Picomag

Endress+Hauser
Yes? Then Picomag is the ideal device for your application:

- Robust compact design
- Secure commissioning and configuration via Bluetooth
- Cost-efficient operation without maintenance
- Efficient online ordering
Product overview

Picomag is available with various nominal diameters. The compact size also makes it perfect for installation in skids.

<table>
<thead>
<tr>
<th>Small</th>
<th>Large</th>
<th>Accessories</th>
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<tr>
<td>DN 15 to 25 (½ to 1&quot;)</td>
<td>DN 50 (2&quot;)</td>
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**DN 15 (½")**
- Max. flow rate: 35 l/min (9.2 gal/min)
- Installation length: 110 mm (4.33 in)
- Connection: External thread G½" or internal thread NPT½"

**DN 20 (¾")**
- Max. flow rate: 75 l/min (19.8 gal/min)
- Installation length: 110 mm (4.33 in)
- Connection: External thread G¾" or internal thread NPT¾"

**DN 25 (1")**
- Max. flow rate: 150 l/min (39.6 gal/min)
- Installation length: 110 mm (4.33 in)
- Connection: External thread G1" or internal thread NPT1"
Product overview

Picomag is available with various nominal diameters. The compact size also makes it perfect for installation in skids.

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Click to navigate

DN 50 (2")
Max. flow rate: 750 l/min (198 gal/min)
Installation length
- External thread G: 200 mm (7.87 in)
- Internal thread NPT: 180 mm (7.09 in)
Connection: External thread G2" or internal thread NPT2"
Picomag is available with various nominal diameters. The compact size also makes it perfect for installation in skids.
Auto-rotatable display field

The display field rotates automatically depending on the installation position and flow direction. This means that the values are always easy to read.

- Tag name
- Measured value 1: Configurable for volume flow, temperature, totalizer, conductivity
- Measured value 2: Configurable for volume flow, temperature, totalizer, conductivity
- Bluetooth connection: Active/not active
- IO-Link connection: Active/not active
- Device status and diagnostic messages
  - Diagnostic message according to NE107:
    - F: Failure
    - C: Function check
    - S: Out of specification
SmartBlue App
For commissioning in the field

The app allows for configuration as well as comprehensive access to device data. The connection is established via Bluetooth.

- Simple and fast navigation through device and diagnostic functions
- Wireless configuration/data retrieval:
  - Configuration of display, outputs, flow direction, units, etc.
  - Requesting diagnostics messages, etc.
- Available for Android and iOS
- Range: up to 10 meters

How to

SmartBlue App (iOS)
SmartBlue App (Android)
How to
**IO-Link**

For seamless integration into your plant

Thanks to the IO-Link connection, Picomag can be integrated seamlessly into any communication and process automation system:

- Compatible with all standard fieldbus systems
- Comprehensive data access via the control room
- Simple parameterization without additional tools
- Automatic configuration after device replacement
- Easy wiring
- Industry 4.0 ready

**How to**
Adapter sets and cable connectors
For easy installation and electrical connection

In addition to the standard thread connection, there are other adapter sets that can be used to install Picomag in pipes with a wide variety of process connections.

1. Pipe
2. Seal (not included in delivery)
3. Adapter ([available adapters](#))
4. Seal (included in delivery)
5. Measuring device connection
Adapter sets and cable connectors
For easy installation and electrical connection

The cable connector (M12, A-coded) allows Picomag to be connected to your process control system quickly and easily.

A = Connection socket
B = Connection plug
1 = Supply voltage L+
   (DC 19 to 30 V, max. 2 W)
2 = Output 2 (configurable)
3 = Supply voltage L–
4 = Output 1 (configurable)
Application areas and examples

Picomag enables a reliable flow/temperature measurement of all conductive liquids

**Example 1 – Metal industry**
Measuring and monitoring cooling water (industrial ovens)

**Example 2 – Food industry**
Monitoring cold/warm water (process cooling/heating)

**Example 3 – Beverage industry**
Measuring and monitoring rinsing water (cleaning containers)

**Application and measurement task**
Various industrial ovens are cooled using a cooling circuit with water flowing through multiple cooling lines.
- Nominal diameters: DN 40 to 50 (1½ to 2")
- Nominal pressure: max. 20 bar (290 psi)
- Temperature of water discharge: 40 to 48 °C (104 to 118 °F)

**Solution and advantages with Picomag**
- Picomag can be used to monitor flow and water temperature simultaneously:
  - Flow → Monitoring
  - Temperature → Cooling performance monitoring
- Compact design → Cooling lines can be installed close together
Application areas and examples

Picomag enables a reliable flow/temperature measurement of all conductive liquids

Example 1 – Metal industry
Measuring and monitoring cooling water (industrial ovens)

Example 2 – Food industry
Monitoring cold/warm water (process cooling/heating)

Example 3 – Beverage industry
Measuring and monitoring rinsing water (cleaning containers)

Application and measurement task
A wide range of machines and systems for processing foodstuffs have a double jacket in which the cooling/heating water is measured.

Solution and advantages with Picomag
- Compact size → space-saving installation in the machine
- Simultaneous measurement of flow and temperature → Adherence to the optimal processing temperature
Application areas and examples
Picomag enables a reliable flow/temperature measurement of all conductive liquids

Example 1 – Metal industry
Measuring and monitoring cooling water (industrial ovens)

Example 2 – Food industry
Monitoring cold/warm water (process cooling/heating)

Example 3 – Beverage industry
Measuring and monitoring rinsing water (cleaning containers)

Application and measurement task
Applications for cleaning containers (bottles, crates, etc.) and tunnel pasteurization use water or leach solutions as rinsing water.

Solution and advantages with Picomag
The water supply and drainage are measured precisely in order to guarantee efficient use of water in the rinsing systems.
## Technical data and dimensions

<table>
<thead>
<tr>
<th>Technical data</th>
<th>Dimensions G DN 15 to 25 (½ to 1”)</th>
<th>Dimensions G DN 50 (2”)</th>
<th>Dimensions NPT DN 15 to 25 (½ to 1”)</th>
<th>Dimensions NPT DN 50 (2”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring principle</td>
<td>Electromagnetic flow measurement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid</td>
<td>Suited for conductive liquids (≥10 µS/cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>1.4” TFT color display, auto-rotatable (dependent on orientation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>SmartBlue App for smartphone or tablet</td>
<td>▪ IO-Link for operation via process control system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Housing: 1.4404/316L, 1.4409/CF3M; Measuring tube: PEEK; Electrodes: 1.4435/316L; Process connection: 1.4404/316L; Display: polycarbonate; Seals: FKM or EPDM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>DC 18 to 30 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process temperature</td>
<td>–10 to +70 °C (+14 to +158 °F), temporarily up to +85 °C (+185 °F) or up to +100 °C (+212 °F) with electronics switched off</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP65/67 (Type 4 enclosure)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-/outputs (selectable)</td>
<td>2 freely selectable in-/outputs; current outputs (4–20 mA), pulse/switch output, voltage output (2 to 10 V), IO-Link, status inputs (e.g. for a totalizer reset)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>Via Bluetooth or IO-Link</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal diameter</td>
<td>DN 15 (½”), DN 20 (¾”), DN 25 (1”), DN 50 (2”)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measured variables</td>
<td>Volume flow, temperature, conductivity (temperature-compensated)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process connections</td>
<td>Standard: external thread (G½”, G¾”, G1”, G2”), internal thread (NPT½”, NPT¾”, NPT1”, NPT2”) Optional: adapter sets for external threads (G) available</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Measuring range</td>
<td>▪ DN 15: max. 35 l/min (9.2 gal/min) ▪ DN 20: max. 75 l/min (19.8 gal/min) ▪ DN 25: max. 150 l/min (39.6 gal/min) ▪ DN 50: max. 750 l/min (198.1 gal/min)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inlet/outlet run</td>
<td>Not required (0 × DN)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process pressure</td>
<td>16 bar (232 psi)</td>
<td></td>
<td></td>
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<tr>
<td>Max. measured error</td>
<td>Flow: ±0.8% o.r. ± 0.1% o.f.s. Temperature: ±2.5 °C (±4.5 °F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>Flow: ±0.2% o.f.s. Temperature: ±0.5 °C (±0.9 °F) Conductivity: ±5% o.r. ± 5µS/cm</td>
<td></td>
<td></td>
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<tr>
<td>Approvals</td>
<td>Drinking water approval, UL listed (Underwriters Laboratories Inc.)</td>
<td></td>
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The Picomag measuring system fulfills the EMC requirements according to IEC/EN 61326. It also conforms to the requirements of the EU and ACMA directives and thus carries the 
and the mark.

Subject to modification
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<td>73 (2.87)</td>
<td>43 (1.69)</td>
<td>56 (2.20)</td>
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<td></td>
<td>40.5 (1.59)</td>
<td>69.5 (2.74)</td>
<td>M12 × 1</td>
<td>56 (2.20)</td>
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<td>200 (7.87)</td>
<td>M12 × 1</td>
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<td>113 (4.45)</td>
<td>86 (3.39)</td>
<td>80 (3.15)</td>
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<tr>
<td>120 (4.72)</td>
<td>58 (2.28)</td>
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* 29.5 (1.16), 36 (1.42), 42 (1.65)
Technical data and dimensions

- **Technical data**
- **Dimensions G DN 15 to 25 (½ to 1")**
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**mm (inch)**

- 180 (7.09)
- 113 (4.45)
- 80 (3.15) 120 (4.72)
- 58 (2.28)
- 2" 73.5 (2.89)
- 86 (3.39)
- M12 × 1
- 86 (3.39)
- =
- =