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LPG&NG

EQUIPMENT

For our customers

- Herein LPG supplying equipment is mainly published. In addition, Combustion equipment and Gas space heater are also published for improving gas demanding. Please contact the sales dealer or us for more information. Various gas equipment are available.
- When using products, in order for the customers to use the LP gas safely and comfortably, please read and follow a manual carefully and keep to a safety a product facility.
- In case of designing or manufacturing by using products in this catalogue, be sure to do only after well understanding their characteristics and keeping in safety.
- Our continuous design progress makes it necessary that specifications be subject to change without notice.
- Connection “A” indicates Nominal diameter (mm) and “B” is Nominal pipe size (inches). Measurement unit is based on JIS (Japanese Industrial Standards).
- Please read the operation manual carefully and follow all instructions.

1

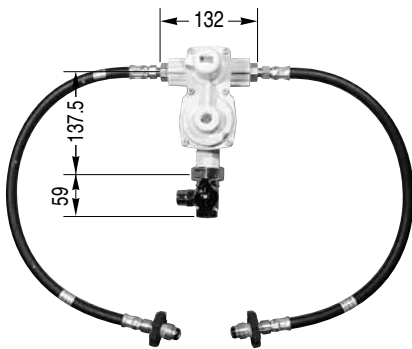
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AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

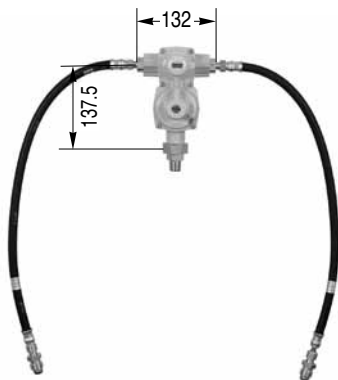
UNITIZED TYPE AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

8 kg/h < WITH GRAPITA HOSE >



CAB-H5Z

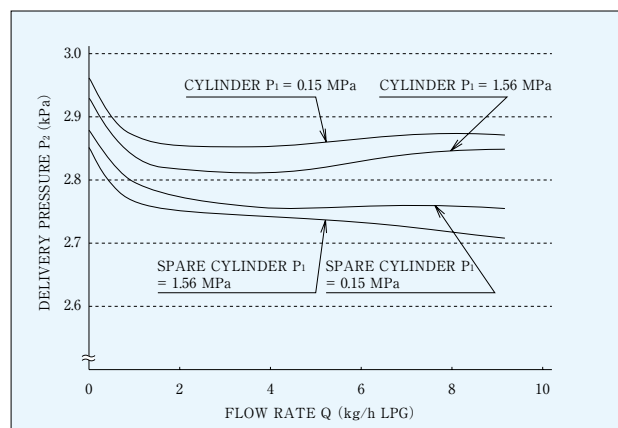
MODEL No.	CAB-S5Z CAB-H5Z
SPECIFICATIONS	
CAPACITY (Q)	8 kg/h
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa
INLET CONNECTION	S5 : POL MALE SCREWED WITH BS-5 (SPANNER TIGHT HOSE) H5 : POL MALE SCREWED WITH BH-5 (HAND TIGHT HOSE)
OUTLET CONNECTION	Rc1/2 ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa



CAB-S5M

MODEL No.	CAB-S5M CAB-H5M	CAB-S5U CAB-H5U
SPECIFICATIONS		
CAPACITY (Q)	8 kg/h	
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa	
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa	
INLET CONNECTION	S5 : POL MALE SCREWED WITH BS-5 (SPANNER TIGHT HOSE) H5 : POL MALE SCREWED WITH BH-5 (HAND TIGHT HOSE)	
OUTLET CONNECTION	R1/2 ^B (MALE LOW-PRESSURE UNION)	Rc1/2 ^B (FEMALE LOW-PRESSURE UNION)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa	

PERFORMANCE CURVE

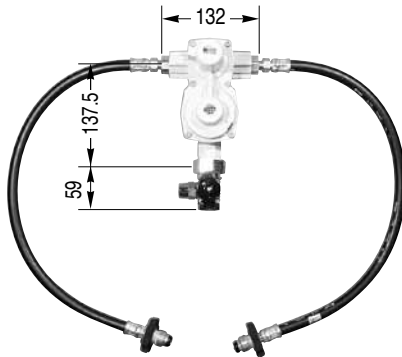


CA

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

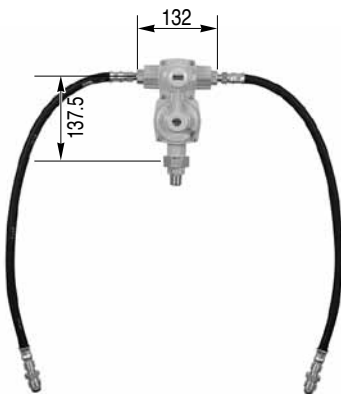
UNITIZED TYPE AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

8 kg/h



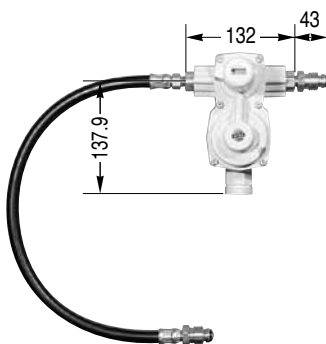
CA-H5Z

MODEL No.	CA-S5Z CA-H5Z
SPECIFICATIONS	
CAPACITY (Q)	8 kg/h
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa
INLET CONNECTION	S5 : POL MALE SCREWED WITH SK-5 (SPANNER TIGHT HOSE) H5 : POL MALE SCREWED WITH SKH-5 (HAND TIGHT HOSE)
OUTLET CONNECTION	Rc $\frac{1}{2}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa



CA-S5M

MODEL No.	CA-S5M CA-H5M	CA-S5U CA-H5U
SPECIFICATIONS		
CAPACITY (Q)	8 kg/h	
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa	
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa	
INLET CONNECTION	S5 : POL MALE SCREWED WITH SK-5 (SPANNER TIGHT HOSE) H5 : POL MALE SCREWED WITH SKH-5 (HAND TIGHT HOSE)	
OUTLET CONNECTION	R $\frac{1}{2}$ ^B (MALE LOW-PRESSURE UNION)	Rc $\frac{1}{2}$ ^B (FEMALE LOW-PRESSURE UNION)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa	



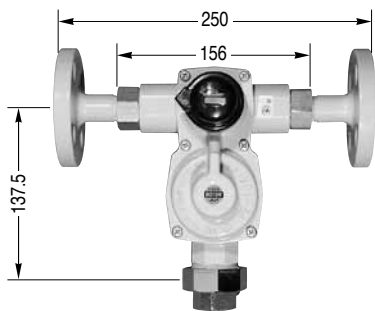
CA-SP5

MODEL No.	CA-SP5 CA-HP5	CA-PS5 CA-PH5
SPECIFICATIONS		
CAPACITY (Q)	8 kg/h	
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa	
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa	
INLET CONNECTION	SP5 : POL MALE SCREWED LEFT SIDE : WITH SK-5 (SPANNER TIGHT HOSE) RIGHT SIDE : SPANNER TIGHT LONG PIN HP5 : POL MALE SCREWED LEFT SIDE : WITH SKH-5 (HAND TIGHT HOSE) RIGHT SIDE : HAND TIGHT LONG PIN	PS5 : POL MALE SCREWED LEFT SIDE : SPANNER TIGHT LONG PIN RIGHT SIDE : WITH SK-5 (SPANNER TIGHT HOSE) PH5 : POL MALE SCREWED LEFT SIDE : HAND TIGHT LONG PIN RIGHT SIDE : WITH SKH-5 (HAND TIGHT HOSE)
OUTLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)	
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa	

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

UNITIZED TYPE AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

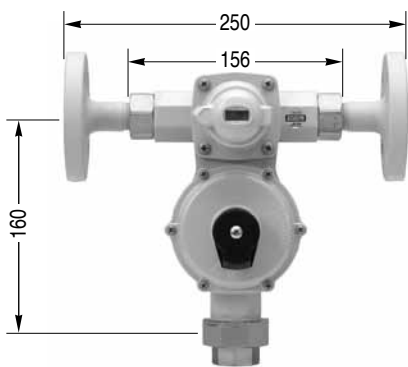
10 kg/h



PE-10AFU

MODEL No.	PE-10AU	PE-10AZ	PE-10AFU	PE-10AFZ
SPECIFICATIONS				
CAPACITY (Q)	10 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc ¹ / ₂ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc ³ / ₄ ^B (FEMALE LOW-PRESSURE UNION)	Rc ³ / ₄ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc ³ / ₄ ^B (FEMALE LOW-PRESSURE UNION)	Rc ³ / ₄ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

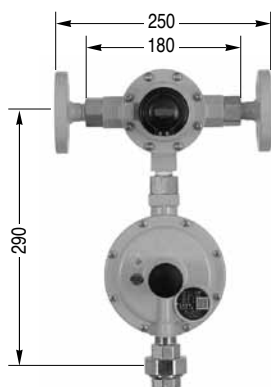
15 kg/h



PE-15FU

MODEL No.	PE-15U	PE-15Z	PE-15FU	PE-15FZ
SPECIFICATIONS				
CAPACITY (Q)	15 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc ¹ / ₂ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc ³ / ₄ ^B (FEMALE LOW-PRESSURE UNION)	Rc ³ / ₄ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc ³ / ₄ ^B (FEMALE LOW-PRESSURE UNION)	Rc ³ / ₄ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

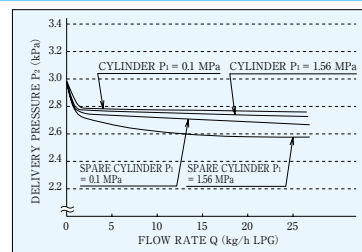
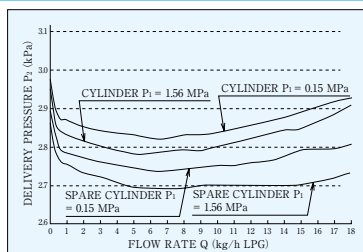
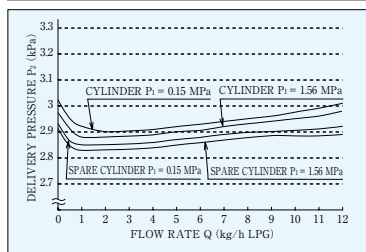
20 kg/h



KAL-20AFU

MODEL No.	KAL-20AU	KAL-20AB	KAL-20AFU	KAL-20AFB
SPECIFICATIONS				
CAPACITY (Q)	20 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc ¹ / ₂ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc ³ / ₄ ^B (FEMALE LOW-PRESSURE UNION)	Rc ³ / ₄ ^B (BALL VALVE)	Rc ³ / ₄ ^B (FEMALE LOW-PRESSURE UNION)	Rc ³ / ₄ ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

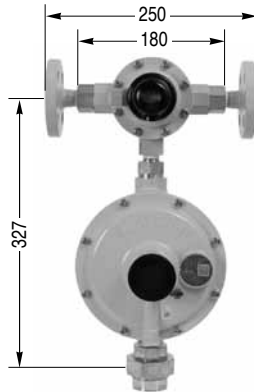
PERFORMANCE CURVE



AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

UNITIZED TYPE AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

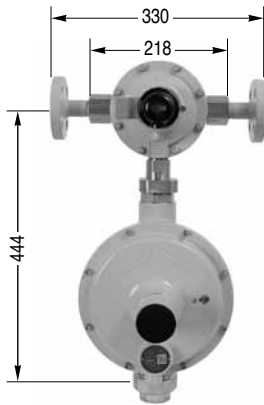
30 kg/h



KAL-30AFU

MODEL No. / SPECIFICATIONS	KAL-30AU	KAL-30AB	KAL-30AFU	KAL-30AFB
CAPACITY (Q)	30 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc1/2 ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

50 kg/h

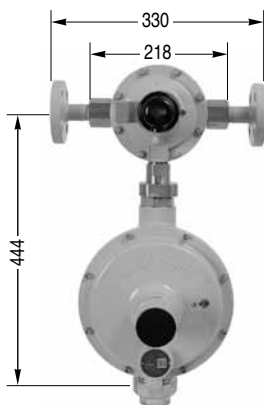


KAL-50BFU

MODEL No. / SPECIFICATIONS	KAL-50BFU	KAL-50BFB	KAL-50BMFU	KAL-50BMFB
CAPACITY (Q)	50 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	JIS 20 K 20 A FLANGED			
OUTLET CONNECTION	Rc1 1/4 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 1/4 ^B (BALL VALVE)	Rc1 1/4 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 1/4 ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

Note: KLS-50BFU, KAL-50BFB, KAL-50BMFU and KLA-50BMFB are models that ease the effect of instantaneous lock-up.

70 kg/h

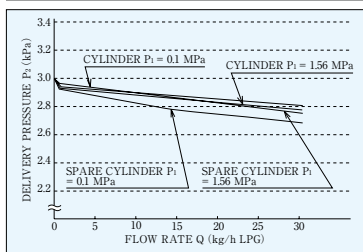


KAL-70BFU

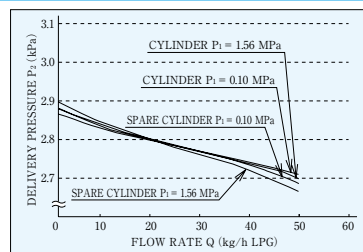
MODEL No. / SPECIFICATIONS	KAL-70BFU	KAL-70BFB	KAL-70BMFU	KAL-70BMFB
CAPACITY (Q)	70 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	JIS 20 K 20 A FLANGED			
OUTLET CONNECTION	Rc1 1/4 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 1/4 ^B (BALL VALVE)	Rc1 1/4 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 1/4 ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

Note: KLS-70BFU, KAL-70BFB, KAL-70BMFU and KLA-70BMFB are models that ease the effect of instantaneous lock-up.

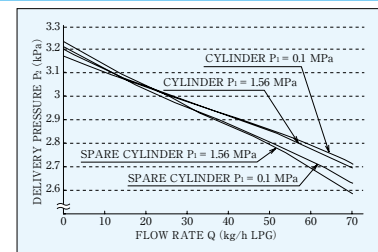
PERFORMANCE CURVE



KAL-30A



KAL-50B

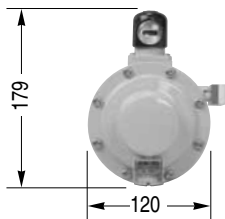


KAL-70B

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

SEPARATED TYPE AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

30 kg/h



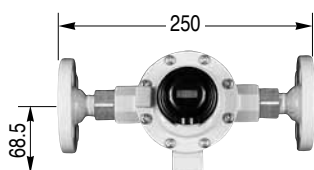
KA-30

SPECIFICATIONS	MODEL No.	KA-30	KA-30K (FOR INDUSTRY)
CAPACITY (Q)		30 kg/h	30 kg/h
INLET CONNECTION		Rc 1/2 ^B (FEMALE SCREWED)	JIS 20 K 15 A FLANGED
OUTLET CONNECTION		Rc 1/2 ^B (FEMALE SCREWED)	Rc 1/2 ^B (FEMALE SCREWED)
INLET PRESSURE (P ₁)		0.1 - 1.56 MPa	0.2 - 1.56 MPa
DELIVERY PRESSURE (P ₂)		0.032 - 0.083 MPa	0.1 - 0.16 MPa
MAX. LOCK-UP PRESSURE		0.095 MPa	0.17 MPa

Note 1: With Flange, Model No. KA-30F is also available.

Note 2: Without Flange, Model No. KA-30K (W/OF) is also available.

30 kg/h

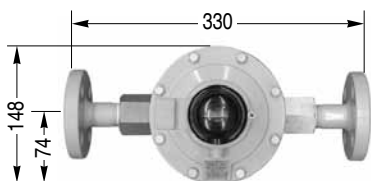


KA-32AKF

SPECIFICATIONS	MODEL No.	KA-32AKF (FOR INDUSTRY)
CAPACITY (Q)		32 kg/h
INLET CONNECTION		JIS 20 K 15 A FLANGED
OUTLET CONNECTION		Rc 1/2 ^B (FEMALE SCREWED)
INLET PRESSURE (P ₁)		0.2 - 1.56 MPa
DELIVERY PRESSURE (P ₂)		0.07 - 0.17 MPa
STANDARD OUTLET PRESSURE	R1 (USING-SIDE)	0.14 MPa
	R2 (STANDBY-SIDE)	0.11 MPa
MAX. LOCK-UP PRESSURE		0.18 MPa

Note: Without Flange, Model No. KA-32AK is also available.

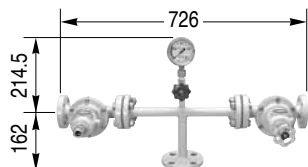
50 kg/h



KA-50BK

SPECIFICATIONS	MODEL No.	KA-50B	KA-50BK (FOR INDUSTRY)
CAPACITY (Q)		50 kg/h	
INLET CONNECTION		JIS 20 K 20 A FLANGED	
OUTLET CONNECTION		Rc 1 ^B (FEMALE SCREWED)	
INLET PRESSURE (P ₁)		0.1 - 1.56 MPa	0.2 - 1.56 MPa
DELIVERY PRESSURE (P ₂)		0.032 - 0.083 MPa	0.1 - 0.16 MPa
STANDARD OUTLET PRESSURE	R1 (USING-SIDE)	0.07 MPa	0.15 MPa
	R2 (STANDBY-SIDE)	0.04 MPa	0.11 MPa
MAX. LOCK-UP PRESSURE		0.095 MPa	0.18 MPa

70 kg/h



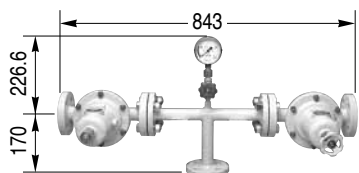
KA-70T

SPECIFICATIONS	MODEL No.	KA-70T	KA-70TK (FOR INDUSTRY)
CAPACITY (Q)		70 kg/h	
INLET CONNECTION		JIS 20 K 20 A FLANGED	
OUTLET CONNECTION		JIS 20 K 25 A FLANGED	
INLET PRESSURE (P ₁)		0.1 - 1.56 MPa	0.2 - 1.56 MPa
DELIVERY PRESSURE (P ₂)		0.032 - 0.083 MPa	0.096 - 0.17 MPa
STANDARD OUTLET PRESSURE	R1 (USING-SIDE)	0.07 MPa	0.15 MPa
	R2 (STANDBY-SIDE)	0.04 MPa	0.12 MPa
MAX. LOCK-UP PRESSURE		0.095 MPa	0.195 MPa

Note 1: Without T-pipe, Model No. KA-70A is also available.

Note 2: Without T-pipe, Model No. KA-70AK is also available.

100 kg/h



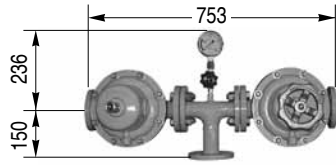
KA-100T

SPECIFICATIONS	MODEL No.	KA-100T	KA-100TK (FOR INDUSTRY)
CAPACITY (Q)		100 kg/h	
INLET CONNECTION		JIS 20 K 25 A FLANGED	
OUTLET CONNECTION		JIS 20 K 25 A FLANGED	
INLET PRESSURE (P ₁)		0.1 - 1.56 MPa	0.2 - 1.56 MPa
DELIVERY PRESSURE (P ₂)		0.032 - 0.083 MPa	0.096 - 0.17 MPa
STANDARD OUTLET PRESSURE	R1 (USING-SIDE)	0.07 MPa	0.15 MPa
	R2 (STANDBY-SIDE)	0.04 MPa	0.12 MPa
MAX. LOCK-UP PRESSURE		0.095 MPa	0.195 MPa

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

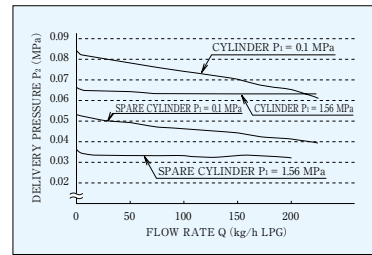
SEPARATED TYPE AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

200 kg/h



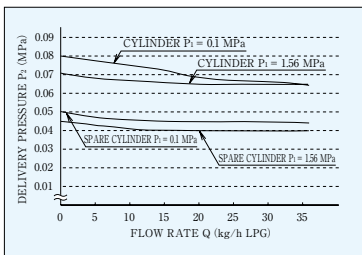
KA-200FT

SPECIFICATIONS		MODEL No.	KA-200FT
CAPACITY (Q)			200 kg/h
INLET CONNECTION			JIS 20 K 25 A FLANGED
OUTLET CONNECTION			JIS 10 K 40 A FLANGED
INLET PRESSURE (P ₁)			0.1 - 1.56 MPa
DELIVERY PRESSURE (P ₂)			0.032 - 0.083 MPa
STANDARD OUTLET PRESSURE	R1 (USING-SIDE)		0.07 MPa
	R2 (STANDBY-SIDE)		0.04 MPa
MAX. LOCK-UP PRESSURE			0.095 MPa

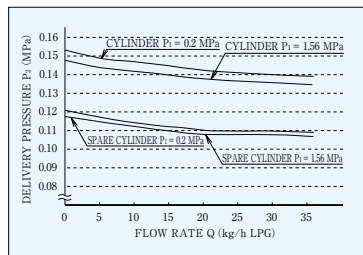


KA-200FT

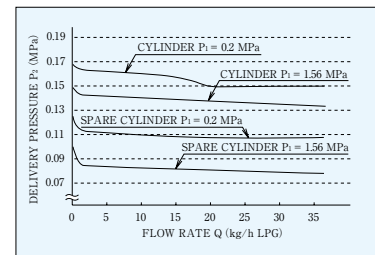
PERFORMANCE CURVE



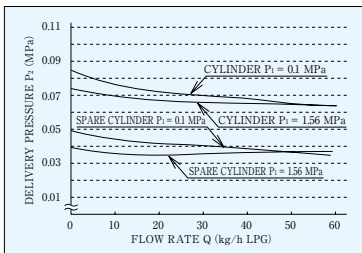
KA-30



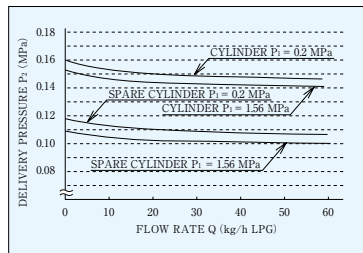
KA-30K



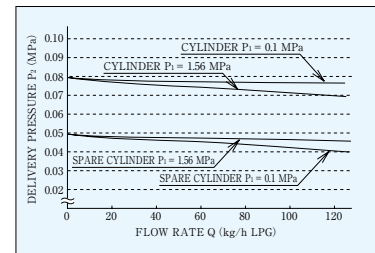
KA-32AK



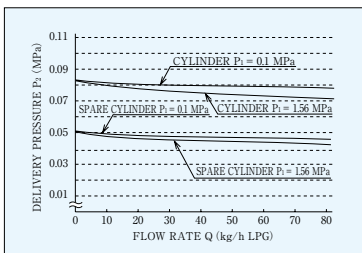
KA-50B



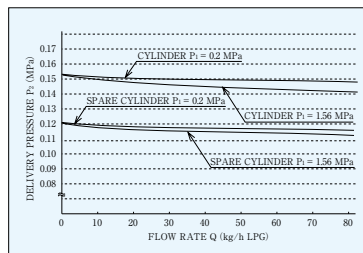
KA-50BK



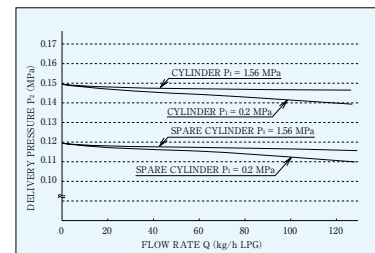
KA-100T



KA-70T



KA-70TK

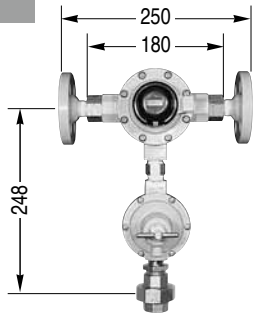


KA-100TK

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

ADJUSTABLE TYPE AUTOMATIC CHANGE-OVER PRESSURE REGULATOR (MEDIUM PRESSURE)

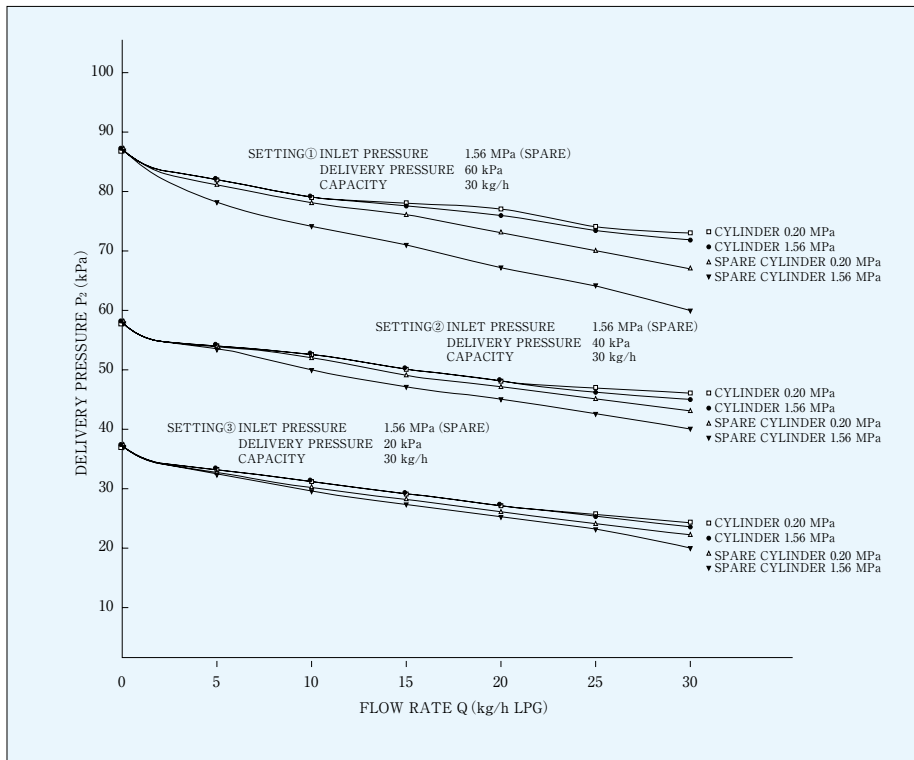
30 kg/h



KAM-30AFU

MODEL No.	KAM-30AU	KAM-30AFU
SPECIFICATIONS		
CAPACITY (Q)	30 kg/h	
INLET PRESSURE (P ₁)	0.2 - 1.56 MPa	
DELIVERY PRESSURE (P ₂)	20 - 60 kPa	
INLET CONNECTION	Rc1/2 ^B (FEMALE SCREWED)	JIS 20 K 15 A FLANGED
OUTLET CONNECTION	Rc3/4 ^B (FEMALE LOW-PRESSURE UNION)	
MAX. LOCK-UP PRESSURE	0.1 MPa	

PERFORMANCE CURVE



KAM-30A

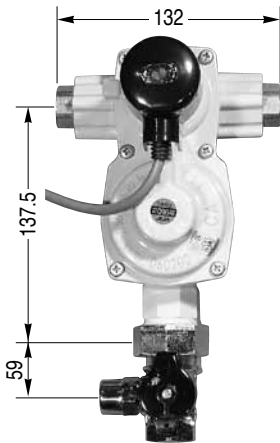
AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

- *1 ■ No holding type : In no holding type, when gas is being supply from the standby cylinder will be “Red”.
Even after the indicator turned into “Red”, when the usage amount is decreased and can be covered by the main supply cylinder, the indicator revert to “White”.
- *2 ■ Self holding type : In self holding type, once gas is being supply from the standby cylinder, the indicator will be “Red”.
(When the usage amount is decreased and can be covered by the main supply cylinder will not revert to “White”).

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR WITH TRANSMITTER (CONTACT: NO HOLDING TYPE *)

*1...Note: Refer to the top of the page 9

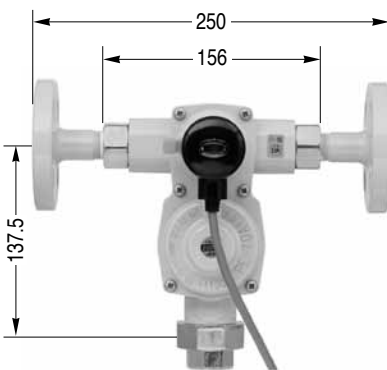
8 kg/h



HE-S5Z · HE-H5Z
(WITH HIGH PRESSURE HOSE)

MODEL No.	HE-S5Z HE-H5Z	HE-S5M HE-H5M
SPECIFICATIONS		
CAPACITY (Q)	8 kg/h	
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa	
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa	
INLET CONNECTION	S5 : POL MALE SCREWED WITH SK-5 (SPANNER TIGHT HOSE) H5 : POL MALE SCREWED WITH SKH-5 (HAND TIGHT HOSE)	
OUTLET CONNECTION	R $\frac{1}{2}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{1}{2}$ ^B (MALE LOW-PRESSURE UNION)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa	

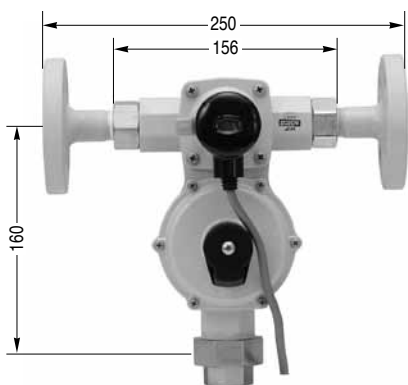
10 kg/h



HE-10AFU

MODEL No.	HE-10AU	HE-10AZ	HE-10AFU	HE-10AFZ
SPECIFICATIONS				
CAPACITY (Q)	10 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

15 kg/h



HE-15FU

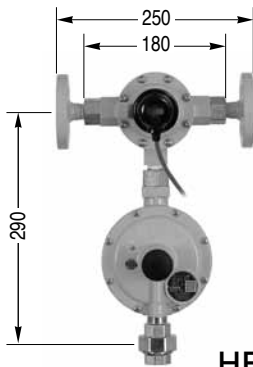
MODEL No.	HE-15U	HE-15Z	HE-15FU	HE-15FZ
SPECIFICATIONS				
CAPACITY (Q)	15 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR WITH TRANSMITTER (CONTACT: NO HOLDING TYPE *)

*1...Note: Refer to the top of the page 9

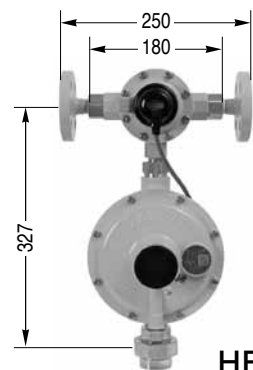
20 kg/h



HE-20AFU

MODEL No.	HE-20AU	HE-20AB	HE-20AFU	HE-20AFB
SPECIFICATIONS				
CAPACITY (Q)	20 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc ^{1/2} ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc ^{3/4} ^B (FEMALE LOW-PRESSURE UNION)	Rc ^{3/4} ^B (BALL VALVE)	Rc ^{3/4} ^B (FEMALE LOW-PRESSURE UNION)	Rc ^{3/4} ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

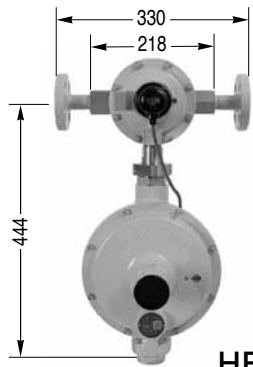
30 kg/h



HE-30AFU

MODEL No.	HE-30AU	HE-30AB	HE-30AFU	HE-30AFB
SPECIFICATIONS				
CAPACITY (Q)	30 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc ^{1/2} ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc ¹ ^B (FEMALE LOW-PRESSURE UNION)	Rc ¹ ^B (BALL VALVE)	Rc ¹ ^B (FEMALE LOW-PRESSURE UNION)	Rc ¹ ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

50 kg/h



HE-50BFU

MODEL No.	HE-50BFU	HE-50BFB	HE-50BMFU	HE-50BMFB
SPECIFICATIONS				
CAPACITY (Q)	50 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	JIS 20 K 20 A FLANGED			
OUTLET CONNECTION	Rc ^{1/4} ^B (FEMALE LOW-PRESSURE UNION)	Rc ^{1/4} ^B (BALL VALVE)	Rc ^{1/4} ^B (FEMALE LOW-PRESSURE UNION)	Rc ^{1/4} ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

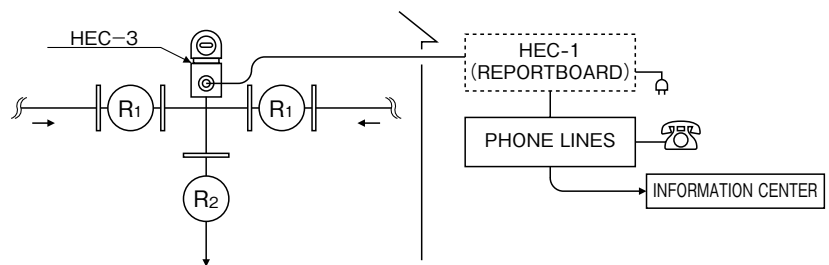
Note: HE-50BMFU and HE-50BMFB are models that ease the effect of instantaneous lock-up.

Contact Signal Transmitter

In case of using switching display function and transmit function for the automatic change-over regulator for the capacity of 70 kg/h or KA-100 kg/h, please use the contact signal transmitter (Model No. HEC-3).



HEC-3



A regulator with communicator, contact transmitter HEC-3, can send the information about the use of standby-side cylinders through phone lines to the information center of gas companies directly.

Note: Barrier relay HEC-1 is necessary in case of the following situations:-

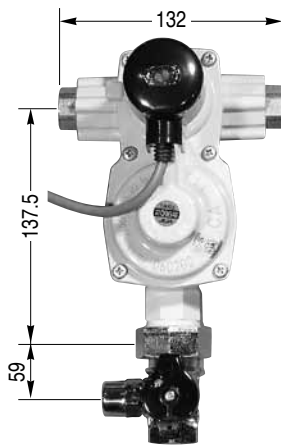
- (1) When Self holding type is needed
- (2) For the installation of the products at a hazardous area which requires explosion-proof structure.

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR WITH TRANSMITTER (CONTACT: SELF HOLDING TYPE ^{*2})

*2...Note: Refer to the top of the page 9

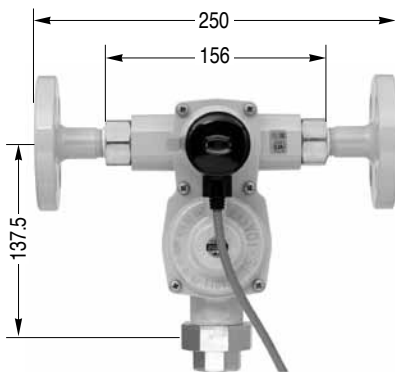
8 kg/h



HEK-S5Z · HEK-H5Z
(WITH HIGH PRESSURE HOSE)

MODEL No.	HEK-S5Z HEK-H5Z	HEK-S5M HEK-H5M
SPECIFICATIONS		
CAPACITY (Q)	8 kg/h	
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa	
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa	
INLET CONNECTION	S5 : POL MALE SCREWED WITH SK-5 (SPANNER TIGHT HOSE) H5 : POL MALE SCREWED WITH SKH-5 (HAND TIGHT HOSE)	
OUTLET CONNECTION	R $\frac{1}{2}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{1}{2}$ ^B (MALE LOW-PRESSURE UNION)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa	

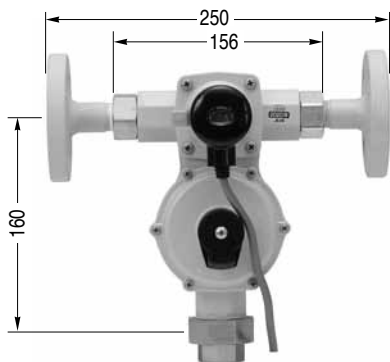
10 kg/h



HEK-10AFU

MODEL No.	HEK-10AU	HEK-10AZ	HEK-10AFU	HEK-10AFZ
SPECIFICATIONS				
CAPACITY (Q)	10 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

15 kg/h



HEK-15FU

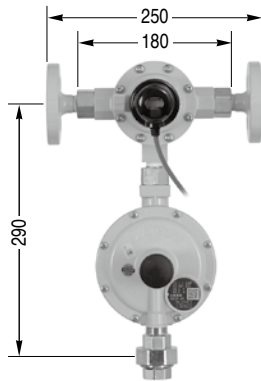
MODEL No.	HEK-15U	HEK-15Z	HEK-15FU	HEK-15FZ
SPECIFICATIONS				
CAPACITY (Q)	15 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR WITH TRANSMITTER (CONTACT: SELF HOLDING TYPE ²⁾)

*2...Note: Refer to the top of the page 9

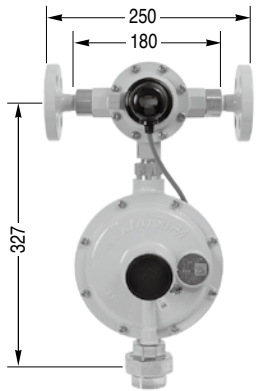
20 kg/h



HEK-20AFU

MODEL No.	HEK-20AU	HEK-20AB	HEK-20AFU	HEK-20AFB
SPECIFICATIONS				
CAPACITY (Q)	20 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (BALL VALVE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

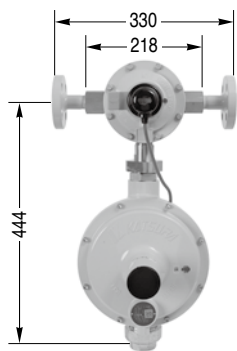
30 kg/h



HEK-30AFU

MODEL No.	HEK-30AU	HEK-30AB	HEK-30AFU	HEK-30AFB
SPECIFICATIONS				
CAPACITY (Q)	30 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

50 kg/h



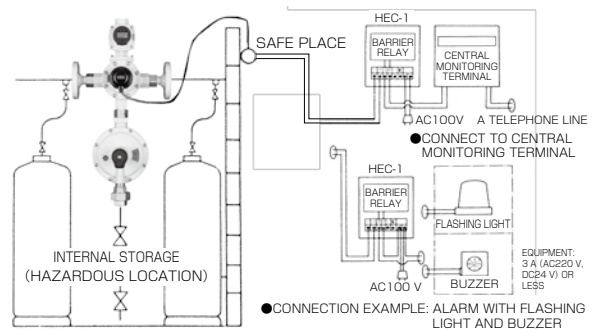
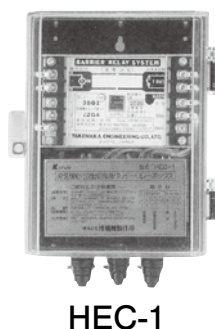
HEK-50BFU

MODEL No.	HEK-50BFU	HEK-50BFB	HEK-50BMFU	HEK-50BMFB
SPECIFICATIONS				
CAPACITY (Q)	50 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	JIS 20 K 20 A FLANGED			
OUTLET CONNECTION	Rc1 $\frac{1}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 $\frac{1}{4}$ ^B (BALL VALVE)	Rc1 $\frac{1}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 $\frac{1}{4}$ ^B (BALL VALVE)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

Note: HEK-50BMFU and HEK-50BMFB are models that ease the effect of instantaneous lock-up.

BARRIER RELAYS

When removing the signal line from the internal storage, explosion-proof treatment is necessary. When Install HEC-1, it should be connected to central monitoring terminal device.

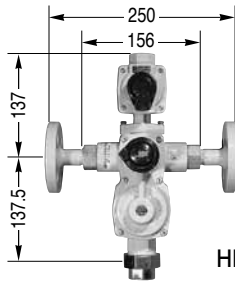


SWITCH TYPE LEAK DETECTION EQUIPMENT

SWITCH TYPE LEAK DETECTION EQUIPMENT (LEAK DETECTOR (I) TYPE *3)

*3··Note: Refer to the bottom of the page 16

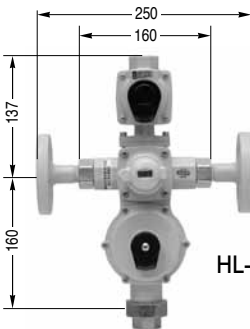
10 kg/h



HL-10BFU

MODEL No.	HL-10BU	HL-10BZ	HL-10BFU	HL-10BFZ
SPECIFICATIONS				
CAPACITY (Q)	10 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20K 15A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

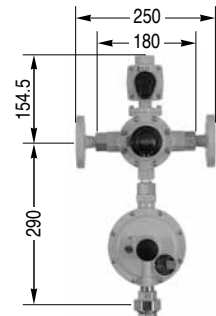
15 kg/h



HL-15FU

MODEL No.	HL-15U	HL-15Z	HL-15FU	HL-15FZ
SPECIFICATIONS				
CAPACITY (Q)	15 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20K 15A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

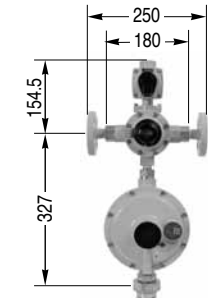
20 kg/h



HL-20AFU

MODEL No.	HL-20AU	HL-20AB	HL-20AFU	HL-20AFB
SPECIFICATIONS				
CAPACITY (Q)	50 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (BALL VALVE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

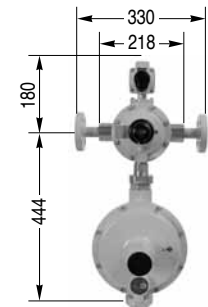
30 kg/h



HL-30AFU

MODEL No.	HL-30AU	HL-30AB	HL-30AFU	HL-30AFB
SPECIFICATIONS				
CAPACITY (Q)	30 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

50 kg/h



HL-50BFU

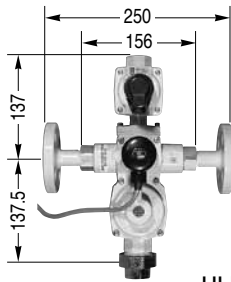
MODEL No.	HL-50BFU	HL-50BFB	HL-50BMFU	HL-50BMFB
SPECIFICATIONS				
CAPACITY (Q)	50 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	JIS 20 K 20 A FLANGED			
OUTLET CONNECTION	Rc1 $\frac{1}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 $\frac{1}{4}$ ^B (BALL VALVE)	Rc1 $\frac{1}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 $\frac{1}{4}$ ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

Note: HL-50BMFU and HL-50BMFB are models that ease the effect of instantaneous lock-up.

SWITCH TYPE LEAK DETECTION EQUIPMENT

SWITCH TYPE LEAK DETECTION EQUIPMENT WITH TRANSMITTER (CONTACT: NO HOLDING TYPE ¹⁾) (LEAK DETECTOR (1) TYPE ³⁾)

10 kg/h

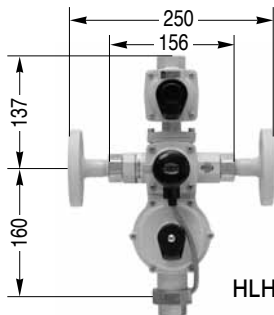


HLHE-10BFU

*1...Note: Refer to the top of the page 9 *3...Note: Refer to the bottom of the page 16

MODEL No.	HLHE-10BU	HLHE-10BZ	HLHE-10BFU	HLHE-10BFZ
SPECIFICATIONS				
CAPACITY (Q)	10 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20K 15A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

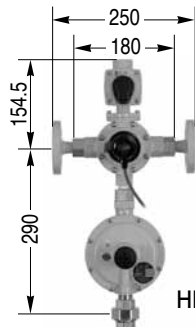
15 kg/h



HLHE-15FU

MODEL No.	HLHE-15U	HLHE-15Z	HLHE-15FU	HLHE-15FZ
SPECIFICATIONS				
CAPACITY (Q)	15 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

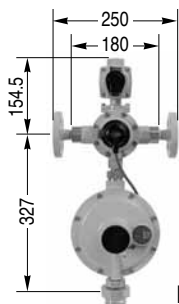
20 kg/h



HLHE-20AFU

MODEL No.	HLHE-20AU	HLHE-20AB	HLHE-20AFU	HLHE-20AFB
SPECIFICATIONS				
CAPACITY (Q)	20 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (BALL VALVE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

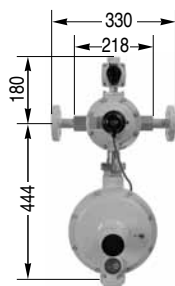
30 kg/h



HLHE-30AFU

MODEL No.	HLHE-30AU	HLHE-30AB	HLHE-30AFU	HLHE-30AFB
SPECIFICATIONS				
CAPACITY (Q)	30 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

50 kg/h



HLHE-50BFU

MODEL No.	HLHE-50BFU	HLHE-50BFB	HLHE-50BMFU	HLHE-50BMFB
SPECIFICATIONS				
CAPACITY (Q)	50 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	JIS 20 K 20 A FLANGED			
OUTLET CONNECTION	Rc1 $\frac{1}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 $\frac{1}{4}$ ^B (BALL VALVE)	Rc1 $\frac{1}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 $\frac{1}{4}$ ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

Note: HLHE-50BMFU and HLHE-50BMFB are models that ease the effect of instantaneous lock-up.

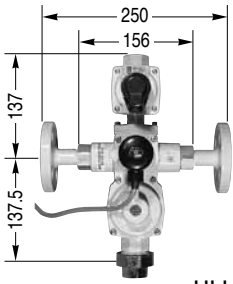
SWITCH TYPE LEAK DETECTION EQUIPMENT

SWITCH TYPE LEAK DETECTION EQUIPMENT WITH TRANSMITTER (CONTACT: SELF HOLDING TYPE ²⁾) (LEAK DETECTOR (1) TYPE ³⁾)

²⁾Note: Refer to the top of the page 9

³⁾Note: Refer to the bottom of the page 16

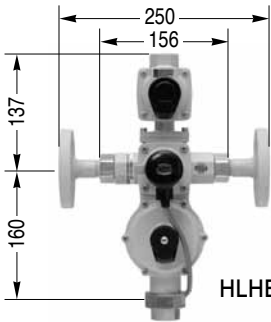
10 kg/h



HLHEK-10BFU

MODEL No.	HLHEK-10BU	HLHEK-10BZ	HLHEK-10BFU	HLHEK-10BFZ
SPECIFICATIONS				
CAPACITY (Q)	10 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

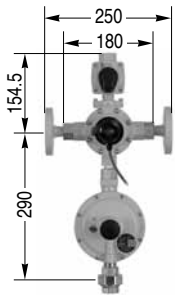
15 kg/h



HLHEK-15FU

MODEL No.	HLHEK-15U	HLHEK-15Z	HLHEK-15FU	HLHEK-15FZ
SPECIFICATIONS				
CAPACITY (Q)	15 kg/h			
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20K 15A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

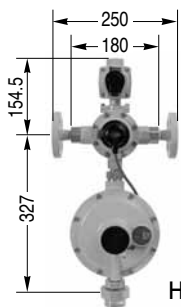
20 kg/h



HLHEK-20AFU

MODEL No.	HLHEK-20AU	HLHEK-20AB	HLHEK-20AFU	HLHEK-20AFB
SPECIFICATIONS				
CAPACITY (Q)	50 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (BALL VALVE)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

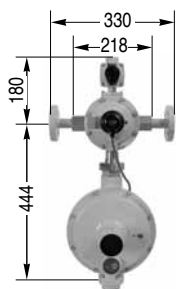
30 kg/h



HLHEK-30AFU

MODEL No.	HLHEK-30AU	HLHEK-30AB	HLHEK-30AFU	HLHEK-30AFB
SPECIFICATIONS				
CAPACITY (Q)	30 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)		JIS 20 K 15 A FLANGED	
OUTLET CONNECTION	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

50 kg/h



HLHEK-50BFU

MODEL No.	HLHEK-50BFU	HLHEK-50BFB	HLHEK-50BMFU	HLHEK-50BMFB
SPECIFICATIONS				
CAPACITY (Q)	50 kg/h			
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.55 - 3.3 kPa			
INLET CONNECTION	JIS 20 K 20 A FLANGED			
OUTLET CONNECTION	Rc1 $\frac{1}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 $\frac{1}{4}$ ^B (BALL VALVE)	Rc1 $\frac{1}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 $\frac{1}{4}$ ^B (BALL VALVE)
UPPER REGULATOR CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED)			
LOWER REGULATOR OPEN/CLOSE FLOW RATE	0.4 kg/h			
MAX. UPPER REGULATOR FLOW RATE	0.5 kg/h			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

Note: HLHEK-50BMFU and HLHEK-50BMFB are models that ease the effect of instantaneous lock-up.

SWITCH TYPE LEAK DETECTION EQUIPMENT

PARTS AND RELATED PRODUCTS

LEAK DETECTOR (I) TYPE DEDICATED METERS FOR SWITCH TYPE LEAK DETECTOR



SY25MTP-YL



EY25MTP-YL

BASIC FUNCTIONS

The leak detector (I) type monitors the presence or absence of gas flow in the time zone when gas use stops (ie. late at night), and detects leakage of the supply piping. In addition, the built-in pressure sensor detects setting pressure and abnormal lock-up pressure.

SPECIFICATIONS		MODEL No. SY25MTP-YL ※ 1	ULTRASONIC WAVE TYPE EY25MTP-YL ※ 1
CONNECTION DIMENSION		FACE TO FACE DIMENSION : 130 mm MAIN BODY CONNECTION SCREW : M36 x 2	
AIR TIGHTNESS		10.0 kPa	
WORKING PRESSURE		3.50 kPa OR LESS	
ALARM FUNCTION	LEAKAGE DETECTION BY MICRO FLOW	WHEN DO NOT USE THE GAS OF ONE HOUR	WHEN DO NOT USE THE GAS OF ONE MINUTE ※2
	ABNORMAL LOCK-UP PRESSURE	IF THE LOCK-UP PRESSURE OF THE FLOW DETECTION TYPE DIFFERENTIAL PRESSURE REGULATOR EXCEEDS 3.5 kPa/MORE THAN 15 TIMES	
	ABNORMAL SETTING PRESSURE	IF THE SETTING PRESSURE OF THE FLOW DETECTION TYPE DIFFERENTIAL PRESSURE REGULATOR OCCURS OUT OF THE RANGE (2.3 - 3.3 kPa) MORE THAN 15 TIMES	
	LOW BATTERY VOLTAGE	IF THE BATTERY VOLTAGE DROPS TO LESS THAN THE PREDETERMINED VALUE WHEN CHECKING	
SETTING DETAIL	EXTENSIONS 1	SETTING OF THE SUM OR INCREASED OF THE SHUT-OFF FLOW RATE	
	EXTENSIONS 2	DISABLING THE SHUT-OFF FUNCTION DURING OPERATION	
	STOP MONITORING PRESSURE LEAKAGE	DISABLING THE ALARM FUNCTION OF SMALL PRESSURE LEAKAGE	
	NOTIFICATION PATTERN OF 2 LINKED EXTERNAL DEVICES ※ 3	DIFFERENT PRESSURE REGULATOR, OYAKO TYPE'S TRANSMISSION FUNCTION SETTING (PLEASE SET THE SYSTEM TO PATTERN E)	
ALARM DISPLAY METHOD		LCD SCREEN + RED LED FLASHING	
COMMUNICATION METHOD ※ 4		COMMON FORM TELEGRAPHIC	
DIMENSIONS		H240 x W168 x D135 mm	H139 x W174 x D106.5 mm
WEIGHT		3 kg	2 kg

※ 1 "P" in the Model No. means " I -type leakage detector".

※ 2 EY25MTP-YL can set determined days of small leakage flow detection within 1-30 days. To change the setting, please change the determined days at the central monitoring system or the setting device.

※ 3 Notification pattern of 2 linked external devices is only available for SY25MTP-YL.

※ 4 The communication will be "security data" similar to S-Type safety gas meter.

STANDARD PACKING PARTS OF THE HL SYSTEMS (SWITCH TYPE LEAK DETECTION SYSTEM)

① LEAK DETECTOR (I) TYPE (SPECIAL METER FOR LEAK DETECTION) (SY25MTP-YL or EY25MTP-YL)	1 pce.
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SY25MTP-YL



EY25MTP-YL



② METAL FLEXIBLE HOSE 400L R $\frac{1}{2}$ " x R $\frac{1}{2}$ " (MALE SCREWED)	1 pce.
③ DRAINAGE SET	1 set
④ SCREWED GAS COCK WITH INSPETION HOLE Rc $\frac{1}{2}$ " x Rc $\frac{1}{2}$ " (FEMALE SCREWED)	2 pcs.
⑤ METER MOUNTING BRACKET	2 pcs.
⑥ SUB-OUTLET JOINT (BRASS)	1 pce.



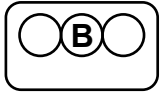


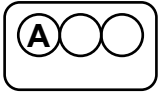
SWITCH TYPE LEAK DETECTION EQUIPMENT



INFORMATION

■ Switch type leak detection equipment can be used as an alternative measures for inspecting supply low pressure piping leakage.

■ Alarm function displaying "Abnormal indication"

If leak detection equipment find abnormal, indication lamp displays as the below list. When these abnormal are detected, please investigate and deal with the problem with reference to below "measures" in the list immediately.

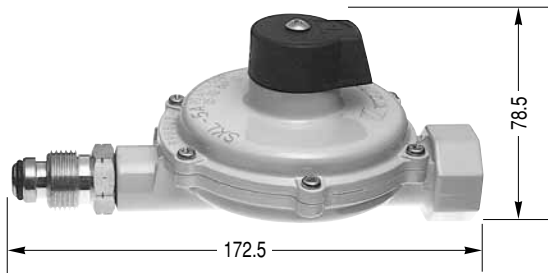
ABNORMAL INDICATION WITHOUT SHUT-OFF VALVE CLOSING				
STATE OF INDICATION	RED LAMP: BLINKING→●  B: LIGHTING	RED LAMP: LIGHTING-OFF→○  AB,R: LIGHTING	RED LAMP: LIGHTING-OFF→○  AB,R: LIGHTING	RED LAMP: LIGHTING-OFF→○  A: LIGHTING
DESCRIPTIONS	Leakage Detection by Micro flow If the continuous gas flow during 30 days is detected.	Abnormal Lock-up Pressure If the lock-up pressure of the flow detection type differential pressure regulator exceeds 3.5 kPa/more than 15 times during 30 days.	Abnormal Setting Pressure If the setting pressure of the flow detection type differential pressure regulator occurs out of the range (2.3 to 3.3 kPa) more than 15 times during 30 days.	Low Battery Voltage If the battery voltage drops to less than the predetermined value.
MEASURES	<ul style="list-style-type: none"> ●Take the leak inspection. ●If gas leaking occurs, please repair a part of leaking (After completion, please be sure to gas leakage test). 	<ul style="list-style-type: none"> ●Inspect the lock-up pressure (3.5 kPa or less). ●Take the appropriate measure regards to abnormal. 	<ul style="list-style-type: none"> ●Inspect the setting pressure (2.3 to 3.3 kPa). ●Take the appropriate measure regards to abnormal. 	<ul style="list-style-type: none"> ●Replace the gas leak detection equipment.

ABNORMAL INDICATION WITH SHUT-OFF VALVE CLOSING	
STATE OF INDICATION	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>RED LAMP: BLINKING→●</p>  <p>BC, "ガス止 "P LIGHTING ("ガス止" means stop the gas)</p> </div> <div style="text-align: center;"> <p>RED LAMP: BLINKING→●</p>  <p>C, "ガス止 " LIGHTING ("ガス止" means stop the gas)</p> </div> </div>
DESCRIPTIONS	<div style="display: flex; justify-content: space-around;"> <div> <p>Pressure Drop</p> <p>If the gas pressure in the pipe drops abnormally during using gas.</p> </div> <div> <p>Leaking During Reset Safety Confirmation</p> <p>The leak detection equipment detects the gas flow before releasing "Abnormal Indication with Shut-Off Valve Closing".</p> </div> </div>
MEASURES	<div style="display: flex; justify-content: space-around;"> <div> <ul style="list-style-type: none"> ●Confirm that the residual gas amount is sufficient. ●Inspect Gas supplying equipment and combustion equipment. </div> <div> <ul style="list-style-type: none"> ●Confirm that there is no gas flow in the leak detection equipment before releasing "Abnormal Indication with Shut-Off Valve Closing". ●In case of occurring the former abnormal after having confirmation, there is a possibility of gas leaking. Take the leak inspection again. </div> </div>

REGULATOR

SINGLE STAGE TYPE LOW PRESSURE REGULATOR

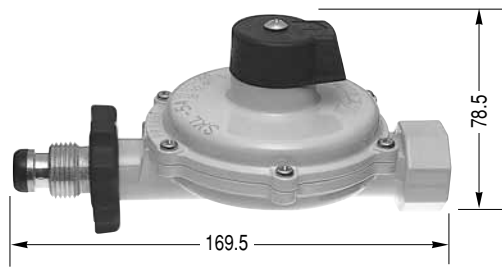
5 · 6.5 kg/h



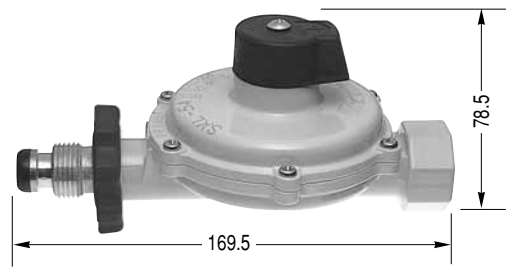
SKL-5BS



SKL-6.5BS



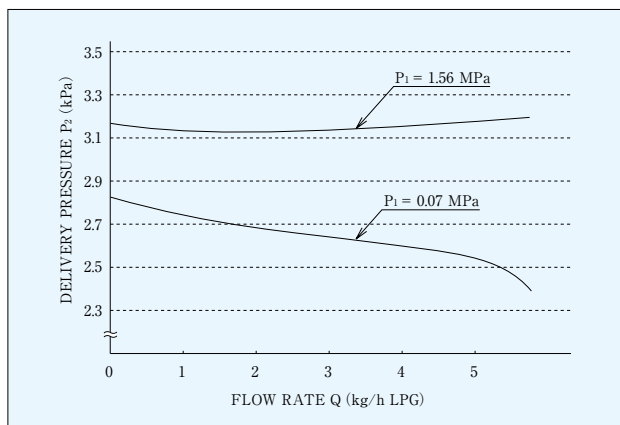
SKL-5BH



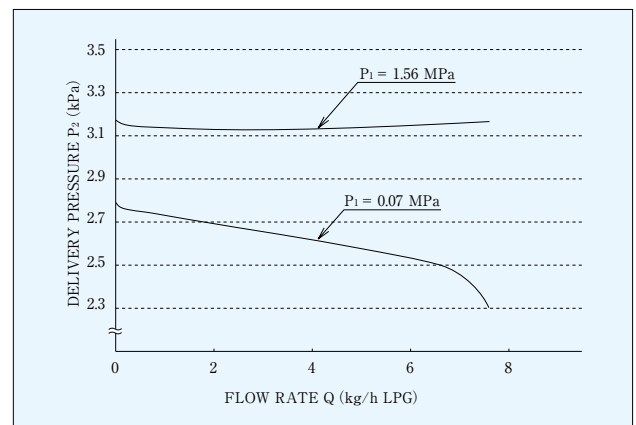
SKL-6.5BH

MODEL No.	SKL-5BS	SKL-5BH	SKL-6.5BS	SKL-6.5BH
SPECIFICATIONS				
CAPACITY (Q)	5 kg/h		6.5 kg/h	
INLET PRESSURE (P ₁)	0.07 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	2.8±0.5 kPa			
INLET CONNECTION	POL MALE SCREWED (SPANNER TIGHT)	POL MALE SCREWED (HAND TIGHT)	POL MALE SCREWED (SPANNER TIGHT)	POL MALE SCREWED (HAND TIGHT)
OUTLET CONNECTION	Rc/2 ^B (FEMALE SCREWED)			
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

PERFORMANCE CURVE



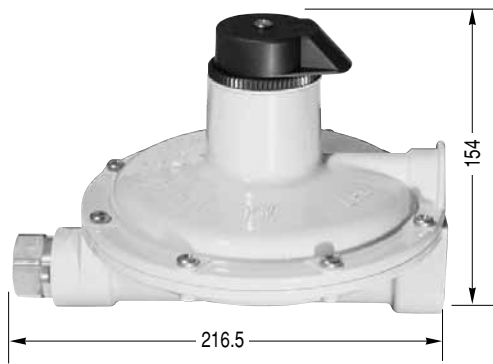
SKL-5B



SKL-6.5B

SINGLE STAGE TYPE LOW PRESSURE REGULATOR

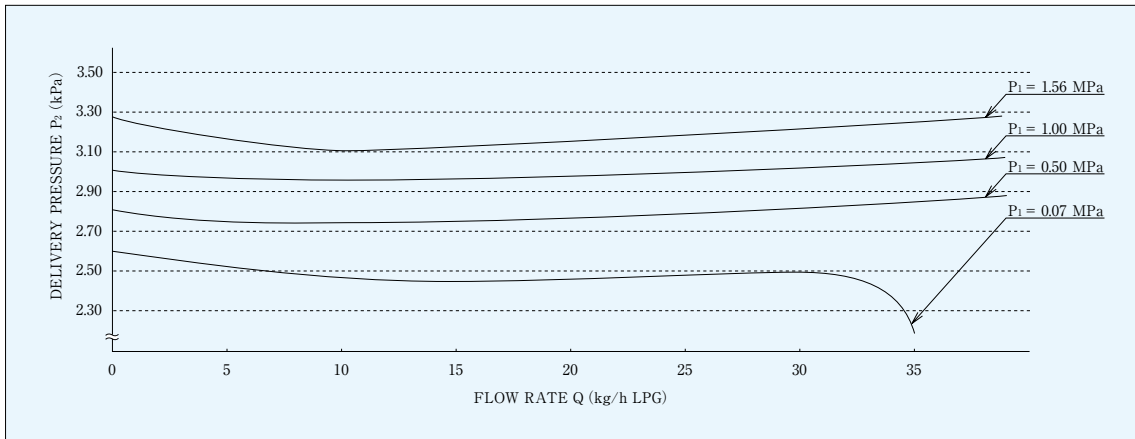
32 kg/h



KL-32

MODEL No.	KL-32
SPECIFICATIONS	
CAPACITY (Q)	32 kg/h
INLET PRESSURE (P ₁)	0.07 - 1.56 MPa
DELIVERY PRESSURE (P ₂)	2.8±0.5 kPa
INLET CONNECTION	Rc1/2 ^B (FEMALE SCREWED)
OUTLET CONNECTION	Rc1 ^B (FEMALE SCREWED)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa

PERFORMANCE CURVE

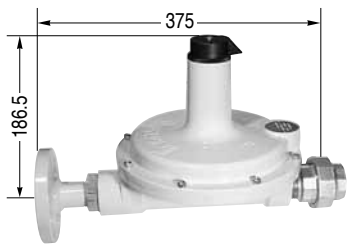


KL-32

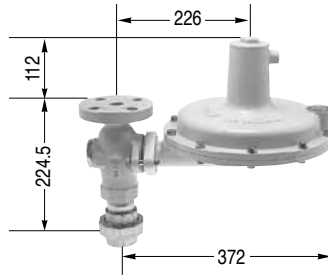
REGULATOR

SINGLE STAGE TYPE LOW PRESSURE REGULATOR

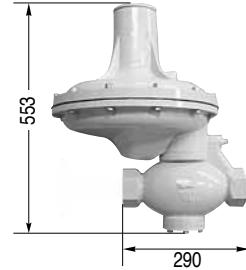
50 · 70 · 100 · 200 kg/h



KL-50A, KL-70A



KL-100

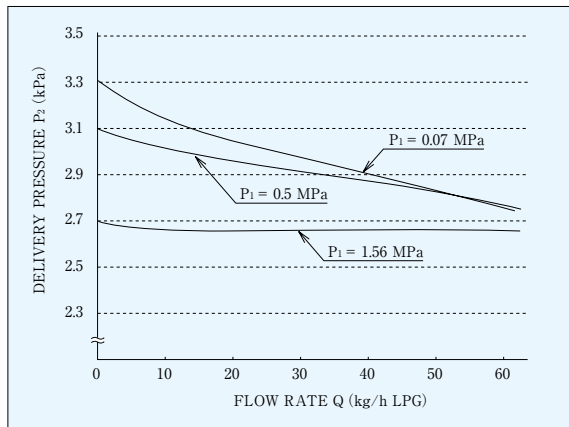


KL-200

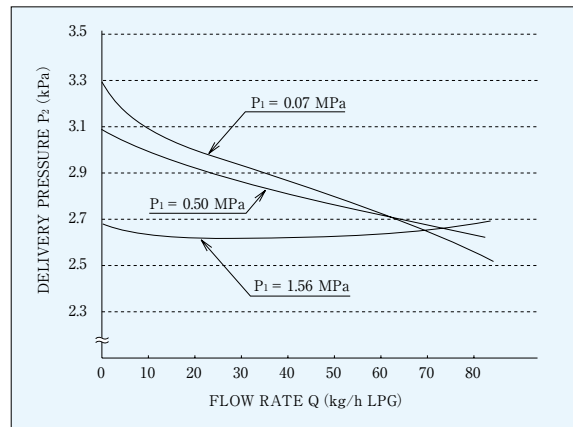
MODEL No.	KL-50A	KL-50AM	KL-70A	KL-70AM	KL-100	KL-200
SPECIFICATIONS						
CAPACITY (Q)	50 kg/h		70 kg/h		100 kg/h	200 kg/h
INLET PRESSURE (P ₁)	0.07 - 1.56 MPa					
DELIVERY PRESSURE (P ₂)	2.8±0.5 kPa					
INLET CONNECTION	JIS 20 K 25 A FLANGED					Rc1½ ^B (FEMALE SCREWED)
OUTLET CONNECTION	Rc1¼ ^B (FEMALE LOW-PRESSURE UNION)			Rc1½ ^B (FEMALE LOW-PRESSURE UNION)		Rc2 ^B (FEMALE SCREWED)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa					

Note: KL-50AM and KL-70AM are models that ease the effect of instantaneous lock-up.

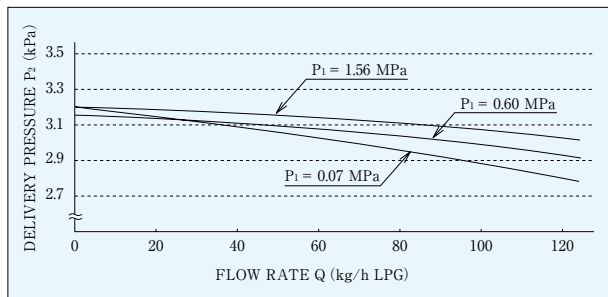
PERFORMANCE CURVE



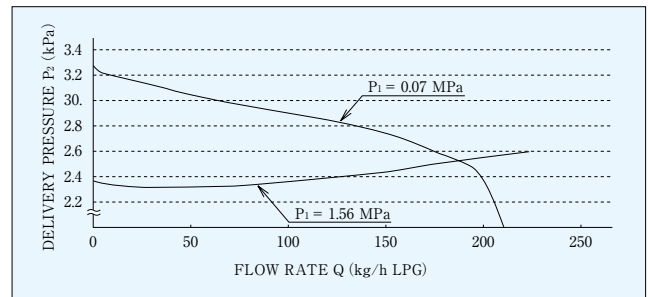
KL-50A



KL-70A



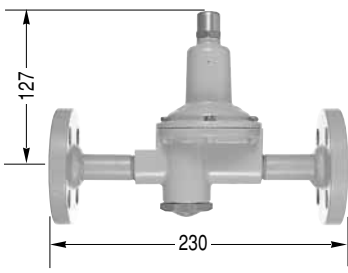
KL-100



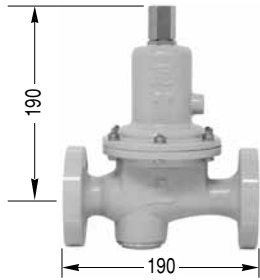
KL-200

FIRST STAGE REGULATOR

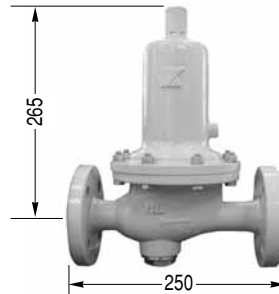
35 · 50 · 70 · 100 · 200 kg/h



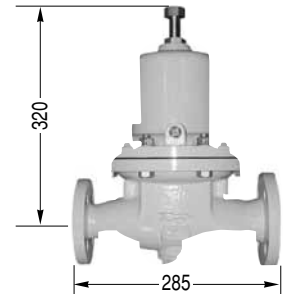
KMF-35F



KMF-50, KMF-70



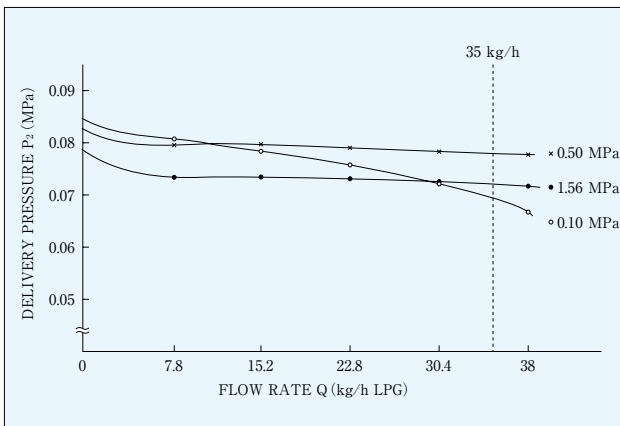
KMF-100



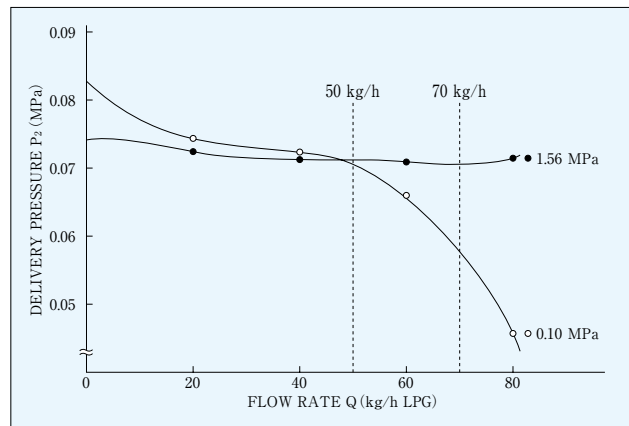
KMF-200F

MODEL No.	KMF-35F	KMF-50	KMF-70	KMF-100	KMF-200F
SPECIFICATIONS					
CAPACITY (Q)	35 kg/h	50 kg/h	70 kg/h	100 kg/h	200 kg/h
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa				
DELIVERY PRESSURE (P ₂)	0.057 - 0.083 MPa				
INLET CONNECTION	JIS 20 K 15 A FLANGED	JIS 20 K 20 A FLANGED		JIS 20 K 25 A FLANGED	
OUTLET CONNECTION	JIS 20 K 15 A FLANGED	JIS 20 K 20 A FLANGED		JIS 20 K 25 A FLANGED	JIS 10 K 40 A FLANGED

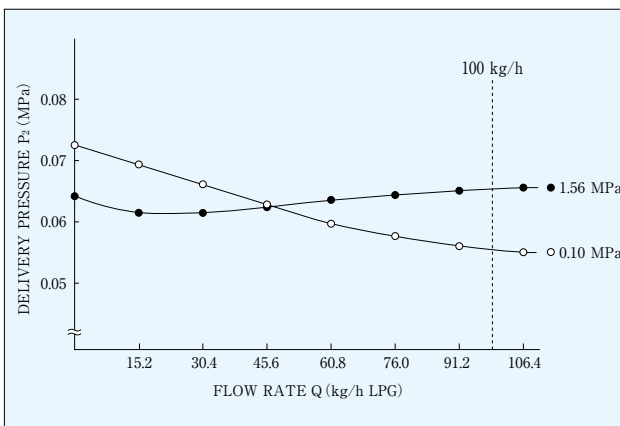
PERFORMANCE CURVE



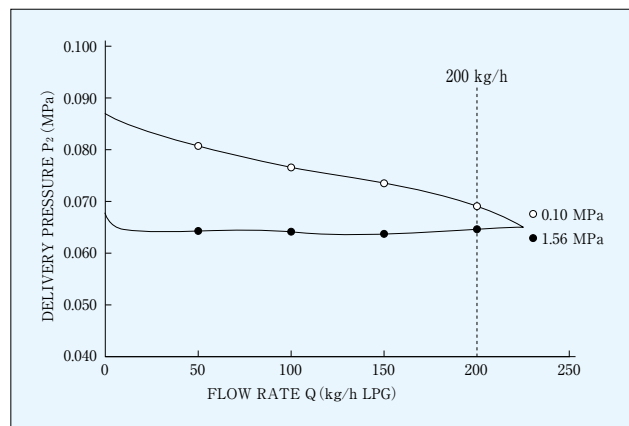
KMF-35F



KMF-50, 70



KMF-100

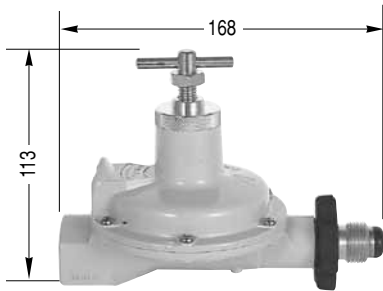


KMF-200F

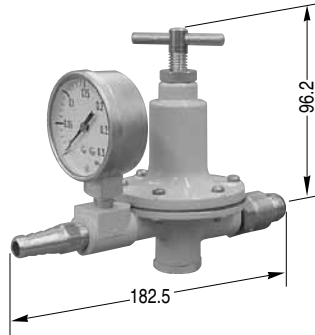
REGULATOR

ADJUSTABLE (MEDIUM PRESSURE) TYPE REGULATOR

7 · 5 · 40 kg/h



KM-7



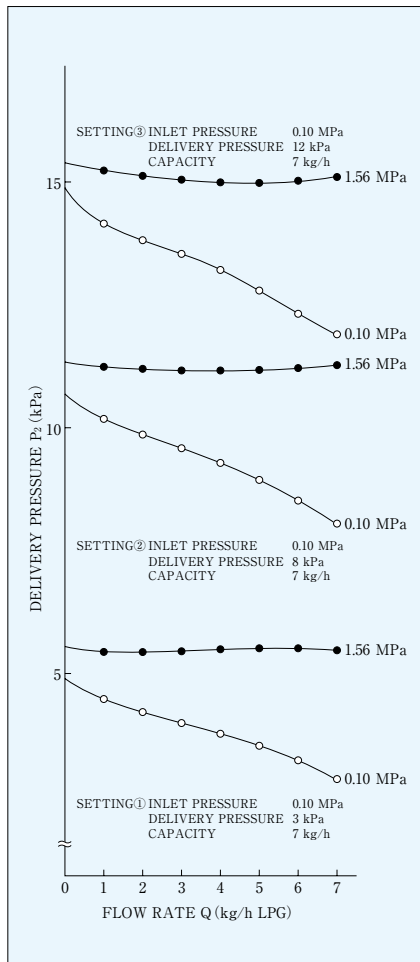
KM-105



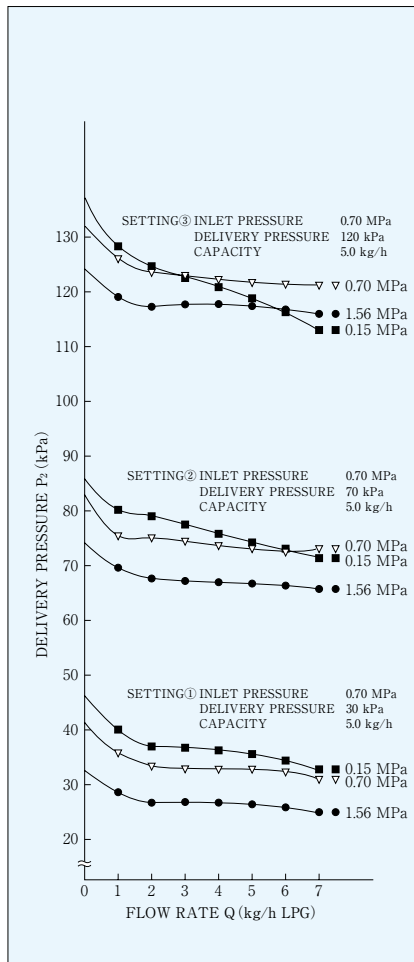
KM-40

MODEL No.	KM-7	KM-105	KM-105H	KM-40	KM-40F
SPECIFICATIONS					
CAPACITY (Q)	7 kg/h	5 kg/h		40 kg/h	
INLET PRESSURE (P ₁)	0.1 - 1.56 MPa	0.15 - 1.56 MPa			
DELIVERY PRESSURE (P ₂)	3 - 12 kPa	30 - 120 kPa			
INLET CONNECTION	POL MALE SCREWED (HAND TIGHT)	POL MALE SCREWED (SPANNER TIGHT)	POL MALE SCREWED (HAND TIGHT)	Rc 1/2 ^B (FEMALE SCREWED)	JIS 20K 15A FLANGED
OUTLET CONNECTION	Rc 3/4 ^B (FEMALE SCREWED)	9.5 mm HOSE-ENDED 0.3 MPa GAUGE		Rc 1/2 ^B (FEMALE SCREWED)	JIS 20 K 15A FLANGED

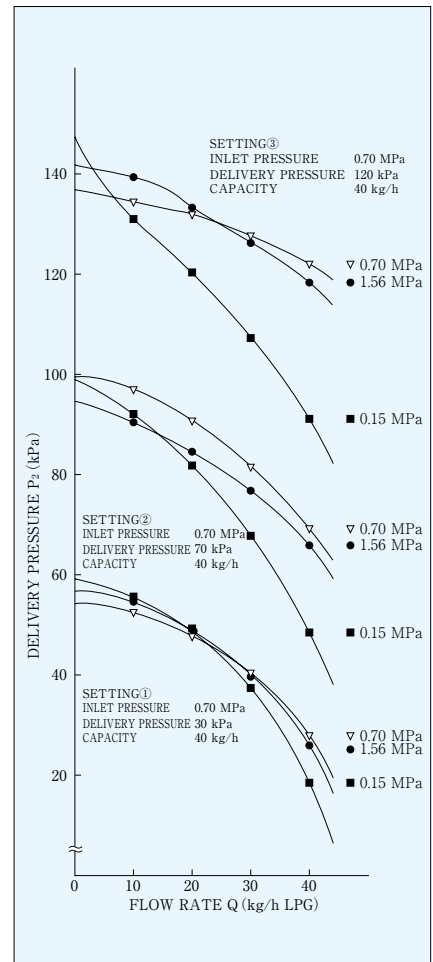
PERFORMANCE CURVE



KM-7



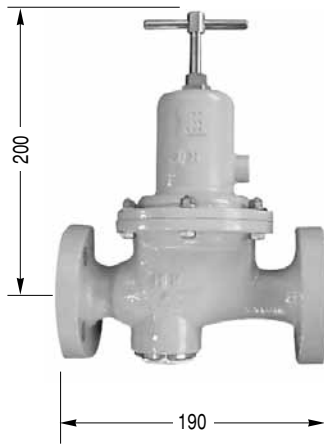
KM-105



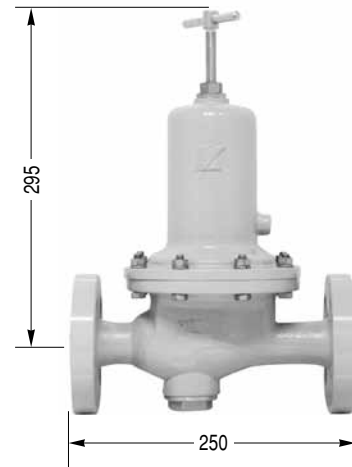
KM-40

ADJUSTABLE (MEDIUM PRESSURE) TYPE REGULATOR

50 · 70 · 100 kg/h



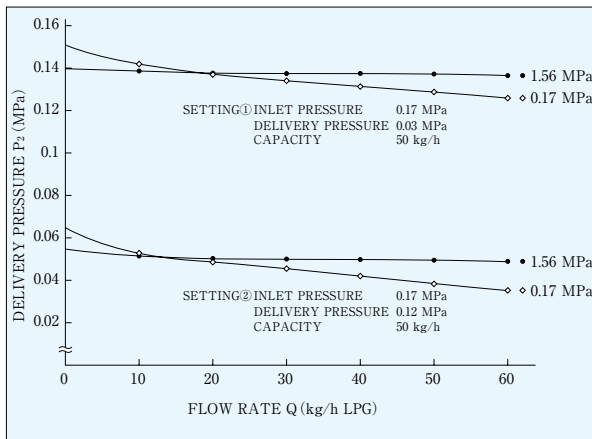
KM-50, KM-70



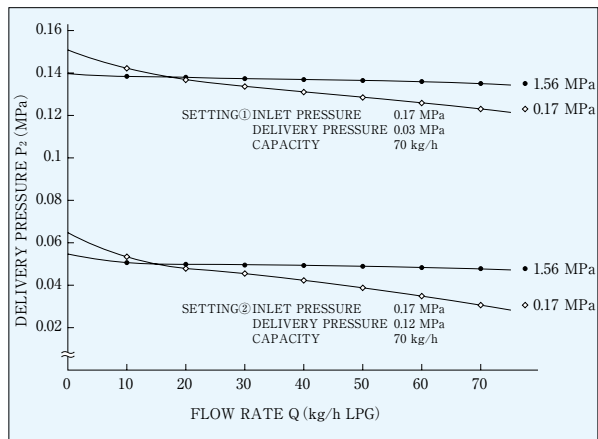
KM-100

MODEL No.	KM-50	KM-70	KM-100
SPECIFICATIONS			
CAPACITY (Q)	50 kg/h	70 kg/h	100 kg/h
INLET PRESSURE (P ₁)	0.15 - 1.56 MPa		
DELIVERY PRESSURE (P ₂)	30 - 120 kPa		
INLET CONNECTION	JIS 20 K 20 A FLANGED		JIS 20 K 25 A FLANGED
OUTLET CONNECTION	JIS 20 K 20 A FLANGED		JIS 20 K 25 A FLANGED

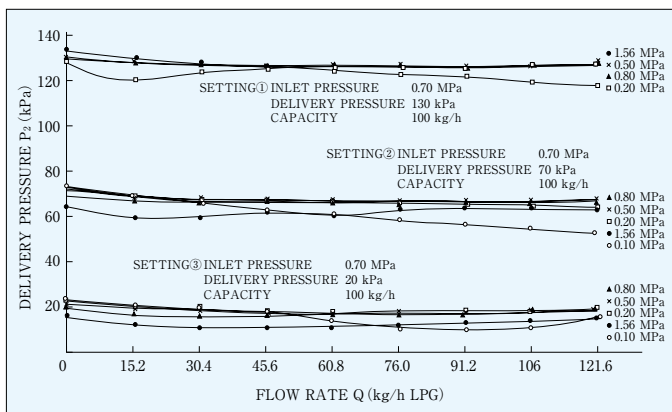
PERFORMANCE CURVE



KM-50



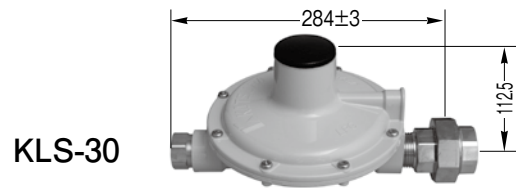
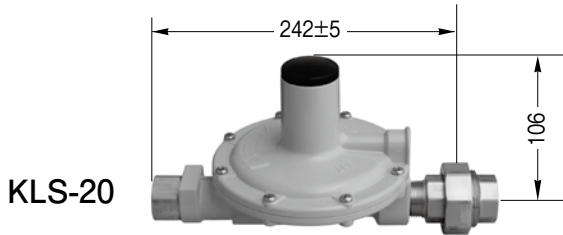
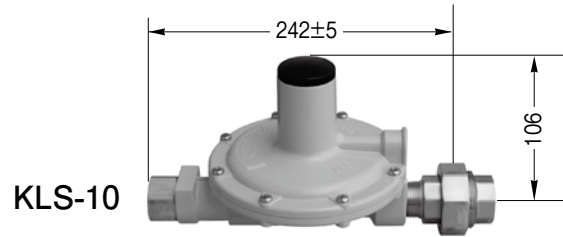
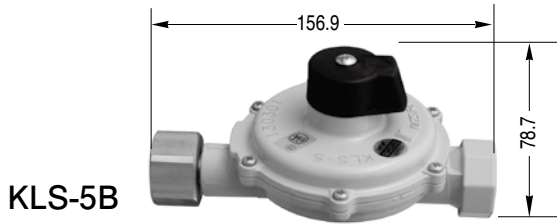
KM-70



KM-100

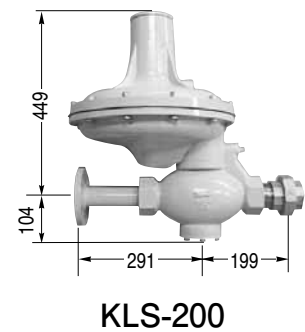
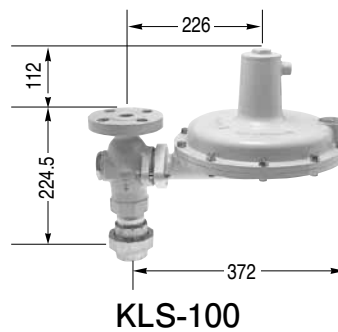
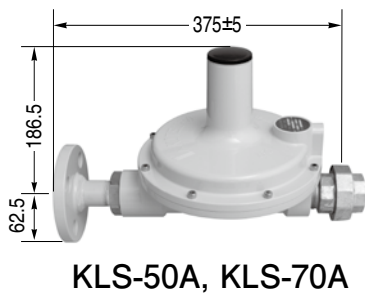
SECOND STAGE REGULATOR

5 · 10 · 20 · 30 kg/h



MODEL No.	KLS-5B	KLS-10	KLS-20	KLS-30
SPECIFICATIONS				
CAPACITY (Q)	5 kg/h	10 kg/h	20 kg/h	30 kg/h
INLET PRESSURE (P ₁)	0.025 - 0.1 MPa			
DELIVERY PRESSURE (P ₂)	2.8±0.5 kPa			
INLET CONNECTION	Rc ¹ / ₂ ^B (FEMALE SCREWED)			
OUTLET CONNECTION	Rc ¹ / ₂ ^B (FEMALE SCREWED)	Rc ³ / ₄ ^B (FEMALE LOW-PRESSURE UNION)		Rc ¹ ^B (FEMALE LOW-PRESSURE UNION)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa			

50 · 70 · 100 · 200kg/h

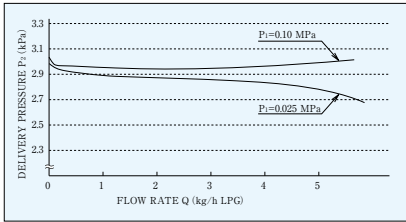


MODEL No.	KLS-50A	KLS-50AM	KLS-70A	KLS-70AM	KLS-100	KLS-200
SPECIFICATIONS						
CAPACITY (Q)	50 kg/h		70 kg/h		100 kg/h	200 kg/h
INLET PRESSURE (P ₁)	0.025 - 0.1 MPa					
DELIVERY PRESSURE (P ₂)	2.8±0.5 kPa					
INLET CONNECTION	JIS 20 K 25 A FLANGED					JIS 20 K 40 A FLANGED
OUTLET CONNECTION	Rc ¹ / ₄ ^B (FEMALE LOW-PRESSURE UNION)			Rc ¹ / ₂ ^B (FEMALE LOW-PRESSURE UNION)		Rc ² ^B (FEMALE LOW-PRESSURE UNION)
PRESSURE FOR ACTIVATING RELIEF VALVE	7±1.4 kPa					

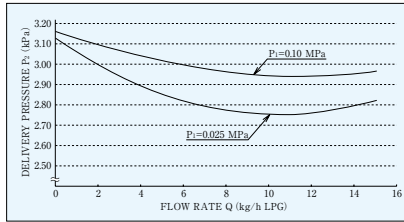
Note: KLS-50AM and KLS-70AM are models that ease the effect of instantaneous lock-up.

SECOND STAGE REGULATOR

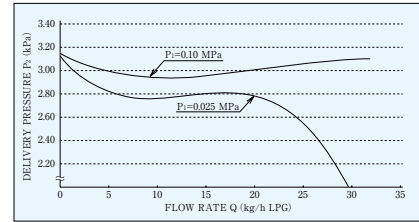
PERFORMANCE CURVE



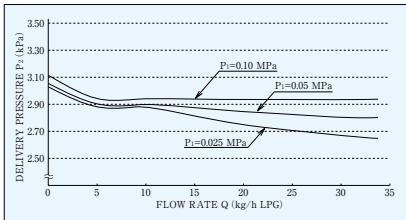
KLS-5B



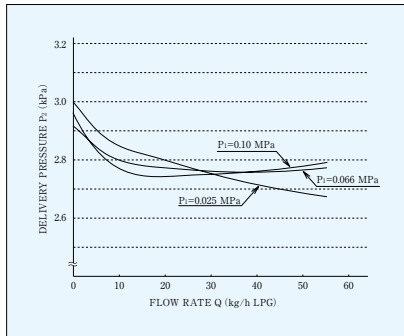
KLS-10



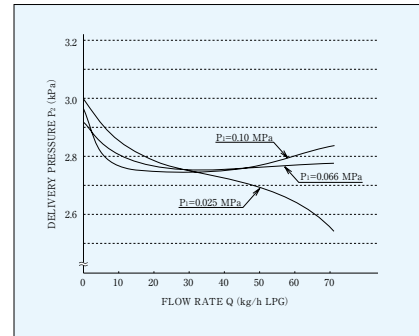
KLS-20



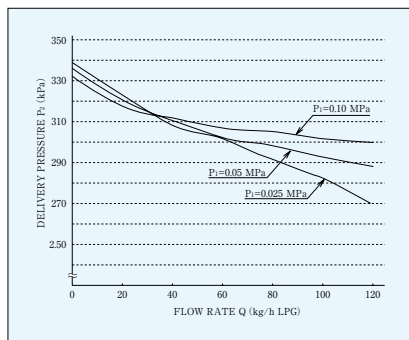
KLS-30



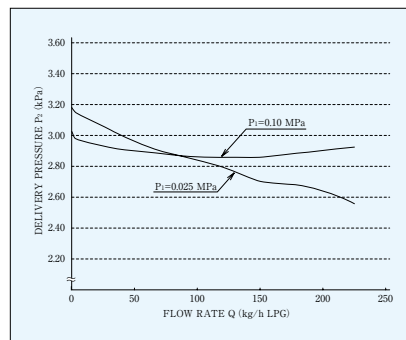
KLS-50A



KLS-70A

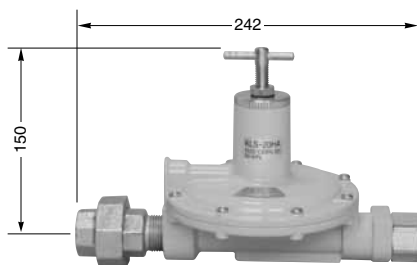


KLS-100

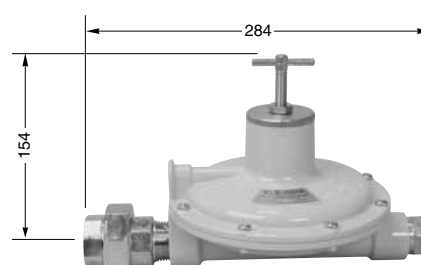


KLS-200

SECOND STAGE (ADJUSTABLE) TYPE



KLS-20HA



KLS-30HA

MODEL No.	KLS-20HA	KLS-20HB	KLS-30HA *1	KLS-30HB
SPECIFICATIONS				
CAPACITY (Q)	20 kg/h		30 kg/h	
INLET PRESSURE (P ₁)	0.025 - 0.35 MPa		0.04 - 0.35 MPa	
DELIVERY PRESSURE (P ₂)	4 - 8 kPa	4 - 12 kPa	4 - 8 kPa	8 - 10 kPa
INLET CONNECTION	Rc1½ ^B (15 A)			Rc½ ^B (15 A)
OUTLET CONNECTION	Rc¾ ^B (20 A) (FEMALE LOW-PRESSURE UNION)		Rc1 ^B (25 A) (FEMALE LOW-PRESSURE UNION)	
PRESSURE FOR ACTIVATING RELIEF VALVE	8.1 - 16.9 kPa	8.1 - 22.9 kPa	8.1 - 16.9 kPa	11.54 - 18.9 kPa

* 1 The range of delivery pressure can be changed to 8 - 12 kPa upon request.
The pressure for activating relief valve is 14.1 - 22.9 kPa in this case.

INTEGRATED LPG MANIFOLD

4-HOSE TYPE PIPE SIZE 15 A SPACE BETWEEN VALVES 200 mm (BAKE COATING)

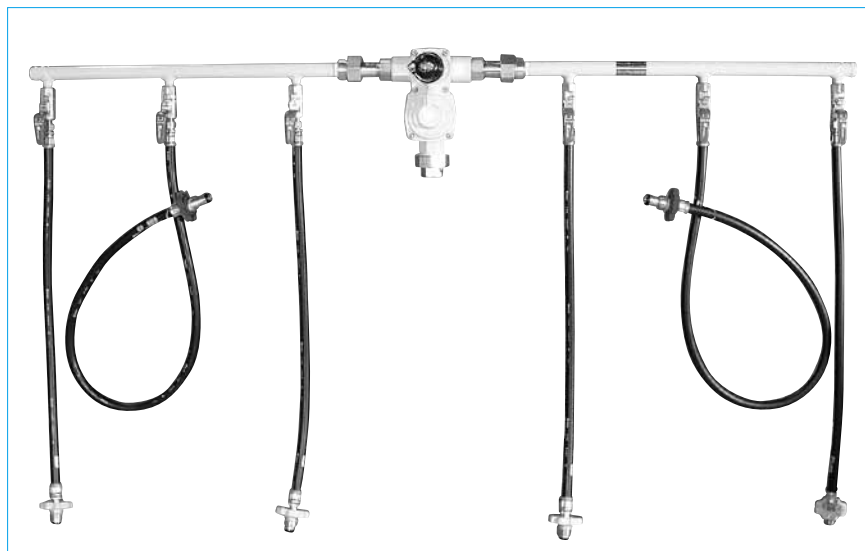


SPT4B-8S

MODEL No. SPECIFICATIONS	SPANNER-TIGHT	SPT4B-8S	SPT4B-8SZ	SPT4B-10SU	SPT4B-10SZ	PT4SB-15SU	PT4SB-15SZ	PT4SB-20SU
	HAND-TIGHT	SPT4B-8H	SPT4B-8HZ	SPT4B-10HU	SPT4B-10HZ	PT4SB-15HU	PT4SB-15HZ	PT4SB-20HU
No. OF HOSE	2 + 2							
SPECIFICATIONS OF AUTOMATIC CHANGE-OVER REGULATOR	CAPACITY (Q)	8 kg/h		10 kg/h		15 kg/h		20 kg/h
	MODEL No.	CA-U	CA-Z	PE-10AU	PE-10AZ	PE-15U	PE-15Z	KAL-20AU
	OUTLET CONNECTION	Rc $\frac{1}{2}$ ^B (FEMALE LOW- PRESSURE UNION)	Rc $\frac{1}{2}$ ^B (UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE))	Rc $\frac{3}{4}$ ^B (FEMALE LOW- PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE))	Rc $\frac{3}{4}$ ^B (FEMALE LOW- PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE))	Rc $\frac{3}{4}$ ^B (FEMALE LOW- PRESSURE UNION)
No. OF HIGH-PRESSURE HOSE 650 mm (BS-5 OR BH-5)	4							
WIDTH	789 mm			866 mm				890 mm
ACCESSORIES	SUPPORT U-BOLT SET x 2 PLUG BOLT x 4 INSTALLATION MANUAL * INSPECTION REPORT * PRODUCT WARRANTY *							SUPPORT U-BOLT SET x 2 PLUG BOLT x 4 INSTALLATION MANUAL * INSPECTION REPORT * PRODUCT WARRANTY * FIRE DEPARTMENT NOTIFICATION FORM*

Note: Installation Manual, Inspection Report, Product Warranty and Fire Department Notification Form are in Japanese.

6-HOSE TYPE PIPE SIZE 15 A SPACE BETWEEN VALVES 200 mm (BAKE COATING)



SPT6B-10HU

INTEGRATED LPG MANIFOLD

SPECIFICATIONS	MODEL No.	SPANNER-TIGHT	SPT6B-10SU	SPT6B-10SZ	PT6SB-15SU	PT6SB-15SZ	PT6SB-20SU	PT6SB-30SU
		HAND-TIGHT	SPT6B-10HU	SPT6B-10HZ	PT6SB-15HU	PT6SB-15HZ	PT6SB-20HU	PT6SB-30HU
No. OF HOSE		3 + 3						
SPECIFICATIONS OF AUTOMATIC CHANGE-OVER REGULATOR	CAPACITY (Q)	10 kg/h			15 kg/h		20 kg/h	30 kg/h
	MODEL No.	PE-10AU	PE-10AZ	PE-15U	PE-15Z	KAL-20AU	KAL-30AU	
	OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE))	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE))	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)
No. OF HIGH-PRESSURE HOSE	650 mm (BS-5 OR BH-5)	4						
	1,050 mm (BS-6 OR BH-6)	2						
WIDTH		1,266 mm			1,266 mm		1,290 mm	
ACCESSORIES		SUPPORT SET x 4, PLUG BOLT x 8, INSTALLATION MANUAL, INSPECTION REPORT, PRODUCT WARRANTY, FIRE DEPARTMENT NOTIFICATION FORM						

Note: Installation Manual, Inspection Report, Product Warranty, and Fire Department Notification Form are in Japanese.

8 TO 12-HOSE TYPE PIPE SIZE 15 A SPACE BETWEEN VALVES 200 mm (BAKE COATING)

SPECIFICATIONS	MODEL No.	SPANNER-TIGHT	SPT8B-10SU	SPT8B-10SZ	PT8SB-15SU	PT8SB-15SZ	PT8SB-20SU	PT8SB-30SU
		HAND-TIGHT	SPT8B-10HU	SPT8B-10HZ	PT8SB-15HU	PT8SB-15HZ	PT8SB-20HU	PT8SB-30HU
No. OF HOSE		4 + 4						
SPECIFICATIONS OF AUTOMATIC CHANGE-OVER REGULATOR	CAPACITY (Q)	10 kg/h			15 kg/h		20 kg/h	30 kg/h
	MODEL No.	PE-10AU	PE-10AZ	PE-15U	PE-15Z	KAL-20AU	KAL-30AU	
	OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE))	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE))	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)
No. OF HIGH-PRESSURE HOSE	650 mm (BS-5 OR BH-5)	4						
	1,050 mm (BS-6 OR BH-6)	4						
WIDTH		1,666 mm					1,690 mm	
ACCESSORIES		SUPPORT SET x 4, PLUG BOLT x 8, INSTALLATION MANUAL, INSPECTION REPORT, PRODUCT WARRANTY, FIRE DEPARTMENT NOTIFICATION FORM						

Note: Installation Manual, Inspection Report, Product Warranty, and Fire Department Notification Form are in Japanese.

SPECIFICATIONS	MODEL No.	SPANNER-TIGHT	PT10SB-20SU	PT10SB-30SU	PT12SB-20SU	PT12SB-30SU
		HAND-TIGHT	PT10SB-20HU	PT10SB-30HU	PT12SB-20HU	PT12SB-30HU
No. OF HOSE		5 + 5			6 + 6	
SPECIFICATIONS OF AUTOMATIC CHANGE-OVER REGULATOR	CAPACITY (Q)	20 kg/h	30 kg/h	20 kg/h	30 kg/h	
	MODEL No.	KAL-20AU	KAL-30AU	KAL-20AU	KAL-30AU	
	OUTLET CONNECTION	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc $\frac{3}{4}$ ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	
No. OF HIGH-PRESSURE HOSE	650mm (BS-5 OR BH-5)	6		6		
	1,050mm (BS-6 OR BH-6)	4		6		
WIDTH		2,090 mm			2,490 mm	
ACCESSORIES		SUPPORT SET x 4, PLUG BOLT x 8, INSTALLATION MANUAL, INSPECTION REPORT, PRODUCT WARRANTY, FIRE DEPARTMENT NOTIFICATION FORM				

Note: Installation Manual, Inspection Report, Product Warranty, and Fire Department Notification Form are in Japanese.

Note 1: "B" in the Model No. means GURAPITA hose. Standard type hose is also available.

Note 2: Custom-made is also available.

Note 3: Specifications of pipe

Collecting pipe: STPG 370 SCHEDULE 80 Pipe dimensions

Flanged pipe: JIS 20 K (15 A and 20 A)

Note 4: Hot-dip galvanizing type is also available.

METAL FITTING FOR MANIFOLD

4 TO 6-HOSE TYPE PIPE SIZE 15 A (BRASS)



PTC4-1/2

PTC6-1/2

SPECIFICATIONS	MODEL No.	PTC4-1/2	PTC6-1/2
No. OF HOSE		2 + 2	3 + 3
WIDTH		108.0 mm	139.5 mm
ACCESSORIES		SUPPORT SET x 2, PLUG BOLT x 4, INSTALLATION MANUAL, INSPECTION REPORT	

Note 1: The PTC series is being sold combined with a regulator (screw type).
 Note 2: Installation Manual and Inspection report are in Japanese.

COMPACT MANIFOLD SET (REGULATOR AND HOSE) CHARTS



PTC6B-20SU-HL

AUTOMATIC CHANGE-OVER PRESSURE REGULATOR SET

MODEL No. (No. OF CYLINDER)		COMPACT MANIFOLD								
						WITH GURAPITA HOSE				
		PTC4-1/2 (4 pcs.)		PTC6-1/2 (6 pcs.)		PTC4-1/2 (4 pcs.)		PTC6-1/2 (6 pcs.)		
CAPACITY/MODEL No.		SPANNER TIGHT	HAND TIGHT	SPANNER TIGHT	HAND TIGHT	SPANNER TIGHT	HAND TIGHT	SPANNER TIGHT	HAND TIGHT	
REGULATOR	8 kg/h	CA-Z	PTC4-8SZ	PTC4-8HZ	-	-	PTC4B-8SZ	PTC4B-8HZ	-	-
	10 kg/h	PE-10AU	PTC4-10SU	PTC4-10HU	PTC6-10SU	PTC6-10HU	PTC4B-10SU	PTC4B-10HU	PTC6B-10SU	PTC6B-10HU
		PE-10AZ	PTC4-10SZ	PTC4-10HZ	PTC6-10SZ	PTC6-10HZ	PTC4B-10SZ	PTC4B-10HZ	PTC6B-10SZ	PTC6B-10HZ
	15 kg/h	PE-15U	PTC4-15SU	PTC4-15HU	PTC6-15SU	PTC6-15HU	PTC4B-15SU	PTC4B-15HU	PTC6B-15SU	PTC6B-15HU
		PE-15Z	PTC4-15SZ	PTC4-15HZ	PTC6-15SZ	PTC6-15HZ	PTC4B-15SZ	PTC4B-15HZ	PTC6B-15SZ	PTC6B-15HZ
20 kg/h	KAL-20AU	PTC4-20SU	PTC4-20HU	PTC6-20SU	PTC6-20HU	PTC4B-20SU	PTC4B-20HU	PTC6B-20SU	PTC6B-20HU	

Note: High pressure hose of 4-Hose Type : 650 mm x 2 pcs. and 1,050 mm x 2 pcs.
 High pressure hose of 6-Hose Type : 650 mm x 2 pcs. and 1,050 mm x 4 pcs.

"U" in the Model No. means Female Low-pressure Union,
 "Z" in the Model No. means Union Ball Gas Cock with inspection hole.
 (Outlet type inspection hole)



Rc1/2^B
 FEMALE LOW-PRESSURE UNION



Rc1/2^B OR Rc3/4^B
 UNION BALL GAS COCK WITH INSPECTION HOLE (OUTLET TYPE INSPECTION HOLE)

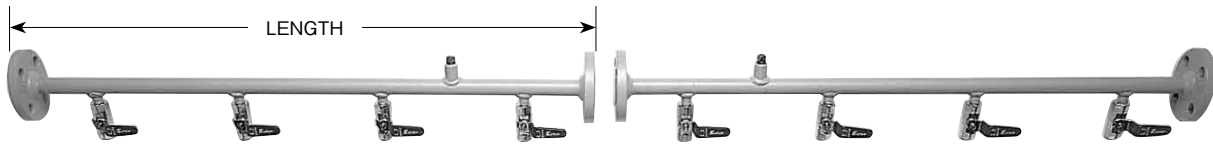
SWITCH TYPE LEAK DETECTION EQUIPMENT SET

MODEL No. (No. OF CYLINDER)		COMPACT MANIFOLD								
						WITH GURAPITA HOSE				
		PTC4-1/2 (4 pcs.)		PTC6-1/2 (6 pcs.)		PTC4-1/2 (4 pcs.)		PTC6-1/2 (6 pcs.)		
CAPACITY/MODEL No.		SPANNER TIGHT	HAND TIGHT	SPANNER TIGHT	HAND TIGHT	SPANNER TIGHT	HAND TIGHT	SPANNER TIGHT	HAND TIGHT	
REGULATOR	10 kg/h	HL-10AU	PTC4-10SU-HL	PTC4-10HU-HL	PTC6-10SU-HL	PTC6-10HU-HL	PTC4B-10SU-HL	PTC4B-10HU-HL	PTC6B-10SU-HL	PTC6B-10HU-HL
		HL-10AZ	PTC4-10SZ-HL	PTC4-10HZ-HL	PTC6-10SZ-HL	PTC6-10HZ-HL	PTC4B-10SZ-HL	PTC4B-10HZ-HL	PTC6B-10SZ-HL	PTC6B-10HZ-HL
	15 kg/h	HL-15U	PTC4-15SU-HL	PTC4-15HU-HL	PTC6-15SU-HL	PTC6-15HU-HL	PTC4B-15SU-HL	PTC4B-15HU-HL	PTC6B-15SU-HL	PTC6B-15HU-HL
		HL-15Z	PTC4-15SZ-HL	PTC4-15HZ-HL	PTC6-15SZ-HL	PTC6-15HZ-HL	PTC4B-15SZ-HL	PTC4B-15HZ-HL	PTC6B-15SZ-HL	PTC6B-15HZ-HL
20 kg/h	HL-20AU	PTC4-20SU-HL	PTC4-20HU-HL	PTC6-20SU-HL	PTC6-20HU-HL	PTC4B-20SU-HL	PTC4B-20HU-HL	PTC6B-20SU-HL	PTC6B-20HU-HL	

Note: High pressure hose of 4-Hose Type : 650 mm x 2 pcs. and 1,050 mm x 2 pcs.
 High pressure hose of 6-Hose Type : 650 mm x 2 pcs. and 1,050 mm x 4 pcs.

PREFABRICATED MANIFOLD ASSEMBLY

BOTH SIDES FLANGED TYPE PIPE SIZE 15 A SPACE BETWEEN VALVES 200 mm (GASLON FINISHING)

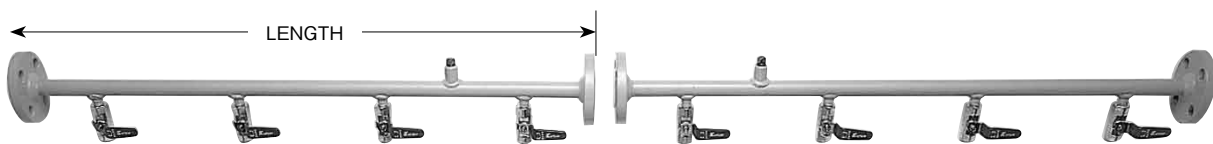


GH-2-8

MODEL No.		GH-2-4	GH-2-6	GH-2-8	GH-2-10	GH-2-12	GH-2-14	GH-2-16	GH-2-18	GH-2-20
SPECIFICATIONS										
No. OF HOSE		2 + 2	3 + 3	4 + 4	5 + 5	6 + 6	7 + 7	8 + 8	9 + 9	10 + 10
LENGTH		400 mm	600 mm	800 mm	1,000 mm	1,200 mm	1,400 mm	1,600 mm	1,800 mm	2,000 mm
ACCESSORIES	SUPPORT U-BOLT SET	2 SETS			4 SETS				6 SETS	
	ANCHOR BOLT	4			8				12	
	OTHERS	FLANGE PACKING x 4, BOLT, NUT AND WASHER x 8, BLIND FLANGE x 2, NAME PLATE x 1, INSTALLATION MANUAL, INSPECTION REPORT, FIRE DEPARTMENT NOTIFICATION FORM (FOR 6 OR MORE HOSES TYPE)								

Note: Installation Manual, Inspection Report, and Fire Department Notification Form are in Japanese.

BOTH SIDES FLANGED TYPE PIPE SIZE 20 A SPACE BETWEEN VALVES 200 mm (GASLON FINISHING)

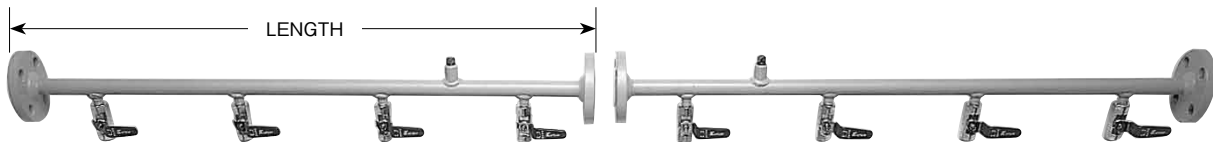


3/4GH-2-8

MODEL No.		3/4GH-2-4	3/4GH-2-6	3/4GH-2-8	3/4GH-2-10	3/4GH-2-12	3/4GH-2-14	3/4GH-2-16	3/4GH-2-18	3/4GH-2-20
SPECIFICATIONS										
No. OF HOSE		2 + 2	3 + 3	4 + 4	5 + 5	6 + 6	7 + 7	8 + 8	9 + 9	10 + 10
LENGTH		400 mm	600 mm	800 mm	1,000 mm	1,200 mm	1,400 mm	1,600 mm	1,800 mm	2,000 mm
ACCESSORIES	SUPPORT U-BOLT SET	2 SETS			4 SETS				6 SETS	
	ANCHOR BOLT	4			8				12	
	OTHERS	FLANGE PACKING x 4, BOLT, NUT AND WASHER x 8, BLIND FLANGE x 2, NAME PLATE x 1, INSTALLATION MANUAL, INSPECTION REPORT, FIRE DEPARTMENT NOTIFICATION FORM (FOR 6 OR MORE HOSES TYPE)								

Note: Installation Manual, Inspection Report, and Fire Department Notification Form are in Japanese.

BOTH SIDES FLANGED TYPE PIPE SIZE 15 A SPACE BETWEEN VALVES 400 mm (GASLON FINISHING)



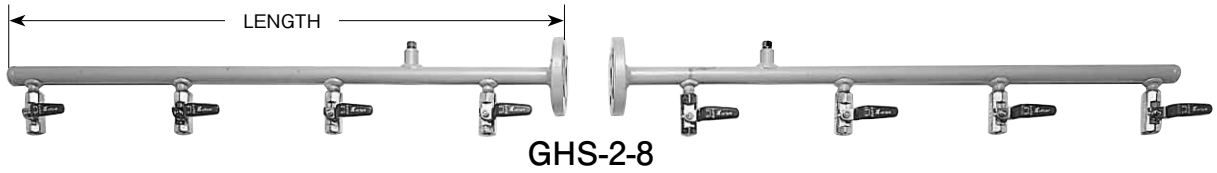
GH-4-8

MODEL No.		GH-4-4	GH-4-6	GH-4-8	GH-4-10
SPECIFICATIONS					
No. OF HOSE		2 + 2	3 + 3	4 + 4	5 + 5
LENGTH		800 mm	1,200 mm	1,600 mm	2,000 mm
ACCESSORIES	SUPPORT U-BOLT SET	4 SETS		6 SETS	
	ANCHOR BOLT	8		12	
	OTHERS	FLANGE PACKING x 4, BOLT, NUT AND WASHER x 8, BLIND FLANGE x 2, NAME PLATE x 1, INSTALLATION MANUAL, INSPECTION REPORT, FIRE DEPARTMENT NOTIFICATION FORM (FOR 6 OR MORE HOSES TYPE)			

Note 1: The above length is for one piece of assembly pipe. The length does not include the thickness of the blind flange and the flange packing.
Note 2: Installation Manual, Inspection Report, and Fire Department Notification Form are in Japanese.

PREFABRICATED MANIFOLD ASSEMBLY

ONE SIDE FLANGED TYPE PIPE SIZE 15 A SPACE BETWEEN VALVES 200 mm (GASLON FINISHING)



GHS-2-8

SPECIFICATIONS		MODEL No.			
WITHOUT HIGH PRESSURE HOSE		GHS-2-4	GHS-2-6	GHS-2-8	GHS-2-10
WITH HIGH PRESSURE HOSE (SPANNER-TIGHT)		GHS-2-4S	GHS-2-6S	GHS-2-8S	GHS-2-10S
WITH HIGH PRESSURE HOSE (HAND-TIGHT)		GHS-2-4H	GHS-2-6H	GHS-2-8H	GHS-2-10H
WITH GAS LEAK PROTECTION FUNCTION HIGH PRESSURE HOSE (SPANNER-TIGHT)		GHS-2-4BS	GHS-2-6BS	GHS-2-8BS	GHS-2-10BS
WITH GAS LEAK PROTECTION FUNCTION HIGH PRESSURE HOSE (HAND-TIGHT)		GHS-2-4BH	GHS-2-6BH	GHS-2-8BH	GHS-2-10BH
No. OF HOSE		2 + 2	3 + 3	4 + 4	5 + 5
FIXING HIGH PRESSURE HOSE	650 mm (SK-5, SKH-5, BS-5, BH-5)	4	4	4	6
	1,050 mm (SK-6, SKH-6, BS-6, BH-6)	—	2	4	4
LENGTH		328 mm	528 mm	728 mm	928 mm
ACCESSORIES	SUPPORT U-BOLT SET	2 SETS	4 SETS		
	ANCHOR BOLT	4	8		
	OTHERS	FLANGE PACKING x 2, BOLT, NUT AND WASHER x 8, NAME PLATE x 1, INSTALLATION MANUAL, INSPECTION REPORT, FIRE DEPARTMENT NOTIFICATION FORM (FOR 6 OR MORE HOSES TYPE)			

Note 1: The above length is for one piece of assembly pipe. The length does not include the thickness of the blind flange and the flange packing.

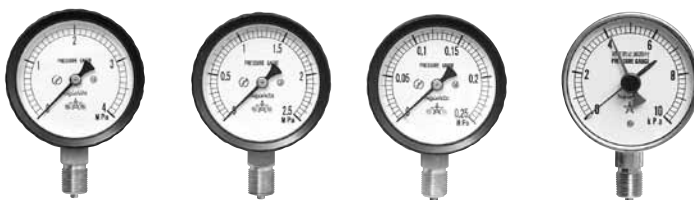
Note 2: Hot-dip galvanizing type, Model No. GHSZ is also available.

Note 3: Installation Manual, Inspection Report, and Fire Department Notification Form are in Japanese.

PARTS FOR PREFABRICATED ASSEMBLY DEVICE

SPECIFICATIONS				DIMENSIONS (mm)																																																													
<p>ELBOW PIPE</p>	<p>TEE PIPE HT-1 3/4 HT-1</p>	<p>G 3/8^B (FEMALE SCREWED) METAL FITTING FOR GAUGE HP-1V R 1/4^B (MALE SCREWED) HP-1</p>	<p>BLIND FLANGE HP-5 3/4^B HP-5</p>	<p>FLANGE PACKING THICKNESS 1.5</p>	<p>BOLT, NUT AND WASHER SET FOR FLANGE HP-1/2BNW HP-3/4BNW HP-1BNW</p>																																																												
		<p>I TYPE SIPHON PIPE HP-1 R 1/2^B (MALE SCREWED)</p>	<p>L TYPE SIPHON PIPE HP-1L R 1/2^B (MALE SCREWED)</p>																																																														
<table border="1"> <thead> <tr> <th>PART No.</th> <th>PIPE SIZE</th> <th>A</th> <th>B</th> </tr> </thead> <tbody> <tr><td>HL-1</td><td>1/2^B</td><td>250</td><td>150</td></tr> <tr><td>HL-2</td><td>1/2^B</td><td>600</td><td>150</td></tr> <tr><td>HL-4</td><td>1/2^B</td><td>280</td><td>140</td></tr> <tr><td>HL-350×200</td><td>1/2^B</td><td>350</td><td>200</td></tr> <tr><td>HL-700×200</td><td>1/2^B</td><td>700</td><td>200</td></tr> <tr><td>HL-950×150</td><td>1/2^B</td><td>950</td><td>150</td></tr> <tr><td>HL-1 3/4</td><td>3/4^B</td><td>250</td><td>150</td></tr> <tr><td>HL-2 3/4</td><td>3/4^B</td><td>600</td><td>150</td></tr> <tr><td>3/4HL-660×200</td><td>3/4^B</td><td>660</td><td>200</td></tr> <tr><td>3/4HL-910×150</td><td>3/4^B</td><td>910</td><td>150</td></tr> </tbody> </table>	PART No.	PIPE SIZE	A	B	HL-1	1/2 ^B	250	150	HL-2	1/2 ^B	600	150	HL-4	1/2 ^B	280	140	HL-350×200	1/2 ^B	350	200	HL-700×200	1/2 ^B	700	200	HL-950×150	1/2 ^B	950	150	HL-1 3/4	3/4 ^B	250	150	HL-2 3/4	3/4 ^B	600	150	3/4HL-660×200	3/4 ^B	660	200	3/4HL-910×150	3/4 ^B	910	150		<table border="1"> <thead> <tr> <th>PART No.</th> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>e</th> </tr> </thead> <tbody> <tr><td>HP-2</td><td>12</td><td>148</td><td>180</td><td>180</td><td>50</td></tr> <tr><td>3/4HP-2</td><td>12</td><td>183</td><td>215</td><td>180</td><td>50</td></tr> </tbody> </table>	PART No.	a	b	c	d	e	HP-2	12	148	180	180	50	3/4HP-2	12	183	215	180	50	
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HL-350×200	1/2 ^B	350	200																																																														
HL-700×200	1/2 ^B	700	200																																																														
HL-950×150	1/2 ^B	950	150																																																														
HL-1 3/4	3/4 ^B	250	150																																																														
HL-2 3/4	3/4 ^B	600	150																																																														
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PRESSURE GAUGE AND CYLINDER CHAIN



4 MPa

2.5 MPa

0.25 MPa

10 kPa

PRESSURE GAUGE



CYLINDER CHAIN

MODEL No.	SPECIFICATIONS
LW4032A-420	φ4 PLATE TYPE 1 pce.
LW4032A-430	φ4 PLATE TYPE 2 pcs.
LT4032A-430-T	φ4 PLATE TYPE 3 pcs.

SUPPLYING EQUIPMENT UNIT



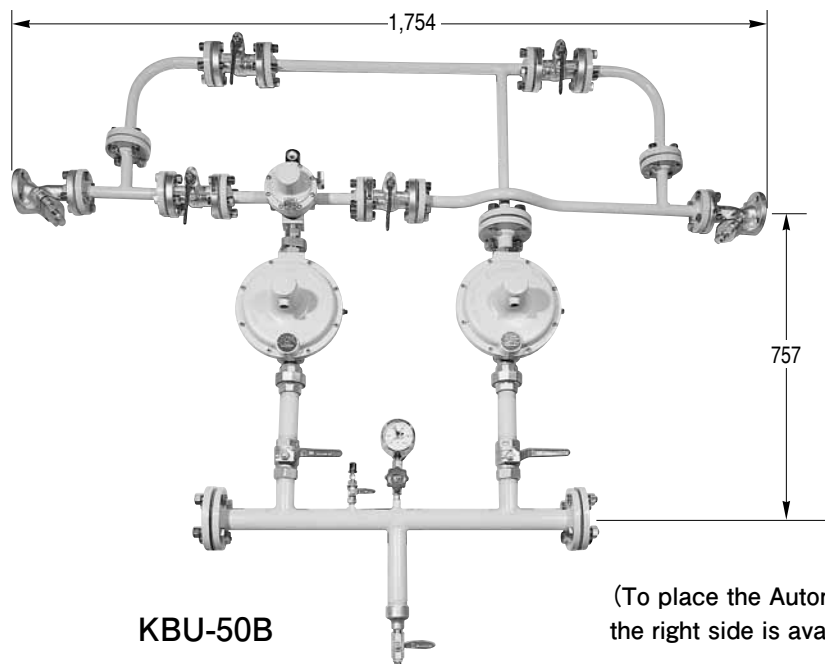
KSU2-15-8S

(The gas meter is sold separately.)

SPECIFICATIONS		MODEL No.	KSU2-15-8S	KSU2-15-8H
NAME			SUPPLYING EQUIPMENT UNIT 15A WITH AUTOMATIC CHANGEOVER REGULATOR (8 kg/h SPANNER-TIGHT)	SUPPLYING EQUIPMENT UNIT 15A WITH AUTOMATIC CHANGEOVER REGULATOR (8 kg/h HAND-TIGHT)
SPECIFICATIONS OF AUTOMATIC CHANGE-OVER REGULATOR	CAPACITY (Q)		8 kg/h	
	MODEL No.		CA-S5Z	CA-H5Z
	INLET CONNECTION		POL MALE SCREWED WITH SK-5 (SPANNER TIGHT HOSE)	POL MALE SCREWED WITH SKH-5 (HAND TIGHT HOSE)
	OUTLET CONNECTION		Rc $\frac{1}{2}$ ^B (UNION BALL GAS COCK WITH OUTLET TYPE INSPECTION HOLE)	
CONNECTING PIPE	MATERIAL DIA.		SGP 15 A	
	LOCK-UP PRESSURE		8.4 kPa	
	RESISTING PRESSURE		0.8 MPa	
	COLOR		LIGHT GRAY (MUNSELL 5Y 7.5/1)	
METER CONNECTION			M36 x 2	
ACCESSORIES			15 A SUPPORT x 2, TRUSS HEAD SELF TAPPING SCREWS (M3.5 x 8) x 4, TRUSS HEAD SELF TAPPING SCREWS (M4 x 25) x 4, INSTALLATION MANUAL, INSPECTION REPORT, PRODUCT WARRANTY	

Note: Installation Manual, Inspection report, and Product Warranty are in Japanese.

BYPASS UNIT



SINGLE-STAGE SYSTEM

MODEL No. SPECIFICATIONS	KBU-20A	KBU-30A	KBU-50B	KBU-70B	KBU-70G	KBU-100	KBU-100G	KBU-200	KBU-200G
CAPACITY (Q)	20 kg/h	30 kg/h	50 kg/h	70 kg/h	70 kg/h WITH EARTHQUAKE- RESISTANT SHUTOFF DEVICE	100 kg/h	100k g/h WITH EARTHQUAKE- RESISTANT SHUTOFF DEVICE	200 kg/h	200 kg/h WITH EARTHQUAKE- RESISTANT SHUTOFF DEVICE
INLET PRESSURE (P1)	0.1 - 1.56 MPa								
OUTLET PRESSURE (P2)	2.8±0.5 kPa								
WIDTH × HEIGHT (SEE NOTE1)	1,159 x 1,038 mm		1,754 x 757 mm		1,937 x 1,086 mm	2,100 x 767 mm	2,100 x 937 mm	2,330 x 944 mm	2,330 x 1144 mm
INLET CONNECTION	JIS 20 K 15 A FLANGED			JIS 20 K 20 A FLANGED			JIS 20 K 25 A FLANGED		
OUTLET CONNECTION	Rc1½ ^B (FEMALE SCREWED)				Rc2 ^B (FEMALE SCREWED)			Rc4 ^B (FEMALE SCREWED)	
PRESSURE OF ACTIVATING SAFETY VALVE	7±1.4 kPa								

SINGLE-STAGE SYSTEM (SWITCHING TYPE LEAK DETECTION DEVICE)

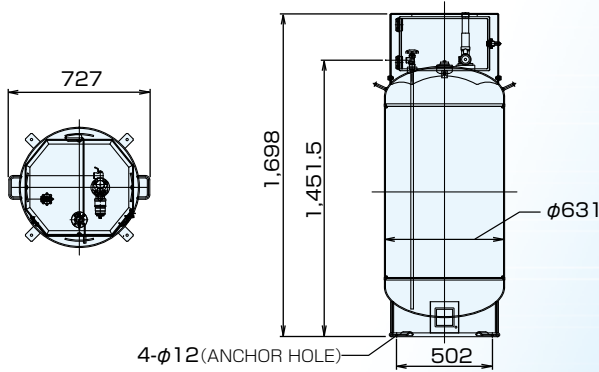
MODEL No. SPECIFICATIONS	KBU-20AHL	KBU-30AHL	KBU-50BHL
CAPACITY (Q)	20 kg/h	30 kg/h	50 kg/h
INLET PRESSURE (P1)	0.1 - 1.56 MPa		
OUTLET PRESSURE (P2)	2.8±0.5 kPa		
WIDTH × HEIGHT (SEE NOTE1)	1,159 x 1,030 mm		1,754 x 757 mm
INLET CONNECTION	JIS 20 K 15 A FLANGED		JIS 20 K 20 A FLANGED
OUTLET CONNECTION	Rc1½ ^B (FEMALE SCREWED)		
PRESSURE OF ACTIVATING SAFETY VALVE	7±1.4 kPa		

LOW PRESSURE W SYSTEM

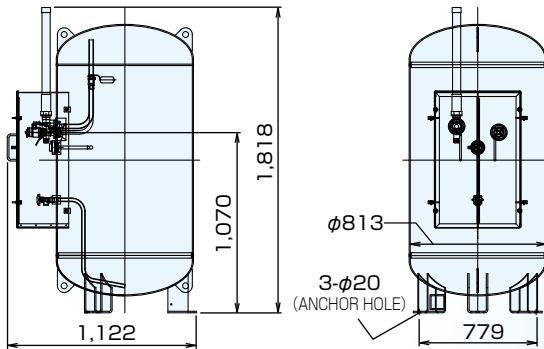
MODEL No. SPECIFICATIONS	KWU-70	KWU-100	KWU-100G	KWU-200	KWU-200G
CAPACITY (Q)	70 kg/h	100 kg/h	100 kg/h WITH EARTHQUAKE- RESISTANT SHUTOFF DEVICE	200 kg/h	200 kg/h WITH EARTHQUAKE- RESISTANT SHUTOFF DEVICE
INLET PRESSURE (P1)	0.1 - 1.56 MPa				
OUTLET PRESSURE (P2)	2.8±0.5 kPa				
WIDTH × HEIGHT (SEE NOTE1)	1,483 x 1,329 mm	1,680 x 1,200 mm	1,920 x 939 mm	2,055 x 1,195 mm	2,055 x 1,230 mm
INLET CONNECTION	JIS 20 K 20 A FLANGED		JIS 20 K 25 A FLANGED		
OUTLET CONNECTION	Rc2 ^B (FEMALE SCREWED)			Rc4 ^B (FEMALE SCREWED)	
PRESSURE OF ACTIVATING SAFETY VALVE	7±1.4 kPa				

Note 1: The above width is for space between both sides flange.
The length does not include the thickness of the blind flange and the flange packing.
Height is the dimension from the center of the integrated header to the center of the drain pot.

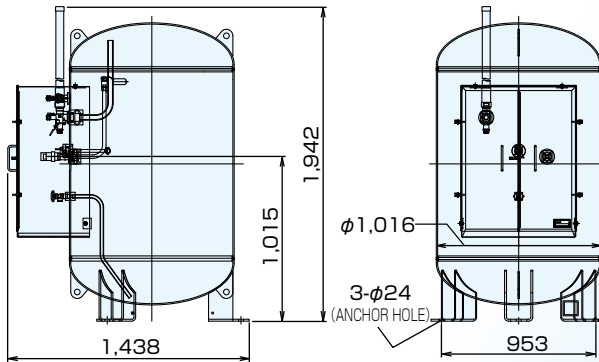
1 150K VERTICAL TANK, TOP EXTRACTION (KBS 150B)



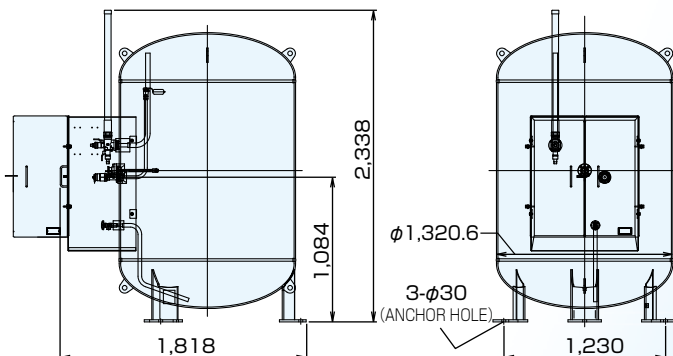
2 300K VERTICAL TANK, BODY EXTRACTION (KBS 300B)



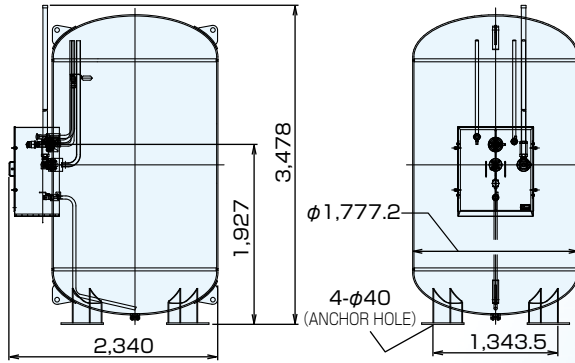
3 500K VERTICAL TANK, BODY EXTRACTION (KBS 500B)



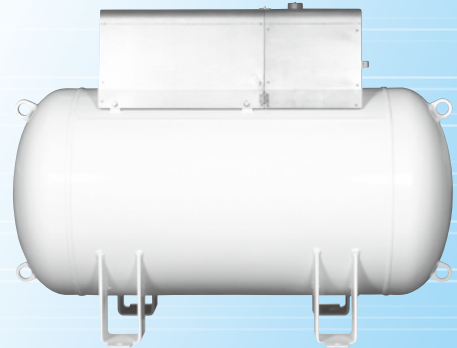
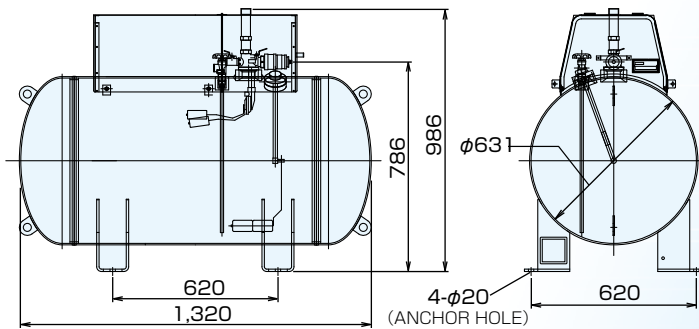
4 980K VERTICAL TANK, BODY EXTRACTION (KBS 980B)



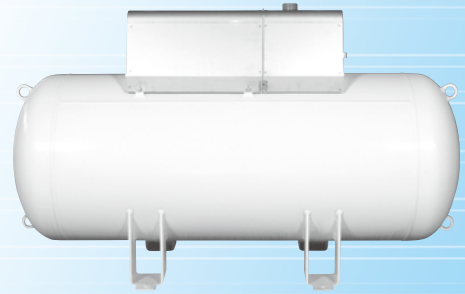
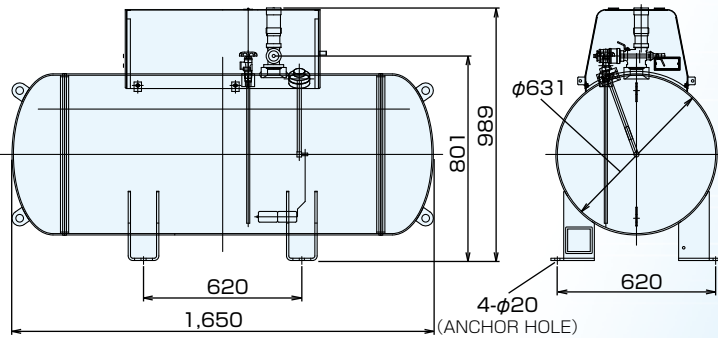
5 2900K VERTICAL TANK, BODY EXTRACTION



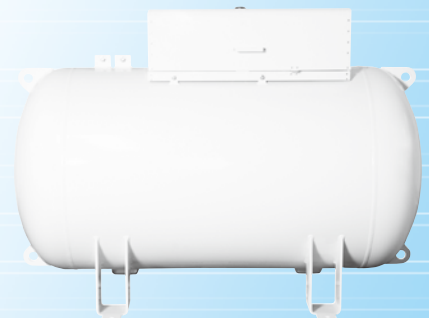
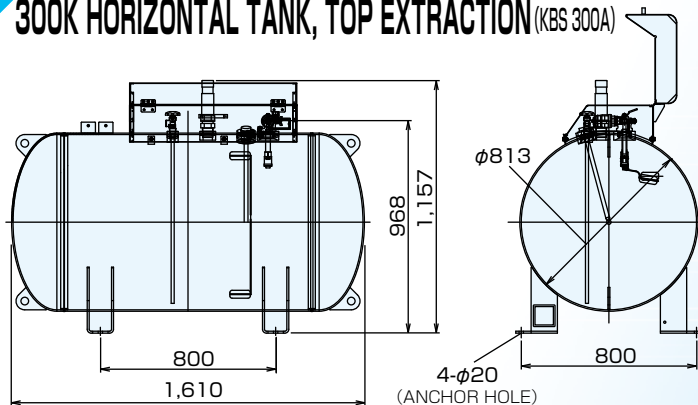
6 150K HORIZONTAL TANK, TOP EXTRACTION (KBS 150A)



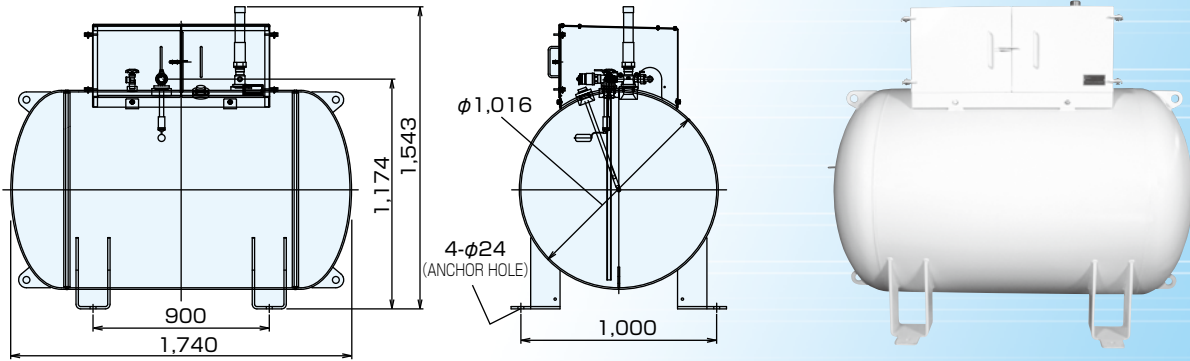
7 200K HORIZONTAL TANK, TOP EXTRACTION (KBS 200A)



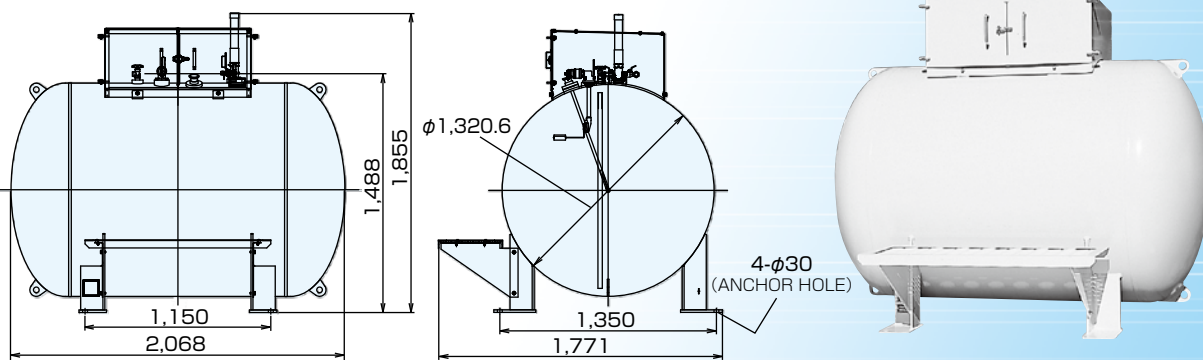
8 300K HORIZONTAL TANK, TOP EXTRACTION (KBS 300A)



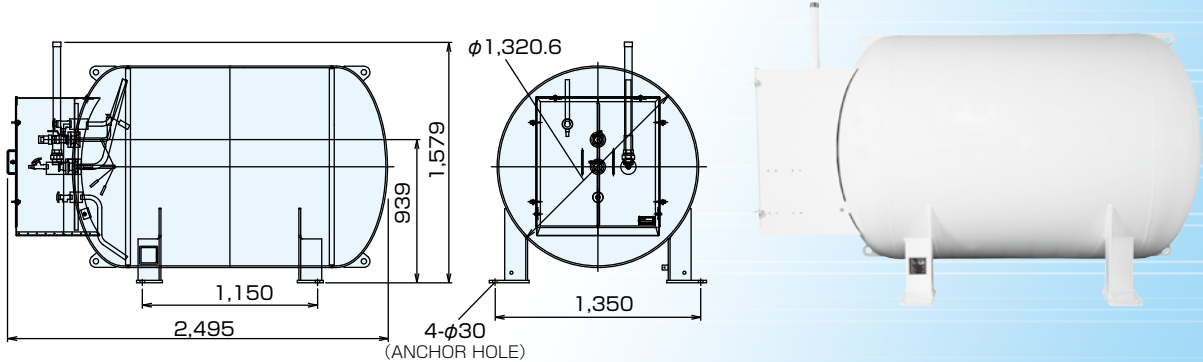
9 500K HORIZONTAL TANK, TOP EXTRACTION (KBS 500A)



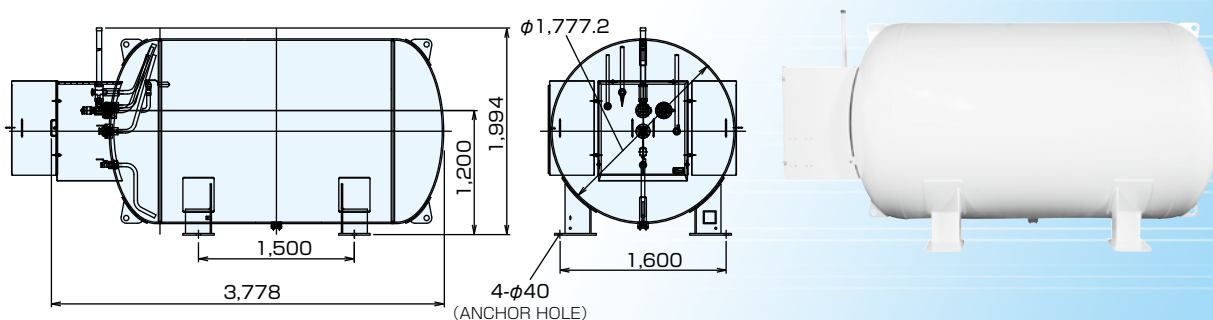
10 980K HORIZONTAL TANK, TOP EXTRACTION (KBS 980A)



11 980K HORIZONTAL TANK, SIDE EXTRACTION (KBS 980AE)



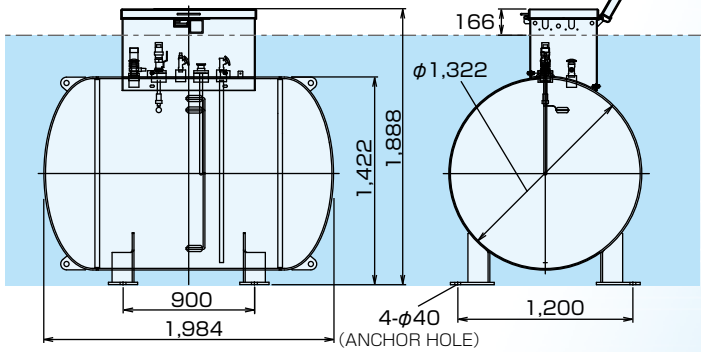
12 2900K HORIZONTAL TANK, SIDE EXTRACTION



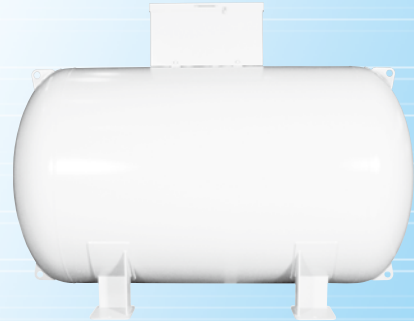
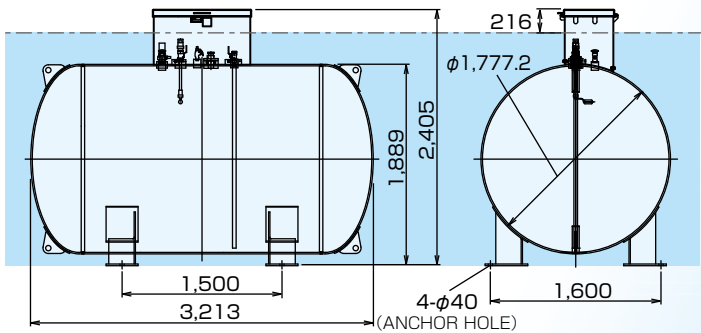
BULK STORAGE TANK SERIES

LP GAS SUPPLYING EQUIPMENT ● BULK STORAGE TANK SERIES

13 990K HORIZONTAL TANK, UNDERGROUND INSTALLATION



14 2900K HORIZONTAL TANK, UNDERGROUND INSTALLATION



BULK STORAGE TANK SERIES

※For the LP gas amount generated from the bulk storage tank, refer to P.84 and P.85.

□□ BULK STORAGE TANK MAIN BODY SPECIFICATIONS

MODEL No.	TYPE	CAPACITY (L)	FILLING GAS AMOUNT(kg)	DIAMETER (mm)	LENGTH (mm)	HEIGHT (mm)	GROSS WEIGHT APPROX.(kg)	ANCHOR HOLE (mm)	GAS OUTLET	LIQUID OUTLET	
VERTICAL	KBS150B	150K TOP OUTLET	365	145	631.0	727	1,698	150	φ 12	POL FEMALE	POL FEMALE
	KBS300B	300K BODY OUTLET	740	295	813.0	1,122	1,818	300	φ 20	R $\frac{1}{2}$ ^B MALE	POL FEMALE
	KBS500B	500K BODY OUTLET	1,230	495	1,016.0	1,438	1,942	470	φ 24	R $\frac{1}{2}$ ^B MALE	POL FEMALE
	KBS980B	980K BODY OUTLET	2,440	980	1,320.6	1,818	2,338	1,000	φ 30	R $\frac{1}{2}$ ^B MALE	POL FEMALE
	2900B	2900K BODY OUTLET	7,000	2,800	1,777.2	2,340	3,478	3,000	φ 40	R $\frac{1}{2}$ ^B MALE	Rc $\frac{3}{4}$ ^B FEMALE
HORIZONTAL	KBS150A	150K TOP OUTLET	365	145	631.0	1,320	986	180	φ 20	POL FEMALE	POL FEMALE
	KBS200A	200K TOP OUTLET	465	190	631.0	1,650	989	185	φ 20	POL FEMALE	POL FEMALE
	KBS300A	300K TOP OUTLET	740	295	813.0	1,610	1,157	300	φ 20	R $\frac{1}{2}$ ^B MALE	POL FEMALE
	KBS500A	500K TOP OUTLET	1,230	495	1,016.0	1,740	1,543	480	φ 24	R $\frac{1}{2}$ ^B MALE	POL FEMALE
	KBS980A	980K TOP OUTLET	2,440	980	1,320.6	2,068	1,855	1,000	φ 30	R $\frac{1}{2}$ ^B MALE	POL FEMALE
	KBS980AE	980K SIDE OUTLET	2,440	980	1,320.6	2,495	1,579	1,000	φ 30	R $\frac{1}{2}$ ^B MALE	POL FEMALE
	2000A	2000K TOP OUTLET	4,950	2,000	1,422.0	3,470	2,014	1,900	φ 30	R $\frac{1}{2}$ ^B MALE	POL FEMALE
	2400AE	2400K SIDE OUTLET	6,000	2,400	1,777.2	3,381	1,994	2,500	φ 40	R $\frac{1}{2}$ ^B MALE	Rc $\frac{3}{4}$ ^B FEMALE
	2900AE	2900K SIDE OUTLET	7,000	2,800	1,777.2	3,780	1,994	3,000	φ 40	R $\frac{1}{2}$ ^B MALE	Rc $\frac{3}{4}$ ^B FEMALE

□□ UNDERGROUND INSTALLATION BULK STORAGE TANK MAIN BODY SPECIFICATIONS

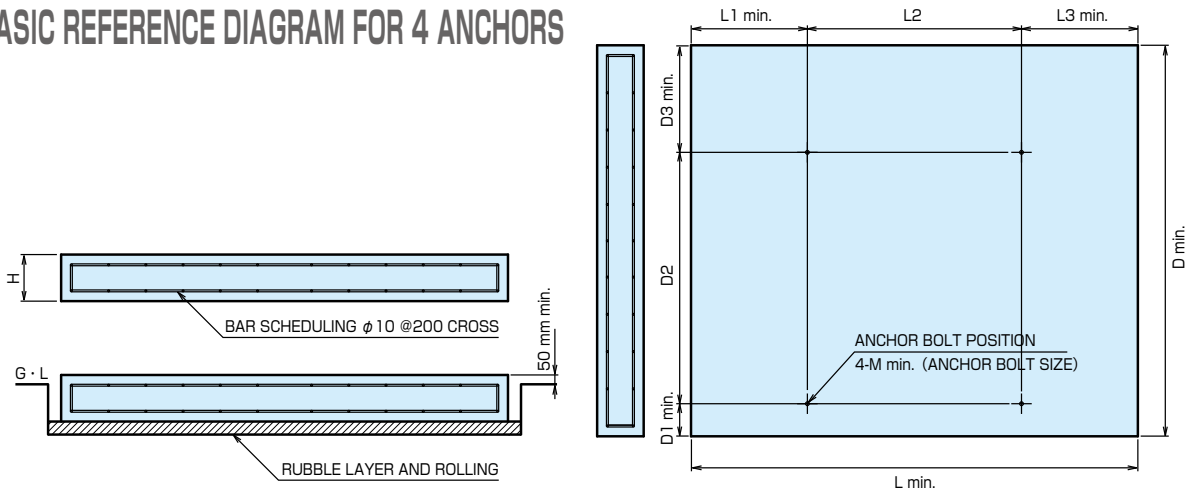
MODEL No.	TYPE	CAPACITY (L)	FILLING GAS AMOUNT(kg)	DIAMETER (mm)	LENGTH (mm)	HEIGHT (mm)	GROSS WEIGHT APPROX.(kg)	ANCHOR HOLE (mm)	GAS OUTLET	LIQUID OUTLET
150G	150K UNDERGROUND TYPE	365	150	631.0	1,320	1,197	150	φ 20	R $\frac{1}{2}$ ^B MALE	POL FEMALE
300G	300K UNDERGROUND TYPE	740	295	813.0	1,610	1,379	300	φ 30	R $\frac{1}{2}$ ^B MALE	POL FEMALE
500G	500K UNDERGROUND TYPE	1,230	495	1,016.0	1,740	1,582	500	φ 40	R $\frac{1}{2}$ ^B MALE	POL FEMALE
990G	990K UNDERGROUND TYPE	2,330	990	1,320.6	1,984	1,888	1,000	φ 40	R $\frac{1}{2}$ ^B MALE	POL FEMALE
2900G	29T UNDERGROUND TYPE	7,000	2,900	1,777.2	3,213	2,405	2,850	φ 40	R $\frac{1}{2}$ ^B MALE	Rc $\frac{3}{4}$ ^B FEMALE

□□ BULK STORAGE TANK (BUILT-IN REGULATOR) CHART

		UNITIZED REGULATOR (2-STAGE TYPE) FOR BULK KLPB					REGULATOR WITH LEAK DETECTION DEVICE FOR BULK HLPB			
		10 kg/h	20 kg/h	32 kg/h	50 kg/h	70 kg/h	10 kg/h	20 kg/h	32 kg/h	50 kg/h
VERTICAL	150KG KBS150B	KBS150B-KL10								
	300KG KBS300B		KBS300B-KL20	KBS300B-KL32			KBS300B-HL10	KBS300B-HL20	KBS300B-HL32	
	500KG KBS500B		KBS500B-KL20	KBS500B-KL32				KBS500B-HL20	KBS500B-HL32	
	980KG KBS980B			KBS980B-KL32	KBS980B-KL50	KBS980B-KL70			KBS980B-HL32	KBS980B-HL50
HORIZONTAL	150KG KBS150A	KBS150A-KL10								
	200KG KBS200A	KBS200A-KL10	KBS200A-KL20				KBS200A-HL10	KBS200A-HL20		
	300KG KBS300A		KBS300A-KL20	KBS300A-KL32			KBS300A-HL10	KBS300A-HL20	KBS300A-HL32	
	500KG KBS500A		KBS500A-KL20	KBS500A-KL32				KBS500A-HL20	KBS500A-HL32	
	980KG KBS980A			KBS980A-KL32	KBS980A-KL50	KBS980A-KL70			KBS980A-HL32	KBS980A-HL50
	980KG KBS980AE			KBS980AE-KL32	KBS980AE-KL50	KBS980AE-KL70			KBS980AE-HL32	KBS980AE-HL50

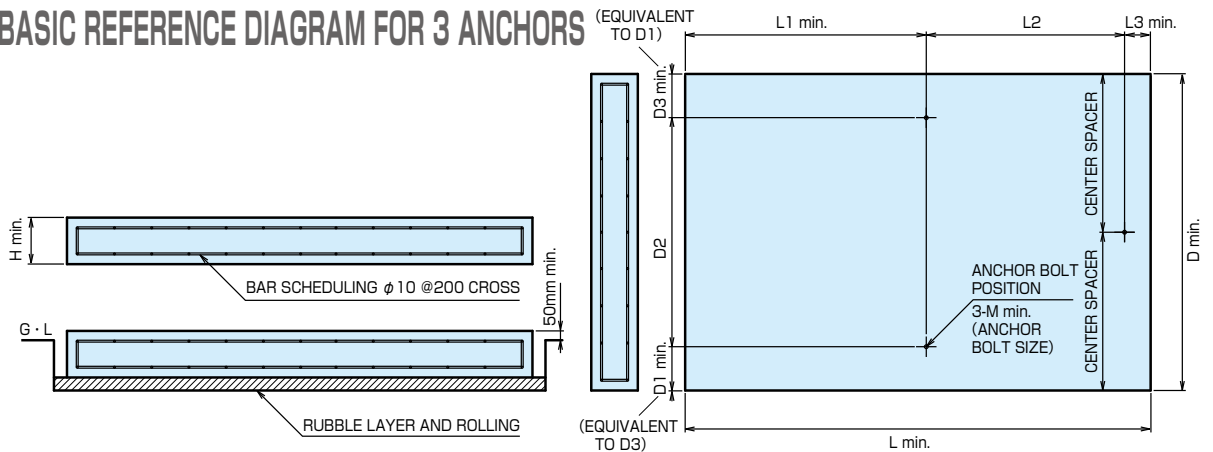
BULK STORAGE TANK SERIES

□ □ BASIC REFERENCE DIAGRAM FOR 4 ANCHORS



	MODEL No.	TYPE	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	H (mm)	M (mm)
VERTICAL	KBS150B	150K TOP OUTLET	1,200	349	502	349	1,200	349	502	349	200	φ 8
	2900B	2900K BODY OUTLET	3,000	828	1,344	828	3,000	828	1,344	828	400	φ 24
HORIZONTAL	KBS150A	150K TOP OUTLET	1,600	490	620	490	900	140	620	140	150	φ 8
	KBS200A	200K TOP OUTLET	1,800	590	620	590	1,200	290	620	290	150	φ 10
	KBS300A	300K TOP OUTLET	1,800	500	800	500	1,200	200	800	200	150	φ 10
	KBS500A	500K TOP OUTLET	2,200	650	900	650	1,400	200	1,000	200	150	φ 12
	KBS980A	980K TOP OUTLET	2,600	725	1,150	725	1,800	225	1,350	225	150	φ 16
	KBS980AE	980K SIDE OUTLET	2,600	725	1,150	725	1,800	225	1,350	225	150	φ 16
	2000A	2000K TOP OUTLET	4,000	1,100	1,800	1,100	2,300	475	1,350	475	300	φ 18
	2400AE	2400K SIDE OUTLET	4,000	1,400	1,200	1,400	2,300	500	1,300	500	300	φ 24
	2900AE	2900K SIDE OUTLET	4,000	1,250	1,500	1,250	2,300	350	1,600	350	300	φ 24

□ □ BASIC REFERENCE DIAGRAM FOR 3 ANCHORS

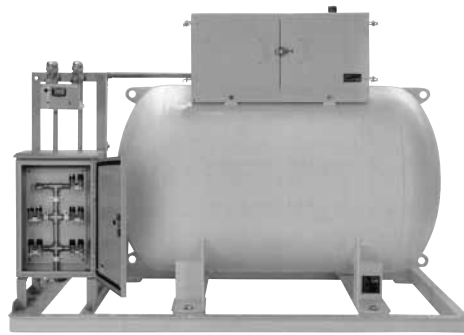


	MODEL No.	TYPE	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	H (mm)	M (mm)
VERTICAL	KBS300B	300K BODY OUTLET	1,500	475	675	350	1,500	360.5	779	360.5	200	φ 10
	KBS500B	500K BODY OUTLET	1,800	490	825	485	1,800	423.5	953	423.5	200	φ 12
	KBS980B	980K BODY OUTLET	2,200	570	1,065	565	2,200	485.0	1,230	485.0	200	φ 20

- (1) Civil Engineering Work 1) The bottom base of the excavation shall be paved 80 to 100 mm compacted thickness with rubble by a rammer, etc.
 Note 1: If the field is soft, the soil shall be replaced. Excavation depth approx. 1,000 mm below ground surface.
 Note 2: If the planned installation field is asphalt pavement or concrete surface without rebar, the above mentioned process shall be done after implement cutting and hacking the excavation area.
- (2) Concrete Base Work 1) The base shall be constructed by reinforced concrete or concrete structure. The design strength of the concrete is 21 N/mm² or more.
 2) The concrete foundation shall be constructed to be GL+50 mm or more after completion.
- (3) Storage Tank Installation 1) The bulk storage tank shall be fixed by anchor bolts in concrete foundation.
 Note 1: In case of using post-installed anchor, be sure to check the performance both of the pullout strength and anchor by the post-installed anchor manufacturer's manual because of concerns about the dilute pullout strength.
 2) Make sure to use the grounding rods made from copper - diameter 7 mm or more - length 300 mm or more, or a surface area 6,671 mm² or more.
 3) The ground connection wire (lead wire) shall be used the cross-sectional area of 5.5 mm² or more.
 4) Make sure to use a ground connection wire of φ 10 x 1,000 mm as our standard.
 5) The ground connection wires shall be connected each other using ring sleeves. The connection to the storage tank shall be fixed by bolt nut to the ground connection nut hole that is provided to the leg of the storage tank at round terminal.
- Note: This dimensions are a reference value of the minimum dimension basis, not including maintenance or other space and are different from the installation space. Therefore, change the dimensions according to the actual individual on-site installation conditions before processing.

BULK STORAGE TANK SERIES

DISASTER COUNTERMEASURE BULK SYSTEM



Note 1: Regulator is Unitized Regulator (2-Stage Type).
 Note 2: Changing the Capacity of the Regulator and Regulator for Bulk with Leak Detection Device is available.
 Note 3: Installation of Bulk Guard if necessary.

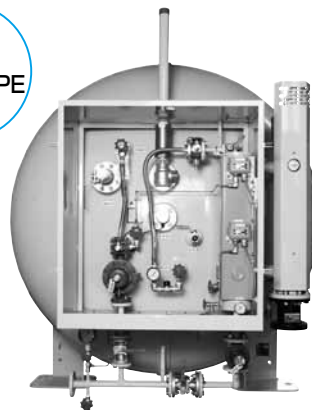
		MODEL No.	CAPACITY	MAX. FILLING GAS AMOUNT	REGULATOR CAPACITY	BULK BASE DIMENSIONS	BULK GUARD(pc/s)	GAS COCK BOX
HORIZONTAL	300 kg	SKC-300A	740 L	295 kg	32 kg/h	2,600 x 1,500 x 100 mm	6	TWO-OUTLET TYPE ON/OFF FUSE GAS COCK 5 pcs.
	500 kg	SKC-500A	1,230 L	495 kg	32 kg/h	2,600 x 1,500 x 100 mm	6	
	1,000 kg	SKC-1000A	2,440 L	980 kg	50 kg/h	3,000 x 2,200 x 100 mm	6	
	3,000 kg	SKC-3000AC	7,000 L	2,800 kg	50 kg/h	3,650 x 2,450 x 200 mm	—	
	3,000 kg (Built-in 50 kg/h vapor)	SKC-3000BAiO	7,000 L	2,800 kg	50 kg/h	—	4	
VERTICAL	300 kg	SKC-300B	740 L	295 kg	32 kg/h	2,000 x 2,200 x 100 mm	4	BALL COCK 15A FOR FLEXIBLE HOSE CONNECTION 1 pce.
	500 kg	SKC-500B	1,230 L	495 kg	32 kg/h	2,000 x 2,200 x 100 mm	4	
	1,000 kg	SKC-1000B	2,440 L	980 kg	50 kg/h	2,300 x 2,600 x 100 mm	4	
	1,000 kg (Built-in 50 kg/h vapor)	SKC-1000BAiO	2,440 L	980 kg	50 kg/h	—	4	
	3,000 kg	SKC-3000BC	7,000 L	2,800 kg	50 kg/h	2,350 x 2,450 x 200 mm	—	

BAiO SERIES

BAiO
1 t TYPE



BAiO
2.9 t TYPE



PICTURE : ELECTRIC TYPE

BAiO(BUILT-IN HOT WATER VAPORIZER)

SPECIFICATIONS		MODEL No.	BAiO-50W	BAiO-100W	BAiO3000-50W	BAiO3000-100W
STORAGE TANK			1 t VERTICAL LP GAS BULK STORAGE TANK	2.9 t HORIZONTAL LP GAS BULK STORAGE TANK		
HEAT SOURCE			HOT WATER (BY HEAT SOURCE EQUIPMENT)			
GAS GENERATION CAPACITY			50 kg/h	100 kg/h	50 kg/h	100 kg/h
MEDIUM PRESSURE GAS PIPE			JIS10 K 25 A FLANGED			
HOT WATER PIPE CONNECTION			Rc3/4 ^B (FEMALE SCREWED)			
INLET	LIQUID		20 A SAFETY COUPLING (MALE) (DIRECTLY-MOUNTED STORAGE TANK SOURCE VALVE)			
	GAS		10 A SAFETY COUPLING (MALE) (DIRECTLY-MOUNTED STORAGE TANK SOURCE VALVE)			
EXTERNAL DIAMETER	WIDTH		1,450 mm		1,778 mm	
	HEIGHT		2,280 mm		2,065 mm	
	DEPTH		1,750 mm		3,725 mm	
WEIGHT			APPROX. 1,000 kg		APPROX. 2,620 kg	
ACCESSORIES			INSTALLATION AND MAINTENANCE MANUAL, ELECTRIC CONTROL PANEL, VALVE OPENING AND CLOSING TAGS			
HEAT SOURCE (SOLD SEPARATELY)			GH-1210WD-VR(NORITZ)		GH-1210WD-VR(NORITZ)	

e-BAiO(BUILT-IN ELECTRIC VAPORIZER)

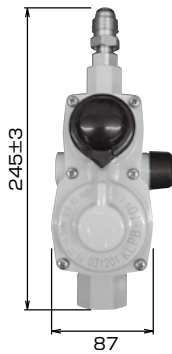
SPECIFICATIONS		MODEL No.	BAiO-50E	BAiO-100E	BAiO3000-50E	BAiO3000-100E
STORAGE TANK			1 t VERTICAL LP GAS BULK STORAGE TANK	2.9 t HORIZONTAL LP GAS BULK STORAGE TANK		
HEAT SOURCE (ELECTRIC HEATER)			7.5 kW	14 kW	7.5 kW	14 kW
POWER SUPPLY			3-Phase AC200 V(+10 %/-5 %)50/60 Hz			
GAS GENERATION CAPACITY			50 kg/h	100 kg/h	50 kg/h	100 kg/h
MEDIUM PRESSURE GAS PIPE			JIS10 K 25 A FLANGED			
INLET	LIQUID		20 A SAFETY COUPLING (MALE) (DIRECTLY-MOUNTED STORAGE TANK SOURCE VALVE)			
	GAS		10 A SAFETY COUPLING (MALE) (DIRECTLY-MOUNTED STORAGE TANK SOURCE VALVE)			
EXTERNAL DIAMETER	WIDTH		1,450 mm		1,778 mm	
	HEIGHT		2,280 mm		2,065 mm	
	DEPTH		1,750 mm		3,725 mm	
WEIGHT			APPROX. 1,020 kg		APPROX. 2,640 kg	
ACCESSORIES			INSTALLATION AND MAINTENANCE MANUAL, ELECTRIC CONTROL PANEL, VALVE OPENING AND CLOSING TAGS, RUST PREVENTING AGENT			

BULK STORAGE TANK SERIES

REGULATOR FOR BULK (WITH GAS DISCHARGE PROTECTION FUNCTION)

UNITIZED TYPE REGULATOR FOR BULK

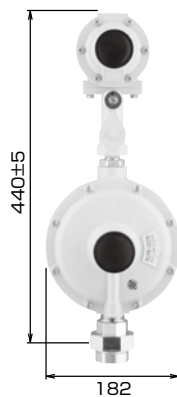
KLPB-10PM(POL CONNECTION)



KLPB-20CM



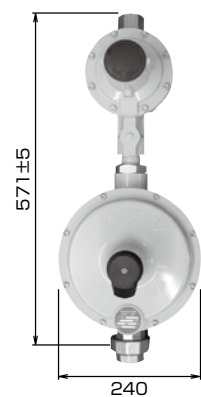
KLPB-32CM



KLPB-50BM



KLPB-70BM



SPECIFICATIONS	MODEL No.	KLPB-10M	KLPB-10PM	KLPB-20CM	KLPB-32CM	KLPB-50BM	KLPB-70BM
CAPACITY(Q)		10 kg/h		20 kg/h	32 kg/h	50 kg/h	70 kg/h
INLET PRESSURE(P1)		0.07 - 1.56 MPa					
DELIVERY PRESSURE(P2)		2.55 - 3.30 kPa					
CONNECTION	INLET	Rc1/2 ^B (FEMALE SCREWED)	POL MALE SCREWED (SPANNER TIGHT)	Rc1/2 ^B (FEMALE SCREWED)			
	OUTLET	Rc3/4 ^B (FEMALE SCREWED)		Rc3/4 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 ^B (FEMALE LOW-PRESSURE UNION)	Rc1 1/4 ^B (FEMALE LOW-PRESSURE UNION)	
FACE TO FACE DIMENSION		232 mm±3	245 mm±3	423 mm±5	440 mm±5	571 mm±5	

UNITIZED TYPE REGULATOR FOR BULK (FOR REPLACEMENT)

KLPB-32BMC-F

KLPB-32BMC-F2



PARTS ①



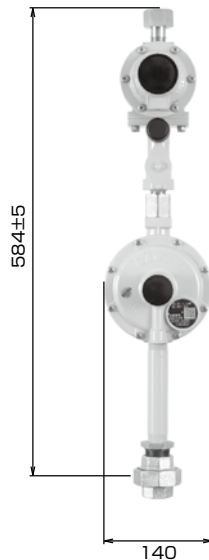
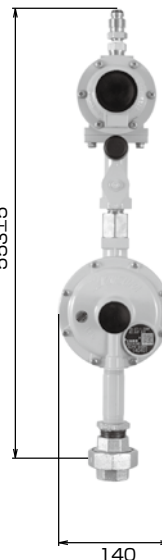
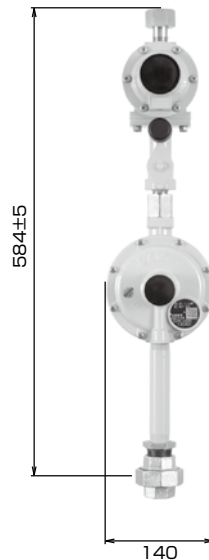
KLPB-32BMC



PARTS ②



PARTS ③

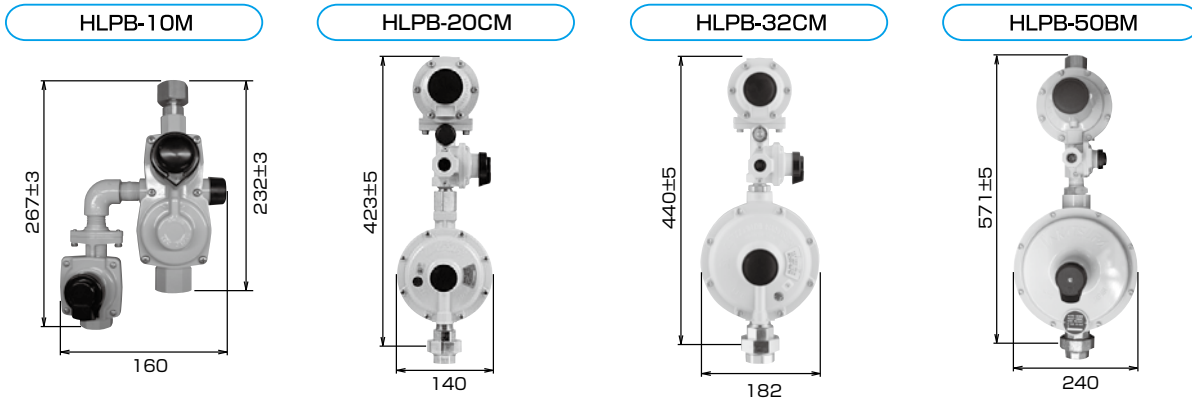


SPECIFICATIONS	MODEL No.	KLPB-32BMC-F		KLPB-32BMC-F2	
CAPACITY(Q)		32 kg/h			
INLET PRESSURE(P1)		0.07 - 1.56 MPa			
DELIVERY PRESSURE(P2)		2.55 - 3.30 kPa			
CONNECTION	INLET	M28P1.5	POL MALE SCREWED (SPANNER TIGHT)	M28P1.5	
	OUTLET	Rc1 ^B (FEMALE LOW-PRESSURE UNION)			
FACE TO FACE DIMENSION		584 mm±5	553 mm±5	584 mm±5	

Note: Please assemble KLPB-32BMC-F in accordance with a situation of installation.

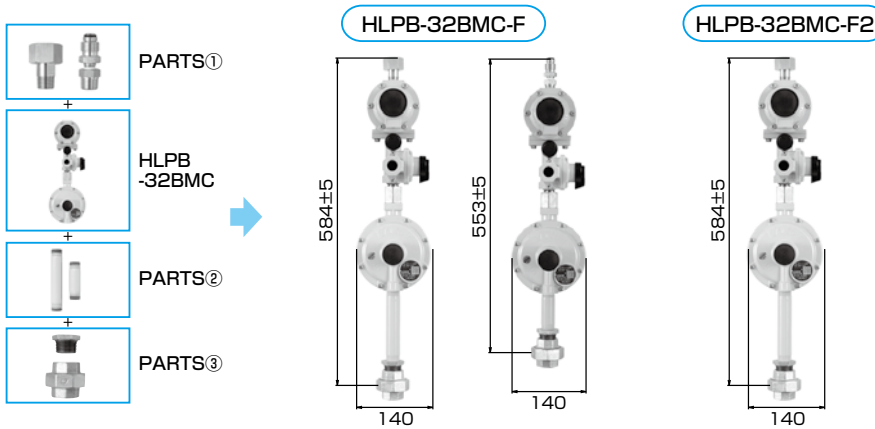
REGULATOR FOR BULK (WITH GAS DISCHARGE PROTECTION FUNCTION)

REGULATOR FOR BULK (WITH GAS DISCHARGE PROTECTION FUNCTION)



SPECIFICATIONS		MODEL No.							
CAPACITY (Q)		HLPB-10M		HLPB-10PM	HLPB-20CM	HLPB-32CM	HLPB-50BM		
CAPACITY (Q)		10 kg/h					20 kg/h	32 kg/h	50 kg/h
INLET PRESSURE (P1)		0.07 - 1.56 MPa							
DELIVERY PRESSURE (P2)		2.55 - 3.30 kPa							
CONNECTION	INLET	Rc 1/2 ^B (FEMALE SCREWED)	POL MALE SCREWED (SPANNER TIGHT)		Rc 1/2 ^B (FEMALE SCREWED)				
	OUTLET	Rc 3/4 ^B (FEMALE SCREWED)			Rc 3/4 ^B (FEMALE LOW-PRESSURE UNION)	Rc 1 ^B (FEMALE LOW-PRESSURE UNION)	Rc 1 1/4 ^B (FEMALE LOW-PRESSURE UNION)		
	LOWER REGULATOR (OUTLET)	Rc 1/2 ^B (FEMALE SCREWED)							
UPPER REGULATOR OPEN/CLOSE FLOW RATE		0.4 kg/h							
SUB-ADJUSTER MAX. FLOW RATE		0.5 kg/h							
FACE TO FACE DIMENSION		267 mm±3	279 mm±3	423 mm±5	440 mm±5	571 mm±5			

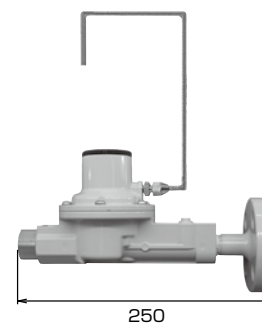
REGULATOR FOR BULK (WITH GAS DISCHARGE PROTECTION FUNCTION) FOR REPLACEMENT



SPECIFICATIONS		MODEL No.		
CAPACITY (Q)		HLPB-32BMC-F		HLPB-32BMC-F2
CAPACITY (Q)		32 kg/h		
INLET PRESSURE (P1)		0.07 - 1.56 MPa		
DELIVERY PRESSURE (P2)		2.55 - 3.30 kPa		
CONNECTION	INLET	M28P1.5	POL MALE SCREWED (SPANNER TIGHT)	M28P1.5
	OUTLET	Rc 1 ^B (FEMALE LOW-PRESSURE UNION)		
	LOWER REGULATOR (OUTLET)	Rc 1/2 ^B (FEMALE SCREWED)		
UPPER REGULATOR OPEN/CLOSE FLOW RATE		0.4 kg/h		
SUB-ADJUSTER MAX. FLOW RATE		0.5 kg/h		
FACE TO FACE DIMENSION		584 mm±5	553 mm±5	584 mm±5

Note: Please construct KLPB-32BMC-F in accordance with a situation of installation.

KMFU-32CMF



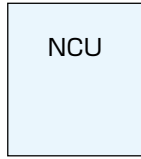
FIRST STAGE REGULATOR FOR UNDERGROUND BULK

SPECIFICATIONS		MODEL No.		
CAPACITY (Q)		KMFU-32CMF	KMFU-50BMF	KMFU-70BMF
CAPACITY (Q)		32 kg/h	50 kg/h	70 kg/h
INLET PRESSURE (P1)		0.10 - 1.56 MPa		
DELIVERY PRESSURE (P2)		0.057 - 0.083 MPa		
CONNECTION	INLET	Rc 1/2 ^B (FEMALE SCREWED)		
	OUTLET	JIS 20 K 15 A FLANGED	JIS 20 K 20 A FLANGED	
FACE TO FACE DIMENSION		250 mm	298 mm	

BULK STORAGE TANK SERIES

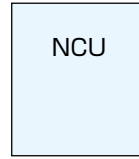
RESIDUAL LIQUID MANAGEMENT SYSTEM (LEVEL GAUGE)

SINGLE CONTACT (20 % AND 40 %)



Note: Solar type NCU is available

CONNECTED TYPE (POTENTIOMETER AND BULK LEVEL CONVERTER)

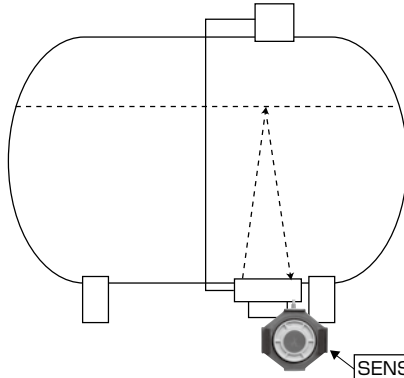


5 BIT : BLC5 (Toyo Keiki Co., Ltd.)

8 BIT : MTB-LCB (Miyairi Valve Manufacturing Co., Ltd.)

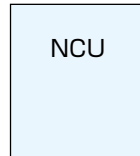
ULTRASONIC LEVEL GAUGE

SENSOR UNIT MOUNTING



DISPLAY UNIT

RIVEL II
(TAISEI Co., Ltd.)



SENSOR UNIT

BULK RELATED EQUIPMENT

GAS LEAKAGE DETECTOR (BATTERY POWERED)



PICTURE: XH-611EB

BULK STORAGE TANK FENCE



PICTURE: SZAM-500 (VERTICAL TYPE)

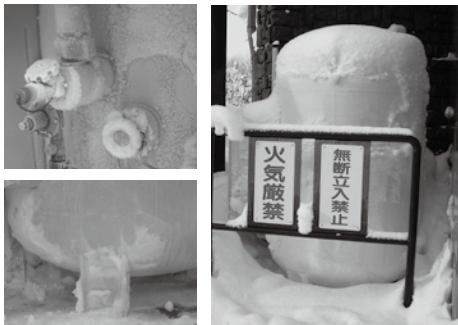
BULK GUARD



PICTURE: BG-A-700I

TEX BULK JACKET

●USAGE EXAMPLES



BEFORE INSTALLMENT



AFTER INSTALLMENT

BULK JACKET

MODEL No.	
TEX-05Y-N	500 K HORIZONTAL
TEX-05TS-N	500 K VERTICAL
TEX-10Y-N	1 t HORIZONTAL
TEX-10TS-N	1 t VERTICAL
BULK JACKET PARTS SET	COMMON PARTS

※1 BULK JACKET PARTS SET: HETER CONTROL PANEL, PIPING SET AND ANTIFREEZING FLUID
 ※2 WATER HEATER IS NOT INCLUDED

(Isikari City, Hokkaido Prefecture, Photographed January.)

HIGH PRESSURE HOSE WITH GAS DISCHARGE PROTECTION FUNCTION (GURAPITA HOSE)

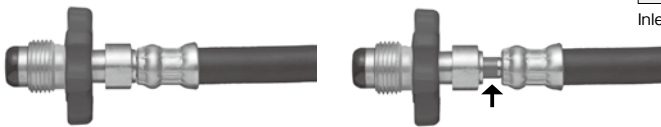
BS-5



BH-5

MODEL No.	BS-5	BS-6	BH-5	BH-6
LENGTH	650 mm	1,050 mm	650 mm	1,050 mm
INLET CONNECTION	POL MALE SCREWED (SPANNER TIGHT)		POL MALE SCREWED (HANDTIGHT)	
OUTLET CONNECTION	R ¹ / ₄ ^B (MALE SCREWED)			
WORKING METHOD	TENSILE STRENGTH			
TENSION OF SHUTOFF	20 N - 150 N (PRESSURE: 1 MPa)			
RESET	MANUAL			
STANDARD No. OF UNIT	30 pcs.			

Inlet Connection: CGA510 and China POL are available.



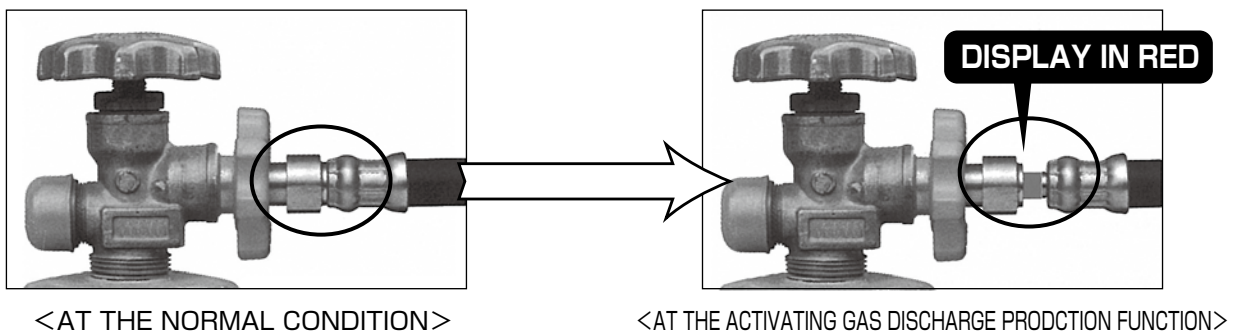
AT THE NORMAL CONDITION AT THE ACTIVATING CONDITION

■ This is the high pressure hose with gas discharge protection function when earthquake occurs.

The high pressure hose with gas discharge protection function prevents gas leak from the cylinder valve when the tension of the hose exceed the designed tensile force by the cylinder falls down due to such as an earthquake, snowing or other factors.

- Compared with conventional iron chains, easy handling and the malfunction hard to occur by improper operation at installation of the products.
- The cylinder mounting bracket side joint and the hose can be swiveled, the hose became hard to twist.
- How to reset the function after shutting off the gas is only pushing the top of the hose until the red part hide in the hose after checking safety.

Gas discharge protection function activates when greater than the designated tensile strength is applied to the hose by the container toppling due to an earthquake, etc.



<AT THE NORMAL CONDITION>

<AT THE ACTIVATING GAS DISCHARGE PRODUCTION FUNCTION>

COMMON PARTS OF HIGH PRESSURE HOSE

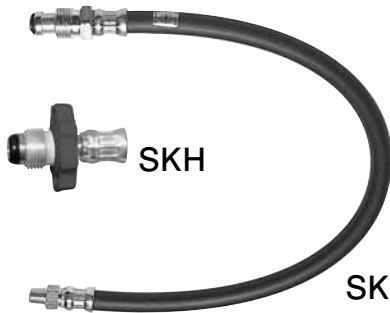
PHOTO No.	DESCRIPTION	PART No.	STANDARD NUMBER OF UNIT (pcs.)
①	O-RING (PARTS OF SPANNER TIGHT HIGH-PRESSURE HOSE)	O-RING FOR SPANNER	3,000
②	O-RING (PARTS OF HAND TIGHT HIGH-PRESSURE HOSE)	PACKING FOR HANDLE	5,000
③	POL FEMALE PLUG (PARTS OF HIGH-PRESSURE HOSE)	E-4	30



HOSE

HIGH PRESSURE HOSE

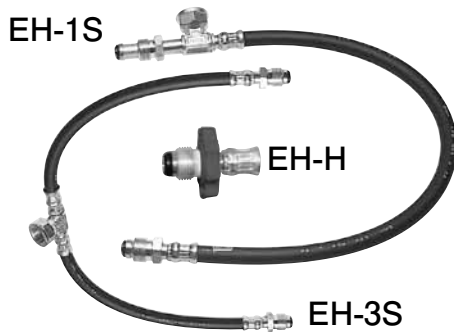
INTEGRATED HOSE



MODEL No. / SPECIFICATIONS	SK-5	SK-6	SKH-5	SKH-6
LENGTH	650 mm	1,050 mm	650 mm	1,050 mm
INLET CONNECTION	POL MALE SCREWED (SPANNER TIGHT)		POL MALE SCREWED (HAND TIGHT)	
OUTLET CONNECTION	R $\frac{1}{4}$ " ^B (MALE SCREWED)			
STANDARD No. OF UNIT	30 pcs.			

Inlet Connection : CGA510 and China POL are available.

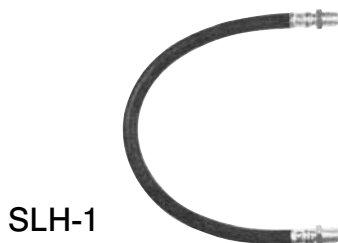
HIGH PRESSURE HOSE (LIQUID SEAL PREVENTION TYPE)



MODEL No. / SPECIFICATIONS	EH-1S EH-1H	EH-2S EH-2H	EH-8S EH-8H	EH-3S EH-3H	EH-3S x 600 EH-3H x 600
LENGTH	550 mm	750 mm	1,200 mm	400 x 400 mm	600 mm
INLET CONNECTION	"S" IN THE MODEL No. : POL MALE SCREWED (SPANNER TIGHT) "H" IN THE MODEL No. : POL MALE SCREWED (HAND TIGHT)				
OUTLET CONNECTION	POL FEMALE SCREWED				
STANDARD No. OF UNIT	30 pcs.				

Inlet Connection : CGA510 and China POL are available.

LOW PRESSURE HOSE

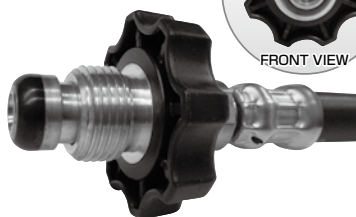


MODEL No. / SPECIFICATIONS	SLH-1 450	SLH-1	SLH-2
LENGTH	450 mm	600 mm	900 mm
INLET CONNECTION	R $\frac{1}{2}$ " ^B (MALE SCREWED)		
OUTLET CONNECTION	R $\frac{1}{2}$ " ^B (MALE SCREWED ADJUSTABLE)		
INNER DIAMETER	10.0±0.5 mm		
OUTER DIAMETER	17.0±0.5 mm		
STANDARD No. OF UNIT	30 pcs.		

Inlet Connection : CGA510 and China POL are available.

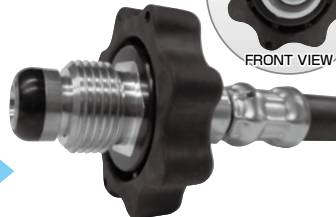
KATSURA'S HAND TIGHT HOSE IS LESS NOISY!
REDUCING NOISE WHEN REPLACING LPG CYLINDER.

● CONVENTIONAL



OCCURRING NOISE WHEN THE HANDLE HIT THE CYLINDER

● NEW



EVEN IF THE NEW HANDLE HIT THE CYLINDER, CAN BE REDUCED THE NOISE

FEATURES

CASTING HARD RESIN AND SOFT RESIN (CASTING TWICE)

KEEPING THE STRENGTH BY HARD RESIN (INSIDE) AND

REDUCING NOISE BY SOFT RESIN.

LPG LIQUID HOSE WITH CHECK VALVE

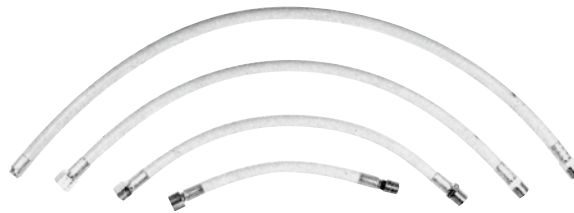


EKH-10

MODEL No.	EKH-C	EKH-10
LENGTH	ABOUT 1,000 mm	
INLET CONNECTION	CHINA POL (M22x1.5, LEFT)	CGA510 POL
OUTLET CONNECTION	R $\frac{1}{4}$ ^B	
RESISTING PRESSURE	4.0 MPa	
AIR TIGHTNESS	1.8 MPa	

COMBUSTION EQUIPMENT HOSE AND RELATED PARTS

COMBUSTION EQUIPMENT HOSE (ϕ 10 AND ϕ 14)



■ ϕ 10

SPECIFICATIONS	MODEL No.	FH10-SS-2	FH10-SS-3	FH10-SS-4	FH10-SS-5	FH10-SS-6	FH10-SS-7	FH10-SS-8	FH10-SS-9	FH10-SS-10
LENGTH		200 mm	300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1,000 mm
INLET CONNECTION		R $\frac{1}{2}$ ^B (MALE SCREWED ADJUSTABLE)								
OUTLET CONNECTION		TU (FEMALE SCREWED)								
INNER DIAMETER		10.0 \pm 0.5 mm								
OUTER DIAMETER		17.5 \pm 0.5 mm								
MEASURE OF MAX. CONSUMPTION		2.6 kg/h	2.6 kg/h	2.4 kg/h	2.4 kg/h	2.2 kg/h	2.2 kg/h	2.0 kg/h	2.0 kg/h	1.9 kg/h
		36.4 kW	36.4 kW	33.6 kW	33.6 kW	30.8 kW	30.8 kW	28.0 kW	28.0 kW	26.6 kW
STANDARD No. OF UNIT		30 pcs.								

Note: 5 m or less length hose is available as custom-made.

■ ϕ 14

SPECIFICATIONS	MODEL No.	FH14-SS-2	FH14-SS-3	FH14-SS-4	FH14-SS-5	FH14-SS-6	FH14-SS-7	FH14-SS-8	FH14-SS-9	FH14-SS-10
LENGTH		200 mm	300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1,000 mm
INLET CONNECTION		R $\frac{1}{2}$ ^B (MALE SCREWED ADJUSTABLE)								
OUTLET CONNECTION		TU (FEMALE SCREWED)								
INNER DIAMETER		14.5 \pm 0.5 mm								
OUTER DIAMETER		22.5 \pm 0.7 mm								
MEASURE OF MAX. CONSUMPTION		4.2 kg/h	4.2 kg/h	4.1 kg/h	4.1 kg/h	3.9 kg/h	3.9 kg/h	3.8 kg/h	3.8 kg/h	3.7 kg/h
		58.8 kW	58.8 kW	57.4 kW	57.4 kW	54.6 kW	54.6 kW	53.2 kW	53.2 kW	51.8 kW
STANDARD No. OF UNIT		30 pcs.								

Note: 3 m or less length hose is available as custom-made.

JOINT FITTING (FOR ϕ 10 AND ϕ 14 COMBUSTION EQUIPMENT HOSE CONNECTIONS)

MODEL No.	TU-L	TU $\frac{1}{2}$ FEMALE FITTING	TU $\frac{3}{4}$ FEMALE FITTING	TU $\frac{1}{2}$ MALE FITTING	TU $\frac{3}{4}$ MALE FITTING
CONNECTIONS	TU (FEMALE SCREWED) x TU (MALE SCREWED)	Rc $\frac{1}{2}$ ^B (FEMALE SCREWED) x TU (MALE SCREWED)	Rc $\frac{3}{4}$ ^B (FEMALE SCREWED) x TU (MALE SCREWED)	R $\frac{1}{2}$ ^B (MALE SCREWED) x TU (MALE SCREWED)	R $\frac{3}{4}$ ^B (MALE SCREWED) x TU (MALE SCREWED)
APPEARANCE					
STANDARD No. OF UNIT	100 pcs.				

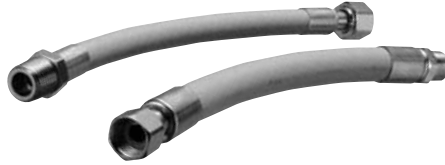
PACKING FOR REPLACEMENT (FOR ϕ 10 AND ϕ 14 COMBUSTION EQUIPMENT HOSE)

MODEL No.	PARTS FOR COMBUSTION EQUIPMENT HOSE: 2 mm PACKING FOR FH
MODEL No.	FH PACKING TU-P
STANDARD No. OF UNIT	500 pcs.

Note: Use sealing agent to connect ϕ 20 and ϕ 25.

COMBUSTION EQUIPMENT HOSE AND RELATED PARTS

COMBUSTION EQUIPMENT HOSE (φ20 AND φ25) TOGAWA RUBBER CO., LTD.



SPECIFICATIONS / MODEL No.	KL20-500B	KL20-700B	KL20-900B	KL25-500B	KL25-700B	KL25-900B
LENGTH	500 mm	700 mm	900 mm	500 mm	700 mm	900 mm
INLET CONNECTION	R $\frac{3}{4}$ " ^B (MALE SCREWED)			R1" ^B (MALE SCREWED)		
OUTLET CONNECTION	Rc $\frac{3}{4}$ " ^B (FEMALE SCREWED ADJUSTABLE)			Rc1" ^B (FEMALE SCREWED ADJUSTABLE)		
INNER DIAMETER	19.5±0.5 mm			26.0±0.5 mm		
OUTER DIAMETER	31.0 mm OR LESS			39.0 mm OR LESS		
MEASURE OF MAX. CONSUMPTION	11.8 kg/h 165.0 kW	11.3 kg/h 158.0 kW	10.8 kg/h 151.0 kW	25.5 kg/h 357.0 kW	24.6 kg/h 344.0 kW	23.0 kg/h 322.0 kW
STANDARD No. OF UNIT	20 pcs.					

GAS COUPLERS FOR CONNECTING COMBUSTION EQUIPMENT HOSE (φ10, φ14, φ20, AND φ25)

[SOCKET]

[PLUG]



Note: Cap is standard accessories with socket and plug.

SPECIFICATIONS / MODEL No.	GG4S	GG4P	GG6S	GG6P	GG8S	GG8P
MATERIAL	BRASS	STAINLESS STEEL	BRASS	STAINLESS STEEL	BRASS	STAINLESS STEEL
TYPE	SOCKET	PLUG	SOCKET	PLUG	SOCKET	PLUG
CONNECTION	Rc $\frac{1}{2}$ " ^B (FEMALE SCREWED)		Rc $\frac{3}{4}$ " ^B (FEMALE SCREWED)		Rc1" ^B (FEMALE SCREWED)	
RECOMMENDED MAX. TORQUE	30N·m {306kgf·cm}		50N·m {510kgf·cm}		62N·m {663kgf·cm}	
FLOW RATE ※1	2.4 m ³ /h OR MORE		3.8 m ³ /h OR MORE		5.7 m ³ /h OR MORE	
APPLICABLE GAS	LPG AND LNG					
MAX. WORKING PRESSURE ※2	42.2 kPa					
SEALING MATERIAL	NITRILE RUBBER (NBR)					
USE TEMPERATURE	AMBIENT TEMPERATURE					
COMPATIBLE STANDARDS	INSPECTOR INSTRUCTION OF QUICK JOINT FOR CONNECTING HUGE COMBUSTOR LIA-392 (JAPAN L.P.GAS INSTRUMENT ASSOCIATION) INSPECTOR INSTRUCTION OF QUICK JOINT FOR CONNECTING BUSINESS USE COMBUSTOR JIA-022-98 (JAPAN L.P.GAS INSTRUMENT ASSOCIATION)					

※1: This flow rate complies with Inspector Standards of clause 6"Flow Rate" (LIA-392 and JIA F 022-98)
 ※2: Allowable Max. pressure which can be used continuously.

METAL FLEXIBLE HOSE

TYPE B



SPECIFICATIONS / MODEL No.	LMA3 200L	LMA3 250L	LMA3 300L	LMA3 350L	LMA3 400L	LMA3 450L	LMA3 500L	LMA3 600L	LMA3 900L	LMA3 1200L
LENGTH	200 mm	250 mm	300 mm	350 mm	400 mm	450 mm	500 mm	600 mm	900 mm	1200 mm
CONNECTION	TYPE A : Rc $\frac{1}{2}$ " ^B (FEMALE SCREWED) x Rc $\frac{1}{2}$ " ^B (FEMALE SCREWED) TYPE B : R $\frac{1}{2}$ " ^B (MALE SCREWED) x Rc $\frac{1}{2}$ " ^B (FEMALE SCREWED) TYPE C : R $\frac{1}{2}$ " ^B (MALE SCREWED) x R $\frac{1}{2}$ " ^B (MALE SCREWED)									
MEASURE OF MAX. CONSUMPTION	4.7 kg/h 65.8 kW	4.5 kg/h 63.0 kW	4.2 kg/h 58.8 kW	4.1 kg/h 57.4 kW	4.1 kg/h 57.4 kW	4.0 kg/h 56.0 kW	3.7 kg/h 51.8 kW	3.2 kg/h 44.8 kW	3.0 kg/h 42.0 kW	2.7 kg/h 37.8 kW
STANDARD No. OF UNIT	20 pcs.									

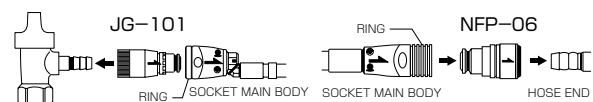
COMBUSTION EQUIPMENT HOSE (φ7 ADJUSTABLE SAFETY HOSE S-TYPE AND L-TYPE)



[CONNECTOR]

GAS COCK SIDE

EQUIPMENT SIDE








SPECIFICATIONS / MODEL No.	FH7B-3	FH7B-6	FH7B-10	FH7B-20	FH7B-30	FH7B-40	FH7B-50
LENGTH	300 mm	600 mm	1,000 mm	2,000 mm	3,000 mm	4,000 mm	5,000 mm
INLET CONNECTION	GAS COCK SOCKET (ADJUSTABLE MODEL: S AND L)						
OUTLET CONNECTION	EQUIPMENT SIDE SOCKET						
INNER DIAMETER	7.0±0.4 mm						
OUTER DIAMETER	11.5±0.4 mm						
MEASURE OF MAX. CONSUMPTION	0.7 kg/h 9.8 kW	0.7 kg/h 9.8 kW	0.7 kg/h 9.8 kW	0.6 kg/h 8.4 kW	0.5 kg/h 7.0 kW	0.5 kg/h 7.0 kW	0.4 kg/h 5.6 kW
STANDARD No. OF UNIT	20 pcs.						






GAS COCK, VALVE, AND STRAINER






ON/OFF FUSE GAS COCK

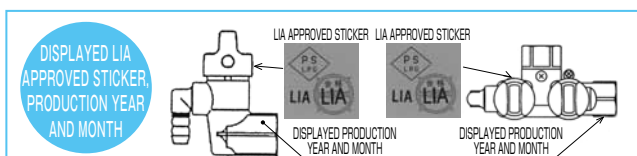
ONE-OUTLET TYPE ON/OFF FUSE GAS COCK

SPECIFICATIONS	MODEL No.	KCO-11K	KUU-11K	KCO-12K	KCCO-11K	KUCO-11K
COMMODITY DESCRIPTION		ON/OFF FUSE COCK LB1 HOSE ENDED FIXED	ON/OFF FUSE COCK LB1 HOSE ENDED FLEXIBLE	ON/OFF FUSE COCK LA1 HOSE ENDED FIXED	ON/OFF FUSE COCK LB1 EASY COUPLED FIXED	ON/OFF FUSE COCK LB1 EASY COUPLED FLEXIBLE
APPEARANCE						
MAX. FLOW RATE		15 kW (1.1 kg/h)				
FLOW RATE FOR ACTIVATION		25.2 kW ± 10 % (1.8 kg/h ± 10 %)				
CONNECTION		Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 HOSE ENDED			Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 EASY COUPLED	
MATERIAL		ZINC ALLOY DIE-CASTING				
STANDARD No. OF UNIT (LARGE CARTON)		40 pcs.				
STANDARD No. OF UNIT (SMALL CARTON)		10 pcs.				

TWO-OUTLET TYPE ON/OFF FUSE GAS COCK

SPECIFICATIONS	MODEL No.	KCO-31K	KUU-31K	KCO-32K	KCCO-31K	KUCO-31K
COMMODITY DESCRIPTION		ON/OFF FUSE COCK LB2 HOSE ENDED FIXED	ON/OFF FUSE COCK LB2 HOSE ENDED FLEXIBLE	ON/OFF FUSE COCK LA2 HOSE ENDED FIXED	ON/OFF FUSE COCK LB2 EASY COUPLED	ON/OFF FUSE COCK LB2 EASY COUPLED
APPEARANCE						
MAX. FLOW RATE		15 kW (1.1 kg/h)				
FLOW RATE FOR ACTIVATION		25.2 kW ± 10 % (1.8 kg/h ± 10 %)				
CONNECTION		Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 HOSE ENDED			Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 EASY COUPLED	
MATERIAL		ZINC ALLOY DIE-CASTING				
STANDARD No. OF UNIT (LARGE CARTON)		40 pcs.				
STANDARD No. OF UNIT (SMALL CARTON)		5 pcs.				

SPECIFICATIONS	MODEL No.	KCB0-31KR	KCB0-31KL	KFUO-43R	KFUO-43L	AIR PURGE COUPLER
COMMODITY DESCRIPTION		ON/OFF FUSE COCK LB2 PAIR FIXED	ON/OFF FUSE COCK LB2 PAIR FIXED	LB FLEXIBLE VALVE & ON/OFF FUSE COCK EASY COUPLED "R"	LB FLEXIBLE VALVE & ON/OFF FUSE COCK EASY COUPLED "L"	AIR PURGE COUPLER
APPEARANCE						
MAX. FLOW RATE		15 kW (1.1 kg/h)		ON/OFF COCK: 15 kW (1.1 kg/h) FLEXIBLE VALVE: 45.4 kW (3.2 kg/h)		—
FLOW RATE FOR ACTIVATION		25.2 kW ± 10 % (1.8 kg/h ± 10 %)				
CONNECTION		Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 RIGHT HOSE ENDED Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 LEFT EASY COUPLED	Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 RIGHT EASY COUPLED Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 LEFT HOSE ENDED	Rc $\frac{1}{2}$ ^B x Rc $\frac{1}{2}$ ^B (FEMALE SCREW) RIGHT EASY COUPLED Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 LEFT HOSE ENDED	Rc $\frac{1}{2}$ ^B (FEMALE SCREW) x ϕ 9.5 RIGHT HOSE ENDED Rc $\frac{1}{2}$ ^B x Rc $\frac{1}{2}$ ^B (FEMALE SCREW) LEFT EASY COUPLED	FEMALE HOSE END x FEMALE EASY COUPLED
MATERIAL		ZINC ALLOY DIE-CASTING				RESIN
STANDARD No. OF UNIT (LARGE CARTON)		40 pcs.				
STANDARD No. OF UNIT (SMALL CARTON)		5 pcs.		10 pcs.		1 pce.



Air purge method

- (1) Air purge coupler (sold separately) can be used with both hose end and socket outlet. When installing, make sure the gas cock's knob is fully opened.
- (2) Please be careful of fire when perform air purging because its exhaust air might contain LP gas.
- (3) After the air purging, turn the knob to the fully closed position and remove the air purge coupler.

LIA: L.P Gas Instrument Inspection Association

GAS COCK, VALVE, AND STRAINER

GAS SOCKET OUTLET

GAS SOCKET OUTLET (KOYO SANGYO CO., LTD)

MODEL No.	G856A5-12P -10 A (15 A) -LPG	G857A5-12P -10 A (15 A) -LPG	G859A3-12P -10 A (15 A) -LPG	G854A-12P -Rc $\frac{1}{2}$ -LPG	G854A5-12P -10 A-LPG
COMMODITY DESCRIPTION	1 FLEXIBLE GAS OUTLET FLOOR EMBEDDED TYPE WITH 10 A (15 A) SINGLE SCREW SOCKET	1 FLEXIBLE GAS OUTLET WALL EMBEDDED TYPE WITH 10 A (15 A) SINGLE SCREW SOCKET AND ELECTRICAL POWER SUPPLY	1 FLEXIBLE GAS OUTLET WALL BRANCHED TYPE WITH 10 A (15 A) SINGLE SCREW SOCKET (ONE-PUSH COUPLING)	1 FLEXIBLE GAS OUTLET WALL EXTEND TYPE WITH Rc $\frac{1}{2}$ ^B SOCKET	1 FLEXIBLE GAS OUTLET WALL EXTEND TYPE 10 A (15 A) SINGLE SCREW SOCKET
APPEARANCE					
MAX. FLOW RATE		15 kW (1.1 kg/h)		15 kW (1.1 kg/h)	
FLOW RATE FOR ACTIVATION		25.2 kW \pm 10 % (1.8 kg/h \pm 10 %)		25.2 kW \pm 10 % (1.8 kg/h \pm 10 %)	
STANDARD No. OF UNIT		30 pcs.		30 pcs.	
MODEL No.	G856AC-09P -Rc $\frac{1}{2}$ -LPG	G856AC5-09P -10 A (15 A) -LPG	G858AC-09P -Rc $\frac{1}{2}$ -LPG	G858AC5-09P -10 A (15 A) -LPG	G875A-09P -Rc $\frac{1}{2}$ -LPG
COMMODITY DESCRIPTION	1 FLEXIBLE GAS OUTLET WALL EMBEDDED TYPE WITH Rc $\frac{1}{2}$ ^B SOCKET	1 FLEXIBLE GAS OUTLET WALL EMBEDDED TYPE WITH 10 A (15 A) SINGLE SCREW SOCKET	1 FLEXIBLE GAS OUTLET WALL PENETRATE TYPE WITH Rc $\frac{1}{2}$ ^B SOCKET	1 FLEXIBLE GAS OUTLET WALL PENETRATE TYPE WITH 10 A (15 A) SINGLE SCREW SOCKET	1 IRON FLEXIBLE GAS OUTLET FLOOR EMBEDDED VARIABLE TYPE WITH Rc $\frac{1}{2}$ ^B SOCKET
APPEARANCE					
MAX. FLOW RATE			10 kW (0.7 kg/h)		
FLOW RATE FOR ACTIVATION			19.0 kW \pm 10 % (1.4 kg/h \pm 10 %)		
STANDARD No. OF UNIT			30 pcs.		20 pcs.
MODEL No.	G855ACY-09P (B·K) -Rc $\frac{1}{2}$ -LPG	G855AC-09P (B·K) -Rc $\frac{1}{2}$ ^B -LPG	G855AC5-09P (B·K) -10 A (15 A) -LPG	G053A-12P -Rc $\frac{1}{2}$ ^B -LPG	G054A-12P -Rc $\frac{1}{2}$ ^B -LPG
COMMODITY DESCRIPTION	1 FLEXIBLE GAS OUTLET FLOOR EMBEDDED (HORIZONTAL) TYPE WITH Rc $\frac{1}{2}$ ^B SOCKET	1 FLEXIBLE GAS OUTLET FLOOR EMBEDDED (STRAIGHT) TYPE WITH Rc $\frac{1}{2}$ ^B SOCKET	1 FLEXIBLE GAS OUTLET FLOOR EMBEDDED (STRAIGHT) TYPE WITH 10 A (15 A) SINGLE SCREW SOCKET	1 IRON GAS OUTLET EXPOSED TYPE WITH Rc $\frac{1}{2}$ ^B SOCKET	2 IRON GAS OUTLET EXPOSED TYPE WITH Rc $\frac{1}{2}$ ^B SOCKET
APPEARANCE					
MAX. FLOW RATE		10 kW (0.7 kg/h)		15 kW (1.1 kg/h)	
FLOW RATE FOR ACTIVATION		19.0 kW \pm 10 % (1.4 kg/h \pm 10 %)		25.2 kW \pm 10 % (1.8 kg/h \pm 10 %)	
STANDARD No. OF UNIT		30 pcs.		30 pcs.	

Note: In case of installation of G053A or G054A, please use flexible fixing metal fitting (sold separately).

GAS COCK, VALVE, AND STRAINER

GAS SOCKET OUTLET

GAS SOCKET OUTLET (FUJIIGOKIN.)

SPECIFICATIONS	MODEL No. SG-506B-15C-LPG	MODEL No. SG-506B-15EC-LPG	MODEL No. SG-506B-15E2C-LPG
COMMODITY DESCRIPTION	1 FLEXIBLE GAS OUTLET WALL EMBEDDED TYPE WITH Rc½ ^B SOCKET	1 FLEXIBLE GAS OUTLET WALL EMBEDDED TYPE WITH Rc½ ^B AND ELECTRICAL POWER SUPPLY C	1 FLEXIBLE GAS OUTLET WALL EMBEDDED TYPE WITH Rc½ ^B SOCKET AND 2 ELECTRICAL POWER SUPPLY C
APPEARANCE			
MAX. FLOW RATE	15 kW (1.1 kg/h)		
FLOW RATE FOR ACTIVATION	25.2 kW ± 10 % (1.8 kg/h ± 10 %)		
STANDARD No. OF UNIT	20 pcs.		

Note: Please prepare for Electrical outlet, wiring and installation in customers.

SPECIFICATIONS	MODEL No. SG-702D-15-LPG	MODEL No. SG-800B-10-LPG	MODEL No. SG-800BQ (D) -10-LPG
COMMODITY DESCRIPTION	1 FLEXIBLE GAS OUTLET WALL EMBEDDED TYPE WITH Rc½ ^B SOCKET	1 FLEXIBLE GAS OUTLET WALL PENETRATE TYPE WITH Rc½ ^B SOCKET	1 FLEXIBLE GAS OUTLET WALL PENETRATE TYPE WITH 10A (15A) SOCKET
APPEARANCE			
MAX. FLOW RATE	15 kW (1.1 kg/h)	10 kW (0.7 kg/h)	
FLOW RATE FOR ACTIVATION	25.2 kW ± 10 % (1.8 kg/h ± 10 %)	19.0 kW ± 10 % (1.4 kg/h ± 10 %)	
STANDARD No. OF UNIT	15 pcs.	20 pcs.	24 pcs.

SPECIFICATIONS	MODEL No. SG-450B-10-LPG
COMMODITY DESCRIPTION	1 FLEXIBLE GAS OUTLET WALL EXTEND TYPE WITH Rc½ ^B SOCKET
APPEARANCE	
MAX. FLOW RATE	10 kW (0.7 kg/h)
FLOW RATE FOR ACTIVATION	19.0 kW ± 10 % (1.4 kg/h ± 10 %)
STANDARD No. OF UNIT	20 pcs.

SPECIFICATIONS	MODEL No. SG-700D-15-LPG	MODEL No. SG-801B-10-LPG	MODEL No. SG-801BQ (D) -10-LPG
COMMODITY DESCRIPTION	1 FLEXIBLE GAS OUTLET FLOOR EMBEDDED (DIAGONAL) TYPE WITH Rc½ ^B SOCKET	1 FLEXIBLE GAS OUTLET FLOOR EMBEDDED (STRAIGHT) TYPE WITH Rc½ ^B SOCKET	1 FLEXIBLE GAS OUTLET FLOOR EMBEDDED (STRAIGHT) TYPE WITH 10 A (15 A) SINGLE SCREW SOCKET
APPEARANCE			
MAX. FLOW RATE	15 kW (1.1kg/h)	10 kW (0.7 kg/h)	15 kW (1.1 kg/h)
FLOW RATE FOR ACTIVATION	25.2 kW ± 10 % (1.8 kg/h ± 10 %)	19.0 kW ± 10 % (1.4 kg/h ± 10 %)	
STANDARD No. OF UNIT	15 pcs.	20 pcs.	24 pcs.

SPECIFICATIONS	MODEL No. SG-450BQ-10-LPG
COMMODITY DESCRIPTION	1 FLEXIBLE GAS OUTLET WALL EXTEND TYPE WITH 10A SINGLE SCREW SOCKET
APPEARANCE	
MAX. FLOW RATE	10 kW (0.7 kg/h)
FLOW RATE FOR ACTIVATION	19.0 kW ± 10 % (1.4 kg/h ± 10 %)
STANDARD No. OF UNIT	20 pcs.








Socket outlet with this mark can be connected a circular hole made by a φ60 hole saw.

GAS COCK, VALVE, AND STRAINER

SCREW COCK

INTERMEDIATE SCREW COCK (BALL COCK)		BALL COCK WITH INSPECTION HOLE (PLUG TYPE)	BALL COCK WITH INSPECTION HOLE (PLUG TYPE)
MODEL No.	KSB-2	KKB-2	KBZ-2
APPEARANCE			
FLOW RATE	126 kW (9.0 kg/h)	126 kW (9.0 kg/h)	126 kW (9.0 kg/h)
MATERIALS	MAIN BODY: ZINC ALLOY DIE-CASTING BALL: BRASS	MAIN BODY: ZINC ALLOY DIE-CASTING BALL: BRASS	MAIN BODY: ZINC ALLOY DIE-CASTING BALL: BRASS
CONNECTION	Rc $\frac{1}{2}$ ^B x Rc $\frac{1}{2}$ ^B (FEMALE SCREW)	Rc $\frac{1}{2}$ ^B x Rc $\frac{1}{2}$ ^B (FEMALE SCREW)	M35×2UNION x Rc $\frac{1}{2}$ ^B (FEMALE SCREW)
STANDARD No. OF UNIT (LARGE CARTON)	50 pcs.	30 pcs.	—
STANDARD No. OF UNIT (SMALL CARTON)	10 pcs.	10 pcs.	10 pcs.

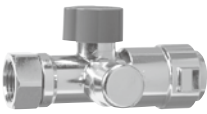


GAS COCK FOR FLEXIBLE HOSE CONNECTION AND PRESSURE INSPECTION PLUG

BALL COCK FOR FLEXIBLE HOSE CONNECTION		BALL COCK FOR FLEXIBLE HOSE CONNECTION (WATER PROOF TYPE)		PRESSURE INSPECTION PLUG	
MODEL No.	FB-2S	FB-2L	GB341Z	GB343Z	KKP-R $\frac{1}{2}$
APPEARANCE					
FLOW RATE	42 kW (3.0 kg/h)		42 kW (3.0 kg/h)		—
MATERIALS	MAIN BODY: BRASS BALL: BRASS		MAIN BODY: ZINC ALLOY DIE-CASTING BALL: BRASS		MAIN BODY: ZINC ALLOY DIE-CASTING
CONNECTION	Rc $\frac{1}{2}$ ^B x Rc $\frac{1}{2}$ ^B (FEMALE SCREW)		Rc $\frac{1}{2}$ ^B x Rc $\frac{1}{2}$ ^B (FEMALE SCREW)		R $\frac{1}{2}$ ^B (MALE SCREWED) x PLUG
STANDARD No. OF UNIT (LARGE CARTON)	60 pcs.		40 pcs.		50 pcs.
STANDARD No. OF UNIT (SMALL CARTON)	10 pcs.		10 pcs.		—

BALL COCK WITH INSPECTION HOLE FOR FLEXIBLE HOSE CONNECTION (WATER PROOF TYPE)

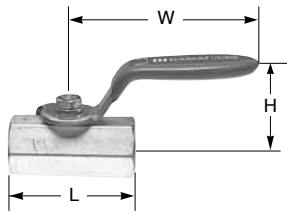
MODEL No.	FBWK-2S	FBWK-2L
APPEARANCE		
FLOW RATE	42 kW (3.0 kg/h)	
MATERIALS	MAIN BODY: ZINC ALLOY DIE-CASTING BALL: BRASS	
CONNECTION	Rc $\frac{1}{2}$ ^B x Rc $\frac{1}{2}$ ^B (FEMALE SCREW)	
STANDARD No. OF UNIT (LARGE CARTON)	40 pcs.	
STANDARD No. OF UNIT (SMALL CARTON)	10 pcs.	

BALL COCK WITH INSPECTION HOLE (PUSH IMPACT R TYPE)

FCBK-2SP-10A FCBK-2SP-15A	FCBK-2LP-10A FCBK-2LP-15A	FCBK-2MLP-15A
		
42 kW (3.0 kg/h)		
MAIN BODY: ZINC ALLOY DIE-CASTING BALL: BRASS		
10 A (15 A) x Rc $\frac{1}{2}$ ^B (FEMALE SCREW)	15 A x R $\frac{1}{2}$ ^B (MALE SCREWED)	
40 pcs.		
10 pcs.		

VALVE AND STRAINER

BALL VALVE (SCREW TYPE)

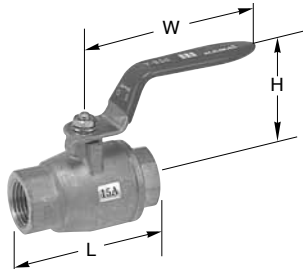


BBS TYPE

■ SPECIFICATIONS

MAX. WORKING PRESSURE 1.96 MPa

MODEL No.	DIA.	L	W	H
BBS-1/4	8 A	40	60	31
BBS-1/2	15 A	54.5	80	42
BBS-3/4	20 A	61	100	51
BBS-1	25 A	75	100	55
BBS-1 · 1/4	32 A	80	150	66
BBS-1 · 1/2	40 A	84	150	69
BBS-2	50 A	102	150	75

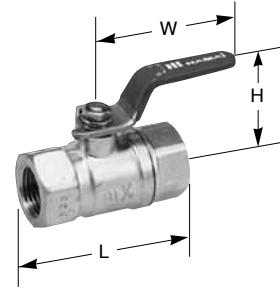


HBS TYPE

■ SPECIFICATIONS

MAX. WORKING PRESSURE 1.96 MPa

MODEL No.	DIA.	L	W	H
HBS-50-10Rc	8 A	50	90	50
HBS-50-15Rc	15 A	65	90	55
HBS-50-20Rc	20 A	75	120	60
HBS-50-25Rc	25 A	85	120	65
HBS-50-32Rc	32 A	100	120	70
HBS-50-40Rc	40 A	109	150	75
HBS-50-50Rc	50 A	132	150	88



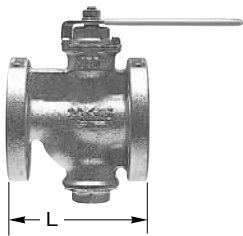
RBS TYPE

■ SPECIFICATIONS

MAX. WORKING PRESSURE 4.12 MPa

MODEL No.	DIA.	L	W	H
RBS-1/4	8 A	50	53	34
RBS-1/2	15 A	62	60	41
RBS-3/4	20 A	72	80	50
RBS-1	25 A	81	80	54
RBS-1 · 1/4	32 A	88	130	70
RBS-1 · 1/2	40 A	96	130	75
RBS-2	50 A	120	130	90

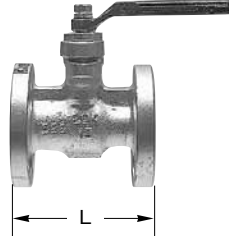
HIGH-PRESSURE CERTIFIED VALVE (FLANGE TYPE)



■ SPECIFICATIONS

DIA.	L
15 A	110
20 A	120
25 A	130

BM20K-FT
(STRAINER BALL VALVE TYPE)

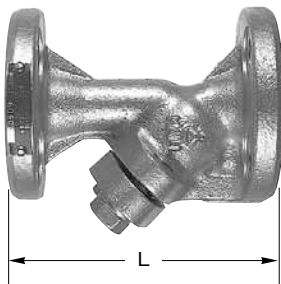


■ SPECIFICATIONS

DIA.	L
15 A	110
20 A	120
25 A	130

BM20K-FOLS
(BALL VALVE TYPE)

HIGH-PRESSURE CERTIFIED STRAINER

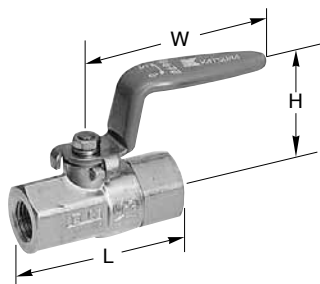


■ SPECIFICATIONS

DIA.	L
15 A	130
20 A	140
25 A	160

MG20K-FT
(FLANGE TYPE)

BASIC VALVES WITH HIGH-PRESSURE BACKFLOW PREVENTION



■ SPECIFICATIONS

DIA.	L	W	H
8 A	50	62	38

HBS-302-08Rc

VAPORIZER

IH HEATER FOR CYLINDER/BULK "ECODAN-KUN" ※FOR JAPANESE MARKET ONLY

LPG SUPPLYING EQUIPMENT ● VAPORIZER



KIH-1200

MODEL No. / SPECIFICATIONS	KIH-1200 ("ECODAN-KUN" = COIL PART AND CONTROL BOX)	
POWER SUPPLY	AC100 V ±10 %, 50/60 Hz	CONTROL BOX STAND 50 kg CYLINDER
ELECTRICITY CONSUMPTION	1.5 kW OR LESS	
GAS EMERGENCE	MAX. 8 kg/h (LPG) AT 1200 W OUTPUT	
WEIGHT	16 kg (COIL PART: 7 kg, CONTROL BOX: 9 kg)	
CABLE	IH CABLE AND SENSOR CABLE (5 m)	

Note: Changing cable length is not available due to explosion-proof test.

■ OPTIONS (SOLD SEPARATELY)

COIL PART AND CONTROL BOX ATTACHMENT FOR CYLINDER/BULK			
MODEL NAME	DESCRIPTION	MODEL No.	DIA.
CONTROL BOX STAND	PREFABRICATED (SEPARATED)	KIH-1200-PST	—
ATTACHMENT	50 kg CYLINDER	KIH-AT050	366 mm
	150 kg BULK STORAGE	KIH-AT150	631 mm
	300 kg BULK STORAGE	KIH-AT300	813 mm
	500 kg BULK STORAGE	KIH-AT500	1,016 mm
	980 kg BULK STORAGE	KIH-AT980	1,320 mm
	ATTACHMENT COMPLETE SET	KIH-AT-FULLSET	—

MINIMUM ATHLETE (KAGLA VAPORTECH CORP.)



SPECIFICATIONS		MODEL No.	MIN-30ED	MIN-50ED	MIN-100ED	MIN-150ED	MIN-200ED	MIN-300ED
TYPE OF GAS		LP GAS						
HEAT SOURCE		ELECTRIC HEATER						
EVAPORATION CAPACITY		30 kg/h	50 kg/h	100 kg/h	150 kg/h	200 kg/h	300 kg/h	
GAS SUPPLYING PRESSURE		35 - 90 kPa						
LIQUID INLET SIZE		JIS 20 K 20 A FLANGED						
GAS OUTLET SIZE		JIS 20 K 25 A FLANGED						
EXTERNAL DIMENSIONS		W425 x H975 x D640 mm	W425 x H975 x D650 mm	W485 x H1160 x D710 mm	W525 x H1240 x D760 mm			
WEIGHT		105 kg	125 kg	170 kg	225 kg			
SAFETY DEVICE	LEAK PREVENTION DEVICE	THERMO VALVE						
	ABNORMAL PRESSURE PREVENTION VALVE	SETTING PRESSURE 0.5 MPa						
	SAFETY VALVE	SETTING PRESSURE 0.88 MPa						
LINE SELECTION VALVE		BUILT INTO ALL MODELS						
PRESSURE REGULATOR CONNECTION SIZE		JIS 20 K 25 A WAFER TYPE			JIS 20 K 25 A x 40 A			
HEATER CAPACITY		5.0 kW	7.5 kW	14.0 kW	21.0 kW	28.0 kW (14.0 kW x 2)	42.0 kW (21.0 kW x 2)	
CONTROL PANEL	EXTERNAL DIMENSIONS	W285 x H400 x D150 mm			W340 x H550 x D180 mm			
	WEIGHT	10 kg			18 kg			
	POWER SUPPLY	3-PHASE AC200 V (+10 %/-5 %) 50/60 Hz						
ACCESSORIES		PURE FLOW (BALL VALVE WITH STRAINER) 1 pce. AND PRESSURE RESISTANT PACKING LEAD-IN METAL FITTING 1 pce.						
	PRESSURE REGULATOR (KR-30L) 1 pce.	PRESSURE REGULATOR (KR-100L) 1 pce.		PRESSURE REGULATOR (KR-300L) 1 pce.				

VAPORIZER AND AUTOMATIC LIQUID CHANGE-OVER DEVICE

VAPORIZER

SAVIST (KAGLA VAPORTECH CORP.)



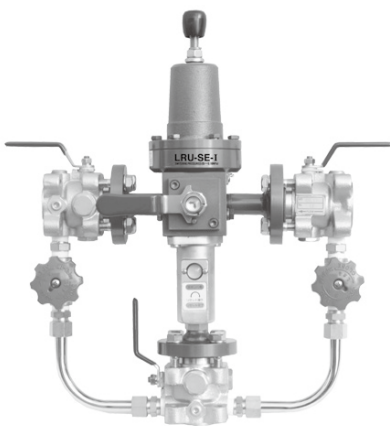
EVAPORATOR

SPECIFICATIONS	MODEL No.	SAV-50WD	SAV-100WD
TYPE OF GAS		LP GAS	
HEAT SOURCE		HOT WATER CIRCULING TYPE (180 °C)	
EVAPORATION CAPACITY		50 kg/h	70 kg/h
GAS SUPPLYING PRESSURE		35 - 60 kPa	
LIQUID INLET SIZE		JIS 20 K 20 A FLANGED	
GAS OUTLET SIZE		JIS 20 K 25 A FLANGED	
EXTERNAL DIMENSIONS		W330 x H1000 x D460 mm	
WEIGHT		75 kg	
ACCESSORIES		PRESSURE REGULATOR, PURE FLOW (BALL VALVE WITH STRAINER) AND OPERATION AND INSTALLATION MANUAL	
HEAT SOURCE (SOLD SEPARATELY)		GH-1210WD-VR (NORITZ)	

HEAT SOURCE

SPECIFICATIONS	MODEL No.	GH-1210WD-VR
DIMENSIONS		W350 x H600 x D240 mm
WEIGHT		20 kg
WATER SUPPLY CONNECTION		R $\frac{1}{2}$ " ^B (MALE SCREWED)
GAS CONNECTION		R $\frac{1}{2}$ " ^B (MALE SCREWED)
HEAT SOURCE		AC100 V (50/60 Hz)
POWER CABLE LENGTH		2 m

AUTOMATIC LIQUID CHANGE-OVER DEVICE



SPECIFICATIONS		MODEL No.	LR (AUTO LIQUID CHANGE-OVER DEVICE) ONLY	LR UNIT
MODEL No.	WITHOUT TRANSMITTER		LR-SE	LRU-SE
	WITH TRANSMITTER		LR-SSE	LRU-SSE
TYPE OF GAS			LP GAS	
CAPACITY	AT PROPANE		300 kg/h	
	AT PROPANE RATIO LESS THAN 30 %		150 kg/h	
SWITCHING PRESSURE			0.05 - 0.18 MPa*	
LIQUID INLET SIZE			JIS 20 K 20 A FLANGED	
LIQUID OUTLET SIZE			JIS 20 K 20 A FLANGED	
EXTERNAL DIMENSIONS	WIDTH		215 mm	385 mm
	HEIGHT		425 mm	510 mm
	DEPTH		195 mm	195 mm
APPROX. WEIGHT			13 kg	20 kg
ACCESSORIES			COPPER PIPE, COPPER PIPE JOINT, INSTALLATION AND MAINTENANCE MANUAL	

Note: The pressure test position shall be at the evaporator outlet.

LPG CYLINDER STORAGE AND PARTITION PANEL

LPG CYLINDER STORAGE



LPG CYLINDER STORAGE BN SERIES

SPECIFICATIONS		MODEL No.	GAS CYLINDER STORAGE BN SERIES
BASE	METHOD OF FIXATION		φ16 STANDARD MOUNTING TAPER BOLT ANCHORS
	No. OF FIXATION		4 - 12 pcs.
PERFORMANCE	SURVIVAL WIND SPEED		50 m/sec
	SNOW LOAD RESISTANCE		300 kg/m ²
CONFIGURATION	DOOR		LIGHTWEIGHT BALANCE SHUTTER
	INTERIOR		SUPPLYING EQUIPMENT, CROSSBAR FOR CHAIN MOUNTING
EXTERIOR	MATERIALS		GALVANIZED STEEL PLATE (HOT DIP GALVANIZING STEEL)
	COATING		ACRYLIC RESIN AND ELECTROSTATIC BAKING FINISH



LPG CYLINDER STORAGE FENCE

MODEL No.	SPECIFICATIONS
YF-200	50 kg x for 4 pcs.
YF-200D	50 kg x for 4 pcs.
YF-250	50 kg x for 6 pcs.
YF-300	50 kg x for 8 pcs.
YF-500	50 kg x for 10 pcs.

PARTITION PANEL



PTS-50LW



MODEL No.	SPECIFICATIONS
PTS-20IS	20 kg x for 1 pce. I TYPE
PTS-20IW	20 kg x for 2 pcs. I TYPE
PTS-20LS	20 kg x for 1 pce. L TYPE
PTS-20LW	20 kg x for 2 pcs. L TYPE
PTS-30IS	30 kg x for 1 pce. I TYPE
PTS-30IW	30 kg x for 2 pcs. I TYPE
PTS-30LS	30 kg x for 1 pce. L TYPE
PTS-30LW	30 kg x for 2 pcs. L TYPE
PTS-50IS	50 kg x for 1 pce. I TYPE
PTS-50IW	50 kg x for 2 pcs. I TYPE
PTS-50LS	50 kg x for 1 pce. L TYPE
PTS-50LW	50 kg x for 2 pcs. L TYPE

CYLINDER STAND



HYS-50CB

MODEL No.	SPECIFICATIONS
HYS-20	20 kg x for 2 pcs.
HYS-20CB	20 kg x for 2 pcs. BASE SET
HYS-50	50 kg x for 2 pcs.
HYS-50CB	50 kg x for 2 pcs. BASE SET



GBU-20K2

MODEL No.	SPECIFICATIONS
GBU20K2	20 kg x for 2 pcs.
GBU20K4	20 kg x for 4 pcs.
GBU50K2	50 kg x for 2 pcs.
GBU50K4	50 kg x for 4 pcs.

Note 1: Pipes are included.

Note 2: Please specify pipe diameter (15 A, 20 A or 25 A) and meter pitch (90 or 130 mm).

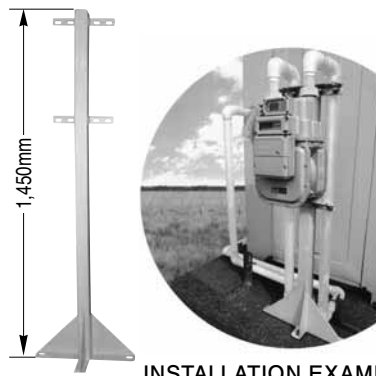
HOT WATER SUPPLY STAND, METER STAND, AND FOUNDATION BASE (G-BASE)



INSTALLATION EXAMPLE

GBU-H

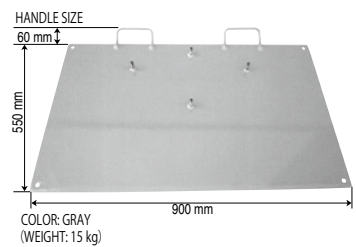
MODEL No.	SPECIFICATIONS
GBU-S	PIPE COVER 450 mm H1,115 mm
GBU-H	PIPE COVER 650 mm H1,450 mm



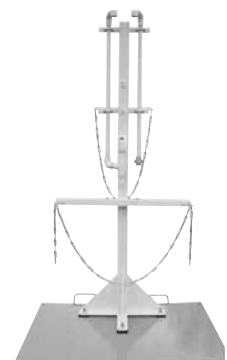
INSTALLATION EXAMPLE

GMU-H

MODEL No.	SPECIFICATIONS
GMU-H-15A-P90	PIPE DIA. 15 A METER P90 mm H1,450 mm
GMU-H-15A-P130	PIPE DIA. 15 A METER P130 mm H1,450 mm
GMU-H-20A-P90	PIPE DIA. 20 A METER P90 mm H1,450 mm
GMU-H-20A-P130	PIPE DIA. 20 A METER P130 mm H1,450 mm



G-BASE (FOR TEMPORARY)



INSTALLATION EXAMPLE

LONG FLEXIBLE TUBE AND RELATED PARTS

MADE BY JFE PIPE FITTING MFG.

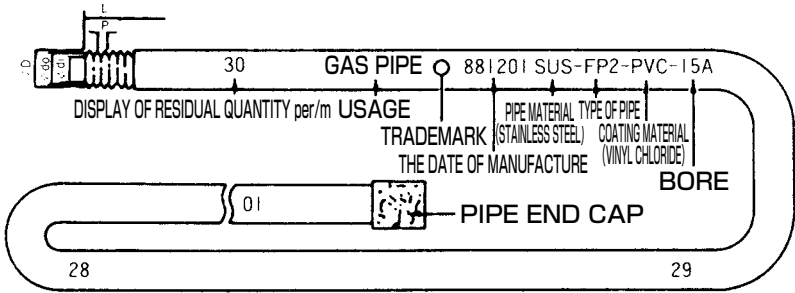
LONG FLEXIBLE TUBE

LPG SUPPLYING EQUIPMENT

● MADE BY JFE PIPE FITTING MFG.



FP-00



PART No.	SIZE	
FP-00	10 A*30 m-L	10 A x 30 m
	10 A*60 m-L	10 A x 60 m
	15 A*30 m-L	15 A x 30 m
	15 A*60 m-L	15 A x 60 m
	20 A*30 m-L	20 A x 30 m
	20 A*60 m-L	20 A x 60 m
	25 A*30 m-L	25 A x 30 m
	25 A*60 m-L	25 A x 60 m

Note: "-L" in the list means LIA (L.P.Gas Instrument Inspection Association) approved products (for LPG).

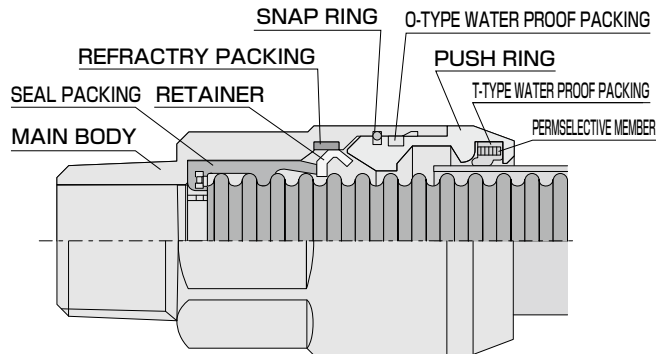
LONG FLEXIBLE TUBE AND RELATED PARTS

MADE BY JFE PIPE FITTING MFG.

NEO JOINT SINGLE SCREW SOCKET



NFP-01

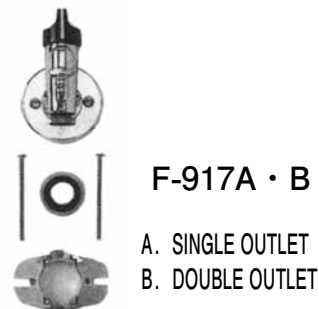
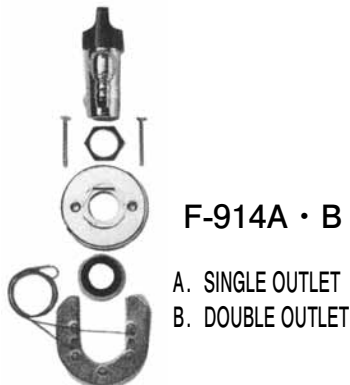


Note: If the flexible tube has damaged by such as nailing, gas leak can be detective in part of the joint with detector function.

PART No.	SIZE	
	NFP-01	10 A*R $\frac{1}{2}$ ^B -L
15 A*R $\frac{1}{2}$ ^B -L		15 A (R $\frac{1}{2}$ ^B)
20 A*R $\frac{3}{4}$ ^B -L		20 A (R $\frac{3}{4}$ ^B)
25 A*R $\frac{3}{4}$ ^B -L		25 A (R $\frac{3}{4}$ ^B)
25 A*R1 ^B -L		25 A (R1 ^B)

Note: "-L" in the list means LIA (L.P.Gas Instrument Inspection Association) approved products (for LPG).

RELATED PARTS



SAFETY INSPECTION EQUIPMENT

SAVER PRO SMART



PRESSURE MEASURING DEVICE, SAVER PRO SMART PART



TABLET (7 INCH SCREEN), SAVER PRO SMART PART
Screen: At pressure measurement application start

SPECIFICATIONS		MODEL No.	GLT-SPL3-WIFI-SET	GLT-SPL3-3G-SET
PRODUCT CLASSIFICATION		SAVER PRO SMART		
DESCRIPTION		SELF-RECORDING PRESSURE GAUGE OF ELECTRIC DIAPHRAGM FOR LPG		
COMPLETE SET	PRESSURE SENSOR MODULE	GLT-SPL3		
	TABLET	AIM-TAB-WB (Wi-Fi TYPE) (PRESSURE MEASUREMENT APP INCLUDED)	AIM-TAB-GB (3G+Wi-Fi TYPE) (PRESSURE MEASUREMENT APP INCLUDED)	
	CASE	ALUMINIUM CASE FOR SAVER PRO SMART AND SHOULDER CASE FOR TABLET		
	TOUCH PEN	TOUCH PEN FOR TABLET		
MEASUREMENT FLUID TYPE		LPG OR AIR		
MEASUREMENT PRESSURE RANGE		- 0.5 kPa - 10.0 kPa		
MIN. SCALE		0.01 kPa (CHART MODE: 0.2 kPa)		
POWER SUPPLY		LITHIUM ION POLYMER SECONDARY BATTERY		
EXTERNAL DIMENSIONS	PRESSURE SENSOR MODULE	H146 x W74 x D38 mm		
	TABLET	H199 x W118.8 x D10.4 mm		
MASS	PRESSURE SENSOR MODULE	420 g		
	TABLET	330 g		
ACCESSORIES	PRESSURE SENSOR MODULE	φ7 ADJUSTABLE SAFETY HOSE, INFLATOR FOR INSPECTION, DEDICATED CHARGER, STRAP WITH HOOK HANGING AND SAVER PRO DATA MANAGEMENT SYSTEM		
	TABLET	PRESSURE MEASUREMENT APP, BATTERY CHARGER (USB CABLE AND AC ADAPTER) AND LCD PROTECTIVE FILM		
	COMMON ITEMS	INSTRUCTION MANUAL, PRODUCT WARRANTY, AND USER REGISTRATION CARD		
RELATED ITEMS (SOLD SEPARATELY)		SECURITY CHECK INSPECTION APP (By installing, managing data of security check inspection by cloud computing.) PORTABLE PRINTER AND COVER, ROLL PAPER FOR REPLACEMENT (No. OF UNIT: 5 pcs. or 10 pcs.)		

Note: Saver Pro Smart (for LNG) is also available.

SAVER PRO II



GLT-SPLP1

SPECIFICATIONS		MODEL No.	GLT-SPLP1-ver1.4	GLT-SPLP1-ver1.4-PC
PRODUCT CLASSIFICATION		SAVER PRO II ver1.4 STANDARD TYPE		SAVER PRO II ver1.4 DATATRANSFER TO PC TYPE
DESCRIPTION		ELECTRICAL DIAPHRAGM RECORDING AIR PRESSURE METER FOR LPG		
MEASUREMENT FLUID TYPE		LPG OR AIR		
MEASUREMENT PRESSURE RANGE		- 0.5 kPa - 10.0 kPa		
MIN. SCALE		0.01 kPa		
POWER SUPPLY		SIZE AA BATTERY 6 pcs.		
EXTERNAL DIMENSIONS		H153 x W185 x D40 mm (PROTRUDING PARTS ARE NOT INCLUDED)		
MASS		770 g OR LESS (ONLY MAIN BODY WEIGHT INCLUDE BATTERY)		
ACCESSORIES		φ7 ADJUSTABLE SAFETY HOSE, INFLATOR FOR INSPECTION, SIZE AA ALKALI BATTERY (6 pcs.) , SAVER PRO II DATA MANAGEMENT SYSTEM SOFT※1, PC CONNECTION CABLE ※1, INSTRUCTION MANUAL, PRODUCT WARRANTY, USER REGISTRATION CARD AND ROLL PAPER (1 pce.)		
RELATED ITEMS (SOLD SEPARATELY)		ALUMINIUM CASE FOR SAVER PRO II, SHOULDER BAG AND ROLL PAPER FOR REPLACEMENT (No. OF UNIT: 5 pcs. or 10 pcs.)		

Note 1: Standard type does not include.

Note 2: Manual, Product Warranty and User Registration Card are in Japanese.

Note 3: Saver Pro II (for LNG) is also available.

SAFETY INSPECTION EQUIPMENT



10 kPa
MANOMETER



FLAMMABLE GAS
(LP GAS) METER
•XP-702ⅢZ-B
(DETECTABLE GAS:
1-CLASS (e.g. LPG OR CITY GAS)
•XP-702ⅢZ-A
(DETECTABLE GAS: 2-CLASS)



FLAMMABLE GAS
(LP GAS) METER
XP-3110



LEAK DETECTION
LIQUID
"LEAK CHECK"



EMERGENCY DISASTER
PREVENTION TOOLS (KS-NB)



CO METER
•XP-333Ⅱ (MEASUREMENT RANGE 0 - 0.125 vol %)
•XP-333ⅡA (MEASUREMENT RANGE 0 - 0.499 vol %)

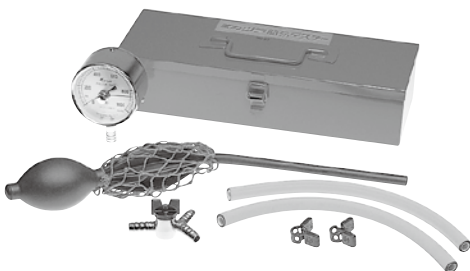


CO METER
CO-85FL



BORING BAR SET

OTHERS



PORTABLE TESTER



INFLATOR FOR INSPECTION



2

SAFETY EQUIPMENT

SAFETY EQUIPMENT

62

- 62 ● GAS ALARM (FOR LPG)
- 66 ● LOW PRESSURE SHUTOFF VALVE
- 66 ● SHUTOFF VALVE WITH AUTOMATIC RETRIEVAL FUNCTION
- 67 ● LOW PRESSURE SHUTOFF VALVE W/AUTOMATIC RETRIEVAL FUNCTION (FOR NG)
- 67 ● LOW PRESSURE SHUTOFF VALVE
- 67 ● MEDIUM PRESSURE SHUTOFF VALVE
- 68 ● SEISMIC SENSING DEVICE
- 68 ● GAS SAFETY SHUTOFF SYSTEM
- 69 ● CONTROLLER FOR SHUTOFF VALVE
- 70 ● AUTO TREMBLER GAS SHUTOFF DEVICE FOR PURE GAS (GURAPITA)

GAS METER

71

SAFETY EQUIPMENT

GAS ALARM (FOR LPG)

Approved by KHK (The High Pressure Gas Safety Institute of Japan)

ALL-IN-ONE TYPE



KF-01 / KF-01 (S)



KF-01 (D)

SPECIFICATIONS

TYPE	ALL-IN-ONE TYPE			KF-01	KF-01 (S)	KF-01 (D)
MODEL No.	KF-01 · KF-01 (S) · KF-01 (D)		METHOD OF MOUNTING	WALL MOUNTING WITH MOUNTING PLATE		PLUG TYPE OUTLET
PRINCIPLE OF DETECTION	CATALYTIC COMBUSTION TYPE					
APPLICABLE GAS	LPG		POWER CABLE LENGTH	2.50 m	0.35 m	NONE
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.		DIMENSIONS	H78 × W62 × D31 mm		H62 × W78 × D35 mm
METHOD OF ALARM	BUZZER SOUND (AUTO RESET METHOD) AND RED LED BLINKING			WEIGHT	APPROX.195 g	APPROX.125 g
INDICATION OF POWER-ON	RED LED LIGHTING		ACCESSORIES		MOUNTING PLATE × 1, CABLE STOPPER × 1, SCREW × 3 (MOUNTING PLATE × 2, STOPPER × 1);	
POWER SUPPLY	RATED AC100 V, RATED FREQUENCY 50/60 Hz			GAS FOR INSPECTION × 1, USER MANUAL (WITH WARRANTY) × 1, "IF BUZZER SOUNDS..." STICKER × 1		
POWER CONSUMPTION	0.8 W IN WATCH, 0.9 W IN ALARM					
WORKING TEMPERATURE	-10 °C - 40 °C (WITHOUT DEW CONDENSATION)					
SPECIAL FUNCTIONS	PAUSE ALARM FUNCTIONS	WHEN PRESSING THE ALARM STOP SWITCH	DURING A GAS LEAK ALARM: BUZZER SOUND ONLY STOPS FOR APPROX. 1 MIN. DURING A MALFUNCTION ALARM: BUZZER SOUND ONLY STOPS FOR APPROX. 36 HOURS.			
	FAILURE ALARM FUNCTIONS	BUZZER SOUND AT AN INTERVAL OF 1 MIN. AND RED LED RAPID BLINKING				
	EXPIRED NOTIFICATION FUNCTION	RED LED SLOW BLINKING AFTER THE EXPIRATION OF PERIOD				

SPECIFICATIONS

TYPE	ALL-IN-ONE TYPE		SPECIAL FUNCTIONS	PAUSE ALARM FUNCTIONS	WHEN PRESSING THE ALARM STOP SWITCH	GAS LEAK ALARM: BUZZER SOUND ONLY STOPS FOR APPROX. 1 MIN. SENSOR MALFUNCTION IS DISPLAYED: BUZZER SOUND ONLY STOPS FOR APPROX. 36 HOURS.
MODEL No.	CF-624					
PRINCIPLE OF DETECTION	SEMICONDUCTOR TYPE		EXPIRED NOTIFICATION FUNCTION	RED LAMP SLOW BLINKING AFTER THE EXPIRATION OF PERIOD		
APPLICABLE GAS	LPG				METHOD OF MOUNTING	WALL MOUNTING WITH MOUNTING PLATE
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.		POWER CABLE LENGTH	3 m / 30 cm		
METHOD OF ALARM	SWEEP (1kHz - 4kHz) AND RED LAMP IMMEDIATE BLINKING (AUTO RESET METHOD)		DIMENSIONS	H62 × W80 × D32 mm		
INDICATION OF POWER-ON	RED LAMP LIGHTING		WEIGHT	APPROX. 220 g		
POWER SUPPLY	RATED AC100 V ±10 %, RATED FREQUENCY 50/60 Hz		ACCESSORIES	MOUNTING FITTINGS, CABLE STOPPER, SCREWS, DOUBLE-FACED TAPE, INSPECTION GAS SAMPLER, USER MANUAL (WITH WARRANTY) × 1, "IF BUZZER SOUNDS..." STICKER × 1		
POWER CONSUMPTION	1.0W IN WATCH, 1.0W IN ALARM					
WORKING TEMPERATURE	-10 °C - 40 °C (WITHOUT DEW CONDENSATION)					



CF-624

SPECIFICATIONS

TYPE	ALL-IN-ONE TYPE		SPECIAL FUNCTIONS	PAUSE ALARM FUNCTIONS	WHEN PRESSING THE ALARM STOP SWITCH	GAS LEAK ALARM: BUZZER SOUND ONLY STOPS FOR APPROX. 1 MIN. SENSOR MALFUNCTION IS DISPLAYED: BUZZER SOUND ONLY STOPS FOR APPROX. 36 HOURS. NORMALLY: SPEAKER INSPECTION. BUZZER SOUND CAN BE CHECKED.
MODEL No.	KP-01J					
PRINCIPLE OF DETECTION	SEMICONDUCTOR TYPE		EXPIRED NOTIFICATION FUNCTION	RED LAMP SLOW BLINKING AFTER THE EXPIRATION OF PERIOD		
APPLICABLE GAS	LPG				MALFUNCTION DIAGNOSIS FUNCTION, INITIAL ALARM PREVENTION FUNCTION, ALARM HISTORY FUNCTION	MOUNTING FITTING × 1, CABLE STOPPER × 3, SCREW × 5, INSPECTION GAS SAMPLER × 1, USER MANUAL (WITH WARRANTY) × 1, "IF BUZZER SOUNDS..." STICKER × 1
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.		METHOD OF MOUNTING	WALL MOUNTING WITH MOUNTING PLATE		
METHOD OF ALARM	BUZZER SOUND (AUTO RESET METHOD) AND RED LED BLINKING		POWER CABLE LENGTH	2 m PLUG WITH BACKUP OUTLET (MAX. 1490 W)		
INITIAL STABILIZATION	20 SEC. - 2 MIN. (RED LAMP BLINKING DURING SETUP)		DIMENSIONS	H77 × W68 × D24.5 mm		
INDICATION OF POWER-ON	RED LED LIGHTING		WEIGHT	APPROX. 160 g		
POWER SUPPLY	RATED AC100 V ±10 %, RATED FREQUENCY 50/60 Hz		ACCESSORIES	MOUNTING FITTING × 1, CABLE STOPPER × 3, SCREW × 5, INSPECTION GAS SAMPLER × 1, USER MANUAL (WITH WARRANTY) × 1, "IF BUZZER SOUNDS..." STICKER × 1		
POWER CONSUMPTION	0.5W IN WATCH, 0.6W IN ALARM					
WORKING TEMPERATURE	-10 °C - 40 °C (WITHOUT DEW CONDENSATION)					



KP-01J

GAS ALARM (FOR LPG)

ALL-IN-ONE TYPE MICROCOMPUTER METER LINKED



KP-13

SPECIFICATIONS

TYPE	ALL-IN-ONE TYPE	SPECIAL FUNCTIONS	PAUSE ALARM FUNCTIONS	WHEN PRESSING THE PUSH-BUTTON	GAS LEAK ALARM: BUZZER SOUND ONLY STOPS FOR APPROX. 1 MIN. SENSOR MALFUNCTION IS DISPLAYED: BUZZER SOUND ONLY STOPS FOR APPROX. 36 HOURS. NORMALLY: SPEAKER INSPECTION, BUZZER SOUND CAN BE CHECKED. NORMALLY SHUTOFF INSPECTION CAN BE COMPLETED BY INSPECTION GAS IN 5 SEC. (OBSOLETE TYPES: 45 SEC.)	
MODEL No.	KP-13		SPEAKER INSPECTION FUNCTIONS			
PRINCIPLE OF DETECTION	SEMICONDUCTOR TYPE		METER SHUTOFF			
APPLICABLE GAS	LPG		INSPECTION FUNCTIONS			
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.		EXPIRED NOTIFICATION FUNCTION			
METHOD OF ALARM	BUZZER SOUND (AUTO RESET METHOD) AND RED LED BLINKING		MALFUNCTION DIAGNOSIS FUNCTION			
INITIAL STABILIZATION	20 SEC. - 2 MIN. (RED LAMP BLINKING DURING SETUP)		INITIAL ALARM PREVENTION FUNCTION			
INDICATION OF POWER-ON	RED LED LIGHTING		ALARM HISTORY FUNCTION			
POWER SUPPLY	RATED AC100 V±10 %, RATED FREQUENCY 50/60 Hz		METHOD OF MOUNTING			WALL MOUNTING WITH MOUNTING PLATE
POWER CONSUMPTION	0.5 W IN WATCH, 0.6 W IN ALARM		POWER CABLE LENGTH			3 m PLUG WITH BACKUP OUTLET (MAX. 1490 W)
WORKING TEMPERATURE	-10 °C - 40 °C (WITHOUT DEW CONDENSATION)	DIMENSIONS	H77 × W68 × D24.5 mm			
OUTPUT SPECIFICATIONS	SIGNAL	ACCESSORIES	WEIGHT	APPROX. 160 g		
	DELAY TO SHUTOFF		APPROX. 45 SEC.			
	CONNECTION		PLUG-IN TERMINAL BLOCK (2P)			
	FG CONNECTION		PLUG-IN TERMINAL BLOCK (1P)			

ALL-IN-ONE TYPE EXTERNAL LINKED TYPE FOR CENTRAL MONITORING



KP-15B

SPECIFICATIONS

TYPE	ALL-IN-ONE TYPE	OUTPUT SPECIFICATIONS	TYPE	VOLTAGE OUTPUT DC 0-0-12 V (ALLOWANCE CURRENT: 20 mA) TWO STEPS OF VOLTAGE, DC 0-6-12 V
MODEL No.	KP-15B		INITIAL STABILIZATION	0 SEC.
PRINCIPLE OF DETECTION	CATALYTIC COMBUSTION TYPE		CONNECTION	CONNECTORS
APPLICABLE GAS	LPG		SPECIAL FUNCTIONS	INITIAL ALARM PREVENTION FUNCTION (40 SEC.) (RED LED BLINKING) SENSOR NEGATIVE DRIFT ALARM FUNCTION (BUZZER)
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.	METHOD OF MOUNTING	WALL MOUNTING WITH MOUNTING PLATE	
METHOD OF ALARM	BUZZER SOUND (AUTO RESET METHOD) AND RED LED BLINKING	POWER CABLE LENGTH	APPROX. 30 cm	
INDICATION OF POWER-ON	RED LED LIGHTING	DIMENSIONS	H125 × W92 × D45 mm	
POWER SUPPLY	RATED AC100 V±10 %, RATED FREQUENCY 50/60 Hz	WEIGHT	APPROX. 270 g	
POWER CONSUMPTION	2.5 W IN WATCH, 3 W IN ALARM	ACCESSORIES	MOUNTING FITTING × 1, SCREW × 2, GAS FOR INSPECTION × 1, OUTPUT CONNECTOR × 1, USER MANUAL (WITH WARRANTY) × 1, "IF BUZZER SOUNDS..." STICKER × 1	
WORKING TEMPERATURE AND HUMIDITY	-10 °C - 40 °C, 85 % RH OR LESS			

SPECIFICATIONS

TYPE	ALL-IN-ONE (CORDLESS)	OUTPUT SPECIFICATIONS	TYPE	TWO STEPS OF VOLTAGE DC 0-6-12 V
MODEL No.	KP-35D		WORKING LOAD	1.2 kΩ - 50 kΩ
PRINCIPLE OF DETECTION	CATALYTIC COMBUSTION TYPE		INITIAL STABILIZATION	0 SEC.
APPLICABLE GAS	LPG	SPECIAL FUNCTIONS	INITIAL ALARM PREVENTION FUNCTION (40 SEC.) (RED LED LIGHTING) SENSOR NEGATIVE DRIFT ALARM FUNCTION (BUZZER)	
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.	METHOD OF MOUNTING	WALL MOUNTING WITH DEDICATED MOUNTING PLATE (KP-35B BASE)	
METHOD OF ALARM	BUZZER SOUND (AUTO RESET METHOD) AND RED LED BLINKING	DIMENSIONS	H110 × W110 × D42 mm	
INDICATION OF POWER-ON	GREEN LED LIGHTING	WEIGHT	APPROX. 180 g	
POWER SUPPLY	DC24 V (ALLOWABLE VOLTAGE: DC17 V - 35 V)	ACCESSORIES	USER MANUAL (WITH WARRANTY) × 1, GAS FOR INSPECTION × 1, "IF BUZZER SOUNDS..." STICKER × 1	
POWER CONSUMPTION	0.8 W IN WATCH, 1 W IN ALARM			
WORKING TEMPERATURE AND HUMIDITY	-10 °C - 40 °C, 85 % RH OR LESS			



KP-35D



KM-35B
(DEDICATED FOUNDATION
BASE FOR KP-35D)

SAFETY EQUIPMENT

GAS ALARM (FOR LPG)

ALL-IN-ONE TYPE EXTERNAL LINKED TYPE FOR SHUTOFF VALVE



KP-31A

■ SPECIFICATIONS

TYPE	ALL-IN-ONE TYPE	DELAY TO SHUTOFF	45±15 SEC.
MODEL No.	KP-31A	VALVE CABLE LENGTH	LINE RESISTANCE (BOTH WAYS) 2 Ω OR LESS
PRINCIPLE OF DETECTION	CATALYTIC COMBUSTION TYPE	WORKING TEMPERATURE	-10 °C - 40 °C (WITHOUT DEW CONDENSATION)
APPLICABLE GAS	LPG	POWER SUPPLY	AC100V±10 %, 50/60 Hz
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.	POWER CONSUMPTION	1.1 W IN WATCH, 1.3 W IN ALARM
METHOD OF ALARM	BUZZER SOUND (AUTO RESET METHOD) AND RED LED BLINKING	MOUNTING METHOD	WALL MOUNTING WITH MOUNTING PLATE
INDICATION OF POWER-ON	GREEN LED LIGHTING	POWER CABLE LENGTH	APPROX. 3 m
COMPATIBLE SHUTOFF VALVE	LOW-PRESSURE SHUTOFF VALVE, V-SERIES	EXTERNAL DIMENSIONS	H100 × W62 × D42.5 mm
MULTIPLE LINKED	UP TO 5 PCS. OF KP-31 CAN BE CONNECTED FOR 1 PCE. OF SHUTOFF VALVE. SHUTOFF VALVES FOR A KP-31 IS NOT AVAILABLE.	WEIGHT	APPROX. 280 g
VALVE SHUT-OFF SIGNAL	ONE-SHOT ELECTRIC DISCHARGE CONDENSER. DISCHARGE FROM 470 μF±20 % CONDENSER (CHARGING VOLTAGE 13.5±1.5/-0.5 V)	ACCESSORIES	MOUNTING PLATE × 1, SCREW × 5, GAS FOR INSPECTION × 1, CABLE HOLDER × 3, USER MANUAL (WITH WARRANTY) × 1, "IF BUZZER SOUNDS..." STICKER × 1, CRIMP CONTACTS × 2

SEPARATE TYPE (DETECTOR: DAMP AND DRIP-PROOF) EXTERNAL LINKED TYPE FOR CENTRAL MONITORING



KP-55B

■ SPECIFICATIONS

TYPE	SEPARATE TYPE (DETECTOR: DAMP & DRIP-PROOF)		INITIAL ALARM PREVENTION TIME	APPROX. 40s (RED LED BLINKING)
MODEL No.	KP-55B		MOUNTING METHOD	ALARM PART: WALL MOUNTING WITH MOUNTING PLATE DETECTOR PART: WALL MOUNTING WITH MOUNTING FITTINGS OR BANDING
PRINCIPLE OF DETECTION	CATALYTIC COMBUSTION TYPE		EXTERNAL DIMENSIONS	ALARM PART: H125 × W92 × D45 mm DETECTOR PART: H65 × W55 × D36 mm
APPLICABLE GAS	LPG		POWER CABLE LENGTH	APPROX. 300 mm
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.		DETECTOR CABLE LENGTH	APPROX. 4 m (0.75 mm ² 3-CORE CABTYRE CABLE)
METHOD OF ALARM	BUZZER SOUND (AUTO RESET METHOD) AND RED LED BLINKING		DETECTOR EXTENSION	0.75 mm ² 3-CORE CABTYRE CABLE FROM DETECTOR TO ALARM: WITHIN 20 m
INDICATION OF POWER-ON	RED LED LIGHTING		WEIGHT	APPROX. 610 g (INCLUDING DETECTOR CABLE)
POWER SUPPLY	AC100 V±10 %, 50/60 Hz		SPECIAL FUNCTIONS	INITIAL ALARM PREVENTION FUNCTION (40 SEC.) (RED LED BLINKING) SENSOR NEGATIVE DRIFT ALARM FUNCTION: BUZZER
POWER CONSUMPTION	2.5 W IN WATCH, 3 W IN ALARM		ACCESSORIES	MOUNTING PLATE × 1, CARL PLUG × 6, SCREW × 8, MOUNTING FITTING × 1, CABLE HOLDER × 4, CABLE TIE × 1, TIE × 1, CONNECTOR × 3, OUTPUT CONNECTOR × 1, SADDLE × 4, GAS FOR INSPECTION × 1, USER MANUAL (WITH WARRANTY) × 1, "IF BUZZER SOUNDS..." STICKER × 1
WORKING TEMPERATURE	-10 °C - 40 °C			
WORKING HUMIDITY	ALARM PART	85 % RH OR LESS		
	DETECTOR PART	95 % RH OR LESS		
OUTPUT SPECIFICATIONS	TYPE	VOLTAGE OUTPUT: DC 0-0.12 V (ALLOWABLE CURRENT: 20 mA) CONTACT OUTPUT (NORMAL OPEN): CONTACT CAPACITY: DC30 V/3 A/AC125 V/3 A		
		TWO STEPS OF VOLTAGE: DC 0-6-12 V		
	DELAY TO SHUTOFF	0 SEC.		
CONNECTION METHOD	CONNECTORS			

SAFETY EQUIPMENT

● GAS ALARM (FOR LPG)

GAS ALARM (FOR LPG)



KN-60KB



KM-60B
(DEDICATED FOUNDATION
BASE FOR KN-60KB)

■ SPECIFICATIONS

TYPE	ALL-IN-ONE TYPE (CORDLESS)	WORKING TEMPERATURE RANGE	-10 °C - 50 °C		
MODEL No.	KN-60KB	WORKING HUMIDITY RANGE	85 % RH OR LESS		
APPLICATION MODEL No.	GNGVBAC INSPECTION/CERTIFICATION AUTHORITY: JIA (JAPAN GAS APPLIANCES INSPECTION ASSOCIATION)	SPECIFICATIONS	TYPE	TWO STEPS OF VOLTAGE	DC 0-6-12 V
PRINCIPLE OF DETECTION	CATALYTIC COMBUSTION TYPE		DELAY TO SHUTOFF	WORKING LOAD	1.2 kΩ - 50 kΩ
APPLICABLE GAS	LNG (LIGHTER-THAN-AIR GAS)	MOUNTING METHOD	WALL OR CEILING MOUNTING WITH DEDICATED MOUNTING BASE MODEL NO. KM-60B		
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.		EXTERNAL DIMENSIONS	φ 120 × 42 mm	
METHOD OF ALARM	RED LED LIGHTING AND BUZZER SOUND (AUTOMATIC RESET) AFTER 20 SEC. DELAY	MASS	APPROX. 300 g		
INITIAL ALARM PREVENTION TIME	APPROX. 40 SEC. (RED LED LIGHTING)	SPECIAL FUNCTIONS	DRIFT DETECTION OF SENSOR: CONTINUOUS BUZZER SOUND		
INDICATION OF POWER-ON	GREEN LED LIGHTING		ACCESSORIES	TEST GAS	
POWER SUPPLY	AC100 V±10 V, 50/60 Hz				
POWER CONSUMPTION	3.2 W IN WATCH, 3.5 W IN ALARM				



KN-15KB

■ SPECIFICATIONS

TYPE	ALL-IN-ONE TYPE	OUTPUT SPECIFICATIONS	TYPE	VOLTAGE OUTPUT	DC 0-0-12 V (ALLOWABLE CURRENT: 30 mA)
MODEL No.	KN-15KB		DELAY TO SHUTOFF	TWO STEPS OF VOLTAGE	DC 0-6-12 V
PRINCIPLE OF DETECTION	CATALYTIC COMBUSTION TYPE	CONNECTION METHOD	OUTPUT SIGNAL(A-CONTACT)	CONTACT CAPACITY DC30 V/3 A/AC125 V/3 A	
APPLICABLE GAS	LNG (LIGHTER-THAN-AIR GAS)	MOUNTING METHOD	CONNECTORS		
DENSITY OF ALARMING	1/100 OR MORE - 1/4 OR LESS OF L.E.L.	EXTERNAL DIMENSIONS	WALL MOUNTING WITH MOUNTING PLATE		
METHOD OF ALARM	RED LED FLASHING AND BUZZER SOUND (AUTOMATIC RESET) AFTER 20 SEC. DELAY	POWER CABLE LENGTH	H125 × W92 × D45 mm		
INITIAL ALARM PREVENTION TIME	APPROX. 40 SEC. (RED LED FLASHING)	MASS	APPROX. 270 g		
INDICATION OF POWER-ON	RED LED LIGHTING	SPECIAL FUNCTIONS	DRIFT DETECTION OF SENSOR: CONTINUOUS BUZZER SOUND		
POWER SUPPLY	AC100 V±10 V, 50/60 Hz		ACCESSORIES	MOUNTING PLATE × 1, WOOD SCREW × 2, TEST GAS × 1, OUTPUT CONNECTOR × 1	
POWER CONSUMPTION	1.7 W IN WATCH, 2.1 W IN ALARM				
WORKING TEMPERATURE RANGE	-10 °C - 50 °C				
WORKING HUMIDITY RANGE	85 % RH OR LESS				
INSPECTION / CERTIFICATION AUTHORITY	JIA (JAPAN GAS APPLIANCES INSPECTION ASSOCIATION)				



KP-37

SPECIFICATIONS	MODEL No.	KP-37*
PRINCIPLE OF DETECTION		CATALYTIC COMBUSTION TYPE
APPLICABLE GAS		LPG & NG
DENSITY FOR ALARMING		MORE THAN 1/100 AND LESS THAN 1/4 OF L.E.L.
INDICATION OF POWER-ON		GREEN LED
METHOD OF ALARM		BUZZER SOUND & YELLOW LED FLASHING
INITIAL STABILIZATION		ABOUT 30 SEC.
COMPATIBLE SHUTOFF VALVE		V TYPE & GB TYPE
OUTPUT SIGNAL		ONE-SHOT PULSE FROM CONDENSER CHARGED BY 13.5 V
DELAY TO SHUTOFF		45±15 SEC.
POWER SUPPLY		AC110 OR AC220 V±10 % 50/60 Hz
POWER CONSUMPTION		3.3 W IN WATCH, 3.9 W IN ALARM
WORKING TEMPERATURE		-20 °C - 40 °C
OUTSIDE DIMENSION		H116 x W66 x D45 mm
WEIGHT		APPROX. 300 g

Note: Please specify power supply: AC110 or AC220.

SAFETY EQUIPMENT

LOW PRESSURE SHUTOFF VALVE



V-20, 25



V-32, 40



V-50



V-80



V-100



V-150

SPECIFICATIONS		MODEL No.	V-20	V-25	V-32	V-40	V-50	V-80	V-100	V-150
COMPATIBLE CONTROLLER		KM-621B, KM-641A								
CONNECTIONS			Rc3/4 ^B x Rc3/4 ^B (FEMALE)	Rc1 ^B x Rc1 ^B (FEMALE)	Rc1 1/4 ^B x Rc1 1/4 ^B (FEMALE)	Rc1 1/2 ^B x Rc1 1/2 ^B (FEMALE)	Rc2 ^B x Rc2 ^B (FEMALE)	JIS 10K 80 A FLANGED	JIS 10K 100 A FLANGED	JIS 10K 150 A FLANGED
FLOW RATE	AIR	0.03 kPa	4.0 m ³ /h	4.8 m ³ /h	12.1 m ³ /h	13.6 m ³ /h	29.0 m ³ /h	70.0 m ³ /h	112.0 m ³ /h	185.0 m ³ /h
		0.10 kPa	6.0 m ³ /h	7.8 m ³ /h	22.0 m ³ /h	25.0 m ³ /h	52.0 m ³ /h	125.0 m ³ /h	200.0 m ³ /h	338.0 m ³ /h
	LPG	0.03 kPa	6.1 kg/h	7.3 kg/h	18.4 kg/h	20.7 kg/h	44.1 kg/h	106.4 kg/h	170.2 kg/h	281.0 kg/h
		0.10 kPa	9.0 kg/h	11.7 kg/h	33.4 kg/h	38.0 kg/h	79.0 kg/h	190.0 kg/h	304.0 kg/h	512.0 kg/h
	LNG	0.03 kPa	4.9 m ³ /h	5.9 m ³ /h	14.9 m ³ /h	16.8 m ³ /h	35.8 m ³ /h	86.4 m ³ /h	138.3 m ³ /h	250.0 m ³ /h
		0.10 kPa	—	—	—	—	—	—	—	—
FACE TO FACE DIMENSION		90 mm			128 mm		210 mm	320 mm	350 mm	480 mm
RESISTING PRESSURE		0.3 MPa								
AIR TIGHTNESS		EXTERNAL: 10 kPa VALVE: 0.5 kPa & 10 kPa								
MAX. WORKING PRESSURE		3.5 kPa			10 kPa				3.5 kPa	
WORKING TEMPERATURE		-25 - 70 °C			-20 - 60 °C					
MAIN BODY		ADC12			FCD450					
INPUT (SHUTOFF) SIGNAL		1 SHOT PULSE FROM CONDENSER CHARGED BY 13.5 V								
RESET OPERATION		MANUAL								
DURABILITY		500 TIMES OF SHUTOFF								
INPUT (SHUTOFF) SIGNAL		13.5 V (470 μF) ONE-SHOT PULSE								

SHUTOFF VALVE WITH AUTOMATIC RETRIEVAL FUNCTION



VR-40

SPECIFICATIONS		MODEL No.	VR-25	VR-40	VR-50
COMPATIBLE CONTROLLER		KM-673			
CONNECTIONS			Rc1 ^B x Rc1 ^B (FEMALE)	Rc1 1/2 ^B x Rc1 1/2 ^B (FEMALE)	Rc2 ^B x Rc2 ^B (FEMALE)
FLOW RATE	AIR	0.03 kPa	4.0 m ³ /h	10.0 m ³ /h	13.0 m ³ /h
		0.10 kPa	7.8 m ³ /h	17.4 m ³ /h	28.2 m ³ /h
	LPG	0.03 kPa	6.1 kg/h	15.2 kg/h	19.8 kg/h
		0.10 kPa	11.0 kg/h	26.0 kg/h	42.0 kg/h
	LNG	0.03 kPa	4.9 m ³ /h	12.3 m ³ /h	16.0 m ³ /h
		0.10 kPa	—	—	—
FACE TO FACE DIMENSION		90 mm		128 mm	210 mm
RESISTING PRESSURE		0.1 MPa			
AIR TIGHTNESS		EXTERNAL: 10 kPa VALVE: 4.2 kPa			
MAX. WORKING PRESSURE		3.5 kPa			
WORKING TEMPERATURE		-25 - 70 °C			
MAIN BODY		ADC12	FCD450		
RESET OPERATION		AUTOMATIC			
DURABILITY		10000 TIMES OF SHUTOFF			
INPUT (SHUTOFF) SIGNAL		12 V±2 V (4700 μF) ONE-SHOT PULSE			
INPUT (RESET) SIGNAL		45 V±2 V (6600 μF) ONE-SHOT PULSE			
AUTOMATIC RESET PRESSURE AFTER SHUTOFF		1.4 - 1.9 kPa			
LOW-PRESSURE SHUTOFF PRESSURE		1.4 - 1.9 kPa			
VOLTAGE RESISTANCE		NORMAL OPERATION (AC1,000 V 1 MIN.)			
INSULATION RESISTANCE		10 MΩ OR MORE (DC500 V)			

SAFETY EQUIPMENT

● LOW PRESSURE SHUTOFF VALVE, SHUTOFF VALVE WITH AUTOMATIC RETRIEVAL FUNCTION

LOW PRESSURE SHUTOFF VALVE W/AUTOMATIC RETRIEVAL FUNCTION (FOR NG)



VR-80T

SPECIFICATIONS		MODEL No.	VR-25T	VR-40T	VR-50T	VR-80T
CONNECTIONS			Rc1 ^B	Rc1½ ^B	Rc2 ^B	80 A x 80 A JIS 10K FLANGED
		PRESSURE LOSS				
FLOW RATE	AIR	0.03 kPa	4.0 m³/h	10.0 m³/h	23.2 m³/h	32.5 m³/h
		0.10 kPa	7.8 m³/h	17.4 m³/h	42.4 m³/h	59.4 m³/h
	LPG	0.03 kPa	6.1 kg/h	15.2 kg/h	35.0 kg/h	49.0 kg/h
		0.10 kPa	11.0 kg/h	26.0 kg/h	64.0 kg/h	89.7 kg/h
LNG	0.03 kPa	4.9 m³/h	12.3 m³/h	29.9 m³/h	41.9 m³/h	
	0.10 kPa	10.1 m³/h	21.9 m³/h	54.7 m³/h	76.6 m³/h	
FACE TO FACE DIMENSION			90 mm	128 mm	210 mm	320 mm
RESISTING PRESSURE			15 kPa			
AIR TIGHTNESS			EXTERNAL: 10 kPa VALVE: 4.2 kPa			
MAX. WORKING PRESSURE			3.5 kPa			
WORKING TEMPERATURE			-25 - 70 °C			
MAIN BODY			ADC12	FCD450		
RESET OPERATION			AUTOMATIC			
DURABILITY			10000 TIMES OF SHUTOFF			
INPUT (SHUTOFF) SIGNAL			12 V±2 V (4700 μF) ONE-SHOT PULSE			
INPUT (RESET) SIGNAL			45 V±2 V (6600 μF) ONE-SHOT PULSE			
AUTOMATIC RESET PRESSURE AFTER SHUTOFF			0.7 - 1.0 kPa			
AUTOMATIC SHUTOFF PRESSURE IN CASE OF PRESSURE DROP			0.7 - 1.0 kPa			

LOW PRESSURE SHUTOFF VALVE



GB-15S

SPECIFICATIONS		MODEL No.	GB-15S	GB-20S
CONNECTIONS			15 A x 15 A FEMALE SCREWED	20 A x 20 A FEMALE SCREWED
FLOW CAPACITY				
AIR (ΔP: 3 mmH ₂ O)			2 Nm³/h	3 Nm³/h
AIR (ΔP: 10 mmH ₂ O)			4 Nm³/h	6 Nm³/h
LPG (ΔP: 10 mmH ₂ O)			6 kg/h	9 kg/h
RESISTING PRESSURE			0.3 MPa	
AIR TIGHTNESS			EXTERNAL: 10 kPa VALVE: 0.5 kPa & 10 kPa	
MAX. WORKING PRESSURE			3.5 kPa	
WORKING TEMPERATURE			-25 - 70 °C	
MAIN BODY			ADC12	
RESET OPERATION			MANUAL	
INPUT (SHUTOFF) SIGNAL			13.5 V (470 μF) ONE-SHOT PULSE	

MEDIUM PRESSURE SHUTOFF VALVE



VM-32, 40



VM-50

SPECIFICATIONS		MODEL No.	VM-20	VM-25	VM-32	VM-40	VM-50	VM-80	VM-100
COMPATIBLE CONTROLLER			KM-621B, KM-641A						
CONNECTIONS			Rc¾ ^B x Rc¾ ^B (FEMALE)	Rc1 ^B x Rc1 ^B (FEMALE)	Rc1¼ ^B x Rc1¼ ^B (FEMALE)	Rc1½ ^B x Rc1½ ^B (FEMALE)	Rc2 ^B x Rc2 ^B (FEMALE)	JIS 10 K 80 A FLANGED	JIS 10 K 100 A FLANGED
FLOW RATE	AIR	5 kPa	44 m³/h	51 m³/h	137 m³/h	159 m³/h	350 m³/h	576 m³/h	1363 m³/h
		10 kPa	59 m³/h	71 m³/h	190 m³/h	240 m³/h	490 m³/h	1080 m³/h	2250 m³/h
	LPG	5 kPa	67 kg/h	78 kg/h	208 kg/h	242 kg/h	532 kg/h	864 kg/h	2044 kg/h
		10 kPa	90 kg/h	108 kg/h	289 kg/h	365 kg/h	745 kg/h	1621 kg/h	3376 kg/h
LNG	5 kPa	—	—	—	—	—	—	—	—
	10 kPa	—	—	—	—	—	—	—	—
FACE TO FACE DIMENSION			90 mm		128 mm		210 mm	320 mm	350 mm
RESISTING PRESSURE			0.3 MPa						
AIR TIGHTNESS			EXTERNAL: 0.3 MPa VALVE: 0.5 kPa & 0.15 MPa						
MAX. WORKING PRESSURE			0.1 MPa						
WORKING TEMPERATURE			-25 - 70 °C			-20 - 60 °C			
MAIN BODY			ADC12			FCD450			
RESET OPERATION			MANUAL						
DURABILITY			500 TIMES OF SHUTOFF						
INPUT (SHUTOFF) SIGNAL			13.5 V (470 μF) ONE-SHOT PULSE						

Note: A bypass line has to be installed for VM-50, VM-80, and VM-100 to ease the reset operation.

SAFETY EQUIPMENT

SEISMIC SENSING DEVICE



V-925

PRODUCT NAME	BIBCON	OUTPUT	OUTPUT SIGNAL (NORMAL OPEN)
MODEL No.	V-925	CONTACT RATING	AC125 V 3 A, AC250 V 2 A, DC30 V 4 A (INDUCTIVE LOAD)
SENSITIVITY	150 - 250 GAL	INSULATION RESISTANCE	1 MΩ OR MORE (AT DC500 V MEGA)
DETECTION DIRECTION	HORIZONTAL OMNI-DIRECTION AND VERTICAL	VOLTAGE RESISTANCE	AC1500 V · 50/60 Hz (1 MIN.)
DIRECTION METHOD	MAGNET	INSTALLATION SITE	INDOORS (DUST PROOF)
RESET METHOD	MANUAL	INSTALLATION METHOD	WALL MOUNTING (INCLUDING SPIRIT LEVEL AND SCREWS)
CONTACT	1 A	EXTERNAL DIMENSIONS	W104 x H107 x D75 mm
WEIGHT	350 g		

GAS SAFETY SHUTOFF SYSTEM



TG-5

ITEM	SPECIFICATIONS
CONFIGURATION	STEEL PLATE, INDOOR WALL MOUNTING
EXTERNAL DIMENSIONS	W180 x H270 x D120 mm
COATING COLOR	IVORY / MUNSELL No. 2.5Y8/2
WEIGHT	3.9 kg
POWER SUPPLY	AC100 V±10 V, 50/60 Hz
POWER CONSUMPTION	15 W OR LESS
OUTPUT (SHUTOFF) VALVE	470μF, ONE-SHOT ELECTRIC DISCHARGE OF CONDENSER
INDICATOR	POWER SUPPLY: LED WHITE
	OPEN VALVE: LED RED
	CLOSE VALVE: LED GREEN
	ALARM BUZZER IN SHUTOFF 70 dB
OUTPUT FUNCTION	VALVE OPEN/CLOSE BY CONTACT SIGNAL (AC200 V 3 A)
EXTERNAL VALVE CLOSE FUNCTION	OUTPUT CONTACT SIGNAL
WORKING TEMPERATURE	-10 °C - 50 °C
STANDBY POWER SUPPLY	20-S101 (MADE BY FURUKAWA BATTERY CO., LTD.) OPERATING TIME: WITHIN 3 HOURS (CHARGING TIME: 72 HOURS OR MORE)
COMPATIBLE SHUTOFF VALVE	V-20 - 150 / VM20 - 100

CONTROLLER FOR SHUTOFF VALVE

SPECIFICATIONS



KM-621B

MODEL No.	KM-621B		OUTPUT (SHUTOFF) SIGNAL	CONTACT OUTPUT (ON: EMERGENCY SHUTOFF VALVE CLOSED) CONTACT RATING: DC30 V, 0.5 A	
COMPATIBLE ALARM	KP-15B · KP-55B		POWER SUPPLY	AC100 V ± 10 V 50/60 Hz	
No. OF COMPATIBLE ALARMS	4		INDICATION OF POWER-ON	GREEN LED LIGHTING	
SHUTOFF VALVE SPECIFICATIONS	COMPATIBLE SHUTOFF VALVE	KATSURA V-SERIES (LOW PRESSURE) KATSURA VM-SERIES (MEDIUM PRESSURE)	POWER CONSUMPTION	1.5 W	
	OUTPUT (SHUTOFF) SIGNAL	ONE-SHOT ELECTRIC DISCHARGE OF CONDENSER 470 μF ± 20 % (CHARGE VOLTAGE 14 · 16 V)	WORKING TEMPERATURE	-10 °C - 50 °C	
VALVE CLOSED NOTIFICATION METHOD	VALVE CLOSED NOTIFICATION METHOD	RED LED LIGHTING	MOUNTING METHOD	SWITCH BOX OR WALL MOUNTING	
			DIMENSIONS	W90 x H145 x D46 mm	
CLOSE DELAY TIME	CLOSE DELAY TIME	GAS LEAK ALARM 45 ± 15 SEC.	WEIGHT	APPROX. 250 g	
			ACCESSORIES	TAPPING SCREWS FOR ALARM MOUNTING PLATE (3.5 x 8) 2 pcs.	FOR MOUNTING (3.8 x 25) 2 pcs. PAN-HEAD SCREWS (M4 x 25) 2 pcs.
VALVE CABLE LENGTH	LINE RESISTANCE: 2 Ω (2-WAY) OR LESS		CABLE TIE × 1		
CONNECTION	TERMINAL CONNECTION (M3 TERMINAL SCREWS)				
EXTERNAL CONTACT	FOR EMERGENCY OPERATIONS	LINKED TO NORMAL OPEN AND SHUTOFF			
INPUT TERMINALS	FOR CONNECTIONS OF ALARM	LINKED TO NORMAL OPEN AND SHUTOFF AFTER ABOUT 45 SEC. DELAY			

SPECIFICATIONS



KM-641A

MODEL No.	KM-641A		OUTPUT SIGNAL	ONE-SHOT ELECTRIC DISCHARGE OF CONDENSER	
COMPATIBLE ALARM	KP-15B · KP-16 · KP-55B			DELAY TO SHUTOFF	ABOUT 30 SEC. (AT EMERGENCY SHUTOFF VALVE IS CLOSED BY PUSH BUTTON EXTERNAL NORMAL OPEN)
No. OF COMPATIBLE ALARMS	10		OUTPUT (SHUTOFF) SIGNAL	NORMAL OPEN (CONTACT CAPACITY AC125 V, 0.5 A OR DC30 V, 0.5 A)	
COMPATIBLE SHUTOFF VALVE	KATSURA V-SERIES (LOW PRESSURE) KATSURA VM-SERIES (MEDIUM PRESSURE)		SHUTOFF VALVE CABLE LENGTH	LINE RESISTANCE: 2 Ω (2-WAY) OR LESS	
POWER SUPPLY	AC100 V 50/60 Hz		POWER CONSUMPTION	APPROX. 1 W	
INPUT	SIGNAL FOR GAS ALARM	12 V ACTUATE AFTER ABOUT 30 SEC.	WORKING TEMPERATURE	-10 °C - 50 °C	
	SHUTOFF BUTTON FOR EMERGENCY SHUTOFF VALVE	1-TIME ACTUATION WITHIN 10 HOURS AFTER POWER FAILURE	CONNECTION	TERMINAL CONNECTION	
DISPLAY	NORMAL OPEN	1-TIME ACTUATION WITHIN 10 HOURS AFTER POWER FAILURE	WEIGHT	APPROX. 320 g	
	ALARM ACTUATION	12 V (WHEN GAS LEAK ALARM SIGNAL RECEIPT SHUTOFF VALVE IS CLOSED) RED LIGHTING			
	SHUTOFF INDICATION	GREEN LAMP: VALVE IS OPENED RED LAMP: VALVE IS CLOSED			
BUZZER	SOUNDS WHEN VALVE IS CLOSED (NO SOUND AT EMERGENCY PUSH BUTTON ACTUATED)				

SPECIFICATIONS



KM-673

MODEL No.	KM-673		DISPLAY	VALVE "OPEN" LAMP	LCD DISPLAY	1 pce.
COMPATIBLE ALARM	KP-15B · KP-16 · KP-55B			VALVE "CLOSED" LAMP	LCD DISPLAY	1 pce.
No. OF COMPATIBLE ALARMS	VOLTAGE SIGNALS ON: UP TO 3 pcs. OF GAS ALARMS CAN BE CONNECTED			"ALARM" LAMP	LCD DISPLAY	1 pce.
COMPATIBLE SHUTOFF VALVE	VR-SERIES SHUTOFF VALVE			GAS LEAK LAMP	LCD DISPLAY	3 pcs.
CONFIGURATION	PLASTIC, INDOOR WALL MOUNTING		EXTERNAL COMMUNICATIONS ALARM CONTACT	NORMAL OPEN (DC30 V, 20 W) "SHUTOFF INFORMATION" IS TRANSFERRED BY OUTPUT SIGNAL EXCEPT VALVE "STOP" SWITCH ACTUATION		
EXTERNAL DIMENSIONS	W121 x H201 x D56 mm					
WEIGHT	APPROX. 700 g		EXTERNAL VALVE CLOSE FUNCTION	EXTERNAL CONTACT SIGNAL		
POWER SUPPLY	AC100 V ± 10 % 50/60 Hz					
POWER CONSUMPTION	APPROX. 8 W		WORKING TEMPERATURE	-10 °C - 50 °C		
BUILT-IN EARTHQUAKE SENSOR	ABOUT INTENSITY 5					
OUTPUT	VALVE OPEN	45 V, ONE-SHOT ELECTRIC DISCHARGE OF CONDENSER				
	VALVE CLOSE	12 V, ONE-SHOT ELECTRIC DISCHARGE OF CONDENSER				

Note: KM-673T (for VR-T series shutoff valve) is available.
Compatible gas alarm: KN-15KB and KN-60KB.

SAFETY EQUIPMENT

AUTO TREMBLER GAS SHUTOFF DEVICE FOR PURE GAS (GURAPITA)

EARTHQUAKE ACTUATED AUTOMATIC GAS SHUTOFF SYSTEM



G-250 · G-400

SPECIFICATIONS		MODEL No.	G-250	G-400
COMPATIBLE SHUTOFF VALVE			MV-25 · MV-25F · MV-40F · HV-25F	
BASIC CONFIGURATION AND FUNCTIONS	OPERATIONS METHOD		VERTICAL MAGNETO (MECHANICAL)	
	METHOD OF MOUNTING		GROUND FIXING (WITH OUTER CASE)	
	CONNECTION OF RELEASE		M12 x 1 FEMALE SCREWED	
	INDICATION		GREEN: NORMAL, RED: SENSED AN EARTHQUAKE	
	RESET METHOD		BY TURNING THE HANDLE	
	OUTPUT		HORIZONTAL PUSH: 1 kg, OUTPUT LENGTH: 4 mm OR MORE	
	DIMENSIONS		BODY: W129 x H143 x D95 mm CASE: W183 x H381 x D133 mm	
SENSOR	SENSITIVITY		200 - 250 GAL (EQUIVALENT TO MAGNITUDE 5)	320 - 400 GAL (EQUIVALENT TO MAGNITUDE 6)
	WORKING TEST		MANUAL BY TURNING THE HANDLE	
	ACCURACY CHECKING		INCLINATION ANGLE	
MAIN MATERIALS	BODY		ASA PLASTIC	
	SENSOR		RARE-EARTH METAL	
	SENSOR HOLDER		BSBM	
	HANGING PLATE		-	
REMARKS	OUTER CASE		SPCC SS330	
	WEATHER RESISTANCE		SIMPLIFIED DRIP-PROOF STRUCTURE	
	WORKING TEMPERATURE		-10 - 40 °C	
	WORKING HUMIDITY		90 % RH OR LESS	

SHUTOFF VALVE SPECIALIZED FOR EARTHQUAKE



MV · TYPE (MEDIUM PRESSURE)



HV · TYPE (HIGH PRESSURE)

SPECIFICATIONS		MODEL No.					
		MV-15	MV-20FR MV-20FL	MV-25	MV-25FR MV-25FL	MV-40F	HV-25F
COMPATIBLE EARTHQUAKE SENSOR		G-250 · G-400					
BASIC CONFIGURATION AND FUNCTIONS	OPERATIONS METHOD	MAGNETIC LEVER (MECHANICAL)					
	CONNECTIONS	Rc $\frac{1}{2}$ ^B (FEMALE)	JIS 20 K 20 A FLANGED	Rc1 ^B (FEMALE)	JIS 20 K 25 A FLANGED	JIS 20 K 40 A FLANGED	JIS 20 K 25 A FLANGED
	FLOW RATE	30 kg/h	70 kg/h	70 kg/h	100 kg/h	200 kg/h	100 kg/h
	FACE TO FACE DIMENSION	90 mm	208 mm	90 mm	170 mm	200 mm	170 mm
	CONNECTION OF RELEASE	M12 x 1					
	INDICATION	COLORLESS: OPENED, RED: CLOSED					
	RESET METHODS	BY PULLING UP THE HANDLE AFTER RESETTING EARTHQUAKE SENSOR					
	MAX. WORKING PRESSURE	0.20 MPa					1.56 MPa
	INPUT	HORIZONTAL PUSH: 300 g, INPUT LENGTH: 3 mm OR MORE					
	WORKING TEST	MANUAL BY OPERATING THE SENSOR					
MAIN MATERIALS	BODY	DUCTILE CAST IRON (SPHEROIDAL GRAPHITE CAST IRON)					
	HOUSING	ALUMINUM ALLOY DIE CASTING					
NOTES	WEATHER RESISTANCE	SIMPLIFIED DRIP-PROOF STRUCTURE					
	WORKING TEMPERATURE	-10 - 40 °C					
	WORKING HUMIDITY	90 % RH OR LESS					

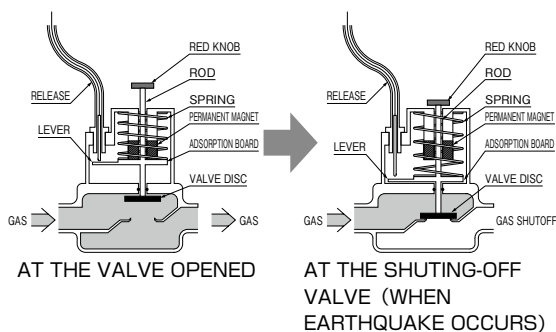
RELEASE



MODEL No.	LENGTH	CONNECTION	INSTALLATION METHODS
REL-10	1,000 mm	M12 x 1 MALE	LINEAR DISTANCE BETWEEN TREMBLER BREAKER AND RELEASE CONNECTOR
REL-18	1,800 mm	SCREWED	1,300 mm OR LESS FOR G-250 AND G-400

Note 1: When bending the release, make sure the radius of curve is 150 mm or more.
Note 2: Sold separately.

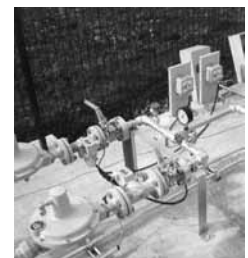
WORKING PRINCIPLE



EXAMPLE OF INSTALLATION



MANIFOLDS



AUTO TREMBLER GAS SHUTOFF DEVICE FOR BULK

GAS METER



S-TYPE

SPECIFICATIONS		MODEL No.	SA25MT-1-ULS	SA25MT-1-XLS	
GAS METER	CONNECTOR SPECIFICATIONS	MAX. FLOW RATE	2.5 m ³ /h		
		PIPING	15 A OR 20 A (DEPENDING ON CONNECTOR)		
		SPACING BETWEEN IN & OUT	90 mm	130 mm	
		CONNECTION DIAMETER	M36 x 2		
		INFLOW DIRECTION	LEFT		
MICRO-COMPUTER CONTROLLER	SECURITY FUNCTIONS	SHUTDOWN	EXCESS/INCREASED FLOW, PRESET USAGE TIME, LOW BATTERY VOLTAGE, SECURITY CONFIRMATION LEAKAGE AFTER RESTORATION, TEST, SEISMIC SENSOR, PRESSURE DROP, GAS DETECTOR, REMOTE SENSOR 1		
		ALERT	LEAKAGE DETECTION BY MICRO FLOW, LOW BATTERY VOLTAGE, SHUTDOWN FAILURE, LEAKAGE DETECTION BY MICRO PRESSURE DROP, ABNORMAL SETTING PRESSURE, ABNORMAL LOCK-UP PRESSURE		
		DISPLAY	LCD	SHUTDOWN, ALERT, SHUTDOWN AREA, AUTO SETTING, ETC.	
MICRO-COMPUTER CONTROLLER	COMMUNICATION FUNCTIONS	SECURITY	LED	SHUTDOWN, LEAKAGE DETECTION BY MICRO FLOW, SHUTDOWN FAILURE, SECURITY CONFIRMATION LEAKAGE AFTER RESTORATION	
			TYPE OF SIGNAL	SHUTDOWN, ALERT, USAGE TIME SHUTOFF NOTICE, CALL OUT TO SHUTOFF VALVE RESTORATION, ETC., DETAILED SHUTDOWN DATA, LEAK DETECTION BY MICRO FLOW TIMER, TEST CALL, ETC.	
		POWER SUPPLY	LITHIUM BATTERY		
WORKING TEMPERATURE		-30 °C - 60 °C			
STANDARD PAINTING COLOR		LIGHT GRAY EQUIVALENT TO MUNCCELL 5Y7.5/1			
MASS		2.0 kg			



E4-TYPE



EB-TYPE

SPECIFICATIONS		MODEL No.	EY4MT-ZL	EY4MT-YL	EBY6
GAS METER	CONNECTOR SPECIFICATIONS	MAX. FLOW RATE	4.0 m ³ /h		6.0 m ³ /h
		PIPING	20 A (DEPENDING ON CONNECTOR)		
		SPACING BETWEEN IN & OUT	90 mm	130 mm	
		CONNECTION DIAMETER	M36 x 2		
		INFLOW DIRECTION	LEFT INLET		
MICRO-COMPUTER CONTROLLER	SECURITY FUNCTIONS	SHUTDOWN (FLOWRATE)	1. EXCESS FLOW 2. INCREASED FLOW 3. USAGE TIME (CLASSIFICATION 2: FIEXED 160 MINUTES OR LESS, CLASSIFICATION 1-2: THE LIMIT TIME SHUTOFF SET) 4. SECURITY CONFIRMATION LEAKAGE AFTER RESTORATION		1. EXCESS FLOW 2. INCREASED FLOW 3. SECURITY CONFIRMATION LEAKAGE AFTER RESTORATION
		SHUTDOWN (OTHERS)	1. SEISMOSCOPE ACTIVATION 2. PRESSURE DROP 3. GAS LEAK DETECTOR LEAKAGE 4. EXTERNAL DEVICE LINKAGE 5. TEST 6. LOW BATTERY VOLTAGE 7. CENTER 8. EMERGENCY 9. PREPAID 10. EXPIRATION OF TEST VALID PERIOD		
		ALERT	1. LEAKAGE DETECTION BY MICRO FLOW 2. LOW BATTERY VOLTAGE 3. SHUTDOWN FAILURE 4. LEAKAGE DETECTION BY MICRO PRESSURE DROP 5. ABNORMAL SETTING PRESSURE 6. ABNORMAL LOCK-UP PRESSURE 7. PREPAID 8. EXPIRATION OF TEST VALID PERIOD 9. BACK-FLOW 10. GAS DETECTOR POWER SUPPLY DISCONNECTION		
MICRO-COMPUTER CONTROLLER	COMMUNICATION FUNCTIONS	SECURITY	LIQUID CRYSTAL DISPLAY		LIQUID CRYSTAL DISPLAY
			1. PILOT FLAME REGISTERING OR NOT 2. WORKING CONDITIONS OF AUTO-SETTING FUNCTION 3. SHUTOFF CLASSIFICATION OF INCREASED FLOW SHUTOFF 4. SETTING STATUS OF USAGE TIME SHUTOFF VALUE 5. CAUSE OF SHUTOFF 6. CAUSE OF ALERT		1. PILOT FLAME REGISTERING OR NOT 2. WORKING CONDITIONS OF AUTO-SETTING FUNCTION 3. SHUTOFF CLASSIFICATION OF INCREASED FLOW SHUTOFF 4. CAUSE OF SHUTOFF 5. CAUSE OF ALERT
		TYPE OF SIGNAL	HALF-DUPLEX COMMUNICATION SYSTEM		
		PULSE TRANSMISSION	1 L · 10 L · 100 L / PULSE SWITCHING SYSTEM		—
POWER SUPPLY		LITHIUM BATTERY (DC3V)			
COLOR		LIGHT GRAY			
DIMENSIONS		H140 x W174 x D107.5 mm		H147 x W200 x D118.5 mm	
MASS		APPROX. 2.0 kg			

※ SIGNAL OF EBY6: 1. METER READING, 2. SECURITY DATA, 3. RESIDUAL QUANTITY MANAGEMENT DATA, 4. DETAILED SHUTOFF DATA, 5. VALUE OF MICROLEAKAGE TIMER, 6. CENTER SHUTOFF OPEN/CLOSE, 7. EMERGENCY SHUTOFF

GAS METER



MICROCOMPUTER METER SB-TYPE

SPECIFICATIONS		MODEL No.				
		SBA4-1	SBA6-1	SBA10-1	SBAL10-1	SBA16-1
GAS METER	MAX. FLOW RATE	4 m ³ /h	6 m ³ /h	10 m ³ /h		16 m ³ /h
	CONNECTOR	PIPING	20 A			32 A
		SPACING BETWEEN IN & OUT	130 mm			220 mm
	CONNECTION DIAMETER	M34 x 1.5 W36.3 11.5 cam/inch	M34 x 1.5 W36.3 11.5 cam/inch	M56 x 2	M64 x 2	
MICROCOMPUTER CONTROLLER	SECURITY FUNCTIONS	SHUTDOWN	EXCESS/INCREASED FLOW, SECURITY CONFIRMATION LEAKAGE AFTER RESTORATION, VOLTAGE ALARM DETECTION, TEST, GAS DETECTOR, SEISMIC SENSOR, PRESSURE DROP, REMOTE SENSOR 1, DETECTOR DISCONNECTED DETECTION, USAGE TIME SHUTOFF (AVAILABLE SBA4 ONLY), LOW BATTERY VOLTAGE			
		ALARM	LEAKAGE DETECTION BY MICRO FLOW, LOW BATTERY VOLTAGE, SHUTDOWN FAILURE, LEAK DETECTION BY MICRO PRESSURE, ABNORMAL SETTING PRESSURE, ABNORMAL LOCK-UP PRESSURE			
	DISPLAY	LCD LED (SINGLE ASPECT)	SHUTDOWN, ALERT, SHUTDOWN AREA, AUTO SETTING, ETC. SHUTDOWN, LEAKAGE DETECTION BY MICRO FLOW, SHUTDOWN FAILURE			
COMMUNICATIONS FUNCTIONS (OPTIONAL)	SECURITY	SHUTDOWN, ALERT, CALL OUT TO SHUTOFF VALVE RESTORATION, ETC., DETAILED SHUTDOWN DATA, LEAK DETECTION BY MICRO FLOW TIMER, TEST CALL, ETC.				
	TYPE OF SIGNAL	COMMUNICATIONS: KHK COMMON E-SCRIPT GAS DETECTOR, REMOTE SENSOR 1 AND 2, REMOTE OPENING AND CLOSING: NON-VOLTAGE CONTACTS				
POWER SUPPLY		LITHIUM BATTERY				
ATMOSPHERIC TEMPERATURE RANGE		-30 °C - 60 °C				
STANDARD PAINTING COLOR		WHITE (JPMA R4 - 383)				
MASS		5.1 kg	6.7 kg	11.6 kg		



GAS METER WITH A BUILT-IN SHUTOFF VALVE NV-TYPE

SPECIFICATIONS		MODEL No.	
		NV25	NV40
MAX. FLOW RATE		25.0 m ³ /h	40.0 m ³ /h
VOLUME OF MEASUREMENT		9.0 L/rev	20.0 L/rev
MAX. CAPACITY PRESSURE		10.0 kPa	
NORMAL WORKING PRESSURE		3.5 kPa	
MAX. INDICATING QUANTITY		99,999 m ³	999,999 m ³
MIN. INDICATING QUANTITY		2.0 L	20.0 L
SPACING BETWEEN IN & OUT		220 mm	320 mm
CONNECTION DIAMETER (SEE NOTE)	T	M72 x 3	
	O	W76.2 11 cam/inch	
	N	M64 x 2	M72 x 2
PIPING (SEE NOTE)	T	50 A	
	O	50 A	
	N	40 A	50 A
INFLOW DIRECTION		LEFT	
MASS		24 kg	41 kg
STANDARD PAINTING COLOR		OFF-WHITE	
DIMENSIONS		H490 x W418 x D382 x H452 mm	H615 x W513 x D442 x H574 mm

3

DEMAND DEVELOPMENT
EQUIPMENT

COMBUSTION EQUIPMENT

74









- 74 ● HAND TORCH BURNER
- 76 ● POWER TORCH ※FOR JAPANESE MARKET ONLY
- 76 ● FAR-INFRARED HEATER (HOKADAN-KUN) ※FOR JAPANESE MARKET ONLY
- 77 ● AGRICULTURAL AND MARINE PRODUCTS EQUIPMENT
- 78 ● INDUSTRIAL EQUIPMENT
- 79 ● ZERO GOVERNOR

※ For installation examples of related combustion equipment, please visit our website.

<http://www.katsuraseiki.co.jp/e/>

HAND TORCH BURNER












NOZZLE	SMALL SIZE					LARGE SIZE		
								
MODEL No.	KB-15	KB-19	KB-25	KB-32	KB-45	KB-60	KB-80	KB-100
NOZZLE DIA.	15 mm	19 mm	25 mm	32 mm	45 mm	60 mm	80 mm	100 mm
NOZZLE DIA. (A) x LENGTH (B)	15 x 60	19 x 71	25 x 69	32 x 83	45 x 103	60 x 135	76 x 171	100 x 205
MASS	50 g	80 g	50 g	75 g	175 g	340 g	800 g	1,080 g
CONNECTION	M8 P0.75					M16 P1.5		
MATERIAL	BRASS		STAINLESS STEEL, ALUMINIUM, AND BRASS					
FLAME DIAMETER (D)	7	8	18	32	38	50	70	80
FLAME LENGTH (L)	INNER FLAME 50	INNER FLAME 60	220	300	350	600	620	800
FLAME TEMPERATURE	1,300 °C		1,200 °C					
GAS CONSUMPTION	0.03 kg/h	0.1 kg/h	0.25 kg/h	1.02 kg/h	1.835 kg/h	3.45 kg/h	6.115 kg/h	11.4 kg/h
	0.42 kW	1.39 kW	3.48 kW	14.18 kW	25.51 kW	47.96 kW	85.00 kW	158.46 kW
FLAME CHARACTERISTICS	CONCENTRATED FLAME		STICK FLAME					
STANDARD No. OF UNIT	100		30	100	20	10	5	


Note 1: Gas consumption calculated with 0.4 MPa gas pressure.

Note 2: KB-100 with a hose over 5 m does not reach the catalogue specifications.

Note 3: Cast iron nozzle is available (for KB-60 and KB-100).

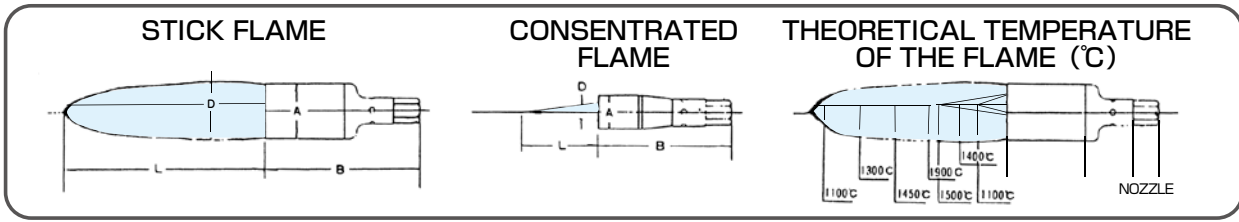
NOZZLE PIPE					
MODEL No.	KB-201	KB-202	KB-202L	KB-203	KB-204
NOZZLE PIPE DIA.	112 mm	65 mm	65 mm L-TYPE	120 mm I-TYPE	70 mm I-TYPE
LENGTH	112 mm	65 mm		120 mm	70 mm
MASS	65 g	50 g		65 g	45 g
CONNECTION	M8 P0.75 x M15 P1.25 (HEXAGON CAP NUT)				
MATERIAL	BRASS				
COMPATIBLE NOZZLE	KB-15 KB-19 KB-25 KB-32 KB-45				
COMPATIBLE HANDLE	KB-301 *NO OTHER HANDLE CAN BE USED.				
STANDARD No. OF UNIT	100		10	100	

HANDLE	MODEL No.	LENGTH	WEIGHT	CONNECTION	STANDARD No. OF UNIT
	SMALL SIZE KB-301	170 mm	330 g	M15 P1.25 x Rc1/4	50
	LARGE SIZE	KB-304	920 mm	M16 P1.5 x Rc1/4	10
		KB-305	920 mm		10
		KB-306	300 mm		520 g

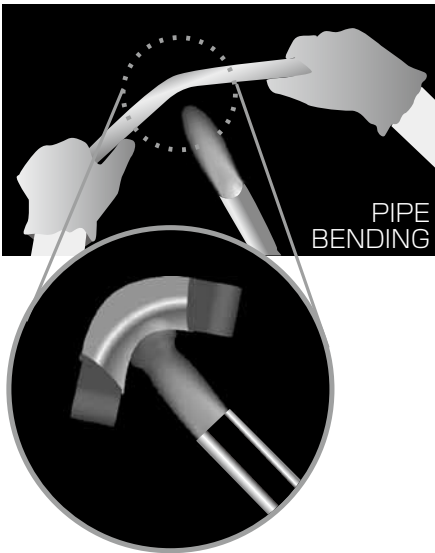
HOSE	MODEL No.	LENGTH	CONNECTION	STANDARD No. OF UNIT	
	COMMON USE FOR SMALL AND LARGE SIZE	KB-312	2 m	POL MALE SCREWED (HAND TIGHT) x R1/4	5
		KB-313	3 m		
		KB-315	5 m		
		KB-320	10 m		1

Note: KB-100 with a hose over 5 m does not reach the catalogue specifications.

HAND TORCH BURNER



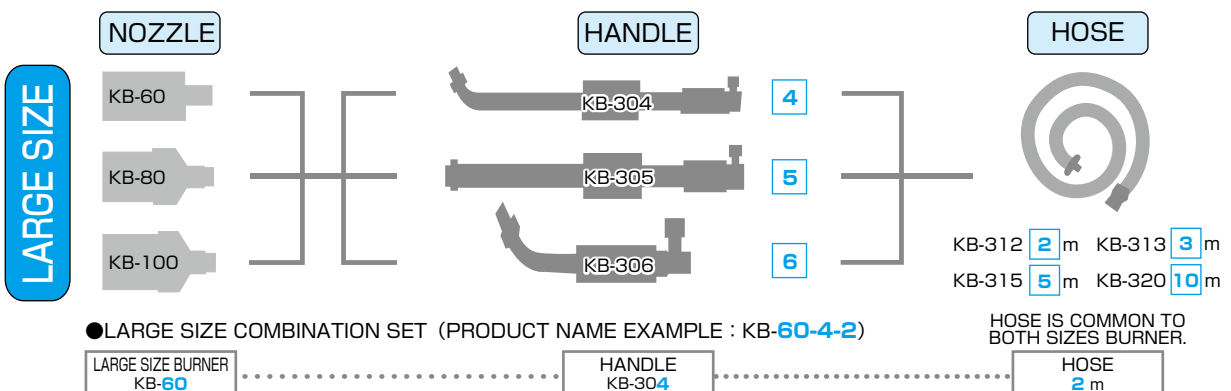
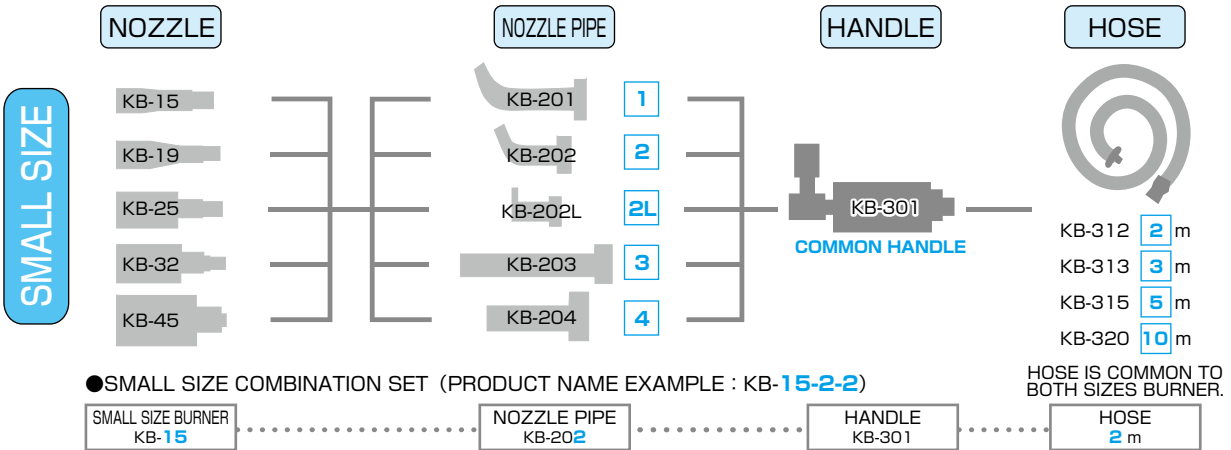
EXAMPLE



EXAMPLE HAND TORCH BURNER



MODEL NO. DESIGNATION OF THE HAND TORCH BURNER



COMBUSTION EQUIPMENT

POWER TORCH ※ FOR JAPANESE MARKET ONLY



RZ-710

SPECIFICATIONS		MODEL No.	RZ-710
IGNITION			ELECTRONIC IGNITION
FLAMES	FLAME PATTERN		CONCENTRATED FLAME
	NOZZLE DIAMETER		22 mm
FLAME TEMPERATURE			1,300 °C
GAS CONSUMPTION			154 g/h (MODEL: RZ-760) ※1
RUNTIME			APPROX. 90 mins. (MODEL: RZ-760) ※2
WEIGHT			APPROX. 250 g (MAIN BODY ONLY)
CALORIFIC VALUE			2.1 kW (1,820 kcal/h) (MODEL: RZ-760) ※2

Note 1: Converted data based on 10-minute combustion data.

Note 2: Calculated based on 30-minute continuous combustion data.



COMPATIBLE CYLINDER:
CASSETTE CYLINDER

RZ-760

FAR-INFRARED HEATER (HOKADAN-KUN) ※FOR JAPANESE MARKET ONLY

FEATURES

1. COMFORTABLE HEATING……Far infrared heat method by gas combustion in the radiant tube
2. SPACE-SAVING……No floor space required because of ceiling suspension type
3. ZONE HEATING……Heating for a limited areas effective
4. ENERGY-SAVING……The effective radiant energy by heating an object directly
5. CLEAN HEATING……No dust flying up unlike warm air type



USAGE

The key words are "High/Large/Opened" For a frigid space, such as high roof building, large space, and well-ventilated opened space



SPECIFICATIONS	MODEL No.		BT-225N	BT-226N	BT-345	BT-346	BT-225N-G	BT-226N-G
MAX. INPUT			22 kW		30 kW		22 kW	
GAS CONSUMPTION (LPG)			1.58 kg/h		2.15 kg/h		1.42 kg/h	
GAS CONSUMPTION (LNG)			1.72 Nm ³ /h		2.4 Nm ³ /h		1.55 Nm ³ /h	
ELECTRICITY CONSUMPTION			95/100 W		120/145 W		95/100 W	
POWER SUPPLY	100 V 50 Hz	100 V 60 Hz			230 V 50 Hz	230 V 60 Hz	100 V 50 Hz	100 V 60 Hz
SAFETY DEVICE	FLAME ROD DETECTION METHOD AND DRAFT SWITCH							
OPERATION INDICATOR LIGHT	POWER LAMP: ORANGE WARNING LAMP: RED							
GAS CONNECTION	G $\frac{1}{2}$ " ^B (FEMALE SCREWED WITH PACKING)							
EXHAUST GAS PIPE CONNECTION	ϕ 80							
MAIN BODY DIMENSIONS	W4,977 x D405 x H243 mm			W5,823 x D530 x H228 mm			W4,497 x D405 x H243 mm	
MAIN BODY MASS	85 kg			100 kg			80 kg	
MAIN BODY COMPONENTS	BURNER UNIT, TUBE, REFLECTOR, BRACKET, CENTER SUPPORT AND U-BEND							
ACCESSORIES FOR LPG TYPE	BALL COCK FOR FLEXIBLE HOSE CONNECTION 15 A I-YPE (FB-2S), COMBUSTION EQUIPMENT HOSE ϕ 14 500 L (FH14-SS-5), JOINT FITTING (TU $\frac{1}{2}$ " ^B MALE FITTING)							
ACCESSORIES FOR LNG TYPE	BALL VALVE 15 A (BBS- $\frac{1}{2}$ " ^B), COMBUSTION EQUIPMENT HOSE ϕ 13 500 L (TGH13-S-5), AND JOINT FITTING (TU $\frac{1}{2}$ " ^B MALE FITTING)							
OPTION	DEDICATED CONTROL PANEL							

Note 1: BT-225N-G and BT-226N-G are used for golf course.

Note 2: BT-345 and BT-346 are boosted 100V to 230V by Dedicated control panel.

COMBUSTION EQUIPMENT

AGRICULTURAL AND MARINE PRODUCTS EQUIPMENT

FORCING EQUIPMENT "MINORU-KUN"

「みのるくん」



KCHN-35

SPECIFICATIONS	MODEL No.	KCHN-35
STANDARD EFFECTIVE AREA		100 m ² /1 unit
FUEL		LPG
SUPPLY PRESSURE		2.8 kPa
COMBUSTION CAPACITY		3.5 kW (3,000 kcal/h)
POWER SUPPLY		AC100 V 50 Hz/60 Hz
ELECTRICITY CONSUMPTION		12 W
DIMENSIONS		L508 x W152 x H224 mm
MASS		APPROX. 3.7 kg
GAS CONNECTION		φ9.5 HOSE-END
AMOUNT OF CO ₂ EMERGENCE		0.75 kg/h
CONTROL SYSTEM		AUTOMATIC ON-OFF BY 24 HOURS TIMER
SAFETY DEVICE		WITH FLAME DETECTOR AND OVERLOAD PROTECTOR

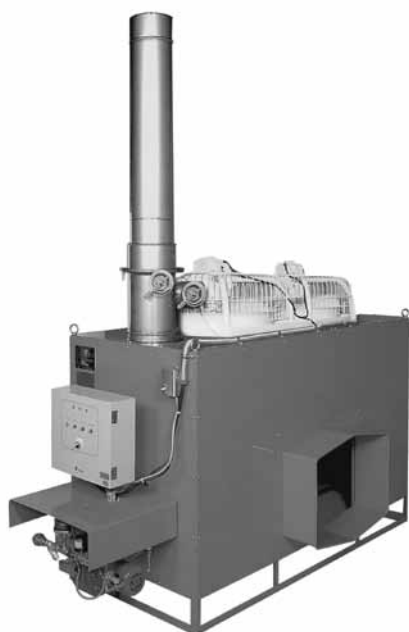
Options: 24h timer, Control Panel and CO₂ Controller



KCH-20Z

SPECIFICATIONS	MODEL No.	KCH-20Z
STANDARD EFFECTIVE AREA		1,000 m ² /1 unit
FUEL		LPG
SUPPLY PRESSURE		2.8 kPa
COMBUSTION CAPACITY		23 kW (20,000 kcal/h)
POWER SUPPLY		AC200 V φ3 50Hz/60 Hz
ELECTRICITY CONSUMPTION		150/220 W
DIMENSIONS		L860 x W430 x H660 mm
MASS		APPROX. 30 kg
GAS CONNECTION		R ¹ / ₂ ^B
AMOUNT OF CO ₂ EMERGENCE		5.05 kg/h
CONTROL SYSTEM		AUTOMATIC ON-OFF BY 24 HOURS TIMER
SAFETY DEVICE		WITH FLAME DETECTOR, OVERLOAD PROTECTOR, DRAFT SWITCH AND OVERHEAT PREVENTER

GREENHOUSE HEATER "KOH TYPE"



KOH-150

SPECIFICATIONS	MODEL No.	KOH-100	KOH-150
STANDARD EFFECTIVE AREA		660 - 990 m ² /1 unit	990 - 1,650 m ² /1 unit
FUEL		LPG	
SUPPLY PRESSURE		2.8 kPa	
COMBUSTION CAPACITY		116 kW (100,000 kcal/h)	174 kW (150,000 kcal/h)
POWER SUPPLY		AC200 V φ3 50 Hz/60 Hz	
ELECTRICITY CONSUMPTION		1.8/2.4 kW	
DIMENSIONS		L2,020 x W1,060 x H1,290 mm	L2,020 x W1,060 x H1,450 mm
MASS		260 kg	350 kg
GAS CONNECTION		Rc ³ / ₄ ^B (FEMALE LOW-PRESSURE UNION)	
SAFETY DEVICE		WITH FLAME DETECTOR, OVERLOAD PROTECTOR, DRAFT SWITCH AND OVERHEAT PREVENTER	

COMBUSTION EQUIPMENT

INDUSTRIAL EQUIPMENT

GAS BONFIRE AND GARDEN BURNER

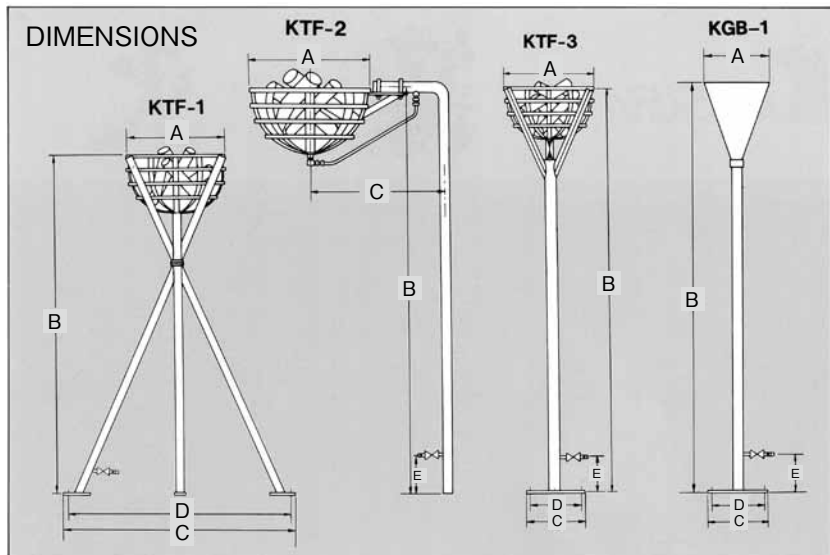


* KTF-1 - KTF-3: Auto ignition type is available.

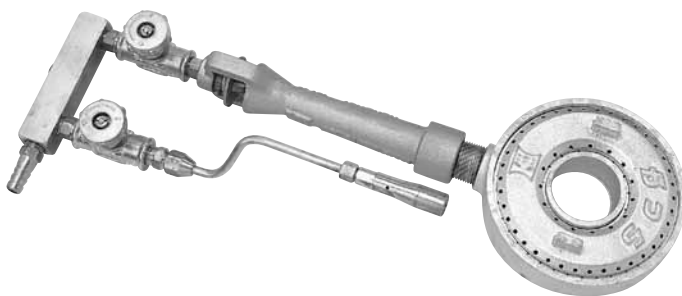
■ GAS BONFIRE

MODEL No.	KTF-1	KTF-2	KTF-3	KGB-1
COMBUSTION AMOUNT	21 kW (18,000 kcal/h)			21 kW (18,000 kcal/h)
GAS PRESSURE	2.8 kPa			2.8 kPa
GAS CONNECTION	Rc $\frac{3}{8}$ ^B (FEMALE SCREWED)			Rc $\frac{3}{8}$ ^B (FEMALE SCREWED)
DIMENSIONS	WEIGHT	25 kg	23 kg	26.5 kg
	A	φ450		
	B	1,500 mm	1,800 mm	
	C	φ1,350	500 mm	□300
	D (FIXING HOLES)	φ1,290 (φ12 x 3 pcs.)	—	□250 (φ12 x 4 pcs.)
E	150 mm			150 mm

■ GARDEN BURNER



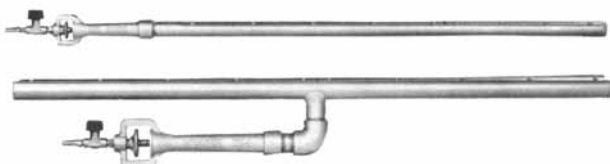
RING BURNER BATH HEATING AND OTHER VARIOUS HEATING



MODEL No.	COMBUSTION AMOUNT
KVB300-5B	13 - 29 kW (11,000 - 24,600 kcal/h)
KVB300-10B	39 - 88 kW (33,800 - 75,400 kcal/h)
KVB300-15	51 - 115 kW (44,200 - 98,800 kcal/h)

Gas Pressure: 20 kPa -100 kPa (In case of combination with venturi)

PIPE BURENER DRY OFF OVEN, WELDING PREHEATING, DIE PREHEATING AND, OTHER VARIOUS HEATING



MODEL No.	COMBUSTION AMOUNT
PLA $\frac{1}{2}$ x 400	3.3 - 12.4 kW (2,900 - 10,700 kcal/h)
PLA $\frac{3}{4}$ x 800	6.5 - 26 kW (5,600 - 22,400 kcal/h)
PLA1 x 1,200	9.6 - 39.4 kW (8,300 - 33,900 kcal/h)
PLA1 · $\frac{1}{4}$ x 1,600	14.6 - 61.6 kW (12,600 - 53,000 kcal/h)
PLA1 · $\frac{1}{2}$ x 2,000	20.8 - 88.7 kW (17,900 - 76,300 kcal/h)

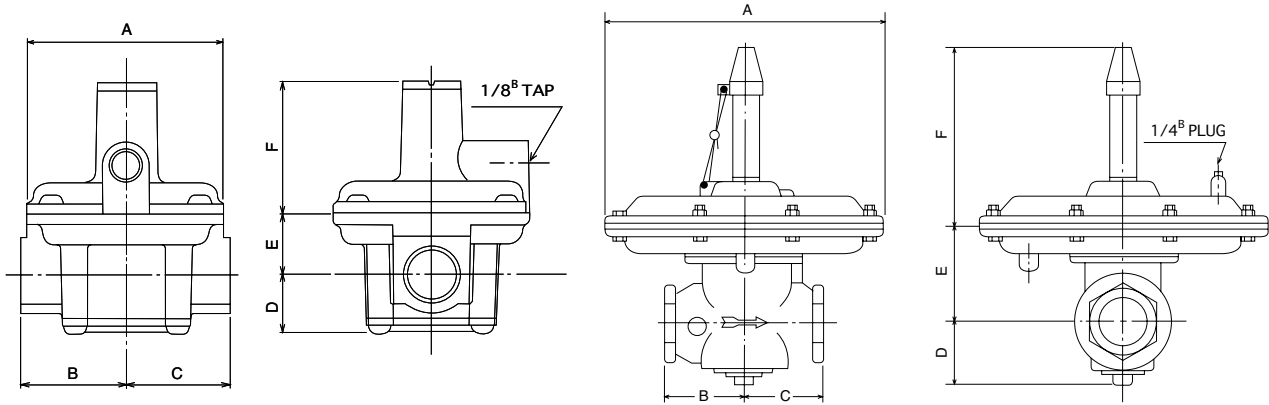
Gas Pressure: 28 kPa -60 kPa (In case of combination with venturi)

ZERO GOVERNOR

The zero governor reduces its delivery pressure to zero or atmospheric and it is the best choice for the control of incoming gas for burner.

Our zero governor can be used with a wide inlet pressure range from 1 to 12 kPa.

DIMENSIONS



KZ-10

KZ-20 - KZ-80

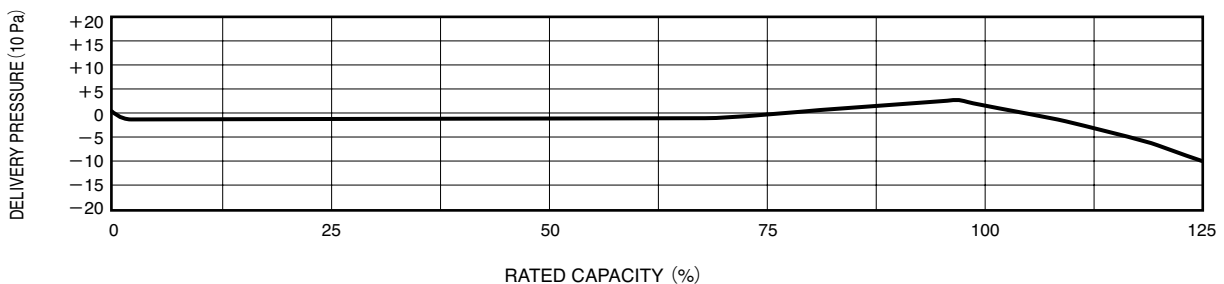
MODEL No.	CONNECTIONS (Rc)	A (φ)	B	C	D	E	F	WEIGHT (kg)
KZ-10	3/8 ^B	62	33	33	19	20	42	0.2
KZ-20	3/4 ^B	210	64	64	52	75	149	2.9
KZ-25	1 ^B	248	61	61	59	72	173	3.9
KZ-40	1 1/2 ^B	298	76	89	89	103	177	6.0
KZ-65	2 1/2 ^B	355	102	114	103	134	245	13.0
KZ-80	3 ^B	355	146	146	127	152	254	16.0

FLOW RATE

MODEL No.	CONNECTIONS (Rc)	FLOW RATE IN m ³ /h FOR VARIOUS GRAVITY GASES AT 1kPa PRESSURE DROP						
		0.4	0.5	0.6	0.7	1.0	1.5	2.0
KZ-10	3/8 ^B	6.3	5.6	5.1	4.7	4.0	3.3	2.8
KZ-20	3/4 ^B	14.0	12.0	11.0	10.0	9.0	7.0	6.0
KZ-25	1 ^B	28.0	25.0	23.0	21.0	18.0	14.0	12.0
KZ-40	1 1/2 ^B	62.0	55.0	52.0	46.0	40.0	33.0	28.0
KZ-65	2 1/2 ^B	173.0	156.0	142.0	130.0	110.0	91.0	79.0
KZ-80	3 ^B	278.0	249.0	227.0	210.0	176.0	144.0	125.0

Flow rate is 50 % of the above-mentioned number in case the inlet pressure is low, such as 0.25 kPa.

TYPICAL PERFORMANCE CURVE





4 TECHNICAL DATA

TECHNICAL DATA

82

- 82 ● REPLACEMENT PERIOD OF LPG SUPPLYING EQUIPMENT
- 83 ● AMOUNT OF LPG EMERGENCE FROM CYLINDER
- 84 ● AMOUNT OF LPG EMERGENCE FROM BULK
- 86 ● LOW PRESSURE PIPE SIZE CHART
- 87 ● ABOUT THE INTERNATIONAL SYSTEM OF UNITS (SI UNIT)

TECHNICAL DATA

REPLACEMENT PERIOD OF LPG SUPPLYING EQUIPMENT

TABLE OF SCHEDULE FOR REPLACEMENT PERIOD OF LPG SUPPLYING EQUIPMENT

RELATED PRODUCT		REPLACEMENT PERIOD	
		TYPE I	TYPE II
SAFETY EQUIPMENT (※1)	PRESSURE REGULATOR	10 YEARS	7 YEARS
	HIGH PRESSURE HOSE	10 YEARS	7 YEARS
	LOW PRESSURE HOSE	10 YEARS	7 YEARS
	GAS LEAK ALARM	5 YEARS	
LEAK DETECTOR PART (1) TYPE		10 YEARS	
FUSE COCK/ON OFF GAS COCK		15 YEARS	
SCREW GAS COCK		10 YEARS	
GAS DISCHARGE PREVENTION EQUIPMENT		7 YEARS	
REVERSE FLOW PREVENTION VALVE		7 YEARS	
COMBUSTION EQUIPMENT HOSE		7 YEARS	
METAL FLEXIBLE HOSE		10 YEARS	
FLEXIBLE HOSE AND COUPLER FOR PIPING		7 YEARS	
RUBBER HOSE WITH QUICK CONNECTING COUPLINGS		4 YEARS	
HOSE CLIP		2 YEARS	
UNITIZED TYPE EQUIPMENT		7 YEARS	
SHUTOFF VALVE		7 YEARS - 14 YEARS	
SHUTOFF VALVE CONTROLLER		10 YEARS	
EARTHQUAKE ACTUATED AUTOMATIC GAS SHUTOFF SYSTEM (GURA-PITA)		10 YEARS	

Note1: Based on the Ministry of International Trade and Industry as Notice 121, the insurance validity has to be defined.

RELATED PRODUCT	REPLACEMENT PERIOD
GAS METER (※2)	7 YEARS - 10 YEARS

Note 2: Based on the measurement method, test validity period has been established in Japan.

EXAMPLE OF EXPIRED TAGS

〈1991-2001 EXAMPLE OF EXPIRED TAGS〉



〈2002-2005 EXAMPLE OF SCHEDULED REPLACEMENT STICKER (LAST DIGITS OF THE YEAR)〉



● PRESENT SCHEDULED REPLACEMENT STICKER (FROM JANUARY 2006)



(FOR 10 YEARS)

AMOUNT OF LPG EMERGENCE FROM CYLINDER

IN CASE OF INDIVIDUAL HOUSE SUPPLY

AMOUNT OF LPG EMERGENCE PER pce. (THEORITICAL VALUE)

AMBIENT TEMPERATURE	GAS COMPONENT (P.P %)	MANUAL CHANGE OPERATION OR 1 CYLINDER USE			AUTOMATIC CHANGE-OVER REGULATOR USE		
		50 kg CYLINDER	20 kg CYLINDER	10 kg CYLINDER	50 kg CYLINDER	20 kg CYLINDER	10 kg CYLINDER
5 °C	95 OR MORE 80 OR MORE AND LESS THAN	4.4 kg/h	1.8 kg/h	0.9 kg/h	6.1 kg/h	2.5 kg/h	1.3 kg/h
		3.2 kg/h	1.3 kg/h	0.7 kg/h	4.7 kg/h	2.0 kg/h	1.0 kg/h
0 °C	95 OR MORE 80 OR MORE AND LESS THAN	3.7 kg/h	1.5 kg/h	0.8 kg/h	5.0 kg/h	2.1 kg/h	1.1 kg/h
		2.5 kg/h	1.0 kg/h	0.5 kg/h	3.7 kg/h	1.5 kg/h	0.8 kg/h
-5 °C	95 OR MORE 80 OR MORE AND LESS THAN	3.0 kg/h	1.2 kg/h	0.7 kg/h	4.0 kg/h	1.6 kg/h	0.9 kg/h
		1.8 kg/h	0.8 kg/h	0.4 kg/h	2.6 kg/h	1.1 kg/h	0.6 kg/h
-10 °C	95 OR MORE 80 OR MORE AND LESS THAN	2.4 kg/h	1.0 kg/h	0.5 kg/h	3.0 kg/h	1.2 kg/h	0.6 kg/h
		1.1 kg/h	0.5 kg/h	0.3 kg/h	1.6 kg/h	0.7 kg/h	0.3 kg/h
-15 °C	95 OR MORE 80 OR MORE AND LESS THAN	1.7 kg/h	0.7 kg/h	0.4 kg/h	2.0 kg/h	0.8 kg/h	0.4 kg/h
		0.5 kg/h	0.2 kg/h	0.1 kg/h	0.6 kg/h	0.2 kg/h	0.1 kg/h
-20 °C	95 OR MORE 80 OR MORE AND LESS THAN	1.0 kg/h	0.4 kg/h	0.2 kg/h	1.0 kg/h	0.4 kg/h	0.2 kg/h
		—	—	—	—	—	—

Note 1: The manual change operation or the 1 cylinder use in the list displays the amount of LPG emergence to keep the steam pressure 70 kPa when residual gas in the cylinder becomes 30 %.

Note 2: The the automatic change-over regulator use in the list displays the amount of LPG emergence to keep the steam pressure 0.1 MPa when residual gas in the using cylinder becomes 50 %.

Note 3: Each numerical value of residual gas and gas pressure is calculated on the basis of those validity. Therefore, in case of the manual change operation or 1 cylinder use is allowed to take about 10 % margin of an upper limit amount of LPG emergence. In case of using the automatic change-over regulator, if the steam pressure in the using cylinder becomes 0.1 MPa or less, the spare cylinder supplies the using cylinder with LPG automatically. Therefore, LPG in the being used cylinder is nearly used up when replacing the cylinder.

Note 4: If calculating steam pressure highly, correspondingly, the boiling point also rises and amount of LPG emergence decreases because of decreasing temperature difference between ambient temperature and cylinder. Especially, when ambient temperature is -20 °C, amount of LPG emergence of manual operation is more than automatic change-over regulator use. However, amount of LPG emergence of automatic change-over regulator increases a little unless residual gas of using cylinder runs out.

Note 5: If continuous use time get longer, amount of LPG emergence should be calculated less than the left chart.

IN CASE OF INDUSTRY SUPPLY

IN CASE OF AUTOMATIC CHANGE-OVER REGULATOR (THEORETICAL VALUE) (USE PER A 50 kg CYLINDER)

GAS COMPONENT	AMBIENT TEMPERATURE		5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C
	OPERATING TIME	PEAK TIME OF CONTINUOUS USE						
P.P 95 % OR MORE	PEAK TIME OF CONTINUOUS USE	1 HOUR	5.5 kg/h	4.4 kg/h	3.4 kg/h	2.9 kg/h	1.4 kg/h	0.4 kg/h
		2 HOURS	3.6 kg/h	2.9 kg/h	2.3 kg/h	1.9 kg/h	1.0 kg/h	0.4 kg/h
		3 HOURS	3.0 kg/h	2.4 kg/h	1.9 kg/h	1.5 kg/h	0.9 kg/h	0.4 kg/h
		4 HOURS	2.6 kg/h	2.2 kg/h	1.8 kg/h	1.3 kg/h	0.8 kg/h	0.4 kg/h
	OVER 4 HOURS USE	2.5 kg/h	2.0 kg/h	1.6 kg/h	1.2 kg/h	0.8 kg/h	0.4 kg/h	
P.P 80 % OR MORE	PEAK TIME OF CONTINUOUS USE	1 HOUR	4.2 kg/h	3.2 kg/h	2.1 kg/h	1.0 kg/h	0.3 kg/h	
		2 HOURS	2.7 kg/h	2.1 kg/h	1.4 kg/h	0.8 kg/h	0.3 kg/h	
		3 HOURS	2.2 kg/h	1.7 kg/h	1.2 kg/h	0.7 kg/h	0.3 kg/h	
		4 HOURS	1.9 kg/h	1.5 kg/h	1.1 kg/h	0.7 kg/h	0.3 kg/h	
	OVER 4 HOURS USE	1.9 kg/h	1.5 kg/h	1.1 kg/h	0.6 kg/h	0.3 kg/h		

IN CASE OF MANIFOLD SUPPLY

IN CASE OF AUTOMATIC CHANGE-OVER METHOD (USE 50 kg CYLINDER)

NUMBER OF HOUSES	50 OR MORE AND LESS THAN 70			30 OR MORE AND LESS THAN 50			10 OR MORE AND LESS THAN 30		
PEAK TIME	CONTINUOUS USE			4 HOURS			3 HOURS		
AMBIENT TEMPERATURE	5 °C	0 °C	-5 °C	5 °C	0 °C	-5 °C	5 °C	0 °C	-5 °C
P.P 80 % OR MORE	1.80 kg/h	1.40 kg/h	1.05 kg/h	1.90 kg/h	1.50 kg/h	1.10 kg/h	2.20 kg/h	1.70 kg/h	1.20 kg/h
P.P 70 % OR MORE	1.40 kg/h	1.00 kg/h	0.60 kg/h	1.50 kg/h	1.10 kg/h	0.70 kg/h	1.70 kg/h	1.20 kg/h	0.72 kg/h
P.P 60 % OR MORE	1.15 kg/h	0.70 kg/h	—	1.20 kg/h	0.80 kg/h	—	1.30 kg/h	0.90 kg/h	—

NUMBER OF HOUSES	5			1		
PEAK TIME	2 HOURS			1 HOUR		
AMBIENT TEMPERATURE	5 °C	0 °C	-5 °C	5 °C	0 °C	-5 °C
P.P 80 % OR MORE	2.70 kg/h	2.10 kg/h	1.40 kg/h	4.20 kg/h	3.20 kg/h	2.10 kg/h
P.P 70 % OR MORE	2.00 kg/h	1.40 kg/h	0.80 kg/h	3.10 kg/h	2.10 kg/h	1.05 kg/h
P.P 60 % OR MORE	1.50 kg/h	1.00 kg/h	—	2.30 kg/h	1.40 kg/h	—

TECHNICAL DATA

AMOUNT OF LPG EMERGENCE FROM BULK

AMOUNT OF LPG EMERGENCE CHART (HORIZONTAL BULK STORAGE TANK)

(Source: The conference of LP Gas Associated Organizations "Technical standards E-001")

RESIDUAL LIQUID QUANTITY: 30 wt%, PROPANE GAS COMPONENT: 95 mol%

SIZE OF BULK STORAGE	CONTINUOUS USE	AMOUNT OF LPG EMERGENCE							
		15 °C	10 °C	5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C
150 kg HORIZONTAL TYPE	1.0 h	14.0 kg/h	12.2 kg/h	10.5 kg/h	8.8 kg/h	7.1 kg/h	5.4 kg/h	3.7 kg/h	2.1 kg/h
	1.5 h	9.8 kg/h	8.5 kg/h	7.3 kg/h	6.1 kg/h	5.0 kg/h	3.8 kg/h	2.6 kg/h	1.4 kg/h
	2.0 h	7.7 kg/h	6.7 kg/h	5.8 kg/h	4.8 kg/h	3.9 kg/h	3.0 kg/h	2.0 kg/h	1.1 kg/h
	3.0 h	5.6 kg/h	4.9 kg/h	4.2 kg/h	3.5 kg/h	2.8 kg/h	2.1 kg/h	1.5 kg/h	0.8 kg/h
	4.0 h	4.6 kg/h	4.0 kg/h	3.4 kg/h	2.9 kg/h	2.3 kg/h	1.7 kg/h	1.2 kg/h	0.6 kg/h
	5.0 h	3.9 kg/h	3.5 kg/h	3.0 kg/h	2.5 kg/h	2.0 kg/h	1.5 kg/h	1.0 kg/h	0.5 kg/h
	6.0 h	3.5 kg/h	3.1 kg/h	2.7 kg/h	2.2 kg/h	1.8 kg/h	1.3 kg/h	0.9 kg/h	0.5 kg/h
	7.0 h	3.3 kg/h	2.9 kg/h	2.5 kg/h	2.0 kg/h	1.6 kg/h	1.2 kg/h	0.8 kg/h	0.4 kg/h
8.0 h	3.1 kg/h	2.7 kg/h	2.3 kg/h	1.9 kg/h	1.5 kg/h	1.2 kg/h	0.8 kg/h	0.4 kg/h	

SIZE OF BULK STORAGE	CONTINUOUS USE	AMOUNT OF LPG EMERGENCE							
		15 °C	10 °C	5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C
200 kg HORIZONTAL TYPE	1.0 h	18.2 kg/h	15.9 kg/h	13.7 kg/h	11.5 kg/h	9.3 kg/h	7.1 kg/h	4.9 kg/h	2.7 kg/h
	1.5 h	12.6 kg/h	11.0 kg/h	9.5 kg/h	7.9 kg/h	6.4 kg/h	4.9 kg/h	3.4 kg/h	1.9 kg/h
	2.0 h	9.8 kg/h	8.6 kg/h	7.4 kg/h	6.2 kg/h	5.0 kg/h	3.8 kg/h	2.6 kg/h	1.4 kg/h
	3.0 h	7.0 kg/h	6.1 kg/h	5.3 kg/h	4.4 kg/h	3.5 kg/h	2.7 kg/h	1.8 kg/h	1.0 kg/h
	4.0 h	5.6 kg/h	4.9 kg/h	4.2 kg/h	3.5 kg/h	2.8 kg/h	2.1 kg/h	1.5 kg/h	0.8 kg/h
	5.0 h	4.8 kg/h	4.2 kg/h	3.6 kg/h	3.0 kg/h	2.4 kg/h	1.8 kg/h	1.2 kg/h	0.7 kg/h
	6.0 h	4.2 kg/h	3.7 kg/h	3.2 kg/h	2.7 kg/h	2.1 kg/h	1.6 kg/h	1.1 kg/h	0.6 kg/h
	7.0 h	3.8 kg/h	3.4 kg/h	2.9 kg/h	2.4 kg/h	1.9 kg/h	1.5 kg/h	1.0 kg/h	0.5 kg/h
8.0 h	3.6 kg/h	3.1 kg/h	2.7 kg/h	2.2 kg/h	1.8 kg/h	1.3 kg/h	0.9 kg/h	0.5 kg/h	

SIZE OF BULK STORAGE	CONTINUOUS USE	AMOUNT OF LPG EMERGENCE							
		15 °C	10 °C	5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C
300 kg HORIZONTAL TYPE	1.0 h	27.3 kg/h	23.9 kg/h	20.6 kg/h	17.2 kg/h	13.9 kg/h	10.6 kg/h	7.4 kg/h	4.1 kg/h
	1.5 h	18.9 kg/h	16.5 kg/h	14.2 kg/h	11.9 kg/h	9.6 kg/h	7.3 kg/h	5.1 kg/h	2.8 kg/h
	2.0 h	14.7 kg/h	12.9 kg/h	11.1 kg/h	9.3 kg/h	7.5 kg/h	5.7 kg/h	3.9 kg/h	2.2 kg/h
	3.0 h	10.5 kg/h	9.2 kg/h	7.9 kg/h	6.6 kg/h	5.3 kg/h	4.0 kg/h	2.8 kg/h	1.5 kg/h
	4.0 h	8.4 kg/h	7.4 kg/h	6.3 kg/h	5.3 kg/h	4.3 kg/h	3.2 kg/h	2.2 kg/h	1.2 kg/h
	5.0 h	7.2 kg/h	6.3 kg/h	5.4 kg/h	4.5 kg/h	3.6 kg/h	2.7 kg/h	1.9 kg/h	1.0 kg/h
	6.0 h	6.4 kg/h	5.6 kg/h	4.8 kg/h	4.0 kg/h	3.2 kg/h	2.4 kg/h	1.6 kg/h	0.9 kg/h
	7.0 h	5.8 kg/h	5.1 kg/h	4.4 kg/h	3.6 kg/h	2.9 kg/h	2.2 kg/h	1.5 kg/h	0.8 kg/h
8.0 h	5.4 kg/h	4.7 kg/h	4.1 kg/h	3.4 kg/h	2.7 kg/h	2.0 kg/h	1.4 kg/h	0.7 kg/h	

SIZE OF BULK STORAGE	CONTINUOUS USE	AMOUNT OF LPG EMERGENCE							
		15 °C	10 °C	5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C
500 kg HORIZONTAL TYPE	1.0 h	44.7 kg/h	39.1 kg/h	33.7 kg/h	28.2 kg/h	22.8 kg/h	17.4 kg/h	12.1 kg/h	6.7 kg/h
	1.5 h	30.6 kg/h	26.8 kg/h	23.1 kg/h	19.3 kg/h	15.6 kg/h	11.9 kg/h	8.2 kg/h	4.6 kg/h
	2.0 h	23.6 kg/h	20.7 kg/h	17.8 kg/h	14.9 kg/h	12.0 kg/h	9.2 kg/h	6.3 kg/h	3.5 kg/h
	3.0 h	16.6 kg/h	14.6 kg/h	12.5 kg/h	10.5 kg/h	8.4 kg/h	6.4 kg/h	4.4 kg/h	2.4 kg/h
	4.0 h	13.1 kg/h	11.5 kg/h	9.9 kg/h	8.3 kg/h	6.7 kg/h	5.1 kg/h	3.5 kg/h	1.9 kg/h
	5.0 h	11.1 kg/h	9.7 kg/h	8.3 kg/h	7.0 kg/h	5.6 kg/h	4.2 kg/h	2.9 kg/h	1.6 kg/h
	6.0 h	9.7 kg/h	8.5 kg/h	7.3 kg/h	6.1 kg/h	4.9 kg/h	3.7 kg/h	2.5 kg/h	1.4 kg/h
	7.0 h	8.7 kg/h	7.6 kg/h	6.6 kg/h	5.5 kg/h	4.4 kg/h	3.3 kg/h	2.3 kg/h	1.2 kg/h
8.0 h	8.0 kg/h	7.0 kg/h	6.0 kg/h	5.0 kg/h	4.0 kg/h	3.0 kg/h	2.1 kg/h	1.1 kg/h	

SIZE OF BULK STORAGE	CONTINUOUS USE	AMOUNT OF LPG EMERGENCE							
		15 °C	10 °C	5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C
1 t HORIZONTAL TYPE	1.0 h	87.9 kg/h	77.0 kg/h	66.3 kg/h	55.6 kg/h	45.0 kg/h	34.4 kg/h	23.8 kg/h	13.2 kg/h
	1.5 h	59.8 kg/h	52.4 kg/h	45.1 kg/h	37.8 kg/h	30.6 kg/h	23.4 kg/h	16.2 kg/h	9.0 kg/h
	2.0 h	45.8 kg/h	40.1 kg/h	34.5 kg/h	28.9 kg/h	23.4 kg/h	17.8 kg/h	12.3 kg/h	6.8 kg/h
	3.0 h	31.8 kg/h	27.8 kg/h	23.9 kg/h	20.0 kg/h	16.2 kg/h	12.3 kg/h	8.5 kg/h	4.7 kg/h
	4.0 h	24.8 kg/h	21.7 kg/h	18.6 kg/h	15.6 kg/h	12.6 kg/h	9.6 kg/h	6.6 kg/h	3.6 kg/h
	5.0 h	20.6 kg/h	18.0 kg/h	15.5 kg/h	13.0 kg/h	10.4 kg/h	7.9 kg/h	5.4 kg/h	3.0 kg/h
	6.0 h	17.8 kg/h	15.6 kg/h	13.4 kg/h	11.2 kg/h	9.0 kg/h	6.8 kg/h	4.7 kg/h	2.6 kg/h
	7.0 h	15.8 kg/h	13.9 kg/h	11.9 kg/h	9.9 kg/h	8.0 kg/h	6.1 kg/h	4.1 kg/h	2.3 kg/h
8.0 h	14.4 kg/h	12.6 kg/h	10.8 kg/h	9.0 kg/h	7.2 kg/h	5.5 kg/h	3.7 kg/h	2.0 kg/h	

AMOUNT OF LPG EMERGENCE FROM BULK

AMOUNT OF LPG EMERGENCE CHART (VERTICAL BULK STORAGE TANK)

(Source: The conference of LP Gas Associated Organizations "Technical standards E-001")

RESIDUAL LIQUID QUANTITY: 30 wt%, PROPANE GAS COMPONENT: 95 mol%

SIZE OF BULK STORAGE	CONTINUOUS USE	AMOUNT OF LPG EMERGENCE							
		15 °C	10 °C	5 °C	0 °C	-5 °C	-10 °C	-15 °C	-20 °C
985 kg VERTICAL TYPE	1.0 h	89.7 kg/h	78.7 kg/h	67.7 kg/h	56.9 kg/h	46.0 kg/h	35.2 kg/h	24.4 kg/h	13.6 kg/h
	1.5 h	61.2 kg/h	53.7 kg/h	46.2 kg/h	38.8 kg/h	31.4 kg/h	24.0 kg/h	16.6 kg/h	9.2 kg/h
	2.0 h	47.0 kg/h	41.2 kg/h	35.4 kg/h	29.7 kg/h	24.0 kg/h	18.4 kg/h	12.7 kg/h	7.0 kg/h
	3.0 h	32.8 kg/h	28.7 kg/h	24.7 kg/h	20.7 kg/h	16.7 kg/h	12.8 kg/h	8.8 kg/h	4.8 kg/h
	4.0 h	25.7 kg/h	22.5 kg/h	19.4 kg/h	16.2 kg/h	13.1 kg/h	10.0 kg/h	6.8 kg/h	3.8 kg/h
	5.0 h	21.5 kg/h	18.8 kg/h	16.2 kg/h	13.5 kg/h	10.9 kg/h	8.3 kg/h	5.7 kg/h	3.1 kg/h
	6.0 h	18.7 kg/h	16.3 kg/h	14.0 kg/h	11.7 kg/h	9.5 kg/h	7.2 kg/h	4.9 kg/h	2.7 kg/h
	7.0 h	16.7 kg/h	14.6 kg/h	12.5 kg/h	10.5 kg/h	8.4 kg/h	6.4 kg/h	4.4 kg/h	2.4 kg/h
8.0 h	15.2 kg/h	13.3 kg/h	11.4 kg/h	9.5 kg/h	7.7 kg/h	5.8 kg/h	4.0 kg/h	2.1 kg/h	

COMPARISON VERTICAL TYPE WITH HORIZONTAL TYPE BULK STORAGE: PROPANE GAS COMPONENT: 95 mol%

RESIDUAL LIQUID QUANTITY	CONTINUOUS USE	AMOUNT OF LPG EMERGENCE											
		AMBIENT TEMPERATURE : 15 °C				AMBIENT TEMPERATURE : 0 °C				AMBIENT TEMPERATURE : -15 °C			
		HORIZONTAL TYPE 1 t	VERTICAL TYPE 985 kg	SUBTRACTION (VERTICAL FROM HORIZONTAL)	DIVISION (HORIZONTAL BY VERTICAL)	HORIZONTAL TYPE 1 t	VERTICAL TYPE 985 kg	SUBTRACTION (VERTICAL FROM HORIZONTAL)	DIVISION (HORIZONTAL BY VERTICAL)	HORIZONTAL TYPE 1 t	VERTICAL TYPE 985 kg	SUBTRACTION (VERTICAL FROM HORIZONTAL)	DIVISION (HORIZONTAL BY VERTICAL)
50 wt%	1.0 h	133.0 kg/h	134.7 kg/h	1.7 kg/h	0.987 kg/h	87.0 kg/h	88.1 kg/h	1.1 kg/h	0.987 kg/h	39.8 kg/h	40.3 kg/h	0.5 kg/h	0.988 kg/h
	1.5 h	90.6 kg/h	91.9 kg/h	1.3 kg/h	0.986 kg/h	59.2 kg/h	60.1 kg/h	0.9 kg/h	0.985 kg/h	27.0 kg/h	27.4 kg/h	0.4 kg/h	0.985 kg/h
	2.0 h	69.4 kg/h	70.6 kg/h	1.2 kg/h	0.983 kg/h	45.3 kg/h	46.1 kg/h	0.8 kg/h	0.983 kg/h	20.6 kg/h	20.9 kg/h	0.3 kg/h	0.983 kg/h
	3.0 h	48.2 kg/h	49.3 kg/h	1.1 kg/h	0.978 kg/h	31.4 kg/h	32.1 kg/h	0.7 kg/h	0.978 kg/h	14.2 kg/h	14.5 kg/h	0.3 kg/h	0.979 kg/h
	4.0 h	37.6 kg/h	38.6 kg/h	1.0 kg/h	0.974 kg/h	24.4 kg/h	25.1 kg/h	0.7 kg/h	0.974 kg/h	11.0 kg/h	11.3 kg/h	0.3 kg/h	0.975 kg/h
	5.0 h	31.3 kg/h	32.3 kg/h	1.0 kg/h	0.969 kg/h	20.3 kg/h	20.9 kg/h	0.6 kg/h	0.969 kg/h	9.1 kg/h	9.4 kg/h	0.3 kg/h	0.972 kg/h
	6.0 h	27.1 kg/h	28.1 kg/h	1.0 kg/h	0.965 kg/h	17.5 kg/h	18.2 kg/h	0.6 kg/h	0.965 kg/h	7.8 kg/h	8.1 kg/h	0.3 kg/h	0.968 kg/h
	7.0 h	24.1 kg/h	25.1 kg/h	1.0 kg/h	0.961 kg/h	15.6 kg/h	16.2 kg/h	0.6 kg/h	0.961 kg/h	6.9 kg/h	7.2 kg/h	0.3 kg/h	0.963 kg/h
30 wt%	1.0 h	87.9 kg/h	89.7 kg/h	1.8 kg/h	0.980 kg/h	55.6 kg/h	56.9 kg/h	1.3 kg/h	0.978 kg/h	23.8 kg/h	24.4 kg/h	0.6 kg/h	0.976 kg/h
	1.5 h	59.8 kg/h	61.2 kg/h	1.4 kg/h	0.977 kg/h	37.8 kg/h	38.8 kg/h	1.0 kg/h	0.975 kg/h	16.2 kg/h	16.6 kg/h	0.4 kg/h	0.973 kg/h
	2.0 h	45.8 kg/h	47.0 kg/h	1.2 kg/h	0.975 kg/h	28.9 kg/h	29.7 kg/h	0.8 kg/h	0.972 kg/h	12.3 kg/h	12.7 kg/h	0.4 kg/h	0.971 kg/h
	3.0 h	31.8 kg/h	32.8 kg/h	1.0 kg/h	0.969 kg/h	20.0 kg/h	20.7 kg/h	0.7 kg/h	0.967 kg/h	8.5 kg/h	8.8 kg/h	0.3 kg/h	0.967 kg/h
	4.0 h	24.8 kg/h	25.7 kg/h	0.9 kg/h	0.964 kg/h	15.6 kg/h	16.2 kg/h	0.6 kg/h	0.963 kg/h	6.6 kg/h	6.8 kg/h	0.3 kg/h	0.962 kg/h
	5.0 h	20.6 kg/h	21.5 kg/h	0.9 kg/h	0.960 kg/h	13.0 kg/h	13.5 kg/h	0.6 kg/h	0.958 kg/h	5.4 kg/h	5.7 kg/h	0.2 kg/h	0.958 kg/h
	6.0 h	17.8 kg/h	18.7 kg/h	0.8 kg/h	0.955 kg/h	11.2 kg/h	11.7 kg/h	0.5 kg/h	0.954 kg/h	4.7 kg/h	4.9 kg/h	0.2 kg/h	0.954 kg/h
	7.0 h	15.8 kg/h	16.7 kg/h	0.8 kg/h	0.951 kg/h	9.9 kg/h	10.5 kg/h	0.5 kg/h	0.949 kg/h	4.1 kg/h	4.4 kg/h	0.2 kg/h	0.950 kg/h
15 wt%	1.0 h	53.5 kg/h	54.4 kg/h	0.9 kg/h	0.984 kg/h	31.6 kg/h	32.4 kg/h	0.7 kg/h	0.978 kg/h	11.6 kg/h	11.9 kg/h	0.3 kg/h	0.971 kg/h
	1.5 h	36.4 kg/h	37.0 kg/h	0.6 kg/h	0.983 kg/h	21.5 kg/h	22.0 kg/h	0.5 kg/h	0.977 kg/h	7.9 kg/h	8.1 kg/h	0.2 kg/h	0.970 kg/h
	2.0 h	27.8 kg/h	28.4 kg/h	0.5 kg/h	0.982 kg/h	16.5 kg/h	16.9 kg/h	0.4 kg/h	0.976 kg/h	6.0 kg/h	6.2 kg/h	0.2 kg/h	0.969 kg/h
	3.0 h	19.3 kg/h	19.7 kg/h	0.4 kg/h	0.980 kg/h	11.4 kg/h	11.7 kg/h	0.3 kg/h	0.974 kg/h	4.1 kg/h	4.3 kg/h	0.1 kg/h	0.967 kg/h
	4.0 h	15.0 kg/h	15.3 kg/h	0.3 kg/h	0.978 kg/h	8.9 kg/h	9.1 kg/h	0.3 kg/h	0.972 kg/h	3.2 kg/h	3.3 kg/h	0.1 kg/h	0.966 kg/h
	5.0 h	12.4 kg/h	12.7 kg/h	0.3 kg/h	0.977 kg/h	7.4 kg/h	7.6 kg/h	0.2 kg/h	0.970 kg/h	2.7 kg/h	2.8 kg/h	0.1 kg/h	0.963 kg/h
	6.0 h	10.7 kg/h	11.0 kg/h	0.3 kg/h	0.976 kg/h	6.4 kg/h	6.6 kg/h	0.2 kg/h	0.969 kg/h	2.3 kg/h	2.4 kg/h	0.1 kg/h	0.962 kg/h
	7.0 h	9.5 kg/h	9.7 kg/h	0.2 kg/h	0.975 kg/h	5.7 kg/h	5.8 kg/h	0.2 kg/h	0.968 kg/h	2.0 kg/h	2.1 kg/h	0.1 kg/h	0.960 kg/h
8.0 h	8.6 kg/h	8.8 kg/h	0.2 kg/h	0.975 kg/h	5.1 kg/h	5.3 kg/h	0.2 kg/h	0.967 kg/h	1.8 kg/h	1.9 kg/h	0.1 kg/h	0.959 kg/h	

Regarding the chart, amount of LPG emergence of vertical type is more than horizontal type (difference within 5 %).

Though Dimensions are vertical type bulk storage < horizontal, amount of LPG emergence is reversed as the following reasons: As heat surface area of vertical type is larger than horizontal type, generation speed by heat transfer and sensible heat is also more larger.

The other similar size vertical and horizontal type bulk storage tank (such as 150 kg, 200 kg and so on) can be applied to this list.

TECHNICAL DATA

LOW PRESSURE PIPE SIZE CHART

PIPE LENGTH	PRESSURE LOSS																														
	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	12.5 m	15 m	17.5 m	20 m	22.5 m	25 m	27.5 m	30 m	3.0 Pa	4.0 Pa	5.0 Pa	6.0 Pa	7.0 Pa	8.0 Pa	9.0 Pa	10.0 Pa	12.5 Pa	15.0 Pa	17.5 Pa	20.0 Pa	25.0 Pa	30.0 Pa	
3 m	3.0 Pa	4.0 Pa	5.0 Pa	6.0 Pa	7.0 Pa	8.0 Pa	9.0 Pa	10.0 Pa	12.5 Pa	15.0 Pa	17.5 Pa	20.0 Pa	25.0 Pa	30.0 Pa	35.0 Pa	40.0 Pa	45.0 Pa	50.0 Pa	60.0 Pa	70.0 Pa	80.0 Pa	90.0 Pa	100.0 Pa	120.0 Pa	140.0 Pa	160.0 Pa	180.0 Pa	200.0 Pa	230.0 Pa	250.0 Pa	300.0 Pa
4 m	4.0 Pa	5.3 Pa	6.7 Pa	8.0 Pa	9.3 Pa	10.7 Pa	12.0 Pa	13.3 Pa	16.7 Pa	20.0 Pa	23.3 Pa	26.7 Pa	30.0 Pa	33.3 Pa	40.0 Pa	46.7 Pa	53.3 Pa	60.0 Pa	70.0 Pa	80.0 Pa	93.3 Pa	106.7 Pa	120.0 Pa	140.0 Pa	160.0 Pa	186.7 Pa	213.3 Pa	240.0 Pa	266.7 Pa	300.0 Pa	
5 m	5.0 Pa	6.7 Pa	8.3 Pa	10.0 Pa	11.7 Pa	13.3 Pa	15.0 Pa	16.7 Pa	21.0 Pa	25.0 Pa	29.0 Pa	33.0 Pa	37.0 Pa	41.7 Pa	50.0 Pa	58.3 Pa	66.7 Pa	75.0 Pa	83.3 Pa	93.3 Pa	106.7 Pa	120.0 Pa	133.3 Pa	150.0 Pa	166.7 Pa	186.7 Pa	206.7 Pa	226.7 Pa	246.7 Pa	266.7 Pa	300.0 Pa
6 m	6.0 Pa	8.0 Pa	10.0 Pa	12.0 Pa	14.0 Pa	16.0 Pa	18.0 Pa	20.0 Pa	25.0 Pa	30.0 Pa	35.0 Pa	40.0 Pa	45.0 Pa	50.0 Pa	60.0 Pa	70.0 Pa	80.0 Pa	90.0 Pa	100.0 Pa	110.0 Pa	120.0 Pa	130.0 Pa	150.0 Pa	160.0 Pa	180.0 Pa	200.0 Pa	220.0 Pa	240.0 Pa	260.0 Pa	280.0 Pa	300.0 Pa
7 m	7.0 Pa	9.3 Pa	11.7 Pa	14.0 Pa	16.3 Pa	18.7 Pa	21.0 Pa	23.3 Pa	29.0 Pa	35.0 Pa	41.0 Pa	47.0 Pa	53.0 Pa	59.0 Pa	70.0 Pa	81.7 Pa	93.3 Pa	105.0 Pa	116.7 Pa	128.3 Pa	140.0 Pa	151.7 Pa	163.3 Pa	180.0 Pa	196.7 Pa	213.3 Pa	230.0 Pa	246.7 Pa	263.3 Pa	280.0 Pa	300.0 Pa
8 m	8.0 Pa	10.7 Pa	13.3 Pa	16.0 Pa	18.7 Pa	21.3 Pa	24.0 Pa	26.7 Pa	33.0 Pa	40.0 Pa	47.0 Pa	54.0 Pa	61.0 Pa	68.0 Pa	80.0 Pa	93.3 Pa	106.7 Pa	120.0 Pa	133.3 Pa	146.7 Pa	160.0 Pa	173.3 Pa	186.7 Pa	200.0 Pa	213.3 Pa	226.7 Pa	240.0 Pa	253.3 Pa	266.7 Pa	280.0 Pa	300.0 Pa
9 m	9.0 Pa	12.0 Pa	15.0 Pa	18.0 Pa	21.0 Pa	24.0 Pa	27.0 Pa	30.0 Pa	37.0 Pa	45.0 Pa	53.0 Pa	61.0 Pa	69.0 Pa	77.0 Pa	90.0 Pa	105.0 Pa	120.0 Pa	135.0 Pa	150.0 Pa	165.0 Pa	180.0 Pa	195.0 Pa	210.0 Pa	225.0 Pa	240.0 Pa	255.0 Pa	270.0 Pa	285.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
10 m	10.0 Pa	13.3 Pa	16.7 Pa	20.0 Pa	23.3 Pa	26.7 Pa	30.0 Pa	33.3 Pa	41.0 Pa	50.0 Pa	59.0 Pa	68.0 Pa	77.0 Pa	86.0 Pa	100.0 Pa	116.7 Pa	133.3 Pa	150.0 Pa	166.7 Pa	183.3 Pa	200.0 Pa	216.7 Pa	233.3 Pa	250.0 Pa	266.7 Pa	283.3 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
12.5 m	12.5 Pa	16.7 Pa	20.8 Pa	25.0 Pa	29.2 Pa	33.3 Pa	37.5 Pa	41.7 Pa	51.0 Pa	60.0 Pa	70.0 Pa	80.0 Pa	90.0 Pa	100.0 Pa	116.7 Pa	133.3 Pa	150.0 Pa	166.7 Pa	183.3 Pa	200.0 Pa	216.7 Pa	233.3 Pa	250.0 Pa	266.7 Pa	283.3 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
15 m	15.0 Pa	20.0 Pa	25.0 Pa	30.0 Pa	35.0 Pa	40.0 Pa	45.0 Pa	50.0 Pa	60.0 Pa	70.0 Pa	80.0 Pa	90.0 Pa	100.0 Pa	116.7 Pa	133.3 Pa	150.0 Pa	166.7 Pa	183.3 Pa	200.0 Pa	216.7 Pa	233.3 Pa	250.0 Pa	266.7 Pa	283.3 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
17.5 m	17.5 Pa	23.3 Pa	29.2 Pa	35.0 Pa	40.8 Pa	46.7 Pa	52.5 Pa	58.3 Pa	70.0 Pa	80.0 Pa	90.0 Pa	100.0 Pa	116.7 Pa	133.3 Pa	150.0 Pa	166.7 Pa	183.3 Pa	200.0 Pa	216.7 Pa	233.3 Pa	250.0 Pa	266.7 Pa	283.3 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
20 m	20.0 Pa	26.7 Pa	33.3 Pa	40.0 Pa	46.7 Pa	53.3 Pa	60.0 Pa	66.7 Pa	80.0 Pa	90.0 Pa	100.0 Pa	116.7 Pa	133.3 Pa	150.0 Pa	166.7 Pa	183.3 Pa	200.0 Pa	216.7 Pa	233.3 Pa	250.0 Pa	266.7 Pa	283.3 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
22.5 m	22.5 Pa	29.2 Pa	36.7 Pa	44.2 Pa	51.7 Pa	59.2 Pa	66.7 Pa	74.2 Pa	88.0 Pa	100.0 Pa	116.7 Pa	133.3 Pa	150.0 Pa	166.7 Pa	183.3 Pa	200.0 Pa	216.7 Pa	233.3 Pa	250.0 Pa	266.7 Pa	283.3 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
25 m	25.0 Pa	33.3 Pa	41.7 Pa	50.0 Pa	58.3 Pa	66.7 Pa	75.0 Pa	83.3 Pa	100.0 Pa	116.7 Pa	133.3 Pa	150.0 Pa	166.7 Pa	183.3 Pa	200.0 Pa	216.7 Pa	233.3 Pa	250.0 Pa	266.7 Pa	283.3 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
27.5 m	27.5 Pa	36.7 Pa	45.8 Pa	54.8 Pa	63.8 Pa	72.8 Pa	81.8 Pa	90.8 Pa	108.0 Pa	125.0 Pa	141.7 Pa	158.3 Pa	175.0 Pa	191.7 Pa	208.3 Pa	225.0 Pa	241.7 Pa	258.3 Pa	275.0 Pa	291.7 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
30 m	30.0 Pa	40.0 Pa	50.0 Pa	60.0 Pa	70.0 Pa	80.0 Pa	90.0 Pa	100.0 Pa	120.0 Pa	140.0 Pa	160.0 Pa	180.0 Pa	200.0 Pa	220.0 Pa	240.0 Pa	260.0 Pa	280.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa	300.0 Pa
DIA. A (B)	FLOW RATE																														
15 (½)	0.72 kg/h	1.66 kg/h	3.31 kg/h	5.00 kg/h	6.67 kg/h	8.33 kg/h	10.00 kg/h	11.67 kg/h	13.33 kg/h	15.00 kg/h	16.67 kg/h	18.33 kg/h	20.00 kg/h	21.67 kg/h	23.33 kg/h	25.00 kg/h	26.67 kg/h	28.33 kg/h	30.00 kg/h	31.67 kg/h	33.33 kg/h	35.00 kg/h	36.67 kg/h	38.33 kg/h	40.00 kg/h	41.67 kg/h	43.33 kg/h	45.00 kg/h	46.67 kg/h	48.33 kg/h	50.00 kg/h
20 (¾)	1.66 kg/h	3.31 kg/h	5.00 kg/h	6.67 kg/h	8.33 kg/h	10.00 kg/h	11.67 kg/h	13.33 kg/h	15.00 kg/h	16.67 kg/h	18.33 kg/h	20.00 kg/h	21.67 kg/h	23.33 kg/h	25.00 kg/h	26.67 kg/h	28.33 kg/h	30.00 kg/h	31.67 kg/h	33.33 kg/h	35.00 kg/h	36.67 kg/h	38.33 kg/h	40.00 kg/h	41.67 kg/h	43.33 kg/h	45.00 kg/h	46.67 kg/h	48.33 kg/h	50.00 kg/h	51.67 kg/h
25 (1)	3.31 kg/h	5.00 kg/h	6.67 kg/h	8.33 kg/h	10.00 kg/h	11.67 kg/h	13.33 kg/h	15.00 kg/h	16.67 kg/h	18.33 kg/h	20.00 kg/h	21.67 kg/h	23.33 kg/h	25.00 kg/h	26.67 kg/h	28.33 kg/h	30.00 kg/h	31.67 kg/h	33.33 kg/h	35.00 kg/h	36.67 kg/h	38.33 kg/h	40.00 kg/h	41.67 kg/h	43.33 kg/h	45.00 kg/h	46.67 kg/h	48.33 kg/h	50.00 kg/h	51.67 kg/h	53.33 kg/h
32 (1¼)	6.80 kg/h	10.00 kg/h	13.33 kg/h	16.67 kg/h	20.00 kg/h	23.33 kg/h	26.67 kg/h	30.00 kg/h	33.33 kg/h	36.67 kg/h	40.00 kg/h	43.33 kg/h	46.67 kg/h	50.00 kg/h	53.33 kg/h	56.67 kg/h	60.00 kg/h	63.33 kg/h	66.67 kg/h	70.00 kg/h	73.33 kg/h	76.67 kg/h	80.00 kg/h	83.33 kg/h	86.67 kg/h	90.00 kg/h	93.33 kg/h	96.67 kg/h	100.00 kg/h	103.33 kg/h	106.67 kg/h
40 (1½)	10.4 kg/h	15.00 kg/h	20.00 kg/h	25.00 kg/h	30.00 kg/h	35.00 kg/h	40.00 kg/h	45.00 kg/h	50.00 kg/h	55.00 kg/h	60.00 kg/h	65.00 kg/h	70.00 kg/h	75.00 kg/h	80.00 kg/h	85.00 kg/h	90.00 kg/h	95.00 kg/h	100.00 kg/h	105.00 kg/h	110.00 kg/h	115.00 kg/h	120.00 kg/h	125.00 kg/h	130.00 kg/h	135.00 kg/h	140.00 kg/h	145.00 kg/h	150.00 kg/h	155.00 kg/h	160.00 kg/h

PERCEPTION OF LOW PRESSURE PIPE SIZE CHART

PIPE LENGTH	PRESSURE LOSS
15 m ③	115.0 Pa
DIAMETER	FLOW RATE
½ ^B ①	1.99 kg/h ②

EXAMPLE

- ① Look "DIAMETER" in the list toward cross direction
- ② After finding "FLOW RATE", look toward vertical
- ③ Finally, crossing point of "PIPE LENGTH" indicate "PRESSURE LOSS".

In this way, if the 3 of 4 factors is made out, remaining factor will be also made out.

ABOUT THE INTERNATIONAL SYSTEM OF UNITS (SI UNIT)

In Japan, we adopt the modern metric system of measurement.

In this metric system, there are two different systems, the absolute system of units and gravitational system of units.

The gravitational system of units is based on three basic units of length, weight and time, and the mass itself have been diverted to units of force. Then, we distinguish "kg" as the unit of the mass and "kgf" as the unit of force.

As for these two units, however, it is extremely confusing aspect because they are not originally related to the force and the mass. Therefore, the absolute systems of units based on the units of length, mass and time was adopted as the International System of Units (SI) at the Conference General des Poids et Mesures (CGPM) in 1990.

In addition, by adding "k" (kilo) or "M" (mega) to the head of each unit, represent 1000 times and 1,000,000 times respectively.

	CONVENTIONAL UNIT	SI UNIT	EQUIVALENT
PRESSURE	kgf/cm ² mmH ₂ O mmHg atm	Pa	1 kgf/cm ² = 9.8 × 10 ⁴ Pa 1 mmH ₂ O = 9.8 Pa 1 mmHg = 133 Pa 1 atm = 100 × 10 ³ Pa
QUANTITY OF HEAT	cal kcal/h	J W	1 cal = 4.2 J 1 kcal/h = 1.16 W
CAPACITY*	kg/h	W	1 kg/h = 13.9 × 10 ³ W
FORCE	kgf	N	1 kgf = 9.8 N

THE COMMON UNIT

LENGTH : m

TIME : h

MASS : kg

※Capacity is compatible with both "kg/h" and "W".

As electrical machinery and apparatus have been adopted "W" in the past, gas equipment and gas cock also come to be used "W".

SI UNIT CONVERSION EXAMPLE

ITEM	SI UNIT	CSG UNIT
PRESSURE FOR ACTIVATING REGULATOR RELIEF VALVE	5.60 - 8.40 kPa	571 - 857 mmH ₂ O
REGULATOR DELIVERY PRESSURE	SINGLE STAGE	2.30 - 3.30 kPa
	SECOND STAGE	2.30 - 3.30 kPa
	UNITIZED AUTOMATIC	2.55 - 3.30 kPa
	UNITIZED TWO STAGE	
	SEPARATE AUTOMATIC	0.032 - 0.083 MPa
FIRST STAGE	0.057 - 0.083 MPa	0.58 - 0.85 kg/cm ²

CONVERSION EXAMPLE (FUSE COCK AND SMALL DIAMETER COMBUSTION HOSE)

PRODUCT NAME	UNIT	CONVENTIONAL UNIT		SI UNIT
		kg/h	kcal/h	W (kW)
FUSE COCK		1.1 kg/h	13.224 kcal/h	15 kW (LP GAS)
SMALL DIA. COMBUSTION HOSE		0.7 kg/h	8.415 kcal/h	9.8 kW (LP GAS)

