

WATER METERING



JS IMPERO

**DN50, DN65, DN80 & DN100
SINGLE-JET VANE-WHEEL
DRY WATER METER**



Impero is a single-jet vane-wheel dry water meter for precise measurement of large water consumption levels. The advanced engineering design ensures a high dynamic response to metering conditions and a high resistance to strong magnetic fields. The Impero standard version comes pre-equipped for RF, pulse and Mbus modules. It may also be equipped with a reed relay (NK) or optoelectronic (NO) pulse transmitter.

The water meter has been designed and manufactured to meet the MID (Measuring Instruments Directive) and in compliance with EN 14154, OIML R49 and ISO 4054 for the R315 measurement range (formerly Class C).

APPLICATION

Cold water water supply systems (max. 30°C) and hot water supply systems (max. 50°C) in multifamily housing, industrial facilities, public facilities, and metering stations. Install the water meter horizontally (H) with the counter upright. The rotating counter of the water meter facilitates direct readings from the dial. As a measurement system component, the water meter helps determine the water consumption characteristics of buildings.



Impero

The full immunity of the data transmission system to external magnetic fields is achieved using a reflective dial pointer forming the readout data output for remote communication modules (both RF and wired).

Measurement characteristics adjustable without the drain duct.

The precision finish and the modular design of the inlet and drain ducts as well as the metering chamber for precise measurements meet the high MID requirements for the R315 (formerly Class C).

The materials and the bearings on either side of the rotor ensure stable metrological characteristics over a wide measurement range.

The counter is hermetically sealed; an IP68 version is also available.

Counter mechanism rotation lock at 359° of a turn.

Can replace compound water meters.

Counter mechanism magnetic shielding: the design of the counter shield and the cover material ensure high resistance to external magnetic fields.

The water meter body can be ordered with a dedicated pressure gauge port.

ADVANTAGES

ECONOMIC:

- Precise measurements for R315 – H (formerly Class C)
- Low starting flow
- Protected by design from strong magnetic field interference, according to EN 14154
- U0D0: does not require straight upstream and downstream pipework runs
- May replace compound water meters (restrictions apply)

CONVENIENT TO USE:

- Remote meter reading via a reed relay, optoelectronic pulse transmitter or M-Bus / pulse modules
- Easy to read: the angle of the counter, set in a shield with a cover, can be adjusted from 0° to 359°
- Hermetically sealed dial and barrel counter (IP68 version option)
- Output of events and alarms via optional data transmission modules: when equipped with an RF module, the water meter can indicate removal and interruption of the module, reverse flow, leaks, etc.

RELIABILITY:

- Robust, tested design
- Long operating life thanks to advanced wear-resistant bearing and pivot materials
- Inlet duct and the metering chamber are both highly resistant to clogging with dirt
- The counter mechanism is shielded against mechanical damage

KEY FEATURES

- MID-compliant EC type examination certificate
- Pre-equipped for AMR data communication modules
- Stable flow rate inlet duct design
- Double-sided rotor bearings
- Removable metering module
- Potable-water approved materials
- Electronic diagnostics for metrological parameters
- Rotor axis perpendicular to the duct
- Magnetic coupling



Standard version: the water meter is pre-equipped for RF, pulse and M-Bus modules

Pulse module
AT-MBUS-NE-01



NKO version:
NK and NO transmitters included

IP68 version:
NK transmitter included

REGULATORY AND STANDARD COMPLIANCE

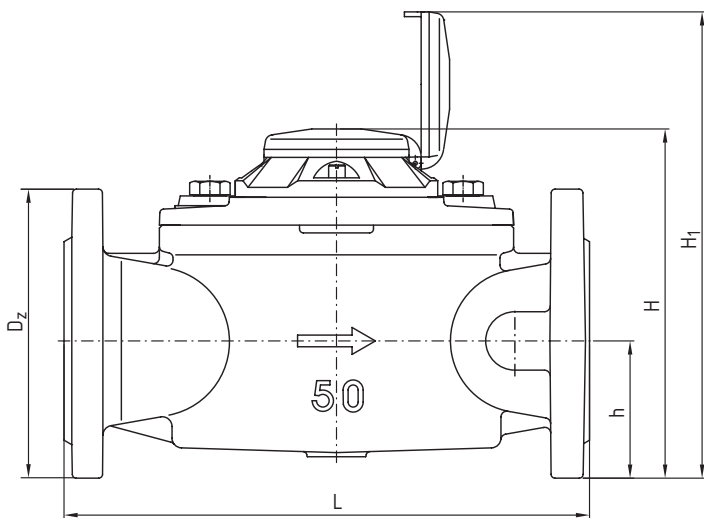
- Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments
- OIML R49:2004 & 2006 - Water meters intended for the metering of cold potable water and hot water
- PN-EN 14154:2005 - Water meters. Parts 1 to 3.
- PN-EN ISO 4064:2014-09 - Water meters for cold potable water and hot water. Parts 1 to 5.
- EC type examination certificate no. SK15-103 MI-001
- Classification of environmental, climatic and mechanical conditions: Class B (ref. PN-EN-ISO 4064-2:2014)
- Classification of mechanical environment conditions: Class M1 (ref. RMR of 02/06/2016)
- Classification of electromagnetic environment conditions: Class E1 (ref. RMR of 02/06/2016)

All materials used for the JS50-100 water meters have Hygiene Certificates for use with potable water

Table 1. SPECIFICATION

Parameter	JS Impero					
	JS50 JS50-XX*	JS65 JS65-XX*	JS80 JS80-XX*	JS100 JS100-XX*		
Nominal diameter	DN	mm	50	65	80	100
Permanent flow rate	Q_3	m ³ /h	25	40	63	100
Overload flow rate	Q_4	m ³ /h	31.25	50	78.75	125
Transitional flow rate	Q_2	m ³ /h	0.127	0.203	0.32	0.508
Minimum flow rate	Q_1	m ³ /h	0.079	0.127	0.2	0.317
Starting flow	–	m ³ /h	0.025	0.04	0.04	0.07
Maximum instantaneous flow rate in case of fire < 2h	–	m ³ /h	50	60	90	135
Measurement range, $R = Q_3 / Q_1$	–	–	315			
Q_2 / Q_1 factor	–	–	1.6			
Temperature class (rated operating temperature)	–	–	T30 (0.1-30°C) / T50 (0.1-50°C)			
Flow profile sensitivity class	–	–	U0, D0			
Indicating range	–	m ³	10 ⁶			
Resolution of reading	–	m ³	0.0005			
Maximum allowable pressure	P_{max}	–	MAP16=(16 bar)			
Operating pressure range	–	bar	0.3 to 16			
Maximum pressure loss	ΔP	kPa	$\Delta P_{63}=(0.63 \text{ bar})$			
Operating orientation	–	–	H			
Advisable error: $Q_2 \leq Q \leq Q_4$	ϵ	%	± 2 for $\leq 30^\circ\text{C}$ cold water ± 3 $> 30^\circ\text{C}$ water			
Advisable error: $Q_1 \leq Q < Q_2$	ϵ	%	± 5			
NK reed relay pulse transmitter	–	dm ³ /pulse	1000 (standard pulsing) 2.5; 10; 25; 100; 250			
NO optoelectronic pulse transmitter	–	dm ³ /pulse	1			
Height	h	mm	70.5	80.5	89.5	105
	H	mm	180	196	199	214
	H'	mm	285	295	305	320
Length	L	mm	**270 or ***300	300	**300 or ***350	**360 or ***350
Diameter	D	mm	165	182	200	220
Weight (w/o connection fittings)	–	kg	11.8	16.6	20	23.5

* Versions: NK: reed relay pulse transmitter, NKP: pre-equipped for reed relay pulse transmitter; NO: optoelectronic pulse transmitter; NKO: reed relay & optoelectronic pulse transmitter; NKOP: pre-equipped for reed relay & optoelectronic pulse transmitters
 ** DIN 19625 overall length
 *** ISO4064 overall length

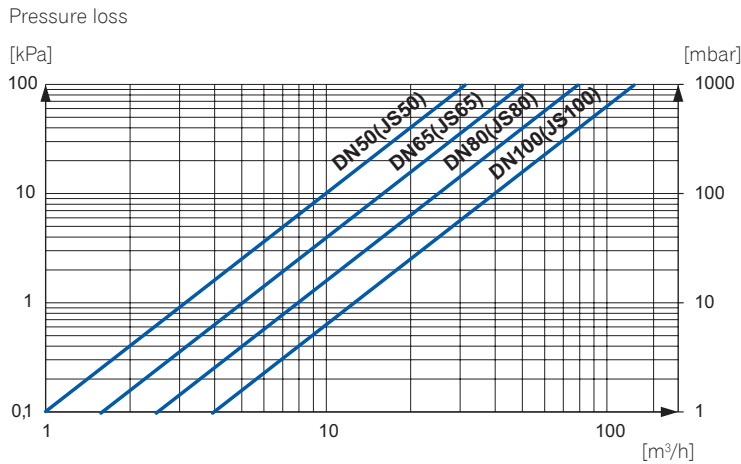


ORDERING CODE EXAMPLE:

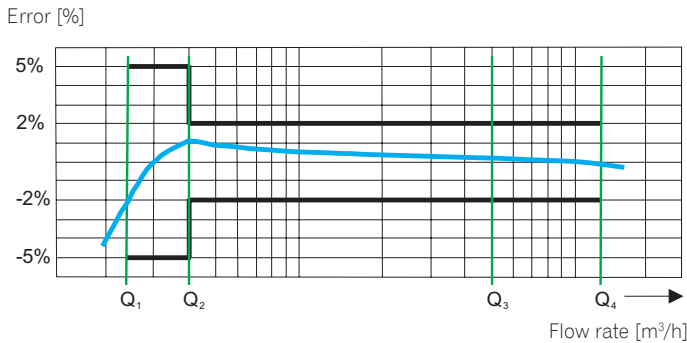
JS DN - XX - W

- Version (IP68 available to order; body with a pressure gauge port, ISO length)
- transmitters: NK; NO; NKO, or pre-equipped: NKP; NOP; NKOP
- Rated diameter

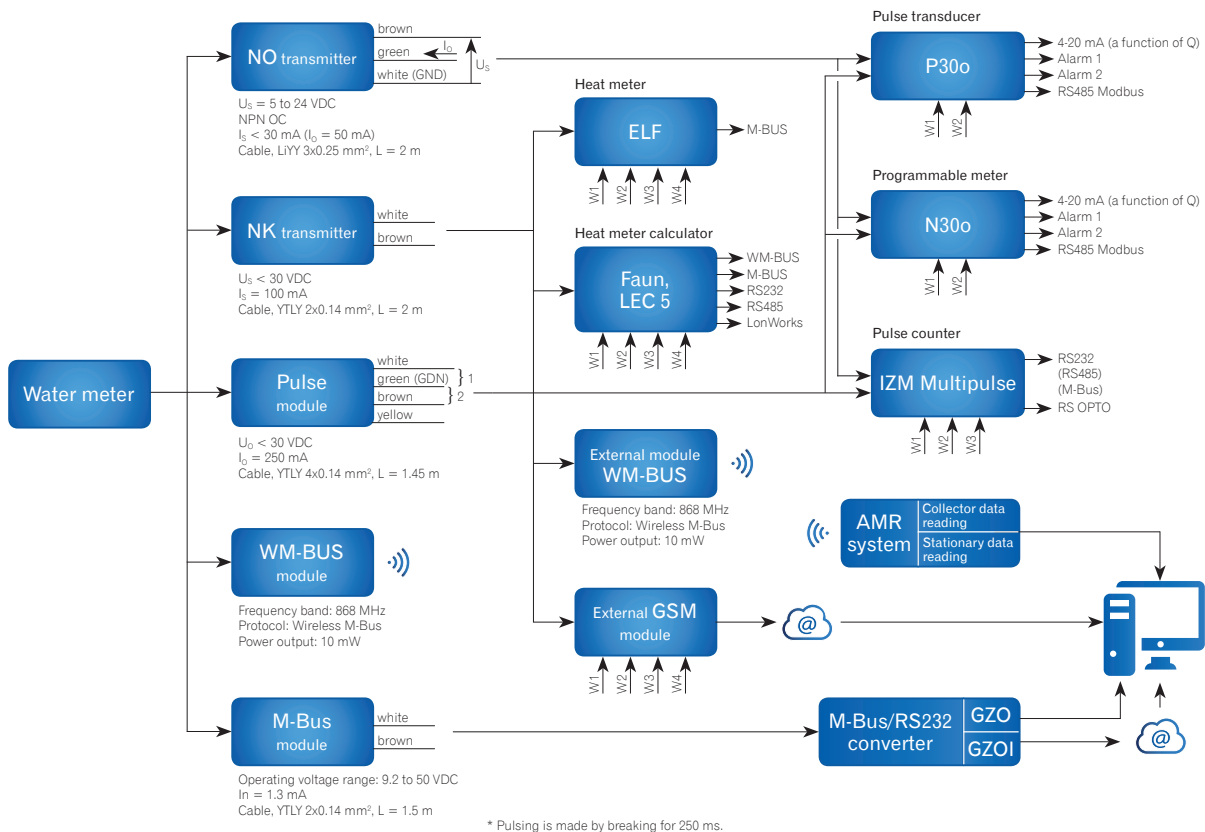
PRESSURE LOSS CHART



TYPICAL ERROR CHART



REMOTE INDICATION RELAY & FLOW RATE MEASUREMENT



Förbehåll för tekniska ändringar utan avisering.

Uppgifterna gäller vid datumet för utfärdandet av detta dokument.
Tillverkaren har rätt att ändra och förbättra produkterna utan föregående meddelande.
Denna publikation är endast avsedd för informationsändamål.



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