INLINE FLOW METER

AI.FGP1

DESCRIPTION

The inline flowmeter AI.FGP1 - compact and AI.FGP1 - flex, based on the measurment principle of thermal mass flow, is ideall< suited fpr the measurment of flow in pipelines DN15 (1 / 2 ") up to DN50 (2"). Measurment of for instance the usage of compressed air, nitrogen, CO 2, oxygen, helium orother non-corrosive, non-flammable gasses. The unique mounting concept with a mounting valve permits rapid installation and removal of the device for periodical calibration. It simultaneously ensures high measurement accuracy through exact and reproduccible positioning in the pipe. The core design of the flow meter is based on the EE hot film sensor element, which is produced using the most modern thin film technology. This flow sensor features excellent long-term stability, a fast response time and an extremely high degree of reliability.

The flowmeters are setting new standards in terms of measurement accuracy and reproducibility thanks to their application-specific adjustment during production. As such, the AI.FGP1 - compact and AI.FGP1 - flex is adjusted under a pressure of 7 bar. Adjusting the device specifically for its application has the advantage of ensuring that the emerging flow speed corresponds to the actual speed in the application. Contrary to conventional adjustment under normal pressure, sensor-dependent form factors when adjusting under pressure are compensated. The highest measurement accuracy and excellent reproducibility of the measurement values are the results of this innovative adjustment process. Two outputs are available, for further processing of the measure- ment data. Depending on the application, these outputs can be configured as analogue (current or voltage), switch output or as pulse output for the measurement of the consumption.

CONFIGURATION SOFTWARE

The flowmeter can be configured conveniently, to meet the requirements of the application with the standard configuration software and the integrated USB interface.

FUNCTIONALITY OF THE SOFTWARE

- Configuration of the output (scale / set point)
- 2 point user calibration for flow and temperature
- Readout of the counter values
- Reset of min / max values and counter
- Indication of the measurement value

TYPICAL APPLICATION

- Measurement of consumtion of compressed air
- Compressed air counter
- Mass flow measurement of industrial gases

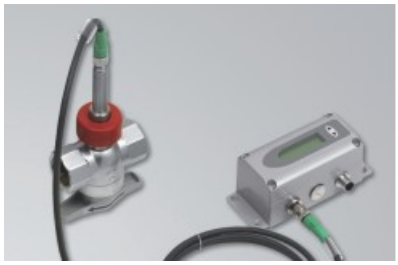
FEATURES

- High accuracy +- 2,5% of reading.
- Exceptional reproducibility
- Quick sensor exchange at line pressure
- Broad working range
- Very service friendly

ASSEMBLY WITH BALL VALVE

The ball valve assembly allows for the exact alignment of the sensing head within seconds during instalment and removal, with only interrupting the process flow for a short moment.
The ball valve assembly is suitable for pressuresup to 16 bar (232 PSI) and available for pipe diameters DN15 (1/2") to DN50 (2").

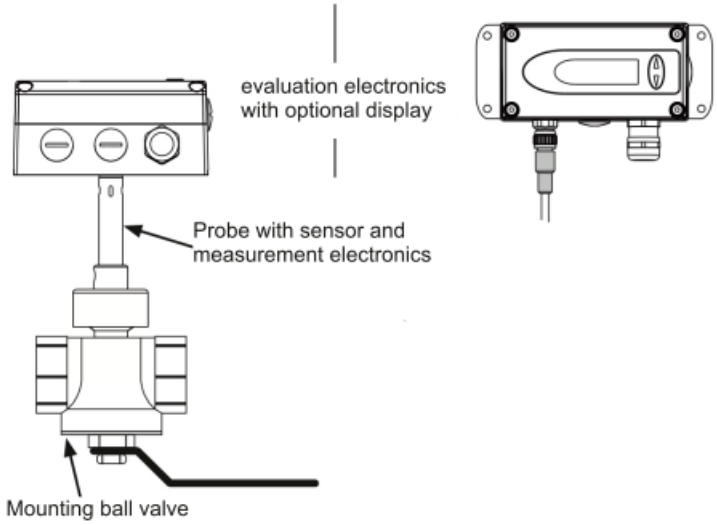
COMPACT



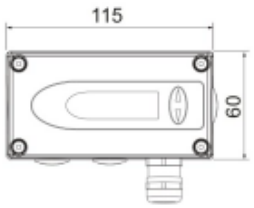
FLEX

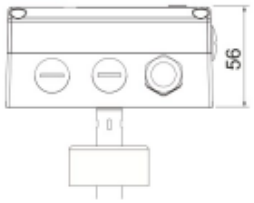
CONSTRUCTION

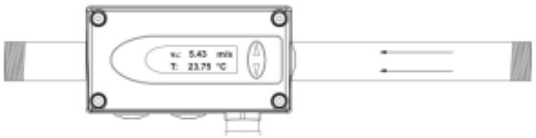
The flow meter consist of the transmitter and the mounting valve. The transmitter is modular and consist of the probe and the evaluation electronics. The measurement probe contains the sensor element and the measurement electronics, in which the data of the factory calibration is stored. The enclosure with the signal conditioning is mounted either on the measurement probe (compact) or is remote with a sensor cable up to 10 meter (33 feet)(flex).
The AI.FGP1 holds an integrated counter for the usage. The amount is indicated in the display and stored; the data will not be lost due to a power outage. The availability of the consumption amount as a free configurable pulse output is another helpful feature.



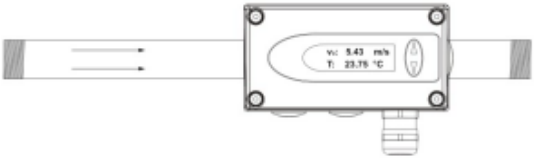
DIMENSIONS

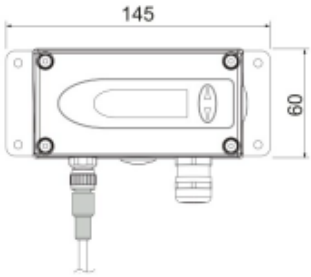


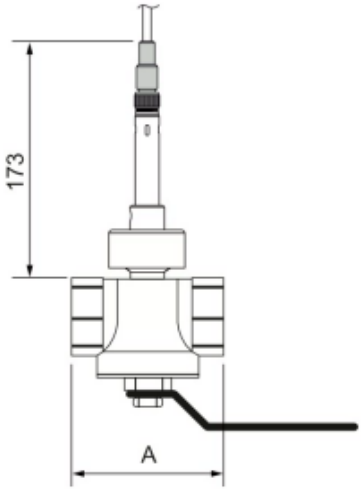


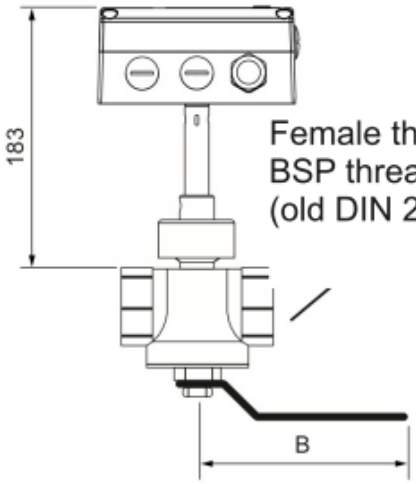


direction of flow is right to left









Female thread:
BSP thread acc. EN 10226
(old DIN 2999)

ball valve	Thread	A	B
DN15	R_p1/2"	83.7 (3.3)	35 (1.38)
DN20	R_p3/4"	72.7 (2.84)	35 (1.38)
DN25	R_p1"	88 (3.46)	47.5 (1.87)
DN32	R_p1 1/4"	100 (3.94)	120 (4.72)
DN40	R_p1 1/2"	110 (4.33)	150 (5.91)
DN50	R_p2"	131 (5.16)	150 (5.91)

Measuring range	standard	high
DN 15	0,32..63 Nm	0,32..126 Nm
DN 20	0,57..113 Nm	0,32..226 Nm
DN 25	0,90..176 Nm	0,32..352 Nm
DN 32	1,45..289 Nm	0,32..578 Nm
DN 40	2,26..452 Nm	0,32..904 Nm
DN 50	3,50..700 Nm	0,32..1400 Nm

Temperature

Measuring range	-20...80°C
Accuracy at 20°C	+- 0,7 °C

Outputs

Output signal and display ranges are freely scalable

Analogue output	voltage	0 - 10 V max. 1 mA
	current (3-wire)	0 - 20 mA and 4 -20 mA R_L < 500 Ohm
Switching output		potential free max. 44 VDC, 500 mA switching capacity
Pulse output		Totalizer, pulse length: 0,02...2 sec.
Digital interface		USB (for configuration)

Input

Optional pressure compensation	4 - 20 mA (2-wire, 15V) for pressure sensor

General

Supply voltage	18 - 30 V AC/DC	
Current consumption	max. 200 mA (with display)	
Temperature range	ambient temperature:	-20...60°C
	medium temperature:	-20...80°C
	storage temperature:	-20...60°C
Nominal pressure	PN 16 (232 psi)	
Humidity	no condensation	
Medium	compressed air or none corrosive gases	
Connection	cable gland M 16x1,5 (optional connector M 12x1 8pol.)	
Electromagnetic compatibility	EN 61326-1; EN 61326-2-3; Industrial Environment	
Housing protection	IP 65 / NEMA 4	
Material	housing:	metal (AlSi3Cu)
	probe	stainless steel
	sensor head	plastics (PBT)

CE

OPTIONS

display:
2 - line LCD - display, background illuminated
material: metall (AlSi3Cu)

plug for supply and outputs:

Mounting ball-valve:
availible in DN 15, DN 20, DN 25, DN 32, DN 40, DN 50

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