



Magnetic flowmeter FLOMAG®-ICM



Flanged Remote Sensor



Wafer Remote Sensor



Remote Sensor with Sanitary Fittings (DIN11851)



Remote Transmitter

FLOMAG s.r.o.
Šumavská 5
602 00 Brno
Czech Republic
Tel: +420 541212539
Fax: +420 549240356
E-mail: info@flomag.com
www.flomag.com



Flanged Compact Version

Magnetic flowmeter FLOMAG 3000 is a volume flow rate meter for conductive fluids in pipelines. It allows measurement of flow rates in both directions, with high accuracy and in wide range of flow rates (0,1 – 12 m/s). The micro-processor controlled transmitter offers a wide variety of binary, analog and digital inputs and outputs suitable for all applications. Absence of moving parts and digital calibration ensures long-term accuracy and stability.

Transmitter has two passive, galvanically isolated, programmable binary outputs. They can be used as pulse, frequency, or for indication of limit values. RS232 is used for service purposes. For

industrial communication it is possible to equip the transmitter with galvanically isolated interface RS485. As option, the transmitter can be equipped also with active, galvanically isolated, programmable current output 0/4-20 mA.

Versions equipped with display and keyboard provide a wide variety of displayable operating data on a readable two-line display with large characters. Also all adjustable parameters can be comfortably changed during operation, using a four-key keyboard.

Sensors are obtainable in wide range of options and designs. Manufactured dimensions are from DN10 up to DN1200, for PN6 up to PN40 (64) and temperatures for

the measured liquid up to 150 °C. According to the connection we manufacture flanged sensors, wafer or with threads. For different measured liquids we use sensors with lining from soft rubber, hard rubber, special rubber or PTFE. Measured electrodes are manufactured from stainless steel, Hastelloy or Pt.

Transmitter can be integral part of the sensor – compact version or it is connected with the sensor with a cable – remote version. Transmitters has IP67, sensor up to IP68.

TECHNICAL PARAMETERS

Transmitter

Power supply	115/230VAC, 10..18VDC, 18..36VDC, 24VAC
Consumption	8..10VA
Analog output	selectable - 0(4)..20mA (12bit) active galvanically isolated
Binary output	2x passive galvanically isolated
Interface	RS232 (not galvanically isolated), 0/20mA loop galvanically isolated, selectable - RS485 galvanically isolated
Display	selectable - LCD and keyboard module – 2x16 characters (9,6 mm high) with keyboard
Electrode cleaning	electrochemical electrode cleaning module
Protection	IP65
Min conductivity of the liquid	20µS/cm (for some liquids from 5µS/cm)

Sensors

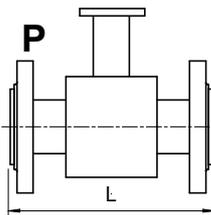
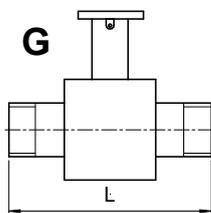
Nominal diameter	DN10..DN1200
Nominal pressure	PN6, PN10, PN16, PN25, (PN40, PN64), 150lb, 300lb
Connection	Flanged P (DIN, ANSI, ASA), Wafer B , Sanitary fittings (DIN11851) V , Thread G
Electrode material	Stainless steel Ss , Hastelloy C-276 Ha , Pt Pt
Lining	Hard rubber TG , Soft rubber MG , Special rubber NG , PTFE T
Liquid temperature	0 - 80°C (TG, MG), 0 - 90°C (NG), 0 - 150°C (T)
Protection	IP67, IP68
Installation	Compact or remote version

Installation lengths

Installation lengths are different according to the design of the sensor and the lining material.

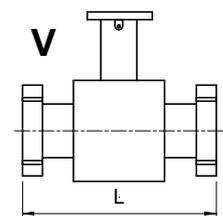
Flanged version - L [mm]

P DN	Lining TG, MG	Lining T, NG
15, 20	138	134
25 - 100	215	213
125, 150	305	301
200, 250	380	376
300 - 500	515	511
600	615	611
700	715	711
800, 900	815	811
1000, 1200	1015	1011



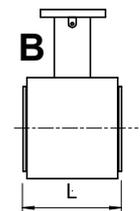
Thread version - L [mm]

V, G DN	Lining TG, MG	Lining T, NG
15, 20, 1/2", 3/4"	150	150
25 - 100, 1" - 4"	215	213
125, 150, 5", 6"	305	301



Wafer version - L [mm]

B DN	Lining TG, MG	Lining NG, T
10	-	62
15, 20	72	70
25 - 100	102	100
125, 150	132	130



Manufactured dimensions, flow rate ranges and measurement error limits

DN		Flow rate l/s		Flow rate m³/h	
mm	inch	Q _{min}	Q _{max}	Q _{min}	Q _{max}
10	3/8"	0.0078	0.785	0.0282	2.827
15	1/2"	0.0176	1.767	0.0636	6.361
20	3/4"	0.0314	3.141	0.1130	11.30
25	1"	0.0490	4.908	0.1767	17.67
32	1 1/4"	0.0804	8.042	0.2895	28.95
40	1 1/2"	0.1256	12.56	0.4523	45.23
50	2"	0.1963	19.63	0.7068	70.68
65	2 1/2"	0.3318	33.18	1.194	119.4
80	3"	0.5026	50.26	1.809	180.9
100	4"	0.7853	78.53	2.827	282.7
125	5"	1.227	122.7	4.417	441.7
150	6"	1.767	176.7	6.361	636.1
200	8"	3.141	314.1	11.30	1130
250	10"	4.908	490.8	17.67	1767
300	12"	7.068	706.8	25.44	2544
350	14"	9.621	962.1	34.63	3463
400	16"	12.56	1256	45.23	4523
450	18"	15.90	1590	57.25	5725
500	20"	19.63	1963	70.68	7068
600	24"	28.27	2827	101.7	10178
700	28"	38.48	3848	138.5	13854
800	32"	50.26	5026	180.9	18095
900	39"	63.61	6361	229.0	22902
1000	40"	78.53	7853	282.7	28274
1200	48"	113.0	11309	407.1	40715

Selected sensor range has to be in the flow velocity interval 0,1 m/s. The limits for the max up to 10 m/s. Volume flow rate limits for the single dimensions are shown in the table. It is suitable to choose the operational sensor range between 0,5 and 5 m/s. The limits for the max measurement error from the measured value depending on the liquid flow velocity are shown on the graph below.

