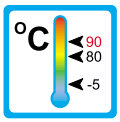
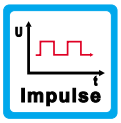
Flowmeter

DMI-V2E

Function

The flowmeters type DMI-V2E are electromagnetic flowmeters.





Application

The flowmeters type DMI-V2E are employed to measure volume flow of liquids. The liquids need to exhibit a conductivity of 20 µS / cm.
Areas of application:

– Water distribution

– Watering

– Water treatment

– Treatment of sewage effluents
(e.g. purification plants, paper factories, metalworking industry)

– Heat- and cooling systems

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

– Universal mounting

– Flange connection

– International drinking water approvals
e.g. KTW, NSF and WRc

– 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 sufficiant distance to magnetic fields (e.g. electromotors).

The operating instructions for DMI-V2E must be observed under any circumstances.

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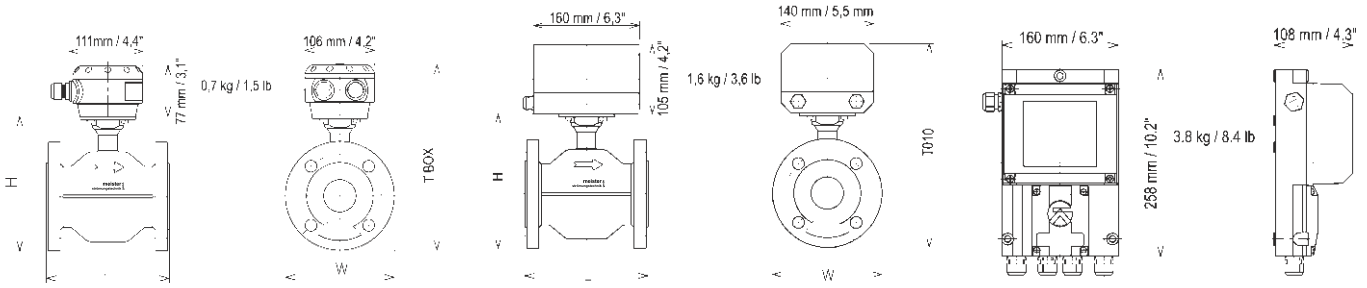
Dimensions and Weight, Technical data



Dimensions and Weight with DIN-flanges

Type	Nominal size DN [mm]	Pressure PN [bar]	Dimensions in mm L* DIN	L* ISO 13 359	H	W	T T_{Box}	T T_{010}	Weight meter body [kg]
DMI-V2E DN 25	25	40	150	200	141	115	218	246	7,0
DMI-V2E DN 32	32	40	150	200	157	140	234	262	8,0
DMI-V2E DN 40	40	40	150	200	166	150	243	271	8,0
DMI-V2E DN 50	50	40	200	200	185	165	262	290	8,0
DMI-V2E DN 65	65	16	200	200	199	185	276	304	10,0
DMI-V2E DN 80	80	40	200	200	209	200	286	314	12,0
DMI-V2E DN 100	100	16	250	250	237	220	314	342	15,0
DMI-V2E DN 125	125	16	250	250	266	250	343	371	19,0
DMI-V2E DN 150	150	16	300	300	299	285	376	404	22,0
DMI-V2E DN 200	200	10	350	350	357	340	434	462	34,0
DMI-V2E DN 250	250	10	400	400	405	395	482	510	48,0
DMI-V2E DN 300	300	10	500	500	455	445	532	560	58,0
DMI-V2E DN 350	350	10	500	550	507	505	584	612	78,0
DMI-V2E DN 400	400	10	600	600	563	565	640	668	98,0

***Total fitting length: Flowmeter supplied with separate grounding rings: Dimension L + 2x 3mm + 2x gasket thickness**

Dimensions and Weight with ANSI-flanges

Type	ANSI	Pressure [psig]**	Dimensions in mm L*	H	W	T T_{Box}	T T_{010}	Weight meter body [kg]
DMI-V2E DN 25	1"	284	150	137	108	214	242	8,0
DMI-V2E DN 40	1 1/2"	284	150	155	127	232	260	9,0
DMI-V2E DN 50	2"	284	200	179	152	256	284	8,0
DMI-V2E DN 80	3"	284	200	204	191	281	309	13,2
DMI-V2E DN 100	4"	284	250	241	229	318	346	18,1
DMI-V2E DN 125	5"	284	250	268	254	345	373	x
DMI-V2E DN 150	6"	284	300	297	279	374	402	26,3
DMI-V2E DN 200	8"	284	350	363	279	440	468	43,1
DMI-V2E DN 250	10"	284	400	426	343	503	531	63,5
DMI-V2E DN 300	12"	284	500	510	406	587	615	95,3
DMI-V2E DN 350	14"	284	700	526	483	603	631	129,3
DMI-V2E DN 400	16"	284	800	586	533	663	691	165,6

***Total fitting length: Flowmeter supplied with separate grounding rings: Dimension L + 2x 3mm + 2x gasket thickness**
**** at 20 °C, x = Weight on request**

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Ranges, Technical data

Connections and operating pressure

Process flange standard:	Nominal size DN [mm]													
	25	32	40	50	65	80	100	125	150	200	250	300	350	400
EN 1092-1 - PN 40	▲	▲	▲	▲	●	▲	●	●	●	●	●	●	●	●
EN 1092-1 - PN 25	▼	▼	▼	▼	●	▼	●	●	●	●	●	●	●	●
EN 1092-1 - PN 16	▼	▼	▼	▼	▲	▼	▲	▲	▲	●	●	●	●	●
EN 1092-1 - PN 10	▼	▼	▼	▼	▼	▼	▼	▼	▼	▲	▲	▲	▲	▲
ISO Total fitting length	●	●	●	▲	▲	▲	▲	▲	▲	▲	●	▲	●	▲
Process flange standard:	**Nominal size ANSI [inch]**													
	1	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
ANSI B16.5 - 150 lbs RF	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ANSI B16.5 - 300 lbs RF	●	●	●	●	●	●	●	●	●	●	●	●	●	●

▲ : standard ● : optional ▼ : on request

Versions and temperatures

Version	Coating	Operating pressure	Ambient temperature
Compact version	Hard rubber	**-5 °C - 80 °C**	**-25 °C - 60 °C**
Seperate version		**-5 °C - 80 °C**	**-40 °C - 65 °C**
Compact version	Polypropylen	**-5 °C - 90 °C**	**-25 °C - 60 °C**
Seperate version		**-5 °C - 90 °C**	**-40 °C - 65 °C**

Vacuum load

Coating	Nominal size DN [mm]	Min. operating pressure [mbar] at operating temperature			
		20 °C	40 °C	60 °C	80 °C
Polypropylen	25 - 150	250	250	400	400
Hard rubber	200 - 300	250	250	400	400
	350 - 1000	500	500	600	600
	1200 - 3000	600	600	750	750

Technical data and materials measuring transducer

		Nominal size DN [mm]													
		25	32	40	50	65	80	100	125	150	200	250	300	350	400
Coating	Polypropylen	▲	▲	▲	▲	▲	▲	▲	▲	▲	▼	▼	▼	▼	▼
	Hard rubber	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲
Electrodes	Hastelloy C4	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Stainless Steel 1.4571	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Titan	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Grounding rings	Hastelloy C4	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Stainless Steel 1.4571	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Titan	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Flanges	Steel 1.0460	▲	▲	▲	▲	▼	▲	▼	▼	▼	▼	▼	▼	▼	▼
	Steel 1.0038	▼	▼	▼	▼	▲	▼	▲	▲	▲	▲	▲	▲	▲	▲
	Stainless Steel 1.4404	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Stainless Steel 1.4571	●	●	●	●	●	●	●	●	●	●	●	●	●	●

▲ : standard ● : optional ▼ : on request

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Technical data measuring transducer, Ranges

Technical data and Materials measuring transducer		
Measuring tube:	Austenitic Stainless Steel	
Housing (Polyurethancoated):	GTW-S 30	Steel
Connection box (Polyurethancoated):	Die-cast Aluminium, option: Stainless Steel	
Ingress protection:		
standard	IP 66 / 67 eq. NEMA 4/4X / 6	
optional	IP 68 eq. NEMA 6	
Isolation class:	E	
Approvals:		
standard	Not-Ex	
optional	EEx Zone 2	
	FM - class I div. 2	
	CSA - GP	
	CSA - class I div. 2	
	SAA - Aus Ex Zone 2	
	TIIS - Zone 2	
Min. conductivity:	20 µS / cm	

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]
25	0,530	5,301	21,205
32	0,869	8,686	34,744
40	1,357	13,572	54,287
50	2,121	21,206	84,823
65	3,584	35,838	143,352
80	5,429	54,288	217,152
100	8,482	84,822	339,288
125	13,254	132,537	530,148
150	19,085	190,851	763,404
200	33,930	339,300	1357,200
250	53,013	530,130	2120,520
300	76,341	763,410	3053,640
350	103,908	1039,080	4156,320
400	135,717	1357,170	5428,680

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Ranges, Technical Data measuring transducer

Technical data and materials measuring transducer	
Accuracy:	±0,3% of MV (± 2 mm/s)
Repeatability:	±0,1%
Conductivity:	
Water	≥ 20 µS / cm
Non-water	≥ 5 µS / cm
Solid content:	< 3% (Volume)
Indication:	
standard: local indication	
option: without local indication	
Languages	German, English, French
Output:	Power, Pulse and State Output (see chart on page 4)
Examination:	
Integrated examination and diagnostic function	
standard	none
option	Empty pipe indication / stabilization (LA/S3 / LA/S2)
option	Electrode cleaning (LA/S4)
Custody transfer:	not possible
Power supply:	
standard	230/240 VAC (200...260 VAC)
option	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
option	1/2" NPT
option	PF 1/2
Materials:	
bottom plate	Die-cast Aluminium (Polyurethane-coated)
electronics cover	Polyamid-Polycarbonate

Input / Output information (I/O)	
Communication:	
Power output	active / passive
Pulse output / State output	passive

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Technical data measuring transducer

Technical data measuring transducer	
Operations:	
	Continual measuring of the actual flow rate
	Flow direction (forward or reverse)
	Bidirectional flow measurement and totalization
	Direction identified via status output
Power 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	$I \leq 22$ mA / $R_L \leq 500\ \Omega$
passive	$I \leq 0...500\ \Omega$ / $U \leq 15...20$ VDC
	$I \leq 250...750\ \Omega$ / $U \leq 20...32$ VDC
Pulse / State 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"
State	ON or OFF
Connection	
active	Intern Voltage: 15 VDC, from power output
	load: $I_{max} < 23$ mA without power output
	load: $I_{max} < 3$ mA with power output
passive	Extern voltage:
	$U_{ext} \leq 30$ VDC / ≤ 24 VAC
	$I_{max} \leq 150$ 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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