

WESAN WP E

ELECTRONIC METER | WOLTMAN

DIEHL
Metering



APPLICATION

Fully electronic bulk water meter for measuring the flow (cold water up to 30 °C) in supply lines with high flow at low pressure loss.
Highly accurate recording of all billing data.

FEATURES

- ▶ Calibratable and exchangeable measuring insert
- ▶ Electronic sensor control for recording flow rate
- ▶ Lithium battery, lifetime up to 12 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 and vertical installation

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ELECTRONIC - BASIC FEATURES

WESAN WP 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 (IP54, standard delivery without M-Bus cable)

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

DISPLAY

WESAN WP E	
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 WP 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			Up to 12 years
Nominal power	PN	µW	30

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)

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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 (factory settings); one forward and one backward pulse; pulse and direction signal

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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*

* Special versions on request

TECHNICAL DATA

Nominal diameter	DN	mm	50	65	80	100	125	150
Permanent flow rate	Q ₃	m ³ /h	40	63	100	160	160	-
Minimum flow rate	Q ₁	m ³ /h	0.63	0.63	1	1.6	1.6	-
Transitional flow rate	Q ₂	m ³ /h	1.02	1.01	1.6	2.56	2.56	-
Overload flow rate	Q ₄	m ³ /h	50	78.75	125	200	200	-
Nominal flow rate (DIN ISO 4064)	Q _n	m ³ /h	15	25	40	60	100	150
Minimum flow rate horizontal	Q _{min}	m ³ /h	0.35	0.45	0.5	0.6	0.6	1.8
Minimum flow rate vertical	Q _{min}	m ³ /h	0.4	0.5	0.5	0.6	0.6	1.8
Transition flow rate horizontal	Q _t	m ³ /h	1	1.2	0.8	1.8	2	4
Transition flow rate vertical	Q _t	m ³ /h	1.8	2	0.8	1.8	2	4
Maximum flow rate (short-term)	Q _{max}	m ³ /h	90	120	200	300	350	350
Starting flow rate		l/h	90	130	160	190	190	1500
Flow rate at 0.1 bar pressure loss		m ³ /h	25	50	63	80	80	310
Pressure loss at Q ₃		bar	0.25	0.16	0.25	0.4	0.4	-

Nominal diameter	DN	mm	200	250	300	400	500
Permanent flow rate	Q ₃	m ³ /h	-	-	-	-	-
Minimum flow rate	Q ₁	m ³ /h	-	-	-	-	-
Transitional flow rate	Q ₂	m ³ /h	-	-	-	-	-
Overload flow rate	Q ₄	m ³ /h	-	-	-	-	-
Nominal flow rate (DIN ISO 4064)	Q _n	m ³ /h	250	400	600	1000	1500
Minimum flow rate horizontal	Q _{min}	m ³ /h	4	12	18	30	45
Minimum flow rate vertical	Q _{min}	m ³ /h	4	-	-	-	-
Transition flow rate horizontal	Q _t	m ³ /h	6	20	50	50	80
Transition flow rate vertical	Q _t	m ³ /h	6	-	-	-	-
Maximum flow rate (short-term)	Q _{max}	m ³ /h	650	1200	1500	2800	4200
Starting flow rate		l/h	2500	5000	10000	15000	20000
Flow rate at 0.1 bar pressure loss		m ³ /h	550	800	1250	3000	6000
Pressure loss at Q ₃		bar	-	-	-	-	-

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APPROVAL

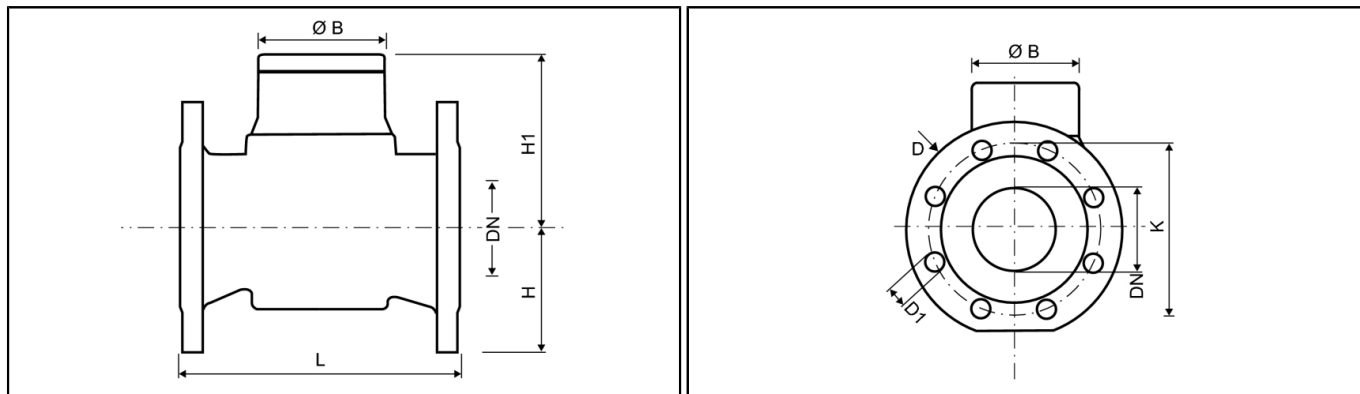
Nominal diameter	DN	mm	50	65	80	100	125	150
National			6.132 / 92.08	6.132 / 92.08	6.132 / 03.20	6.132 / 03.20	6.132 / 03.20	6.132 / 03.21
Metrological class			B•H	B•H	B	B	B	B
MID (DE-13-MI001-PTB005)			•	•	•	•	•	-
Dynamic range (Q ₃ /Q ₁)	R*		63•H	100•H	100	100	100	-
Nominal diameter	DN	mm	200	250	300	400	500	
National			6.132 / 03.21	6.132 / 06.24	6.132 / 06.24	6.132 / 92.07	6.132 / 92.07	
Metrological class			B	B	B	B	B	
MID (DE-13-MI001-PTB005)			-	-	-	-	-	
Dynamic range (Q ₃ /Q ₁)	R*		-	-	-	-	-	

* Standard dynamic other dynamics on request

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DIMENSIONS



Nominal diameter	DN	mm	50	65	80	100	125	150
Overall length	L	mm	200 / 300 ¹	200	200 ¹ / 225 / 350 ¹	250 / 350 ¹	250	300
Flange diameter	D	mm	165	185	200	220	250	285
Hole circle diameter PN 10 / PN 16	K	mm	- / 125	- / 145	160 / 160	- / 180	- / 210	- / 240
Number of screwholes PN 10 / PN 16		pcs	- / 4	- / 4	4 / 8	- / 8	- / 8	- / 8
Screwhole diameter PN 10 / PN 16	D1	mm	- / 18	- / 18	18 / 18	- / 18	- / 18	- / 22
Height	H	mm	75	83	89	105	115	135
Height	H1	mm	123	123	154	154	154	245
Height to remove measuring insert		mm	225	225	275	275	275	475
Meter width		mm	155	155	200	220	250	285
Diameter	Ø B	mm	110	110	110	110	110	110
Weight		kg	10.2	11.2	13	13	21.5	39
Nominal diameter	DN	mm	200	250	300	400	500	
Overall length	L	mm	350	450	500	500	500	
Flange diameter	D	mm	340	405	460	580	715	
Hole circle diameter PN 10 / PN 16	K	mm	295 / 295	350 / 355	400 / 410	515 / 525	620 / 650	
Number of screwholes PN 10 / PN 16		pcs	8 / 12	12 / 12	12 / 12	16 / 16	20 / 20	
Screwhole diameter PN 10 / PN 16	D1	mm	22 / 22	23 / 27	23 / 27	27 / 30	27 / 33	
Height	H	mm	163	193	230	290	360	
Height	H1	mm	245	242	290	311	361	
Height to remove measuring insert		mm	475	472	520	580	660	
Meter width		mm	340	405	460	580	715	
Diameter	Ø B	mm	110	110	110	110	110	
Weight		kg	47	75	165	190	300	

¹: Special body lengths on request

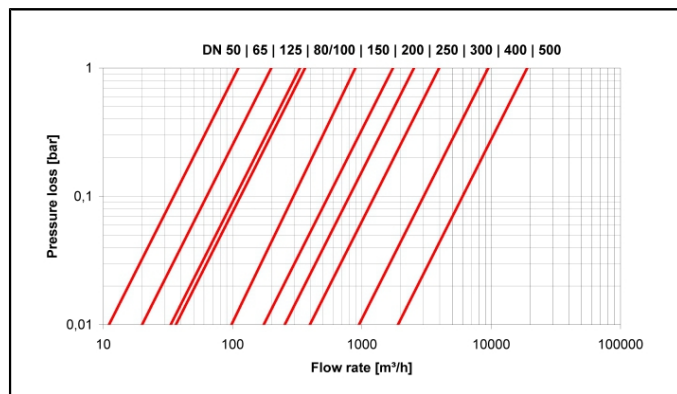
SPECIAL VERSIONS

- Versions with different nominal pressure on request
- Flange for ANSI and BS on request
- CuZn parts in V2A on request
- Temperature up to 90 °C on request
- Special pulse values on request

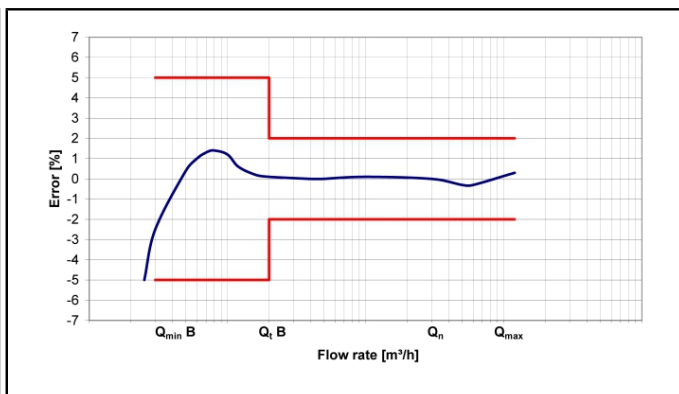
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PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph