

RAY FS WS MID

MECHANICAL FLOW SENSOR

DIEHL
Metering



APPLICATION

RAY FS is a Woltman volume measuring device with a built-in pulse transmitter to measure heat for billing hot water consumption (max. 120°C). Its impeller axis is perpendicular to the pipe. It is particularly sensitive at low flowrates which increases the dynamic range of measurement.

FEATURES

- ▶ MI004 approval in class 2 with a dynamic range of 25:1 (q_p:q_i)
- ▶ Complete range from DN50 q_p 15m³/h to DN150 q_p 150m³/h
- ▶ Remote transmission of quantities of flow (3m cable), compatible with calculators with pulse input
- ▶ Horizontal installation only
- ▶ Register can be rotated as required for easier reading
- ▶ Very low pressure loss
- ▶ Encapsulated and waterproof meter
- ▶ As a safeguard against magnetic influences, a sealable antimagnetic screen is fitted on the meter
- ▶ Temperature range: 15°C to 120°C

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GENERAL

			RAY FS WS	
Application			Heating	
Mounting position			Horizontal	
Medium temperature range	°C	15 ... 120		
Ambient temperature	°C	5 ... 55		
Ambient class			E1 + M1	
Nominal pressure	PN	bar	16 ¹	
Protection class			IP 54	
Approval			MID (DE-15-MI004-PTB010)	

¹ special version on request

TECHNICAL DATA

Nominal diameter	DN	mm	50	65	80	100	150
Nominal flow rate	q _p	m ³ /h	15	25	40	60	150
Maximum flow rate (short-term)	q _s	m ³ /h	30	30	50	75	187.5
Minimum flow rate	q _i	l/h	600	1,000	1,600	2,400	6,000
Starting flow rate		l/h	60	60	90	90	1,000
Pressure loss at q _p	Δp	bar	0.06	0.14	0.09	0.07	0.09
Pulse value reed switch ¹		l/pulse	100	100	100	100	1,000
Dynamic range ²	q _p / q _i		25:1	25:1	25:1	25:1	25:1

¹ other pulse values on request

² other q_p / q_i on request

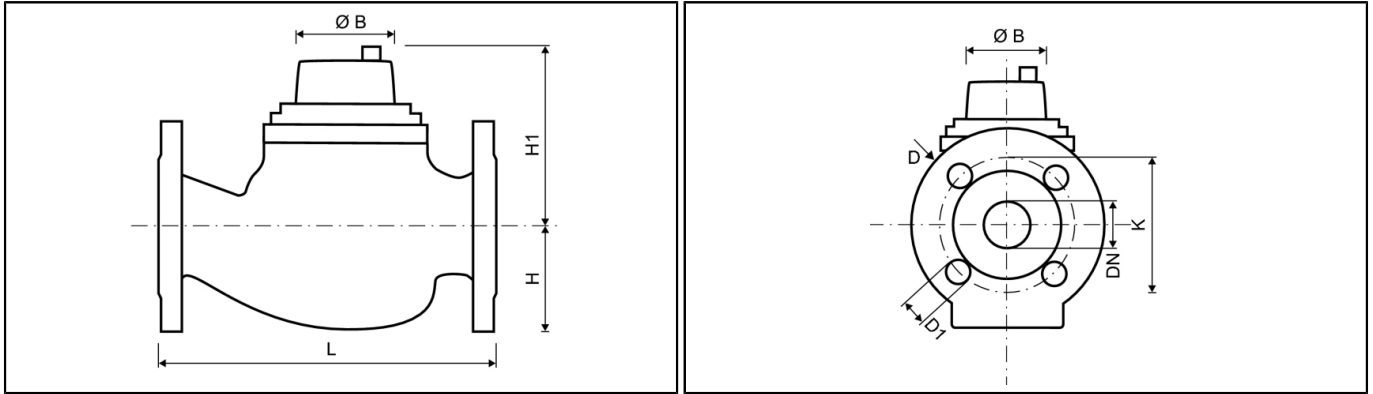
DISPLAY RANGE

Nominal diameter	DN	mm	50	65	80	100	150
0.5 l ... 999,999 m ³			•	•	•	•	
5.0 l ... 9,999,999 m ³							•

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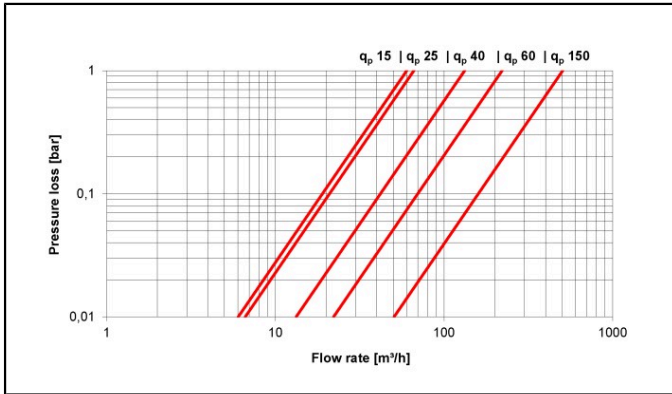
MECHANICAL FLOW SENSOR

DIMENSIONS

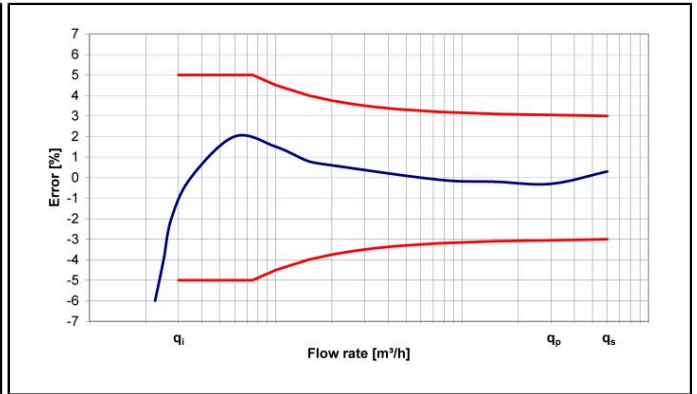


Nominal diameter	DN	mm	50	65	80	100	150
Overall length (DIN 19625)	L	mm	270	300	300	360	500
Overall length (DIN ISO 4064)	L	mm	300	300	350	350	500
Flange diameter	D	mm	165	185	200	220	285
Hole circle diameter	K	mm	125	145	160	180	240
Number of screwholes		pcs	4	4	8	8	8
Screw hole diameter	D1	mm	18	18	18	18	23
Height	H	mm	84	97	102	113	155
Height (without counter extension)	H1	L	155	155	190	200	400
Height (with counter extension)	H1	mm	195	195	230	240	440
Diameter	Ø B	mm	165	185	200	220	285
Weight		kg	14.2	18	24	28	79.5

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph