

DMI-V1E



Function

The flowmeters type DMI-V1E are electromagnetic flowmeters.



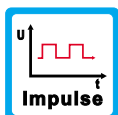
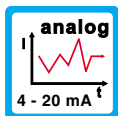
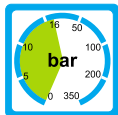
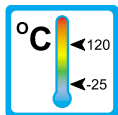
Application

The flowmeters type DMI-V1E are employed to measure volume flow of liquids.

The liquids need to exhibit a conductivity of $5 \mu\text{S} / \text{cm}$ ($20 \mu\text{S} / \text{cm}$ in cold water).

Areas of application:

- Water distribution
- (Waste) water treatment
- Heat- and cooling-systems
- Agriculture
- Fire fighting systems
- Mechanical engineering



Features

The series proves itself through reliable function, easy handling and a favourable price performance ratio. Further characteristics of this sturdy model are:

- Easy installation
- Sandwich mounting
- High chemical resistance
- High accuracy
- Maintenance-free
- Compact or separate version

Installation hints

The installation of the flowmeter can be done in any way in the system. The flow direction must be observed.

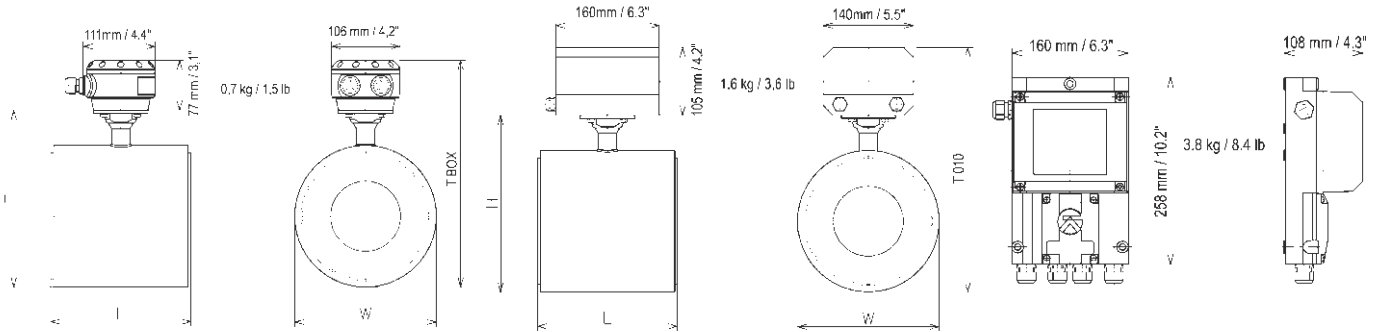
The flowmeter must not be used as a supporting part in a pipe construction.

External magnetic fields influence the measurement. Keep sufficient distance to magnetic fields (e.g. electromotors).

The operating instructions for DMI-V1E must be observed under any circumstances!



Dimensions and Weight, Technical data



Dimensions and weight

Type	Nominal size DN	Dimensions in mm					Weight meter body [kg]	
		L	H	W	T _{Box}	T ₀₁₀		
DMI-V1E DN 10	10	68	137	47	214	242	1,7	
DMI-V1E DN 15	15	68	137	47	214	242	1,7	
DMI-V1E DN 25	25	54	147	66	224	252	1,7	
DMI-V1E DN 40	40	78	162	82	239	267	2,6	
DMI-V1E DN 50	50	100	151	101	228	256	4,2	
DMI-V1E DN 80	80	150	180	130	257	285	5,7	
DMI-V1E DN 100	100	200	207	156	284	312	10,5	
DMI-V1E DN 150	150	200	271	219	348	376	15,0	

Connections and operating pressure

Process connection:	Sandwich mounting								Operating pressure [bar]	
	nominal size DN								min.	max.
Process flange standard:	10	15	25	40	50	80	100	150		
EN 1092-1 - PN 40	▲	▲	▲	▲	▲	▲	▼	▼	0	16
EN 1092-1 - PN 16	▼	▼	▼	▼	▼	▼	▲	▲	0	16
ANSI B16.5 - 150 lbs RF	▲	▲	▲	▲	▲	▲	▲	▲	0	16
ANSI B16.5 - 300 lbs RF	●	●	●	●	●	●	●	▼	0	16

▲ : standard ● : optional ▼ : on request Note: DN 10 requires DN 15 process flanges

Versions and temperatures

Version	Operating temperature [°C]	Ambient temperature [°C]
Compact version	-25 °C - 120 °C	-25 °C - 40 °C
Separate version	-25 °C - 120 °C	-25 °C - 60 °C

Technical data and Materials measuring transducer

Liner:	PFA	Ingress protection:	
Electrodes:	Hastelloy C4	standard	IP 66 / 67 (eq. NEMA 4/4X / 6)
Grounding rings:		optional	IP 68 (eq. NEMA 6)
DN 10 - DN 15	Integrated St. St. 1.4571 (standard)		
DN 25 - DN 150	Separate St. St. 1.4571 (optional)		
Mounting material:		Insulation class:	E
Rubber centering sleeves	DN 40 - DN 150 (standard)	Approvals:	Not-Ex
Steel centering sleeves	DN 10 - DN 150 (option)	Vacuum load:	0 mbar
Stainless Steel centering sleeves	DN 10 - DN 150 (option)	Conductivity:	
Materials:		Water	20 µS / cm
Measuring tube	Austenitic Stainless Steel	Non-water	5 µS / cm
Housing (polyurethancoated)	GTW-S 38 Steel		
Connection box (polyurethancoated)	Die-cast Aluminium		

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Ranges, Technical data measuring transducer

Ranges			
Nominal size of sensor	Min. flow (0,3 m/s)	Nominal flow (3 m/s)	Max. flow (12 m/s)
[mm]	[m ³ /h]	[m ³ /h]	[m ³ /h]
10	0,085	0,848	3,393
15	0,191	1,909	7,634
25	0,530	5,301	21,205
40	1,375	13,572	54,278
50	2,121	21,206	84,823
80	5,429	54,288	217,152
100	8,482	84,822	339,288
150	19,085	190,851	763,404

Technical data and materials measuring transducer

Accuracy:	±0,3% of scale value (± 2 mm/s)
Repeatability:	±0,1%
Conductivity:	
Water	≥ 20 µS / cm
Non-water	≥ 5 µS / cm
Solid content:	< 3% (by volume)
Indication:	
standard: local indication	
optional: without indication	
Languages	German, English, French
Output:	Current-, Pulse- and Status- Output (see table on page 4)
Examination:	
Integrated examination- and diagnostic function	
standard	none
optional	Empty pipe indication / stabilization (LA/S3 / LA/S2)
optional	Electrode cleaning (LA/S4)
Custody transfer:	not possible
Power supply:	
standard	230/240 VAC (200...260 VAC)
optional	24 VDC, 24, 48, 100, 115/120, 200 VAC
Capacity:	AC: 5 VA / DC: 4,5 W
Ingress protection:	
Compact version	IP 66 / 67 (eq. NEMA 6)
Seperate version	IP 65 (eq. NEMA 4/4X)
Signal line:	separate DS 5 - 300 m (depends on conductivity)
Cable connection:	
standard	M20 x 1,5
optional	1/2" NPT
optional	PF 1/2
Materials:	
Base plate	Die-cast Aluminium (Polyurethancoated)
Electronics cover	Polyamide-Polycarbonate

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Technical data measuring transducer

Input / Output Information (I/O)	
Communication:	
Current output	active / passive
Pulse output / Status output	passive

Technical data measuring transducer	
Overall functionality:	
	Continous measurement of actual flow rate
	Flow direction (forward or reverse)
	Bidirectional flow measurement and totalization
	Direction identified via status output
Current output:	
Functionality	All operating data configurable; galvanically isolated
Settings	
Q = 0 %	0 or 4 mA
Q = 100 %	20 mA
Q > 100 %	22 mA
Error identification	0 / 3,6 / 22 mA
Connection	
active	$I \leq 22 \text{ mA} / R_L \leq 500 \Omega$
passive	$I \leq 0... 500 \Omega / U \leq 15...20 \text{ VDC}$
	$I \leq 250... 750 \Omega / U \leq 20...32 \text{ VDC}$
Pulse / Status Output:	
Functionality	All operating data configurable; galvanically isolated
Settings	
Q = 100 %	Standard: 10 Pulses per second, scalable
	100 or 1000 Pulses per second
	10000 Pulses per second, scalable
Pulse range	50, 100, 200, 500, 1000 ms / "Auto" / "symmetrical"
Status	ON or OFF
Connection	
active	Internal voltage: 15 VDC, from current output
	load: $I_{\text{max}} < 23 \text{ mA}$ without current output
	load: $I_{\text{max}} < 3 \text{ mA}$ with current output
passive	Extern voltage:
	$U_{\text{ext}} \leq 30 \text{ VDC} / \leq 24 \text{ VAC}$
	$I_{\text{max}} \leq 150 \text{ mA}$
Low flow cut-off:	
on	1...19 %
off	2...20 %
Time constant:	0,2...99,9 seconds (in 0,1-steps)

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