

# Pitot Tube Flow Sensor Type PRP

- ✓ Long-term accuracy
- ✓ Low installation costs
- ✓ Short up/down straight pipe run requirements
- ✓ Low permanent pressure loss
- ✓ Cost effective
- ✓ Maintenance-free
- ✓ Bi-directional flow measurement

## Measuring Principle

The PRP Sensor is a Pitot tube based flow Sensor which belongs to the family of primary flow Elements. These devices measure the flow in pipes and ducts by using the differential pressure principle based on the basics of Bernoulli. The flow calculation is similar to the calculation according to EN ISO 5167-1. A rectangular design of the PRP sensor profile is divided diagonally into two symmetrically constructed chambers with sensing holes (dp-tappings). The chamber facing to the upstream generates a higher pressure (p+) and the chamber in the downstream a lower pressure (p-). Several dp-tappings along the sensor profile provide a steady averaging of the flow velocity. This facilitates exact metering even with irregular flow profiles. Each chamber is connected to the corresponding side of a differential pressure transmitter. The value of the differential pressure is the measure to determine the flow. With increasing flow the dp increases. A differential transmitter converts the dp into an electrical signal (i.e. 4-20mA) that is transmitted to the process control system.

## Performance

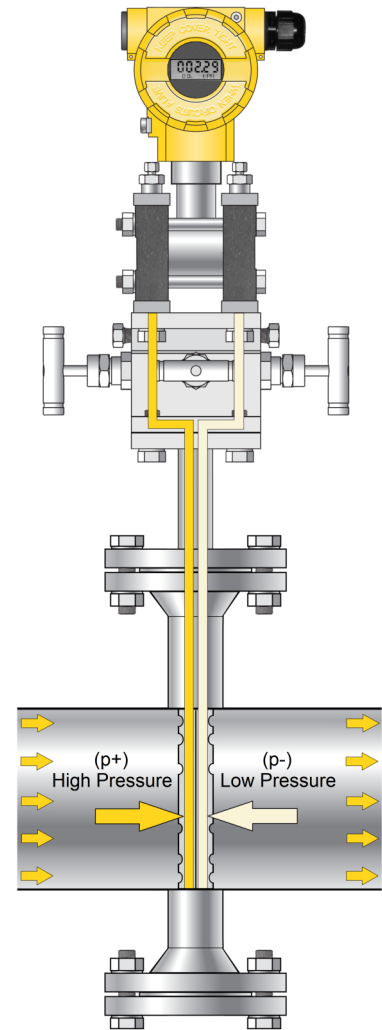
<b>Accuracy</b>	1,0% of flow
<b>Repeatability</b>	± 0,1 % of actual value
<b>Measuring relation</b>	10:1

## Technical specification:

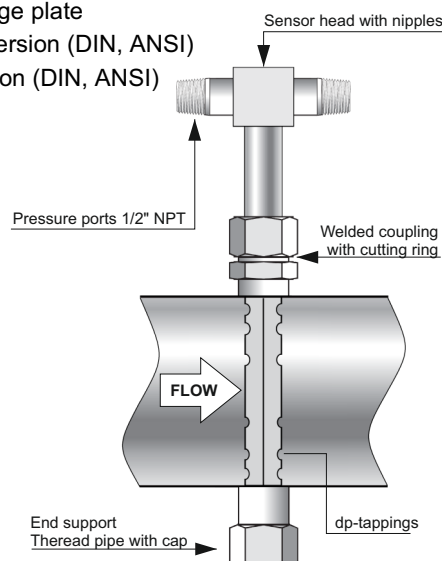
- Pipe diameters: 40 to 2500 mm
- Operating pressure: up to PN100
- Operating temperature: -50° C to +450° C
- Sensor material: Stainless steel M.-Nr. 1.4571 (316Ti)
- Differential pressure ports: 1/2" NPT, R 1/2" flange plate
- Process connection: welded coupling, flanged version (DIN, ANSI)
- End support: Pipe thread with cap, flanged version (DIN, ANSI)

## For technical offer the following information will be needed:

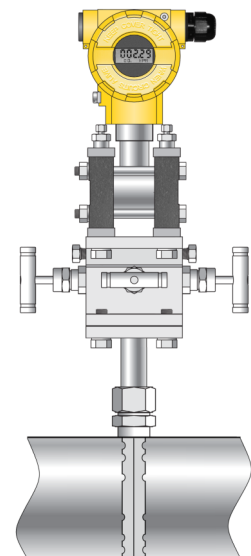
- Medium
- Density
- Operating pressure
- Operating temperature
- Flowrate
- Process connection
- Pipe diameter and wall thickness
- Insulation thickness
- Pipe orientation
- Direct mount / remote mount transmitter



PRP-F22 Sensor with flanged end support



PRP-M22 Sensor



PRP-M10 Sensor with flange plate for direct transmitter mounting