

# WESAN WS

BULK WATER METER | WOLTMAN

**DIEHL**  
Metering



## APPLICATION

For measuring of fluctuating flows in the utility sector.

## FEATURES

- ▶ For horizontal installation
- ▶ Outstanding long-term accuracy even under extreme loads
- ▶ Extended measuring range better than metrological class
- ▶ Complete head unit with counter and sensors can be rotated by 350° for easier reading
- ▶ Encapsulated counter of glass/copper IP 68
- ▶ Integrated measurement outputs as standard
- ▶ Sensors for remote readout (digital) and flow measurement (analogue) can be retrofitted on site without affecting calibration

# WESAN WS

## BULK WATER METER | WOLTMAN

### GENERAL

WESAN WS 233		
Medium temperature range	°C	0 ... 30
Temperature safety	°C	0 ... 50
Ambient operating temperature	°C	0 ... 55
Ambient storage temperature	°C	0 ... 55
Mounting position	Only horizontal	
Nominal pressure	PN bar	16*
Protection class	IP 68	

\* See also special versions.

### TECHNICAL DATA

Nominal diameter	DN	mm	50	65	80	100	150
Permanent flow rate	Q <sub>3</sub>	m <sup>3</sup> /h	25	40	63	100	250
Transitional flow rate	Q <sub>2</sub>	m <sup>3</sup> /h	1	1.6	2.52	4	10
Minimum flow rate	Q <sub>1</sub>	m <sup>3</sup> /h	0.63	1	1.58	2.5	6.25
Overload flow rate	Q <sub>4</sub>	m <sup>3</sup> /h	31.25	50	78.75	125	312.5
Nominal flow rate (DIN ISO 4064)	Q <sub>n</sub>	m <sup>3</sup> /h	15	25	40	60	150
Minimum flow rate	Q <sub>min</sub>	m <sup>3</sup> /h	0.2	0.2	0.25	0.3	0.8
Transition flow rate	Q <sub>t</sub>	m <sup>3</sup> /h	1	1.2	1.5	1.5	5
Maximum flow rate (short-term)	Q <sub>max</sub>	m <sup>3</sup> /h	50	50	110	180	350
Starting flow rate		l/h	60	60	90	90	150
Flow rate at 0.1 bar pressure loss		m <sup>3</sup> /h	13	20	32	63	125
Pressure loss at Q <sub>3</sub>		bar	0.4	0.4	0.4	0.25	0.4

### PULSE OUTPUTS

Nominal diameter	DN	mm	50	65	80	100	150
Reed switch 570* - pulse value 1		l/pulse	100	100	100	100	1000
Reed switch 570* - pulse value 2		l/pulse	1000	1000	1000	1000	10000
Special pulse value		l/pulse	2.5 / 5 / 10 / 25 / 50	2.5 / 5 / 10 / 25 / 50	2.5 / 5 / 10 / 25 / 50	2.5 / 5 / 10 / 25 / 50	25 / 50 / 100 / 250 / 500
IR pulse transmitter 573*		l/pulse	1	1	1	1	10

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

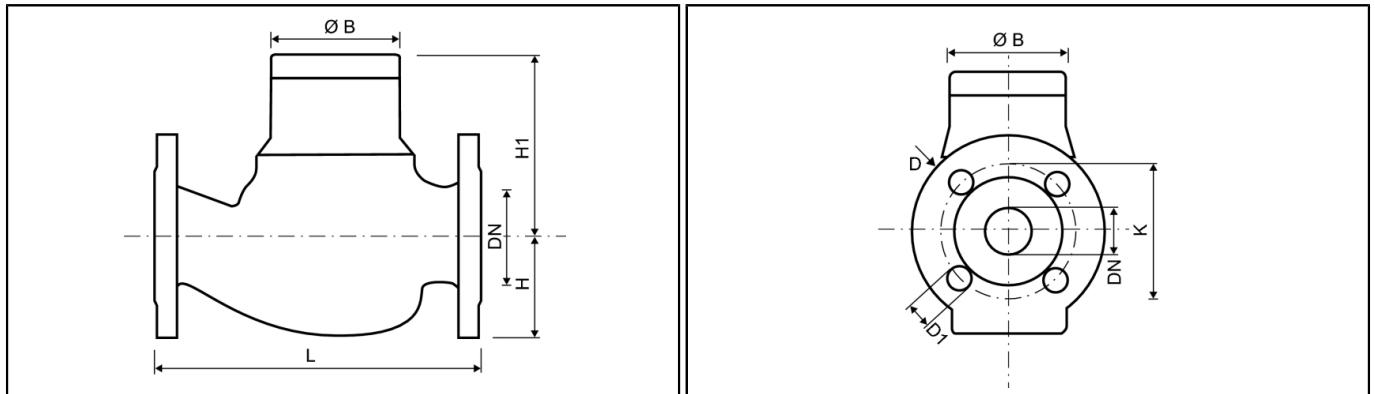
### DISPLAY RANGE

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

### APPROVAL

Nominal diameter	DN	mm	50	65	80	100	150
EC			D 95 / 6.132.37	D 95 / 6.132.37	D 95 / 6.132.37	D 95 / 6.132.37	D 86 / 6.132.21
Metrological class			B•H	B•H	B•H	B•H	B•H
MID (A 0445/3505/2011)			•	•	•	•	•
Dynamic range (Q <sub>3</sub> /Q <sub>1</sub> )	R		40•H	40•H	40•H	40•H	40•H

## DIMENSIONS

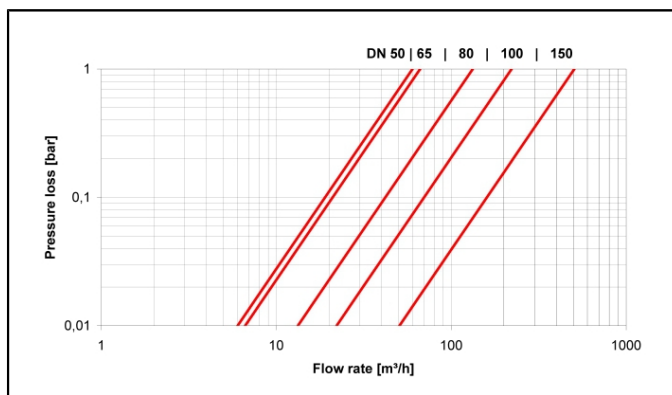


Nominal diameter	DN	mm	50	65	80	100	150
Overall length (DIN 19625)	L	mm	270	300	300	360	430 / 500
Overall length (DIN ISO 4064)	L	mm	300	300	350	350	500
Flange diameter	D	mm	165	185	200	220	285
Hole circle diameter	K	mm	125	145	160	180	240
Number of screwholes		pcs	4	4	4 / 8	8	8
Screw hole diameter	D1	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

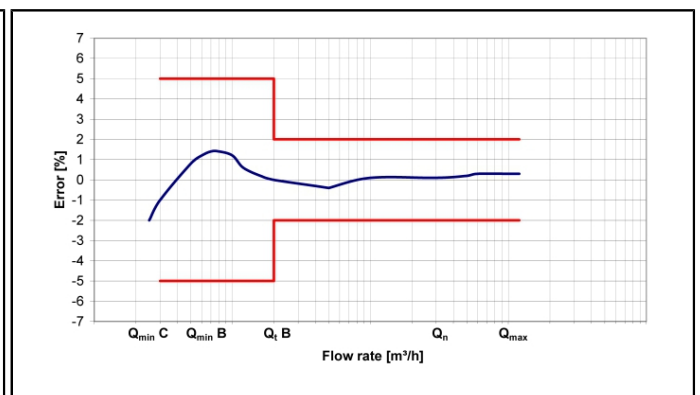
## SPECIAL VERSIONS

- Versions with different nominal pressure on request
- Flange for ANSI and BS 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