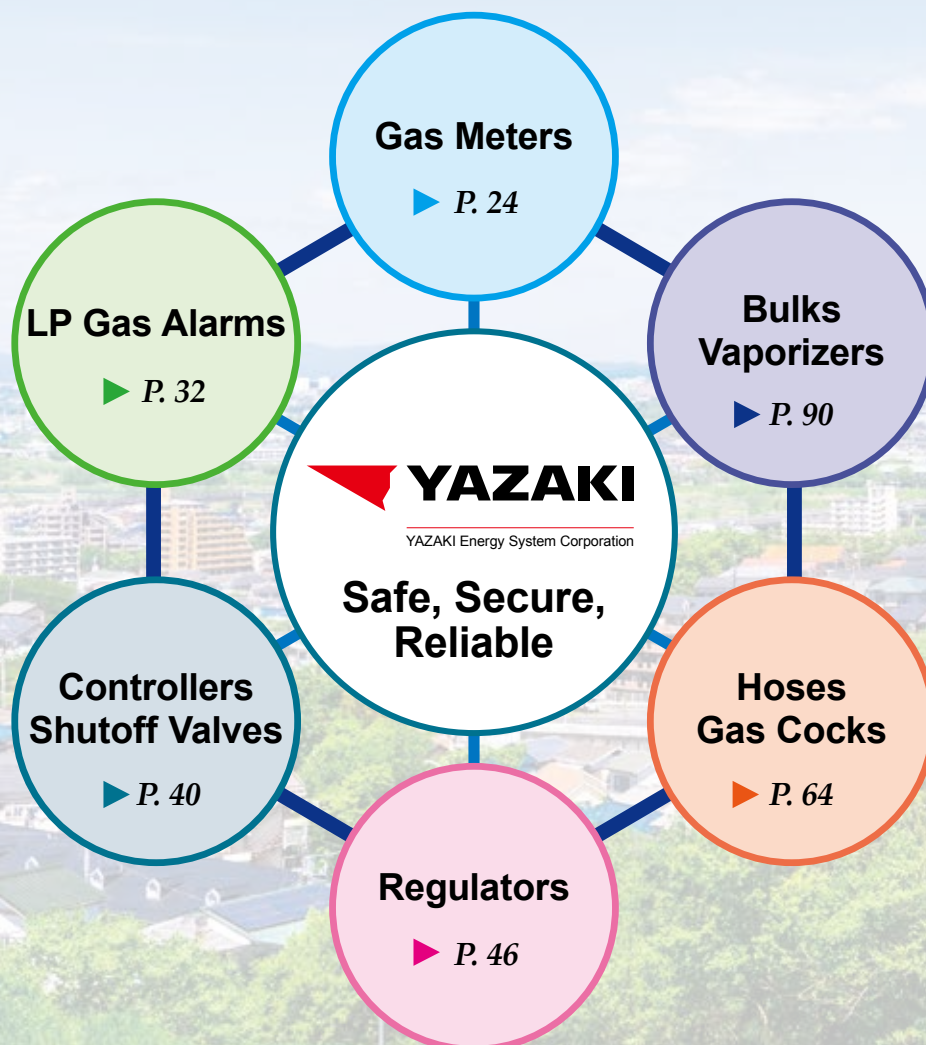


LP GAS EQUIPMENT PRODUCT GUIDE

YAZAKI **P**RODUCT **G**UIDE

To give you a better future, from household to commercial applications we offer a wide range of LP gas related products.

Gas is an important energy source that is essential to our daily lives. To make that gas safer and more convenient to use, we at YAZAKI develop, manufacture, and sell a wide range of LP gas products including gas meters and gas alarms. We will work with LP gas sales enterprises to make progress towards a better future.



YAZAKI LP gas related products support tomorrow, the future.

Examples of typical equipments from YAZAKI

Household Equipment

High Performance Integrated Automatic Changeover Regulator

Threaded Gas Cock

Gas Discharge Prevention Type High Pressure Hose

E-type Security Gas Meter

Flexible Hose Gas Cock

Metallic Flexible Hose

Gas Socket

ON/OFF Gas Cock with Fuse

CO Alarm

Gas Leak Alarm

Gas Hose

Water Server

LP Gas Cylinder

Built in Stove

Gas Rice Cooker

Gas Hose

Flexible Hose

Gas Cock

Gas Water Heater

CO Alarm

Gas Fan Heater

Gas Clothes Dryer

Gas Meter

Gas Socket

Commercial Equipment

Machine Link Gas Cock

Flexible Pipe

Integrated Automatic Changeover Regulator

Threaded Gas Cock

Root Bubble with Check Valve

Gas Discharge Prevention Type High Pressure Hose

EB-type Commercial Gas Meter

Threaded Gas Cock

Flexible Hose Gas Cock

Metallic Flexible Hose

Gas Socket

Gas Hose

Gas Leak Alarm

Ventilation Warning Alarm for Commercial

LP Gas Cylinder

Gas Water Heater

Gas Air Conditioner

Gas Dispenser

Gas Fryer

Gas Rice Cooker

Gas Alarm Main Unit

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GOOD
DESIGN

Overturning Conventional Ideas of Water Servers

— Its name is “**Q U O L**”



The YAKAZAKI Water Server “**Q U O L**”

is a revolutionary water server built based on thorough market analysis that comes with high added-value advanced features, as well as a design and ease of use that are a cut above the rest, so it can serve cool and delicious **cold water**, **room temperature water**, and **hot water**.

“QuOL” offers high value added “water delivery business solutions” to gas service providers

● Providing new services to our customers

YAZAKI supports the water delivery business, a business solution that brings gas service providers and customers together. Through water servers, one of our core products, we offer a whole new type of service.

● Makes it possible to use the metering and water delivery network

By adding water delivery to metering work and bottle replacement, it is possible to expand the scope of business.



Making delicious water into easy to use water

Water served at room temperature, a revolutionary new function

“Easy to use” room temperature is the perfect addition to conventional hot and cold water, for when you do not want to chill your food or body. We provide new value to delicious water, in the form of good health and safety.

Fits right in to your daily life High quality design

Winner of the 2018 Good Design Award

QuOL is made with a slim body that will fit almost anywhere, and a design that will not disrupt your interior decor. It would not be out of place even in your living room.

Made simple and easy to use for anyone

Turn until you hear the beep! Made to be used intuitively

QuOL makes controls easy with the central jog dial. With the easy and intuitive controls, all you have to do is turn the dial until you hear the beep, following the voice guidance.

Suitable for a variety of water pouring scenarios

Made easy to use and with peace of mind, because it is used every day

Comes with an all purpose tray, so you can pour water with the container right where it is. The height is adjustable, so you can operate it with one hand with cup noodles, pans, or water bottles. We paid close attention to eas of use, as well as safety characteristics when pouring hot water and the like.

Loaded with features for safety, security, and energy saving

Use a variety of functions safely, securely, and easily

QuOL comes with a variety of features that make it economical, safe, hygienic, and useful even in the event of a disaster.



We use technology cultivated in automotive machinery for better living



A comfortable control setup, made right all the way down to the texture



Announces the operating status with voice



Pour even hot water safely with the adjustable height function



Place a rice pot or pan on the tray to pour water easily



Use it even dark places with a water faucet light



Have peace of mind that you can use water even in disaster when the power goes out



Double child locks make it safe and secure to use even for children



UV disinfection doesn't change the taste of the water



Easy on your account and the environment
Energy Saving Mode

Serve delicious water for any generation

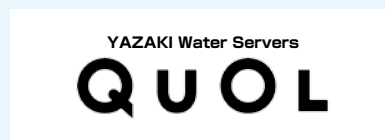
Every generation of the family from children to seniors can have delicious water, thanks to the easy to understand and use controls.

Designed to make the owner feel like a celebrity

Winner of the 2018 Good Design Award, for its high functionality and design that matches luxury interior decorations.

Check detailed information about QuOL on the Internet!

<https://gas.yazaki-group.com/quol/>



● “YAZAKI Water Server QuOL”... Product Information

Perfect for a smart energy society High-made for use even 10 years in the



E-type Security Gas Meter

EY25MTH [High End]
EY25MT [Standard]



E4-type Security Gas Meter

EY4MTH [High End]
EY4MT [Standard]

Makes work more efficient and precise with a compact, light weight design
 Looking forward to the next generation with high performance, security gas meters

Reduces “Error B Displays”

Improves the precision of flow small leak warnings

By improving the precision of flow small leak warnings, it reduces “Error B Displays” caused by using ECOWILL or heated floors, and reduces unnecessary leak detector operation. Checks that there are no leaks at most once every 128 seconds.



Simple Meter Information Check

Easy to get the meter information you need

Using the reset button, you can easily check individual addition, pressure information display, and meter information display, without the need of the setting device.



(3:00 PM March 9th, 2016)

Can display the cause of BR alarms

Pressure Small Leak Supplementary Information

By monitoring not only pressure changes but temperature changes as well, it is possible to display the cause of BR alarms. (Excludes commercial use.)

*There is possibility of gas leaks, so make certain to conduct leak inspections.



performance **Ultrasound Gas Meters** future



Commercial EB-type Security Gas Meter

EBY6



Commercial EB-type Security Gas Meter

EBY10/16

High End Tool Identification Function Tool Recognition Security Function*

Avoid troublesome shutoffs in autumn
and winter!

Using tool recognition logic, for fan heaters and water heaters only, it does not shutoff even when it reaches the shutoff value, but starts relearning instead. For this reason, you can keep using the tool, and reduce deployment costs and the burden on employees caused by troublesome shutoffs.

*Built in to High End Meter EY25MTH / EY4MTH

Tool Recognition Accumulation Function*

Check the accumulated consumption for
each fan heater

Along with the conventional accumulation by category, it can also do addition for each individual fan heater or water heater. This makes it possible to offer service that satisfies customers, including proposals for new pricing plans based on the use status of each tool. (Numbers given are estimates only.)

*Built in to High End Meter EY25MTH / EY4MTH

S-type Security Gas Meter

S-type Security Gas Meter with excellent workability, based on opinions from the field

S-type Security Gas Meter

SY25MT1

80% lighter than
conventional models. A
full set of features, and
more efficient

Use the reset button to aggregate individual accumulation, pressure information, and meter information. The reset safety check time is shortened to just 20 seconds and the flow rate judgment time to just 10 minutes, greatly improving workability.



Make LP gas meters smart with LPWA, an automatic remote reading and central monitoring system for the age of IoT

LTE Cat. M1 Wireless



LTE Cat. M1 Wireless (Separated)
 YSC-US
 (U-bus Device)
 YSC-NS
 (5 bit Device / Connection Device)



LTE Cat. M1 Wireless E-type
 Integrated Gas Meter
 EY25MTH / EY4MTH-CUS
 EY25MT / EY4MT-CNS
 EBY6-CUS, -CNS



LTE Cat. M1 Wireless S-type
 Integrated Gas Meter
 SY25MT1-CNS

Makes work more efficient and strengthens the management base with connected communications equipments

Streamlines metering work and enhances security

Area supplement with wider area coverage and U-bus air

Compatible with 920 MHz and 2.1 GHz, so it can cover a wider area and offer more stable communication, and is capable of communications even from distant locations and difficult to meter locations. In addition, it can reliably acquire gas meter information even in places where it is difficult to get a signal, such as meter boxes inside apartment buildings, using the U-bus air multihop function, so it reduces the burden of metering work, cuts labor costs, and resolves labor shortages, and can be expected to improve security as well.

Streamlines delivery and enhances services for consumers

Make daily metering possible with ultra lower power consumption

Adding eDRX ultra lower power consumption technology to LTE Cat. M1 makes it possible to operate continuously for 10 years, even with daily metering. Keeps track of daily gas usage with the broadcast signal and improve the precision of cylinder replacement timing estimates based on customer's gas consumption patterns, so you can reduce the number of deliveries and choose the optimal delivery route according to remaining cylinder capacity. This can also help to provide new services, such as expanding new metered services for each customer based on daily metering.

Easy installation, so you can improve work efficiency, and use the FOTA feature to always maintain the latest status

Reduce work hours and update the software version with wireless transmissions

Anyone can install it easily with start up controls using the wired connection and magnets. Wireless integrated meters do not require wiring construction, installation work time can be shortened even further. Using the FOTA function, you can update the software version wirelessly from a remote location, so it is possible to always use the latest specifications without replacing the wireless equipment.

Terminology

*LPWA: An acronym for "Low Power Wide Area" that realizes wireless communications with low power consumption.

*LTE Cat. M1: An LTE communications standard for IoT devices that realizes low volume, low power consumption, and low cost.

*U-bus Air: A wireless communications standard using the 920 MHz band, that enables ultra low power consumption and multihop functionality.

*eDRX: An acronym for "extended Discontinuous Reception," this technology reduces power consumption of IoT devices, making it possible to use equipments longer.

*FOTA: An acronym for "Firmware On-The-Air," this feature updates device firmware with wireless transmission.

Dramatically improve the efficiency of metering work

Multistage Relay Transceiver (Integrated and Separated Types)

Batch Wireless Metering System

Multistage Relay Transceiver
(Integrated Type)

YSC-30/31

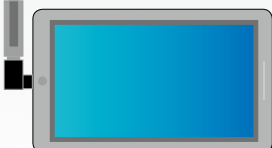


Multistage Relay Transceivers Mounting Status (E-type Meter)



Multistage Relay Transceiver
(Separated Type)

YSC-30S/31S

Batch wireless metering systems require a dongle transceiver.
* Please prepare the tablet main unit and connection adapter on the gas dealer side.

Solve your metering woes! Do batch metering of up to 50 units even far away from the meters

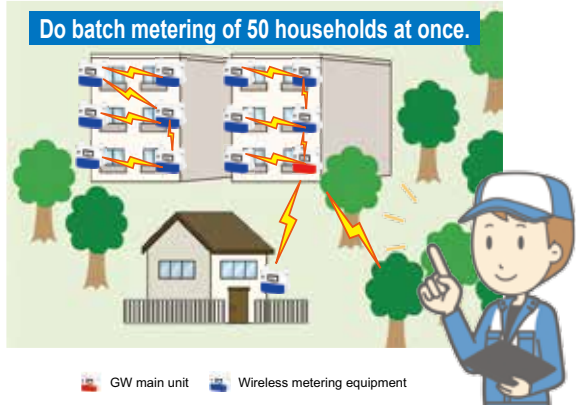
Install on existing meters afterwards
Connect separated models, so it is not necessary to replace meters
It can be installed on YAZAKI E-type and S-type meters, as well as meters from other companies, making metering work more efficient.

Reliably receive meter information
Simultaneously acquire individual accumulation values and security information
In addition to preventing mistaken metering, you can also improve security by obtaining security information.

Rest assured even in places where metering is difficult!
Make metering work more efficient in difficult to meter places

- Simple gas tenements
- Apartments with autolock
- Apartment buildings with only staircases
- Houses that are dangerous to enter because of dogs
- Houses with hard to see meter values... And many more problems solved!

Greatly reduces metering time with wireless communication!
Enables batch metering with wireless meters
Compared to manual metering 1 household at a time, it can meter 1 GW main unit and 49 slave units (a total of 50) in about 3 minutes. Reduces the burden on meter readers.



High reliability and a stylish design The standard LPG gas alarm



LP Gas Alarm

YF-005N/NV

We deliver alarms with excellent environmental performance and great design and bring safety to every home.

- Warns you clearly when there is an abnormality**
Highly visible and convenient LED lamps
Has a white lamp on during normal monitoring, so it does not stick out. The lamp flashes red when there is a gas abnormality, making the problem clear.
- Use as a night light during monitoring**
An Industry's First Adjust the brightness between 3 levels while monitoring
Use it at the perfect brightness level for a night light, according to the environment and lifestyle scene where it is installed.
- Alarm uses a red flashing lamp, buzzer, and voice**
Sounds an alarm with buzzer and voice, as well as visual signals
YF-005NV and YF-434G turn on a flashing red LED lamp, buzzer, and voice to notify you reliably when there is a gas leak. "Beep! Beep! Beep! Gas-ga-morete-imasennka?" (Check if the gas is leaking.)



LP Gas Alarm (Meter-linked)

YF-434G

Alarm history notification function

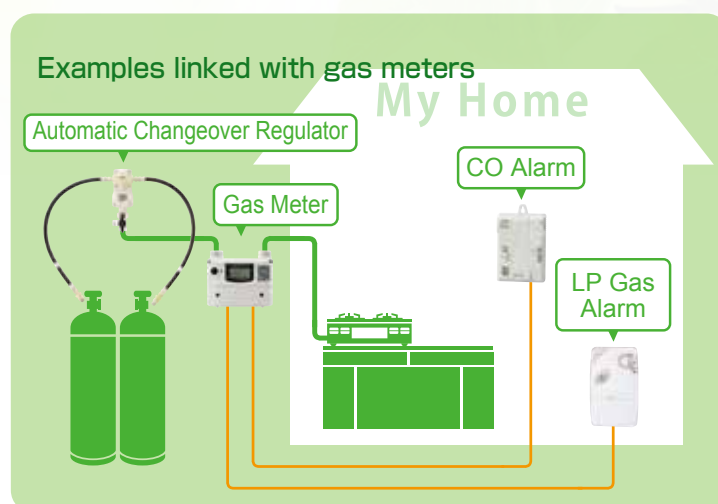
Press the switch to check the alarm history

Press and hold the inspection/alarm stop switch for 3 to 5 seconds, to check whether the gas alarm was used in the past 10 days.

Check the display without removing from the installation location

See the “replacement year” and “product number” displayed on the top

Without removing the main unit, you can easily check the information displayed on top of the alarm and leave it in place.



*See page 15 for CO alarms.

Separated type using drip proof detector parts The perfect alarm for work applications where parts get wet



Dual Output Alarm

YF-313A



Safe to use even near water in commercial kitchens! Work with greater peace of mind

Improved the performance of detector part drip proof structure

Improve drip proof structure performance, so that the alarm does not sound due to water from showers or hoses during cleaning.

Choose the alarm sound

Use the inspection/alarm stop switch to switch between the buzzer alarm "Beep! Beep! Beep!" and the voice alarm "Beep! Beep! Beep! Gas-ga-morete-imasenna?" (Check if the gas is leaking.)

Comes equipped with a simple history display function

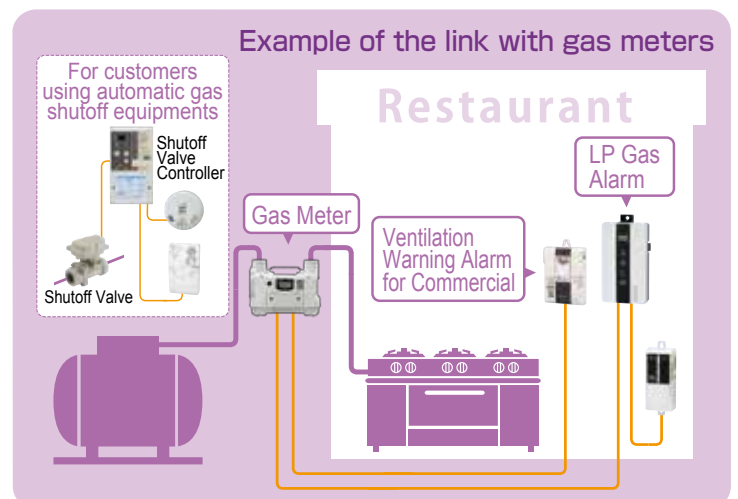
Check recent alarm soundings with the inspection/alarm stop switch (5 seconds).

Reliable failure notification function

Notifies you when there is a failure using a rapidly flashing green lamp and an alarm sound. When turned to the voice setting, it will notify you by saying "Beep! Beep! Beep! Kenchi-bu-kosyou-desu. Hanbai-ten-ni-renraku-kudasai." (The detector part is broken. Contact the vendor.)

Gas meter linked inspection function

Able to operate the inspection/alarm stop switch (3 seconds), to output no voltage output for approximately 1 minute, and easily do inspection linked with gas meters.



A unit you can rely on Commercial Ventilation Warning Alarm / Incomplete Combustion (CO) Alarm



Commercial Ventilation Warning Alarm

YZ-165C

Incomplete Combustion (CO) Alarm

YZ-222



Useful in an emergency, with clearly audible alarm sound and voice guidance

- Save space with the compact, slim design**

Compact so it does not take up space. Uses batteries, so there is limitation on where it can be installed, and it continues to operate even during power outages.
- Can be linked with external equipments**

By linking with the gas meter, it can shutoff gas at the same time as the alarm, vastly improving the security level.
- Reliable and easy to recognize alarm voice**

In addition to the alarm sound "Peepo! Peepo!", the YZ-165C sounds a voice alarm saying "Beep! Beep! Beep! Issanka-tanso-chudoku-ni-naru-osorega-arimasu. Tadachi-ni-kanki-sitekudasai. Gasu-gaisha-ni-renraku-kudasai." (There is danger of carbon monoxide poisoning. Ventilate immediately. Contact the gas company.)
Also, the YZ-222 notifies you with an alarm sound and voice message saying "Beep! Beep! Beep! Kuuki-ga-yogorete-kikendesu. Mado-wo-akete-kanki-wo-sitekudasai." (You are in danger of carbon monoxide poisoning. Open the window to ventilate.)
- YZ-165C A reliable alarm that will not sound too early**

The electrochemical sensor does not react to mixed gas, and does not operate until CO reaches a truly dangerous concentration.
Adding the CO concentration and detection time enables it to estimate the COHP (carboxyhemoglobin) concentration in human blood, and sound the alarm accurately before there is a dangerous impact on the body.
- YZ-222 Compatible with the recognized LP Gas Service Provider System**

Providers who are recognized as "Gold Security Recognized Service Providers (No. 1 LP Gas Service Providers)" who clear the following conditions qualify for incentives such as loosened restrictions on the distance of emergency response, as well as the frequency regular supply equipment inspections and regular consumer equipment inspections.
Conditions: Must stop gas supply automatically before reaching CO concentration of 0.03% (linked shutoff with gas meter, etc.).

Equipped with functions that improve reliability Automatic Changeover Regulator is smart and easy to use



High-performance Automatic
Changeover Regulator

AS8ZA

The simple
design improves
visibility
and workability

- Improves visibility with a larger display!**
130% the size of a conventional display. Visibility is improved.
- The switch handle is more workable!**
 - One size larger switch handle for improved workability when replacing the volume.
 - Uses a lock mechanism that you can feel click in to place.
- Better corrosion resistance!**
Surface preparation with anodized aluminum on the main unit (body, cover) improves corrosion resistance.
- Stop blocking pressure failures caused by sediment getting in**
With a fine filter, it can prevent fine particles and other such contaminants from getting in.
- Comes with a simple header type**
We offer a simple header type lineup that can even be installed in narrow spaces.



AS8ZA 4 pcs
Hand-tightened
hose

Integrated Automatic Changeover Regulator that is compact, lightweight, durable, and resistant to corrosion



Integrated Automatic
Changeover Regulator

RCL20A

The updated
model improves
performance
from older
products

Improved workability and visibility!

Improved workability with a switch handle and larger size, and further improved visibility due to a longer hole shape of the switch display round window frame.

Improved corrosion resistance and airtightness!

Dual stage primary and dual stage secondary regulator fastenings are sealed with Double O Ring + (O ring plus sealant), realizing strong corrosion resistance and airtightness.

Improved contamination prevention performance!

Uses a fine particle filter on the high pressure inlet, in order to improve the contamination prevention performance.

Outlet pressure performance stabilization

Sliding performance is improved using a rectangular structure and internal valve system, which employs resin for its valve sliding part. The flow path is changed to rectify the gas flow and stabilize outlet output performance.

Comes with a simple header type

We offer a simple header type lineup that can even be installed in narrow spaces.



RCL30A-KB6H(T)

Choose the right one for diverse needs and applications

Reliable Vaporizers



VP-S30EC

VP-S100EC

VP-S100GC

Use our integrated support, from installation to maintenance

Diverse variations that fit your application

Choose different heat sources from our lineup, which includes everything from small to large sizes.

Product development capacity backed by reliable technology

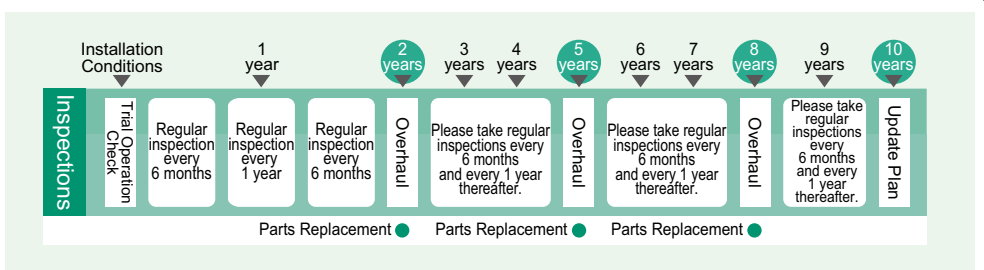
A high performance product line created with the high technical skill unique to YAZAKI.

A complete support system close to the community

We deliver peace of mind with our nationwide support network.

Regular Inspection Schedule

We have established YAZAKI Gas Equipment Service Stores across Japan and developed a complete service system, so that you can use our arORIZERs with peace of mind.
*All regular inspections and overhauls are charged separately.



Useful for disaster preparedness, in case of an emergency

Disaster Protection Bulk Storage Unit



LP gas is great for use in disasters
That's why this system comes with features to support life in an emergency

● **Use it normally and in emergencies!**

Supply LP gas for cooking, heating water, and heating air normally, while also preparing in case of disaster.

● **We strongly support your lifeline!**

Even in the event of a disaster, LP gas remaining in the bulk storage unit can be used for cooking, making it still useful as an energy source during an emergency, and during evacuation.

● **A wide range of variations**

Choose from 300 kg, 500 kg, 980 kg, and 2.9 ton variations, according to the size of the installation location and facility functions.

*In preparation for disasters, make certain that the bulk storage unit has at least 1/3 of its capacity for LP gas remaining at all times.

● **Generate electricity with a low pressure LP gas electric generator**

Connect a low pressure LP gas electric generator to the flexible hose gas cock in the gas cock box unit so that you can use electricity even during a disaster.

In case of an emergency! Use LP Gas to generate electricity!

EU9iGP



**Rated
Output
900 VA**

EU15iGP



**Rated
Output
1500 VA**

Specified Fuel Gas Supply Box



● Easy to use for anyone

Use a generator just by removing the hose from the gas supply box and connecting it with one touch.

● Generate electricity for a long time!

Generate electricity reliably during an emergency, such as long term blackouts.

*EU9iGP: Generates electricity for 110 hours with a 50 kg cylinder

*EU15iGP: Generates electricity for 74 hours with a 50 kg cylinder

● No need to worry about fuel!

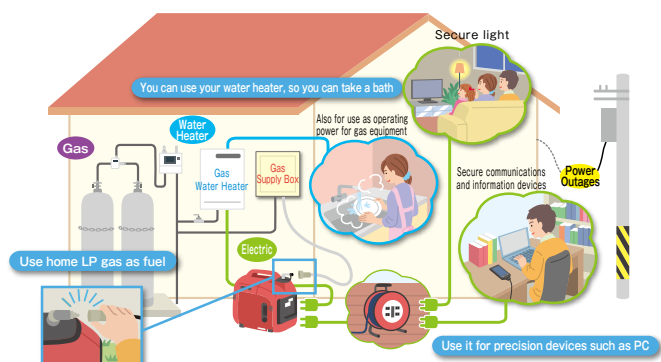
Use the LP gas cylinder installed under the eaves, so there is no difficulty procuring fuel.

● Connect safely with a gas supply box

A gas supply box is utilized so you can use a low pressure LP gas electric generator with peace of mind, in compliance with the Liquefied Petroleum Gas Law. It also serves the role of preventing carbon monoxide poisoning caused by use indoors.

Highly reliable, so you can use it with peace of mind in an emergency

Use LP gas with a one touch connection from the gas supply box. There is no need to worry about fuel in the event of a blackout, so you can easily get electricity, hot water from water heaters, and use various other electrical appliances so long as they are within the rated capacity. It is also equipped with a sine wave inverter, so it can be used with electronic devices including computers.



YAZAKI Gas Equipment Website Introduction

Please use this in combination with our catalog.

On the YAZAKI Energy System Gas Equipment website, you can find information on various gas equipments and Water Server QuOL handled by YAZAKI. There is also a wealth of information useful for daily business, including drawings, pamphlets, and catalogs. On your smartphone, use the QR code below to easily access our website.



Our website is written in Japanese language only. However, you can view this English catalog in our website.

From the URL or QR code below

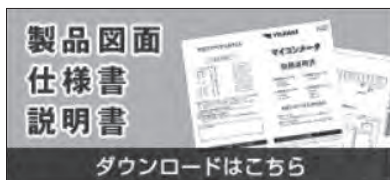
Access the “YAZAKI Energy System Gas Equipment Homepage”.

<https://www.yazaki-group.com/gas/>



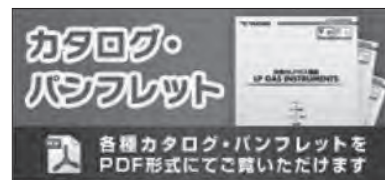
■ Use the QR here to directly access the following pages linked to our homepage.

Product Diagram/Specifications/Manuals



● “Product Drawing/Specifications/Manuals” Download Page

Catalogs/Pamphlets



● “Catalogs/Pamphlets” Download Page

YAZAKI Water Server



● “YAZAKI Water Server QuOL”... Product Information

Disaster Prep Propane Gas Generator



● “Disaster Prep Propane Gas Generator”... Product Info

LP Gas Safety Guide (METI)



● “3 Minutes LP Gas Safety Guide”... Ministry of Economy, Trade and Industry

Sales Offices List

Contact Info/Sales Offices List



● “Contact Info/Sales Offices List”

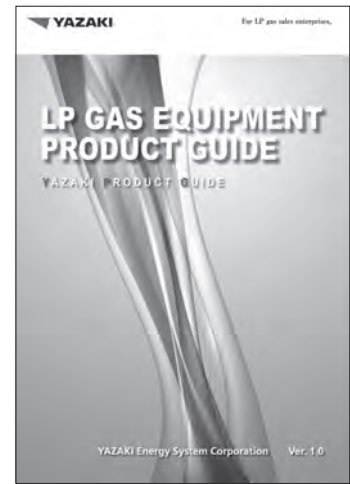
*The website listed above, as well as the information and photographs in the links are frequently updated, and may differ from what is displayed above.

How to Use the Catalog

We have revised the structure of our general catalog in order to make our catalogs more efficient.

The YAZAKI LP Gas Equipment General Product Guide introduces various LP gas equipments handled by YAZAKI Energy System. You can also easily access our website from your smartphone, in order to more conveniently view product information and drawings on the work site.

Furthermore, we have included a Technical Documents page at the end, featuring useful information such as related regulations, how to select equipments, and how to install them. We hope it will be a help for your business.



Title Page

Listed Products

Index
This index tab makes it easier to search for product categories. The applicable group is made easily visible with blue-green coloration.

Listed Page

Categories

- Gas Meters
- Alarms
- Controllers / Shutoff Valves
- Regulators
- Hoses / Gas Cocks
- Bulks / Vaporizers
- Technical Documents

Product Introduction Page

Product Name / Model

Product Picture
If there are multiple variations, then representative products are listed.

Index

Feature
Includes characteristics and an explanation of the product.

Specification Table

Comments/Notices
Includes related matters and additional information about products.

*This catalog contains information about products that is current as of May 31, 2019. Products may differ from the content of the catalog due to specification changes and new printings. We thank you for your understanding.

Gas Meters

- E-type Security Gas Meter
- E4-type Security Gas Meter
- EB-type Commercial Gas Meter
- S-type Security Gas Meter
- LTE Cat. M1 Wireless Integrated Gas Meter
- SB-type Commercial Microcomputer Gas Meter
- Standard Gas Meter
- Middle Pressure Gas Meter
- Meter Accessory

YAZAKI Gas Meter Lineup

E-type Security Gas Meter P. 25



EY25MT-YL
General home use ultrasound gas meter

E4-type Security Gas Meter P. 26



EY4MT-YL
For heavy use households and commercial use

EB-type Commercial Gas Meter P. 27



EBY6
Commercial use ultrasound gas meter

S-type Security Gas Meter P. 28



SY25MT1-YL
General home use membrane gas meter

Wireless Integrated Gas Meter P. 28



EY25MTH-YL-CUS **SY25MT1-YL-CNS**
LTE Cat. M1 wireless integrated gas meter

SB-type Commercial Use Microcomputer Gas Meter P. 29



SBA10
Commercial use membrane gas meter

Standard Gas Meter P. 30



N25
Commercial use membrane gas meter

Middle Pressure Gas Meter P. 30



AH7
Middle pressure gas meter

Meter Accessory P. 31



LUT-AZS **GSD-11K**
Gas meter accessory

E-type Security Gas Meter (High End)

EY25MTH

Prevents troublesome gas shutoffs in autumn and winter, perfect for price plans calculated by equipment



E-type Security Gas Meter (Standard)

EY25MT

Light, compact, and portable!
The standard type, capable of acquiring a range of information in addition to the standard features



• Specifications

Model		EY25MTH-YL	EY25MTH-ZL
Maximum Flow Rate		2.5 m ³ /h	
Pipe Sleeve Screw		M36×2	
Pipe Sleeve Center Distance		130 mm	90 mm
Pipe Diameter		20A (3/4B) or 15A (1/2B)	
Gas Flow Direction		Left Inlet	
Shutoff Function	Flow Shutoff	1. Total Flow 2. Increased Flow 3. Operating Time (Section 2: Fixed at 160 min or shorter, Section 1-2: To be shut off by limit time setting) 4. Leak During Reset Safety Check	
	Other	1. Seismoscope Operation 3. Gas Leak Alarm Interlock 5. Test 7. Center 9. Prepayment	2. Pressure Drop 4. External Device Interlock 6. Battery Voltage Reduction 8. Emergency 10. Test Term Expiration
Alarm Function		1. Small Leak in Flow 3. Shutoff Abnormality 5. Regulated Pressure Abnormality 7. Prepayment 9. Backflow	2. Battery Voltage Reduction 4. Small Leak in Pressure 6. Blocked Pressure Abnormality 8. Test Term Expiration 10. Alarm Power Plug Disconnection
Security Display		LCD 1. Pilot Flame Registration 2. Operating State of Automatic Setting Function 3. Shutoff Classification of Flow Increase Shutoff 4. Setting Status for Operating Time Shutoff Value 5. Reason for Shutoff 6. Reason for Warning	
Communication Method		Half Duplex Communication Method (N-Line/U-Bus) Visible Light Beacon System Communication Method (Visible Light Communication)	
Communication Contents		1. Meter Reading Data 3. Residual Amount Management Data 5. Small Leak Timer Value 7. Emergency Shutoff	2. Security Data 4. Shutoff Detail Data 6. Center Shutoff Valve Open/Close
Pulse Transmission		1L/10L/100L/Pulse Switching Type	
Other		Device Identification Function	
Power Supply		Lithium Battery (DC 3 V)	
Appearance Color		Light Gray	
External Dimensions		H148×W173×D108 (mm) (Length from pipe sleeve center to rear surface: 40.5 mm)	
Weight		Approx. 1.45 kg	
Packaging Unit		6 pcs	

• Specifications

Model		EY25MT-YL	EY25MT-ZL
Maximum Flow Rate		2.5 m ³ /h	
Pipe Sleeve Screw		M36×2	
Pipe Sleeve Center Distance		130 mm	90 mm
Pipe Diameter		20A (3/4B) or 15A (1/2B)	
Gas Flow Direction		Left Inlet	
Shutoff Function	Flow Shutoff	1. Total Flow 2. Increased Flow 3. Operating Time(Section 2: Fixed at 160 min or shorter, Section 1-2: To be shut off by limit time setting) 4. Leak During Reset Safety Check	
	Other	1. Seismoscope Operation 3. Gas Leak Alarm Interlock 5. Test 7. Center 9. Prepayment	2. Pressure Drop 4. External Device Interlock 6. Battery Voltage Reduction 8. Emergency 10. Test Term Expiration
Alarm Function		1. Small Leak in Flow 3. Shutoff Abnormality 5. Regulated Pressure Abnormality 7. Prepayment 9. Backflow	2. Battery Voltage Reduction 4. Small Leak in Pressure 6. Blocked Pressure Abnormality 8. Test Term Expiration 10. Alarm Power Plug Disconnection
Security Display		LCD 1. Pilot Flame Registration 2. Operating State of Automatic Setting Function 3. Shutoff Classification of Flow Increase Shutoff 4. Setting Status for Operating Time Shutoff Value 5. Reason for Shutoff 6. Reason for Warning	
Communication Method		Half Duplex Communication Method (N-Line) Visible Light Beacon System Communication Method (Visible Light Communication)	
Communication Contents		1. Meter Reading Data 3. Residual Amount Management Data 5. Small Leak Timer Value 7. Emergency Shutoff	2. Security Data 4. Shutoff Detail Data 6. Center Shutoff Valve Open/Close
Pulse Transmission		1L/10L/100L/Pulse Switching Type	
Power Supply		Lithium Battery (DC 3 V)	
Appearance Color		Light Gray	
External Dimensions		H148×W173×D108 (mm) (Length from pipe sleeve center to rear surface: 40.5 mm)	
Weight		Approx. 1.45 kg	
Packaging Unit		6 pcs	

E4-type Security Gas Meter (High End)

EY4MTH

Offers the same size and functions as EY25MTH, but perfect for heavy use households.



E4-type Security Gas Meter (Standard)

EY4MT

Offers the same size and functions as EY25MT, but perfect for heavy use households.



• Specifications

Model		EY4MTH-YL	EY4MTH-ZL
Maximum Flow Rate		4.0 m ³ /h	
Pipe Sleeve Screw		M36×2	
Pipe Sleeve Center Distance		130 mm	90 mm
Pipe Diameter		20A (3/4B)	
Gas Flow Direction		Left Inlet	
Shutoff Function	Flow Shutoff	1. Total Flow 2. Increased Flow 3. Operating Time(Section 2: Fixed at 160 min or shorter, Section 1-2: To be shut off by limit time setting) 4. Leak During Reset Safety Check	
	Other	1. Seismoscope Operation 3. Gas Leak Alarm Interlock 5. Test 7. Center 9. Prepayment	2. Pressure Drop 4. External Device Interlock 6. Battery Voltage Reduction 8. Emergency 10. Test Term Expiration
Alarm Function		1. Small Leak in Flow 3. Shutoff Abnormality 5. Regulated Pressure Abnormality 7. Prepayment 9. Backflow	2. Battery Voltage Reduction 4. Small Leak in Pressure 6. Blocked Pressure Abnormality 8. Test Term Expiration 10. Alarm Power Plug Disconnection
Security Display		LCD 1. Pilot Flame Registration 2. Operating State of Automatic Setting Function 3. Shutoff Classification of Flow Increase Shutoff 4. Setting Status for Operating Time Shutoff Value 5. Reason for Shutoff 6. Reason for Warning	
Communication Method		Half Duplex Communication Method (N-Line/U-Bus) Visible Light Beacon System Communication Method (Visible Light Communication)	
Communication Contents		1. Meter Reading Data 3. Residual Amount Management Data 5. Small Leak Timer Value 7. Emergency Shutoff	2. Security Data 4. Shutoff Detail Data 6. Center Shutoff Valve Open/Close
Pulse Transmission		1L/10L/100L/Pulse Switching Type	
Other		Device Identification Function	
Power Supply		Lithium Battery (DC 3 V)	
Appearance Color		Light Gray	
External Dimensions		H148×W173×D108 (mm) (Length from pipe sleeve center to rear surface: 40.5 mm)	
Weight		Approx. 1.45 kg	
Packaging Unit		6 pcs	

• Specifications

Model		EY4MT-YL	EY4MT-ZL
Maximum Flow Rate		4.0 m ³ /h	
Pipe Sleeve Screw		M36×2	
Pipe Sleeve Center Distance		130 mm	90 mm
Pipe Diameter		20A (3/4B)	
Gas Flow Direction		Left Inlet	
Shutoff Function	Flow Shutoff	1. Total Flow 2. Increased Flow 3. Operating Time(Section 2: Fixed at 160 min or shorter, Section 1-2: To be shut off by limit time setting) 4. Leak During Reset Safety Check	
	Other	1. Seismoscope Operation 3. Gas Leak Alarm Interlock 5. Test 7. Center 9. Prepayment	2. Pressure Drop 4. External Device Interlock 6. Battery Voltage Reduction 8. Emergency 10. Test Term Expiration
Alarm Function		1. Small Leak in Flow 3. Shutoff Abnormality 5. Regulated Pressure Abnormality 7. Prepayment 9. Backflow	2. Battery Voltage Reduction 4. Small Leak in Pressure 6. Blocked Pressure Abnormality 8. Test Term Expiration 10. Alarm Power Plug Disconnection
Security Display		LCD 1. Pilot Flame Registration 2. Operating State of Automatic Setting Function 3. Shutoff Classification of Flow Increase Shutoff 4. Setting Status for Operating Time Shutoff Value 5. Reason for Shutoff 6. Reason for Warning	
Communication Method		Half Duplex Communication Method (N-Line) Visible Light Beacon System Communication Method (Visible Light Communication)	
Communication Contents		1. Meter Reading Data 3. Residual Amount Management Data 5. Small Leak Timer Value 7. Emergency Shutoff	2. Security Data 4. Shutoff Detail Data 6. Center Shutoff Valve Open/Close
Pulse Transmission		1L/10L/100L/Pulse Switching Type	
Power Supply		Lithium Battery (DC 3 V)	
Appearance Color		Light Gray	
External Dimensions		H148×W173×D108 (mm) (Length from pipe sleeve center to rear surface: 40.5 mm)	
Weight		Approx. 1.45 kg	
Packaging Unit		6 pcs	

EB-type Commercial Gas Meter

EBY6

The same size as EY25 and EY4, so it is compact. Contributes to reducing "Error B Display" with its remarkable accuracy



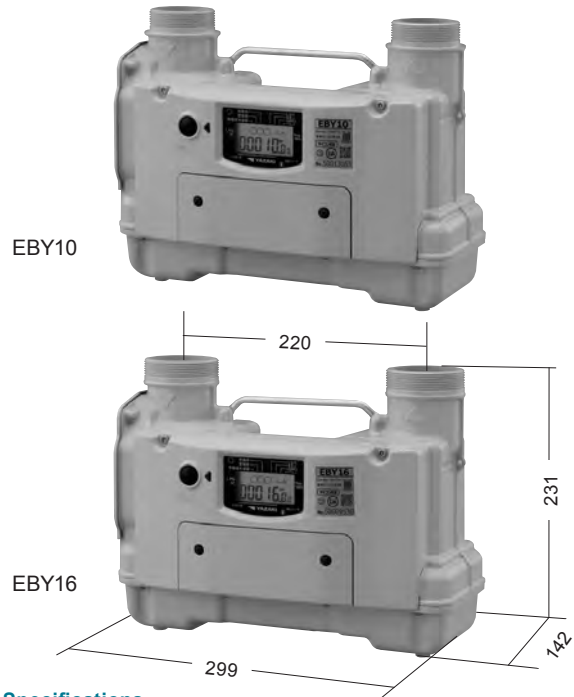
• Specifications

Model	EBY6	
Maximum Flow Rate	6.0 m ³ /h	
Pipe Sleeve Screw	M36×2	
Pipe Sleeve Center Distance	130 mm	
Pipe Diameter	20A (3/4B)	
Gas Flow Direction	Left Inlet	
Shutoff Function	Flow Shutoff	1. Total Flow 2. Increased Flow 3. Leak During Reset Safety Check
	Other	1. Seismoscope Operation 2. Pressure Drop 3. Gas Leak Alarm Interlock 4. External Device Interlock 5. Test 6. Battery Voltage Reduction 7. Center 8. Emergency 9. Prepayment 10. Test Term Expiration
Alarm Function	Flow Shutoff	1. Small Leak in Flow 2. Battery Voltage Reduction 3. Shutoff Abnormality 4. Small Leak in Pressure 5. Regulated Pressure Abnormality 6. Blocked Pressure Abnormality 7. Prepayment 8. Test Term Expiration 9. Backflow 10. Alarm Power Plug Disconnection
	Other	1. Small Leak in Flow 2. Battery Voltage Reduction 3. Shutoff Abnormality 4. Small Leak in Pressure 5. Regulated Pressure Abnormality 6. Blocked Pressure Abnormality 7. Prepayment 8. Test Term Expiration 9. Backflow 10. Alarm Power Plug Disconnection
Security Display	LCD 1. Pilot Flame Registration 2. Operating State of Automatic Setting Function 3. Shutoff Classification of Flow Increase Shutoff 4. Reason for Shutoff 5. Reason for Warning	
Communication Method	Half Duplex Communication Method (N-Line/U-Bus) Visible Light Beacon System Communication Method (Visible Light Communication)	
Communication Contents	1. Meter Reading Data 2. Security Data 3. Residual Amount Management Data 4. Shutoff Detail Data 5. Small Leak Timer Value 6. Center Shutoff Valve Open/Close 7. Emergency Shutoff	
Pulse Transmission	1L/10L/100L/1000L/ Pulse switching type	
Power Supply	Lithium Battery (DC 3 V)	
Appearance Color	Light Gray	
External Dimensions	H148×W173×D108 (mm) (Length from pipe sleeve center to rear surface: 40.5 mm)	
Weight	Approx. 1.45 kg	
Packaging Unit	1 unit	
Accessory	Meter Coupling (20A)	

EB-type Commercial Gas Meter

EBY10/EBY16

Built small and resets quickly! Contributes to reducing "Error B Display" with its remarkable accuracy



• Specifications

Model	EBY10	EBY16
Maximum Flow Rate	10 m ³ /h	16 m ³ /h
Pipe Sleeve Screw	M56×2	M64×2
Pipe Sleeve Center Distance	220 mm	
Pipe Diameter	32A (1 1/4B)	40A (1 1/2B)
Gas Flow Direction	Left Inlet	
Shutoff Function	Flow Shutoff	1. Total Flow 2. Increased Flow 3. Leak During Reset Safety Check
	Other	1. Seismoscope Operation 2. Pressure Drop 3. Gas Leak Alarm Interlock 4. External Device Interlock 5. Test 6. Battery Voltage Reduction 7. Center 8. Emergency 9. Test Term Expiration
Alarm Function	Flow Shutoff	1. Small Leak in Flow 2. Battery Voltage Reduction 3. Shutoff Abnormality 4. Small Leak in Pressure 5. Regulated Pressure Abnormality 6. Blocked Pressure Abnormality 7. Test Term Expiration 8. Backflow 9. Alarm Power Plug Disconnection
	Other	1. Small Leak in Flow 2. Battery Voltage Reduction 3. Shutoff Abnormality 4. Small Leak in Pressure 5. Regulated Pressure Abnormality 6. Blocked Pressure Abnormality 7. Test Term Expiration 8. Backflow 9. Alarm Power Plug Disconnection
Security Display	LCD 1. Pilot Flame Registration 2. Operating Status of Automatic Setting Functions 3. Shutoff Classification of Flow Increase Shutoff 4. Setting Status for Operating Time Shutoff Value 5. Reason for Shutoff 6. Reason for Warning	
Communication Method	Half Duplex Communication Method (N-Line)	
Communication Contents	1. Meter Reading Data 2. Security Data 3. Residual Amount Management Data 4. Shutoff Detail Data 5. Small Leak Timer Value 6. Center Shutoff Valve Open/Close 7. Emergency Shutoff	
Pulse Transmission	1L/10L/100L/Pulse switching type	
Power Supply	Lithium Battery (DC 3 V)	
Appearance Color	Light Gray	
External Dimensions	H231×W299×D142 (mm) (Length from pipe sleeve center to rear surface: 58.5 mm)	
Weight	Approx. 4.4 kg	
Packaging Unit	1 unit	
Accessory	Meter Coupling	-* Meter Coupling

*When using this to replace a 130 span gas meter, use LUS-45 on page 31.

S-type Security Gas Meter

SY25MT1

Easier to see and use than earlier types.



SY25MT1-YL

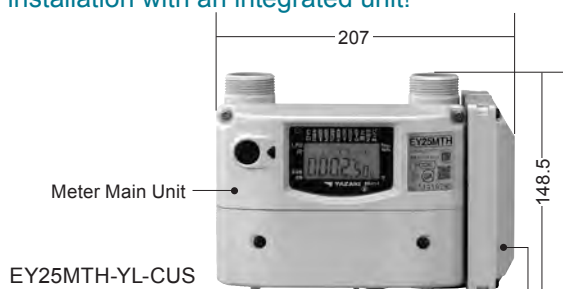
• Specifications

Model	SY25MT1-YL	SY25MT1-ZL
Maximum Flow Rate	2.5 m ³ /h	
Pipe Sleeve Screw	M36×2	
Pipe Sleeve Center Distance	130 mm	90 mm
Pipe Diameter	20A (3/4B) or 15A (1/2B)	
Gas Flow Direction	Left Inlet	
Shutoff Function	Flow Shutoff	1. Total Flow 2. Increased Flow 3. Operating Time(Section 2: Fixed in 160 min or shorter, Section 1-2: To be shut off by limit time setting) 4. Leak During Reset Safety Check
	Other	1. Seismoscope Operation 2. Pressure Drop 3. Gas Leak Alarm Interlock 4. External Device Interlock 5. Test 6. Battery Voltage Reduction 7. Center 8. Emergency 9. Prepayment 10. Test Term Expiration
Alarm Function	1. Small Leak in Flow 2. Battery Voltage Reduction 3. Shutoff Abnormality 4. Small Leak in Pressure 5. Regulated Pressure Abnormality 6. Blocked Pressure Abnormality 7. Prepayment	2. Battery Voltage Reduction 3. Shutoff Abnormality 4. Small Leak in Pressure 5. Regulated Pressure Abnormality 6. Blocked Pressure Abnormality 7. Prepayment
Security Display	LCD 1. Pilot Flame Registration 2. Operating State of Automatic Setting Function 3. Shutoff Classification of Flow Increase Shutoff 4. Setting Status for Operating Time Shutoff Value 5. Reason for Shutoff 6. Reason for Warning	
Communication Method	Half Duplex Communication Method (N-Line)	
Communication Contents	1. Meter Reading Data 2. Security Data 3. Residual Amount Management Data 4. Shutoff Detail Data 5. Small Leak Timer Value	6. Center Shutoff Valve Open/Close 7. Emergency Shutoff 8. Prepayment Management Data
Power Supply	Lithium Battery (DC 3 V)	
Appearance Color	Light Gray	
External Dimensions	H235×W168×D145.5 (mm) (Length from pipe sleeve center to rear surface: 43.5 mm)	
Weight	Approx. 2.4 kg	
Packaging Unit	6 pcs	

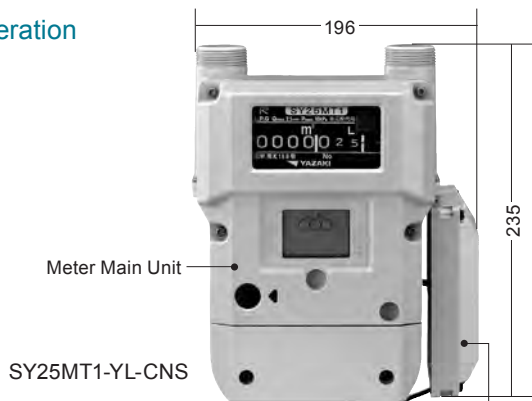
LTE Cat. M1 Wireless Integrated Gas Meter

EY25MTH, EY4MTH-CUS/EY25MT, EY4MT-CNS/SY25MT1-CNS/EBY6-CUS, CNS

Makes centralized monitoring possible with next generation communications!
Easy installation with an integrated unit!



EY25MTH-YL-CUS



SY25MT1-YL-CNS

• Specifications

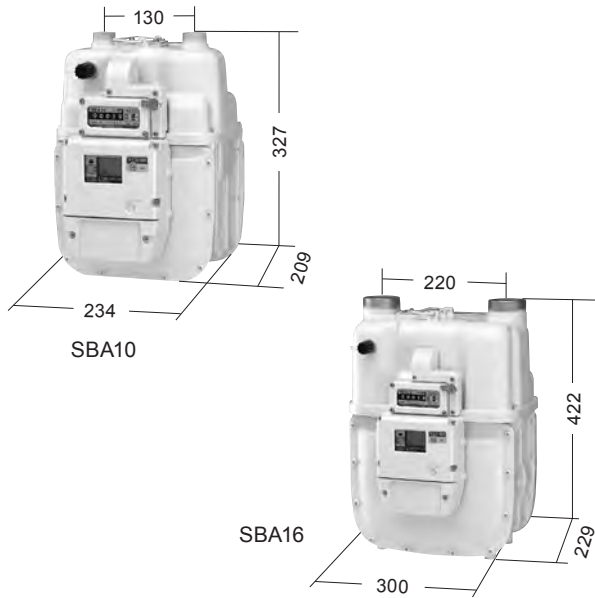
Model	EY High End Integrated Unit		EY Standard Integrated Unit		SY Meter Integrated Unit	EBY Meter Integrated Unit		
	EY25MTH-YL-CUS	EY4MTH-YL-CUS	EY25MT-YL-CNS	EY4MT-YL-CNS	SY25MT1-YL-CNS	EBY6-CUS	EBY6-CNS	
Connected Transceiver	YSC-US		YSC-NS			YSC-US	YSC-NS	
Maximum Flow Rate	2.5 m ³ /h	4 m ³ /h	2.5 m ³ /h	4 m ³ /h	2.5 m ³ /h	6 m ³ /h		
Pipe Sleeve Center Distance	YL: 130 mm ZL: 90 mm						130 mm	
Standard	ARIB STD-T104 Release 13 ARIB STD-T108							
Radio Frequency	LTE Standard: 3GPP cat. M Release 13 2.1 GHz/900 MHz U-bus Air Standard: ARIB STD-T108 compliant 920 MHz							
External Dimensions	H148.5×W207×D108 mm				H235×W196×D145.5 mm		H148.5×W207×D108 mm	
Weight	Approx. 1.67 kg				Approx. 2.66 kg		Approx. 1.67 kg	
Packaging Unit	6 units					1 unit		

*For detailed specifications of the gas meter main unit, see pages 25 to 28.

*For detailed specifications of the LTE Cat. M1 wireless equipment, see page 44.

SB-type Commercial Microcomputer Gas Meter

SBA10/SBAL10/SBA16

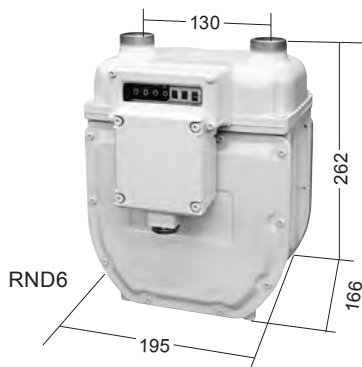


Specifications

Model	SBA10		SBAL10	SBA16
	(Straight)	(Swivel)		
Maximum Flow Rate	10 m ³ /h			16 m ³ /h
Pipe Sleeve Screw	M34×1.5		M56×2	M64×2
Pipe Sleeve Center Distance	130 mm		220 mm	
Pipe Diameter	20A (3/4B)	32A (1 1/4B)		40A (1 1/2B)
Gas Flow Direction	Left Inlet			
Shutoff Function	Flow Shutoff	1. Total Flow 2. Increased Flow 3. Leak During Reset Safety Check		
	Other	1. Seismoscope Operation 2. Pressure Drop 3. Gas Alarm Interlock 4. External Device Interlock 5. Test 6. Battery Voltage Reduction 7. Emergency		
Alarm Function	1. Small Leak in Flow 2. Battery Voltage Reduction 3. Shutoff Abnormality 4. Small Leak in Pressure 5. Regulated Pressure Abnormality 6. Blocked Pressure Abnormality			
Security Display	LCD 1. Pilot Flame Registration 2. Operating Status of Automatic Setting Functions 3. Shutoff Classification of Flow Increase Shutoff 4. Reason for Shutoff 5. Reason for Warning			
Communication Contents	1. Meter Reading Data 2. Security Data 3. Residual Amount Management Data 4. Shutoff Detail Data 5. Small Leak Timer Value			
Power Supply	Lithium Battery			
Appearance Color	White (JPMA R4-383)			
External Dimensions	H327×W234×D209 (mm)		H422×W300×D229 (mm)	
Weight	6.7 kg		11.6 kg	
Packaging Unit	1 pc			
Accessory	Meter Coupling			

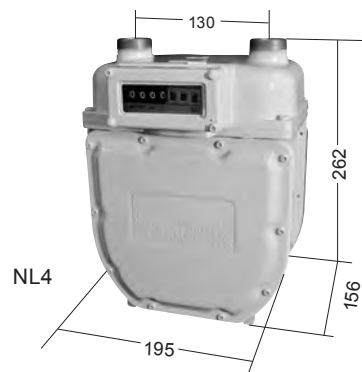
Automatic Remote Reading Gas Meter

RND6, NDS-NL10/16



Low Pressure Gas Meter

NL4/NL6/NL10/NL16



Specifications

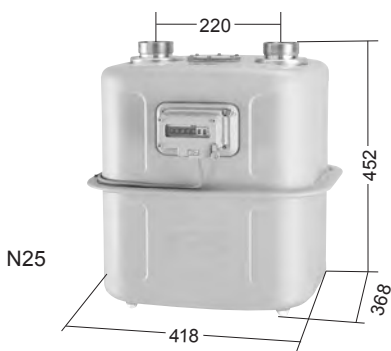
Model	RND6	NDS-NL10	NDS-NL16
Maximum Flow Rate	6 m ³ /h	10 m ³ /h	16 m ³ /h
Pipe Sleeve Screw	M34×1.5	M56×2	M64×2
Pipe Sleeve Center Distance	130 mm	220 mm	
Pipe Diameter	20A (3/4B)	32A (1 1/4B)	40A (1 1/2B)
Gas Flow Direction	Left Inlet		
Transmission Unit	2 Wire Type: 10L/P 3 Wire Type: 5L/P	3 Wire Type: 100L/P	
Appearance Color	White		
External Dimensions	H262×W195×D166 (mm)	H341×W300×D213 (mm)	
Weight	Approx. 3.6 kg	Approx. 9.0 kg	
Packaging Unit	1 pc		
Accessory	Meter Coupling		

Specifications

Model	NL4	NL6	NL10	NL16
Maximum Flow Rate	4 m ³ /h	6 m ³ /h	10 m ³ /h	16 m ³ /h
Pipe Sleeve Screw	M34×1.5		M56×2	M64×2
Pipe Sleeve Center Distance	130 mm		220 mm	
Pipe Diameter	20A (3/4B)		32A (1 1/4B)	40A (1 1/2B)
Gas Flow Direction	Left Inlet			
Appearance Color	White			
External Dimensions	H262×W195×D156 (mm)		H341×W300×D213 (mm)	
Weight	Approx. 3.5 kg		Approx. 9.0 kg	
Packaging Unit	1 pc			
Accessory	Meter Coupling			

N-type Gas Meter

N25/40/65/100 (Standard Gas Meter) RN25/40/65/100 (For Automatic Remote Reading)



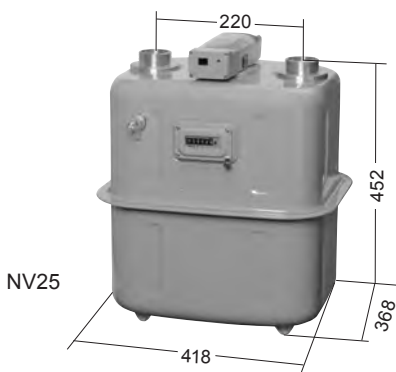
Specifications

Model	N25	N40	N65	N100
	RN25	RN40	RN65	RN100
Maximum Flow Rate	25 m ³ /h	40 m ³ /h	65 m ³ /h	100 m ³ /h
Pipe Sleeve Screw	M64×2	M72×2	M110×4	
Pipe Sleeve Center Distance	220 mm	320 mm	380 mm	
Pipe Diameter	40A (1 1/2B)	50A (2B)	80A (3B)	
Gas Flow Direction	Left Inlet			
*Transmission Unit	2 Wire Type: 100L/P 3 Wire Type: 50L/P	2 Wire Type: 1000L/P 3 Wire Type: 500L/P		
Appearance Color	White (JPMA R4-383)			
External Dimensions	H452×W418×D368 (mm)	H574×W513×D423 (mm)	H728×W639×D519 (mm)	
Weight	Approx. 22.0 kg	Approx. 35.0 kg	Approx. 66.0 kg	
Packaging Unit	1 pc			
Accessory	Meter Coupling			

*RN: For Automatic Remote Reading

Shutoff Valve Built-in Gas Meter

NV25/40 RNV25/40



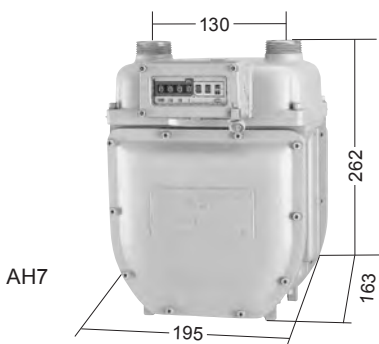
Specifications

Model	NV25	NV40
	RNV25	RNV40
Maximum Flow Rate	25 m ³ /h	40 m ³ /h
Pipe Sleeve Screw	M64×2	M72×2
Pipe Sleeve Center Distance	220 mm	320 mm
Pipe Diameter	40A (1 1/2B)	50A (2B)
Gas Flow Direction	Left Inlet	
*Transmission Unit	2 Wire Type: 100L/P 3 Wire Type: 50L/P	2 Wire Type: 1000L/P 3 Wire Type: 500L/P
Appearance Color	White (JPMA R4-383)	
External Dimensions	H452×W418×D368 (mm)	H574×W513×D423 (mm)
Weight	Approx. 24.0 kg	Approx. 41.0 kg
Packaging Unit	1 pc	
Accessory	Meter Coupling	

*RNV: For Automatic Remote Reading

Middle Pressure Gas Meter

AH7, AH10, AH15



Specifications

Model	AH7	AH10	AH15
	Working pressure	0.1 MPa or lower	
Maximum Flow Rate	7 m ³ /h	10 m ³ /h	15 m ³ /h
Pipe Sleeve Screw	W36.3	M56×2	M64×2
Pipe Sleeve Center Distance	130 mm	220 mm	
Pipe Diameter	20A (3/4B)	32A (1 1/4B)	40A (1 1/2B)
Gas Flow Direction	Left Inlet		
Appearance Color	White (JPMA R4-383)		
External Dimensions	H262×W195×D163 mm	H341×W300×D215 mm	
Weight	Approx. 3.8 kg	Approx. 10.5 kg	
Packaging Unit	1 pc		
Accessory	Meter Coupling		

Pressure Correction Coefficient Table

Gauge Pressure (MPa)	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
Correction Coefficient	1.069	1.165	1.261	1.357	1.453	1.549	1.645	1.741	1.837	1.933

Though the Medium Pressure Gas Meter is not subject to calibration required in the Measurement Act, please make a prior agreement after referencing the items below regarding terms and conditions, such as medium pressure gas flow. This product is a medium pressure gas meter that requires volume conversion of gas used into a common working pressure of 2.8 kPa. Check a meter and determine the quantity with correction based on the pressure correction coefficient in the above table.

Gas Meter Coupling



LUT-AZS
(M36×1/2)



LUT-SAZ
(M36×3/4)



LUS-ZNS
(M36×1/2)



LUC-ZNS
(M36×1/2)



LUC-SZN
(M36×3/4)



LUS-45
(M56×3/4)
*For EBY10

Gas Meter Setting Equipment



GSD-11K
(Common Model Microcomputer
Gas Meter / Communication
Controller Setting Equipment)



YSD-14
Screen Tablet Setting Equipment
*Please prepare the main tablet unit yourself.



ST-403CII
Simple Model Telegram
Setting Equipment



ST-504CY
Simple Model Telegram
Setting Equipment

Visible Light Photodetector

YVC-01

Connect to a handheld terminal or tablet to detect the visual light signal and obtain information from the E-type Gas Meter.
*Software modifications are required in the case of the handheld terminal.



Specifications

Model	YVC-01
Dimensions (Cable Length)	Approx. 1 m
Weight	Approx. 60 g
Operating Temperature Range	0° C to 45° C (without condensation)
Storage Temperature Range	-20°C to 70° C (without condensation)
Communication Method	Visible Light Beacon System (JEITA CP-1223)

In-house Controller

YCB-30 / YCB-36



YCB-30



YCB-36

Specifications

Model	YCB-30	YCB-36
Operate Switch	"Open" "Stop": EB-type Meter Shutoff Valve Controls "Service Switch": For center alerts	"Open": E-type (product equipped with in-house function) and Shutoff Valve operation of EB-type meters "Service Switch": For center alerts
Switch Output	a contact MAX DC 10V 20mA / MIN DC 2V 10µA	
Operating Temperature	-10°C to +50°C	
External Dimensions	H120×W75×D23.5 (mm)	
Weight	Approx. 80 g	
Packaging Unit	10 pcs	

LP Gas Leak Alarms

- Gas Leak Alarm
- No-voltage Output Gas Leak Alarm
- Voltage Output Gas Leak Alarm
- Dual Output Gas Leak Alarm
- CO Alarm
- Ventilation warning Alarm for Commercial
- Detector
- Gas Leak Alarm Adapter
- Gas Leak Alarm Auxiliaries

Choose the right LP gas leak alarm for your application

Gas Leak Alarm P.33



YF-005N

Alarms usable in general households

No-voltage Output Gas Leak Alarm P. 34



YF-434G

Links with microcomputer gas meters

Voltage Output Gas Leak Alarm P. 35



YF-433F

Links with shutoff valve controller

Dual Output Gas Leak Alarm P. 35



YF-313A

Voltage + No Voltage, for commercial facilities

CO Alarm P. 36



YZ-222

Household use CO alarm

Commercial Use Ventilation Alarm P. 36



YZ-165C

Ventilation alarm best suited for commercial facilities

Various detectors P. 37



TX-611H

CO-FL1

SP-220

Used for gas leaks and CO detection

Gas Leak Alarm Adapter P. 38



YSC-01B

Converts alarm output signals

Gas Leak Alarm Auxiliaries P. 38



YSC-29A

YSC-29B

Links alarms with gas meters wirelessly

Gas Leak Alarm

YF-005N

Compact and comes standard with night light function



• Specifications

Model	YF-005N	YF-005N (S)	YF-005N (SA)
Detection Principle	Contact Combustion Type Gas Sensor		
Gas Density for Detection	Less than 1/4 of lower limit for gas explosion		
Alarm Method	Immediate Alarm Automatic Reset		
	Alarm Lamp (LED: Red)		
	Buzzer Alarm (more than 70 dB/m)		
Operating Temperature	-10°C to +40°C		
Power Supply	AC 100 V 50/60 Hz		
Power Consumption	During monitoring: Approx. 0.8 W, During alarm: Approx. 0.9 W		
Built-in Circuit	Muting Circuit Enabled at Power-on (Approx. 5 seconds)		
Function	LED (white) Brightness Adjustment (During Monitoring) Buzzer Sound Switch, Alarm History Display, Replacement Notification, Alarm Sound Stop, Failure Notification		
Power Plug Cable	Length 2.5 m (Spare Socket Included)	Length 0.35 m	Length 0.35 m (Spare Socket Included)
	External Dimensions		
	H78×W62×D29.5 (mm) (without protrusion)		
Weight	Approx. 195 g	Approx. 125 g	Approx. 135 g
Packaging Unit	20 pcs		

Gas Leak Alarm

YF-005NV (Buzzer + Voice Type)

Voice alarm type of the YF-005N



• Specifications

Model	YF-005NV
Detection Principle	Contact Combustion Type Gas Sensor
Gas Density for Detection	Less than 1/4 of lower limit for gas explosion
Alarm Method	Immediate Alarm Automatic Reset
	Alarm Lamp (LED: Red)
	Buzzer + Audio Alarm (more than 70 dB/m)
Operating Temperature	-10°C to +40°C
Power Supply	AC 100 V 50/60 Hz
Power Consumption	During monitoring: Approx. 0.8 W, During alarm: Approx. 0.8 W
Built-in Circuit	Muting Circuit Enabled at Power-on (Approx. 5 seconds)
Function	LED (white) Brightness Adjustment (During Monitoring) Alarm History Display, Replacement Notification, Alarm Sound Stop, Failure Notification
Power Plug Cable	2.5 m (Spare socket included)
External Dimensions	H78×W62×D29.5 (mm) (without protrusion)
Weight	Approx. 160 g
Packaging Unit	20 pcs

Gas Leak Alarm

YF-005N (D)

Directly mounted concept type of the YF-005N



• Specifications

Model	YF-005N (D)
Detection Principle	Contact Combustion Type Gas Sensor
Gas Density for Detection	Less than 1/4 of lower limit for gas explosion
Alarm Method	Immediate Alarm Automatic Reset
	Alarm Lamp (LED: Red)
	Buzzer Alarm (more than 70 dB/m)
Operating Temperature	-10°C to +40°C
Power Supply	AC 100 V 50/60 Hz
Power Consumption	During monitoring: Approx. 0.8 W, During alarm: Approx. 0.9 W
Built-in Circuit	Muting Circuit Enabled at Power-on (Approx. 5 seconds)
Function	LED (white) Brightness Adjustment (During Monitoring) Buzzer Sound Switch, Alarm History Display, Replacement Notification, Alarm Sound Stop, Failure Notification
Installation Method	Direct Insertion to Socket
External Dimensions	H62×W78×D33.5 (mm)
Weight	Approx. 115 g
Packaging Unit	20 pcs

No-voltage Output Gas Leak Alarm
YF-434G
(Buzzer + Audio Type)



Comes equipped with night light function, and a buzzer and voice alarm

• Specifications

Model	YF-434G	YF-434G (S)	YF-434G (SA)
Detection Principle	Contact Combustion Type Gas Sensor		
Gas Density for Detection	Less than 1/4 of lower limit for gas explosion		
Alarm Method	Time-Lag Alarm, Automatic Reset		
	Alarm Lamp (LED: Red)		
	Buzzer + Voice Alarm (more than 70 dB/m)		
Operating Temperature	-10°C to +40°C		
Power Supply	AC 100 V 50/60 Hz		
Power Consumption	During monitoring: Approx. 0.8 W, During alarm: Approx. 0.8 W		
External Output	Connection Method	Front Panel Terminal Block	
	Output Signal	Open Collector	
	Standard Time-Lag	Approx. 34 seconds	
Built-in Circuit	Muting Circuit Enabled at Power-on (Approx. 5 seconds) Alarm Time-Lag Circuit (Approx. 15 seconds) Inspection mode (10 minutes)		
Function	LED (white) Brightness Adjustment (During Monitoring) Alarm History Display, Replacement Notification, Alarm Sound Stop Failure Notification		
Power Supply	Switching		
G Terminal	Front Panel Terminal Block		
Power Plug Cable	Length 2.5 m (Spare Socket Included)	Length 0.35 m	Length 0.35 m (Spare Socket Included)
	External Dimensions		
Weight	Approx. 200 g	Approx. 130 g	Approx. 140 g
Packaging Unit	20 pcs		

*Time-lag is made short to 15 seconds while in inspection mode.

No-voltage Output Gas Leak Alarm
YF-437F
(Voice Type)



Easy to understand alarm using the voice function

• Specifications

Model	YF-437F	YF-437F (S)	YF-437F (SA)
Detection Principle	Contact Combustion Type Gas Sensor		
Gas Density for Detection	Less than 1/4 of lower limit for gas explosion		
Alarm Method	Time-Lag Alarm, Automatic Reset		
	Alarm Lamp (LED: Red)		
	Voice Alarm (Speaker: more than 70 dB/m)		
Operating Temperature	-10°C to +40°C		
Power Supply	AC 100 V 50/60 Hz		
Power Consumption	During monitoring: Approx. 0.9 W, During alarm: Approx. 1.0 W		
External Output	Connection Method	Screwless Terminal	
	Output Signal	Open Collector	
	Standard Time-Lag	Approx. 34 seconds	
Built-in Circuit	Muting circuit enabled at power-on (Approx. 5 seconds) ^{*1} Alarm Time-Lag Circuit (Approx. 15 seconds) Inspection Mode (10 minutes)		
Function	Replacement Notification, Alarm Sound Stop Failure Notification		
Power Supply	Switching		
G Terminal	Front Panel Terminal Block		
Power Plug Cable	Length 2.5 m (Spare Socket included)	Length 0.35 m	Length 0.35 m (Spare Socket included)
	External Dimensions		
Weight	Approx. 205 g	Approx. 135 g	Approx. 145 g
Packaging Unit	20 pcs		

*1 YF-437FP and 437FP (SA) are (approx. 15 seconds)

*YF-437FP and 437FP (SA) are equipped with power plug disconnect features.

• Eco Mark Product

No-voltage Output Gas Leak Alarm
YF-431A
(Built-in Type)

In-Wall Mount Type Alarm



• Specifications

Model	YF-431A	
Detection Principle	Contact Combustion Type Gas Sensor	
Gas Density for Detection	Less than 1/4 of lower limit for gas explosion	
Alarm Method	Immediate Alarm Automatic Reset	
	Alarm Lamp (LED: Red) Buzzer Alarm (Electric Buzzer more than 70 dB/m)	
Operating Temperature	-10°C to +40°C	
Power Supply	AC 100 V 50/60 Hz both	
Power Consumption	During monitoring: Approx. 0.8 W, During alarm: Approx. 0.9 W	
Built-in Circuit	Muting Circuit Enabled at Power-on (Approx. 5 seconds) Inspection mode (1 minute)	
Function	Replacement Notification Failure Notification	
External Output	Connection Method	Back Panel Plug
	Output Signal	Open Collector
	Standard Time-Lag	Approx. 34 seconds
External Dimensions	H68×W86×D37 (mm)	
Weight	Approx. 170 g	
Option	YA-300 (Embedded Socket) YA-301 (Switch Box)	
Packaging Unit	20 pcs	

Voltage Output Gas Leak Alarm

YF-433F (Buzzer Type)



Notifies you with an easy to understand buzzer

• Specifications

Model		YF-433F	YF-433F (S)
Detection Principle		Contact Combustion Type Gas Sensor	
Gas Density for Detection		Less than 1/4 of lower limit for gas explosion	
Alarm Method		Time-Lag Alarm, Automatic Reset Alarm Lamp (LED: Red) Buzzer Alarm "Peeppo Peeppo" (Electric Buzzer more than 70 dB/m)	
Operating Temperature		-10°C to +40°C	
Power Supply		AC 100 V 50/60 Hz	
Power Consumption		During monitoring: Approx. 0.8 W, During alarm: Approx. 1.1 W	
External Output	Connection Method	Front Panel Terminal Block	
	Output Signal	Two-step voltage two wire type Monitoring DC 6 V During alarm DC 0-6-12 V Failure DC 0 V	
Built-in Circuit		Muting Circuit Enabled at Power-on (Approx. 5 seconds) Alarm Time-Lag Circuit (Approx. 15 seconds) Inspection mode (1 minute)	
Function		Replacement Notification, Alarm Sound Stop Failure Notification	
Frame Ground Terminal		Front Panel Terminal Block	
Power Plug Cable		2.5 m (Spare Socket Included)	0.35 m
External Dimensions		H117×W70×D29 mm	
Weight		Approx. 220 g	Approx. 150 g
Packaging Unit		20 pcs	

• Eco Mark Product

Voltage Output Gas Leak Alarm

YF-417C (24 V Power Supply Type)



Notifies you with an easy to understand buzzer and lamp

• Specifications

Model		YF-417C
Detection Principle		Contact Combustion Type Gas Sensor
Gas Density for Detection		Less than 1/4 of lower limit for gas explosion
Alarm Method		Immediate Alarm Automatic Reset Alarm Lamp (LED: Red) Buzzer Alarm (Electric Buzzer more than 70 dB/m)
Operating Temperature		-10°C to +40°C
Power Supply		DC 24 V (Operating voltage range DC 17 - 40 V)
Power Consumption		During monitoring: Approx. 1.5 W, During alarm: Approx. 1.7 W
Built-in Circuit		<ul style="list-style-type: none"> Muting circuit enabled at power-on (Approx. 40 seconds) Alarm time-lag circuit (Approx. 25 seconds) Bridge Circuit External Output Signal Short Protection Circuit Gas Sensor Failure Monitor Circuit Electrical Circuit Failure Monitor Function
External Output	Connection Method	Rotate to Hook to Mounting Base
	Output Signal	Two-step voltage two wire type Monitoring DC 6 V During alarm DC 0-6-12 V Signal Wire Disconnected DC 0 VDC 0 V
External Dimensions		φ120×34 (mm)
Weight		Approx. 150 g
Option		SH5910 (Mounting Base: Commercial Item Made by PANASONIC)
Packaging Unit		40 pcs

Voltage Output Gas Leak Alarm

YF-432 (Built-in Type)



In-Wall Mount Type Alarm

• Specifications

Model		YF-432
Detection Principle		Contact Combustion Type Gas Sensor
Gas Density for Detection		Less than 1/4 of lower limit for gas explosion
Alarm Method		Immediate Alarm Automatic Reset Alarm Lamp (LED: Red) Buzzer Alarm (Electric Buzzer more than 70 dB/m)
Operating Temperature		-10°C to +40°C
Power Supply		AC 100 V 50/60 Hz
Power Consumption		During monitoring: Approx. 2W, During alarm: Approx. 2W
External Output	Connection Method	Back panel plug
	Output Signal	Two-step voltage two wire type Monitoring DC 6 V During alarm DC 12 V Failure DC 0 V
External Dimensions		H68×W86×D37 (mm)
Weight		Approx. 200 g
Option		YA-300 (Embedded Socket) YA-301 (Switch Box)
Packaging Unit		40 pcs

Dual Output Gas Leak Alarm

YF-313A (Commercial)



A commercial alarm suitable for places exposed to water

• Specifications

Model		YF-313A
Detection Principle		Contact Combustion Type Gas Sensor
Gas Density for Detection		More than 1/100 and Less than 1/4 of lower limit for gas explosion
Alarm Method		Immediate Alarm Automatic Reset Alarm Lamp (LED: Red) Buzzer/voice alarm* (Electric buzzer more than 70 dB/m)
Operating Temperature		-10°C to +40°C
Power Supply		AC 100 V 50/60 Hz
Power Consumption		During monitoring: Approx. 1 W, During alarm: Approx. 1.7 W
External Output	Connection Method	Back panel connector
	Voltage output	Two-step voltage two wire type (Monitoring: DC 6 V During alarm DC 12 V; Failure: DC 0 V)
	No-Voltage Output	Open collector of phototransistor (During monitoring: OFF, During alarm ON-OFF at 10 second interval, Failure: OFF)
Standard Time-Lag		Approx. 34 seconds (without voltage) 0 second (with voltage)
Power Plug Cable		2.5 m (Spare socket included)
Connection method between main and sensor unit		Maximum Length of Signal Wire 200 m (0.3 mm ²) Number of Sensor Unit to be Connected: 1
External Dimensions		Main Unit: H118×W69×D23.5 mm (without protrusion) Sensor Unit: H90×W43×D25.5 mm (without protrusion)
Weight		Main Unit: Approx. 205 g Sensor Unit: Approx. 55 g
Packaging Unit		20 pcs

*Alarm sound can be changed by using the inspection/alarm stop switch

CO Alarm

YZ-222



This alarm complies with the Authorized LP Gas Distributor System by linking to the meter.

• Specifications

Model	YZ-222
Target Gas	Incomplete Combustion Exhaust Gas from Liquefied Petroleum Gas Combustion Equipment
Sensor	Electrochemical Sensor
Gas Density for Detection	Low Concentration Over 50 ppm - 250 ppm High Concentration Low concentration - 550 ppm
Alarm Method	Low Concentration Yellow (CO Alarm) Lamp flashes slowly (1 flash every 5 seconds). After 2 minutes, synthetic voice alarm (more than 70 dB/m) Automatic recovery type High Concentration Yellow (CO Alarm) Lamp flashes slowly (1 flash every 1 second). Synthetic voice alarm (more than 70 dB/m) Automatic recovery type
Response time	Low Concentration: Within 10 Minutes High Concentration: Within 5 Minutes
Operating Temperature	0°C to +50°C
Power Supply	DC 3V (Lithium battery)
External Output	a-contact (Open collector) During Failure and Monitoring OFF During CO Alarm ON Transmitting standard delay time 34 seconds
Special functions	<ul style="list-style-type: none"> • Energizing Initial Alarm Prevention Timer • Expiration Notification Function • Failure Diagnosis Function
External Dimensions	H100×W75×D20.5 mm
Weight	Approx. 100 g
Packaging Unit	20 pcs

Ventilation Warning Alarm for Commercial

YZ-165C



Compact, doesn't sound early, notifies reliably with an easy to understand alarm sound and voice.

• Specifications

Model	YZ-165C
Target Gas	CO (carbon monoxide) in not fully combusted exhaust gas
Sensor	Electrochemical Sensor
Gas Density for Detection	CO Hb density of 20% or equivalent in human blood*
Alarm Method	1) Display Yellow (ventilation) Lamp Flashing (1 second period) 2) Alarm Sound Sound Effect + Voice Alarm more than 70 dB/m
Operating Temperature Range	0°C to +50°C
Power Supply	3 V Lithium battery × 1
Battery Life	6 years after installation
External Output	a Contact Output Polarized (DC 24 V, 5 mA) Alarm Instantly ON
Built-in Function	<ul style="list-style-type: none"> • Speaker Wire Breakdown Monitor Function • Battery Voltage Monitor Function • Alarm Stop Function • Expiration Notification Function • Sound Circuit Monitor Function • Voice Message Check Function • Alarm History Ventilation Display Function • Failure Monitoring Function
Installation Method	Hanging (using hook)
External Dimensions	H100×W75×D20.5 (mm)
Weight	Approx. 100 g
Packaging Unit	20 pcs

*Alarm will be issued immediately when the density of more than 2,000 ppm is detected twice consecutively (Approx. 10 seconds).

• Request regarding installation

Please submit a checklist and emergency contact list concerning the "Ventilation Warning Alarm for Commercial" sales regulations. (First time only)

CO Detector

TX-611H



• Specifications

Model	TX-611H
Target Gas	CO (carbon monoxide) in combustion exhaust
Detection Principle	Controlled Potential Electrolytic
Sensor	Suction by Internal Pump
Detection Range	0 to 5,000 ppm
Data indication	Digital Indication: Instantaneous Value, Average Value, Peak Value, etc. LED Display: Red: Alarm, Green: Power Supply Yellow: Flow Rate Reduction/Failure
Operating Temperature	-10°C to +40°C, 30 to 85% RH (without condensation)
Power Supply	AA alkaline battery × 3
External Dimensions	Main unit: H200×W78×D50 mm
Weight	Main Unit: Approx. 550 g, Suction Part: Approx. 120 g
Packaging Unit	1 pc

* This product requires manufacturer inspections (overhaul including sensor replacement) once every 2 years.

CO Detector

CO-FL1



• Specifications

Model	CO-FL1
Target Gas	CO (Carbon monoxide)
Detection Principle	Controlled Potential Electrolytic
Detection Range	0 to 0.500 vol%
1 digit	0.001 vol% (0.000 to 0.200 vol%) 0.005 vol% (0.000 to 0.500 vol%)
Indication accuracy (at same conditions)	±0.003 vol% (0.000 to 0.030 vol%) ±10 vol% (0.030 to 0.200 vol%) ±20 vol% (0.200 to 0.500 vol%)
Measuring Time	Approx. 25 seconds (except for instantaneous value measurement)
Alarm Method	Pump Suction Type
Suction Flow Rate	More than 0.3 L/min
Density Indication	LCD Digital Display (7 segments)
Alarm indication	When Measuring Water Boiler or Bath Boiler: Blue Lamp (caution) / Orange Lamp (Danger) / Red Lamp (Prohibited) and Buzzer When Measuring Commercial Kitchen Instrument: Orange Lamp ON (Caution / Red (Danger) and buzzer
Operating Temperature Range	-10°C to +40°C
Power Supply	AA alkaline battery × 4
Consecutive Operating Hours	More than 100 hours (25°C, no alarm, no lighting)
External Dimensions	Approx. H124×W80×D36 mm (without protrusion)
Weight	Approx. 260 g (excluding batteries)
Functions	Measurement Mode Change, Average/ Maximum/Instantaneous Value Change, Alarm Display Change (Lamp + Buzzer/Lamp Only/No Alarm)
Packaging Unit	1 pc

*This product requires manufacturer inspections (overhaul including sensor replacement) once every 2 years.

Gas Leak Detector

SP-220 (TYPE L/M)



• Specifications

Model	SP-220 (TYPE L)	SP-220 (TYPE M)
Target Gas	LPG	Town Gas 13A
Detection Range	10 to 10,000 ppm	
Detection Principle	Hot Wire Semiconductor Type	
Sensor	Pump Suction Type (introduced into the body through a tapered nozzle)	
Density Indication	LCD bargmeter + scale	
Alarm Setting Value	Default Value: 30 ppm (Can be set to five levels: 10 ppm, 30 ppm, 150 ppm, 500 ppm, 2,000 ppm)	
Response Time (Under the same conditions)	Within 3 seconds	
Operating Temperature/ Humidity Range	-20°C to 55°C, 95% RH or lower (without condensation)	
Power Supply	AA alkaline battery × 2	
Consecutive Operating Hours	Approx. 13 hours (with alkaline battery, 20°C, without alarm)	
Explosion Proof Structure	Intrinsically Safe Explosion-Proof Structure (Exia II CT4)	
Waterproof Level	Equivalent to IP55	
External Dimensions	Approx. H200×W43×D39 mm (without protrusion)	
Weight	Approx. 215 g	
Accessory	Protective Cover, Tapered Nozzle, Filter Unit, AA battery (×2) Hand Strap	
Packaging Unit	1 pc	

Adapter YSC-01B (Gas Leak Alarm Adapter)



• Specifications

Model	YSC-01B
Input Signal	Two-Step Voltage Two Wire Type DC 0-6-12 V
Output Signal	No-Voltage Signal Output (contact)
Contact Capacity	AC, DC30V 0.1A less than 0.3 W (Resistance load)
Operation Indication	Red LED turns on
External Dimensions	H50×W40×D25 (mm)
Packaging Unit	10 pcs

Adapter YSC-09 (Microcomputer Gas Meter Alarm Adapter)



• Specifications

Model	YSC-09
Input Signal	Two-step Voltage Two Wire Type DC 0-6-12 V
Output Signal	Open Collector of Phototransistor (a-contact)
Contact Capacity	20V, less than 1mA
Output Time-Lag	Approx. 45 seconds
External Dimensions	H50×W40×D25 (mm)
Packaging Unit	50 pcs

Interlock-type Alarm Buzzer ABK-011



• Specifications

Model	ABK-011
Alarm Method	Time-Lag Alarm, Automatic Reset Alarm lamp During alarm (LED: Red) Signal Wire Disconnection (LED: Green) Buzzer Alarm (Electric Buzzer)
Power Supply	DC 24 V (Operating voltage range DC 16 to 30 V)
Power Consumption	Normal: Approx. 10 mA During alarm: Approx. 35 mA Signal Wire Disconnection: Approx. 26 mA
Input Signal	Two-Step Voltage Two Wire Type (Normal: DC 6 V; Signal Wire Disconnection: DC 0 V; During Alarm: DC 12 V)
Standard Time-Lag	Approx. 30 seconds (at gas leak only)
Wiring Connection	Exposure Type
External Dimensions	H125×W125×D65 (mm)
Weight	Approx. 300 g
Packaging Unit	1 pc

Interlock-type Wireless Unit YSC-29A, YSC-29B

Links the gas meter and alarm wirelessly.



YSC-29A



YSC-29B

• Specifications

Model	YSC-29A	YSC-29B
Installation	Outdoor	Indoor
TELEC validation number	001YVB1159	001YVB1160
Standard	Specific Small Power Radio (429 MHz band ARIB STD-T67)	
Coverage Distance	100m (without obstacles)	
Number of Basically Interlocked Units	1 unit	1 unit
Battery Life	Approx. 10 years	
Input Signal	Radio signal (Gas leak, fire, battery voltage drop)	No-voltage Input Open Collector of Transistor
Output Signal	No-voltage output × 2 Open Collector of Transistor	Gas Leak (wireless)
External Dimensions	H170×W110×D38 (mm)	H89×W40×D21 (mm)
Operating Temperature Range	-10°C to +50°C	0°C to +40°C
Weight	Approx. 300 g	Approx. 55 g
Accessory	Wood Screw	Wood Screw, Mounting Bracket, Pin, Attachment

Transfer Unit

ARP011-3D/5D, ARP051-3D/5D

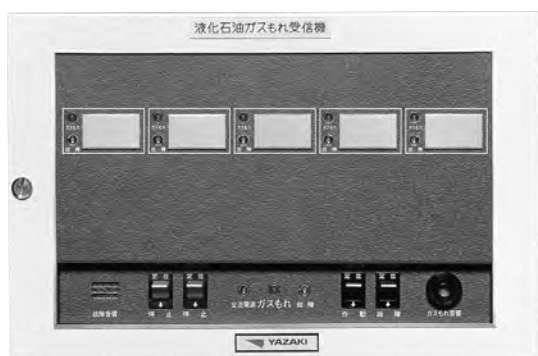


• Specifications

Model	ARP011-3D	ARP011-5D	ARP051-3D	ARP051-5D
Operating Temperature	0°C to +50°C			
Equipment Connected to Input	System-compatible Alarm			
Number of Input-Side Connections	3 pcs	5 pcs	3 pcs	5 pcs
Input Signal	Two-Step Voltage Two Wire Type (Normal: DC 6 V; Signal Wire Disconnection: DC 0 V; During Alarm: DC 12 V)			
Output Signal	Two-stage Voltage Two Wire Type (Normal: DC 6 V; Signal Wire Disconnection: DC 0 V; During Alarm: DC 12 V)			
Equipment Connected to Output	Receiver or Interlock-Type Alarm Buzzer			
Installation Method	Wall Hanging Type		Embedded Type	
External Dimensions	H125×W125×D65 (mm)		H125×W125×D47 (mm)	
Weight	Approx. 310 g		Approx. 180 g	
Packaging Unit	1 pc			

Receiver

AAP211-H-3L to 100L



• Specifications

Model	AAP211-H-3L to 100L	
Alarm Method	Time-Lag Alarm, Automatic Reset (Succeeding Signal Re-Sounding Type)	
	Alarm Lamp, During Alarm (LED: Red) Signal Wire Disconnection (LED: Green)	
	Buzzer Alarm (Electric Buzzer)	
Operating Temperature	0°C to +40°C	
Power Consumption	Normal: Approx. 1.3W During Alarm: Maximum 23 W (for 20 L)	
Input Signal	Two-Step Voltage 2 Wire Type	Normal: DC 6 V; Signal Wire Disconnection: DC 0 V; During Alarm: DC 12 V
Standard Time-Lag	Approx. 30 seconds	
Variations	14 types for 3 channels to 100 channels	
Number of Connected Equipments	Gas alarm or transfer unit 1 unit/ channel	
External Informing Output Signal	During Alarm, Signal Wire Disconnection Both No Voltage	Contact 2a Contact Capacity: DC 24 V, 1 A
External Connected Load Capacity	DC 24 V, 400 mA (maximum)	
Line Resistance	Less than 50 Ω two-way/ channel	
Circuit type	Negative line common	
Installation Method	Wall Hanging Type	
External Dimensions	3 L - 20 L	H250×W380×D105 (mm)
	25 L - 40 L	H600×W450×D140 (mm)
	50 L - 100 L	H1,050×W500×D180 (mm)
Packaging Unit	1 pc	

BORG Cable

YB-110/111



• Specifications

Model	Cable Specifications	Outer Diameter	Core Color	Packaging Unit
YB-110	BDEVR 2C×0.65 mm	φ3.9	Black, white	100 m/ reel
YB-111	BDEVR 4C×0.65 mm	φ4.4	Black, white, red, green	

BORG Cable

YB-111R (rat repellent added)



• Specifications

Model	Cable Specifications	Outer Diameter	Core Color	Packaging Unit
YB-111R	RP-BDEVR 4C×0.65 mm	φ4.4	Black, white, red, green	100 m/ reel

Controllers / Shutoff Valves

- Multistage Relay Transceiver
- BULLDOG
- Specific Low Power Radio System
- FOMA System
- LTE Equipment
- Shutoff Valve Controller
- Shutoff Valve

Centralized monitoring related equipments and a controller and shutoff valve that reliably perform control and shutoff

Multistage Relay Transceiver P. 41



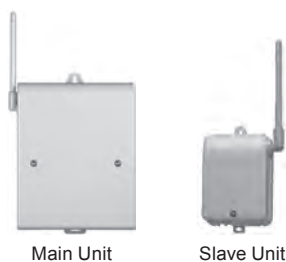
BULLDOG P. 42



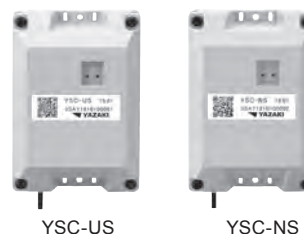
Specific Low Power Wireless System P.43



FOMA System P. 43



LTE Cat. M1 Wireless P. 44



LTE Equipment PHS Relay Equipment P. 44



Shutoff Valve Controller P. 45



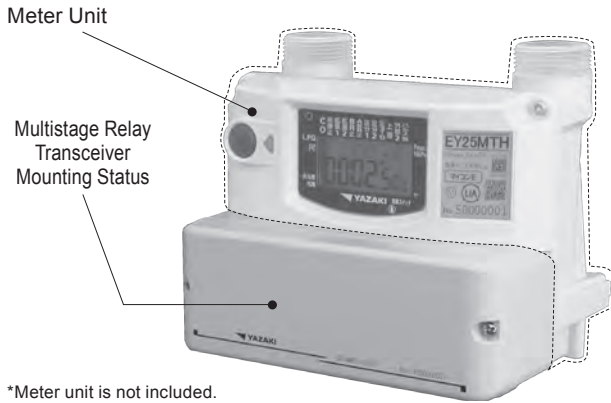
Shutoff Valve P. 45



Multistage Relay Transceiver (Integrated Type)

YSC-30/31

Can be mounted on the EY25 and EY4. (High End/Standard)



*Meter unit is not included.

• Specifications

Model	YSC-30 (GW Integrated)	YSC-31 (MT Integrated)
Applicable Standards	ARIB STD-T108	
Connected Equipment	Gas Meter	
Radio Frequency	920 MHz range	
Coverage Distance	Maximum 100m (Without Obstacles) *Communication distance varies depending on the operation environment.	
Operating Temperature Range	-30°C to 60°C	
Power Supply	DC 3 V (lithium battery) *Replaceable	
Battery Life	10 years when used normally *Battery life may be shortened depending on stock conditions and radio communication frequency	
External Dimensions	H65×W173×D59 (mm)	
Weight	Approx. 270 g	
Accessory	Instruction Manual (Warranty), Connection Wires (red and black)	

*The gas meter inside the dotted lines is sold separately.

Multistage Relay Transceiver (Separated Type)

YSC-30S/31S

Can be installed where your existing meter is installed.



• Specifications

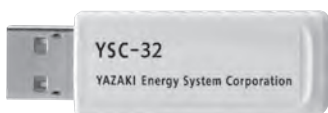
Model	YSC-30S (GW Separated)	YSC-31S (MT Separated)
Applicable Standards	ARIB STD-T108	
Connected Equipment	Gas Meter	
Radio Frequency	920 MHz range	
Coverage Distance	Maximum 100m (Without Obstacles) *Communication distance varies depending on the operation environment.	
Operating Temperature Range	-30°C to 60°C	
Power Supply	DC 3 V (lithium battery) *Replaceable	
Battery Life	10 years when used normally *Battery life may be shortened depending on stock conditions and radio communication frequency	
External Dimensions	H65×W203×D37 (mm)	
Weight	Approx. 270 g	
Accessory	Instruction Manual (Warranty), Clamping Band × 2, Tapping Screw × 4	

Dongle Transceiver

YSC-32

This dongle Transceiver is used with bundle wireless meter system.

* Please prepare the tablet main unit and connection adapter yourself.



•Interface/USB Connector (A Type)



**BULLDOG VIII
Center System**



- ① : C-NCU (Terminal/ Bidirectional Transceiver)
- ② : Printer
- ③ : UPS (Uninterruptible Power System)
- ④ : Server
- ⑤ : HUB
- ⑥ : Remote Transferring Modem
- ⑦ : Revolving Light

**BULLDOG Communication
Controller
YCB-15R (C18)**



• **Specifications**

Model		YCB-15R
Power Supply		Lithium Battery (sub battery equipped)
Connected Equipment	Compatible Meter	Common Type Message Meter / Pulse Meter (Compatible with up to 1,000 L pulse)
	Other Equipment	Voltage alarm, Shutoff Valve Controller, Automatic Changeover Regulator, Various sensors (fire sensor, liquid-level meter etc.)
Reserved Terminal		4 ports (contact signal)
Transmitter	Connected Line	Common Telephone Line/No-Ringing Line
	Transmission Type	Half-Duplex Communication FSK (300 bps)
	Destination	3 locations maximum including reserved destinations (by setting)
	Selective Communication Method	Automatic selection between DP (dial pulse)/ PB (push button)
	Number of Redialing Times	11 times maximum for each destination (excluding first time)
	Number of Dialing Digits	11 digits maximum
	NRS Signal	PB (0 to 9) signal
	Answering Signal	PB (#) signal
Maximum Number of Parallel Equipment		Ring equipment 1 unit, no-ringing equipment 4 units
External Dimensions		H281×W144×D43 (mm)
Weight		Approx. 500 to 600 g
Packaging Unit		10 pcs

**Common Type
Communication Controller
YCB-37DA (C19)**



• **Specifications**

Model		YCB-37DA
Power Supply		Lithium Battery
Connected Equipment		Common type message meter or contact equipment (maximum 4 units connectable)
Transmitter	Connected Line	Common Telephone Line/No-Ringing Line
	Transmission Type	Half-duplex Communication FSK method (300 bps)
	Destination	1 location
	Selective Communication Method	Automatic selection between DP (dial pulse)/ PB (push button)
	Number of Redialing Times	7 times (excluding first time)
	Number of Dialing Digits	16 digits maximum
	NRS Signal	PB (0 to 9) signal
	Answering Signal	PB (#) signal
Maximum Number of Parallel Equipment		4 equipments maximum for each line
Communication Method		Two-way calling method
External Dimensions		H170×W110×D38 (mm)
Weight		Approx. 300 g
Packaging Unit		10 pcs

**Common type
Communication Controller
YCB-37F (C21)**



• **Specifications**

Model		YCB-37F
Power Supply		Lithium Battery (DC 3 V)
Connected Equipment	Gas Meter	E-type Security Gas Meter/ Common type message meter × 2 sets
	Contact Equipment	Contact signal input × 1 port
Reserved Terminal		Common Telephone Line/No-Ringing Line
Transmitter	Connected Line	Half-Duplex Communication FSK Method (300 bps)
	Transmission Type	2 Locations Maximum Including Reserved Destinations (By Setting)
	Destination	Automatic selection between DP (dial pulse)/ PB (push button)
	Selective Communication Method	24 times including first time
	Number of Redialing Times	16 digits maximum
	Number of Dialing Digits	PB (0 to 9) signal
	NRS Signal	PB (#) signal
	Answering Signal	4 terminals maximum for each line (with or without telephones)
External Dimensions		H172.3×W106.8×D40 (mm)
Weight		Approx. 275 g
Accessory		Fixing screw 2 pcs, Lithium battery

Specific Low Power Radio Terminal

Super Low Radio Terminal

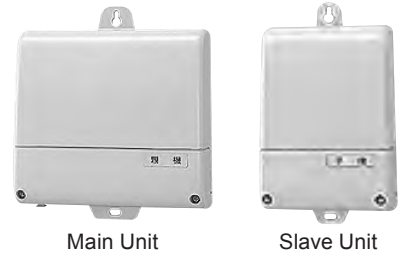
1:1 System



• Specifications

1:1 system for single-family house		
Model	GB-W4MT1 (Main Unit)	GB-W41P (Slave Unit)
Part Number	GB-W4YMT1	GB-W4YCS1
Installation	Indoor	Outdoor/Indoor
Standard	Specific low power radio (429 MHz band, 10 mW)	
Coverage Distance	100 m (without obstacles)	
Communication Rate	FSK 300 bps (Center)	FSK2400bps (Main Unit)
Terminal Configuration	Telephone Terminal, Telephone Line	5 bit × 1 port
Battery Life	10 years (conditional), replaceable	
External Dimensions	H162×W150×D43 (mm)	H182×W110×D41.5 (mm)
Operating Temperature Range	-10°C to 60°C, 20 to 90% RH	
Weight	0.4 kg	0.3 kg

1:N System



• Specifications

1:N system for apartment building		
Model	GB-W21P (Main unit)	GB-W42P (Slave unit)
Part Number	GB-W2YLT4	GB-W4YCM1
Installation	Outdoor	Outdoor/Indoor
Standard	Specific Low Power Radio (429 MHz band, 10 mW)	
Coverage Distance	100 m (without obstacles)	
Communication Rate	FSK 300 bps (Center)	FSK 2400 bps (Main Unit)
Terminal Configuration	Telephone Terminal, Telephone Line	5 bit, 8 bit and contact each 1 port
Battery Life	10 years (conditional), replaceable	
External Dimensions	H182×W165×D47.5 (mm)	H182×W110×D41.5 (mm)
Operating Temperature Range	-10°C to 60°C, 20% to 90%	
Weight	0.5 kg	0.3 kg

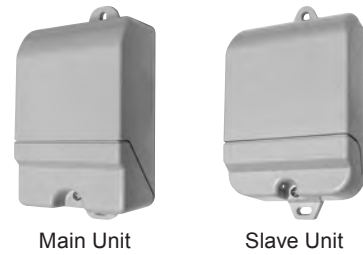
1:N Main Unit (8 bit)



• Specifications

1:N Main Unit Pias	
Model	GB-W23P (Main unit)
Part Number	GB-W2YLA4
Installation	Outdoor/Indoor
Standard	Specific Low Power Radio (429 MHz Band, 10 mW)
Coverage Distance	100 m (without obstacles)
Communication Rate	FSK 2400 bps
Terminal Configuration	8 bit × 1 port
Battery Life	10 years (conditional), replaceable
External Dimensions	H165×W182×D47.5 (mm)
Operating Temperature Range	-10°C to 60°C, 20 to 90%
Weight	Approx. 0.5 kg

Super Low Radio Terminal



• Specifications

Super Low Radio Terminal		
Model	RD-66F (Main unit)	RD-65C (Slave unit)
Installation	Outdoor	
Standard	Specific Low Power Radio (429 MHz Band, 10 mW)	
Communication Rate	FSK 2400 bps	
Terminal Configuration	8 bit × 1 port	5 bit × 1 port
Battery Life	10 years (conditional), replaceable	
External Dimensions	H155×W83×D62 (mm)	H140×W80×D39 (mm)
Operating Temperature Range	-10°C to 60°C, Less than 85% RH (without condensation)	
Weight	Approx. 0.4 kg	Approx. 0.2 kg

FOMA System

“GUTTOBI-KUN” Main Unit / Sub-Main Unit / Slave Unit

Main Unit



• Specifications

Model	MBL-F2-TNCU
Power Supply	AC 100 (AC) Lithium Battery 35 battery pack (B35) Solar Power Supply (optional) (SUN)
Communication Line	NTT docomo packet communication service FOMA network
Number of Connected Slave Units	256 units maximum*
External Dimensions	H357×W181×D72 (mm) (including antenna and protrusion)
Operating Temperature Range	-20°C to +60°C 25 to 85% (without condensation)
Weight	Approx. 1.3 kg (main part only)

Sub-Main Unit



• Specifications

Model	ANT-S3-WLUN (R)
Power Supply	Lithium Battery 6 battery pack
Number of Connected Slave Units	32 units maximum
External Dimensions	H301×W136×D42 (mm) (including antenna and protrusion)
Operating Temperature Range	-20°C to +60°C 25 to 85% (without condensation)
Weight	Approx. 0.5 kg (including battery pack)

Slave Unit
(with transferring function)



• Specifications

Model	ANT-S3-WLUN (C)
Power Supply	Lithium Battery 2 battery pack
Number of Connected Slave Units	5 bit meter × 2 (available for contact equipment) 8 bit meter × 1 Contact equipment × 1
External Dimensions	H217×W111×D38 (mm) (including antenna and protrusion)
Operating Temperature Range	-20°C to +60°C 25 to 85% (without condensation)
Weight	Approx. 0.3 kg (including battery pack)

*Since the number includes sub-main units, the actual number may differ depending on the Center to be connected.

LTE Equipment

LTE Cat.M1 Wireless

YSC-US



YSC-NS



• Specifications

Model	YSC-US	YSC-NS
Connected Devices	U-bus Equipment	5-bit Equipment/Connection Point Equipment (Switching Type)
Power Supply	DC 3 V (Lithium battery × 3 pcs)	
Standard	ARIB STD-T104 Release 13 ARIB STD-T108	
Radio Frequency	LTE Standard: 3GPP cat. M Release 13 2.1 GHz/900 MHz U-bus Air Standard: ARIB STD-T108 compliant 920 MHz	
Battery Life	10 years (conditional)	
External Dimensions	W90×H132×D33 mm	
Operating Temperature	-20° C to 60° C	
Weight	Approx. 0.22 kg	
Note	Separated Type (For existing gas meters)	

LTE Equipment

PHS Relay Equipment

LTE-GW



LTE8-NCU



LTEu-NCU



• Specifications

Model	LTE-GW	LTE8-NCU	LTEu-NCU
Power Supply	AC 100 V	Lithium Battery 12 battery set	Lithium Battery 12 battery set
Standard	LTE-VoIP	LTE Standard: 3GPP Cat. 1	LTE Standard: 3GPP Cat. 1
Terminal Configuration	Telephone Line	8 bit × 1 port	U-bus × 1 port
Battery Life		10 years (conditional)	10 years (conditional)
External Dimensions	H180×W65×D45 (mm)	H189×W85×D75 (mm)	H189×W85×D75 (mm)
Operating Temperature Range	-20° C to 50° C Less than 95% (without condensation)	-10° C to 60° C Less than 85%	-10° C to 60° C Less than 85%
Weight	Approx. 0.55 kg (including wall mount)	Approx. 0.6 kg (including battery pack)	Approx. 0.6 kg (including battery pack)
Note	For Wired NCU, Compact Wireless 1:N Main Unit	For Compact Wireless 1:N Main Unit (8 bit)	For Multistage Relay Transceiver (GW)

LMU-8



LMU-5



• Specifications

Model	LMU-8	LMU-5
Power Supply	Lithium Battery 12 battery set	Lithium Battery 8 battery set
Standard	LTE Standard: 3GPP Cat. 1	LTE Standard: 3GPP Cat. 1
Terminal Configuration	8 bit × 1 port	5 bit × 1 port For Contact × 2 ports 5 bit or Contact × 1 port
Battery Life	10 years (conditional)	10 years (conditional)
External Dimensions	H186×W138×D52 (mm)	H186×W138×D52 (mm)
Operating Temperature Range	-10° C to 40° C Without condensation	-10° C to 40° C Without condensation
Weight	Approx. 0.75 kg	Approx. 0.65 kg
Note	For Compact Wireless 1:N Main Unit (8 bit)	NCU Integrated Equipment

Shutoff Valve Controller

YCB-12E (Built-in Seismoscope)



• Specifications

Model	YCB-12E	
Power Supply	AC 100 V 50/60 Hz	
Power Consumption	Approx. 1.9 W at normally (without DC 24 V alarm)	
Operating Temperature	-10°C to 40°C	
Input	Alarm signal	Three-Step Voltage Signal (0 V - 6 V - 12 V - 18 V), 3 Input Ports
	External Device Signal	a-contact ON during external device operating
	Remote Shutoff Signal	a-contact ON when remote switch operated
Output	Valve Shutoff Signal Output 1, 2	No-voltage (relay a-contact) DC 30 V 1 A ON when all valves closed
	Seismically-Sensed Shutoff	Intensity level 5 over or equivalent
Reason for Shutoff / Reason for Alarm	Depicted by pictographic characters	
External Dimensions	H216×W120×D61 (mm)	
Weight	Approx. 0.7 kg	
Certification	Passed voluntary inspection of Japan LP Gas Appliances Inspection Association	
Packaging Unit	10 pcs	

Shutoff Valve

MV-20L – 80L



MV-20L



MV-25L



MV-32L



MV-40L



MV-50L



MV-80L

• Specifications

Model	MV-20L	MV-25L	MV-32L	MV-40L	MV-50L	MV-80L
Pipe Diameter	20A	25A	32A	40A	50A	80A
Connection Screw Diameter	Rc 1/2	Rc 1	Rc 1, 1/4	Rc 1, 1/2	2B Flange	3B Flange
Working Pressure	Less than 3.5 kPa					
Operating Temperature	-20°C to 60°C					
Pressure Tightness	Must not have leaks, fractures, or breakage at 0.1 MPa					
Outside Airtightness	No leak at 10 kPa for 1 minute					
Inside Airtightness	Less than 0.55 NL/h of gas leak under less than 4.2 kPa of gas pressure					
Rated Flow Rate (LP Gas) (Pressure Loss 0.1 kPa)	14 kg/h	16 kg/h	18 kg/h	26 kg/h	90 kg/h	120 kg/h
Signal cable	VCTF 0.75 mm ² × 4 cores, 1 m length Lead wire color: red - positive; black - negative; white - A1; green - A2					
Secondary Side Pressure Detection	Yes					
Valve Opening/Closing Signal	Yes					
Valve Structure	Ball Valve (Motor Drive)					
Pressure Sensitive Function	Pressure Sensor					
Appearance Color	Light Gray					
External Dimensions	H164×W100×D110 (mm) W: mounting dimension	H164×W120×D110 (mm) W: mounting dimension	H171×W170×D110 (mm) W: mounting dimension	H233×W230×D126 (mm) W: mounting dimension	H254×W280×D168 (mm) W: mounting dimension	
Weight	Approx. 1.8 kg			Approx. 2.2 kg		Approx. 7.8 kg
Certification	Passed voluntary inspection of Japan LP Gas Appliances Inspection Association					
Packaging Unit	1 pc					
Accessory	Union with male screws			Flange, gaskets, bolts and nuts		

Regulators

- Single Step Regulator
- Dual Step Primary Regulator
- Dual Step Secondary Regulator
- Adjustable Regulator
- Automatic Changeover Regulator
- Separated Automatic Changeover Regulator
- Leak Detector
- High Pressure AROPIPE

Our lineup includes a wide range of variations, for both household and commercial use.

Single Step Regulator P. 47



R5A

Dual Step Primary Regulator P. 48



RM-30A

Dual Step Secondary Regulator P. 49



RL-30-II B

Adjustable Regulator P. 50



RMA-30A-I

High Performance Integrated Automatic Changeover Regulator P. 51



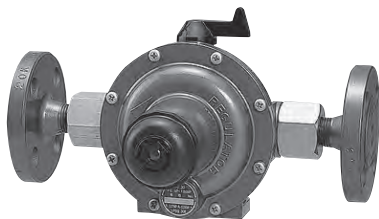
AS8ZA

Integrated Automatic Changeover Regulator P. 55



RCL20A

Separated Automatic Changeover Regulator P. 57



RC-30

Leak Detector P. 58



RCL30A-HL

High Pressure AROPIPE P. 61



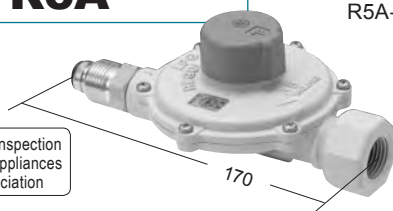
S15A-6PS (T)

High-performance Single Step Regulator

R5A

R5A-SF

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association



• Specifications

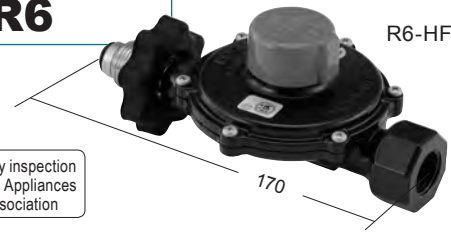
Model	R5A-HF	R5A-SF
Capacity	5 kg/h	
Inlet pressure	0.07 to 1.56 MPa	
Outlet pressure	2.30 to 3.30 kPa	
Inlet connection	POL hand-tightening	POL spanner-tightening
Outlet connection	Rc 1/2	
Safety valve working pressure	7.00 ± 1.40 kPa	
Weight	Approx. 0.4 kg	
Packing unit	40 pcs	

Single Step Regulator

R6

R6-HF

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association



• Specifications

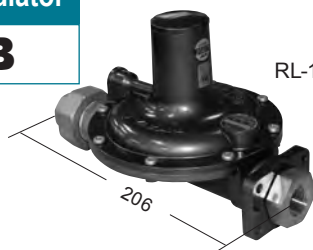
Model	R6-HF	R6-F
Capacity	6.5 kg/h	
Inlet pressure	0.07 to 1.56 MPa	
Outlet pressure	2.30 to 3.30 kPa	
Inlet connection	POL hand-tightening	POL spanner-tightening
Outlet connection	Rc 1/2	
Safety valve working pressure	7.00 ± 1.40 kPa	
Weight	Approx. 0.4 kg	
Packing unit	40 pcs	

Single Step Regulator

RL-10B

RL-10B

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association



• Specifications

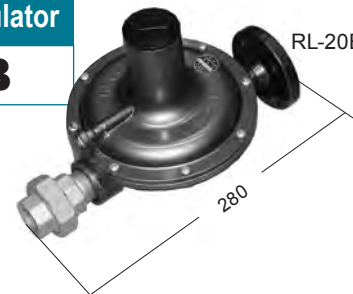
Model	RL-10B
Capacity	10 kg/h
Inlet pressure	0.07 to 1.56 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	Rc 1/2
Outlet connection	Rc 3/4 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	206 mm
Weight	Approx. 0.8 kg
Packing unit	6 pcs

Single Step Regulator

RL-20B

RL-20B

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association



• Specifications

Model	RL-20B
Capacity	20 kg/h
Inlet pressure	0.07 to 1.56 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	JIS20K 15A flange
Outlet connection	Rc 1 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	280 mm
Weight	Approx. 3.3 kg
Packing unit	6 pcs
Accessory	Gasket × 1

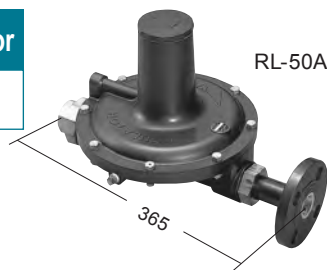
Single Step Regulator

RL-50A

RL-50A

• Specifications

Model	RL-50A
Capacity	50 kg/h
Inlet pressure	0.07 to 1.56 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	JIS20K 25A flange
Outlet connection	Rc 1 1/4 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	365 mm
Weight	Approx. 8.9 kg
Packing unit	1 pc
Accessory	Gasket × 1



Single Step Regulator

RL-100A

RL-100A

• Specifications

Model	RL-100A
Capacity	100 kg/h
Inlet pressure	0.07 to 1.56 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	JIS 20K 25A flange
Outlet connection	Rc 1 1/2 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	420 mm
Weight	Approx. 10.7 kg
Packing unit	1 pc
Accessory	Gasket × 1

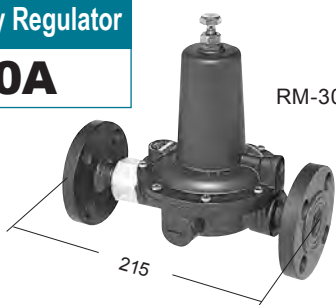


Dual Step Primary Regulator

RM-30A

RM-30A

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association



• Specifications

Model	RM-30A
Capacity	30 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	0.057 to 0.083 MPa
Inlet connection	JIS20K 15A flange
Outlet connection	JIS20K 15A flange
Spacing dimension	215 mm
Weight	Approx. 3.0 kg
Packing unit	3 pcs
Accessory	Gasket × 2

Dual Step Primary Regulator

RM-70

RM-70

• Specifications

Model	RM-70
Capacity	70 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	0.057 to 0.083 MPa
Inlet connection	JIS20K 20A flange
Outlet connection	JIS20K 20A flange
Spacing dimension	300 mm
Weight	Approx. 8.1 kg
Packing unit	1 pc
Accessory	Gasket × 2

Dual Step Primary Regulator

RM-100

RM-100

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association



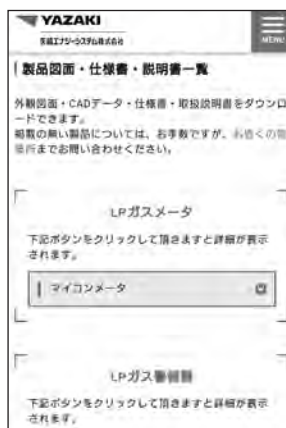
• Specifications

Model	RM-100
Capacity	100 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	0.057 to 0.083 MPa
Inlet connection	JIS20K 25A flange
Outlet connection	JIS20K 25A flange
Spacing dimension	385 mm
Weight	Approx. 9.3 kg
Packing unit	1 pc
Accessory	Gasket × 2

Information

* For performance curves of regulators on P. 47 to P. 49, see the related Technical Information on P. 113.

* You can download drawings, CAD drawings, performance curves, and user's manuals from our website.



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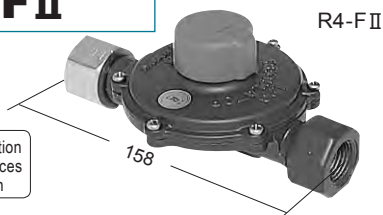


Links directly to the download page shown on the left.

* This is a smartphone display image.

Dual Step Secondary Regulator

R4-F II



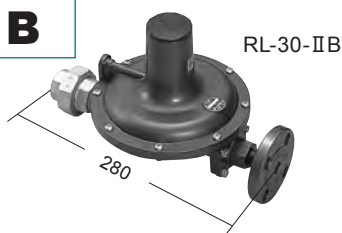
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	R4-F II
Capacity	4 kg/h
Inlet pressure	0.025 to 0.15 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	Rc 1/2
Outlet connection	Rc 1/2
Safety valve working pressure	7.00 ± 1.40 kPa
Weight	Approx. 0.4 kg
Packing unit	40 pcs

Dual Step Secondary Regulator

RL-30-II B



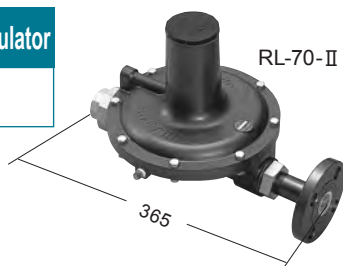
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	RL-30-II B
Capacity	30 kg/h
Inlet pressure	0.025 to 0.15 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	JIS 20K 15A flange
Outlet connection	Rc 1 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	280 mm
Weight	Approx. 3.3 kg
Packing unit	6 pcs
Accessory	Gasket × 1

Dual Step Secondary Regulator

RL-70-II

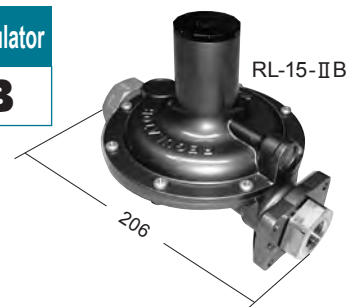


• Specifications

Model	RL-70-II
Capacity	70 kg/h
Inlet pressure	0.025 to 0.15 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	JIS 20K 25A flange
Outlet connection	Rc 1 1/4 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	365 mm
Weight	Approx. 9.1 kg
Packing unit	1 pc
Accessory	Gasket × 1

Dual Step Secondary Regulator

RL-15-II B



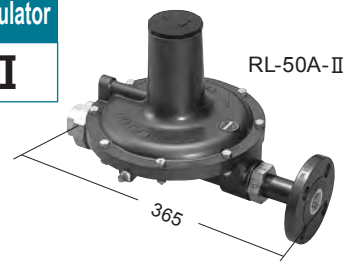
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	RL-15-II B
Capacity	15 kg/h
Inlet pressure	0.025 to 0.15 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	Rc 1/2
Outlet connection	Rc 3/4 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	206 mm
Weight	Approx. 1.3 kg
Packing unit	6 pcs

Dual Step Secondary Regulator

RL-50A-II



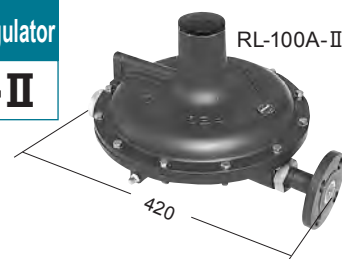
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	RL-50A-II
Capacity	50 kg/h
Inlet pressure	0.025 to 0.15 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	JIS 20K 25A flange
Outlet connection	Rc 1 1/4 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	365 mm
Weight	Approx. 9.1 kg
Packing unit	1 pc
Accessory	Gasket × 1

Dual Step Secondary Regulator

RL-100A-II

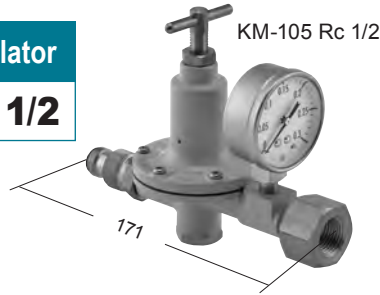


• Specifications

Model	RL-100A-II
Capacity	100 kg/h
Inlet pressure	0.025 to 0.15 MPa
Outlet pressure	2.30 to 3.30 kPa
Inlet connection	JIS 20K 25A flange
Outlet connection	Rc 1 1/2 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	420 mm
Weight	Approx. 10.6 kg
Packing unit	1 pc
Accessory	Gasket × 1

* For performance curve diagrams, see P 113.

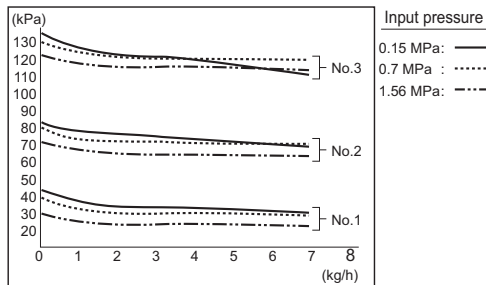
Adjustable Regulator
KM-105 Rc 1/2



Specifications

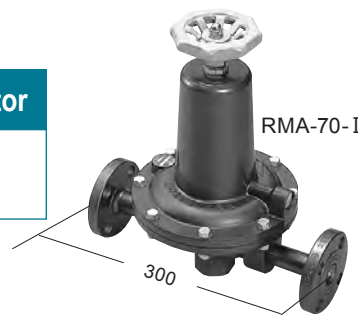
Model	KM-105 Rc 1/2
Capacity	5 kg/h (varies depending on set pressure)
Inlet pressure	0.15 to 1.56 MPa
Allowable range of outlet pressure	30 to 120 kPa
Inlet connection	POL male screw spanner-tightening
Outlet connection	Rc 1/2
Weight	Approx. 0.9 kg
Packing unit	10 pcs

Performance curve



	No.1	No.2	No.3
Settings			
Input Pressure	0.7 MPa	0.7 MPa	0.7 MPa
Outlet Pressure	30 kPa	70 kPa	120 kPa
Flow Rate	5.0 kg/h	5.0 kg/h	5.0 kg/h

Adjustable Regulator
**RMA-70-I
RMA-70-II**



Specifications

Model	RMA-70-I	RMA-70-II
Capacity	70 kg/h (varies depending on set pressure)	
Inlet pressure	0.10 to 1.56 MPa	0.07 to 0.40 MPa
Allowable range of outlet pressure	0.02 to 0.10 MPa	2.00 to 40.00 kPa
Inlet connection	JIS 20K 20A flange	
Outlet connection	JIS 20K 20A flange	
Spacing dimension	300 mm	
Weight	Approx. 8.2 kg	
Packing unit	1 pc	
Accessory	Gasket × 2	

Performance table

		RMA-70-I									
P ₂	P ₁	0.10		0.20		0.50		1.00		1.56	
		5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
0.02	46	63	21	63	49	85	42	72	48	87	
0.04	46	96	72	105	75	120	75	105	82	120	
0.06	54	99	67	105	87	135	90	135	76	142	
0.08	63	93	90	142	112	165	112	187	97	172	
0.10	-	-	105	157	105	172	99	165	142	217	

Condition: P₂ is set for flow rate 10 kg/h

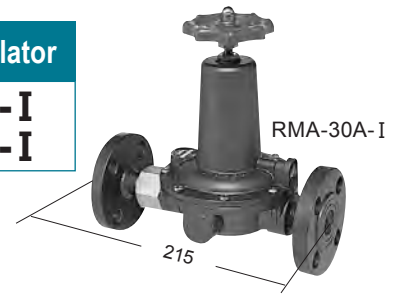
Performance table

		RMA-70-II							
P ₃	P ₁	0.07		0.10		0.20		0.40	
		5%	10%	5%	10%	5%	10%	5%	10%
2.00	19	24	20	23	20	24	21	28	
5.00	21	30	24	34	21	34	31	45	
10.00	54	90	82	112	78	97	90	112	
20.00	64	105	105	135	102	157	120	180	
40.00	60	99	93	135	93	202	150	210	

Condition: P₃ is set for flow rate 18 kg/h

* P₁-Input pressure (MPa)
P₂-Outlet pressure (MPa)
P₃-Outlet pressure (kPa)
5%-Flow rate under the pressure 5% lower than set outlet pressure
10%-Flow rate under the pressure 10% lower than set outlet pressure

Adjustable Regulator
**RMA-30A-I
RMA-30A-II**



Specifications

Model	RMA-30A-I	RMA-30A-II
Capacity	30 kg/h (varies depending on set pressure)	
Inlet pressure	0.10 to 1.56 MPa	0.07 to 0.40 MPa
Allowable range of outlet pressure	0.02 to 0.10 MPa	2.00 to 40.00 kPa
Inlet connection	JIS 20K 15A flange	
Outlet connection	JIS 20K 15A flange	
Spacing dimension	215 mm	
Weight	Approx. 3.0 kg	
Packing unit	3 pcs	
Accessory	Gasket × 2	

Performance curve

		RMA-30A-I									
P ₂	P ₁	0.10		0.20		0.50		1.00		1.56	
		5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
0.02	14	19	12	19	18	30	19	31	24	39	
0.04	18	30	17	30	17	43	21	48	31	55	
0.06	19	33	24	42	34	57	32	63	36	73	
0.08	21	31	27	54	36	67	60	87	58	93	
0.10	-	-	31	54	45	75	51	84	60	100	

Condition: P₂ is set for flow rate 10 kg/h

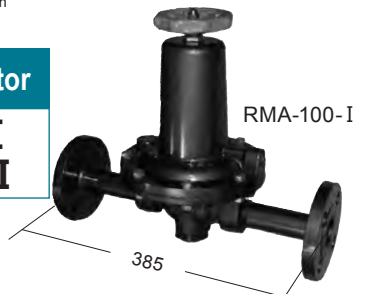
Performance table

		RMA-30A-II							
P ₃	P ₁	0.07		0.10		0.20		0.40	
		5%	10%	5%	10%	5%	10%	5%	10%
2.00	8.0	8.3	8.3	9.0	8.3	8.6	8.3	9.0	
5.00	8.3	9.8	8.3	9.0	9.0	10	9.8	11	
10.00	17	21	20	21	16	20	19	31	
20.00	15	24	18	37	26	33	21	48	
40.00	18	31	27	45	31	58	45	72	

Condition: P₃ is set for flow rate 7.5 kg/h

* P₁-Input pressure (MPa)
P₂-Outlet pressure (MPa)
P₃-Outlet pressure (kPa)
5%-Flow rate under the pressure 5% lower than set outlet pressure
10%-Flow rate under the pressure 10% lower than set outlet pressure

Adjustable Regulator
**RMA-100-I
RMA-100-II**



Specifications

Model	RMA-100-I	RMA-100-II
Capacity	100 kg/h (varies depending on set pressure)	
Inlet pressure	0.10 to 1.56 MPa	0.07 to 0.40 MPa
Allowable range of outlet pressure	0.02 to 0.10 MPa	2.00 to 40.00 kPa
Inlet connection	JIS 20K 25A flange	
Outlet connection	JIS 20K 25A flange	
Spacing dimension	385 mm	
Weight	Approx. 9.5 kg	
Packing unit	1 pc	
Accessory	Gasket × 2	

Performance table

		RMA-100-I									
P ₂	P ₁	0.10		0.20		0.50		1.00		1.56	
		5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
0.02	40	96	58	105	180	225	180	>200	>200	>200	
0.04	78	112	105	210	165	225	180	>200	>200	>200	
0.06	82	120	150	217	240	210	>200	>200	>200	>200	
0.08	72	105	127	210	270	210	>200	>200	>200	>200	
0.10	-	-	142	202	255	217	>200	>200	>200	>200	

Condition: P₂ is set for flow rate 7.5 kg/h

Performance table

		RMA-100-II							
P ₃	P ₁	0.07		0.10		0.20		0.40	
		5%	10%	5%	10%	5%	10%	5%	10%
2.00	22	25	21	27	23	27	24	27	
5.00	30	45	34	48	33	58	27	69	
10.00	90	105	105	127	157	187	90	150	
20.00	105	112	90	142	150	232	172	285	
40.00	105	115	112	150	210	210	232	210	

Condition: P₃ is set for flow rate 20 kg/h

* P₁-Input pressure (MPa)
P₂-Outlet pressure (MPa)
P₃-Outlet pressure (kPa)
5%-Flow rate under the pressure 5% lower than set outlet pressure
10%-Flow rate under the pressure 10% lower than set outlet pressure

High Performance Integrated Automatic Changeover Regulator

AS8ZA



AS8ZA

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

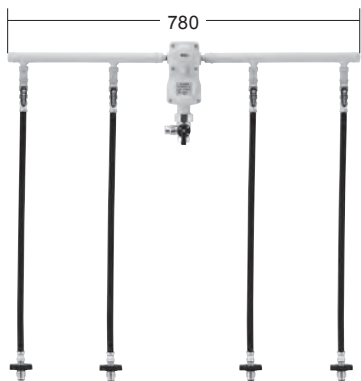
• Specifications

Model	AS8ZA	2 AS8ZA-(2H)(2S)	2 AS8ZA-VK(2H)(2S)	2 AS8ZA-UL(2H)(2S)	2 AS8ZA-(2H)1000(2S)1000
Capacity	8 kg/h				
Inlet pressure	0.15 to 1.56 MPa				
Outlet pressure	2.55 to 3.30 kPa				
Safety valve working pressure	7.00 ± 1.40 kPa				
Inlet connection	Rc 1/4	POL male screw (Hand or Spanner)			
Outlet connection	R 1/2 (union)	Rc 1/2	M35 × 2	R 1/2 (union)	
Collecting hose (bundled item)	-	650 mm × 2			1050 mm × 2
Spacing dimension	76 mm × 131 mm (main unit only)				
Accessory	Union coupling		Screw-fitting gas cock with inspection hole	Union gasket (No union)	Union coupling
Set Weight	Approx. 0.7 kg	Approx. 1.3 kg	Approx. 1.4 kg	Approx. 1.2 kg	Approx. 1.4 kg
Packing unit	10 pcs				

* For performance curve diagrams, see P 114.

High Performance Integrated Automatic Changeover Regulator

AS8ZA Mass Supply Kit, Simplified Header



AS8ZA-VM (4H)

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	4 AS8ZA-VM ^(4H) _(4S)	4 AS8ZA-VMKB ^(4H) _(4S)
Capacity	8 kg/h	
Inlet pressure	0.15 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Safety valve working pressure	7.00 ± 1.40 kPa	
Inlet connection	POL male screw (Hand or Spanner)	
Outlet connection	Rc 1/2	
Collecting hose (bundled item)	650 mm × 4	650 mm × 2 1050 mm × 2
Header length	780 mm	280 mm
Accessory	Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 2, 6 mm Nut · Washer · M6 Anchor × 4, Nipple 1/2B · Tee 1/2B · Plug 1/2B × 1	
Set Weight	Approx. 3.7 kg	Approx. 2.5 kg
Packing unit	1 set	

High Performance Integrated Automatic Changeover Regulator

AS8ZA-(T) (with gas discharge prevention type high-pressure hose)



AS8ZA-2H(T)

AS8ZA-VK2S(T)

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	2 AS8ZA-2H(T) _{2S(T)}	2 AS8ZA-VK2H(T) _{2S(T)}	2 AS8ZA-UL ^{2H(T)} _{2S(T)}
Capacity	8 kg/h		
Inlet pressure	0.15 to 1.56 MPa		
Outlet pressure	2.55 to 3.30 kPa		
Safety valve working pressure	7.00 ± 1.40 kPa		
Inlet connection	POL male screw (Hand or Spanner)		
Outlet connection	R 1/2 (union)	Rc 1/2	M35 × 2
Collecting hose (bundled item)	650 mm × 2		
Spacing dimension	76 mm × 131 mm (main unit only)		
Accessory	Union coupling	Screw-fitting gas cock with inspection hole	Union gasket (No union)
Set Weight	Approx. 1.3 kg	Approx. 1.5 kg	Approx. 1.2 kg
Packing unit	10 pcs		

2 = 2 cylinders **4** = 4 cylinders

High Performance Integrated Automatic Changeover Regulator

AS8ZA-(T) (with gas discharge prevention type high-pressure hose) Mass Supply Kit, Simplified Header



AS8ZA-VMKB4S (T)

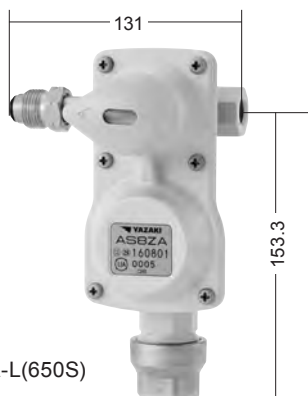
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	4 AS8ZA-VM ^{4H(T)} _{4S(T)}	4 AS8ZA-VMKB ^{4H(T)} _{4S(T)}
Capacity	8 kg/h	
Inlet pressure	0.15 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Safety valve working pressure	7.00 ± 1.40 kPa	
Inlet connection	POL male screw (Hand or Spanner)	
Outlet connection	Rc 1/2	
Collecting hose (bundled item)	650 mm × 4	650 mm × 2 1050 mm × 2
Header length	780 mm	280 mm
Accessory	Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 2, 6 mm Nut · Washer · M6 Anchor × 4, Nipple 1/2B · Tee 1/2B · Plug 1/2B × 1	Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 2, 6 mm Nut · Washer · 6 mm Tapping screw × 4
Set weight	Approx. 3.8 kg	Approx. 2.6 kg
Packing unit	1 set	

High Performance Integrated Automatic Changeover Regulator

AS8ZA-L/R



AS8ZA-L(650S)

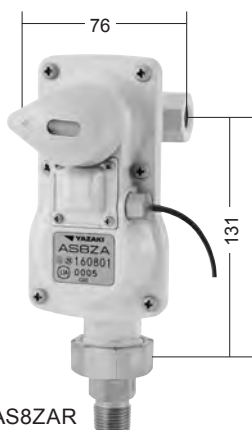
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	AS8ZA-L ^(450H) _(450S)	AS8ZA-L ^(650H) _(650S)	AS8ZA-R ^(650H) _(650S)
Capacity	8 kg/h		
Inlet pressure	0.15 to 1.56 MPa		
Outlet pressure	2.55 to 3.30 kPa		
Safety valve working pressure	7.00 ± 1.40 kPa		
Inlet connection	POL male screw (Hand or Spanner)		
Outlet connection	Rc 1/2		
Inlet pipe	Left side of main unit		Right side of main unit
Collecting hose (bundled item)	450 mm × 1	650 mm × 1	
Spacing dimension	131 mm × 153.3 mm		
Set weight	Approx. 1.0 kg	Approx. 1.1 kg	
Packing unit	10 pcs		

High Performance Integrated Automatic Changeover Regulator

AS8ZAR (with transmit function)



AS8ZAR

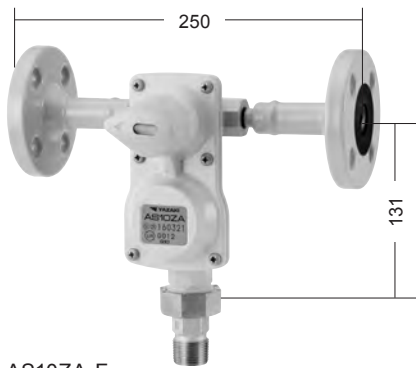
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	AS8ZAR	2 AS8ZAR-(2H)	2 AS8ZARVK(2H)	2 AS8ZAR-VK2H(T)	2 AS8ZAR-2H(T)	4 AS8ZAR-VM(4H)	4 AS8ZAR-VM4H(T)
Capacity	8 kg/h						
Inlet pressure	0.15 to 1.56 MPa						
Outlet pressure	2.55 to 3.30 kPa						
Safety valve working pressure	7.00 ± 1.40 kPa						
Inlet connection	Rc 1/4	POL male screw (Hand)					
Outlet connection	R 1/2 (union)		Rc 1/2		R 1/2 (union)		Rc 1/2
Collecting hose (bundled item)	-	650 mm × 2	Gas discharge prevention type 650 mm × 2			650 mm × 4	Gas discharge prevention type 650 mm × 4
Spacing dimension	76 mm × 131 mm (main unit only)					780 mm × 131 mm (main unit only)	
Accessory	Union coupling		Screw-fitting gas cock with inspection hole		Union coupling		Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 2, 6 mm Nut · Washer · M6 Anchor × 4, Nipple 1/2B · Tee 1/2B, Plug 1/2B × 1
Set weight	Approx. 0.8 kg	Approx. 1.3 kg	Approx. 1.5 kg		Approx. 1.4 kg	Approx. 3.8 kg	Approx. 3.9 kg
Signal Line	VCTF equivalent 0.3 mm ² Dual Core (without polarity) 2 m						
Packing unit	10 pcs					1 set	

High Performance Integrated Automatic Changeover Regulator

AS10ZA



AS10ZA-F

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

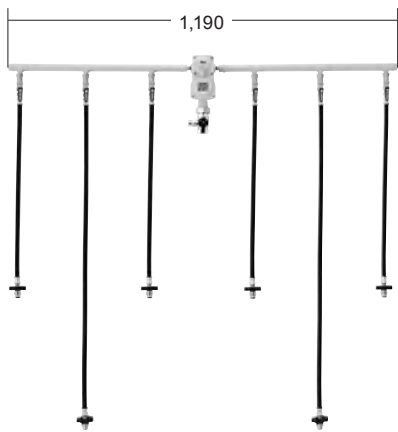
• Specifications

Model	AS10ZA	AS10ZA-F	2 AS10ZA- ^{VM2H(T)} _{VM2S(T)}
Capacity	10 kg/h		
Inlet pressure	0.15 to 1.56 MPa		
Outlet pressure	2.55 to 3.30 kPa		
Safety valve working pressure	7.00 ± 1.40 kPa		
Inlet connection	Rc 1/4	JIS20K 15A flange	POL Male Screw (Hand or Spanner)
Outlet connection	R 3/4		Rc 3/4
Collecting hose (bundled item)	-		Gas discharge prevention type 650 mm × 2
Spacing dimension	76 mm × 131 mm (main unit only)	250 mm × 131 mm (main unit only)	76 mm × 131 mm (main unit only)
Accessory	Union coupling	Union coupling Gasket × 2 Washer × 8	Screw-fitting gas cock with inspection hole
Set weight	Approx. 0.8 kg	Approx. 2.4 kg	Approx. 1.6 kg
Packing unit	1 pc		10 pcs

* For performance curve diagrams, see P 114.

High Performance Integrated Automatic Changeover Regulator

AS10ZA Mass Supply Kit



AS10ZA-VM (6H)

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

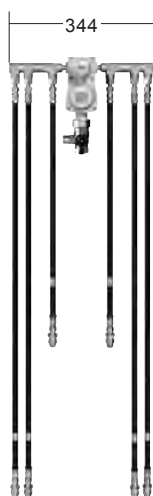
• Specifications

Model	4 AS10ZA-VM (4H) _(4S)	6 AS10ZA-VM (6H) _(6S)	4 AS10ZA-VM (4H) _{(4S(T))}	6 AS10ZA-VM (6H) _{(6S(T))}
Main unit	AS10ZA			
Capacity	10 kg/h			
Inlet pressure	0.15 to 1.56 MPa			
Outlet pressure	2.55 to 3.30 kPa			
Safety valve working pressure	7.00 ± 1.40 kPa			
Collecting hose (bundled item)	650 mm × 4	650 mm × 4 1,050 mm × 2	Gas discharge prevention type 650 mm × 4 650 mm × 4, 1,050 mm × 2	
Inlet connection	POL male screw (Hand or Spanner)			
Outlet connection	Rc 3/4			
Header length	780 mm	1,190 mm	780 mm	1,190 mm
Accessory	Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 2, 6 mm Nut · Washer · M6 Anchor × 4, Nipple 3/4B · Tee 3/4B · Tee 3/4B × 1	Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 4, 6 mm Nut · Washer · M6 Anchor × 8, Nipple 3/4B · Tee 3/4B · Cap 3/4B × 1	Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 2, 6 mm Nut · Washer · M6 Anchor × 4, Nipple 3/4B · Tee 3/4B · Tee 3/4B × 1	Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 4, 6 mm Nut · Washer · M6 Anchor × 8, Nipple 3/4B · Tee 3/4B · Cap 3/4B × 1
Set weight	Approx. 3.8 kg	Approx. 5.2 kg	Approx. 3.9 kg	Approx. 5.4 kg
Packing unit	1 set			

4 = 4 cylinders 6 = 6 cylinders

High Performance Integrated Automatic Changeover Regulator

AS10ZA Simplified Header



AS10ZA-VMKB6S (T)

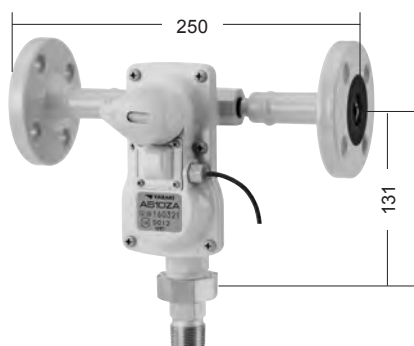
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• Specifications

Model	4 AS10ZA-VMKB ^{4H(T)} _{4S(T)}	6 AS10ZA-VMKB ^{6H(T)} _{6S(T)}
Capacity	10 kg/h	
Inlet pressure	0.15 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Safety valve working pressure	7.00 ± 1.40 kPa	
Inlet connection	POL male screw (Hand or Spanner)	
Outlet connection	Rc 3/4	
Collecting hose (bundled item)	Gas discharge prevention type	
	650 mm × 2 1050 mm × 2	650 mm × 2 1050 mm × 4
Header length	280 mm	344 mm
Accessory	Screw-fitting gas cock with inspection hole × 1 Bracket × 2, 15A U-bolt × 2, 6 mm Nut, Washer × 2, 6 mm Tapping screw × 4	
Set Weight	Approx. 4.0 kg	Approx. 5.4 kg
Packing unit	1 set	

High Performance Integrated Automatic Changeover Regulator

AS10ZAR (with transmit function)



AS10ZAR-F

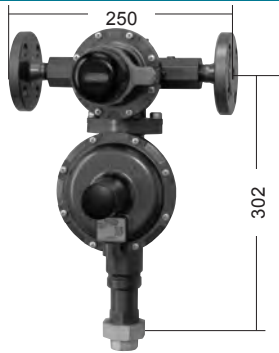
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	AS10ZAR	AS10ZAR-F	4 AS10ZAR-VM(4H)	4 AS10ZAR-VM ^{4H(T)} _{4S(T)}
Capacity	10 kg/h			
Inlet pressure	0.15 to 1.56 MPa			
Outlet pressure	2.55 to 3.30 kPa			
Safety valve working pressure	7.00 ± 1.40 kPa			
Inlet connection	Rc 1/4	JIS20K 15A flange	POL male screw (Hand or Spanner)	
Outlet connection	R 3/4 (union)		Rc 3/4	
Collecting hose (bundled item)	-		650 mm × 4	Gas discharge prevention type 650 mm × 4
	76 mm × 131 mm (Main unit)	250 mm × 131 mm (Main unit)	780 mm × 131 mm (Main unit)	
Spacing dimension	76 mm × 131 mm (Main unit)			
Signal Line	VCTF equivalent 0.3 mm ² Dual Core (without polarity) 2 m			
Accessory	Union coupling	Union coupling Gasket × 2 Washer × 8	Screw-fitting gas cock with inspection hole × 1, Bracket · 15A U-bolt × 2, 6 mm Nut · Washer · M6 Anchor × 4, Nipple 3/4B · Nipple II 3/4B · Tee 3/4B · Cap 3/4B × 1	
Set Weight	Approx. 0.8 kg	Approx. 2.5 kg	Approx. 3.9 kg	Approx. 4.0 kg
Packing unit	1 pc		1 set	

Integrated Automatic Changeover Regulator

RCL20A, RCL20AR



RCL20A

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	RCL20A	RCL20AR (with Transmit function)
Capacity	20 kg/h	
Inlet pressure	0.10 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Safety valve working pressure	7.00 ± 1.40 kPa	
Inlet connection	JIS 20K 15A flange	
Outlet connection	Rc 3/4 (union)	
Spacing dimension	250 mm × 302 mm	
Signal Line	-	VCTF equivalent 0.3 mm ² Dual Core (without polarity) 2m
Accessory	Gasket × 2	
Weight	Approx. 4.2 kg	
Packing unit	1 pc	

* For performance curve diagrams, see P 114.

Integrated Automatic Changeover Regulator

RCL20A Simplified Header



RCL20A-KB4S(T)

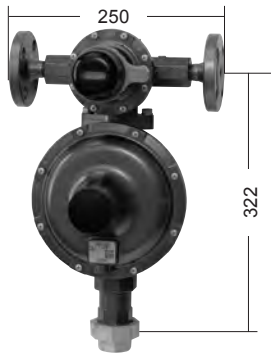
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	4 RCL20A-KB4H(T) KB4S(T)	6 RCL20A-KB6H(T) KB6S(T)
Capacity	20 kg/h	
Inlet pressure	0.10 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Safety valve working pressure	7.00 ± 1.40 kPa	
Inlet connection	POL male screw (Hand or Spanner)	
Outlet connection	Rc 3/4 (union)	
Collecting hose (Bundled Item)	Gas discharge prevention type	
Bundled Item	650 mm × 2 1,050 mm × 2	650 mm × 2 1,050 mm × 4
Header length	380 mm	440 mm
Set Product Weight	Approx. 5.1 kg	Approx. 5.5 kg
Packing unit	1 set	

Integrated Automatic Changeover Regulator

RCL30A, RCL30AR



RCL30A

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	RCL30A	RCL30AR (with Transmit function)
Capacity	30 kg/h	
Inlet pressure	0.10 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Safety valve working pressure	7.00 ± 1.40 kPa	
Inlet connection	JIS 20K 15A flange	
Outlet connection	Rc 1 (union)	
Spacing dimension	250 mm × 322 mm	
Signal Line	-	VCTF equivalent 0.3 mm ² Dual Core (without polarity) 2m
Accessory	Gasket × 2	
Weight	Approx. 5.0 kg	
Packing unit	1 pc	

* For performance curve diagrams, see P 114.

Integrated Automatic Changeover Regulator

RCL30A Simplified Header



RCL30A-KB6H(T)

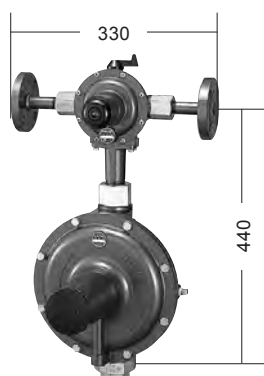
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• Specifications

Model	6 RCL30A-KB6H(T) KB6S(T)
Capacity	30 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	2.55 to 3.30 kPa
Safety valve working pressure	7.00 ± 1.40 kPa
Inlet connection	POL male screw (Hand or Spanner)
Outlet connection	Rc 1 (union)
Collecting hose (Bundled Item)	Gas discharge prevention type
Bundled Item	650 mm × 2 1,050 mm × 4
Header length	440 mm
Set Product Weight	Approx. 6.3 kg
Packing unit	1 set

Integrated Automatic Changeover Regulator

RCL-50



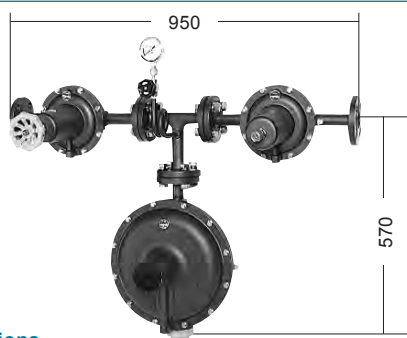
• Specifications

Model	RCL-50
Capacity	50 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	2.55 to 3.30 kPa
Inlet connection	JIS 20K 20A flange
Outlet connection	Rc 1 1/4 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	330 mm × 440 mm
Weight	Approx. 12.0 kg
Packing unit	1 pc
Accessory	Gasket × 2

*For performance curve diagrams, see P. 114.

Integrated Automatic Changeover Regulator

RCL-100A



• Specifications

Model	RCL-100A
Capacity	100 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	2.55 to 3.30 kPa
Inlet connection	JIS20K 25A flange
Outlet connection	Rc 1 1/2 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	950 mm × 570 mm
Weight	Approx. 34.5 kg
Packing unit	1 pc (quartered packing)

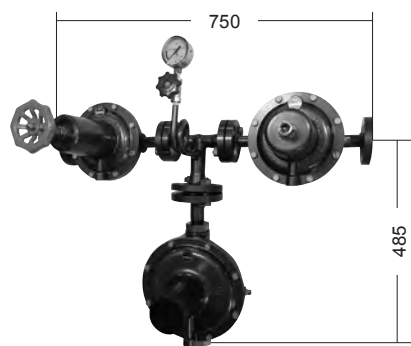
Accessory

- Parts that connect with the collecting pipe
25A gasket × 2
- Parts that connect with the left and right 2-stage primary regulator and T-shaped pipe
16 mm hexagonal bolt × 8, 16 mm hexagonal nut × 8, 16 mm spring seat × 8, 25A gaskets × 2
- Parts that connect with the T-shaped pipe and 2-stage secondary regulator
16 mm hexagonal bolt × 4, 16 mm hexagonal nut × 4, 16 mm spring seat × 4, 25A gaskets × 1

*For performance curve diagrams, see P. 114.

Integrated Automatic Changeover Regulator

RCL-70



• Specifications

Model	RCL-70
Capacity	70 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	2.55 to 3.30 kPa
Inlet connection	JIS 20K 20A flange
Outlet connection	Rc 1 1/4 (union)
Safety valve working pressure	7.00 ± 1.40 kPa
Spacing dimension	750 mm × 485 mm
Weight	Approx. 30.4 kg
Packing unit	1 pc (quartered packing)

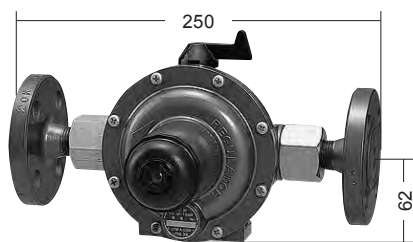
Accessory

- Parts that connect with the collecting pipe 20A Gaskets × 2
- Parts that connect with the left and right 2-stage primary regulator and T-shaped pipe
12 mm hexagonal bolt × 8, 12 mm hexagonal nut × 8, 12 mm spring seat × 8, 20A gaskets × 2
- Parts that connect with the T-shaped pipe and 2-stage secondary regulator
16 mm hexagonal bolt × 4, 16 mm hexagonal nut × 4, 16 mm spring seat × 4, 25A gaskets × 1

*For performance curve diagrams, see P. 114.

Separated Automatic Changeover Regulator

RC-30



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

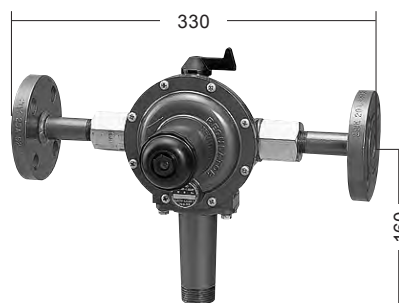
• Specifications

Model	RC-30
Capacity	30 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	0.032 to 0.083 MPa
Inlet connection	JIS 20K 15A flange
Outlet connection	Rc 1/2
Spacing dimension	250 mm × 62 mm
Weight	Approx. 3.5 kg
Packing unit	3 pcs
Accessory	Gasket × 2

*For performance curve diagrams, see P. 114.

Separated Automatic Changeover Regulator

RC-50



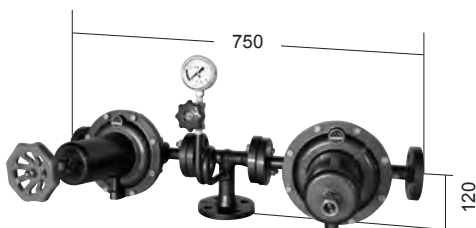
• Specifications

Model	RC-50
Capacity	50 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	0.032 to 0.083 MPa
Inlet connection	JIS 20K 20A flange
Outlet connection	R 1
Spacing dimension	330 mm × 160 mm
Weight	Approx. 4.5 kg
Packing unit	1 pc
Accessory	Gasket × 2

*For performance curve diagrams, see P. 114.

Separated Automatic Changeover Regulator

RC-70



• Specifications

Model	RC-70
Capacity	70 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	0.032 to 0.083 MPa
Inlet connection	JIS 20K 20A flange
Outlet connection	JIS 20K 25A flange
Spacing dimension	750 mm × 120 mm
Weight	Approx. 21.2 kg
Packing unit	1 pc (trifurcated packing)

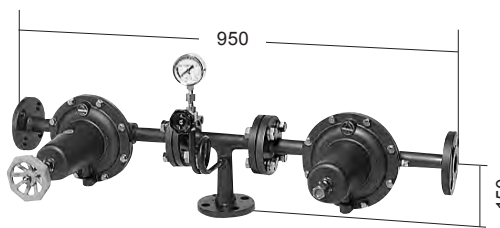
Accessory

- Parts that connect with the collecting pipe
20A gasket × 2
- Parts that connect with the left and right 2-stage primary regulator and T-shaped pipe
12 mm hexagonal bolt × 8, 12 mm hexagonal nut × 8, 12 mm spring seat × 8, 20A gaskets × 2

*For performance curve diagrams, see P. 114.

Separated Automatic Changeover Regulator

RC-100



• Specifications

Model	RC-100
Capacity	100 kg/h
Inlet pressure	0.10 to 1.56 MPa
Outlet pressure	0.032 to 0.083 MPa
Inlet connection	JIS 20K 25A flange
Outlet connection	JIS 20K 25A flange
Spacing dimension	950 mm × 150 mm
Weight	Approx. 23.9 kg
Packing unit	1 pc (trifurcated packing)

Accessory

- Parts that connect with the collecting pipe
25A gasket × 2
- Parts that connect with the left and right 2-stage primary regulator and T-shaped pipe
16 mm hexagonal bolt × 8, 16 mm hexagonal nut × 8, 16 mm spring seat × 8, 25A gaskets × 2

*For performance curve diagrams, see P. 114.

2 = 2 cylinders 4 = 4 cylinders 6 = 6 cylinders

Flow Sensing Switch Type Leakage Detector

AX-10BHL, AX-10BHL-R



AX-10BHL

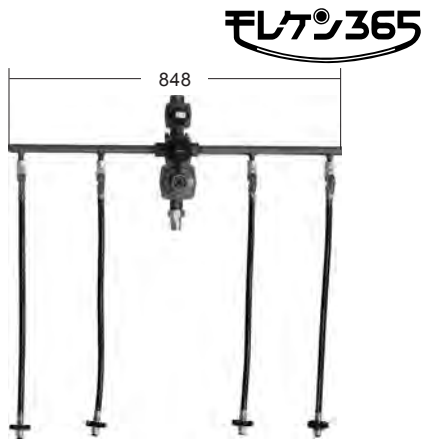
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• Specifications

Model		AX-10BHL	AX-10BHL-R (with Transmit function)
Capacity		10 kg/h	
Inlet pressure		0.10 to 1.56 MPa	
Outlet pressure		2.55 to 3.30 kPa	
Main regulator on-off flow		0.4 kg/h	
Slave regulator maximum flow		Less than 0.5 kg/h	
Inlet connection		JIS 20K 15A flange	
Outlet connection	Main regulator	R 3/4 (union)	
	Slave regulator	Rc 1/2	
Spacing dimension		180 mm × 160 mm (main unit only)	
Weight		Approx. 3.0 kg	
Signal Line		-	VCTF equivalent 0.5 mm ² Dual Core (without polarity) 1 m
Packing unit		1 pc	
Accessory		Metallic flexible hose × 1, Screw-fitting gas cock with inspection hole × 2, Gas meter coupling (LUT) × 2, Drain tank × 1, Gasket × 2	

Flow Sensing Switch Type Leakage Detector

AX-10BHL, AX-10BHL (Mass Supply Kit)



AX-10BHL-(4H)

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Main unit		2 AX-10BHL		4	
Model	Common	-(2H)	-(2S)	-(4H)	-(4S)
	Gas discharge prevention type	-(2H)TI	-(2S)TI	-(4H)TI	-(4S)TI
Collecting hose		650 mm × 2		650 mm × 4	
Inlet connection (high-pressure hose)		Hand	Spanner	Hand	Spanner
Header length		848 mm			
Outlet connection	Main regulator	R 3/4 (union)			
	Slave regulator	Rc 1/2			
Set weight		Approx. 4.5 kg		Approx. 7.5 kg	
Packing unit		1 pc			
Accessory		Metallic flexible hose × 1, Screw-fitting gas cock with inspection hole × 2, Gas meter coupling (LUT) × 2, Drain tank × 1			

Flow Sensing Switch Type Leakage Detector

AX-10BHL Simplified Header



AX-10BHL-KB (4S) TI

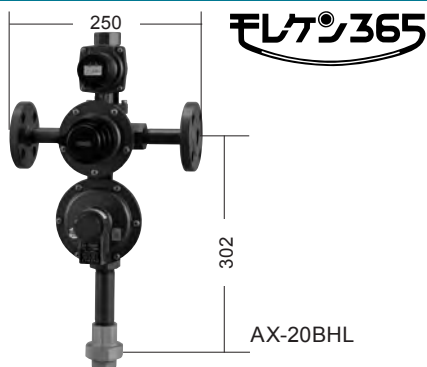
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• Specifications

Main unit		4 AX-10BHL	6
Model	Common	-	-
	Gas discharge prevention type	-KB(4H)TI/KB(4S)TI	-KB(6H)TI/KB(6S)TI
Collecting hose		650 mm × 2, 1,050 mm × 2	
Inlet connection (high-pressure hose)		H: Hand, S: Spanner	
Header length		301 mm	381 mm
Outlet connection	Main regulator	R 3/4 (union)	
	Slave regulator	Rc 1/2	
Set Weight		Approx. 5.0 kg	Approx. 6.0 kg
Packing unit		1 pc	
Accessory		Metallic flexible hose × 1, Screw-fitting gas cock with inspection hole × 2, Gas meter coupling (LUT) × 2, Drain tank × 1, Support metal fitting · U-bolt × 2, Wing nut · Flat washer · Wood screw × 4	

Flow Sensing Switch Type Leakage Detector

AX-20BHL, AX-20BHL-R



AX-20BHL

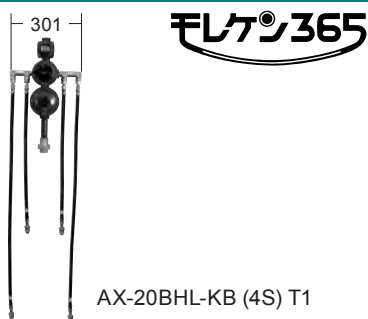
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	AX-20BHL	AX-20BHL-R (with Transmit function)
Capacity	20 kg/h	
Inlet pressure	0.10 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Main regulator on-off flow	0.4 kg/h	
Slave regulator maximum flow	Less than 0.5 kg/h	
Inlet connection	JIS 20K 15A flange	
Outlet connection	Main regulator	Rc 3/4 (union)
	Slave regulator	Rc 1/2
Spacing dimension	250 mm × 302 mm	
Weight	Approx. 4.0 kg	
Signal Line	-	VCTF equivalent 0.5 mm ² Dual Core (without polarity) 1 m
Packing unit	1 pc	
Accessory	Metallic flexible hose × 1, Screw-fitting gas cock with inspection hole × 2, Gas meter coupling (LUT) × 2, Drain tank × 1, Gasket × 2	

Flow Sensing Switch Type Leakage Detector

AX-20BHL Simplified Header



AX-20BHL-KB (4S) T1

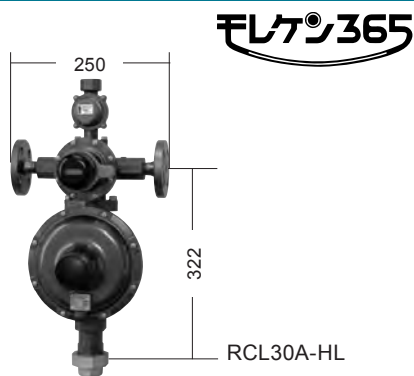
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• Specifications

Main unit		4 AX-20BHL	6
Model	Common	-	-
	Gas discharge prevention type	-KB(4H)TI/KB(4S)TI	-KB(6H)TI/KB(6S)TI
Collecting hose		650 mm × 2, 1,050 mm × 2	650 mm × 2, 1,050 mm × 2
Inlet connection (high-pressure hose)		H: Hand, S: Spanner	
Header length		301 mm	381 mm
Outlet connection	Main regulator	Rc 3/4 (union)	
	Slave regulator	Rc 1/2	
Set Weight		Approx. 6.6 kg	Approx. 7.6 kg
Packing unit		1 pc	
Accessory		Metallic flexible hose × 1, Screw-fitting gas cock with inspection hole × 2, Gas meter coupling (LUT) × 2, Drain tank × 1, Support metal fitting · U-bolt × 2, Wing nut · Flat washer · Wood screw × 4	

Flow Sensing Switch Type Leakage Detector

RCL30A-HL, RCL30A-HLR



RCL30A-HL

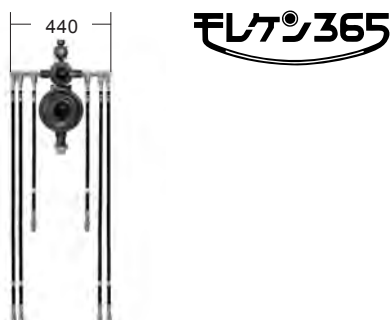
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• Specifications

Model	RCL30A-HL	RCL30A-HLR (with Transmit function)
Capacity	30 kg/h	
Inlet pressure	0.10 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Safety valve working pressure	7.00 ± 1.40 kPa	
Base regulator on-off flow	0.4 kg/h	
Slave regulator maximum flow	Less than 0.5 kg/h	
Inlet connection	JIS 20K 15A flange	
Outlet connection	Main regulator	Rc 1 (union)
	Slave regulator	Rc 1/2
Spacing dimension	250 mm × 322 mm	
Weight	Approx. 6.3 kg	
Signal Line	-	VCTF equivalent 0.3 mm ² Dual Core (without polarity) 2 m
Packing unit	1 pc	
Accessory	Metallic flexible hose × 1, Screw-fitting gas cock with inspection hole × 2, Gas meter coupling (LUT) × 2, Drain tank × 1, Gasket × 2	

Flow Sensing Switch Type Leakage Detector

RCL30A-HL Simplified Header



RCL30A-HL-KB6S(T)

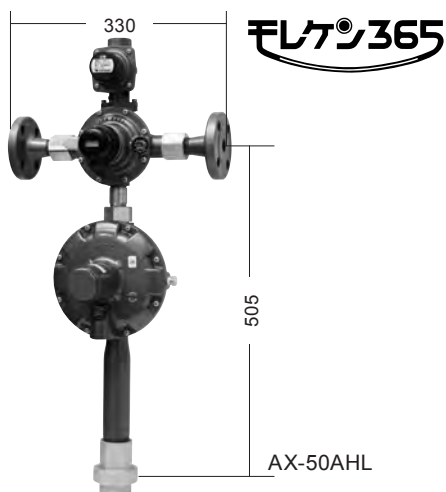
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• Specifications

Main unit		6 RCL30A-HL
Model	Common	-
	Gas discharge prevention type	-KB(6H)TI/KB(6S)TI
Collecting hose		650 mm × 2, 1,050 mm × 2
Inlet connection (high-pressure hose)		H: Hand, S: Spanner
Header length		440 mm
Outlet connection	Main regulator	Rc 1 (union)
	Slave regulator	Rc 1/2
Set Weight		Approx. 6.6 kg
Packing unit		1 pc
Accessory		Metallic flexible hose × 1, Screw-fitting gas cock with inspection hole × 2, Gas meter coupling (LUT) × 2, Drain tank × 1, Support metal fitting · U-bolt × 2, Wing nut · Flat washer · Wood screw × 4

Flow Sensing Switch Type Leakage Detector

AX-50AHL, AX-50AHL-R



AX-50AHL

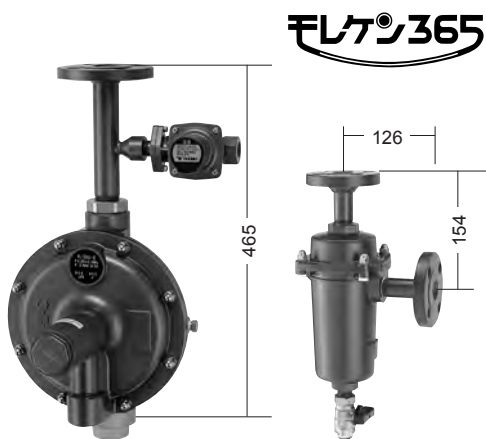
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• Specifications

Model	AX-50AHL	AX-50AHL-R (with Transmit function)
Capacity	50 kg/h	
Inlet pressure	0.10 to 1.56 MPa	
Outlet pressure	2.55 to 3.30 kPa	
Main regulator on-off flow	0.4 kg/h	
Slave regulator maximum flow	Less than 0.5 kg/h	
Inlet connection	JIS 20K 20A flange	
Outlet Connection	Main regulator	Rc 1 1/4 (union)
	Slave regulator	Rc 1/2
Spacing dimension	330 mm × 505 mm	
Weight	Approx. 7.0 kg	
Signal Line	-	VCTF equivalent 0.5 mm ² Dual Core (without polarity) 1 m
Packing unit	1 pc	
Accessory	Metallic flexible hose × 1, Screw-fitting gas cock with inspection hole × 2, Gas meter coupling (LUT) × 2, Drain tank × 1, Gasket × 2	

Vaporizer Leak Detector 365

**RL-30HL-II, RL-50HL-II, RL-100HL-II
DPM-15A/DPM-20A/DPM-25A**



RL-50HL-II

DPM-25A

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Dual Stage Secondary Pressure Difference Regulator Specifications

Model	RL-30HL-II	RL-50HL-II	RL-100HL-II
Capacity	30 kg/h	50 kg/h	100 kg/h
Inlet pressure	0.025 to 0.15 MPa		
Outlet pressure	2.30 to 3.30 kPa		
Main regulator on-off flow	0.4 kg/h		
Slave regulator maximum flow	Less than 0.5 kg/h		
Inlet connection	JIS 10 K 15A flange	JIS 10 K 25A flange	
Outlet connection	Main regulator	Rc 1 (union)	Rc 1 1/2 (union)
	Slave regulator	Rc 1/2 female screw	
Spacing dimension	355 mm	465 mm	420 mm
Weight	Approx. 4.1 kg	Approx. 9.0 kg	Approx. 19.1 kg

• Drain Pot Specifications

Model	DPM-15A	DPM-20A	DPM-25A
Pressure tightness	0.8 MPa		
Working pressure range	0 to 0.35 MPa		
Working flow range	0 to 30 kg/h	0 to 100 kg/h	0 to 100 kg/h
Surge tank capacity	0.5 L		
Inlet connection	JIS 20K 15A flange	JIS 20K 20A flange	JIS 20K 25A flange
Outlet connection	JIS 20K 15A flange	JIS 20K 25A flange	
Spacing dimension	360 mm (main unit only)/154 mm × 126 mm		
Weight	3.3 kg	4.1 kg	4.5 kg

Leak Detector (I-type)

EY25MTP-YL

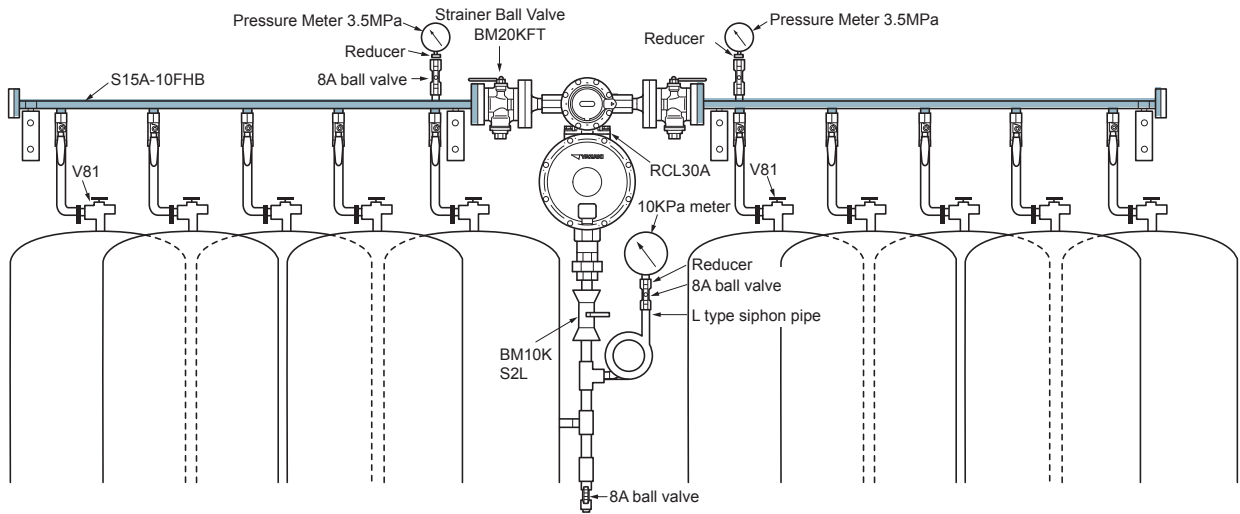


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• Specifications

Model	EY25MTP-YL
Airtightness	10 kPa
Working pressure	Less than 3.5 kPa
Alarm function	1. Small Leak in Flow 2. Battery Voltage Reduction 3. Shutoff Abnormality 4. Regulated Pressure Abnormality 5. Blocked Pressure Abnormality
Alarm display method	LCD Display 1. Reason for Shutoff 2. Reason for Warning
Communication method	Half duplex Communication method
Communication contents	1. Security Data 2. Shutoff Detail Data 3. Small Leak Timer Value
Connection	Pipe sleeve center distance: 130 mm, Pipe sleeve screw: M36 × 2
Appearance color	Light gray
External dimensions	H148 × W173 × D108 (mm)
Weight	Approx. 1.45 kg
Packing unit	1 pc

1/2B High Pressure AROPIPE Kit



Kit List

Model	External dimensions	Kit parts list	Check valve	High-pressure hose		U-Bolt Part φ6.4 Washer	Flange parts			15A U-bolt	Bracket	M6 Anchor	Shutoff flange
				650 mm	1050 mm		6 mm nut	12 mm bolt	Spring washer				
S15A-4PS		1 pc	4 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	None
				4 pcs	0 pc								
S15A-4PH		1 pc	6 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	None
				4 pcs	2 pcs								
S15A-6PS		1 pc	8 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	None
				4 pcs	2 pcs								
S15A-6PH		1 pc	10 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	None
				4 pcs	2 pcs								
S15A-8PS		1 pc	8 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	None
				4 pcs	4 pcs								
S15A-8PH		1 pc	10 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	None
				4 pcs	4 pcs								
S15A10PSB		1 pc	6 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	None
				6 pcs	4 pcs								
S15A10PHB		1 pc	8 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	None
				6 pcs	4 pcs								
S15A-6FSB		1 pc	6 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	2 pcs
				4 pcs	2 pcs								
S15A-6FHB		1 pc	8 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	2 pcs
				4 pcs	2 pcs								
S15A-8FSB		1 pc	8 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	2 pcs
				4 pcs	4 pcs								
S15A-8FHB		1 pc	10 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	2 pcs
				4 pcs	4 pcs								
S15A10FSB		1 pc	6 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	2 pcs
				6 pcs	4 pcs								
S15A10FHB		1 pc	8 pcs	Spanner-tightening		8 pcs	8 pcs	16 pcs	8 pcs	8 pcs	4 pcs	8 pcs	2 pcs
				6 pcs	4 pcs								

* Tension type hoses are also available.

Connection Pipe (sold separately)

Model	External dimensions	Model	Dimensions	Model	External dimensions	Accessory
S-400		S-450		-	-	Gasket × 2, 12 mm Bolt × 8, 12 mm Nut × 8, Flat washer × 16, Spring washer × 8 *For L-375, L-725 (2 in 1 set) →Gasket × 4, 12 mm bolt × 16, 12 mm Nut × 16, Flat Washer × 32, Spring washer × 16
L-200		L-375		L-470		
L-625		L-725		L-760		

3/4B High Pressure AROPIPE



■ Part List

Item name	External dimensions	Shape	Packing unit
S-1	L=1000	 STPG3/4B Sch40 Welded flange 20K-20A	4 pcs
S-4	L=480		4 pcs
S-5	L=240		4 pcs
SF-3	L=1200 A=100 B=200 C=400		2 pcs
SF-5	L=1000 A=100 B=200	 (Staggered Tube)	4 pcs
SP-3	L=580 A=100 B=200	 (Staggered Tube)	4 pcs
SP-2	L=380 A=100 B=200	 (Staggered Tube)	
SR-1	L=200	 STPG3/4B Sch40 Welded flange 20K-20A 20K-15A Reducer 3/4B × 1/2B	1 pc

Item name	External dimensions	Shape	Packing unit
L-1	A=180 B=140	 STPG3/4B Sch40 Welded flange 20K-20A	6 pcs
L-2	A=325 B=140		4 pcs
L-4	A=590 B=140		2 pcs
L-5	A=140 B=140		4 pcs
L-6	A=540 B=140		2 pcs
L-7	A=685 B=170		2 pcs
			(set)

■ Accessories (sold separately)

For 20A (3/4B)	
Part name	Specifications/purpose
M12 Hexagon bolt	For flange tightening
M12 Spring washer	For flange tightening
M12 Hexagon nut	For flange tightening
Socket welding flange	JIS B 2220 SOH 20K 20A
3/4 Shutoff flange	JIS B 2220 BL 20K 20A
Flange packing	20K 20A

For 25A (1B)	
Part name	Specifications/purpose
M16 Hexagon bolt	For flange tightening
M16 Spring washer	For flange tightening
M16 Hexagon nut	For flange tightening

Common use for 20A and 25A	
Part name	Specifications/purpose
Iron boss	20K 1/4B
Cap (for sealing)	For sealing iron boss
Bracket	L-shape bracket (for supporting collecting equipment)

Regulator Combination List

Combinations differ depending on the regulator capacity, number of cylinders, and specifications, refer to the following list.

Regulator 10 kg

With/Without Leak Detector	Number of cylinders	Specifications / Hoses	Spanner-tightening	Hand-tightening
Without Leak Detection	4 pcs	Flange, High Pressure Hose	AS10ZA-F + S15A-4PS	AS10ZA-F + S15A-4PH
		Integrated Type, High Pressure Hose	AS10ZA-VM(4S)	AS10ZA-VM(4H)
		Flange, Gas Discharge Prevention Type	AS10ZA-F + S15A-4PS(T)	AS10ZA-F + S15A-4PH(T)
		Integrated Type, Gas Discharge Prevention Type	AS10ZA-VM4S(T)	AS10ZA-VM4H(T)
	6 pcs	Simplified Header, Gas Discharge Prevention Type	AS10ZA-VMKB4S(T)	AS10ZA-VMKB4H(T)
		Flange, High Pressure Hose	AS10ZA-F + S15A-6PS	AS10ZA-F + S15A-6PH
		Integrated Type, High Pressure Hose	AS10ZA-VM(6S)	AS10ZA-VM(6H)
		Flange, Gas Discharge Prevention Type	AS10ZA-F + S15A-6PS(T)	AS10ZA-F + S15A-6PH(T)
With Leak Detection	4 pcs	Integrated Type, Gas Discharge Prevention Type	AS10ZA-VM6S(T)	AS10ZA-VM6H(T)
		Simplified Header, Gas Discharge Prevention Type	AS10ZA-VMKB6S(T)	AS10ZA-VMKB6H(T)
		Flange, High Pressure Hose	AX-10BHL + S15A-4PS + EY25MTP-YL	AX-10BHL + S15A-4PH + EY25MTP-YL
		Integrated Type, High Pressure Hose	AX-10BHL-(4S) + EY25MTP-YL	AX-10BHL-(4H) + EY25MTP-YL
	6 pcs	Flange, Gas Discharge Prevention Type	AX-10BHL-S15A-4PS(T) + EY25MTP-YL	AX-10BHL-S15A-4PH(T) + EY25MTP-YL
		Integrated Type, Gas Discharge Prevention Type	AX-10BHL-(4S)TI + EY25MTP-YL	AX-10BHL-(4H)TI + EY25MTP-YL
		Simplified Header, Gas Discharge Prevention Type	AX-10BHL-KB(4S)TI + EY25MTP-YL	AX-10BHL-KB(4H)TI + EY25MTP-YL
		Flange, High Pressure Hose	AX-10BHL + S15A-6PS + EY25MTP-YL	AX-10BHL + S15A-6PH + EY25MTP-YL
6 pcs	Flange, Gas Discharge Prevention Type	AX-10BHL + S15A-6PS(T) + EY25MTP-YL	AX-10BHL + S15A-6PH(T) + EY25MTP-YL	
	Simplified Header, Gas Discharge Prevention Type	AX-10BHL-KB(6S)TI + EY25MTP-YL	AX-10BHL-KB(6H)TI + EY25MTP-YL	

Regulator 20 kg

With/Without Leak Detector	Number of cylinders	Specifications / Hoses	Spanner-tightening	Hand-tightening
Without Leak Detection	4 pcs	Flange, High Pressure Hose	RCL20A + S15A-4PS	RCL20A + S15A-4PH
		Flange, Gas Discharge Prevention Type	RCL20A + S15A-4PS(T)	RCL20A + S15A-4PH(T)
		Simplified Header, Gas Discharge Prevention Type	RCL20A-KB4S(T)	RCL20A-KB4H(T)
	6 pcs	Flange, High Pressure Hose	RCL20A + S15A-6PS	RCL20A + S15A-6PH
		Flange, Gas Discharge Prevention Type	RCL20A + S15A-6PS(T)	RCL20A + S15A-6PH(T)
		Simplified Header, Gas Discharge Prevention Type	RCL20A-KB6S(T)	RCL20A-KB6H(T)
	8 pcs	Flange, High Pressure Hose	RCL20A + S15A-8PS	RCL20A + S15A-8PH
		Flange, Gas Discharge Prevention Type	RCL20A + S15A-8PS(T)	RCL20A + S15A-8PH(T)
With Leak Detection	4 pcs	Flange, High Pressure Hose	AX-20BHL + S15A-4PS + EY25MTP-YL	AX-20BHL + S15A-4PH + EY25MTP-YL
		Flange, Gas Discharge Prevention Type	AX-20BHL + S15A-4PS(T) + EY25MTP-YL	AX-20BHL + S15A-4PH(T) + EY25MTP-YL
		Simplified Header, Gas Discharge Prevention Type	AX-20BHL-KB(4S)TI + EY25MTP-YL	AX-20BHL-KB(4H)TI + EY25MTP-YL
	6 pcs	Flange, High Pressure Hose	AX-20BHL + S15A-6PS + EY25MTP-YL	AX-20BHL + S15A-6PH + EY25MTP-YL
		Flange, Gas Discharge Prevention Type	AX-20BHL + S15A-6PS(T) + EY25MTP-YL	AX-20BHL + S15A-6PH(T) + EY25MTP-YL
		Simplified Header, Gas Discharge Prevention Type	AX-20BHL-KB(6S)TI + EY25MTP-YL	AX-20BHL-KB(6H)TI + EY25MTP-YL
	8 pcs	Flange, High Pressure Hose	AX-20BHL + S15A-8PS + EY25MTP-YL	AX-20BHL + S15A-8PH + EY25MTP-YL
		Flange, Gas Discharge Prevention Type	AX-20BHL + S15A-8PS(T) + EY25MTP-YL	AX-20BHL + S15A-8PH(T) + EY25MTP-YL

Regulator 30 kg

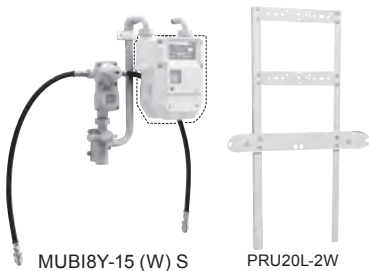
With/Without Leak Detector	Number of cylinders	Specifications / Hoses	Spanner-tightening	Hand-tightening
Without Leak Detection	6 pcs	Flange, High Pressure Hose	RCL30A + S15A-6PS	RCL30A + S15A-6PH
		Flange, Gas Discharge Prevention Type	RCL30A + S15A-6PS(T)	RCL30A + S15A-6PH(T)
		Simplified Header, Gas Discharge Prevention Type	RCL30A-KB6S(T)	RCL30A-KB6H(T)
	8 pcs	Flange, High Pressure Hose	RCL30A + S15A-8PS	RCL30A + S15A-8PH
		Flange, Gas Discharge Prevention Type	RCL30A + S15A-8PS(T)	RCL30A + S15A-8PH(T)
	10 pcs	Flange, High Pressure Hose	RCL30A + S15A-10PSB	RCL30A + S15A-10PH
With Leak Detection	6 pcs	Flange, Gas Discharge Prevention Type	RCL30A + S15A-10PSB(T)	RCL30A + S15A-10PH(T)
		Flange, High Pressure Hose	RCL30A-HL + S15A-6PS + EY25MTP-YL	RCL30A-HL + S15A-6PH + EY25MTP-YL
		Flange, Gas Discharge Prevention Type	RCL30A-HL + S15A-6PS(T) + EY25MTP-YL	RCL30A-HL + S15A-6PH(T) + EY25MTP-YL
	8 pcs	Simplified Header, Gas Discharge Prevention Type	RCL30A-HL-KB6S(T) + EY25MTP-YL	RCL30A-HL-KB6H(T) + EY25MTP-YL
		Flange, High Pressure Hose	RCL30A-HL + S15A-8PS + EY25MTP-YL	RCL30A-HL + S15A-8PH + EY25MTP-YL
		Flange, Gas Discharge Prevention Type	RCL30A-HL + S15A-8PS(T) + EY25MTP-YL	RCL30A-HL + S15A-8PH(T) + EY25MTP-YL
	10 pcs	Flange, High Pressure Hose	RCL30A-HL + S15A-10PSB + EY25MTP-YL	RCL30A-HL + S15A-10PHB + EY25MTP-YL
		Flange, Gas Discharge Prevention Type	RCL30A-HL + S15A-10PSB(T) + EY25MTP-YL	RCL30A-HL + S15A-10PHB(T) + EY25MTP-YL

Hoses / Gas Cocks

- Special Accessories
- Valve
- Hoses (High Pressure)/ (Low Pressure)
- Pressure Meter
- Gas Cock
- Long Flexible Tube
- Gas Related Components
- Low Pressure LP Gas Electric Generator

We offer various equipment and components related to gas supply.

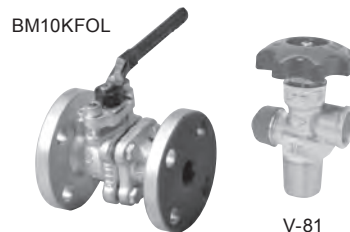
Special Accessory P. 65



MUBI8Y-15 (W) S

PRU20L-2W

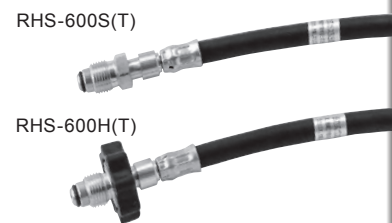
Valve P. 68



BM10KFOL

V-81

High Pressure Hose P. 73



RHS-600S(T)

RHS-600H(T)

Low Pressure Hose P. 74

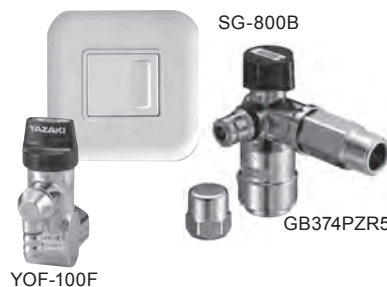


KLJ7-500SL

RLS-600G

KL10-300B

Gas Cock P. 77



YOF-100F

SG-800B

GB374PZR5

Long Flexible Hose P. 83



Long Flexible Hose

Coupling Section

Pressure Meter P. 85



SAVER PRO II

ER12-24M

Gas Related Component P. 87



Airtight Gas Cock Cap

For Hose End

For Socket

Gas Cock Cover

Low Pressure LP Gas Electric Generator P. 88



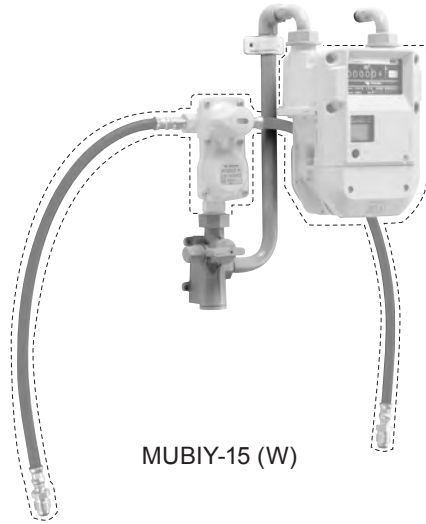
In case of an emergency!

EU9iGP

EU15iGP

Meter Peripheral Unit

MUBI Unit



MUBIY-15 (W)

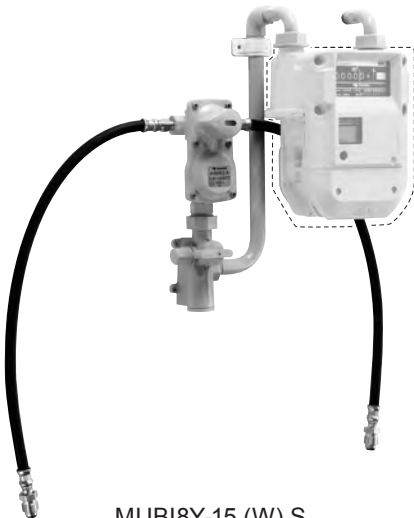
• Specifications

Model	MUBIY-15 (W)
Connecting Pipe	15A
Type	For Automatic Changeover Regulator
Components	Inlet Pipe (including Integrated Screw-Fitting Gas Cock with Inspection Hole and Drain Hole) and Outlet-Side Meter Coupling
Color	Light gray (Munsell 5Y 7.5/1)
Packaging Unit	6 pcs
Accessory	15A Saddle Band × 2.5 mm Tapping Screw × 8

*Gas meter, regulator, and high-pressure hose surrounded by the dotted line are sold separately.

10-Year Set Equipment

MUBI Unit



MUBI8Y-15 (W) S

• Specifications

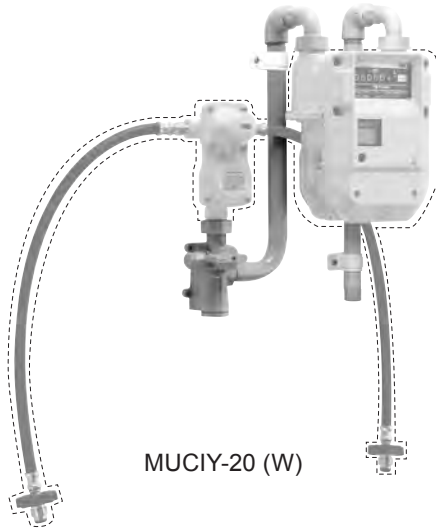
	Model	MUBI8Y-15 (W) Hand	MUBI8Y-15 (W) Hand (T)	MUBI8Y-20 (W) Hand
		MUBI8Y-15 (W) Spanner	MUBI8Y-15 (W) Spanner (T)	MUBI8Y-20 (W) Spanner
Pipe Diameter		15A		20A
Appearance Color		Light gray (Munsell 5Y 7.5/1)		
Standard Configuration	High-Performance Automatic Change-over Regulator	AS8ZA		
	High-Performance High-Pressure Hose	RHS-600H×2	RHS-600H (T)×2	RHS-600H×2
		RHS-600S×2	RHS-600S (T)×2	RHS-600S×2
	Pipe Unit	MUBIY-15 (W) (Integrated Screw-Fitting Gas Cock with Inspection Hole)		MUBIY-20 (W) (Integrated Screw-Fitting Gas Cock with Inspection Hole)
Dedicated Meter Coupling	Meter Union (M36×1/2B)		Meter Union (M36×3/4B)	
Number of Cylinders	50 kg-Cylinder, 20 kg-Cylinder × 2			
Packaging Unit	2 sets			
Accessory		15A Saddle Band × 2 5 mm Tapping Screw × 8		20A Saddle Band × 2 5 mm Tapping Screw × 8

*Gas meter surrounded by the dotted line is sold separately.

*For outlet, only Meter Union (LUC) is available.

Meter Peripheral Unit

MUCI Unit



MUCIY-20 (W)

• Specifications

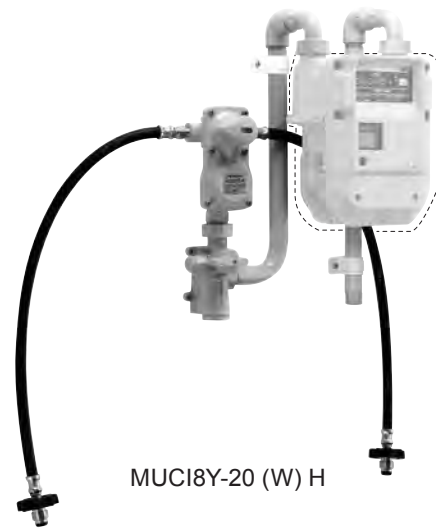
Model	MUCIY-20 (W)
Connecting Pipe	20A
Type	For Automatic Changeover Regulator
Components	Inlet Pipe (including Integrated Screw-Fitting Gas Cock with Inspection Hole and drain hole) and outlet-side pipe
Color	Light gray (Munsell 5Y 7.5/1)
Packaging Unit	6 pcs
Accessory	20A Saddle Band × 3, (5 mm screw, flat washer, spring washer, 5 mm nut) × 10

*Cylinder Support Unit installation type

*Gas meter, regulator, and high-pressure hose surrounded by the dotted line are sold separately.

10-Year Set Equipment

MUCI Unit



MUCI8Y-20 (W) H

• Specifications

Model	MUCI8Y-20 (W) Hand	MUCI8Y-20 (W) Hand (T)	
	MUCI8Y-20 (W) Spanner	MUCI8Y-20 (W) Spanner (T)	
Pipe Diameter	20A		
Appearance Color	Light gray (Munsell 5Y 7.5/1)		
Standard Configuration	High-Performance Automatic Changeover Regulator	AS8ZA	
	High-Performance High-Pressure Hose	RHS-600H×2	RHS-600H (T)×2
	Pipe Unit	MUCIY-20 (W) (Integrated Screw-Fitting Gas Cock with Inspection Hole)	
	Dedicated Meter Coupling	Meter Union (M36×3/4B)	
	Compatible Cylinder Support Units	PRU50L-2W, PRU50LB-2W/PRU20L-2W, PRU20LB-2W	
Packaging Unit	2 sets		
Accessory	20A Saddle Band × 3 (5 mm screw, flat washer, spring washer, 5 mm nut) × 10		

*Cylinder Support Unit installation type

*Gas Meter and Cylinder Support Unit surrounded by the broken line are sold separately.

Cylinder Support Unit

20 kg Two-Cylinders



PRU20L-2W

• Specifications

Model		PRU20L-2W	PRU20LB-2W
Material	Pillar	Equal-angle steel (JIS G 3192)	
	Stay	Rolled steel for general structure (JIS G 3101)	
	Bolt/Nut	Dacrotized Stainless Steel	
Treatment	Base Coat	Hot Dip Galvanizing (HDZ40 Equivalent)	
	Surface Treatment	Lustered Baking Finishing	
Appearance Color		Light gray (Munsell 5Y 7.5/1)	
Assembling Method		Installing with M8 bolts and nuts	
Installation Method		Underground installation	Installation with M12 hole-in anchor
External Shape	Width	620 mm	
	Depth	350 mm (underground)	150 mm
	Height	1,264 mm	1,161 mm
Weight		Approx. 12.5 kg	
Packaging Unit		1 pc	

Cylinder Support Unit

50 kg Two-Cylinders



PRU50L-2W

• Specifications

Model		PRU50L-2W	PRU50LB-2W
Material	Pillar	Equal-angle steel (JIS G 3192)	
	Stay	Rolled steel for general structure (JIS G 3101)	
	Bolt/Nut	Dacrotized Stainless Steel	
Treatment	Base Coat	Hot Dip Galvanizing (HDZ40 Equivalent)	
	Surface Treatment	Lustered Baking Finishing	
Appearance Color		Light gray (Munsell 5Y 7.5/1)	
Assembling Method		Installing with M8 bolts and nuts	
Installation Method		Underground installation	Installation with M12 hole-in anchor
External Shape	Width	740 mm	
	Depth	350 mm (underground)	150 mm
	Height	1,684 mm	1,581 mm
Weight		Approx. 16.5 kg	
Packaging Unit		1 pc	

Cylinder Support Unit

Four/Six-Cylinders for multi-family building/commercial use



PRU50L-4W

• Specifications

Model		PRU50L-4W	PRU50L-6W
Material	Pillar	Equal-angle steel (JIS G 3192)	
	Stay	Rolled steel for general structure (JIS G 3101)	
	Bolt/Nut	Dacrotized Stainless Steel	
Surface Treatment	Base Coat	Hot Dip Galvanizing (HDZ40 Equivalent)	
	Surface Treatment	Lustered Baking Finishing	
Appearance Color		Light gray (Munsell 5Y 7.5/1)	
Assembling Method		Installing with M8/ M10 bolts and nuts	
Installation Method		Underground installation	
External Shape	Width	2,160 mm	
	Depth	370 mm (underground)	
	Height	1,946 mm	
Weight		Approx. 40 kg	
Packaging Unit		1 pc	

Cylinder Strap

CB-W(F)20/CB-W(F)



CB-W (F)

• Specifications

Model	Dimensions	Applications	Type	Packaging Unit
CB-W (F) 20	1,112×60 (mm)	For two 20 kg-Cylinders	Cylinder Support Unit installation type	10
CB-W (F)	1,272×60 (mm)	For two 50 kg-Cylinders	Cylinder Support Unit installation type	10

*(F) Dual-end hook

Cylinder Cover

CC50-2W (K), CC50-2W (P), CC20-2W (K)



CC50-2W (K), CC50-2W (P)

CC20-2W (K)

• Specifications

Model	CC50-2W (K)	CC50-2W (P)	CC20-2W (K)
Installation Location	Wall mounting	Installation on Cylinder Support Unit	Wall mounting
Target LPG Cylinder	Two 50 kg-LPG Cylinders		Two 20 kg-LPG Cylinders
External Dimensions	825×1360×350 mm		723×915×310 mm
Weight	Approx. 8.5 kg		Approx. 4.9 kg
Cover Material	High Density Polyethylene (HDPE) Heat resistance: V-2 equivalent of UL standards and self-extinguishing		High Density Polyethylene (HDPE), Heat resistance: V-2 equivalent of UL standards and self-extinguishing
Appearance Color	Light Gray		Light Gray
Parts for Fixing Belt	4 mm Truss Head Screw, Washer and Nut, each 8 pcs		4 mm Truss Head Screw, Washer and Nut, each 8 pcs
Packaging Unit	1 unit		1 unit
Packing Dimensions	Height × Width × Depth = 1190×860×400 mm		Height × Width × Depth = 915×723×310 mm
Accessories	Mounting Bracket etc.	Holder L/ R each × 1 5 mm Tapping Screw (5×25)×6 Holder L/ R each × 1 12 mm bolt, washer, cap nut each × 2	(k): Mounting Bracket L/ R each × 1, 5 mm Tapping Screw (5×25) × 6

Cylinder Fall Prevention Chain

CC-S/W/SS/WS



• Specifications

Model	Installation Method	Packing Unit
LW4032A-740	Single Clamping Plate Type	20 pcs
LW4032A-750	Double Clamping Plate Type	20 pcs
LW4032A-760	Single Eye Bolt Type	20 pcs
LW4032A-770	Double Eye Bolt Type	20 pcs

Complies with the LP gas equipment installation standards and handling guidelines (Blue Book) published by the High Pressure Gas Safety Institute of Japan.

LP Gas Cylinder Valve

V-81, 50LW

Product passed conformity test



V-81



50LW

• Specifications

Product / Model	Pressure Resistant	Airtight	Packaging Unit
V-81	3.0 MPa	1.80 MPa	40 pcs
50LW	3.0 MPa	1.80 MPa	40 pcs

Small Piping Valve

LPI-8, MSA-8CS, MSC

Root Valve with Check Valve
MSA-8CS



Screw-Fitting Gas Cock (ball valve)
MSC-25L
MSC-32L
MSC-40L
MSC-50L



LPI-8

• Specifications

Product / Model	Standard		Pressure Resistant	Airtight	Packaging Unit
	Outlet/ Inlet Connection	Spacing Dimension			
LPI-8	Rc 1/4	50 mm	3.9 MPa	2.4 MPa	50 pcs
MSA-8CS	Rc 1/4	54 mm	2.6 MPa	1.8 MPa	50 pcs
MSC-25L	Rc 1	73 mm		22.5 kPa	20 pcs
MSC-32L	Rc 1 1/4	83 mm		22.5 kPa	5 pcs
MSC-40L	Rc 1 1/2	96 mm		22.5 kPa	5 pcs
MSC-50L	Rc 2	108 mm		22.5 kPa	5 pcs

Screw-type Valve

HM10KSDG
(Screw-type Globe Valve)



• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
HM10KSDG	*1/4B	Screw type	50 mm	0.78 MPa	0.29 MPa	1 pc
	3/8B		55 mm			
	1/2B		65 mm			
	3/4B		80 mm			
	1B		90 mm			
	1 1/4B		105 mm			
	1 1/2B		120 mm			
	2B		140 mm			
	*2 1/2B		180 mm			
	*3B		200 mm			

*Made-to-order

Flange-type Valve

HM10KFDG
(Flange-type Globe Valve)



• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
HM10KFDG	15A	10K Flange	85 mm	0.78 MPa	0.29 MPa	1 pc
	20A		95 mm			
	25A		110 mm			
	32A		130 mm			
	40A		150 mm			
	50A		180 mm			
	*65A		210 mm			
	*80A		240 mm			

*Made-to-order

Screw-type Valve

M20KSDL
(Screw-type Globe Valve)

Accepted by high-pressure gas facility test



• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
M20KSDL	*3/8B	Screw type	70 mm	4.31 MPa	2.75 MPa	1 pc
	1/2B		75 mm			
	3/4B		90 mm			
	1B		105 mm			
	1 1/4B		120 mm			
	1 1/2B		135 mm			
	2B		160 mm			

*Made-to-order

Flange-type Valve

M20KFDL
(Flange-type Globe Valve)

Accepted by high-pressure gas facility test



• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
M20KFDL	*10A	20K Flange	100 mm	4.31 MPa	2.75 MPa	1 pc
	15A		110 mm			
	20A		120 mm			
	25A		130 mm			
	32A		160 mm			
	40A		180 mm			
	50A		230 mm			

*Made-to-order

Flange-type Valve

M20KFDLO
(Flange-Type Globe Valve)

Passed by high-pressure gas facility test



• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
M20KFDLO	50A	20K Flange	267 mm	4.31 MPa	2.75 MPa	1 pc
	65A		292 mm			
	80A		318 mm			
	100A		356 mm			
	125A		400 mm			
	150A		444 mm			
	200A		559 mm			
	250A		622 mm			

Flange-type Strainer

M20KFT

Passed by high-pressure gas facility test



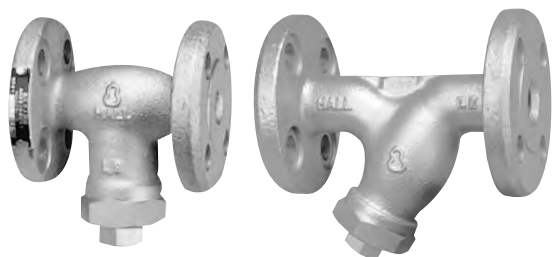
• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
M20KFT	*10A	20K Flange	120 mm	4.31 MPa	2.75 MPa	1 pc
	15A		130 mm			
	20A		140 mm			
	25A		160 mm			
	32A		190 mm			
	40A		210 mm			
	50A		250 mm			

Flange-type Strainer

M20KFTLM
(L-type)

Passed by high-pressure gas facility test



M20KFTLM (15A)

M20KFTLM (20/25A)

• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
M20KFTLM	15A	20K Flange	110 mm	4.31 MPa	2.75 MPa	1 pc
	20A		160 mm			
	25A		180 mm			

*150 mesh

Screw-type Valve

BM10KS2L, BM10KS2G
(Screw-type Ball Valve)

Made-to-order



BM10KS2L

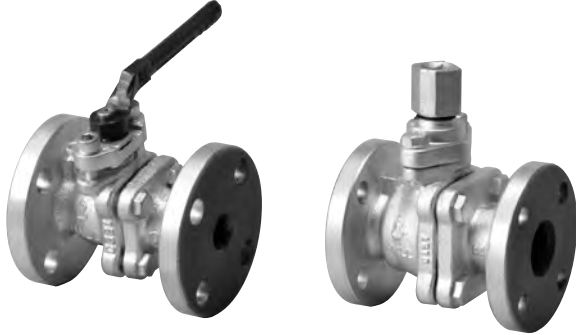
BM10KS2G

• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
BM10KS2L (Aboveground piping)	1/2B	Screw type	66 mm	1.96 MPa	1.18 MPa	1 pc
	3/4B		75 mm			
	1B		87 mm			
	1 1/4B		100 mm			
BM10KS2G (Underground piping)	1 1/2B	Screw type	115 mm	1.96 MPa	1.18 MPa	1 pc
	2B		130 mm			

Flange-type Valve

BM10KFOL, BM10KFOG
(Flange-type Ball Valve)



BM10KFOL

BM10KFOG

• Specifications

Product / Model	Nominal Diameter	Dual Con- nection	Spacing Dimension	Test Pressure		Packag- ing Unit
				Pressure Resistant	Airtight	
BM10KFOL (Aboveground piping)	15A	10K Flange	108 mm	1.96 MPa	1.18 MPa	1 pc
	20A		117 mm			
	25A		127 mm			
	32A		140 mm			
	40A		165 mm			
	50A		178 mm			
65A	190 mm					
BM10KFOG (Underground piping)	80A		203 mm			
	100A		229 mm			
	*125A		292 mm			
	*150A	394 mm				
	*200A	457 mm				

*Made-to-order

Flange-type Valve

BM20KFOL
(Flange-type Ball Valve)

Passed by high-pressure gas facility test



• Specifications

Product / Model	Nominal Diameter	Dual Con- nection	Spacing Dimension	Test Pressure		Packag- ing Unit
				Pressure Resistant	Airtight	
BM20KFOL	*15A	20K Flange	140 mm	4.31 MPa	2.75 MPa	1 pc
	*25A		152 mm			
	*25A		165 mm			
	32A		178 mm			
	40A		190 mm			
	50A		216 mm			
	*65A		241 mm			
	*80A		283 mm			
	*100A		305 mm			

*Made-to-order

Strainer Ball Valve

BM20KFT

Passed by high-pressure gas facility test



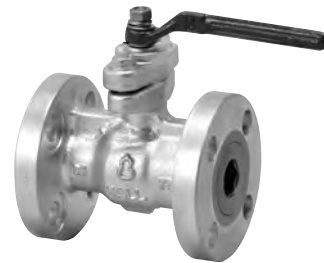
• Specifications

Product / Model	Nominal Diameter	Dual Con- nection	Spacing Dimension	Test Pressure		Packag- ing Unit
				Pressure Resistant	Airtight	
BM20KFT	15A	20K Flange	110 mm	4.31 MPa	2.75 MPa	1 pc
	20A		120 mm			
	25A		130 mm			

Flange-type Valve

BM20FOLS
(Flange-type Ball Valve)

Passed by high-pressure gas facility test



• Specifications

Product / Model	Nominal Diameter	Dual Con- nection	Spacing Dimension	Test Pressure		Packag- ing Unit
				Pressure Resistant	Airtight	
BM20FOLS	15A	20K Flange	110 mm	4.31 MPa	2.75 MPa	1 pc
	20A		120 mm			
	25A		130 mm			

Flange-type Valve

DB-280 (Flange-type Ball Valve)

Passed by high-pressure gas facility test



Certified product (certified by Ministry of Economy, Trade and Industry)
Certified by minister of economy, trade and industry according to 6th article of the general high-pressure gas safety rules

• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
DB-280	15A	20K Flange	140 mm	3.90 MPa	2.35 MPa	1 pc
	20A		152 mm			
	25A		165 mm			
	40A		190 mm			
	50A		216 mm			
	80A		283 mm			
	100A		305 mm			

Flange-type Strainer

DF-510 (Flange-type Strainer)



Certified product (certified by Ministry of Economy, Trade and Industry)
Certified by minister of economy, trade and industry according to 6th article of the general high-pressure gas safety rules

• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
DF-510	15A	20K Flange	130 mm	3.90 MPa	2.35 MPa	1 pc
	20A		140 mm			
	25A		160 mm			

Flange-type Valve

DB-281 (Flange-type Ball Valve)



• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
DB-281	15A	10K Flange	108 mm	2.00 MPa	1.20 MPa	1 pc
	20A		117 mm			
	25A		127 mm			
	40A		165 mm			
	50A		178 mm			
	80A		203 mm			
	100A		229 mm			

Flange-type Valve

DG-206 (Flange-type Globe Valve)

Made-to-order



Certified product (certified by Ministry of Economy, Trade and Industry)
Certified by minister of economy, trade and industry according to 6th article of the general high-pressure gas safety rules

• Specifications

Product / Model	Nominal Diameter	Dual Connection	Spacing Dimension	Test Pressure		Packaging Unit
				Pressure Resistant	Airtight	
DG-206	15A	20K Flange	110 mm	3.90 MPa	2.35 MPa	1 pc
	20A		120 mm			
	25A		130 mm			
	40A		180 mm			
	50A		230 mm			

High Performance High Pressure Mass Supply Hose

RHS-600S, H/1000S, H



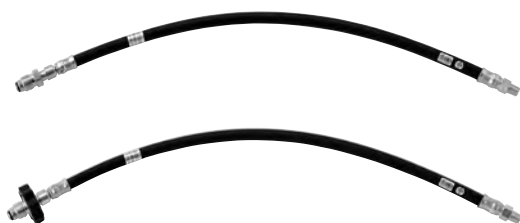
Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	Cylinder Connection Side	Pipe Connection Side	Length	Tightening Method	Packaging Unit
RHS-600S	POL male screw	R 1/4	650 mm	Spanner-Tightening	30 pcs
RHS-600H			650 mm	Hand-Tightening	
RHS-1000S			1050 mm	Spanner-Tightening	
RHS-1000H			1050 mm	Hand-Tightening	

Gas Discharge Preventive Type High Performance High Pressure Hose Mass Supply Hose

RHS-600S, H(T)/1000S, H(T)



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	Cylinder Connection Side	Pipe Connection Side	Length	Tightening Method	Packaging Unit
RHS-600S (T)	POL male screw	R 1/4	650 mm	Spanner-Tightening	30 pcs
RHS-600H (T)			650 mm	Hand-Tightening	
RHS-1000S (T)			1050 mm	Spanner-Tightening	
RHS-1000H (T)			1050 mm	Hand-Tightening	

*Do not use for liquid gas.

High Performance High Pressure Hose (for Liquefaction Prevention Type One Side Connection Hose)

RHS-550/750/1200SC, HC



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	Cylinder Connection Side	Regulator connection side	Total Length	Packaging Unit
RHS-550SC	POL male screw	POL female screw	550 mm	30 pcs
RHS-550HC				
RHS-750SC			750 mm	
RHS-750HC				
RHS-1200HC			1200 mm	

SC provided with spanner-tightening one-way valve
 HC provided with hand-tightening one-way valve

High Performance High Pressure Hose (for Liquefaction Prevention Type Both Sides Connection Hose)

RHS-550/750/1200SC, HC



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	Cylinder Connection Side	Regulator connection side	Total Length	Packaging Unit
RHS-400×400SC	POL male screw	POL female screw	400 mm×2	30 pcs
RHS-400×400HC				
RHS-600×600SC			600 mm×2	
RHS-600×600HC				
RHS-800×800SC			800 mm×2	
RHS-800×800HC				

SC provided with spanner-tightening one-way valve
 HC provided with hand-tightening one-way valve

Town Gas / LP Gas Sharing
New Type Gas Cord
(Small Fan Heater, Rice Cooker, etc.)

KLJ7-300 to 5000SL



JIS Certified Product (JIS S 2146:2013)

• Specifications

Model	Hose Section		Connection Type	Total Length (mm)	Color	Packaging Unit
	Inner Diameter (mm)	Outer Diameter (mm)				
KLJ7-300SL (with plug)	7±0.4	Less than 13	Gas Cock Socket x Tool Socket	300	Champagne Gold	20 pcs
KLJ7-400SL (with plug)				400		
KLJ7-500SL (with plug)				500		
KLJ7-600SL (with plug)				600		
KLJ7-1000SL (without plug)				1000		
KLJ7-2000SL (without plug)				2000		
KLJ7-3000SL (without plug)				3000		
KLJ7-5000SL (without plug)				5000		

*Optional accessory: Slim plug

LP Gas Combustor Hose

KL10-A•B•BL•C Type/KL14-B Type



KL10 A type



KL10 B type



KL10 BL type



KL10 C type



KL14 B type

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	Hose Section		Connection Method	Total Length (mm)	Packaging Unit
	Inner Diameter (mm)	Outer Diameter (mm)			
KL10-300A	10±0.5	Less than 19	Rc 1/2×Rc 1/2 (TU.S)	300	20 pcs
KL10-500A				500	
KL10-700A				700	
KL10-900A				900	
KL10-1000A				1000	
KL10-200B	10±0.5	Less than 19	R 1/2×Rc 1/2 (TU.S)	200	20 pcs
KL10-250B				250	
KL10-300B				300	
KL10-400B				400	
KL10-500B				500	
KL10-600B				600	
KL10-700B				700	
KL10-800B				800	
KL10-900B				900	
KL10-1000B				1000	
KL10-1200B				1200	
KL10-300BL				10±0.5	
KL10-500BL	500				
KL10-700BL	700				
KL10-800BL	800				
KL10-900BL	900				
KL10-1000BL	1000				
KL10-1200BL	1200				
KL10-700C	10±0.5	Less than 19	Gas cock socket x R 3/8		700
KL10-1500C				1500	
KL10-2000C				2000	
KL14-300B	14±0.5	Less than 25	R 1/2×Rc 1/2 (TU.S)	300	20 pcs
KL14-500B				500	
KL14-700B				700	

*Length: Distance from abutting face of TU coupling packing (center line of L-shape coupling in case of L-shape coupling) to tip of fitting at other end

Large Diameter Combustor Hose

KL20-B Type/KL25-B Type



KL20 B type



KL25 B type

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	Hose Section		Connection Method	Total Length (mm)	Packaging Unit
	Inner Diameter (mm)	Outer Diameter (mm)			
KL20-500B	19.5±0.5	Less than 31	Rc 3/4×R 3/4	500	2 pcs
KL20-700B				700	
KL20-900B				900	
KL25-500B	26.0±0.5	Less than 39	Rc 1×R 1	500	2 pcs
KL25-700B				700	
KL25-900B				900	

LP Gas Rubber Hose

Hi-N Rubber Hose



JIS Certified Product (JIS K 6348:2006)

Passed by voluntary inspection of Chemicals Evaluation and Research Institute, Japan

• Specifications

Model	Target Gas	External Dimensions	Color	Packaging Unit
Hi-N Rubber hose	LP gas	Inner diameter: 9.4±0.4 mm	Orange	50 m×3 reels



A. Inner Layer: Synthetic Rubber (White)
 B. Middle Layer: Synthetic Rubber (Black)
 C. Outer Layer: Synthetic Rubber (Orange)

LP Gas Rubber Hose

RP Hi-N Rubber Hose (rat repellent added)



Passed by voluntary inspection of Chemicals Evaluation and Research Institute, Japan

• Specifications

Name	Target Gas	Dimensions	Rat repellent effect	Color	Packaging Unit
RP Hi-N Rubber hose	LP gas	Inner diameter: 9.4 mm Wall thickness: 3.0 mm	Microencapsulated rat repellent	Light Beige	50 m×2 reels

⚠ Caution: Repellent effect varies according to rat species which may allow some rats to damage rubber hoses.



A. Inner Layer: Synthetic Rubber (White)
 B. Middle Layer: Synthetic Rubber (Black)
 C. Adhesive Layer: Synthetic Rubber (Black)
 D. Outer Layer: PVC/TPE (with rat repellent, light beige)

Low Pressure Hose

LP Gas High-performance Low Pressure Hose



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

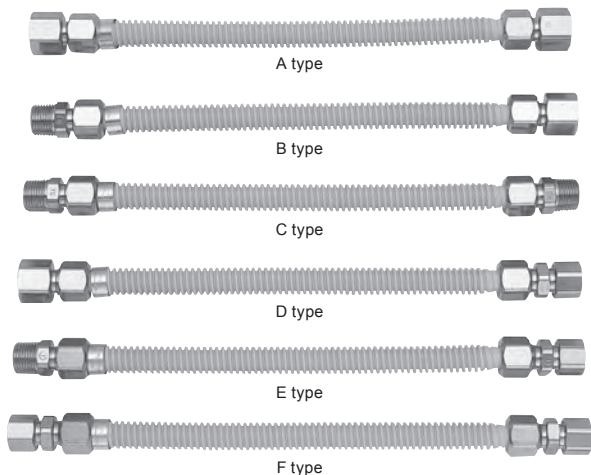
• Specifications

Model	Hose Section		Coupling Section	Connection Type	Total Length (mm)	Maximum Usable Pressure	Color	Packaging Unit
	Inner Diameter (mm)	Outer Diameter (mm)	Inner Diameter (mm)					
RLS-450G	10	17-19	Less than 7.5	R 1/2 × R 1/2 universal	450	10.0 kPa	Black	40 pcs
RLS-600G					600			
RLS-900G					900			

⚠ Caution: Bend radius shall be more than 140 mm.

Low Pressure Metal Hose

Metallic Flexible Hose with LP Gas Coupling (AROFLEX ivory color)



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• 1/2B AROFLEX Specification

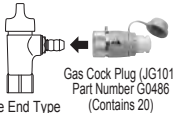

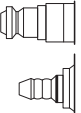
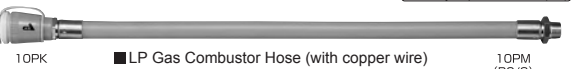
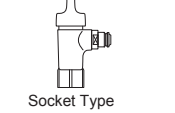
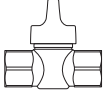



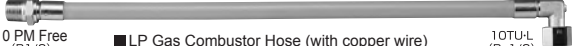
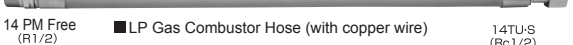

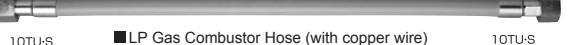
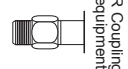
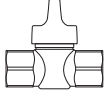

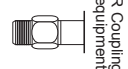

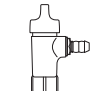


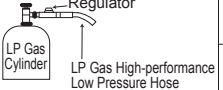


Model	ML3W-200*	ML3W-250*	ML3W-300*	ML3W-450*	ML3W-600*	LMA3W*900	LMA3W*1200
Length (mm)	200	250	300	450	600	900	1200
Type	*A	Rc 1/2, Rc 1/2					
	*B	R 1/2, Rc 1/2					
	*C	R 1/2, R 1/2					
	*D	Rc 1/2, Hose End					
	*E	R 1/2, Hose End					
	*F	Hose end, Hose end					
Packaging Unit	20 pcs						

• 3/4B AROFLEX Specifications

Model	LMA5W*200	LMA5W*250	LMA5W*300	LMA5W*450	LMAL5W*600
Length (mm)	200	250	300	450	600
Type	*B	R 3/4, Rc 3/4			
	*C	R 3/4, R 3/4			
Packaging Unit	20 pcs				

Low Pressure Hose Compatibility List

Check gas cocks and equipments compatible with various hoses

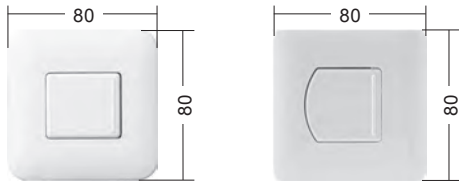
Compatible Gas Cock	Model	Length (m)	Name	Hose Type	Example Compatible Gas Equipments
 <p>Gas Cock Plug (JG101) Part Number G0486 (Contains 20)</p> <p>Hose End Type</p>	KLJ7-1000SL	1	7	 <p>7PK-SL ■ Gas Cord 7PKS</p> <p>JIS Certified Product (JIS 2146)</p>	<ul style="list-style-type: none"> ● Fan Heater ● Gas Rice Cookers, etc. <p>Slim Plug for Equipments Part Number G2133 (Contains 20)</p>  <p>For rubber tube plug-in gas equipments, an option slim plug for devices is required.</p>
	KLJ7-2000SL	2			
	KLJ7-3000SL	3			
	KLJ7-5000SL	5			
	KLJ7-400SL (with plug)	0.4			
	KLJ7-500SL (with plug)	0.5			
	KLJ7-600SL (with plug)	0.6			
KL10-700C	0.7	10	 <p>10PK ■ LP Gas Combustor Hose (with copper wire) 10PM (R3/8)</p> <p>Voluntary Inspected Product (LIA)</p>	 <p>Socket Type</p> <ul style="list-style-type: none"> ● Gas Rice Cooker ● Small Stove ● Single Burner Gas Stove ● Laundry Dryer, etc. 	
	KL10-300B	0.3	10	 <p>10 PM Free (R1/2) ■ LP Gas Combustor Hose (with copper wire) 10TU-S (Rc1/2)</p> <p>Voluntary Inspected Product (LIA)</p>	<p>Equipments with the TU label should be connected as they are. Use an R adapter for devices to connect devices that do not have a TU label.</p> <p>TU Coupling equipment</p>  <p>R Adapter for Equipments Part Number G1204 (Contains 50)</p>  <p>R Coupling equipment</p> <p>※ Make certain to use sealant.</p>
	KL10-500B	0.5			
	KL10-700B	0.7			
	KL10-300BL	0.3	10	 <p>10 PM Free (R1/2) ■ LP Gas Combustor Hose (with copper wire) 10TU-L (Rc1/2)</p> <p>Voluntary Inspected Product (LIA)</p>	
	KL10-500BL	0.5			
	KL10-700BL	0.7			
	KL10-900BL	0.9			
	KL14-300B	0.3	14	 <p>14 PM Free (R1/2) ■ LP Gas Combustor Hose (with copper wire) 14TU-S (Rc1/2)</p> <p>Voluntary Inspected Product (LIA)</p>	
	KL14-500B	0.5			
KL14-700B	0.7				
 <p>Hose end connection adapter Part Number G0485 (Contains 50)</p> <p>Hose End Type</p>	KL10-300A	0.3	10	 <p>10TU-S (Rc1/2) ■ LP Gas Combustor Hose (with copper wire) 10TU-S (Rc1/2)</p> <p>Voluntary Inspected Product (LIA)</p>	<ul style="list-style-type: none"> ● Water Heater ● Water Boiler ● Bath Boiler ● Various commercial gas equipment ● Gas heat pump air conditioners, etc. <p>R Coupling equipments</p> 
	KL10-500A	0.5			
	KL10-700A	0.7			
	KL10-900A	0.9			
	KL20-300B	0.3	20	 <p>20PM (R3/4) ■ LP Gas Large Diameter Combustor Hose (with copper wire) 20PF universal (Rc3/4)</p> <p>Voluntary Inspected Product (LIA)</p>	<p>R Coupling equipments</p> 
	KL20-500B	0.5			
	KL20-700B	0.7			
	KL25-300B	0.3	25	 <p>25PM (R1) ■ LP Gas Large Diameter Combustor Hose (with copper wire) 25PF universal (Rc1)</p> <p>Voluntary Inspected Product (LIA)</p>	
	KL25-500B	0.5			
 <p>Hose End Type</p>	Hi-N Rubber Hose	50	9.5	 <p>■ Hi-N Rubber Hose</p> <p>JIS Certified Product (JIS K6348) Voluntary Inspected Product (CERI)</p>	<ul style="list-style-type: none"> ● Table Stove ● Gas Rice Cooker ● Small Stoves, etc.
	RP Hi-N Rubber Hose	50	9.5	 <p>■ RP Hi-N Rubber Hose (rat repellent added)</p> <p>Voluntary Inspected Product (CERI)</p>	
 <p>Regulator LP Gas Cylinder LP Gas High-performance Low Pressure Hose</p>	RLS-450G	0.45	10	 <p>(R 1/2 universal) ■ LP Gas High-performance Low Pressure Hose (R1/2)</p> <p>Voluntary Inspected Product (LIA)</p>	<p>Threaded Gas Cock</p>  <p>■ For LP gas supply equipment, use a highly safe LP gas high performance low pressure hose!</p> <p>The use of rubber hose is prohibited with supply equipment, and they must be connected to LP gas high performance low pressure hoses instead. Low pressure hose connections are less likely to come loose or break, so they are extremely effective as countermeasures against earthquakes, flooding, snow, and other natural disasters.</p>
	RLS-600G	0.6			
	RLS-900G	0.9			

※LIA: Japan L.P. Gas Instrument Inspection Association

※CERI: Chemicals Evaluation and Research Institute, Japan

Gas Socket (for wall)

G856A5/G856AC/G858AC



(Embedded/Wall Penetrating)

(Embedded Wall Hole)

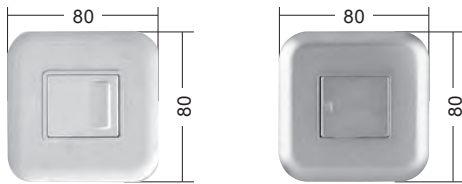
These gas sockets work for various applications, including for embedding, for circular wall hole for embedding, and for through wall.

• Specifications

Type	G856A5-12P	G856AC5-09P	G856AC-09P	G878A5-09P	G878A-09P
Item	LPG Flexible Piping Gas Socket (embedded)	LPG Flexible Piping Gas Socket (circular wall hole for embedding)		LPG Flexible Piping Gas Socket (through wall)	
Applicable Gas Equipments	Appliances consuming up to 10 kW of LP gas	Appliances consuming up to 10 kW of LP gas		Appliances consuming up to 10 kW of LP gas	
Working Flow Rate	1.2 m ³ /h (air)	0.9 m ³ /h (air)		0.9 m ³ /h (air)	
Operating Pressure Loss	343 Pa	250 Pa		250 Pa	
Connection	10A flexible pipe × φ9.5 socket 15A flexible pipe × φ9.5 socket	10A flexible pipe × φ9.5 socket 15A flexible pipe × φ9.5 socket	Rc 1/2 × φ9.5 socket	10A flexible pipe × φ9.5 socket 15A flexible pipe × φ9.5 socket	Rc 1/2 × φ9.5 socket
Length of Used Rubber Hose	5 m (maximum)	5 m (maximum)		5 m (maximum)	
Packing Unit	30 pcs/ case	30 pcs/ case		30 pcs/ case	

Gas Socket (for wall/floor)

SG730B-15/SG850B-15/SG710B-10/SG810B-10



(For walls, for through walls)

(For floors)

Product passed conformity test

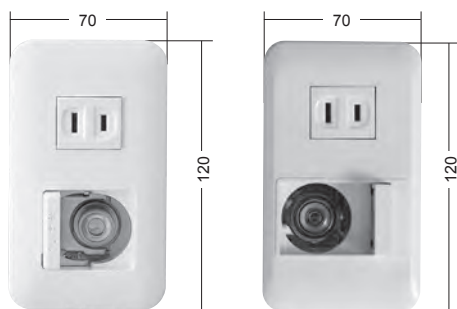
Gas sockets compatible with various applications, including for walls, for floors, an through walls.

• Specifications

Type	SG730B-15	SG850B-15	SG710B-10	SG810B-10	SG710BQ-10	SG810BQ-10	SG710BQD-10	SG810BQD-10
Item	Gas Socket (for wall)	Gas Socket (for wall: bent)	Gas Socket (for through wall)	Gas Socket (for wall: straight)	Gas Socket (for through wall)	Gas Socket (for floor: straight)	Gas Socket (for through wall)	Gas Socket (for floor: straight)
Applicable Gas Equipments	Appliances consuming up to 15 kW of LP gas		Appliances consuming up to 10 kW of LP gas		Appliances consuming up to 10 kW of LP gas		Appliances consuming up to 10 kW of LP gas	
Working Flow Rate	1.2 m ³ /h (air)		0.9 m ³ /h (air)		0.9 m ³ /h (air)		0.9 m ³ /h (air)	
Operating Pressure Loss	Less than 490 Pa		Less than 490 Pa		Less than 310 Pa		Less than 350 Pa	
Connection	Rc 1/2 × φ9.5 socket		Rc 1/2 × φ9.5 socket		10A flexible pipe × φ9.5 socket		15A flexible pipe × φ9.5 socket	
Length of Used Rubber Hose	5 m (maximum)		5 m (maximum)		5 m (maximum)		5 m (maximum)	
Packing Unit	15 pcs		20 pcs		24 pcs		24 pcs	

Gas Socket (with 1 power supply socket)

G857A5-12P/SG-506B-15EC



G857A5-12P

SG-506B-15EC

Product passed conformity test

An embedded gas socket with 1 power supply socket for flexible pipe connections.

• Specifications

Type	G857A5-12P	SG-506B-15EC
Item	LPG Flexible Piping Gas Socket (including electricity outlet)	Gas Socket
Applicable Gas Equipments	Appliances consuming up to 15 kW of LP gas	Appliances consuming up to 15 kW of LP gas
Working Flow Rate	1.2 m ³ /h (air)	1.2 m ³ /h (air)
Operating Pressure Loss	343 Pa	350 Pa
Connection	10A flexible pipe × φ9.5 socket 15A flexible pipe × φ9.5 socket	Rc 1/2 × φ9.5 socket
Length of Used Rubber Hose	5 m (maximum)	5 m (maximum)
Packing Unit	30 pcs/ case	15 pcs/ case

Gas Socket (with 2 power supply sockets)

SG-506B-15E2C



Product passed conformity test

A gas socket with 2 power supply socket for flexible pipe connections.

• Specifications

Type	SG-506B-15E2C
Item	Gas Socket (including 2 electricity outlets)
Applicable Gas Equipments	Appliances consuming up to 15 kW of LP gas
Working Flow Rate	1.2 m ³ /h (air)
Operating Pressure Loss	350 Pa
Connection	Rc 1/2 × φ9.5 socket
Length of Used Rubber Hose	Less than 5 m
Packing Unit	10 pcs

Gas Socket (for additional construction)

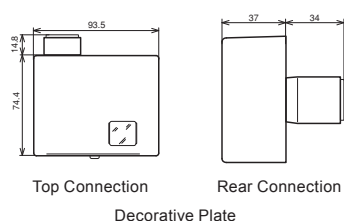
G854A5-12P



Product passed conformity test

This gas socket for additional construction can be changed to top, bottom, or rear connection depending on the direction of the mounting platform.

■ Dimension Drawing



● Specifications

Type	G854A5-12P
Item	LPG Flexible Piping Gas Socket (extension)
Applicable Gas Equipments	Appliances consuming up to 15 kW of LP gas
Working Flow Rate	1.2 m ³ /h (air)
Operating Pressure Loss	343 Pa
Connection	10A flexible pipe × φ9.5 socket
Packing Unit	30 pcs/ case

Gas Socket (embedded branch)

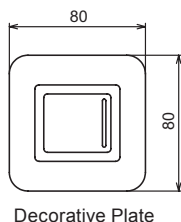
G859A3-12P

Product passed conformity test

Can be installed in the middle of the flexible pipe for gas sockets, so there is no effort needed for adding new fork pipes.



■ Dimension Drawing



● Specifications

Type	G859A3-12P
Item	LPG Flexible Piping Gas Socket (embedded branch)
Applicable Gas Equipments	Appliances consuming up to 15 kW of LP gas
Working Flow Rate	1.2 m ³ /h (air)
Operating Pressure Loss	343 Pa
Connection	10A flexible pipe × φ9.5 socket 15A flexible pipe × φ9.5 socket
Packing Unit	30 pcs/ case

Gas Sockets for Additional Construction (for upper and rear side connection)

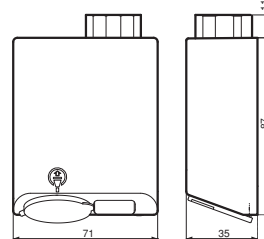
SG-450B-10/SG-450BQ-10

Product passed conformity test

This gas socket for additional construction is for both top and rear connection, with either RC screw connection or 10A flexible pipe joint.



■ Dimension Drawing



● Specifications

Type	SG450B-10	SG450BQ-10
Item	Case Gas Socket	Case Gas Socket
Applicable Gas Equipments	Appliances consuming up to 10 kW of LP gas	
Working Flow Rate	0.9 m ³ /h (air)	
Operating Pressure Loss	400 Pa	
Connection	Rc 1/2 × φ9.5 socket	10A flexible pipe × φ9.5 socket
Length of Used Rubber Hose	Less than 5 m	
Packing Unit	20 pcs	

Gas Socket (exposed)

G053A-12P/G054A-12P

Product passed conformity test

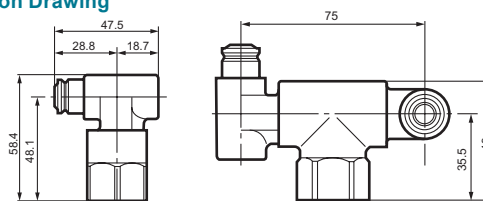
The socket can be rotated freely.



G053A-12P

G054A-12P

■ Dimension Drawing



● Specifications

Type	G053A-12P	G054A-12P
Item	LPG Gas Socket (Single exposed)	LPG Gas Socket (Double exposed)
Applicable Gas Equipments	Appliances consuming up to 15 kW of LP gas	
Working Flow Rate	1.2 m ³ /h (air)	
Operating Pressure Loss	343 Pa	372 Pa
Connection	Rc 1/2 × φ9.5 socket	
Length of Used Rubber Hose	Less than 5 m	
Packing Unit	30 pcs/ case	

Gas Cock with Fuse

ON/OFF Hose End Gas Cock with Fuse

Product passed conformity test

• Specifications



Model	Specifications	Maximum Flow Rate	Packaging Unit
YOF-100F	Single hose end × Rc 1/2 fixed	15 kW	50 pcs
YOF-100FGH	Single hose end × Rc 1/2 free	15 kW	50 pcs
YOF-100FV	Single hose end × Rc 1/2 fixed upright	15 kW	50 pcs
YOF-100FGL	Single hose end × Rc 1/2 free	15 kW	50 pcs
YOF-100FGR	Single hose end × Rc 1/2 free	15 kW	50 pcs
YOF-200F	Double hose end × Rc 1/2 fixed	15 kW	30 pcs
YOF-200FGH	Double hose end × Rc 1/2 free	15 kW	30 pcs
YOF-200FV	Double hose end × Rc 1/2 fixed upright	15 kW	30 pcs
YOF-200FG	Double hose end × Rc 1/2 free	15 kW	30 pcs



Gas Cock with Fuse

ON/OFF Socket Gas Cock with Fuse

Product passed conformity test

• Specifications



Model	Specifications	Maximum Flow Rate	Packaging Unit
YOF-100FC	Single socket × Rc 1/2 fixed	15 kW	50 pcs
YOF-100FGC	Single socket × Rc 1/2 free	15 kW	50 pcs
YOF-100FVC	Single socket × Rc 1/2 fixed upright	15 kW	50 pcs
YOF-200FC	Double socket × Rc 1/2 fixed	15 kW	30 pcs
YOF-200FGC	Double socket × Rc 1/2 free	15 kW	30 pcs
YOF-200FCL	Double pair left hose end × Rc 1/2 fixed	15 kW	30 pcs
YOF-200FCR	Double pair right hose end × Rc 1/2 fixed	15 kW	30 pcs



Gas Cock with Fuse

Flexible Pipe & ON/OFF Gas Cock with Fuse

Product passed conformity test

• Specifications



Model	Gas Cock	Specifications	Maximum Flow Rate	Packaging Unit
YOFF-200R	Left: Gas Cock with Fuse Right: Flexible Pipe Gas Cock	Flexible Pipe Gas Cock with Fuse Side Inlet: Rc 1/2 Flexible Pipe Gas Cock Side Outlet: Rc 1/2	Fuse Gas Cock side 15 kW	30 pcs
YOFF-200L	Left: Flexible Pipe Gas Cock Right: Gas Cock with Fuse	Gas Cock with Fuse Side Outlet: φ9.5 Hose end		
YOFF-200CR	Left: Gas Cock with Fuse Right: Flexible Pipe Gas Cock	Flexible Pipe Gas Cock with Fuse Side Inlet: Rc 1/2 Flexible Pipe Gas Cock Side Outlet: Rc 1/2	Flexible Pipe Gas Cock side 45 kW	30 pcs
YOFF-200CL	Left: Flexible Pipe Gas Cock Right: Gas Cock with Fuse	Gas Cock with Fuse Side Outlet: Socket		
G027ZUR-12P	Left: Gas Cock with Fuse Right: Flexible Pipe Gas Cock	Flexible Pipe Gas Cock with Fuse Side Inlet: Rc 1/2 Flexible Pipe Gas Cock Side Outlet: Rc 1/2	45 kW	40 pcs
G027ZUL-12P	Left: Flexible Pipe Gas Cock Right: Gas Cock with Fuse	Gas Cock with Fuse Side Outlet: φ9.5 Hose end		

Gas Cock with Fuse

ON/OFF Gas Cock with Fuse

Product passed conformity test

*With Airtight Gas Cock Cap



G015Z-12P



G015AZ-12P



G015AZU-12P



G013Z-12P



G013AZ-12P



G015ZU-12P



G025Z-12P



G025AZ-12P



G025AZU-12P



G025Z-12PL



G025Z-12PR



G023Z-12P



G023AZ-12P



G025ZU-12P

Specifications

Model	Specifications	Maximum Flow Rate	Packaging Unit
G015Z-12P	Single hose end × Rc 1/2 fixed	15 kW	80 pcs
G015AZ-12P	Single socket × Rc 1/2 fixed	15 kW	80 pcs
G015AZU-12P	Single socket × Rc 1/2 free	15 kW	80 pcs
G013Z-12P	Single hose end × Rc 1/2 fixed upright	15 kW	80 pcs
G013AZ-12P	Single socket × Rc 1/2 fixed upright	15 kW	80 pcs
G015ZU-12P	Single hose end × Rc 1/2 free	15 kW	80 pcs
G025Z-12P	Double hose end × Rc 1/2 fixed	15 kW	40 pcs
G025AZ-12P	Double socket × Rc 1/2 fixed	15 kW	40 pcs
G025AZU-12P	Double socket × Rc 1/2 free	15 kW	40 pcs
G025Z-12PL	Double pair left hose end × Rc 1/2 fixed	15 kW	40 pcs
G025Z-12PR	Double pair right hose end × Rc 1/2 fixed	15 kW	40 pcs
G023Z-12P	Double hose end × Rc 1/2 fixed upright	15 kW	40 pcs
G023AZ-12P	Double socket × Rc 1/2 fixed upright	15 kW	40 pcs
G025ZU-12P	Double hose end × Rc 1/2 free	15 kW	40 pcs

Wall/Floor Socket Type Fuse Box Gas Cock

FV-556A-12/FV-55A-12/G056A-12P/G775A-12P



Product passed conformity test

Specifications

Type	FV-556A-12 (for floor/ wall)
Item	Wall/Floor Embedded Gas Cock with Fuse
Packing Unit	20 pcs



Product passed conformity test

Specifications

Type	FV-554A-12 (for wall)
Item	Wall Embedded Gas Cock with Fuse
Packing Unit	20 pcs

*Pictured with cover on.



Specifications

Type	G056A-12P
Item	Lever Wall Safety Gas Cock
Packing Unit	30 pcs

*Pictured with cover on.



Specifications

Type	G775A-12P
Item	Floor Socket Gas Cock with Fuse
Packing Unit	20 pcs

Screw-Fitting Gas Cock with Inspection Hole

Y-48K/KT, Y-68K

Product passed conformity test



Y-48K

• Specifications

Model	Specifications	Packaging Unit
Y-48K	Pipe section: Rc 1/2, tapered cock Inspection hole section: φ9.5 hose end	50 pcs
Y-48KT	Pipe section: Rc 1/2, tapered cock Inspection hole section: φ9.5 hose end (light gray)	50 pcs
Y-68K	Pipe section: Rc 3/4, tapered cock Inspection hole section: φ9.5 hose end	20 pcs

Intermediate Gas Cock

Y-48A/B, Y-68A

Product passed conformity test



Y-48A



Y-68A

• Specifications

Model	Specifications	Packaging Unit
Y-48A	Rc 1/2 (lever), tapered cock	100 pcs
Y-48B	Rc 1/2 (knob), tapered cock	100 pcs
Y-68A	Rc 3/4 (lever), tapered cock	20 pcs

Screw-Fitting Gas Cock with Inspection Hole (Ball Valve)

MSC-15PL/20PL, GB73PZ

Product passed conformity test



MSC-15PL

GB73PZ

• Specifications

Model	Connecting Dimension	Spacing Dimension	Inspection Hole Location	Packaging Unit
MSC-15PL	Rc 1/2	54 mm	Left toward downstream	40 pcs
MSC-20PL	Rc 3/4	65 mm	Left toward downstream	20 pcs
GB73PZ	Rc 1/2	60 mm	Ball cock, Inspection hole section: gas cock socket	60 pcs

Screw-Fitting Ball-type Gas Cock

MSC-S155/L/MSD-S155, GB73Z

Product passed conformity test



MSC-S15H

MSD-S15L

GB73Z

• Specifications

Model	Specifications	Packaging Unit
MSC-S15H	Rc 1/2 (knob)	50 pcs
MSC-S15L	Rc 1/2 (lever)	50 pcs
MSD-S15L	Rc 1/2 (lever with lock mechanism)	50 pcs
GB73Z	Rc 1/2 (knob, ball cock)	60 pcs

Iron Gas Cock

ST821A/831A/841A/850A/860A, G87

Product passed conformity test



ST821A



G87

• Specifications

Model	Specifications	Packaging Unit
ST821A	Rc 3/4	30 pcs
ST831A	Rc 1	20 pcs
ST841A	Rc 1 1/4	10 pcs
ST850A	Rc 1 1/2	6 pcs
ST860A	Rc 2	4 pcs
G87	Rc 1/2	30 pcs
	Rc 3/4	30 pcs
	Rc 1	20 pcs
	Rc 1 1/4	10 pcs
	Rc 1 1/2	5 pcs
	Rc 2	5 pcs

Joint Gas Cock with Inspection Hole

YF-48KG/40KG, G361P/363P

Product passed conformity test



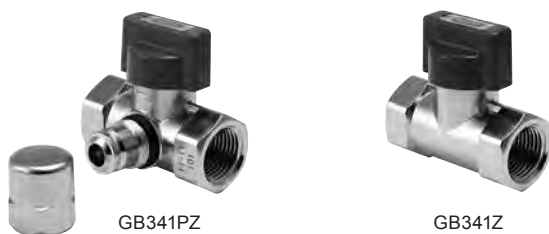
• Specifications

Model	Specifications	Packaging Unit
YF-48KG	Rc 1/2 straight (with Inspection hole, made of zinc)	50 pcs
YF-40KG	Rc 1/2 bent (with Inspection hole, made of zinc)	50 pcs
G361P-1515	Rc 1/2 straight (with Inspection hole)	40 pcs
G363P-1515	Rc 1/2 bent (with Inspection hole)	40 pcs
G361P5-1015	Inlet: directly connected to 10A flexible pipe, Outlet: Rc 1/2 straight (with Inspection hole)	40 pcs
G363P5-1015	Inlet: directly connected to 10A flexible pipe, Outlet: Rc 1/2 bent (with Inspection hole)	40 pcs
G361P5-1515	Inlet: directly connected to 15A flexible pipe, Outlet: Rc 1/2 straight (with Inspection hole)	40 pcs
G363P5-1515	Inlet: directly connected to 15A flexible pipe, Outlet: Rc 1/2 bent (with Inspection hole)	40 pcs
G361P5-2020	Inlet: directly connected to 20A flexible pipe, Outlet: Rc 3/4 straight (with Inspection hole, made of iron)	20 pcs
GB371PZ5-2020	Inlet: directly connected to 20A flexible pipe, Outlet: Rc 3/4 straight (with socket type Inspection hole)	40 pcs
GB371PZ5-1015	Inlet: directly connected to 10A flexible pipe, Outlet: Rc 1/2 straight (with socket type Inspection hole, made of zinc)	40 pcs
GB373PZR5-1015	Inlet: directly connected to 10A flexible pipe, Outlet: Rc 1/2 bent (with socket type Inspection hole [right side], made of zinc)	40 pcs
GB374PZR5-1015	Inlet: directly connected to 10A flexible pipe, Outlet: Rc 1/2 bent (with socket type Inspection hole [right side], made of zinc)	40 pcs
GB371PZ5-1515	Inlet: directly connected to 15A flexible pipe, Outlet: Rc 1/2 straight (with socket type Inspection hole, made of zinc)	40 pcs
GB373PZR5-1515	Inlet: directly connected to 15A flexible pipe, Outlet: Rc 1/2 bent (with socket type Inspection hole [right side], made of zinc)	40 pcs
GB374PZR5-1515	Inlet: directly connected to 15A flexible pipe, Outlet: R 1/2 bent (with socket type Inspection hole, made of zinc)	40 pcs
FV643AQ	Inlet: directly connected to 10A flexible pipe, Outlet: Rc 1/2 straight (with Inspection hole)	20 pcs
FV646AQ	Inlet: directly connected to 10A flexible pipe, Outlet: Rc 1/2 bent (with Inspection hole)	20 pcs
FV647AQ	Inlet: directly connected to 15A flexible pipe, Outlet: Rc 1/2 straight (with Inspection hole)	20 pcs
FV648AQ	Inlet: directly connected to 15A flexible pipe, Outlet: Rc 1/2 bent (with Inspection hole)	20 pcs
FV649AQ	Inlet: directly connected to 20A flexible pipe, Outlet: Rc 3/4 straight (with Inspection hole)	20 pcs

Flexible Hose Ball Gas Cock (Waterproof)

GB341PZ/343PZ/341Z/343Z

Product passed conformity test



• Specifications

Model	Specifications		Packaging Unit
GB341PZ	Ball	Rc 1/2 straight (with Inspection hole)	40 pcs
GB343PZ	Ball	Rc 1/2 bent (with Inspection hole)	40 pcs
GB341Z	Ball	Rc 1/2 straight	40 pcs
GB343Z	Ball	Rc 1/2 bent	40 pcs

Flexible Hose Gas Cock with Inspection Hole

YF-48K/YF-40K

Product passed conformity test



• Specifications

Model	Specifications	Packaging Unit
YF-48K	Rc 1/2 straight (with Inspection hole)	50 pcs
YF-40K	Rc 1/2 bent (with Inspection hole)	50 pcs

Flexible Hose Gas Cock

YBF-48C, YF-48Z, FV-141C, FB-15R

Product passed conformity test



• Specifications

Model	Specifications		Packaging Unit
FV-141C		Rc 1/2 straight	40 pcs
FV-143C		Rc 1/2 bent	40 pcs
G331N		Rc 1/2 straight	40 pcs
G333N		Rc 1/2 bent	40 pcs
YBF-48C	Ball	Rc 1/2 straight	50 pcs
YBF-40C	Ball	Rc 1/2 bent	50 pcs
YF-48Z		Rc 1/2 straight	50 pcs
YF-40Z		Rc 1/2 bent	50 pcs
FB-15R	Ball	Rc 1/2 straight	60 pcs
FB-15L	Ball	Rc 1/2 bent	60 pcs

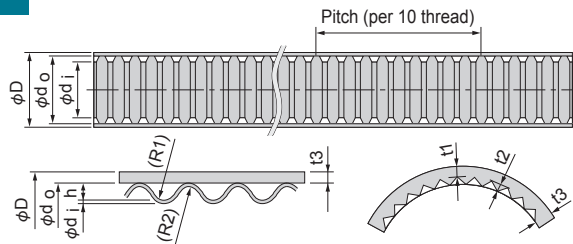
Hitachi Metals SOFLEX®

Stainless Steel Gas Flexible Pipe / Coupling (PUSH IMPACT®)

Flexible Pipe



Structure



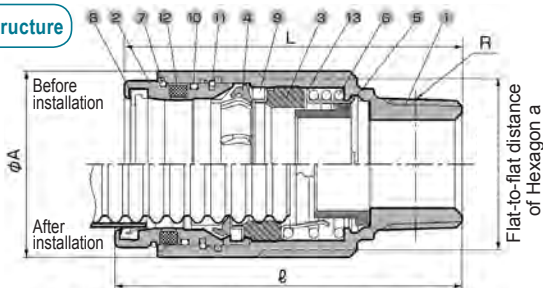
Model	Size
FV2	K10×30S-L 10A×30m
	K15×30S-L 15A×30m
	K20×30S-L 20A×30m
	K25×30S-L 25A×30m

* Covering color is beige

Size	Steel Strip Thickness	Original Pipe						Covering				Covered Pipe Outer Diameter (D)
		Outer Diameter (do)	Inner Diameter (di)	Pitch (P: 10 pitch)	Protrusion Height (Reference) (h)	Wave Shape (Reference) (R1)	(R2)	Covering (Indentation) Thickness / t1	Crest Height (Reference) t2	Covering Thickness (Reference) t3	Number of Crests (Reference)	
10A	0.20	14.2	11.5	34.0	1.15	0.7	1.00	0.60	0.15	0.75	40 protrusions	15.7
15A	0.20	18.4	15.0	38.0	1.50	0.7	1.10	0.60	0.15	0.75	50 protrusions	19.9
20A	0.20	24.2	20.8	42.0	1.50	0.8	1.20	0.60	0.15	0.75	65 protrusions	25.7
25A	0.25	30.8	25.0	60.0	2.65	1.1	1.60	0.60	0.15	0.75	80 protrusions	32.3

Coupling (Push Impact®)

Structure



1	Main Unit	8	Watertight Packing
2	Nut	9	Fireproof Packing
3	Packing	10	Watertight O Ring
4	Retainer	11	Stop Ring
5	Moving Flake	12	SUNMAP*
6	Spring	13	Spring Guide
7	Indicator		

(*) Name of Nitto Denko Co.

Dimensions

(Unit: mm)

Size	R	L	ℓ	φA	Flat-to-flat distance of Hexagon a
10A	1/2B	57	59	φ27	24
15A	1/2B	63	65	φ32	29
20A	3/4B	70	72	φ38	35
25A	3/4B	84	86	φ45	41
	1B	87	89	φ45	41

Equipped with a leak detection system that can detect gas leaks in the coupling when the pipe is damaged by nails into the flexible pipes or the like.

● One side thread socket



Model	Size
FIS 10-L	10A (1/2)
15-L	15A (1/2)
20-L	20A (3/4)
25-L	25A (3/4)
25×1-L	25A (1)

*Number in parentheses indicate male thread dimension

● One side threaded elbow joint



Model	Size
FIL 10-L	10A (1/2)
15-L	15A (1/2)

Number in parentheses indicate male thread dimension

● 2 side mechanical socket



Model	Size
FIW 10-L	10A
15-L	15A
20-L	20A
25-L	25A

● Branch joint



Model	Size	
FIT	10×10×10-L	10A×10A×10A
	10×10×15-L	10A×10A×15A
	15×10×10-L	15A×10A×10A
	15×15×10-L	15A×15A×10A
	15×15×15-L	15A×15A×15A
	20×10×10-L	20A×10A×10A
	20×10×20-L	20A×10A×20A
	20×15×15-L	20A×15A×15A
	20×20×10-L	20A×20A×10A
	20×20×15-L	20A×20A×15A
	20×20×20-L	20A×20A×20A
	25×20×10-L	25A×20A×10A
	25×25×10-L	25A×25A×10A
	25×20×20-L	25A×20A×20A
	25×25×20-L	25A×25A×20A

● Satellite Joint



Model	Size
FIST	10×10-L 10A×10A

● Additional Branch Joint



Model	Size
FIBT	10-L 10A

Parts

● Elbow Joint with Seat



● Pedestal Elbow Joint with Pedestal



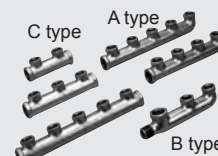
● Satellite Screw Joint



● Branch Screw Joint



● Header



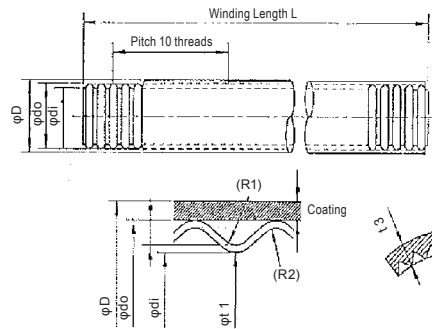
● K Type Branch Saddle



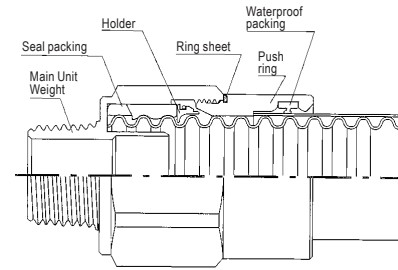
JFE Coupling

Flexible Pipe/Neo-Joint (Flexible Pipe Coupling)

LIA Flexible Pipe



Structural drawing of One-Touch Flexible Pipe Coupling



Size	Original Pipe				Covering				Covered Pipe		Part Number			
	Copper Strip Thickness t	Outer Diameter do	Inner Diameter di	Pitch (10 thread)	Radius (Reference) R1	Radius (Reference) R2	Crest Height (Reference) h	Film (Indentation) Thickness t1	Crest Height t2	Film Thickness (Reference) t3		Number of Crests	Outer Diameter D	Winding Length L(m)
10A	0.20±0.02	14.2 ^{+0.15} _{-0.25}	11.5±0.30	34.0±2.0	0.7	1.0	1.15	0.60-0.1	0.15-0	0.75	40	15.7 ^{+0.2} _{-0.4}	30.0-0	340301
15A	0.20±0.02	18.4 ^{+0.15} _{-0.25}	15.0±0.30	38.0±2.0	0.7	1.1	1.50	0.60-0.1	0.15-0	0.75	49	19.9 ^{+0.2} _{-0.4}	30.0-0	340302
20A	0.20±0.02	24.2±0.20	20.8±0.40	42.0±2.0	0.8	1.2	1.50	0.60-0.1	0.15-0	0.75	64	25.7 ^{+0.2} _{-0.4}	30.0-0	340303
25A	0.25±0.025	30.8±0.25	25.0±0.50	60.0±2.0	1.1	1.6	2.65	0.60-0.1	0.15-0	0.75	79	32.3 ^{+0.2} _{-0.4}	30.0-0	340304

Coupling (Neo-Joint)



Neo-LIA One-Sided Screw Socket

Part Number	Size
NFP-01	10A×1/2
NFP-01	15A×1/2
NFP-01	20A×3/4
NFP-01	25A×3/4
NFP-01	25A×1



Neo-LIA Branch Joint

Part Number	Size
NFP-02	10A×10A×10A
NFP-02	15A×10A×10A
NFP-02	15A×15A×15A



Neo-LIA Branch Screw Branch Joint

Part Number	Size
NFP-03	15A×1/2×15A
NFP-03	20A×1/2×20A
NFP-03	25A×1/2×25A

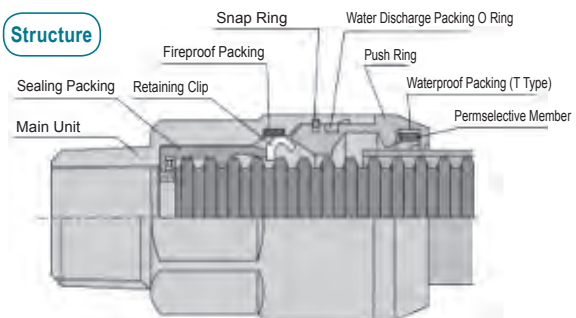


Neo-LIA Socket

Part Number	Size
NFP-04	10A
NFP-04	15A
NFP-04	20A
NFP-04	25A

[Structural drawing of Neo-Joint]

Structure



*Permeable material has air permeability as well as waterproof property. Thus, in case of unexpected nailing, it passes gas coming along an inner surface of coating and helps to find gas leakage due to nailing.

[Advantages of Neo-joint]

1. Sealing performance becomes more stable owing to root sealing of the flexible pipe.
2. Human error is suppressed due to stable construction quality.
3. Assembly is simpler and easier.



Neo-LIA L-type flexible

Part Number	Size
NFP-06	10A
NFP-06	15A

Parts

Header



Sleeve pipe (green)



Elbow joint with seat



Airtightness test cap



Half-saddle fixing bracket



Pipe cutter



Pipe cover



Coating peeler



Flexible pipe protective cover



Marking Tool for Neo



Mechanical Self-Recording Pressure Meter

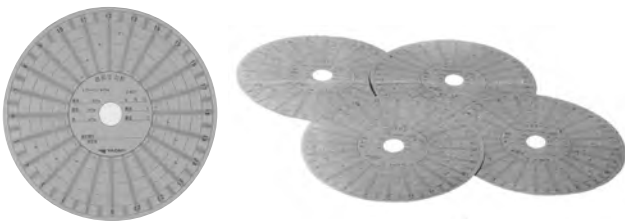
ER12-24M/Recording Chart



ER12-24M

Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

Recording Chart

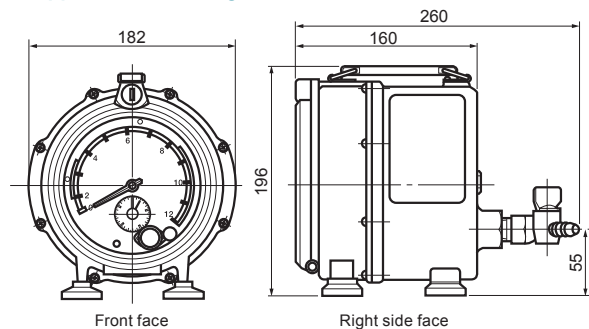


Specifications

Product / Model	Working Pressure	Connection	Main Unit Weight	Packaging Unit	
ER12-24M	For 24 minutes	1.5 to 12.0 kPa	3/8B Hose end	Approx. 3.3 kg	1 pcs
Accessory		Rubber pump, recording chart 1 box (100 pages), size C battery, portable case			

*Example for the low pressure airtightness test to check the conformity to specified criteria

Appearance Drawing

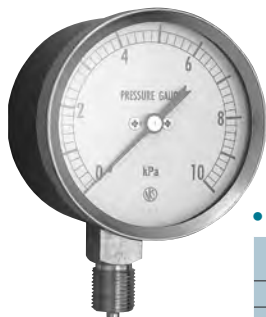


Recording Chart Specifications

Item	Minimum Scale	Packaging Unit
Recording Chart for ER12-24M	0.2 kPa	30 boxes (each 100 sheets)
Recording Chart for ER5-7D	0.2 kPa	30 boxes (each 10 sets)

Pressure Meter

Tasimeter/Pressure Meter



10 kPa

Tasimeter Specifications

Pressure	Size	Connection	Packaging Unit
10 kPa	75φ	G3/8 Male screw	1 pc
20 kPa			
50 kPa			



2.0 MPa

Pressure Meter Specifications

Pressure	Size	Connection	Packaging Unit
0.1 MPa	75φ	G 3/8 Male screw	1 pc
0.2 MPa			
0.3 MPa			
0.4 MPa			
0.6 MPa			
1.0 MPa			
1.5 MPa			
2.0 MPa			
2.5 MPa			
3.5 MPa			

*Use the meter with a scale equal to or less than 1.5 to 2 times of normal pressure (for high pressure) value.

Pressure Meter Spare Part

Siphon Pipe / Reducer (Joint Fitting)



I type



L type

Siphon Pipe Specifications

Item	Connection	Packaging Unit
I type siphon pipe	R 1/4, R 1/4	1 pc
L type siphon pipe	R 1/4, R 1/4	1 pc

This is a joint fitting for R 1/4 pipe connections.

Reducer (Joint Fitting) Specifications

Material	Gauge Side Connection	Pipe Side Connection	Packaging Unit
Brass-made	G 3/8	R 1/4	1 pc



G 3/8×R 1/4

Electric Diaphragm-type Self-Recording Pressure Meter

SAVER PRO II



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

Specifications

Model	GLT-SPLP1 (GLT-SPLP1-PC for PC transfer type)
Item	SAVER PRO II and SAVER PRO II PC transfer type
Product Item	Electric Diaphragm-Type Self-Recording Pressure Meter for LP Gas
Application	Airtightness/ leakage test and pressure measurement of regulators
Target Fluid	LP gas, air
Measurable Pressure Range	-0.5 to 10.0 kPa
Minimum Display Scale	0.01 kPa
Display	LCD Panel 128×64 resolution Reflective (Dark Gray) No Highlights
Pressurization Method	By manual rubber pump
Decompression Method	By manual valve
Power Supply	AA alkaline battery × 6
Operating Temperature	-10°C to +60°C
Operating Humidity	35 to 85% RH (without condensation)
Storage Temperature	-20°C to +60°C
Maximum Applied Pressure	19.6 kPa
External Dimensions	H153 × W183 × D40mm (without protrusion)
Weight	770 g or less (main unit only including batteries)

Accessory Dual-end quick coupling detection hose, AA alkaline battery × 6, Instruction manual, Guarantee card, User registration card, Manual rubber pump, SAVER PRO data management system (Note 1), PC connection cable (Note 1)

(Note 1) For operation check of recent personal computers, please contact to AIM TECH Co. Ltd.

Pressure Sensor Device

SAVER PRO Smart



Specifications

Model	GLT-SPL3
Product Item	Electric Diaphragm-Type Self-Recording Pressure Meter for LP Gas
Application	Airtightness / leakage test and pressure measurement of regulators
Target Fluid	LP gas, air
Measurable Pressure Range	-0.5 to 10.0 kPa
Minimum Display Scale	0.01 kPa (0.2 kPa in Chart mode)
Display	LCD with a white backlight, Power indicator, Red LED, Communication indicator, Green LED
Pressurization Method	By rubber pump
Decompression Method	By manual valve
Power Supply	Lithium ion polymer rechargeable battery: usable in a continuous: approx. 200 hours
Operating Temperature	-10°C to +40°C
Operating Humidity	35 to 85% RH (without condensation)
Storage Temperature	-20°C to +60°C
Maximum Applied Pressure	98.1 kPa
External Dimensions	W74×H146×D38 (mm)
Weight	420 g

Accessory

Dual-end quick coupling detection hose, rubber pump, dedicated battery charger, strap with hanging type hook, instruction manual, SAVER PRO data management system, guarantee card, user registration card

7-inch Screen Tablet

SAVER PRO Smart



Specifications

Model	Wi-Fi type (AIM-TAB-WB), 3G+Wi-Fi type (AIM-TAB-GB)
CPU	Samsung S5PC210 1.2GHz Dual Core
System Memory	1GB LPDDR2
Built-in Memory	16 GB eMMC
Battery	3.7 V 3,850 mAh lithium polymer battery, usable continuously approx. 5 hours
Main Unit Dimensions/ Weight	H199×W118.8×D10.4 (mm) / 330 g
LCD size	7 inches
Display Resolution	1,280×800 dots
Camera	Main: 8 million pixels (with flash), Sub: 2 million pixels
Interface	Micro USB, Head phone terminal, microSD card, Digital display output terminal (HDMI micro)
Wireless LAN	Wi-Fi 802.11 b/g/n
Bluetooth	Bluetooth 2.1 +EDR

Accessory USB (charging) Cable, AC Adapter (charging), LCD Display Protective Film (Applied by Customer)

*To use the Model 7-inch Screen Tablet 3G+Wi-Fi on 3G line, an agreement with a mobile carrier company is required.

Adapter Connection Plug

JG101C



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Model	Item	Packing Unit
JG101C	Hose gas cock connection plug	20 pcs

Hose Band Hose Band (clip type)



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Item	Standard	Packing Unit
Clip Type Hose Band	Inner diameter (free): less than 15.5 mm Inner diameter(maximum): less than 18.0 mm Knob length: 15 to 20 mm	2,000 pcs (100×20)

Airtight Gas Cock Cap GC95H/GC95C



For hose end

For socket

• Specifications

Item	Model	Packaging Unit
Airtight Gas Cock Cap for Hose End	GC95H	20 pcs
Airtight Gas Cock Cap for Socket	GC95C	20 pcs

Hose End Cap



Passed voluntary inspection of Japan LP Gas Appliances Inspection Association

• Specifications

Item	Packaging Unit
Hose End Cap	200 pcs

Gas Leak Inspection Spray Leak Checker



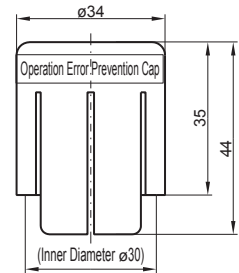
• Specifications

Item	Capacity	Target Gas	Packing Unit
Leak Checker	NET 360 ml	Carbon dioxide	40 pcs

Operation Error Prevention Cap Safety Cap



*Only compatible with Fujii Gokin gas cocks



• Specifications

Model	Dimensions	Packing Unit
CM-20Y	Outer diameter ø34 Inner diameter ø30	400 pcs (50×8)

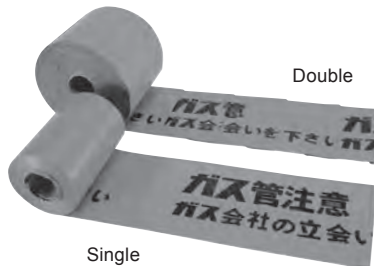
Gas Cock Cover



• Specifications

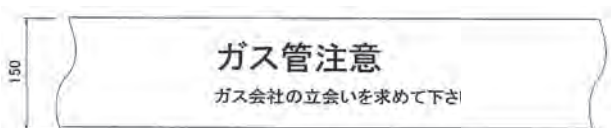
Item	Packaging Unit
Plastic Gas Cock Cover	50 pcs

Gas Pipe Caution Sheet



• Specifications

Item
Gas Pipe Caution Sheet Single
Gas Pipe Caution Sheet Double



Low Pressure LP Gas Electric Generator

EU9iGP/EU15iGP

Use LP gas to generate power in an emergency!

EU9iGP



EU15iGP



• Specifications

Model		EU9iGP	EU15iGP
Engine Displacement		57 cc	98.5 cc
Rated Output	AC	100 V - 900 VA	100 V - 1500 VA
	DC	12 V - 8A (Exclusively for charging 12V battery)	
Frequency		50/60 Hz	
Fuel		* い号 * LPG (low pressure)	
Operating Temperature Range		-15°C to 40°C	
Rated Gas Consumption		0.21 Nm ³ /h	0.33 Nm ³ /h
Dry Weight		13.4 kg	21.0 kg
External Dimensions		W451×D242×H379 (mm)	W512×D290×H425 (mm)
Noise Level		79 to 86 dB/L _{WA} (1/4 load to rated load)	82 to 91 dB/L _{WA} (1/4 load to rated load)
Parallel Operation		Yes	
Eco-Throttle		Yes	
Fuel Shutoff Mechanism		Automatic (Built-in Shutoff Valve)	
Manufactured by		Honda Motor Co., Ltd.	

Fuel Gas Supply Box

EU9iGP/EU15iGP Gas Supply Box



For EU9iGP, EU15iGP

This box fulfills the role of preventing CO poisoning accidents from indoor use, and is necessary to safely use low pressure LP Gas generators according to the LPG law.

• Specifications

Applicable		EU9iGP EU15iGP
Product Name		Gas Supply Box (for generator 5 m)
Container Box	External Dimensions	W302×H314×D141 mm (without protrusion)
	Box Color	Beige
Connection	Supply Side	R 1/2
	Generator Side	Quick coupling (complies with applicable LPG laws, outdoor)
Gas Hose	Total Length	4500 mm
	Hose Section	Inner diameter: 10±0.5 mm Outer diameter: less than 19 mm
Gas Cock Type		Flexible pipe ball gas cock with inspection hole

*Connection between Fuel Gas Supply Box and LP gas feeding pipe must be performed by a certified LP gas system specialist.

Various Options

*See the next page for EU9iGP/EU15iGP exclusive options.

Guidelines for Generator Use

Examples of Usable Electric Appliances



Fuel Gas Supply Box



LP gas is supplied by the gas supply box.

Rated Output
900va

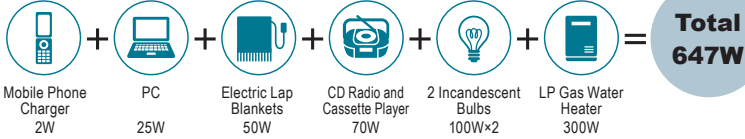
Operating Time
With a 50 kg cylinder
About **110 hours***

*Engine oil may need to be replenished.

EU9iGP

Households, shelters including civic halls

Can be used with household appliances such as lighting, mobile phone charging, personal computers, heating, and LP gas water heaters.



Fuel Gas Supply Box



LP gas is supplied by the gas supply box.

Rated Output
1500va

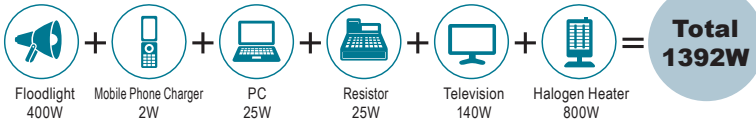
Operating Time
With a 50 kg cylinder
About **74 hours***

*Engine oil may need to be replenished.

EU15iGP

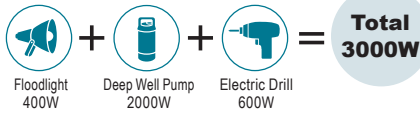
Companies, retail stores, public facilities, clinics, etc.

Can be used with electronic devices in companies and retail stores such as floodlights, heaters, PC, and commercial equipment.



Supports power generation up to 3000 W with 2 units operating in parallel

Can also be used with high power output electrical equipment



Low Pressure LP Gas Electric Generators

EU9iGP/EU15iGP Option

The following dedicated options are available for the low pressure LP gas generator EU9iGP/EU15iGP.

■ **Soundproof Box** Noise value and soundproof structure reduce noise level by 6 to 10 dB

■ **Storage Cover** Cover to protect the generator from water and dust while in storage



EU9iGP



EU15iGP



EU9iGP



EU15iGP

■ **Charge Cord**



Used for removing DC power supply.

■ **LP Gas Electric Generator Hose**



Inner diameter: 10±0.5 mm
Outer diameter: less than 19 mm

■ **Parallel Operation Cord**



EU9iGP

You can double the output by connecting two generators.



EU9iGP

■ **Engine Oil**

Before power generation, check the engine oil and refill as necessary.

Honda Genuine Ultra-U General-Purpose Oil (SAE 10W-30)



Connection example of 3000 VA by operating 2 units of EU15iGP in parallel.

Bulk Supply Systems / Vaporizers

- Bulk Storage Unit
- Vaporizer
- Automatic Changeover Equipment for Liquid Gas

Here we introduce a variety of equipment including bulk supply systems and vaporizer equipment.

Horizontal Bulk Storage Unit P.91



500AB

Vertical Bulk Storage Unit P.93



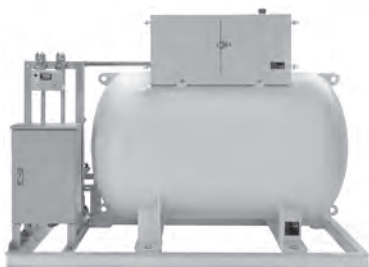
500BB

Thermally Insulated Bulk Storage Unit P.95



980AP

Disaster Protection Bulk Storage Unit P.96



YAK-300(K)

Electric Type Vaporizer P.97



VP-S30EC

VP-S100EC

Hot Water Circulation Type Vaporizer P.102



VP-S30W

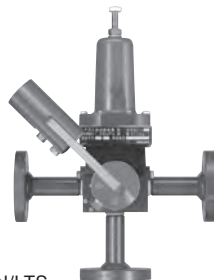
VP-S200WC

Gas Fired Consumption Vaporizer P.103



VP-S100GC

Automatic Changeover Equipment for Liquid Gas P.104



BAC-LTN/LTS

Optional Parts for Automatic Changeover Equipment for Liquid Gas P.105



Relay Panel

Exchange Units

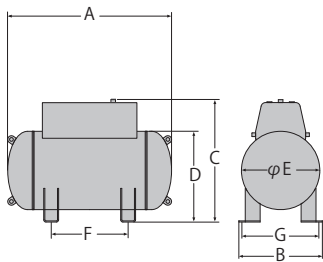
Horizontal Bulk Storage Unit
(with Standard Accessories)

150A-10/300AB/500AB/980AB

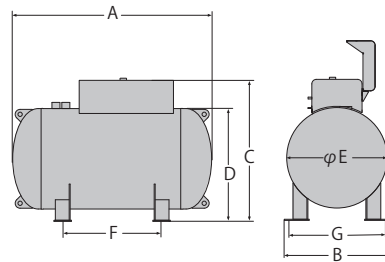
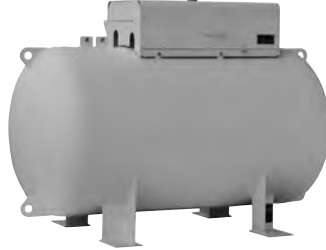
150A-10



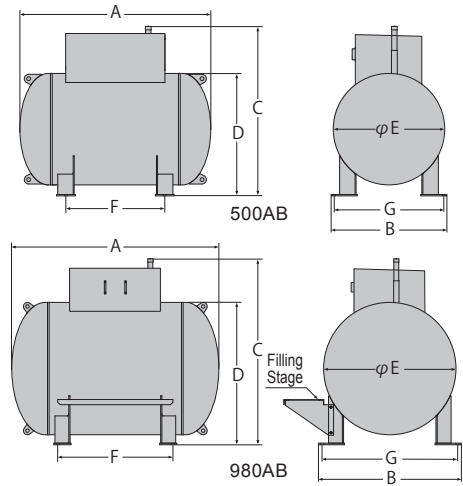
■ Dimension Drawing



300AB



500AB/980AB



■ Horizontal Type Outer Dimensions (Unit: mm)

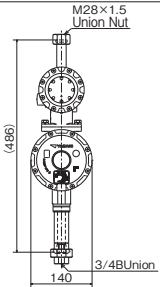
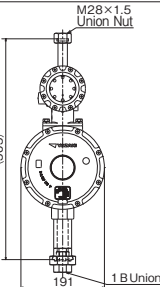
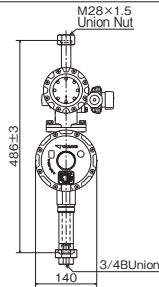
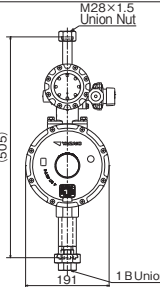
Model	Item	A (wide)	B (deep)	C ^(note) (height)	D	E	F	G
150A-10		1,320	670	986	731	631	620	620
300AB		1,610	850	1,159	913	813	800	800
500AB		1,740	1,050	1,545	1,116	1,016	900	1,000
980AB		2,068	1,425	1,855	1,421	1,321	1,150	1,350

(Note) Includes height of the Safety Valve Discharge Pipe.

■ Specifications (Unit: mm)

Item	Model	150A-10	300AB	500AB	980AB
Inner Volume		0.365 m ³	0.74 m ³	1.23 m ³	2.44 m ³
Design Temperature		40°C			
Design Pressure		1.8 MPa			
Pressure Resistance Test Pressure		2.7 MPa			
Airtightness Test Pressure		1.8 MPa			
Infill Weight		145 kg	295 kg	495 kg	980 kg
Bulk Storage Weight		Approx. 180 kg	Approx. 300 kg	Approx. 480 kg	Approx. 1,000 kg

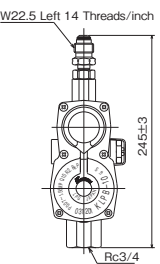
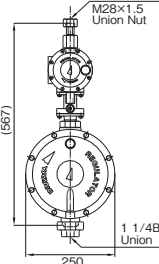
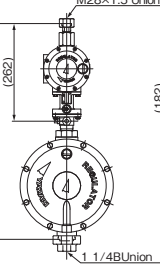
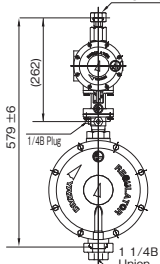
Horizontal/Vertical Bulk Storage Unit Horizontal/Vertical Bulk Storage Common Regulator

		■ Commercial Two Stage Pressure Reduction Integrated Regulator				■ For Apartment Bulk Use Parent-Child Type Pressure Regulator (Leak Detector)			
									
Model		RMLB20A	RMLB35A	RMLB20A-HL	RMLB35A-HL				
Capacity (kg/h)		20	35	20	35				
Inlet Connection		M28×1.5 Union							
Outlet Connection		20A Union	25A Union	20A Union	25A Union				
Regulated Pressure (kPa)		2.55 to 3.30							
Bulk Storage Unit Type		Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
Auxiliary Part Set	300 kg	A (K)		B (K)		T (K)	V (K)	C (K)	E (K)
	500 kg	S (K)		G (K)		U (K)	W (K)	H (K)	M (K)
	980 kg	—		G (K)		—	—	I (K), H (K) (Note)	X (K)

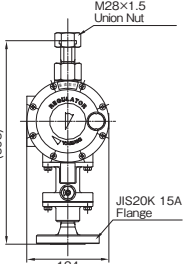
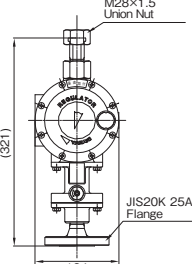
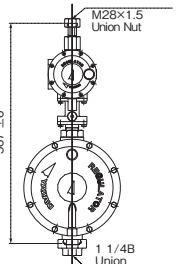
(Note) H(K): 500 AJ, 980 AJ.

Horizontal Bulk Storage Unit

Horizontal Bulk Storage Regulator

		■ Commercial Two Stage Pressure Reduction Integrated Regulator		■ For Apartment Bulk Use Parent-Child Type Pressure Regulator (Leak Detector)	
					
Model		KLPB-10PM	RMLBF-50	RMLBF-50HL (Note)	RMLBF-50HL(K)
Capacity (kg/h)		10	50	50	50
Inlet Connection		POL (W22.5 14 Threads)	M28×1.5 Union		
Outlet Connection		Rc 3/4	32A Union	32A Union	32A Union
Regulated Pressure (kPa)		2.55 to 3.30			
Auxiliary Part Set	150 kg	Auxiliary Part Set Q/R(K)	—	—	—
	300 kg	—	—	—	—
	500 kg	—	Auxiliary Part Set F(K)	—	Auxiliary Part Set J(K)
	980 kg	—	Auxiliary Part Set F(K)	Auxiliary Part Set J(K)	Auxiliary Part Set J(K)

(Note) For 980 AJ only

		■ For Forced Vaporization Dual Step Primary Regulator		■ For Power Bulk Dual Step Pressure Reduction Integrated Regulator		
						
Model		RMBCF-35A	RMBCF-50A	RMLBF-75(TH)		
Capacity (kg/h)		35	50	75		
Inlet Connection		M28×1.5 Union				
Outlet Connection		15A Flange	25A Flange	32A Union		
Regulated Pressure		0.057 to 0.083 (MPa)			2.55 to 3.30 (kPa)	
Auxiliary Part Set	500 kg	Auxiliary Part Set K (K)		Auxiliary Part Set K (K)		
	980 kg	—		Auxiliary Part Set F (K)		

Vertical Bulk Storage Unit
(with Standard Accessories)

150B-10/300BB/500BB/980BB

150B-10



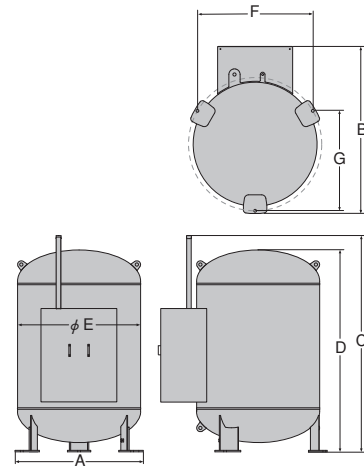
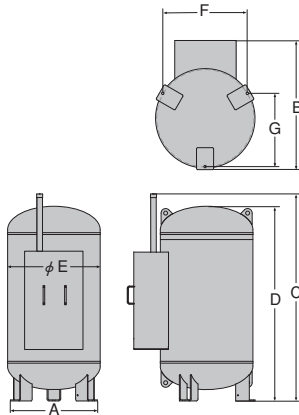
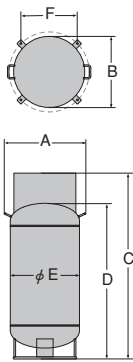
300BB



500BB/980BB



■ Dimension Drawing



■ Vertical External Dimensions

Model	Item	A ^(Note 1) (width)	B (depth)	C ^(Note 2) (height)	D	E	F	G
150B-10		727	631	1,698	1,420	631	502	502
300BB		885	1,172	1,818	1,710	813	779	675
500BB		1,064	1,438	1,942	1,840	1,016	953	825
980BB		1,374	1,818	2,338	2,168	1,321	1,230	1,065

(Note 1) Includes protector handles. (Note 2) Includes height of the Safety Valve Discharge Pipe.

■ Specifications

Item	Model	150B-10	300BB	500BB	980BB
Inner Volume		0.365 m ³	0.74 m ³	1.23 m ³	2.44 m ³
Design Temperature		40°C			
Design Pressure		1.8 MPa			
Pressure Resistance Test Pressure		2.7 MPa			
Airtightness Test Pressure		1.8 MPa			
Infill Weight		145 kg	295 kg	495 kg	980 kg
Bulk Storage Weight		Approx. 150 kg	Approx. 300 kg	Approx. 470 kg	Approx. 1,000 kg

Vertical Bulk Storage Unit

Vertical Bulk Storage Regulator Unit

*See "Vertical/Horizontal Bulk Storage Unit" on page 92 for 20 kg/h and 35 kg/h commercial use and apartment use units.

Commercial Two Stage Pressure Reduction Integrated Regulator

Model	KLPB-10PM	RMLBF-50(V)
Capacity (kg/h)	10	50
Inlet Connection	POL (W22.5 14 Threads)	M28x1.5 Union
Outlet Connection	Rc 3/4	32A Union
Regulated Pressure (kPa)	2.55 to 3.30	
Auxiliary Part Set	150 kg	Auxiliary Part Set Q/R (K)
	300 kg	—
	500 kg	Auxiliary Part Set N(K)
	980 kg	Auxiliary Part Set N(K)

For Apartment Bulk Use Parent-Child Type Pressure Regulator (Leak Detector)

For Forced Vaporization Dual Step Primary Regulator

Model	RMLBF-50HLV(K)	RMBCF-35A(V)	RMBCF-50A(V)	
Capacity (kg/h)	50	35	50	
Inlet Connection	M28x1.5 Union	M28x1.5 Union		
Outlet Connection	32A Union	15A Flange	25A Flange	
Regulated Pressure	2.55 to 3.30 (kPa)	0.057 to 0.083 (MPa)		
Auxiliary Part Set	300 kg	—	—	
	500 kg	Auxiliary Part Set O (K)	Auxiliary Part Set P (K)	Auxiliary Part Set P (K)
	980 kg	Auxiliary Part Set O (K)	Auxiliary Part Set P (K)	Auxiliary Part Set P (K)

For Power Bulk

Dual Step Primary Regulator

Dual Step Secondary Regulator (Commercial)

Leak Detector (for Apartment)

Model	RMBCF-50A	RL-50A-II(TH)	RL-50HL-II(TH)
Capacity (kg/h)	50	50	50
Inlet Connection	M28x1.5 Union	JIS20K 25A Flange	JIS20K 25A Flange
Outlet Connection	JIS20K 25A Flange	32A Union	32A Union
Regulated Pressure	0.057 to 0.083 (MPa)	2.30 to 3.30 (kPa)	2.55 to 3.30 (kPa)
Auxiliary Part Set	Mid-Pressure Pipe Set	Auxiliary Part Set 50THV	Auxiliary Part Set 50THV(HL)

Thermally Insulated Bulk Storage Unit
(Power Bulk)

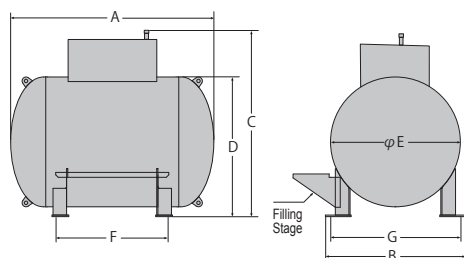
980AP/1000GV

980AP



980AP

Dimension Drawing



(Note) The Filling Stage comes equipped standard.

980AP External Dimensions (Unit: mm)

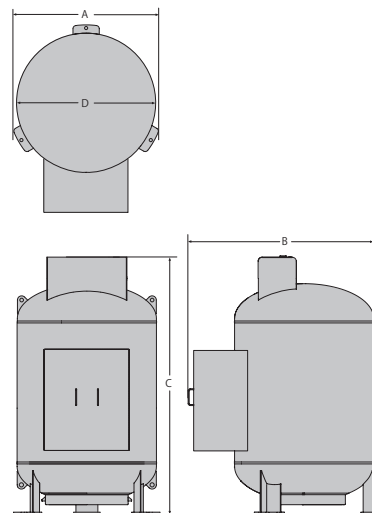
A (width)	B (depth)	C (height)	D (outer diameter)	E	F	G
2,057	1,425	1,813	1,441	1,321	1,150	1,350

1000GV



BU-1000GV(KK)

Dimension Drawing



(Note) The Maintenance Step is optional.

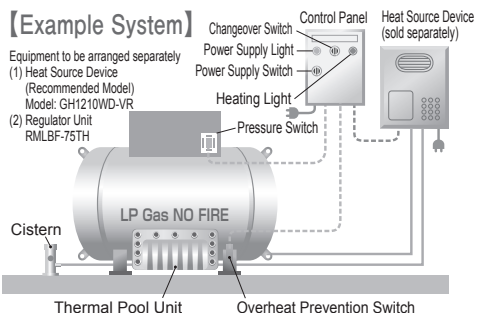
BU-1000GV(KK) External Dimensions (Unit: mm)

A (width)	B (depth)	C (height)	D (outer diameter)
1,374	1,764	2,450	1,321

Power Bulk (Hot Water Circulation Type) Principle

This system circulates water that is heated in the external boiler in order to indirectly heat and evaporate gas in the bulk storage unit. It is required auxiliary equipment for the heat source equipment, but the electrical equipment is for boilers and pumps and has a smaller capacity than the electric type. It also has a structure with no LP gas high pressure gas pipes.

- Applicable Models
 - 1t Horizontal Power Bulk
 - 1t Vertical Power Bulk



Specifications

Product Name		Horizontal Power Bulk Storage Unit	Vertical Power Bulk Storage Unit
Gas Generation Capacity		50 kg/h (-10°C)	30 kg/h (-10°C)
Installation Temperature Range		-10°C to 40°C	
Thermal Pool	Hot Water Circulation	8 L/min to 12 L/min	8 L/min to 10 L/min
	Inlet Temperature	60°C (Standard)	
	Heat Media Water Amount	45 L	30 L
	Overheat Prevention Switch Operating Temperature	Run: lower than 35°C	Run: lower than 34.5°C
		Stop: 37°C	Stop: 37.5°C
	Heat Media	Propylene Glycol Brine	
	Hot Water Piping Connection Diameter	Forward: Rc 1/2	Return: Rc 1/2
Weight	Approx. 18 kg	Approx. 15 kg	
Control Panel	Power Supply voltage	AC 100 V (50 Hz/60 Hz)	
	External Dimensions	Width	250 mm
		Depth	120 mm
		Height	300 mm
Weight	Approx. 6 kg		
Pressure Switch	Setting	ON: Summer: 0.5 MPa - Winter: 0.4 MPa	0.35 MPa
	Pressure (Note)	OFF: Summer: 0.6 MPa - Winter: 0.5 MPa	0.45 MPa
Cistern	Heat Media Water Amount	5 L	
	External Dimensions	Width	255 mm
		Depth	155 mm
		Height	535 mm
Weight	Approx. 8 kg		

(Note) Set pressure can be switched manually (summer/winter).

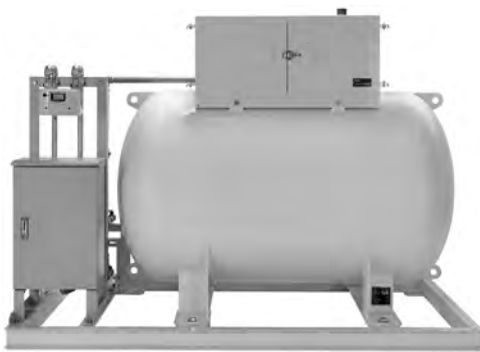
Disaster Protection Bulk Storage Unit

YZK300/500/1000/3000

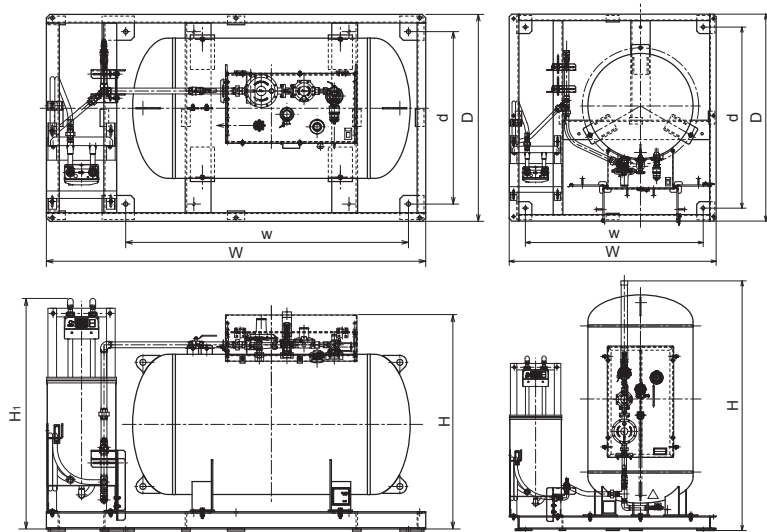
- 1 Normally, LP gas is used for cooking, heating water, and heating rooms.
- 2 It can also facilitate regional activities such as disaster drills.
- 3 When a disaster occurs, it can be used to cook food during evacuation.

This bulk storage unit is useful normally, but also in the event of a disaster. There are both horizontal models and vertical models.

■ Dimension Drawing



Horizontal YZK-300(K)



■ Horizontal External Dimensions (Unit: mm)

Model	Item	Bulk Base Dimensions (mm)		Unit Height (mm)	Anchor Pitch (mm)		Bulk Storage Unit		Comments
		W	D	H (H ₁)	w	d	Inner Volume (L)	Maximum Stockpile (kg)	
YZK-300 (K)		2200	1200	1271	1640	1000	740	295	Gas cock: 3 pcs
YZK-500 (K)				1657			1230	495	
YZK-1000 (K)				1967			2440	980	
YZK-300 (K)C*		2200	1200	1349 (H ₁)	1640	1000	740	295	Gas cock: 5 pcs
YZK-500 (K)C*				1657			1230	495	
YZK-1000 (K)C*				1967			2440	980	
YZK-3000 (K)*		3650	2250	2210	2995	1920	7000	2800	Gas cock: 5 pcs
YZK-1000 (K)-PB*		2500	1550	1967	1940	1350	2440	980	Gas cock: 5 pcs

*Eligible for subsidies

■ Vertical External Dimensions (Unit: mm)

YZK-300 (K)V*	1600	1600	1930	1375	1400	740	295	Gas cock: 5 pcs
YZK-500 (K)V*			2504			1230	495	
YZK-1000 (K)V*	1900	2000	2449	1675	1800	2440	980	

*Eligible for subsidies

Gas Cock Box Unit

GVBU-S-7, GVBU-B-11



(outside view)

GVBU-B-11



(view inside box)

This unit is used for dividing gas pipes in the box.

■ Specifications

Model	Item	Cylinder Support Unit Dimensions (mm)			Anchor Pitch (mm)	
		Width	Depth	Height	Width	Depth
GVBU-S-7		390	500	1,037	340	410
		Two inlet socket type gas cock with fuse x 3 = 6 inlets (standard) Additional inlet x 1 (Gas cock, up to 8 inlets)				
		15A flexible hose gas cock x 1 *Special connection to low pressure LP gas electric generator (EU9iGP)				
GVBU-B-11		390	500	1,237	340	410
		Two inlet socket type gas cock with fuse x 5 = 10 inlets (standard)				
		15A flexible hose gas cock x 1 *Special connection to low pressure LP gas electric generator (EU9iGP)				

Vaporizers

Realizes a stable supply of LP gas

We have prepared 3 heat source Vaporizers, to suit your needs for installation location.

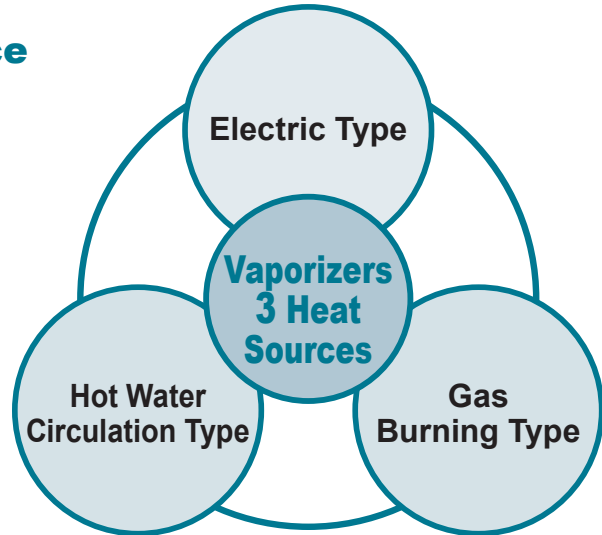
Vaporizers are forced evaporation devices from YAZAKI, your LP gas equipment manufacturer.

They are used by many customers, who choose them based on our sophisticated technology and high reliability, backed by a long record of performance.

We offer 4 types of Vaporizers with different heat sources.

Choose the right one for you according to the purpose of use, scale, and installation environment.

We offer rapid support for everything from maintenance to troubles during an emergency with our service system deeply rooted in the community. We deliver peace of mind.

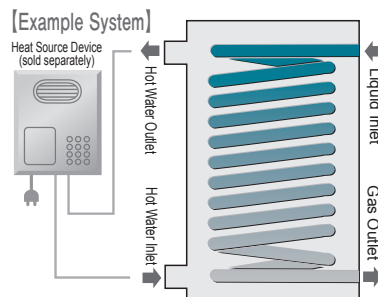


Vaporizer Heat Sources and Principles

Here we introduce the principles and mechanisms behind the 3 Vaporizer heating systems. Check the advantages of each before deciding which one to install.

Hot Water Circulation Type

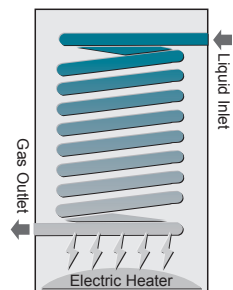
Circulates warm water that was heated with an external heat source in order to evaporate gas. It is required auxiliary equipment for the heat source equipment, but the electrical equipment is for boilers and pumps and has a smaller capacity than the electric type.



- Applicable Models
- VP-S30W
- VP-S200WC
- VP-S300WC

Electric Type

Uses an electric heater to make warm water and evaporate the gas with this water. Uses electricity, so it is easy to control and can offer a stable supply.



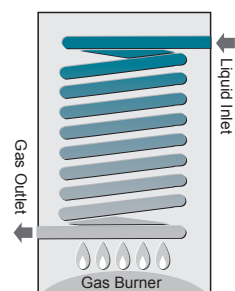
- Applicable Models

- VP-S30EC
- VP-S50EC
- VP-S100EC
- VP-S150EC
- VP-200EC

*VP-S30EC heats metal with an electric heater to evaporate water.

Gas Burning Type

Uses a burner to make warm water and evaporate the gas with this water. Uses LP gas, so it does not require auxiliary equipment such as a boiler, and the electrical equipment has a smaller capacity than the electric type.



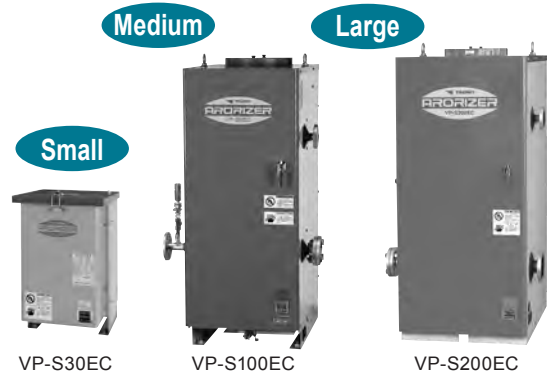
- Applicable Models

- VP-S100GC
- VP-S200GC

Electric Arorizer

Small/Medium/Large Vaporizers

Electric Type Consumer Model Vaporizers include a selection of products to match your purpose (capacity), from small (30 kg/h) to large (200 kg/h).



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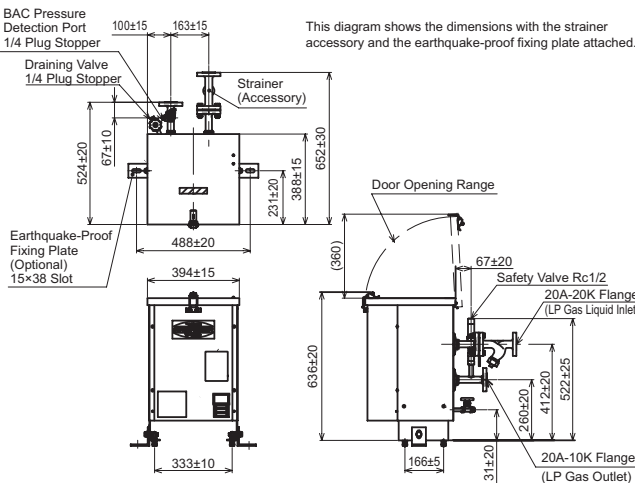
Small Vaporizer

VP-S30EC



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Dimension Drawing



VP-S30EC Specifications

Model		VP-S30EC
Nominal Vaporizing Capability		30 kg/h
Target Gas		"L" LPG
Design Pressure	Primary Pressurizing Part	1.8 MPa
	Secondary Pressurizing Part	0.8 MPa
Pressure Tightness Test Pressure	Primary Pressurizing Part	2.7 MPa
	Secondary Pressurizing Part	2.6 MPa (vaporizing chamber 1.2 MPa)
Airtightness Test Pressure	Primary Pressurizing Part	1.8 MPa
	Secondary Pressurizing Part	0.8 MPa
Heat Source	Type	Electric heater
	Electric Heating Capacity	4.2 kW (1.4 kW×3)
	Power Supply	Three phase AC 200 V
	Rated Current	12.1 A
Applicable Pressure Range		0.2 to 1.56 MPa
Vaporization Pressure Regulation Valve Setting		0.15±0.01 MPa (set at primary pressure 1.0 MPa)
Heat Media (Aluminium) Temperature Control Range		40 to 60°C (thermometer reading value)
Preset Temperature of Overheat Prevention Switch		70°C
Safety Valve Pressure Setting		0.77 MPa
Gas Piping Connection Diameter	Liquid Inlet	20A-20K Flange
	Gas Outlet	20A-10K Flange
	Safety Valve Release Hole	Rc 1/2
External Dimensions	Width	394±15 mm
	Height	610±25 mm
	Depth	652±30 mm (including strainer)
Exterior color (Munsell color number)		Top: Munsell 5BG4/6 Front/sides/rear/bottom: Munsell 5Y7/1
Rough Product Weight		53 kg
Accessory	Strainer	20K-20A Flange model 150 mesh×1, M12 Hexagon bolt (L=55 mm), Hexagon nut, spring washer ×4
	Antiseismic Clamping Plate	L-shape hot dip galvanizing plate×2, M12 Hexagon bolt (L=35 mm), flat washer, spring washer ×2
	Rain Cap	1 pc (for safety valve release pipe)

Optional Parts

YC Cable Set



YC Cable Set for heater

	Heater cable (length: 15 m)	Connector Type
VP-S30ES	YC600V-CVSVZ 3×2 mm ²	SEGC20SφV2

Medium Vaporizer

VP-S50EC, VP-S100EC

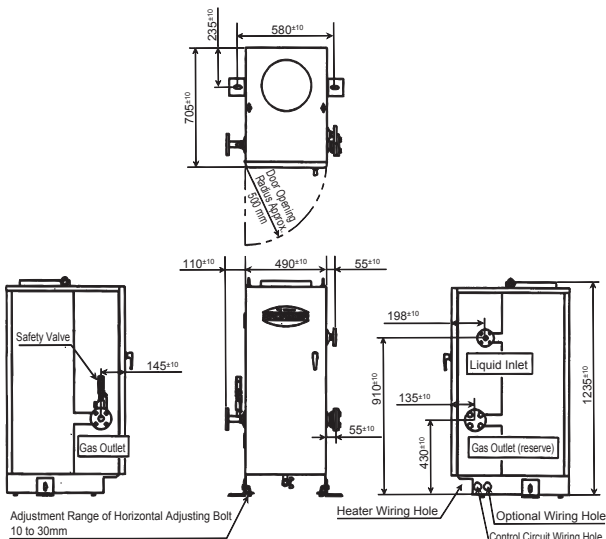


VP-S50EC

VP-S100EC

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Dimension Drawing



Optional Parts

YC Cable Set



Heater Cable

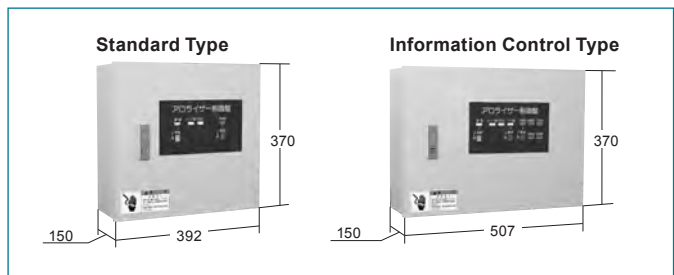


Control Cable

VP-S50EC/VP-S100EC Specifications

Model		VP-S50EC	VP-S100EC
Nominal Vaporizing Capability		50 (kg/h)	100 (kg/h)
Vaporizing Method		Instantaneous Vaporization	
Heat Source		Electric Type	
Applicable Pressure Range		0.15 to 1.56 MPa	
Design Pressure	Primary Pressurizing Part	1.8 MPa	
	Secondary Pressurizing Part	1.0 MPa	
Pressure Resistance Test Pressure	Primary Pressurizing Part	2.7 MPa	
	Secondary Pressurizing Part	2.6 MPa (vaporization pressure regulation valve diaphragm chamber: 1.5 MPa)	
Airtightness Test Pressure	Primary Pressurizing Part	2.0 MPa	
	Secondary Pressurizing Part	1.1 MPa	
Electric Heating Capacity		7 kW	14 kW
Power Supply voltage		Three phase AC 200 V	
Rated Current		20.2A	40.4A
Safety Valve Pressure Setting		0.96 MPa	
Liquid Outflow Prevention Method		Heat media temperature detection method	
Vaporization Pressure Regulation Valve Pressure Setting		0.15±0.01 MPa	
Heated Water Temperature Control Range	Main Thermo Switch	60 to 75°C	
	Overheat Prevention Switch	80 to 95°C	
Connection Diameter	Liquid Inlet	JIS 20K-20A Flange	
	Gas Outlet	JIS 10K-25A Flange	
External Dimensions	Width	490 mm	
	Height	1235 mm	
	Depth	705 mm	
Exterior color (Munsell color number)		Front/top: Munsell 5PB4/2 Sides/rear: Munsell 5Y7/1	
Rough Product Weight		153 kg	
Rough Water Volume		140 L	
Rough Running Weight		275 kg	
Pressure Regulator (attachment)	Design Pressure	Inlet Side	1.0 MPa
	Pressure Resistance Test Pressure	Outlet Side	0.18 MPa
Rated Flow Rate	Inlet Pressure Range	0.09 MPa to 1.0 MPa	
	Pressure Regulator Pressure Setting	Typ. 0.06 MPa	
Connection Diameter	Inlet Side	JIS 10K-25A Flange	
	Outlet Side	JIS 10K-25A Flange	
Spacing Dimension		385 mm	
Note		Target Gas: LP gas	

Control Panel



YC Cable Set for Heater

*Standard length is 15 m

Model		VP-S50EC	VP-S100EC
Cable	Part Name	YC Cable (YC600V-CVSZV)	
	Size	3 cores x 5.5 mm ²	3 cores x 14 mm ²
	Overall Outer Diameter	φ23.4	φ28.2
Connector	Heater Side	YCC-No.5	SEGC30-18-M
	Control Panel Side	YCV-No. 1	YCV-No. 2

YC Cable Set for Controls

*Standard length is 15 m

Model		VP-S50EC (Standard type)	VP-S50EC (Information control type)	VP-S100EC (Standard type)	VP-S100EC (Information control type)
Cable	Part Name	YC Cable for Instrumentation (VVSZV)			
	Size	4 cores x 0.75 mm ²	6 cores x 0.75 mm ²	4 cores x 0.75 mm ²	6 cores x 0.75 mm ²
	Overall Outer Diameter	φ21.2	φ21.2	φ21.2	φ21.2
Connector	Heater Side	None	YCV-No. 5	None	YCV-No. 5
	Control Panel Side	None	YCV-No. 5	None	YCV-No. 5

Large Vaporizer

VP-S150EC, VP-S200EC



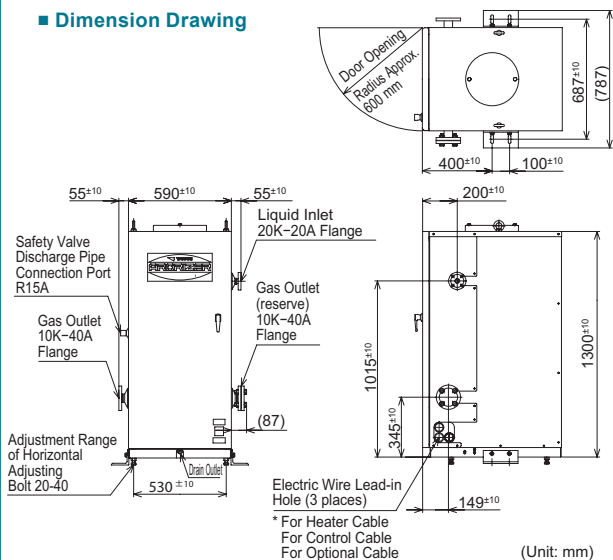
VP-S150EC



VP-S200EC

Certified as LP gas bulk supply auxiliary equipment

Dimension Drawing



Optional Parts

YC Cable Set



Heater Cable

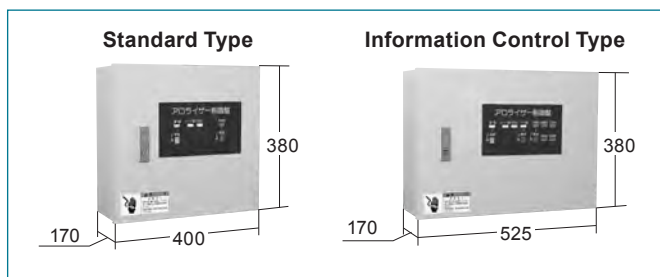


Control Cable

VP-S50EC/VP-S100EC Specifications

Model		VP-S150EC	VP-S200EC
Nominal Vaporizing Capability		150 (kg/h)	200 (kg/h)
Vaporizing Method		Instantaneous Vaporization	
Heat Source		Electric Type	
Applicable Pressure Range		0.2 to 1.56 MPa	
Design Pressure	Primary Pressurizing Part	1.8 MPa	
	Secondary Pressurizing Part	1.0 MPa	
Pressure Resistance Test Pressure	Primary Pressurizing Part	2.7 MPa	
	Secondary Pressurizing Part	2.6 MPa (vaporization pressure regulation valve diaphragm chamber: 1.5 MPa)	
Airtightness Test Pressure	Primary Pressurizing Part	2.0 MPa	
	Secondary Pressurizing Part	1.1 MPa	
Electric Heating Capacity		21 kW	28 kW
Power Supply voltage		Three phase AC 200 V	
Rated Current		60.6A	80.8A
Safety Valve Pressure Setting		0.96 MPa	
Liquid Outflow Prevention Method		Heat media temperature detection method	
Vaporization Pressure Regulation Valve Pressure Setting		0.16±0.01 MPa	
Heated Water Temperature Control Range	Main Thermo Switch	60°C to 75°C	
	Overheat Prevention Switch	80°C to 95°C	
Connection Diameter	Liquid Inlet	JIS 20K-20A Flange	
	Gas Outlet	JIS 10K-40A Flange	
External Dimensions	Width	590 mm	
	Height	1300 mm	
	Depth	800 mm	
Exterior Color (Munsell color number)		Front/Top: Munsell 5PB4/2 Sides/Rear: Munsell 5Y7/1	
Rough Product Weight		220 kg	225 kg
Rough Water Volume		225 L	
Rough Running Weight		445 kg	450 kg
Pressure Regulator (attachment)	Design Pressure	Inlet Side	1.0 MPa
	Pressure Resistance Test Pressure	Outlet Side	0.18 MPa
		Inlet Side	1.5 MPa
		Outlet Side	0.80 MPa
Rated Flow Rate		200 kg/h	
Inlet Pressure Range		0.09 to 1.0 MPa	
Pressure Regulator Pressure Setting		Typ. 0.06 MPa	
Connection Diameter	Inlet Side	JIS 10K-40A Flange	
	Outlet Side	JIS 10K-40A Flange	
Spacing Dimension		385 mm	
Note		Target Gas: LP gas	

Control Panel



YC Cable Set for Heater

*Standard length is 15 m

Model		VP-S150EC	VP-S200EC
Cable	Part Name	YC Cable (YC600V-CVSZV)	
	Size	3 cores×14 mm ²	3 cores×22 mm ²
	Overall Outer Diameter	φ28.2	φ30.3
Connector	Heater Side	SEGC30-18-M	SEGC40-21-S
	Control Panel Side	YCV-No. 2	YCV-No. 6

YC Cable Set for Controls

*Standard length is 15 m

Model		VP-S150EC (Standard Type)	VP-S150EC (Information Control Type)	VP-S200EC (Standard Type)	VP-S200EC (Information Control Type)
Part Name		YC Cable for Instrumentation (VVSZV)			
Cable	Size	4 cores × 0.75 mm ²	6 cores × 0.75 mm ²	4 cores × 0.75 mm ²	6 cores × 0.75 mm ²
	Overall Outer Diameter	φ21.2	φ21.2	φ21.2	φ21.2
Connector	Heater Side	None	YCV-No. 5	None	YCV-No. 5
	Control Panel Side	None	YCV-No. 5	None	YCV-No. 5

Medium Size Electric Type Vaporizer Optional Parts

Temperature Sensor



■ Specifications

Operating Temperature ON	60±2°C
Operating Temperature OFF	(63.5°C)
Rated Voltage	DC 24 V
Rated Current	0.01 to 0.05 A
Accessory	Protection tube assembly×1, Explosion-proof terminal block×1 Intermediate wire×2, M4 screw (L=45)×2 M3 screw (L=10)×3, M4 Spring washer×2 Rubber stopper×1, Grommet×1

Large Size Electric Type Vaporizer Optional Parts

Temperature Sensor



■ Specifications

Operating Temperature ON	60±2°C
Operating Temperature OFF	(63.5°C)
Rated Voltage	DC 24 V
Rated Current	0.01 to 0.05 A
Accessory	Protection tube assembly×1, Explosion-proof terminal block×1 Intermediate wire×2, Temperature sensor fixing plate×1 M4 screw (L=20)×2, M4 screw (L=10)×2 M3 screw (L=10)×3, M4 Spring washer×4 Rubber stopper×1, Grommet×1

Medium/Large Vaporizer Optional Parts

Pressure Switch for Switching Signal



■ Specifications

Rating	AC250/125V5/10A, DC100/24V1/5A
Typical working pressure	0.12 MPa (value for pressure reduction working)
Differential	0.01 MPa
Working Pressure Adjustment Range	0.12 to 0.07 MPa
Liquid	LPG
Normal Temperature	-20°C to +50°C
Normal Pressure	0 to 1.56 MPa
Pressure Resistance	2.6 MPa
Accessory	1/4 High-pressure joint×1, 1/4 Nipple×2 1/4 Stop valve×1

Hot Water Circulation Type Vaporizer

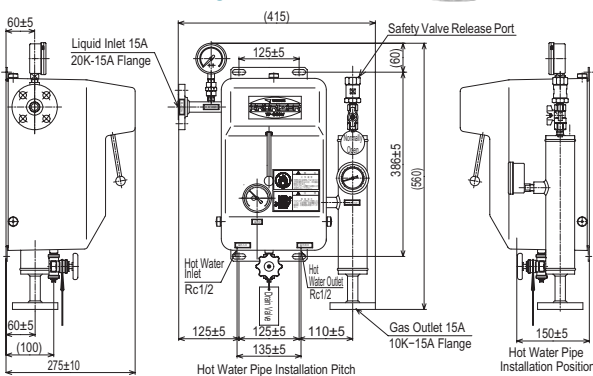
VP-S30W



• VP-S30W Specifications

Model		VP-S30W
Nominal Vaporizing Capability		30 (kg/h)
Target Gas		"い" LPG
Heat Source		Hot Water Circulation Type
Applicable Pressure Range		0.2 to 1.56 MPa
Design Pressure	Primary Pressurizing Part	1.8 MPa
	Secondary Pressurizing Part	1.0 MPa
Pressure Resistance Test Pressure	Primary Pressurizing Part	2.7 MPa
	Secondary Pressurizing Part	2.6 MPa (vaporization pressure regulation valve diaphragm chamber: 1.5 MPa)
Airtightness Test Pressure	Primary Pressurizing Part	1.8 MPa
	Secondary Pressurizing Part	1.0 MPa
Safety Valve Pressure Setting		0.96 MPa
Liquid Outflow Prevention Method		Heat Media Temperature Detection Method
Vaporization Pressure Regulation Valve Pressure Setting		0.15±0.04 MPa
Liquid Outflow Prevention Device Operating Temperature		25 to 45°C
Maximum Water Head Pressure		0.10 MPa
Hot Water	Heat Requirement	4 kW
	Required Hot Water Circulation Amount	7 to 15 L/min
Inlet Heat Media (Hot Water) Temperature Range		55°C to 70°C
Connection Diameter	Liquid Inlet	15A (JIS20K Flange Equivalent)
	Gas Outlet	15A (JIS10K Flange Equivalent)
Hot water (heat media water) inlet/outlet		Rc 1/2 (15A female screw)
External Dimensions	Width	415 mm
	Height	560 mm
	Depth	275 mm
Rough Product Weight		25 kg
Rough Water Volume		2 L
Note		Dual Step Primary Regulator is not bundled.

■ Dimension Drawing



Hot Water Circulation Type Vaporizer

VP-S200WC, VP-S300WC



VP-S200WC

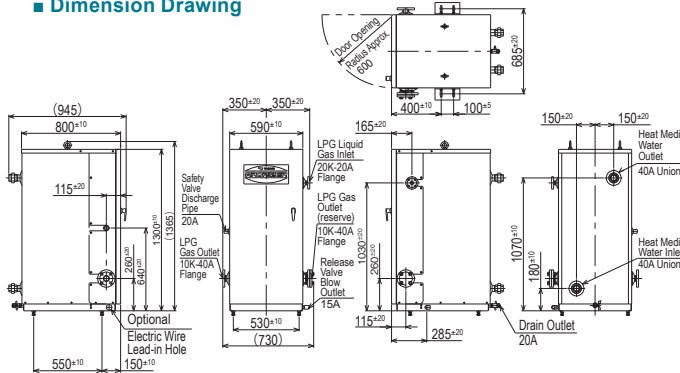


VP-S300WC

• VP-S200WC, VP-S300WC Specifications

Model		VP-S200WC	VP-S300WC
Nominal Vaporizing Capability		200 (kg/h)	300 (kg/h)
Vaporizing Method		Instantaneous Vaporization	
Heat Source		Hot Water Circulation Type	
Applicable Pressure Range		0.2 to 1.56 MPa	
Design Pressure	Primary Pressurizing Part	1.8 MPa	
	Secondary Pressurizing Part	1.0 MPa	
Pressure Resistance Test Pressure	Primary Pressurizing Part	2.7 MPa	
	Secondary Pressurizing Part	2.6 MPa (vaporization pressure regulation valve diaphragm chamber: 1.5 MPa)	
Airtightness Test Pressure	Primary Pressurizing Part	2.0 MPa	
	Secondary Pressurizing Part	1.1 MPa	
Hot Water	Heat Requirement	30 kW	45 kW
	Required Hot Water Circulation Amount	60 to 110 L/min	
	Maximum Water Head Pressure	0.15 MPa	
Safety Valve Pressure Setting		0.96 MPa	
Liquid Outflow Prevention Method		Heat media temperature detection method	
Vaporization Pressure Regulation Valve Pressure Setting		0.16±0.035 MPa	
Connection Diameter	Liquid Inlet	JIS 20K-20A Flange	
	Gas Outlet	JIS 10K-40A Flange	
External Dimensions	Width	590 mm	
	Height	1300 mm	
	Depth	800 mm	
Exterior color (Munsell color number)		Front/Top: Munsell 5PB4/2 Sides/Rear: Munsell 5Y7/1	
Rough Product Weight		280 kg	300 kg
Rough Water Volume		180 L	175 L
Rough Running Weight		460 kg	475 kg
Design Pressure	Inlet Side	1.8 MPa	
	Outlet Side	1.0 MPa	
Pressure Resistance Test Pressure	Inlet Side	1.5 MPa	
	Outlet Side	0.8 MPa	
Rated Flow Rate		200 kg/h	300 kg/h
Inlet Pressure Range		0.09 to 1.0 MPa	
Pressure Regulator Pressure Setting		Standard 0.06 MPa	
Connection Diameter	Inlet Side	JIS 10K-40A Flange	
	Outlet Side	JIS 10K-40A Flange	
Spacing Dimension		385 mm	500 mm
Note		Target Gas: LP gas	

■ Dimension Drawing



Gas Burning Type Consumption Vaporizer

VP-S100GC, VP-S200GC



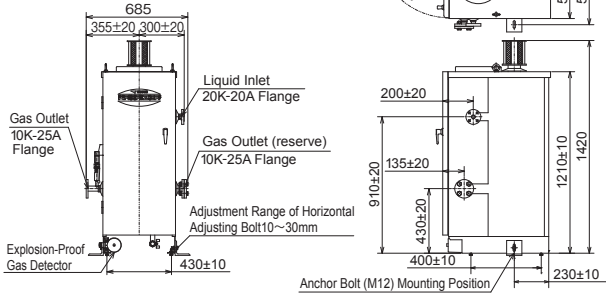
VP-S100GC

VP-S200GC

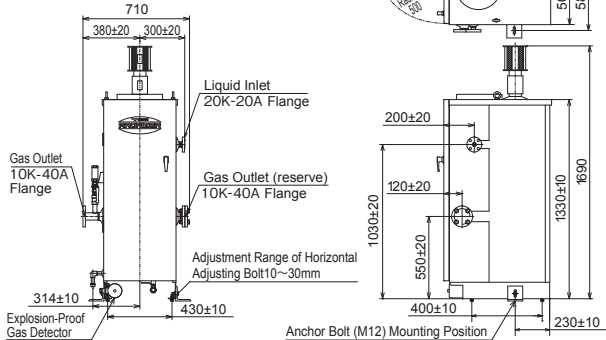
Note) This product is not a "liquefied petroleum bulk supply auxiliary equipment type certified product".

Dimension Drawing

VP-S100GC



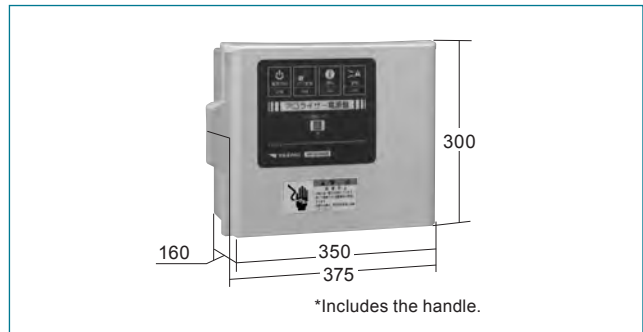
VP-S200GC



VP-S100GC, VP-S200GC Specifications

Model		VP-S100GC	VP-S200GC
Nominal Vaporizing Capability		100 kg/h	200 kg/h
Heat Source	Type	Gas burning type (gas burner)	
	Heat Capacity	14 kW (output)	28 kW (output)
Design Pressure	Primary Pressurizing Part	1.8 MPa	
	Secondary Pressurizing Part	1.0 MPa	
Pressure Resistance Test Pressure	Primary Pressurizing Part	2.7 MPa	
	Secondary Pressurizing Part	2.6 MPa (diaphragm chamber: 1.5 MPa)	
Airtightness Test Pressure	Primary Pressurizing Part	2.0 MPa	
	Secondary Pressurizing Part	1.1 MPa	
Control Power Supply	Power Supply Voltage	AC 100 V	
	Power Consumption	75 W	130 W
Applicable Pressure Range		0.15 to 1.56 MPa*	0.2 to 1.56 MPa
Safety Valve Pressure Setting		0.96 MPa	
Liquid Outflow Prevention Method		Heat media temperature detection method	
Vaporization Pressure Regulation Valve Setting		0.15 ± 0.01 MPa	0.16 ± 0.01 MPa
Heat Media (Hot Water) Temperature Control Range		60 to 75°C	
Overheat Prevention Switch Operation Temperature		85 to 95°C	
Exhaust Gas Temperature Switch Operating Temperature		lower than 290°C	
Noise Level	Standard	56.4 dB(A)	62.6 dB(A)
	Using a muffler	54.7 dB(A)	60.6 dB(A)
External Dimensions	Width	500 mm	
	Height	1,420 mm (including exhaust top)	1,690 mm (including exhaust top)
	Depth	715 mm	
Exterior color (Munsell color number)		Front/Top: Munsell 5BG4/2 Sides/Rear: Munsell 5Y7/1	
Rough Product Weight		135 kg	160 kg
Rough Water Volume		140 L	150 L
Rough Running Weight		275 kg	310 kg
Connection Diameter	Liquid Inlet	20A (JIS20K Flange Equivalent)	
	Gas Outlet	25A (JIS10K Flange Equivalent)	40A (JIS10K Flange Equivalent)
Power Supply	Abnormal Pressure Alarm Display	Gas Leakage Alarm	Lamp Lighting, Voice Guidance
	Other Alarm	Lamp Lighting, Buzzer Ringing	
Accessory (pressure regulator)	Design Pressure	Inlet Side	1.0 MPa
		Outlet Side	0.18 MPa
	Pressure Resistance Test Pressure	Inlet Side	1.5 MPa
		Outlet Side	0.80 MPa
	Rated Flow Rate	100 kg/h	200 kg/h
	Inlet Pressure Range	0.15 to 1.0 MPa	
Pressure Regulator Pressure Setting	0.06 MPa		
Connection Diameter	Inlet Side	25A (JIS10K Flange Equivalent)	40A (JIS10K Flange Equivalent)
	Outlet Side	25A (JIS10K Flange Equivalent)	40A (JIS10K Flange Equivalent)
Spacing Dimension		385 mm	
Other Accessories	Gas Detector	Explosion-proof detector: 1 unit	
	Antiseismic Clamping Plate	2 pcs (including two M12 bolts)	
	Corrosion Inhibitor	1 cylinder (1400 mL)	1 cylinder (1900 mL)
	Strainer	1 pc (Mesh 150)	
	Exhaust Top	1 pc	1 pc (including short pipe)
Note		Target Gas: LP gas * When target gas is propane gas, the range is 0.2 to 1.56 MPa.	

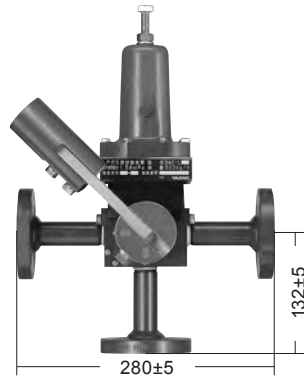
Vaporizer Power Panel



*Includes the handle.

Automatic Changeover Equipment for Liquid Gas

BAC-LTN/LTS



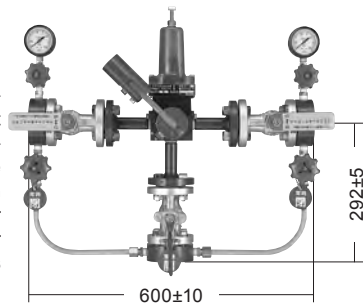
Note) When remotely monitoring the change signal, set up the BAC Change Signal Relay or BAC Change Signal Exchanger, which are Optional Parts for Automatic Changeover Equipment for Liquid Gas on the next page.

Specifications

Model		BAC-LTN Standard Type	BAC-LTS Alternative Change Signal Type
Maximum Capacity		300 kg/h	
Changeover Pressure Setting Range		0.05 to 0.15 MPa	
Change Mechanism		Mechanical Semiautomatic Change	
Required Cylinder Pressure		Setting change pressure + 0.03 to 1.56 MPa	
Required Pressure for Reset		More than 0.03 MPa	
Changeover Working Tolerance		±0.01 MPa	
Pressure Resistance Test Pressure		2.7 MPa	
Airtightness Test Pressure		2.0 MPa	
Connection Diameter	Inlet Side	20A (JIS20K Flange Equivalent)	
	Outlet Side	20A (JIS20K Flange Equivalent)	
Rough Weight		10.5 kg	
Standard Attachments (piping parts for changeover pressure detection)		<ul style="list-style-type: none"> • 1/4B Stop valve x1 • 1/4B Nipple x1 • Coupling for Copper Pipe KC6-R1/4B x1 • φ6 Copper Pipe 10 m • Coupling for Copper Pipe KLN6-R1/4B x1 	
Packaging Unit		1 pc	

Automatic Changeover Equipment for Liquid Gas

BAC-LUS



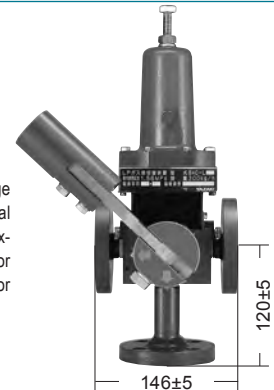
Note) When remotely monitoring the change signal, set up the BAC Change Signal Relay or BAC Change Signal Exchanger, which are Optional Parts for Automatic Changeover Equipment for Liquid Gas on the next page.

Specifications

Model		BAC-LUS Bypass unit type
Maximum Capacity		300 kg/h
Changeover Pressure Setting Range		0.05 to 0.15 MPa
Change Mechanism		Mechanical Automatic Change
Required Cylinder Pressure		Setting change pressure + 0.03 to 1.56 MPa
Required Pressure for Reset		More than 0.03 MPa
Changeover Working Tolerance		±0.01 MPa
Pressure Resistance Test Pressure		2.7 MPa
Airtightness Test Pressure		2.0 MPa
Connection Diameter	Liquid Inlet	20A (JIS20K Flange Equivalent)
	Gas Outlet	20A (JIS20K Flange Equivalent)
Rough Weight		29 kg
Standard Attachments (piping parts for changeover pressure detection)		<ul style="list-style-type: none"> • 1/4B Stop valve x1 • 1/4B Nipple x1 • Coupling for Copper Pipe KC6-R1/4B x1 • φ6 Copper Pipe 10 m • Coupling for Copper Pipe KLN6-R1/4B x1
Packaging Unit		1 pc

Automatic Changeover Equipment for Liquid Gas

BAC-LRN/LRS



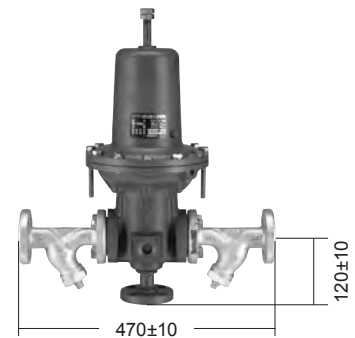
Note) When remotely monitoring the change signal, set up the BAC Change Signal Relay or BAC Change Signal Exchanger, which are Optional Parts for Automatic Changeover Equipment for Liquid Gas on the next page.

Specifications

Model		BAC-LRN Alternative Type	BAC-LRS Alternative Change Signal Type
Maximum Capacity		300 kg/h	
Changeover Pressure Setting Range		0.05 to 0.15 MPa	
Change Mechanism		Mechanical Semiautomatic Change	
Required Cylinder Pressure		Setting change pressure + 0.03 to 1.56 MPa	
Required Pressure for Reset		More than 0.03 MPa	
Changeover Working Tolerance		±0.01 MPa	
Pressure Resistance Test Pressure		2.7 MPa	
Airtightness Test Pressure		2.0 MPa	
Connection Diameter	Liquid Inlet	20A (JIS20K Flange Equivalent)	
	Gas Outlet	20A (JIS20K Flange Equivalent)	
Rough Weight		10.5 kg	
Standard Attachments (piping parts for changeover pressure detection)		<ul style="list-style-type: none"> • 1/4B Stop valve x1 • 1/4B Nipple x1 • Coupling for Copper Pipe KC6-R1/4B x1 • φ6 Copper Pipe 10 m • Coupling for Copper Pipe KLN6-R1/4B x1 	
Packaging Unit		1 pc	

Automatic Changeover Equipment for Liquid Gas

BAC-RS



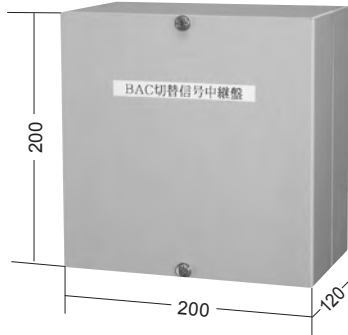
Note) When remotely monitoring the change signal, set up the BAC Change Signal Relay or BAC Change Signal Exchanger, which are Optional Parts for Automatic Changeover Equipment for Liquid Gas on the next page.

Specifications

Model		BAC-RS
Maximum Capacity		300 kg/h
Changeover Pressure Setting Range		0.05 to 0.10 MPa
Change Mechanism		Mechanical Automatic Change
Required Cylinder Pressure		Setting change pressure + 0.05 to 1.56 MPa
Required Pressure for Reset		More than 0.03 MPa
Changeover Working Tolerance		±0.01 MPa
Pressure Resistance Test Pressure		2.7 MPa
Airtightness Test Pressure		2.0 MPa
Connection Diameter	Liquid Inlet	JIS 20K Flange
	Gas Outlet	JIS 20K Flange
Strainer		150 mesh
Rough Weight		24 kg
Standard Attachments (piping parts for changeover pressure detection)		<ul style="list-style-type: none"> • 1/4B Stop valve x1 • 1/4B Nipple x1 • NTN Coupling PA6-PT1/4B x1 • φ6 Copper Pipe 10 m • NTN Coupling PB6-PT1/4B x1
Packaging Unit		1 pc

Optional Parts for Automatic Changeover Equipment for Liquid Gas

BAC Change Signal Relay



• Specifications

Power Source / Voltage	AC 100 V ±10% 50/60 Hz
Explosion Proof Structure	Intrinsically safe explosion-proof (2G4)
Installation Conditions	Indoor (nonhazardous area)
Operating Ambient Temperature	0°C to +40°C (without condensation)
Operating Ambient Humidity	35 to 85%RH
Output Signal	a-contact (no voltage) AC 250 V 5A resistance load
External Dimensions	H200×W200×D120 (mm)
Rough Weight	3.2 kg
Packaging Unit	1 pc

Optional Parts for Automatic Changeover Equipment for Liquid Gas

BAC Change Signal Exchanger



• Specifications

Power Source / Voltage	AC 100 V ±10% 50/60 Hz
Explosion Proof Structure	Not explosion-proof*
Installation Conditions	Indoor (nonhazardous area)
Operating Ambient Temperature	0°C to +40°C
Operating Ambient Humidity	35 to 85%RH
Output Signal	a-contact (no voltage)
External Dimensions	H125×W125×D125 mm
Rough Weight	1.8 kg
Mounting Hole Pitch/ Hole Diameter	110 × 110/ φ4.5 (4 locations) mm
Packaging Unit	1 pc

*An intrinsically safe explosion-proof structure relay is required separately.

Technical Information

- Related Regulations
- International Unit (SI Unit)
- Valid Term Table/Piping Dimensions
- Gas Meter Selection Methods
- Gas Meter Functions and Measures
- Gas Alarm Installation Place
- Regulator Performance Curve Diagram
- Bulk Storage Unit Installation Standards and Safe Distance
- Bulk Storage Gas Generation Volume
- Introduction to Operation Details in Power Outage and Recovery, by Product

Related Regulations

Applied Regulations and Scope	High Pressure Gas Consumer					High Pressure Gas Producer (class 1)	Community Gas Entrepreneur	
	Liquefied Petroleum Gas Act			High Pressure Gas Security Act			Gas Business Act	
	General Consumer etc.			High Pressure Gas Consuming Facilities	Specific High Pressure Gas Consuming Facilities	Class 1 Manufacturing Facilities	Class 2 Manufacturing Facilities	Specific Gas Generating Facilities
	Consuming Facilities	Supply Facilities	Specific Supply Facilities	Less than 3,000 kg	More than 3,000 kg			
Items		Capacity: more than 3,000 kg	Bulk Storage Unit: more than 1,000 kg					
Supervising Government Office	Prefectural governor						Director of bureau of economy, trade and industry	
Permission/Notification	—	Specific supply facilities permission		—	Notification and permission for high pressure gas storage, notification for specific high pressure gas consumption	High pressure gas manufacturing site permission	High pressure gas manufacturing site notification	Community gas business permission
Vaporizer-related Standards	(A) Shall be consuming type evaporators. (B) Shall not have the structure in which LP gas is heated by fire directly. (C) Shall have the performance passing the pressure tightness test with 2.6 MPa. (D) Shall have the apparatus for preventing outflow of LP gas. (E) Shall contain the countermeasure for preventing the freezing at the hot water section for those devices that heats LP gas by hot water and that are installed in cold region.			(A) Shall be consuming type evaporators.		(A) According to liquefied gas security regulations 6 (1), (17), and (18).		(A) Shall not have the structure in which gas is heated by fire directly. (B) Shall not be the mixer type. (C) Shall have an apparatus for preventing LP gas outflow.
Vaporizer Standards	Bulk supply auxiliary equipment certified by High Pressure Gas Safety Institute of Japan					Must pass the specific facility inspection and minister permission		
Distance to Fire Facilities (In case of cylinder) (Note 1)	Less than 1,000 kg More than 2 m	Less than 3,000 kg More than 5 m	More than 3,000 kg More than 8 m	(Reference)	More than 8 m			
Distance to Security Items (Note 2)	Class 1	Cylinder: None Bulk storage unit: more than 1.5 m	Cylinder: more than 16.97 m Bulk storage unit: more than 7.0 m	More than 16.97 m	—	More than 16.97 m		
	Class 2	Cylinder: None Bulk storage unit: more than 1.0 m	Cylinder: more than 11.31 m Bulk storage unit: more than 7.0 m	More than 11.31 m	—	More than 11.31 m		
Fire Service Act and Regulations	When the LP gas of more than 300 kg, other than enumerated in Liquefied Petroleum Gas Act 87 (1), High Pressure Gas Safety Act 74 (1), and Gas Business Act 47-3 (1), is installed, dangerous article notification shall be submitted to the responsible fire department according to the Fire Service Act 9 (2).							
Building Standards Act and Regulations	Construction to be used for storing or processing 3,500 kg in residential area, 7,000 kg in commercial area, and 35,000 kg in light industrial area is not allowed. However, certain exception may apply when the specific administrative government (governor) admit that it is harmless for residential environment or that it is unavoidable considering the public utility.							
Guidelines for Selection	Calculate the maximum gas consumption per hour, and select a model that has capacity for generating 1.2 times or more of the maximum gas consumption. (Maximum gas consumption is the total consumption per a unit of time.)						Select a model that has capacity for generating 1.5 times or more of the gas demand at maximum peak in a year	
Remarks	Notification must be submitted to the prefectural governor for the storage facility construction of school, hospital, and apartment complex exceeding the capacity of 500 kg, after the construction is complete.	Construction begins after permission is given. Facilities cannot be used before passing the inspection.		—	Construction begins after permission is given. Facilities cannot be used before passing the inspection. Notification must be submitted to the prefectural governor 20 days or earlier before starting consumption.	Construction begins after permission is given. Facilities cannot be used before passing the inspection. Beginning of production must be notified to the prefectural governor without delay.	Notification must be submitted to the prefectural governor 20 days or earlier before starting production.	Construction begins after permission is given. Facilities cannot be used before passing the inspection. Installation of gas related constructions or business commencement must be notified to the industrial security supervising department in the area.

(Note-1) Horizontal detour distance can be established by building fireproof walls and taking measures to prevent the flow of leaked gas.

(Note-2) Distance can be reduced by building barrier walls relative to security properties. If the storage equipment is a bulk storage unit, then the distance can be reduced by building a structural wall.

(Reference) Use of fire and stacking of flammable objects within a 5 meter radius of storage equipment is prohibited.

International Unit (SI Unit)

■ What is SI (International System of Units)?

SI is a unit system that was adopted as universal system to unify measurement systems in terms of one quantity to one unit at the 1960 General Conference of Weights and Measures which is the top legislative body in this field. It was integrated into one system that is easy to understand and utilized to resolve the problem that several unit systems had been established for the same quantity.

SI is an acronym for the French "Le Systeme International d'Unites" (English: International System of Units)

■ Representative SI Unit to be used hereafter in the LP gas industry

- I. Unit of pressure: Pa (Pascal)
- II. Unit of capacity: W (Watt)
- III. Unit of calorie: J (Joule)
- IV. Unit of force: N (Newton)

* In addition to the above, combination of conventional SI Unit (m, s, kg, mol) and its multiple will also be used.

Conventional Units and SI Units

Name	Conventional Unit	SI Unit	Conversion Value
Pressure	kgf/cm ²	Pa	1 kgf/cm ² = 9.80665 × 10 ⁴ Pa (≐98kPa)
	mmH ₂ O		1 mmH ₂ O = 9.80665 Pa (≐9.8Pa)
	mmHg		1 mmHg = 133.332 Pa (≐133.3Pa)
	atm		1 atm = 1.01325 × 10 ⁵ Pa (≐0.1013MPa)
Calorie	cal	J	1 cal = 4.186 J
	kcal/h	W	1 kcal/h = 1.163 W
Capacity	kg/h	W	1 kg/h = 13.9 × 10 ³ W (≐14kW)
Force	kgf	N	1 kgf = 9.8 N
Torque	kgf·m	N·m	1 kgf·m = 9.8 N·m

List of Prefixes

Abbreviation of Prefix	Exponents	Abbreviation of Prefix	Exponents	Abbreviation of Prefix	Exponents	Abbreviation of Prefix	Exponents				
Yotta	Y	10 ²⁴	Giga	G	10 ⁹	Deci	d	10 ⁻¹	Pico	p	10 ⁻¹²
Zetta	Z	10 ²¹	Mega	M	10 ⁶	Centi	c	10 ⁻²	Femto	f	10 ⁻¹⁵
Exa	E	10 ¹⁸	Kilo	k	10 ³	Milli	m	10 ⁻³	Atto	a	10 ⁻¹⁸
Peta	P	10 ¹⁵	Hecto	h	10 ²	Micro	μ	10 ⁻⁶	Zepto	z	10 ⁻²¹
Tera	T	10 ¹²	Deca	da	10	Nano	n	10 ⁻⁹	Yocto	y	10 ⁻²⁴

International Unit (SI Unit)

Conversion Table I

SI Unit			Conventional Unit	
Pa	kPa	MPa	kgf/cm ²	mmH ₂ O
1			0.00001	0.1
10			0.0001	1
100			0.001	10
1,000	1	0.001	0.01	100
10,000	10	0.01	0.1	1,000
100,000	100	0.1	1	10,000
1,000,000	1,000	1	10	100,000

Examples using Conversion Table I

Item		SI Unit	Conventional Unit
Pressure Related	Withstand Pressure	High Pressure Part	2.6 MPa
		Middle/Low Pressure Part	0.8 MPa
	Airtight Pressure	High Pressure Part	1.56 MPa
		Middle Pressure Part	0.15 MPa
		Low Pressure Part	8.4 kPa
Inlet Pressure	Pressure Regulator	0.07-1.56 MPa	
Blockage Pressure	Pressure Regulator	3.5 kPa or lower	
Outlet Pressure	Automatic Change Over (upper limit)	3.3 kPa	
	Automatic Change Over (lower limit)	2.55 kPa	

Conversion Table II

SI Unit			Conventional Unit
W	kW	MW	kgf/cm ²
1			
10			
100			
1,000	1	0.001	0.0714
10,000	10	0.01	0.714
100,000	100	0.1	7.14
1,000,000	1,000	1	71.4

Examples using Conversion Table II

Item		SI Unit	Conventional Unit
Flow Rate Related	Working Flow Rate	Gas Cock with Fuse	15 kW
			1.1 kg/h

Valid Term Table

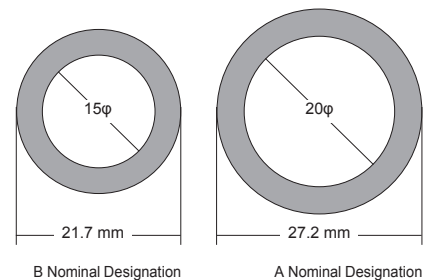
Category	Product Name	Replacement Limit	Representative Products/Models
Gas Meters ^{*1}	E-type/S-type Security Gas Meter	10 years	EY25MTH, SY25MT1, EY4MT
	EB-type / SB-type Security Gas Meters (6 m ³ /h or less)	10 years	EBY6
	EB-type / SB-type Security Gas Meters (Greater than 6 m ³ /h)	7 years	EBY10, EBY16, SBA10, SBA16
	Standard Meters (including those with transmission function)(6 m ³ /h or less)	10 years	RN6
	Standard Meters (including those with transmission function)(Over 6 m ³ /h)	7 years	Y10A, Y16AR, N25
	Gas Meters with Shutoff Valve	7 years	NV25, NV40
	Medium Pressure Gas Meters	None (7 years)	AH7 to AH15
Alarms	Gas Leak Alarms	5 years	YF-005N, YF-313A
	CO Alarms	5 years from installation	YZ-222
	Commercial Ventilation Warning Alarms	6 years from installation	YZ-165C
Gas Supply Equipment	Pressure Regulator Class I (10 kg/h or less) High Performance Model ^{*2}	10 years	R5A, AS8ZA, AS10ZA
	Pressure Regulator Class II ^{*2}	7 years	RL10B, RCL20A, RCL30A
	Small Leak in Flow Detectors (Leak Detector)	7 years	AX10BHL, AX20BHL, RCL30AHL
	Leak Detector (I-type)	10 years	EY25MTP-YL
	High Pressure Hose Class I High Performance Type ^{*2}	10 years	RCL-600S(T), -1000S(T)
	High Pressure Hose Class I ^{*2}	7 years	
	Low Pressure Hose Class I High Performance Type ^{*2}	10 years	RL-450G, -600G, -900G
	Low Pressure Hose Class I ^{*2}	7 years	
	Gas Cock	15 years	Gas Cock with Fuse, Flexible Hose Gas Cock
	Threaded Gas Cock	10 years	Threaded Gas Cock with Inspection Hole
	Gas Leakage Alarm Shutoff Device (Shutoff Valve, Controller)	10 years	YCB-12E, MV-20 to 80L
	Combustor Hose	7 years	KLJ7-300SL, KL10-300B
	Gas Discharge Prevention Device	7 years	
	Root Valve with Check Valve	7 years	MSA-8CS
	Mass Device	10 years	S15A-4PS(T)
	Flexible Pipes and Coupling for Piping	7 years	
	Rubber Pipe with Quick Coupling	4 years	
Hose Band	2 years		
Other	Vaporizer	10 years	VP-S100EC
	Bulk Storage Unit	20 years	980AB
	Bulk Storage Unit Safety Valve	5 years	

*1: Validity period based on the Measurement Law *2: Period based on Article 121 of the Liquid Petroleum Gas Act Declaration

Carbon Steel Pipe for Piping (JIS G3452) Dimensions

Nominal Diameter	A	8	10	15	20	25	32	40	50	65	80
	B	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Outer Diameter (mm)			17.3	21.7	27.2	34.0	42.7	48.6	60.5	76.5	89.1
Thickness (mm)			2.3	2.8	2.8	3.2	3.5	3.5	3.8	4.2	4.2

Remarks: Use (A) or (B) to refer to these. When necessary, write after the numbers when using (A) or write B after the numbers when using (B)



Inner Diameter: 1/2B = 4分 "BU" (12.1212 mm) = 15A
Outer Diameter: 21.7 mm (SGP: Carbon Steel Pipe for Piping)

Inner Diameter: 3/4B = 6分 "BU" (18.1818 mm) = 20A
Outer Diameter: 27.2 mm (SGP: Carbon Steel Pipe for Piping)

Gas Meter Selection Methods

(Source: LP Gas Equipment Installation Standards and Handling Guidelines)

[Gas Meter Selection] ■ Follow the standards below to decide the type and capacity of gas meter.

- Microcomputer Gas Meter = Maximum Gas Consumption (m³/h) × 1.0
- Standard Gas Meter = Maximum Gas Consumption (m³/h) × 1.2

1) Microcomputer Gas Meter capacity (m³/h) is categorized in the following way, according to maximum flow rate.

Maximum Flow Rate (m ³ /h)	2.5	4	6	10	16
---------------------------------------	-----	---	---	----	----

2) Typically, it is best to select a gas meter with consideration for changes to combustor after installation, choosing a meter with a maximum flow rate with at least 1.2 times the total flow rate of the combustor. However, in microcomputer gas meters, in order to make full use of their security functions, select one with a maximum flow rate that can be set to match the total flow rate of the combustor.

[Example of Selecting a Microcomputer Gas Meter]

Table burner with grill	→ 9.7 kW	▶	Method of	46.9 ÷ 14 = 3.35 kg/h
Rice cooker	→ 2.3 kW		Calculation	3.35 ÷ 2 = 1.68 m ³ /h
Water heater No. 16	→ 34.9 kW			
Total	→ 46.9 kW			

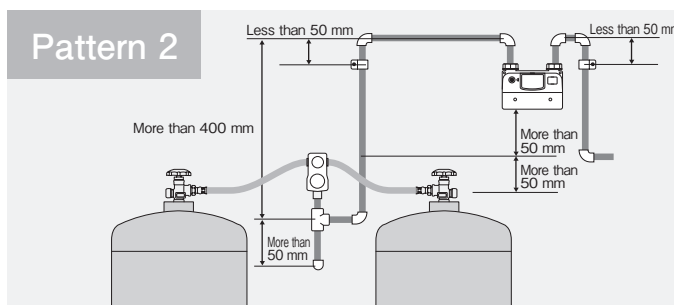
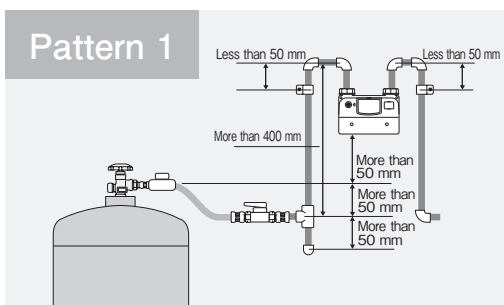
Therefore, with microcomputer gas meters, select one with a maximum flow rate of at least 1.68 m³/h, which would be the 2.5 m³/h meter in the above table.

3) Each Combustor Gas Consumption Reference Value (1 kW = 860 kcal/h) (individual household supply)

Type of Combustor	Consumption (kW)	Type of Combustor	Consumption (kW)
No. 32 Water Heater	69.2	2 Burner Table Stove with Grill	9.7
No. 24 Water Heater	(Water Heat) 52.3	1 Burner Table Stove	2.3
	(Reheating) 11.6	Rice Cooker	2.3
No. 20 Water Heater	(Water Heat) 43.6	Gas Fan Heater	2.5
	(Reheating) 11.6	Gas Air Conditioner	6.4
No. 16 Water Heater	(Water Heat) 34.9	Gas Dryer	4.7
	(Reheating) 11.6	Bathroom Heater	7.2
No. 5 Water Heater	11.0	Infrared Light Stove	3.3
Water Heater for Bath No. 8	(Water Heat) 17.9	GHP 3 Horsepower	10.9
	(Reheating) 9.8		

* If there are many combustors installed and there are two supplies using an automatic switching, the simultaneous use rate in households (70% - 100%) can be taken into consideration. However, when the simultaneous use rate is used, it must not go below the maximum gas consumption of individual device.

[Example of installed gas meters]



[Caution for Installation]

■ Do not install it in the following places.

- ① Areas less than 60 cm from electrical equipment. (Places where there is a risk of fire spreading)
- ② Places affected by heat exceeding 60 °C.
- ③ Places affected by water splashes, or constant exposure to water including steam.
- ④ Places where there is danger of corrosive gas spreading.
- ⑤ Places that have high voltage electrical equipment, including transformer rooms.

■ Beware of the following points.

- ① Install firmly.
- ② Install it horizontally.
- ③ Tightly close the terminal cover.
- ④ For wiring of centralized monitoring or alarm linking, or electrical wiring of 100 V, secure separating distance compliant with "Electrical Equipment Technology Standards."

E-type/S-type Security Gas Meter Functions and Measures

The following list compiles the functions and LCD display, as well as how to deal with issues for E-type/S-type LP gas meters.

■ Online Display

You can watch “Gas Meter Safety & Security Guide: Button Settings”.



	Function	LCD	LED	Display Content	Display Period	Measure
No gas comes out	Total Flow Rate Shutoff			When an amount of gas, more than the total flow automatically set for shutoff value, flows it will shut off. Example) Mistaken opening of gas cocks, rubber pipes coming loose	Until the meter is reset	Press the reset button to make it relearn. If the meter capacity is small, replace the gas meter.
	Flow Rate Increase Shutoff			If there is unusually large increase in gas flow compared to the device with the largest consumption volume in the installation location, it will shut off. Example) Rubber pipes coming loose during use	Until the meter is reset	Press the reset button to make it relearn. If the meter capacity is small, replace the gas meter.
	Use Time Shutoff			If gas flows longer than the gas use time of the shutoff value that was set automatically, it will shut off. Example) Gas devices being left on	Until the meter is reset	Press the reset button to make it relearn.
	Reset Safety Check Shutoff			If gas flows while resetting, it will shut off. Example) A combustor was used before resetting	Until the meter is reset	Close all the combustors and reset.
	Seismoscope Operation Shutoff			When the built-in seismoscope senses an earthquake equivalent to intensity 5 or higher, it will shut off. It will sense the flow rate 2 minutes before and after the earthquake and shutoff.	Until the meter is reset	Press the reset button.
	Gas Leak Alarm Linked Shutoff			If the LP Gas Leak Alarm or No. 2 Alarm sounds for longer than 40 seconds, it will detect a gas leak and shutoff. It will be displayed when the + and - of the signal wire are reversed.	Until the meter is reset	Ventilate well. Check the linked wire, then reset.
	Pressure Drop Shutoff			When the pressure of the supply pipe drops below 1 kPa while in use, it will shut off.	Until the meter is reset	Depending on the status of regulator outlet pressure checks and the remaining amount in the cylinder, it may not be possible to reset it to reset without doing forced relearning.
	Shutoff Abnormality Warning			If the gas flow rate is detected while the shutoff valve in the meter is closed, the microcomputer will determine that the shutoff valve is malfunctioning or not fully closed, and then shutoff will be executed.	Until the meter is reset	If the same thing happens after resetting, replace the gas meter.
	Meter Abnormality Display *E-type only			This will be displayed when there is some abnormality in meter measurement or the shutoff valve.	Cannot Reset	Replace the gas meter.
Gas comes out	Flow Sensing Small Leak Warning			When it senses a small leak from the meter outlet to the combustor inlet, and there is a flow of gas continuously for 30 days, it will display a warning.	Until 1 time test shutoff and reset	Do a test shutoff to check for leaks then reset.
	Pressure Sensing Small Leak Warning		-	Checks the difference in gas pressure during use and the pressure when it is blocked (immediately after the gas is stopped) every 15 minutes, and if there is not even one instance of a pressure rise exceeding 0.2 kPa in 30 days, then it displays a warning.	Until 1 time test shutoff and reset	Check for gas leaks from the regulator outlet to the combustor inlet.
	Regulated Pressure Abnormality Warning		-	It will be counted as an abnormality when the pressure from the regulator to the combustor inlet exceeds the range of 2.8 kPa ± 0.5 kPa. Abnormalities will only be counted once even if they occur two or more times in a single day, and if the cumulative count exceeds 15 times within 30 days, then it will display a warning.	Until 1 time test shutoff and reset	Investigate the outlet pressure of the regulator.
	Block Pressure Abnormality Warning		-	Checks the block pressure (for 1 minute) after using a combustor for 5 minutes or more. When the block pressure of the regulator exceeds 3.5 kPa, this will be counted once. If there is an abnormality 15 times in a row or more consecutively, it will display a warning.	Until 1 time test shutoff and reset	Investigate the outlet pressure of the regulator.
	Battery Voltage Low Warning		-	It checks battery voltage inside the gas meter, and if the voltage falls below settings, then it will display a warning.	40 Days *From display Shutoff after 40 days	Replace the gas meter.
	Backflow Warning *E-type only		-	When a meter is installed backwards and used, it will detect backflow and display a warning.	Until 1 time test shutoff and reset	Check the installation status of the meter. Do a test shutoff and reset.

How to Install Gas Leak Alarms

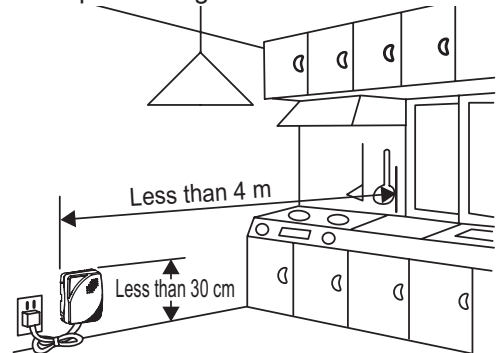
Location for Installing Gas Leak Alarms

Methods for installing LP gas leak alarm are set forth in "Article 13 of the Declaration Establishing Details of Technical Standards for Supply Facilities/Consumption Facilities and Specified Supply Facilities."

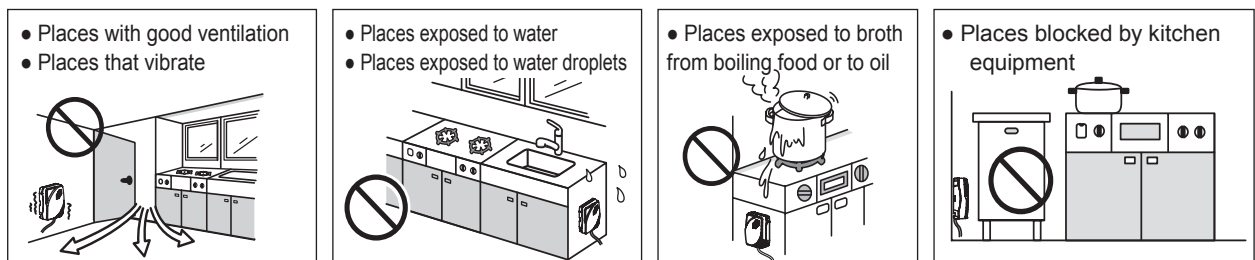
Install the alarm on the wall in the same room as the combustor, within 4 meters horizontally from the combustor, and within 30 cm height from the floor to the top of the alarm.

*Do not place on the floor or upside down.

Example of Integrated Alarm Installation



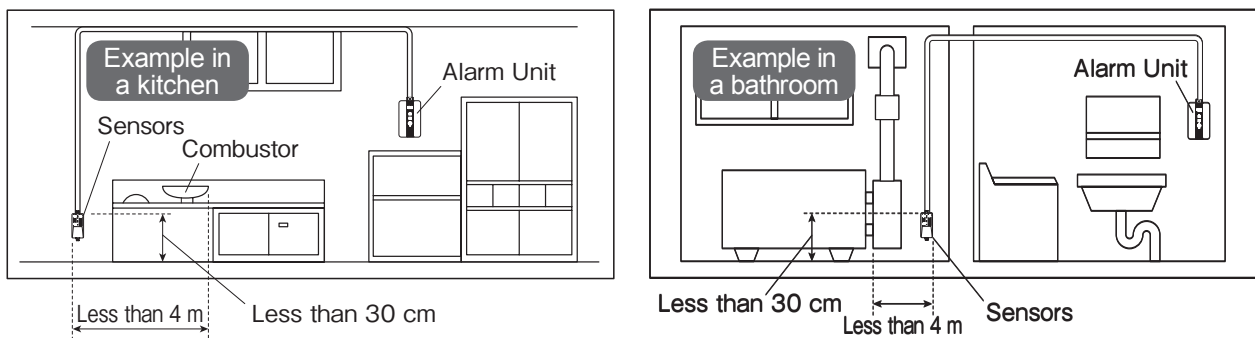
Examples of places where alarms must not be installed



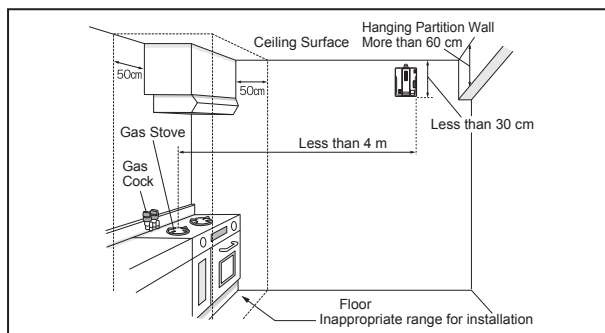
• It is not for use in bathrooms. Installation in bathrooms is prohibited by the Electric Utility Industry Law.

When installing separated gas leak alarm

When the detector and alarm parts are separated, install them as follows.

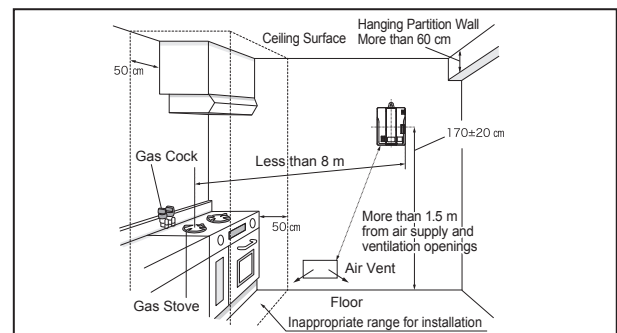


Location for mounting CO alarms



Install the alarm in the same room where the combustor is, within 4 meters of the center of the most distant burner of the combustor to be detected for incomplete combustion, in a position within 30 cm of the ceiling where exhaust gas tends to accumulate, where the indicator light can be easily checked when an alarm sounds.

Location for mounting commercial ventilation warning alarms

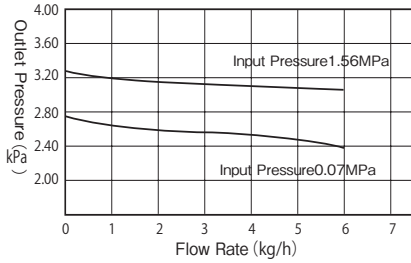


Install the alarm in the same room where the combustor is installed, 50 cm to 8 m horizontal distance from the combustor, within 170±20 cm of the floor where you can easily check the display lights of the alarm.

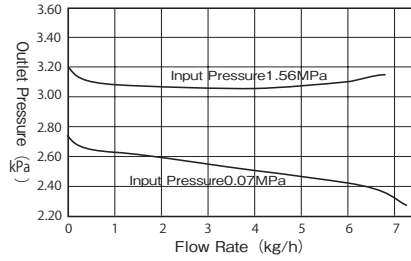
Regulator Performance Curve Diagram

*The (P□□) after the model indicates the page that the product is on.

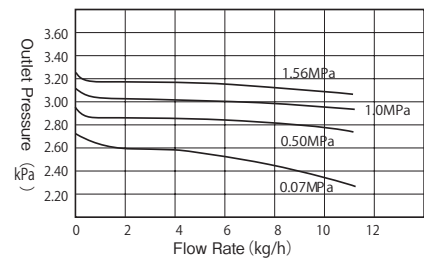
R5A (P47)



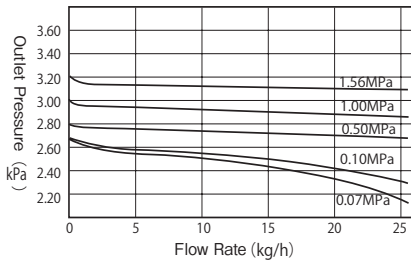
R6 (P47)



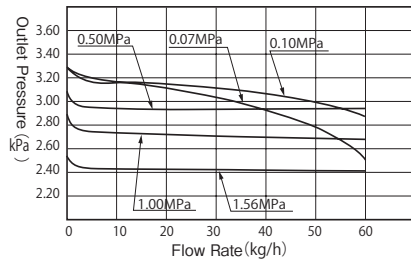
RL-10B (P47)



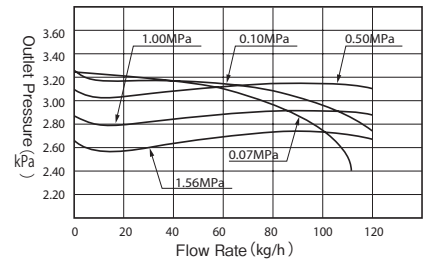
RL-20B (P47)



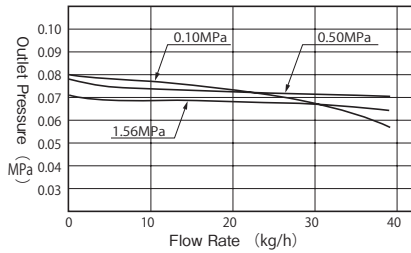
RL-50A (P47)



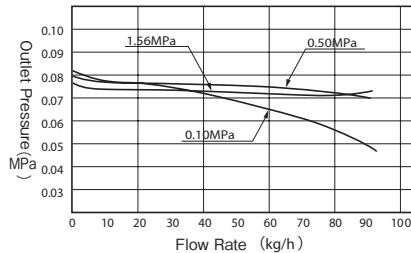
RL-100A (P47)



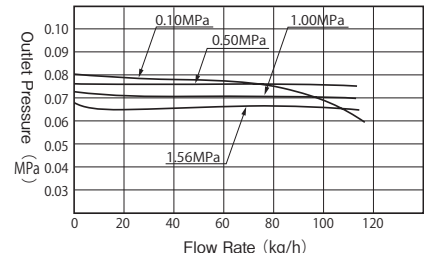
RM-30A (P48)



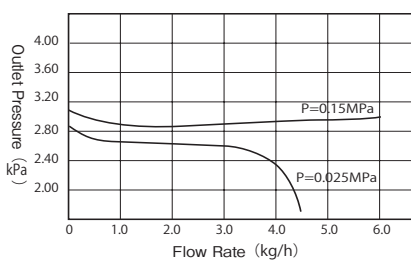
RM-70 (P48)



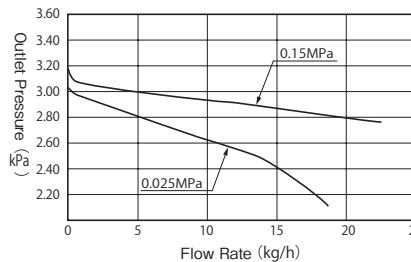
RM-100 (P48)



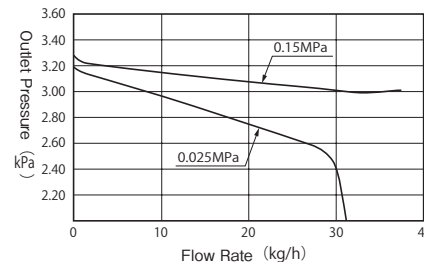
R4-F II (P49)



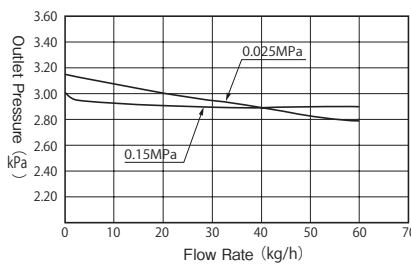
RL-15- II B (P49)



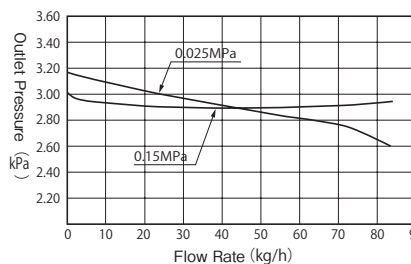
RL-30- II B (P49)



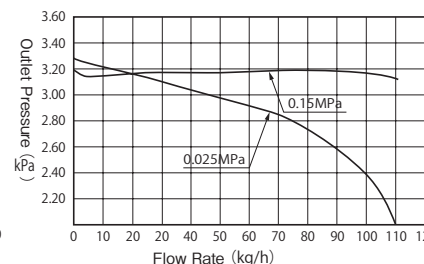
RL-50A- II (P49)



RL-70- II (P49)



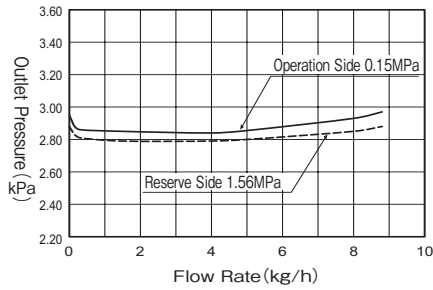
RL-100A- II (P49)



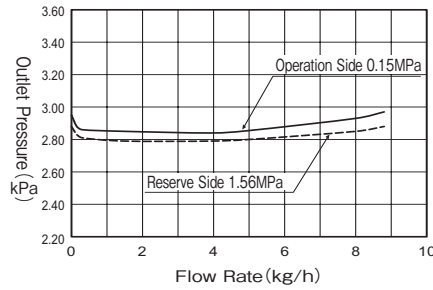
Regulator Performance Curve Diagram

*The (P_{□□}) after the model indicates the page that the product is on.

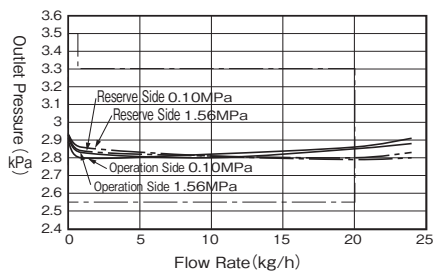
AS8ZA (P51)



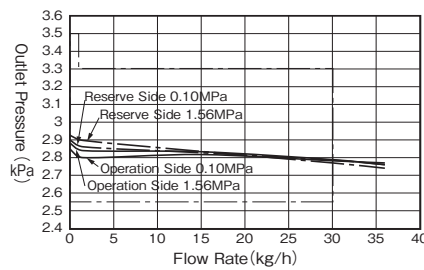
AS10ZA (P53)



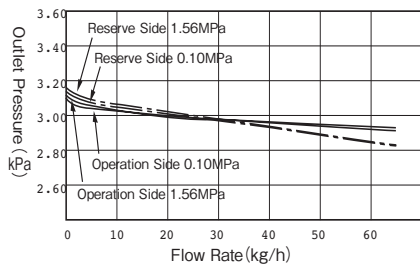
RCL20A·RCL20AR (P55)



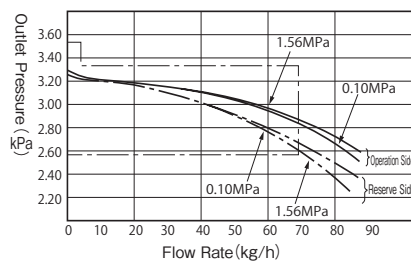
RCL30A·RCL30AR (P55)



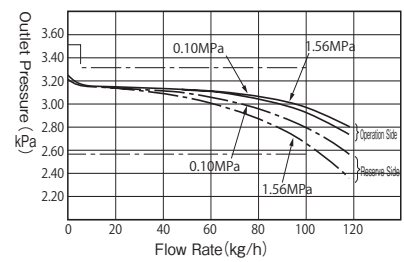
RCL-50 (P56)



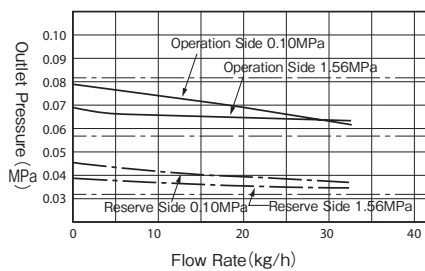
RCL-70 (P56)



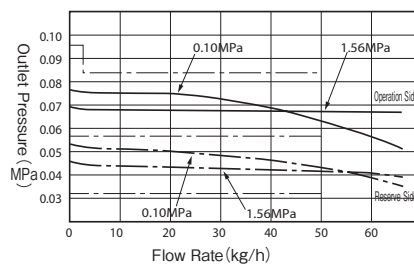
RCL-100A (P56)



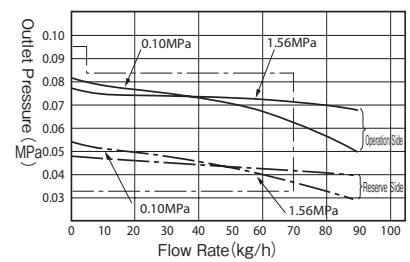
RC-30 (P57)



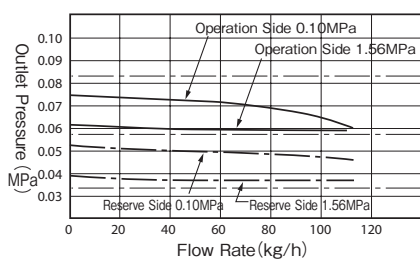
RC-50 (P57)



RC-70 (P57)

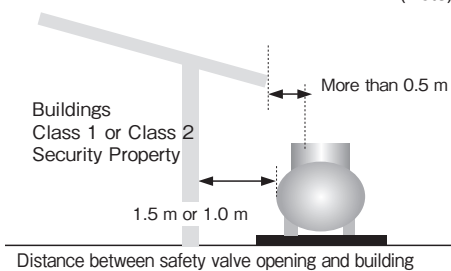
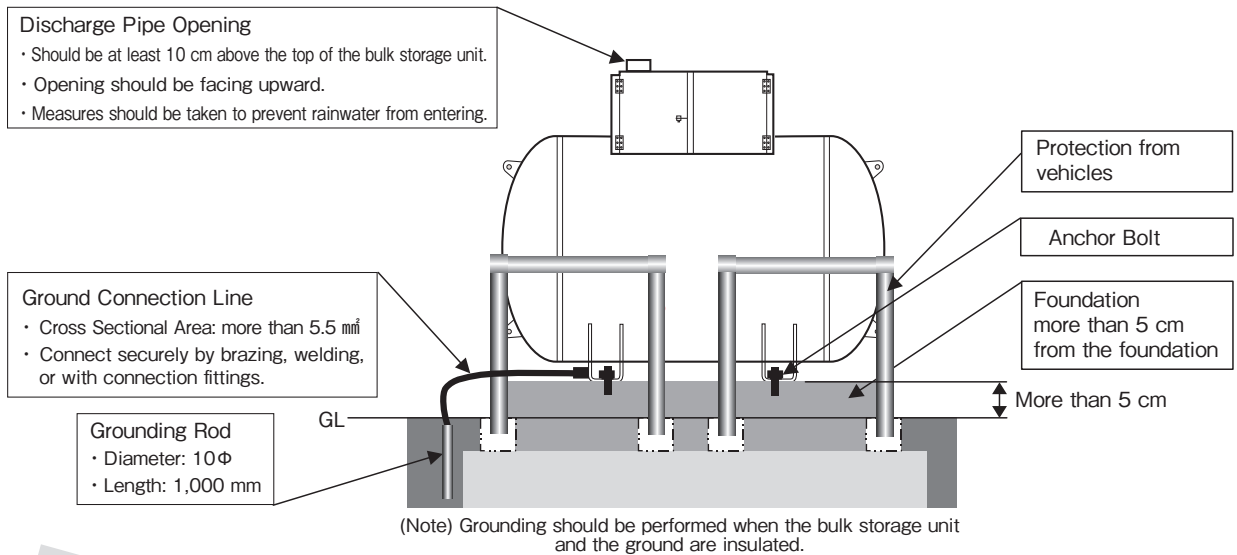


RC-100 (P57)



Bulk Storage Unit Installation Standards and Safe Distance

Above Ground Horizontal Bulk Storage Unit Installation Standards (for storage capacity of less than 1,000 kg)



Related Regulations

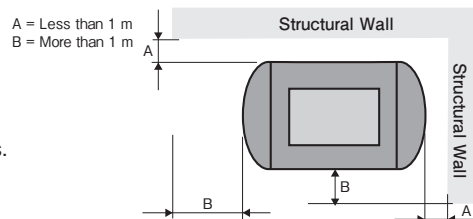
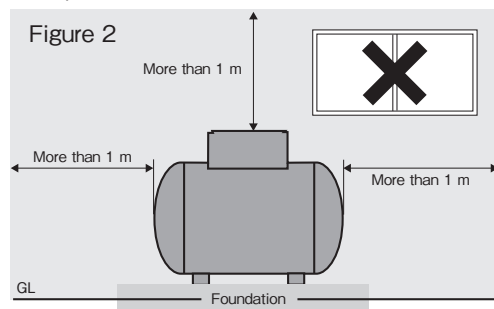
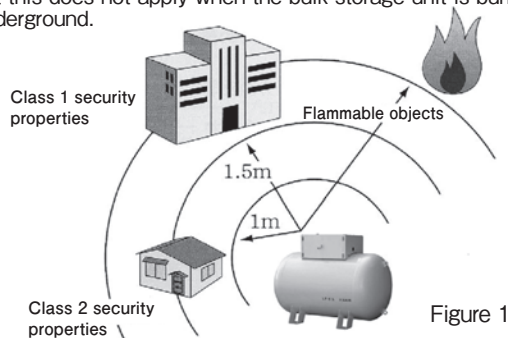
Article 19 Section 3-二 Bulk storage units installed on the ground must meet the following standards.

- 1) The foundation shall be level with a flat concrete slab, and at least 5 cm from the ground, and the bulk storage unit should not suffer from harmful deformation due to uneven settlement.
- 2) Measures shall be taken to prevent automobiles and other vehicles from making contact with it.
- 3) The saddle of the bulk storage unit shall be fixed with anchor bolts or the like to the foundation.
- 4) Electrical connection to the ground shall be performed as specified in the official gazette.
- 5) The safety valve shall be equipped with a discharge pipe as specified in the official gazette.

Bulk Storage Unit Safe Distance (for storage capacity of less than 1,000 kg)

(Article 19 Section 3-□)

□. The outer surface of bulk storage units must be at least 1.5 m away from Class 1 security properties, and at least 1 m away from Class 2 security properties. However, as stipulated in the official gazette, for Class 1 security properties and Class 2 security properties, a structural wall that passes the heating test or has equivalent or better performance must be installed, but this does not apply when the bulk storage unit is buried underground.



- * There are no regulations on secure distance when the unit is installed underground. However, according to standards for filling work, it is necessary to secure a distance of at least 1.5 m away from Class 1 security properties, and at least 1 m away from Class 2 security properties.

●[Official Gazette Article 2] (Figure 2)

- Section 1, Part 1: Structural walls shall be installed in a maximum of 2 directions.
 Part 2: The lower part of structural walls shall be installed in contact with the ground.
 Part 3: Structural walls shall have a length of 1 m or more from the length and width of the bulk storage unit as projected onto the structural wall.
 However, this does not apply to other structural walls related to the bulk storage unit and the part in contact with the ground.
 Part 4: There shall be no openings in structural walls.
- Section 2:
 If the outer wall of the building where the consumption equipment which receives the supply of LPG has equivalent or better performance than the ones that pass the 30 minute heating test specified in JISA1304, then the outer wall can be considered to be the structural wall.

Horizontal Bulk Storage Unit Gas Generation Volume

(Source: Conference of LP Gas Associated Organizations, Technical Standards D-液 (Eki) -001-1999)

(1) 300 kg Bulk Storage Unit Gas Generation Volume (kg/h)

• Filling Composition: C3H8 95 mol% • Remaining Amount: 30 wt%

Horizontal Model 300 kg	Continuous Operating Hours								
	1 hour	1.5 hours	2 hours	3 hours	4 hours	5 hours	6 hours	7 hours	8 hours
15°C	27.3	18.9	14.7	10.5	8.4	7.2	6.4	5.8	5.4
10°C	23.9	16.5	12.9	9.2	7.4	6.3	5.6	5.1	4.7
5°C	20.6	14.2	11.1	7.9	6.3	5.4	4.8	4.4	4.1
0°C	17.2	11.9	9.3	6.6	5.3	4.5	4.0	3.6	3.4
-5°C	13.9	9.6	7.5	5.3	4.3	3.6	3.2	2.9	2.7
-10°C	10.6	7.3	5.7	4.0	3.2	2.7	2.4	2.2	2.0
-15°C	7.4	5.1	3.9	2.8	2.2	1.9	1.6	1.5	1.4
-20°C	4.1	2.8	2.2	1.5	1.2	1.0	0.9	0.8	0.7

(2) 500 kg Bulk Storage Unit Gas Generation Volume (kg/h)

• Filling Composition: C3H8 95 mol% • Remaining Amount: 30 wt%

Horizontal Model 500 kg	Continuous Operating Hours								
	1 hour	1.5 hours	2 hours	3 hours	4 hours	5 hours	6 hours	7 hours	8 hours
15°C	44.7	30.6	23.6	16.6	13.1	11.1	9.7	8.7	8.0
10°C	39.1	26.8	20.7	14.6	11.5	9.7	8.5	7.6	7.0
5°C	33.7	23.1	17.8	12.5	9.9	8.3	7.3	6.6	6.0
0°C	28.2	19.3	14.9	10.5	8.3	7.0	6.1	5.5	5.0
-5°C	22.8	15.6	12.0	8.4	6.7	5.6	4.9	4.4	4.0
-10°C	17.4	11.9	9.2	6.4	5.1	4.2	3.7	3.3	3.0
-15°C	12.1	8.2	6.3	4.4	3.5	2.9	2.5	2.3	2.1
-20°C	6.7	4.6	3.5	2.4	1.9	1.6	1.4	1.2	1.1

(1) 985 kg Bulk Storage Unit Gas Generation Volume (kg/h)

• Filling Composition: C3H8 95 mol% • Remaining Amount: 30 wt%

Horizontal Model 985 kg	Continuous Operating Hours								
	1 hour	1.5 hours	2 hours	3 hours	4 hours	5 hours	6 hours	7 hours	8 hours
15°C	87.9	61.2	47.0	32.8	25.7	21.5	18.7	16.7	15.2
10°C	78.7	53.7	41.2	28.7	22.5	18.8	16.3	14.6	13.3
5°C	67.7	46.2	35.4	24.7	19.4	16.2	14.0	12.5	11.4
0°C	56.9	38.8	29.7	20.7	16.2	13.5	11.7	10.5	9.5
-5°C	46.0	31.4	24.0	16.7	13.1	10.9	9.5	8.4	7.7
-10°C	35.2	24.0	18.4	12.8	10.0	8.3	7.2	6.4	5.8
-15°C	24.4	16.6	12.7	8.8	6.8	5.7	4.9	4.4	4.0
-20°C	13.6	9.2	7.0	4.8	3.8	3.1	2.7	2.4	2.1

(2) 2.9 t Bulk Storage Unit Gas Generation Volume (kg/h)

• Filling Composition: C3H8 95 mol% • Remaining Amount: 30 wt%

Horizontal Model 2.9 t	Continuous Operating Hours								
	1 hour	1.5 hours	2 hours	3 hours	4 hours	5 hours	6 hours	7 hours	8 hours
10°C	265.7	177.5	133.5	89.4	67.4	54.3	45.5	39.3	34.7
5°C	222.9	148.9	111.9	75.0	56.6	45.5	38.2	32.9	29.0
0°C	181.6	121.3	91.2	61.1	46.0	37.0	31.1	26.8	23.8
-5°C	141.7	94.7	71.2	47.6	35.9	28.9	24.2	20.9	18.4
-10°C	103.3	69	51.8	34.7	26.1	21.0	17.6	15.2	13.3

Vertical Bulk Storage Unit Gas Generation Volume

(Source: Conference of LP Gas Associated Organizations, Technical Standards D-液 (Eki) -001-1999)

(1) 980 kg Bulk Storage Unit Gas Generation Volume (kg/h)

• Filling Composition: C3H8 95 mol% • Remaining Amount: 30 wt%

Vertical Model 980 kg	Continuous Operating Hours								
	1 hour	1.5 hours	2 hours	3 hours	4 hours	5 hours	6 hours	7 hours	8 hours
10°C	97.0	65.0	49.0	33.1	25.1	20.4	17.3	15.1	13.4
5°C	81.4	54.5	41.1	27.7	21.1	17.1	14.5	12.6	11.2
0°C	66.3	44.4	33.5	22.5	17.1	13.9	11.7	10.2	9.1
-5°C	51.7	34.6	26.1	17.6	13.3	10.8	9.1	7.9	7.0
-10°C	37.7	25.2	19.0	12.8	9.7	7.8	6.6	5.7	5.1

Purpose of
Establishing
Standards

When installing a bulk storage unit to consume LP gas through natural vaporization, it is necessary have a bulk storage unit of large enough size that it can supply adequate LP gas for the customer's consumption. However, because design conditions including the installation status of the bulk storage unit (outside temperature, etc.), customer consumption patterns (continuous consumption time, etc.), and bulk operation status (remaining liquid volume, etc.) differ from one installation case to the next, it is expected that inconveniences will arise even if uniform standards are set.

Therefore, the purpose of this standard is to show how the generation capacity of bulk storage tanks changes depending on the length of continuous consumption time and the amount of remaining liquid, and use this as part of the standard for installing bulk storage tanks.

* The above figures for amount generated do not guarantee capacity of the bulk storage unit.

Introduction to Operation Details in Power Outage and Recovery, by Product

As power outages frequently occur during recent natural disasters and during blackouts, we have explained the operation of gas equipment products immediately after power outages, during recovery, and in long term power outages.

	Product Category	Product Name (Name)	Normally	Immediately after power outages	During recovery from power outages	During long term power outages
1	LP Gas Meter	EY25 (HE/STD)	Guide ○○○ Display	[For interlocking alarms with a plug disconnection function] The plug disconnection mark will be displayed after 30 to 40 minutes	If the plug disconnection mark is displayed, then it will disappear after 30 to 40 minutes, and Extension 2 and the fixed upper limit will be reset.	If power is restored after 3 days or more have elapsed and the plug disconnection display disappears, then it will be necessary to reset Extension 2 and the fixed upper limit with the setting device.
2		SY25MT	Guide ○○○ Display	[For interlocking alarms with a plug disconnection function] The plug disconnection mark will be displayed after 30 to 40 minutes.	If the plug disconnection mark is displayed, then it will disappear after 30 to 40 minutes, but it will be necessary to reset Extension 2 and the fixed upper limit.	If the plug disconnection mark is displayed, then it will disappear after 30 to 40 minutes, but it will be necessary to reset Extension 2 and the fixed upper limit.
3	LP Gas Alarm	YF-005N	White Lamp On	The lamp will turn off, and the alarm will not operate.	The white lamp will flash, then stay on and the alarm will return to monitor mode.	Functions will stop and the alarm will not operate.
4		YF-005NV	White Lamp On	The lamp will turn off, and the alarm will not operate.	The white lamp will flash, a startup sound will play, and a voice will announce "Seijo-desu." (Normal), then the white lamp will flash and the alarm will return to monitor mode.	Functions will stop and the alarm will not operate.
5		YF-434G				
6		YF-437F	Red Lamp On	The lamp will turn off, and the alarm will not operate.	The red lamp will flash, then stay on and the alarm will return to monitor mode.	Functions will stop and the alarm will not operate.
7		YF-433F				
8		YF-431A	Green Lamp On	The lamp will turn off, and the alarm will not operate.	The green lamp will flash, then stay on and the alarm will return to monitor mode.	Functions will stop and the alarm will not operate.
9		YF-432				
10		YF-417C	Green Lamp On	The lamp will turn off, and the alarm will not operate. (Except for supply from the backup power source)	The green lamp will flash, then stay on and the alarm will return to monitor mode.	Functions will stop and the alarm will not operate.
11		YF-313A	Green Lamp On	The lamp will turn off, and the alarm will not operate.	The green lamp on the alarm part will flash, and the green lamp and red lamp on the detector part will flash, then the green lamps on both the alarm part and detector part will stay on and the alarm will return to monitor mode.	Functions will stop and the alarm will not operate.
12		YSC-29A/B	Base Unit / Slave Unit Neither lamp turns on	[For interlocking alarms with a plug disconnection function] The alarm lamp on the slave unit will flash twice in 10 second cycles.	Reset the device if the gas meter has shutoff.	Resetting is not possible on commercial properties, so it is necessary to connect a DA adapter and do reset work.
13	ABK-011 (Outdoor Buzzer)	Power Supply Lamp On	The power supply lamp will turn off (reliant on the power supply of the alarm)	The power supply lamp will turn on and the alarm will return to its normal state. (reliant on the power supply of the alarm)	Will not operate because it is reliant on the alarm power supply.	
14	AAP211 (Receiver)	Power Supply Lamp On	Operates once per hour with the reserve power supply.	The power supply lamp will turn on and the alarm will return to its normal state.	The power supply lamp will turn off, and the alarm will not operate.	
15	NCU	YCB-15M	Although there is no display on the case outline, the internal LED will normally display "0".	The internal LED will turn off, but it will operate using the built in battery.	Although there is no display on the case outline, the internal LED will normally display "0".	The built in battery is depleted, so the alarm will make a low battery voltage notification, then stop operating.
16		FOMA Base Unit	Although there is no display on the case outline, the LED lamp inside the terminal base will turn on.	The LED inside the terminal base will turn off and it will not operate.	Although there is no display on the case outline, the LED lamp inside the terminal base will turn on.	It will not operate.
17		PAU	Power Lamp On and Ready Lamp On or flashing	The lamp will turn off and it will not operate.	The power lamp will turn on and the ready lamp will turn on or flash, and the alarm will return to its normal state.	It will not operate.
18		BULLDOG VIII System	Monitor On, Call can be received	The UPS alarm will sound.	The monitor light will turn on, and it returns to the state to receive a call.	When using continuously, it is necessary to supply power from a generator or the like.
19	Shutoff Valves Controllers	YCB-12D	Display the usage status	The shutoff valve will maintain the normal state.	The alarm will display the status before the power outage.	When using gas in the event of a power outage while the shutoff valve is closed, the valve must be opened manually.
20		YCB-12E				When using gas in the event of a power outage while the shutoff valve is closed, the valve must be opened with a spanner.
21	Electric Type Vaporizer	VP-S100EC	Control Panel Green Lamp On	The control panel green lamp turns off. If the water temperature 60°C or higher, it will supply gas continuously.	If the green lamp turns on and the water temperature 60°C or higher, it will supply gas continuously.	<ul style="list-style-type: none"> If the water temperature falls below 60°C, the gas supply will stop (it will remain stopped after restoration) To start the gas supply, the manager must open it by hand.
22	Gas Type Vaporizer	VP-S100GC	Control Panel Green Lamp On	The control panel green lamp turns off. If the water temperature 60°C or higher, it will supply gas continuously.	If the green lamp turns on and the water temperature 60°C or higher, it will supply gas continuously.	<ul style="list-style-type: none"> If the water temperature falls below 60°C, the gas supply from the VP will stop (it will remain stopped after restoration). To start the gas supply, the manager must open it by hand.
23	Hot Water Circulation Type Vaporizer	VP-S200WC	No display on the VP and recommended heat source	If the water temperature is 60°C or higher, it will supply gas continuously.	If the water temperature is 60°C or higher, it will supply gas continuously.	<ul style="list-style-type: none"> If the water temperature falls below 60°C, the gas supply from the VP will stop (it will remain stopped after restoration). To start the gas supply, the manager must open it by hand.
24	Metal Heater Type Electric Type Vaporizer	VP-S30EC	No display on the VP	If the metal temperature is 40°C or higher, it will supply gas continuously.	If the metal temperature is 40°C or higher, it will supply gas continuously.	<ul style="list-style-type: none"> If the metal temperature falls below 40°C, the gas supply from the VP will stop (it will remain stopped after restoration). To start the gas supply, the manager must open it by hand.

YAZAKI Energy System Corporation



YAZAKI Energy System Corporation

■ Company Overview

Establishment: Established in 1963 as Yazaki Electric Cable Co., Ltd.
 2012: Changed company name
 Representative: President Ko Yazaki
 Head Office Address: Mita Kokusai Building 17F, 1-4-28 Mita, Minato-ku, Tokyo 108-8333
 TEL: (81)3-3455-5661 (Operator)
 Capital: 310 Million Yen

■ Development, manufacture, and sale of living environment equipment. Rapid responses to meet your needs.

YAZAKI Energy System operates business based on gas equipments represented by gas meter, electrical power cables, general electrical cables, communications wires, environmental systems including air conditioning and solar heat, and instrumentation equipment such as taxi meters, forms an integrated system for developing, manufacturing, and selling living environment equipments of the YAZAKI Group, and provides products and services that meet customer's needs.



■ Gas Equipment Operations / Tenryu Factory

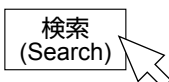
- Address: 23 Minami Kajima, Futamata-cho, Tenryu-ku, Hamamatsu, Shizuoka 431-3312
- TEL: (81)53-925-4511 (Operator)
- Major Products:
 Gas Meters, LPG Gas Alarms, Town Gas Alarms, Gas Shutoff Valves, Regulators, High Pressure Hoses, Outdoor Low Pressure Rubber Hoses, Gas Multi-Security Systems, Atmospheric Environment Sensors (Carbon Monoxide Detectors, etc.)



■ Gas Equipment Operations Website

<https://gas.yazaki-group.com/>

Search for "YAZAKI Gas"



*Download product drawings, CAD data, instruction manuals, catalogs and more from our website.



YAZAKI Energy System Corporation

Head office

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Tokyo 108-8333

Gas equipment operations

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TEL: (81)53-925-4511

Tohoku sales dept.	TEL: (81)22-284-9114
Kyushu sales dept.	TEL: (81)92-411-4834
Kanto sales dept.	TEL: (81)3-5782-2702
YAZAKI Hokkaido sales co.	TEL: (81)11-852-2914
Chubu sales dept.	TEL: (81)52-769-1532
YAZAKI Shikoku sales co.	TEL: (81)87-833-3335
Kansai Chugoku sales dept.	TEL: (81)6-6458-8185

* Consult our LP gas dealer or nearest sales office if you notice a problem with this equipment.
Do not attempt to repair the equipment on your own.

* Addresses and phone numbers may change.

* Please note that changes may be made to product specifications or descriptions without prior notice.

Dealers

- ISO 9001/ ISO 14001 (Quality and Environmental Management Systems) scope of products/services
To design and manufacture gas meters (including safety gas meters), gas leakage alarms (including complex alarms, residential fire and gas leakage alarms, and wireless interlock systems), fire alarms (including wireless interlock systems), gas shut-off valves, LP gas regulators, transmission devices, shut-off valve controllers, high-pressure hoses, self-recording pressure meters, leak detection parts of leak detectors, LP gas evaporators and LP gas liquid automatic change over devices.