Pilot operated

Type P260 Pressure Reducing Valves

For gas

- Wide size line up : 15—150mm
- Excellent performance
- Use PPD41B-3 pressure reducing valve for size 25 and smaller for small flow rate
- Use PMD31 pressure reducing valve for inlet pressure 1MPa or less.

Specifications

Fluid	Pressure (MPa)		Temp. (℃)	Sensing	Material for main parts						Connection
	Inlet	Outlet set range			Body cover	Main valve disc & seat	Piston & cylinder	Pilot valve disc & seat	Diaphragm	Throttle valve disc	
Air & non-corrosive gases	0.2 I 2.0	0.03—0.2 0.1 —0.8 0.5 —1.6	0 I 80	Internal	Cast steel	Synthetic rubber & stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Flanged JIS20KRF

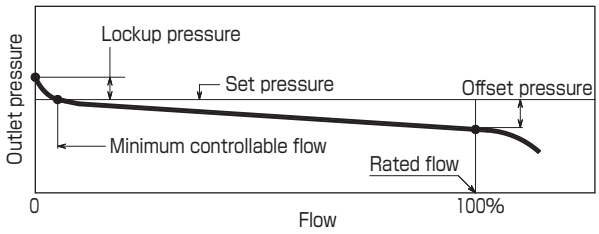
Remark 1. Size 200 (main valve disc & seat : stainless steel) is available on request.

Performance

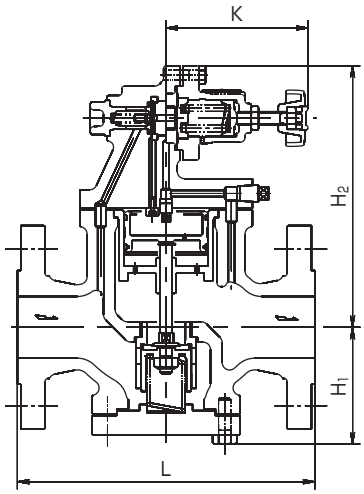
Max. pressure range ability	20 : 1
Min. differential pressure	15% of inlet pressure (min. 0.1MPa)
Offset pressure (1)	10% of max. set range (min. 0.07MPa)
Lockup pressure	10% of max. set range (min. 0.07MPa)
Min. controllable flow	5% of rated flow
Seat leakage	0.2% of rated flow or less

Note (1) : Depend on throttle valve opening.

Flow characteristic curve



Construction

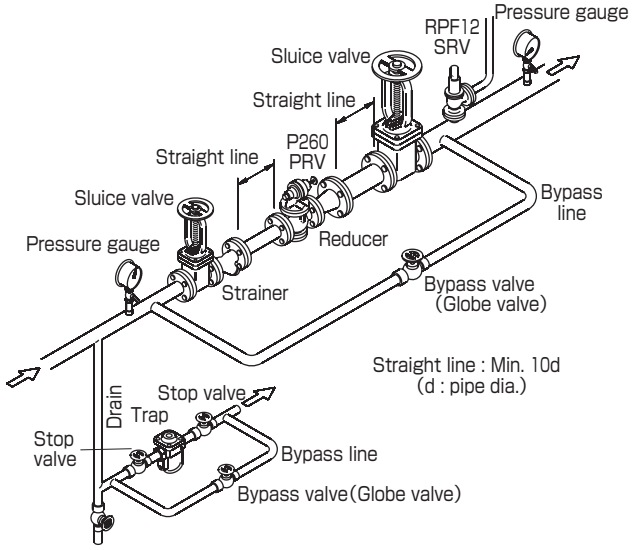


Dimensions and weights (mm, kg)

Dim. \ Size	15	20	25	32	40	50	65	80	100	125	150
L	186	190	190	210	216	232	256	278	330	370	410
H_1	77	77	75	77	85	95	110	124	151	175	207
H_2	177	177	179	189	199	213	232	249	305	337	367
K	115	115	115	115	111	111	111	111	162	162	162
Weights	10	11	13	14	17	22	30	39	60	92	131

Installation example

Note : Install upright in horizontal piping.



Space required for disassembling and maintenance (mm)

Size	15	20	25	32	40	50	65	80	100	125	150
Beneath the center of pipe line	200	200	200	200	220	250	270	300	350	410	460

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Cv calculation

$Cv = A \times d^2$

where : d = Nominal valve size (inch)

$$A = \frac{16.2 \times P_2^{0.52}}{P_1 + 0.101} \fallingdotseq \frac{16.2\sqrt{P_2}}{P_1 + 0.101} \text{ (But max. 4.5)}$$

where P_1 : Inlet pressure (MPa)

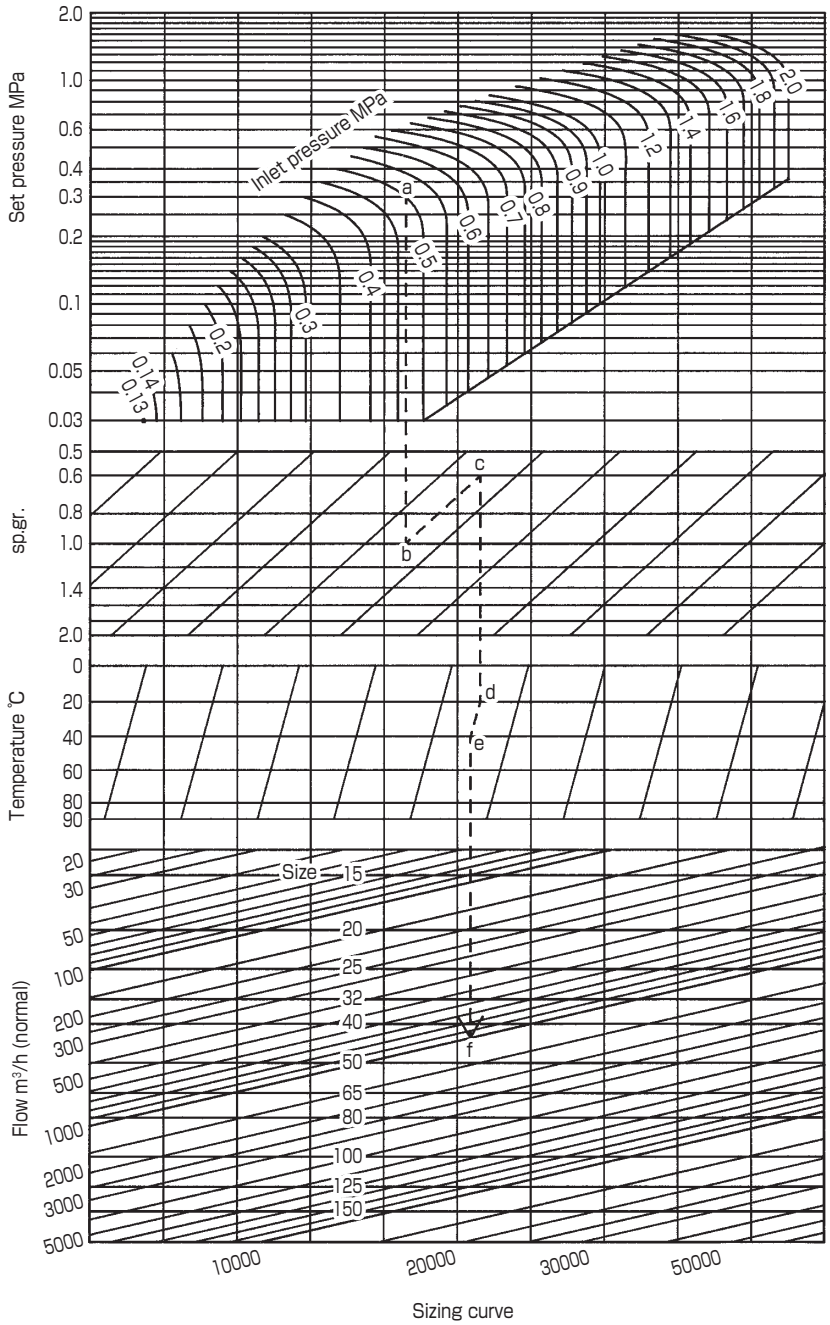
P_2 : Set pressure (MPa)

In case of A=4.5, Cv is as follows

Size	15	20	25	32	40	50	65	80	100	125	150
Cv	1.1	2.5	4.5	7.0	10.1	18	28.1	40.5	72	112.5	162

Sizing

Use the following chart to select the suitable valve size.



Sizing curve

In the event that the inlet pressure or the outlet pressure is not constant but stays within range, select the minimum difference in pressure between the inlet pressure and outlet pressure to choose the correct size.

Example

Inlet pressure : 0.5MPa
Outlet set pressure : 0.3MPa
Temperature : 40℃
Specific gravity : 0.6 (air : 1)
Flow : 1000m³/h (normal)
From intersection (a) of 0.5MPa of inlet pressure line and 0.3MPa outlet pressure line, draw a vertical line down to specific gravity 1.0 line, point (b).
From point (b), draw a line in parallel with oblique line to 0.6 specific gravity line, point (c).
Draw a vertical line from point (c) down to 20℃ temperature line, point (d).
From point (d), draw a parallel with oblique line to 40℃ line, point (e).
From point (e), draw a vertical line downward to 1000m³/h (normal) flow line, point (f).
Final point (f) is between size 40 line and size 50 line.
The required valve size is 50.