



Oval wheel meters now smart

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

Sensors



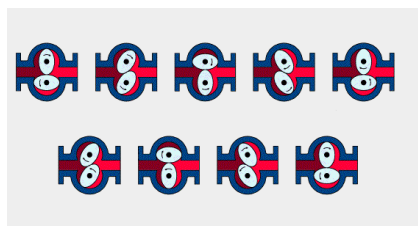
Designed for the process :

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

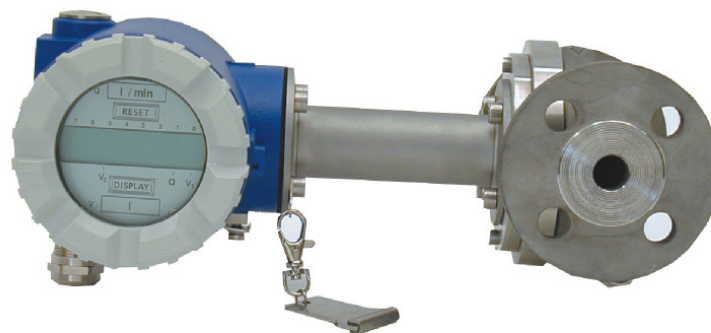


## Measuring principle

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.

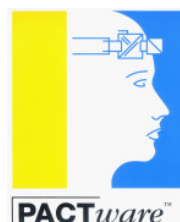


The number of revolutions therefore is directly proportional to the measured volume. The pulses generated by a Wiegand pulse transmitter with high pulse resolution are processed in the electronic converter UST1 and converted.



## Technical Data

<b>measured error</b> (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)
<b>repeatability</b>	0,02 % of measured value
<b>operating temperature</b>	-25 °C to +170 °C
<b>ambient temperature</b>	-10 °C bto +70 °C
<b>electrical connection</b>	sensor supply 14 – 30 VDC 2 - wire – technique, 4-20 mA, HART® or current pulses ( without HART® )
<b>materials</b>	wetted parts stainless steel 1.4571 OI03 - OI 2: also in brass/bronze
<b>safety class</b>	electronics housing: cast aluminium DMT 99 ATEX E014X EEx ia IIC T6 DMT 99 ATEX E0125X EEx d [ia] IIC/IIB T6 DMT 99 ATEX E0125X EEx de [ia] IIC/IIB T6
<b>EU declaration of conformity</b>	acc. to EMV guidelines 89/336/EWG, 92/3/EWG, 93/68 EWG, EN 50081-1, EN 50082-2, and NAMUR NE 21



DTM-Driver according to FDT-technology 1.2 are available.

## 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
400	120	1200

# The arguments for Oval Wheel Meter OI with UST1

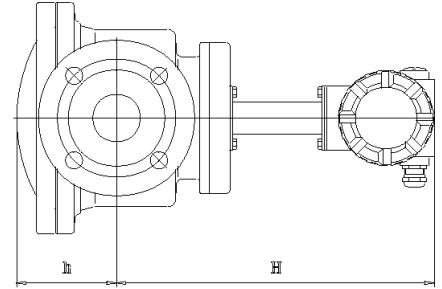
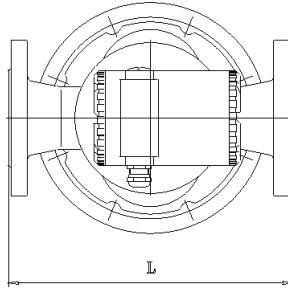
## ... based on the proven Oval Wheel Meter principle

- 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=225	H=258	H=264	H=266	h=52 H=318	h=71 H=320	h=106 H=338	h=148 H=385	h=145 H=402	h=183 H=438

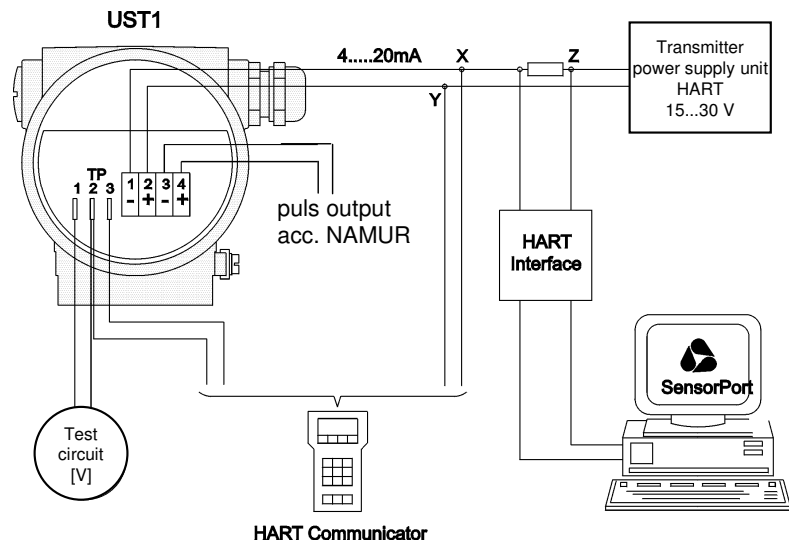
Dimensions in mm



## ... 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 and puls output acc. NAMUR
- 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

## connection diagram



Subject to changes without notice