



For Fuel Gas Management Ultrasonic Flowmeter

ATZTA UW

Developed jointly by TOKYO GAS CO., LTD
and Tokyo Gas Engineering Solutions Corporation



Absolute
accuracy



Wide operation
range



Energy loss
"0"



Selectable power
supply options



Available for
outdoor use

For energy management in the carbon neutral era

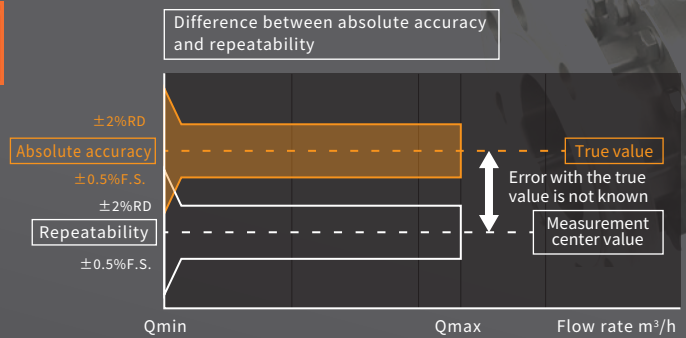
Due to social trends surrounding carbon neutrality, the importance of energy management is increasing. Under these circumstances, there is a need to steadily improve the efficiency of energy management.

POINT 1 >

Absolute accuracy “guaranteed”



Absolute accuracy is a measurement notation that indicates how much it is equal to the true value. It allows you to accurately understand the energy consumption rate and is useful for calculating CO2 emissions per calorific value and product carbon footprint.

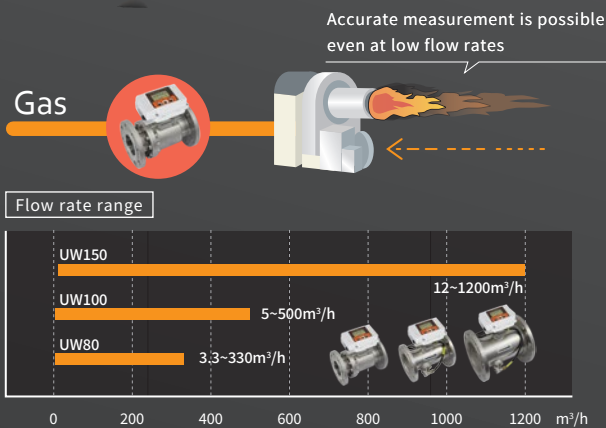


POINT 2 >

Wide range “1:100”



The flow meter measures gas consumption from low combustion to rated flow, supporting accurate energy management. In addition, depending on the application, multiple burner management can be covered by one flowmeter, contributing to cost and installation space.

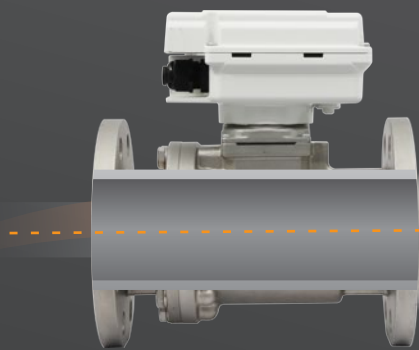


POINT 3 >

Energy loss “0”



There are no moving parts or structures that obstruct the flow in the measurement tube, so no energy is wasted. In addition, it can accurately measure from low pressure to rated pressure.



POINT 4 >>>

Selectable power supply (exclusive lithium battery, 100VAC, 24VDC)

With low power consumption design, battery-powered models are also available. They can be replaced on-site, contributing to CO2 reduction.



POINT 5 >>>

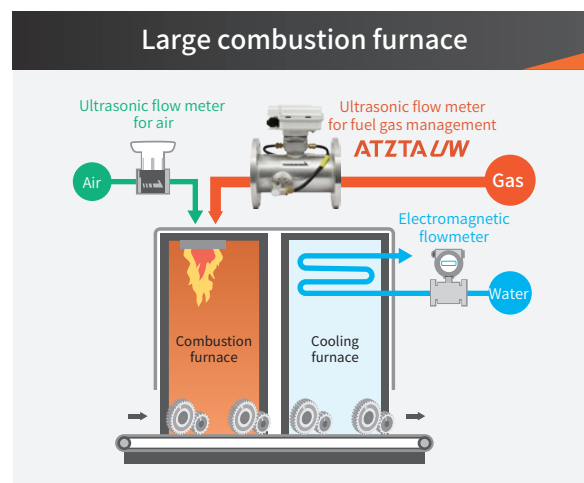
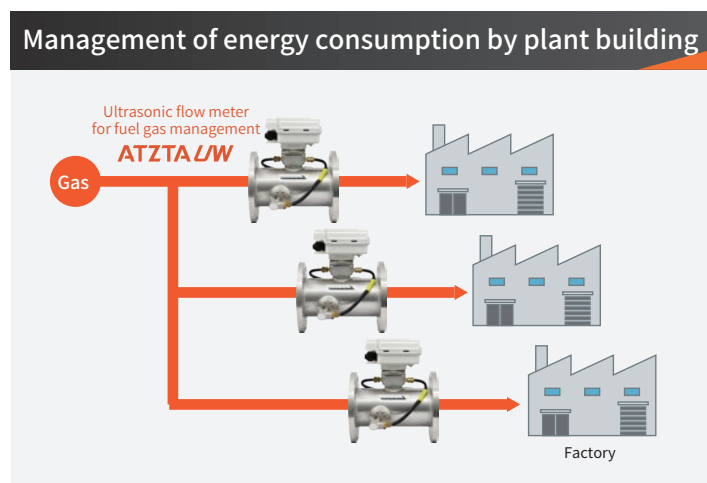
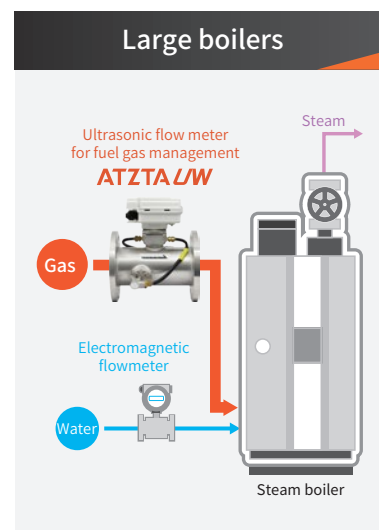
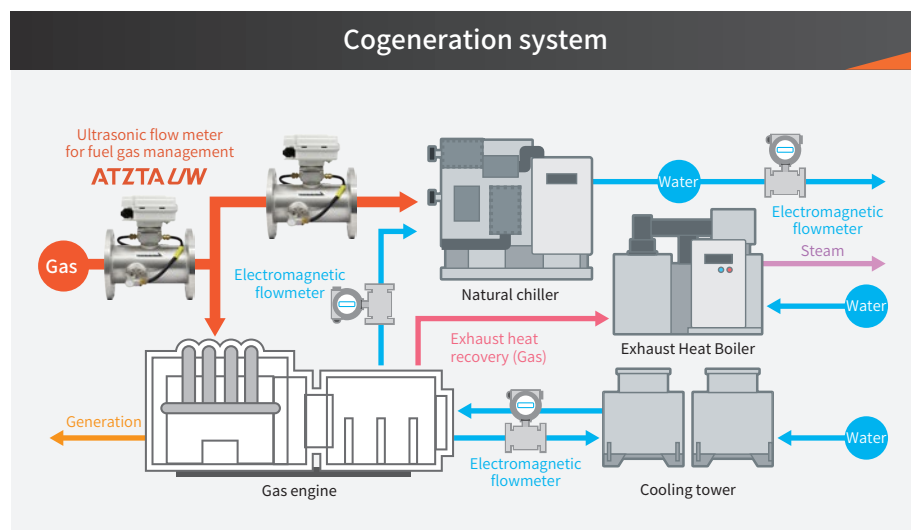
Outdoor installation is possible*

Compliant with protection structure IP64 (JIS C0920).

*To avoid direct sunlight, installing a sunshade is recommended.



For energy management and fuel efficiency monitoring and management in various combustion equipment



Normal flow rate conversion table <Example> at temperature of 0°C and 1 atmospheric pressure

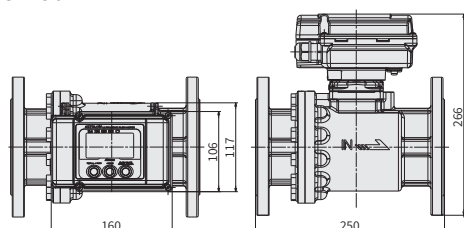
Unit : Nm³/h

Model	Actual flow rate (m ³ /h)	Pressure (kPa)								
		0	2	15	60	100	300	500	700	980
UW80	3.3	3.3	3.4	3.8	5.3	6.6	13.1	19.6	26.1	35.2
	330	330	337	379	525	656	1,307	1,958	2,610	3,522
UW100	5.0	5.0	5.1	5.7	8.0	9.9	19.8	29.7	39.5	53.4
	500	500	510	574	796	993	1,980	2,967	3,954	5,336
UW150	12.0	12.0	12.2	13.8	19.1	23.8	47.5	71.2	94.9	128.1
	1,200	1,200	1,224	1,378	1,911	2,384	4,753	7,122	9,490	12,806

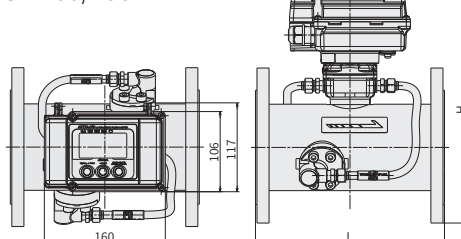
External dimension

Unit : mm

UW80



UW100/150



Model	L	H
UW100	250	299
UW150	300	359

Specifications of Ultrasonic Flow Meter UW for Fuel Gas Management

Model	UW80	UW100	UW150
Nominal diameter	80A	100A	150A
Gas type *1	Natural gas (12A・13A), Nitrogen		
Flow rate range (Actual flow rate)	3.3 ~ 330 m³/h	5 ~ 500 m³/h	12 ~ 1200 m³/h
Maximum working pressure	Type without pressure sensor: 1MPa Type with pressure sensor: 500kPa / 1MPa		
Low flow cutoff	1.3	2.0	4.8
Accuracy	±2%RD (for a range of 10% to 100% of the max flow rate), ±0.5%FS (for a range of minimum flow rate to 10% of the max flow rate)		
Temperature and pressure compensation (Normal / Standard)	Type with pressure sensor: ±1.5%RD (@ 500 kPa or 1MPa, 23°C) Type without pressure sensor: Simple conversion by the pressure value of manual setting		
Power / Consumption *2	Battery	exclusive lithium battery (life = 5 years @20°C and 65%RH)	
	AC power	100VAC±15% / max 10W (for 22mA)	
	DC power	24VDC±10% / max 2W (for 26.4V and 22mA)	
Display	Update interval	Battery-powered: 2 seconds External powered: 0.5 seconds	
	Main display	Total accumulated flow volume 80A : actual flow rate : 8-digit integer + one decimal places / converted flow rate : 10-digit integer 100A / 150A : actual flow rate : 10-digit integer / converted flow rate : 10-digit integer	
		Trip accumulated flow volume 80A : actual flow rate : 7-digit integer + one decimal places / converted flow rate : 9-digit integer 100A / 150A : actual flow rate : 9-digit integer / converted flow rate : 9-digit integer	
		Alarm indication (for ultrasonic sensor, temperature sensor, pressure sensor, external memory and battery voltage (for battery powered only))	
Output	Sub display	Instantaneous flow rate: 5 digits temperature: 3 digits pressure: 5 digits	
	Analogue	For external powered only : 4-20mADC (load resistance = max 400Ω) choose among options of Instantaneous flow rate, temperature and pressure (default = instantaneous flow rate)	
	Common spcification	Nch open-drain output (maximum load 24VDC, 50mA / Lo:1.5V or less)	
	Output1	Accumulated flow volume pulse (standard) : 1000L/P (choose : 100,1000,10000L/P) Duty: 20 ~ 80%	
	Output2	Alarms External powered type (standard): upper & lower limits (choose among upper & lower limits, upper limit of accumulated flow or error alarm output) Battery -powered type (standard): low voltage (choose among low voltage, upper & lower limits, accumulated value upper limit or error alarm output)	
	Communication *3	For external powered only : can Conform to RS485 Modbus / RTU (4800 / 9600bps)	
	Fluid temperature and humidity	Natural gas (12A・13A) : -10~+40°C max90%RH / Nitrogen : -10~+60°C max90%RH under unfrozen condition	
Ambient working temperature and humidity		-10~+60°C max 90%RH under no condensation condition	
Piping connection		JIS10K flange	
Standard piping condition *4		Upstream straight length : 10D or longer / Downstream straight length : 5D or longer	
Ultrasonic measurement interval		Battery-powered : 2 seconds / External powered : 0.5 seconds Instantaneous flow-rate moving average number of times (standard 4 times / choice from 1, 2, 4, 8, or 16 times)	
Protective structure *5		Indoor and outdoor use IP64 (JIS C 0920)	
Compatible standards		CE / UKCA 80A / 100A battery type and DC power type only The meters do not conform to ATEX (explosion-proof) directive (2014/34/EU)	
Mass		about 12.5kg	about 19.4kg

*1 Gas type can be set on site.

*2 Please select when ordering.

*3 Please download the RS485 output communication specifications from our product website.

*4 Be sure to check the piping conditions in the instruction manual before purchasing. If there is a pressure reducing valve or flow control valve, it is recommended to install it in the downstream piping of the flowmeter. Please note that the required straight pipe section will change if there is a confluence, enlarged or reduced pipe.

*5 High temperatures can cause the electronic circuit board to be deteriorated and the batteries to be consumed. To avoid unnecessary rise in temperature, installing a sunshade is recommended.

Specifications・
Instruction manuals etc



Flow rate
conversion table



Model code

Basic Model	Dia-meter	Pressure sensor	Power supply	Flow direction	Gas type	Description
UW	80 100 150	0 500 1000	BT DC AC	L R U D	13A N2	JIS10K flange 80A 100A 150A Type without pressure sensor Type with pressure sensor: 500kPa Type with pressure sensor: 1MPa Exclusive lithium battery 24VDC±10% 100VAC±10% Left to Right Right to Left Bottom to Top Top to Bottom 13A, 12A Nitrogen

Technical specifications in this catalog are up-to-date as of December 2024.

Manufactured and Distributed by

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To Our Customers

Please understand that product specifications may be changed without notice in order to improve performance. We are always happy to provide the latest catalogs and brochures, and respond to inquiries made to our offices.

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