



# WPDH BMF

Woltman meter



## Your benefits

- Robust, high grade wear resistant materials:  
**Excellent measuring stability and reliability**
- Removable measuring insert:  
**Retrofittability and replaceability guaranteed**

## Applications

- Measurement of high, relatively constant flow rates
- Non-ferrous metal design for measuring of
  - Desalinated / demineralized water
  - Caustic soda up to 20 %
  - Saline water up to 10 %
  - Chlorinated water up to 1 %
  - Glycol-water solutions up to 30 %
  - Caustic solutions up to pH value 9

## Properties

- Non-ferrous metal design
- Universal installation position
- Straight flow section 3xDN
- Register can be turned through 355°
- Maximum operating pressure PN 16 bar
- Temperature up to 130 °C
- Rotor is hydrodynamically balanced
- Symmetrical calibration ring
- Powder coating provides optimum corrosion protection
- Flood proof standard pulser register (IP68) with ports for two Reed-RD-Pulsers and one Opto-OD-Pulser

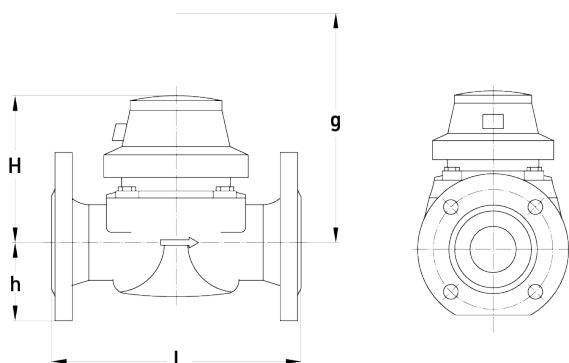
## Technical Data

| Execution                     |                  |                        | WPDH |     |      |     |     |     |     |
|-------------------------------|------------------|------------------------|------|-----|------|-----|-----|-----|-----|
| Nominal diameter              | DN               | mm                     | 50   | 65  | 80   | 100 | 125 | 150 | 200 |
| Operating pressure            | PN               | bar                    | 16   | 16  | 16   | 16  | 16  | 16  | 16  |
| Nominal flow rate             | Q <sub>n</sub>   | m <sup>3</sup> /h      | 15   | 25  | 45   | 70  | 100 | 150 | 250 |
| Overload flow rate (1 x 24 h) | Q <sub>max</sub> | m <sup>3</sup> /h      | 30   | 60  | 90   | 140 | 200 | 300 | 500 |
| Transitional flow rate ± 3 %  | Q <sub>t</sub>   | m <sup>3</sup> /h      | 1,8  | 2,0 | 3,2  | 4,8 | 8   | 12  | 20  |
| Minimum flow rate ± 5 %       | Q <sub>min</sub> | m <sup>3</sup> /h      | 0,6  | 1,0 | 1,4  | 2,0 | 3,5 | 4,5 | 8   |
| Starting flow                 |                  | app. m <sup>3</sup> /h | 0,25 | 0,3 | 0,35 | 0,6 | 1,1 | 1,7 | 2   |
| Temperature                   |                  | max. °C                | 130  | 130 | 130  | 130 | 130 | 130 | 130 |

| Dimensions and weights               |   |         | WPDH |     |     |     |      |      |      |
|--------------------------------------|---|---------|------|-----|-----|-----|------|------|------|
| Length                               | L | mm      | 200  | 200 | 225 | 250 | 250  | 300  | 350  |
| Height                               | H | mm      | 120  | 120 | 150 | 150 | 160  | 177  | 206  |
| Height                               | h | mm      | 73   | 85  | 95  | 105 | 118  | 135  | 162  |
| Dismantling height of measuring unit | g | mm      | 200  | 200 | 270 | 270 | 280  | 356  | 441  |
| Meter weight                         |   | app. kg | 7,7  | 10  | 14  | 18  | 20,5 | 35,5 | 50,5 |
| Measuring unit weight                |   | app. kg | 1,4  | 1,4 | 3   | 3   | 3    | 5,5  | 7,5  |
| Body weight                          |   | app. kg | 6,3  | 8,6 | 11  | 15  | 17,5 | 30   | 43   |

| PTB approval                  |                  |                   | WPDH |      |     |     |     |      |      |
|-------------------------------|------------------|-------------------|------|------|-----|-----|-----|------|------|
| Nominal flow rate             | Q <sub>n</sub>   | m <sup>3</sup> /h | 15   | 25   | 40  | 60  | 100 | 150  | 250  |
| Overload flow rate (1 x 24 h) | Q <sub>max</sub> | m <sup>3</sup> /h | 30   | 50   | 80  | 120 | 200 | 300  | 500  |
| Transitional flow rate ± 3 %  | Q <sub>t</sub>   | m <sup>3</sup> /h | 2,25 | 3,75 | 6   | 9   | 15  | 22,5 | 37,5 |
| Minimum flow rate ± 5 %       | Q <sub>min</sub> | m <sup>3</sup> /h | 0,6  | 1,0  | 1,6 | 2,4 | 4   | 6    | 10   |
| Metrological class            |                  |                   | B    | B    | B   | B   | B   | B    | B    |

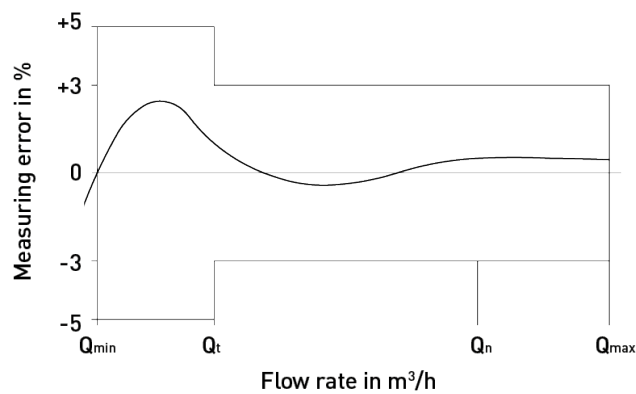
## Dimension Diagram



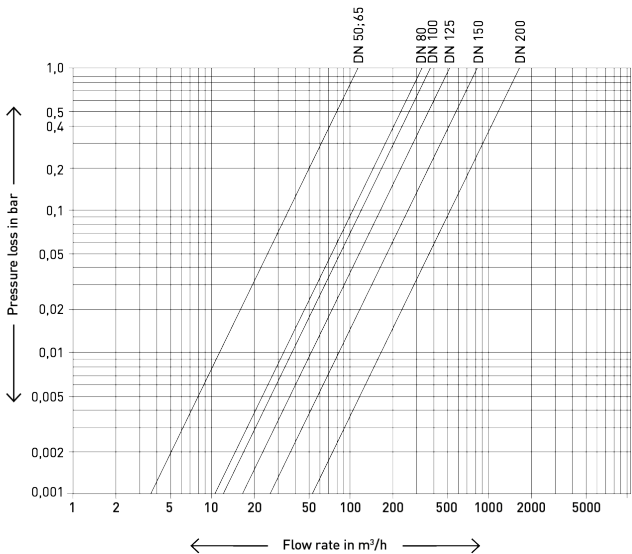
## Materials

|                 |                           |
|-----------------|---------------------------|
| Body            | Cast iron                 |
| Measuring unit  | Plastic                   |
| Rotor           | Plastic                   |
| Other materials | Brass / Non-rusting steel |

## Measuring error curve



## Typical Head Loss Curve



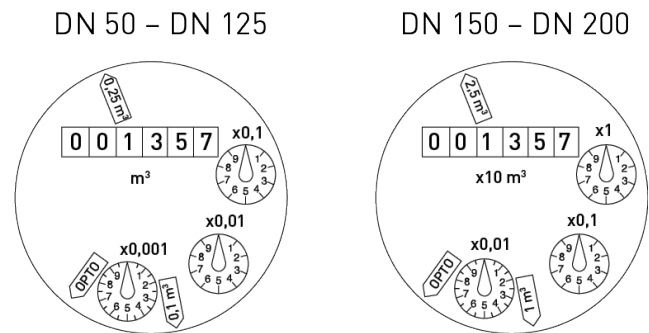
## Installation

|             |            |   |
|-------------|------------|---|
| Pipeline:   | horizontal | — |
|             | vertical   |   |
|             | diagonal   | ↗ |
| Meter head: | upwards    | ↕ |
|             | sideways   | ↔ |

## Installation requirements

3xDN straight pipe upstream of the meter. No abrupt restrictions directly downstream of the meter.

## Dial



|                          |                |           |            |
|--------------------------|----------------|-----------|------------|
| Nominal diameter         | DN             | 50–125    | 150–200    |
| Smallest reading         | m <sup>3</sup> | 0,0005    | 0,005      |
| Maximum register reading | m <sup>3</sup> | 1'000'000 | 10'000'000 |

## Pulse value table

| Pulse generator | Register type | DN 50...125<br>1 Pulse = ...m <sup>3</sup> | DN 150...200<br>1 Pulse = ...m <sup>3</sup> |
|-----------------|---------------|--------------------------------------------|---------------------------------------------|
| Reed RD 02      | 4/10          | 0,25 and 0,1                               | 2,5 and 1                                   |
|                 | 4/40          | 0,25 and 0,025                             | 2,5 and 0,25                                |
| Opto OD 02      | 4/10, 4/40    | 0,001                                      | 0,01                                        |
| Opto OD 04      | 4/10, 4/40    | 0,01                                       | 0,1                                         |