

# WESAN WP

BULK WATER METER | WOLTMAN

**DIEHL**  
Metering



## APPLICATION

The bulk water meter WESAN WP can be used for measuring the flow (cold water up to 30 °C) in supply lines with high flow at low pressure loss.

## FEATURES

- ▶ Calibratable and exchangeable measuring insert
- ▶ For horizontal and vertical installation
- ▶ Sealed measuring insert for better accuracy
- ▶ Hydraulic bearing relief
- ▶ Wear-resistant plastic bearing
- ▶ Encapsulated counter of glass/copper IP 68
- ▶ Complete head unit with counter and sensors can be rotated by 350° for easier reading
- ▶ Integrated measurement outputs as standard
- ▶ Sensors for remote readout (digital) and flow measurement (analogue) can be retrofitted on site without affecting calibration

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### GENERAL

WESAN WP 222		
Medium 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*
Protection class		IP 68

\* Special versions on request

### TECHNICAL DATA

Nominal diameter	DN	mm	50	65	80	100	125	150
Permanent flow rate	Q <sub>3</sub>	m <sup>3</sup> /h	40	63	100	160	160	-
Minimum flow rate	Q <sub>1</sub>	m <sup>3</sup> /h	0.63	0.63	1	1.6	1.6	-
Transitional flow rate	Q <sub>2</sub>	m <sup>3</sup> /h	1.02	1.01	1.6	2.56	2.56	-
Overload flow rate	Q <sub>4</sub>	m <sup>3</sup> /h	50	78.75	125	200	200	-
Nominal flow rate (DIN ISO 4064)	Q <sub>n</sub>	m <sup>3</sup> /h	15	25	40	60	100	150
Minimum flow rate horizontal	Q <sub>min</sub>	m <sup>3</sup> /h	0.35	0.45	0.5	0.6	0.6	1.8
Minimum flow rate vertical	Q <sub>min</sub>	m <sup>3</sup> /h	0.4	0.5	0.5	0.6	0.6	1.8
Transition flow rate horizontal	Q <sub>t</sub>	m <sup>3</sup> /h	1	1.2	0.8	1.8	2	4
Transition flow rate vertical	Q <sub>t</sub>	m <sup>3</sup> /h	1.8	2	0.8	1.8	2	4
Maximum flow rate (short-term)	Q <sub>max</sub>	m <sup>3</sup> /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 <sup>3</sup> /h	35	63	115	115	105	310
Pressure loss at Q <sub>3</sub>		bar	0.25	0.16	0.25	0.4	0.4	-
Nominal diameter	DN	mm	200	250	300	400	500	
Permanent flow rate	Q <sub>3</sub>	m <sup>3</sup> /h	-	-	-	-	-	-
Minimum flow rate	Q <sub>1</sub>	m <sup>3</sup> /h	-	-	-	-	-	-
Transitional flow rate	Q <sub>2</sub>	m <sup>3</sup> /h	-	-	-	-	-	-
Overload flow rate	Q <sub>4</sub>	m <sup>3</sup> /h	-	-	-	-	-	-
Nominal flow rate (DIN ISO 4064)	Q <sub>n</sub>	m <sup>3</sup> /h	250	400	600	1000	1500	
Minimum flow rate horizontal	Q <sub>min</sub>	m <sup>3</sup> /h	4	12	18	30	45	
Minimum flow rate vertical	Q <sub>min</sub>	m <sup>3</sup> /h	4	-	-	-	-	
Transition flow rate horizontal	Q <sub>t</sub>	m <sup>3</sup> /h	6	20	50	50	80	
Transition flow rate vertical	Q <sub>t</sub>	m <sup>3</sup> /h	6	-	-	-	-	
Maximum flow rate (short-term)	Q <sub>max</sub>	m <sup>3</sup> /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 <sup>3</sup> /h	550	800	1250	3000	6000	
Pressure loss at Q <sub>3</sub>		bar	-	-	-	-	-	

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## PULSE OUTPUTS

Nominal diameter	DN	mm	50	65	80	100	125	150
Reed switch 570* - pulse value 1		l/pulse	100	100	100	100	100	1000
Reed switch 570* - pulse value 2		l/pulse	1000	1000	1000	1000	1000	10000
Special pulse value		l/pulse	25 / 50	25 / 50	25 / 50	25 / 50	25 / 50	250 / 500
IR pulse transmitter 573*		l/pulse	1	1	1	1	1	10

Nominal diameter	DN	mm	200	250	300	400	500
Reed switch 570* - pulse value 1		l/pulse	1000	1000	1000	10000	10000
Reed switch 570* - pulse value 2		l/pulse	10000	10000	10000	100000	100000
Special pulse value		l/pulse	250 / 500	250 / 500	250 / 500	2500 / 5000	2500 / 5000
IR pulse transmitter 573*		l/pulse	10	10	10	100	100

\* For more information about reed switch 570 and IR pulse transmitter 573 please have a look at the specific datasheet.

## DISPLAY RANGE

Nominal diameter	DN	mm	50	65	80	100	125	150
0.5 l ... 999,999 m <sup>3</sup>			•	•	•	•	•	
5.0 l ... 9,999,999 m <sup>3</sup>								•
50 l ... 99,999,999 m <sup>3</sup>								

Nominal diameter	DN	mm	200	250	300	400	500
0.5 l ... 999,999 m <sup>3</sup>							
5.0 l ... 9,999,999 m <sup>3</sup>			•	•	•		
50 l ... 99,999,999 m <sup>3</sup>						•	•

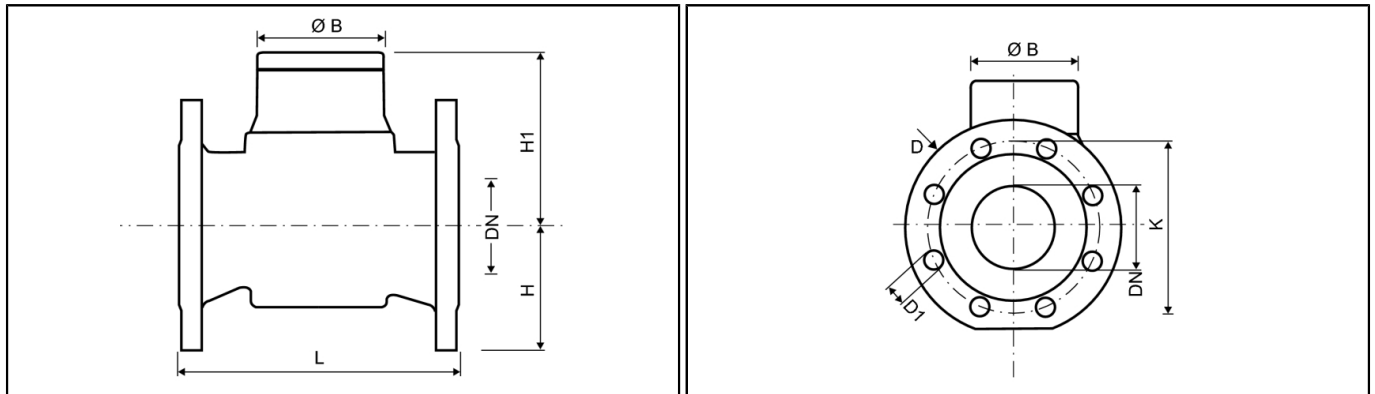
## APPROVAL

Nominal diameter	DN	mm	50	65	80	100	125	150
EC			D 92 / 6.132.33	D 92 / 6.132.33	D 02 / 6.132.42	D 02 / 6.132.42	D 02 / 6.132.42	D 02 / 6.132.43
National			-	-	-	-	-	-
Metrological class			B•H	B•H	B	B	B	B
MID (DE-13-MI001-PTB005)			•	•	•	•	•	-
Dynamic range (Q <sub>3</sub> /Q <sub>1</sub> )	R*		63•H	100•H	100	100	100	-

Nominal diameter	DN	mm	200	250	300	400	500
EC			D 02 / 6.132.43	-	-	-	-
National			-	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 <sub>3</sub> /Q <sub>1</sub> )	R*		-	-	-	-	-

\* Standard dynamic other dynamics on request

## DIMENSIONS



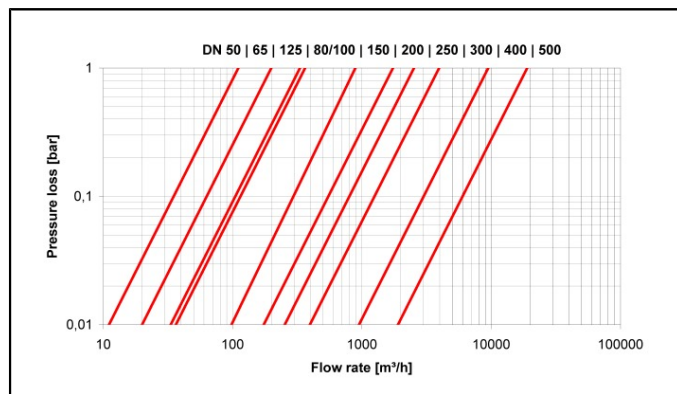
Nominal diameter	DN	mm	50	65	80	100	125	150
Overall length	L	mm	200 / 300 <sup>1</sup>	200	200 <sup>1</sup> / 225 / 350 <sup>1</sup>	250 / 350 <sup>1</sup>	250	300
Flange diameter	D	mm	165	185	200	220	250	285
Hole circle diameter PN 10 / PN 16	K	mm	- / 125	- / 145	160 / 160	- / 180	- / 210	- / 240
Number 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	16	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	

<sup>1</sup>: Special body lengths on request

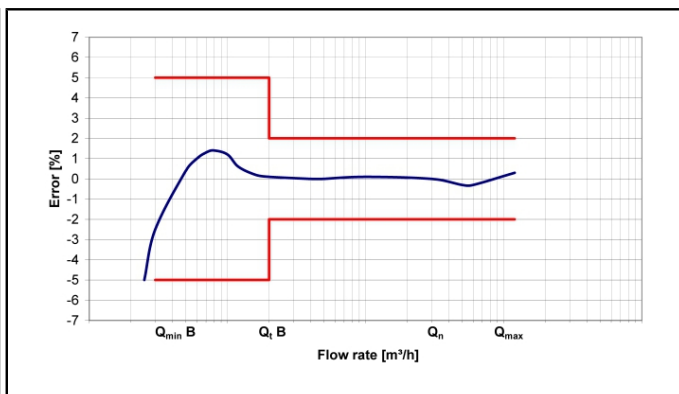
## SPECIAL VERSIONS

- 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
- Special overall length on request

## PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph