# Счетчики воды Вольтмана турбинные WSD

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# WSD

## Woltman meter with impeller axis arranged vertically to the flow direction

The WSD bulk water meter is used to record high and greatly varying flows in drinking water distribution and industrial applications.
The meter is equipped with a 6-roller dry dial register (IP68) and a modulator disc. This enables electronic, reaction-free scanning and is the basis for remote reading of the meter data via radio with LoRaWAN® or wM-Bus. A combined M-Bus / pulse module is also possible.
A mechanical pulser can also be connected in parallel.

### Performance characteristics at a glance

- Woltman vertical type
- For horizontal installation
- All materials, which are used in the drinking water section, comply with the required standards, guidelines and the current German drinking water approval (other country-specific drinking water approvals on request)
- Replaceable MID-compliant metrological unit
- Highest precision and reliability even in case of low flow rates
- Flood-proof (IP68) hermetically sealed glass/copper register
- Low starting flow and high overload security
- Wide mesuring range, low pressure loss
- Hydraulic bearing relieve
- Long-term measuring stability
- No straight inlet or outlet needed (U0/D0) according to OIML R49 and DIN EN ISO 4064
- Prepared for remote reading
- Register rotatable 355 °
- Operating pressure MAP 16
- Approved in accordance with MID and OIML

### Applications

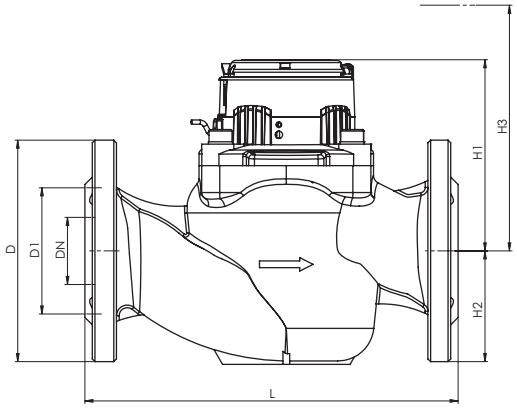
- For the consumption measurement of cold and clean drinking water or service water up to 50 °C
- For measuring high flow rate

### AMR options

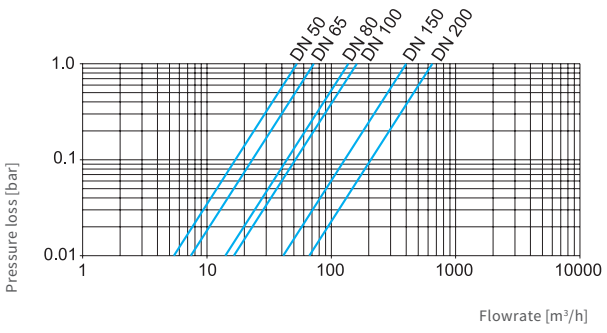
- Can be retrofitted with a mechanical pulser
- Can be combined with stationary GSM system
- Retrofittable with EDC module (Electronic Data Capture):
  - EDC- LPWAN radio module (868 MHz) for LoRaWAN®
  - EDC- wireless M-Bus radio module (868 MHz)
  - EDC-combined M-Bus and pulse module

| Technical data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Nominal diameter | DN | mm | 50 | 50 | 65 | 80 | 80 | 100 | 150 | 200 |
| Permanent Flowrate | $Q_3$ | $m^3/h$ | 25 | 40 | 40 | 63 | 63 | 100 | 250 | 400 |
| Attainable measuring range | $Q_3/Q_1$ | R | 200H | 200H | 200H | 200H | 200H | 200H | 200H | 200H |
| Standard measuring range[1] | $Q_3/Q_1$ | R | 160H | 160H | 160H | 160H | 160H | 160H | 160H | 160H |
| Overload Flowrate | $Q_4$ | $m^3/h$ | 31,25 | 50 | 50 | 78,75 | 78,75 | 125 | 312,5 | 500 |
| Minimum flowrate[2] | $Q_1$ | $m^3/h$ | 0,156 | 0,25 | 0,25 | 0,394 | 0,394 | 0,625 | 1,563 | 2,5 |
| Transitional Flowrate[2] | $Q_2$ | $m^3/h$ | 0,25 | 0,4 | 0,4 | 0,63 | 0,63 | 1,0 | 2,5 | 4,0 |
| Start-up flow rate | - | l/h | 50 | 50 | 65 | 100 | 100 | 110 | 250 | 450 |
| Display range | min. | l | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 5 | 5 |
| | max. | $m^3$ | 999.999 | 999.999 | 999.999 | 999.999 | 999.999 | 999.999 | 999.999 x10 | 999.999 x10 |
| Temperature range | - | °C | 0,1 - 50 | 0,1 - 50 | 0,1 - 50 | 0,1 - 50 | 0,1 - 50 | 0,1 - 50 | 0,1 - 50 | 0,1 - 50 |
| Operating pressure | MAP | bar | 0,3 - 16 | 0,3 - 16 | 0,3 - 16 | 0,3 - 16 | 0,3 - 10 | 0,3 - 16 | 0,3 - 16 | 0,3 - 16 |
| Pulse value Reed | - | l/pulse | 100 | 100 | 100 | 100 | 100 | 100 | 1000 | 1000 |
| Pulse value modulator disc | - | l/pulse | 10 | 10 | 10 | 10 | 10 | 10 | 100 | 100 |
| Pressure loss class at $Q_3$ | Δp | bar | 0,25 | 0,63 | 0,63 | 0,63 | 0,63 | 0,63 | 0,63 | 0,63 |
| Mechanical environmental condition | - | - | M2 | M2 | M2 | M2 | M2 | M2 | M2 | M2 |
| Climatic ambient conditions[4] | - | °C | 5 - 55 | 5 - 55 | 5 - 55 | 5 - 55 | 5 - 55 | 5 - 55 | 5 - 55 | 5 - 55 |
| Flow profile sensitivity | - | - | U0/D0 | U0/D0 | U0/D0 | U0/D0 | U0/D0 | U0/D0 | U0/D0 | U0/D0 |
| **Dimensions and weights:** | | | | | | | | | | |
| Nominal diameter | DN | mm | 50 | 50 | 65 | 80 | 80 | 100 | 150 | 200 |
| Overall length[1] | L | mm | 200/270/300 | 200/270/300 | 300 | 225/300/350 | 300 | 250/350/360 | 500 | 500 |
| Height | H1 | mm | 143 | 143 | 143 | 190 | 190 | 195 | 270 | 351 |
| Height | H2 | mm | 85 | 85 | 95 | 102 | 102 | 114 | 146 | 174 |
| Total height approx.[3] | H1+H2 | mm | 228 | 228 | 238 | 292 | 292 | 309 | 416 | 525 |
| Installation height of the measuring unit | H3 | mm | 270 | 270 | 270 | 370 | 370 | 382 | 557 | 743 |
| Flange diameter | D | mm | 165 | 165 | 185 | 200 | 200 | 220 | 285 | 340 |
| Bolt circle diameter | D1 | mm | 125 | 125 | 145 | 160 | 160 | 180 | 240 | 295 |
| Number of bolts | - | pcs. | 4 | 4 | 4 | 8 | 4 | 8 | 8 | 12 |
| Screw size | - | mm | M16 | M16 | M16 | M16 | M16 | M16 | M20 | M20 |
| Bolt diameter | - | mm | 19 | 19 | 19 | 19 | 19 | 19 | 23 | 23 |
| Weight approx. | | kg | 11/13/13 | 11/13/13 | 18 | 19/21/22 | 21 | 20/24/24 | 58 | 94 |

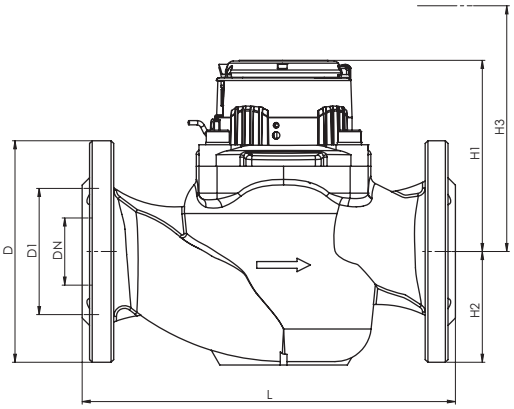
[1] Other measuring ranges and overall lengths on request
[2] Values refer to standard measuring range
[3] Total height WSDE + 20 mm
[4] Condensation possible
Flange according to ISO 7005-2. Other flanges on request
Attention: not all versions are available in all markets

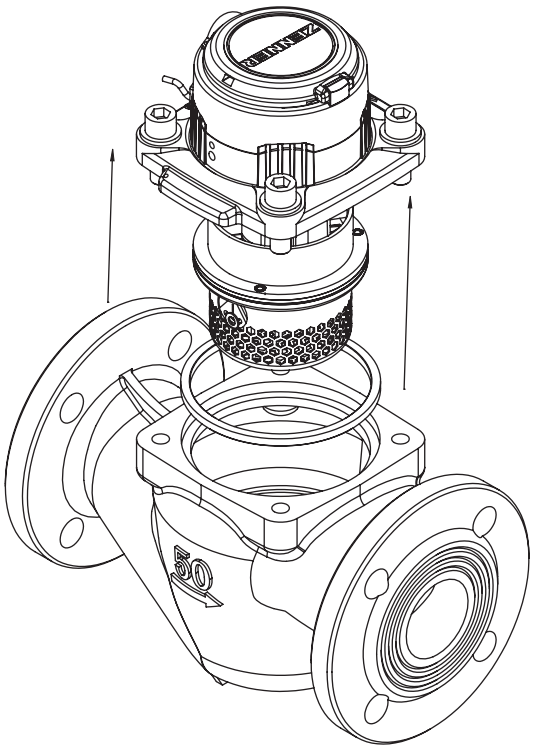


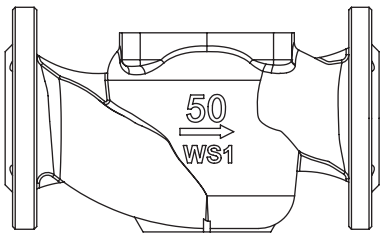

Dimensions

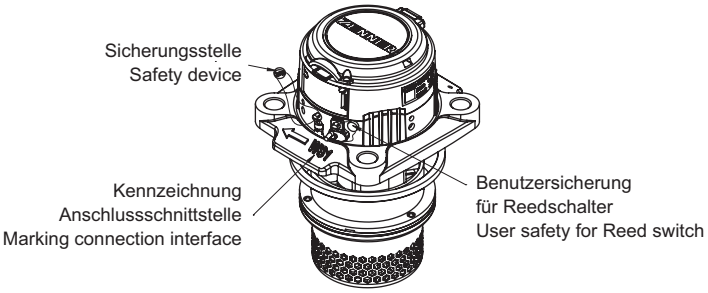


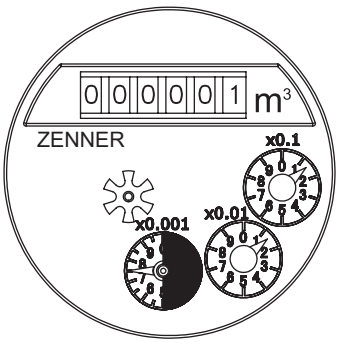

Pressure loss curve



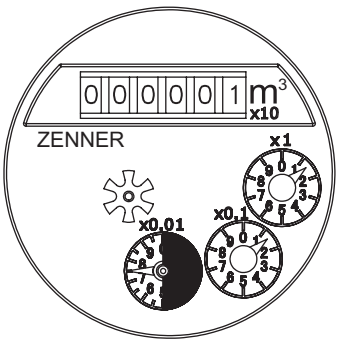



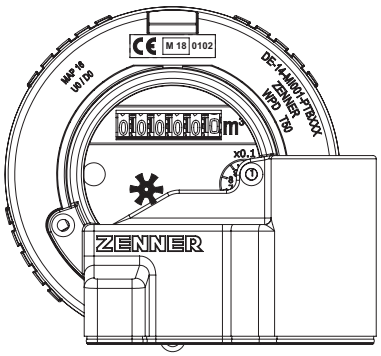




DN50-100




DN150-200



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