PITOBAR - DIFFERENTIAL PRESSURE PRIMARY FLOW ELEMENT

Pitobar is a partial invasive primary flow element sensor, by insertion. No moving parts. Suitable for compressed air, gases, steam and liquids phases, including water. No heavy dirty or sticky fluids allowed, but easy to clean by automatic purge. The device generates one averaged differential pressure signal DP, proportional to the square root of the flowrate..(Bernoulli's principle). Designed performs accurate measurements of small DP values against minimal overall pressure drop, thanks to the multi-points Pitot straight tube arrangement.

Benefits

- Simply measuring system.
- No mechanical moving
- Extremely low pressure drop detection.
- Wide range of construction materials : SS 316Ti, Monel, Inconel,PVDF, etc.

APPLICATIONS FIELDS

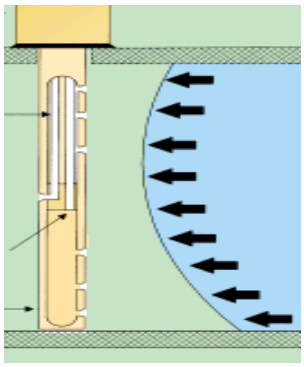
- Industry process controls
- Fluids with suspended solid particles
- Critical high pressure and temperature.
- Thermal energy calculation, plants consumption and managing costs

ADVANTAGES:

- Piping sections by direct radial insertion from 40mm up to 12 meters of diameter.
- Stable long time accuracy.
- Hot extraction out of pressure lines for single or double mounting seat by shut-off valve.
- Full assembly sensor kit, for quick installation in industrial harsh environments, includes: one couple of serpertine cooling flexible tubes, one smart Dp local transmitter as CAPTOR with manifold valve assembled on..

DESCRIPTIONS

Impact pressure (Pt or total pressure) HP+ is detected by the several precise holes array along the front side of probe in face to the flow direction. So that different values got at points in pressure are self-averaged into the inner coaxial tube ending to the Pt /HP +.port connection. On the diametral opposite side, the static pressure pulse, respect to the downstream flow, is sent to the related port connection LP- (Ps or static pressure).



Dedicated sensor design allows correct flow rate detection even with large variability on stream fluid and minimize noise errors due to section profile or size changes, or valves running. Fluid nature (gas or liquid) and its characteristics have to be well defined, and full filling the pipelines.

To perform the best accuracy, check for compliance to the right straight section lengths: 7 to 8 D diameters upstream and 3 to 4 diameters downstream. On alternative one in line flow straightener must be advice. Avoid in any case vibrations and or pulsing flow, so that this increases noises and mechanical stress on body sensors and damage electronics equipments

TECHNICAL SPECIFICATIONS

Accuracy:	+/- 1.2% m.v.
Ripetibility:	+/- 0.1%
Minimum No. Reynolds:	>12000Re
Turndown:	10:01
Pressure max:	up to 600 bar
Temperature max:	< 1300°C
Max Viscosity:	<500 cP
Body material:	S.S.316 standard, other on request (Monel, Inconel, etc)
Process connection:	ND40 NP16 ss316 as std. Plus > 127 mm butt spacer for flanged coupling.
Manifold (option):	one 3 ways manifold (on option separate)
Outlet pressure pulse:	1/2”NPT male std
Sizing probe:	Defined on detailed calculation, depending by kind of fluid, piping ,lining, coating, static pressure, fluid temperature, materials and so on.

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