

Nubis

propeller water meter
with horizontal impeller axle



Nubis is propeller, dry water meter Woltman's type, with horizontal impeller axle, parallel to pipe axles. Nubis water meters are characterized by modern construction and technology solutions, which make them long-lasting and perfectly proved in cooperation with pulse transmitters and data transmission modules (RF, pulse, and M-Bus modules).

Application

Water meters are assigned to industrial measurements of water usage up to 30 degrees of cold water and up to 130 degrees of hot water in relatively regular and strong flow rate. Construction of the water meter gives possibility of mounting on horizontal, vertical and inclined water supply systems with counter set upwards, sideways or in medium position H-V.

Water meters MWN type



WITH RADIO MODULE



WITH PULSE TRANSMITTER



WITHOUT PULSE TRANSMITTER

Advantages

- Permanent and efficient construction, ensuring the flow of water in low loss of pressure and easiness in assembly in random waterworks installations.
- Lowered weight of water meter.
- Interchangeable and unified metering layer fitting to several sizes of body and assuring optimal water meter management.
- Standard water meter is suitable for remote readings in AMR system.
- The possibility of mounting the water meter in the intermediate position without the influence on the metrological parameters, larger possibilities in designing and modernizing new used water meters connections.
- Very good anticorrosive and mechanical qualities of paint coat (powder paint- epoxy).

Characteristic features

- Resistant to the external magnetic field, according to EN14154-3
- Low starting slow rate
- Wide measuring range
- Ease read-out due to a freely adjustable rotary counter dial placed in the casing
- Possibility of electronic check-up of the metrological parameters of the water meter
- Modular structure
- Removable measuring insert in covered casing
- Magnetic clutch

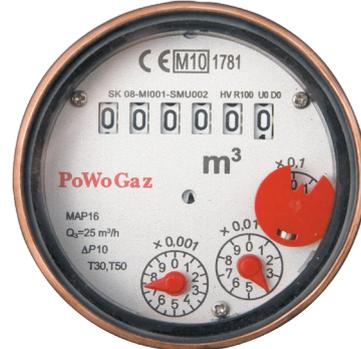
Accordance with standards and rules of law

- 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 49-1:2006 Water meters intended for the metering of cold potable water and hot water. Part 1: Metrological and technical requirements
- OIML R 49-2:2004 Water meters intended for the metering of cold potable water and hot water. Part 2: Test methods
- 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 test certificate – cold water no. SK08-MI001-SMU002 , hot water no. SK10-MI001-SMU013
- PZH National Institute of Hygiene and WRAS certificates (all materials used in MWN water meters have Hygiene Certificates for use with potable 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 and E2, as per EN-ISO 4064: 2014 and Directive 2014/32/EC of the European Parliament and of the Council of 26 February 2014



IP 65 dial and barrel counter, complete with a retro-reflective pointer and contained in a plastic housing. Preequipped for interfacing with data transmission modules.



IP68 counter (only for cold water) co-operates with NK transmitter and is placed in the copper cover, in the airtight casing closed with mineral glass.

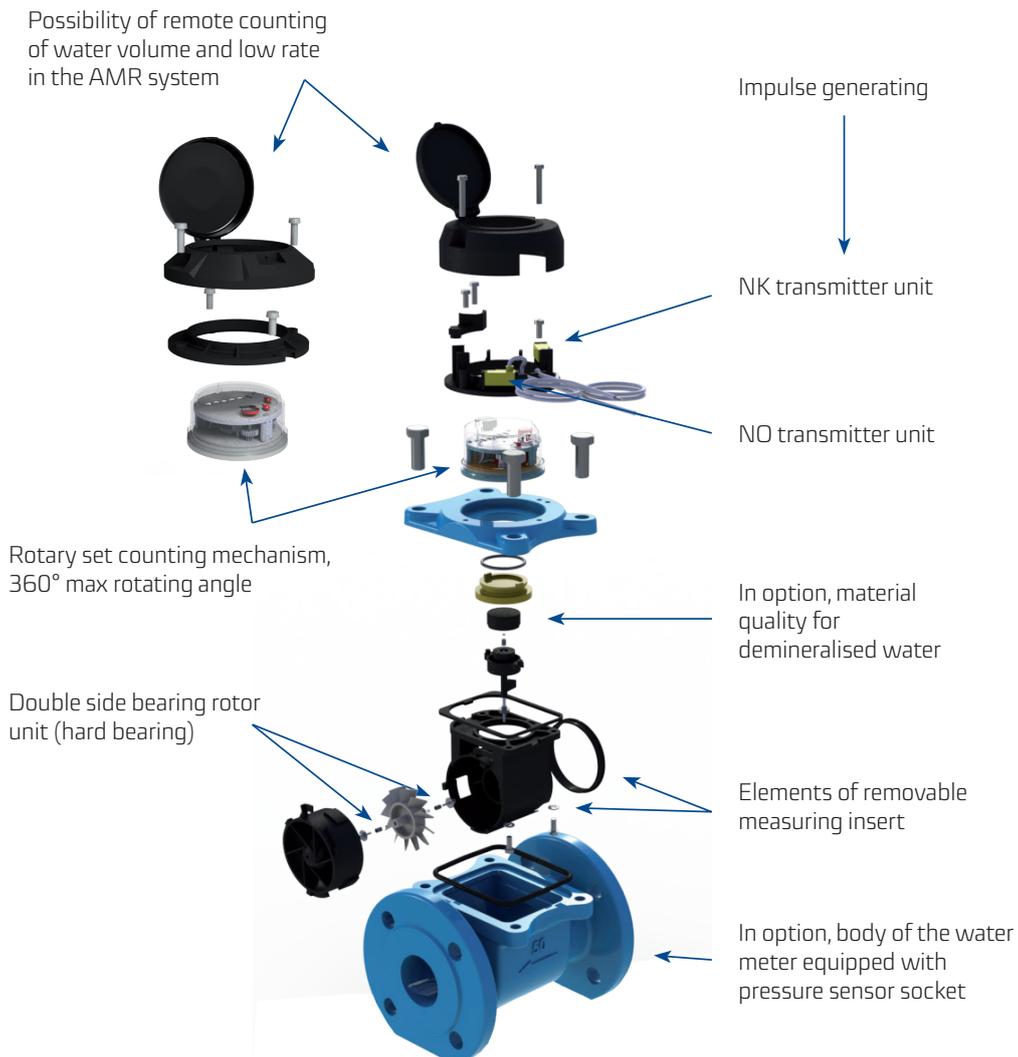
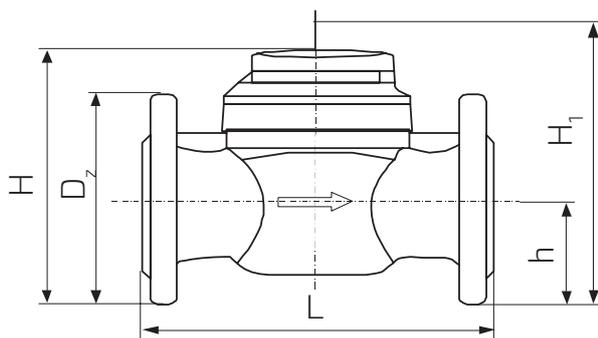


Tabela 1. TECHNICAL DATA

Parameter			MWN, MWN-XX											
Nominal diameter	DN	mm	40	50	65	80	100	125	150	200	250	300		
Temperature class (Working temperatures range)	T30 (0,1÷30°C), T50 (0,1÷50°C)		MWN (without transmitter) or MWN (with transmitter) in NK, NO, NKO, NKOP optio											
Constant flow rate	Q ₃	m ³ /h	25	40	63	100	160	250	400	630	1000	1600		
Overload flow rate	Q ₄	m ³ /h	31,25	50	78,75	125	200	312,5	500	787,5	1250	2000		
Transitional flow rate	Q ₂	m ³ /h	0,4	0,64	0,806	1	1,28	2,5	3,2	8,064	16	20,48	25,6	
Minimal flow rate	Q ₁	m ³ /h	0,25	0,4	0,504	0,625	0,8	1,563	2	5,04	10	12,8	16	
Starting flow rate	-	m ³ /h	0,15	0,15	0,2	0,25	0,25	0,5	1,0	1,5	3	8		
R measuring rate	Q ₃ /Q ₁	-	100	100	125	160	200	160	200	125	100	125	100	
Coefficient	Q ₂ /Q ₁	-	1,6											
Max pressure lost	ΔP	kPa	ΔP10	ΔP16	ΔP40	ΔP10	ΔP25	ΔP25	ΔP25	ΔP16	ΔP10	ΔP10		
Temperature class (Working temperatures range)	T130 (0,1÷130°C)		MWN (without transmitter) or MWN (with transmitter) in NK, NKP optio											
Constant flow rate	Q ₃	m ³ /h	25	25	40	63	100	160	250	400	630	1000		
Overload flow rate	Q ₄	m ³ /h	31,25	31,25	50	78,75	125	200	312,5	500	787,5	1250		
Transitional flow rate	Q ₂	m ³ /h	1	1	1,6	2,52	4	6,4	10	16	40,32	64		
Minimal flow rate	Q ₁	m ³ /h	0,625	0,625	1	1,575	2,5	4	6,25	10	25,2	40		
Starting flow rate	-	m ³ /h	0,25	0,25	0,3	0,35	0,6	1,1	2	4	8	15		
R measuring rate	Q ₃ /Q ₁	-	40	40	40	40	40	40	40	40	25	25		
Coefficient	Q ₂ /Q ₁	-	1,6											
Max pressure lost	ΔP	kPa	ΔP10	ΔP10	ΔP16	ΔP10	ΔP10	ΔP25	ΔP10	ΔP16	ΔP10	ΔP10		
Clase de resistencia al perfil de caudal	-	-	U0, D0											
Indication range	-	m ³	10 ⁶						10 ⁷					
Accuracy of indication	-	m ³	0,0005						0,005				0,05	
Upper pressure limit	P _{max}	-	MAP16=(16bar)											
Working pressure range	-	bar	from 0,3 to 16											
Working position	-	-	H, V											
Border range error allowed	ε	%	±5% (Q ₁ ≤Q≤Q ₂) ±2 (Q ₂ ≤Q≤Q ₄) for 0,1≤T≤30°C ±3 (Q ₂ ≤Q≤Q ₄) for T>30°C											
NK Reed Switch pulse transmitter	-	dm ³ / imp.	1000 (standard impulsion) 2,5; 10; 25; 100; 250						10000 (standard impulsion) 25; 100; 250; 1000; 2500;					
Optoelectronic impulse transmitter NO**	-	dm ³ / imp.	1						10				105,2632	
Dimension	L	mm	200	200	200	225/200***	250	250	300	350	450	500		
	h	mm	65	72	83	95	105	120	135	160	193	230		
	H	mm	177	187	197	219	229	257	357	382	427	497		
	H ₁ ****	mm	227	287	297	239	349	377	582	607	652	722		
	D _z	mm	150	165	185	200	220	250	285	340	400	460		
Weight	without transmitter	kg	7,9	9,9	10,6	13,3/13,8***	15,6	18,1	40,1	51,1	75,1	103,1		
	with transmitter NK NO		8,3	10,3	11	13,7/14,2***	16	18,5	40,5	51,5	75,5	103,5		

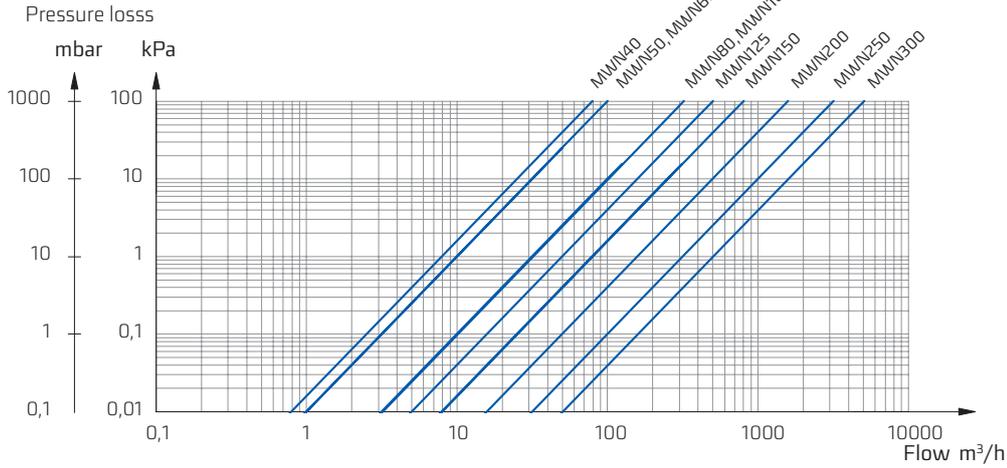


* Quality: NK- Reed Switch transmitter, NKP- water meter adapted for Reed Switch, NO- optoelectronic transmitter, NKO- optoelectronic and Reed Switch transmitter, KNOP- water meter adapted for optoelectronic and Reed Switch transmitter.
 ** Only for T30 and T50.
 *** On request.
 **** Space for measuring insert removal.

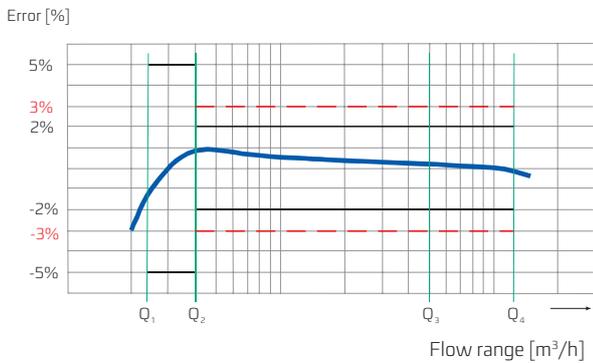
TFlange drilling according to PN-EN 1092-2 (PN10), DIN2532, DIN2501 (NP10), BS4504 (NP10) on special request PN16 and PN25 quality for chosen sizes.



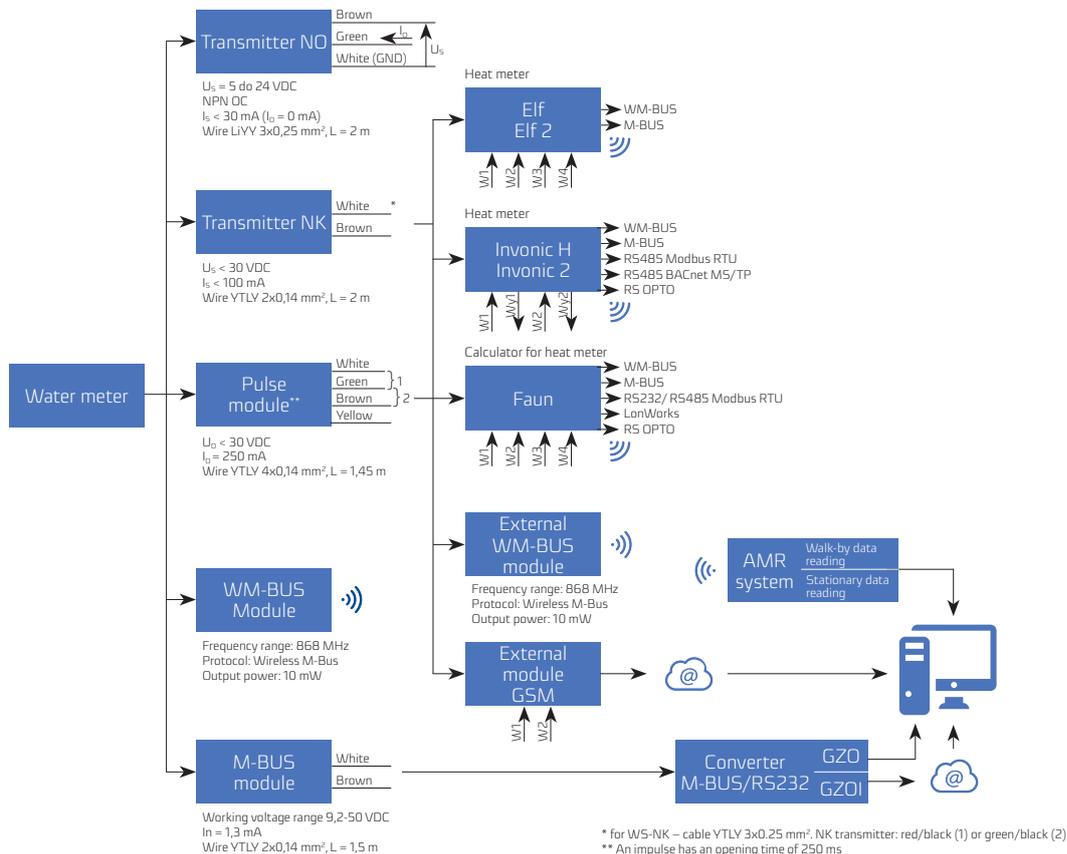
Pressure loss chart



Typical error chart



Connection examples for implementation remote indication transmitting and measuring the flow rate



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