

GP-1000HEN, 1000H

Direct type	Pilot type	Piston	Diaphragm
Bellows	Internal sensing	External sensing	Stainless steel
With handle	Built-in strainer	Low pressure	Remote
Valve leakage 0	Nylon		

■Features

- The GP-1000HEN can be replaced easily from existing valve because it complies with face-to-face dimensions of the EN standard.
- Respond very sharply to the fluctuation of inlet pressure and the change of the flow rate, so that the reduced pressure can be kept at a constant level.
- Pressure adjustment is easy, and the set pressure range is wide.
- Compliant with the standard of SHASE-S106 Pressure Reducing Valves (by the Society of Heating, Air-Conditioning and Sanitary Engineers of Japan).



GP-1000H

■Specifications

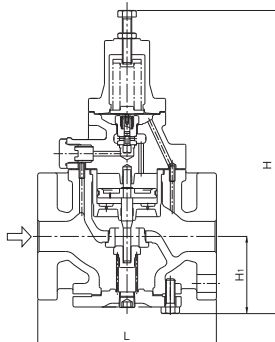
Model	GP-1000HEN	GP-1000H
Application	Steam	
Inlet pressure	0.1-1.6 MPa	
Reduced pressure	(A) 0.05-0.9 MPa (B) 0.9-1.4 MPa	
	90% or less of inlet pressure (gauge pressure)	
Minimum differential pressure	0.05 MPa	
Maximum pressure reduction ratio	20:1	
Maximum temperature	220°C	
Valve seat leakage	0.01% or less of rated flow rate	
Material	Body	
	Ductile cast iron	
	Main valve, valve seat	
	Stainless steel	
	Pilot valve, pilot valve seat	
Stainless steel		
Piston, cylinder		
Stainless steel		
Diaphragm		
Stainless steel		
Connection	EN PN25 flanged	JIS 16K FF flanged ASME Class 300 flanged

- Available with JIS Rc screwed (GP-1010H).
- For 15A, 20A, ASME flange is not available.

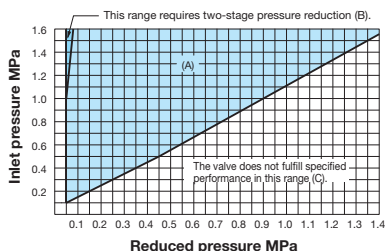
■Dimensions (mm) and Weights (kg)

Nominal size	L		H	H ₁	Weight	
	GP-1000HEN	GP-1000H			GP-1000HEN	GP-1000H
15A	150	150 (-)	291	64	8.0	8.0 (-)
20A	150	155 (-)	291	64	8.5	8.5 (-)
25A	160	160 (160)	300	67	10.0	10.0 (10.0)
32A	180	190 (180)	333	82	14.0	14.0 (14.0)
40A	200	190 (200)	333	82	15.5	14.5 (15.5)
50A	230	220 (230)	353	93	21.0	20.0 (21.0)
65A	290	245 (278)	357	100	30.0	30.0 (30.0)
80A	310	290 (310)	404	122	37.0	35.0 (37.0)
100A	350	330 (350)	450	144	57.0	52.5 (57.0)

- The values in parentheses are the dimensions of ASME Class 300 flanged.



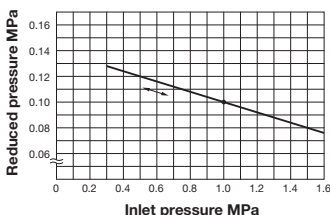
Specifications Selection Chart



Find the intersection point of the inlet and reduced pressures. If the intersection point is within range (A) in the chart, the pressures are controllable with a single pressure reducing valve.

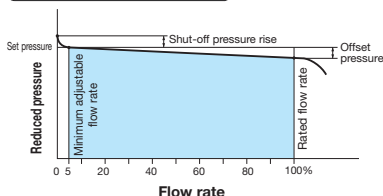
They can be controlled by two-stage pressure reduction if the intersection point is within range (B). The valve does not fulfill specified performance in range (C).

Pressure Characteristic Chart



This chart shows variation in reduced pressure when the inlet pressure of 1.0 MPa is changed between 0.3 MPa and 1.6 MPa while the reduced pressure is set at 0.1 MPa.

Flow Characteristic Chart



- Shut-off pressure rise: Within 0.02 MPa
- Offset pressure: Within 0.03 MPa
(when the set pressure is between 0.05 MPa and 0.1 MPa)
- Within 0.05 MPa (when the set pressure is more than 0.1 MPa and 1.4 MPa or less)

Table of Corrected Cv Values

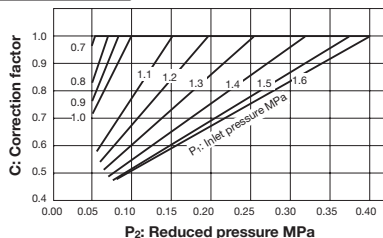
Table of rated Cv values (Cv value when the correction factor C = 1)

Nominal size	15A	20A	25A	32A	40A	50A	65A	80A	100A
Cv values	1	2.3	4	6.5	9	16	25	36	64

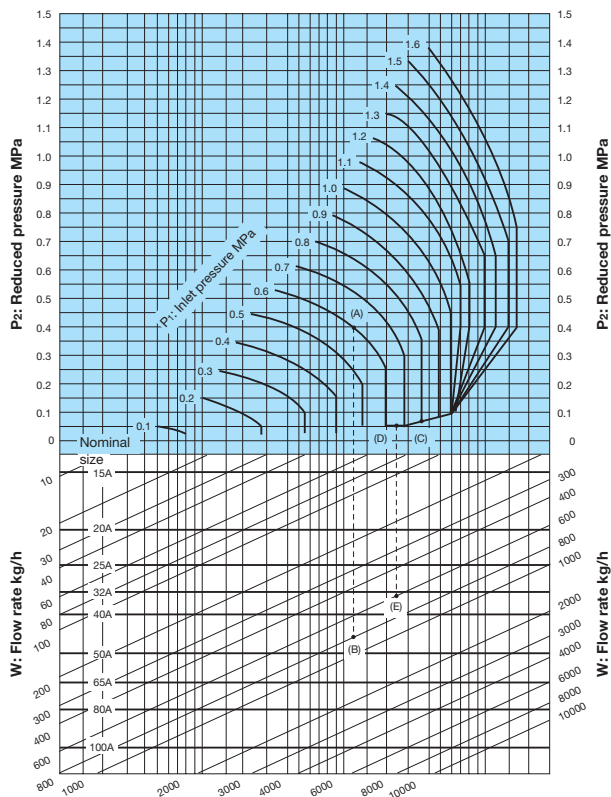
Note) When the reduced pressure is within either of the ranges shown below, calculate the corrected Cv value by multiplying the rated Cv value by the correction factor C obtained from the Fig.1.

- When the inlet pressure is between 0.7 MPa and 1.0 MPa and the pressure reduction ratio is more than 10:1
- When the inlet pressure is more than 1.0 MPa and the reduced pressure is 0.4 MPa or less

Fig. 1: Corrected Cv value



■ GP-1000HEN, 1000H Nominal Sizes Selection Chart (For Steam)

**[Example 1]**

When selecting the nominal size of a pressure reducing valve whose inlet pressure (P_1), reduced pressure (P_2), and steam flow rate are 0.6 MPa, 0.4 MPa, and 800 kg/h, respectively, first find intersection point (A) of the inlet pressure of 0.6 MPa and the reduced pressure of 0.4 MPa. Trace down vertically from this intersection point to find intersection point (B) with the flow rate of 800 kg/h. Since intersection point (B) lies between nominal sizes 40A and 50A, select the larger one, 50A.

[Example 2]

When selecting the nominal size of a pressure reducing valve whose inlet pressure (P_1), reduced pressure (P_2), and steam flow rate are 0.8 MPa, 0.05 MPa, and 600 kg/h, respectively, first find intersection point (C) of the inlet pressure of 0.8 MPa and the diagonal line. Trace down to the left from this diagonal line to find intersection point (D) with the reduced pressure of 0.05 MPa. Trace down vertically from intersection point (D) to find intersection point (E) with the flow rate of 600 kg/h. Since intersection point (E) lies between nominal sizes 32A and 40A, select the larger one, 40A.

· Set the safety factor at 80 to 90%.