

RAY FS ET 444

FLOW SENSOR | MECHANICAL

DIEHL
Metering



APPLICATION

Mechanical flow sensor for domestic hot water in heating systems

FEATURES

- ▶ Single-jet impeller meter with a completely dry-running design and magnetic coupling
- ▶ The roller counter can be rotated for easier reading
- ▶ Only the impeller operates in the wet chamber, which prevents faults due to unclean water
- ▶ For horizontal and vertical installation
- ▶ The roller counter is dustproof and waterproof IP 65
- ▶ Built-in reed switch is cast in a waterproof enclosure and replaceable
- ▶ Contact rating 24 V, 0.2 A (without series resistor)
- ▶ Meter protected against magnetic interference by a sealed shield
- ▶ Compact design in subassemblies simplifies maintenance and repair

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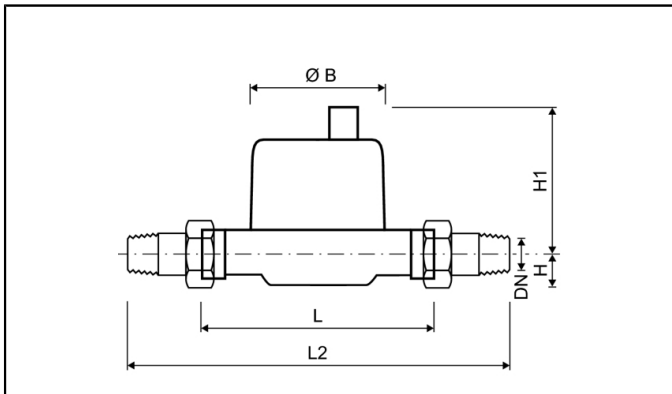
GENERAL

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Medium temperature range with carbide bearing	°C	0 ... 120
Nominal pressure	PN bar	16
Display range		0.05 l ... 100,000 m ³
Pulse value	l/pulse	1 / 10
Approval		National 22.16 / 82.01
Metrological class		A/B•H
Protection class		IP 65

TECHNICAL DATA

Nominal diameter	DN	mm	15	15	15	15	20
Nominal flow rate	Q _n	m ³ /h	0.6	0.6	1.5	1.5	2.5
Overall length	L	mm	105	110	105	110	130
Maximum flow rate (short-term)	Q _{max}	m ³ /h	1.2	1.2	3	3	5
Transition flow rate horizontal	Q _t	l/h	48	48	120	120	200
Transition flow rate vertical	Q _t	l/h	60	60	150	150	250
Minimum flow rate horizontal	Q _{min}	l/h	12	12	30	30	50
Minimum flow rate vertical	Q _{min}	l/h	24	24	60	60	100
Starting flow rate horizontal		l/h	7	7	8	8	10
Starting flow rate vertical		l/h	10	10	20	20	30
Flow rate at 0.1 bar pressure loss		m ³ /h	0.4	0.4	1.1	1.1	1.7
Flow resistance coefficient Zeta			51.5	51.5	6.8	6.8	9.0

DIMENSIONS



Nominal diameter	DN	mm	15	15	15	15	20
Nominal flow rate	Q _n	m ³ /h	0.6	0.6	1.5	1.5	2.5
Overall length	L	mm	105	110	105	110	130
Overall length with coupling	L2	mm	185	190	185	190	228
Connection thread on meter		Inch	G ³ / ₄ B	G ³ / ₄ B	G ³ / ₄ B	G ³ / ₄ B	G1B
Connection thread of coupling		Inch	R ¹ / ₂	R ¹ / ₂	R ¹ / ₂	R ¹ / ₂	R ³ / ₄
Height	H	mm	16	16	16	16	16
Height	H1	mm	95	95	95	95	95
Diameter	Ø B	mm	80	80	80	80	80
Weight without coupling		kg	0.8	0.8	0.8	0.8	1
Weight with coupling		kg	1	1	1	1	1.4

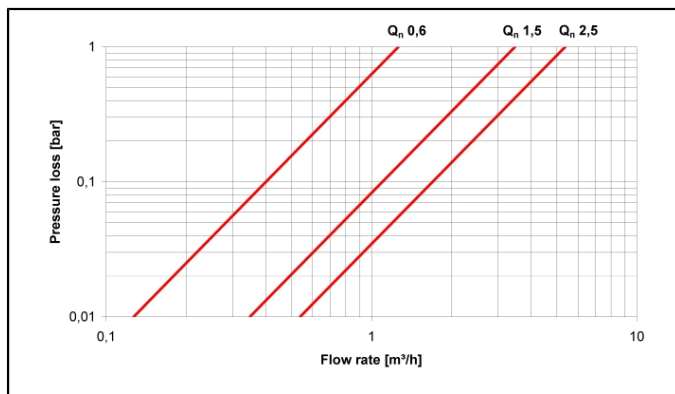
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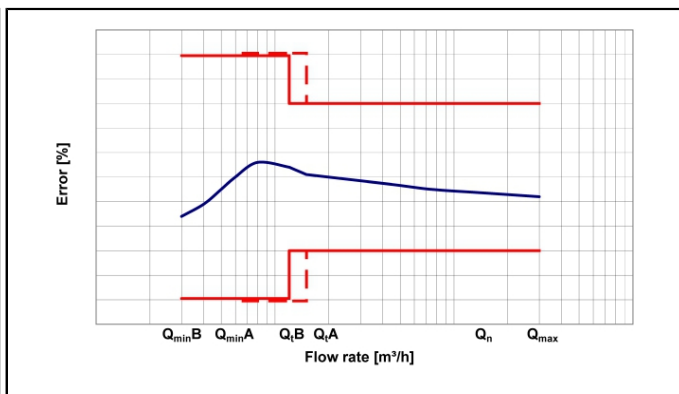
NOTE

When using the contact water meters as volume measuring component, we recommend that the meters are selected so that the pressure loss of 0.1 bar is not exceeded at maximum load.

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph