

S² Sonic

**Ultrasonic Gas Meter
Supporting a Wide Flow
Range with High Accuracy**

Highly Accurate Flow Measurement

Adopts the propagation time
Difference system.

The time difference of the
ultrasonic waves varies in
proportion to the flow speed
when the pair of sensors
alternately and repeatedly emit
and sense signals.



Tokyo Gas Co.,Ltd.
Sonic Corporation
Hitachi Automotive Systems Measurement,Ltd.
This product was jointly developed by
the above 3 companies.

Adopts a Unique Rectangular Conduit and Pressure Equalizing Space for Eliminating Pressure Influence

High Accuracy/Wide Flow Range

High-accuracy(±1% RD(meter units))
Wide measuring range
(flow rate range 1:40, flow rate sensitivity 1/200)

No Moving Parts / No Obstructions

No protrusions in the flowpath means little pressure loss and no
supply failure in the event of an unexpected malfunction.

Instant response to Changing Flow Speed

This meter adopts a propagation time difference system where the
propagation time difference of the ultrasonic waves varies in
proportion to the flow speed.
Frequent repeated emission and sensing of signals enables an
instant response to sudden changes in the flow speed.

Long-Life Metal Ultrasonic Sensor

The ultrasonic sensor is in a metal-covered sturdy structure to
ensure long life.

Pressure-Resistant,Explosion-Proof Structure

The meter can be installed in factories, governor boxes,
underground, and other sites where explosion protection is required.

Space Savings Ensured by Rectangular Conduit

A rectangular shape that is effective for measuring the average flow
speed in the conduit is used to achieve high-accuracy measurement.
Also, a baffle plate or other mechanisms do not need to be installed,
allowing the upstream straight pipe to be shortened to a length of 7D.
(A downstream straight pipe length of 2D is required.)

Dust-/Mist-Resistant

Meter operation is hardly affected by dust, mist or other foreign
matter in gas piping.

Forward/Backward Flow Measurement

Even if operating conditions cause the gas to flow in reverse,
forward/backward flow is judged to prevent the measured flow rate
from being incremented.

Display Unit Integrated Structure

The measuring unit and display are in an integrated structure,
simplifying wiring at meter installation.

Built-in Communications Function

The meter has a built-in communications function. As a result,
meters can be remote-controlled from centers or automatically read
once they are connected to the exclusive communications unit.
These features sometimes are not possible due to the exclusive
nature of the communications function.

Specifications

Aperture	50A	80A	100A	150A
Fluid	Town gas, natural gas, air, other non-corrosive gases (Note1)			
Flow rate range	5 to 220 m ³ /h	13 to 550m ³ /h	25 to 900m ³ /h	50 to 2100m ³ /h
Accuracy	meter unit : ±1.0%RD, after temperature / pressure compensation : ±1.5%RD (Note2)			
Minimum flow rate sensitivity (Note3)	1.1m ³ /h	2.8m ³ /h	4.5m ³ /h	10.5m ³ /h
Max. operating pressure	0.99MPa			
Fluid temperature	-10 ~ +50°C			
Pressure loss	When measuring 13A town gas pressure of 0.3MPa(equivalent to intermediate A)12kPa or loss When measuring 13A town gas pressure of 0.06MPa(equivalent to intermediate B)5kPa or loss			
Display	8-digit LED counter (display switchable between integrated value, instantaneous flow rate and other parameters)			
Output	pulse output (open collector) : 2points, analog output (DC,4 to 20mA) : 3points			
Input	Analog input (DC,4 to 20mA) : 2points (for temperature and pressure input)			
Power supply	100V AC, 50/60Hz or 24V DC			
Power consumption	10W			
Material of gas contact parts	SCS13、SUS304		SS400、SCPH2、SUS304	
Pipe connections	JIS 10K FF or RF			
Required straight pipe length	Upstream : 7D or more, downstream : 2D or more			
Installation attitude	Horizontal or vertical			
Structure	Pressure-resistant, explosion-proof structure (Exd II BT4)			
Installation site	Outdoors, Zone hazardous area class 2			
Ambient temperature	-10 ~ +50°C			
Approximate weight (Note4)	Approx.45kg	Approx.70kg	Approx.110kg	Approx.270kg

Note1) Contact us regarding other fluids.

Note2) This accuracy assumes use of pressure and temperature sensors designated by our company.

Note3) This flow rate assumes zero cutoff performed at 1/200 (standard) of the maximum flow rate.

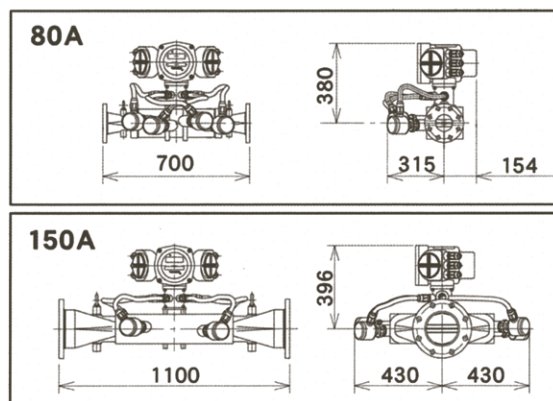
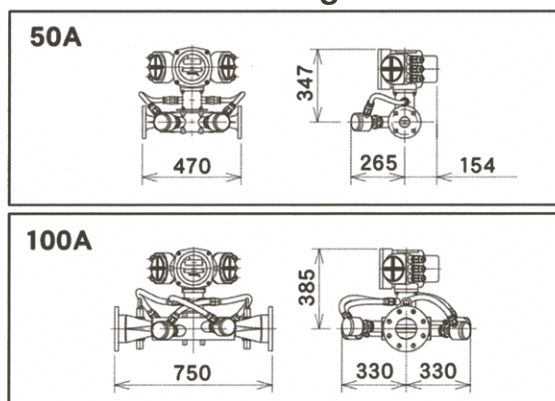
Note4) This is the weight of the meter unit only. (The weight of the pressure and temperature sensors is not included.)



Stable measurement performance has been confirmed by field tests for over one year.

Note) The appearance of the actual product may differ from the above photograph

Dimension Drawing



Please note that specifications are subject to change without prior notice.

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