



The Plus stands
for added performance,
functionality and design

**Ultrasonic Flowmeter
EcoSonic X12+**

ECOSONIC X12 - Values you can count on

The Application Fields

The ultrasonic meters of the ECOSONIC X12 product series are highly precise and robust measuring instruments for the flow measurement of gases. The ECOSONIC X12 has been optimized for metering the volume in the natural gas pipelines of energy providers.

The ECOSONIC X12 is a flexible metering unit for use in industry, for transport, as well as the distribution and storage of natural gas.

The ECOSONIC X12 series comprises nominal diameters from DN 80 (3") to DN 600 (24") and a pressure range of from PN10 up to ANSI600 (100bar).

The Eco-Touch Control Unit

The innovative Eco-Touch control unit is approved and complies with the ATEX directive. The ECOSONIC X12, together with the Eco-Touch control unit can be used in ATEX zone 1. All values and parameters can be read on the touch screen at the metering point. The most important measuring results are listed on the information page.

The Eco-Touch Display is the reference indication for all measurements and parameters for custody transfer.

The Measuring Paths

The ECOSONIC X12 uses six independent measuring paths. These measuring paths are placed on three levels. On each level, there are 2 symmetrical measuring paths which cross.

This arrangement enables the determination of flow factors such as the swirl and asymmetry. The recorded information on the flow profile is redundant.

Even if a measuring path fails, the ECOSONIC X12 is still able to carry out the custody transfer measurement.

The Advantages

The ECOSONIC X12 offers the typical advantages of the ultrasonic measurement method, inherent to all ultrasonic gas meters:

- no pressure losses
- large measuring ranges (up to 1:120)
- no moving parts, no wear and tear, maintenance-free
- electronic processing of the measured values
- very precise measuring results by using flow correction methods

Connection options:

DSfG (Instanz F), Modbus, Encoder, Impulse

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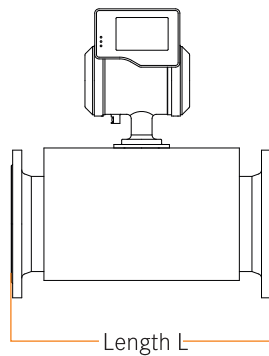
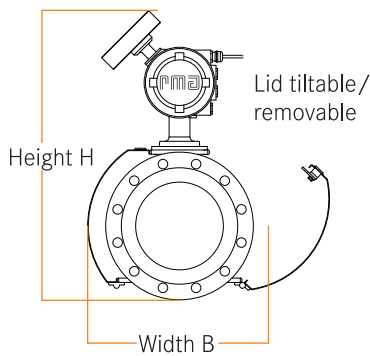
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PIPELINE EQUIPMENT

Measuring Ranges

DN [mm]	Qmin [m ³ /h]	Qmax [m ³ /h]	Length L [mm]	Width B [mm]	Height H [mm] (from the centre of the pipe)	max. weight [kg]
DN 80 (3")	8	650	240	302	555 (455)	55
DN 100 (4")	10	1000	300	328	585 (463)	90
DN 150 (6")	25	2500	450	403	635 (480)	125
DN 200 (8")	40	4000	600	423	675 (495)	175
DN 250 (10")	65	6500	750	503	745 (532)	280
DN 300 (12")	100	10000	900	553	800 (555)	330
DN 400 (16")	160	16000	1200	685	873 (583)	800
DN 500 (20")	180	22000	1500	928	1098 (687)	1350
DN 600 (24")	300	30000	1800	950	1170 (705)	1900



The values given correspond to the typical configurations. Subject to changes. Especially the weight may slightly vary for different pressure ranges.

Specifications

Gas	natural gas, air, gases from the IIB group of gases
Number of measuring paths	6 independent measuring paths on 3 levels
Qmin/Qmax	1:80 up to 1:120
Pressure range	max. 100 bar
Accuracy class	1.0 (OIML R 137-1:2006)
Repeatability	< 0,1 % of the measured value
Measurement accuracy	± 0,2 % of the measured value
Measuring cycles	10 independent samples per second and measuring path
Operating voltage	24 V DC
Typical power consumption	max. 10 W
Gas-/ambient temperature	-40 °C bis +60 °C
Relative air humidity	10 % up to 93 % condensing (EN 12405-1:2005)
Electr. outputs	2 HF pulse outputs (can be configured) 4 status outputs (can be assigned as required) 1 interface RS485 1 service interface RS485 (incl. RS485 - USB - converter or RS485 - TCP/IP - converter)
Software	EcoView parameterization and diagnostic software
Directives	Measuring instruments directive MID 2004/22/EG, Pressure equipment directive 97/23/EG, EMV Directive 89/336/EG
Explosion protection	according to Directive 94/9/EG (ATEX), II 2 (2) G Ex d e ib [ib] mb IIB T4 registration number TÜV 09 ATEX 554348 X
IP rating	IP65

Subject to technical changes.

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