APATOR POWOGAZ CZECHIA

Single-jet vane-wheel water meter

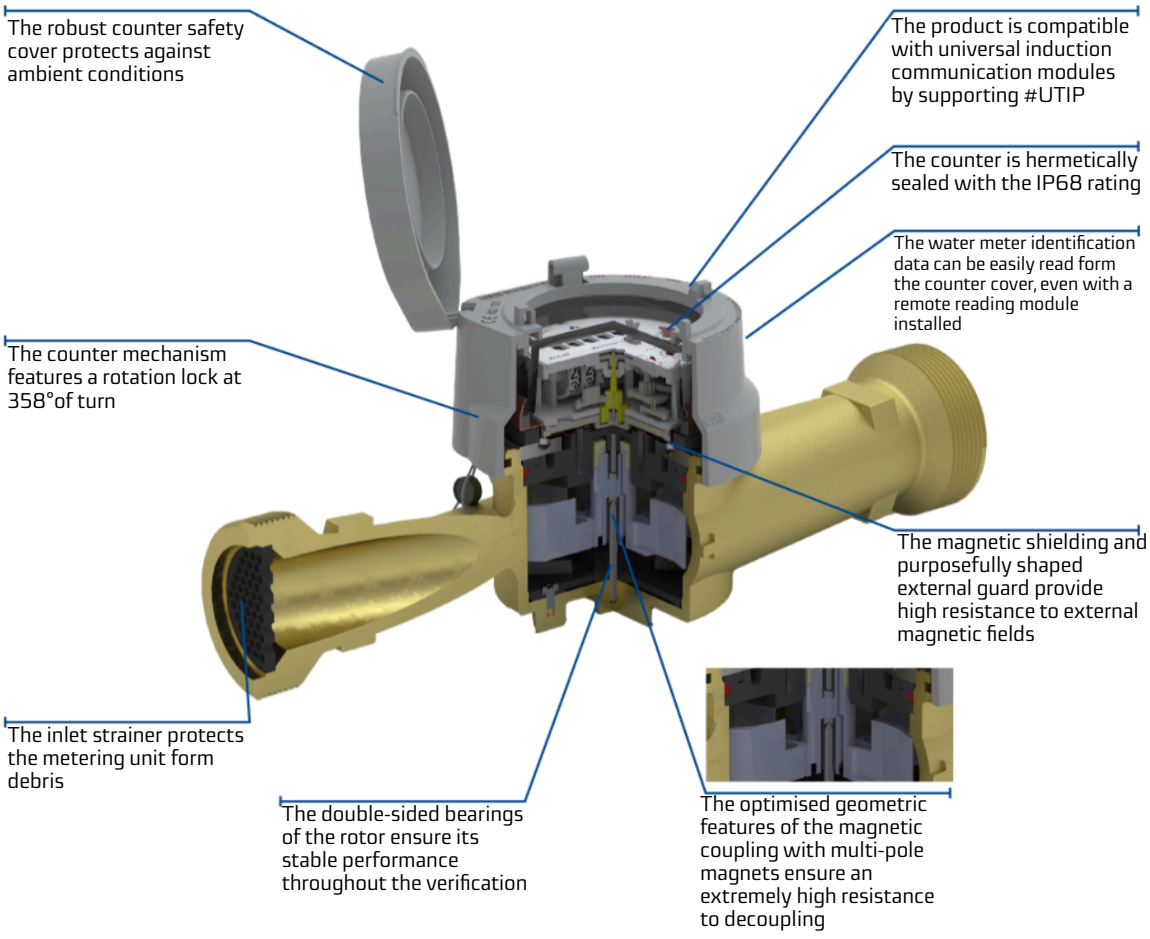
JS MASTER C+ IP68/IP65

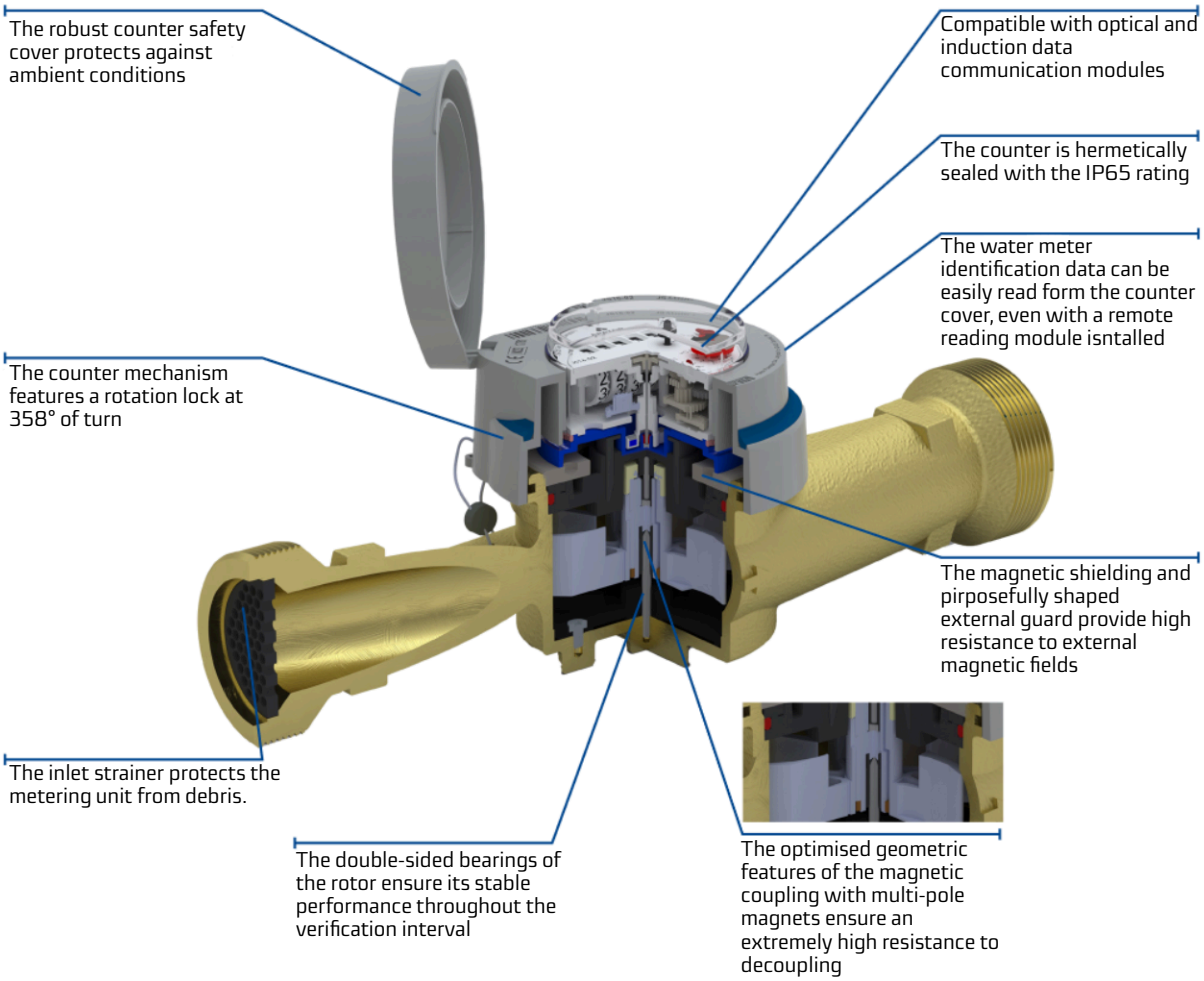
Description

JS Master C+ IP68/IP65 is a single-jet vane-wheel dry water meter for precise measurement of water supply consumption. The advanced desong 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 wirelss 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 fron face and works well in different installation orientations. The standard IP68 version is compatoble with directly installed induction data communication modules which feature #UTIP (Universal TI Plug)





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 s 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-03A-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 amd 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 agains 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 capavle of operation in extremely diffivult ambient conditions (ecen wen 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

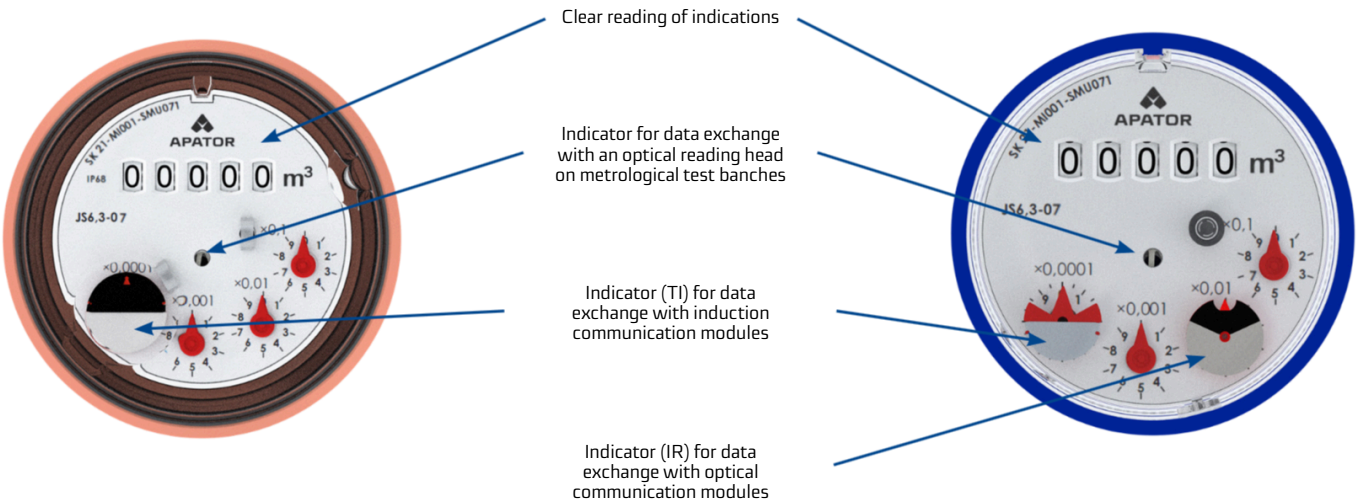
Regulatory and standards compliance

- 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-MI001-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.

Counter version for JS Master C+ IP68

Counter version for JS Master C+ IP65



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		100 254
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: $Q_2 \leq Q \leq Q_4$			ε	%	±2 for 0,1 to 30°C cold water ±3 for > 30°C water			
Maximum permissible error range: $Q_1 \leq Q < Q_2$			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

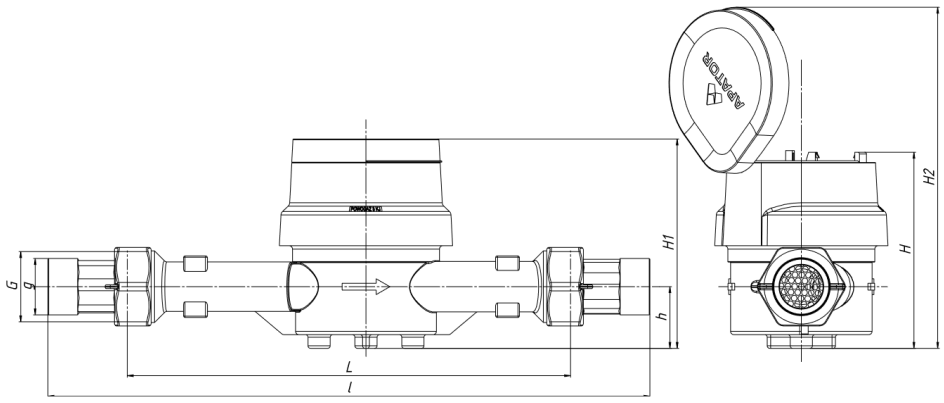
Versions:

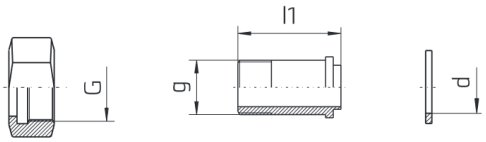
*Version -02 - IP65 - rated counter mechanism; supports readout with induction communication modules (Ti) and optical communication modules (IR)

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

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

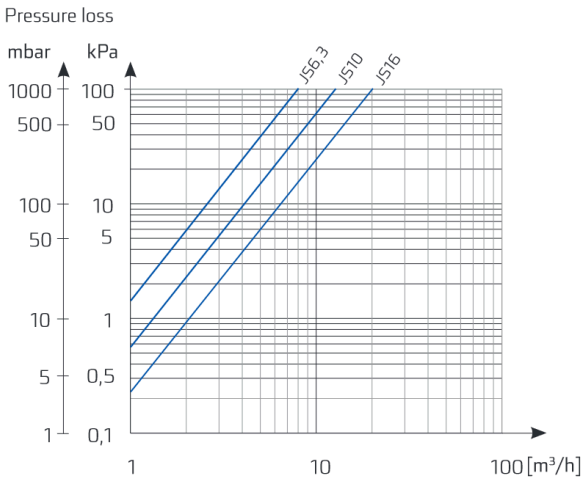
Dimensional drawings



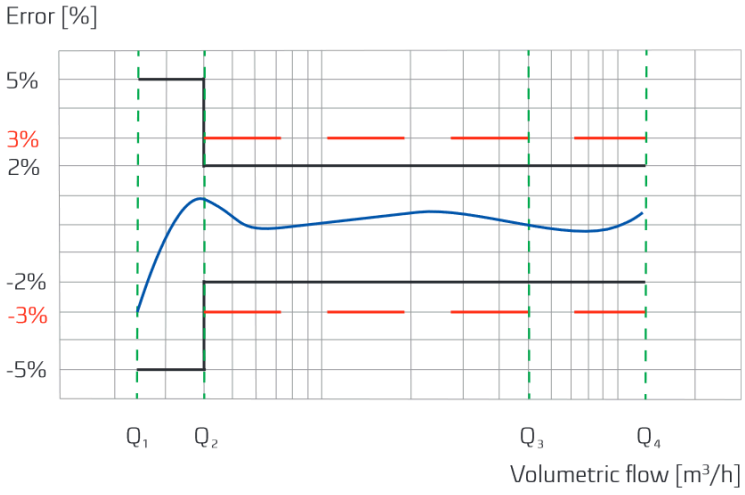


DN	G	g	d	l1
	inch	inch	mm	mm
25	1¼	1	29	46,5
32	1½	1¼	36	56
40	2	1½	43	66

Pressure loss chart



Typical error chart



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