

WESAN WS E

ELECTRONIC METER | WOLTMAN

HYDROMETER



APPLICATION

Fully electronic bulk water meter for measuring of fluctuating flows in the utility sector (cold water up to 30 °C).

FEATURES

- ▶ Calibratable and exchangeable measuring insert
- ▶ Electronic sensor control for recording flow rate
- ▶ Lithium battery, lifetime 10 years
- ▶ Optical ZVEI interface equipped as standard
- ▶ Adjustable reading date for billing
- ▶ Rotatable integrator
- ▶ Single-line 7-digit display for easy meter reading
- ▶ For horizontal installation
- ▶ Outstanding long-term accuracy even under extreme loads
- ▶ Extended measuring range better than metrological class

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ELECTRONIC - BASIC FEATURES

WESAN WS E	
Ambient class	OIML R49 class C / MID E2 + M1
Protection class	IP 54 or IP 68
Interfaces standard	Optical ZVEI
Interfaces optional*	M-Bus, L-Bus, pulse

* Possible combinations

- M-Bus / pulse
- L-Bus / forward pulse
- only M-Bus

Note: HYDRO-SET Software for configuration of meters, readout of measured values and printout of meter logs. Available under www.hydrometer.de (Products - downloads)

DISPLAY

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Display indication	LCD, 7-digit
Unit	m ³ /h - l/h - m ³ - l
Total values	9,999.999 - 999,999.9 - 99,999.99 - 9,999.999
Values displayed	Flow rate

VOLUME - / PULSE OPEN COLLECTOR

WESAN WS E		
Max. frequency	Hz	90
Max. input voltage	V	30
Max. input current	mA	27
Max. voltage drop at active output	V/mA	2/27
Max. current through inactive output	µA/V	5/30
Max. reverse voltage without destroying outputs	V	6
Pulse duration	ms	5.5
Min. pulse pause	ms	5.5

SUPPLY VOLTAGE

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Operating voltage	UN	VDC	3.0 (lithium battery)
Battery lifetime			10 years
Nominal power	PN	µW	30

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INTERFACES - OVERVIEW

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Optical	ZVEI interface for communication, M-Bus protocol
M-Bus	According to EN 1434-3. Data reading and parametrization are via two wires with polarity reversal protection.
L-Bus	Interface for the radio module IZAR RADIO EXTERN
Pulse	Output for volume (open collector)

PULSE INTERFACE - SPECIFICATION

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DN 50 - 125 Pulse rates	l/pulse Decadic 1 ... 1000
DN 50 - 125 Display	1 digit after comma
DN 50 - 125 Pulse value 1	l/pulse 1 (factory setting)
DN 50 - 125 Pulse value 2	l/pulse 100 (factory setting)
DN 150 Pulse rates	l/pulse Decadic 10 ... 10000
DN 150 Display	0 digits after comma
DN 150 Pulse value 1	l/pulse 10 (factory setting)
DN 150 Pulse value 2	l/pulse 1000 (factory setting)
Pulse variants	Two forward pulses; one forward and one backward pulse; pulse and direction signal

Note: In the field the pulse values can be configured as desired in the specified value range.

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GENERAL

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Temperature range	°C	0 ... 30	
Temperature safety	°C	0 ... 50	
Ambient operating temperature	°C	0 ... 55	
Ambient storage temperature	°C	0 ... 55	
Nominal pressure	PN	bar	16*

* See also special versions.

TECHNICAL DATA

Nominal diameter	DN	mm	50	65	80	100	150
Nominal flow rate (DIN ISO 4064)	Q _n	m ³ /h	15	25	40	60	150
Permissible continuous load (HY)	Q _n	m ³ /h	25	25	55	90	200
Maximum flow rate (short-term)	Q _{max}	m ³ /h	50	50	110	180	350
Transition flow rate	Q _t	m ³ /h	1	1.2	1.5	1.5	5
Minimum flow rate	Q _{min}	m ³ /h	0.2	0.2	0.25	0.3	0.8
Starting flow rate		l/h	60	60	90	90	150
Flow rate at 0.1 bar pressure loss		m ³ /h	19	21	42	70	160

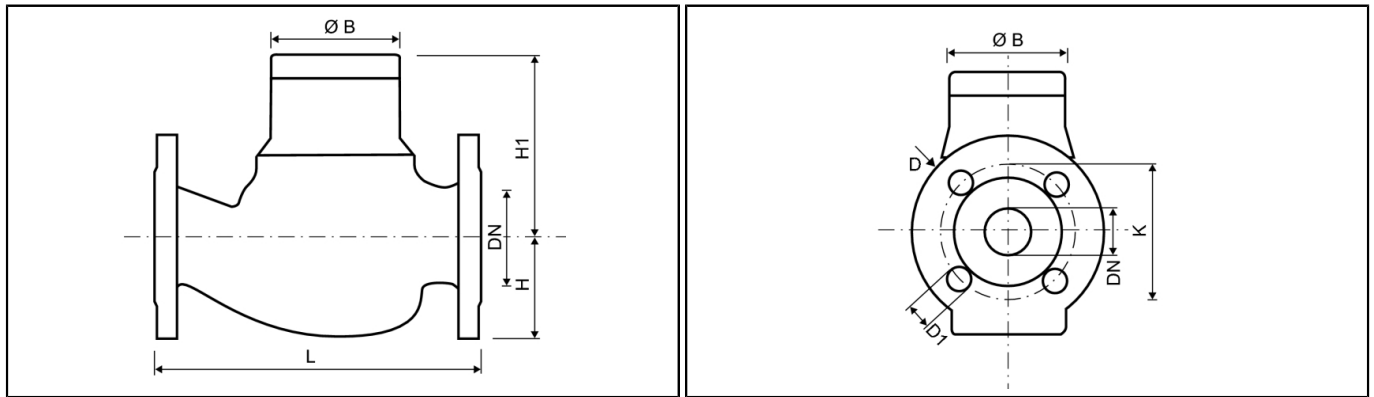
APPROVAL

Nominal diameter	DN	mm	50	65	80	100	150
National			6.132 / 96.12	6.132 / 96.12	6.132 / 96.12	6.132 / 96.12	6.132 / 92.06
Metrological class			B•H	B•H	B•H	B•H	B•H

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DIMENSIONS

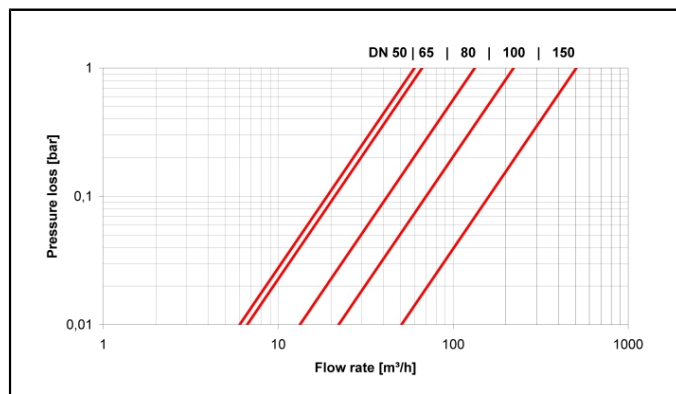


Nominal diameter	DN	mm	50	65	80	100	150
Overall length (DIN 19625)	L	mm	270	300	300	360	430 / 500
Overall length (DIN ISO 4064)	L	mm	300	300	350	350	500
Flange diameter	D	mm	165	185	200	220	285
Hole circle diameter	K	mm	125	145	160	180	240
Number of screwholes		pcs	4	4	4 / 8	8	8
Screw hole diameter	D1	mm	18	18	18	18	23
Height	H	mm	85	97	102	113	141
Height	H1	mm	135	135	180	190	351
Height to remove measuring insert		mm	240	240	330	340	620
Diameter	Ø B	mm	110	110	110	110	110
Meter width		mm	173	173	239	239	310
Weight		kg	14.5	17.7	24	28	79.5

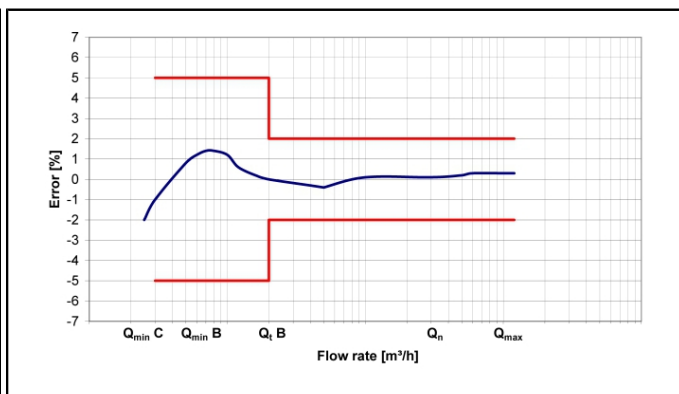
SPECIAL VERSIONS

- Versions with different nominal pressure on request
- Flange for ANSI and BS
- CuZn parts in V2A
- Temperature up to 90 °C
- Suitability for other media

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph