

RAY FS WS 453/455

MECHANICAL FLOW SENSOR



APPLICATION

Volume measuring device to measure thermal quantities

FEATURES

- Possibility of remote transmission of quantities of flow
- For easy reading the complete head part with totalizer can be turned to any position
- Easily removeable reed-switch
- 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
- Contact load (without series resistor) max. 24 V AC/DC (protective low voltage) 0.2 A
- Outstanding continuance of accuracy even with extreme charges because of vane bearing bearing of ring sapphire and carbide metal
- 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
- Approved according MID in class 2 and 3
- Completely dry-running

GENERAL

RAY FS WS 453/455			
Application			Heating
Mounting position			Horizontal
Medium temperature range	°C	15 ... 105	
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

REACH

Information pursuant to Article 33 (1) of Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006:

This product series contains components with the following substances in a concentration of more than 0.1% weight by weight (w/w):

- Lead (CAS no.: 7439-92-1)

TECHNICAL DATA

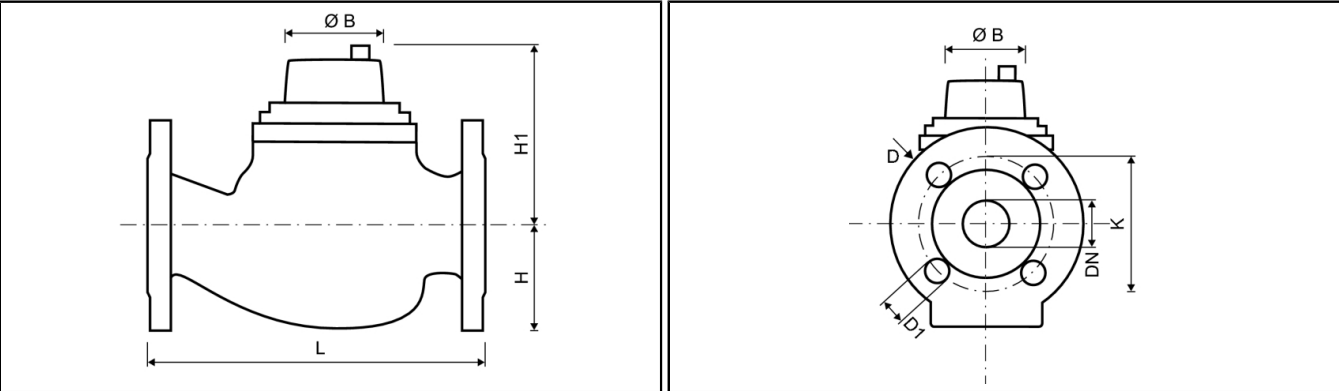
Nominal diameter	DN	mm	50	65	80	100	150
Nominal flow rate	q _p	m ³ /h	15	25	40	60	150
Maximum flow rate (short-term)	q _s	m ³ /h	30	30	50	75	187.5
Minimum flow rate	q _i	l/h	600	1000	1600	2400	6000
Starting flow rate		l/h	60	60	90	90	1000
Pressure loss at q _p	Δp	bar	0.06	0.14	0.09	0.07	0.09
Pulse value reed switch ¹		l/pulse	10 / 100	10 / 100	10 / 100	10 / 100	10 / 100
Metrological class ²	q _p / q _i		25:1	25:1	25:1	25:1	25:1
Flow rate at 0.1 bar pressure loss		m ³ /h	19	21	42	70	160

¹ other pulse values on request² other q_p / q_i on request

DISPLAY RANGE

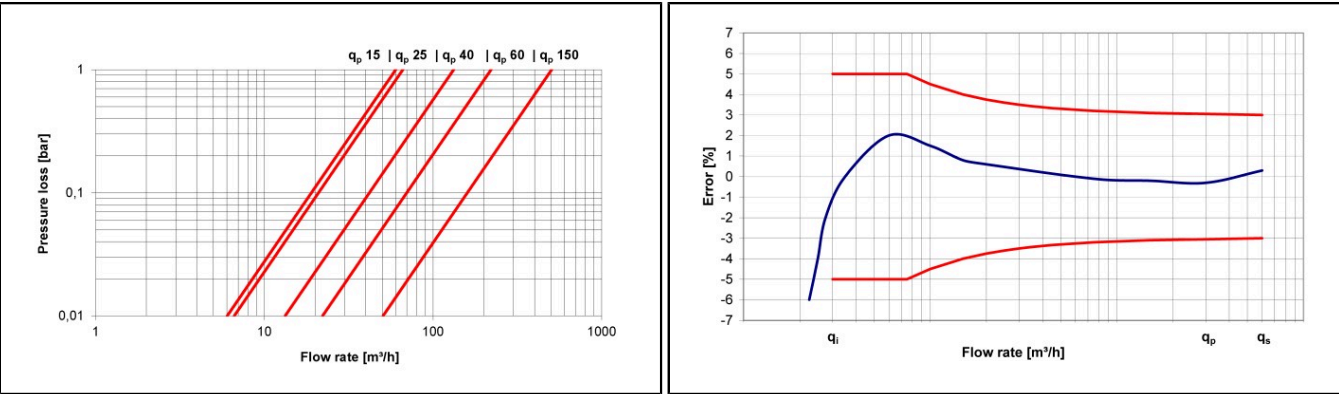
Nominal diameter	DN	mm	50	65	80	100	150
0.5 l ... 999,999 m ³			•	•	•	•	
5.0 l ... 9,999,999 m ³							•

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
Screwhole 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

Economic Actor Information

Applicable regulation and legal obligations for products may change.

DIEHL METERING monitors applicable regulation to ensure their products comply at the date of placing on the market.

Each economic actor making products available on the market thereafter must independently keep informed about the current applicable regulation.

For questions, please contact: metering-germany-info@diehl.com

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