

## Electromagnetic flow meters with „W-ss“ flow tube – wafer design



The Wss (wafer, stainless steel) flow meters are only made with flowtubes in stainless steel housing and with stainless steel contact surfaces. They are thus suitable to measure flow in chemically aggressive liquids or for installation in corrosive environments or otherwise difficult conditions. The other parameters are identical with those of the W flowtube meters.

They too are designed to be installed between flanges. They are installed between two connecting flanges and tightened with bolts.

They are made with inner diameters from DN10 to DN100 are are primarily designed for chemical and food processing applications.

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

The components in installation sets are all made of stainless steel. Installation sets may equally 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 if required.

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

These flow meters are convenient to measure acid or alkaline solutions as well as various kinds of chemicals (lyes, acids, ammonia, hydrogen chloride, cleaning agents, ...).

### FG4000 flow meter specifications:

• Measure unit:	comfort, economic (without display and keypad)
• Measuring range:	1 :40 ( $\pm 0,5\%$ for MPE standard); 1:500 ( $Q_0=0,2\% Q_{max}$ )
• Accuracy:	$\pm 0.5\%$ ( $\pm 0.003\text{m/s}$ ) in range from $Q_{min}$ to $Q_{max}$
• Minimum liquid conductivity:	$>5\mu\text{S/cm}$ – common liquids; $\geq 20\mu\text{S/cm}$ – 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/dm <sup>3</sup> (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/dm <sup>3</sup> ) 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)

## Wafer flowtube specification:

• Flowtube nominal inner diameter:	DN10 – DN100
• 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:	brushed stainless steel
• Range of measured liquid:	0-150 °C (PTFE)
• Ingress protection rating:	IP67

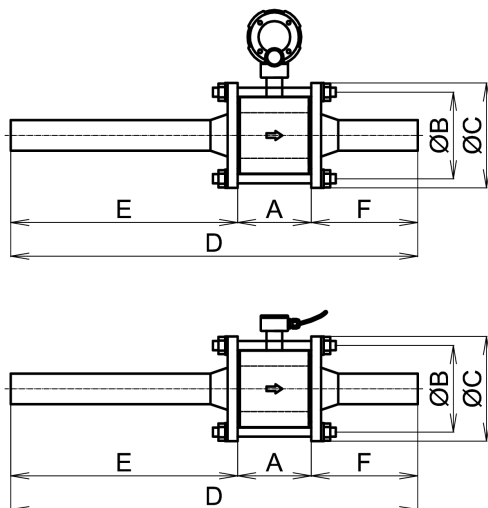
## Table of included inner diameters:

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

### 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	Svorniky	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	5,7
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