# WPD / WPHD PTFE

**Bulk water meter with PTFE (Teflon) internal and external coating for industrial application with aggressive water**

Water meters are provided by default for the use of the medium drinking water. According to the Drinking Water regulation, the pH value must not have below 6.5 and not above 9.5.

If aggressive water is used (the pH value alone can not determine the aggressiveness of the water) then, all metal parts that come into contact with the medium must be protected to prevent them from corrosion.

We have decided to use PTFE coating in this area of application because of its excellent properties.


M-Bus M-Bus wireless LoRaWAN sigfox

## Performance characteristics in overview

- Cast Iron body (GGG) inside and outside PTFE coated
- IP68 Certified glass/copper register
- Low starting flow and high overload security
- Wide mesuring range, low pressure loss
- Hydraulic bearing relieve
- Long term measuring stability
- Swirl-reducing inlet
- No straight inlet or outlet needed (U0/D0) according to OIML R49 and DIN EN 14154 or DIN EN ISO 4064
- For horizontal and vertical installation
- Approved in accordance with MID and OIML

## AMR options

- Retrofittable with reed pulser
- Can be combined with stationary GSM system
- Serially equipped with communication interface for:
  - Electronic pulser
  - Wired M-Bus
  - Wireless M-Bus radio technology according to OMS
  - Radio via LPWAN (LoRaWAN™, SIGFOX)

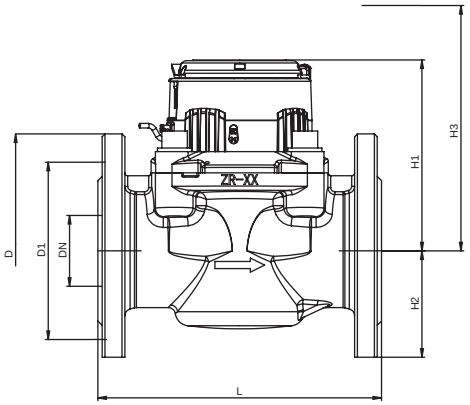
## Applications

- Completely desalinated water
- Demineralized water
- Deionized water
- Distilled water
- Decarbonated water
- Soft water
- Osmosis water
- Mineral water
- Ultrapure water
- For measuring the high flow
- For cold water up to 50 °C

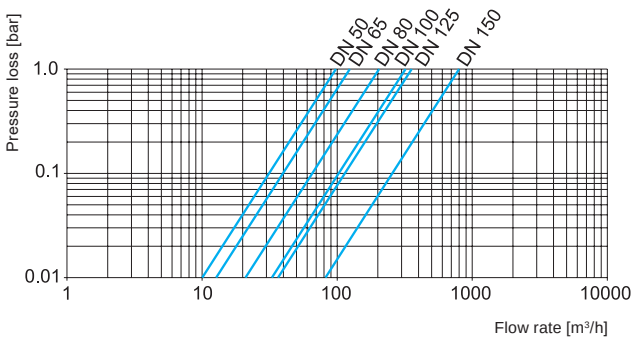
ZENNER
Alles, was zählt.

| Technical data WPD PTFE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Nominal diameter | DN | mm | 50 | 50 | 65 | 80 | 100 | 125 | 150 |
| Permanent Flowrate | $Q_3$ | m³/h | 25 | 40 | 40 | 63 | 100 | 100 | 250 |
| Attainable measuring range | $Q_3/Q_1$ | R | R125H50V | R200H80V | R200H80V | R200H80V | R315H200V | R315H200V | R315H200V |
| Standard measuring range [1] | $Q_3/Q_1$ | R | R100H50V | R100H63V | R100H63V | R100H63V | R100H63V | R100H63V | R100H63V |
| Overload Flowrate | $Q_4$ | m³/h | 31.25 | 50 | 50 | 78.75 | 125 | 125 | 312,5 |
| Minimum flow [2] | $Q_1$ | m³/h | 0.25/0.5 | 0.4/0.63 | 0.4/0.64 | 0.63/1.01 | 1.0/1.59 | 1.0/1.60 | 2.5/3.97 |
| Transitional Flowrate [2] | $Q_2$ | m³/h | 0.4/0.8 | 0.64/1.02 | 0.64/1.03 | 1.01/1.61 | 1.6/2.54 | 1.6/2.55 | 4.0/6.35 |
| Start-up flow rate | - | l/h | 65 | 65 | 65 | 110 | 150 | 150 | 350 |
| Display range | min. | l | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 5 |
| | max | m³ | 999.999 | 999.999 | 999.999 | 999.999 | 999.999 | 999.999 | 9999999 |
| Temperature range | - | °C | 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 - 16 | 0.3 - 16 | 0.3 - 16 |
| Pulse value | - | l/pulse | 100 | 100 | 100 | 100 | 100 | 100 | 1000 |
| Pulse value | - | l/pulse | 10 | 10 | 10 | 10 | 10 | 10 | 100 |
| Pressure loss class | Δp | | 0.1 | 0.19 | 0.12 | 0.1 | 0.11 | 0.12 | 0.1 |
| Mechanical environmental condition | - | - | M2 | M2 | M2 | M2 | M2 | M2 | M2 |
| Climatic condition [4] | - | °C | 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 |
| **Weight and dimensions:** | | | | | | | | | |
| Nominal diameter | DN | mm | 50 | 50 | 65 | 80 | 100 | 125 | 150 |
| Overall length [1] | L | mm | 200 | 200 | 200 | 225 | 250 | 250 | 300 |
| Height | H1 | mm | 135 | 135 | 135 | 143 | 152 | 152 | 183 |
| Height | H2 | mm | 75 | 75 | 85 | 95 | 105 | 115 | 135 |
| Total height approx. [3] | H1+H2 | mm | 210 | 210 | 220 | 238 | 257 | 267 | 318 |
| Installation height of the measuring unit | H3 | mm | 230 | 230 | 230 | 256 | 266 | 266 | 373 |
| Flange diameter | D | mm | 165 | 165 | 185 | 200 | 220 | 250 | 285 |
| Bolt circle diameter | D1 | mm | 125 | 125 | 145 | 160 | 180 | 210 | 240 |
| Number of bolts | - | pcs. | 4 | 4 | 4 | 8 | 8 | 8 | 8 |
| Screw size | - | mm | M16 | M16 | M16 | M16 | M16 | M16 | M20 |
| Bolt diameter | - | mm | 19 | 19 | 19 | 19 | 19 | 19 | 23 |
| Weight ca. | - | kg | 10.5 | 10.5 | 11.8 | 13.4 | 16.9 | 20.1 | 31.5 |

[1] Other measuring ranges (R) on request
[2] The data refer to the standard measuring range
[3] Total height WPDE PTFE /WPHDE PTFE + 24mm
[4] Condensation possible
Attention: not all versions are available in all markets



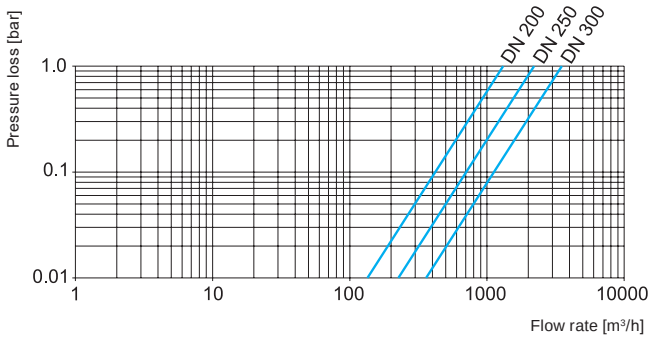
Dimensions WPD PTFE / WPHD PTFE



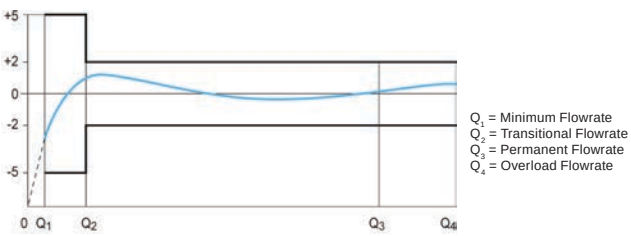
Typical pressure loss curve WPD PTFE

| Technical data WPHD PTFE | | | | | |
|---|---|---|---|---|---|
| Nominal diameter | DN | mm | 200 | 250[5] | 300[5] |
| Permanent Flowrate | $Q_3$ | m³/h | 400 | 630 | 1000 |
| Attainable measuring range | $Q_3/Q_1$ | R | R160H125V | R160H125V | R160H125V |
| Standard measuring range [1] | $Q_3/Q_1$ | R | R100H63V | R100H63V | R100H63V |
| Overload Flowrate | $Q_4$ | m³/h | 500 | 787 | 1250 |
| Minimum flow [2] | $Q_1$ | m³/h | 4.0/6.35 | 6.3/10.0 | 10.0/15.87 |
| Transitional Flowrate [2] | $Q_2$ | m³/h | 6.4/10.16 | 10.08/16.0 | 16.0/25.4 |
| Start-up flow rate | - | l/h | 2000 | 2000 | 2000 |
| Display range | min. | l | 5 | 5 | 5 |
| | max | m³ | 9.999.999 | 9.999.999 | 9.999.999 |
| Temperature range | - | °C | 0.1 - 50 | 0.1 - 50 | 0.1 - 50 |
| Operating pressure | MAP | bar | 0.3 - 16 | 0.3 - 16 | 0.3 - 16 |
| Pulse value Reed | - | l/pulse | 1000 | 1000 | 1000 |
| Pulse value modulator disc | - | l/pulse | 100 | 100 | 100 |
| Pressure loss class | Δp | | 0.09 | 0.08 | 0.08 |
| Mechanical environmental condition | - | - | M2 | M2 | M2 |
| Climatic condition [4] | - | °C | 5 - 55 | 5 - 55 | 5 - 55 |
| Flow profile sensitivity | - | - | U0/D0 | U0/D0 | U0/D0 |
| **Weight and dimensions:** | | | | | |
| Nominal diameter | DN | mm | 200 | 250 | 300 |
| Overall length [1] | L | mm | 350 | 450 | 500 |
| Height | H1 | mm | 215 | 267 | 250 |
| Height | H2 | mm | 160 | 193 | 220 |
| Total height approx. [3] | H1+H2 | mm | 375 | 460 | 470 |
| Installation height of the measuring unit | H3 | mm | 460 | 460 | 470 |
| Flange diameter | D | mm | 340 | 405 | 460 |
| Bolt circle diameter | D1 | mm | 295 | 355 | 410 |
| Number of bolts | - | pcs. | 12 | 12 | 12 |
| Screw size | - | mm | M20 | M24 | M24 |
| Bolt diameter | - | mm | 23 | 28 | 28 |
| Weight ca. | - | kg | 49 | 68 | 105 |

[1] Other measuring ranges (R) on request
[2] The data refer to the standard measuring range
[3] Total height WPDE PTFE /WPHDE PTFE + 24mm
[4] Condensation possible
[5] Factory tested version
Attention: not all versions are available in all markets

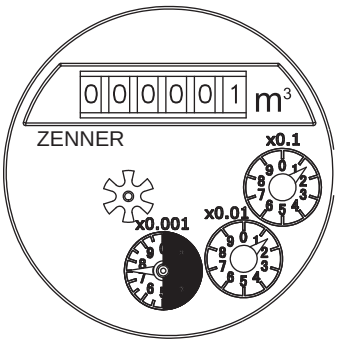



Typical pressure loss curve WPHD PTFE

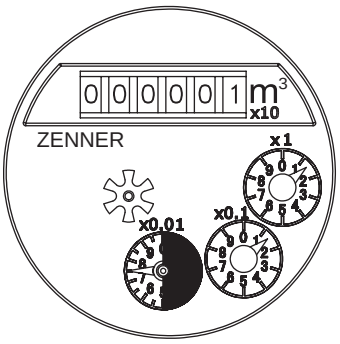



Typical pressure loss curve

# Variants of the register




DN 50 -125




DN 150 - 300

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