405S

Dry dial multijet water meter

Main Characteristics

DN 15 to 40 PN16

Magnetic transmission

Maximum water temperature 40°C

Removable measuring mechanism

Insensitive to upstream disruptive elements

355° orientable register

High resistance to water impurities

In option it may be equipped with a removable bonnet for quick and easy maintenance

Equipable with an HRI Sensor

Application

The 405S is a dry dial multijet water meter with a protected magnetic transmission between the measuring element and the totalizer. It is a PN 16 meter suited to hard network conditions

Its reliability, resistance to bad water quality and noiseless operation will satisfy both end users and network managers

Options Available

- Copper/glass register (standard on DN25 to 40)
- HRI electronic sensor (Pulse Unit or Data Unit) for DN 15 & 20 meters
- Cu/Glass register for DN15 & 20 meters non return valve

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Accuracy

The special design of this meter combined with the precision of the plastic parts injected by own Sensus Metering Systems injection department results in an accuracy curve overpassing the requirements for the ISO 4064 standard.

The meter will remain its metrological characteristics even if it is subject to bad water quality charged with sand or other particles.

Reliability

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.

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 405S 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 405 S water meter operates in horizontal position and its dry dial can rotate up to 355º.

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

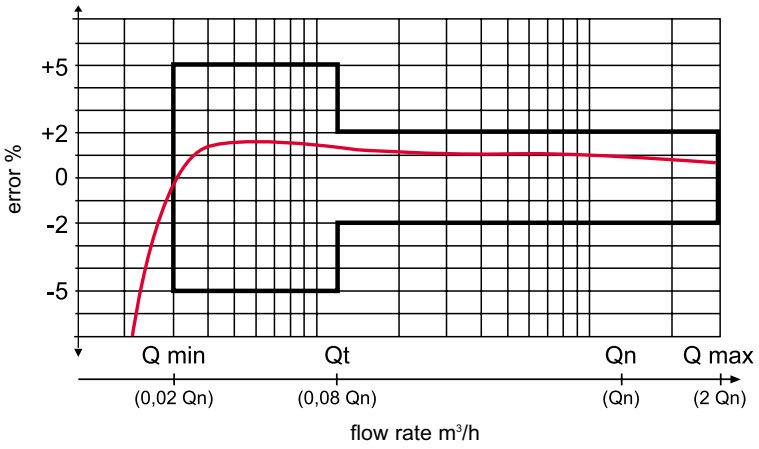
As an option, (standard for DN25 to 40 meters), *the meter can be supplied with a cupper-glass register, making it perfectly water-tight (IP 68)

Option

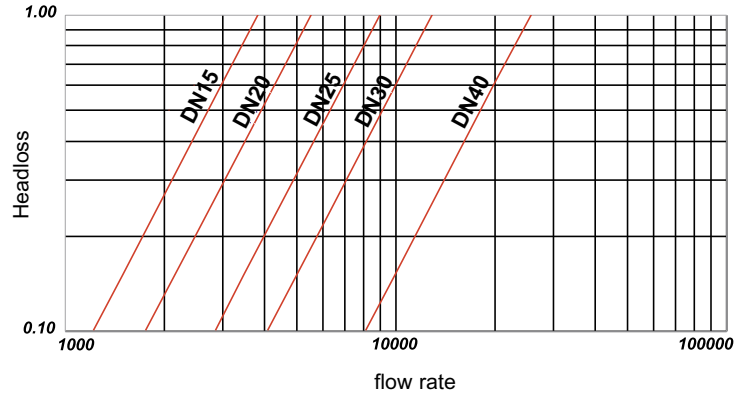
In option the 405S meter may be equipped with a removable bayonet bonnet sealed by a plastic plug.

With this bonnet, the meter can be opened and the measuring insert easily replaced or cleaned.

Typical accuracy curve



Typical head loss curve



Compliance

The 405S water meter complies with the prescription of the regulation n°49 of the OIML, to the ISO standard 4064/1-1977 and to the EC Council Directive 75/33.

It has been approved according to EC pattern approval under number:

D86 Qn 1.5-10

6.131.97 H Class B

Marking

An arrow on both sides of the body shows the direction of flow

The year of manufacture and the individual meter number are engraved on the cover

The manufacturer's name, the type of meter, the nominal flowrate, the metrological class and the EC pattern approval number are printed on the dial

Installation and operating instruction

The 405S 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.

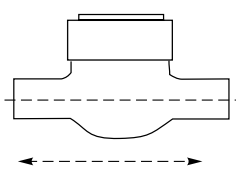
An upstream stop valve is recommended to allow installation and removal of the water meter.

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

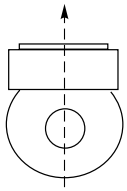
When connecting the meter with the water network, the upstream valve must be opened slowly so that the water fills the meter as smoothly as possible.

No special maintenance is required.

Installation positions



horizontal



upwards

Technical characteristics

Metrological characteristics - EEC Directive 75/33

Nominal diameter	DN	mm	15	20	25	30	40
Nominal flowrate	Qn	m^3/h	1,5	2,5	3,5	6	10
Maximum flowrate	Qmax	m^3/h	3	5	7	12	20
Minimal flowrate (measuring range ±5%)	Qmin	l/h	30	50	70	120	200
Transition flowrate (measuring range ±2%)	Qt	l/h	120	200	280	480	800

Operational characteristics

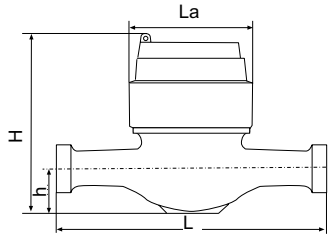
Nominal Diameter	DN	mm	15	20	25	30	40
Starting Flowrate		l/h	10	15	20	20	40
Minimum flowrate +/-2%		l/h	20	30	50	90	150
Transitional flowrate +/-5%		l/h	30	40	100	180	300
Maximum registration		m^3	10^5	10^5	10^5	10^5	10^5
Lowest resolution		l	0.05	0.05	0.05	0.05	0.05
Pressure loss at	Qmax	bar	0.6	0.8	0.6	0.85	0.6
Working pressure	PN	bar	16	16	16	16	16

Sizes and weight

Nominal diameter	DN	mm	15	20	25	30	40
Length	L	mm	170 (1)	190	260	260	300
Width	La	mm	82	82	102	102	136
Total Height	H	mm	104	104	142	142	160
Height from base to centreline	h	mm	28	28	48	48	63
Thread	diameter	inch	G3/4"B	G1"B	G1"1/4B	G1"1/2B	G2"B
		mm	26,44	33,25	41,91	47,8	59,61
	thread	mm	1,814	2,309	2,309	2,309	2,309
Weight		kg	0,9	1,1	2,3	2,3	4,3

(1) Also available in length 165 and 190 mm

Dimensions



HRI fitting

The dial of the 405S 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.

Ordering Information

Type	DN	Body	Thread	Qn	Class	Specials	Ordering n°
405S 015 L165G3/4 Q1,5-BH E	15	165	G 3/4" R 1/2	1.5	B-H		88 12 93 50
405S 015 L170G3/4 Q1,5-BH E	15	170	G 3/4" R 1/2	1.5	B-H		88 12 93 54
405S 015 L190G3/4 Q1,5-BH E	15	190	G 3/4" R 1/2	1.5	B-H		88 12 93 61
405S 020 L190G1 Q2,5-BH E	20	190	G 1" R 3/4	2.5	B-H		88 12 95 56
405S 020 L190G1 Q2,5-BH E NR	20	190	G 1" R 3/4	2.5	B-H	With NRV	88 12 95 60
405S 025 L260 G11/4 Qn3,5-BH E VCI	25	260	G 11/4" R 1	3.5	B-H	Cu/glass register	88 12 97 80
405S 025 L260 G11/4 Qn6-BH E VCI	25	260	G 11/4" R 1	6	B-H	Cu/glass register	88 12 98 82
405S 030 L260 G11/2 Qn6-BH E VCI	30	260	G 11/2" R 11/4	6	B-H	Cu/glass register	88 12 98 83
405S 040 L300 G2 Qn 10-BH E VCI	40	300	G 2" R 11/2	10	B-H	Cu/glass register	88 12 99 85

Execution with Cu/glass register and/or outlet non return valve available as option

Configuration with pre-assembled and programmed HRI sensor available on request

L D 1430 INT / 007-0804 • Subject to change without notice