

## NUR Serie (DN15 ~ DN20) Volumetric - Rotary Piston Type Water Meter for Cold Water



### Main Characteristics:

- Approved in accordance with MID
- Rotary piston type register type
- Brass housing material
- Durable internal removable strainer and non return valve
- Removable measuring mechanism
- 360° rotating lid
- Register cap made of brass
- Electrostatic e/p powder painted
- External adjustable screw
- Equipable with Pulse output, M-Bus (Wire, Wireless), RF Spare parts and service available for 10 years
- 2 years of guarantee
- Register cap two parts made of brass + polycarbonate (PC)

Available options:     

The meter could be pre-equipped for future integration of remote reading devices such as M-Bus wire, M-Bus wireless OMS, Non-magnetic pulse output, AMR and upon request LoRa, LoRaWAN, Sigfox

### Approvals:

EC type-examination certificate in conformity with

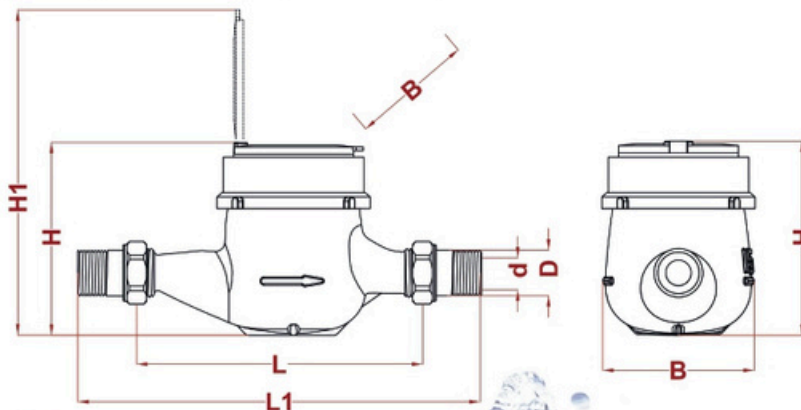
- 2014/32/EU (MID) MI-001 Water Meter
- OIML R49-1 :2006
- EN 14154:2005+A2
- ISO 4064:2015
- EC Type Examination Certificate (Module B)
- The Quality Assurance of Production Process (Module D)
- ISO 9001:2015
- ISO 14001:2015
- ISO 45001:2018
- ISO 27001:2013

### Principle Factors

- (QR) Code to send data for viewing - optional
- Water temperature up to 50 °C
- Available for optical direct reading
- High resistance to water impurities
- Magnetic transmission
- Horizontal installation
- Metrological range -horizontal- R400 (Class D)

### Applications:

For the consumption measuring of cold potable water up to 50°C. Working pressure 16 bar (PN16), mm. static pressure test 25 bar for 15 mins., 32 bar for 1 mins. Its reliability, resistance to bad water quality and noiseless operation will satisfy both end users and network managers. Meter also keeps its metrological accuracy for many years of operation, even in very difficult working conditions.



	Nominal Diameter	Dn Size	mm	
			15	20
		Inch	½"	¾"
Overall Length Without Connectors	L	mm	165	190
Overall Length With Connectors	L1	mm	230	260
Thread Meter Gx8	D	Inch	¾"	1"
Thread Connector	d	Inch	½"	¾"
Total Height	H	mm	85,00	85,00
Total Height (With Lid)	H1	mm	157,20	157,00
Width Approx	W	mm	99,00	99,00
Weight Approx	*	kg	1,50	1,50
Package Without Connectors	*	kg	1,55	1,55
Package With Connectors	*	kg	1,57	1,60
Box Dimension (1 unite)	*	cm	19x10x9	19x10x9
Package Dimension (30 unite)	*	cm	49x23x20	49x23x20
Quantity Per Package	*	unite	10	10

Threading : EN ISO 228-1 : 2003

## Marking:

The manufacturer's trade mark, Nominal flow rate (Q3), Metrological ratio (R), Nominal size of the meter, Maximum working pressure (MAP), Pressure head loss class ( $\Delta P$ ), Type of the meter (Model), EC-type examination certificate number, Year of manufacturing, Mounting position, Maximum water temperature (T), CE marking, Metrology marking, Notified body number from D and F module, Volume unite of the index (m<sup>3</sup>) according to the MID 2014/32/EU directive on measuring instruments are printed on the dial.

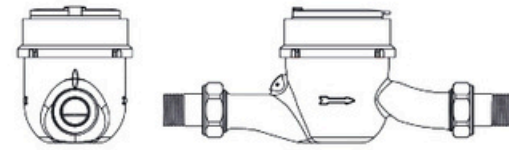
Optional customized meter marking purchaser's logo or tender number, or QR code, serial number.

Markings which are clearly visible, readable and of permanent and non-deleteable nature may vary depending on particular markets or metrological specifications.



## Installation and Operating Instruction:

Meter must be installed in a low point of the pipeline with the arrow cast on the body showing direction of the water flow. All pipework must be flushed out to remove all impurities before fitting the water meter. An upstream stop valve or ball valve is recommended to allow installation and removal of the water meter. When connecting the meter with the meter network, the upstream stop valve or ball valve must be opened slowly so that the meter fills the meter as smoothly as possible. No special maintenance is required.

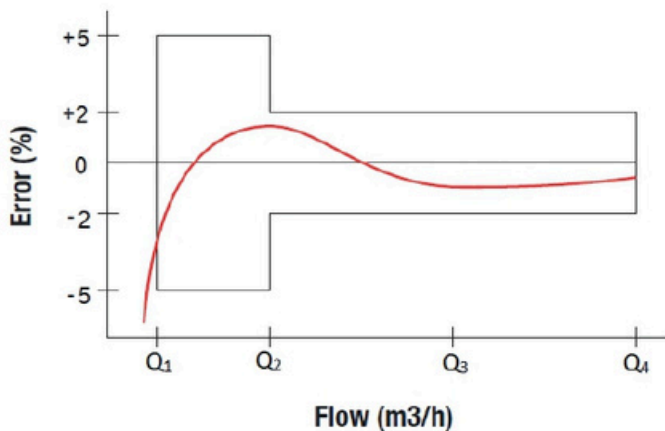


## Pulse Emitter Device:

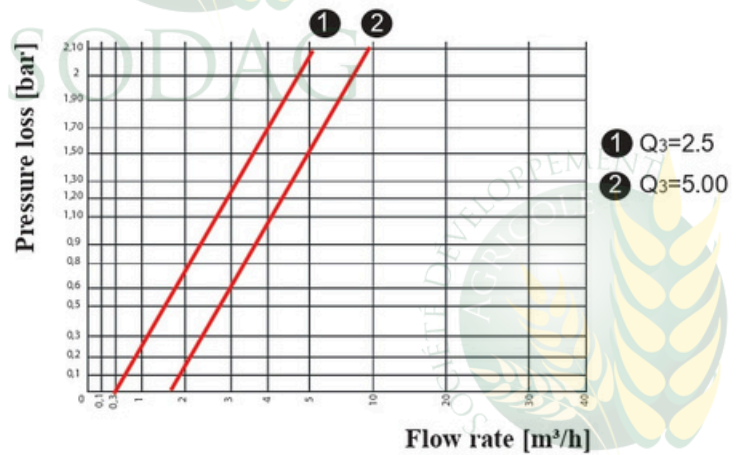
Water meter could be equipped with pulse emitter device which is a removable bonnet for quick and easy maintenance without damaging or removing the metrological seals of the meter. The meter can be linked to tele-reading systems, to PLC, to M-Bus networks using singal converter, to pulse counter and all those applications that require remote reading of the water consumption data.

Water meters could be equipped with a pulse emitter with protection class (IP68) 1,20 meter length of pre-mounted wire cables, Mercan (P) retrofittable with reed pulser: 1/10/100/1000 (Standard: 10 l/pulse, optional: 1 l/pulse) or pre-equipped for the future installation of the pulse emitter. Note: The register protective cover of water meter with pulse emitter device will be high-quality UV-resistant and made of polycarbonate (PC) transparent material instead of mineral glass.

## Typical Accuracy Curve:



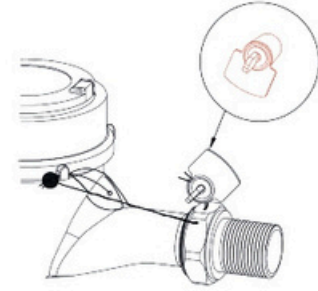
## Typical Head Loss Curve:



## Tampering Protection and Sealing (Optional):

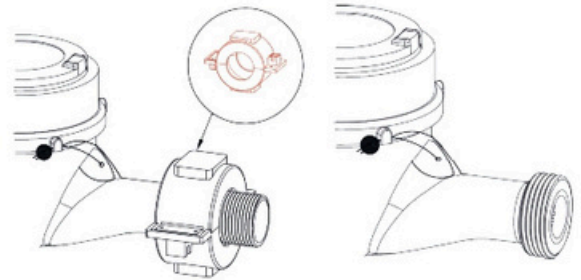
### • Anti-Tampering butterfly seal for water meter

Pented butterfly seal consists mainly of three parts: transparent body, colored butterfly inner part and stainless steel sealing wire. Transparent body is made of polycarbonate (PC) material, colorful butterfly inner part is made of polyoximethylene (POM) which can not be removed without breaking from mounted inside. The inner part mounted inside the cylindrical body shall be non-reversible and unidirectional. Sealing wire made of AISI304 stainless steel are produced by twisting 7 pieces of  $\varnothing 0.23\text{mm}$  wire on top of each other. The butterfly seal can be used once against tampering in water meters. Optional: Laser printed serial number and company logo could be added on the body based on quantity.



### • Anti-Tampering plastic seal for water meter connectors

Plastic seal consists of two equal parts. They are made of polycarbonate (PC) material which has non-flammable, chemicals, salts, weather and ultra-violet resistant. Thickness is min 2,00 mm and not easily deform and it can not opened without breaking. There are holes on the locking mechanism suitable for the passage of the sealing wire after locking. The materials to be used of both seals are recyclable, and the contents are not contain harmful substances to human health and environment.



Stainless Steel Seal

### • Meter Seals

The meter is sealed by sealing materials which are stainless steel wire 1.00 mm thickness - optional (covered with plastic) and aluminium seal.

		DN	mm	15	20
		Size	Inch	¾"	¾"
Performance Data	Metrological Data	Nominal Daimeter (DN)			
		Maximum Flow Rate (m <sup>3</sup> /h)	Q4	≤3.125	≤3,125 / 5.00
		Nominal Flow Rate (m <sup>3</sup> /h)	Q3	≤2.5	≤2.5 / 4.00
		Transitional Flow Rate (l/h) Tolerance ±2%	Q2	≤25	≤25 / 40
		Minimum Flow Rate (l/h) Tolerance ±5%	Q1	≥15.62	≥15,62 / 25
		Measuring Range - Horizontal (R-Class)	Q3 / Q1		≥160
		Measuring Transitional Flow Rate	Q2 / Q1		1.6
		Measuring Maximum Flow Rate	Q4 / Q3		1.25
		Accuracy Class			2
		Performance Data	Technical Data	Maximum Permissible Error For The Lower Flow Rate Zone	(MPE1)
Maximum Permissible Error For The Upper Flow Rate Zone	(MPEu)			±2% for water having a temperature ≤30 °C ±3% for water having a temperature >30 °C	
Temperature Class	T °C				T30 and T50
Water Pressure Classes	MAP (Bar)				16
Pressure - Loss Classes	ΔP (Bar)				0,63
Max. Indicating Range	[m <sup>3</sup> ]				99 999
Resolution Of The Indicating Device	[litre]				0,05
Instalation Positions					H/V
Flow Profile Sensitivity Classes					U0 D0
Impulse Value	litre/pulse				1, 10, 100, 1000
ModuleType (Optional)			Pulse, MBus (Wired,Wireless), RF, AMR		

## Third Party Inspection Company (Optional)

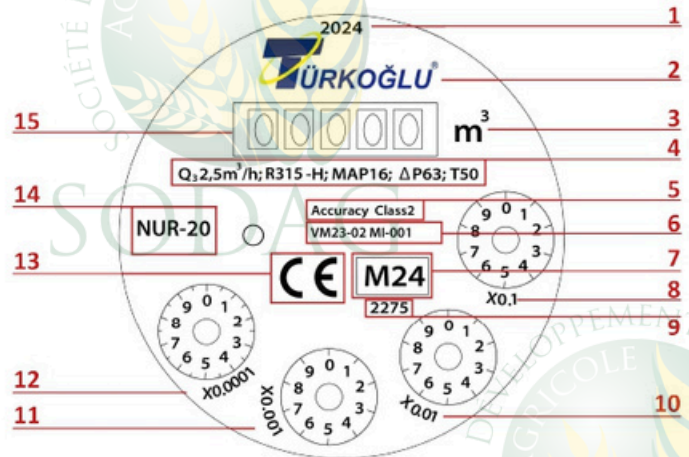
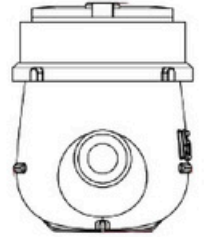
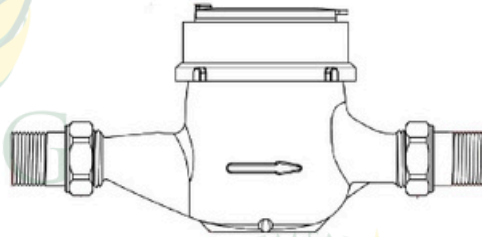
Third Party Inspection company (Bureau Veritas, SGS, Intertek) can be attended and witness to the needed tests in order to ensure 100% complete matching between the product and what is required in tender or contract documents in terms of standards, specifications and conditions.

Third Party Inspection report could be provided to the purchaser with results of all tests performed including visual, quality, quantity, packing, marking, loading control and witnessing to hydrostatic tests, error of indication tests during the inspection before each shipment.

## EXPLODED TECHNICAL DRAWING

NO	DESCRIPTION
1	LID
2	REGISTER CAP (BRASS / ABS)
3	GASKET
4	GLASS
5	O-RING
6	REGISTER
7	CENTRAL GEAR
8	ANTI-MAGNETIC RING
9	CLAMPING MATERIAL
10	GASKET
11	MAGNETIC ASSEMBLY
12	O-RING
13	COVER FOR MEASURING CHAMBER
14	PISTON
15	SEPARATE PLATE
16	MEASURING CHAMBER
17	CENTRAL STRAINER
18	GASKET
19	BODY (BRASS / ABS)
20	CHECK VALVE
21	STRAINER
22	SEALING





- 1: PRODUCTION YEAR
- 2: BRAND
- 3: UNIT OF VOLUME
- 4: NOMINEL FLOW RATE / R315 : R CLASS METROLOGICAL RATIO  
H: MOUNTING POSITION / MAP: MAXIMUM WORKING PRESSURE  
ΔP: PRESSURE LOSS CLASSES / T50: TEMPERATURE CLASS
- 5: ACCURACY CLASS
- 6: EC TYPE EXAMINATION CERTIFICATE
- 7: YEARS

- 8: 100LT.
- 9: THE QUALITY ASSURANCE OF PRODUCTION PROCESS
- 10: 10LT.
- 11: 1LT.
- 12: 0.5LT.
- 13: EUROPEAN INTEGRATION
- 14: TYPE OF THE METERS
- 15: VOLUME UNIT OF THE INDEX