

## Application

- => Robust design for water or general waste water industry
- => Direct replacement of mechanical water meter
- => Control interface friendly

## Features

- => High accuracy -thanks to our high SNR flow sensor and measurement circuitry
- => Transmitter housing made of casted aluminium
- => Supporting multiple communication protocols as HART Modbus RS-485
- => Optimized for low flow measurement, rated accuracy holds to 0.1 m/s flow speed

## Flow measurement

- => Measured variable: Volume flow rate by flow speed
- => Measuring range: 0.005 ~ 10 m<sup>3</sup>/s
- => Measuring performance: 0.5 % o.R  
0.2 % / 0.3 % o.R. Up on request for special calibration

## Output

- => Output signal
  - Analog: Active 4 ~ 20mA output
  - Pulse Output : Active
  - Frequency output 0 ~ 5 kHz, 50 % duty cycle
- => Communication
  - Modbus RS-485 or HART (optional)

## Power Supply

- => Supply Voltage: 85~265 VAC or 24 VDC
- => Power consumption: 10 W

## Process

- => Temperature: 0~60° C
- => Pressure rating : DN50 ~ DN150 16bar (1.6Mpa or 230 psi)  
DN200 ~ DN450 10bar (1.0Mpa)
- => Min. Conductivity: 10µs /cm
- => Connection: ANSI C16.5 #150

## Process

- => Sensor Material : Electrodes : 316 Stainless Steel  
Liner :CR  
Flow Tube: 304 Stainless Steel  
Sensor Body: Carbon Steel
- => Electronics Housing : Casted Aluminium, Powder Coated
- => Sealing O-Rings : EPDM

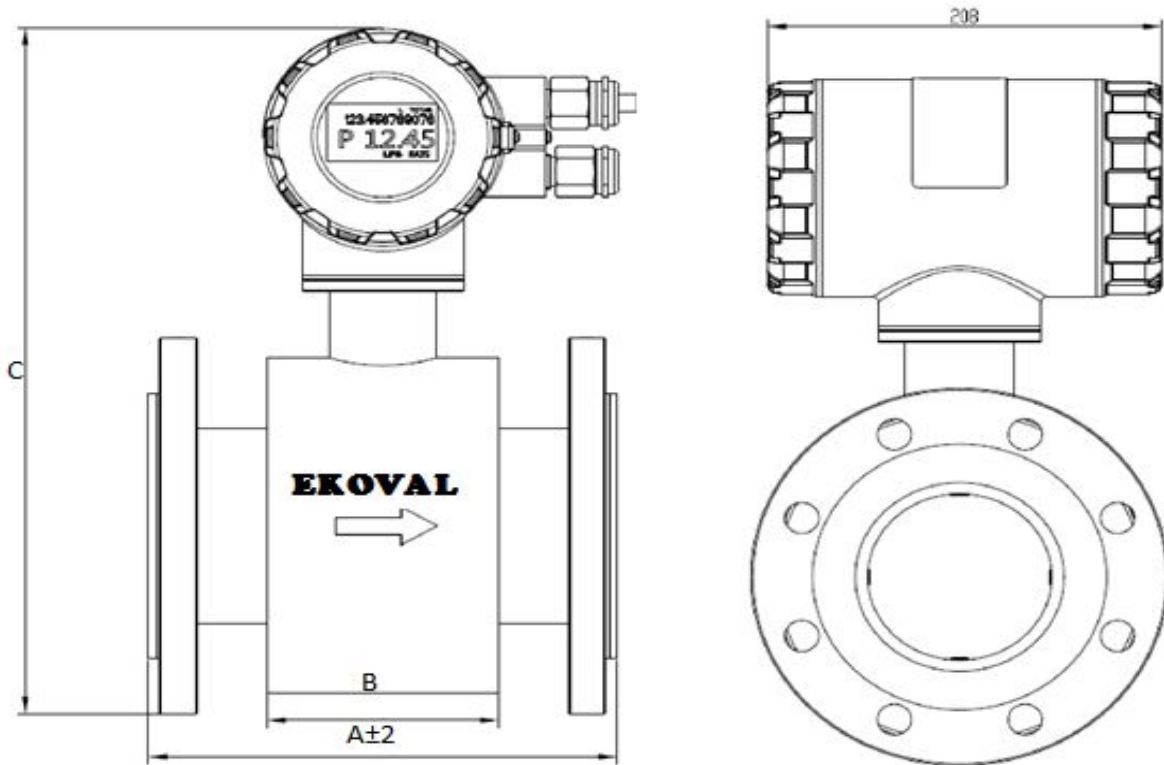


## Environment

- => Ambient temperature:
  - Operation -10 ~60° C
  - Storage -20 ~60° C
- Sensor Body: Carbon Steel
- CE Marking
  - IEC61000-4-2, 6kV direct discharge, 8 kV discharge
  - IEC61000-4-3, 80 MHz~1000MHz 10V/m
  - 1000MHz~2700MHz:3V/m
  - IEC61000-4-4, 1kV on cable
  - IEC61000-4-5, 1kV on cable, 1,2/50s wave
  - IEC61000-4-6, 0.15~80MHz 3V
  - IEC61000-4-8, 10 A/m

Housing Protection Level

## Installation Dimension



DN	Inch	B(mm)	A±2 (mm)	C(mm)
50	2	102	200	349
80	3			380
100	4	122	250	401
125	5	132	250	428
150	6	170	300	462
200	8	202	350	510
250	10	222	400	567
300	12	312	500	620
350	14	312	500	676
400	16	392	600	731
450	18	402	600	787

## GENERAL INSTRUCTIONS AND INSTALLATION



### Handle valve with precaution

Take care of the coatings and protections. Do not drag the valves, avoid shocks and frictions which may cause starters of corrosion.



### Store the equipment under good conditions

The valves must be protected from;  
Humidity and rain to avoid corrosion;

Wind, sand: to avoid the penetration of sold particles whose presense is catastrophic for the tightness;  
Sunshine and heat; they damage the coatings, particularly harmful for plastic valves and fittings very sensitive to the ultraviolet.

Valves with rubber seat must always be stored half-opened.

The aparatuses with metal seat must be stored closed (except particular specifications) to avoid the penetration of the particles in internal volumes.

Ball valves must be stored in open position.

Preserve the aparatuses with their plastic caps which should be taken away when mounting the valves.

### Clean the pipes

Rinsing the pipes is essential (water, air, steam if compatible) before testing and starting of the installations. It is critical to eliminate all the particles and several objects which could remain in the pipes and especially welding residues which could definitively damage the valve seat.

### Clean the gasket seat

Be sure that the gasket seats are perfectly clean and free from stripes.



### Align pipings

Control piping alignment. For correcting bad alignments do not rely on the valves: this may cause leakage and operating defect or even of breaking.

### Avoide Water Hammers

A rise in pressure of extreme brutality can be generated by a water hammer. A water hammer can cause the damage : butterfly valve disc splits, destroyed various aparatus, axes deformed. There are very varied causes of the water hammers but generally: the starting of pump and the sudden closing of valve.



### Respect assembly direction

Certain valves are one-way (non-return valve, knife gate valves, etc.)

Take care of an assembly in conformity with the arrow direction or of the instructions of assembly.

### Use support for heavy valves

In certain cases, valves of large lenght, heavy servo-motor, it can be essential to provide for supports which will avoid tensions prejudicial with the operating risking the fast deterioration of the stem and of the tightness.



### Maintenance and control

- Control the valves yearly.
- Change the gaskets after each disassembling.

- Any maintenance action must be carried out when the installation is in the atmospheric pressure.
- Cut energy supply of the actuators.
- Put butterfly in 1/4 open position before carrying out the assembly.
- Open sufficiently the flanges not to damage the sleeve.
- Tighten the bolts gradually.
- Dimensions of the pipe flanges must be identical to the DN of the valve.
- Do not use gasket between the valve and the flanges.