

Magnetic Inductive Flow Sensors induQ®

Series VMZ

SIKA®
SIKA USA Inc.



The Mag Meter for OEM

Cost-effective, highly accurate OEM-Version

SIKA VMZ is a magnetic inductive flow sensor for conductive liquid media. VMZ was developed for OEM applications and does not contain any moving parts. SIKA offers several product lines of magnetic inductive flow sensors under the trademark **induQ®**. VMZ is the most economic one due to the use of cost-optimised plastic components. Its construction is compact and lightweight. Six flow ranges are available.

The advantages of the VMZ will convince you:

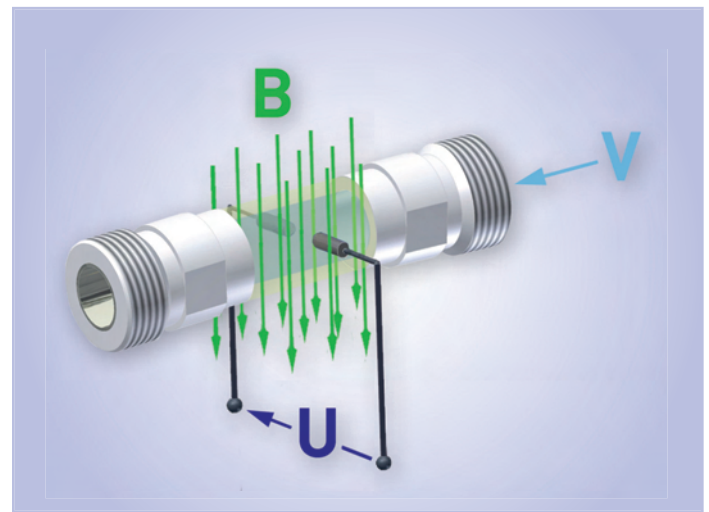
- Plastic mag-meter for OEM use
- No moving parts
 - ▶ no mechanical wear, maintenance-free
- Free cross section without obstacles
 - ▶ no additional pressure drop
- Independent to changes of temperature, pressure, viscosity
- Lightweight and compact design
- Minor requirements to inlet pipe
 - ▶ for cramped confines
- Measuring tube made of POM or PVDF
- Suitable for mobile applications
- Fast response (<100 ms)



Changes of temperature, density, viscosity, concentration or electrical conductivity of the medium do not affect the output signal.

The sensor is intended for continuous measurement of flow rates or for dosing / batching of liquids with a minimum conductivity of only 20 $\mu\text{S/cm}$.

VMZ **induQ®** is the ideal flow sensor for interference free operation combined with long-life cycle.



The **induQ®** flow sensors operate on the inductive principle: The measuring pipe is in a magnetic field (B). If an electrically conductive medium with the velocity (V) passes through the pipe and thus right-angled to the magnetic field, a voltage (U) will be induced into the medium which is proportional to the average flow velocity and picked up by the two electrodes.

The output signal is issued as a flow proportional frequency signal. The pulse rate can be factory set-up.

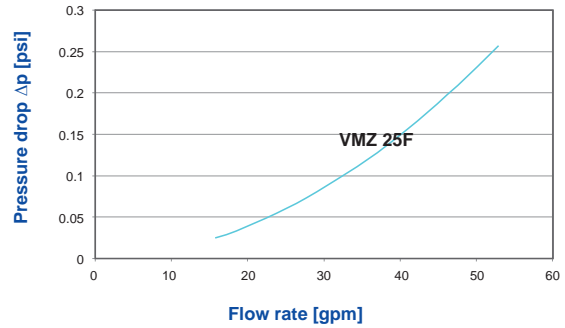
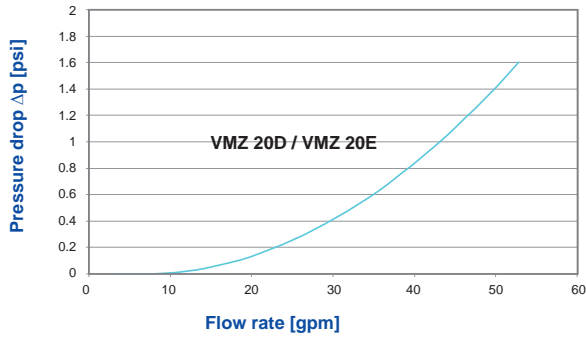
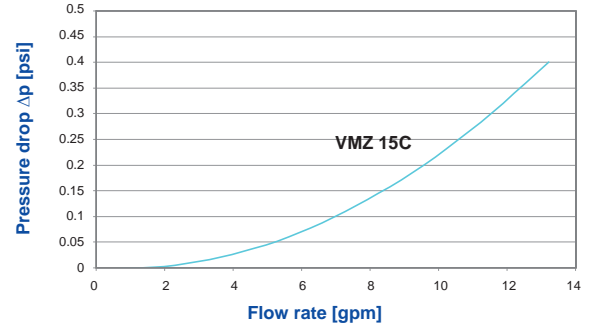
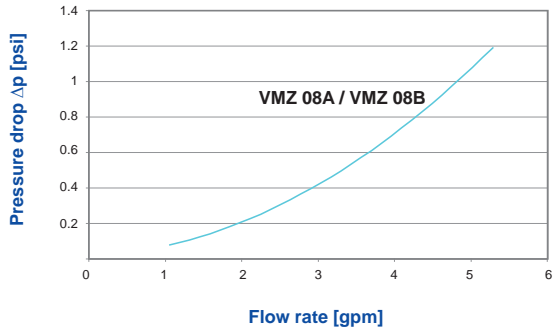
Materials	
Electrodes and grounding rings	Stainless steel 316L
Measuring pipe and process connections	POM or PVDF
O-rings	EPDM
Housing	ABS

Technical data

	VMZ 08A	VMZ 08B	VMZ 15C	VMZ 20D	VMZ 20E	VMZ 25F
General data						
Size	DN 8	DN 8	DN 15	DN 20	DN 20	DN 25
Process connection	½ - 14 NPT	½ - 14 NPT	¾ - 14 NPT	1 - 11.5 NPT	1 - 11.5 NPT	1¼ - 11.5 NPT
Inner diameter	0.31 inch	0.31 inch	0.55 inch	0.71 inch	0.71 inch	0.98 inch
Flow range	0.066...1.3 gpm	0.26...5.3 gpm	0.66...13.2 gpm	1.3...26.4 gpm	2.6...53 gpm	3.3...66 gpm
Accuracy	1 % of reading					
Repeatability	1 %					
Signal output starting from	0.02 gpm	0.07 gpm	0.27 gpm	0.52 gpm	1.05 gpm	1.3 gpm
Max. flow rate	1.6 gpm	6.6 gpm	15.8 gpm	31.7 gpm	63.4 gpm	79.3 gpm
Medium / min. conductivity of medium	Water and other conductive liquids / 20 µS/cm					
Medium temperature	14...140 °F (non-freezing)					
Ambient temperature	41...140 °F					
Max. working pressure	145 psi at 68 °F, 116 psi at 104 °F, 87 psi at 140 °F higher pressure ratings on demand					
Response time	<100 ms					
Indications	red LED = power, green LED = flow					
Output signals						
• Signal shape	Frequency signal, square wave, can be connected as PNP or NPN open collector pulse duty ratio 50:50, max. signal current 25 mA					
• Pulse rate*	15000 pulses/gal	3000 pulses/gal	1500 pulses/gal	750 pulses/gal	380 pulses/gal	300 pulses/gal
• Resolution*	0.25 ml/pulse	1.3 ml/pulse	2.5 ml/pulse	5 ml/pulse	10 ml/pulse	12.6 ml/pulse
Electrical data						
Power supply	24 VDC ±15 % or 12 VDC ±15 %					
Power consumption	0.6 W					
Electr. protection measures	Short-circuit proof and polarity protection					
Electrical connection	4 pin plug connector M 12x1					
Protection class	IP 65 (with attached cable socket)					

* others on request
optional output signal with lower frequency, designed specifically for connection to digital PLC inputs

Pressure drop



Order code

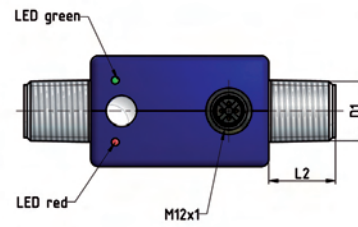
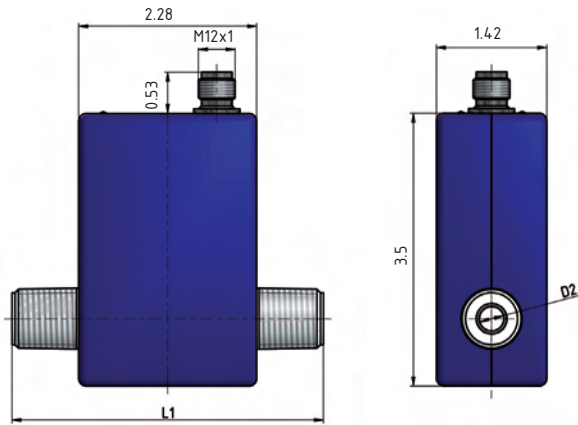
Order example	VMZ08AS1	DE	G14	CU0
Flow range	0.066...1.3 gpm 0.26...5.3 gpm 0.66...13.2 gpm 1.3...26.4 gpm 2.6...53 gpm 3.3...66 gpm	VMZ08AS1 VMZ08BS1 VMZ15CS1 VMZ20DS1 VMZ20ES1 VMZ25FS2		CU0 CV0 DW0 EX0 EY0 FZ0
Measuring pipe	POM PVDF	DE PE		
Power supply	12 VDC 24 VDC		G14 G24	

Accessory

Accessory part	Length	Order code	
Connection cable with 4-pin cable socket M 12x1, angle type molded lead, sheathing material PUR, screened, ($T_{max} = 176\text{ °F}$) UL-approval	9.8 Ft 16.4 Ft 32.8 Ft	XVT 2053 XVT 2009 XVT 2070	
4 pin cable socket M12x1 angle type, unassembled		VT 1331	

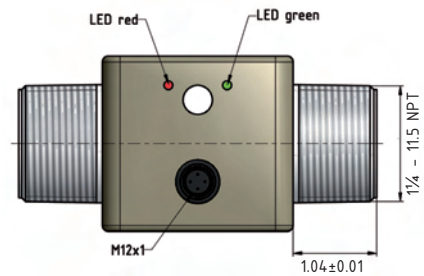
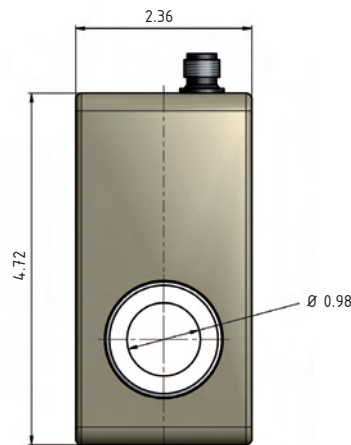
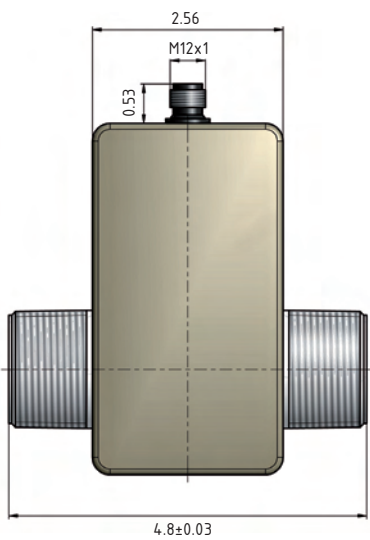
Dimensions

VMZ 08/15/20



Type	L1	L2	D1	D2
VMZ 08A	4 ± 0.02	0.83 ± 0.01	½ - 14 NPT	Ø 0.31
VMZ 08B	4 ± 0.02	0.83 ± 0.01	½ - 14 NPT	Ø 0.31
VMZ 15C	4.02 ± 0.02	0.83 ± 0.01	¾ - 14 NPT	Ø 0.55
VMZ 20D	4.41 ± 0.02	0.98 ± 0.01	1 - 11.5 NPT	Ø 0.71
VMZ 20E	4.41 ± 0.02	0.98 ± 0.01	1 - 11.5 NPT	Ø 0.71

VMZ 25



Our Production and Sales Range



Flow Sensors without moving Parts



Turbine Flow Sensors



Flow Switches



Pressure Gauges and Pressure Sensors



Industrial Thermometers



Electronic Digital Thermometers, Dial Thermometers



Measuring Instruments



Temperature Sensors



Calibrators, DKD-Laboratory

Your competent partner for measurement and control

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Subject to technical modification

