

**New
Product Information**

Oval wheel meters now smart

Oval Wheel Meter OI UST1 with Universal Smart Transmitter with HART® Communication

Sensors

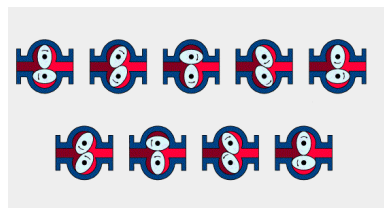


Designed for the process :

- direct measurement of volume resp. of volumetric flowrate
- measurement at high viscosities
- high accuracy
- only 2 moving parts (oval wheels)
- 2-wire-technique
- status message for preventive maintenance

Measuring principle

Oval wheel meters are positive displacement flowmeters. The measuring element consists of two meshing precision oval wheels, driven by the fluid. Each revolution of the oval wheels displaces a precisely known volume of liquid through the meter.



The number of revolutions therefore is directly proportional to the measured volume. The pulses generated by a Wiegand pulse transmitter with high pulse resolution are processed in the electronic converter UST1 and converted.



Technical Data

| | |
|-------------------------------------|---|
| measured error (accuracy) | OI 03, OI 06, OI 1, OI 2: ± 0,3% to ± 1% (depending from flow range and liquid) |
| | OI 5, OI 10, OI 50, OI 100, OI 200; OI 400: ± 0,1% to ± 0,3% (depending from flow range and liquid) |
| repeatability | 0,02 % of measured value |
| operating temperature | -25°C to +170 °C |
| ambient temperature | -10 °C bto +70 °C |
| electrical connection | sensor supply 14 – 30 VDC 2- wire – technique, 4-20 mA, HART® or current pulses (without HART®) |
| materials | wetted parts : stainless steel 1.4571 electronics housing: cast aluminium |
| safety class | EEx ia IIC T4 IP 67, (EEx d under preparation), Approvals CSA und FM under preparation |
| EU declaration of conformity | acc. to EMV guidelines 89/336/EWG, 92/3/EWG, 93/68 EWG, EN 50081-1, EN 50082-2, and NAMUR NE 21 |

Measuring ranges

| OI | Liquids | |
|-----|-------------|-------------|
| | Lower value | Upper value |
| 03 | 0,2 | 2 |
| 06 | 0,42 | 4,2 |
| 1 | 1 | 10 |
| 2 | 3 | 30 |
| 5 | 5 | 50 |
| 10 | 10 | 100 |
| 50 | 30 | 300 |
| 100 | 66 | 660 |
| 200 | 70 | 700 |

The arguments for Oval wheel Meter OI with UST1

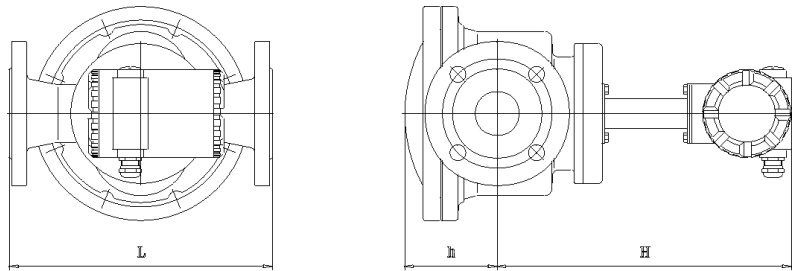
... based on the proven
Oval Wheel Meter principle

- direct measurement of volume and flowrate
- long meter life and reliability
- measurement at high viscosities
- measurement of non-conductive liquids
- measurement at low flow velocities
- highest accuracy/repeatability
- no influence of flow profile
- no drift of zero point
- only 2 moving parts (oval wheels)
- non-interacting Wiegand pulse transmitter

Main dimensions

| OI 03 | OI 06 | OI 1 | OI 2 | OI 5 | OI 10 | OI 50 | OI 100 | OI 200 | OI 400 |
|-------------------|-------------------|-------|-------|-------|-------|-----------------------------------|---|--|--|
| L=170 (flange) | L=170 (flange) | L=170 | L=220 | L=220 | L=220 | L=300 (DIN) L=330 (ANSI) | L=370 (DIN, ANSI 150) L=390 (ANSI 300) | L=450 (DIN, ANSI 150) L=470 (ANSI 300) | L=550 (DIN, ANSI 150) L=560 (ANSI 300) |
| | | | | h=52 | h=71 | h=106 | h=148 | h=145 | h=183 |
| H=225 | H=258 | H=264 | H=266 | H=318 | H=320 | H=338 | H=385 | H=402 | H=438 |

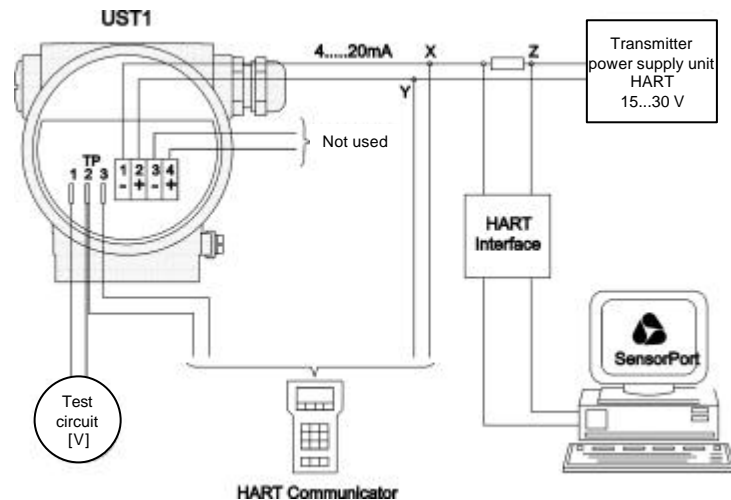
Dimensions in mm



... combined with a modern
electronics suitable
for communication

- with a high-resolution sensor without moving parts
- using 2-wire-technique
- with output 4 - 20 mA or pulses
- with local display
- with both special and easy-to-use software (SensorPort) and an easy-to-handle hardware
- with HART protocol
(Profibus PA under preparation)
- Hand Held Terminal available
- Status messages allow preventive maintenance

connection diagram



Subject to changes without notice

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