

MeiStream FS

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



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 frictionfree 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.

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

Materials

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

Approval mark and conformity marking

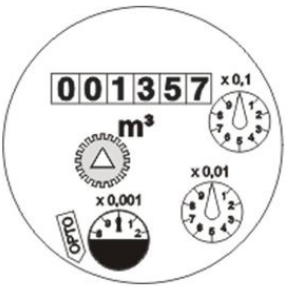
Heat application:

DE-12-MI004-PTB006

Cooling application:

22.76
13.02

Dial

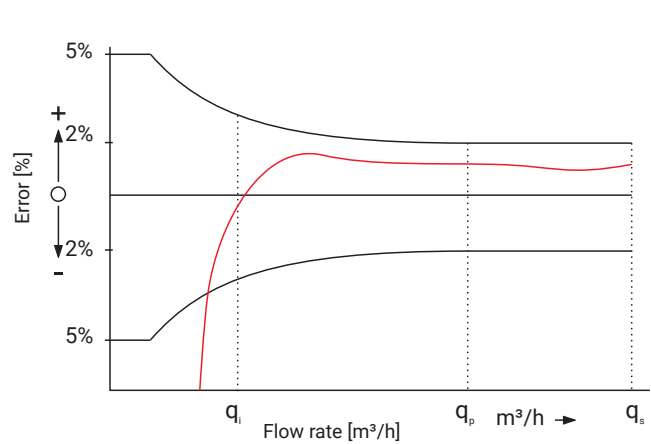


Nominal diameter DN	Smallest reading m³	Max. reading m³
50 ... 100	0.0005	999999.999

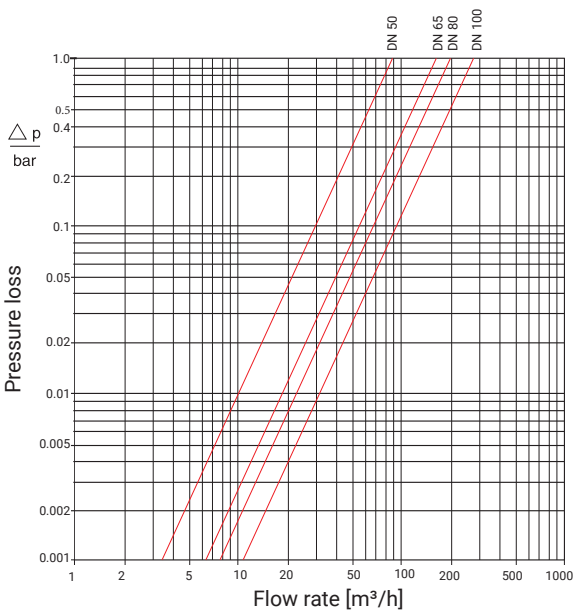
Performance data

Nominal diameter		DN	50	65	80	100
	Max. peak flow	m³/h	50	60	120	140
q_s	Overload flow rate	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			

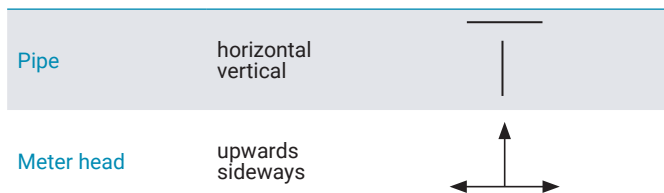
Typical accuracy curve



Typical accuracy curve



Installation



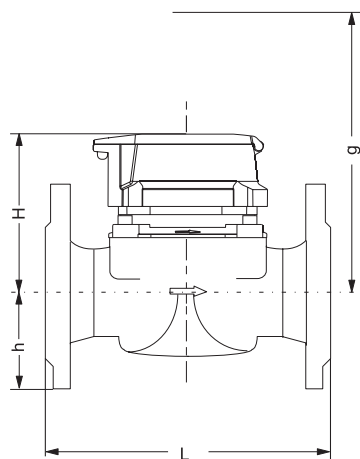
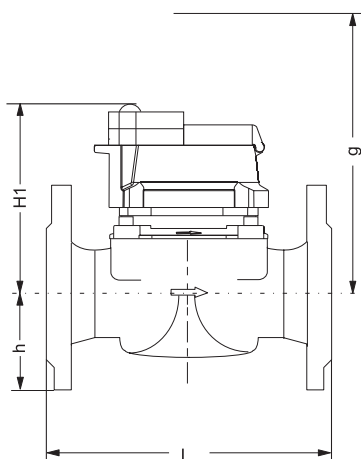
Upstream straight pipe

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

Dimensions and weights

Nominal diameter		DN	50	50	65	65	80	80	100	100
Overall length	L	mm	200	270	200	300	225	300	250	260
Height	H	mm	120	120	120	120	150	150	150	150
Height	h	mm	73	73	85	85	95	95	105	105
Height with HRI-Mei FS	H1	mm	150	150	150	150	180	180	180	180
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

Dimension picture



Pulse values

Pulser Pulse value DN 50 ... 100

HRI-Mei FS	0.01; 0.025; 0.1; 0.25 m³
OD AM	0.001 m³
OD 04	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	-10 ... + 70 °C
Humidity	100%

