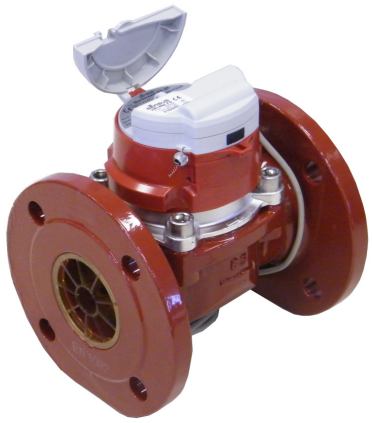
MeiStream FS

Flow sensor for heat and cooling meters DN 50...100, 90 °C / PN 16



APPLICATIONS

- Flow sensor for heat and cooling meters for commercial and light industrial use
- For measurement of hot process water up to 90 °C
- For measurement of cooling water starting from 5 °C
- For high permanent flow rates such as generated by pumps, as well as for the measurement of low flow rates in off-peak periods
- Installation in horizontal and vertical pipes

Main Features

The MeiStream flow sensor combines the high reliability and measurement accuracy of the Woltman WP meter with the advantages of the Woltman WS meter in the lower measuring range. This combination creates an excellent new flow sensor with a MID approval according to MI004 or EN 1434 in the accuracy class 2.
Volume pulses are generated by the interface HRI-Mei FS. This interface transfers volume pulses with programmable pulse values to the heating or cooling calculator. Possible reverse flows are compensated.

Centerpiece of the MeiStream Flow Sensor is a newly designed impeller with spherical hub that floats freely. Once the minimum flow rate is reached the impeller is lifted from the radial bearing and moves axially in a friction-free position without further loading the bearing pins. This floating is maintained up to a high levels of flow ensuring consistency. The design of the impeller is the result of several years of research, development and testing. As a result of this work an impeller has been developed that works optimally over the entire flow rate range and provides excellent metrological performance, secure profit and increased service life.

Unlike the Woltman-WS flow sensor the MeiStream Flow Sensor can also be installed in the vertical position. This essential feature is achieved by the three-dimensional hydrodynamic balance of the impeller. This permits quick and easy installation even in narrow locations. For compatibility with existing measuring points the MeiStream flow sensor is available in the short (WP) and long (WS) lengths.

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Approval mark and conformity marking

Heat application

DE-12-MI004-PTB006

Cooling application

22.76

13.02

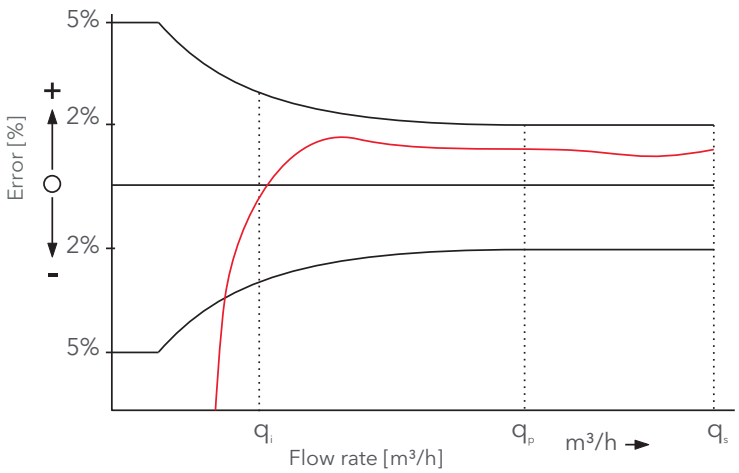
Dial

Nominal Diameter DN	Smallest reading m^3	Max. reading m^3
50 ... 100	0,0005	999.999,999

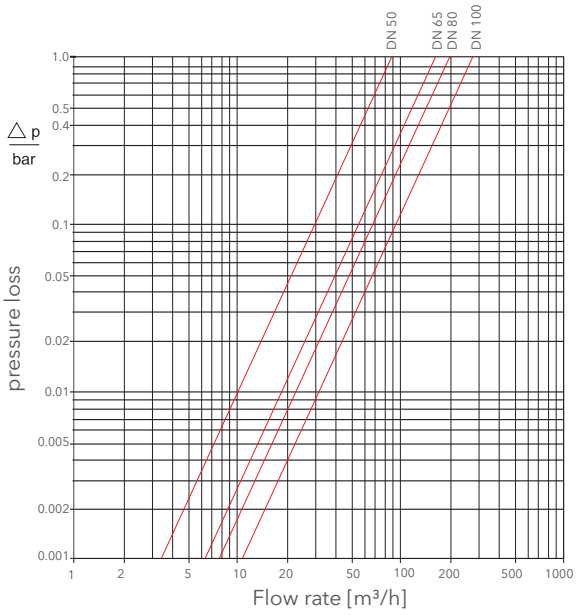
PERFORMANCE DATA

Nominal diameter		DN	50	65	80	100
	Max. Peak Flow	m³/h	50	60	120	140
q_s	Overload Flowrate	m³/h	50	50	120	120
q_p	Continuous Flow	m³/h	25	25	60	60
q_i	Minimum Flow	m³/h	0.5	0.5	1.2	1.2
q_p / q_i	Ratio horizontal		1/50	1/50	1/50	1/50
q_p / q_i	Ratio vertical		1/25	1/25	1/25	1/25
q_c	Starting value	m³/h	0.08	0.08	0.15	0.15
Δp	Head loss at q_p	bar	0.08	0.02	0.08	0.04
Kvs	Flow rate at 1 bar pressure loss	m³/h	88	177	212	300
T	Approved temperature range heat	°C	15 ... 90			
T	Approved temperature range cooling	°C	5 ... 50			

Typical Accuracy Curve



Typical Head Loss Curve



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Upstream straight pipe

- No straight pipe at inlet or outlet required (U0D0 acc. EN 14154)
- No abrupt restrictions directly downstream of the meter

MATERIALS

Body	Cast iron
Measuring element	Plastic
Rotor (both meters)	Plastic
We also use the following materials	Brass Stainless steel

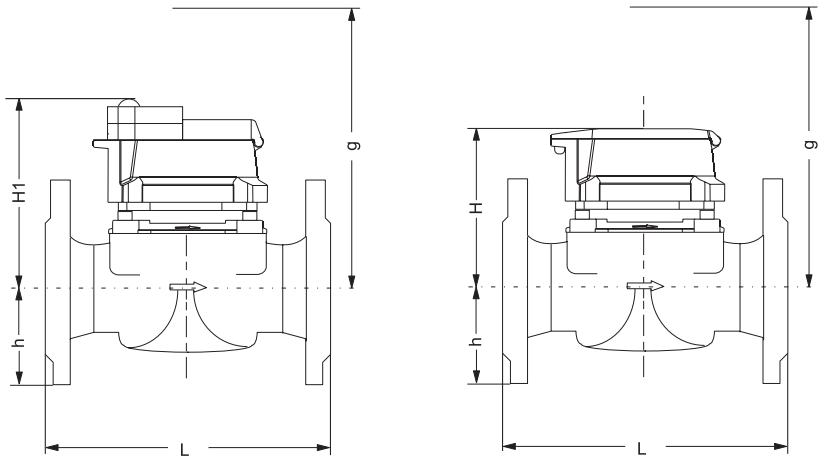
INSTALLATION

Pipe	horizontal vertical	
Meter head	upwards sideways	

DIMENSIONS AND WEIGHTS

Nominal diameter			DN	50	50	65	65	80	80	100	100
Dimensions	Overall length	L	mm	200	270	200	300	225	300	250	360
	Height	H	mm	120	120	120	120	150	150	150	150
	Height with HRI-Mei FS	H1		150	150	150	150	180	180	180	180
		h	mm	73	73	85	85	95	95	105	105
	Dismantling height	g	mm	200	200	200	200	270	270	270	270
Weight			kg	7.8	9.6	10.1	12.0	14.2	16.3	18.2	20.2

Dimensional diagram



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PULSE VALUES

Pulser		Pulse value DN 50 ... 100
HRI-Mei FS		0.01; 0.025; 0.1; 0.25 m³
OD AM OD 04		0.001 m³ 0.01 m³

TECHNICAL DATA HRI-MEI FS

Pulse value:	10, 25, 100 or 250 l/pulse alternative
Switch type:	OC acc. EN 1434-2 (open Drain)
Maximum voltage:	28 Volt
Maximum power:	20 mA
Pulse length:	≥100 ms
Pulse pause:	≥100 ms
On position:	≥0,3 V at 0,1 mA
Off position:	≥6 MΩ
Cable length:	3 m
Connection:	white = plus, grey = minus
Protection class:	IP 68
Power supply:	Lithium battery (not replaceable)
Battery life:	typ. 6 years operation + 1 year storage
Ambient temperature:	-5 .... + 70 °C
Humidity:	100%

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