WPD FS

Flow Sensor for hot water up to 130 °C DN 40 ... DN 300

Main Features

Patented hydrodynamically balanced rotor

Patented symmetrical calibration adjustment

Hermetically sealed register (IP 68)

Register may be rotated through 360°

High overload capability

Removable measuring element

Up to 3 pulsers (1 x OD, 2 x RD) may be fitted without breaking the approval seal

Powder coating ensures maximum corrosion protection

Optionally as meter free of copper alloy (BMF) for aggressive media

Environmental Conditions

Electromagnetic environment: Class E2

Mechanical environment condition: Class M1

Protection class acc. to DIN EN 60529: IP 68

Temperature range: 10 ... 130 °C

Pattern Approval

Marking	DN 50 ...150: DE-17-MI004-PTB002 CE M-XX* 0102 * Year of production

APPLICATION

Flow sensor for heat meters for commercial and light industrial use

DN 50 to 150 for customer billing

For measurement of hot process water up to 130 °C

For high permanent flow rates such as generated by pumps, as well as for the measurement of low flow rates in off-peak periods

Installation in horizontal and vertical pipe lines

Application for aggressive media (BMF), e.g.

- Desalinated / demineralized water
- Caustic soda up to 20 %
- Saline water up to 10 %
- Chlorinated water up to 1 %
- Glycol-water solutions up to 30 %
- Caustic solutions up to ph value 9

(Other liquids on request)

MATERIALS

Body	Cast iron
Measuring element	Plastic
Rotor	Plastic
We also use the following materials	Brass Stainless steel

SENSUS
a xylem brand

WPD FS

Flow Sensor for hot water up to 130 °C DN 40 ... DN 300

TECHNICAL DATA

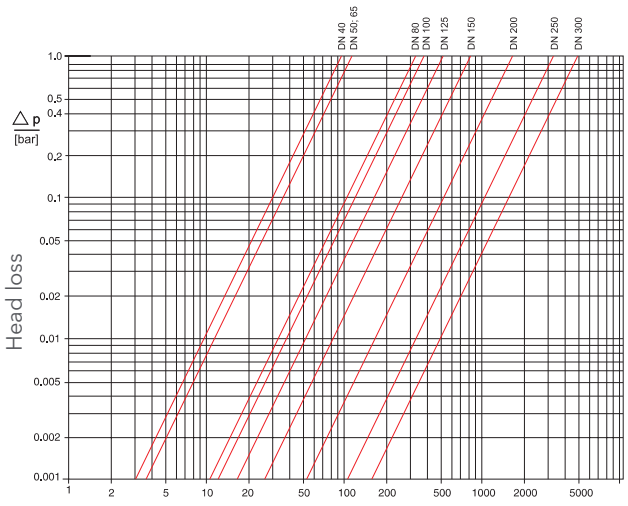
Performance data WPD FS 130 °C

Nominal Diamter		DN	40	50	65	80	100	125	150	200	250	300
Q_{max}	Maximum Peak Flow once lifetime 24 h Q_{max} or 5 min. 1.2 x Q_{max}	m³/h	30	30	60	90	140	200	300	500	800	1200
Q_n	Continuous Flow	m³/h	15	15	25	45	70	100	150	250	400	600
Q_t	Transitional Flow	m³/h	1.8	1.8	2.0	3.2	4.8	8.0	12	20	45	50
Q_{min}	Minimum Flow	m³/h	0.6	0.6	1.0	1.4	2.0	3.5	4.5	8	20	25
	Staring Flow	m³/h	0.25	0.25	0.3	0.35	0.6	1.1	1.7	2.0	10	15

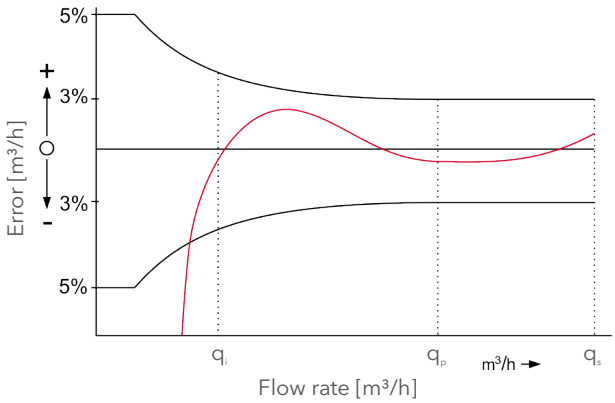
Performance data table according to DIN EN 1434

Nominal Diamter		DN	50	65	80	100	125	150
q_s	Overload Flowrate	m³/h	30	50	80	120	200	300
q_p	Continuous Flow horizontal	m³/h	15	25	40	60	100	150
q_{ih}	Minimum Flow horizontal	m³/h	0.6	1	1.6	2.4	4	6
q_{iv}	Minimum Flow vertical	m³/h	1.5	2.5	4	6	10	15
q_p / q_i	Ratio horizontal		25	25	25	25	25	25
q_p / q_i	Ratio vertical		10	10	10	10	10	10

Typical Head Loss Curve



Typical Accuracy Curve

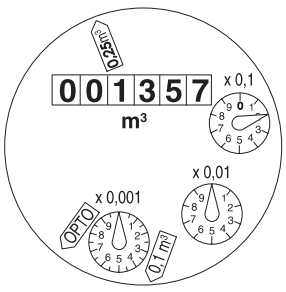


q_s = maximum peak flow

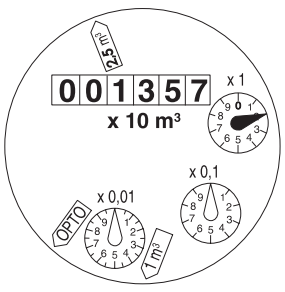
q_p = continuous flow ±2%

q_i = minimum flow ±5%

Dials



DN 40 ... DN 125



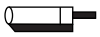
DN 150 ... DN 300

Nominal Diameter DN	Smallest reading m³	Max. reading m³
40... 125	0.0005	1 000 000
150... 300	0.005	10 000 000

WPD FS

Flow Sensor for hot water up to 130 °C DN 40 ... DN 300

PULSE VALUES

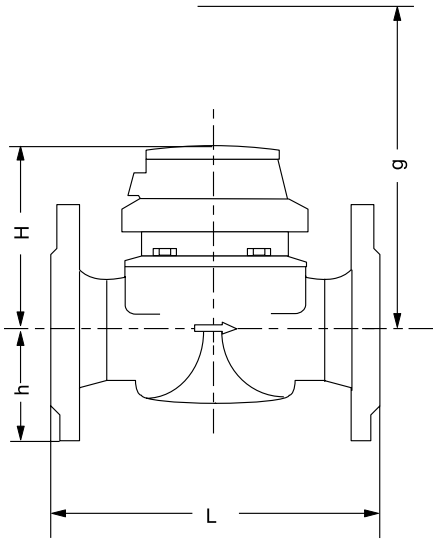
Pulser		pulse value	
		DN 50 ... DN 100	DN 150 ... DN 300
RD02 / RD022		0.25 and 0.1 m³ or 0.25 and 0.025 m³	1 and 2.5 m³ or 2.5 and 0.25 m³
OD 02		0.001 m³	0.01 m³
OD 04		0.01 m³	0.1 m³

DIMENSIONS AND WEIGHTS

Nominal Diamter			DN	40	50	50	65	65	80	80	100	100	125	150	150	200	250	300
Dimensions	overall length	L *)	mm	220	200	270	200	300	225	300	250	360	250	300	500	350	450	500
	height	H	mm	120	120	120	120	120	150	150	150	150	160	177	177	206	231	256
		h	mm	69	73	73	85	85	95	95	105	105	118	135	135	162	194	226
		g	mm	200	200	200	200	200	270	270	270	270	280	356	356	441	466	491
Weights	meter		kg	7.4	7.7	9.5	10.0	11.9	14.0	16.1	18.0	20.0	20.5	35.5	43.8	50.5	72.3	99.3
	measuring element		kg	1.4	1.4	1.4	1.4	1.4	3.0	3.0	3.0	3.0	3.0	5.5	5.5	7.5	7.5	7.5
	body		kg	6.0	6.3	8.1	8.6	10.5	11.0	13.1	15.0	17.0	17.5	30.0	38.3	43.0	71.3	91.8

*) Other overall lengths on request

Dimensional diagram



INSTALLATION

Pipe	horizontal vertical	
Meter head	upwards sideways	

Installation Requirements

- Unrestricted straight pipe upstream of the meter 3 x DN
- No abrupt restrictions directly behind the meter

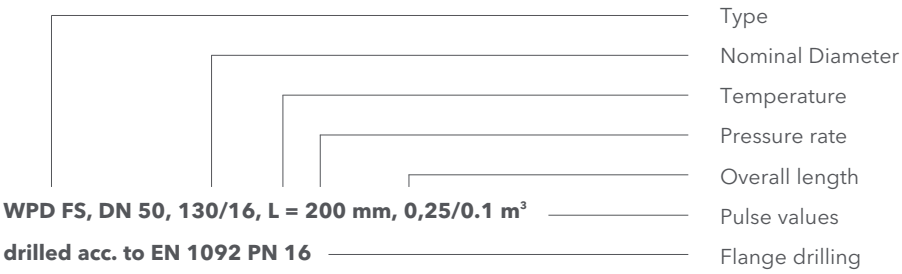
AVAILABLE VARIANTS

Diameter Nominal	DN	40	50	65	80	100	125	150	200	250	300
Overall length	mm	220	200	200	225	250	250	300	350	450	500
Overall length	mm	...	270	300	300	360	...	500	...	...	...

WPD FS

Flow Sensor for hot water up to 130 °C DN 40 ... DN 300

Order Example



Xylem.com | Sensus.com

UK & Ireland Inquiries | Sensus UK Systems Ltd. | 3 Lindenwood Crockford Lane, Chineham Business Park | Basingstoke RG24 8QY UK | +44 1256 372800 | info.gb@xylem.com

International Inquiries | Sensus GmbH Hannover | Meineckestr. 10 | 30880 Laatzen | Germany | +49 5102 743177 info.int@xylem.com