

Direct acting

Type RLG61-2 Back Pressure Regulating Valves

For gas

- For low pressure use of RMD31L back pressure regulating valve.
- Negligible influence is exerted by outlet pressure change due to the use of a pressure balancing construction.
- A valve disc made of synthetic rubber prevents seat leakage
- Use BRL back pressure regulating valve for size 65 and larger.



2 Back Pressure Regulating Valves (For gas)

Specifications

Fluid	Inlet set pressure range (kPa)	Temp. (°C)	Material for main parts					Connection
			Body	Diaphragm case	Spring case	Valve seat	Valve disc & diaphragm	
Air & non-corrosive gases	0.5 – 1.4 1.2 – 3.3 3.0 – 8.0 7.0 – 20	0 – 80	Cast iron	Rolled steel	Cast iron	Bronze	Synthetic rubber	Flanged JIS10KFF

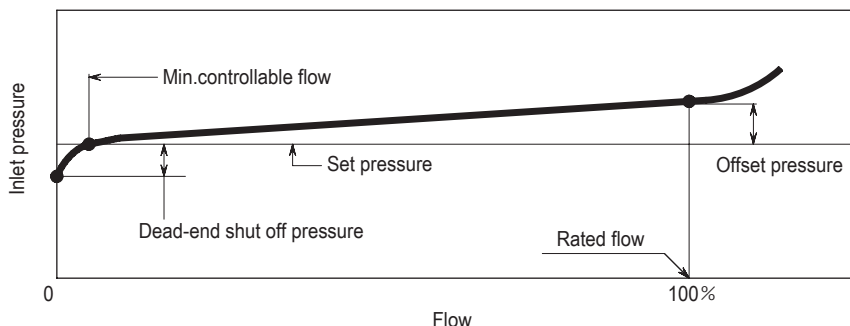
Remarks 1. Cast steel body and stainless cast steel body are available on request.
 2. Non-copper alloy for fluid contact is available.

Performance

Min. differential pressure	0.5kPa
Offset pressure	15% of max. set pressure or less
Dead-end shut off pressure ⁽¹⁾	0.2 – 1.5kPa or less
Min. controllable flow (air) ⁽¹⁾	0.2 – 2m ³ /h (normal)
Seat leakage	Nil

Note ⁽¹⁾ : The bigger the pressure difference between the inlet and the outlet, the bigger the dead-end shut off pressure and the min. controllable flow.

Flow characteristic curve



Cv values

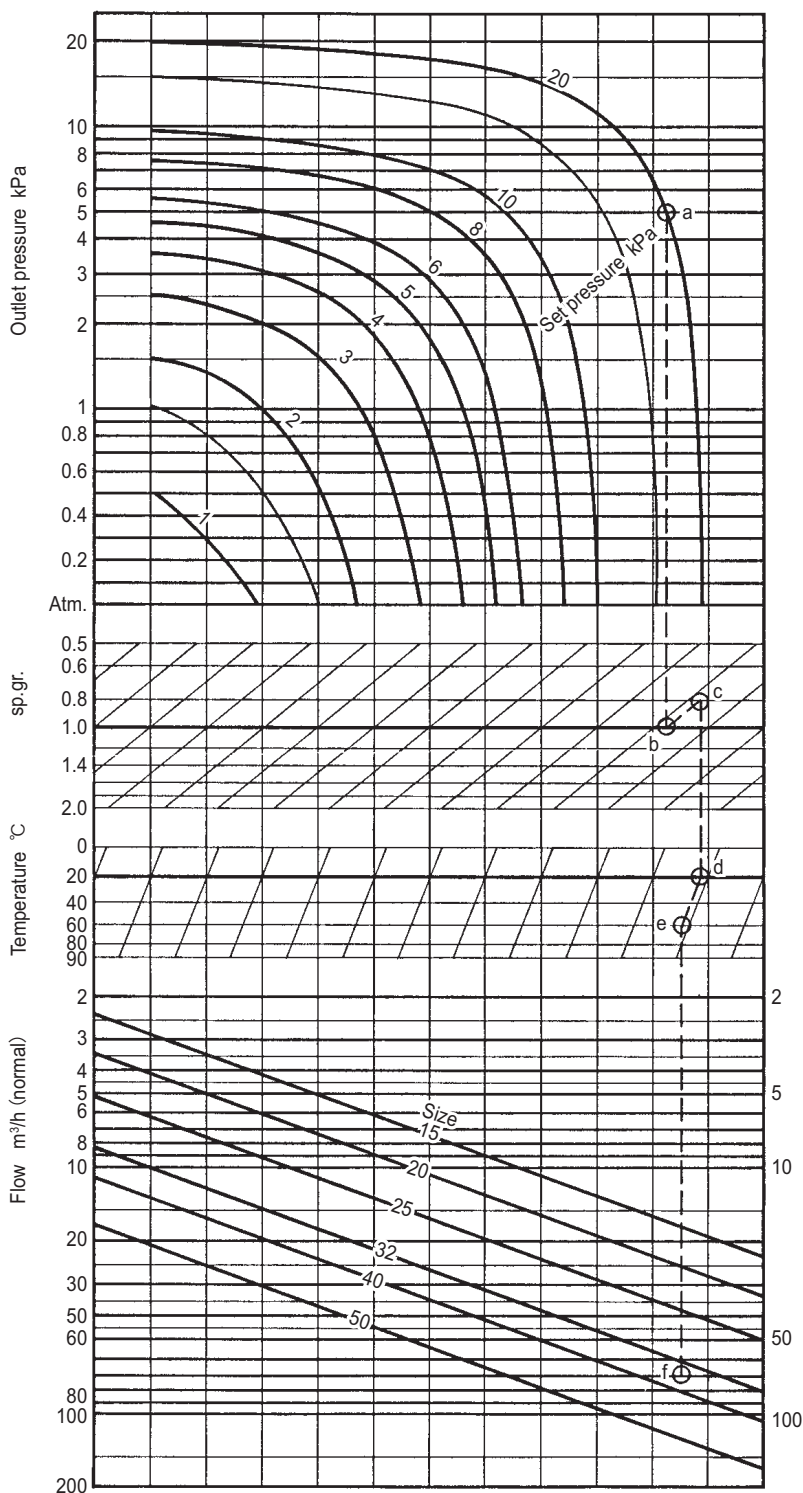
Size	15	20	25	32	40	50
Cv	1.8	2.6	3.9	6.3	8.3	13

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Sizing

Use the following chart to select the suitable valve size.

- 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.
- The valve size selected using the above method and the size of the piping are not always the same. The size of piping is determined separately taking allowable pressure loss, cost, etc., into consideration.



Example

Set pressure (inlet) : 20kPa

Outlet pressure : 5kPa

Temperature : 60°C

Specific gravity : 0.8 (air : 1)

Flow : 70m³/h (normal)

Draw a perpendicular downward from the intersection of 20kPa inlet set pressure line and 5kPa outlet pressure until it reaches 1.0 specific gravity line and obtain the intersecting point b.

From the point b, draw a line upward along the oblique until it reaches 0.8 specific gravity line, the point c.

Draw a perpendicular downward from the point c until it reaches 20°C temperature line and obtain the point d.

From there, draw a line downward along the oblique line until it reaches 60°C temperature line, the point e.

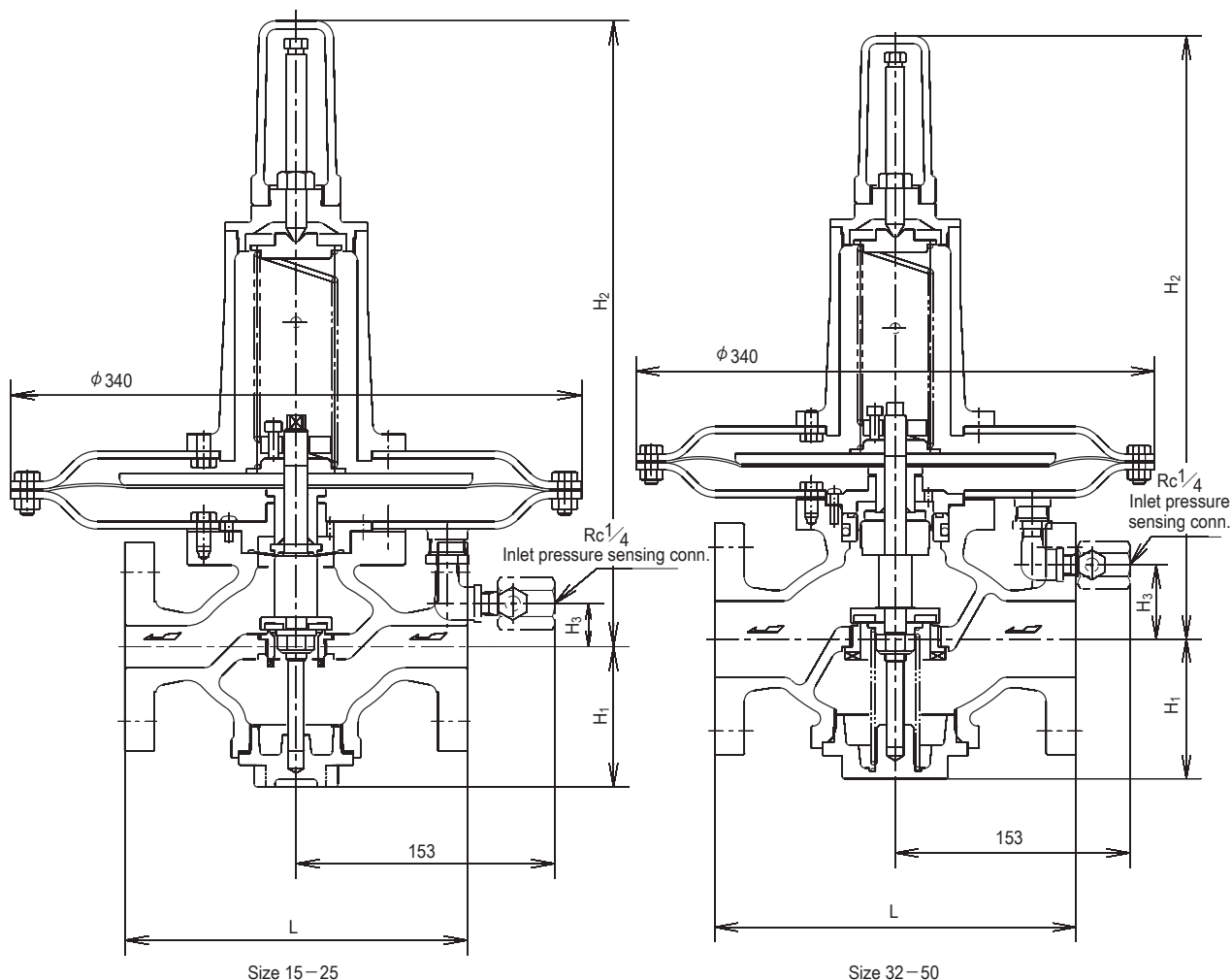
Draw a perpendicular downward from the point e until it reaches 70m³/h (normal) flow line, the point f.

As the final point f is between size 32 line and size 40 line, the required valve size is 40.

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Construction



Dimensions and weights (Connection : JIS 10KFF)

(mm, kg)

Size	L		H ₁	H ₂	H ₃	Weights Body : Cast iron
	Body : Cast iron	Body : Cast steel, Stainless cast steel				
15	180	180	81	368	25	18.5
20	185	185	81	368	25	18.5
25	196	196	84	372	30	20
32	220	230	92	395	53	23
40	220	230	92	395	53	24
50	230	230	92	395	53	25

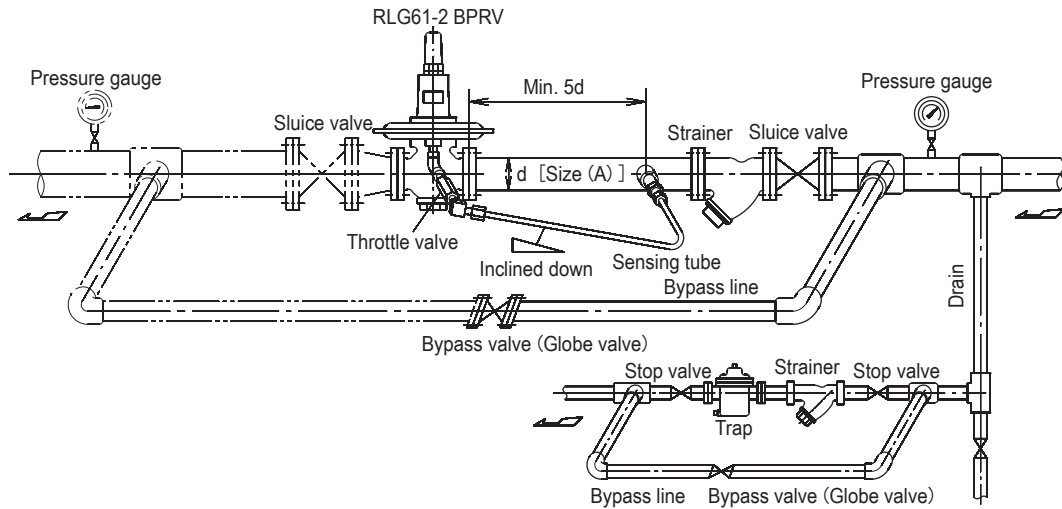
Space required for disassembling and maintenance

(mm)

Size	15-50
Above center of pipe line.	600
Beneath center of pipe line.	320

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Installation example



1. Before installation of the back pressure regulating valve, the interior of the piping should be thoroughly cleaned. Defective operation is mostly caused by grit, scale and other foreign matter in the pipe, so ensure thorough removal of foreign matter.
2. The back pressure regulating valve should be installed upright in horizontal piping and according to the arrow mark on the body.
3. Connect the pressure sensing tube upstream. Sensing tube should be inclined upstream side to avoid fluid accumulation.
4. Throttle valve should be fully opened during normal operation but in the event of unstable operation, it may be closed slightly. However, it should not be fully closed because this would disrupt the back pressure regulating valve from operating normally.