

# Electromagnetic flowmeter type PEM-1000

- **Nominal size:** DN 10 ....DN1000
- **Accuracy:** +/-0.5%
- **Analog outputs:** 0/4...20mA, 0..5mA
- **Communication protocol:** RS 485, RS 232C
- **Max static pressure:** 40bar

## Application

Electromagnetic flowmeter for bidirectional measurement of liquids with a minimum conductivity of 5 µS/cm:

- Acid, alkalis
- Paints
- Pastes
- Water, wastewater, etc.

## Measuring principle:

Following Faraday's law of magnetic induction, a voltage is induced in a conductor moving through a magnetic field. In the electromagnetic measuring principle, the flowing medium is the moving conductor. The voltage induced is proportional to the flow velocity and is supplied to the amplifier by means of two measuring electrodes. The flow volume is calculated by means of the pipe cross-sectional area. The DC magnetic field is created through a switched direct current of alternating polarity.



**PEM-1000ALW**

## Measuring system

The measuring system consists of a transmitter and a sensor.

Two versions are available:

- Compact version: Transmitter and sensor form a mechanical unit PEM-1000ALW
- Remote version: Sensor is mounted separate from the transmitter PEM-1000NW



**PEM-1000NW**

## Advantages

- Flexible and clever assembling system
- Easy and fast-moving change from compact to remote version
- Innovative and high-power transmitter for every application
- Robust and resistant cover of sensor and transmitter

Flow value table in [ m <sup>3</sup> /h ]						
DN	V = 0,3 m/s	V = 1 m/s	V = 3 m/s	V = 5 m/s	V = 8 m/s	V = 10 m/s
10	0,085	0,283	0,848	1,414	2,262	2,827
15	0,191	0,636	1,909	2,545	3,181	3,817
20	0,339	1,131	3,393	5,655	9,048	11,310
25	0,530	1,767	5,301	8,836	14,137	17,671
32	0,869	2,895	8,686	14,476	23,162	28,953
40	1,357	4,524	13,572	22,619	36,191	45,239
50	2,121	7,069	21,206	35,343	56,549	70,686
65	3,584	11,946	35,838	59,729	95,567	119,46
80	5,429	18,096	54,287	90,478	144,76	180,96
100	8,482	28,274	84,823	141,37	226,19	282,74
125	13,254	44,179	132,54	220,89	353,43	441,787
150	19,085	63,617	190,85	318,087	508,94	636,17
200	33,929	113,10	339,30	565,49	904,78	1130,0
250	53,014	176,71	530,14	883,57	1413,7	1767,1
300	76,341	254,47	763,41	1272,3	2035,7	2544,7
350	103,90	346,36	1039,1	1731,8	2770,9	3463,6
400	135,72	452,39	1357,2	2261,9	3619,1	4523,9
500	212,06	706,86	2120,6	3534,3	5654,9	7068,6
600	305,36	1017,9	3053,6	5089,4	8143,0	10178,7
800	542,87	1809,6	5428,7	9047,8	14476,4	18095,5
1000	848,23	2827,4	8482,3	14137,1	22619,4	28274,3

Optimal flow speed – to 5m/s

Standard set value Qmax	
DN	Flow [m <sup>3</sup> /h]
10	1
15	2
20	4
25	5
32	10
40	15
50	20
65	30
80	50
100	100
125	150
150	200
200	360
250	500
300	760
350	1000
400	1300
500	2000
600	3000
800	5000
1000	8000

