

Certified according to DIN EN ISO 9001

Technical Datasheet



HMP

Impeller Flow Meters
for simple measuring tasks

Application

Turbine flow meters with wing rotor serve to accurate measurement of continuous and discontinuous flow rate values. This turbine flow meter is most suited for liquids with low and middle viscosity, such as for example water, emulsions, mixtures containing glycol and light oils. The large range of different pipe connections and structural sizes allows using these flow meters in various applications and in various industrial sectors.

The favourable prices in this series of products results in their wide use in the field of simple measurements of consumption and monitoring.

Principle and Design

The flow meter HMP are indirect volume counters built on the principle of using the counter with a wing rotor. The energy coming from the flow of the liquid sets in motion a rotatably mounted wing rotor. The number of the rotor revolutions is directly proportional to the volumetric liquid flow. The speed of rotation of the wing rotor is contactlessly sensed through the wall of the flow meter body. The impulses generated by each turbine blade correspond to a certain accurate volumetric flow of the measured medium. The number of pulses for a certain period of time corresponds to the value of the medium flow rate expressed, for example, in litres per minute. The lightweight turbine wheel allows quick response to changes in the value of the medium flow rate (< 50 m/s) the flow meters with wing rotor are less sensitive to dirt compared to common turbine flow meters.

The use of high quality design materials allows application of these flow meters up to the temperature of medium +350°C.

Applications

- Tap and demineralised water
- Fuels
- Water / glycol mixtures
- Fuel oil
- Solvents
- Heat-carrying agents (oils to heating systems)

Features

- Low-cost version
- Temperature: up to +350°C
- Stainless steel
- Ceramic bearings resistant to wearing
- Suited for polluted liquids
- Compact design
- Convenient comfortable use

Technical Data

| Type | Measuring range, l/min | | K-Factor, pulses/l ⁽¹⁾ | max. Pressure, bar | Frequency, in Hz ⁽¹⁾ | Weight, kg |
|---------|---------------------------|--------|--------------------------------------|-----------------------|------------------------------------|---------------|
| HMP 06* | 1.0 | to 10 | 2,000 | 20 | 340 | 0.9 |
| HMP 09* | 3.0 | to 30 | 980 | 20 | 520 | 0.9 |
| HMP 12* | 8.5 | to 85 | 650 | 20 | 980 | 0.9 |
| HMP 17* | 15 | to 150 | 309 | 20 | 770 | 0.9 |
| HMP 25* | 28 | to 280 | 127 | 20 | 820 | 0.9 |

1) The data on K-factors and maximum frequencies are average values at 1mm²s. The numbers of pulses and frequencies at higher viscosities may vary. Exact values can be found in individual calibration records.

* Detailed type code on request

| General | |
|--------------------|--|
| Linearity | ± 2.5% of actual flow (1 mm ² /s) |
| Repeatability | ± 0.5% |
| Viscosity range | 0.8 to 10 mm ² /s |
| Materials | Housing: as per DIN 1.4305 (SS303) Wheels: as per DIN 1.4122 / 1.4460 (SS329) Bearing: Ceramics, ball bearings Sealing: FKM, Graphite |
| Medium temperature | -20°C to +350°C (higher temperatures on request) |
| Dimensions | See drawing (page 4) |

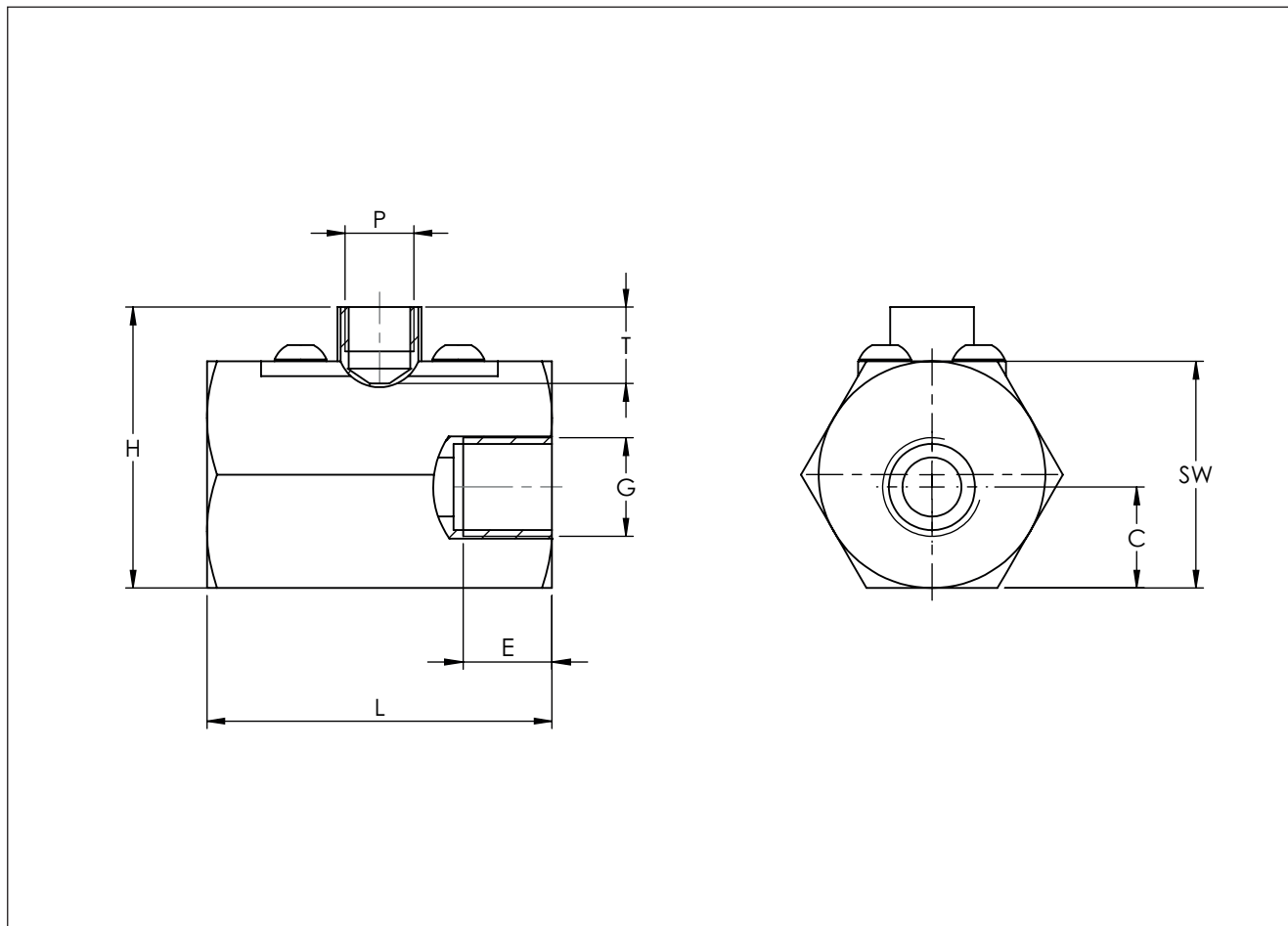
Pickup Selection

| Criteria | Type | VTE * | WT */ WI* | VIE * | IF */ VIEG | VTC * | VTB * | TD * | VHE * | FOP * |
|--------------------------------|----------|-------|--------------|-------|---------------|-------|-------|------|-------|-------|
| | | | | | | | | | | |
| Drilling type ¹⁾ | | E | E | E | E | E | E | D | E | E/F |
| Medium temperature | ≤ +70°C | | | | | | | | | |
| | ≤ +120°C | | | | | ✓ | ✓ | | | |
| | ≤ +150°C | ✓ | ✓ | ✓ | | | | | | |
| | ≤ +350°C | | | | ✓ | | | | | |
| EX-Approval | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Frequency output | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Dual frequency output | | | | | | | | | | |
| Analogue output 4 - 20 mA | | | ✓ | | | ✓ | | | | |
| Forward / backward recognition | | | | | | | | | | |
| Local display | | | | | | ✓ | ✓ | | | |
| Linearization | | | ✓ | | | ✓ | | | | |
| Supply 12 - 24 V | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Supply battery | | | | | | | ✓ | | | |
| Interface | | | ✓ | | | ✓ | | | | |

1) Thread types: E: single pickup / D: dual pickup / F: FOP-pickup

* Ordering code (please see separate datasheet)

Dimensional Drawings (mm) - HMP



| HM Type | C | E | G | H | L | P ¹⁾ | T ²⁾ | SW |
|---------|------|----|----------------|----|----|-----------------|-----------------|----|
| HMP 06* | 20.5 | 20 | G1/2" | 57 | 70 | E | 16 | 46 |
| HMP 09* | 20.5 | 20 | G1/2" | 57 | 70 | E | 16 | 46 |
| HMP 12* | 20.5 | 20 | G1/2" G3/4" | 57 | 70 | E | 16 | 46 |
| HMP 17* | 20.5 | 20 | G1" | 61 | 70 | E | 16 | 50 |
| HMP 25* | 23 | 20 | G1" | 66 | 70 | E | 16 | 55 |

1) See "Pickup Selection" table (page 3)

2) Please notice: total height is calculated by adding up the height (H) and the height of the pickup (separate data sheet) and subtract the bore hole depth (T)

* Detailed type code on request

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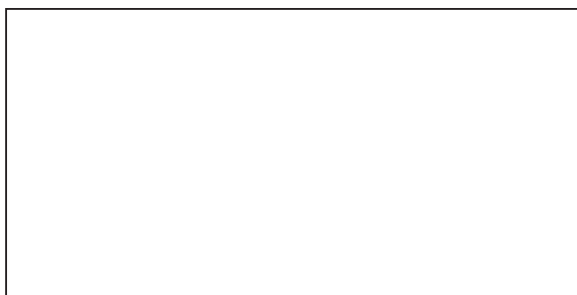
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