

PITOBAR Averaging Pitot Tube for Remote Transmitter Mounting Type DK200 and DK250

Principle

The PITOBAR Averaging Pitot Tube is used for flow measurement of liquid and gasses in horizontal or vertical pipe lines.

PITOBARS are installed in power stations, pulp and paper, petrochemical and chemical industry, refineries, just to name a few.

The PITOBAR Averaging Pitot Tube principle of operation is derived from the classic or single point pitot tube, which has been used for flow measurement for many decades.

As opposed to the single point pitot tube, the PITOBAR averaging pitot tube has a number of holes depending of pipe size pointing towards the up-stream side. One port pointing down stream measures the static pressure.

The PITOBAR has very low installation costs and the pressure loss is low compared to other flow elements, especially in larger pipe sizes.

Design and calculation standards : VDE/VDI 2640, ASME, DIN, EN 13480.

Types : DK200 and DK250

Pipe sizes : DK200 DN 80 - DN 1000, 3" - 40"
DK250 DN 80 - DN 2000, 3" - 80"

Probe size : DK200 20 x 20 mm
DK250 25 x 25 mm

Pressure rating : PN 16 - 400, 150 - 2500 lbs, ISO PN 20, 50

Temperature range : -100 °C - +300 °C

Material, PITOBAR : stainless steel AISI 316,
Material, mounting kit : carbon steel, stainless steel AISI 316

Process connections : Flange according to pressure rating

Flange standards : DIN, ANSI, ISO, others on request

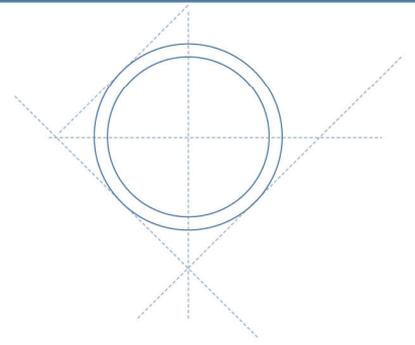
Bottom support : for larger pipe sizes and high velocities
especially in gas applications

Mounting : Welding to the pipe

0-05-011-0e



Type DK200B
B: bottom support



Construction

The PITOBAR Averaging Pitot Tube is constructed and designed with a diamond shaped strut with several ports spaced centrally within concentric rings of equal area pointing towards the upstream side. This is done in order to get the best averaging measurement of the dynamic pressure, resulting in a more accurate flow reading.

The pitot tube creates a differential pressure signal which is proportional to the flow rate.

Differential Pressure = (Pstatic + Pdynamic) - Pstatic

The differential pressure transmitter is easily mounted with the bolts and gaskets, which is a part of the supply.

Technical Data

Accuracy : ± 1% accuracy of actual flow

Repeatability : ± 0,1%

Reynolds no. : Minimum 100.000 at full flow

Rangeability : 10:1

Max. allowable differential pressure : Depending on size, density and velocity

Max. fluid velocity : liquids 5 m/s, gasses 80 m/s

Advantages

Very easy to install particularly in existing pipe runs. Very low pressure loss due to low energy consumption caused by low drag coefficient. Risk of leakage is minimized.