620

Volumetric Meter
All positions Class C
Dry Dial

Main Features

DN 15 to 40,

Unrivalled accuracy and measuring range

Small pressure drop

High resistance to impurities

Noiseless operation

Application

The 620 rotary piston meter has been specially developed for operators anxious to optimise billing on their drinking water networks.

Its design is based on the rotary piston technology in order to achieve unrivalled accuracy and measuring range.

Its reliability, resistance to impurities and noiseless operation will satisfy both users and managers.

Options Available

HRI electronic sensor (Pulse Unit or Data Unit)

Connectors

Non-return valve

Upstream and downstream stop-cocks

Copper/glass register

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Accuracy

The development of a new material with a density close to that of water and an enhanced quality of surface finish results in a piston that glides easily in the measuring box at very low flows. The smallest leakage downstream of the meter can therefore be registered.

The measuring range of the 620 meter is much wider than Class C requirements. The vast majority of the 620 meters (DN 15, 20, 25 and 30) have an extended measuring range that cumulates the precision at both small flowrates and high flowrates of various metrologic classes.

DN 15 = Qn 0,75 - 1,5 Class C

DN 20 = Qn 1 - 2,5 Class C

DN 25/30= Qn 3,5 - 6 Class C.

Reliability

The exclusive composite materials of the piston of the 620 meter combine lightness and excellent surface conditions. The piston can move in the measuring box without friction and also with very low wear.

Foreign matters present in water can be filtered first by the tubular strainer, then by the seat strainer. The smallest particles can go through the meter without damage; the elastic pivot enables the particles to pass between the piston and the measuring box. In this case, the surface hardness of the piston and the measuring box avoids scratches.

All the gears are situated in the dry part of the meter (totalizer), which removes any risk of blockage due to suspended matter in the water.

The 620 water meter keeps its metrological accuracy for many years of operation, even in very difficult working conditions.

Legibility

The display on 8 drums (5 for m^3, 3 for litres) and 1 pointer ensures perfect readability. The lowest resolution is 0.05 litres. The dial has a central disc whose rotation indicates the passage of water. This indicator can be used to reveal a downstream leak.

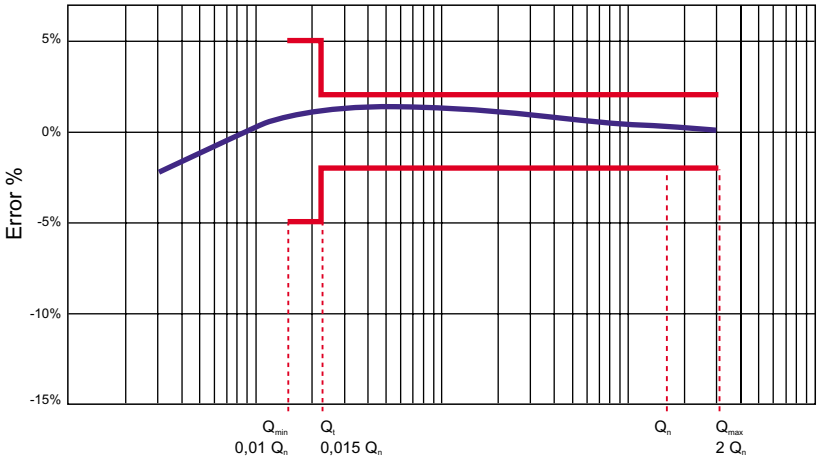
The plastic dial is equipped with a wiper for optimum legibility under all conditions.

The 620 water meter can operate in any position and its dry dial can rotate up to 350°.

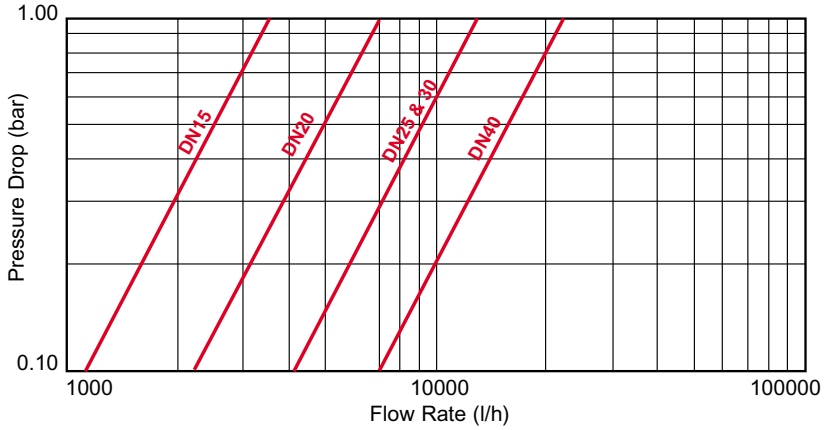
The dial can therefore be easily read under all conditions of use.

As an option, the meter can be supplied with a copper-glass register, making it perfectly water-tight (IP 68)

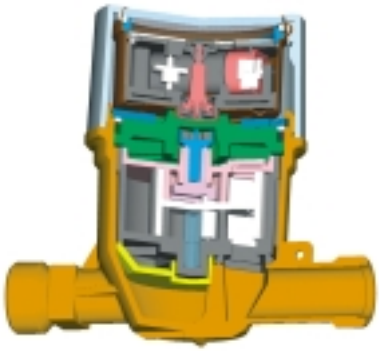
Typical Accuracy Curve



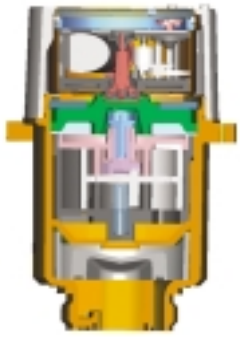
Typical Pressure Drop Curve



Cross Section



In-line version



Co-axial version

Compliance

The 620 meter conforms to Recommendation 49 of the International Organisation of Legal Metrology, ISO 4064 and European Community Directive 75/33.

Approvals

The 620 has been approved according to EC Pattern Approval under Number:

DN 15 & 20 D.96.6.123.05
DN 25 & 30 B.83.32.38
DN 40 B.77.32.04

The 620 has also the following approval for compatibility with potable water :

KTW/DVGW (D)
ACS (F)
WRAS (UK)
Hydrocheck (B)
KIWA (NL)

Marking

Direction of flow is indicated by two arrows on the body of the meter. The year of manufacture, the individual meter number and the EEC stamp are engraved on the head. The manufacturer's name, the type of meter, the metrological class and the EC Pattern approval number are all printed on the dial.

Installation and Maintenance Instructions

The 620 meter must be installed in a low point of the pipeline, with the arrow cast on the body showing direction of the water flow. Before fitting the water meter, all pipework must be flushed out to remove all impurities.

An upstream stop valve is recommended to allow installation and removal of the water meter.

During tightening, the meter must be maintained in position with a standard tool using the flat on the meter body.

When connecting the meter with the water network, the upstream valve must be opened slowly so that the water fills the meter as smoothly as possible.

No special maintenance is required.

Performance Data

Metrological Characteristics - EEC Directive 75/33

		in-line						co-axial
Nominal Diameter	**DN**	**mm**	**15**	**20**	**25***	**30**	**40**	**n/a**
Nominal flowrate	Qn	m^3/h	1,5	2,5	3,5	6	10	1,5
Maximum flowrate	Qmax	m^3/h	3	5	7	12	20	3
Minimum flowrate (tolerance ±5%)	Qmin	l/h	15	25	35	60	100	15
Transitional flowrate (tolerance ±2%)	Qt	l/h	22,5	37,5	52,5	90	150	22,5

*Also available with Qn=6

Operational Characteristics

	in-line						co-axial
Nominal Diameter DN	**mm**	**15**	**20**	**25**	**30**	**40**	**n/a**
Starting flowrate	l/h	<1	2	7	7	8	<1
Minimum flowrate +/- 5%	l/h	3	6	11	11	50	3
Transitional flowrate +/- 2%	l/h	5	12	16	16	70	5
Maximum registration	m^3	10^5	10^5	10^5	10^5	10^5	10^5
Lowest resolution	litre	0,05	0,05	0,2	0,2	0,2	0,05
Pressure loss at Qmax	bar	0,7	0,5	0,28	0,83	0,8	0,7
Working pressure	bar	16	16	16	16	16	16

Dimensions and Weights

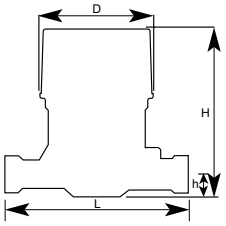
Dimensional characteristics

			in-line					co-axial
Nominal Diameter	**DN**	**mm**	**15**	**20**	**25**	**30**	**40**	**n/a**
Length	L	mm	170(2)	190(1)	260	260	300	n/a
Width	D	mm	79,7	93,5	135	135	150	100
Total height	H	mm	132,7	123	186	186	193	135,6
Height to pipe axis	h	mm	15,5	37,5	68	68	75	n/a
Tail piece	Diameter	inch	3/4"(3)	1	1"1/4	1"1/2	2"	1"1/2
		mm	26,44	33,25	41,91	47,8	59,61	47,80
thread	Pitch	mm	1,814	2,309	2,309	2,309	2,309	2,309
Weight		kg	0,99	1,56	3,7	3,8	5	0,98

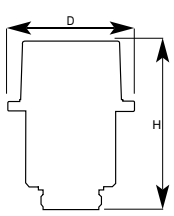
(1) In compliance with EEC pattern approval
(2) also available in length 110, 114, 130, 134 and 165 with 4/4" end pieces
(3) also available in length 165

Dimensional diagram

DN15

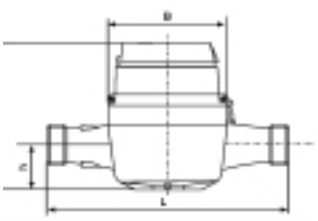


In-line version

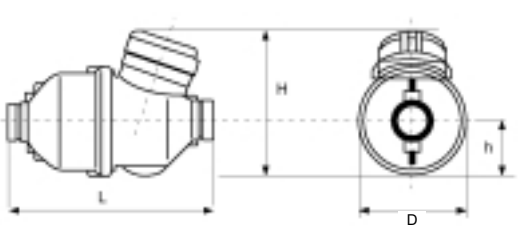


Co-axial version

DN20



DN25-40



Equipping with HRI sensor

The dial of the 620 is equipped as standard with a pointer able to activate the HRI sensor.

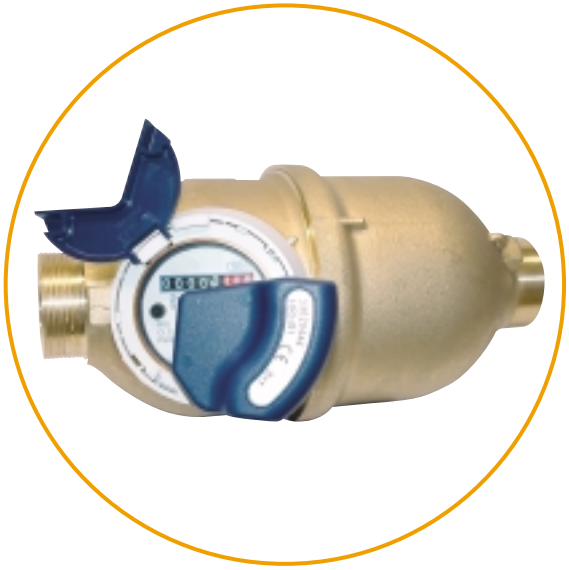
The HRI provides a reliable data source for remote reading of a conventional meter. It is THE interface for all today's requirements for data interrogation and remote transmission.

The HRi is available in two versions :

1. HRI Pulse Unit

The use of the decilitre pointer for activating the HRI allows a basic resolution of one litre per pulse. The final value of the pulse can be set using the divisor D (e.g. D = 100 means 1 pulse per 100 litres).

The possible D values are
(in particular): 1 / 10 / 100 / 1000



2. HRI Data Unit

The design of the HRI Data Unit integrates a data interface to read the index of the meter as well as the serial or customer number. The D value of the Divisor, the serial/subscriber number and the starting index are programmable. This version also allows a pulse signal to be emitted simultaneously (4 wire connection).

The HRI Data Unit can be connected to an M-Bus network or read through an inductive device (MiniBus) in accordance with the IEC 870 protocol.

Fitting of the HRI sensor

If the meter is equipped with a plastic register, the fitting is done through the installation of two screws protected with sealings provided with the sensor.

If the meter is equipped with a copper/glass register, a fitting ring, on which the HRI sensor is screwed, allows an easy and quick installation.

For additional information about the HRI, please refer to the LS8100INT datasheet.

L D 1621 INT / 005-0904 • Subject to change without notice