

Single-jet vane-wheel water meter

JS MASTER C+ IP68/IP65
DESCRIPTION

JS Master C+ IP68/IP65 is a single-jet vane-wheel dry water meter for precise measurement of water supply consumption. The advanced design engineering ensures a high dynamic response to metering conditions and a high immunity to strong magnetic fields. The water meter is compatible with optical and induction data communication modules from Apator Powogaz S.A. for automatic wired or wireless meter reading. The water meter is designed and manufactured to the MID (Measuring Instruments Directive) and complies with EN 14154, OIML R49 and ISO 4064 for the maximum measurement range of R160.


USAGE

Cold water supply systems (max. 50°C) in multifamily housing, industrial facilities, public facilities, and metering stations. The maximum operating pressure (MOP) is 16 bar. The water meter is designed for installation in a horizontal orientation with the counter upward (H) or sideways (H), and in a vertical orientation (V). The rotary counter provides easily readable indications directly from the front face and works well in different installation orientations. The standard IP68 version is compatible with directly installed induction data communication modules which feature #UTIP (Universal TI Plug)

The robust counter safety cover protects against ambient conditions

The product is compatible with universal induction communication modules by supporting #UTIP

The counter is hermetically sealed with the IP68 rating

The water meter identification data can be easily read from the counter cover, even with a remote reading module installed

The counter mechanism features a rotation lock at 358° of turn

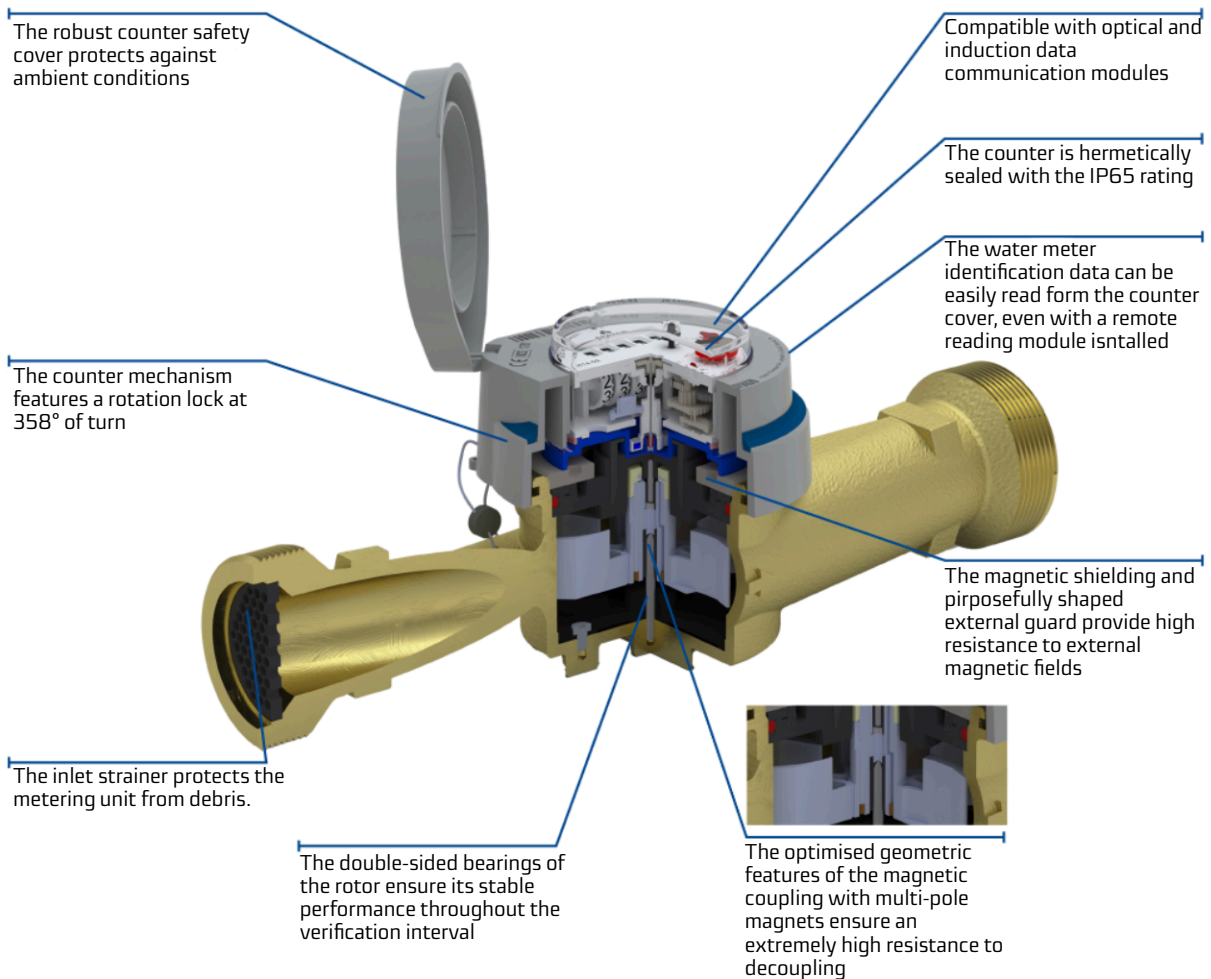
The magnetic shielding and purposefully shaped external guard provide high resistance to external magnetic fields

The inlet strainer protects the metering unit from debris

The double-sided bearings of the rotor ensure its stable performance throughout the verification



The optimised geometric features of the magnetic coupling with multi-pole magnets ensure an extremely high resistance to decoupling



ADVANTAGES

- Precise measurement at R160 - H
- Remote meter reading via wired or wireless interfaces
- Protection against:
 - Strong magnetic field effects (by magnetic shielding)
 - Mechanical tampering (a robust, temper-proof counter design)
 - Multiple rotations of the counter by more than 358°
- The water meter is AMR (Automatic meter reading) (MDMS) - capable and provided with #UTIP in the IP68 version direct installation of induction data communication modules, while the P65 version is compatible with optical and induction data communication modules which feature an interface ring
- Easily readable:
 - The counter can be oriented anywhere within 0 to 358°
 - Hermetically sealed, non-fogging IP68 counter: the counter mechanism is sealed in a copper-glass enclosure with a copper guard
- Wireless reading-capable via:
 - Induction communication modules: IN-WMBUS, IN-GSM for the IP65 and IP68 versions
 - APT-Q3A-3 optical communication module for the IP65 version
- Wired reading-capable via:
 - Induction communication modules: IN-PULSE for the IP65 and IP68 versions
 - Optical communication modules: APT-MBUS-NA-2 and AT-MBUS-NE-03 for the IP65 version
 - NK reed relay pulse transmitter for the IP65 version
- Long operating life
- Inlet strainer which protects the water meter against debris

KEY FEATURES

- Output of event alarms: when equipped with an RF communication module, the water meter can indicate removal or breaking off of the module, module operating disturbance, reverse flow, leak, etc.
- The rotor bearings, other solutions and materials used ensure stable metrology over the service life
- IP68 rating: the water meter is capable of operation in extremely difficult ambient conditions (even when fully immersed in water), including with a data communication module installed
- Stable flow rate inlet bore design
- Available in the IP65 version with a reed pulse transmitter

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
- OIML R49-1:2006 - Water meters intended for the metering of cold potable water and hot water. Part 1: Metrological and technical requirements
- OIML R49-2:2013 - Water meters intended for the metering of cold potable water and hot water. Part 2: Test methods
- OIML R49-3:2013 - 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
- 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
- EC type examination certificate no. SK 21-M1001-SMUU071
- Classification of environmental climate and mechanical conditions: Class B (ref. PN-ISO 4064-1:2014 E)
- Classification of mechanical environment conditions: Class M1 (ref. Polish Regulation Dz.U. 2007.3.27)
- Classification of electromagnetic environment conditions: Class E1 (ref. Polish Regulation Dz.U. 2007.3.27)

All materials of the JS Master C+ IP68/65 water meters have PZH-NIH Hygiene Certificates for use with potable water.

**TECHNICAL
SPECIFICATIONS**

| Parametr | | | | JS Master C+ IP68/IP65 | | | |
|---|---------------------|-----------------------|------------------------|--|--|-------------------------------------|-------------------------------------|
| | | | | JS6,3-02* JS6,3-07** JS6,3-XX*** | JS10-G1-02* JS10-G1-07** JS10-G1-XX*** | JS10-02* JS10-07** JS10-XX*** | JS16-02* JS16-07** JS16-XX*** |
| Nominal diameter | | DN | mm | 25 | 25 | 32 | 40 |
| Permanent flow rate | | Q ₃ | m ³ /h | 6,3 | 10 | | 16 |
| Maximum flow rate | | Q ₄ | m ³ /h | 7,875 | 12,5 | | 20 |
| Transitional flow rate | Cold water | H ↑ R160 V,H → R63 | Q ₂ | dm ³ /h | 63 160 | 100 254 | 160 406 |
| | Maximum flow rate | Cold water | H ↑ R160 V,H → R63 | Q ₁ | dm ³ /h | 40 100 | 63 159 |
| Starting flow | | - | dm ³ /h | 13 | 21 | | 31 |
| Q ₂ /Q ₁ ratio | | - | - | 1,6 | | | |
| Temperature class (rated operating temperature) | | - | - | T30/T50 | | | |
| Flow profile sensitivity class | | - | - | U0, D0 | | | |
| Indicating range | | - | m ³ | 99,999 | | | |
| Reading resolution | | - | m ³ | 0,00005 | | | |
| Maximum pressure | | P _{max} | MPA | 1,6 | | | |
| Maximum pressure loss | | Δp | kPa | 63 | | | |
| Maximum permissible error range: Q ₂ ≤ Q ≤ Q ₄ | | ε | % | ±2 for 0,1 to 30°C cold water ±3 for > 30°C water | | | |
| Maximum permissible error range: Q ₁ ≤ Q < Q ₂ | | ε | % | ±5 | | | |
| NK reed relay pulse transmitter | | - | dm ³ /pulse | 10 (standard pulse rate); 100 | | | 100 (standard pulse rate); 10 |
| Inlet and outlet pipe end threads | | G | inch | G1 | G1 | G1 | G2 |
| Height | h | mm | 36 | | | | |
| | H | mm | 115 | | | | |
| | H1 | mm | 123 | | | | |
| | H2 | mm | 200 | | | | |
| Length | L | mm | 260 | 260 | | 300 | |
| | l | mm | 380 | | | | 440 |
| Diameter | | D | mm | 111 | | | |
| Weight (w/o connection fittings) | W/o NK transmitter | - | kg | 2,0 | 2,2 | | 2,5 |
| | With NK transmitter | - | kg | 2,2 | 2,4 | | 2,7 |

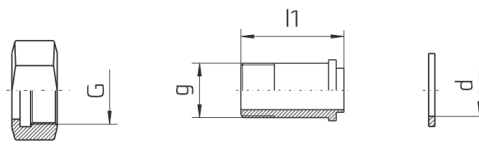
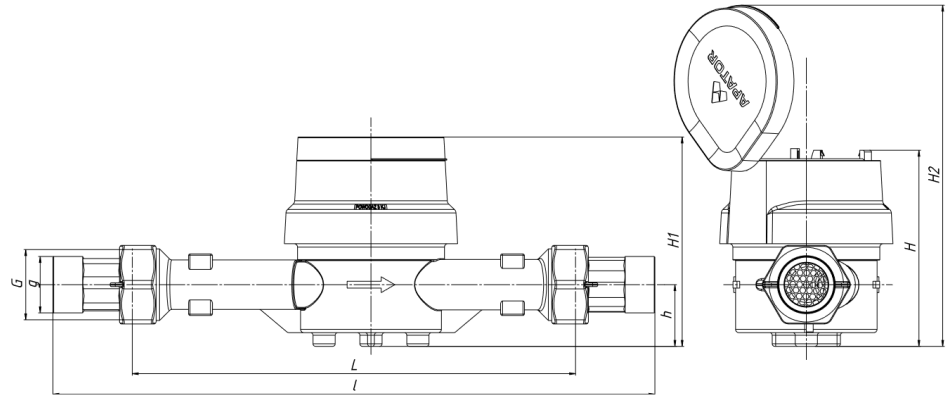
Versions:

*Version -02 - IP65 - rated counter mechanism; supports readout with induction communication modules (Ti) and optical communication modules (IR)

**Version -07 - IP68 - rated counter mechanism sealed with mineral glass enclosure with a copper guard; supports readout with induction communication modules (Ti)

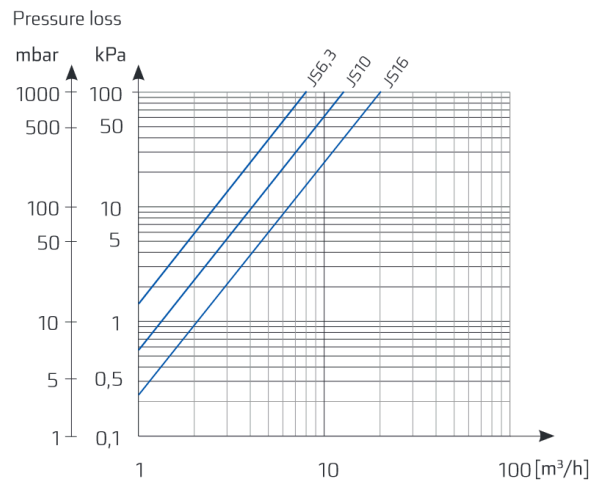
***Version XX-NK or NKP reed relay transmitter; supports reed relay pulse transmitters

DIMENSIONAL DRAWINGS

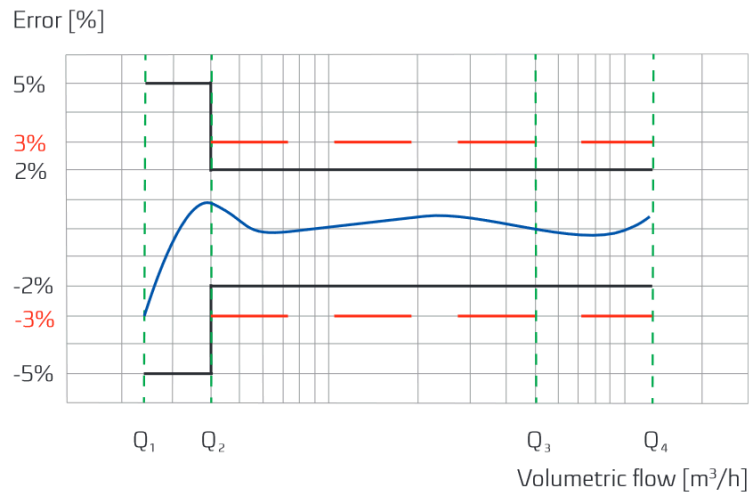


| DN | G | g | d | l |
|----|------|------|----|------|
| | inch | inch | mm | mm |
| 25 | 1/4 | 1 | 29 | 46,5 |
| 32 | 1/2 | 1/4 | 36 | 56 |
| 40 | 2 | 1/2 | 43 | 66 |

PRESSURE LOSS CHART



TYPICAL ERROR CHART



CONTACTS

APATOR METRA s.r.o.

Havlíčková 919/24

787 01 Šumperk

Czech Republic

Tel.: +420 583 718 261

E-mail: prodej@metra-su.cz

Web: www.metra-su.cz

Your distributor:

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

K2024/05a