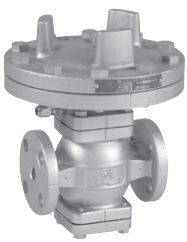
GDK-2000

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. Due to direct acting type the actuating parts are fewer and structure is simple but robust.
2. Spherical main valve offers great sealability and great reduction of valve seat leakage (compliant with ANSI Class IV).
3. Large-size diaphragm ensures high Cv value and distinguished controllability against load fluctuations.
4. Remote operation makes pressure adjustment easy, and the pressure setting is wide.

Screwed type



Flanged type

■Specifications

Model		GDK-2000		
Application		Steam		
Reduced pressure sensing method		External sensing *		
Inlet pressure		0.1-2.0 MPa		0.1-1.0 MPa
Reduced pressure		0.05-1.4 MPa		0.05-0.85 MPa
		90% or less of inlet pressure (gauge pressure)		
Operation air pressure		Refer to the loading air pressure-set pressure chart.		
Minimum differential pressure		0.05 MPa		
Maximum pressure reduction ratio		10:1		
Maximum temperature		220°C		
Valve seat leakage		0.01% or less of rated flow		
Material	Body	Ductile cast iron		
	Valve	Stainless steel		
	Valve seat	Stainless steel		
	Diaphragm	Stainless steel		
Reduced pressure sensing pipe		Copper pipe ϕ 8-2 m		
Connection		JIS Rc screwed	JIS 20K RF flanged	JIS 10K FF flanged

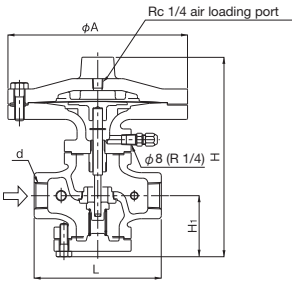
* External sensing is standard. When installing the pressure reducing valve, be sure to connect the provided sensing pipe and joint. Unless the sensing pipe is connected, the valve will not operate.
· Available with ASME or EN flanged.

■Dimensions (mm) and Weights (kg)

· Screwed type

Nominal size	d	L	H_1	H	A	Weight
15A	Rc 1/2	150	74	244	200	12.4
20A	Rc 3/4	150	74	244	200	12.4
25A	Rc 1	160	76	251	226	16.4
32A	Rc 1-1/4	180	90	282	226	19.9
40A	Rc 1-1/2	180	90	282	226	19.9
50A	Rc 2	230	103	319	276	30.5

* Available with NPT connection.

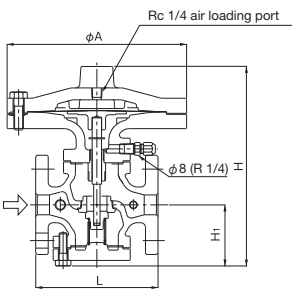


Screwed type

· Flanged type

Nominal size	L	H_1	H	A	Weight
15A	146 (142)	74	244	200	13.9 (13.7)
20A	146 (142)	74	244	200	14.4 (14.2)
25A	156 (152)	76	251	226	19.2 (18.8)
32A	176 (172)	90	282	226	22.4 (22.0)
40A	196 (192)	90	282	226	22.9 (22.5)
50A	222 (218)	103	319	276	33.5 (33.5)
65A	282 (278)	122	373	352	61.8 (61.5)
80A	302 (294)	135	399	352	69.1 (66.9)
100A	342 (330)	167	488	401	108.6 (105.0)

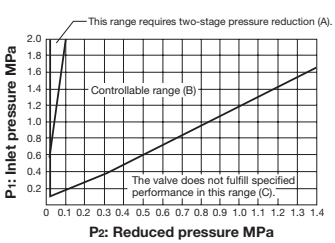
* The above values in parentheses are the dimensions and weights of JIS 10K FF flanged.
· Please contact us about other specifications.



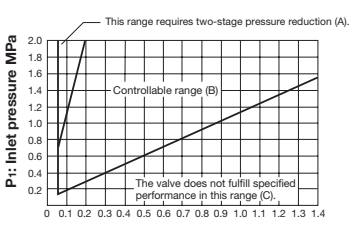
Flanged type

Specifications Selection Chart

· GP-2000, GPK-2001 · 2003

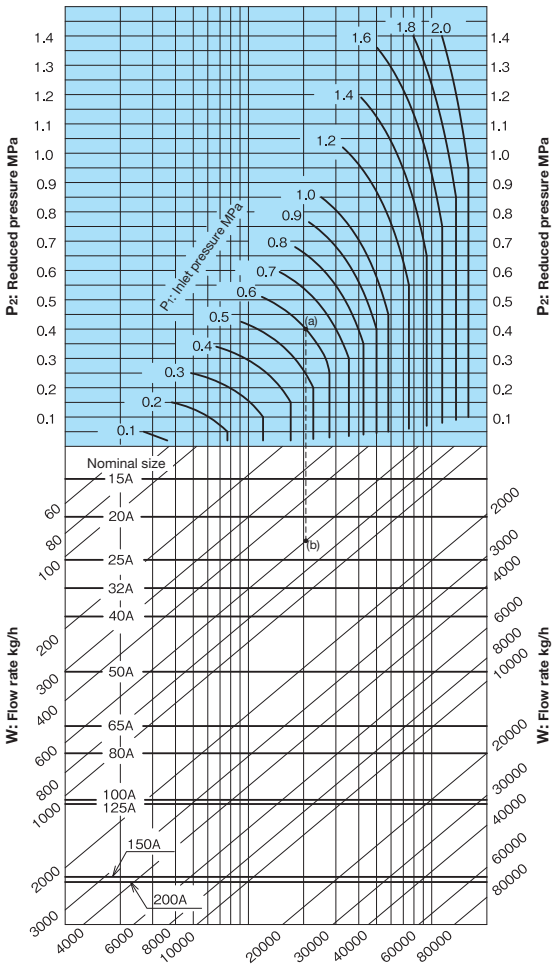


· GDK-2000



Please refer to the above selection chart to select the most appropriate pressure reducing valve. Find the point of intersection of inlet pressure (P_1) and reduced pressure (P_2). When the point of intersection is within range (A), reduce pressure in two stages. When within range (B), controllable range. When within range (C), maximum performance cannot be obtained. When reducing pressure in two stages, maximize the distance between the valves (at least 3 m).

■Nominal Sizes Selection Chart for GP-2000 Series (For Steam/External Sensing)

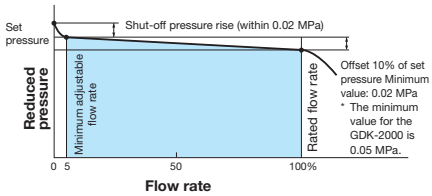


[Example]

When selecting the nominal size of a pressure reducing valve whose inlet pressure (P_1), reduced pressure (P_2), and flow rate are 0.6 MPa, 0.4 MPa, and 600 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 600 kg/h. Since intersection point (b) lies between nominal sizes 20A and 25A, select the larger one, 25A.

· Set the safety factor at 80 to 90%.

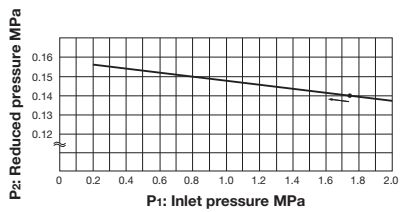
Flow Characteristic Chart



When selecting a nominal size, set the flow rate at 80 to 90% of the rated flow rate, allowing for the pressure loss and heat loss of the stop valve, strainer, etc. to be used before or after the pressure reducing valve. To enable the pressure reducing valve to show a maximum flow characteristic, do not select a small piping diameter, as a countermeasure against the effect of piping resistance.
Select a nominal size based on the nominal sizes selection chart.

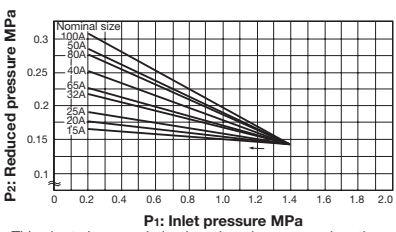
Pressure Characteristic Chart

· GP-2000, GPK-2001 · 2003



This chart shows variation in reduced pressure when the inlet pressure of 1.75 MPa is changed between 0.2 MPa and 2.0 MPa while the reduced pressure is set at 0.14 MPa.

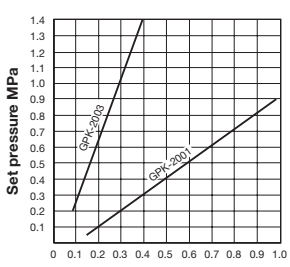
· GDK-2000



This chart shows variation in reduced pressure when the inlet pressure of 1.4 MPa is changed between 0.2 MPa and 1.4 MPa while the reduced pressure is set at 0.14 MPa.

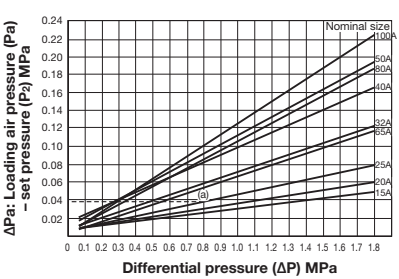
Loading Air Pressure-set Pressure Chart

· GP-2000, GPK-2001 · 2003



Basically, the set pressure to the loading air pressure is as shown in the chart above. The set pressure is slightly different depending on the working conditions. For the actual use, adjust loading air pressure suitable for the necessary set pressure.

· GDK-2000



How to read the chart (GDK-2000)

When the nominal size is 25A, the inlet pressure (P_1) is 1.0 MPa, and the reduced pressure (P_2) is 0.2 MPa, the loading air pressure is calculated as follows: Trace up vertically from the differential pressure (ΔP) before and after the pressure reducing valve (1.0 MPa – 0.2 MPa = 0.8 MPa) to find intersection point (a) with the nominal size of 25A. Calculate ΔPa [loading air pressure (Pa) – set pressure (P_2)] = 0.037 MPa by horizontally tracing to the left from intersection point (a). Thus, the loading air pressure is: (Pa) = ΔPa + P_2 = 0.037 + 0.2 = 0.237 MPa.