

FLOW METER PCE-TDS 100H

Ultrasonic method for homogeneous liquids

The PCE-TDS 100H is designed for quick and mobile measurements of flow rates within pipes. To make such a measurement, it is not necessary to enter the piping system directly. The ultrasonic flow meter works in line with the transit time difference method. This means that transducers send a directed ultrasonic signal through the pipe diagonally which is then reflected and

received by the transducer again. On the basis of the signal's transit time delay that occurs when a pre-defined medium passes through a pipe, the meter can determine the flow if the pipe diameter and material are known. The desired parameters must be set before making a measurement.

ISO calibrated

- ▶ ideal for retrofitting
- ▶ installation without process interruption easy assembly
- ▶ accurate and reliable no pressure loss
- ▶ maintenance-free, no moving parts
- ▶ wear-free
- ▶ portable device for control measurements
- ▶ incl. ISO calibration certificates
- ▶ 2 x sensor TDS-M1 included (PCE-TDS 100H)

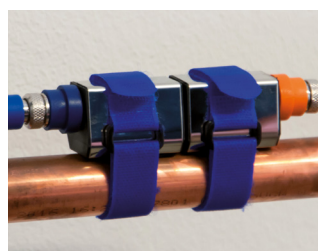


TDS-S1



TDS-M1

APPLICATION



TECHNICAL SPECIFICATIONS

Measurement range handheld unit -32 ... +32 m/s
 Resolution 0.0001 m/s
 Accuracy for DN ≥50 mm ±3.5 % of reading
 for DN <50 mm ±1.0 % of reading
 Reproducibility ±1.0 % of reading
 Media All liquids with an impurity <5% and a flow >0.03 m³/h

Flow units

cubic metre [m³]
 litre [l]
 gallon (USA) [gal]
 imperial gallon (UK) [igl]
 million USA gallon [mgl]
 cubic foot [cf]
 barrel (USA) [bal]
 imperial barrel (UK) [ib]
 oil barrel [ob]
 per day [d]
 pro hour [h] pro minutes [m]
 and per second [s]

Time settings

Data logger 1800 measurements
 Interface USB (for online measurement and readout of the internal memory)
 Protection class IP 52

Power supply

3 x AA rechargeable NiMH batteries / 2100 mAh
 (at full charge, 12 h running time)
 100 ... 240 V AC 50/60 Hz
 Dimensions 214 x 104 x 40 mm
 Weight 450 g

Dimensions
 Weight

Sensor (only PCE-TDS 100 H) nominal width DN 50 ... 700, 57 ... 720 mm
 Temperature of liquid -30 ... 160 °C
 Dimensions 50 x 45 x 45 mm
 Weight 260 g

Further models of the PCE-TDS 100 series:

PCE-TDS 100HSH 2 x Sensor TDS-S1 nominal width DN 15 ... 100, 20 ... 108 mm
 2 x Sensor TDS-M1 nominal width DN 50 ... 700, 57 ... 720 mm
PCE-TDS 100HS 2 x Sensor TDS-S1 nominal width DN 15 ... 100, 20 ... 108 mm

Optional accessories:

Standard transducers
 temperature transducers
 On-rail flow transducer
 On-rail flow transducer transducers
 Ultrasonic coupling gel

Order code TDS-M1 High-
 Order code TDS-S1
 Order code TDS-HS
 Order code TDS-HM Flow
 Order code TDS-L1
 Order code TT-GEL



TDS-HS



TDS-HM



TDS-L1



Subject to change without notice

FLOW METER PCE-TDS 100H+ INCL. TEMPERATURE DATALOGGER

Determination of heat quantity and heat output

This is a portable handheld clamp-on ultrasonic flow meter used for non-invasive, unobstructed and highly accurate measurements of the flow velocity of liquids in metal, plastic and rubber pipes and tubes with a diameter of 57 ... 720 mm / approx. 2 ... 28 in.
Ideal for use in oil and gas, water and wastewater, chemical,

food and beverage, pharmaceutical, metals and mining, pulp and paper, power and heating, ventilation, air conditioning and refrigeration (HVACR) industries, this ultrasonic flow meter features user-friendly velcro-strap clamps that allow for quick and easy repositioning of the electroacoustic transducers.

ISO calibrated

- ▶ ideal for retrofitting
- ▶ installation without process interruption
- ▶ easy assembly
- ▶ accurate and reliable
- ▶ no pressure loss
- ▶ maintenance-free, no moving parts
- ▶ wear-free
- ▶ portable devices for control measurements



APPLICATION



TECHNICAL SPECIFICATIONS

Handheld measuring range -32 ... +32 m/s
Resolution 0.0001 m/s, 0.00033 ft/s
Accuracy for DN ≥ 50 mm: ±3.5 % of measured value
for DN < 50 mm: ±1.0 % of measured value
Reproducibility ±1.0 % of measured value
Media All liquids with an impurity <5% and a flow >0.03 m³/h

Flow units

Cubic meter [m³]
Liter [l]
Gallon (USA) [gal]
Imperial gallon (UK) [igal]
Million USA gallon [mgal]
Cubic foot [cf]
Barrel (USA) [bal]
Imperial barrel (UK) [ib]
Oil barrel [ob]
per day [d]
per hour [h]
per minute [m]
and per second [s]

Time settings

Data logger 1800 measurements
Interface USB (for online measurement and reading of the internal memory)
Protection IP 52
Power supply 3 x AA NiMH rechargeable battery / 2100 mAh (at full charge)
12h running time)
100 ... 240 V AC 50/60 Hz

Dimensions

214 x 104 x 40 mm /
8.4 x 4.1 x 1.5"

Weight
Sensor

(only PCE-TDS 100 H)

nominal width DN 50 ... 700,
57 ... 720 mm / approx. 2 ... 28"
-30 ... 160 °C / -22 ... 320 °F
50 x 45 x 45 mm / 1.9 x 1.7 x 1.7"
260 g / 9oz

Technical data evaluation software

- Units of power W, kW, MW, J/h, kJ/h, MJ/h, Btu/h, kBtu/h, MBtu/h
- Units of energy J, kJ, MJ, Wh, kWh, MWh, Btu, kBtu, MBtu
- Graphical representation of flow, flow temperature, return temperature, heat output and heat quantity
- Tabular representation of flow, flow temperature, return temperature, heat output and heat quantity
- Mobile and stationary measurement mode
- Real-time data logger with unlimited runtime (only limited by PC memory capacity)
- Data export function
- User-guided software operation with step-by-step instructions for device and software configuration

Technical data temperature data logger PCE-T 330

Measuring range thermocouple
Type K -200 ... +1370 °C
Resolution 0.01 °C
Accuracy* ±(0.3 % of reading +0.40) °C*
Measuring range thermocouple Type T -200 ... +400 °C
Resolution 0.01 °C
Accuracy* ±(0.3 % of reading +0.40) °C*
Measuring range thermocouple Type J -200 ... +1200 °C
Resolution 0.01 °C
Accuracy* ±(0.3 % of reading +0.40) °C*
Measuring rate 2/s
Operating temperature -10 ... +50 °C
Storage temperature -20 ... +60 °C (without batteries)
Power supply 3 x AAA batteries / 1.2 V rechargeable battery
Battery life ca. 190 h
(without background lighting, battery capacity 1200 mAh, ambient temperature 25 °C)
Protection class IP52 (with protective cover and connected sensor)
Norm/Certification CE/EMC ROHS/td

Optional accessories:

Standard transducers Order code TDS-M1 High-temperature transducers Order code TDS-S1
On-rail flow transducer Order code TDS-HS
On-rail flow transducer Order code TDS-HM Flow transducers Order code TDS-L1
Ultrasonic coupling gel Order code TT-GEL

Further models of the PCE-TDS 100 series:

PCE-TDS 100HSH+ 2 x Sensor TDS-S1
nominal width DN 15 ... 100, 20 ... 108 mm
2 x Sensor TDS-M1
nominal width DN 50 ... 700, 57 ... 720 mm
PCE-TDS 100HS+ 2 x Sensor TDS-S1
nominal width DN 15 ... 100, 20 ... 108 mm



Subject to change without notice