WATER MEASUREMENT

WS-NKP

MULTI-JET WATER METER DN 15 ÷ DN 50

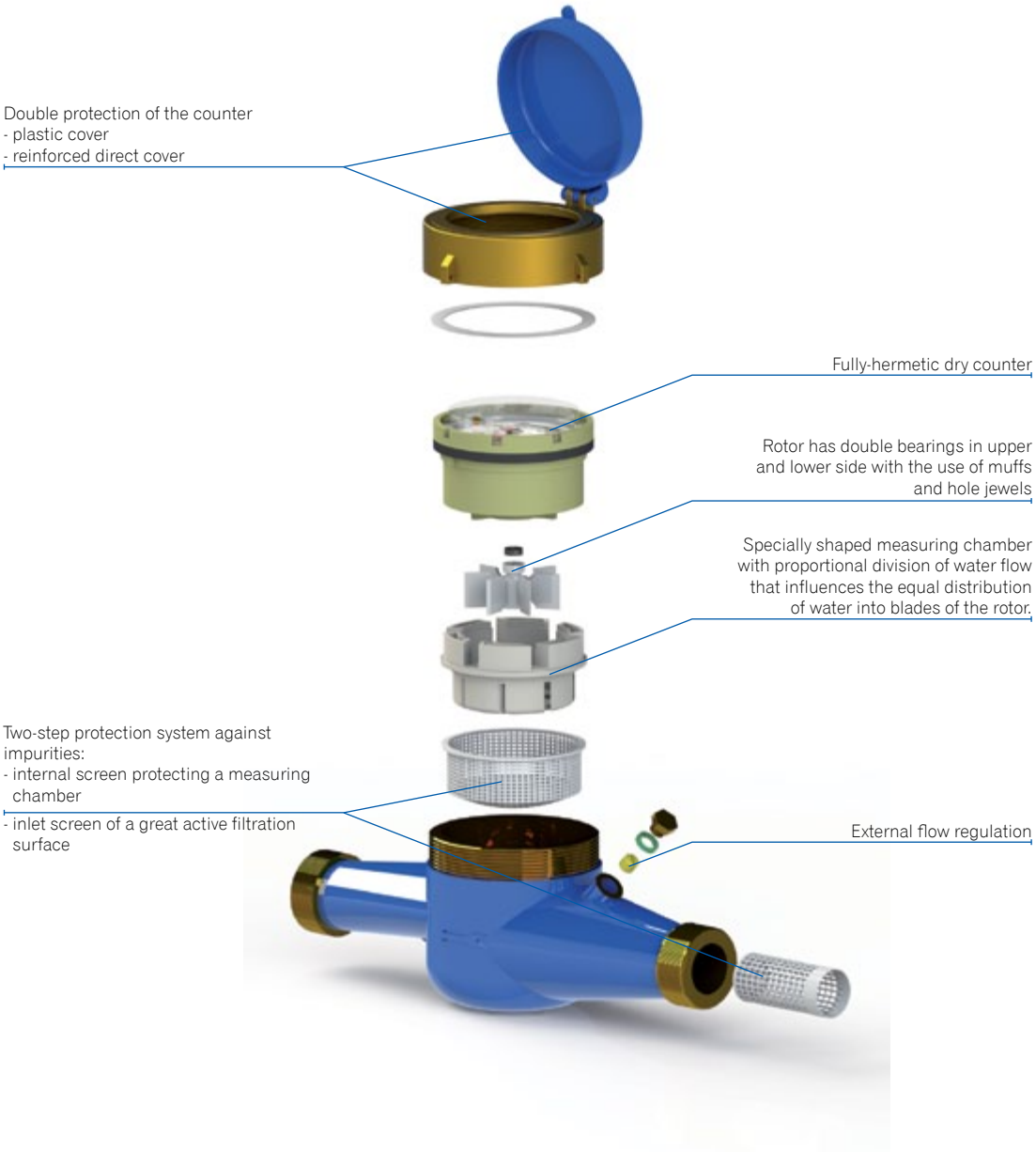
MID R 100

WS is a multi-jet dry-dial water meter designed for the measurement of cold water, normally adjusted to the assembly of an impulse transmitter – NKP. The water meter has a special construction of a measuring chamber with a rotor which is run by many symmetrically placed water streams, that provides high durability and stable meteorological parameters while its operation. Concurrently, the use of the best choice materials and the use of screens of great active surface enable the water meter to achieve better resistance to impurities in water.

THE APPLICATION

Water supply systems used in single-family housing and many-families housing and for institutional construction as well are characterized by notable and long-term cold water flows of the temperature of 30°C, or of the temperature of up to 50°C and the pressure of up to 16 bar. The water meter must be fitted horizontally and its counter must be directed upwards (H).

APATOR



QUALITIES OF WS-NKP WATER METER

- Low costs of use
  - Tested and infallible construction for instance a multi-jet inlet to the specially shaped measuring chamber;
  - Better accuracy of measurements gained through the equal distribution of water for the blades of the rotor;
  - High durability of use gained by the use of the newest materials of high resistance to friction; thanks to the use of poly-propylene to make a rotor it is possible to receive high flexibility and better resistance to the influence of significant flow power on the blades.
  - Very good anti-corrosion and mechanical properties of paint layer (powder-epoxide paints).
- Comfort of use and assembly in water supply systems (the use of standard connectors – half unions).

SPECIAL CHARACTERISTICS

- Unique multi-jet water meter of the diameters DN 15 ÷ DN 50,
- Extra dry counter (magnetic coupling with hydraulic part without a gear immersed in water).
- Protection against magnetic field exceeds the requirements EN14154-3.
- Fully-resistant to counter stop through tightening – the use of special cover.
- There is no need for additional straight sections before and after the water meter in the case of the water meter installation with the use of standard connectors.
- Brass water meter's body.
- Low threshold of start-up.
- The water meter in standard version -NKP is adjusted for the assembly of a reed transmitter.

WODOMIERZ TYPU WS

WITHOUT
REED TRANSMITTER

WITH REED
TRANSMITTER

WITH FLANGED CONNECTION
AND REED TRANSMITTER

COMPLIANCE WITH STANDARDS AND REGULATIONS

- 2004/22/EC directive of EU Parliament and EU Council of 31 March 2004 on measuring devices
- OIML R49:2004 and 2006 – water meters destined for cold drinking water and warm water measurements.
- EN-14154:2005 – water meters. Part 1 ÷ 3.
- Certificate of testing WE – no. TCM 142/09-4708
- Classification of environmental, climatic and mechanical conditions - class B – according to EN-14154-3:2005:A1
- Classification of mechanical environmental conditions - class M1
- Classification of electromagnetic environmental conditions - class E1

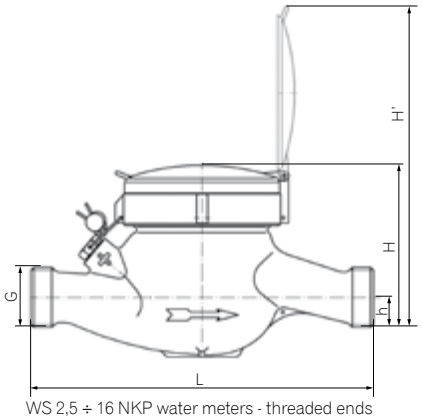
Any materials used for the production of WS-NKP water meter have appropriate Hygienic Attests that permit the use of the product in contact with drinking water.

Table 1. TECHNICAL DATA

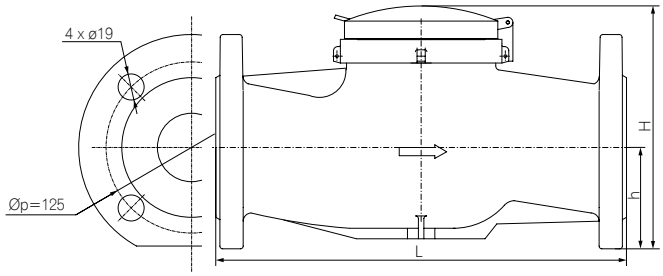
Parameter				WS 2,5-NKP*	WS 2,5-G1-NKP*	WS 4-NKP*	WS 6,3-NKP*	WS 10-NKP*	WS 16-NKP*	WS 25-NKP*
Nominal diameter		DN	mm	15	20	20	25	32	40	50
Continuous flow rate		Q_3	m^3/h	2,5	2,5	4	6,3	10	16	25
Maximum flow rate		Q_4	m^3/h	3,125	3,125	5	7,875	12,5	20	31,25
Intermediate flow rate		Q_2	dm^3/h	40	40	64	100,8	160	256	400
Minimum flow rate		Q_1	dm^3/h	25	25	40	63	100	160	250
Starting value		–	dm^3/h	14	14	18	19	25	56	70
Ratio of Q_2/Q_1		Q_2/Q_1	–	1,6						
Range of measurement R		Q_3/Q_1	–	100						
Temperature class (nominal temperature of operation)		–	–	T30, T50						
Flow profile resistance classes		–	–	U0, D0						
Indications range		–	m^3	99 999						
Indications precision		–	m^3	0,00005						
Maximum pressure		P_{max}	MPa	1,6						
Maximum pressure lost		Δp	kPa	63					40	63
Acceptable threshold error in the range: $Q_2 \le Q \le Q_4$		ε	%	± 2 for cold water of the temperature of ≤ 30°C ± 3 for the temperature of warm water > 30°C						
Acceptable threshold error in the range: $Q_1 \le Q < Q_2$		ε	%	± 5						
Value of impulse of reed transmitter NK - **stand**/others		–	dm^3/ imp.	**1**/10	**10**/100				**100**/10	
Thread of an adapter / Collar		G	cal	G¾	G1	G1	G1¼	G1½	G2	Kołnierz**
Height		H	mm	120	120	120	130	130	170	170
Height		h	mm	36	36	36	41,5	41,5	55	80
Height with open cover		H`	mm	195	195	195	210	210	265	265
Length		L	mm	165	190	190	165/260	260	300	300
Mass (without connection devices)	Without transmitter	–	kg	1,34	1,46	1,46	1,67 / 2,10	2,30	4,00	10,70
	With a transmitter	–		1,38	1,50	1,50	1,71 / 2,14	2,34	4,04	10,74

*) build: standard NKP – water meter adjusted to a reed transmitter on comission NK – with reed transmitter

**) build: collar (drilling according to ISO 7005 – 1.0 MPa or 1.6 MPa)



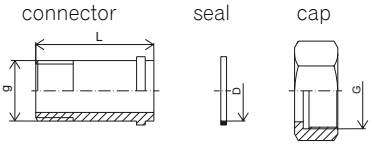
WS 2,5 ÷ 16 NKP water meters - threaded ends



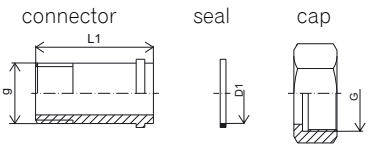
WS 25NKP water meter - flanged ends

CONNECTING ELEMENTS

Basic construction

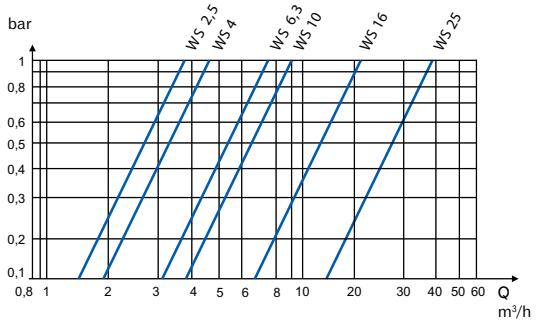


For water meters with a reverse valve

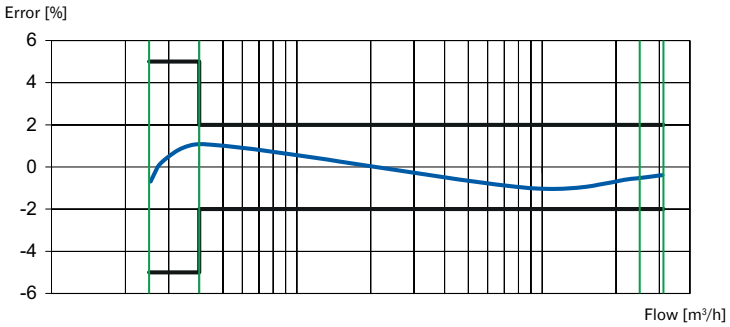


DN	G	g	D	L	D1	L1
	inches	inches	mm	mm	mm	mm
15	3/4	1/2	17	40	17	37
20	1	3/4	23	50	23	47
25	1¼	1	29	60	29	57
32	1½	1¼	36	60	29	57
40	2	1½	43	70	43	67

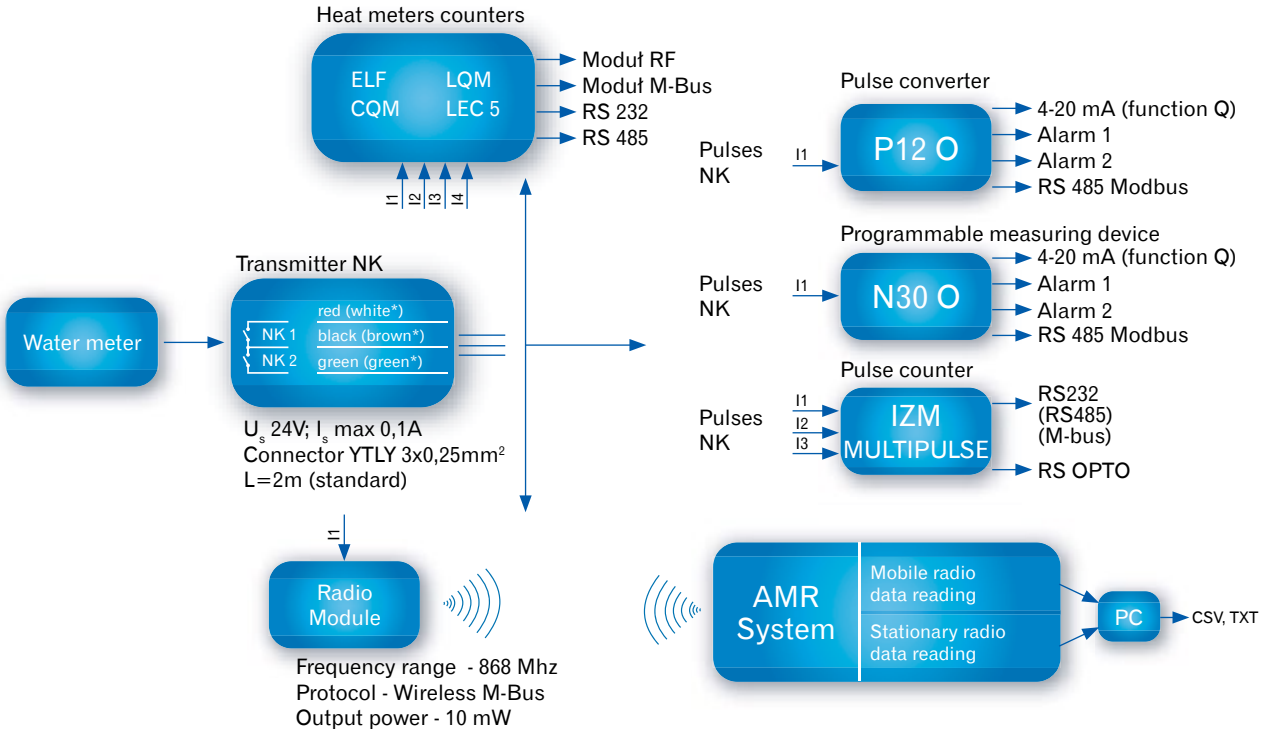
CHART OF PRESSURE LOST



TYPICAL CHART OF ERRORS



EXAMPLES OF CONNECTIONS FOR REMOTE TRANSMISSION OF READINGS AND MEASUREMENT OF THE CAPACITY OF STREAM



An example of the customer's order:

- water meter for cold water WS2,5-NKP; WS2,5-NK(10 dm³/imp.)

Additionally we may deliver on customer's request:

- connectors for a water meter, without reverse valve,
- connectors for a water meter, with a reverse valve (unabling reversing of water meter readings though a forced water circuit in other direction),
- one-time grips with lock seals made of plastic, individually numbered (protecting against mechanical manipulation of a counter).

*) colors of cables of the length L=10 m

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