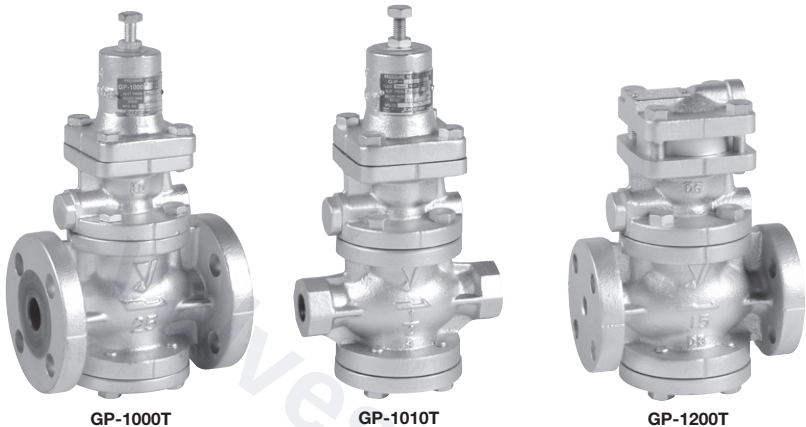


# GP-1000T

- 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

1. Far superior to conventional pressure reducing valve in workability and durability.
2. Free of valve seat leakage. Improved workability as a result of refinement of sliding parts.
3. Simple and robust internal structure.

## ■Specifications

| Model                            |                  | GP-1000T                                       | GP-1010T       | GP-1200T           | GP-1210T       |
|----------------------------------|------------------|------------------------------------------------|----------------|--------------------|----------------|
| Application                      |                  | Air, Other non-dangerous fluids                |                |                    |                |
| Inlet pressure                   |                  | 0.1-1.0 MPa                                    |                |                    |                |
| Reduced pressure                 |                  | 0.05-0.9 MPa                                   |                |                    |                |
|                                  |                  | 90% or less of inlet pressure (gauge pressure) |                |                    |                |
| Minimum differential pressure    |                  | 0.05 MPa                                       |                |                    |                |
| Maximum pressure reduction ratio |                  | 20:1                                           |                |                    |                |
| Application temperature          |                  | 5-80°C                                         |                |                    |                |
| Valve seat leakage               |                  | None                                           |                |                    |                |
| Material                         | Body             | Ductile cast iron                              |                |                    |                |
|                                  | Valve            | Brass (NBR incorporated)                       |                |                    |                |
|                                  | Valve seat       | Stainless steel                                |                |                    |                |
|                                  | Piston, cylinder | Brass or bronze                                |                |                    |                |
|                                  | Diaphragm        | Stainless steel                                |                |                    |                |
| Connection                       |                  | JIS 10K FF flanged                             | JIS Rc screwed | JIS 10K FF flanged | JIS Rc screwed |

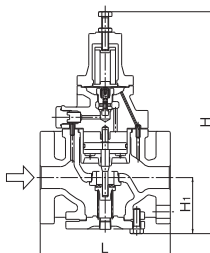
· Available with stainless steel made trim parts (piston, cylinder and valve) as GP-□□□□TS.

## ■ Dimensions (mm) and Weights (kg)

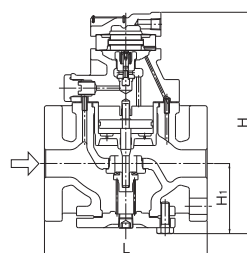
### · GP-1000T · 1200T

| Nominal size | L   | H <sub>1</sub> | H         | Weight |
|--------------|-----|----------------|-----------|--------|
| 15A          | 150 | 64             | 285 (220) | 8.0    |
| 20A          | 155 | 64             | 285 (220) | 8.5    |
| 25A          | 160 | 67             | 300 (235) | 10.0   |
| 32A          | 190 | 82             | 323 (258) | 14.0   |
| 40A          | 190 | 82             | 323 (258) | 14.5   |
| 50A          | 220 | 93             | 347 (282) | 20.0   |
| 65A          | 245 | 100            | 357 (292) | 30.0   |
| 80A          | 290 | 122            | 404 (339) | 35.0   |
| 100A         | 330 | 144            | 450 (385) | 52.5   |

\* The above values in parentheses are the dimensions of the GP-1200T.



GP-1000T

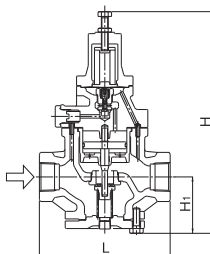


GP-1200T

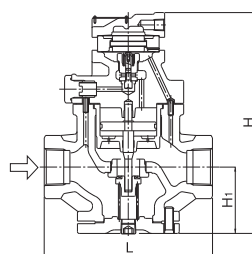
### · GP-1010T · 1210T

| Nominal size | d        | L   | H <sub>1</sub> | H         | Weight |
|--------------|----------|-----|----------------|-----------|--------|
| 15A          | Rc 1/2   | 150 | 64             | 285 (220) | 7.0    |
| 20A          | Rc 3/4   | 155 | 64             | 285 (220) | 7.0    |
| 25A          | Rc 1     | 160 | 67             | 300 (235) | 8.5    |
| 32A          | Rc 1-1/4 | 190 | 82             | 323 (258) | 12.0   |
| 40A          | Rc 1-1/2 | 190 | 82             | 323 (258) | 12.5   |
| 50A          | Rc 2     | 220 | 93             | 347 (282) | 18.0   |

\* The above values in parentheses are the dimensions of the GP-1210T.



GP-1010T

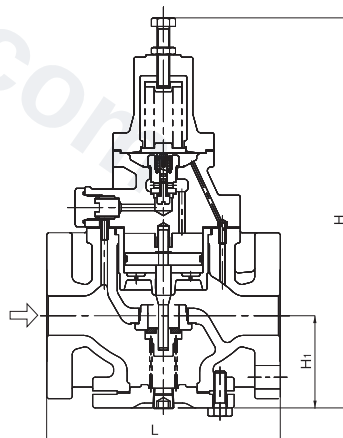


GP-1210T

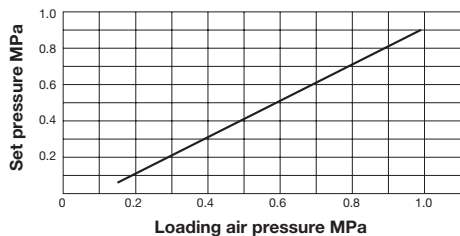
### · GP-1000TSS · 1000TAS

| Nominal size | L   | H <sub>1</sub> | H         | Weight      |
|--------------|-----|----------------|-----------|-------------|
| 15A          | 150 | 67             | 288 (298) | 8.3 ( 8.5)  |
| 20A          | 155 | 67             | 288 (298) | 8.8 ( 9.0)  |
| 25A          | 160 | 70             | 303 (313) | 10.5 (10.7) |
| 32A          | 190 | 85             | 326 (336) | 14.8 (15.0) |
| 40A          | 190 | 85             | 326 (336) | 15.3 (15.5) |
| 50A          | 220 | 96             | 350 (360) | 20.8 (21.0) |

\* The above values in parentheses are the dimensions and weights of the GP-1000TAS.

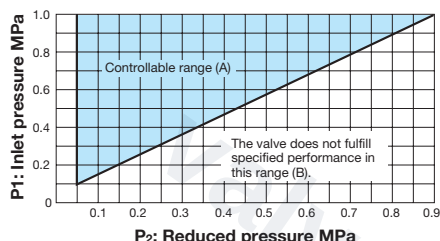
GP-1000TSS  
GP-1000TAS

## ■ Loading Air Pressure-set Pressure Chart



Basically, the set pressure to the loading air pressure is as shown in the chart on the left. The set pressure is slightly different depending on the conditions. In this case, adjust the loading air pressure.

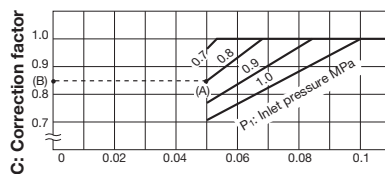
## ■ Specifications Selection Chart



Find the intersection point of the inlet and reduced pressures. If the intersection point is within range (A), the pressures are controllable. The valve does not fulfill specified performance if the intersection point lies in range (B).

## ■ Table of Corrected Cv Values

Please refer to 11-14 for Cv value.



## P2: Reduced pressure MPa

If the inlet pressure exceeds 0.7 MPa, and the pressure reducing ratio exceeds 10:1, find the appropriate correction coefficient C using chart above, and multiply the rated Cv value, and obtain the corrected Cv value.

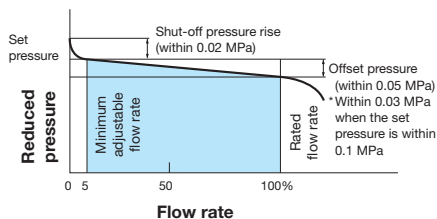
## Example

Take a pressure reducing valve whose inlet pressure is 0.8 MPa, the reduced pressure is 0.05 MPa. Find the inlet and reduced pressure intersection point (A) at the above chart, then draw a horizontal line in the leftward direction to point (B) which indicates a correction coefficient of 0.85. For a nominal size of 25A, the corrected Cv value would be calculated as follows:

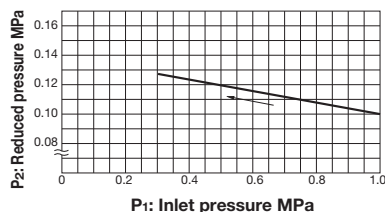
4 (rated Cv value) 0.85 (correction coefficient) = 3.4

## ■ GP-1000T Series Selection Chart

### Flow Characteristic Chart

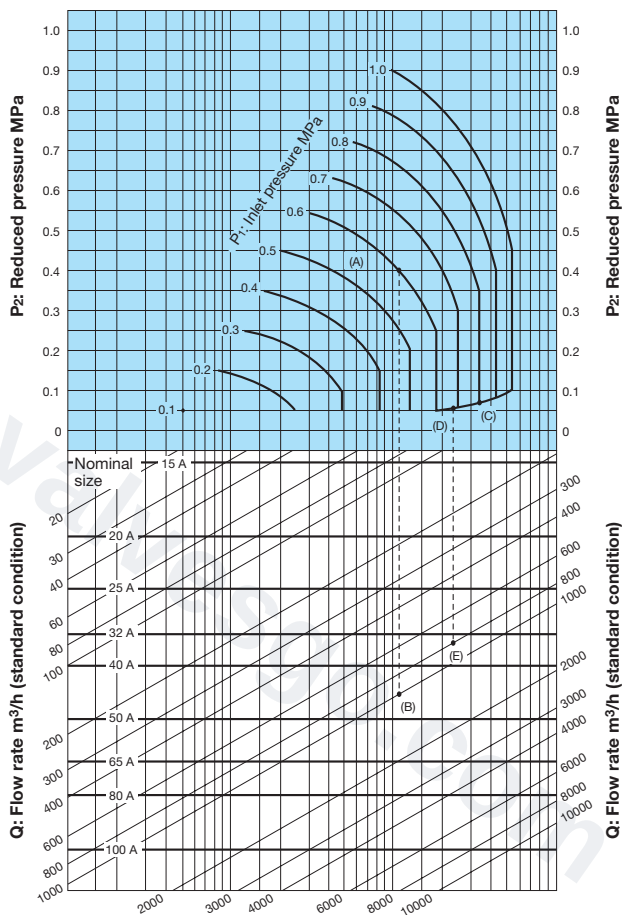


### Pressure Characteristic Chart



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

# ■ Nominal Sizes Selection Chart (Fluid: 20°C Air)



## [Example 1]

When selecting the nominal size of a pressure reducing valve whose inlet pressure ( $P_1$ ), reduced pressure ( $P_2$ ), and air flow rate are 0.6 MPa, 0.4 MPa, and 1,000  $\text{m}^3/\text{h}$  (standard condition), 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 1,000  $\text{m}^3/\text{h}$  (standard condition). 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 air flow rate are 0.8 MPa, 0.05 MPa, and 800  $\text{m}^3/\text{h}$  (standard condition), respectively, first find intersection point (C) of the inlet pressure of 0.8 MPa and the diagonal line. Trace down to the left from the 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 800  $\text{m}^3/\text{h}$  (standard condition). Since intersection point (E) lies between nominal sizes 32A and 40A, select the larger one, 40A.

\* Set the safety factor at 80 to 90%.