Product Information

PIPELINE EQUIPMENT

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 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 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 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

**RMA Mess- und Regeltechnik GmbH & Co. KG**

Forsthausstraße 3 | D-77866 Rheinau
Telefon +49 (0) 78 44/404-0
Telefax +49 (0) 78 44/404-138
E-Mail mrt@rma-rheinau.de

**www.rma-armaturen.de**

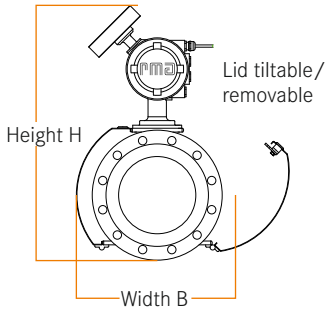
| | |
|---|---|
| **Germany** | RMA Kehl GmbH & Co. KG, Kehl |
| | RMA Rheinau GmbH & Co. KG, Rheinau |
| | RMA Training GmbH & Co. KG, Rheinau |
| **France** | RMA France S.A.S., Bischheim |
| **Poland** | RMA Polska Sp. z. o. o., Chojnów |
| **UK** | RMA Pipeline Equipment Ltd., Batley |
| **Bahrain** | RMA Middle East S.P.C, Al Hidd |
| **Russia** | OOO RMA Rus, Elabuga |
| **Singapur** | RMA Fiventures Asia-Pacific Pte Ltd |

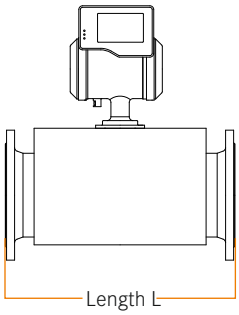
PIPELINE EQUIPMENT

## 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 |

Other diameters on request.




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 | 0.5 (OIML R 137-1:2006) |
| Repeatability | < 0,1 % of the measured value |
| Measurement accuracy | ± 0,2 % of the measured value for high pressure calibrated meter |
| Measuring cycles | 10 independent samples per second and measuring path |
| Operating voltage | 24 V DC |
| Typical power consumption | max. 10 W |
| Gas-/ambient temperature | -25 °C bis +55 °C |
| Relative air humidity | 10 % up to 93 % condensing (EN 12405-1:2005) |
| Electr. outputs | 2 HF pulse outputs (can be configured)<br>4 status outputs (can be assigned as required)<br>1 interface RS485<br>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/EWG |
| Explosion protection | according to Directive 94/9/EG (ATEX), II 2 (2) G Ex d e ib [ib] mb IIB T4<br>registration number TÜV 09 ATEX 554348 X |
| IP rating | IP65 |
| Material | Body: Carbon steel, Electronic housing: Aluminium casting or SS316 |

Stand 11/2020

Subject to technical changes.


**RMA Mess- und Regeltechnik GmbH & Co. KG**

Forsthausstraße 3 | D-77866 Rheinau
Telefon +49 (0) 78 44/404-0
Telefax +49 (0) 78 44/404-138
E-Mail mrt@rma-rheinau.de

**www.rma-armaturen.de**

| | |
|---|---|
| **Germany** | RMA Kehl GmbH & Co. KG, Kehl |
| | RMA Rheinau GmbH & Co. KG, Rheinau |
| | RMA Training GmbH & Co. KG, Rheinau |
| **France** | RMA France S.A.S., Bischheim |
| **Poland** | RMA Polska Sp. z. o. o., Chojnów |
| **UK** | RMA Pipeline Equipment Ltd., Batley |
| **Bahrain** | RMA Middle East S.P.C, Al Hidd |
| **Russia** | OOO RMA Rus, Elabuga |
| **Singapur** | RMA Fiventures Asia-Pacific Pte Ltd |


PIPELINE EQUIPMENT

**RMA Mess- und Regeltechnik GmbH & Co. KG**

Forsthausstraße 3 | D-77866 Rheinau
Telefon +49 (0) 78 44/404-0
Telefax +49 (0) 78 44/404-138
E-Mail mrt@rma-rheinau.de

**www.rma-armaturen.de**

| | |
|---|---|
| **Germany** | RMA Kehl GmbH & Co. KG, Kehl |
| | RMA Rheinau GmbH & Co. KG, Rheinau |
| | RMA Training GmbH & Co. KG, Rheinau |
| **France** | RMA France S.A.S., Bischheim |
| **Poland** | RMA Polska Sp. z. o. o., Chojnów |
| **UK** | RMA Pipeline Equipment Ltd., Batley |
| **Bahrain** | RMA Middle East S.P.C, Al Hidd |
| **Russia** | OOO RMA Rus, Elabuga |
| **Singapur** | RMA Fiventures Asia-Pacific Pte Ltd |

PIPELINE EQUIPMENT