



Magnetic Inductive Flowmeter EP with UMF2

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Function

An electrically conductive medium induces a voltage while flowing through an arranged magnetic field in accordance to the Faraday's induction law.

A magnetic inductive flowmeter consists of a isolated lining tube, flown through by a conductive liquid, a magnetic field coil and two electrodes. The electrode measuring-circuit voltage is proportional to the flow velocity and therewith to the volume flow.

The electrode voltage is detected by a transmitter and converted into standard electrical signals as 4-20 mA or pulses.

The sensor EP can be used in combination with all types of Heinrichs Messtechnik MID-transmitters.

The transmitter can be mounted integrally or separately.

Application

The magnetic-inductive flow sensor EP is used to measure the volume flow of liquids, slurries, pastes and other electrically conductive media without any pressure drop.

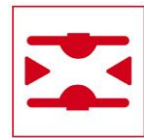
Pressure, temperature, density and viscosity do not affect the volume measurements.

Portions of solid particles and small gas bubbles should be avoided.

The EP has the following significant characteristics:

- Wide variety of lining materials
- Electrodes in Hastelloy, Tantalum, Platinum and other materials available.
- Wide variety of process connections
- Applicable at harsh environments

- High accuracy 0.3 % of readings
- No maintenance required
- no pressure drop
- different lining materials
- different electrode materials
- inexpensive earthing electrode available instead of earthing rings, also available special materials like e. g. tantalum



Technical data

Sensor EP

Armature:	Coated steel	
Process connection:	Steel or stainless steel 1.4301 flanges (EN1092 und ASME B16.5), flangeless connection (wafer), food connection DIN11851, Tri-clover [®] , others on request	
Lining:	Hard rubber, soft rubber, PTFE, Rilsan (in preparation), PFA (in preparation), Wagunit	
Measuring and earthing electrodes:	Stainless steel 1.4571, Hastelloy, Tantalum, Platinum; Earthing ring and other materials on request	
Diameters:	DN15 to DN300 others on request	
Nominal pressure:	PN 40, ASME CI150 / 300 PN 16, ASME CI150 PN 10, ASME CI150 higher pressures on request	DN15 to DN50 DN50 to DN200 DN250 to DN300
Process temperature:	0 °C to +80 °C -20 °C to +150 °C 0 °C to +80 °C	(hard rubber, soft rubber, PFA) (PTFE) (Rilsan, Wagunit)
Ambient temperature:	-20 °C to +60 °C, depending on process temperature	
Conductivity:	≥ 5 µS/cm ≥ 20 µS/cm with demineralized water	
allowed upper measuring ranges:	0.5 m/s – 10 m/s	
Accuracy:	± 0.3 % of measured value ± 0.01 % * (Q at 10 m/s) (under reference conditions)	
Repeatability:	± 0.15 % of measured value ± 0.005 % * (Q at 10 m/s) (under reference conditions)	
Degrees of protection:	IP 67 (EN60529), IP68 on request	

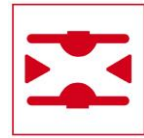


Transmitter

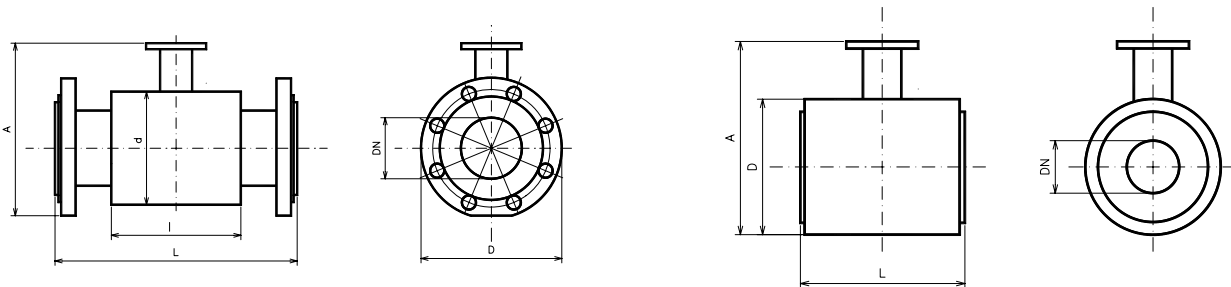
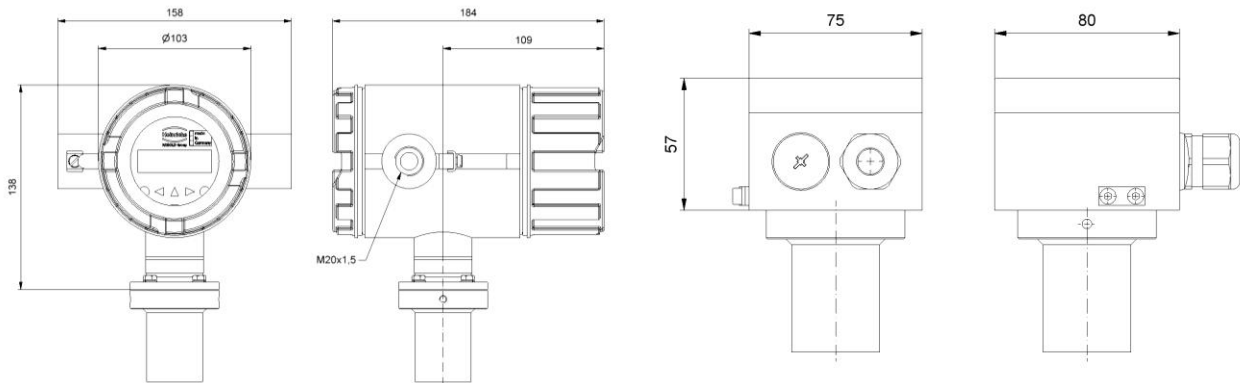
UMF2



Mounting:	integral or remote
Housing:	Alu pressure die-casted, coated
Power supply:	115 / 230 VAC 50/60Hz 10VA 24 VDC 10W
Outputs:	
Analog:	1 x 0/4-20 mA active, galvanically isolated
Pulse:	passive, galvanically isolated, 24V, 60mA
Status:	passive, galvanically isolated, 24V, 60mA
Ambient temperature:	-20 °C to +60 °C, depending on process temperature (when integral mount)
Degrees of protection:	IP67 (EN60529)
Communication:	HART®
Diagnosis functions:	Empty pipe detection, exciter current monitoring
Electromagnetic compatibility:	EN 61000-6-3:2001 emissions EN 61000-6-2:1999 immunity EN 55011:1998+A1: 1999 group 1, class B (radio interference) EN 61000-4-2 to DIN EN 61000-4-6 EN 61000-4-8, EN 61000-4-11, EN 61000-4-29 EN 61326 EMC Directive 89/336/EWG NE21 Directive RL 2006/95/EG EN61010 Safety requirements for electrical metering, Control and laboratory devices



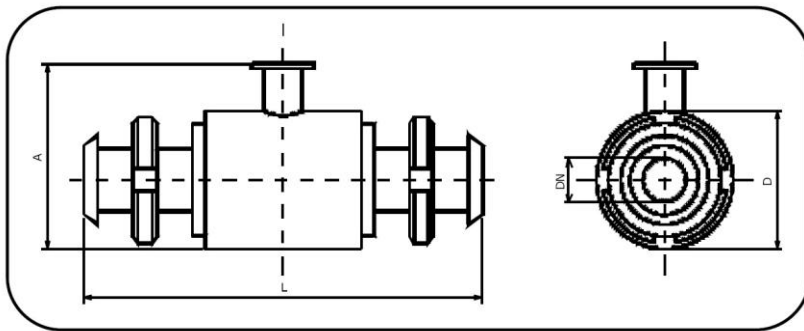
Dimensions



DN	ASME	D	A	L	kg
15	-	95	164	200	3
20	¾"	105	170	200	3
25	1"	115	180	200	3
32	1¼"	140	199	200	4
40	1½"	150	209	200	4
50	2"	165	223	200	6
65	2½"	185	244	200	9
80	3"	200	260	200	14
100	4"	220	280	250	16
125	5"	250	310	250	19
150	6"	285	340	300	25
200	8"	340	398	350	41
250	10"	395	480	450	54
300	12"	445	535	500	77

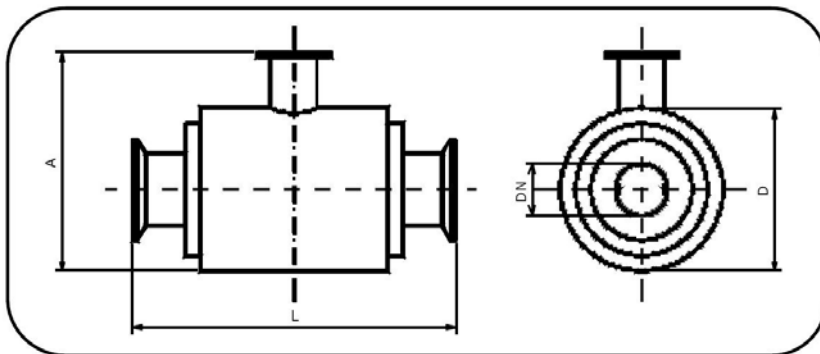
DN	D	A	L	kg
20	62	145	74	1
25	72	158	104	2
32	82	168	104	2
40	92	179	104	2
50	107	192	104	3
65	127	212	104	3
80	142	227	104	4
100	162	247	104	4
125	192	277	134	6
150	218	303	134	8
200	274	359	219	10

An additional weight of 2.4 kg (5.3 lbs) must be taken into consideration for the transmitter.



DN	D	A	L
15	74	144	170
20	74	144	170
25	74	144	225
32	84	154	225
40	94	164	225
50	104	174	225
65	129	199	280
80	140	210	280
100	156	226	280

Connection DIN 11851, PN10



DN	D	A	L
1/2"	74	144	137
3/4"	74	144	137
1"	74	144	137
1 1/2"	94	16	137
2"	104	174	137
2 1/2"	129	199	192

Connection Tri-Clover®, PN10

Subjects to change without notice.

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