

1. **Product description:**
Bulk meter for water up to 50 °C
2. **Applications**
Measurement of cold potable water up to 30 °C for billing applications
Measurement of clean water up to 50 °C
The normal flow rate should differentiate from the changeover flow rates. Frequent crossing of the changeover flow rates can shorten the service life.
During operation a minimum upstream pressure of 0.5 bar must exist. With a lower pressure the safe switching of the valve is not ensured.
3. **Included in the delivery**
1 Water meter; 2 Gaskets; 1 Manual
4. **Technical data**
Refer to the technical data sheet LB 1720 (<http://www.sensus.com>)
5. **Installation instructions**

5.1 **Safety tips**

5.1.1 No mechanical stresses may be exerted on the meter when installed in the pipeline. The pipeline flanges must align with the meter flanges and the distance between the flanges must match the meter body length. Misalignment stresses can cause the meter body or flanges to crack. When the pipeline is under pressure this can cause flooding.

5.1.2 The meter must not be subjected to pressures higher than the pressure rating printed on the meter. Too high pressure can cause leaks or burst the meter body.

5.2 **General instructions**

5.2.1 The WPV-MS may only be installed by a trained and instructed worker. Thereby the recognised standards of good practice have to be respected (We refer to the instructions given in ISO 4064-5:2014).

5.2.2 After the manufacturing process all meters are disinfected. The meters must be stored in a dry, cool, dust and germs free environment. Prior installation the meter must be disinfected again. Make sure that during the installation procedure all hygienic standards and recommendations are respected.

- 5.3 **Installation Tools**
Two spanners for the corresponding size of bolts used are necessary. Hoisting devices may be required, depending on the weight of the meter and the installation conditions.
- 5.4 **Installation instructions**

5.4.1 The WPV-MS acc. to its approval does not need any straight upstream or downstream pipe (U0D0).

5.4.2 The maximum medium temperature shall not exceed 50 °C when in operation and 70 °C at down-time.

5.4.3 The environmental temperature must be within 5 and 70 °C.

5.4.4 After the meter reading the lid shall be always closed. In open-air installations it is recommended to shadow the register.

5.4.5 The meters are classified acc. to 2014/32/EU (MID) in the mechanical environment class M2 (significant or high levels of vibration and shock).

5.4.6 The pipe diameter should not be abruptly reduced or expanded directly upstream or downstream the meter. All diameter changes should be done with an angle <8° related to the pipe centre.

5.4.7 All flow regulating devices (e.g. Valves, PRV's) shall be installed downstream of the meter.

5.4.8 When selecting the installation site, consider the meter orientation (horizontal)!

5.4.9 Gaskets must not protrude into the pipeline or be mis-aligned.

5.4.10 The pipeline must be thoroughly flushed before installing the meter to prevent damage from debris.

5.4.11 The flow direction of the meter (arrow on the meter body) must correspond with the flow direction in the pipeline.

5.4.12 After installation of the meter, the pipeline must be filled with water very slowly to prevent the meter being damaged by surges. In particular with the use of a piston type by-pass meter a moderate rotation speed of the sweep hands (<2/s) has to be maintained. Too fast evacuation will damage the by-pass meter.

5.4.13 The installation site should be selected to prevent air bubbles collecting in the

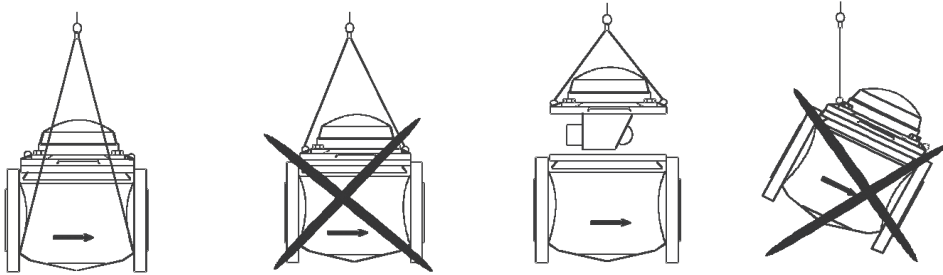
- meter and the pipeline must always be completely filled with water. Installation of a meter at the highest point in a pipeline must be avoided.
- 5.4.14 The manufacturer's Q₃ value should not be exceed during normal operation.
- 5.4.15 The meter should be protected from stones, sand and fibrous material with a suitable strainer or filter.
- 5.4.16 The meter must be protected from pressure surges.
- 5.4.17 During operation always an upstream pressure of 0.3 bar must be ensured.
- 5.4.18 Exchanging the measuring insert
 - Before the installation of a replacement metrological unit the inside surface of the body, especially the sealing areas of the O-ring must be checked for damage. A new O-ring must be used. Prior installation of the new metrological unit the meter body must be cleaned and disinfected.
 - The O-ring and the lip seal must be lubricated with grease approved for use with potable water before installation into the meter body.
 - To avoid damaging the O-ring when installing a meter insert, the O-ring must first be fitted onto the cover flange and then pushed into the meter body. If the O-ring is fitted into the body first, it can be pinched when fitting the meter insert and cause leaks.
 - When installing the metrological unit into the meter body make sure that the direction of the arrow on the head flange aligns with the arrow on the meter body
 - The screws fixing the metrological unit in the body shall be screwed h a n d tight and then tightened crosswise with an appropriate spanner. The recommended torque is 40Nm (M12) or 160Nm (M16).
 - With meters used for billing at least one screw of the metrological unit shall be sealed against the meter body after the exchange to avoid tampering.

6. **Reading**
Black digits on the roller counter and sweep hands indicate whole cubic metres. Parts of a cubic metre are indicated by red sweep hands. With the main meter the roller counter reading is to be multiplied by 10 for a reading to the nearest 10 cubic meters (x10 printed below the roller counter). For a reading to the nearest cubic metre, the black sweep hand must be read. Please see example below: The complete volume is 13,572 m³.
7. **Maintenance and cleaning**
Under normal conditions the meter is maintenance free.



WPV-MS

with flow stabilizer (MID)

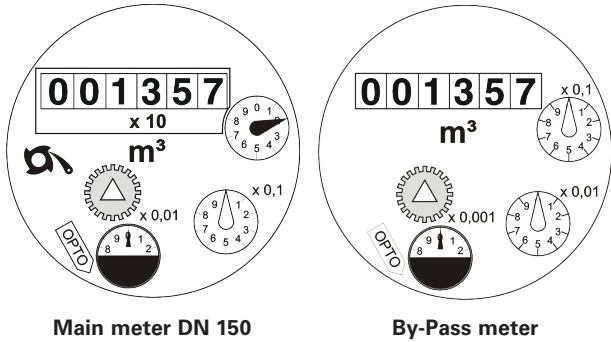
8. Transport



9. Orientation

Type	Register	Pipe
WPV-MS with By-Pass meter RK-MS HRI and RK-MS ER56	 Upwards	 Horizontal

Display



EU Declaration of Conformity

no. CE/ WPV-MS/0314

Herewith we,

Sensus GmbH Hannover
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Germany

declare under our sole responsibility, that the meter of the type
WPV-MS 150

conformity with the legal regulation of the Directive 2014/32/EU of the European Parliament and the Council dated 26th of February 2014, including

- Annex I, Essential requirements
- Annex III, MI-001, water meters

Applied normative, harmonized documents

- OIML-R 49-1, edition 2013
- OIML-R 49-2, edition 2013
- OIML-R 49-3, edition 2013
- DIN EN 14154-1, edition 2005 incl. annex A2, edition 2011
- DIN EN 14154-2, edition 2005 incl. annex A2, edition 2011
- DIN EN 14154-3, edition 2005 incl. annex A2, edition 2011
- DIN EN 14154-4, edition 2014

Other standards:

- DIN EN ISO 4064-1:2017
- DIN EN ISO 4064-2:2017
- DIN EN ISO 4064-4:2014
- DIN EN ISO 4064-5:2017

The conformity assessment procedure was accomplished under the surveillance of the notified body at PTB Id.-No. 0102.

It was issued the design examination certificate DE-14-MI001-PTB002.

This declaration is made by the Director Quality on behalf of the manufacturer.

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