

Ultrasonic Gas Flowmeter Xonic[®] 10G

Characteristic

- 0.05m/s Measuring low flow rates
- Wide measuring range 200:1
- No moving parts
- pressure loss control
- Easy installation and maintenance
- 3-line measurement
- Temperature sensor, and the volume compensation
- 100% Domestic product
(Sandan R&BD Capacity building projects)

Applications

- Natural gas
- Chimney flue gas
- COG gas
- Biogas
- Vapor Gas
- Fuel gas
- Vent gas



Outstanding Performance

Xonic-10G demonstrates higher and more accurate velocity measurement range compared to the existing mechanical. Direct/Command Flow maintains 0.5% of accuracy, minimum versus maximum flow rates is 500 times over.

Digital Signal Processing

To have accurate analysis of the ultrasonic signal, DSP advanced technique is used to calculate the time lag according to the flow velocity. In worst noise, it consecutively maintains high accuracy by detecting clear signal.

Self-Diagnose/Test Function

In the field, flowmeter operational status could be checked through Xonic-10G graphic LCD panel. In particular, with a simple manipulation, the oscilloscope ultrasonic signal function makes it possible to determine the operational status gauge in the field.

Advantage of Ultrasonic Flowmeter

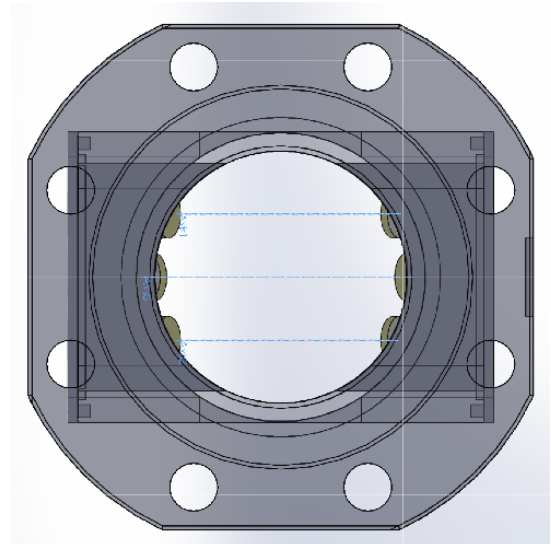
- Accuracy still maintains in very low velocity of 0.05m/s.
- No moving parts, therefore no degradation of performance
- The built-in temperature sensor rewards volume automatically
- An easy installation (compared with turbines and rotary type)
- 100% domestic product (Shandan R&BD For Enhancing Capabilities)

Measurement Principle

Ultrasonic carries connatural propagation velocity, and depends on a medium flow rate, time difference occurs within propagation velocity. So, when the ultrasonic signal launches upstream and downstream, the time lag occurs depending on the flow. By calculating transit time difference, a fluid average velocity could be found. Ultrasonic gas meter is the most accurate way to measure the speed of fluid.

Three line measurement method

Xonic-10G uses three line measurement method to maintain top performance in the field. In this case, it can still maintain the advantage of accuracy although straight pipe run is short.





As Xonic-10G Ultrasonic Flowmeter uses Ultrasonic Transit-Time Technology, it shows superior performance than the existing pressure gas flow meter. Depends on pipe diameter size, it uses one path or three path ultrasonic sensor(s), and the temperature sensor is embedded to give compensation volume.

Xonic-10G is developed as the first ultrasonic type gas flow meters in Korea and to substitute expensive foreign products by keeping the ultrasonic flow meters performance with reasonable price. It is 100% made by Korea.

Flange Size	Sensor Circuit No.	Minimum Flow	Maximum Flow
50mm	1	0.35	200
80mm	1	0.90	400
100mm	3	1.41	600
150mm	3	3.18	1200
200mm	3	5.65	2200
250mm	3	8.83	3500
300mm	3	12.72	5000

Field of Application

- Natural Gas Flowmeter
- AIR Supply Lines
- Combustion Gas
- Tunnel Air Flow Control

Specification

General Specification		
Measurement method	ultrasonic transit-time difference	
Velocity Measurement	-30 m/s ~ 30 m/sec	
Minimum Velocity	0.05 m/s	
Display	Flow (Instant Flow, standard, mass), Total Flow, Velocity	
Accuracy (Reading)	1.0%	
Reproducibility	0.25%	
Diagnostic Function	the shape of ultrasonic signal, value gain, ΔT , FFT	
Measuring Gas	Type	natural gas, gas, AIR, combustion gas
Converter		
Temperature	-20 ~ +80 °C	
Explosion Proof	IECEX Atex	Ex d II C
Degree of Protection Enclosure	IP65	
Input/ Output	Digital Out Analog Cut Analog In	Two normally open collector Two 4-20mA One 4-20mA
Interface Communication Tools	RS-232C, RS-485	
Power	12~24VDC	
Transducer		
Flange Range	50 ~ 300mm flange type Above range, directly manufacture (3,000mm max.)	
Material	Stainless 304	
Temperature	-20 ~ +80 °C	
Working Pressure	20 bar below	
Transducer Temperature	4 wire, -40 ~ +120 °C	