



WATER METERS



MASTER+

SINGLE-JET DRY WATER
METERS DN25, DN32, DN40



Master+ is a single-jet dry water meter intended to measurement of quantity of water consumption. Thank to modern construction it is adapted for the assembly of radio overlay or pulse overlay, that allow for the remote reading of measurements. It is the best protected water meter against activity of strong magnetic field thank to the application of the latest screening technology. The water meter has been made according to the MID Directive for measurement scope valued R100 (R80 – formed class B).

APPLICATION

Water supply systems for cold water with the temperature up to 30°C, for water with the temperature up to 50°C or for hot water with the temperature up to 130°C used in the multifamily buildings, public buildings and measuring points. Maximum working pressure 16 bar. Water meter construction allows for the horizontal mounting with the counter facing upwards (**H**), as well as sideways (**V**), or in vertical position (**V**). Thank to the use of rotary counter, enabling easy readings, it proves itself perfectly in all mounting positions. As a part of a measuring system, it enables the assessment of water usage characteristics in a building.



master +

A hermetic counter (with increased tightness) resistant to fogging.



Total resistance of the data transmission system against the influence of external magnetic field obtained by the application of pointer with a reflection as an optical element of data transfer from the water meter to the radio overlay.

A rotation blockade of the counting mechanism by the rotation by the angle more than 360°.

Strainer on the water meter's inlet which builds the protection against penetrating the measuring body by dirt.

Mutually bearing rotor provides stable work and running exploitation in the time between legalizations.

Correct geometry of the magnetic coupling field and application of multi-field magnets to give very high resistance to breaking the coupling.



The counting mechanism is protected against external mechanical interference with:

- counter caps,
- reinforced casing of the counter,
- counter casing squeeze indicator.

Magnetic screen and specially formed outer cover ensure high resistance to the influence of the external magnetic field

ADVANTAGES

ECONOMY:

- precise measurement determined by the R100 - H factor (R80 – former class B)
- protection against:
 - interference of strong magnetic field (magnetic screens)
 - mechanical interference (deformation indicator)
 - multiple rotation of the counter by the angle more than 360°

COMFORT OF USE:

- possibility of carrying out remote readings
- easy reading thank to
 - positioning of the counter in any angle within 360° scope
 - hermetic counter resistant to fogging
- possibility of reading by means of reed-switch transmitter or pulse module.

RELIABILITY:

- proven and hard-wearing construction
- high running durability thank to the use of high-tech materials:
 - with high resistance to abrasion (bearings and pins)
 - with the surface structure minimising flow resistance (rotor, sealing plate)
- strainer on the inlet spout (protecting measuring mechanism)

SPECIAL FEATURES

- alarm signalling – water meter equipped with radio overlay can signal e.g. disassembly or tearing off of the overlay, interfering of overlay work, backwards flow, leakage etc.
- construction of the inlet stabilizing current flow
- mutually bearing rotor
- external regulatory system



JS Master+
for cold water



JS Master+
for hot water



JS Master+
for remote radio reading



JS Master+
with impulse transmitter

COMPATIBILITY WITH NORMS AND REGULATIONS

- Directive 2004/22/EC of The European Parliament and the Council of Europe dated 31st March 2004 regarding measuring instrument,
- PN-ISO 4064-1 ÷ 5:2014(E) – Water meters for drinking cold water and hot water
- OIML R49 :2004 and 2006- water meters intended to measurement of cold drinking water and of hot water
- Certificate type WE- cold and hot water No TCM 142/11-4832
- Classification of environment, climatic and mechanical conditions - class B – acc. to PN-EN-14154-3:2005:A1.
- Classification of environment mechanical conditions - class MI – acc. to RMG from 18.12.2006.
- Classification of environment electromagnetic conditions - class E1 – acc. to RMG from 18.12.2006.

All materials used during the production of the water meter JS Master+ have proper Hygienic Clearance allowing the product to contact with the drinking water.

EXAMPLE OF ORDER:

Water meter for e.g.:

- cold water – water meter JS Master+ 6,3
 - water meter JS Master+ 6,3-NK (25 dm³/imp.)
- hot water - water meter JS130 Master+ 6,3

As additional order we also provide:

- connectors for the water meter

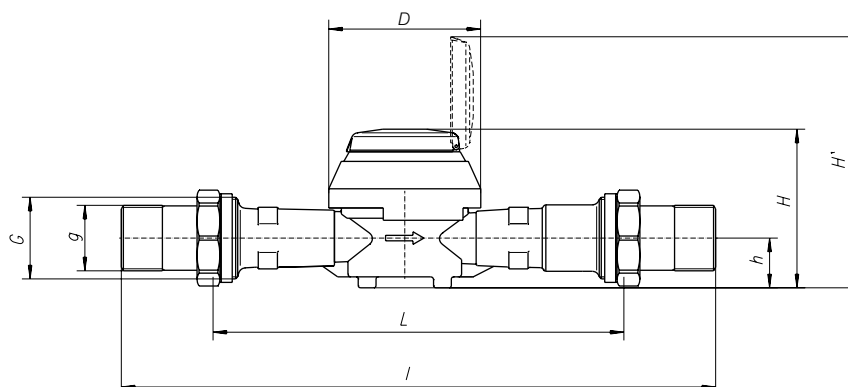
Table 1. TECHNICAL DATA

Parameter				Master ₊ *			
				JS6,3 JS6,3-XX** JS130-6,3 JS130-6,3-XX**	JS10-G1¼ JS10-G1¼-XX** JS130-10-G1¼ JS130-10-G1¼-XX**	JS10 JS10-XX** JS130-10 JS130-10-XX**	JS16 JS16-XX** JS130-16 JS130-16-XX**
Nominal diameter	DN	mm	25	25	32	40	
Continuous flow rate	Q ₃	m ³ /h	6,3	10		16	
Maximum flow rate	Q ₄	m ³ /h	7,875	12,5		20	
Indirect flow rate	for cold water H R100 V R50	Q ₂	dm ³ /h	101	160	256	
	for hot water H R80 V R40			202	320	512	
Minimum flow rate	for cold water H R100 V R50	Q ₁	dm ³ /h	126	200	320	
	for hot water H R80 V R40			252	400	640	
Starting flow	–	dm ³ /h	21	33		53	
Ratio Q ₂ /Q ₁	–	–	1,6				
Temperature class (nominal working temperature)	–	–	T30 / T50 / T130				
Resistance classes to flow profiles	–	–	U0, D0				
Indication range	–	m ³	99 999				
Indication correctness	–	m ³	0,00005				
Maximum pressure	P _{max}	MPa	1,6				
Maximum pressure loss	Δp	kPa	63				
Permissible boundary error at the range: Q ₂ ≤ Q ≤ Q ₄	ε	%	± 2 for cold water, temperature ≤30°C ± 3 for water, temperature >30°C				
Permissible boundary error at the range: Q ₁ ≤ Q < Q ₂	ε	%	± 5				
Reed-switch impulse transmitter NK	–	dm ³ / imp	10 (standard impulsing); 2,5; 25; 100; 250; 1000			100 (standard impulsing) 2,5; 10; 25; 250; 1000	
Inlet and outlet spout thread	G	cal	G1¼	G1¼	G1½	G2	
Height	h	mm	36				
	H	mm	120				
	H'	mm	185				
Length	L	mm	165**/ 260	260		300	
	l	mm	380			440	
Diameter	D	mm	111				
Mass (without connecting elements)	Without transmitter	–	kg	2,0	2,2		2,5
	With NK transmitter	–	kg	2,2	2,4		2,7

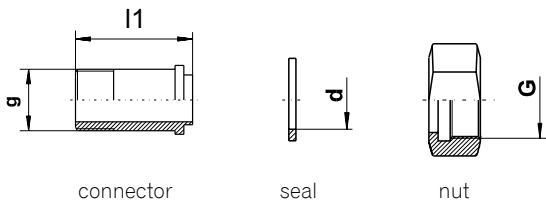
* At special request IP68 counter

** Version: NK reed-switch transmitter or NKP prepared for reed-switch transmitter

*** Only version R80 for cold water



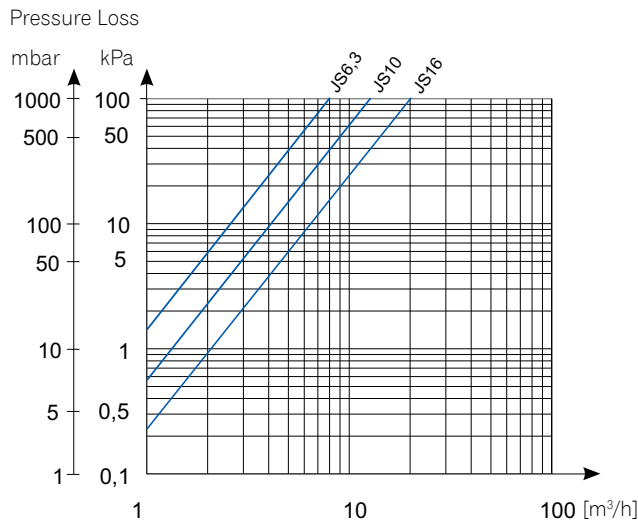
CONNECTION ELEMENTS



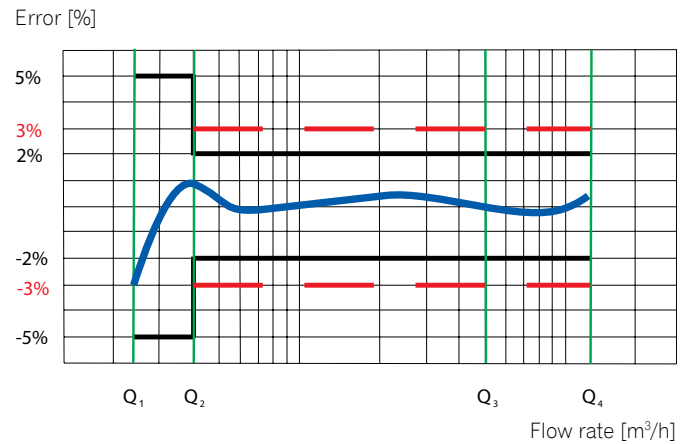
DN	G	g	d	l1
25	1 1/4"	1"	29	60
32	1 1/2"	1 1/4"	36	60
40	2"	1 1/2"	43	70



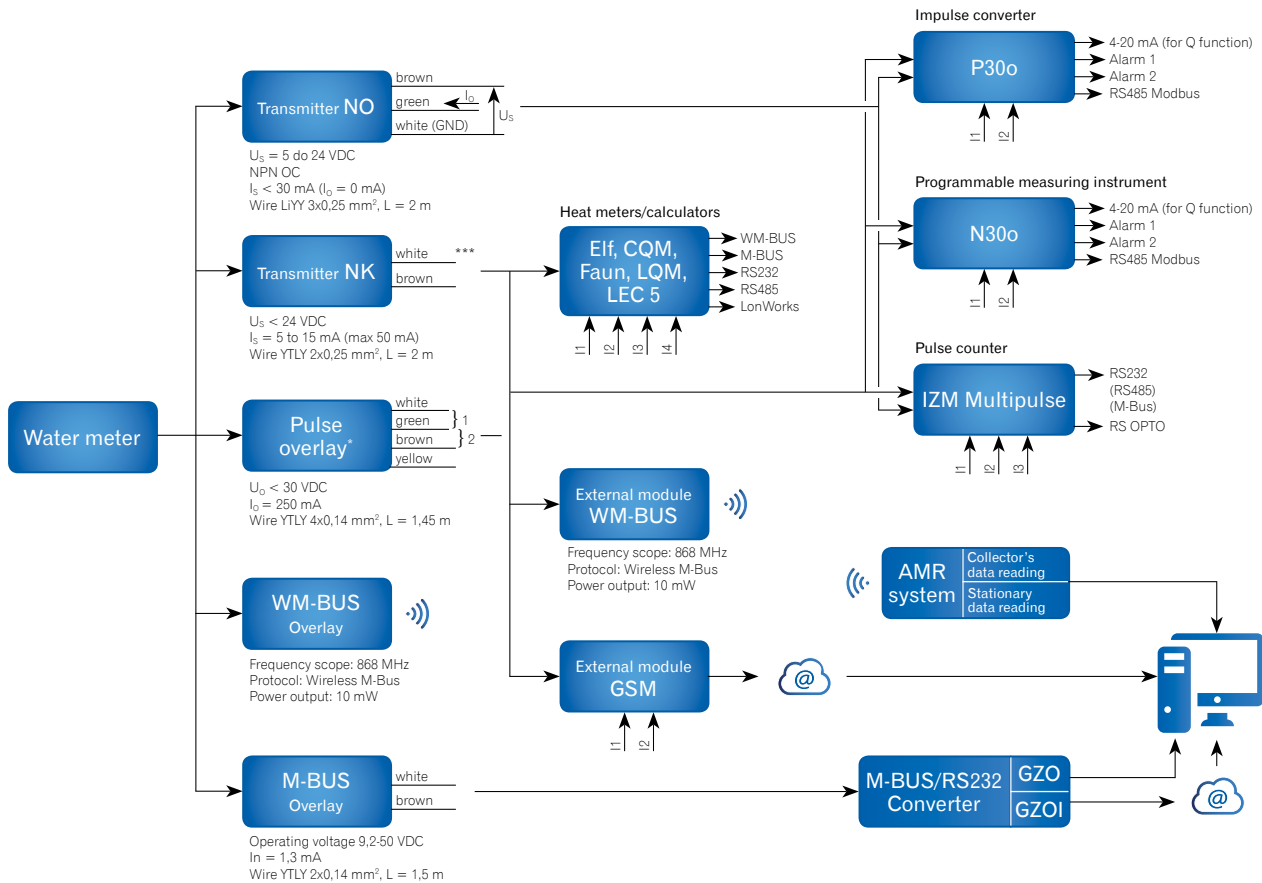
PRESSURE LOSS DIAGRAM



TYPICAL ERROR DIAGRAM



REMOTE TRANSMISSION OF MEASUREMENTS, MEASUREMENT OF FLOW RATE





Apator Powogaz S.A.
ul. Klemensa Janickiego 23/25, 60-542 Poznań
e-mail: handel@powogaz.com.pl
Secretary office: tel. +48 61 8418 101, fax +48 61 8470 192
Sales department: tel. +48 61 8418 133, 136, 138, 148
Export department: tel. +48 61 8418 139



SWITCHGEAR



SURGE
ARRESTERS



MINING
EQUIPMENT



AUTOMATION



ELECTRICITY
MEASUREMENT



WATER
MEASUREMENT



HEAT
MEASUREMENT



GAS
MEASUREMENT



SENSORS



IT SYSTEMS



METERING
SOLUTIONS

www.apator.com