Electromagnetic flow meters with „W“ flow tube – wafer design

The W (wafer) flowtube meters are designed to be installed between flanges. The flowtubes are installed between two connecting flanges and tightened with bolts. They come in inner diameters from DN10 to DN150 while they have shorter installation lengths than the F (flanged) flowtubes with the same diameters.

These flowtubes are only made with Teflon liner, and with a choice from several sensing electrode materials (316L stainless steel, Hastalloy C, titanium, …).

The flowtube contact faces have spigots that align with recesses in the connecting flanges. This arrangement ensures precise flowtube centering within the pipe thus eliminating any potential metering errors from flowtube improper installation. It is therefore useful to order the flow meters with our original installation sets that contain flanges with appropriate recesses. These flanges are also fitted with connecting terminals for earthing conductors. Installation sets may also be custom specified with respect to installation length and type of connection (DIN 11851 threading for food industry, DIN 32676 clamp, etc.)

Earthing rings are also available on request. This guarantees flawless flow meter operation at all times even for installations in plastic pipework.

All materials to be in contact with the medium under measurement are certified for permanent contact with drinking water (edibles) and hot utility water.

Our flow meters are thus convenient for all kinds of food processing applications to measure flow of drinking water, wine and related products, milk, whey, beer, and other food consumables. Besides other, they resist cleaning lyes or acids that are used in such applications on a daily basis. They furthermore meet specific requirement in most chemical facilities.

FG4000 flow meter specifications:

• Measure unit:	comfort, economic (without display and keypad)
• Measuring range:	1 :40 (±0,5% for MPE standard); 1:500 (Q_0=0,2% Q_{max})
• Accuracy:	±0.5% (±0.003m/s) in range from Q_{min} to Q_{max}
• Minimum liquid conductivity:	>5μS/cm – common liquids; ≥20μS/cm – demineralized water
• Power supply:	230 VAC (+10;−15%) 50–60Hz; optionally 120VAC, 24VAC, 24VDC
• Power demand:	10 VA
• IEC 536 protection class:	I
• Ingress protection rating:	IP67
• Meter finish:	powder paint (RAL 8023)
• Ambient temperature range:	0–70°C; recommended 15–55°C
• Pulse output 1:	in range 0.0001–1600 p/dm³ (maximum value depends on flowtube inner diameter)
• Pulse output 2:	state – signalization of the negative flow; pulse – negative volume (bidirectional flow)
• Pulse inputs:	2× range (0.0001–1000 p/dm³) to display flow and/or volume measured by external
• Empty pipe detection:	yes (optional)
• Communication modules:	RS485, RS422, RS232, M-Bus, … (optional)
• Communication protocols:	SIMPLE, ModBUS, BitBUS, ASCII , MBUS
• Analogue outputs:	4–20mA, 0–10V (optional)
• Archive:	hourly, monthly, errors,.. (optional)

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Wafer flowtube specification:

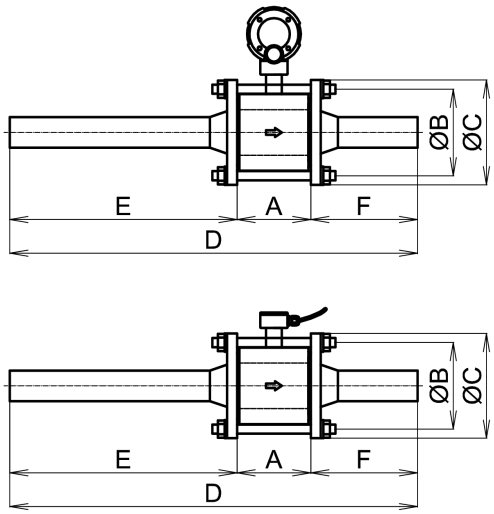
• Flowtube nominal inner diameter:	DN10 – DN150
• Flowtube liner:	PTFE
• Electrodes:	316L grade (1.4571) stainless steel; Hastelloy C; platinum; tantalum; titanium
• Nominal pressure:	PN25
• Flowtube design:	compact; split – 4m cabling (optionally up to 40m)
• Flowtube finish:	powder paint (RAL 7043)
• Range of measured liquid:	0-150 °C (PTFE)
• Ingress protection rating:	IP67

Table of included inner diameters:

FG 4000	**Wafer flowtubes „W“**											
DN	10	15	20	25	32	40	50	65	80	100	125	150
Q_0 (m^3/ h)	0,01	0,02	0,03	0,04	0,07	0,11	0,17	0,29	0,43	0,68	1,06	1,53
Q_1 (m^3/ h)	0,08	0,19	0,34	0,53	0,87	1,36	2,12	3,58	5,43	8,48	13,2	19,1
Q_3 (m^3/ h)	3,39	7,63	13,6	21,2	34,7	54,3	84,8	143	217	339	530	763
k (Imp/ dm^3)	1600	700	400	200	150	100	60	35	25	15	10	7

Legends:
***DN** - Flowtube nominal inner diameter, **Q0** – Starting flow, **Q1** – Minimal flow, **Q3** - Maximal flow, **k** – Maximal constant of flow conversion*

Diameters and mass of wafer sensors:



DN	PN	A	Ø B	Ø C	D	E	F	Svorníky		m [kg]
10	25	100 (66)	75	105	250	75	75	M12x170	4x	4,5
15	25	100 (66)	75	105	250	75	75	M12x170	4x	5
20	25	100 (66)	75	105	300	100	100	M12x170	4x	5
25	25	100	85	115	350	125	125	M12x170	4x	5,7
32	25	100	100	135	360	160	100	M16x175	4x	6,5
40	25	100	110	145	420	200	120	M16x175	4x	6,7
50	25	110 (108)	125	160	510	250	150	M16x175	4x	7,5
65	25	110	145	180	630	325	195	M16x195	4x	8,5
80	25	160 (163)	160	195	800	400	240	M16x195	8x	10,5
100	25	160 (162)	190	230	960	500	300	M20x245	8x	12,5
125	25	190	220	270	1190	625	375	M24x300	8x	14
150	25	190	250	300	1390	750	450	M24x300	8x	18

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