

PGM

Regulator

Overview

Regulator for process gas that uses a metal diaphragm. They meet a range of needs, from single unit piping to integrated types.

Features

Supports a wide range of variations

- From vacuum up to 0.7 MPa
- 20 L/min to 50 L/min
- High corrosion resistance specs

Poppet structure prevents outflow and controls negative pressure.



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Regulator for process gas

PGM Series

- Metal diaphragm

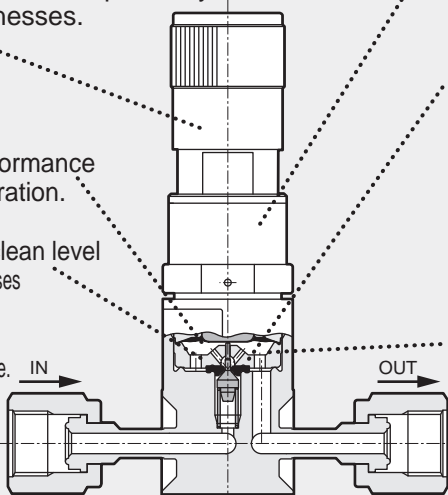
RoHS



High-performance regulator derived from rich experience

PGM series

- Slim body
 - Easy mounting and improved knob operability.
 - Enough space even for harnesses.
 - Compatible with 1.125" size.
- Seal performance
 - Improves valve seat seal performance and suppresses outflow generation.
- Ultra high purity gas compatible clean level
 - Reduces poppet's sliding parts and decreases particle generation to the max.
 - Metal seal specification that does away with threads on the gas contact inner surface.
 - The diaphragm uses Hastelloy® C-22, which has high corrosion resistance and long service life.
 - Electrolytic polishing specification.
 - Volumetric capacity reduction and optimum flow path design, supporting gas replaceability as well.
 - Also available with high corrosion resistance. (Option)
- Vibration countermeasures
 - Thorough countermeasures with newly developed vibration prevention mechanism. (patented)
- Flow characteristics
 - Low pressure drop.
 - Compact size with large flow rate!
 - Our first free (discrete) poppet! Negative pressure can be controlled. (patented)
 - Smoother operation with low-sliding parts! Hysteresis reduced!
- Fine flow rate control
 - Does away with problems causing change in MFC output signals for fine flow rates of several +sccm or less.



Model No. Flow rate series Secondary set pressure

PGM-30V 20L/min -0.07 to 0.21MPa

PGM-30 20L/min 0 to 0.21MPa

PGM-50 20L/min 0 to 0.35MPa

PGM-100 20L/min 0 to 0.7 MPa

Model No. Flow rate series Secondary set pressure

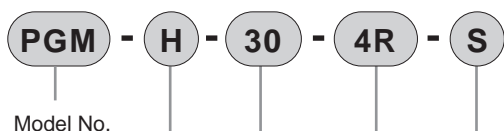
PGM-H-60 50L/min 0 to 0.42MPa

PGM-H-100 50L/min 0 to 0.7 MPa

Specifications

Item	PGM- PGM-H-	30V -	30 -	50 -	- 60	100 100
Working fluid	Inert gas/process gas					
Max. working pressure MPa	1.0					
Set pressure MPa	-0.07 to 0.21	0 to 0.21	0 to 0.35	0 to 0.42	0 to 0.7	
Fluid temperature °C	-5 to 40					
Valve seat leakage Pa•m3/s (He)	1.0 x 10-8 or less					
External leakage Pa•m3/s (He)	2.8 x 10-12 or less					
Proof pressure MPa	1.5					
Ambient temperature °C	-5 to 40					
Surface treatment of gas contact parts	Electrolytic polishing specification					
Connection	Various integrated interfaces supported (PGM-*-1, 2, 3, 4, 5) 1/4" JXR fitting (connectable to VCR fitting) (PGM-*-4R, 4RM, 4MF, 4FM)					
Weight kg	0.39(PGM-*-4)					
JIS symbol						

How to order



A Flow rate series

B Secondary set pressure

C Connection

D Option

A Flow rate series

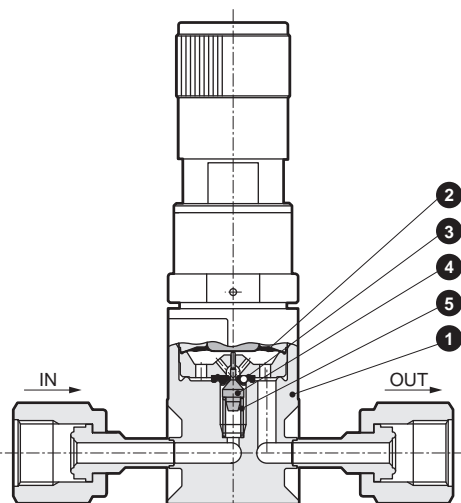
Blank	H
20 L/min	50 L/min

Code	Description	PGM	PGM-H
B Secondary set pressure			
30V	-0.07 to 0.21MPa(-10 to 30psi)	●	
30	0 to 0.21MPa(0 to 30psi)	●	
50	0 to 0.35MPa(0 to 50psi)	●	
60	0 to 0.42MPa(0 to 60psi)		●
100	0 to 0.7MPa(0 to 100psi)	●	●
C Connection			
4R	1/4"JXR female fitting	●	●
4RM	1/4"JXR male fitting	●	●
4MF	1/4"JXR male → female fitting	●	●
4FM	1/4"JXR female → male fitting	●	●
1	1.125" C seal	●	●
2	1.5" C seal	●	●
3	1.5" CS seal	●	●
4	1.5" W seal	●	●
5	1.125" W seal	●	●
D Option			
S	Poppet: Hastelloy ® C-22 Spring: Ni-Co alloy	●	
P	Valve seat: PI	●	

*1: Flow rate is nominal value. Check the pressure conditions in the flow characteristics graph.

*2: Without gauge port.

Internal structure diagram and parts list



Gas contacting parts material

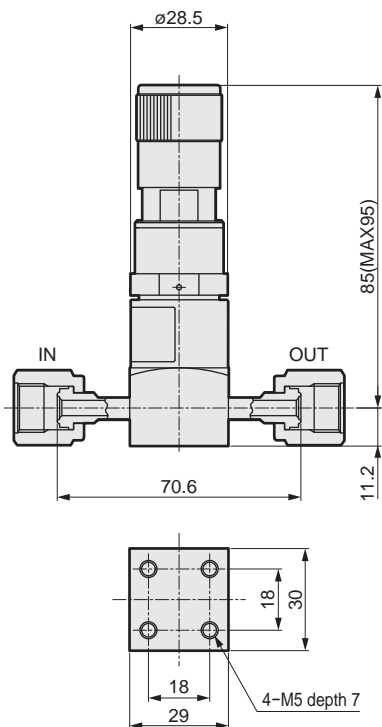
Part number	Part name	Material
1	Body	SUS316L
2	Diaphragm	Hastelloy ® C-22
3	Seat	PFA or PI (option)
4	Poppet	SUS316L or Hastelloy ® C-22 (option)
5	Spring	SUS316 or Ni-Co alloy (option)

Hastelloy ® is a registered trademark of Haines International, Inc.

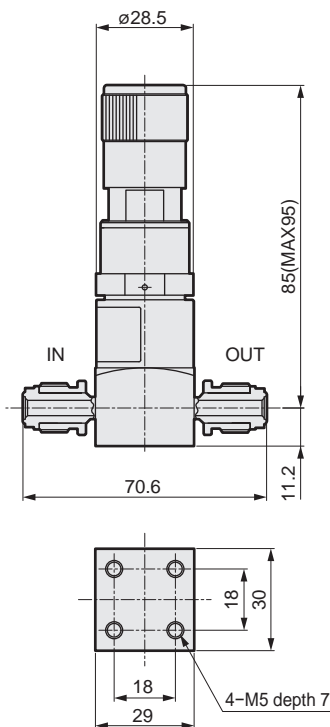
Dimensions

Note: Flow path direction is indicated with an arrow on the body.

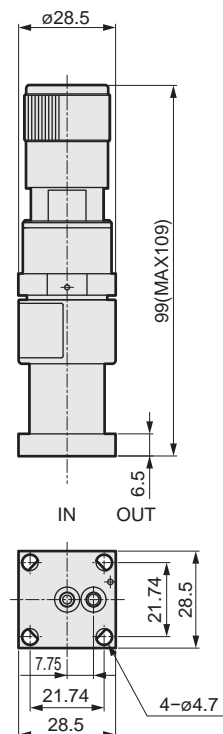
● PGM-*-4R
(1/4"JXR female fitting)



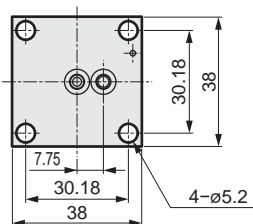
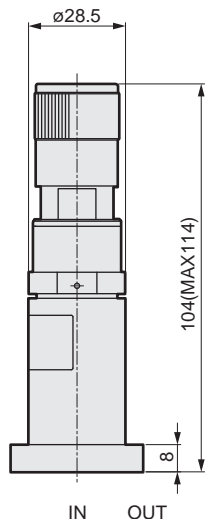
● PGM-*-4RM
(1/4"JXR male fitting)



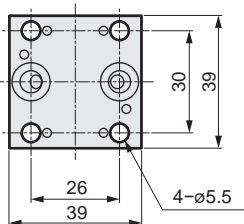
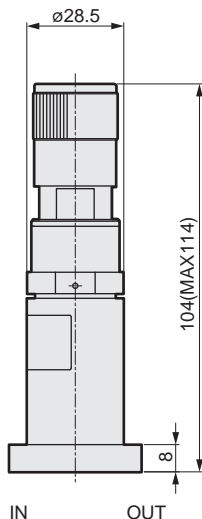
● PGM-*-1
(1.125"C seal)



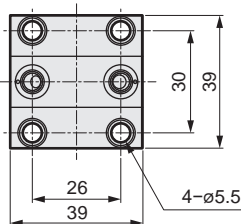
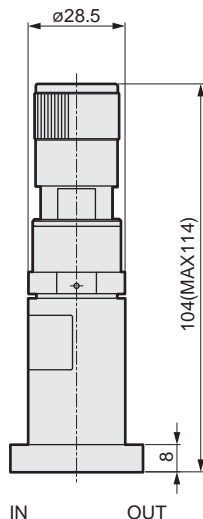
● PGM-*-2
(1.5"C seal)



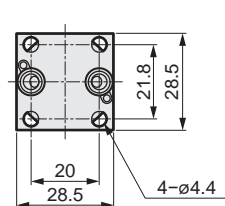
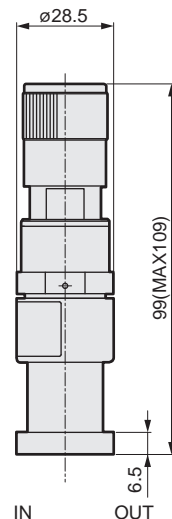
● PGM-*-3
(1.5"CS seal)



● PGM-*-4
(1.5"W seal)

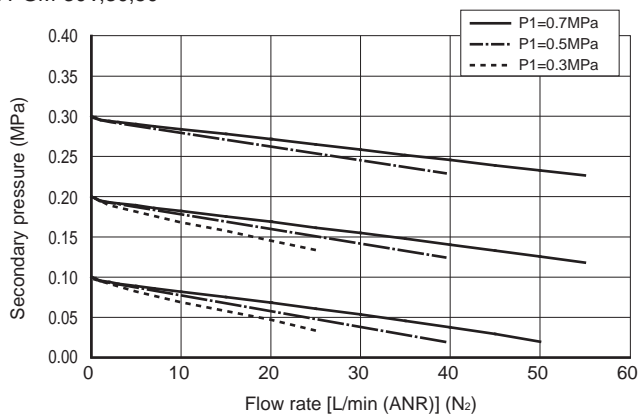


● PGM-*-5
(1.125"W seal)

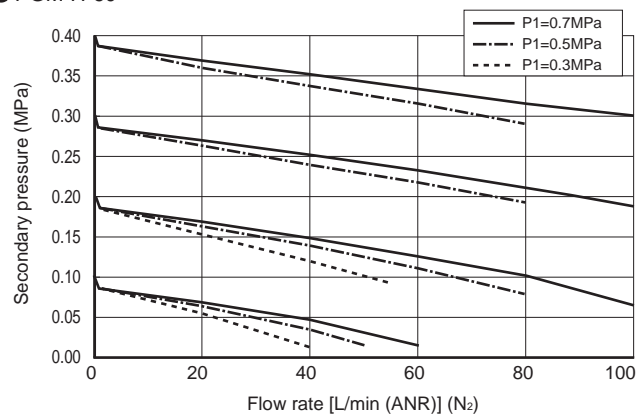


Flow characteristics

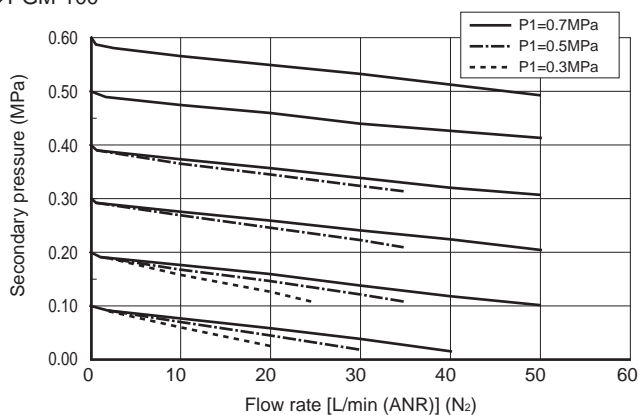
● PGM-30V,30,50



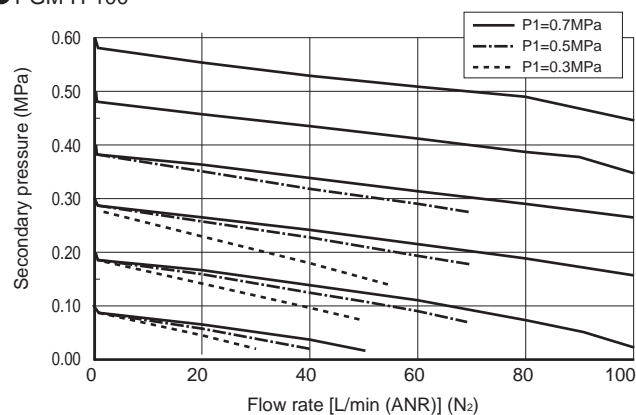
● PGM-H-60



● PGM-100



● PGM-H-100



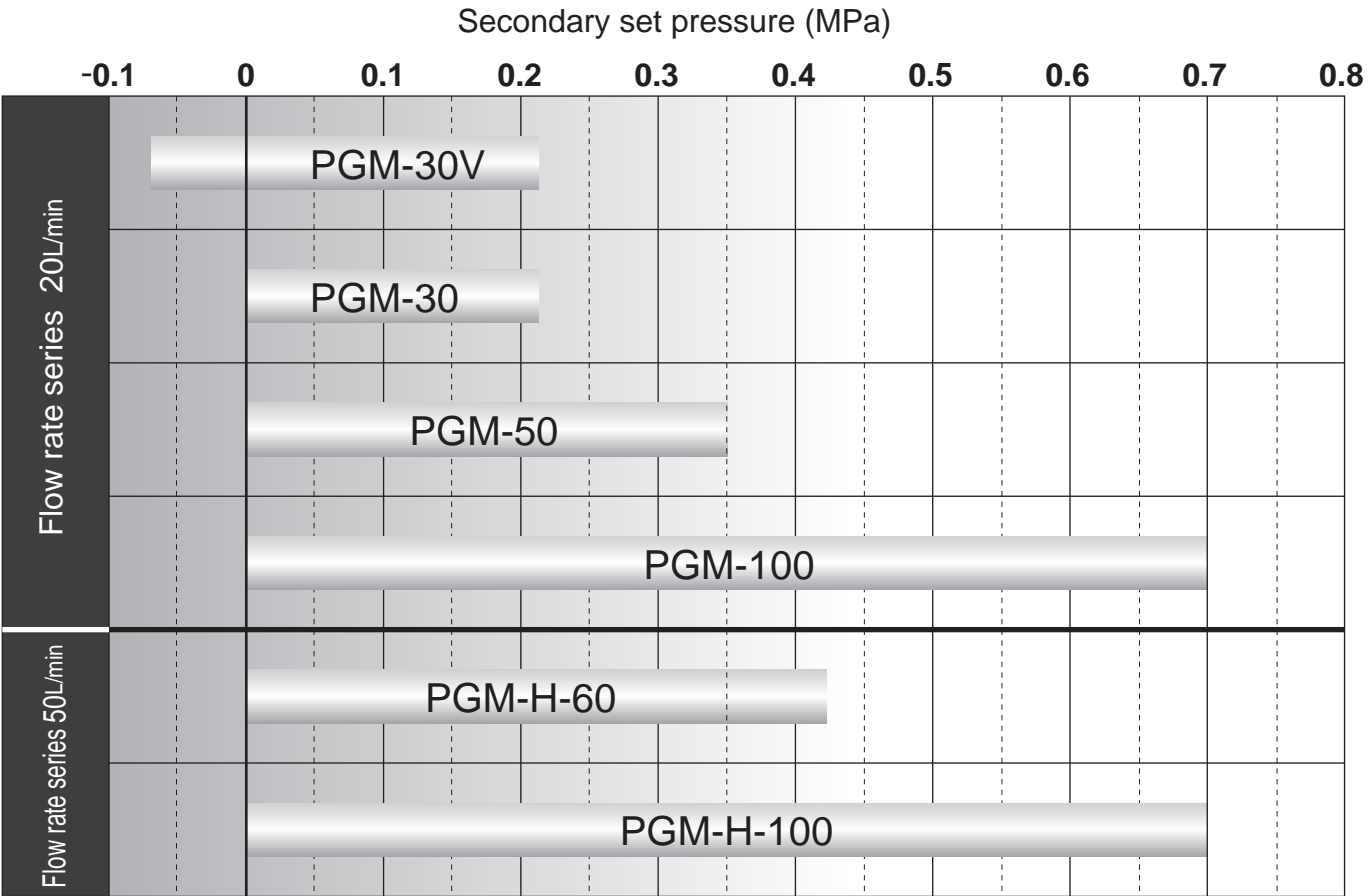
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*According to CKD test data

LGD Series	AGD/OGD/ MGD-R Series	High durability	Other valves for process gas	Regulator	Integrated gas supply system	Safety precautions	Air operated valve	Manual valve	Vacuum pressure control valves	Safety precautions	Related products

● Diversity

Wide range of pressure variations

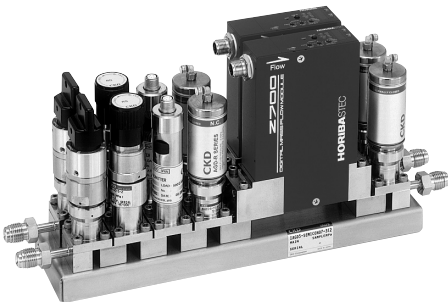


Diverse range of connections

- 1/4" JXR female fitting
- 1/4" JXR male fitting
- 1/4" JXR male → female fitting
- 1/4" JXR female → male fitting



- 1.5" C seal
- 1.5" CS seal
- 1.5" W seal
- 1.125" C seal
- 1.125" W seal



Regulator for process gas

Variation-compatible products

PGM Series

RoHS

Made-to-order product

● With gauge port



- Gauge port connection
JXR male fitting, JXR female fitting, and double barbed fitting are available.
- Port size 1/4"

● Panel mount



- Panel mount diameter $\varnothing 31$
- Panel thickness 5 mm or less

● Misoperation prevention



- Prevents fluctuations of set pressure due to misoperation.
- The malfunction prevention type is Total height is 108mm and diameter is $\varnothing 32$.

Components for process gases

LGD Series

AGD/OGD/
MGD-R Series

High durability

Other valves
for process gas

Regulator

Integrated gas
supply system

Safety precautions

Air operated valve

Manual valve

Vacuum pressure
control valves

Safety precautions

Related products

High vacuum components