



Data Sheet

Ultrasonic flow meter

PCE-TDS 100 H/HS

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Ultrasonic flow meter according to the differential measurement of duration method / determines flow velocity / measuring method for homogeneous liquids

PCE-TDS 100H/HS ultrasonic flow meter is designed to measure the fluid velocity of liquid within a closed pipe. It is a hand-held measurement system which is both easy to use and to install. The PCE-TDS 100H/HS ultrasonic flow meter operates according to the difference in the transit time measured. The measuring principle of the PCE-TDS 100H/HS ultrasonic flow meter is very easy. In a diagonal measurement the tube will need less time in the same flow direction than against the flow direction. When the flow increases, it will need more time to measure flow if the measurement is against the flow direction and less time if the measurement is in the same flow direction. The difference between the flow direction therefore directly depends on the flow velocity. The PCE-TDS 100H/HS ultrasonic flow meter determines the flow velocity. Electro acoustic transducers receive and emit brief ultrasonic pulses through the liquid of the pipe. Transducers are vertically placed on both sides of the measured pipe. Sensors are placed on the pipe and fastened by means of a flange. The display will quickly show the flow velocity. The PCE-TDS 100H/HS can be used for metallic, plastic and rubber tubes.

- Ideal for expansion
- Installation without process interruption
- Easy installation
- Accurate and reliable
- No pressure loss
- Maintenance-free, no mobile parts
- Non-wearing
- Hand-held device for control measurements

General technical specifications of the ultrasonic flow meter

Measuring ranges	0.01 ... 30 m/s
Resolution	0.0001 m/s
Accuracy	±1 % of the measured value
Linearity	0.5 %
Repeatability	0.2 %
Response time	0 ... 999 seconds, free adjustment
Liquid types	virtually all liquids
Cable head	approx. 5 m
Display	4 x 16 LCD
Power	3 x AAA Ni-H accumulators
Charger	100 .. 240 V/AC
Interface	RS-232C
Data logger	2,000 values
Housing material	ABS
Case size	100 x 66 x 20 mm
Weight	514 g with batteries

Technical specifications depending on the model

Type	PCE-TDS 100HS	PCE-TDS 100H
Pipe size	20 ... 100 mm	50 ... 700 mm
Sensor	TDS-S2H	TDS-M1
Temperature area of sensor	0 ... +160 °C	0 ... +160°C
Size sensor	45 x 30 x 30 mm	60 x 45 x 45 mm
Weight sensor	75 g	250 g
Sensor installation	V, (N, W)	V, Z

Images of use of the PCE-TDS 100H ultrasonic flow meter



The PCE-TDS 100H ultrasonic flow meter measuring a pipe.



PCE-TDS 100H ultrasonic flow meter:
Electroacoustic transducers.

Delivery contents

- 1 x PCE-TDS 100H ultrasonic flow meter
- 2 x sensor (TDS-S2H or TDS-M1)
- 2 x 5 m connection cable
- 2 x releasable cable ties
- 3 x rechargeable integrated Ni-H accumulator
- 1 x charger cable
- 1 x coupling gel
- 1 x measuring tape
- 1 x aluminium carrying case
- user's manual



additional accessories

-standard sensor TDS-M1 for pipe sizes
from 50 mm - 700 mm / 0 ... +160°C
size: 60 x 45 x 45 mm



-miniature sensor TDS-S1 for pipe sizes
from 20 mm - 100 mm / 0 ... +160°C

