

## Propeller water meters

# MWN HORIZONTAL ROTOR AXIS PROPELLER WATER METER (WOLTMAN) DN50 MWN50-GH, MWN50-G

### DESCRIPTION

MWN50-GH IP68/MWN50-G IP65\* are screw-type, dry-running water meters of the Woltman type, with a horizontal rotor axis parallel to the water supply pipe at the installation site. Thanks to continuous development work, these water meters are characterized by modern design and technological solutions, thus demonstrating high operational durability and resistance to strong magnetic fields. The water meters are designed to work with optical or inductive communication overlays, which enable remote wired or wireless reading of the readings. The water meters are made based on the MID Directive in accordance with the EN 14154, ISO 4064 and OIML R49 standards, in the measurement range up to R100.

\*On request, the MWN50-G IP65 water meter can be made with IP68 protection level



### APPLICATION

Water meters with threaded connections are intended for use in temperature cold water distribution networks up to 50°C, with low pressure losses for relatively constant and large volume flows. Maximum allowable working pressure is 16 bar. The design of the water meter allows it to be installed in horizontal water supply systems with a counterdirected upwards (H) or sideways (H), and vertically (V), or in intermediate positions H-V. MWN50-GH water meter is used and is mounted on above-ground hydrants using a base. Thanks to using rotating counter, possible to easily read the readings directly from the water meter dial in various mounting positions. IP68 water meters are perfect for operation in difficult environmental conditions, being as standard adapted to the installation of universal inductive communication modules with #UTIP (Universal TI Plug) connector. However, IP65 water meters can work with both optical and as well inductive communication modules.

### REGULATORY AND STANDARDS COMPLIANCE

- Directive 2014/32/EC of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments
- Polish Act of 13/04/2016 on market surveillance and compliance assessment systems
- OIML R 49-1:2006 - Water meters intended for the metering of cold potable water and hot water. Part 1: Metrological and technical requirements
- OIML R 49-2:2004 - Water meters intended for the metering of cold potable water and hot water. Part 2: Test methods
- OIML R 49-2:2013 - Water meters intended for the metering of cold potable water and hot water. Part 2: Test methods
- OIML R 49-3:2013 - Water meters intended for the metering of cold potable water and hot water. Part 3: Test report format
- EN 14154-1:2005+A2:2011 - Water meters. Part 1: General requirements
- EN 14154-2:2005+A2:2011 - Water meters. Part 2: Installation and conditions of use
- EN 14154-3:2005+A2:2011 - Water meters. Part 3: Test methods and equipment
- EN ISO 4064-1:2017 - Water meters for cold potable water and hot water. Part 1: Metrological and technical requirements 5
- EN ISO 4064-2:2017 - Water meters for cold potable water and hot water. Part 2: Test methods
- EN ISO 4064-5:2017 - Water meters for cold potable water and hot water. Part 5: Installation requirements
- EU Type test certificate - Cold water, no. SK08-MI001-SMU002
- Classification of environmental climate and mechanical conditions: Class B (ref. EN-ISO 4064-1:2014 E)
- Classification of mechanical environmental conditions: class M1, as per Directive 2014/32/EC of the European Parliament and of the Council of 26 February 2014
- Classification of electromagnetic environmental conditions: class E1 and E2, per EN-ISO 4064:2014 and Directive 2014/32/EC of the European Parliament and of the Council of 26 February 2014

## FEATURES AND ADVANTAGES

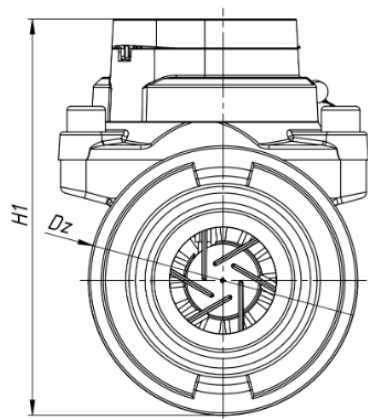
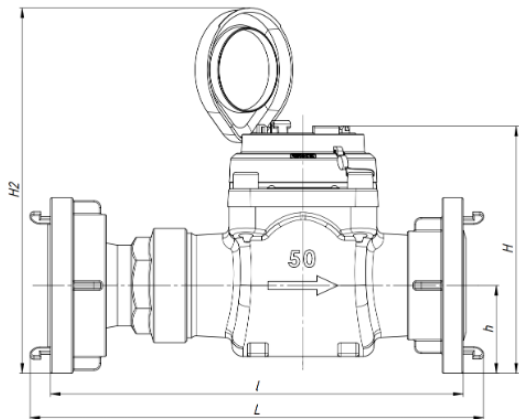
| Parameter                                                 |               |                    | MWN50-GH-08 (IP68);<br>MWN50-G (IP65)*<br>MWN-G-NK**                                                            |
|-----------------------------------------------------------|---------------|--------------------|-----------------------------------------------------------------------------------------------------------------|
| Nominal diameter                                          | DN            | mm                 | 50                                                                                                              |
| Temperature loss (operating temperature range)            | -             |                    | T30, T50                                                                                                        |
| Permanent flow rate                                       | $Q_3$         | m <sup>3</sup> /h  | 40                                                                                                              |
| Overload flow rate                                        | $Q_4$         | m <sup>3</sup> /h  | 50                                                                                                              |
| Transitional flow rate                                    | $Q_2$         | m <sup>3</sup> /h  | 0,64                                                                                                            |
| Minimum flow rate                                         | $Q_1$         | m <sup>3</sup> /h  | 0,4                                                                                                             |
| Starting flow                                             | -             | m <sup>3</sup> /h  | 0,15                                                                                                            |
| Measurement range, R                                      | $Q_3/Q_1$     | -                  | 100                                                                                                             |
| Coefficient                                               | $Q_2/Q_1$     | -                  | 1,6                                                                                                             |
| Connection ends                                           | -             | -                  | G - threaded                                                                                                    |
| Maximum pressure loss                                     | -             | -                  | UO, DO                                                                                                          |
| Flow profile sensitivity class                            | -             | m <sup>3</sup>     | 10 <sup>6</sup>                                                                                                 |
| Indicating range                                          | -             | m <sup>3</sup>     | 0,0005                                                                                                          |
| Resolution of reading                                     | $P_{max}$     | -                  | MAP16=(16 bar)                                                                                                  |
| Maximum allowable pressure                                | -             | bar                | From 0,3 to 16                                                                                                  |
| Operating pressure range                                  | $\Delta p$    | kPa                | 16                                                                                                              |
| Operating orientation                                     | -             | -                  | H, V                                                                                                            |
| Maximum permissible error range:<br>$Q_2 \leq Q \leq Q_4$ | $\varepsilon$ | %                  | $\pm 2$ fro $0,1^\circ\text{C} \leq T \leq 30^\circ\text{C}$ cold water<br>$\pm 3$ $T > 30^\circ\text{C}$ water |
| Maximum permissible error range:<br>$Q_1 \leq Q < Q_2$    | $\varepsilon$ | %                  | $\pm 5$                                                                                                         |
| Reed relay pulse transmitter NK (IP65 only)               | -             | dm <sup>3</sup> /h | 100 (standard pulsing)<br>10 (available on request)                                                             |

\*On request, it is possible to make the MWN50-G IP65 water meter with IP68 protection level

\*\*Version XX-NKP water meter adapted to the NK reed switch transmitter with IP65 protection rating

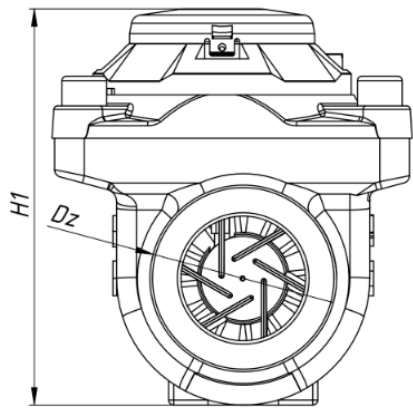
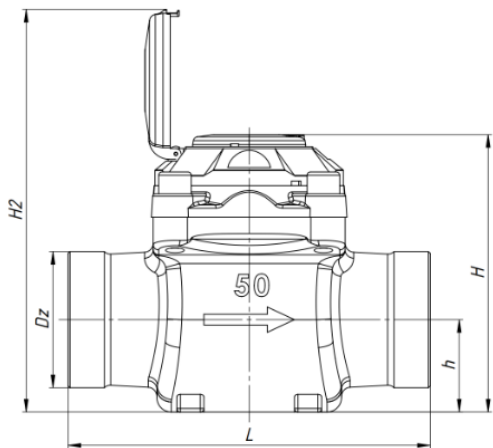
DIMENSIONAL  
DRAWINGS

MWN-GH water meter in IP68 version



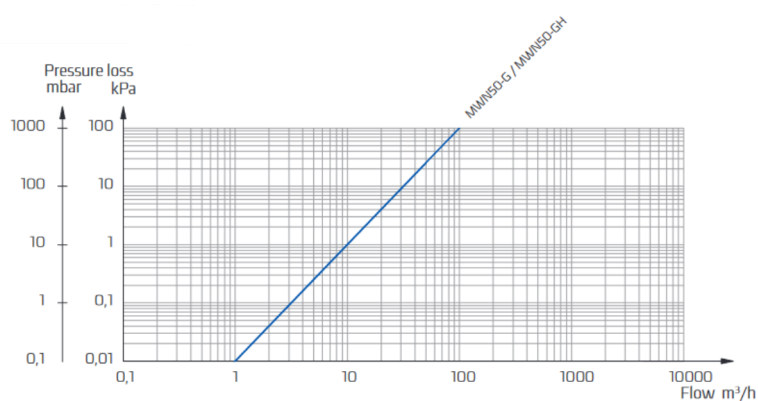
| DN |    |     |
|----|----|-----|
| H  | mm | 177 |
| H1 | mm | 185 |
| H2 | mm | 262 |
| h  | mm | 63  |
| l  | mm | 300 |
| L  | mm | 320 |
| Dz | mm | 126 |

MWN-G water meter in IP65 version

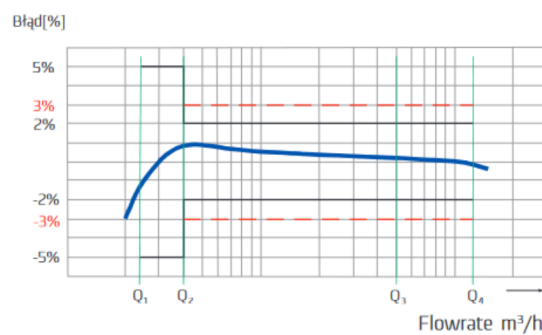


| DN |    |       |
|----|----|-------|
| H  | mm | 154   |
| H1 | mm | 160   |
| H2 | mm | 221,5 |
| h  | mm | 51    |
| L  | mm | 200   |
| Dz | mm | 75,2  |

## PRESSURE LOSS CHART



## TYPICAL ERROR CHART



## CONTACTS

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Your distributor:

The manufacturer reserves the right to change design, technical specifications and accesories without prior notice.

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