








Gas Meter

Our gas meter features

All TOYOKEIKI's gas meters adopt aluminum die-cast frames and cases that withstand hard environment and are mechanically solid and durable. Our product lineup is below.

Type		
Diaphragm gas meter (no safety function)	 N series	 STK2.5
Diaphragm gas meter	 NB and NS series	 STK25MT1cP
Ultrasonic gas meter	 ETK series	 EBTK series
Prepaid Gas meter	 STK25MI	

Diaphragm gas meter STK25MT1cP

STK25MT1cP is a compact diaphragm gas meter equipped with a pressure sensor, shock sensor, shut-off valve, and communication lines, using "Micro Controller". This type is widely used for LPG user in Japan.



Gas Meter Specifications

Model	STK25MT1cP
Maximum flow rate (m3/h)	2.5
Cyclic volume (L)	0.7
Maximum operating pressure (kPa)	3.3
Absolute maximum pressure (kPa)	10
Maximum index (m ³)	9,999.999
Minimum index (L)	0.02

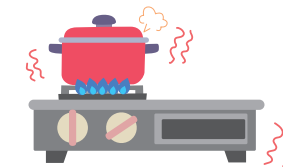
Model	STK25MT1cP	
Dimensions (mm)	Height	251
	Width	141 166
	Depth	140
Span between inlet and outlet (mm)	90	130
Connection pipe	15A / 20A	
Operating temperature (°C)	-30 ~ 60	
Gas flow direction	Left to right	
Weight (kg)	2.8	

What "Micro Controller" Gas Meter Can Do ?

The Micon Gas Meter shuts off the gas automatically as gas safety apparatus.

In case of an earthquake

If a sensor detects a seismic intensity of 5 while using gas, a meter shuts off the gas flow.



In case of too much gas flows

If an abnormally large amount of gas flows due to incorrect opening of the gas plug or disconnection of the rubber hose, a meter shuts off the gas flow.



In case of a long-time use

If a certain amount of gas is used continuously for a long time due to forgetting to turn off the gas appliance, a meter shuts off the gas flow.



Warning screen even for a slight gas leak

If gas continues to flow for 30 days or more, such as a small amount of gas leak, a warning screen will be displayed.

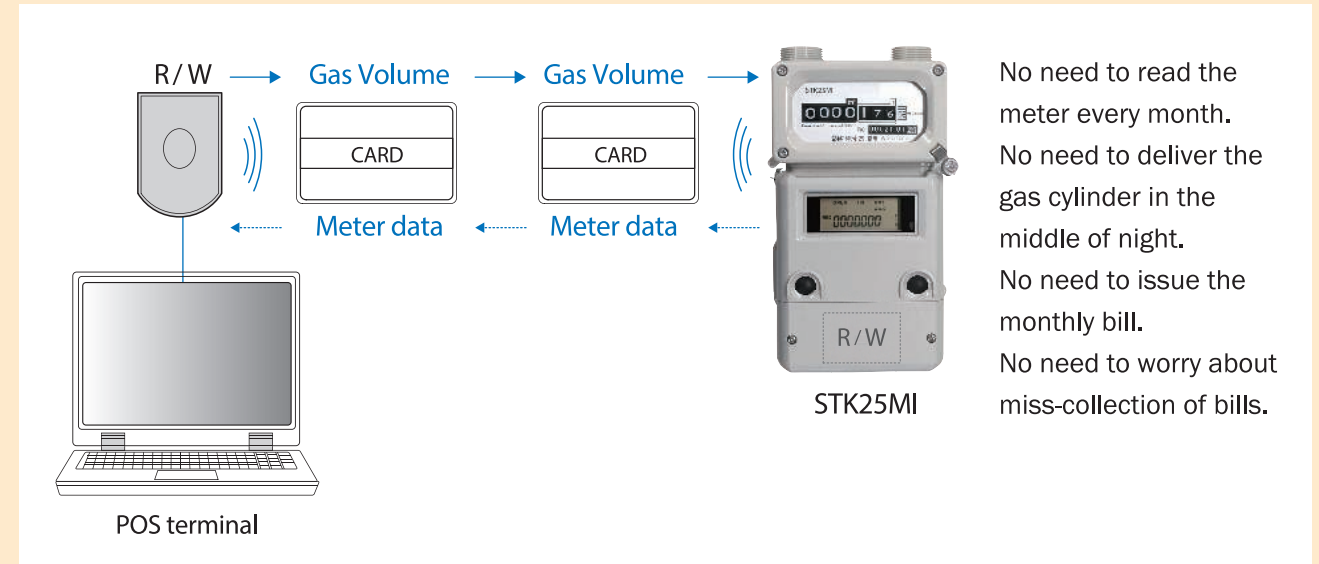


Prepaid Gas meter STK25MI

The STK25MI is the diaphragm type pre-paid gas meter based on the STK25MT which is the well matured smart gas meter and long seller for more than a quarter century in Japan. The STK25MI works as a normal diaphragm gas meter with several safety functions for post-pay use. The highlight of the STK25MI is the pre-pay function with the embedded NFC card reader/writer. In combination with POS terminals, the Pre-Pay gas system is easily installed.



System configuration diagram



Gas Meter Specifications

Model	STK25MI	
Maximum flow rate (m ³ /h)	2.5	
Absolute maximum pressure(kPa)	10	
Maximum index (m ³)	9,999.999	
Minimum index(L)	0.02	
Cyclic volume(L)	0.7	
Maximum pressure drop at maximum flow rate (Pa)	200	
Error rate	Accuracy class	1.5
	0.016 ~ 0.25 m ³ /h (%)	+/- 3
	0.25 ~ 2.5 m ³ /h (%)	+/- 1.5
Meter body	Diecast aluminum	
Dimensions (mm)	Height	251
	Width	141
	Depth	140
Span between inlet and outlet (mm)	90	
Connection pipe	15A / 20A	

Model	STK25MI	
Sensors	Accuracy class	Detect level 5 or stronger
	0.016 ~ 0.25 m ³ /h (%)	Optional
	0.25 ~ 2.5 m ³ /h (%)	By flow measurement
Operating temperature (°C)	0 ~ 60	
Storage temperature (°C)	-20 ~ 70	
Gas flow direction	Left to right	
Data logging	60 x 240 points	
Communication module	NFC card Reader/Write module 3G/4G module (Optional) U-bus module (Optional)	
LCD	7 digits and 12 indicators	
LED	1 red LED for Alarm	
Ingres Protection	IP66 (JIS C 0920)	
Battery	Lithium Metal Battery	
Estimated battery life	Longer than 10 years (depend on the conditions)	

Prepaid gas meter system introduction example (Bangladesh)

Natural Gas Efficiency Project is ongoing mega project from 2017. Pre-Paid Gas Meters are installed in Dhaka and Chittagong over 260,000 units. Because of its convenience, more and more gas users are requesting to install the meter to their house.



Meter installation site



Card charge center



Card charge center



Charge to meter

Diaphragm gas meter (no safety function) N series



N4

N series is a basic diaphragm gas meter for domestic use and commercial use.



N6

STK2.5



STK2.5

STK2.5 is a compact diaphragm gas meter good for domestic use.

Diaphragm gas meter NB series



NB6

NB series is widely used for city gas in Japan and measurement block is the same as N series'. It has a pressure sensor, shock sensor and shut-off valve, which are controlled by embedded microcontroller, and has the option of pulse output.

NS series



NS10

Communication port is added to NB series. The communication protocol is the Japanese unique method, called "A line".

Gas Meter Specifications

Model	STK2.5	N4	N6
Max flow rate (m ³ /h)	2.5	4.0	6.0
Starting flow rate (L/h)	1.0	1.0	1.0
Max pressure (kPa)	10	10	10
Height (mm)	230	232	262
Width (mm)	167	174	195
Depth (mm)	135	138	156
Weight (kg)	1.95	2.6	3.6

Gas Meter Specifications

Model	NB/S1.6	NB/S2.5	NB/S4	NB/S6	NB/S10	NB/S16
Max flow rate (m ³ /h)	1.6	2.5	4.0	6.0	10.0	16.0
Starting flow rate (L/h)	1.0	1.0	1.0	1.0	1.0	1.0
Max pressure (kPa)	10	10	10	10	10	10
Height (mm)	258	280	324	324	422	422
Width (mm)	174	174	195	195	300	300
Depth (mm)	137	138	156	156	213	213
Weight (kg)	3.0	3.3	4.4	4.4	10.9	10.9

Wireless Meter Reading System(Taiwan)



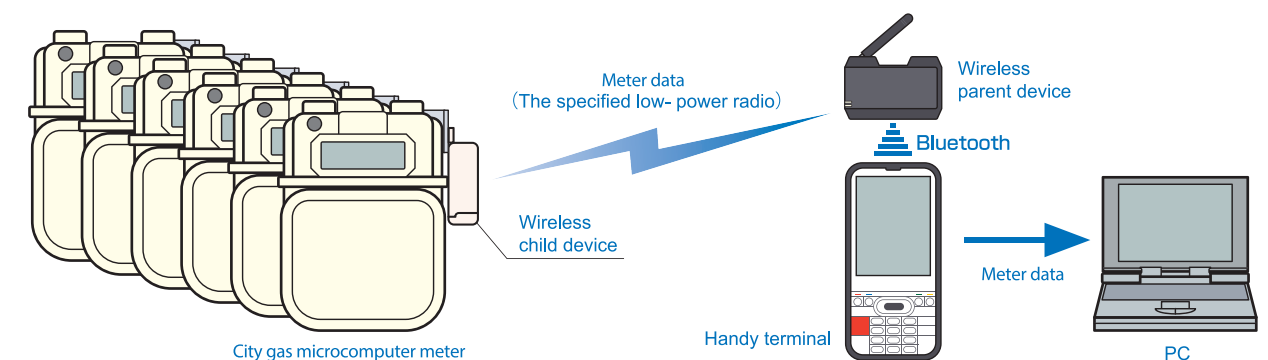
Possible to place the meter at balcony.



NS series meter.

This is a high-rise apartment building in Taiwan. We have installed a TOYOKEIKI made city gas meter and radio to all households, so that we can realize wireless meter reading. We are certified in Taiwan.

System configuration diagram of Wireless Meter Reading System for City Gas



Ultrasonic gas meter ETK series



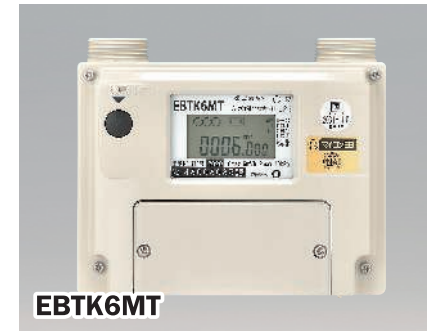
ETK25MT

ETK series product adopts leading edge technology “Ultra Sonic Measurement technology”. They measure the flow velocity making use of the time gap between ultrasonic wave transmission and calculate the volume of gas flow based on the flow velocity. This series has no moving mechanical portion for measurement and has high reliability for longer time. This series is very compact and light weight. ETK series has a pressure sensor, a shock sensor, a shut-off valve and communication lines and all of them are controlled by an embedded microcontroller powered by embedded long life lithium primary batteries.

Gas Meter Specifications

Model	ETK25MTaPR	ETK4MTaPR
Maximum flow rate (m ³ /h)	2.5	4.0
Maximum operating pressure (kPa)	3.3	
Absolute maximum pressure (kPa)	10	
Maximum index (m ³)	9,999.999	
Minimum index (L)	0.2	
Dimensions(mm)	Height	146
	Width	174
	Depth	100
Span between inlet and outlet (mm)	90 / 130	
Connection pipe	15A / 20A	
Operating temperature (°C)	-30 ~ 60	
Gas flow direction	Left to right	
Weight (kg)	1.6	

Ultrasonic gas meter EBTK series



EBTK6MT



EBTK10MT



EBTK16MT

EBTK series are large-sized ultrasonic gas meters (mainly used for commercial use). They are lighter and smaller than Past Diagram Meter and have more functions. The flow rate integration display counter shows 4 digits(m³) and 3 digits(L) for EBTK&MT, and shows 5 digits (m³) and 2 digits (L) for EBTK10MT and EBTK16MT.

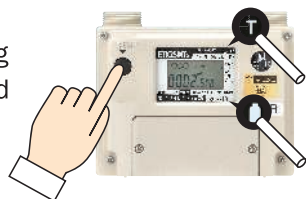
Gas Meter Specifications

Model	EBTK6MT	EBTK10MT	EBTK16MT
Maximum flow rate (m ³ /h)	6.0	10.0	16.0
Maximum operating pressure (kPa)	3.3		
Absolute maximum pressure (kPa)	10		
Maximum index (m ³)	9,999.999	99,999.99	99,999.99
Minimum index (L)	0.2	2.0	2.0
Dimensions (mm)	Height	146	210
	Width	174	299
	Depth	100	148
Span between inlet and outlet (mm)	130	220	220
Connection pipe	20A	32A	40A
Operating temperature (°C)	-30~60		
Gas flow direction	Left to right		
Weight (kg)	1.6	4.0	4.0

ETK series & EBTK series Features

Easy to check and operate.

Setting status and terminal status of a meter will always be displayed. You can configure various meter settings by operating a resume button and a magnet.



Possible to know the reason for blocking and warning in detail.

In addition to the reason for blocking /warning, you can also check for abnormalities before the display shows warning signals. This is helpful when you analyze the time of shutoff.

Compact and lightweight ! They can be installed even in narrow spaces.

Size comparison with EB series and diagram meters in the past

