Magnetic Inductive Flow Meter PIT

INSERTION-TYPE

PIT-UMF2 (B)

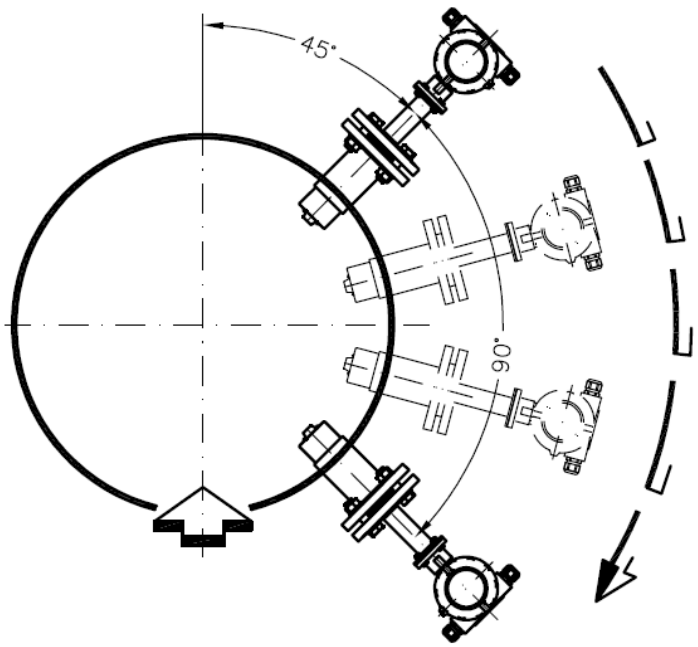
- **Insertion Type for Pipe Sizes up to DN 2000**
- **simple design**
- **wear free**
- **nearly no pressure drop**
- **Built-in or -out under process conditions**

Function

An electrically conductive medium induces a voltage while flowing through an arranged magnetic field in accordance to the Faraday's induction law. The induced voltage is proportional to the average flow velocity. Knowing the pipe size the volume flow can be calculated. The PIT-flow meter series is available with integral or remote mount transmitter. A retracting device for mounting and dismounting under process conditions is available.

Application

The magnetic-inductive PIT flow velocity sensor is used to measure or monitor the volume flow of liquids and other electrically conductive media while minimizing pressure drop.
Pressure, temperature, density and viscosity do not affect the volume measurements. Portions of solid particles and small gas pockets should be avoided. The sensor will be inserted into a pipe via a weld-on adapter – see sketch below. Special electrodes are available for media that tend to form covers, or coat the electrodes. For a safe operation we recommend to mount the measuring system in a vertical position between 1 to 5 o´clock.

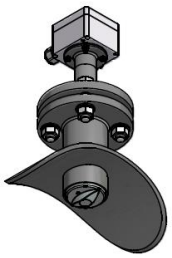


PIT / UMF2 (B) Flow Meters have the following significant characteristics:

- Different wetted materials available
- Electrodes in Hastelloy, Tantalum, Platinum and other materials available
- Retracting device for use under process conditions

Technical data

Sensor: PIT



Material

Sensor:	Stainless steel / PTFE, PFA *(other materials on request)*	
Electrodes:	Hastelloy, Tantalum, Platinum, *(other materials on request)*	
Process connections:	Flanges acc. EN 1092, ASME B16.5, DIN2512, *(special connections on request)*	
Nominal pressure:	PN 40, (40 bar) PN 16, (16 bar) *(higher pressures on request)*	(stainless steel / PTFE) (PFA)
Process temperature:	-40°C up to +100°C -40°C up to +150°C	(stainless steel / PTFE) (PFA)
Ambient temperature:	-40°C up to +60°C	
Ingress protection:	IP 67 / IP 68 (EN60529) 5 m standard IP 68 (EN60529) up to 25 m for remote version *(on request)* IP 68 seawater resistant version *(on request)*	

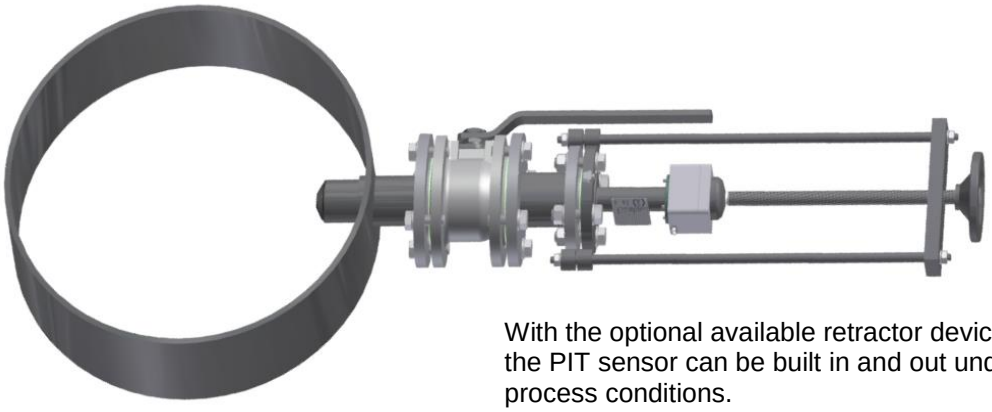
Range of application

For sizes:	DN125 up to DN2000 DN125 up to DN600	(stainless steel / PTFE) (PFA)

Adjustable upper range values

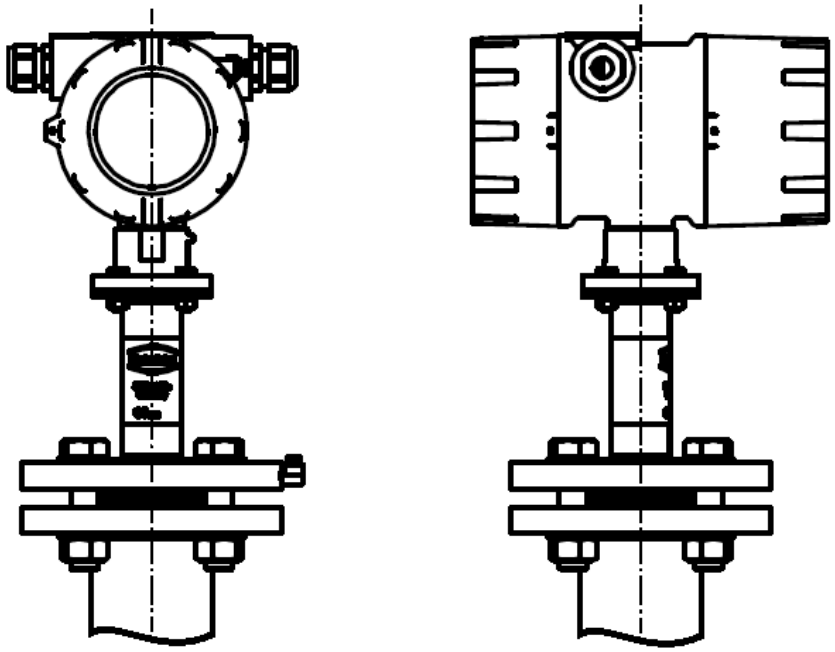
Standard:	1 m/s - 10 m/s
Special:	0.5 m/s - 5 m/s

Retractor device:



With the optional available retractor device the PIT sensor can be built in and out under process conditions.

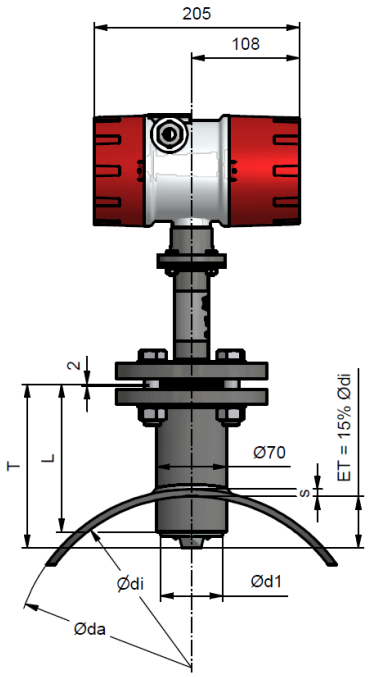
Transmitter UMF2 (B)



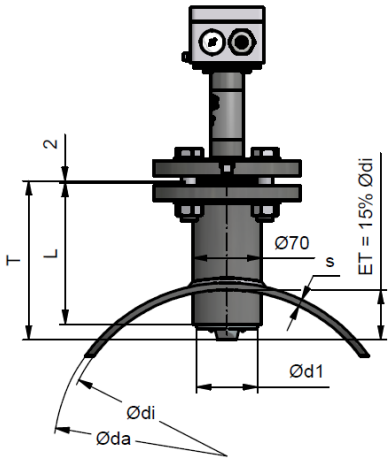
Mounting:	integral or remote
Power supply:	115 / 250 VAC 24 VDC
Outputs: Analog: Binary 1:	galvanically isolated 1 x 0/4-20 mA passive, optocoupler, U_m=30 V, I_m=200mA,
Ambient temperature:	-20°C up to +60°C
Ingress protection:	IP 68 (EN60529)
Communication:	HART®
Accuracy	± 1.5% of reading ± 0.5% from adjusted upper range value (under reference conditions)
Repeatability	± 0.75% of reading ± 0.25% from adjusted upper range value (under reference conditions)
CE-Marking:	EMC-Directive 2004/108/EG EN 61010-1:2004 EN 61000-6-3:2001 (emissions residential environments) EN 61000-6-2:1999 (immunity for industrial environments) EN 55011:1998+A1: 1999 Group 1, Class B (radio interference) EN 61326-1:2008 Safety requirements for electrical measuring, control and laboratory devices.

Dimensions

Compact mounting

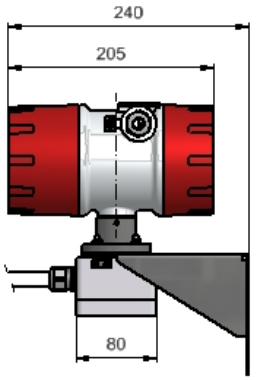


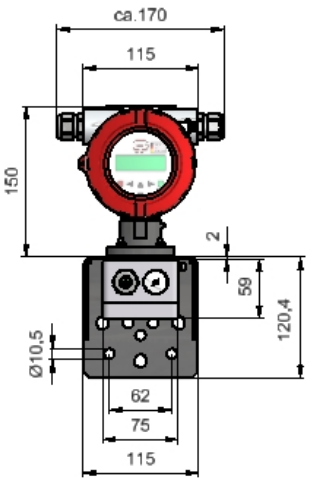
remote mounting



Insertion length „ET“ 15% of inner pipe diameter

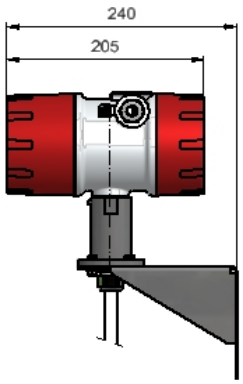
Modell	DN	T	Ød1	L
PIT-A (PFA)	150-600	163mm	62mm	145mm
PIT-S (SS / PTFE)	150-600	163mm	60,3mm	145mm
PIT-S (SS / PTFE)	700-1200	263mm	60,3mm	170mm
PIT-S (SS / PTFE)	1400-2000	363mm	60,3mm	170mm

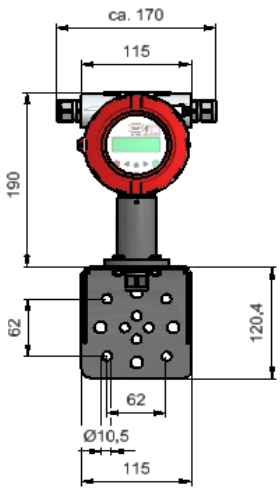




(all dimensions in mm)

Remote transmitter
Cable connection via terminal conn. box





Remote transmitter direct cable connection

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