APATOR

JS Smart +
JS Smart C+

DN15 Single-jet vane-wheel dry water meters with composite bodies

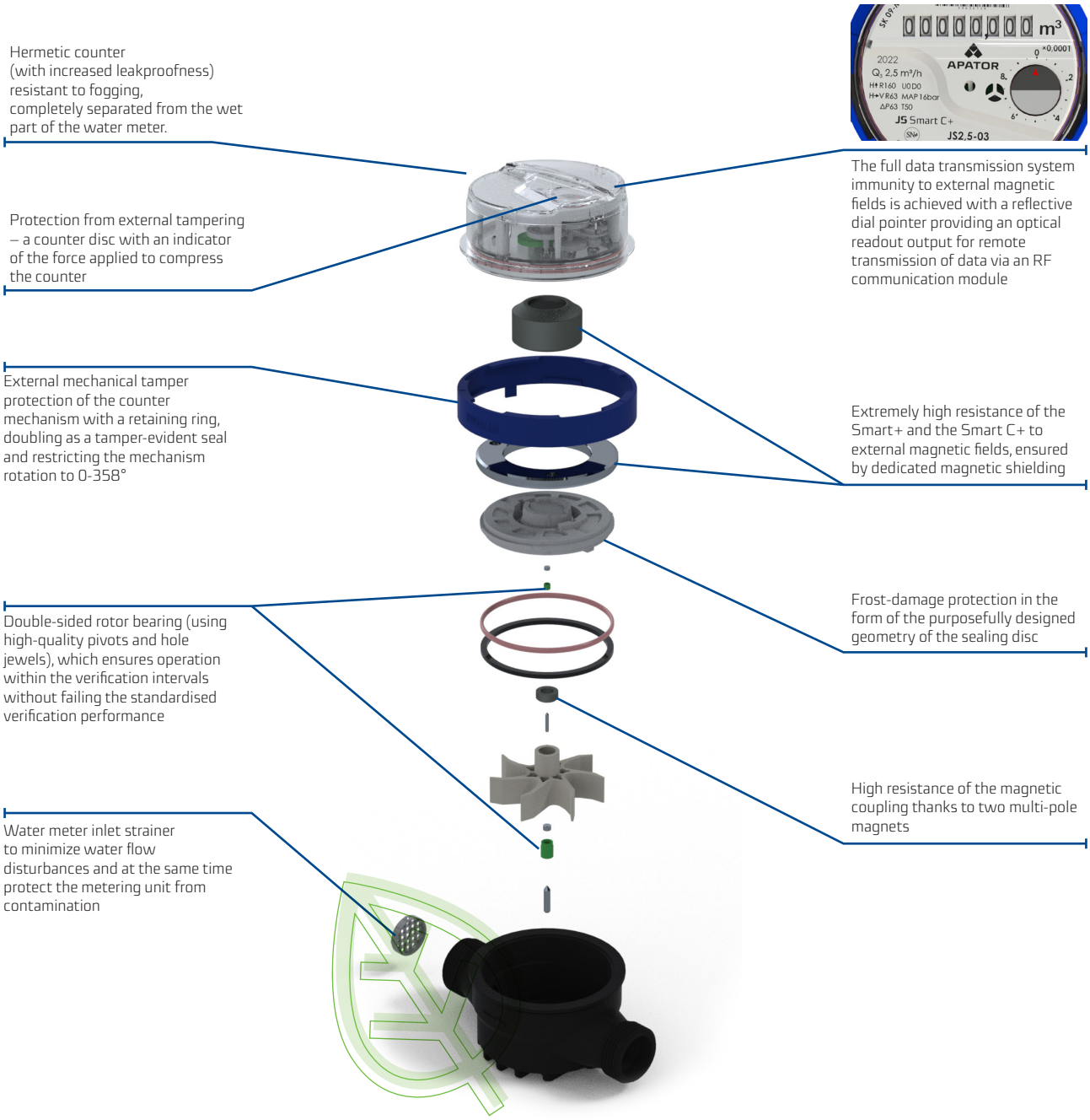
The application of a composite body means:

- The actual pursuit of sustainability goals by Apator Powogaz
- Reduced environmental footprint with the chosen manufacturing process
- Long-term durability and dimensional stability
- Lower weight and transport costs
- Resistance to zinc plating loss, depending on water quality

water & heat

JS Smart+ / JS Smart C+

The family of single-jet vane-wheel dry water meters from the Smart series with composite bodies is intended to meter water supply for consumption. Thanks to the modern design solutions, the water meters provide precise measurements and are compatible with data communication modules for the remote reading of indications. Of all dry water meters, these units enjoy the best protection against strong magnetic fields. The units are manufactured in compliance with the MID for a measuring range of R=100 for the JS Smart+ and R160 for the JS Smart C+.
The application of the composite body significantly reduces the carbon footprint and zero contact of metered potable water even with trace amounts of heavy metals. Pro-sustainability is the focus during the design, operation, and end-of-life recycling of the Smart series water meters, to eliminate environmental impact.



Application

Cold water supply systems operating at temperatures up to 50°C in single and multi-family housings. The rotating counter facilitates reading of the water meter in specified operating orientations. For installation in horizontal piping with the counter upward (H ↑) or to the side (H →) and in vertical piping with the counter sideways (V).

JS Smart+ / JS Smart C+

water meters

are pre-equipped for optional data communication modules as standard

Advantages

Economy:

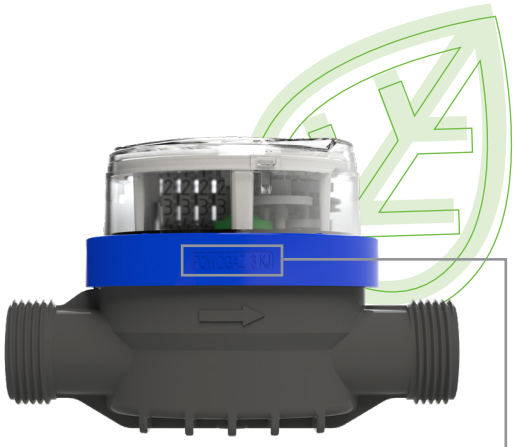
- exact measurements in the R range up to 160 (H) and up to 63 (V)
- low starting flow
- probably the highest resistance to strong external magnetic fields of all single-jet apartment water meters on the market

Convenient use:

- counter with clear numbers on the barrels in two colours, for improved manual reading accuracy
- convenient reading, with the option of the swivel-set counter rotation of up to 358° around its axis
- modern and ergonomic design

Low maintenance costs:

- tested and robust design
- high operational durability



The JS Smart+ and the JS Smart C+ are available in composite bodies and with a tamper-evident retaining ring (POWOGAZ 3 KJ)

Key features

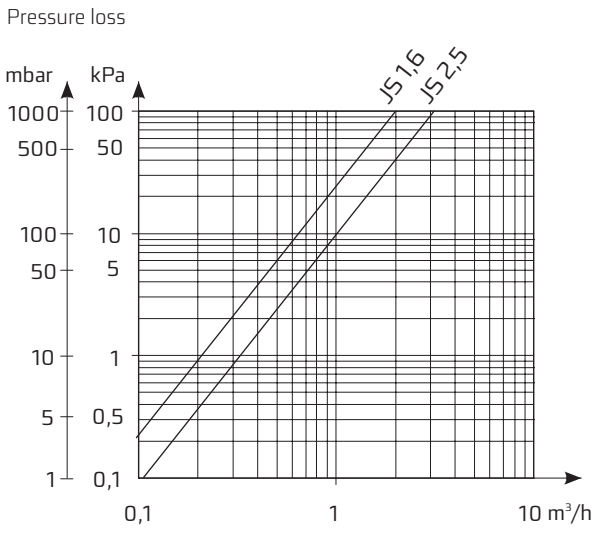
- MID-compliant EC-type examination certificate
- double-sided rotor bearings along with other solutions and materials to ensure stable metrology over the service life
- potable water approved certified materials
- electronic diagnostics of metrological parameters
- protection against mechanical interference in the counter mechanism, using a pin to deform the counter disc as permanent evidence of unauthorized tampering

Regulatory and standard 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 49-1:2013 – Water meters intended for the metering of cold potable water and hot water. Part 1: Metrological and technical requirements
- 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
- 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 examination certificate
- 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 mechanical environmental conditions: Class E1, E2, as per Directive 2014/32/EC of the European Parliament and of the Council of 26 February 2014

All materials of the Smart series water meters have PZH-NIH Hygiene Certificates for use with potable water.

Pressure loss chart



Typical error chart

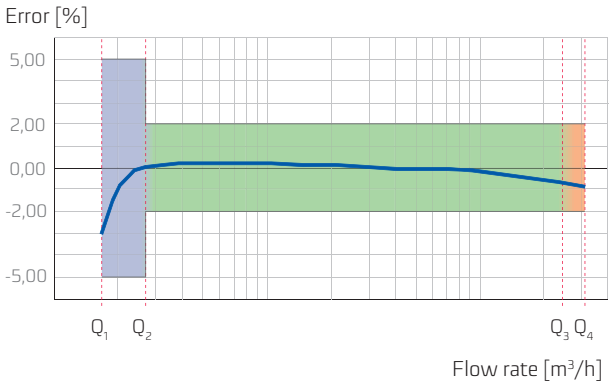
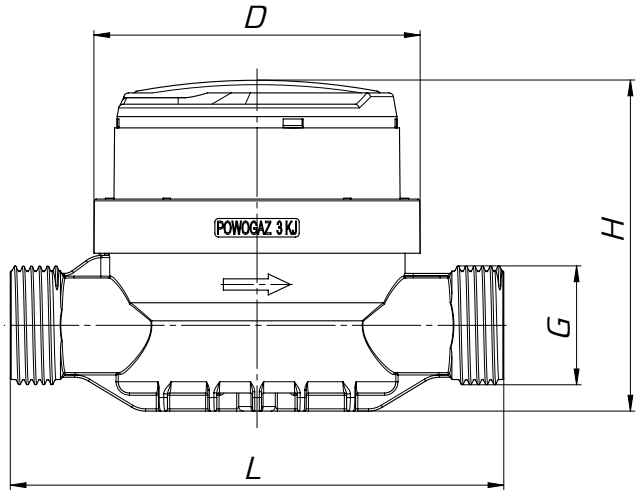
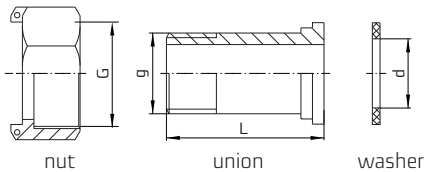


Table 1. Specifications

Parameter			JS Smart +			JS Smart C+		
				JS 1.6-03	JS2,5-03		JS 1.6-03	JS2,5-03
Nominal diameter	DN	mm	15					
Permanent flow rate	Q_3	m^3/h	–	1.6	2.5	–	1.6	2.5
Maximum flow rate	Q_4	m^3/h	–	2	3.125	–	2	3.125
Transitional flow rate, cold water	Q_2	dm^3/h	H R100 V R50	25.6 51.2	40 80	H R160 V R63	16 40.6	25 63.5
Minimum flow rate, cold water	Q_1	dm^3/h	H R100 V R50	16 32	25 50	H R160 V R63	10 25.4	15.6 39.7
Starting flow (H)	–	dm^3/h		6	8		5	6
Q_2/Q_1 ratio	–	–	1.6					
Temperature class (rated operating temperature)	–	–	T30, T50					
Flow profile sensitivity class	–	–	U0, D0					
Indicating range	–	m^3	99999					
Reading resolution	–	m^3	0.00005					
Maximum pressure	P_{max}	MPa	1.6					
Maximum pressure loss	Δp	kPa	63					
Maximum permissible error range: $Q_2 \le Q \le Q_4$	ε	%	± 2 for water temperatures, 0.1 to 30°C ± 3 for water temperatures < 30°C					
Maximum permissible error range: $Q_1 \le Q < Q_2$	ε	%	± 5					
Water meter counter ingress protection class	–	–	IP 65					
Inlet and outlet pipe end threads	G	Inch	G¾					
Height	H	mm	68.5					
Length	L	mm	110					
Diameter	D	mm	72					
Weight (w/o connection fittings)	–	kg	0.220		0.210	0.220		0.210



Connection fittings



nut union washer

DN	G	g	d	L
	inch	inch	mm	mm
15	¾	½	17	37.5

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