

# GD-21

|             |                  |                  |                     |
|-------------|------------------|------------------|---------------------|
| Direct type | Pilot type       | Diaphragm        | Piston              |
| Bellows     | Internal sensing | External sensing | Stainless steel     |
| Nylon       | Low pressure     | DP regulating    | Pressure sustaining |



## ■Features

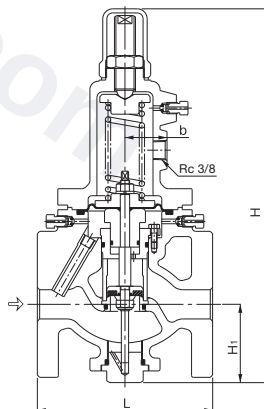
1. Most suitable for relief valve of a pump in closed circuit.
2. No leakage when closed due to single seat valve and valve disc.

## ■Specifications

|                                  |            |                                                                                                          |
|----------------------------------|------------|----------------------------------------------------------------------------------------------------------|
| Application                      |            | Cold and hot water                                                                                       |
| Regulating differential pressure |            | 15A-80A (A) 0.05-0.25 MPa (B) 0.26-0.7 MPa<br>100A-150A (A) 0.05-0.25 MPa (B) 0.26-0.5 MPa               |
| Fluid temperature                |            | 5-80°C                                                                                                   |
| Material                         | Body       | Ductile cast iron                                                                                        |
|                                  | Valve seat | Stainless steel or bronze                                                                                |
|                                  | Valve disc | NBR                                                                                                      |
|                                  | Diaphragm  | NBR                                                                                                      |
| Connection                       |            | JIS 10K FF flanged                                                                                       |
| Inside surface treatment of body |            | 15A-100A: Electrodeposition coating<br>125A-150A: Tar-based coating (black) or Electrodeposition coating |

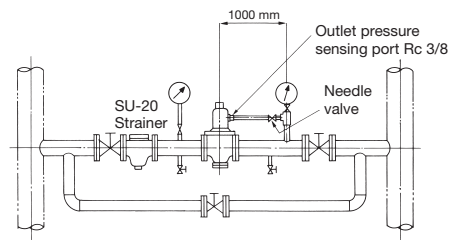
## ■Dimensions (mm) and Weights (kg)

| Nominal size | L   | H   | H <sub>1</sub> | d   | Weight |
|--------------|-----|-----|----------------|-----|--------|
| 15A          | 145 | 298 | 57             | 36  | 8.3    |
| 20A          | 150 | 298 | 57             | 36  | 8.3    |
| 25A          | 150 | 320 | 67             | 36  | 10.1   |
| 32A          | 195 | 400 | 76             | 48  | 17.4   |
| 40A          | 195 | 400 | 76             | 48  | 17.4   |
| 50A          | 195 | 414 | 81             | 48  | 19.3   |
| 65A          | 270 | 572 | 110            | 63  | 40.1   |
| 80A          | 270 | 597 | 125            | 63  | 43.8   |
| 100A         | 308 | 665 | 143            | 68  | 70.1   |
| 125A         | 380 | 874 | 179            | 115 | 144.1  |
| 150A         | 400 | 929 | 204            | 115 | 173.1  |



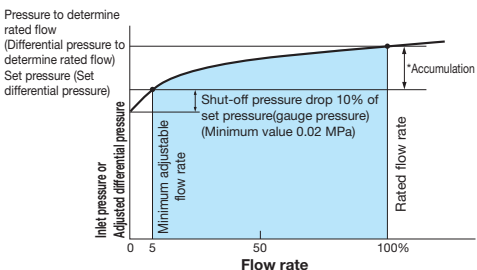
The material shapes are slightly different depending on the nominal size.

## Piping Example



\* Install a needle valve to the outlet side of the product and plumb it to the pressure sensing pipe using copper piping.

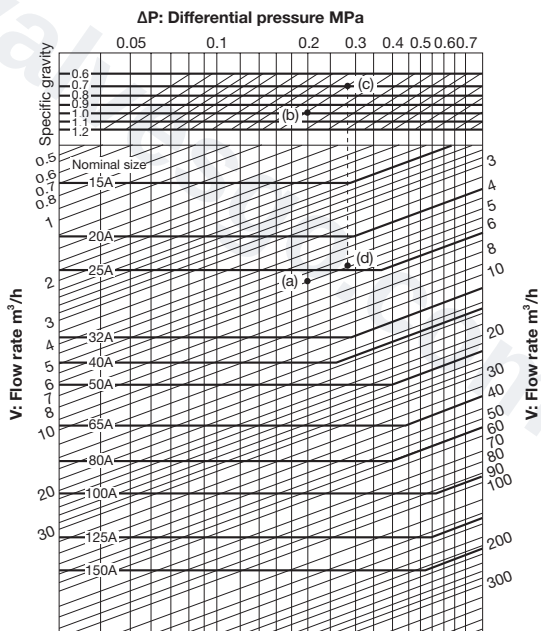
## Flow Characteristic Chart



\* Accumulation

| Set range MPa | Accumulation MPa |
|---------------|------------------|
| 0.05-0.25     | Within 0.05      |
| 0.26-0.7      | Within 0.105     |

## GD-20R, GD-21 Nominal Size Selection Chart (For Liquid)



### [Example]

When selecting the nominal size of a differential pressure regulating valve whose differential pressure ( $\Delta P$ ), specific gravity, and flow rate ( $V$ ) are 0.2 MPa, 1 (water), and 5.5  $\text{m}^3/\text{h}$ , respectively, first trace down vertically from the differential pressure ( $\Delta P$ ) of 0.2 MPa to find intersection point (a) with the flow rate ( $V$ ) of 5.5  $\text{m}^3/\text{h}$ . Since this intersection point (a) lies between nominal sizes 25A and 32A, select the larger one, 32A.

When the specific gravity is 0.7 under the same conditions, trace down vertically from the differential pressure ( $\Delta P$ ) of 0.2 MPa to find intersection point (b) with the specific gravity 1. Find intersection point (c) with the specific gravity of 0.7 by tracing horizontally to the slant lines from this intersection point (b). Then, find intersection point (d) with the flow rate ( $V$ ) of 5.5  $\text{m}^3/\text{h}$  by tracing down vertically from intersection point (c). Since this intersection point (d) lies between nominal sizes 20A and 25A, select the larger one, 25A.

\* Select the GD-21 differential pressure regulating valve under a specific gravity of 1.