

Electromagnetic flow-meter BAMOMATIC



- Ranges from 0.1 up to 250 l/min
- 2 Outputs: Analogue and pulse
- No moving parts
- Small dimensions
- High accuracy

APPLICATIONS

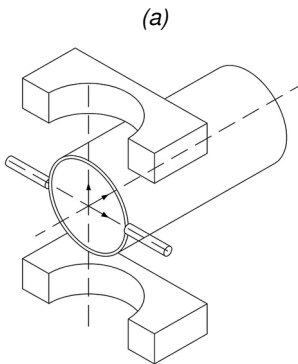
- Mechanical and industrial engineering fields
- Cleaning process
- Liquid dosage
- On board skids, etc.

DESCRIPTION

BAMOMATIC is a flowmeter based on the principle of electromagnetic induction to measure flow-rate on electrically conductive liquids ($> 20 \mu\text{S}/\text{cm}$). It is perfectly suited for dosing or totalizing liquids. Each instrument is calibrated on a bench test at $\pm 5/1000$ pulses of water at 23°C . Density of the liquid, its temperature or its pressure have no influence on the measurement; No moving parts in this flow-meter: it ensures operations without mechanical wear.

The measuring principle is based on Faraday's law (a): In an electromagnetic flow-meter, the liquid section is in a magnetic field created by solenoid coils. Electrode sensors are located on a plane, perpendicular to the magnetic field, in contact with the (conductive) liquid, allowing measurement of the generated voltage. This voltage is directly proportional to the fluid velocity and therefore to the flow-rate (for a constant flow section).

(a): According to Faraday's law, electromagnetism principle, the voltage induced in a moving conductor through a magnetic field, is directly proportional to the conductor speed.



TECHNICAL FEATURES

Electrical connections	Built-in 4-pin plug M12x1
Power supply	12 ... 24 V DC $\pm 10\%$
Consumption	Max. 3.6 W
Accuracy	$\pm 0.7\%$ of reading; $\pm 0.3\%$ of range (Factory tests with water at 23°C)
Repeatability	$\pm 1\%$
Response time	< 100 ms
Electrical protection	Short-circuit proof; Protection against reverse polarity
Signal outputs	Push-pull square wave and 4-20 mA
Status display	Green LED: Flashing proportionally to the flow-rate
Nominal diameter	DN 3; DN 8; DN 15; DN 20; DN 25
Fittings	BSP-M: $\frac{3}{8}$ "; $\frac{1}{2}$ "; $\frac{3}{4}$ "; 1"; $1\frac{1}{4}$ "
Materials	Housing: ABS Fittings and measuring tube: PVDF Option: POM Sealing: EPDM seals Electrodes: Stainless steel 316 L (1.4404) Option : Hastelloy C electrodes and FPM seals
Minimum conductivity	$20 \mu\text{S}/\text{cm}$
Pressure limits	10 bar at 20°C ; 8 bar at 40°C ; 6 bar at 60°C
Operating temperature	Liquid: $-10 \dots +60^\circ\text{C}$ Ambient: $+5 \dots +60^\circ\text{C}$; Storage: $-15 \dots +60^\circ\text{C}$
Protection	IP 65 (cable connected) according EN 60529

EC Conformity: The instrument meets the legal requirements of the current European Directives.



8 Av. du Gué Langlois · 77600 Bussy-Saint-Martin
Tel +33 (0)1 60 37 45 00 Web www.citec.fr
E-mail citec@citec.fr

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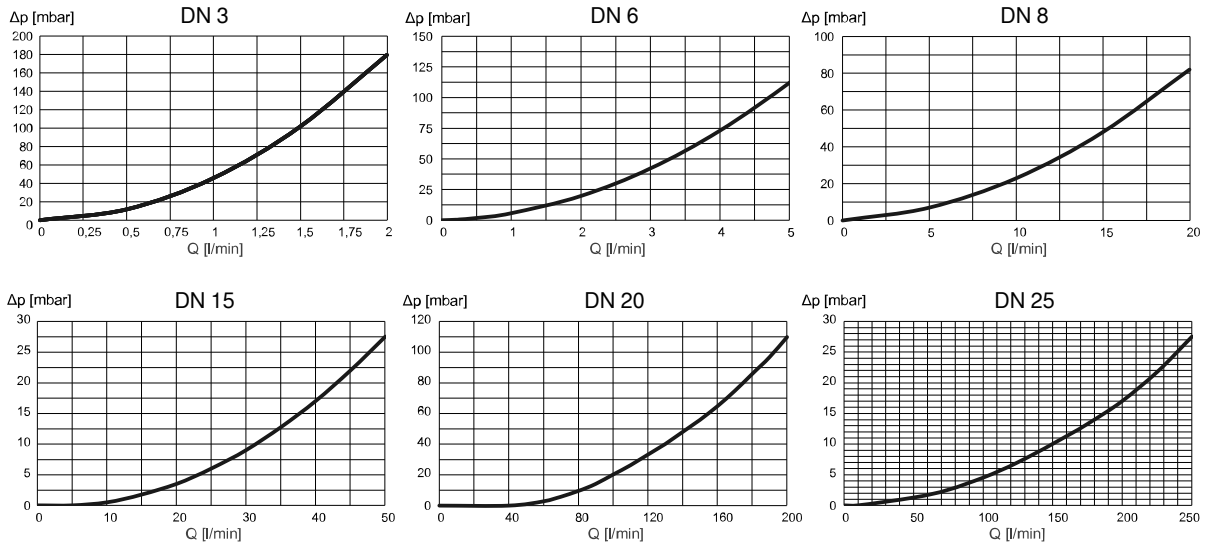
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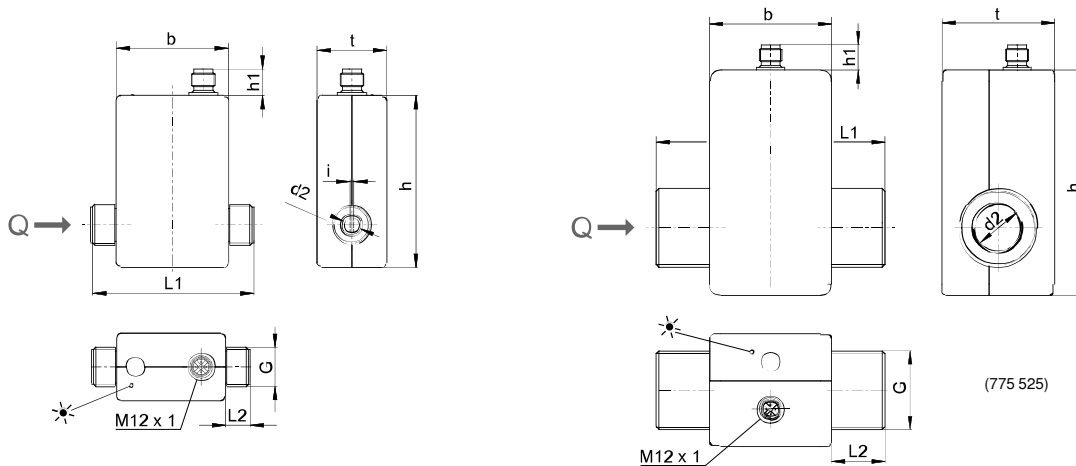
PRESSURE DROP vs. FLOW-RATE



CODE NUMBERS AND REFERENCES

Code	Tube material	Fittings (BSP-M)	DN	Inner Ø [mm]	Range [l/min]	Pulse/l	Resolution [ml/pulse]
775 503	PVDF	3/8"	3	3	0.1 ... 2	10,000	0.1
775 506	PVDF	1/2"	8	8x2.5 rectangular section	0.25 ... 5	4,000	0.25
775 508	PVDF	1/2"	8				
775 515	PVDF	3/4"	15	14	2.5 ... 50	400	2.5
775 520	PVDF	1"	20	18	5 ... 200	200	5
775 525	PVDF	1 1/4"	25	25	12.5 ... 250	80	12.5

DIMENSIONS



Code	L1 [mm]	L2 [mm]	G	d2 [mm]	b [mm]	h [mm]	h1	t [mm]	Mass [g]
775 503	85	13	3/8"	Ø 3	58	89	13.5	36	360
775 506	85	13	1/2"	Ø 8	58	89	13.5	36	360
775 508	85	13	1/2"	Ø 8	58	89	13.5	36	360
775 515	90	16	3/4"	Ø 14	58	89	13.5	36	360
775 520	90	16	1"	Ø 18	58	89	13.5	36	360
775 525	122	28.5	1 1/4"	Ø 25	65	120	13.5	60	360



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