

RAY FS MT | HORIZONTAL

FLOW SENSOR | MECHANICAL

HYDROMETER



APPLICATION

Volume measuring component for measuring heat for billing hot water consumption.

FEATURES

- ▶ Multi-jet impeller meters designed to the latest technical standards with completely dry running operation and magnetic coupling
- ▶ The roller counter is dustproof and condensation-proof and can be rotated for easier reading
- ▶ For horizontal installation
- ▶ The built-in pulse transmitter is cast in a waterproof enclosure and is easily replaceable
- ▶ The pulse transmitter for volume measuring components is fitted with a 100 Ω , ¼ W protective resistor (cable length 3 m)
- ▶ Facility for remote transmission of flow rates
- ▶ The compact design in subassemblies simplifies maintenance and repair
- ▶ Only the impeller operates in the wet chamber to prevent faults due to sediment
- ▶ The meters are equipped with a sealed shield for protection against magnetic interference

RAY FS MT | HORIZONTAL Thread Version

FLOW SENSOR | MECHANICAL

GENERAL

Thread Version		
Medium temperature range	°C	0 ... 120
Nominal pressure	PN bar	16
Display range		0.05 l ... 100,000 m ³
Pulse value	l/pulse	1 / 10 / 100 / 1000 (other pulse rates on request)
Bearing		Carbide or plastic
Approval		National 22.16 / 80.07
Metrological class		A•H
Protection class		IP 65

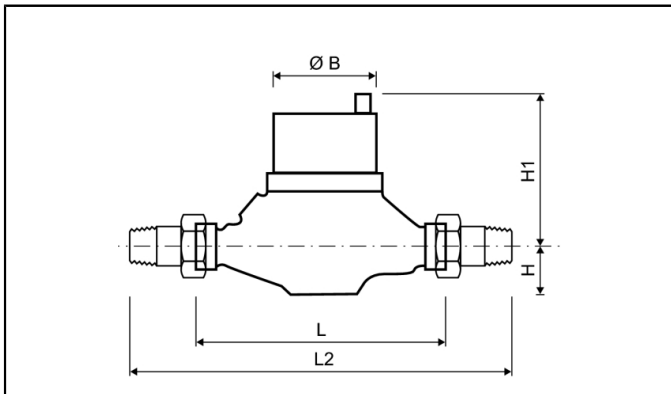
TECHNICAL DATA

Nominal diameter	DN	mm	15	15	20	20	20	25	25	40
Nominal flow rate	Q _n	m ³ /h	1	1.5	1	1.5	2.5	3.5	6	10
Maximum flow rate (short-term)	Q _{max}	m ³ /h	2	3	2	3	5	7	12	20
Transition flow rate	Q _t	l/h	80	120	80	120	200	280	480	800
Minimum flow rate	Q _{min}	l/h	25	30	25	30	50	65	90	160
Starting flow rate		l/h	10	10	10	12	19	25	35	60
Flow rate at 0.1 bar pressure loss		m ³ /h	0.6	1.0	0.6	1.0	1.6	2.2	3.8	6.3
Flow resistance coefficient Zeta			22.9	8.2	72.4	26.1	10.2	13.1	4.4	10.5

RAY FS MT | HORIZONTAL Thread Version

FLOW SENSOR | MECHANICAL

DIMENSIONS

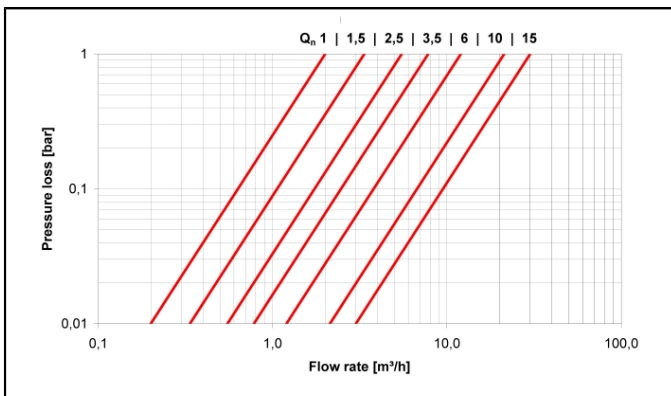


Nominal diameter	DN	mm	15	15	20	20	20	25	25	40
Nominal flow rate	Q_n	m ³ /h	1	1.5	1	1.5	2.5	3.5	6	10
Overall length	L	mm	165	165	190	190	190	260	260	300
Overall length with coupling	L2	mm	245	245	288	288	288	378	378	438
Connection thread on meter		Inch	G $\frac{3}{4}$ B	G $\frac{3}{4}$ B	G1B	G1B	G1B	G1 $\frac{1}{4}$ B	G1 $\frac{1}{4}$ B	G2B
Connection thread of coupling		Inch	R $\frac{1}{2}$	R $\frac{1}{2}$	R $\frac{3}{4}$	R $\frac{3}{4}$	R $\frac{3}{4}$	R1	R1	R1 $\frac{1}{2}$
Height	H	mm	32	32	32	32	32	45	45	55
Height	H1	mm	138	138	138	138	138	150	150	155
Diameter	$\varnothing B$	mm	81	81	81	81	81	81	81	
Weight without coupling		kg	1.7	1.7	1.9	1.9	1.9	2.9	2.9	5.1
Weight with coupling		kg	2.1	2.1	2.3	2.3	2.3	3.5	3.5	6.3

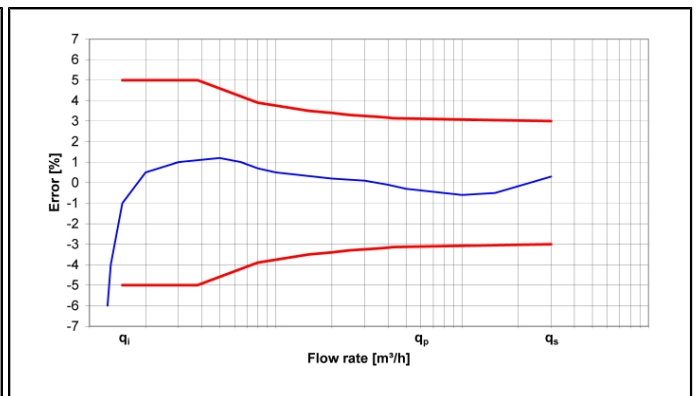
NOTE

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.
Order the pulse output without resistor for a low-resistance load, e.g. mechanical roller counters.

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph

RAY FS MT | HORIZONTAL Flange Version

FLOW SENSOR | MECHANICAL

GENERAL

		Flange Version	
Medium temperature range	°C	0 ... 120	
Nominal pressure	PN bar	16 or 40 (DN 15: PN 16 only)	
Display range		0.05 l ... 100,000 m ³	
Pulse value	l/pulse	1 / 10 / 100 / 1000 (other pulse rates on request)	
Bearing		Carbide or plastic	
Approval		National 22.16 / 80.07	
Metrological class		A•H	
Protection class		IP 65	

TECHNICAL DATA

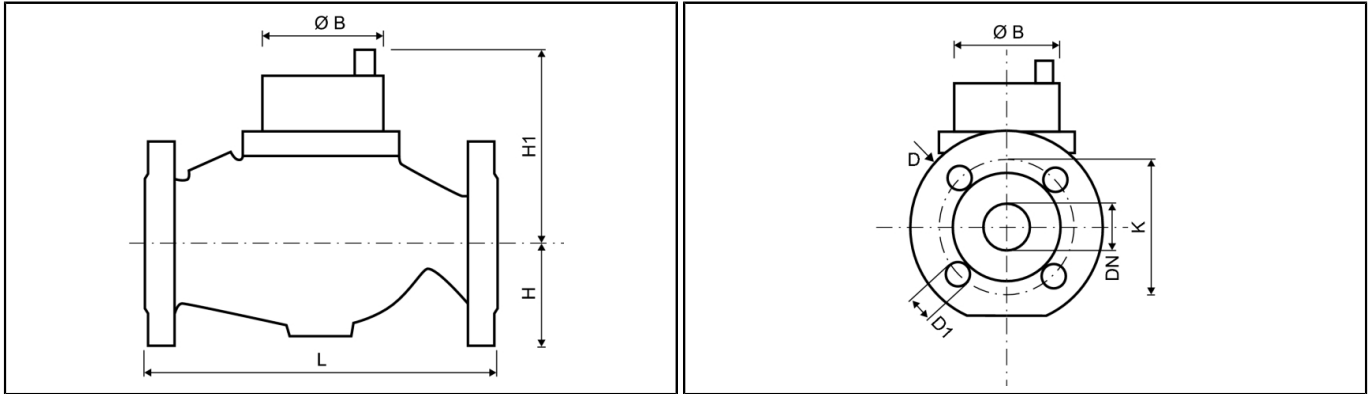
Nominal diameter	DN	mm	15	15	20	20	20
Nominal flow rate	Q _n	m ³ /h	1	1.5	1	1.5	2.5
Maximum flow rate (short-term)	Q _{max}	m ³ /h	2	3	2	3	5
Transition flow rate	Q _t	l/h	80	120	80	120	200
Minimum flow rate	Q _{min}	l/h	25	30	25	30	50
Starting flow rate		l/h	10	10	10	12	19
Flow rate at 0.1 bar pressure loss		m ³ /h	0.6	1.0	0.6	1.0	1.6
Flow resistance coefficient Zeta			22.9	8.2	72.4	26.1	10.2

Nominal diameter	DN	mm	25	25	40	50
Nominal flow rate	Q _n	m ³ /h	3.5	6	10	15
Maximum flow rate (short-term)	Q _{max}	m ³ /h	7	12	20	30
Transition flow rate	Q _t	l/h	280	480	800	1200
Minimum flow rate	Q _{min}	l/h	65	90	160	200
Starting flow rate		l/h	25	35	60	90
Flow rate at 0.1 bar pressure loss		m ³ /h	2.2	3.8	6.3	9.5
Flow resistance coefficient Zeta			13.1	4.4	10.5	11.3

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DIMENSIONS



Nominal diameter	DN	mm	15	15	20	20	20
Nominal flow rate	Q_n	m ³ /h	1	1.5	1	1.5	2.5
Overall length	L	mm	165	165	190	190	190
Flange diameter	D	mm	95	95	105	105	105
Hole circle diameter	K	mm	65	65	75	75	75
Number of screwholes		pcs	4	4	4	4	4
Screwhole diameter	D1	mm	14	14	14	14	14
Height	H	mm	50	50	50	50	50
Height	H1	mm	138	138	138	138	138
Diameter	Ø B	mm	81	81	81	81	81
Weight		kg	3.5*	3.5*	3.7*	3.7*	3.7*

Nominal diameter	DN	mm	25	25	40	50
Nominal flow rate	Q_n	m ³ /h	3.5	6	10	15
Overall length	L	mm	260	260	260	270
Flange diameter	D	mm	115	115	150	165
Hole circle diameter	K	mm	85	85	110	125
Number of screwholes		pcs	4	4	4	4
Screwhole diameter	D1	mm	14	14	18	18
Height	H	mm	50	52	70	83
Height	H1	mm	140	140	155	180
Diameter	Ø B	mm	81	81	81	81
Weight		kg	5*	5*	8.6*	12.5*

* at PN 16

NOTE

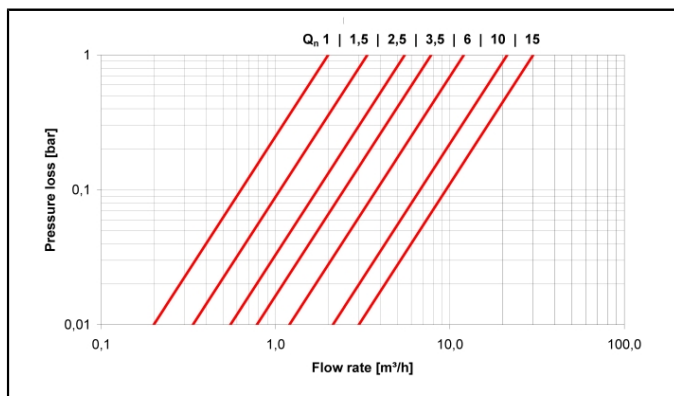
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Order the pulse output without resistor for a low-resistance load, e.g. mechanical roller counters.

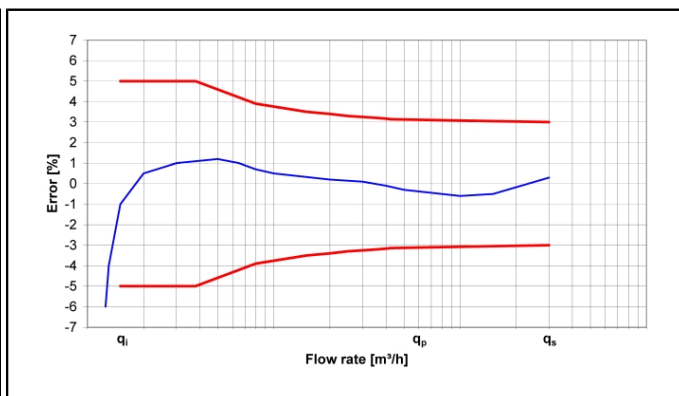
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PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph