

100 YEARS PROCESS-INSTRUMENTATION 1911-2011
We measure flow, mass, density, level and pressure



Electromagnetic Insertion Sensor

The cost-efficient alternative for large diameters

- › DN 125 up to DN 2000 with one sensor
- › Simple installation without pipeline infringement
- › Easy maintenance with the retractable assembly
- › Flexible insertion at almost any measuring points
- › Various materials for a wide range of applications

Electromagnetic Insertion Sensor

Sophisticated Details

Optimized flow pattern at sensor head



The **optimized flow pattern of the sensor head** guarantees an optimal fluid flow over the electrodes.

Clogging of micro particles is suppressed thus increasing the **long term stability of the sensor**.

A wide range of materials for the sensor body (stainless steel, PTFE, PFA) and the measuring electrodes (Hastelloy, tantalum, platinum) are available enabling the **use in almost every environment**, temperatures of **-40...150 °C** and pressures **up to 40 bar**.

To ensure a high precision in different flow situations, **high-performance coils** are available for flow rates of 0...5 m/s and 0...10 m/s.

Electromagnetic Insertion Sensor

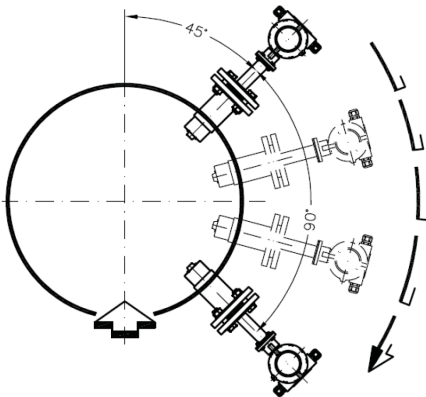
Manual Retractable Assembly for „Hot tapping“

Easy mounting and retraction on pressurized pipes

The patented manual retractable assembly allows the retraction and mounting of the sensor on pressurized pipelines.



The sensor can be installed at almost any angle around the cross-section of the pipe.



Electromagnetic Insertion Sensor

Application example „material“

Precise measurements irrespective of pipe material

GRF-pipe of a seawater desalination plant



Armored steel concrete pipe

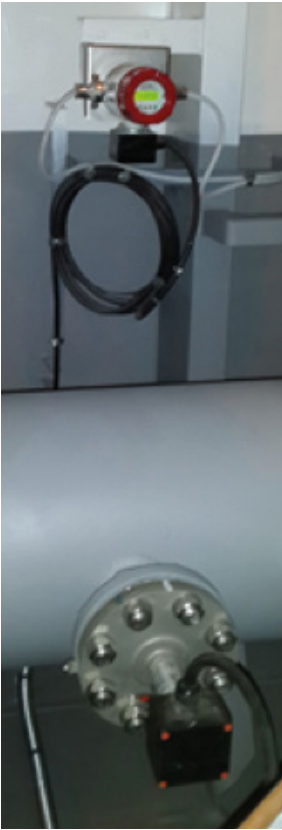


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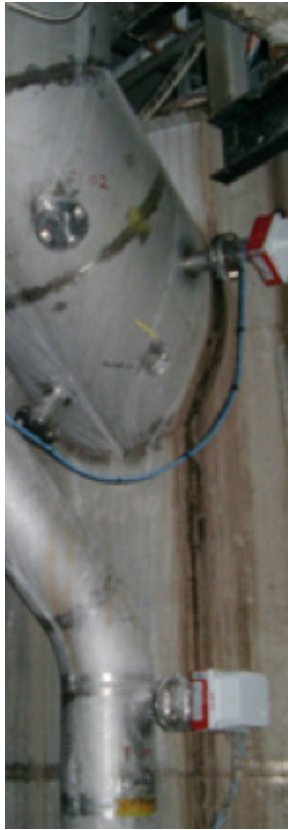
Application example „space“

Optimal when space is limited

Pipe for ballast water on a ship close to the hull planking.



Installation after completion in cooling circuit of the “Three Gorges hydro-electric dam” (China)



Electromagnetic Insertion Sensor

Versions

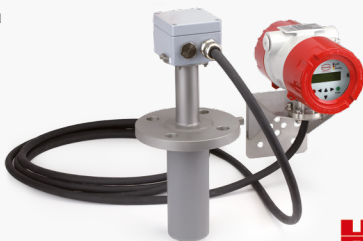
Standard PIT – Economy PITe

Mounted transmitter



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Remote version



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Economy-Version PITe up to diameter DN400

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Electromagnetic Insertion Sensor

Performance Data

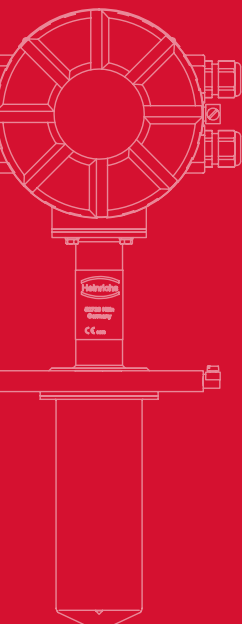
Overview

- > For pipings from DN 125 up to DN 2000
- > Quick and cost efficient mounting, especially in difficult accessible areas (Flange DN50)
- > Various materials for „harsh“ applications
- > „Hot tappable“ Mounting and retraction of the sensor on pressurized pipelines possible
- > High-performance coils of 60 mm in diameter, deliver accurate measurements even at low flow rates (> 0,5 m/s) and in liquids of low electrical conductivity (> 5 $\mu\text{S}/\text{cm}$)
- > Explosion prevention and protection (UMF3)
for example:
II 2G (1G) Ex d e ib [ia IIC Ga] IIB TX Gb
II 2D (1D) Ex tb ib [ia Da] IIIC TX Db
- > HART® Protocol

Process connection:	Flange according EN / ASME / JIS
Nominal pressure:	PN40, ASME CL 150/300
Temperature:	-40...100 °C (Stainless steel / PTFE) -40...150 °C (PFA)
Protection class:	IP67 / IP68 (seawater proof version)
Wetted parts:	Stainless steel / PTFE, PFA
Electrodes:	Hastelloy, tantalum, platinum
Transmitter:	UMF2 - 115/230 VAC, 24 VDC UMF3 (EX) - 90 - 240 VAC, 24 VDC
Outputs:	1x 4-20 mA or freq. / pulse / status
Accuracy:	$\pm 1,5\%$ of MV $\pm 0,5\%$ of URV
Repeatability	$\pm 0,75\%$ of MV $\pm 0,25\%$ of URV



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KOBOLD Group

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We measure flow, mass, density, level and pressure



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