

RAY FS WS 453/455

HYDROMETER

FLOW SENSOR | MECHANICAL



APPLICATION

Volume measuring device to measure thermal quantities to charge the consumption of warm water

FEATURES

- ▶ Possibility of remote transmission of quantities of flow
- ▶ For horizontal installation
- ▶ Encapsulated and evacuated counter
- ▶ For easy reading the complete head part with totalizer can be turned to any position
- ▶ Easily removeable reed-switch
- ▶ Outstanding continuance of accuracy even with extreme charges (Q_{max}) because of vane bearing bearing of ring sapphire and carbide metal
- ▶ The pulse transmitter is fitted with a 100 Ω , 1/4 W series resistor (cable length 3 m) - can be supplied without series resistor on request
- ▶ Considerably extended measuring range towards small flows compared to documentation of metrological class
- ▶ As a safeguard against magnetic influences, a sealable antimagnetic screen is fitted on the meter
- ▶ No obstruction in reading because of sealed totalizer avoiding condensation
- ▶ Contact load (without series resistor) max. 24 V AC/DC (protective low voltage) 0.2 A
- ▶ Completely dry-running - measuring gears running in water

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GENERAL

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Medium temperature range	°C	0 ... 120
Medium temperature range with counter extension	°C	0 ... 130
Nominal pressure	PN	bar 16 (40 on request)
Protection class		IP 65

TECHNICAL DATA

Nominal diameter	DN	mm	50	65	80	100	150
Nominal flow rate	Q_n	m ³ /h	15	25	40	60	150
Maximum flow rate (short-term)	Q_{max}	m ³ /h	50	50	110	140	350
Transition flow rate	Q_t	l/h	1500	1500	1600	2400	15000
Minimum flow rate	Q_{min}	l/h	200	200	300	400	2000
Starting flow rate		l/h	60	60	90	90	1000
Flow rate at 0.1 bar pressure loss		m ³ /h	19	21	42	70	160
Flow resistance coefficient Zeta			2.82	6.6	3.8	3.3	3.2
Pulse value reed switch		l/pulse	2.5 / 10 / 25 / 100 / 1000	2.5 / 10 / 25 / 100 / 1000	2.5 / 10 / 25 / 100 / 1000	2.5 / 10 / 25 / 100 / 1000	25 / 100 / 250 / 1000 / 10000

DISPLAY RANGE

Nominal diameter	DN	mm	50	65	80	100	150
0.05 l ... 10,000,000 m ³			•	•	•	•	
0.5 l ... 100,000,000 m ³							•

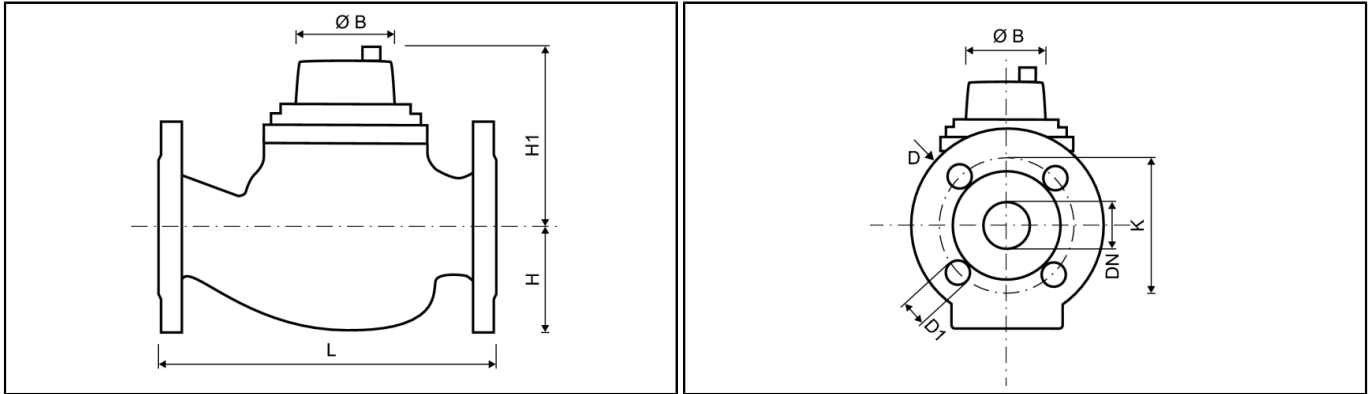
APPROVAL

Nominal diameter	DN	mm	50	65	80	100	150
National			22.16 / 94.04	22.16 / 94.04	22.16 / 94.04	22.16 / 94.04	22.16 / 84.01
Metrological class			B•H	B•H	B•H	B•H	B•H

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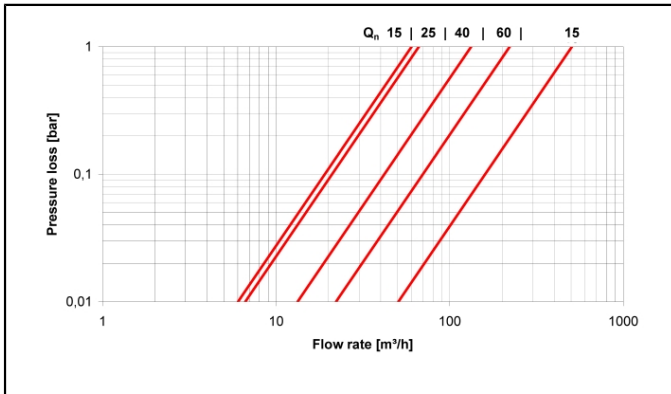
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DIMENSIONS

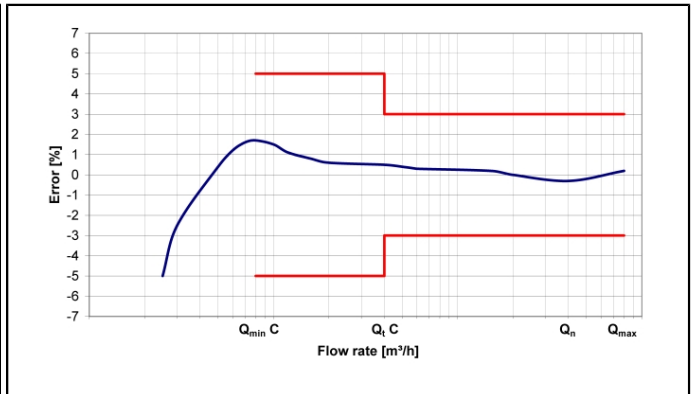


Nominal diameter	DN	mm	50	65	80	100	150
Overall length (DIN 19625)	L	mm	270	300	300	360	500
Overall length (DIN ISO 4064)	L	mm	300	300	350	350	500
Flange diameter	D	mm	165	185	200	220	285
Hole circle diameter	K	mm	125	145	160	180	240
Number of screwholes		pcs	4	4	8 / 4	8	8
Screw hole diameter	D1	mm	18	18	18	18	23
Height	H	mm	84	97	102	113	155
Height (without counter extension)	H1	mm	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

HYDROMETER

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 Subject to technical adjustments

