

HWA YOUNG

**HWA YOUNG LP-GAS,
HIGH CAPACITY GAS PRESSURE REGULATOR**





LP-GAS PRESSURE REGULATOR

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HIGH CAPACITY PRESSURE REGULATOR

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We are always looking forward to satisfying our customer through out our products. In order to do this, Our employees and communities put the best efforts with sustainable challenge on developing products.



SINGLE STAGE REGULATOR



FIRST STAGE REGULATOR



SECOND STAGE REGULATOR



AUTOMATIC CHANGEOVER REGULATOR



LIQUID CHANGEOVER DEVICE (HLX-301)



HWA YOUNG GAS HOSE



HGM-10 SERIES REGULATOR



HYR-815 SERIES HIGH CAPACITY REGULATOR



HYR-200 SERIES HIGH CAPACITY REGULATOR



HYR2-815 SERIES HIGH CAPACITY REGULATOR



HM-700 SERIES REGULATOR



HM-1000 SERIES REGULATOR



HN SERIES HIGH CAPACITY REGULATOR



To improve Our Future

Management philosophy

Our management philosophy is to pursuit in creating new value based on reliability and communication with customer and to accomplish what we have to do for the customer. Through out the those facts, we will predominant the world market with competitive value which is from the customer. Also, we will be ethical and hold a social responsibility constantly.

Mission

Enhance organization value along with co-operation

We've been considering our suppliers as our customers as well so that we are listening, understanding and improving communication between them. Especially, we also try to improve inner value of corporation and to make efficient interaction, periodic educations and development for goods conferences are made for certain conditions.

Put all needs into provide customers desire

We truly found out that the what costumers' needs is connected with corporation existence and extending our profit. At the same time, the fact that finding the problems from the customer stance helps us to know what real customer desire. We are always trying best efforts that we can on solve problems.

Social responsibility

Most of firms may be defined in existence which has to make profits. However, Hwa-Young also consider social-responsibilities which are not only countries, corporations, or ethic groups but also mankind's future.

Environment protection

Earth is a place where we lived in not only mankind but also all other creatures. To sustain and protect our environment, Hwa-Young looking forward to producing eco-friendly products. For additional concerns would be consistent investing on eco-friendly products and research.

Innovation and leading technology

We consistently improve our technology to achieve our goals and concern in social value

Guarantee quality.

We are prepared to produce products as representative faculties and employee so that we never compromise in quality. By innovating and quality management, we will keep promise to make own products to achieve customers' satisfaction.

Quality goal and policy

A goal of quality

- Satisfy customer with non-detective products and best customer services
- Constantly improving quality management
- Promote our supplier
- Achieve customer satisfaction in superior classification.
- Pursuit uncompromising in quality of goods.

Quality policy

- Make a decision our own product value
- Have a competitive cost of goods sold.
- Manufacture quality stabilize
- Constantly actual quality of goods our supplier
- Have every faculties and employees responsibilities of goods

Management principle

While Hwa-Young proud of our facilities, products and marketplace reputations, the most value is our customer. We are keep creating future values with our employee and satisfy our customer in social and ethical values.

Vision

Hwa-Young united as one to achieve our vision slogan " We, for the comfortable life, build a advance cooperation through by challenging and creation."

Core value

We pursuit any actions or decisions are made for our customers' value initially and assert that this value is superior of our corporation culture. Though out the communication and cooperation where meet at the agreement lead strong action making to perform own mission. As a result, we still hunger in terms of challenge, and will maintain and grow our position as the leading manufacturer of specialty fluid control instrumentation.

Total Quality Management

In order to improve our customer's value, we believe that the computerizing total quality management is the one of success factors. In accordance with applicable National or Industry codes, standards and regulations/recommendations, all hazards covered by specific tests after final assembling before applying the KGS, (Korea Gas Safety) marking, shall be covered also after every subsequent reassembly at installation site, in order to ensure that the equipment will be safe throughout its intended life.

All of processes are recorded and managed in ISO standard documentation and storage in ISO standard system . Also applied KS (Korea Standard) duplicating standard systems to satisfy KS, ISO and KGS in the same time. We will proceed strict quality management system to ensure every products has been made in terms and are never compromising in quality to satisfy customers. We impose the ERP system to success management.



Department of research and development



First Production Factory in Busan



Secondary production factory in Ulsan

Our beliefs

We strongly believe that the most valuable and reasons why we have grown were the trust from our customers. We are always looking forward to satisfying our customer through our products. In order to do this, Our employees and communities put the best efforts with sustainable challenge on developing products.

We listen to customers, uncompromising in our pursuit of quality, reliability in our products, we always think customers to bear in our mind what we stand for.

Our business philosophy

Since 1983, Hwa-young pursuit the professional spirit. As an unexpectedly change the global economy, We keep in mind that the only way to sustain and develop our organization is that producing the best product to lead the world. We, a corporation in trusted and respected by customer, are always preparing for the next generation and developing our product to lead the twenty first century.

We promise to make the best efforts on customers to provide reliable and satisfactory products. Thank you for continuous of your support and concern.

Chief Executive Officer
Son, Hwa-Hyun

Open the new future along with our customers

General product

Product lines : We create a architectural facilities or materials, mainly regulator valve, commercial & industry gas hoses. In addition, we provide fluid controllers at where needed super precision and reliable procedure with uncompromising in quality control system which approved by ISO and Korea Standard. This allows us to take ninety percentage of domestic market share, and satisfied our goods internationally especially emerging economics such as Southeast Asia, South America, and China,

Industries served : Architecture facilities, energy pressure applications, Hipper precision fluid Control, Environmentally friendly services, and outdoor utilities.

Hwa-young group Co.,Ltd contains various business in the each plants. The very first plant in the Gim-Hae, Hwa-Young trading firm produce LP-Gas hoses and gas regulators, accessory kits, and In-Young industry mainly specialized CNC manufacturing producer. Hwa-Young Co.,Ltd also distribute in two sectors, one of sectors is in the Busan which produce automobile engine elements, Carbon reduction system and various fuel supplying module system. The other sector produce vessel monitor and for large vessel of fluid pressure control system in Ulsan. Each sector has own research and development departments independently. Also we sold our products through authorized distributors around the world, as well as selling directly in some countries such as Southeast Asia, China, United States, and South America.

Safety is our 1st Priority

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The Guideline of the products

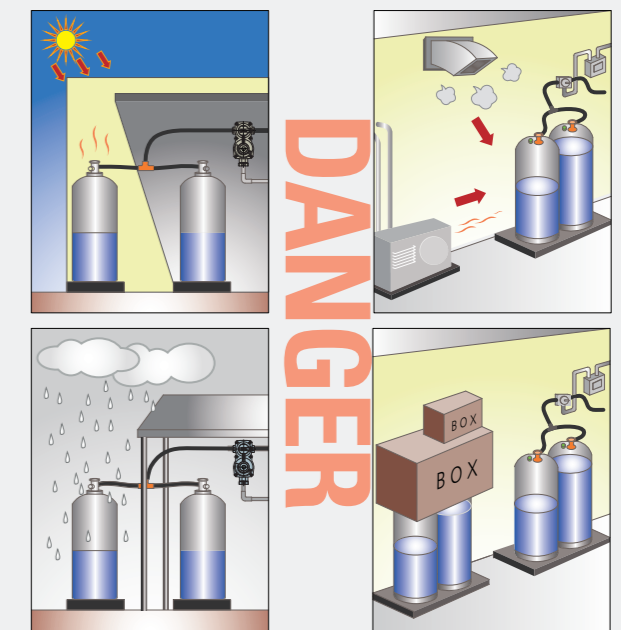
Precaution of installation

- The regulator should be installed by qualified and trained technician
- THIS PRODUCT is MADE FOR USING LP-GAS ONLY. Do not use other than LP gas. Unless it can degrade original performance down
- This product is accurate assembled and set so that NEVER disassemble or modified without a professionally trainer's permission. Prior installing the regulator, check the damage which might have occurred in shipment. Also check for dirt or foreign matter which may have accumulated in the regulator body or in the pipelines. Please check the product in appearances before installation, Failure of product may cause of hazardous condition.
- In case of installing indoor, a regulator must avoid rain, snow, or direct sunlight. Set appropriate protection where a product can be expose long period of time from sunlight and water. indoor installation must be considered proper ventilation system.
- DO NOT install a regulator where flammable materials are loaded or near radiant heat.
- Avoid installation at a place where can be affected on regulator from suspectible gas such as ammonia (NH3), sulfurous acid gas (SO2) etc.
- Connecting inlet to a pigtail or vent pipe, it should remains balance vertically.
- Inappropriate piping connection can occur at the time of installation when connected loosely or the regulator may have been overstressed by excessive wrenching.
- Screw threads of inlet should be connected with an exclusive adaptor.
- Use PTFE (Teflon) or flame retardant vent glue on the screw threads, it helps to prevent loose, gas leakage.
- At the time of installation, be aware of foreign materials would be inserted.
- Remove scraps, dust, any foreign substances and clean cutting fluid out when connecting unit to a vent pipe.
- Install a gas drain from regulator outlet to a gas meter.
- Regulators should be installed with the vent facing down or protected so their operation will not be affected by the natural elements.
- Before installing the regulator, check the damage which might have occurred in shipment. Also check for dirt

or foreign matter which may have accumulated in the regulator body or in the pipelines. Please check the product in appearances before installation, Failure of product may cause of hazardous condition.

** in order to prevent water damage, appropriate protection should be required such as waterproof,
 ** Regulators should be installed with the vent facing down or protected with so that operation will not be affected by the elements
 *** Remove scraps, dust, any foreign substances in the vent line.*

Maintenance



Procedure

- Replacing a gas cylinder, must inspect the indicator and follow below procedure.
 - (1) When indicator turned in red, (assuming indicator direction is serve) gas is being supplied from the reserve cylinder.
 - (2) Closing valve from the service and high pressure pipe valve, and turn indicator to opposite.
 - (3) Note that do not replace a gas cylinder without procedures above.

- After all pressure has been released from the regulator, check an indicator point to proper direction (either serve or reserve), then inspect that there is a gas leak in the cylinder valve, inlet fitting, high pressure hose, or regulator seat.
- Do not attempt to load any heavy matters on the regulator for safety issue.
- Maintenance operation does not required removal of valve body from the line.
- Maintenance should be carried out only by qualified, and professional trained technician.
- A convert handle indicates "serve", otherwise "reserve". Refill or replace the gas cylinders for both sides.
- In order to find out regulator operates without defective problem. Please follow procedure below:
 - 1) Reserve offers gas to regulator when closed valve from the serve, causing exhausted gas by the serve making noise sounds. (Sounds from the diaphragm)
 - 2) This sound specifies gas flows into regulator properly and process without problem.
 - 3) Check an indicator signify red. After that revolve the "convert handle" slowly to opposite direction to observe indicator turns to colorless.
 - 4) Though out those procedures, observe and redo the procedure whether changeover process working properly by opening valve from the serve and closing valve from reserve.

Requirement of customizing (specific information must be given before manufacturing the regulator)

1. Inlet and outlet specific size.
2. Name of model
3. Demand outlet pressure
4. Range of inlet pressure.

Caution

- The regulator should be installed by qualified and trained technician
- THIS PRODUCT MADE FOR USING LP-GAS ONLY. Do not uses other than LP gas, unless it can degrade original performance down
- Before installing the regulator, check the damage which might have occurred in shipment. Also check for dirt or foreign matter which may have accumulated in the regulator body or in the pipelines. Please check the product in appearances before installation, Failure of product may

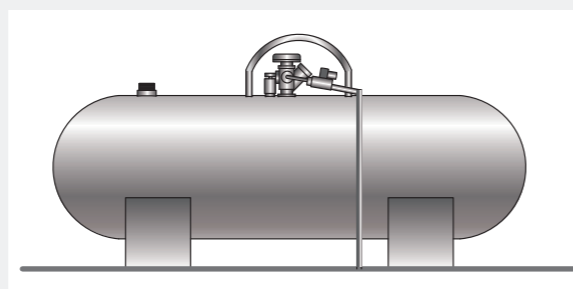
cause of hazardous condition.

- Do not let vent clog from the elements, and do not let any dirt, water, or rain into a vent.
- This product is accurate assembled and set so that NEVER disassemble or modified without a professionally trainer's permission. Prior installing the regulator, check the damage which might have occurred in shipment. Also check for dirt or foreign matter which may have accumulated in the regulator body or in the pipelines. Please check the product in appearances before installation, Failure of product may cause of hazardous condition
- DO NOT install a regulator where flammable materials are loaded or near radiant heat
- Avoid installation at a place where can be affected on regulator from susceptible gas such as ammonia (NH3), sulfurous acid gas (SO2) etc.
- Avoid installation where a regulator exposed to salt air, industrial poison, or chemically effective environment. If a regulator has to install in those conditions, follow instruction below.

NOTE: Regulator inspection for corrosion should be made every a year

Gas Tank Installation

When install regulator on gas tank, the regulator must be covered. Use the vent pipe face downward when installation. Make sure the regulator not to expose.



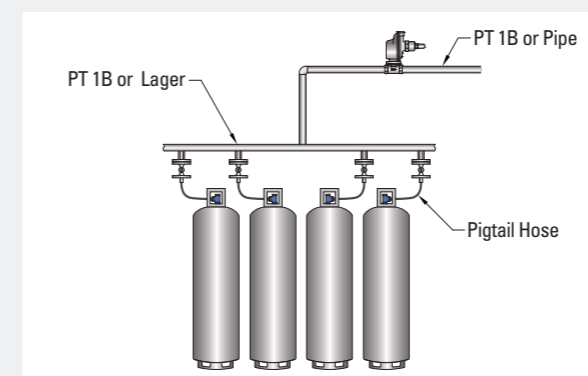
Check before using (Leakage & Operation)

- After installation the leakage test must be carried out based on LP gas safety policy.
- Get rid of all air out of pipe after checking if there is no flammables around.
- Under consumption of gas condition, close the valve of cylinder and check the indicator if it is red and automatically being supplied gas from reserved cylinder.
- Check all pressure rate below while operation of regulator.

Parallel Connection of Cylinder

For parallel connection of cylinder, use pigtail hose to connect the pipe and each cylinders. The connection size PT1B or larger connection size is recommended.

It is recommended to use the same regulator's outlet connection size otherwise it will cause hunting. Also, the length of pipe must be at least 6m in between the second stage 1st reduction regulator and 2nd reduction regulator. Caution : When replacing cylinders, pigtails hose must be replaced with new one



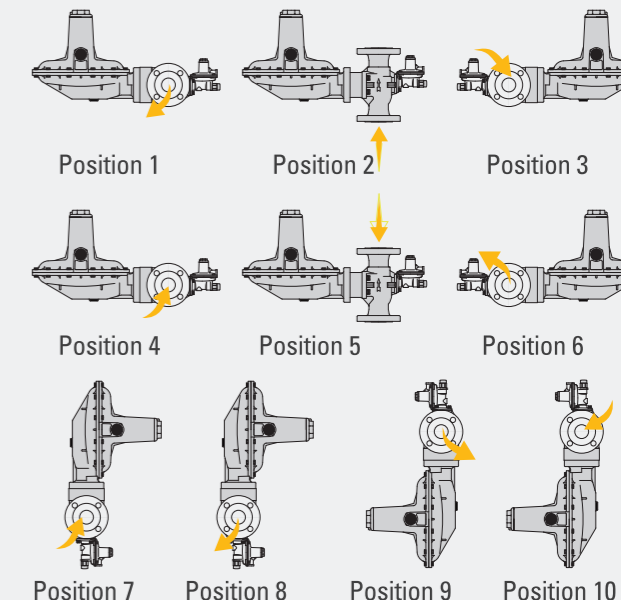
Caution

- This regulator is dedicated for LP Gas application. If use for other gas application may cause its performance.
- Do not modify intentionally.
- Do not block vent or vent tube.
- A proper protection is needed to avoid rain, snow, direct sunrays.

Horizontal pipe connection

Installation

1. Check inside of pipe if it is clean or corrosion. If there is corrosion, the pipe should be replaced with new pipe.
2. Check the arrow mark on regulator to match with correct direction of gas flow.
3. Apply pipe compound on connection side of regulator in order to avoid leakage before install.
4. After finish with connecting the regulator with pipes, check the OPSO operation. If it operates correctly, make it back to normal position and open the gas valve slowly.
5. It is recommended to install filter in front of regulator.
6. Check the flow meter if the inlet & outlet pressures are normal. Also, make sure to check if there is leakage on pipe connection.



The left hand side diagrams are showing the positions that can be installed unrestrictedly upon customer's request.

Using low quality LP-Gas

- Improper Lp-gas using may produce oil sludge and plug into a product, causes damaged on diaphragm in the regulator.
- In winter, inside of regulator turns to solidify. This creates a problem that is blocking the nozzle from the resource supplier

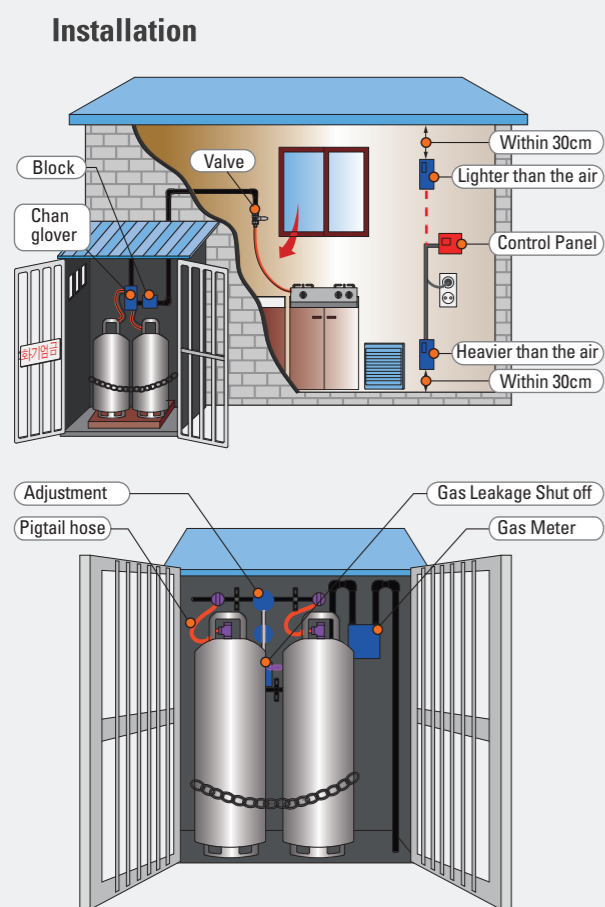
NOTE: periodic checks should be made to assure piping and product remains clean from the distillation.. Recommend opening gas valve to clean out depending on weather.

- Recommend opening gas valve to clean a product periodically moisture in the cylinder may cause of corrosion. Also it brings a critical damage by freezing during the winter, depends on the weather periodic inspection should be made, recommend inspect within once in a month during the summer since less uses, once in a week during the winter.)

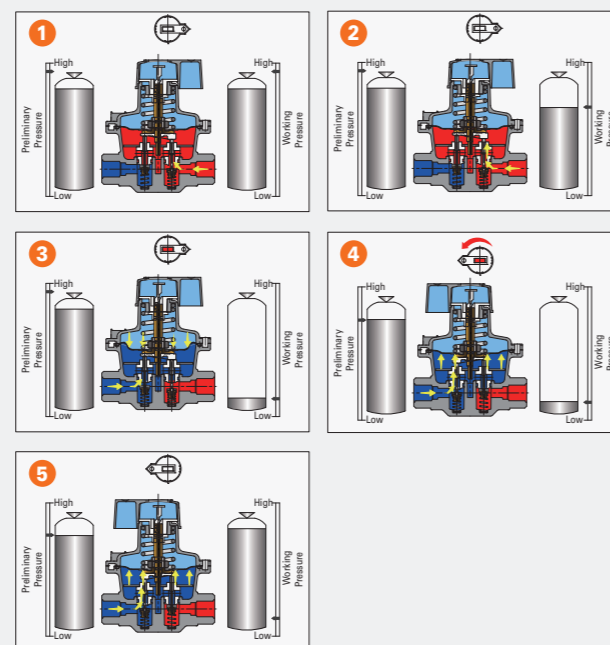
Incase of water into regulator

Corrosion is caused by water, corrosive atmospheres of salt and industrial pollutants, chemicals, and roadway contaminants. High concentrations can attack the metal parts vigorously. No suitable metals are totally resistant to such corrosion.

Automatic changeover pressure regulator



Operation



Initial Usage

At the condition with full of pressure for both gas cylinders, one cylinder can be selected by rotating changeover lever. The direction that appointed by lever end is the supplying cylinder and another one is reserve side.

Supply of Gas

The gas is being flow into 2nd stage first reduction regulator from the supply cylinder and the pressure is being gradually decreased in supply cylinder.

Running out of gas from supply cylinder

When the gas is being ran out, the pressure inside of regulator decreases and the main spring pushes the diaphragm downward and then this diaphragm plate pushes the valve seat downward in order to make the supply of gas from the reserved side. At this time the indicator turns red and shows that the gas is being supplied from reserved side.

Replacing Reserved Cylinder

The reserved cylinder must be replaced with new full cylinder in order to avoid stop supply of gas.

Running out of gas from Reserved Cylinder

When the indicator turns to red, the user must turn the lever to the other side. Once the lever turned to the other side, the inlet pressure is recovered its pressure rate and the pressure is increased to make diaphragm goes up ward and then the indicator turns to clear. At this time, the gas is being supplied at normal condition.

Maintenance

- When replacing cylinder, turn the changeover lever to the other side to make the indicator clear and then close the valve to replace the cylinder.
- After replacing cylinder, check all the indication and open the valve. Make sure to check if there is leakage.
- Do not stack anything around installed area for safety.
- Do not move the cylinder without disconnection of hose or piping.

Initial Usage

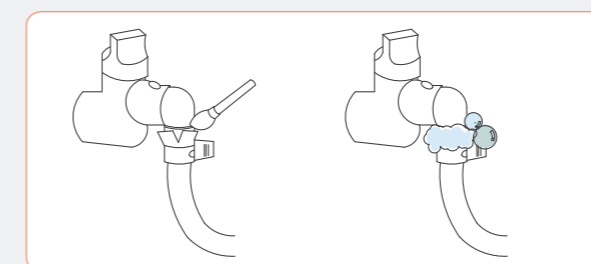
- Replace all the cylinder to full gas cylinder.
- Open the valve at reserved cylinder to flow the gas into the regulator and then open the valve at supply cylinder.
- Turn the lever to 180 degrees and check the indicator if it is not red.
- Remember to follow the instruction above when initial usage or replacing of cylinder.
- Start consumption of gas and check if the gas flow is normal and also close the valve at supply cylinder and check if the regulator's operation is normal as well.

GAS HOSE Guideline

Leakage Test

1. Bubble

Using brush with soap water and gently apply soap water to hose connection including all connections of combustor area and observe for 2 minutes. If there is bubble around the connections, it means there is leakage, so the gas cylinder valve should be closed and call the gas technician or specialist. Bubble testing should be carried out once a month.



2. Visual Checking

* It is required to visually check for the hose installation which made outside periodically. It is high potential to be occurred cracks or nicks by direct sunrays or animal bites. Once it has cracks or nicks, the hose should be replaced.

Visual Checking Area



During Rainy Season

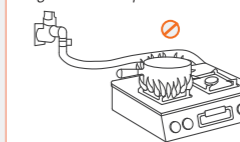
Especially during the rainy season, the gas is difficult to be ventilated in the atmosphere and easily being stayed underneath by the ground which is very dangerous. If the place possibly can be flooded, close all the gas valve including gas meter valve and evacuate.

Flooding Accident

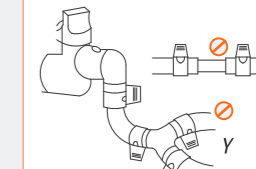
Any places where had been flooded and recovery should be made, the gas specialist should carry out all testing and check for the area if there are any leakage of gas. Especially for the LP gas line, there might be lost cylinders or flooded cylinders, so the gas specialist should be checked if it is safe for use the gas appliances again. Before use the gas appliances, all the mud or foreign material should be wiped out or dried completely. Any flooded gas cylinders or pipes has potential explosion, so do not use any gas appliances prior to test or checked by gas specialist prior to use.

Dangerous

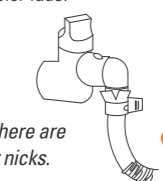
Keep away from the flame. The flame causes hose damage and might cause explosion.



The leakage might be caused if use Y connection or T connection.

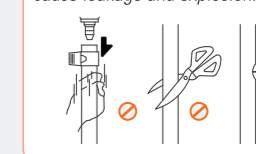


Replace the hose if there is crack or color fade.

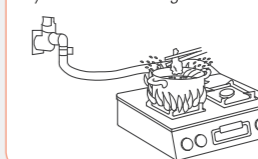


Check if there are cracks or nicks.

Intentional disconnection or cut of hose is not allowed. It might cause leakage and explosion.



Replace the hose if the hose were exposed to high temperature or oily condition for long time.



Do not place the hose behind the refrigerator or place where that can not visualize the hose easily because the hose should visually checked periodically.

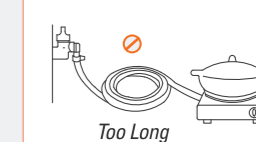


Caution

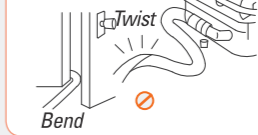
Replace the hose if there are bites on hose by dogs or rats.



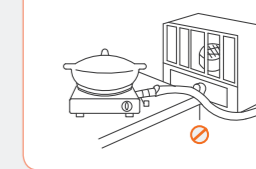
If the hose is too long, it might affect to the outlet pressure and cause unexpected cracks.



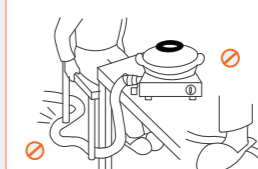
If the hose is bent or twisted for long time, the durability of hose might be affected and shortened the life time.



Keep away from the heat



Do not place the hose by the corridor or underneath the chair.



If the hose is too short, it might cause the leakage between the connections of valve and gas appliances.



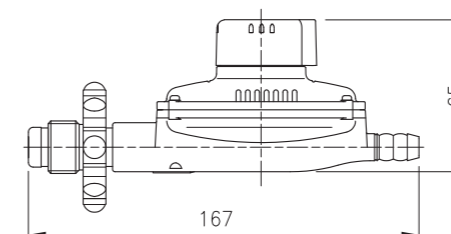
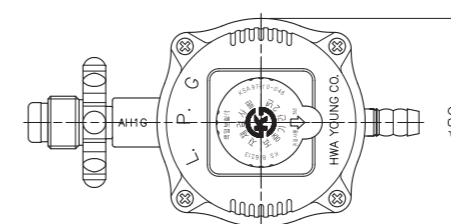
SINGLE STAGE REGULATOR



HYR-4 Series



HYR-4



Application

The HYR-4 Series is a 1-stage pressure-reducing regulator that reduces the inlet pressure from 0.07 - 1.6 MPa to the first stage in order to adjust it to the optimum combustion pressure.

Features

- Pole handle type for easy connection to the gas cylinder and screw type for connection to high pressure hose
- Various outlet pressure lineup for various gas usage environments
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Material

Body, Cover	ALDC
Cap	ABS
Nipple	Brass
Adjust Spring	Stainless steel
Relief Spring	Stainless steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Stainless steel

Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
4	HYR-4						
	HYR004-1A00	0.07~1.6	2.8±0.5	7±1.4	Pol Hand L.H W22.5X14T	Hose End	-

SINGLE STAGE REGULATOR

HYR-5/5C Series



HYR-5



HYR-5C

Application

The HYR-5/HYR-5C Series is a 1-stage pressure-reducing regulator that reduces the inlet pressure from 0.07 (0.1) - 1.6 MPa to the first stage in order to adjust it to the optimum combustion pressure.

Features

- Pole handle type for easy connection to the gas cylinder and screw type for connection to high pressure hose
- Various outlet pressure lineup for various gas usage environments
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Material

Body, Cover	ALDC
Cap	ABS
Nipple	Brass
Adjust Spring	Steel
Relief Spring	Stainless steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Stainless steel

Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
5	HYR-5						
	HYR005-1A01	0.07~1.6	2.8±0.5	7±1.4	Pol Hand L.H W22.5X14T	PT 3/4	-
	HYR005-1A00	0.07~1.6	2.8±0.5	7±1.4		No Relief	PT 1/2
	HYR005-1B00	0.1~1.6	6±1				
	HYR005-1C00	0.1~1.6	10±2				
	HYR005-1D00	0.1~1.6	15±3				
	HYR005-1E00	0.1~1.6	25±5				
	HYR-5C						
HYR005-1A02	0.07~1.6	2.8±0.5	7±1.4	PT 1/4	PT 3/4	-	

HYR-7/7C Series



HYR-7



HYR-7C

Application

The HYR-7/HYR-7C Series is a 1-stage pressure-reducing regulator that reduces the inlet pressure from 0.07 (0.1) - 1.6 MPa to the first stage in order to adjust it to the optimum combustion pressure.

Features

- Pole handle type for easy connection to the gas cylinder and screw type for connection to high pressure hose
- Various outlet pressure lineup for various gas usage environments
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Material

Body, Cover	ALDC
Cap	ABS
Nipple	Brass
Adjust Spring	Steel
Relief Spring	Stainless steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Stainless steel

Specifications

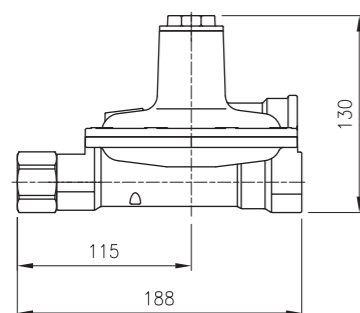
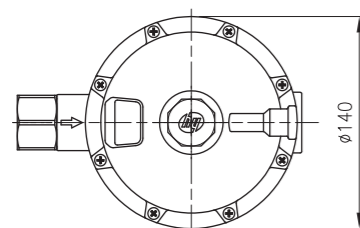
Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
7	HYR-7						
	HYR007-1A00	0.07~1.6	2.8(2.3~3.3)	7±1.4	Pol Hand L.H W22.5X14T	PT 1/2	-
	HYR007-1A01	0.1~1.6	15(12~18)	No Relief			
	HYR007-1B00	0.1~1.6	25(20~30)				
	HYR-7C						
	HYR007-1J00	0.07~1.6	2.8(2.3~3.3)	7±1.4	PT 1/4	PT 1/2	-

SINGLE STAGE REGULATOR

HYR-12 Series



HYR-12 Series



Application

The HYR-12 Series is a 1-stage pressure-reducing regulator that reduces the inlet pressure from 0.1 - 1.6 MPa to the first stage in order to adjust it to the optimum combustion pressure.

Features

- Strengthened pressure-proof performance by using brass at the inlet of regulator
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Material

Body, Cover	ALDC
Cap	ABS
Nipple	Brass
Adjust Spring	Steel
Relief Spring	Steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Steel

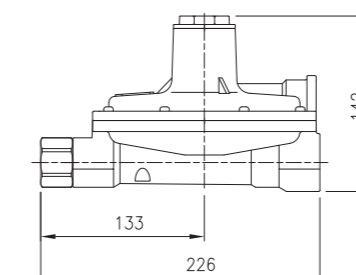
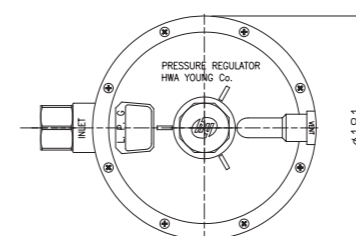
Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
12	HYR-12						
	HYR012-1A00	0.1~1.6	2.8(2.3~3.3)	7±1.4	PT 1/2	PT 3/4	PT 1/8
	HYR012-1B00	0.1~1.6	15(12~18)	No Relief			
HYR012-1C00	0.1~1.6	25(20~30)					

HYR-20/35 Series



HYR-20/35



Application

The HYR-20/35 Series is a 1-stage pressure-reducing regulator that reduces the inlet pressure from 0.1 - 1.6 MPa to the first stage in order to adjust it to the optimum combustion pressure.

Features

- Strengthened pressure-proof performance by using brass at the inlet of regulator
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

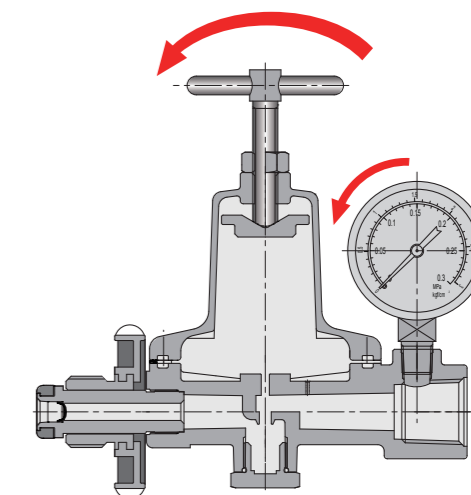
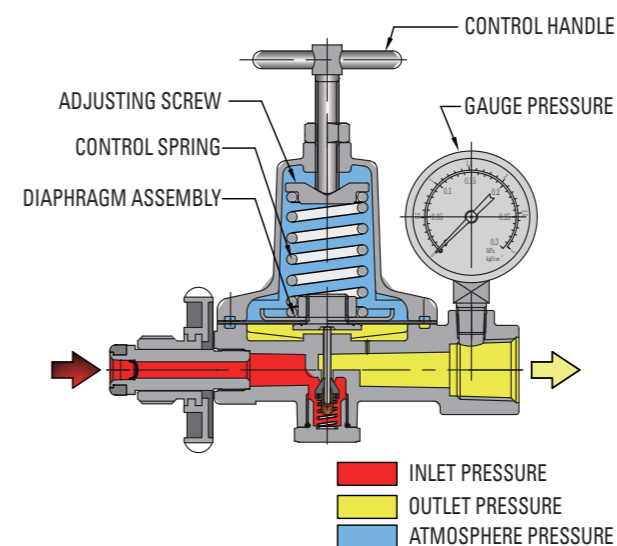
Material

Body, Cover	ALDC
Cap	ABS
Nipple	Brass
Adjust Spring	Stainless steel, Steel
Relief Spring	Steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Steel

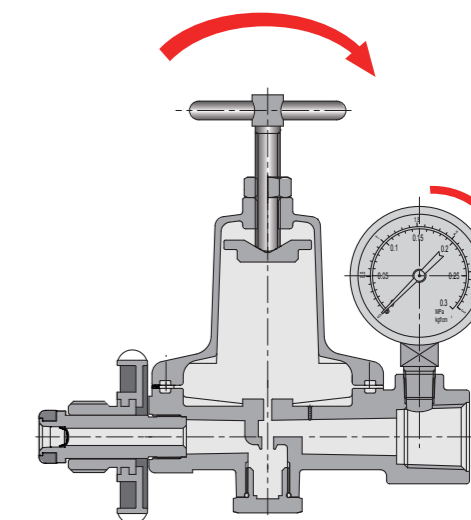
Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
20	HYR-20						
	HYR020-1A00	0.1~1.6	2.8(2.3~3.3)	7±1.4	PT 1/2	PT 1	PT 1/8
	HYR020-1B00	0.1~1.6	15(12~18)	No Relief			
HYR020-1C00	0.1~1.6	25(20~30)					
35	HYR-35						
	HYR035-1A00	0.1~1.6	2.8(2.3~3.3)	7±1.4	PT 1/2	PT 1	PT 1/8
	HYR035-1B00	0.1~1.6	15(12~18)	No Relief			
HYR035-1C00	0.1~1.6	25(20~30)					

FIRST STAGE REGULATOR



When Setting Pressure Decreases



When Setting Pressure Increases

Outlet Pressure Setting

HYRM adjustable regulator's outlet pressure setting can be adjusted by handle that are equipped on the top of the regulator. The outlet pressure setting can be adjusted referring to following diagram.

Adjusting Method

HYRM adjustable regulator's outlet pressure setting can be adjusted to 0~0.2MPa. The standard outlet pressure setting is 0.15MPa.

Check if the pressure gauge is indicating "0".

After checking for desired pressure rate through pressure gauge and open the valve at inlet side for supplying of gas. After checking for standard setting pressure through pressure gauge and adjust the pressure by rotating handle on top of regulator.

When Setting Pressure Increases

Rotate the handle on top of regulator as diagram above with checking pressure gauge, and see if the setting pressure increases.

After setting of desired pressure rate, observe pressure gauge for 1 ~ 2 minutes. Make sure to specify the adjusted setting pressure on name plate of regulator.

When Setting Pressure Decreases

Rotate the handle on top of regulator as diagram above with checking pressure gauge, and see if the setting pressure decreases

After setting of desired pressure rate, observe pressure gauge for 1 ~ 2 minutes. Make sure to specify the adjusted setting pressure on name plate of regulator.

Caution

When adjusting outlet pressure setting, the outlet pressure must be in the range of 2nd reduction regulator's inlet pressure. If the setting outlet pressure is higher than the range of 2nd reduction regulator or combustor, it might cause damage.

FIRST STAGE REGULATOR

HYRM-10 Series



HYRM-10



HYRM-10B

Application

The HYRM-10/10B is a regulator that is attached to the primary stage of the two-stage pressure reducing system. It is a regulator that reduces the high pressure at the inlet to the optimum combustion pressure and the operating pressure of the secondary regulator.

Features

- Pole handle type that can be connected directly to the gas container and screw type that can be connected to piping and high pressure hose
- Apply T-handle bolts for easy adjustment of outlet pressure
- Mount pressure gauge at the outlet to check the outlet pressure
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes

Material

Body, Cover	ALDC
Adjust Bolt	STEEL
Nozzle	Brass
Adjust Spring	Steel
Adjust Bolt	Steel
Valve Seat	NBR
Diaphragm	NBR
Body Adjust Bolt	Brass

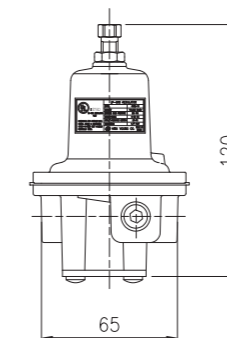
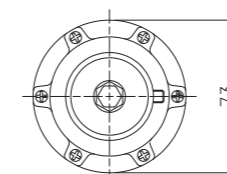
Specifications

Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Remark
					Inlet	Outlet	
HYRM-10							
HYR010-1A01	9	0.2~1.6	0.1	0.04~0.15	Pol Handle LH W22.5x14T	PT 1/2	-
HYR010-1A02	10	0.25~1.6	0.15	0.05~0.2			
HYR010-1A03	15	0.3~1.6	0.2	0.1~0.3			
HYRM-10B							
HYR010-1B01	9	0.2~1.6	0.1	0.04~0.15	PT 1/4	PT 1/2	-
HYR010-1B02	10	0.25~1.6	0.15	0.05~0.2			
HYR010-1B03	15	0.3~1.6	0.2	0.1~0.3			

HYRM-15 Series



HYRM-15



Application

The HYRM-15 Series is a regulator that is attached to the primary stage of the two-stage pressure reducing system. It is a regulator that reduces the high pressure at the inlet to the optimum combustion pressure and the operating pressure of the secondary regulator.

Features

- Compact design for easy installation without space constraints
- Screw type for piping and high pressure hose connection
- Ports for mounting pressure gauges provided on both sides of the regulator (shipped with ports blocked)
- Apply adjusting bolts for easy adjustment of outlet pressure
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use

Material

Body, Cover	ALDC
Adjust Bolt	STEEL
Orifice	Brass
Adjust Spring	Steel
Adjust Bolt	Steel
Valve Seat	NBR
Diaphragm	NBR
Body Adjust Bolt	ALDC

Specifications

Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Remark
					Inlet	Outlet	
HYRM-15							
HYRM-15-001	5	0.15~1.6	0.07	0.03~0.1	NPT 1/4	NPT 1/4	-
HYRM-15-002	10	0.2~1.6	0.1	0.04~0.15			
HYRM-15-003	15	0.25~1.6	0.15	0.05~0.2			
HYRM-15-004	20	0.3~1.6	0.2	0.1~0.3			
HYRM-15-005	20	0.4~1.6	0.3	0.1~0.4			

FIRST STAGE REGULATOR

HYRM-35 Series



HYRM-35



HYRM-35A

Application

The HYRM-35 Series is a regulator that is attached to the primary stage of the two-stage pressure reducing system. It is a regulator that reduces the high pressure at the inlet to the optimum combustion pressure and the operating pressure of the secondary regulator.

Features

- Screw type for piping connection
- Apply adjusting bolts and T-handle bolts for easy adjustment of outlet pressure
- Built-in anti-vibration hole to suppress vibration
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes

Material

Body, Cover	ALDC
Cap	ALDC
Strainer	Stainless steel
Adjust Spring	Steel
Adjust Bolt	Brass
Valve Seat	NBR
Diaphragm	NBR
Body Adjust Bolt	Brass

Specifications

Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Remark
					Inlet	Outlet	
HYRM-35							
HYR035-1J00	35	0.1~1.6	0.07	0.03~0.1	PT 3/4	PT 3/4	-
HYRM-35A							
HYRB35-1A01	70	0.15~1.6	0.07	0.03~0.1	PT 3/4	PT 3/4	-
HYRB35-1A02	80	0.2~1.6	0.1	0.04~0.15			
HYRB35-1A03	100	0.25~1.6	0.15	0.05~0.2			
HYRB35-1A04	150	0.35~1.6	0.2	0.05~0.2			

HYRM-60 Series



HYRM-60



HYRM-60A/60B

Application

The HYRM-60 Series is a regulator that is attached to the primary stage of the two-stage pressure reducing system. It is a regulator that reduces the high pressure at the inlet to the optimum combustion pressure and the operating pressure of the secondary regulator.

Features

- Screw type for piping connection
- Apply adjusting bolts and T-handle bolts for easy adjustment of outlet pressure
- Built-in anti-vibration hole to suppress vibration
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes

Material

Body, Cover	ALDC
Cap	ALDC
Orifice	Brass
Adjust Spring	Steel
Adjust Bolt	Brass
Valve Seat	NBR
Diaphragm	NBR
Body Adjust Bolt	Brass

Specifications

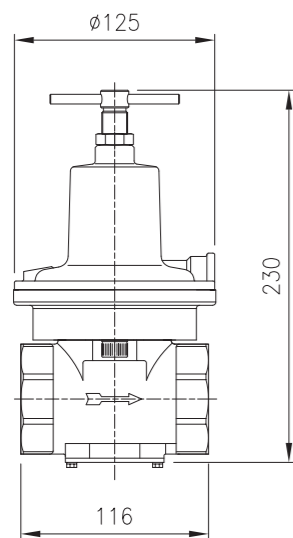
Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Remark
					Inlet	Outlet	
HYRM-60							
HYR060-1A00	60	0.1~1.6	0.07	0.03~0.1	PT 3/4	PT 3/4	-
HYRM-60A							
HYRB60-1A01	100	0.15~1.6	0.07	0.02~0.1	PT 3/4	PT 3/4	-
HYRB60-1A02	120	0.2~1.6	0.1	0.04~0.15			
HYRB60-1A03	150	0.25~1.6	0.15	0.05~0.2			
HYRM-60B							
HYRB60-1B01	200	0.25~1.6	0.2	0.1~0.3	PT 3/4	PT 3/4	-
HYRB60-1B02	250	0.35~1.6	0.3	0.1~0.3			

FIRST STAGE REGULATOR

HYRM-350A Series



HYRM-350A Series



Application

The HYRM-350A Series is a regulator that is attached to the primary stage of the two-stage pressure reducing system. It is a regulator that reduces the high pressure at the inlet to the optimum combustion pressure and the operating pressure of the secondary regulator.

Features

- Robust Heads made of castings
- Screw type for piping connection
- Apply adjusting bolts and T-handle bolts for easy adjustment of outlet pressure
- Built-in anti-vibration hole to suppress vibration
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Stable flow performance even with large gas usage

Material

Body, Cover	ALDC
Head	Ductile Casting Iron
Orifice	Brass
Adjust Spring	Steel
Adjust Bolt	Steel
Valve Seat	NBR
Diaphragm	NBR
Body Adjust Bolt	STEEL

Specifications

Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Remark
					Inlet	Outlet	
HYRM-350A							
HYR350-1A01	170	0.15~1.6	0.07	0.03~0.1	PT 1-1/2	PT 1-1/2	-
HYR350-1A02	190	0.2~1.6	0.1	0.04~0.15			
HYR350-1A03	220	0.3~1.6	0.15	0.05~0.2			
HYR350-1A04	350	0.4~1.6	0.2	0.05~0.2			

HYRM-100/200/300/400 Series



HYRM-100



HYRM-200/300



HYRM-400

Application

The HYRM-100/200/300/400 Series is a regulator that is attached to the primary stage of the two-stage pressure reducing system. It is a regulator that reduces the high pressure at the inlet to the optimum combustion pressure and the operating pressure of the secondary regulator.

Features

- Adjustable bolt type for easy adjustment of outlet pressure
- Allows for vertical or horizontal installation, or installation with the case rotated (convenient piping according to installation space)
- Built-in pitot tube at the outlet for stable flow performance
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Stable flow performance even with large gas usage

Material

Body, Cover	ALDC
Head	Ductile Casting Iron
Orifice	Brass
Adjust Spring	Steel
Adjust Bolt	Brass
Valve Seat	NBR
Diaphragm	NBR
Lever	Steel

Specifications

Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Remark
					Inlet	Outlet	
HYRM-100							
HYR100-1A00	100	0.1~1.6	0.07	0.04~0.085	PT 1	PT 1	-
HYRM-200							
HYR200-1A00	200	0.1~1.6	0.07	0.04~0.085	PT 1-1/2	PT 1-1/2	-
HYRM-300							
HYR300-1A00	300	0.1~1.6	0.07	0.04~0.085	PT 1-1/2	PT 1-1/2	-
HYRM-400							
HYR400-1A00	400	0.1~1.6	0.07	0.04~0.085	PT 2	PT 2	-

FIRST STAGE REGULATOR

HM-700HB Series



HM-700HB-14



HM-700HB-16

Application

The HM-700HB Series is a regulator that is attached to the primary stage of the two-stage pressure reducing system. It is a regulator that reduces the high pressure at the inlet to the optimum combustion pressure and the operating pressure of the secondary regulator.

Features

- Apply adjusting bolts for easy adjustment of outlet pressure
- Allows for vertical or horizontal installation, or installation with the case rotated (convenient piping according to installation space)
- Built-in pitot tube at the outlet for stable flow performance
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in balance device to offset the inlet pressure influence
- Stable flow performance even with large gas usage

Material

Body, Cover	ALDC
Head	Ductile Casting Iron
Orifice	Brass
Adjust Spring	Steel
Adjust Bolt	Steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Steel

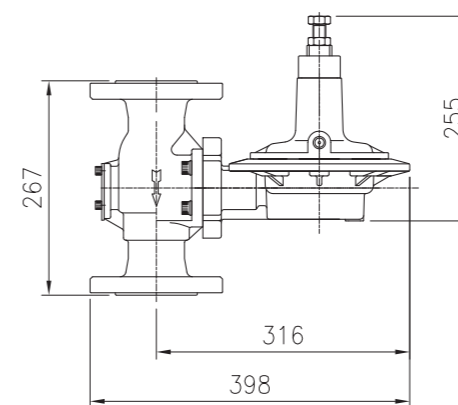
Specifications

Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Orifice (mm)
					Inlet	Outlet	
HM-700HB-14							
HYR700-1B01	200	0.15~1.6	0.07	0.03~0.1	PT 1	PT 1	14
HYR700-1B02	250	0.2~1.6	0.1	0.05~0.15			
HYR700-1B03	300	0.25~1.6	0.15	0.07~0.2			
HM-700HB-16							
HYR700-1B04	300	0.15~1.6	0.07	0.03~0.1	PT 1-1/2	PT 1-1/2	16.7
HYR700-1B05	400	0.2~1.6	0.1	0.05~0.15			
HYR700-1B06	500	0.25~1.6	0.15	0.07~0.2			

HM-1000HB Series



HM-1000HB Series



Application

The HM-1000HB Series is a regulator that is attached to the primary stage of the two-stage pressure reducing system. It is a regulator that reduces the high pressure at the inlet to the optimum combustion pressure and the operating pressure of the secondary regulator.

Features

- Adjustable bolt type for easy adjustment of outlet pressure
- External sensing type that connects control pressure from outlet pipe
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in balance device to offset the inlet pressure influence
- Stable flow performance even with large gas usage

Material

Body, Cover	ALDC
Head	Ductile Casting Iron
Orifice	Brass
Adjust Spring	Steel
Adjust Bolt	Brass
Valve Seat	NBR
Diaphragm	NBR
Lever	Steel

Specifications

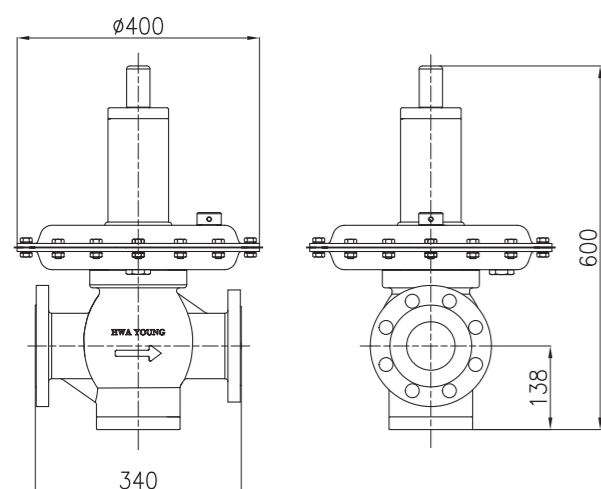
Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Orifice (mm)
					Inlet	Outlet	
HM-1000HB-20							
HYR01K-1B04	600	0.15~1.6	0.07	0.03~0.1	DN50 PN25	DN50 PN25	20
HYR01K-1B05	700	0.2~1.6	0.1	0.05~0.15			
HYR01K-1B06	800	0.25~1.6	0.15	0.07~0.2			
HM-1000HB-25							
HYR01K-1B07	750	0.15~1.6	0.07	0.03~0.1	DN50 PN25	DN50 PN25	25.4
HYR01K-1B08	900	0.2~1.6	0.1	0.05~0.15			
HYR01K-1B09	1000	0.25~1.6	0.15	0.07~0.2			

FIRST STAGE REGULATOR

HYRM-2000 Series



HYRM-2000



Application

HYRM-2000 series is the adjuster used in the 1st stage of 2 level decompression system. It is the 1st adjuster equipped with 2 level decompression system adjusting entrance high pressure to optimal combustion pressure.

Features

- Internal sensing type that connects control pressure from outlet pipe
- Built-in balance device to offset the inlet pressure influence
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Stable flow performance even with large gas usage

Material

Body	Casting Iron
Cover	Steel
Orifice	Brass
Adjust Spring	Steel
Adjust Bolt	Steel
Valve Seat	NBR
Diaphragm	NBR

Specifications

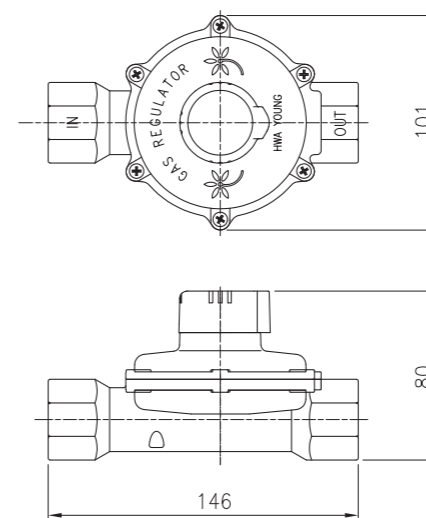
Code	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Spring Range (MPa)	Connection Size		Orifice (mm)
					Inlet	Outlet	
HYRM-2000							
HYRM-2000	2000	0.3-1.6	0.07	0.05-0.1	KS 20K RF FLANGE 80A	KS 10K RF FLANGE 80A	43

SECOND STAGE REGULATOR

HYR-205/207 Series



HYR-205/207



Application

The HYR-205/207 Series is a regulator used on the secondary stage of the two-stage pressure reducing system. It is a secondary regulator with a two-stage pressure reducing system that adjusts the inlet high pressure to the optimum combustion pressure.

Features

- Compact and light weight for easy installation
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Material

Body, Cover	ALDC
Cap	ABS
Nozzle	Brass
Adjust Spring	Steel, Stainless steel
Relief Spring	Stainless steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Stainless steel

Specifications

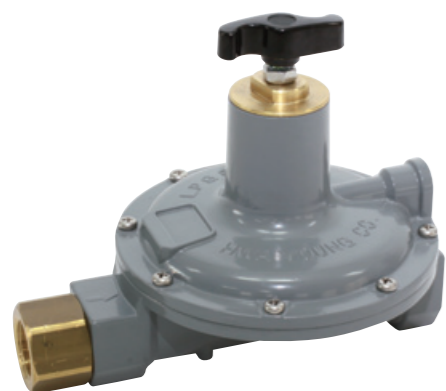
Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
5	HYR-205						
	HYR005-1F00	0.01~0.15	2.8±0.5	7±1.4	PT 1/2	PT 1/2	-
	HYR005-1G00	0.01~0.15	2.8±0.5	7±1.4			
	HYR005-1I00	0.03~0.15	6±1	No Relief	PT 3/4	PT 3/4	
	HYR005-1J00	0.03~0.15	10±2				
	HYR005-1H00	0.03~0.15	15±3				
HYR005-1K00	0.03~0.15	25±5					
7	HYR-207						
	HYR007-1C00	0.01~0.15	2.8±0.5	7±1.4	PT 3/4	PT 3/4	-
	HYR007-1D00	0.03~0.15	6±1	No Relief			
	HYR007-1E00	0.03~0.15	10±2				
	HYR007-1F00	0.03~0.15	15±3				
HYR007-1H00	0.03~0.15	25±5					

SECOND STAGE REGULATOR

HYR-212 Series HYR-215C/220C /230R Series



HYR-212
HYR-215C/220C



HYR-230R

Application

These HYR-212/215C/220C series are regulators used on the secondary stage of the two-stage pressure reducing system. It is a secondary regulator with a two-stage pressure reducing system that adjusts the inlet high pressure to the optimum combustion pressure.

Features

- Strengthened pressure-proof performance by using brass at the inlet of regulator
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Material

Body, Cover	ALDC
Cap	ABS
Nozzle	Brass
Adjust Spring	Steel
Relief Spring	Steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Stainless steel

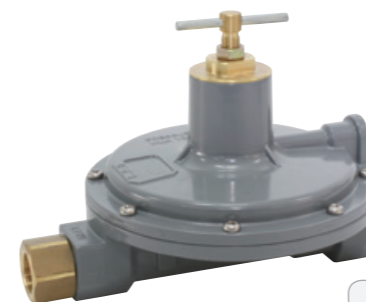
Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
12	HYR-212						
	HYR012-1D00	0.01-0.15	2.8(2.3-3.3)	7±1.4	PT 3/4	PT 3/4	PT 1/8
	HYR012-1E00	0.03-0.15	15(12-18)	No Relief	PT 1/2	PT 3/4	
HYR012-1F00	0.03-0.15	25(20-30)					
15	HYR-215C						
	HYR015-1A00	0.05-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 3/4	PT 1/8
	HYR015-1B00	0.05-0.4	15(12-18)	No Relief			
HYR015-1C00	0.05-0.4	25(20-30)					
20	HYR-220C						
	HYR020-1J00	0.07-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 3/4	PT 1/8
	HYR020-1K00	0.05-0.4	15(12-18)	No Relief			
HYR020-1L00	0.05-0.4	25(20-30)					
30	HYR-230R						
	HYR030-1T00	0.08-0.4	25(2-30)	40(36-44)	PT 3/4	PT 3/4	PT 1/8

HYR-220/235/250 Series HYR-235C/250C/250R/260C Series



HYR-220/235/250
HYR-235C/250C/260C



HYR-250R

Application

These HYR-220/235/250/235C/250C/250R/260C series are regulators used on the secondary stage of the two-stage pressure reducing system. It is a secondary regulator with a two-stage pressure reducing system that adjusts the inlet high pressure to the optimum combustion pressure.

Features

- Strengthened pressure-proof performance by using brass at the inlet of regulator
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)
- Stable flow performance even with large gas usage

Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
20	HYR-220						
	HYR020-1D00	0.01-0.15	2.8(2.3-3.3)	7±1.4	PT 3/4	PT 1	PT 1/4
	HYR020-1E00	0.03-0.15	15(12-18)	No Relief			
HYR020-1F00	0.03-0.15	25(20-30)					
35	HYR-235						
	HYR035-1D00	0.03-0.15	2.8(2.3-3.3)	7±1.4	PT 3/4	PT 1	PT 1/4
	HYR035-1E00	0.03-0.15	15(12-18)	No Relief			
	HYR035-1F00	0.03-0.15	25(20-30)				
	HYR-235C						
	HYR035-1K00	0.05-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 1	PT 1/4
HYR035-1L00	0.05-0.4	15(12-18)	No Relief	PT 3/4	PT 1		
HYR035-1M00	0.05-0.4	25(20-30)					
50	HYR-250						
	HYR050-1A00	0.03-0.15	2.8(2.3-3.3)	7±1.4	PT 3/4	PT 1	PT 1/4
	HYR050-1B00	0.04-0.15	15(12-18)	No Relief			
	HYR050-1C00	0.04-0.15	25(20-30)				
	HYR-250C						
	HYR050-1G00	0.05-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 1	PT 1/4
HYR050-1H00	0.05-0.4	15(12-18)	No Relief	PT 3/4	PT 1		
HYR050-1I00	0.05-0.4	25(20-30)					
60	HYR-250R						
	HYR030-1T00	0.08-0.4	25(2-30)	40(36-44)	PT 3/4	PT 3/4	PT 1/4
	HYR-260C						
	HYR060-1C00	0.07-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 1	PT 1/4
HYR060-1D00	0.07-0.4	15(12-18)	No Relief	PT 3/4	PT 1		
HYR060-1E00	0.07-0.4	25(20-30)					

SECOND STAGE REGULATOR

HYR-2060C/2080C Series HYR-2100/2100C Series



HYR-2060C/2080C



HYR-2100/2100C

➤ Application

These HYR-2060C/2080C/2100/2100C series are regulators used on the secondary stage of the two-stage pressure reducing system. It is a secondary regulator with a two-stage pressure reducing system that adjusts the inlet high pressure to the optimum combustion pressure.

➤ Features

- Allows for vertical or horizontal installation, or installation with the case rotated (convenient piping according to installation space)
- Built-in pitot tube at the outlet for stable flow performance
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

➤ Material

Body, Cover	ALDC
Head	Ductile Casting Iron
Orifice	Brass
Adjust Spring	Steel
Relief Spring	Steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Stainless steel

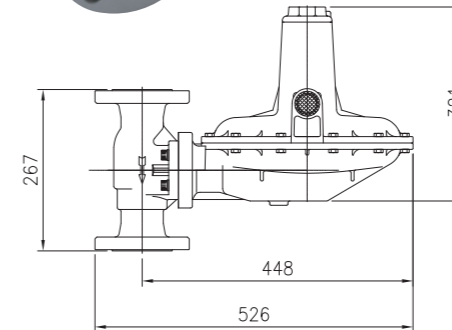
➤ Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
60	HYR-2060C				PT 1	PT 1	-
	HYR060-1F00	0.07-0.4	2.8(2.3-3.3)	7±1.4			
	HYR060-1G00	0.07-0.4	15(12-18)	No Relief			
80	HYR-2080C				PT 1	PT 1	-
	HYR080-1A00	0.07-0.4	2.8(2.3-3.3)	No Relief			
	HYR080-1B00	0.07-0.4	25(20-30)	No Relief			
100	HYR-2100				PT 1-1/2	PT 1-1/2	-
	HYR100-1F00	0.04-0.15	15(12-18)	No Relief			
	HYR100-1C00	0.04-0.15	25(20-30)	No Relief			
	HYR-2100C				PT 2	PT 2	-
	HYR100-1F01	0.04-0.15	15(12-18)	No Relief			
	HYR100-1C01	0.04-0.15	25(20-30)	No Relief			
	HYR-2100C				PT 1-1/2	PT 1-1/2	-
	HYR100-1G00	0.07-0.4	15(12-18)	No Relief			
	HYR100-1H00	0.07-0.4	25(20-30)	No Relief			
HYR-2100C				PT 2	PT 2	-	
HYR100-1G01	0.07-0.4	15(12-18)	No Relief				
HYR100-1H02	0.07-0.4	25(20-30)	No Relief				

HYR-2150/2200 Series HYR-2150C/2200C/2300C Series



HYR-2150/2200
HYR-2150C/2200C/2300C



➤ Application

These HYR-2150/2200/2150C/2200C/2300C series are regulators used on the secondary stage of the two-stage pressure reducing system. It is a secondary regulator with a two-stage pressure reducing system that adjusts the inlet high pressure to the optimum combustion pressure.

➤ Features

- Allows for vertical or horizontal installation, or installation with the case rotated (convenient piping according to installation space)
- Built-in pitot tube at the outlet for stable flow performance
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)
- Stable flow performance even with large gas usage

➤ Specifications

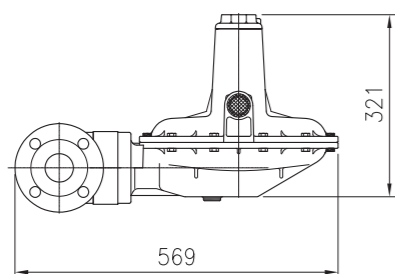
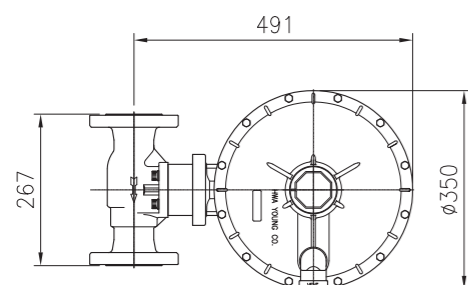
Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
150	HYR-2150				50-10K Flange	50-10K Flange	PT 1"
	HYR100-1B00	0.03-0.15	2.8(2.3-3.3)	7±1.4			
	HYR100-1D00	0.04-0.15	15(12-18)	No Relief			
	HYR100-1E00	0.04-0.15	25(20-30)	No Relief			
	HYR-2150C				50-10K Flange	50-10K Flange	PT 1"
	HYR150-1A00	0.07-0.4	2.8(2.3-3.3)	7±1.4			
HYR150-1B00	0.07-0.4	15(12-18)	No Relief				
200	HYR-2200				50-10K Flange	50-10K Flange	PT 1"
	HYR200-1B00	0.03-0.15	2.8(2.3-3.3)	7±1.4			
	HYR200-1D00	0.04-0.15	15(12-18)	No Relief			
	HYR200-1C00	0.04-0.15	25(20-30)	No Relief			
	HYR-2200C				50-10K Flange	50-10K Flange	PT 1"
	HYR200-1E00	0.07-0.4	2.8(2.3-3.3)	7±1.4			
HYR200-1F00	0.07-0.4	15(12-18)	No Relief				
300	HYR-2300C				50-10K Flange	50-10K Flange	PT 1"
	HYR300-1B00	0.1-0.4	15(12-18)	No Relief			
	HYR300-1C00	0.1-0.4	25(20-30)	No Relief			

SECOND STAGE REGULATOR

HYR2-815WA Series



HYR2-815WA



Application

The HYR2-815WA series is a regulator used on the secondary stage of the two-stage pressure reducing system. It is a secondary regulator with a two-stage pressure reducing system that adjusts the inlet high pressure to the optimum combustion pressure.

Features

- External sensing type that connects control pressure from outlet pipe
- Allows for vertical or horizontal installation, or installation with the case rotated (convenient piping according to installation space)
- Built-in balance device to offset the inlet pressure influence
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)
- Stable flow performance even with large gas usage

Material

Body, Cover	ALDC
Head	Ductile Casting Iron
Orifice	Brass
Adjust Spring	Steel
Relief Spring	Steel
Valve Seat	NBR
Diaphragm	NBR
Lever	Steel

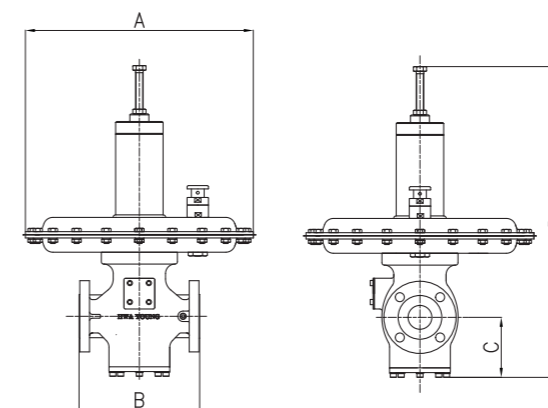
Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
400	HYR2-815WA						
	HYR400-1C01	0.07~0.4	2.8(2.3~3.3)	7±1.4	50-10K Flange	50-10K Flange	PT 1"
	HYR400-1C02	0.07~0.4	15(12~18)	No Relief			
	HYR400-1C03	0.07~0.4	25(20~30)				
	HYR400-1C04	0.07~0.4	40(32~48)				

HN-2000A/HN-2070A Series



HN-2000A / HN-2070A



Dimension

MODEL	A	B	C	D
HN-2000A	480	254	126	654
HN-2070A	400	254	126	622

Unit: mm

Application

The HN-2000A/HN-2070A is a regulator used on the secondary stage of the two-stage pressure reducing system. It is a secondary regulator with a two-stage pressure reducing system that adjusts the inlet high pressure to the optimum combustion pressure.

Features

- Internal sensing type that connects control pressure from outlet pipe
- Built-in balance device to offset the inlet pressure influence
- Used corrosion-resistant materials and anti-corrosion treatment applied on components for long-term use
- Specially designed built-in diaphragm to respond quickly to pressure changes
- Stable flow performance even with large gas usage

Material

Cover	Steel
Body	Casting Iron
Orifice	Brass
Adjust Spring	Steel
Valve Rod	Stainless steel
Valve Seat	NBR
Diaphragm	NBR
Balance Diaphragm	NBR

Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
1000	HN-2000A						
	HYR01K-1A02	0.07~0.4	10(8~12)	-	DN50 PN25	DN50 PN25	-
	HYR01K-1A03	0.07~0.4	15(12~18)				
	HYR01K-1A04	0.07~0.4	20(16~24)				
	HYR01K-1A05	0.07~0.4	25(20~30)				
	HN-2070A						
	HYR01K-1A06	0.07~0.4	30(24~36)	-	DN50 PN25	DN50 PN25	-
HYR01K-1A07	0.07~0.4	40(32~48)					

AUTOMATIC CHANGEOVER REGULATOR



HAC-6/8 Series



HAC-6/8 (Inlet: PT 1/4)



HAC-8 (Inlet: PT 1/2)

Application

The HAC-6/8 automatic transfer regulator is designed to supply gas continuously without interruption of the gas supply. When the gas on the supply side is exhausted, gas is automatically supplied from the container on the reserve side, and the indicator on the display window turns red to indicate that the gas is exhausted. If you manually turn the arrow direction on the regulator cap while replacing the gas container, the red mark on the display disappears.

Features

- PT thread on the inlet side allows for high pressure hose and piping connection
- Double threaded structure allows for direct pipe connection and union connection to outlet
- Integrated automatic transfer switch and secondary pressure regulator
- Red indicator for checking gas exhaustion provided
- Arrow-shaped cap to switch transfer direction
- Used corrosion-resistant materials and anticorrosion treatment applied on components for long-term use
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Specifications

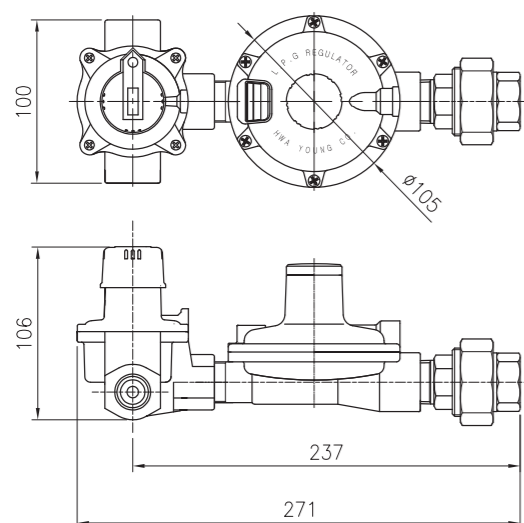
Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Remark
					Inlet	Outlet	
6	HAC-6						
	HYA006-1A00	0.1~1.6	2.8±0.5	7±1.4	PT 1/4	PT 3/4 (Union 20A)	-
	HYA006-1B00	0.1~1.6	15±3	No Relief			
HYA006-1C00	0.1~1.6	25±5	No Relief				
8	HAC-8						
	HYA008-1A00	0.1~1.6	2.8±0.5	7±1.4	PT 1/4	PT 3/4 (Union 20A)	-
	HYA008-1B00	0.1~1.6	15±3	No Relief			
	HYA008-1C00	0.1~1.6	25±5	No Relief			
	HYA008-1D00	0.1~1.6	2.8±0.5	7±1.4	PT 1/2	PT 3/4 (Union 20A)	-
HYA008-1E00	0.1~1.6	25±5	No Relief				

AUTOMATIC CHANGEOVER REGULATOR

HAC-12 Series



HAC-12 Series



Application

The HAC-12 automatic transfer regulator is designed to supply gas continuously without interruption of the gas supply. When the gas on the supply side is exhausted, gas is automatically supplied from the container on the reserve side, and the indicator on the display window turns red to indicate that the gas is exhausted. If you manually turn the arrow direction on the regulator cap while replacing the gas container, the red mark on the display disappears.

Features

- PT thread on the inlet side allows for high pressure hose and piping connection
- Double threaded structure allows for direct pipe connection and union connection to outlet
- Integrated automatic transfer switch and secondary pressure regulator
- Red indicator for checking gas exhaustion provided
- Arrow-shaped cap to switch transfer direction
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Material

Body, Cover	ALDC
Cap	ABS
Orifice	Brass
Adjust Spring	Steel
Valve Seat	NBR
Diaphragm	NBR
Valve rod	Steel

Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Remark
					Inlet	Outlet	
12	HAC-12						
	HYA012-1A00	0.1~1.6	2.8(2.3~3.3)	7±1.4	PT 1/2	PT 3/4 (Union 20A)	-
	HYA012-1B00	0.1~1.6	15(12~18)	No Relief			
HYA012-1C00	0.1~1.6	25(20~30)					

HAC-20/35 Series



HAC-20

HAC-35

HACM-35

Application

The HAC-20/35 & HACM-35 automatic transfer regulator is designed to supply gas continuously without interruption of the gas supply. When the gas on the supply side is exhausted, gas is automatically supplied from the container on the reserve side, and the indicator on the display window turns red to indicate that the gas is exhausted. If you manually turn the arrow direction on the regulator cap while replacing the gas container, the red mark on the display disappears.

Features

- PT thread on the inlet side allows for high pressure hose and piping connection
- Double threaded structure allows for direct pipe connection and union connection to outlet
- Integrated automatic transfer switch and secondary pressure regulator
- Red indicator for checking gas exhaustion provided
- Arrow-shaped cap to switch transfer direction
- Used corrosion-resistant materials and anticorrosion treatment applied on components for long-term use
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters
- Built-in relief device (when the outlet pressure reaches 2.8 kPa)

Specifications

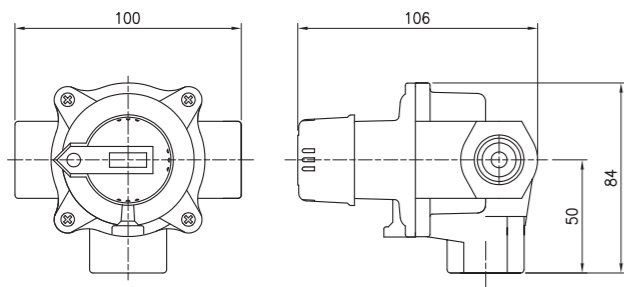
Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Remark
					Inlet	Outlet	
20	HAC-20						
	HYA020-1A00	0.1~1.6	2.8(2.3~3.3)	7±1.4	PT 1/2	PT 3/4 (Union 20A)	-
	HYA020-1B00	0.1~1.6	15(12~18)	No Relief			
HYA020-1C00	0.1~1.6	25(20~30)					
35	HAC-35						
	HYA035-1A00	0.1~1.6	2.8(2.3~3.3)	7±1.4	PT 1/4	PT 1 (Union 25A)	-
	HYA035-1B00	0.1~1.6	15(12~18)	No Relief			
	HYA035-1C00	0.1~1.6	25(20~30)				
HACM-35							
	HYA035-1E00	0.2~1.6	70(30~100)	No Relief	PT 1/2	PT 1 (Union 20A)	-

AUTOMATIC CHANGEOVER REGULATOR

HAX-10/15 Series



HAX-10/15



Application

The HAX-10/15 automatic transfer regulator is designed to supply gas continuously without interruption of the gas supply. When the gas on the supply side is exhausted, gas is automatically supplied from the container on the reserve side, and the indicator on the display window turns red to indicate that the gas is exhausted. If you manually turn the arrow direction on the regulator cap while replacing the gas container, the red mark on the display disappears.

Features

- Detachable type to allow for medium pressure supply
- PT thread on the inlet side allows for high pressure hose and piping connection
- Red indicator for checking gas exhaustion provided
- Arrow-shaped cap to switch transfer direction
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters

Material

Body, Cover	ALDC
Cap	ABS
Orifice	Brass
Adjust Spring	Steel
Valve Seat	NBR
Diaphragm	NBR
Valve rod	Steel

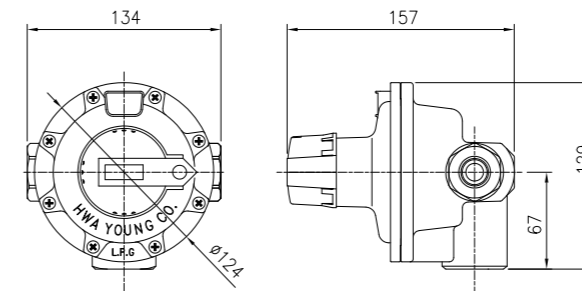
Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Outlet Pressure Range (MPa)	Connection Size		Remark
					Inlet	Outlet	
10	HAX-10						
	HYA010-1A00	0.1~1.6	0.07	0.032~0.083	PT 1/2	PT 1/2	
15	HAX-15						
	HYA015-1A00	0.1~1.6	0.07	0.032~0.083	PT 1/2	PT 1/2	

HAX-20/35/60 Series



HAX-20/35/60



Application

The HAX-20/35/60 automatic transfer regulator is designed to supply gas continuously without interruption of the gas supply. When the gas on the supply side is exhausted, gas is automatically supplied from the container on the reserve side, and the indicator on the display window turns red to indicate that the gas is exhausted. If you manually turn the arrow direction on the regulator cap while replacing the gas container, the red mark on the display disappears.

Features

- Detachable type to allow for medium pressure supply
- PT thread on the inlet side allows for high pressure hose and piping connection
- Red indicator for checking gas exhaustion provided
- Arrow-shaped cap to switch transfer direction
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters

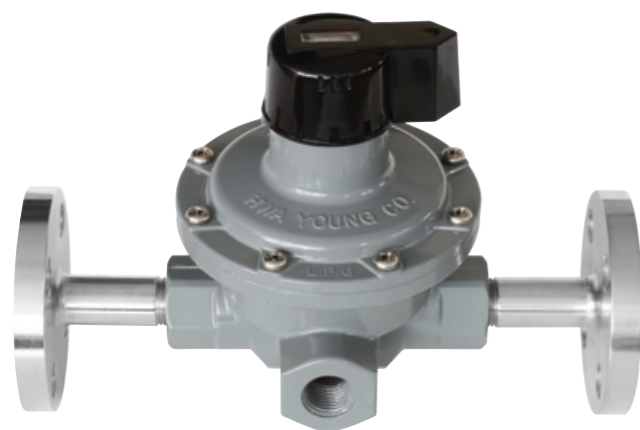
Material

Body, Cover	ALDC
Cap	ABS
Orifice	Brass
Adjust Spring	Steel
Valve Seat	NBR
Diaphragm	NBR
Valve rod	Steel

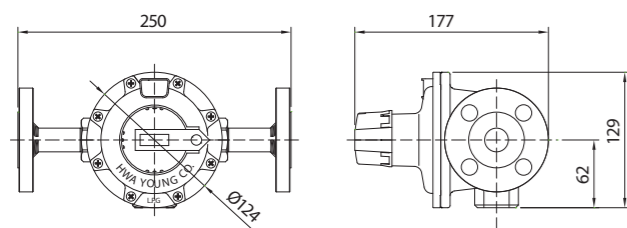
Specifications

Capacity (kg/h)	Code	Inlet Pressure (MPa)	Outlet Pressure (MPa)	Outlet Pressure Range (MPa)	Connection Size		Remark
					Inlet	Outlet	
20	HAX-20						
	HYA020-1D00	0.1~1.6	0.07	0.032~0.083	PT 1/2	PT 1/2	
	HAX-20A						
	HYA020-1E00	0.2~1.6	0.15	0.1~0.18	PT 1/2	PT 1/2	
35	HAX-35						
	HYA035-1D00	0.1~1.6	0.07	0.032~0.083	PT 1/2	PT 1/2	
	HAX-35A						
	HYA035-1E00	0.2~1.6	0.15	0.1~0.18	PT 1/2	PT 1/2	
60	HAX-60A						
	HYA060-1E00	0.2~1.6	0.15	0.1~0.18	PT 1/2	PT 1/2	

HAX-35B AUTO CHANGEOVER REGULATOR



HAX-35B



Application

The HAX-35B automatic transfer regulator is designed to supply gas continuously without interruption of the gas supply. When the gas on the supply side is exhausted, gas is automatically supplied from the container on the reserve side, and the indicator on the display window turns red to indicate that the gas is exhausted. If you manually turn the arrow direction on the regulator cap while replacing the gas container, the red mark on the display disappears.

Features

- Detachable type to allow for medium pressure supply
- The type of flange on the inlet side allows easy piping connection
- Red indicator for checking gas exhaustion provided
- Arrow-shaped cap to switch transfer direction
- Stainless steel nets installed at the inlet and vent prevent the inflow of foreign matters

Material

Body, Cover	Aluminum
Cap	Plastic
Orifice	Brass
Adjust Spring	Steel
Valve Seat	Nitrile(NBR)
Diaphragm	Nitrile(NBR)
Valve rod	Steel

Specifications

Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (MPa)		Outlet Pressure Range (MPa)	Connection Size		Remark
		Supply Setting	Reserve Setting		Inlet	Outlet	
35	0.2~1.6	0.14	0.11	0.1~0.16	Flange KS/JIS 15A-20k	PT 1/2	

LIQUID CHANGEOVER DEVICE (HLX-301)

Automatic Changeover regulators prevent gas outages by switching supply cylinders over to the reserve cylinder automatically when the primary cylinder is near empty. When the primary cylinder is depleted causing the changeover to occur a red indicator will appear signifying the reserve cylinder is now in use and the primary cylinder can be refilled without loss of service.

Reduced the damage from the deterioration by metal abrasion, even though use valve often frequencies.

This regulator equipped convert handle which indicates "serve" and "reserve", and diaphragm operation would help adjusting demand pressure.

This compact designed for especially space limitation, and light weight helps to easier installation.



Specification

Model	HLX-301A				
Service	Liquefied Petroleum Gas (LPG : Liquid Condition)				
Max. Capacity	300 kg/h				
Inlet Pressure Range	(Changeover Pressure + ΔP) ~1.56 MPa (15.6 kgf/cm ²)				
Setting Changeover Pressure	0.05 ~0.2 MPa (0.5~2.0 kgf/cm ²)				
Internal Pressure	3 MPa (30 kgf/cm ²)				
Inlet / Outlet Connections	20K-20A Flange				
Inlet / Outlet Length	315mm X 170mm				
Weight	9.1kg				

About inlet pressure ΔP , Please refer to below table

Capacity (Kg/hr)	100 ↓	100~150	150~200	200~250	250 ↑
ΔP (kgf/cm ²)	0.03 MPa (0.3 kgf/cm ²)	0.07 MPa (0.7 kgf/cm ²)	0.11 MPa (1.1kgf/cm ²)	0.14 MPa (1.1kgf/cm ²)	0.18 MPa (1.1kgf/cm ²)

Example) in case of changeover pressure 0.05MPa, Capacity 190kg/h 0.05+0.11=0.16 MPa (changeover Pressure + ΔP)

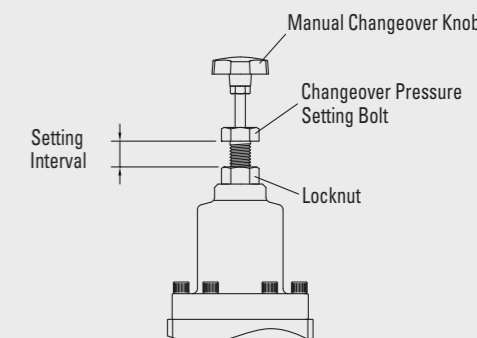
* Outlet pressure is adjustable by setting the length of adjusting screw. When it's needed, Please refer to the below table.

Setting Interval	21mm	16mm	12mm	7mm
Setting Changeover Pressure	0.05 MPa (0.5 kgf/cm ²)	0.1 MPa (1 kgf/cm ²)	0.15 MPa (1.5kgf/cm ²)	0.2 MPa (2kgf/cm ²)

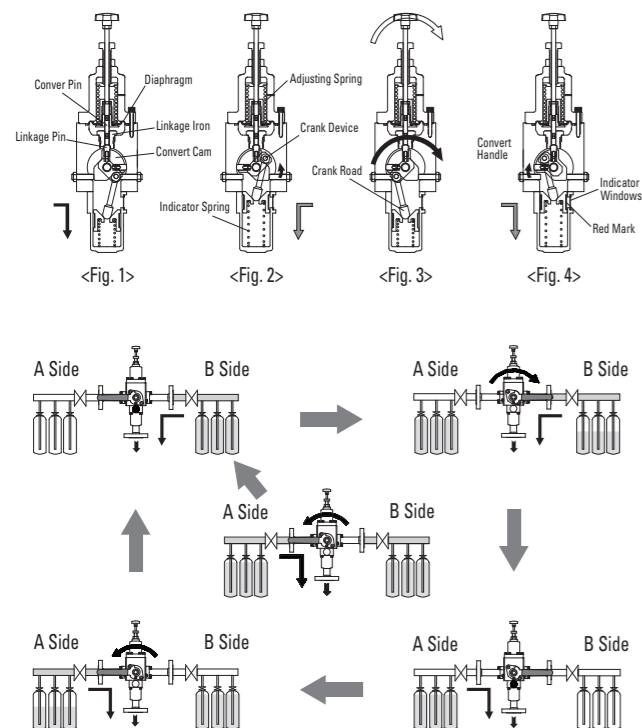
* Note that this product approved performance from Korea Gas Safety Corporation. The warranty is a year from customer purchased.

Adjusting pressure

1. Automatic changeover device equipped two types of spring which allows accurate and comfortable control the demand pressure.
2. Regulator apply pressure range from 0.5 to 2.0kgf/cm², if require to adjust demand pressure, please check adjusting knob length.
3. To adjust demand control, there is a pressure control screw either turning to clockwise or counterclockwise. Be sure that adjusting knob provides various pressure demands, and suitable pressure has been released.



► Operation



A indicates serve, and B indicates reserve

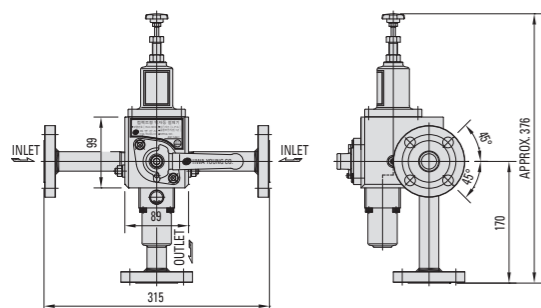
Figure 1 Pressure from A is lower than demand pressure which means that changeover operates properly. Therefore, gas flows from B. (At this time, indicator shows red)

Figure 2 Reserve provides gas to regulator at this moment. To close valve from A, turn convert handle to B which allows replacing new gas cylinders for A. (indicator shows red to colorless).

Figure 3. The other Pressure from B has lower than demand pressure now, so that A supplies gas to the regulator. (indicators changes from colorless to red).

Figure 4. Gas provided from the A, as same operation as figure 2, to close valve from B, turn convert handle from A to B which allows refilled the gas cylinders for B

► Dimension



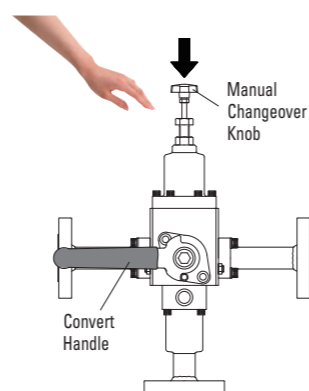
► Maintenance

- ① Replacing a gas cylinder, must inspect the indicator and follow below procedure.
 - 1) When indicator turned in red, (assuming indicator direction is serve) gas is being supplied from the reserve cylinder.
 - 2) Closing service valve and high pressure pipe valve, and turn convert to opposite.
 - 3) Note that do not replace a gas cylinder without procedures above.
 - 4) Replace a new cylinder after inspection has been made.
- ② After replacing a new cylinder, MUST check an indicator turned to colorless. If indicator still remains red, slowly redo the procedure above.
- ③ After all pressure has been released from the regulator, check an indicator point to proper direction (either serve or reserve), then inspect that there is a gas leak in the cylinder valve, inlet fitting, high pressure hose, or regulator seat.
- ④ Do not attempt to load any heavy matters on the regulator for safety issue.
- ⑤ Do not attempt move or place a cylinder when connected with high pressure hose.

► Manual changeover

* User can change from reserve or serve manually if indicator function in case of not working properly.

- ① Colorless of indicator means serve, however, it may be unreleased gas from the serve. In this problem, push manual changeover button to release gas flow properly.
- ② At the time pushing manual changeover button, indicator turns to red mark. This procedure makes to change from "serve" to "reserve" .
- ③ Must turn convert handle to opposite direction, after indicator appeared red mark.



* Do not attempt to push manual changeover knob with hammer.
 ** Do not keep pushing knob during processing.

HWA YOUNG GAS HOSE



This product has been approved by KGS (Korean Gas Safety Association) through passing all the quality standard and safety tests which are higher specification than any other nations for LPG or LNG application. For your safety and correct using, please follow the steps of installation as below. Otherwise it may cause failure of safety and lead to critical problem. HWA YOUNG's LN Gas Hose is feasible to use for delivery of LP Gas or LN Gas from propane gas cylinder or high pressure of natural gas through piping to combustor safely.

► Feature

The outer layer is made of special material in order to endure long lasting from outside condition such as temperature change and direct sunlight. The mid layer which is made of thin metal wire can avoid the risk of accident from worn out caused by high temperature or pressure or intentional cutting. Also, the inner layer is specialized for oil resistance and possible to completely avoid the gas leakage. These special three layers actualized Hwa Young's LN Gas Hose to secure both safety and durability.

► Caution

- Keep away from the Flame. The flame causes hose damage and might cause explosion.
- The leakage might be caused if use Y connection or T connection.
- Replace the hose if there is crack or color fade.
- Intentional disconnection or cut of hose is not allowed. (It might cause leakage and explosion.)
- Replace the hose if the hose were exposed to high temperature or oily condition for long time.
- Do not place the hose behind the refrigerator or place where that can not visualize the hose easily because the hose should visually checked periodically.
- If the hose is bent or twisted for long time, the durability of hose might be affected and shortened the life time.

Liquid Propane & Natural Gas Hose

Feature

- No. 1 rated consumer reliability & satisfaction for both domestic & global market. Over 90% market share in domestic market
- The special outer layer with PVC material makes realization for long lasting use without any problem which can be caused by various weather condition or direct sun light.
- Completely avoided any leakage. The inner layer with special coated PVC material resists oil & gas.
- Outstanding durability and safety by layered structure.
- The quality is guaranteed by Korea Gas Safety who has very strict standard to regulate quality in gas product industry in Korea.
- Completely avoids any safety accident from damage to hose by metallic wired layer.
- The flexible makes easy to install in limited space by bending of hose without any damage because it has excellent restoring force.



Product Name :	JUMBO HOSE
Standard :	KS M 3813
Dimension :	Inner Dia : 9.5mm ± 0.7mm
	Outer Dia : 22mm or below
	Length: 30m ± 0.3
Color :	White
Working Pressure :	196 kPa or below
Burst Pressure :	3.92 MPa or above
Working Temperature :	-20°C

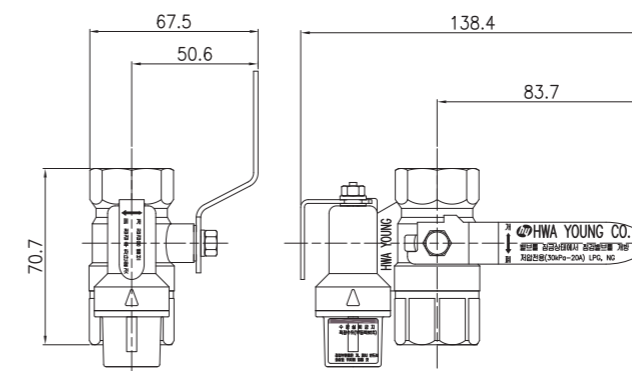


Product Name :	LPG HOSE
Standard :	KS M 3813
Dimension :	Inner Dia : 9.5mm ± 0.7mm
	Outer Dia : 22mm or below
	Length: 50 ± 0.5
Color :	Orange
Working Pressure :	196 kPa or below
Burst Pressure :	3.92 MPa or above
Working Temperature :	-20°C

SMART CHECK VALVE



HVA-20



Application

Smart check valve can check gas leakage of reclaimed the pipe by installing at the front side of 20A gas pipe meter when low pressure gas (LPG, LNG) of 30kPa or less. It can be installed easily, and it can be used as alternative for inspection meter. Horizontal installation is prohibited.

Features

- Possible self leakage inspection and easy installation after construction of reclaimed gas pipe
- Possible easy visual verification of the leakage of gas line that is difficult to check
- Possible verification of leakage in the environment where electronic detection is impossible such as reclaimed pipe
- Prevention of back flow of inspection liquid with back flow blocking device design

Material

Body	Brass
Valve ball	Brass
Valve Seat	Teflon
handle	SPHC
Inspection barrel	PC

Usage

1. During the use of the gas, as the same as how to use general valve, use it by turning the handle of the main pipe in the direction of open <-> close.
2. During the inspection of leakage of the reclaimed gas line, close the valve of the main pipe and turn the small handle in the inspection part counterclockwise according to the open marking to check the gas leakage.
3. If gas is leaking from the reclaimed pipe, air bubble will be formed without stopping in the inspection water barrel.
4. After the gas leakage inspection, make sure to turn the inspection valve clockwise in the closing direction.

Specifications

Model	Pressure (kPa)	Gas	Connection Size		Weight (kg)
			Inlet	Outlet	
HVA-20	Below 30	NG	PT 3/4 (20A)		0.5

HIGH PRESSURE RUBBER HOSE (PIG TAIL HOSE)

Feature

Strengthened safety probability by coating inside of hose to make possible to avoid leakage completely
 High strength synthetic sand is applied for mid layer to minimize the damage from high pressure usage
 Special oil resistant and anti wear compound rubber is applied for long lasting use and high durability as well as excellent safety which are strong points.



It is possible to be connected free in any direction with gas cylinder or pipe regardless of any size of space by its high flexibility. In addition, it is designed with pol handle for inlet and PT thread for outlet connection in order to connect directly to LPG cylinder and pressure regulator for comfort and safety. For the connection material of inlet and outlet, the brass is selected to avoid corrosion to make high durability..

Specification

Model	HYP-10-RH
Application	LP GAS
Type	Vapor
Length	1000 mm (1M)
Inlet Connection Size	Pol Handle L.H W22.5 x 14T
Outlet Connection Size	PT1/4 B
Applicable Pressure	1.8 MPa (18kgf/cm ²) or below
Inner Diameter	Ø6
Outer Diameter	Ø12



The liquid type of design's one of the main features is when over flow of gas is occurred, the relief valve which equipped inside of hose is being mechanically sensed and operated to block the gas flow. It makes possible to replace the LPG gas cylinder without back flow of gas.

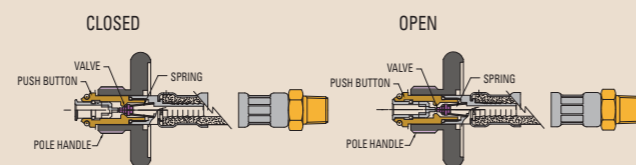
Specification

Model	HYP-10-AV-F
Application	LP GAS
Type	Liquid
Length	1000 mm (1M)
Inlet Connection Size	Pol Handle L.H M22 X P1.5
Outlet Connection Size	PT1/4 B
Applicable Pressure	1.8 MPa (18kgf/cm ²) or below
Inner Diameter	Ø6
Outer Diameter	Ø12

HCP-8HV Principle of Operation

When connected condition of hose's inlet side with gas cylinder or pipe, the valve is being opened by pushed from hose's nipple to make influx of gas.

On the other hand, when disconnecting the hose, the spring force makes valve to move towards the inlet side and block the way of gas flow.



SMART HOSE

Feature

Reinforced Safety

- Patented optimum connection to prevent gas leakage with exclusive clamp
- Prevent hose cutting or damage using flexible metal materials inside hose
- Special yarn middle layer is designated for protecting inside layer from heating or flame etc.
- Safety character is reinforced with 4 layer construction

Elegant external appearance

- As high qualified gas hose, up-grade kitchen interior design
- Easy to remove hose surface dust or other materials

Working efficient and convenience

- Working efficiency is excellent using exclusive clamp
- Choice 1M/1.3M/1.5M/1.8M/2M/2.5M/3M hose length according to install site

Specification

Dimensions	Inside Diameter	Ø9.5 ± 0.7 mm (Ø3/8 inch)
	Outside Diameter	Ø22 mm below
	Length	1M/1.3M/1.5M/1.8M/2M/2.5M/3M
Working Pressure	196 kPa or below	
Burst Pressure	4 MPa above	



QUICK COUPLER

- Applcance using city gas or L.P gas, Max Pressure of 13 inch W.C (3.3 kPa)
- Easier hose connection & disconnection, thus suitable for portable appliances
- Engineer plastics material provides high impact, high temperature, flame retardant and gas tight characteristics



Safety is our 1st Priority

HIGH CAPACITY PRESSURE REGULATOR

HGM-10 SERIES REGULATOR	58
HYR-815 SERIES HIGH CAPACITY REGULATOR	60
HYR-200 SERIES HIGH CAPACITY REGULATOR	66
HYR2-815 SERIES HIGH CAPACITY REGULATOR	70
HM-700 SERIES REGULATOR	76
HM-1000 SERIES REGULATOR	82
HN SERIES HIGH CAPACITY REGULATOR	92



High capacity regulator manual

Structure & Feature

1. HYR series regulator (spring operating type) could adjust outlet pressure easily with controlling spring load by adjusting screw or changing other springs having different pressure range.
2. Installation, maintain etc is very easy because Body (or Head), Regulating case and OPSO (Over Pressure Shut Off) are assembled with flange type by connecting thread. And, Orifice, Valve seat, Regulating case, OPSO (Over Pressure Shut Off) replacement is possible without disconnection of pipe and regulator body (head).
3. HYR Series Regulator could choice Orifice according to first stage pressure of inlet part and using capacity. Also, easily can replace Orifice according to using pressure and capacity.
4. HYR Series Regulator built-in Relief valve and prevent accident in case of outlet pressure increasing by attaching OPSO (Over Pressure Shut Off).
5. It's possible both verticality and horizontality installation. So, it is convenience to install pipe.
6. Inside construction of body (or Head) have outlet style considering Venturi effect. So, capacity loss is reduced maximally when gas is flowing.

Operation

1. Regulator have three function. One is constant supply pressure function. Another is adjusting supply pressure. The third is lock-up function.
2. Diaphragm movement due to inside pressure is delivered to valve by connecting lever. So, according to using gas volume, body orifice is opened and closed. At this time, adjusted pressure is keeping balance with spring loading pressure.
3. During operation, outlet pressure is higher than adjusted pressure, diaphragm move to upward connected valve is closed. And then, outlet pressure is reduced until reach to spring opening force pressure.
4. Other material inflow to inside valve or damaged valve, outlet pressure is increased continually. At this time, it work relief valve or OPSO (Over Pressure Shut Off) and prevent second stage pressure increasing or gas supply is cut off.

Safety Device

OPSO (Over Pressure Shut Off)

1. Function

OPSO is automatically operated when outlet pressure is increasing to OPSO setting pressure and gas supply is cut off. Shut off pressure setting is manufacturer option. But, it can be adjusted according to client demand or installation site.

2. Operation

Fig 1.
Normal Operation

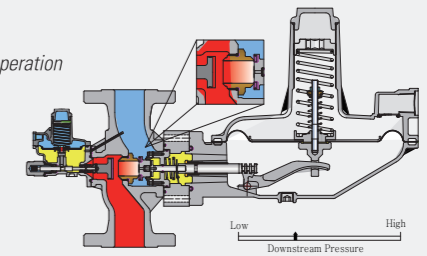


Fig 2.
Increase of flow at outlet side

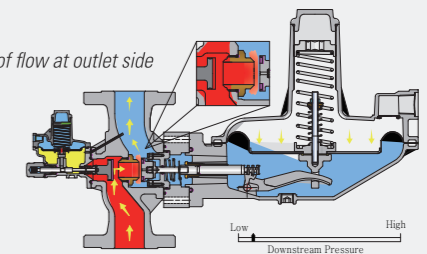


Fig 3.
Inflow of foreign material

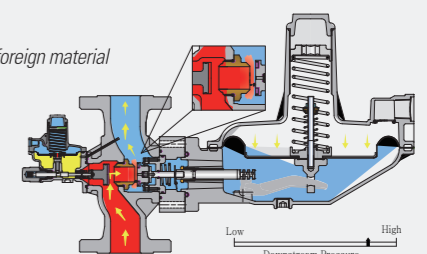
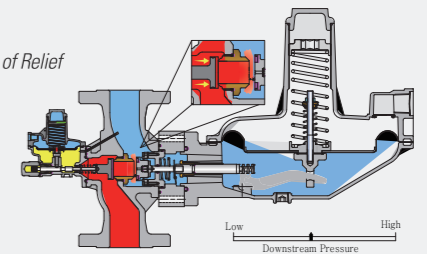


Fig 4.
Operation of Relief



1. The movement of diaphragm by the pressure that has formed inside of regulator made by the connected lever and it delivers to valve in order to makes proper gap in between body and orifice based on amount of gas using. At this point, the pressure balances with spring and loaded weight.
2. As the gas is increasing at outlet side, the outlet pressure at bottom side of diaphragm is decreasing, so the spring of upper side of diaphragm pushes the diaphragm until it parallelize to pressure at bottom side. At the same time, the lever which is connected to diaphragm makes movement to increase the flow of gas by getting valve stem & valve seat away from the orifice.
3. When the flow of gas is decreasing due to foreign material in between orifice and valve seat, the bottom pressure pushes diaphragm upward until parallel to the loaded weight of spring. If the pressure which is formed at bottom side of diaphragm pushes diaphragm, the lever moves to makes movement of valve stem and valve seat towards the orifice and should make decrease of flow of gas, but the foreign material causes continuous inflow of gas and the bottom side pressure is being formed higher than the loaded weight.
4. The diaphragm is being pushed upward by delivery of unexpectedly higher outlet pressure than setting from OPSO sensing port through OPSO diaphragm and the valve disc arm's locking pin is being released by connected locking pin to diaphragm in order to block bottom of orifice by movement of shutoff spring and valve disc forward to stop supply of gas.

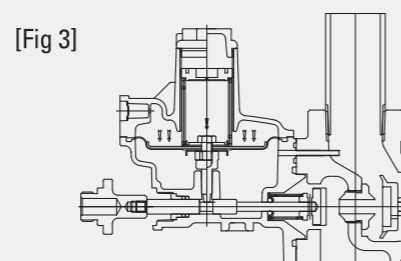
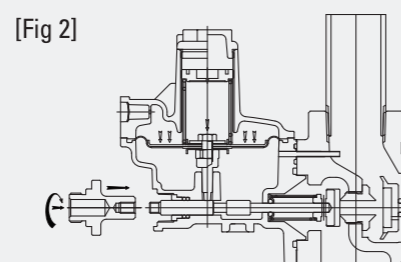
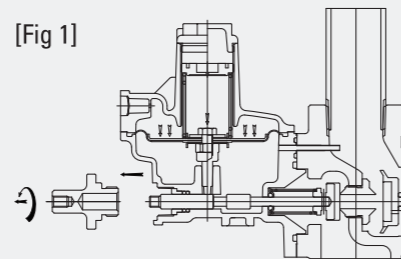
* OPSO makes automatic shutoff of gas when the outlet pressure keeps increasing until reaching setting pressure.

** The setting pressure of shut off has set based on the maker's standard or customer's requirement but it can be adjusted easily at field.

3. OPSO RESET

When adjusting the working pressure, check the setting point of OPSO according to the below step.

! Pre-Caution - The damage might be occurred to OPSO, if users don't follow the instruction as below.



Step 1 : Separate the OPSO spindle cap at closed condition just like the fig. 1.

Step 2 : Attach the back side of cap to OPSO spindle.

Step 3 : Release the pressure of downstream below working pressure of OPSO and pull the spindle cap slowly until you can hear its "clicking sound".

Step 4 : Take the spindle cap back to the normal condition as it was and then check if the regulator works fine by opening the valve at inlet side slowly to apply pressure.

4. Adjusting Outlet Pressure

* Note

The setting pressure range is indicated on name plate of the regulator. If the required pressure range is not covered by setting pressure range, replace the spring to correct one. Also, if replacing of spring is done, revise the setting pressure range on the name plate. During adjusting the pressure of regulator, keep an eye on pressure gage to monitor outlet pressure.

@ Adjusting the outlet pressure within the allowed pressure range

1. Open the cap.
2. To increase the outlet pressure, rotate the adjusting screw to clockwise. To decrease the outlet pressure, rotate the adjusting screw to counter clockwise.
3. Close the cap.

@ Adjusting the outlet pressure out of allowed pressure range

When adjusting of setting pressure which is out of pressure range is needed based on change of atmosphere for using of regulator, follow the steps below to replace the spring and adjust the outlet pressure.

1. Open the cap.
2. Use the wrench to rotate adjusting screw by clockwise in order to make complete release.
3. After completion of replacing spring, resetting the outlet pressure by rotating adjusting screw with monitoring the pressure gauge.

5. Pre Caution

1. When both of the internal relief and OPSO are equipped, both internal relief spring and OPSO working spring should be replaced at the same time during replacing of main spring according to user's manual. If only the adjusting spring is replaced without replacing of relief spring and OPSO spring, it will cause abnormal operation and crucial damage to the regulator.
2. Be careful with handling the regulator not to get foreign material into the regulator when replacing spring.

6. Warning

Make sure to use Hwa Young's standard spring when adjusting outlet pressure and replacing components. Using spring with non Hwa Young's standard can cause damage on human life.

Adjusting outlet pressure should be done by KS specialist or Hwa Young's technician.

Make sure to reset the pressure range based on the pressure range specified on the name plate after done with adjusting outlet pressure.

Internal Relief Valve

When second stage outlet pressure is increased, relief valve is operated. And then, over pressure is released. So, installer must to make relief vent line.

Correction Factors

HYR & HN high capacity regulator Series can be used for other than natural gas. When the regulator should be applied to other type of gas, the flow rate can be calculated by multiplying the correction factor for each type of gas. (Refer to chart below) The chart below is the general correction factor for each type of gas.

Gas Type	Specific Gravity	Correction Factor(CF)
Air	1.00	0.77
Butane	2.01	0.55
Carbon Dioxide (Dry)	1.52	0.63
Carbon Monoxide (Dry)	0.97	0.79
Natural Gas	0.60	1.00
Nitrogen	0.97	0.79
Propane	1.53	0.63
Propane-Air-Mix	1.20	0.71

Use the equation below when calculates correction factor for gas which is not included in chart above.

$$\text{Correction Flow Rate (Q)} = Q1 * \sqrt{\frac{SG1}{SG2}}$$

Q = Correction Flow Rate Q1= Flow Rate of applying gas
SG1 = Specific Gravity SG2 = Specific Gravity of applying gas

Calculation of wide open orifice of flow rate

$$\text{For } P1/P2 \geq 1.89 \text{ use: } Q = K \frac{\sqrt{P2(P1-P2)}}{SG}$$

$$\text{For } P1/P2 < 1.89 \text{ use: } Q = \frac{KP1}{2}$$

Where: P1 = Definite Inlet Pressure P2 = Definite Outlet Pressure
Q = flow rate K = A coefficient of orifice

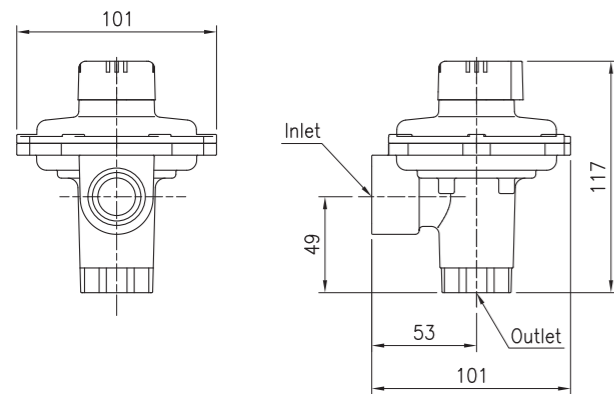
The numerical value of K (A coefficient of orifice) each model's orifice size

Orifice Size (Inch)	HYR-815 SERIES	HYR-200 SERIES	HYR-8152 SERIES		HN SERIES		
			HYR2-815	HYR2-815W	HN 2000	HN 2070	HN 2070 P
1/8"	25	-	-	-	-	-	-
3/16"	57	-	-	-	-	-	-
1/4"	98	-	330	-	-	-	-
5/16"	149	-	-	-	-	-	-
3/8"	208	-	600	-	-	-	-
1/2"	353	700	800	-	-	-	-
5/8"	-	-	1000	-	-	-	-
21/32"	-	900	-	-	-	-	-
3/4"	-	-	1550	-	-	-	-
1"	-	-	1700	-	-	-	-
1-3/16"	-	-	-	3100	-	-	-
2"	-	-	-	-	4800	7000	10000

HGM-10 SERIES REGULATOR



HGM-10



Application

The HGM-10 is an angle type regulator designed for low pressure domestic meter applications with inlet pressures up to 400mb, with full lock – up capability . It can be mounted in either a vertical or horizontal orientation, and is suitable for use with LPG and LNG gases.

Features

- The HGM-10 regulator is designed for residential applications in low- pressure service lines.
- It can be mounted directly on the meter inlet pipe.
- Its compact angle design is ideal for installation in space- saving meter boxes.
- It is ready for connection to gas meter
- The range of the outlet pressure can be set with the choice of a different spring

Material

Body, Cover	ALDC
Cap	ABS
Nozzle	Brass
Valve Seat	NBR
Diaphragm	NBR

Specifications

Max Capacity (m ³ /h)	Code	Max Inlet Pressure (kPa)	Outlet Pressure (kPa)	Relief Valve (kPa)	Connection Size		Vent Connection
					Inlet	Outlet	
HGM-10							
12.5	HGM010-1A001	40	2.1	-	PT 3/4	PT 3/4	-

HYR-815 SERIES HIGH CAPACITY REGULATOR

HYR-815M



HYR-815 & HYR-815S

HYR-815 Series high capacity regulator

HYR-815 series regulator's stable and reliable design makes possible to be properly used for various places and conditions based on precise control of gas for variety type of gas. It is the best to be used for boiler or combustor in commercial and industrial building. Also, it responds at the best to instant increase of gas use and is possible to avoid hunting by its optimized design.

Specifications

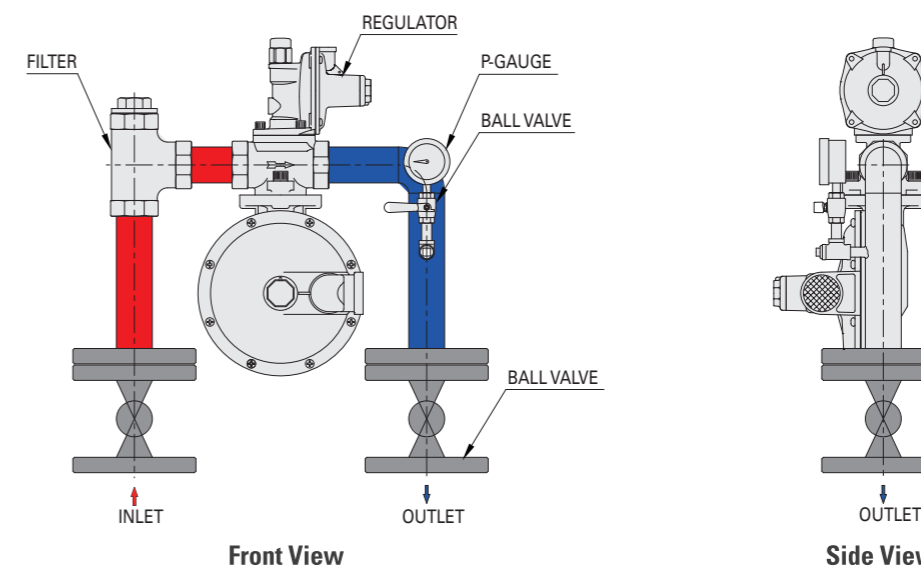
Max Flow Rate	NG 110Nm ³ /h
Range of Inlet Pressure	0.007~0.99 MPa
Outlet Pressure Setting Point	2.0~25 kPa
Range of Outlet Pressure	P2±15%
Lock up Pressure	P2±20%
Workable Temperature	-20°C~60°C
Connection Size	PT 1B, PT1-1/4B

Feature

- It is easy to install (verticality and horizontality connecting pipe, Case rotate attachment)
- Comprehensive used by choice proper orifice according to first stage pressure and capacity.
- Orifice, Seat disc etc. replacement and maintain are possible without disconnecting regulator body from pipe.

Model	Composition
HYR-815 (Connection Size 1" & 1-1/4")	No OPSO
	OPSO
HYR-815 M (Connection Size 1")	Built -In interner OPSO
HYR-815 S (Connection Size 1" & 1-1/4")	No OPSO
	OPSO

HYR-815 Series Regulator Installation



Before Installation

Double check the regulator before installation. During transporting or loading up of regulator, dust or foreign material can be on the regulator and might cause damage. Make sure to apply pipe compound on connection side of regulator in order to avoid leakage before install otherwise the leakage may cause explosion. Use the pipe that can accept regulator's weight and match to arrow direction on regulator body.

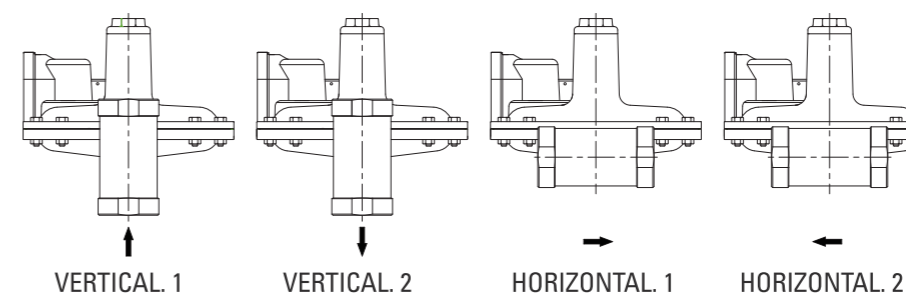
Avoid Foreign Material

The regulator can be open-condition due to foreign material in between nozzle and seat disc and it causes flow of unexpected high pressure gas into the regulator.

Managing Ventilation

The vent should be open-condition at all time. To avoid problem with ventilation of regulator, the vent should not be faced towards upward and protect properly from rain, snow, hail, paint, dust, mud, insects and etc. The main cause of occurrence of foreign material is the connection pipe in between stop valve and regulator. When installing pipe, use of worn out pipe or pipe that is not clear causes corrosion. Also, if the gas cylinder contains high portion of sulfur and moisture, it causes foreign material inside of regulator, so when the regulator shows low performance, the pipe should be checked if there is any foreign material. If using low grade of gas, installing gas filter in from of regulator is highly recommended.

Pipe Work Instruction



The pipe work for HYR-815S can be done according to these figures.

HYR-815 SERIES HIGH CAPACITY REGULATOR

HYR-815

Connection Size Inlet : PT 1" (25A) / Outlet 1" (25A)
Setting Pressure 2.0 kPa / Pressure Range : 2~3 kPa

Connection Size Inlet : PT 1" (25A) / Outlet 1" (25A)
Setting Pressure 3.0 kPa / Pressure Range : 2.0~3.0 kPa

Inlet Pressure Range			Orifice Size Inch (mm)					Orifice Size Inch (mm)						
Psi	Bar	MPa	1/2" (12.7)	3/8" (9.5)	5/16" (8.0)	1/4" (6.5)	3/16" (5.0)	1/8" (3.5)	1/2" (12.7)	3/8" (9.5)	5/16" (8.0)	1/4" (6.5)	3/16" (5.0)	1/8" (3.5)
1.0	0.07	0.007	11	7	6	5	3	-	13	8	7	6	4	-
2.2	0.15	0.015	17	14	10	7	5	3	22	17	13	9	6	3
5.1	0.35	0.035	29	20	19	13	11	6	33	24	20	16	13	6
10.2	0.7	0.07	46	40	37	29	19	11	56	49	36	33	20	13
14.5	1	0.1	58	56	46	46	26	14	62	56	54	49	24	17
29.0	2	0.2	-	70	67	59	27	19	70	70	70	58	49	18
43.5	3	0.3	-	-	70	70	32	25	-	70	70	60	53	27
58.0	4	0.4	-	-	70	70	54	32	-	-	70	70	56	34
101.5	7	0.7	-	-	-	-	67	46	-	-	-	-	70	54
143.6	9.9	0.99	-	-	-	-	-	50	-	-	-	-	-	60

HYR-815

Connection Size Inlet : PT 1" (25A) / Outlet 1" (25A)
Setting Pressure 5.0 kPa / Pressure Range : 3.0~5.0 kPa

Connection Size Inlet : PT 1" (25A) / Outlet 1" (25A)
Setting Pressure 10.0 kPa / Pressure Range : 9.0~12 kPa

Inlet Pressure Range			Orifice Size Inch (mm)					Orifice Size Inch (mm)						
Psi	Bar	MPa	1/2" (12.7)	3/8" (9.5)	5/16" (8.0)	1/4" (6.5)	3/16" (5.0)	1/8" (3.5)	1/2" (12.7)	3/8" (9.5)	5/16" (8.0)	1/4" (6.5)	3/16" (5.0)	1/8" (3.5)
1.0	0.07	0.007	15	10	7	6	5	-	-	-	-	-	-	-
2.2	0.15	0.015	23	18	15	9	7	4	15	18	14	9	6	4
5.1	0.35	0.035	34	25	21	17	14	8	32	25	20	16	13	7
10.2	0.7	0.07	55	45	35	30	22	13	50	40	30	28	20	11
14.5	1	0.1	62	60	48	48	26	17	60	50	40	45	25	15
29.0	2	0.2	70	70	65	55	49	18	70	70	68	50	40	18
43.5	3	0.3	-	70	70	62	55	29	-	70	70	61	52	27
58.0	4	0.4	-	-	70	70	60	35	-	-	70	70	65	33
101.5	7	0.7	-	-	-	70	70	54	-	-	-	70	70	50
143.6	9.9	0.99	-	-	-	-	-	60	-	-	-	-	-	60

The test has been performed based on the temperature at 25°C, Specific Gravity :0.6 with N.G, and the Unit with Nm³/h.

This color is Drop / Boost which is out of the measured range.
 This color is the range that can't be applied to orifice size specified above.

The flow rate data of HYR-815 Series is measured based on natural gas (Specific Gravity=0.6, Standard N m³/h) that shows variation of flow rate according to change of inlet pressure and orifice size.
Reference : Please be careful with reading of unit otherwise it may cause regulator's performance by wrong data expression.

HYR-815

Connection Size Inlet : PT 1-1/2" (32A) / Outlet 1-1/2" (32A)
Setting Pressure 3.0 kPa / Pressure Range : 2.0~3.0 kPa

Inlet Pressure Range			Orifice Size Inch (mm)					
Psi	Bar	MPa	1/2" (12.7)	3/8" (9.5)	5/16" (8.0)	1/4" (6.5)	3/16" (5.0)	1/8" (3.5)
1.0	0.07	0.007	13	8	7	6	4	-
2.2	0.15	0.015	22	17	13	9	6	3
5.1	0.35	0.035	33	24	20	16	13	6
10.2	0.7	0.07	56	49	36	33	20	13
14.5	1	0.1	62	56	54	49	24	17
29.0	2	0.2	70	70	70	58	49	18
43.5	3	0.3	-	70	70	60	53	27
58.0	4	0.4	-	-	70	70	56	34
101.5	7	0.7	-	-	-	-	70	54
143.6	9.9	0.99	-	-	-	-	-	60

HYR-815S

Connection Size Inlet : PT 1" (25A) / Outlet PT 1" (25A)
Orifice Size Inch (mm) : 1/2"(12.7)

Connection Size Inlet : PT 1" (32A) / Outlet PT 1" (32A)
Orifice Size Inch (mm) : 1/2"(12.7)

Inlet Pressure Range			Outlet Pressure (kPa)				Outlet Pressure (kPa)			
Psi	Bar	MPa	15 kPa	25 kPa			15 kPa	25 kPa		
1.0	0.07	0.007	-	-			-	-		
2.2	0.15	0.015	-	-			-	-		
5.1	0.35	0.035	35	35			35	-		
10.2	0.7	0.07	56	56			56	56		
14.5	1	0.1	65	65			62	62		
29.0	2	0.2	70	70			70	70		
43.5	3	0.3	70	70			90	90		
58.0	4	0.4	70	70			100	100		
101.5	7	0.7	-	-			110	110		

HYR-815M

Connection Size Inlet : PT 1" (25A) / Outlet 1" (25A)
Setting Pressure 2.0 kPa / Pressure Range : 2~3 kPa

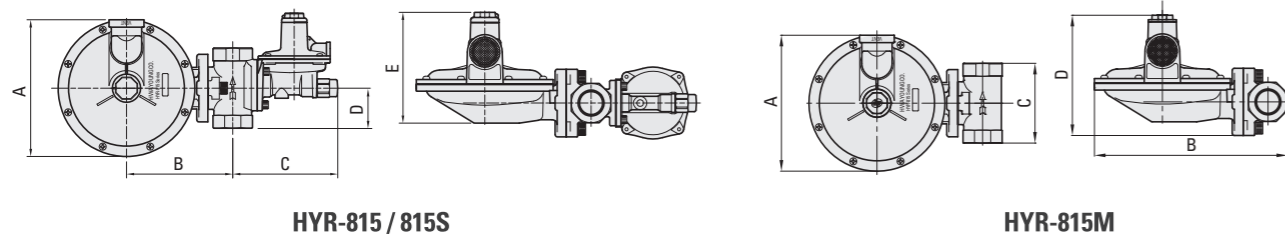
Inlet Pressure Range			Orifice Size Inch (mm)	
Psi	Bar	MPa	9/32" (7.0)	-
1.0	0.07	0.007	4	-
2.9	0.2	0.02	7	-
5.8	0.4	0.04	10	-
8.7	0.6	0.06	12	-
11.6	0.8	0.08	14	-
14.5	1	0.1	15	-
29.0	2	0.2	20	-
43.5	3	0.3	28	-
58.0	4	0.4	30	-
101.5	7	0.7	-	-

HYR-815 SERIES HIGH CAPACITY REGULATOR

Dimension

Unit: mm

Model	In & Outlet Size	A	B	C	D	E
HYR-815	PT 1B	Ø 184	232	114	54	149
	PT 1-1/4B	Ø 184	234	142	54	149
HYR-815M	PT 1B	Ø 184	262	108	149	-
HYR-815S	PT 1B	Ø 181	232	114	54	138
	PT 1-1/4B	Ø 181	234	142	54	138

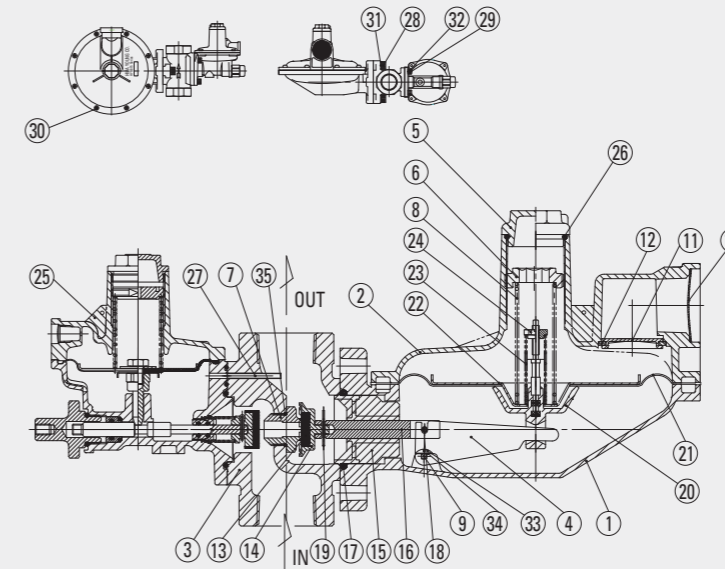


Spring Information

Type	Main Spring				OPSO Spring				Relief Spring						
	Setpoint	Range	Spring Part Number	Color	Setpoint	Range	Spring Part Number	Color	Setpoint	Range	Spring Part Number	Color			
	kPa	kPa											kPa	kPa	kPa
HYR-815M	2	2-3	HMR045-W020	Gray	-				4.5	P2+(0.5-3)	HMR045-W028	Gray			
	3								5.5						
HYR-815	2	2-3	HMR045-W020	Gray	4	3-5	HMR045-W047	Green	4.5	P2+(0.5-3)	HMR045-W028	Gray			
	3				5										
	5	3-5	HMR045-W074	Siver	7.5	5-9	HMR045-W070	Gray	8						
	6	6-9	HMR045-W075	Black	9				10						
	9	9-12	HMR045-W076	Orange	13.5	10-17	HMR300-W053	Orange	14.5						
	10				15				16						
	12				18				20						
HYR-815S	15	15-24	HAC035-W009	White	22.5	19-29	HMR300-W016	White	20	P2+5	HMR200-W001	Silver			
	25	25-28	HAC035-W011	Blue	37.5				30-45				HMR300-W019	Siver	35

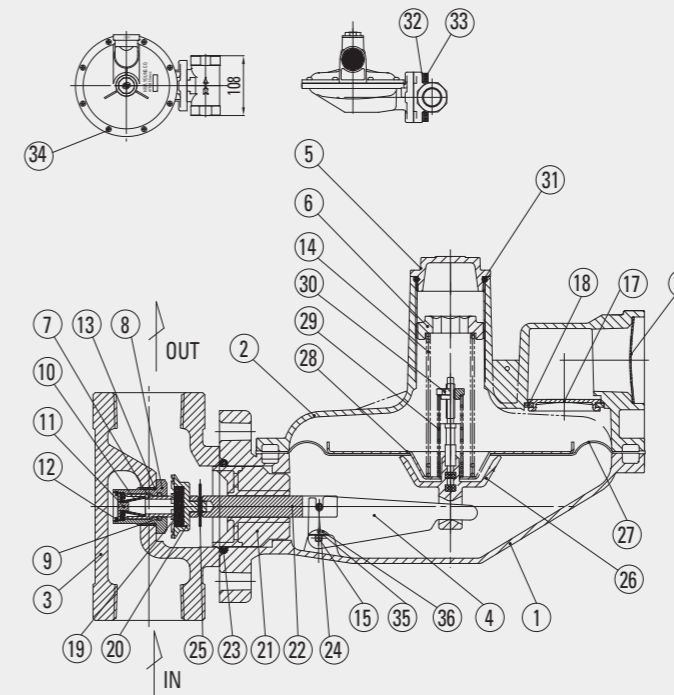
* P2: Lock Up Pressure

Type HYR-815 Series Regulator Components



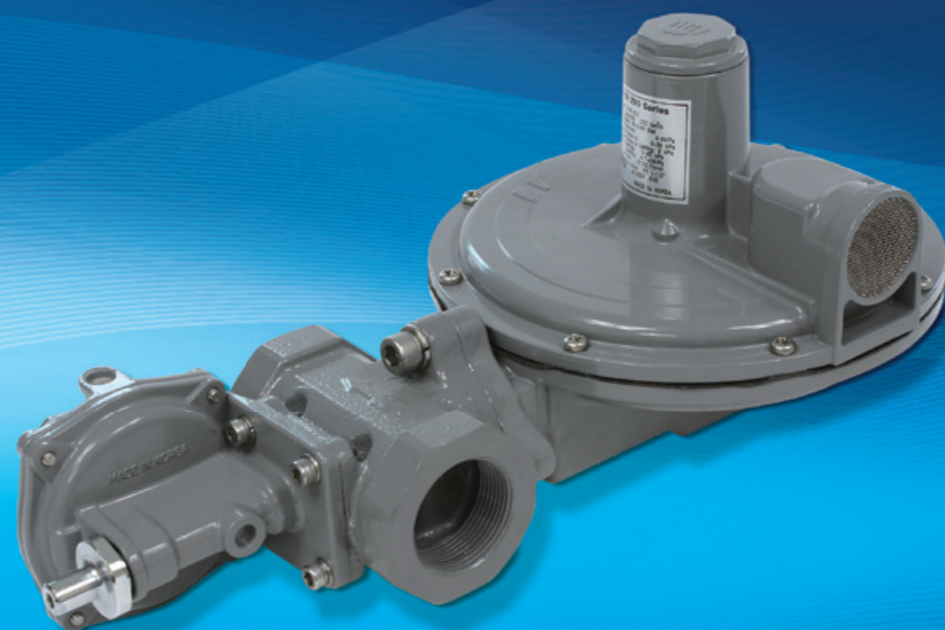
1. BODY
2. COVER
3. HEAD
4. LEVER
5. CAP
6. OPERATING SCREW
7. ORIFICE
8. OPERATING SPRING
9. LEVER PIN
10. STRAINER
11. VENT PACKING
12. VENT WASHER
13. VALVE SEAT
14. SEAT DISK
15. BOOST
16. STEM HOLDER
17. O-RING
18. SPRING PIN
19. PIN
20. POLE ASYS'S
21. DIAPHRAGM
22. DIAPHRAGM PLATE
23. RELIEF SPRING
24. RELIF SPRING CAP NUT
25. OPSO ASSEMBLY
26. O-RING
27. SPRING PIN
28. HEXAGON WRENCH BOLT
29. HEXAGON WRENCH BOLT
30. BOLT
31. SPRING WASHER
32. SPRING WASHER
33. TRUSS MACHINE SCREW
34. TOOTHED LOCK WASHER
35. O-RING

Type HYR-815M Series Regulator Components



1. BODY
2. COVER
3. HEAD
4. LEVER
5. CAP
6. OPERATING SCREW
7. ORIFICE
8. ORIFICE BOLT
9. O-RING
10. VALVE STEM SPRING
11. OPSO VALVE SEAT
12. RING
13. O-RING
14. OPERATING SPRING
15. LEVER PIN
16. STRAINER
17. VENT PACKING
18. VENT WASHER
19. VALVE SEAT
20. SEAT DISK
21. BOOST
22. STEM HOLDER
23. O-RING
24. SPRING PIN
25. PIN
26. POLE ASYS'S
27. DIAPHRAGM
28. DIAPHRAGM PLATE
29. RELIEF SPRING
30. RELIF SPRING CAP NUT
31. O-RING
32. SPRING WASHER
33. HEXAGON WRENCH BOLT
34. BOLT
35. TRUSS MACHINE SCREW
36. TOOTHED LOCK WASHER

HYR-200 SERIES HIGH CAPACITY REGULATOR



► HYR-200 Series high capacity regulator

The HYR-200 Series direct-operated, Spring-loaded regulator have been engineered to fit a multitude of pressure-reducing applications including commercial and light industrial installations.

This flexibility is provided by the numerous end connections, outlet pressure settings, orifice size, and the option for internal or external pressure registration.

The HYR-200 Series also offer multiple overpressure protection option, which include internal relief and OPSO (Over pressure shut-off) devices.

► Feature

- New technologies in overpressure protection
- Internal or external pressure registration
- Easy pipe works by vertical, horizontal, and rotating case according to size of space where should be installed.
- Highly configurable
- HYR Series Regulator is the decay resistance spring operation type which is adjustable and replaceable of spring to control outlet pressure easily.

► Specifications

Max Flow Rate	N.G 230 Nm ³ /h
Range of Inlet Pressure	0.03~0.4 MPa
Outlet Pressure Setting Point	3~30 kPa
Range of Outlet Pressure	P2±15%
Lock up Pressure	P2±20%
Workable Temperature	-20°C~60°C
Connection Size	PT 1-1/2

► HYR-200

Connection Size Inlet : PT 1-1/2" (40A) / Outlet PT 1-1/2" (40A)
Setting Pressure Setting Pressure Range : 3~30 kPa
Orifice Size Inch (mm) : 1/2" (12.7)

Inlet Pressure Range			Outlet Pressure (kPa)					
Psi	Bar	MPa	3 kPa	5 kPa	10 kPa	15 kPa	25 kPa	30 kPa
4.4	0.3	0.03	40	42	46	46	-	-
7.3	0.5	0.05	50	57	68	68	42	48
10.2	0.7	0.07	70	73	84	84	63	63
14.5	1	0.1	110	110	115	115	75	80
21.8	1.5	0.15	130	130	135	135	110	120
29.0	2	0.2	150	150	155	155	150	150
43.5	3	0.3	200	200	200	200	200	200
58.0	4	0.4	220	220	220	220	230	230

► HYR-200W

Connection Size Inlet : PT 1-1/2" (40A) / Outlet PT 1-1/2" (40A)
Setting Pressure Setting Pressure Range : 3~30 kPa
Orifice Size Inch (mm) : 1/2" (12.7)

Inlet Pressure Range			Outlet Pressure (kPa)					
Psi	Bar	MPa	3 kPa	5 kPa	10 kPa	15 kPa	25 kPa	30 kPa
4.4	0.3	0.03	40	42	46	46	-	-
7.3	0.5	0.05	50	57	68	68	42	48
10.2	0.7	0.07	70	73	84	84	63	63
14.5	1	0.1	110	110	115	115	75	80
21.8	1.5	0.15	130	130	135	135	110	120
29	2	0.2	150	150	155	155	150	150
43.5	3	0.3	200	200	200	200	200	200
58.0	4	0.4	220	220	220	220	230	230

► HYR-200L

Connection Size Inlet : PT 1-1/2" (40A) / Outlet PT 1-1/2" (40A)
Setting Pressure Setting Pressure Range : 2 kPa
Orifice Size Inch (mm) : 1/2" (12.7)

Inlet Pressure Range			Outlet Pressure (kPa)					
Psi	Bar	MPa	2 kPa					
1.45	0.1	0.01	38					
2.2	0.15	0.015	42					
3.6	0.25	0.025	50					
5.8	0.4	0.04	60					
10.2	0.7	0.07	71					
14.5	1	0.1	80					

The test has been performed based on the temperature at 25°C, Specific Gravity :0.6 with N.G, and the Unit with Nm³/h.

- This color is Drop / Boost which is out of the measured range.
- This color is the range that can't be applied to orifice size specified above.

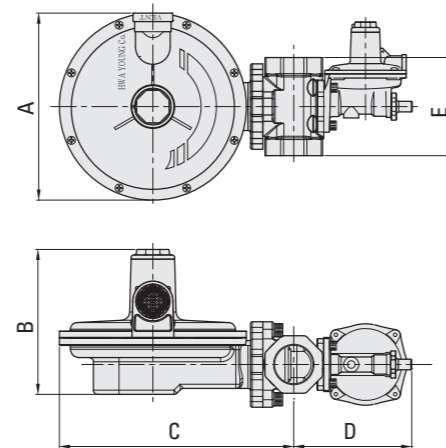
The flow rate data of HYR-815 Series is measured based on natural gas (Specific Gravity=0.6, Standard N m³/h) that shows variation of flow rate according to change of inlet pressure and orifice size.
 Reference : Please be careful with reading of unit otherwise it may cause regulator's performance by wrong data expression.

HYR-200 SERIES HIGH CAPACITY REGULATOR

Dimension

Unit: mm

Model	In & Outlet Size	A	B	C	D	E
HYR-200 HYR-200W	PT 1-1/2"	∅ 221	178	277	143	116
HYR-200L	PT 1-1/2"	∅ 221	178	277	143	116

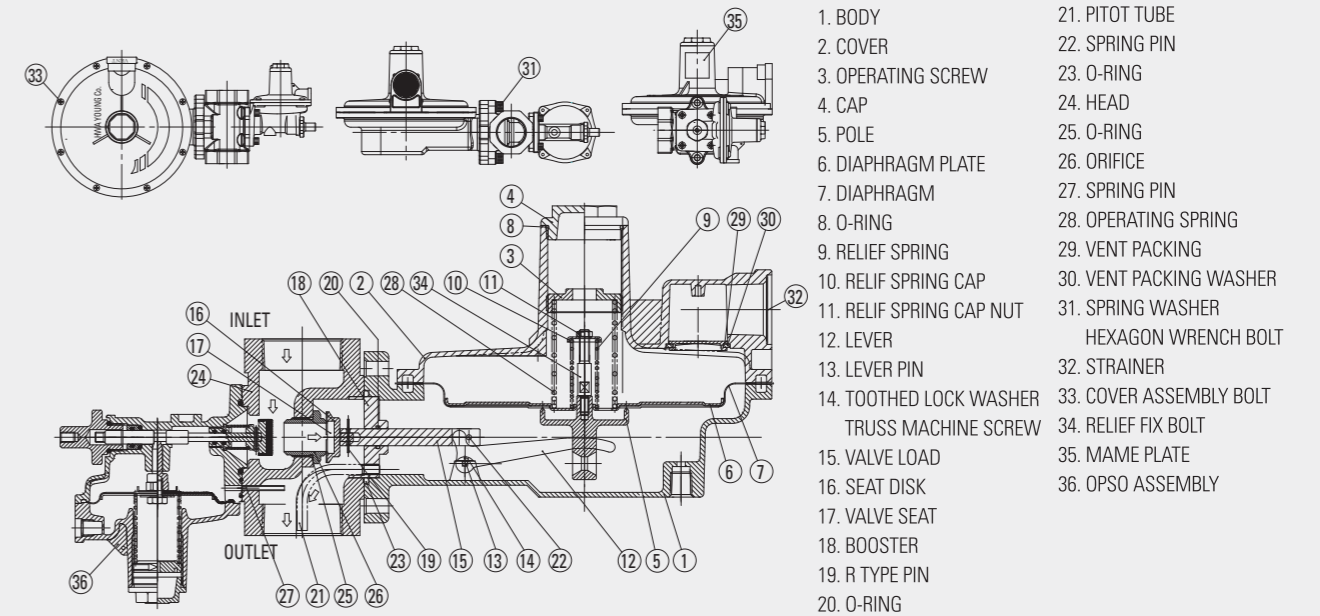


Spring Information

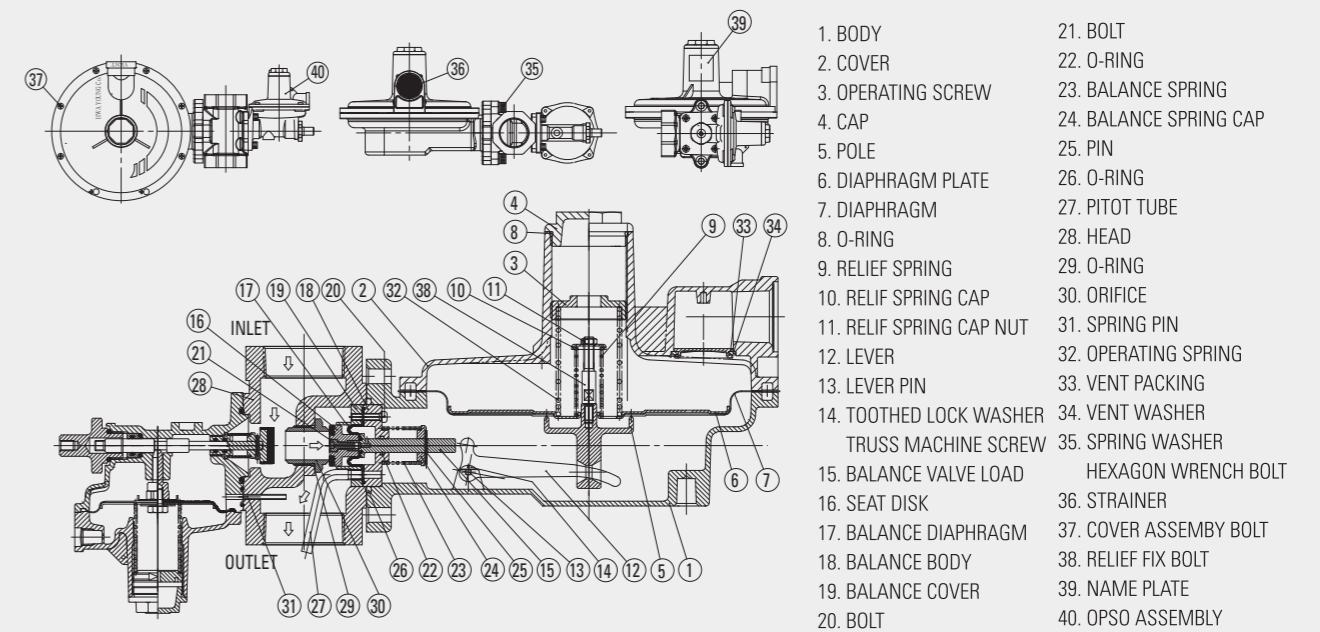
Type	Main Spring				OPSO Spring				Relief Spring						
	Setpoint kPa	Range kPa	Spring Part Number	Color	Setpoint kPa	Range kPa	Spring Part Number	Color	Setpoint kPa	Range kPa	Spring Part Number	Color			
HYR-200	3	3	HMR200-W004	Gray	5	5~9	HMR045-W070	Gray	5.5	P2+(2~13.5)	HMR200-W001	Silver			
	5	5~6	HMR200-W006	Silver	8										
	6				9										
	8	6~8	HAC035-W009	Orange	12				10~17				HMR300-W053	Orange	13
	10	8~12	HMR200-W008	Black	15										16
	15	10~14	HMR200-W009	White	22.5				19~29				HMR300-W016	White	24
	20	15~20	HMR200-W010	Brown	30				30~45				HMR300-W019	Blue	32
	25	20~35	HYR100-W013	Blue	37.5										40
30	45				45~68	HMR300-W022	Yellow	48							
HYR-200W	2.5	2.5~3	HMR200-W003	Green	4	3~5	HMR045-W047	Green	4.5	P2+(2~13.5)	HMR200-W001	Silver			
	3	3	HMR200-W004	Gray	5	5~9	HMR045-W070	Gray	5.5						
	6	6	HMR200-W006	Silver	9				10						
	8	7~8	HAC035-W009	Orange	12	10~17	HMR300-W053	Orange	13						
	10	9~12	HMR200-W008	Black	15				16						
	15	12~15	HMR200-W009	White	22.5	19~29	HMR300-W016	White	24						
	20	17~20	HMR200-W010	Brown	30	30~45	HMR300-W019	Blue	32						
	25	20~35	HYR100-W013	Blue	37.5				40						
30	45				45~68	HMR300-W022	Yellow	48							
HYR-200L	2	2	HYA035-W011	Gray	2.5	2.5~3	HMR200-W003	Green	5.5	P2+(2~13.5)	HMR200-W001	Silver			

* P2: Lock Up Pressure

Type HYR-200/200L Series Regulator Components



Type HYR-200W Series Regulator Components



HYR2-815 SERIES HIGH CAPACITY REGULATOR

HYR2-815

HYR2-815W



Application

1. HYR2-815 Series regulator is designed for to use commercial place such as restaurant business, hotel, school, public building or factory etc to supply high capacity gas.
2. It is suit for boiler or burning equipment device, small & medium device regulator.

Specifications

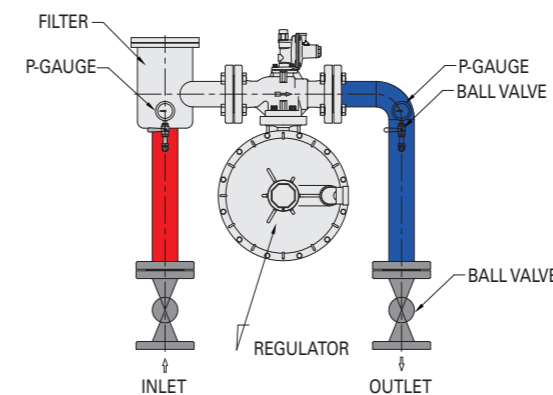
Max Flow Rate	1450 Nm ³ /h
Range of Inlet Pressure	0.01~0.4 MPa
Outlet Pressure Setting Point	3.0~150 kPa
Range of Outlet Pressure	P2±15%
Range of Outlet Pressure	P2±10%
Workable Temperature	-20°C~60°C
Connection Size	DN 50 Flange

Character

1. It is easy to install (verticality and horizontality connecting pipe, Case locate attachment)
2. Can choice proper orifice according top first stage pressure and capacity.
3. Orifice, Seat disc etc replacement and maintain is possible without disconnection regulator body to pipe system.

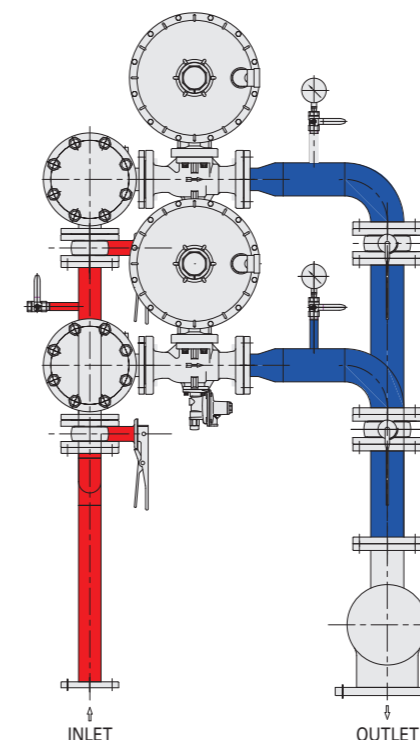
Model	Composition
HYR2-815	No OPSO
	OPSO
HYR2-815 W	In sensing
	Out sensing

HYR2-815 Installation



Check Point Before Installation

1. Double check the regulator before installation. During transporting or loading up of regulator, dust or foreign material can be on the regulator and might cause damage.
2. Dust or foreign material might be inside of regulator, so it should be checked and removed.
3. Check the arrow mark which indicates the gas flow direction in order to install for correct direction.
4. Check the label on regulator to match with specification where it should be installed.
5. Make sure to check if the pipe can endure the regulator's weight.



Installation

1. Check inside of pipe if it is clean or corrosion. If there is corrosion, the pipe should be replaced with new pipe.
2. Check the arrow mark on regulator to match with correct direction of gas flow.
3. Apply pipe compound on connection side of regulator in order to avoid leakage before install.
4. After finish with connecting the regulator with pipes, check the OPSO operation. If it operates correctly, make it back to normal position and open the gas valve slowly.
5. It is recommended to install filter in front of regulator.
6. Check the flow meter if the inlet & outlet pressures are normal. Also, make sure to check if there is leakage on pipe connection.

Note

1. Before start, check the vent if it is faced upward. If not, call the specialist or agent and follow the direction.
2. If the combustor's flame is not stable or there is gas odor, close the gas cylinder valve to stop supply of gas immediately.
3. If the gas comes out through vent continuously, stop using gas and call the specialists or agent and follow their direction.

HYR2-815 SERIES HIGH CAPACITY REGULATOR

HYR2-815

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure 2 kPa / Pressure Range : 2~3 kPa

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure 3 kPa / Pressure Range : 3~5 kPa

Inlet Pressure Range			Orifice Size Inch (mm)						Orifice Size Inch (mm)					
Psi	Bar	MPa	1" (25.4)	3/4" (20)	5/8" (16)	1/2" (12.7)	3/8" (9.5)	1/4" (6.5)	1" (25.4)	3/4" (20)	5/8" (16)	1/2" (12.7)	3/8" (9.5)	1/4" (6.5)
2.2	0.15	0.015	120	88	53	44	40	-	120	88	53	44	40	-
3.6	0.25	0.025	135	120	76	61	44	18	135	120	76	61	44	18
5.8	0.4	0.04	167	150	120	88	50	27	167	150	120	88	50	27
7.3	0.5	0.05	198	167	135	107	61	29	198	167	135	107	61	29
10.2	0.7	0.07	231	190	167	135	88	41	231	190	167	135	88	41
14.5	1	0.1	260	231	189	185	107	47	260	231	189	185	107	47
29.0	2	0.2	400	282	231	215	185	60	400	282	231	215	185	60
43.5	3	0.3	-	390	352	265	216	88	-	390	352	265	216	88
58.0	4	0.4	-	-	382	292	267	120	-	-	382	292	267	120
72.5	5	0.5	-	-	-	352	311	160	-	-	-	352	311	160
101.5	7	0.7	-	-	-	-	352	187	-	-	-	-	352	187
143.6	9.9	0.99	-	-	-	-	-	210	-	-	-	-	-	210

HYR2-815

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure 15 kPa / Pressure Range : 10~16 kPa

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure 25 kPa / Pressure Range : 16~26 kPa

Inlet Pressure Range			Orifice Size Inch (mm)						Orifice Size Inch (mm)					
Psi	Bar	MPa	1" (25.4)	3/4" (20)	5/8" (16)	1/2" (12.7)	3/8" (9.5)	1/4" (6.5)	1" (25.4)	3/4" (20)	5/8" (16)	1/2" (12.7)	3/8" (9.5)	1/4" (6.5)
7.3	0.5	0.05	156	108	86	45	-	-	140	116	112	79	-	-
10.2	0.7	0.07	244	226	157	86	-	-	224	180	140	93	-	-
14.5	1	0.1	312	244	182	92	-	-	392	245	180	140	-	-
29.0	2	0.2	419	320	271	146	-	-	403	349	282	202	-	-
43.5	3	0.3	512	430	375	190	-	-	506	455	350	262	-	-
58.0	4	0.4	528	480	390	283	-	-	540	500	430	300	-	-
72.5	5	0.5	-	528	410	375	-	-	-	540	506	348	-	-
101.5	7	0.7	-	-	528	419	-	-	-	-	608	506	-	-
143.6	9.9	0.99	-	-	-	528	-	-	-	-	-	608	-	-

The test has been performed based on the temperature at 25°C, Specific Gravity :0.6 with N.G, and the Unit with Nm³/h.

This color is Drop / Boost which is out of the measured range.

This color is the range that can't be applied to orifice size specified above.

The flow rate data of HYR-815 Series is measured based on natural gas (Specific Gravity=0.6, Standard N m³/h) that shows variation of flow rate according to change of inlet pressure and orifice size.

Reference : Please be careful with reading of unit otherwise it may cause regulator's performance by wrong data expression.

HYR2-815

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure 35 kPa / Pressure Range : 24~40 kPa

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure 40 kPa / Pressure Range : 24~40 kPa

Inlet Pressure Range			Orifice Size Inch (mm)						Orifice Size Inch (mm)					
Psi	Bar	MPa	1" (25.4)	3/4" (20)	5/8" (16)	1/2" (12.7)	3/8" (9.5)	1/4" (6.5)	1" (25.4)	3/4" (20)	5/8" (16)	1/2" (12.7)	3/8" (9.5)	1/4" (6.5)
10.2	0.7	0.07	184	155	125	70	-	-	244	198	154	14	-	-
14.5	1	0.1	309	211	155	125	-	-	322	271	217	161	-	-
29.0	2	0.2	483	309	282	211	-	-	462	353	308	271	-	-
43.5	3	0.3	622	505	359	282	-	-	498	425	392	354	-	-
58.0	4	0.4	671	588	390	300	-	-	520	480	425	395	-	-
72.5	5	0.5	-	671	422	359	-	-	-	520	489	435	-	-
101.5	7	0.7	-	-	654	489	-	-	-	-	532	489	-	-
143.6	9.9	0.99	-	-	-	505	-	-	-	-	-	538	-	-

HYR2-815W

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure Range : 2~40 kPa
Orifice Size Inch (mm) : 1-3/16" (30)

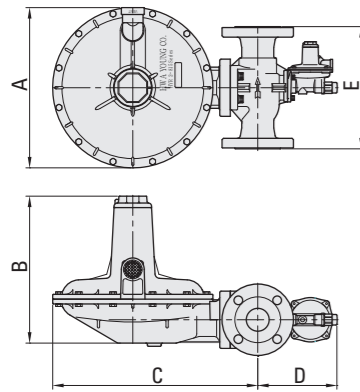
Inlet Pressure Range			Outlet Pressure (kPa)				
Psi	Bar	MPa	2 kPa	3 kPa	15 kPa	25 kPa	40 kPa
1.5	0.1	0.01	50	65	-	-	-
2.9	0.2	0.02	150	180	210	-	-
4.4	0.3	0.03	170	200	230	260	-
5.8	0.4	0.04	205	250	260	300	-
7.3	0.5	0.05	250	310	300	330	260
8.7	0.6	0.06	270	320	320	370	276
10.2	0.7	0.07	300	360	330	390	320
11.6	0.8	0.08	315	380	370	420	332
13.1	0.9	0.09	330	415	400	450	345
14.5	1	0.1	380	460	420	470	412
29.0	2	0.2	550	670	670	740	640
43.5	3	0.3	750	800	850	950	867
58.0	4	0.4	810	1000	1170	1200	1045

HYR2-815 SERIES HIGH CAPACITY REGULATOR

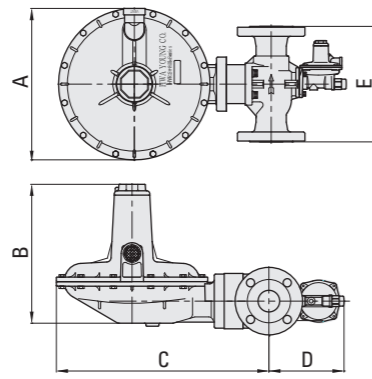
Dimension

Unit: mm

Model	In & Outlet Size	A	B	C	D	E	F
HYR2-815	DN 50 Flange	∅ 350	322	488	174	267	-
HYR2-815W	DN 50 Flange	∅ 350	322	665	174	267	-



HYR2-815



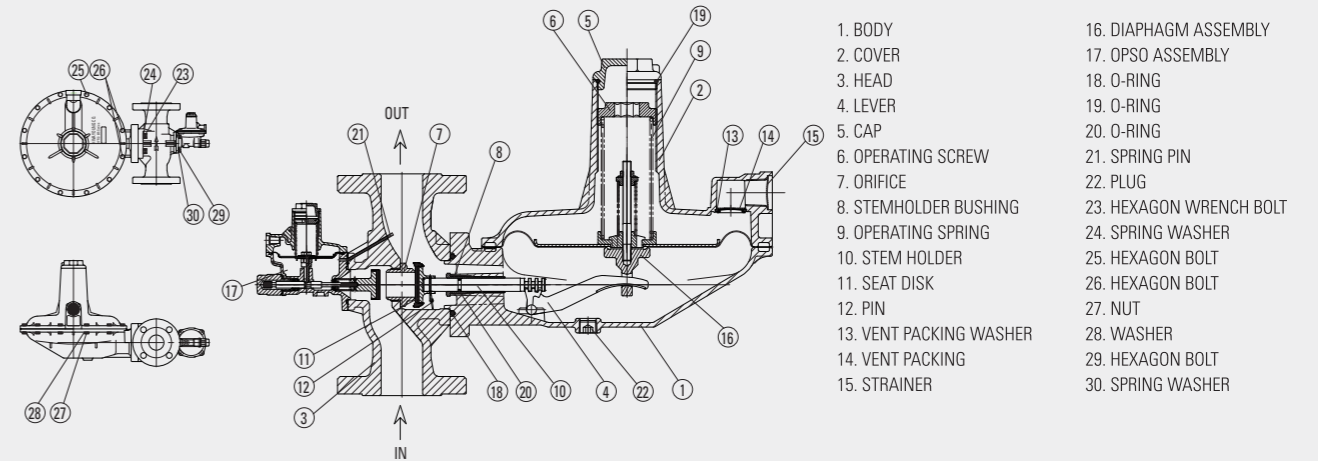
HYR2-815W

Spring Information

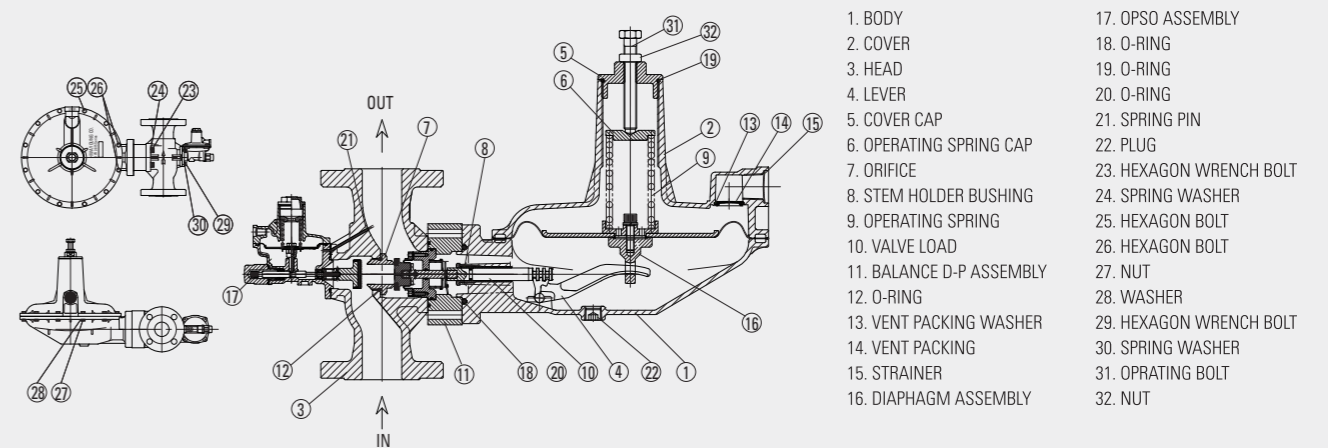
Type	Main Spring				OPSO Spring				Relief Spring			
	Setpoint kPa	Range kPa	Spring Part Number	Color	Setpoint kPa	Range kPa	Spring Part Number	Color	Setpoint kPa	Range kPa	Spring Part Number	Color
HYR2-815 HYR2-815W	2	2~3	HMR300-W008	Gray	4	3~5	HMR045-W047	Green	4.5	P2+(0.5~3)	HMR300-W010	Gray
	3				5				5.5			
	5	3~5	HMR300-W049	Silver	7.5	5~9	HMR045-W070	Gray	8			
	6				9				10			
	10	6~12	HMR300-W050	Orange	15	10~17	HMR300-W053	Orange	16	P2+(2~6)	HMR300-W015	White
	15				19~29				HMR300-W016			
	20	15~20	HMR300-W051	Brown	30	30~45	HMR300-W019	Blue	32	P2+(5~11)	HMR300-W018	Blue
	25	16~26	HMR300-W017	Blue	37.5				40			
	30	22~34	HMR300-W052	Black	45				48			
	35	24~40	HMR300-W020	Yellow	52.5	45~68	HMR300-W022	Yellow	56	P2+(10~16)	HMR300-W021	Yellow
40	24~48	HMR01K-W012	Red	60	64							

* P2: Lock Up Pressure

Type HYR2-815 Series Regulator Components



Type HYR2-815W Series Regulator Components



HM-700 SERIES REGULATOR



► Features

- Apply adjusting bolts for easy adjustment of outlet pressure
- Allows for vertical or horizontal installation, or installation with the case rotated (convenient piping according to installation space)
- Built-in pitot tube at the outlet for stable flow performance
- Built-in balance device to offset the inlet pressure influence
- Stable flow performance even with large gas usage

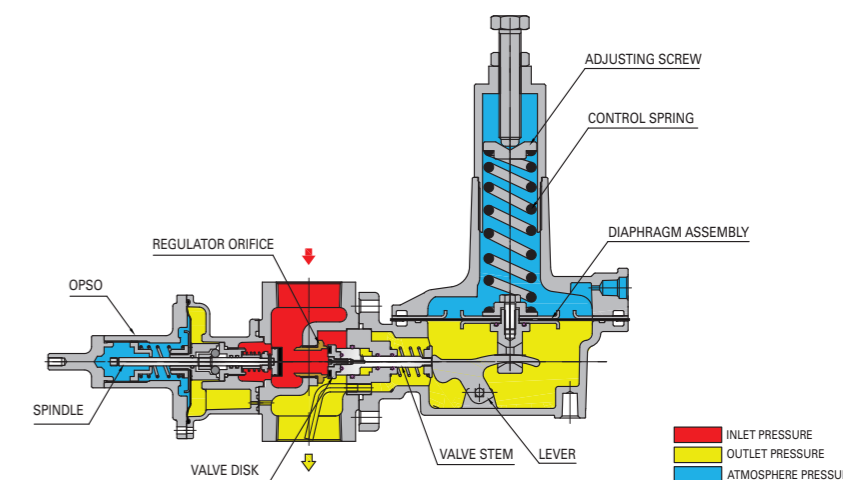
► Applications

HM-700 Series stable and reliable design makes possible to be properly used for various places and conditions based on precise control of gas for variety type of gas. It is the best to be used for boiler or combustor in commercial and industrial building.

► Specifications

Flow Capacity	See Table
Maximum Inlet Pressure	1.8 MPa
Outlet Pressure Range	50~150, 150~400 kPa
Accuracy class	Up to AC 5
Lock-up Pressure class	Up to SG 10
Class of lock-up pressure zone	Up to SZ 10
Operating Temperature	-20 °C ~ 60 °C
Size and Connection	PT 1-1/2

► Operation



A gas regulator is equipped with a static pressure characteristic maintaining constant outlet pressure according to inlet pressure and flow, an adjustment attribute depressurizing with pressure controlled by inlet pressure, and a closing function that can cut off inlet pressure, when gas is not used.

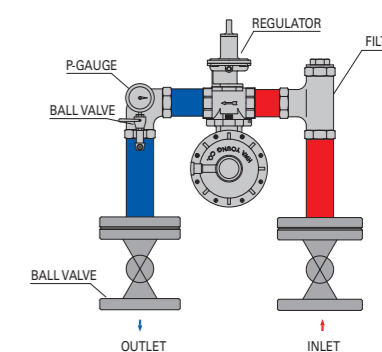
Diaphragm motion by the pressure formed inside by inlet pressure is delivered to the valve through the connected lever. In this way, adequate gap is maintained with body orifice depending on the used gas amount, and the valve is closed or opened. Then, the adjusted pressure keeps a balance with the load of the spring.

If outlet pressure becomes higher than the adjusted pressure during operation, diaphragm rises, and the connected valve is closed. As the valve is closed, the outlet pressure is reduced until it keeps a precise balance with the spring's opening force. In this manner, outlet pressure is constantly maintained.

If gas is not used, inlet pressure flows in, and outlet pressure rises. In addition, diaphragm rises, and the connected valve is closed, and thus the inlet is completely blocked, which prevents pressure from rising more than constant closed pressure.

► HM-700 Installation

- 1) Double check the regulator before installation. During transporting or loading up of regulator, dust or foreign material can be on the regulator and might cause damage.
- 2) Dust or foreign material might be inside of regulator, so it should be checked and removed.
- 3) Check the arrow mark which indicates the gas flow direction in order to install for correct direction.
- 4) Check the label on regulator to match with specification where it should be installed.
- 5) Make sure to check if the pipe can endure the regulator's weight.



► Check Point Before Installation

- 1) Check inside of pipe if it is clean or corrosion. If there is corrosion, the pipe should be replaced with new pipe.
- 2) Check the arrow mark on regulator to match with correct direction of gas flow.
- 3) Apply pipe compound on connection side of regulator in order to avoid leakage before install.
- 4) After finish with connecting the regulator with pipes, check the OPSO operation. If it operates correctly, make it back to normal.

HM-700 SERIES REGULATOR

▶ HM-700HA

Connection Size Inlet : PT 1-1/2" / Outlet PT 1-1/2"
 Setting Pressure Range : 100~400 kPa
 Orifice Size Inch (mm) : 21/32" (16.7mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas				
			Outlet Pressure (kPa)				
Psi	Bar	MPa	100 kPa	150 kPa	200 kPa	300 kPa	400 kPa
22	1.5	0.15	150	-	-	-	-
29	2	0.2	210	200	-	-	-
44	3	0.3	300	340	310	-	-
58	4	0.4	370	430	430	350	-
73	5	0.5	450	520	520	500	400
87	6	0.6	520	600	600	600	560
102	7	0.7	600	690	690	690	680
116	8	0.8	670	770	770	770	770
131	9	0.9	750	860	860	860	860
145	10	1	820	950	950	950	950
160	11	1.1	900	1000	1000	1000	1000
174	12	1.2	970	1100	1100	1100	1100
189	13	1.3	1050	1200	1200	1200	1200
203	14	1.4	1100	1250	1250	1250	1250
218	15	1.5	1200	1350	1350	1350	1350
261	18	1.8	1200	1350	1350	1350	1350

▶ HM-700HB

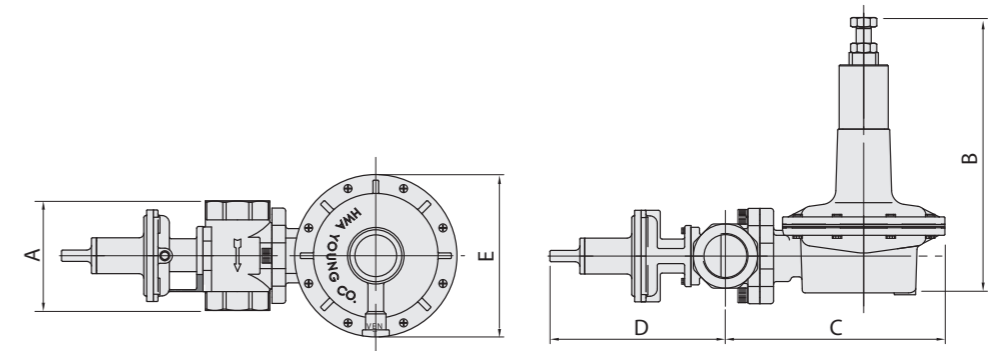
Connection Size Inlet : PT 1-1/2" / Outlet PT 1-1/2"
 Setting Pressure Range : 60~1500 kPa
 Orifice Size Inch (mm) : 21/32" (16.7mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas					
			Outlet Pressure (kPa)					
Psi	Bar	MPa	60 kPa	70 kPa	80 kPa	90 kPa	100kPa	150 kPa
10	0.7	0.07	80	-	-	-	-	-
12	0.8	0.08	120	80	-	-	-	-
15	1	0.1	170	150	130	90	-	-
29	2	0.2	310	310	300	300	320	260
44	3	0.3	410	410	410	410	450	440
58	4	0.4	510	510	510	510	560	560
73	5	0.5	620	620	620	620	670	670
87	6	0.6	720	720	720	62720	790	790
102	7	0.7	820	820	820	820	900	900
116	8	0.8	930	930	930	930	950	950
145	10	1	1100	1100	1100	1100	1200	1200
174	12	1.2	1350	1350	1350	1350	1450	1450
218	15	1.5	1650	1650	1650	1650	1800	1800
261	18	1.8	1650	1650	1650	1650	1800	1800

▶ Dimension

Unit: mm

Model	In & Outlet Size	A	B	C	D	E
HM-700HA	PT 1-1/2"	∅ 116	293	233	186	172
HM-700HB	PT 1-1/2"	∅ 116	249	233	186	172

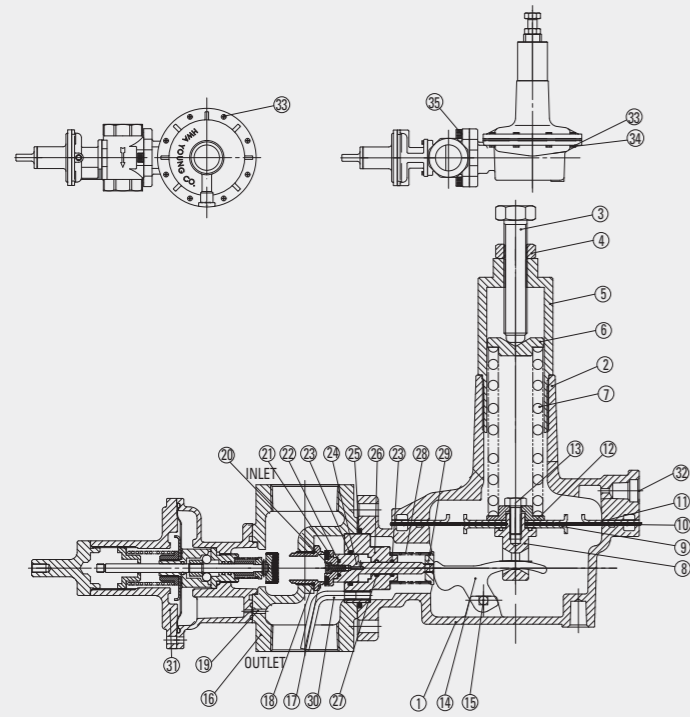


▶ Spring Information

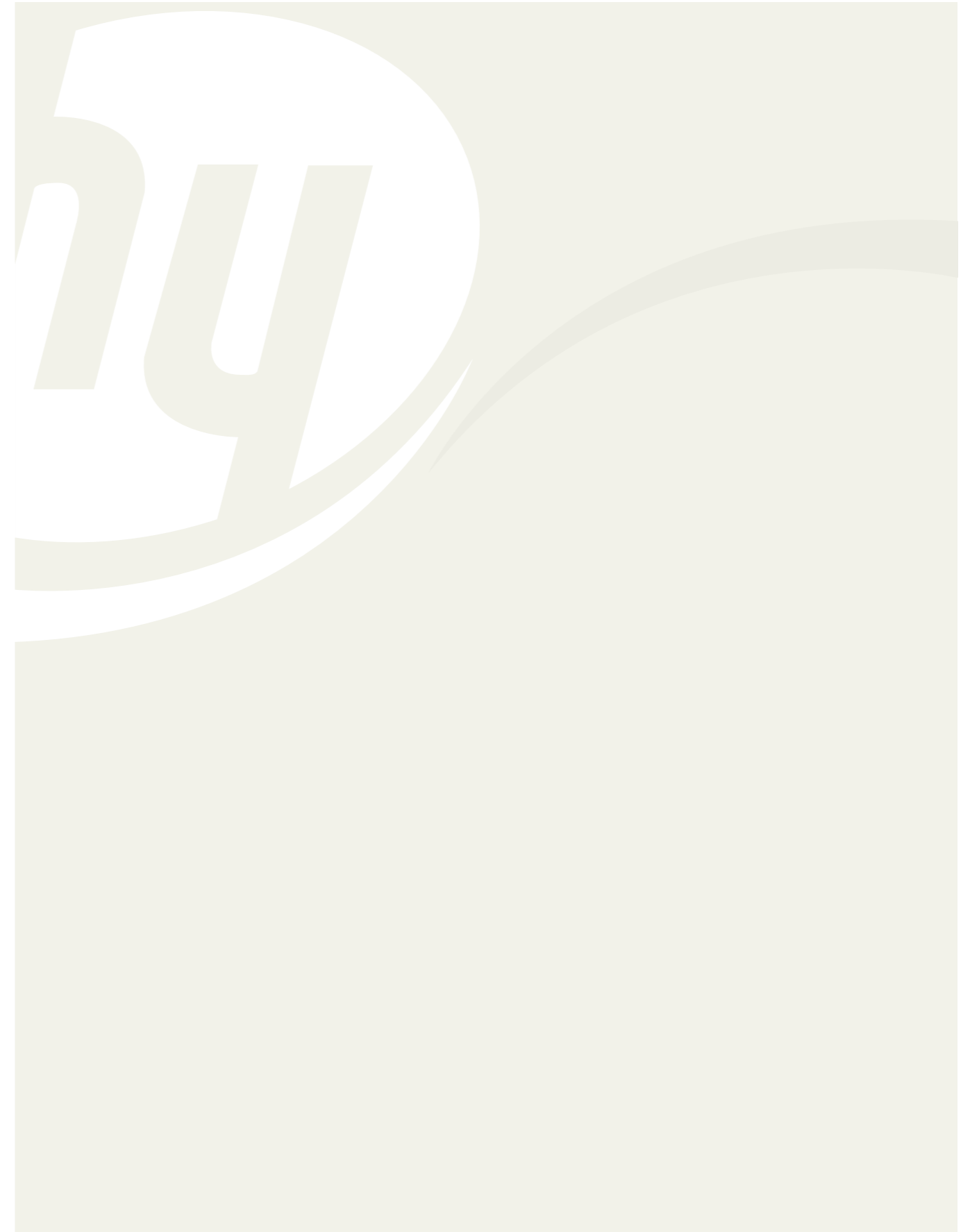
Type	Main Spring				OPSO Spring			
	Setpoint kPa	Range kPa	Spring Part Number	Color	Setpoint kPa	Range kPa	Spring Part Number	Color
HM-700HA	100	100~150	HMR700-W005	Yellow	150	100~150	HMR02K-W073	Yellow
	150	120~200	HMR700-W006	Blue	225	100~300	HMR02K-W074	Brown
	200	180~300	HMR700-W007	Brown				
	300	250~400	HMR700-W001	Silver	450	300~600	HMR700-W004	Silver
					600			
HM-700HB	50	40~60	HMR01K-W001	Red	75	60~80	HMR02K-W071	Red
	60	50~70	HMR01K-W002	Blue	90	70~110	HMR02K-W072	Blue
	70				105			
	80	60~100	HMR01K-W003	Yellow	120	100~150	HMR02K-W073	Yellow
	90				135			
	100				150			
	150	100~200	HMR01K-W006	Silver	225	150~300	HMR02K-W074	Brown

HM-700 SERIES REGULATOR

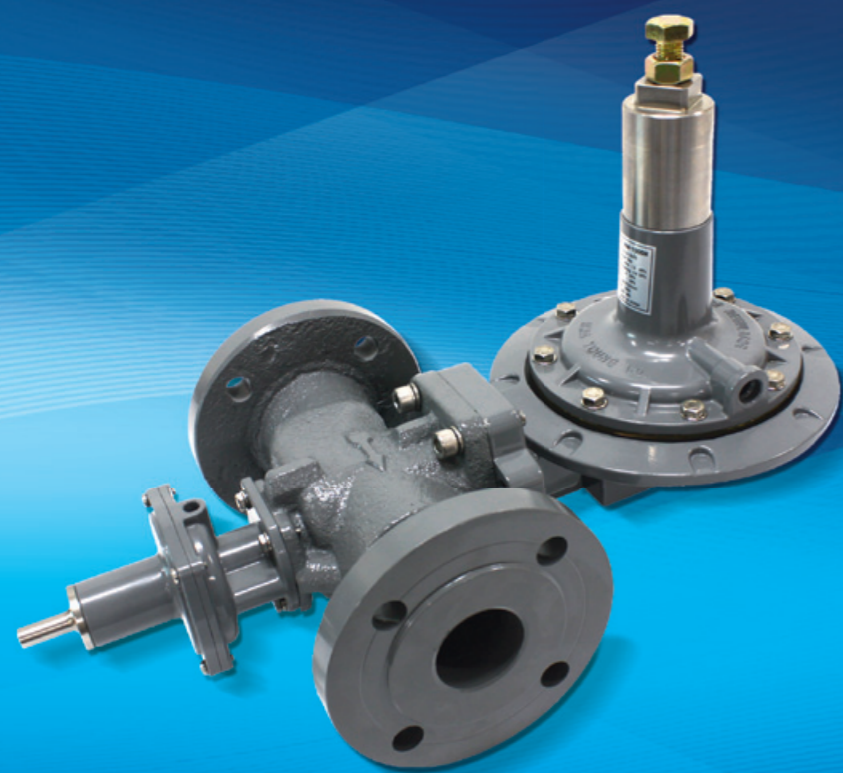
► Type HM-700HA/HB Regulator Components



- | | |
|-------------------------|------------------------|
| 1. BODY | 19. SPRING PIN |
| 2. COVER | 20. BOLT |
| 3. OPERATING BOLT | 21. SEAT DISK |
| 4. HEXAGON NUT | 22. O-RING |
| 5. COVER CAP | 23. O-RING |
| 6. OPERATING SPRING CAP | 24. VALVE LOAD |
| 7. OPERATING SPRING | 25. O-RING |
| 8. POLE | 26. BALANCE CASE |
| 9. DIAPHLATE | 27. O-RING |
| 10. DIAPHRAGM | 28. BALANCE SPRING |
| 11. SUB DIAPHLATE | 29. BALANCE SPRING CAP |
| 12. WASHER | 30. PITOT TUBE |
| 13. HEXAGON BOLT | 31. OPSO ASSEMBLY |
| 14. LEVER | 32. STRAINER |
| 15. LEVER PIN | 33. WASHER |
| 16. HEAD | 34. NUT |
| 17. ORIFICE | 35. SPRING WASHER |
| 18. O-RING | HEXAGON WRENCH BOLT |



HM-1000 SERIES REGULATOR



Features

- Apply adjusting bolts for easy adjustment of outlet pressure
- Allows for vertical or horizontal installation, or installation with the case rotated (convenient piping according to installation space)
- Built-in pitot tube at the outlet for stable flow performance
- Built-in balance device to offset the inlet pressure influence
- Stable flow performance even with large gas usage

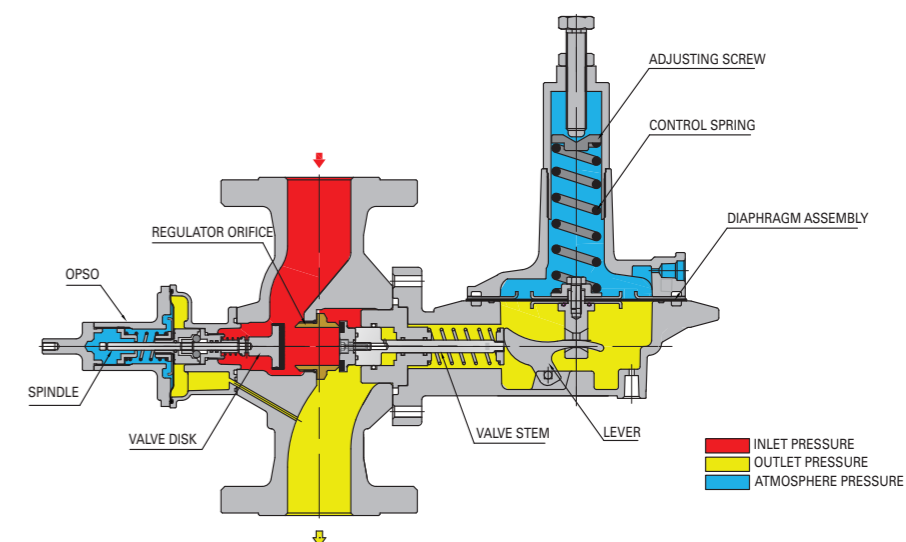
Applications

HM-1000 Series stable and reliable design makes possible to be properly used for various places and conditions based on precise control of gas for variety type of gas. It is the best to be used for boiler or combustor in commercial and industrial building.

Specifications

Flow Capacity	See Table
Maximum Inlet Pressure	1.8 MPa
Outlet Pressure Range	50~150, 150~400 kPa
Accuracy class	Up to AC 5
Lock-up Pressure class	Up to SG 10
Class of lock-up pressure zone	Up to SZ 10
Operating Temperature	-20 °C ~ 60 °C
Size and Connection	DN50

Operation



A gas regulator is equipped with a static pressure characteristic maintaining constant outlet pressure according to inlet pressure and flow, an adjustment attribute depressurizing with pressure controlled by inlet pressure, and a closing function that can cut off inlet pressure, when gas is not used.

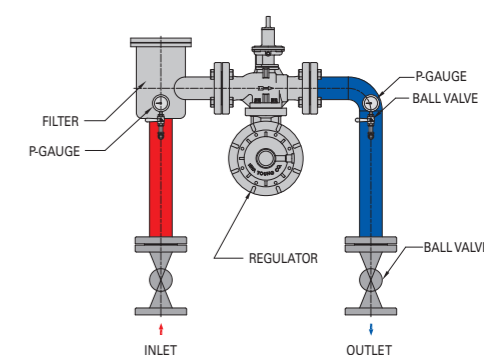
Diaphragm motion by the pressure formed inside by inlet pressure is delivered to the valve through the connected lever. In this way, adequate gap is maintained with body orifice depending on the used gas amount, and the valve is closed or opened. Then, the adjusted pressure keeps a balance with the load of the spring.

If outlet pressure becomes higher than the adjusted pressure during operation, diaphragm rises, and the connected valve is closed. As the valve is closed, the outlet pressure is reduced until it keeps a precise balance with the spring's opening force. In this manner, outlet pressure is constantly maintained.

If gas is not used, inlet pressure flows in, and outlet pressure rises. In addition, diaphragm rises, and the connected valve is closed, and thus the inlet is completely blocked, which prevents pressure from rising more than constant closed pressure.

HM-1000 Installation

- 1) Double check the regulator before installation. During transporting or loading up of regulator, dust or foreign material can be on the regulator and might cause damage.
- 2) Dust or foreign material might be inside of regulator, so it should be checked and removed.
- 3) Check the arrow mark which indicates the gas flow direction in order to install for correct direction.
- 4) Check the label on regulator to match with specification where it should be installed.
- 5) Make sure to check if the pipe can endure the regulator's weight.



Check Point Before Installation

- 1) Check inside of pipe if it is clean or corrosion. If there is corrosion, the pipe should be replaced with new pipe.
- 2) Check the arrow mark on regulator to match with correct direction of gas flow.
- 3) Apply pipe compound on connection side of regulator in order to avoid leakage before install.
- 4) After finish with connecting the regulator with pipes, check the OPSO operation. If it operates correctly, make it back to normal.

HM-1000HA

Orifice Size 15/16" (20mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 150~400 kPa
 Orifice Size Inch (mm) : 15/16" (20mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas			
			Outlet Pressure (kPa)			
Psi	Bar	MPa	150 kPa	200 kPa	300 kPa	400 kPa
29	2	0.2	280	-	-	-
44	3	0.3	470	430	-	-
58	4	0.4	600	600	500	-
73	5	0.5	720	720	700	560
87	6	0.6	850	850	840	780
102	7	0.7	970	970	970	950
116	8	0.8	1050	1050	1050	1050
131	9	0.9	1150	1150	1150	1200
145	10	1	1300	1300	1300	1300
160	11	1.1	1450	1450	1450	1450
174	12	1.2	1550	1550	1550	1550
203	14	1.4	1800	1800	1800	1800
218	15	1.5	1900	1900	1900	1900
232	16	1.6	1900	1900	1900	1900
261	18	1.8	1900	1900	1900	1900

Orifice Size 1" (25.4mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 150~400 kPa
 Orifice Size Inch (mm) : 1" (25.4mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas			
			Outlet Pressure (kPa)			
Psi	Bar	MPa	150 kPa	200 kPa	300 kPa	400 kPa
29	2	0.2	450	-	-	-
44	3	0.3	770	700	-	-
58	4	0.4	980	970	810	-
73	5	0.5	1150	1150	1100	910
87	6	0.6	1350	1350	1350	1250
102	7	0.7	1550	1550	1550	1500
116	8	0.8	1750	1750	1750	1750
131	9	0.9	1950	1950	1950	1950
145	10	1	2150	2150	2150	2150
160	11	1.1	2300	2300	2300	2300
174	12	1.2	2500	2500	2500	2500
203	14	1.4	2900	2900	2900	2900
218	15	1.5	3100	3100	3100	3100
232	16	1.6	3100	3100	3100	3100
261	18	1.8	3100	3100	3100	3100

Orifice Size 1-3/16" (30mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 150~400 kPa
 Orifice Size Inch (mm) : 1-3/16" (30mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas			
			Outlet Pressure (kPa)			
Psi	Bar	MPa	150 kPa	200 kPa	300 kPa	400 kPa
29	2	0.2	560	-	-	-
44	3	0.3	950	870	-	-
58	4	0.4	1200	1200	1000	-
73	5	0.5	1450	1450	1400	1100
87	6	0.6	1700	1700	1650	1550
102	7	0.7	1900	1900	1900	1900
116	8	0.8	2150	2150	2150	2150
131	9	0.9	2400	2400	2400	2400
145	10	1	2650	2650	2650	2650
160	11	1.1	2900	2900	2900	2900
174	12	1.2	3150	3150	3150	3150
203	14	1.4	3600	3600	3600	3600
218	15	1.5	3850	3850	3850	3850
232	16	1.6	3850	3850	3850	3850
261	18	1.8	3850	3850	3850	3850

HM-1000HB

Orifice Size 15/16" (20mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 50~100 kPa
 Orifice Size Inch (mm) : 15/16" (20mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas						
			Outlet Pressure (kPa)						
Psi	Bar	MPa	50 kPa	60 kPa	70 kPa	80 kPa	90 kPa	100 kPa	150 kPa
9	0.6	0.06	90	-	-	-	-	-	-
10	0.7	0.07	130	110	-	-	-	-	-
12	0.8	0.08	170	160	140	-	-	-	-
15	1	0.1	210	220	240	200	140	-	-
29	2	0.2	360	400	480	480	470	470	370
44	3	0.3	480	540	650	650	650	650	630
58	4	0.4	600	670	810	810	810	810	810
73	5	0.5	720	810	970	970	970	970	970
87	6	0.6	850	940	1050	1050	1050	1050	1050
102	7	0.7	970	1000	1200	1200	1200	1200	1200
116	8	0.8	1050	1150	1400	1400	1400	1400	1400
145	10	1	1300	1450	1700	1700	1700	1700	1700
174	12	1.2	1600	1750	2100	2100	2100	2100	2100
218	15	1.5	2000	2200	2600	2600	2600	2600	2600
261	18	1.8	2000	2200	2600	2600	2600	2600	2600

Orifice Size 1" (25.4mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 50~100 kPa
 Orifice Size Inch (mm) : 1" (25.4mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas						
			Outlet Pressure (kPa)						
Psi	Bar	MPa	50 kPa	60 kPa	70 kPa	80 kPa	90 kPa	100 kPa	150 kPa
9	0.6	0.06	160	-	-	-	-	-	-
10	0.7	0.07	220	160	-	-	-	-	-
12	0.8	0.08	270	230	170	-	-	-	-
15	1	0.1	350	320	290	270	200	-	-
29	2	0.2	590	590	590	650	640	630	500
44	3	0.3	780	780	780	870	870	870	850
58	4	0.4	980	980	980	950	950	950	900
73	5	0.5	1050	1050	1050	1200	1200	1200	1200
87	6	0.6	1300	1300	1300	1400	1400	1400	1400
102	7	0.7	1500	1500	1500	1650	1650	1650	1650
116	8	0.8	1700	1700	1700	1900	1900	1900	1900
145	10	1	2150	2150	2150	1350	2350	2350	2350
174	12	1.2	2600	2600	2600	2850	2850	2850	2850
218	15	1.5	3250	3250	3250	3550	3550	3550	3550
261	18	1.8	3250	3250	3250	3550	3550	3550	3550

Orifice Size 1-3/16" (30mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 50~100 kPa
 Orifice Size Inch (mm) : 1-3/16" (30mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas						
			Outlet Pressure (kPa)						
Psi	Bar	MPa	50 kPa	60 kPa	70 kPa	80 kPa	90 kPa	100 kPa	150 kPa
9	0.6	0.06	140	-	-	-	-	-	-
10	0.7	0.07	210	170	-	-	-	-	-
12	0.8	0.08	250	250	200	-	-	-	-
15	1	0.1	320	350	340	290	290	-	-
29	2	0.2	550	640	690	690	680	670	530
44	3	0.3	730	850	920	920	920	920	910
58	4	0.4	910	950	1000	1000	1000	1000	1000
73	5	0.5	1050	1200	1300	1300	1300	1300	1300
87	6	0.6	1250	1450	1550	1550	1550	1550	1550
102	7	0.7	1450	1700	1800	1800	1800	1800	1800
116	8	0.8	1700	1900	2050	2050	2050	2050	2050
145	10	1	2100	2400	2600	2600	2600	2600	2600
174	12	1.2	2500	2900	3100	3100	3100	3100	3100
218	15	1.5	3150	3600	3900	3900	3900	3900	3900
261	18	1.8	3150	3600	3900	3900	3900	3900	3900

HM-1000WB

Orifice Size 15/16" (20mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 50~100 kPa
 Orifice Size Inch (mm) : 15/16" (20mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas						
			Outlet Pressure (kPa)						
Psi	Bar	MPa	50 kPa	60 kPa	70 kPa	80 kPa	90 kPa	100 kPa	150 kPa
9	0.6	0.06	110	-	-	-	-	-	-
10	0.7	0.07	150	120	-	-	-	-	-
12	0.8	0.08	180	170	120	-	-	-	-
13	0.9	0.09	210	210	180	130	-	-	-
15	1.0	0.10	240	240	220	180	130	-	-
22	1.5	0.15	330	260	350	340	320	300	-
29	2.0	0.20	400	440	440	440	430	430	340
44	3.0	0.30	540	590	590	590	590	590	590
58	4.0	0.40	670	740	740	740	740	740	740
73	5.0	0.50	810	890	890	890	890	890	890
87	6.0	0.60	940	1000	1000	1000	1000	1000	1000
102	7.0	0.70	1050	1150	1150	1150	1150	1150	1150
116	8.0	0.80	1200	1300	1300	1300	1300	1300	1300
131	9.0	0.90	1300	1450	1450	1450	1450	1450	1450
145	10.0	1.00	1450	1600	1600	1600	1600	1600	1600

Orifice Size 1" (25.4mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 50~100 kPa
 Orifice Size Inch (mm) : 1" (25.4mm)

Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas						
			Outlet Pressure (kPa)						
Psi	Bar	MPa	50 kPa	60 kPa	70 kPa	80 kPa	90 kPa	100 kPa	150 kPa
9	0.6	0.06	170	-	-	-	-	-	-
10	0.7	0.07	250	200	-	-	-	-	-
12	0.8	0.08	300	280	200	-	-	-	-
13	0.9	0.09	350	340	290	210	-	-	-
15	1.0	0.10	390	390	350	300	220	-	-
22	1.5	0.15	540	580	570	550	530	490	-
29	2.0	0.20	650	720	720	710	700	690	550
44	3.0	0.30	870	960	960	960	960	960	940
58	4.0	0.40	1050	1200	1200	1200	1200	1200	1200
73	5.0	0.50	1300	1400	1400	1400	1400	1400	1400
87	6.0	0.60	1500	1650	1650	1650	1650	1650	1650
102	7.0	0.70	1700	1900	1900	1900	1900	1900	1900
116	8.0	0.80	1950	2150	2150	2150	2150	2150	2150
131	9.0	0.90	2150	2350	2350	2350	2350	2350	2350
145	10.0	1.00	2350	2600	2600	2600	2600	2600	2600

Orifice Size 1-3/16" (30mm)

Connection Size Inlet : DN 50 / Outlet DN 50
 Setting Pressure Range : 50~100 kPa
 Orifice Size Inch (mm) : 1-3/16" (30mm)

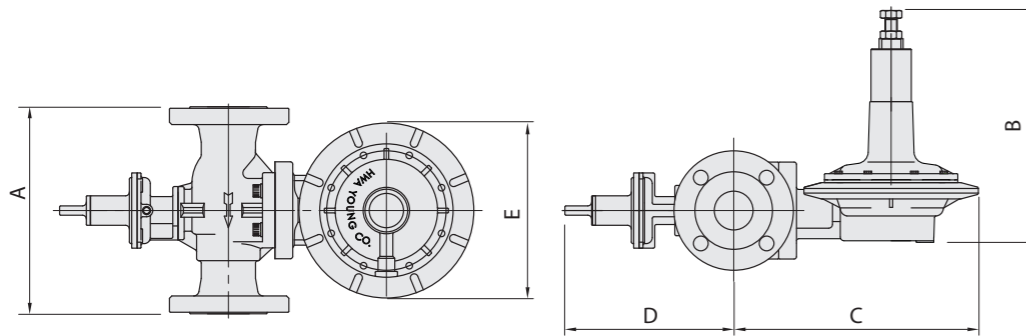
Inlet Pressure Range			Capacities in Nm ³ /h of 0.6 specific gravity natural gas						
			Outlet Pressure (kPa)						
Psi	Bar	MPa	50 kPa	60 kPa	70 kPa	80 kPa	90 kPa	100 kPa	150 kPa
9	0.6	0.06	240	-	-	-	-	-	-
10	0.7	0.07	350	280	-	-	-	-	-
12	0.8	0.08	420	390	290	-	-	-	-
13	0.9	0.09	490	480	400	290	-	-	-
15	1.0	0.10	540	550	490	420	300	-	-
22	1.5	0.15	750	800	800	770	740	690	-
29	2.0	0.20	910	1000	1000	1000	980	970	770
44	3.0	0.30	1200	1300	1300	1300	1300	1300	1300
58	4.0	0.40	1500	1650	1650	1650	1650	1650	1650
73	5.0	0.50	1800	2000	2000	2000	2000	2000	2000
87	6.0	0.60	2100	2300	2300	2300	2300	2300	2300
102	7.0	0.70	2400	2650	2650	2650	2650	2650	2650
116	8.0	0.80	2700	3000	3000	3000	3000	3000	3000
131	9.0	0.90	3000	3300	3300	3300	3300	3300	3300
145	10.0	1.00	3300	3650	3650	3650	3650	3650	3650

HM SERIES REGULATOR

Dimension

Unit: mm

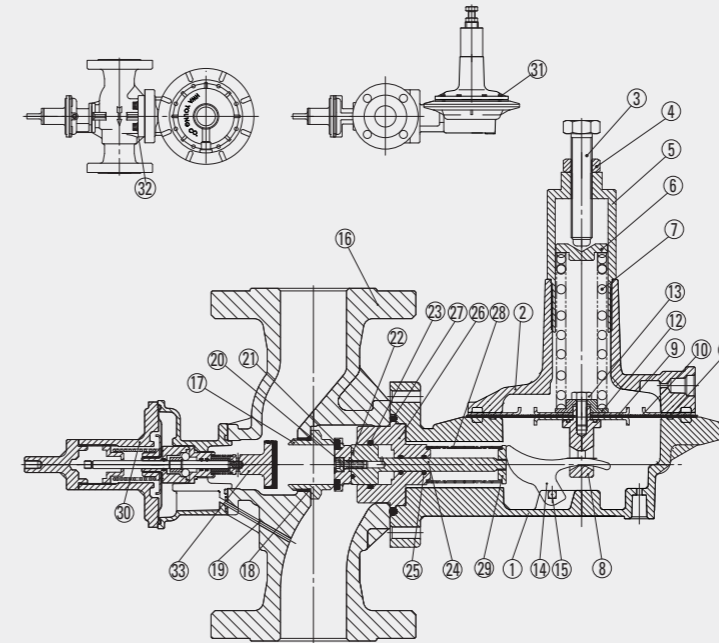
Model	In & Outlet Size	A	B	C	D	E
HM-1000HA	DN 50 Flange	∅ 265	299	316	218	226
HM-1000HB / HM-1000WB	DN 50 Flange	∅ 265	255	316	218	226



Spring Information

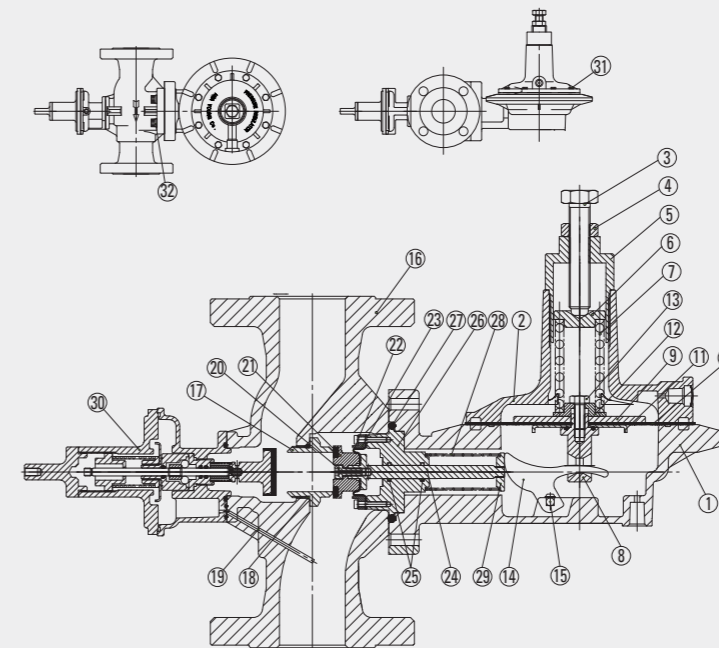
Type	Main Spring				OPSO Spring			
	Setpoint kPa	Range kPa	Spring Part Number	Color	Setpoint kPa	Range kPa	Spring Part Number	Color
HM-1000HA	100	100-150	HMR700-W005	Yellow	150	100-150	HMR02K-W073	Yellow
	150	120-200	HMR700-W006	Blue	225	100-300	HMR02K-W074	Brown
	200	180-300	HMR700-W007	Brown				
	300	250-400	HMR700-W001	Silver	450	300-600	HMR700-W004	Silver
	400				600			
HM-1000HB HM-1000WB	50	40-60	HMR01K-W001	Red	75	60-80	HMR02K-W071	Red
	60	50-70	HMR01K-W002	Blue	90	70-110	HMR02K-W072	Blue
	70				105			
	80	60-100	HMR01K-W003	Yellow	120	100-150	HMR02K-W073	Yellow
	90				135			
	100				150			
	150	70-120	HMR01K-W004	Brown	150	150-300	HMR02K-W074	Brown
	100-200	HMR01K-W006	Silver	225				

Type HM-1000HA/HB Regulator Components



- 1. BODY
- 2. COVER
- 3. OPERATING BOLT
- 4. HEXAGON NUT
- 5. COVER CAP
- 6. OPERATING SPRING CAP
- 7. OPERATING SPRING
- 8. POLE
- 9. DIAPHRAGM
- 10. DIAPHRAGM
- 11. SUB DIAPHRAGM
- 12. WASHER
- 13. HEXAGON BOLT
- 14. LEVER
- 15. LEVER PIN
- 16. HEAD
- 17. ORIFICE
- 18. O-RING
- 19. SPRING PIN
- 20. BOLT
- 21. SEAT DISK
- 22. O-RING
- 23. O-RING
- 24. VALVE LOAD
- 25. O-RING
- 26. BALANCE CASE
- 27. O-RING
- 28. BALANCE SPRING
- 29. BALANCE SPRING CAP
- 30. OPSO ASSEMBLY
- 31. WASHER
- 32. SPRING WASHER
- 33. VALVE DISK

Type HM-1000WB Regulator Components



- 1. BODY
- 2. COVER
- 3. OPERATING BOLT
- 4. HEXAGON NUT
- 5. COVER CAP
- 6. OPERATING SPRING CAP
- 7. OPERATING SPRING
- 8. POLE
- 9. DIAPHRAGM
- 10. DIAPHRAGM
- 11. SUB DIAPHRAGM
- 12. WASHER
- 13. HEXAGON BOLT
- 14. LEVER
- 15. LEVER PIN
- 16. HEAD
- 17. ORIFICE
- 18. O-RING
- 19. SPRING PIN
- 20. BOLT
- 21. SEAT DISK
- 22. BALANCE DIAPHRAGM
- 23. BALANCE D-P BRACKET
- 24. VALVE LOAD
- 25. O-RING
- 26. BALANCE CASE
- 27. O-RING
- 28. BALANCE SPRING
- 29. BALANCE SPRING CAP
- 30. OPSO ASSEMBLY
- 31. WASHER
- 32. SPRING WASHER
- 33. VALVE DISK

HN SERIES HIGH CAPACITY REGULATOR

The HN Series Regulator is spring operational model that can adjust the spring force by adjusting bolt or replacing spring to change outlet pressure. It is possible to control gas flow precisely by balance diaphragm which equipped at inlet side in order to reduces incoming pressure.



Operating principle

The range of position of control member depend from actuator assembly(spring-stem-diaphragm) movements. The diaphragm divides the regulator control head into two chambers.

The lower chambers is connected to regulated pressure Pa, and the other, where the spring regulator is located, is connected to atmospheric pressure. When the contrasting actions of the spring and outlet pressure coincide, the diaphragm-stem valve assembly remains motionless, and the outlet pressure matches spring set point.

An increase in capacity demand will cause a decrease in outlet pressure. This means that the spring's action will prevail over outlet pressure's action, and the valve will open until set point pressure is again reached at outlet. The opposite occurs whenever outlet pressure increases. Precision perfect balancing of control member is assured under all operating conditions by the inlet pressure which operates in the counterbalancing chamber.

Application

- Industrial
- Commercial
- Structure
- High capacity City gate

Character

- Replaceable Orifice
- Replaceable and Controllable Spring
- Ease of installation
- High reliable security system
- Cover a wide outlet pressure

Specifications

Max flow rate	3300 Nm ³ /h
Flow range	0.01~0.4 MPa(0.1~4 bar)
Outlet pressure setting point	2.0~150 kPa(0.02~1.5bar)
Outlet pressure range	P2±15%
Lock up pressure	P2±20%
Working Temperature	-20 °C ~ 60 °C
Connection size	DN50(DIN)
Weight	50 kg

HN 2000

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure Range : 2~25 kPa
Orifice Size Inch (mm) : 2" (51)

Inlet Pressure Range			Outlet Pressure (kPa)					
Psi	Bar	MPa	2 kPa	3 kPa	7 kPa	10 kPa	15 kPa	25 kPa
1.5	0.1	0.01	310	300	-	-	-	-
2.9	0.2	0.02	460	460	370	370	-	-
4.4	0.3	0.03	550	550	490	490	400	280
5.8	0.4	0.04	630	630	600	600	550	470
7.3	0.5	0.05	690	690	670	670	670	670
8.7	0.6	0.06	760	760	740	740	740	740
10.2	0.7	0.07	810	810	800	800	790	790
11.6	0.8	0.08	860	860	860	860	820	820
14.5	1.0	0.1	940	940	940	940	940	940
29.0	2.0	0.2	1200	1200	1200	1270	1300	1300
43.5	3.0	0.3	1380	1380	1380	1400	1400	1400
58.0	4.0	0.4	1500	1500	1500	1500	1550	1550

HN 2070

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure Range : 30~100 kPa
Orifice Size Inch (mm) : 2" (51)

Inlet Pressure Range			Outlet Pressure (kPa)				
Psi	Bar	MPa	30 kPa	40 kPa	50 kPa	70 kPa	100 kPa
5.8	0.4	0.04	420	-	-	-	-
7.3	0.5	0.05	580	430	-	-	-
8.7	0.6	0.06	690	600	450	-	-
10.2	0.7	0.07	790	720	630	-	-
11.6	0.8	0.08	860	820	750	480	-
14.5	1	0.1	960	970	940	800	-
21.8	1.5	0.15	1200	1300	1330	1320	1100
29.0	2	0.2	1300	1450	1450	1450	1600
43.5	3	0.3	1500	1500	1600	1800	2000
58.0	4	0.4	1650	1700	1800	2000	2400

HN 2070P

Connection Size Inlet : DN50 / Outlet : DN50
Setting Pressure Range : 50~200 kPa
Orifice Size Inch (mm) : 2" (51)

Inlet Pressure Range			Outlet Pressure (kPa)					
Psi	Bar	MPa	50 kPa	60 kPa	70 kPa	80 kPa	100 kPa	150 kPa
10.2	0.7	0.07	200	-	-	-	-	-
11.6	0.8	0.08	540	250	-	-	-	-
13.1	0.9	0.09	660	300	450	-	-	-
14.5	1	0.1	750	700	1100	450	-	-
21.8	1.5	0.15	1000	1100	1600	1400	1200	-
29.0	2	0.2	1400	1600	2000	1900	1800	1500
36.3	2.5	0.25	1500	2000	2100	2300	2200	2000
43.5	3	0.3	1700	2200	2400	2800	2700	2600
58.0	4	0.4	2100	2500	2700	3100	3300	3200

• The test has been performed based on the temperature at 25°C, Specific Gravity :0.6 with N.G, and the Unit with Nm³/h.

■ This color is Drop / Boost which is out of the measured range.

The flow rate data of HYR-815 Series is measured based on natural gas (Specific Gravity=0.6,Standard N m³/h) that shows variation of flow rate according to change of inlet pressure and orifice size.
 Reference : Please be careful with reading of unit otherwise it may cause regulator's performance by wrong data expression.

HN SERIES HIGH CAPACITY REGULATOR

Check Point Before Installation

1. Double check the regulator before installation. During transporting or loading up of regulator, dust or foreign material can be on the regulator and might cause damage.
2. Dust or foreign material might be inside of regulator, so it should be checked and removed.
3. Check the arrow mark which indicates the gas flow direction in order to install for correct direction.
4. Check the label on regulator to match with specification where it should be installed.
5. Make sure to check if the pipe can endure the regulator's weight.
6. When connecting regulator and pipe, use proper size of gasket with flange and standard bolt. Also, do not install around flammables.
7. Do not place thing that is heavy enough to transmit weight to regulator.

Caution : Additional care is required for installation of vent not to cause damage to regulator.

Installation

1. Check inside of pipe if it is clean or corrosion. If there is corrosion, the pipe should be replaced with new pipe.
2. Check the arrow mark on regulator to match with correct direction of gas flow.
3. Apply pipe compound on connection side of regulator in order to avoid leakage before install.
4. After finish with connecting the regulator with pipes, check the OPSO operation. If it operates correctly, make it back to normal position and open the gas valve slowly.
5. It is recommended to install filter in front of regulator.
6. Check the flow meter if the inlet & outlet pressures are normal. Also, make sure to check if there is leakage on pipe connection.

Installation Diagram

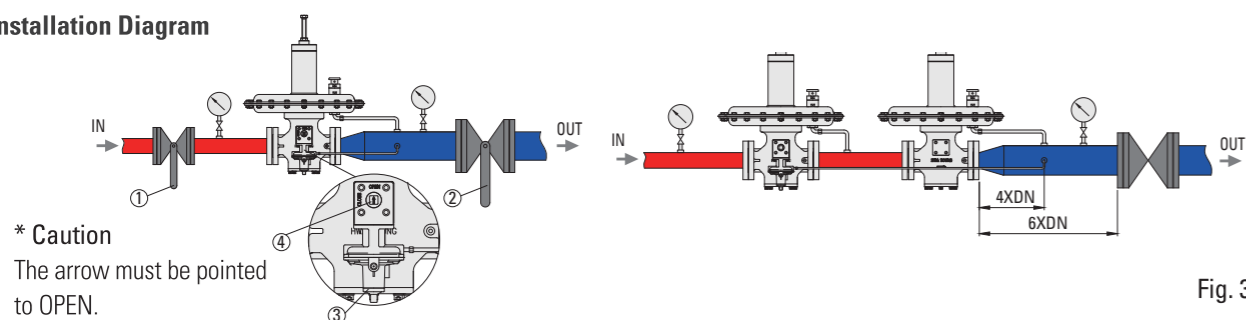


Fig. 3

Connection of Controller

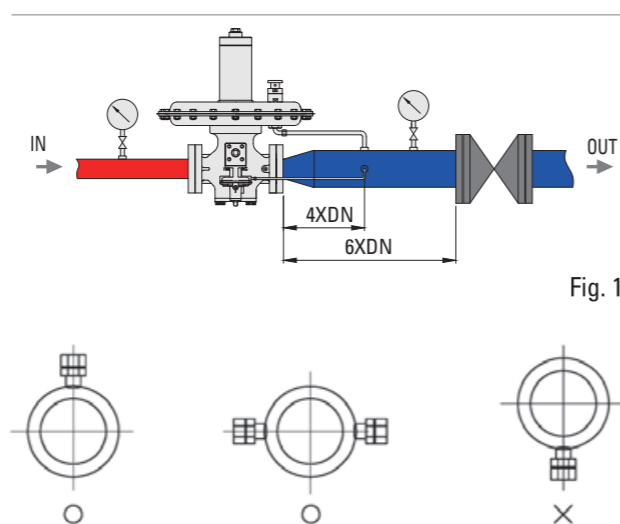


Fig. 1

Fig. 2

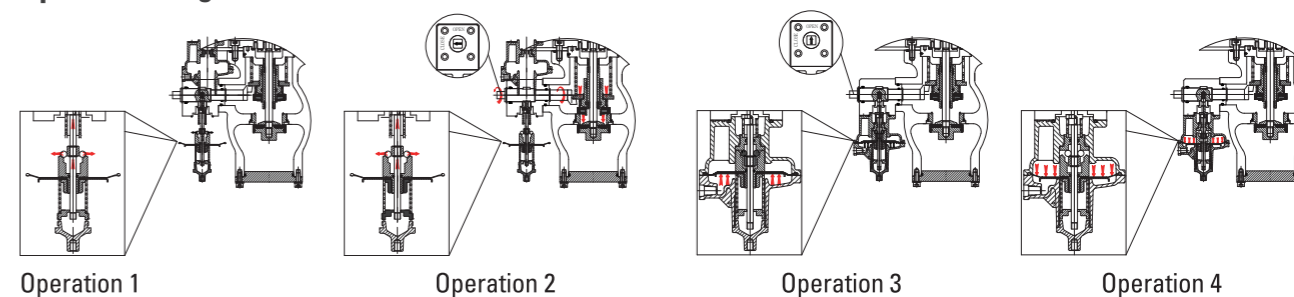
- a. Check if the gas flow is below 40 m/s for controller which connecting to pipe.
- b. The controller must be connected according to Fig. 2. at horizontal pipe. (Do not connect controller to vertical pipe.)
- c. This regulator must be connected according to Fig. 1.
- d. Connect sensing port line to controller of regulator. Customers can use pipe with 8mm ring fitting which provided with regulator or their own pipe and fitting. (Connection size is PT 1/4B.)

HN series regulator can be connected as series connection like fig. 3. It can be used as second stage 2nd reduction system. When using as this system second stage 1st pipe size must be smaller than pipe of 2nd reduction. At this time controller must be connected as fig.1 and OPSO sensing port of 1st reduction must be connected to 2nd reduction pipe.

OPSO (Over Pressure Shut Off)

OPSO starts operation to stop supply of gas when the outlet pressure reaches the OPSO setting pressure. The OPSO pressure is being set based on manufacturer's standard but it can be adjusted upon customer's requirement and also, can be done at the field.

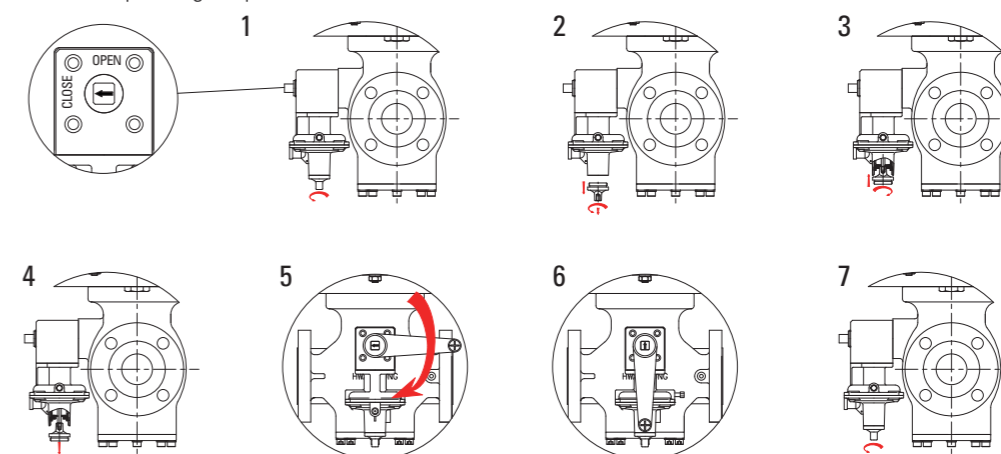
Operation Diagram of OPSO



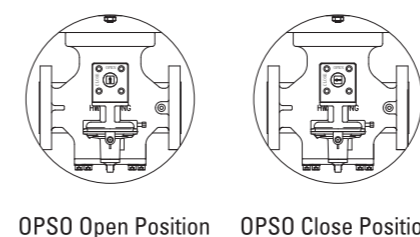
In OPSO device, there is closed diaphragm by spring force which is set. When outlet pressure increases, the pressure transmits to inside of OPSO and pushes diaphragm upward. When the diaphragm goes up to setting pressure, fixed locking pin is being released and spring force pushes spindle to close the orifice of body and stop supply of gas.

Return of OPSO

1. Check the arrow if it is pointing to close.
2. Loose OPSO cap and pull it downward.
3. Connect the handle and rotate to clockwise and pull it according to figures below.
4. Place OPSO cap to original position.



Reference

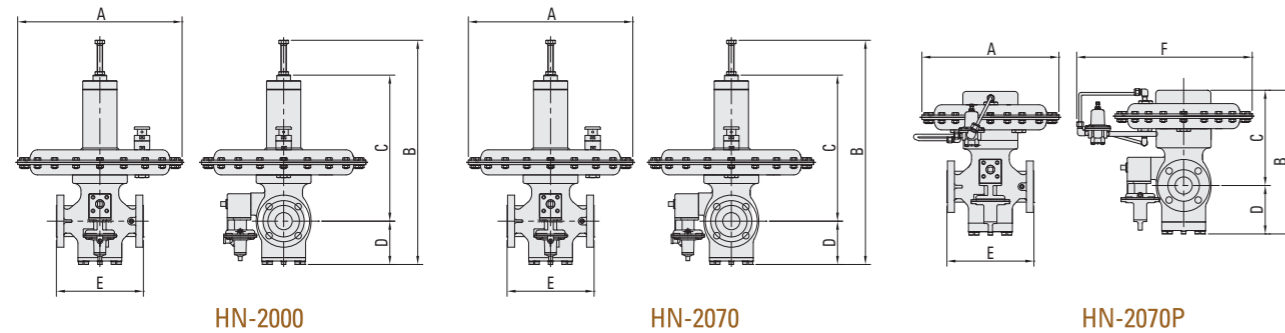


- a) Supply gas only a little.
- b) Open inlet side of valve only a little slowly.
- c) Remove OPSO cap(3) and pull spindle.
- d) Insert release wrench (4) rotate the ball clockwise slowly to supply gas only a little for complete open.
- e) Wait until outlet pressure is stable.
- f) Place OPSO cap(3) to original position.
- g) Open the in & outlet stop valve slowly for complete open.

HN SERIES HIGH CAPACITY REGULATOR

Dimension

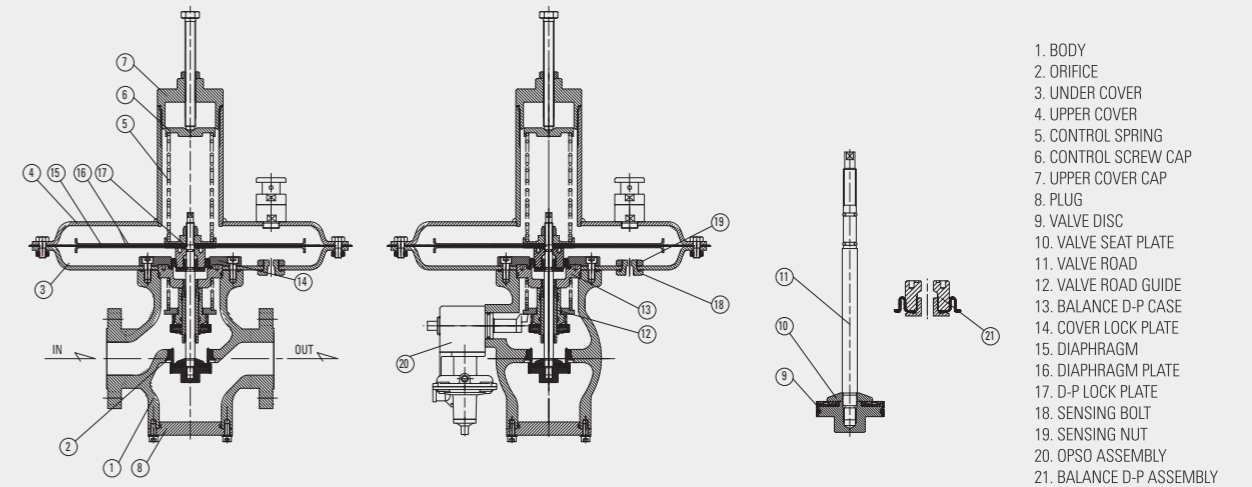
Model	In & Outlet Size	A	B	C	D	E	F
HN 2000	DN 50 Flange	480	654	645	126	254	-
HN 2070	DN 50 Flange	400	654	645	126	254	-
HN 2070P	DN 50 Flange	400	419	278	141	254	512



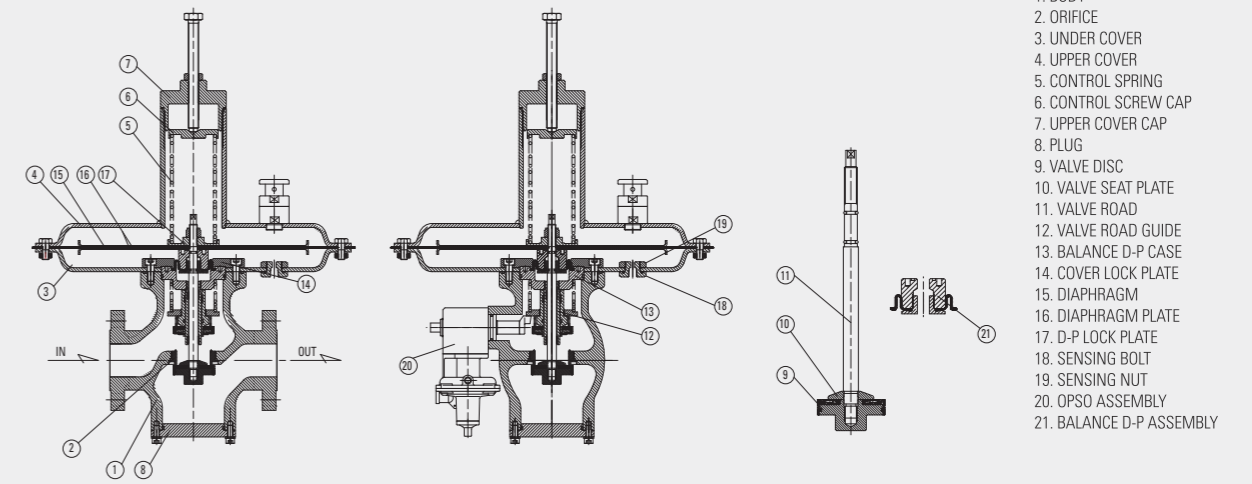
Spring Information

Type	Main Spring				OPSO Spring				
	Setpoint kPa	Range kPa	Spring Part Number	Color	Setpoint kPa	Range kPa	Spring Part Number	Color	
HN-2000	2	2-3	HMR02K-W005	Silver	5	4-6.5	HMR02K-W044	Silver	
	3				6.5				
	5	3-5	HMR02K-W075	Green	9	6.5-10	HMR045-W047	Green	
	7				11.5				
	10	7-12	HMR02K-W066	Orange	15	15-24	HMR300-W053	Orange	
	12				18				
	HN-2070	15	13-25	HMR02K-W067	Red	22.5	24-38	HMR02K-W071	Red
		20				30			
25		30-40	HMR02K-W067	Red	37	45-65	HMR02K-W072	Blue	
30					45				
40		45-55	HMR02K-W069	Yellow	60	65-87	HMR02K-W073	Yellow	
50					75				
HN-2070P		60	60-70	HMR02K-W058	Black	85	85-95	HMR02K-W053	Black
		70				94			
	80	75-100	HMR02K-W070	Brown	110	110-150	HMR02K-W074	Brown	
	90				120				
	100	60-90	HMR15H-W003	Orange	140	110-150	HMR02K-W074	Brown	
	80				110				
	HN-2070P	90	50-60	HMR15H-W002	Gray	120	85-95	HMR02K-W053	Black
		60				85			
100		90-150	HMR15H-W004	White	140	140-220	HMR02K-W075	White	
150					210				

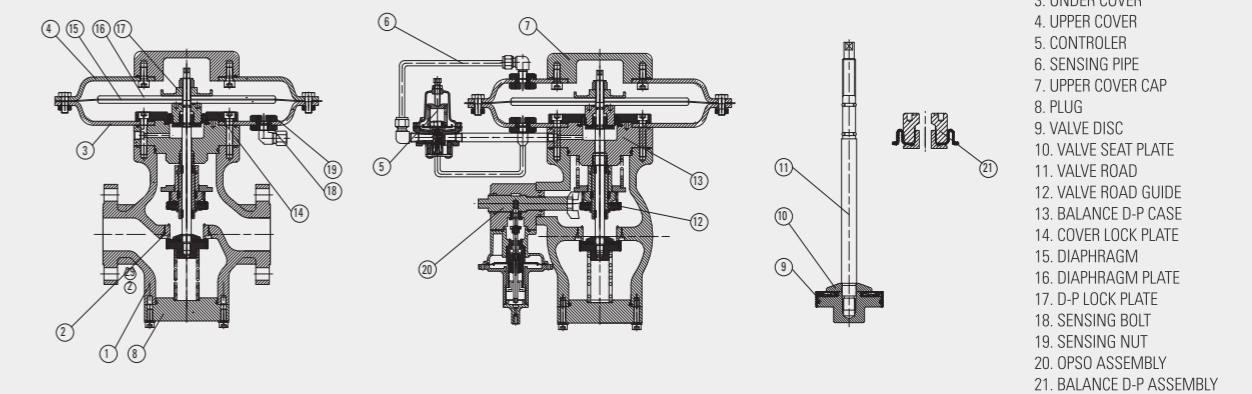
Type HN-2000 Series Regulator Components



Type HN-2070 Series Regulator Components



Type HN-2070P Series Regulator Components



Regulator abnormality Curve and Setting

1. Second stage outlet pressure is drop

Cause

1. Orifice size is small against to using capacity
2. Gas supply interrupted due to block gas filter
3. Diaphragm is expended due to long time using
4. OPSO is locked up.

Settlement

1. Replace suitable orifice according to using capacity
2. Disassembly gas filter and cleaning inside
3. Disassembly case and replace diaphragm
4. Block inlet & outlet valve and release gas. And then, Reset OPSO.

2. Second stage outlet pressure is increasing

Cause

1. Lock-up condition is bad due to valve seat or orifice wear, crack etc
2. First stage inlet pressure is applied toward OPSO because of OPSO shaft O-ring damage.
3. Assembly lever linked diaphragm operation is not good.
4. Volume changing is happen due to temperature with exposure pipe system.
5. First stage inlet pressure is applied due to orifice sealing condition.

Settlement

1. Disconnection case from pipe and replace valve seat orifice.
2. Disconnection OPSO from pipe and replace shaft O-ring.
3. Disassembly warm the expose pipe.
4. Keeping warm the expose pipe.
5. Re-assembly orifice sealing materials.

3. In case of regulator hunting

Cause

1. Orifice size is too much big against to capacity and pressure
2. First stage pressure is unstable
3. Assembly level linked diaphragm operation is not good.
4. Inflow contamination materials or humidity to inside of second stage pipe
5. Large volume of gas is instantaneously & repeatedly flow and cut off

Settlement

1. Replace suitable orifice according to using capacity and pressure
2. Disassembly and inspect filter
3. Remove inside of contamination material or humidity
4. Disassembly case and inspect and then replace spring and diaphragm
5. Secure sufficient second stage pipe volume

HWA YOUNG's GAS REGULATOR LIST UP

Section	Series	Model	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief (kPa)	Connection Size		Index Page		
							Inlet	Outlet			
Single Stage	HYR Single Series	HYR-4	4	0.07~1.6	2.8±0.5	7±1.4	Pol Ha	Hose End	15		
		HYR-5	5	0.07~1.6	2.8±0.5	7±1.4	L.H W22.5X14T	PT 3/4	No Relief	PT 1/2	16
				0.1~1.6	6±1						
				0.1~1.6	10±2						
				0.1~1.6	15±3						
				0.1~1.6	25±5						
		HYR-5C	5	0.07~1.6	2.8±0.5	7±1.4	PT 1/4	PT 3/4	16		
		HYR-7	7	0.07~1.6	2.8(2.3~3.3)	7±1.4	Pol Hand	PT 1/2	L.H W22.5X14T	17	
				0.1~1.6	15(12~18)	No Relief					
		HYR-7C	7	0.07~1.6	2.8(2.3~3.3)	7±1.4	PT 1/4	PT 1/2	17		
				0.1~1.6	25(20~30)	No Relief					
		HYR-12	12	0.07~1.6	2.8(2.3~3.3)	7±1.4	PT 1/2	PT 3/4	18		
				0.1~1.6	15(12~18)	No Relief					
				0.1~1.6	25(20~30)	No Relief					
		HYR-20	20	0.1~1.6	2.8(2.3~3.3)	7±1.4	PT 1/2	PT 1	19		
				0.1~1.6	15(12~18)	No Relief					
				0.1~1.6	25(20~30)	No Relief					
		HYR-35	35	0.1~1.6	2.8(2.3~3.3)	7±1.4	PT 1/2	PT 1	19		
				0.1~1.6	15(12~18)	No Relief					
0.1~1.6	25(20~30)			No Relief							
First Stage	HYRM Series (Adjustable Type)	HYRM-10	Max 15	0.2~1.6	0.1	0.04~0.15	Pol Handle	PT 1/2	22		
				0.25~1.6	0.15	0.05~0.2	LH W22.5x14T				
				0.3~1.6	0.2	0.1~0.3					
		HYRM-10B	Max 15	0.2~1.6	0.1	0.04~0.15	PT 1/2	PT 1/2	22		
				0.25~1.6	0.15	0.05~0.2					
				0.3~1.6	0.2	0.1~0.3					
		HYRM-15	Max 20	0.15~1.6	0.07	0.03~0.1	NPT 1/4	NPT 1/4	23		
				0.2~1.6	0.1	0.04~0.15					
				0.25~1.6	0.15	0.05~0.2					
				0.3~1.6	0.2	0.1~0.3					
		HYRM-35	35	0.1~1.6	0.07	0.03~0.1	PT 3/4	PT 3/4	24		
				0.15~1.6	0.07	0.03~0.1					
		HYRM-35A	Max 150	0.2~1.6	0.1	0.04~0.15	PT 3/4	PT 3/4	24		
				0.3~1.6	0.15	0.05~0.2					
				0.4~1.6	0.2	0.05~0.2					
		HYRM-60	60	0.1~1.6	0.07	0.03~0.1	PT 3/4	PT 3/4	25		
		HYRM-60A	100 120 150	0.15~1.6	0.07	0.03~0.1	PT 3/4	PT 3/4	25		
				0.2~1.6	0.1	0.04~0.15					
				0.25~1.6	0.15	0.05~0.2					
		HYRM-60B	200 250	0.25~1.6	0.2	0.05~0.2	PT 3/4	PT 3/4	25		
				0.35~1.6	0.3	0.1~0.3					
		HYRM-350A		170	0.15~1.6	0.07	0.03~0.1	PT 1-1/2	PT 1-1/2	26	
				190	0.2~1.6	0.1	0.04~0.15				
				220	0.3~1.6	0.15	0.05~0.2				
				350	0.4~1.6	0.2	0.05~0.2				
				HYRM-100	100	0.1~1.6	0.07				0.04~0.085
		HYRM-200	200	0.1~1.6	0.07	0.04~0.085	PT 1-1/2	PT 1-1/2	27		
		HYRM-300	300	0.1~1.6	0.07	0.04~0.085	PT 1-1/2	PT 1-1/2	27		
		HYRM-400	400	0.1~1.6	0.07	0.04~0.085	PT 2	PT 2	27		
HM-700HB-14	200 250 300	0.15~1.6	0.07	0.03~0.1	PT 1	PT 1	28				
		0.2~1.6	0.1	0.05~0.15							
		0.25~1.6	0.15	0.07~0.2							
HM-700HB-16	300 400 500	0.15~1.6	0.07	0.03~0.1	PT 1-1/2	PT 1-1/2	28				
		0.2~1.6	0.1	0.05~0.15							
		0.25~1.6	0.15	0.07~0.2							
HM-1000HB-20	600 700 800	0.15~1.6	0.07	0.03~0.1	DN50 PN25	DN50 PN25	29				
		0.2~1.6	0.1	0.05~0.15							
		0.25~1.6	0.15	0.07~0.2							
HM-1000HB-25	750 900 1000	0.15~1.6	0.07	0.03~0.1	DN50 PN25	DN50 PN25	29				
		0.2~1.6	0.1	0.05~0.15							
		0.25~1.6	0.15	0.07~0.2							
HYRM-2000	2000	0.3~1.6	0.15	0.057~0.083	KS 20K RF FLANGE 80A	KS 10K RF FLANGE 80A	30				

HWA YOUNG's GAS REGULATOR LIST UP

Section	Series	Model	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief (kPa)	Connection Size		Index Page	
							Inlet	Outlet		
Second Stage	HYR Second Series	HYR-205	5	0.01-0.15	2.8±0.5	7±1.4	PT 1/2	PT 3/4	31	
				0.01-0.15	2.8±0.5	7±1.4				
				0.025-0.15	6±1	No Relief	PT 3/4	PT 3/4		33
				0.025-0.15	10±2					
				0.025-0.15	15±3					
		0.025-0.15	25±5	No Relief	PT 3/4	PT 3/4	33			
		0.01-0.15	2.8±0.5							
		0.025-0.15	6±1							
		HYR-207	7	0.025-0.15	10±2	No Relief		PT 3/4	PT 3/4	33
				0.025-0.15	15±3					
				0.025-0.15	25±5					
		HYR-212	12	0.01-0.15	2.8(2.3-3.3)	7±1.4	PT 3/4	PT 3/4	34	
				0.025-0.15	6(5-7)	No Relief				
				0.025-0.15	15(12-18)		No Relief	PT 1/2		PT 3/4
				0.025-0.15	25(20-30)					
		HYR-215C	15	0.05-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 3/4	34	
				0.05-0.4	15(12-18)	No Relief				
				0.05-0.4	25(20-30)					
		HYR-220C	20	HYR020-1J00	0.07-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	35	
				HYR020-1K00	0.05-0.4	15(12-18)				No Relief
				HYR020-1L00	0.05-0.4	25(20-30)				
		HYR-230R	30	0.08-0.4	25(2-30)	40(36-44)	PT 1/2	PT 3/4	35	
		HYR-220	20	0.01-0.15	2.8(2.3-3.3)	7±1.4	PT 3/4	PT 1	35	
				0.025-0.15	15(12-18)	No Relief				
				0.025-0.15	25(20-30)					
		HYR-235	35	0.025-0.15	2.8(2.3-3.3)	7±1.4	PT 3/4	PT 1	35	
				0.025-0.15	15(12-18)	No Relief				
				0.025-0.15	25(20-30)					
		HYR-235C	35	0.05-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 1	35	
				0.05-0.4	15(12-18)	No Relief				
				0.05-0.4	25(20-30)					
		HYR-250	50	0.025-0.15	2.8(2.3-3.3)	7±1.4	PT 3/4	PT 1	35	
				0.04-0.15	15(12-18)	No Relief				
				0.04-0.15	25(20-30)					
		HYR-250C	50	0.05-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 1	35	
				0.05-0.4	15(12-18)	No Relief				
				0.05-0.4	25(20-30)					
		HYR-250R	50	0.08-0.4	25(2-30)	40(36-44)	PT 3/4	PT 1	35	
				0.07-0.4	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 1	35	
				0.07-0.4	15(12-18)	No Relief				
		HYR-260C	60	0.07-0.4	25(20-30)		No Relief	PT 3/4		PT 1
				0.07-0.4	2.8(2.3-3.3)	7±1.4				
				0.07-0.4	15(12-18)					
		HYR-2060C	60	0.07-0.4	2.8(2.3-3.3)	7±1.4	PT 1	PT 1	36	
				0.07-0.4	15(12-18)	No Relief				
				0.07-0.4	25(20-30)					
		HYR-2080C	80	0.07-0.4	15(12-18)	No Relief	PT 1	PT 1	36	
				0.07-0.4	25(20-30)					
				0.04-0.15	15(12-18)	No Relief	PT 1-1/2	PT 1-1/2		
0.04-0.15	25(20-30)									
HYR-2100C	100	0.07-0.4	15(12-18)	No Relief	PT 1-1/2	PT 1-1/2	36			
		0.07-0.4	25(20-30)							
		0.025-0.15	2.8(2.3-3.3)	7±1.4	50-10K Flange	50-10K Flange				
0.04-0.15	15(12-18)	No Relief								
0.04-0.15	25(20-30)									
HYR-2150	150	0.07-0.4	2.8(2.3-3.3)	7±1.4	50-10K Flange	50-10K Flange	37			
		0.07-0.4	15(12-18)	No Relief						
		0.07-0.4	25(20-30)							
HYR-2150C	150	0.1-0.4	15(12-18)	No Relief	50-10K Flange	50-10K Flange	37			
		0.1-0.4	25(20-30)							
		0.025-0.15	2.8(2.3-3.3)	7±1.4	50-10K Flange	50-10K Flange				
0.04-0.15	15(12-18)	No Relief								
0.04-0.15	25(20-30)									
HYR-2200	200	0.07-0.4	2.8(2.3-3.3)	7±1.4	50-10K Flange	50-10K Flange	37			
		0.07-0.4	15(12-18)	No Relief						
		0.07-0.4	25(20-30)							
HYR-2200C	200	0.1-0.4	15(12-18)	No Relief	50-10K Flange	50-10K Flange	37			
		0.1-0.4	25(20-30)							
		0.01-0.4	15(12-18)	No Relief	50-10K Flange	50-10K Flange				
0.1-0.4	25(20-30)									

HWA YOUNG's GAS REGULATOR LIST UP

Section	Series	Model	Capacity (kg/h)	Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief (kPa)	Connection Size		Index Page				
							Inlet	Outlet					
Second Stage	HYR Second Series	HYR2-815WA	400	0.07-0.4	2.8(2.3-3.3)	7±1.4	50-10K Flange	50-10K Flange	38				
				0.07-0.4	15(12-18)	No Relief							
				0.07-0.4	25(20-30)								
				0.07-0.4	40(32-48)								
		HN-2000A	1000	0.07-0.4	10(8-12)	No Relief	DN50 PN25	DN50 PN25	39				
				0.07-0.4	15(12-18)								
				0.07-0.4	20(16-24)								
				0.07-0.4	25(20-30)								
		HN-2070A	1000	0.07-0.4	30(24-36)	No Relief	DN50 PN25	DN50 PN25	39				
				0.07-0.4	40(32-48)								
				0.07-0.4	15(12-18)					No Relief	PT 1/4	PT 3/4 (Union 20A)	41
				0.1-1.6	2.8±0.5								
HAC-6	6	0.1-1.6	15±3	No Relief	PT 1/4	PT 3/4 (Union 20A)	41						
		0.1-1.6	25±5										
		0.1-1.6	2.8±0.5	No Relief	PT 1/4	PT 3/4 (Union 20A)							
		0.1-1.6	15±3										
HAC-8	8	0.1-1.6	25±5	No Relief	PT 1/2	PT 3/4 (Union 20A)	41						
		0.1-1.6	2.8±0.5										
		0.1-1.6	15±3	No Relief	PT 1/2	PT 3/4 (Union 20A)							
		0.1-1.6	25±5										
Automatic Change Over	Automatic Change (Unitized)	HAC-12	12	0.1-1.6	2.8±0.5	7±1.4	PT 1/2	PT 3/4 (Union 20A)	42				
				0.1-1.6	15±3	No Relief							
				0.1-1.6	25±5								
		HAC-20	20	0.1-1.6	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 3/4 (Union 20A)	43				
				0.1-1.6	15(12-18)	No Relief							
				0.1-1.6	25(20-30)								
		HAC-35	35	0.1-1.6	2.8(2.3-3.3)	7±1.4	PT 1/2	PT 3/4 (Union 25A)	43				
				0.1-1.6	15(12-18)	No Relief							
				0.1-1.6	25(20-30)								
		HACM-35	35	0.2-1.6	70(30-100)	No Relief	PT 1/2	PT 1 (Union 20A)	43				
				Automatic Change (Seperaged)	HAX-10	10	0.1-1.6	0.07	0.032-0.083	PT 1/2	PT 1/2	44	
					HAX-15	15	0.1-1.6	0.07	0.032-0.083	PT 1/2	PT 1/2	44	
HAX-20	20	0.1-1.6	0.07		0.032-0.083	PT 1/2	PT 1/2	45					
HAX-20A	20	0.2-1.6	0.15	0.1-0.18	PT 1/2	PT 1/2	45						
HAX-35	35	0.1-1.6	0.07	0.032-0.083	PT 1/2	PT 1/2	45						
HAX-35A	35	0.2-1.6	0.15	0.1-0.18	PT 1/2	PT 1/2	45						
HAX-60A	60	0.2-1.6	0.15	0.1-0.18	PT 1/2	PT 1/2	45						
Liquid Change Over	HLX Series	HLX-301A	Max 300	Max 1.56	50-200		KS 20K-20A Flange	KS 20K-20A Flange	46				

HWA YOUNG's GAS HOSE LIST UP

Section	Series	Model	Color	Use	Pressure		Length	Dimention		Index Page
					Working Pressure	Burst Pressure		Inside Dimention	Outside Dimension	
Gas Hose	LP Gas Hose	HWA YOUNG LPG HOSE	Orange	House Hold	0.2 MPa Below	4.0 MPa Above	45M / Roll	Ø9.5±0.7mm (Ø 3/8 inch)	Ø22mm Below	49
		PIG TAIL HOSE	1000mm (Check valve) 1000mm (No Check valve)	Commercial & Industrial	1.8 MPa Below	11.2 MPa Above	1M	LH W22.5*14T or M22*P1.5	PT 1/4B	52
	Natural Gas Hose	SMART HOSE	White	House Hold	0.2 MPa Below	4.0 MPa Above	1.3M 1.5M 1.8M	Ø9.5±0.7mm (Ø 3/8 inch)	Ø22mm Below	53

SMART CHECK VALVE

Model	Pressure (kPa)	Gas	Connection Size		Weight (kg)	Index Page
			Inlet	Outlet		
HVA-20	Below 30	NG	PT 3/4 (20A)		0.5	50

HIGH CAPACITY REGULATOR LIST UP

Section	Series	Model	Flow Rate (m³/h)	Pressure				Connection Size		Index Page
				Inlet Pressure (MPa)	Outlet Pressure (kPa)	Relief (kPa)	OPSO (kPa)	Inlet	Outlet	
High Capacity Regulator	HGM-10 Series	HGM-10	Max 12.5	40	2.1	-	-	PT 3/4	PT 3/4	58
			Max 70	0.07-0.4	2-12	4.5-24	3-29	PT 1B	PT 1B	62
	HYR-815 Series	HYR-815	Max 110	0.07-0.4	2-12	4.5-24	3-29	PT 1-1/2B	PT 1-1/2B	63
		HYR-815S	Max 70	0.02-0.4	12-25	4.5-24	19-45	PT 1B	PT 1B	63
		HYR-815M	Max 110	0.02-0.4	12-25	20-35	19-45	PT 1-1/2B	PT 1-1/2B	63
	200 Series	HYR-200	Max 230	0.03-0.4	3-30	5.5-48	5-68	PT1-1/4 & 1-1/2	PT1-1/4 & 1-1/2	67
		HYR-200W	Max 230	0.03-0.4	3-30	5.5-48	5-68	PT1-1/4 & 1-1/2	PT1-1/4 & 1-1/2	67
		HYR-200L	Max 80	0.01-0.1	2	5.5-48	5-68	PT1-1/4 & 1-1/2	PT1-1/4 & 1-1/2	67
	HYR2-815 Series	HYR2-815	Max 671	0.015-0.4	2-40	20-35	3-68	DIN 2" Flange	DIN 2" Flange	72
		HYR2-815W	Max 1200	0.01-0.4	2-40	4.5-64	3-68	DIN 2" Flange	DIN 2" Flange	73
	HM Series	HM-700HA	Max 1350	Max 1.8	100-400	-	100-600	PT1-1/2B	PT1-1/2B	78
		HM-700HB	Max 1800	Max 1.8	60-150	-	60-300	PT1-1/2B	PT1-1/2B	78
		HM-700WB	Max 930	Max 1	60-150	-	60-300	PT1-1/2B	PT1-1/2B	79
		HM-1000HA	Max 3850	Max 1.8	150-400	-	100-600	DN 50	DN 50	84
		HM-1000HB	Max 3900	Max 1.8	50-150	-	60-300	DN 50	DN 50	86
	HN Series	HN-1000WB	Max 3650	Max 1	50-150	-	60-300	DN 50	DN 50	88
		HN-2000	Max 1550	0.01-0.4	2-25	5.5-48	4-38	DIN 2" Flange	DIN 2" Flange	93
		HN-2070	Max 2400	0.04-0.4	30-100	-	45-150	DIN 2" Flange	DIN 2" Flange	93
		HN-2070P	Max 3300	0.07-0.4	50-150	-	45-220	DIN 2" Flange	DIN 2" Flange	93

Maximum Inlet Pressure : Below 0.4 MPa Class

Model	Inlet Pressure	Outlet Pressure	Flow Capacity
HYR-815M	0.07-0.4 MPa	2-3 kPa	30 m³/h
HYR-815	0.07-0.4 MPa	2-15 kPa	110 m³/h
HYR-815S	0.07-0.4 MPa	15-25 kPa	110 m³/h
HYR-200	0.07-0.4 MPa	3-30 kPa	230 m³/h
HYR-200W	0.07-0.4 MPa	3-30 kPa	400 m³/h
HYR2-815	0.07-0.4 MPa	2-40 kPa	671 m³/h
HYR2-815W	0.07-0.4 MPa	2-40 kPa	1200 m³/h
HN-2000	0.07-0.4 MPa	2-25 kPa	1550 m³/h
HN-2070	0.07-0.4 MPa	30-100 kPa	2400 m³/h
HN-2070P	0.07-0.4 MPa	50-150 kPa	3200 m³/h
HM-700HA	0.15-1.8 MPa	100-400 kPa	1350 m³/h
HM-700HB	0.07-1.8 MPa	50-100 kPa	1800 m³/h
HM-700WB	0.07-1 MPa	60-100 kPa	930 m³/h
HM-1000HA	0.2-1.8 MPa	150-400 kPa	3850 m³/h
HM-1000HB	0.06-1.8 MPa	50-100 kPa	3900 m³/h
HM-1000WB	0.06-1 MPa	50-100 kPa	3650 m³/h

Global Network



Since 1983

HWA YOUNG grown as the company specializing in manufacturing Gas Equipment on the basis of the technology and experience having been accumulated for a long time

Exporting to over 40 countries

It achieved the export to more than 40 countries in the world with the perfect Gas equipment through the incessant R&D and the education of production staffs and is steadily supplying the products on the basis of the satisfaction and trust from the customers from all over the world

High Quality and Competitive Price

Customer satisfaction and trust are the first priority. The mutual growth with you is realized by supplying the quality Gas equipment at reasonable prices at the right time through the investment in the state-of-the-art facilities and the optimized control of production

Certificate



CGAC (GAS REGULATOR)



E4



GATS



ISO 15500 (CNG REGULATOR)



ISO 15500-18 : 2001(CNC FILTER)



ISO 15500-9 : 2001



ISO 9001



ISO/TS 16949 : 2009



KSA (HOSE)



KSA (REGULATOR)



SIRIM



UL

BUSINESS STRUCTURE - (GAS EQUIPMENTS)



NG Regulator

Optimized for Natural gas regulator for power plant, School, huge amount gas or etc.



Automatic Change over System

Changeover function with 2nd stage-1st and 2nd stage 2ndreduction regulator in one body.



2st Reduction System

The HYR series are for the second stage first reduction system.



Gas cylinder Regulator

LP-Gas cylinder Regulator optimized for a small amount of use or home.



Gas Hose

Very founded product and still used in certain terms of condition. Now, in Korea demands for safety hose which is called S.M.A.R.T hose





LIMITED WARRANTY

Hwa Young Co.(No.579-33, Bunseong-road, Gimhae-city, Gyeongnam, 50820, Korea) warrants this gas product against defects in materials and workmanship for the earlier of two (2) years from the date the product is shipped by Hwa Young Co. or a period of one year from the date the product is installed by Hwa Young Co. at the original purchaser's site.

During such two-year period, provided that the original purchaser continues to own the product, Hwa Young Co. will, at its sole option, repair any defects, replace the product or repay the purchase price.

This warranty will be void if the purchaser fails to observe the procedures for installation, operation or service of the product as set forth in the Operating Manual and Specifications for the product or if the defect is caused by tampering, physical abuse or misuse of the product.

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HWA YOUNG

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ORDERING INFORMATION

1. Inlet and outlet connection size and type
2. Model Number
3. Outlet pressure desired
4. Inlet pressure range
5. Option
6. Type of gas and maximum capacity required
7. Assembly position number



No.579-33, Bunseong-road, Gimhae-city, Gyeongnam, 50820, Korea
Tel : 82-55-322-2201 Fax : 82-55-322-2208
Homepage : www.hwa-young.com
E-mail : info@hwa-young.com



GOOD DESIGN

