEM20HA41P01)

Electrical/Visual Pressure Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

Technical data:
- Indicator type: Electrical/Visual pressure indicator
- 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 fluids in according to ISO 2943

Electrical data:
- Resistive load: 51: 0.8 A / 24 Vdc
  52: 0.2 A / 115 Vdc
  53: 4 A / 230 Vdc
- Electrical connections: 51 - EN 175301-803 (24 Vdc lamps)
  52 - EN 175301-803 (110 Vdc lamps)
  53 - EN 175301-803 (230 Vdc lamps)
- Protection degree: IP 65 in according to EN 60529

Available setting:
1.5 bar ±10% (BLA15HAxxP01)
2 bar ±10% (BLA20HAxxP01)
**Electrical Pressure Indicator**

**Materials:**
- Body: Brass
- Base - Ring: Nylon
- Contact: Silver
- Seals: HNBR

**Technical data:**
- Pressure switch type: Electrical pressure switch
- Pressure setting: 2.5 bar ±10%
- Working pressure: 10 bar
- Proof pressure: 15 bar
- Max working temperature: +100 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

**Electrical data:**
- Electrical condition: Normally opened single contact
- Resistive load: 0.5 A / 48 Vdc
- Electrical connections: 10 - AMP Superseal series 1,5
- Thermostat condition: Open up to 30°C
- CE certification
- Protection degree: IP 65 in according to EN 60529

**Available setting:**
- 2.5 bar ±10% (BET25HF10P01)

---

**Electrical Pressure Indicator**

**Materials:**
- Body: Brass
- Base - Ring: Nylon
- Contact: Silver
- Seals: HNBR

**Technical data:**
- Pressure switch type: Electrical pressure switch
- Pressure setting: 2.5 bar ±10%
- Working pressure: 10 bar
- Proof pressure: 15 bar
- Max working temperature: +100 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

**Electrical data:**
- Electrical condition: Normally opened single contact
- Resistive load: 0.5 A / 48 Vdc
- Electrical connections: 10 - Deutsch DT-04-3-P
- Thermostat condition: Open up to 30°C
- CE certification
- Protection degree: IP 65 in according to EN 60529

**Available setting:**
- 2.5 bar ±10% (BET25HF30P01)

---

**Electrical Pressure Indicator**

**Materials:**
- Body: Brass
- Base - Ring: Nylon
- Contact: Silver
- Seals: HNBR

**Technical data:**
- Pressure switch type: Electrical pressure switch
- Pressure setting: 2.5 bar ±10%
- Working pressure: 10 bar
- Proof pressure: 15 bar
- Max working temperature: +100 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

**Electrical data:**
- Electrical condition: Normally opened single contact
- Resistive load: 0.5 A / 48 Vdc
- Electrical connections: 50 - EN 175301-803
- Thermostat condition: Open up to 30°C
- CE certification
- Protection degree: IP 65 in according to EN 60529

**Available setting:**
- 2.5 bar ±10% (BET25HF50P01)
**Barometric Indicators**

**Electrical/Visual Pressure Indicator**

**Materials:**
- **Body:** Brass
- **Internal parts:** Brass - Nylon
- **Seals:** NBR

**Technical data:**
- **Indicator type:** Electrical/Visual pressure indicator
- **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 fluids in according to ISO 2943

**Electrical data:**
- **Resistive load:** 0,4 A / 24 Vcc
- **Electrical connections:** 71 - M12 IEC 61076-2-101 (24 Vcc lamps)
- **Protection degree:** IP 65 in according to EN 60529

**Available setting:**
- 1.5 bar ±10% (BLA15HA71P01)
- 2 bar ±10% (BLA20HA71P01)

---

**Axial Pressure Gauge**

**Materials:**
- **Case:** Painted Steel
- **Window:** Clear plastic
- **Dial:** Painted Steel
- **Pointer:** Painted Aluminium
- **Pressure connection:** Brass
- **Pressure element:** Bourdon tub cu-alloy soft soldered

**Technical data:**
- **Indicator type:** Axial pressure gauge
- **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 fluids in according to ISO 2943
- **Accuracy class:** cl. 2.5
- **Protection degree:** IP 31 in according to EN 60529

**Available setting:**
- 1.4 bar ±10% (BVA14P01)
- 2.5 bar ±10% (BVA25P01)

---

**Radial Pressure Gauge**

**Materials:**
- **Case:** Painted Steel
- **Window:** Clear plastic
- **Dial:** Painted Steel
- **Pointer:** Painted Aluminium
- **Pressure connection:** Brass
- **Pressure element:** Bourdon tub cu-alloy soft soldered

**Technical data:**
- **Indicator type:** Radial pressure gauge
- **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 fluids in according to ISO 2943
- **Accuracy class:** cl. 2.5
- **Protection degree:** IP 31 in according to EN 60529

**Available setting:**
- 1.4 bar ±10% (BVR14P01)
- 2.5 bar ±10% (BVR25P01)

---

**Electrical/Visual Pressure Indicator**

**Materials:**
- **Body:** Brass
- **Internal parts:** Brass - Nylon
- **Seals:** NBR

**Technical data:**
- **Indicator type:** Electrical/Visual pressure indicator
- **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 fluids in according to ISO 2943

**Electrical data:**
- **Resistive load:** 0,4 A / 24 Vcc
- **Electrical connections:** 71 - M12 IEC 61076-2-101 (24 Vcc lamps)
- **Protection degree:** IP 65 in according to EN 60529

**Available setting:**
- 1.5 bar ±10% (BLA15HA71P01)
- 2 bar ±10% (BLA20HA71P01)
### Visual Pressure Indicator

**Materials:**
- **Body:** Brass
- **Internal parts:** Nylon
- **Seals:** NBR

**Technical data:**
- **Indicator type:** Visual pressure indicator
- **Reset:**
  - BVP - Automatic reset
  - BVQ - 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, HFA, HFB, HFC fluids in accordance to ISO 2943
- **Protection degree:** IP 45 in accordance to EN 60529

---

**Available setting:**
- 1.5 bar ±10% (BVP15AP01 - BVQ15AP01)
- 2 bar ±10% (BVP20AP01 - BVQ20AP01)

---

**Visual Pressure Indicator**

**Technical drawing:**

- **A/F 27**
- **Max tightening torque:** 25 N·m
- **R 1/8” - EN 10226**

---

**Hydraulic Symbol**

- **Signals:**
  - **Green button:** INLET PRESSURE
  - **Red button:** CLOGGED FILTER ELEMENT

---

**Microprocessor**

- **Max tightening torque:** 25 N·m
- **R 1/8” - EN 10226**
### Ordering information BE - BL - BV

<table>
<thead>
<tr>
<th>Series</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>P</td>
<td>20</td>
<td>H</td>
<td></td>
<td>P01</td>
<td></td>
</tr>
</tbody>
</table>

1 - **Series**
- BE: Electrical indicator
- BL: Electrical/Visual indicator
- BV: Visual indicator

2 - **Type**
- **BE series**
  - A: Standard type
  - M: With wired connector
- **BL series**
  - A: Standard type
- **BV series**
  - A: Axial manometer
  - R: Radial manometer
  - P: Visual pressure indicator - Automatic reset
  - Q: Visual pressure indicator - Manual reset

3 - **Setting pressure**
- **BEA - BEM - BLA - BVP series**
  - 15: 1.5 bar
  - 20: 2 bar
- **BVA - BVR series**
  - 14: 1.4 bar
  - 25: 2.5 bar

4 - **Seals (excluded for BVA - BVR)**
- H: HNBR
  - On request

5 - **Thermostat (excluded for BV)**
- A: Without thermostat

6 - **Electrical connection (excluded for BV)**
- **BEA series**
  - 50: EN 175301-803 connector
- **BEM series**
  - 41: Four core cable
    - On request
- **BLA series**
  - 51: EN 175301-803 clear connector with 24 V lamps
  - 52: EN 175301-803 clear connector with 110 V lamps
  - 53: EN 175301-803 clear connector with 230 V lamps
  - 71: M12 IEC 61076-2-101 clear connector with 24 V lamps

7 - **Option**
- P01: MP Filtri standard
- Pxx: Customer request

---

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DIFFERENTIAL INDICATORS

**Electrical Differential Indicator**

- **Materials:**
  - Body: Brass
  - Internal parts: Brass - Nylon
  - Seals: HNBR - FPM

- **Technical data:**
  - Indicator type: Electrical differential indicator
  - 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 fluids in according to ISO 2943

- **Electrical data:**
  - Resistive load: 0.2 A / 115 Vdc
  - Electrical connections: 10 - AMP Superseal series 1,5
  - Switching type: Normally open contacts (N.C. on request)
  - Thermal lockout: Normally open up to 30°C (F option)
  - Protection degree: IP 66 in according to EN 60529

**Available settings:**
- 1.2 bar ±10% (DEA12xx10P01)
- 2 bar ±10% (DEA20xx10P01)
- 5 bar ±10% (DEA50xx10P01)
- 7 bar ±10% (DEA70xx10P01)
- 9.5 bar ±10% (DEA95xx10P01)

**Technical data**

- **Protection degree:** IP 69K in according to ISO 14347-5

**Materials:**

- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

**Technical data:**

- Indicator type: Electrical differential indicator
- 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 fluids in according to ISO 2943

**Electrical data:**

- Resistive load: 0.2 A / 115 Vdc
- Electrical connections: 50 - EN 175301-803
- Switching type: Normally open contacts (N.C. on request)
- Thermal lockout: Normally open up to 30°C (F option)
- Protection degree: IP 66 in according to EN 60529

**Available settings:**
- 1.2 bar ±10% (DEM12xx10P01)
- 2 bar ±10% (DEM20xx10P01)
- 5 bar ±10% (DEM50xx10P01)
- 7 bar ±10% (DEM70xx10P01)
- 9.5 bar ±10% (DEM95xx10P01)

**Technical data**

- **Protection degree:** IP 69K in according to ISO 14347-5

**Materials:**

- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

**Technical data:**

- Indicator type: Electrical differential indicator
- 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 fluids in according to ISO 2943

**Electrical data:**

- Resistive load: 0.2 A / 115 Vdc
- Electrical connections: 20 - AMP Time junior
- Switching type: Normally open contacts (N.C. on request)
- Thermal lockout: Normally open up to 30°C (F option)
- Protection degree: IP 66 in according to EN 60529

**Available settings:**
- 1.2 bar ±10% (DEM12xx20P01)
- 2 bar ±10% (DEM20xx20P01)
- 5 bar ±10% (DEM50xx20P01)
- 7 bar ±10% (DEM70xx20P01)
- 9.5 bar ±10% (DEM95xx20P01)
DIFFERENTIAL INDICATORS

**Electrical Differential Indicator**

**Materials:**
- **Body:** Brass
- **Internal parts:** Brass - Nylon
- **Seals:** HNBR - FPM

**Technical data:**
- **Indicator type:** Electrical differential indicator
- **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 in accordance to ISO 2943

**Electrical data:**
- **Resistive load:** 0.2 A / 115 Vdc
- **Electrical connections:** 35 - Deutsch DT-04-3-P
- **Switching type:** Normally open contacts (N.O. option)
- **Protection degree:** IP 66 in accordance to EN 60529

**Available setting:**
- 1.2 bar ±10% (DEM12xx30P01)
- 2 bar ±10% (DEM20xx30P01)
- 5 bar ±10% (DEM50xx30P01)
- 7 bar ±10% (DEM70xx30P01)
- 9.5 bar ±10% (DEM95xx30P01)

**Electrical Differential Indicator**

**Materials:**
- **Body:** Brass
- **Internal parts:** Brass - Nylon
- **Seals:** HNBR - FPM

**Technical data:**
- **Indicator type:** Electrical differential indicator
- **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 in accordance to ISO 2943

**Electrical data:**
- **Resistive load:** 0.2 A / 115 Vdc
- **Electrical connections:** 35 - Deutsch DT-04-3-P
- **Switching type:** Normally open contacts (N.C. option)
- **Protection degree:** IP 66 in accordance to EN 60529

**Available setting:**
- 1.2 bar ±10% (DEM12xx35P01)
- 2 bar ±10% (DEM20xx35P01)
- 5 bar ±10% (DEM50xx35P01)
- 7 bar ±10% (DEM70xx35P01)
- 9.5 bar ±10% (DEM95xx35P01)

**Electrical/Visual Differential Indicator**

**Materials:**
- **Body:** Brass
- **Internal parts:** Brass - Nylon
- **Seals:** HNBR - FPM

**Technical data:**
- **Indicator type:** Electrical/Visual differential indicator
- **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 in accordance to ISO 2943

**Electrical data:**
- **Resistive load:** 51: 0.8 A / 24 Vdc
  - 52: 0.2 A / 115 Vdc
- **Electrical connections:**
  - 51 - EN 175301-803 (24 Vdc lamps)
  - 52 - EN 175301-803 (110 Vdc lamps)
- **Protection degree:** IP 66 in accordance to EN 60529
  - IP 69K in accordance to ISO 2943

**Available setting:**
- 1.2 bar ±10% (DLA12xxAxxP01)
- 2 bar ±10% (DLA20xxAxxP01)
- 5 bar ±10% (DLA50xAxxP01)
- 7 bar ±10% (DLA70xAxxP01)
- 9.5 bar ±10% (DLA95xAxxP01)
DIFFERENTIAL INDICATORS

**Electrical/Visual Differential Indicator**

**Materials:**
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

**Technical data:**
- Indicator type: Electrical/Visual differential indicator
- 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

**Electrical data:**
- Resistive load: 0.4 A / 24 Vdc
- Electrical connections: M12 IEC 61076-2-101 (24 Vdc lamps)
- Protection degree: IP 65 in accordance with ISO 2943

**Available setting:**
1.2 bar ±10% (DLA12xA71P01)
2.0 bar ±10% (DLA20xA71P01)
5.0 bar ±10% (DLA50xA71P01)
7.0 bar ±10% (DLA70xA71P01)
9.5 bar ±10% (DLA95xA71P01)

---

**Electrical/Visual Differential Indicator**

**Materials:**
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: FPM

**Technical data:**
- Indicator type: Electrical/Visual differential indicator
- 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

**Electrical data:**
- Resistive load: 5 A / 250 Vac
- Electrical connections: EN 175301-803
- Protection degree: IP 65 in accordance with ISO 2943

**Available setting:**
1.2 bar ±10% (DLE12VA50P01)
2.0 bar ±10% (DLE20VA50P01)
5.0 bar ±10% (DLE50VA50P01)
7.0 bar ±10% (DLE70VA50P01)
9.5 bar ±10% (DLE95VA50P01)

---

**Electrical/Visual Differential Indicator**

**Materials:**
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: FPM

**Technical data:**
- Indicator type: Electrical/Visual differential indicator
- 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

**Electrical data:**
- Resistive load: 5 A / 250 Vac
- Electrical connections: EN 175301-803
- Protection degree: IP 65 in accordance with ISO 2943

**Available setting:**
1.2 bar ±10% (DLE12VF50P01)
2.0 bar ±10% (DLE20VF50P01)
5.0 bar ±10% (DLE50VF50P01)
7.0 bar ±10% (DLE70VF50P01)
9.5 bar ±10% (DLE95VF50P01)
Electronic Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

Technical data:
- Indicator type: Electronic differential indicator
- 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, HMA, HF, HFC fluids in accordance to ISO 2943

Electrical data:
- Power supply: 24 V DC
- Analogue output: From 4 to 20 mA
- Thermal lockout: 30°C (all output signals stalled up to 30°C)
- Protection degree: IP 67 in accordance to EN 60529

Available setting:
- 1,2 bar ±10% (DTA12xF70P01)
- 2 bar ±10% (DTA20xF70P01)
- 5 bar ±10% (DTA50xF70P01)
- 7 bar ±10% (DTA70xF70P01)
- 9,5 bar ±10% (DTA95xF70P01)

Visual Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

Technical data:
- Indicator type: Visual differential indicator
- 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, HMA, HF, HFC fluids in accordance to ISO 2943

Available setting:
- 1,2 bar ±10% (DVM12xP01)
- 2 bar ±10% (DVM20xP01)
- 5 bar ±10% (DVM50xP01)
- 7 bar ±10% (DVM70xP01)
- 9,5 bar ±10% (DVM95xP01)
**DIFFERENTIAL INDICATORS**

Indicator plug

**Materials:**
- **Body:** Phosphated Steel
- **Seals:**
  - T2H (green): HNBR
  - T2V (black): FPM
  - T2E (purple): EPDM
  - T2F (blue): MFQ
### Ordering Information DE - DL - DV

#### Series

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Example: DE A 20 H A 50 P01

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Example: DL A 20 H A 52 P01

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Example: T2 F

#### 1 - Series

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<td>DV</td>
<td>Visual indicator</td>
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#### 2 - Type

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<td>A</td>
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#### 3 - Setting pressure

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<td>70</td>
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#### 5 - Thermostat (excluded for DV)

- A: Without thermostat
- F: With thermostat (Normally open up to 30°C) Option available only for DEM-DTA series

#### 6 - Electrical connection (excluded for BV)

**DEA - DLE series**

- 50: EN 175301-803 connector

**DEM series**

- 10: AMP Superseal series 1,5 (Normally open contacts)
- 20: AMP Timer Junior (Normally open contacts)
- 30: Deutsch DT-04-2-P (Normally open contacts)
- 35: Deutsch DT-04-3-P (Change over contacts)

- On request

**DLX series**

- 51: EN 175301-803 clear connector with 24 V lamps
- 52: EN 175301-803 clear connector with 110 V lamps
- 71: M12 IEC 61076-2-101 clear connector with 24 V lamps

**DTA series**

- 70: M12 IEC 61076-2-101 connector

#### 7 - Option

- P01: MP Filtri standard
- Pxx: Customer request

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### Electrical Differential Indicator

**Materials:**
- Body: AISI 316L
- Internal parts: AISI 316L - Nylon
- Seals: HNBR - MFQ

**Technical data:**
- Indicator type: Electrical differential indicator
- 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

**Electrical data:**
- Resistive load: 0.2 A / 115 Vdc
- Electrical connections: 52 - EN 175301-803 (115 VDC lamps)
- Protection degree: IP 69K in accordance to ISO 20653

### Electrical/Visual Differential Indicator

**Materials:**
- Body: AISI 316L
- Internal parts: AISI 316L - Nylon
- Seals: HNBR - MFQ

**Technical data:**
- Indicator type: Electrical differential indicator
- 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

**Electrical data:**
- Resistive load: 51: 0.8 A / 24 Vdc
- Electrical connections: 51 - EN 175301-803 (24 VDC lamps)
- Protection degree: IP 66 in accordance to EN 60529

### Visual Differential Indicator

**Materials:**
- Body: AISI 316L
- Internal parts: AISI 316L - Nylon
- Seals: HNBR - MFQ

**Technical data:**
- Indicator type: Visual differential indicator with 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

---

**Materials Compatibility:**
- Fluids: Mineral oils, Synthetic fluids
- Temperature: From -25 °C to +110 °C
- Pressure limits:
  - DEX: 1.2 bar ±10% (DEX12xA50P01)
  - 2 bar ±10% (DEX20xA50P01)
  - 5 bar ±10% (DEX50xA50P01)
  - 7 bar ±10% (DEX70xA50P01)
  - 9.5 bar ±10% (DEX95xA50P01)

**Protection Degree:**
- IP 66 in accordance to EN 60529

**Electrical Connections:**
- 51 - EN 175301-803 (24 VDC lamps)
- 50 - EN 175301-803 (115 VDC lamps)
- 52 - EN 175301-803 (110 VDC lamps)

**Resistive Load:**
- 0.2 A / 115 Vdc
- 1.2 A / 24 Vdc
- 51: 0.8 A / 24 Vdc
- 52: 0.2 A / 115 Vdc

**Technical Specifications:**
- Burst pressure: 1260 bar
- Proof pressure: 630 bar
- Max working pressure: 420 bar
- A/F 28 Max tightening torque: 65 Nm

---

**Stainless Steel Indicators**

- **DEX**
  - Green Lamp
  - Red Lamp
  - 1.2 bar ±10% (DEX12xA50P01)
  - 2 bar ±10% (DEX20xA50P01)
  - 5 bar ±10% (DEX50xA50P01)
  - 7 bar ±10% (DEX70xA50P01)
  - 9.5 bar ±10% (DEX95xA50P01)

- **DLX**
  - 1.2 bar ±10% (DLX12xAxxP01)
  - 2 bar ±10% (DLX20xAxxP01)
  - 5 bar ±10% (DLX50xAxxP01)
  - 7 bar ±10% (DLX70xAxxP01)
  - 9.5 bar ±10% (DLX95xAxxP01)

- **DVX**
  - A/F 28 Max tightening torque: 65 Nm
  - Display
### Visual Differential Indicator

**Materials:**
- **Body:** AISI 316L
- **Internal parts:** AISI 316L - Aluminium
- **Seals:** HNBR - MFQ

**Technical data:**
- **Indicator type:** Visual differential indicator
- **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 fluids in according to ISO 2943

### Indicator plug

**Materials:**
- **Body:** Stainless Steel AISI316
- **Seals:**
  - T2H (green): HNBR
  - T2V (black): FPM
  - T2E (purple): EPDM
  - T2F (blue): MFQ

---

### Available setting:
- 1.2 bar ±10% (DVY12xP01)
- 2 bar ±10% (DVY20xP01)
- 5 bar ±10% (DVY50xP01)
- 7 bar ±10% (DVY70xP01)
- 9.5 bar ±10% (DVY95xP01)

---

**X2**

**A/F 30**
### Ordering information DE - DL - DV

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#### 1 - Series
- **DE**: Electrical indicator
- **DL**: Electrical/Visual indicator
- **DV**: Visual indicator
- **X2**: Indicator plug

#### 2 - Type
- **X**: Standard type
- **Y**: Optional type

#### 3 - Setting pressure
- **12**: 1.2 bar
- **20**: 2 bar
- **50**: 5 bar
- **70**: 7 bar
- **95**: 9.5 bar

#### 4 - Seals
- **H**: HNBR
- **F**: MFQ
- **[]**: On request

#### 5 - Thermostat (excluded for DV)
- **A**: Without thermostat

#### 6 - Electrical connection (excluded for DV)
- **DEX series**
  - **50**: EN 175301-803 connector
- **DLA series**
  - **51**: EN 175301-803 clear connector with 24 V lamps
  - **52**: EN 175301-803 clear connector with 110 V lamps
  - **71**: M12 IEC 61076-2-101 clear connector with 24 V lamps

#### 7 - Option
- **P01**: MP Filtri standard
- **Pxx**: Customer request

---

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## Comparative Table OLD - NEW Code

### Vacuum Indicators

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### Stainless Steel Differential Indicators

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