

# Smart D+

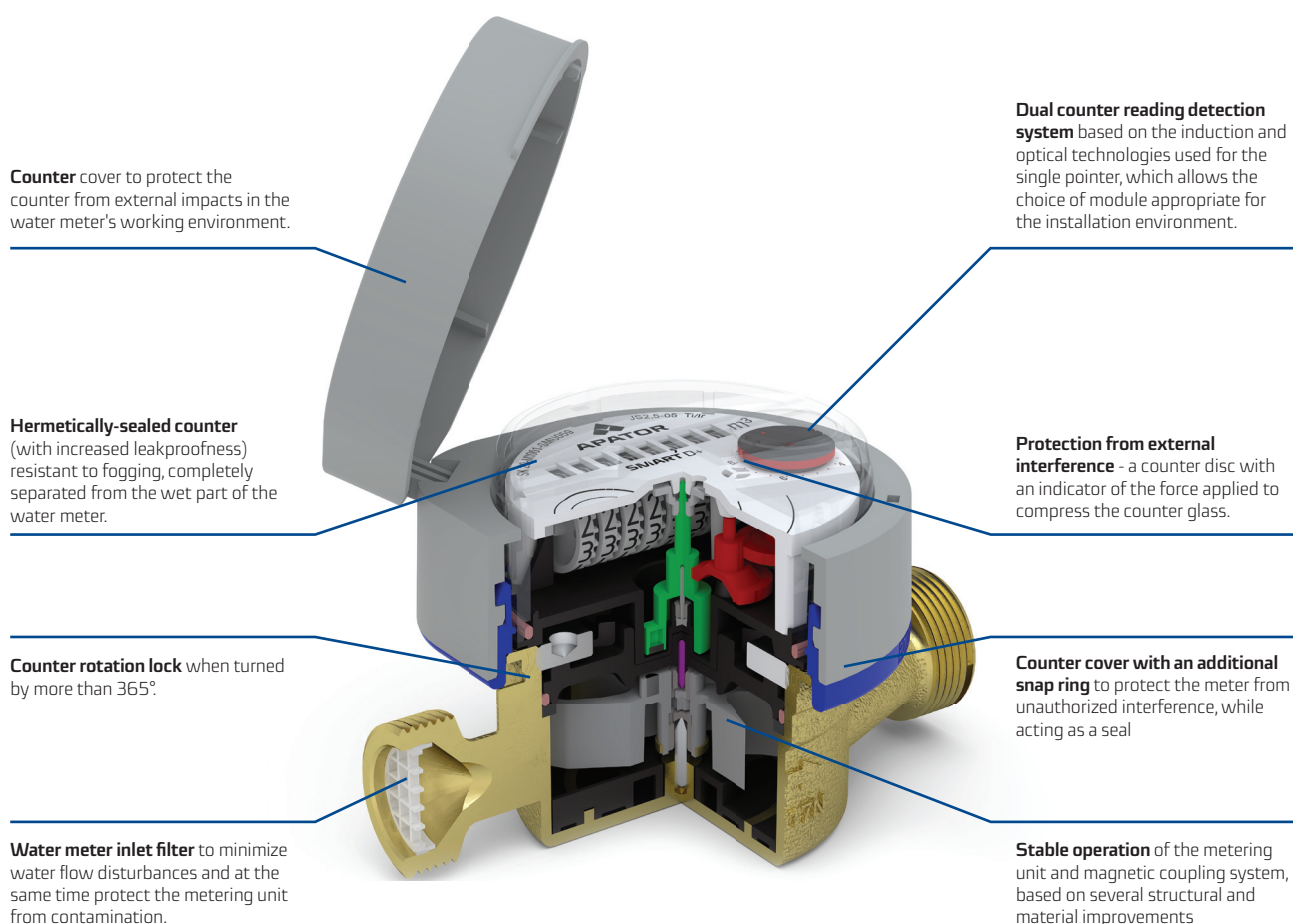
single-jet vane-type  
water meter, DN15, DN20

## SMART D+

Smart D + is the next generation of the "Smart" series of single-jet dry water meters, featuring exceptional measurement accuracy, low water consumption and modern design. These new solutions have been designed to significantly increase the metrological and service life parameters. The water meter is interoperable with clip-on communication modules for automatic wired or wireless meter reading. The water meter design is MID Directive compliant, and is classed as operating in the R200 measurement range.

### Application

Cold, i.e. up to 50°C, water supply systems in single- and multi-family houses. The rotating counter facilitates water meter readings in the appropriate operating positions. Installation in horizontal pipelines (pipes) with a top (H↕) or side (H→) counter, and vertical pipelines with a side (V) counter.



## Advantages

### Economy

- exact measurements in the R range: up to 200-H and up to 80-V,
- low starting flow,
- EN14154 compliant resistance to external magnetic fields,
- no need for straight sections upstream or downstream of the UODO water meter,
- proprietary water meter counter cover design to increase resistance to adverse external impacts,
- no need for copper wire and lead seal (compliant with RoHS Directive recommendations).

### Convenience of use

- suitable for remote readings (radio, pulse or M-Bus),
- hermetically-sealed counter, resistant to fogging, with clear numbers on the barrels in two colours for improved reading accuracy,
- alarm capability - meter with a communication module, capable of signalling removal of or damage to the module, disruption of operation, reverse flows, leakage, etc.,
- convenient reading, with the option of the swivel-set counter rotation of up to 365° relative to its axis,
- modern and ergonomic design.

### Low maintenance costs

- proven and durable structure,
- high operational durability.

## Features

- MID-compliant EC-type examination certificate,
- pre equipped for AMR (optical and inductive) data communication modules,
- two-point rotor bearings and other solutions and materials used to ensure stable metrology over the service life,
- potable water approved certified materials,
- electronic diagnostics of metrological parameters,
- special magnetic coupling design,
- protection against mechanical interference - with a pin to deform the counter disc as permanent evidence of unauthorized interference.

## Compliance with norms and regulations

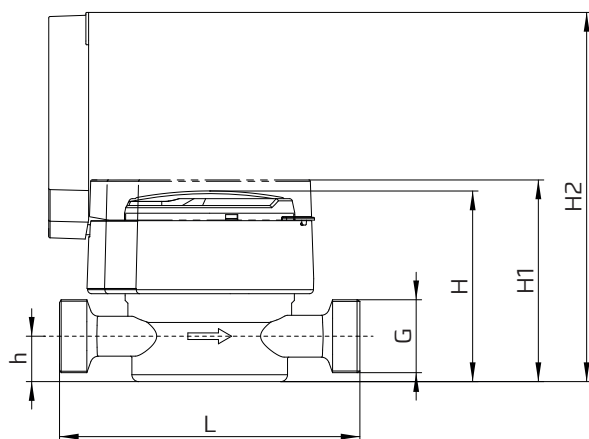
- Directive 2014/32 / EC of the European Parliament and of the Council of Europe of 26 February 2014 on the harmonisation of the laws of Member States related to the making available on the market of measuring instruments,
- The Polish Act of 13/04/2016 on market surveillance and compliance assessment systems,
- EN-ISO 4064-1÷5: 2014 (E) - Water meters for cold potable water and hot water,
- OIML R49:2013 - Water meters intended for the metering of cold potable water and hot water,
- EC type test certificate-cold water,
- 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, E2, as per EN-ISO 4064: 2014 and Directive 2014/32/EC of the European Parliament and of the Council of 26 February 2014,
- PZH National Institute of Hygiene certificate (all materials used in JS water meters have Hygiene Certificates for use with potable water).

Table 1. Specifications

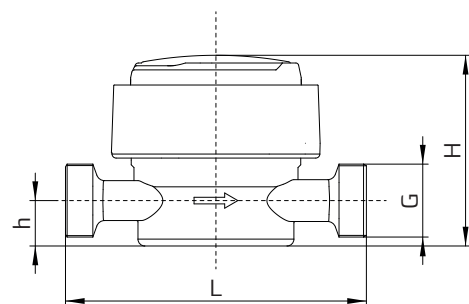
Parameter			SMART D+				
			JS 1,6-02	JS2, 5-02	JS2, 5-G1-02	JS4-02	
Nominal diameter		DN	mm	15		20	
Permanent flow rate		Q <sub>3</sub>	m³/h	1.6	2.5		4
Maximum flow rate		Q <sub>4</sub>	m³/h	2	3.125		5
Transitional flow rate		Q <sub>2</sub>	dm³/h	16	20		32
				40	50		80
Minimum flow rate		Q <sub>1</sub>	dm³/h	10	12.5		20
				25	31.25		50
Starting flow		–	dm³/h	5	6		12
Measurement range R=Q3/Q1		H		160	200		200
		V		80	80		80
Q <sub>2</sub> /Q <sub>1</sub> ratio		–	–	1.6			
Temperature class (rated operating temperature)		–	–	T50			
Flow profile sensitivity class		–	–	U0, D0			
Indicating range		–	m³	99999			
Resolution of reading		–	m³	0.00005			
Maximum pressure		P <sub>max</sub>	MPa	1.6			
Maximum pressure loss		Δp	kPa	63			
Advisable error in the range: Q <sub>2</sub> ≤ Q ≤ Q <sub>4</sub>		ε	%	± 2			
Advisable error in the range: Q <sub>1</sub> ≤ Q < Q <sub>2</sub>		ε	%	± 5			
Water meter counter leakproofness class		–	–	IP 65			
Inlet and outlet pipe threads		G	inch	G¾	G¾; G <sup>7</sup> / <sub>8</sub>	G1	G1
Height		H	mm	69.5		70	
Height		H1	mm	73.5		74	
Height		H2	mm	134.2			
Height		h	mm	16.5		17	
Length		El*	mm	110	110	130	130
Diameter		D	mm	77			
Diameter		D**	mm	90			
Weight (w/o connection fittings)		–	kg	0.463	0.458	0.589	0.552

Water meter model - 02 (with eight-barrel counter and communication module mount)

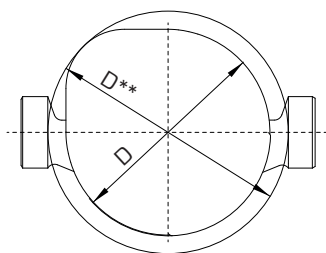
\* custom designs of body length L = 105; 115 DN15 and 115 DN20 are available on special request



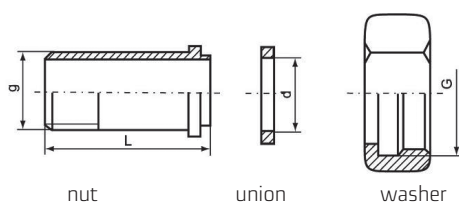
Water meter with cover



Water meter w/o cover



Connection fittings

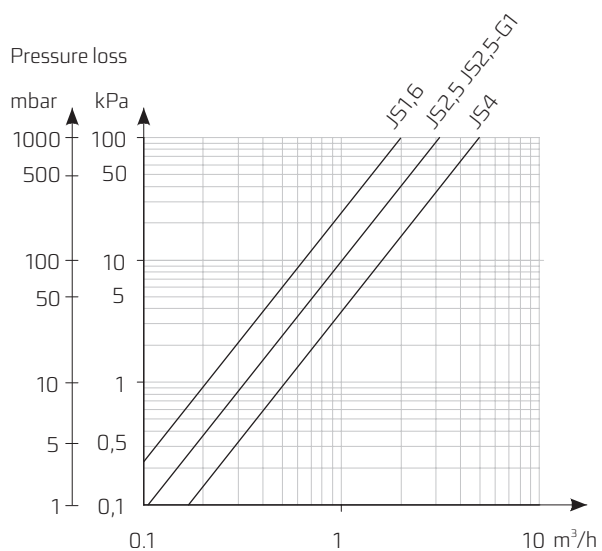


DN	G	g	d	El
	inch	inch	mm	mm
15	3/4	1/2	17	40
20	1	3/4	23	50

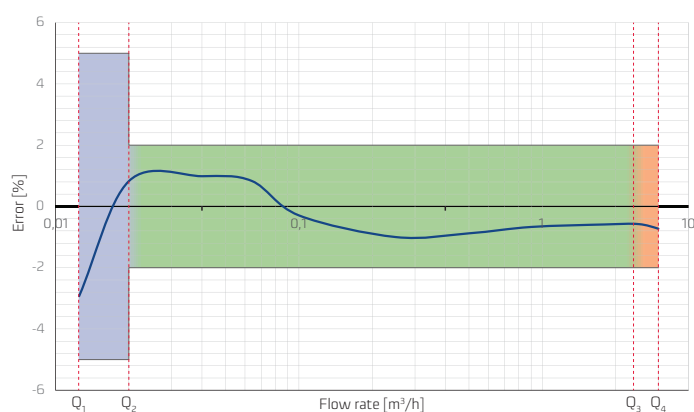


Pressure loss chart

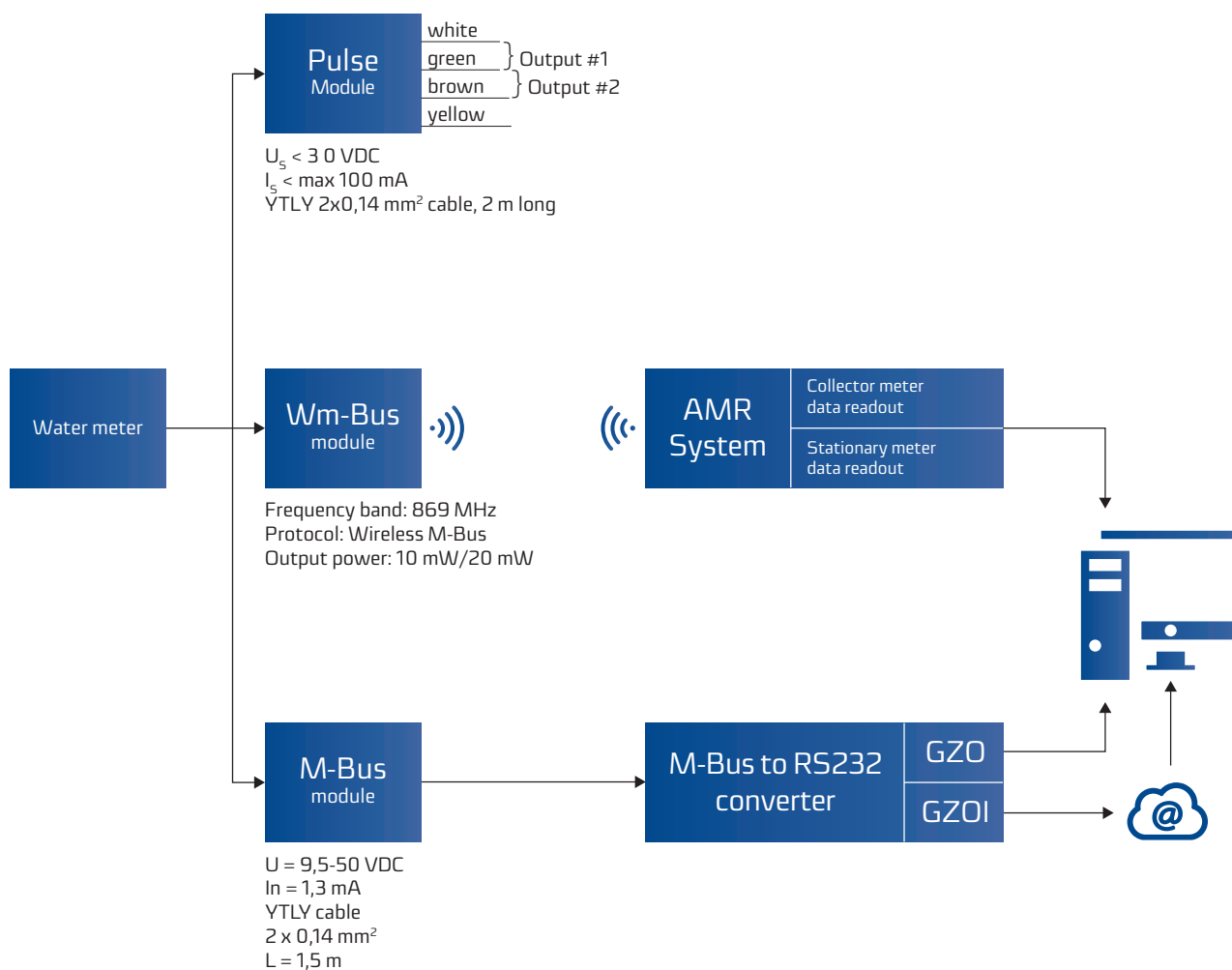
Pressure loss



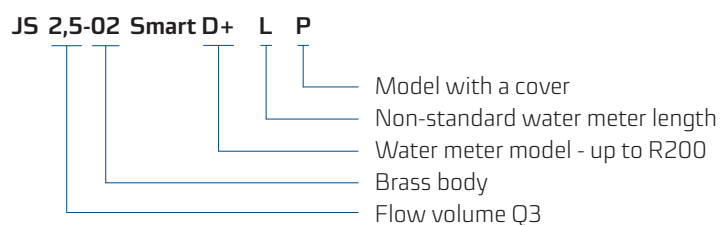
Typical error chart



## Remote indication relay & flow rate measurement



## Ordering code example:



### Available options:

- water meter unions, w/o check valve,
- disposable clamps with snap-on seals made of plastic, with unique numbering (a safeguard against mechanical manipulation of the water meter unions)