

PRESSURE REDUCING VALVES

[FOR STEAM, AIR OR GASES]

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VENN pressure reducing valves are manufactured based on our years of experience in this industry and advanced technology. The extensive lineup of our products can meet the needs of liquid or pressure applications in construction, factory, and a variety of other areas.

Please consider the conditions of using and selecting the most suitable model.

Model name	Size	Applicable fluid	Applicable pressure(MPa)		Materials		Page
			Primary side	Secondary side	Body	Disc & seat	
RP-6	15~200(1/2"~8")	Steam	Max. 1.0	0.03~0.8	Cast iron	Stainless steel	12
RP-6P	15~80(1/2"~3")						
RP-8	20~80(3/4"~3")	Steam	Max. 1.0	0.03~0.8	Stainless steel	Stainless steel	13
RP-6BD	15~50(1/2"~2")	Steam	Max. 1.0	0.03~0.8	Cast iron	Stainless steel	14
RP-9	15~150(1/2"~6")	Steam	Max. 2.0	0.03~0.8	Ductile cast iron	Stainless steel	16
RP-10	15~150(1/2"~6")		Max. 3.0		Cast steel		
RP-11	15~150(1/2"~6")				Stainless steel		
RP-6A	15~200(1/2"~8")	Air or gases	Max. 1.0	0.03~0.8	Cast iron	Brass or stainless steel	18
RP-8A	20~80(3/4"~3")	Air or gases	Max. 1.0	0.03~0.8	Stainless steel	Stainless steel	19
RP-9A	15~150(1/2"~6")	Air or gases	Max. 2.0	0.03~0.8	Ductile cast iron	Brass or stainless steel	21
RP-10A	15~150(1/2"~6")		Max. 3.0		Cast steel		
RP-11A	15~150(1/2"~6")				Stainless steel		
RP-7	15~25(1/2"~1")	Steam	Max. 1.6	0.03~0.8	Cast bronze	Stainless steel	27
RD-30	15~40(1/2"~1 1/2")	Steam	Max. 1.0	0.02~0.4	Cast iron	Stainless steel	30
RD-29A	15~50(1/2"~2")	Air or N ₂ gas	Max. 0.3	1~3kPa	Cast iron	Stainless steel	33
RD-29B		Coke oven gas					

RP-6,6P Type Pressure Reducing Valve (for Steam)

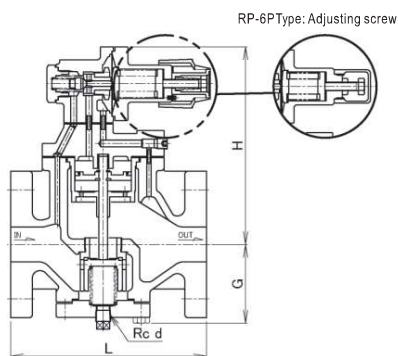
for **Building Facilities** **Industrial Facilities**, etc., Multipurpose Pilot-operated Type (High capacity)

This is a pilot operated type pressure reducing valve. It is suitable to install in the steam lines with the high capacity of flow, such as industrial production facility and building facility. This model is designed to ensure the perfect performance in various different conditions of the facility, with your easy handling and installation by the light weighted, compact valve body. Refer to Page 15 for valve size selection chart.

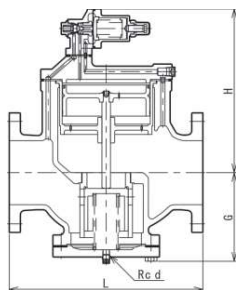


RP-6 Type
(Size 15~80mm)

CONSTRUCTION



Size 15~80mm



RP-6 Type
(Size 100~200mm)

FEATURES

- It is performed and controlled constantly by adopting piston guide construction and special seal ring.
- Possible to install in a line for wide range of pressure and capacity.
- Easy pressure adjustment by manual handle with automatic lock mechanism. (Size 15~80mm)
- Compact design.

SPECIFICATIONS

Type		Manual handle type (size 15~80mm) Screw-adjusting type (size 100~200mm)		Screw-adjusting type	
Model name		RP-6		RP-6P	
Code name		RP6-B	RP6-G	RP6P-B	RP6P-G
Size		15~200(1/2"~8")		15~80(1/2"~3")	
Applicable fluid		Steam			
Fluid temperature		Max. 184°C*1			
Applicable primary pressure		Max. 1.0MPa			
Adjustable secondary pressure		0.03~0.8MPa			
Maximum reducing rate		20 : 1			
Minimum pressure differential across the disc		Size 15~80mm : 0.05MPa, Size 100~200mm : 0.07MPa			
Lock up pressure		Max. 0.02MPa			
Offset pressure	Size 15~80mm	Within 0.02MPa (Adjustable secondary pressure 0.03~0.035MPa) Within 0.03MPa (Adjustable secondary pressure over 0.035~0.07MPa) Within 0.05MPa (Adjustable secondary pressure over 0.07~0.8MPa)			
	Size 100~200mm	Within 0.05MPa			
Leakage allowance		Less than 0.05% of rated flow			
End connection		Flanged JIS 10KFF			
Materials	Body	Cast iron			
	Disc & seat	Stainless steel			
	Piston & cylinder	Cast bronze	Stainless steel	Cast bronze	Stainless steel
Valve body pressure test		Hydraulic 1.5MPa			

* 1. Applicable temperature Max. 220°C is available upon your request.

* 2. Insulating jacket is available.

* 3. When multiple once-through boilers are operated, the primary pressure of pressure-reducing valve may change significantly. Please contact our agent in your area if this is the case of your application.

* 4. Please contact our agent in your area if the product is used for purposes with high frequency of operation (such as a styrofoam molding machine).

DIMENSIONS

(mm)

Size	L	G	H	d	Cv value	Mass(kg)
15(1/2")	140	62	155	1/4"	1	7.5
20(3/4")	140	62	155	1/4"	2.5	7.5
25(1")	150	67	160	1/4"	4	9
32(1 1/4")	180	73	182	3/8"	6.5	12
40(1 1/2")	180	73	182	3/8"	9	12.5
50(2")	200	86	187	3/8"	16	15.5
65(2 1/2")	230	94	202	3/8"	25	20.5
80(3")	260	110	221	3/8"	36	26.5
100(4")	320	139	285	3/8"	64	52
125(5")	380	187	320	3/8"	100	82
150(6")	420	206	368	3/8"	144	110
200(8")	540	255	425	3/8"	256	176

Flange code JIS 10KFF

REFERENCE

When the existing RP-1H Type pressure reducing valve is replaced with the RP-6 Type due to changes in operating conditions, the same face-to-face dimension can be attained by the use of face-to-face dimension adjustment spacers. (Size 15~80mm)

For more details, please contact our agent in your area.

RP-8 Type Pressure Reducing Valve (for Steam)

for **Food Processing** **Manufacturing** **Sterilizing Equipments**, etc., General Purpose (Large capacity) Pilot Valve

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PRESSURE REDUCING VALVES (FOR STEAM)

The body and disc & seat of RP-8 Type pressure reducing valve are made of stainless steel. This ensures clean supply of fluid, thus is ideal for application on food processing, sterilizing equipments. In addition, the corrosion resistance and durability of stainless steel also allow extensive applications in other areas.

Refer to Page 15 for valve size selection chart.

FEATURES

- Piston guide and special seal ring allow stable control.
- Wide range of pressure and flow for a variety of applications.
- Easy pressure adjustment by manual handle with automatic lock mechanism.
- Compact design.

SPECIFICATIONS

Model name	RP-8
Code name	RP8-D
Applicable fluid	Steam
Fluid temperature	Max. 200°C
Applicable primary pressure	Max. 1.0MPa
Adjustable secondary pressure	0.03~0.8MPa
Maximum reducing rate	20 : 1
Minimum pressure differential across the disc	0.05MPa
Lock up pressure	Max. 0.02MPa
Offset pressure	Within 0.02MPa (Adjustable secondary pressure 0.03~0.035MPa) Within 0.03MPa (Adjustable secondary pressure over 0.035~0.07MPa) Within 0.05MPa (Adjustable secondary pressure over 0.07~0.8MPa)
Leakage allowance	Less than 0.05% of rated flow
End connection	Flanged JIS 10KFF
Materials	Body(Stainless steel), Disc & seat(Stainless steel), Diaphragm(Stainless steel)
Valve body pressure test	Hydraulic 1.5MPa

*For size 15mm, select RD-41 or RD-41F Type. For size 100~150mm and for pressure 3.0MPa, select RP-11 Type.

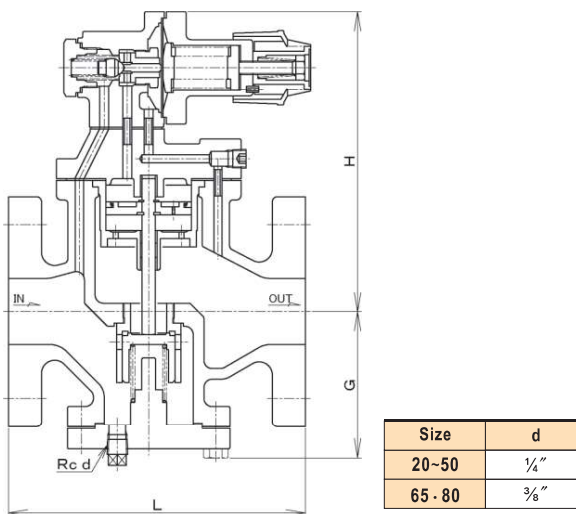
DIMENSIONS

(mm)

Size	L	G	H	Cv value	Mass(kg)
20(¾")	140	71	159	2.5	8
25(1")	150	71	164	4	9
32(1¼")	180	90	182	6.5	12.5
40(1½")	180	90	182	9	12.5
50(2")	200	100	187	16	16
65(2½")	230	110	202	25	22
80(3")	260	118	221	36	27.5

Flange code JIS 10KFF

CONSTRUCTION



RP-6BD Type Steam Trap with Pressure Reducing Valve (for Steam)

for **Construction** **Factory Equipments**, etc., General Purpose Valve(Large capacity)

RP-6 Type with steam trap embedded. It is an ideal product for preventing drain flowing after the valve and application in locations such as vertical piping where drain can be easily accumulated.

Refer to Page 15 for valve size selection chart.

FEATURES

- The position of the drain hole can be changed at an interval of 90°, thus allows appropriate piping suiting locations.
- Piston guide and special seal ring allow stable control.
- Wide range of pressure and flow for a variety of applications.
- Easy pressure adjustment by manual handle with automatic lock mechanism.
- Compact design.

SPECIFICATIONS

Model name		RP-6BD	
Code name		RP6BD-B	RP6BD-G
Applicable fluid		Steam	
Fluid temperature		Max. 1.0MPa	
Applicable primary pressure		Max. 184°C*	
Adjustable secondary pressure		0.03~0.8MPa	
Maximum reducing rate		20 : 1	
Minimum pressure differential across the disc		0.05MPa	
Lock up pressure		Max. 0.02MPa	
Offset pressure		Within 0.02MPa(Adjustable secondary pressure 0.03~0.035MPa) Within 0.03MPa(Adjustable secondary pressure over 0.035~0.07MPa) Within 0.05MPa(Adjustable secondary pressure over 0.07~0.8MPa)	
Leakage allowance		Less than 0.05% of rated flow	
Allowed back pressure trap part		Within 70% of pressure on inlet side	
End connection		Flanged JIS 10KFF	
Materials	Body	Cast iron	
	Disc & seat	Stainless steel	
	Piston & cylinder	Cast bronze	Stainless steel
Valve body pressure test		Hydraulic 1.5MPa	

*Applicable temperature Max. 220°C is available upon your request.

DIMENSIONS

(mm)

Size	L	G	H	H ₁	d	Cv value	Mass (kg)
15(½")	140	134	155	72	½"	1	10
20(¾")	140	134	155	72	½"	2.5	10
25(1")	150	139	160	77	½"	4	11.5
32(1¼")	180	145	182	88	¾"	6.5	14.5
40(1½")	180	145	182	88	¾"	9	15
50(2")	200	166	187	98	¾"	16	18.5

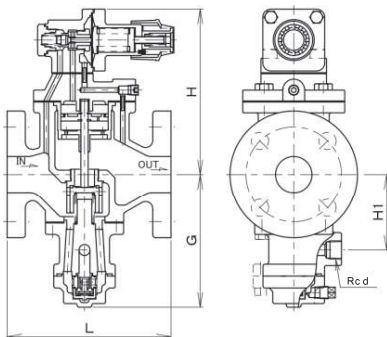
Flange code JIS 10KFF

DRAIN DISCHARGE AMOUNT (MAX. CONTINUAL DISCHARGE AMOUNT)

(L/h)

Pressure differential (MPa)	0.05	0.1	0.2	0.3	0.4	0.6	0.8	1.0
Discharge amount	100	160	260	340	400	500	550	590

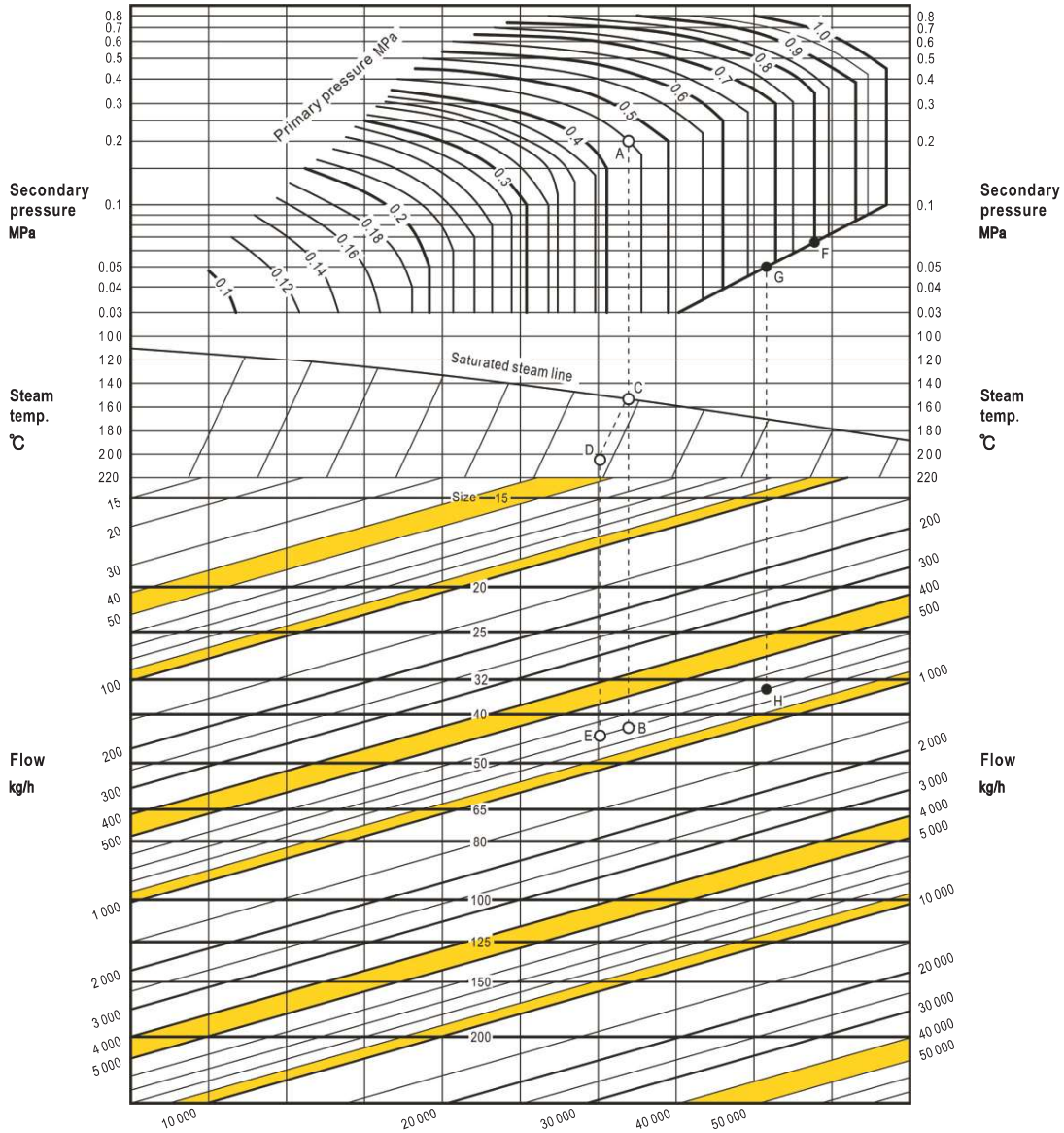
CONSTRUCTION



REFERENCE

1. We also provide spacers for adjustment of face to face dimension. Such spacers are useful when replacing VENN RP-1H Type with RP-6BD Type valve, such as in the case of modification of equipment. Please contact our agent in your area for details.
2. It is also possible that you attach trap (BD-2 Type) to RP-6 Type valve that is in use. For more details, please contact our agent in your area.

NOMINAL DIAMETER SELECTION CHART (for Steam)



● HOW TO USE THE CHART

Example 1:

This example shows you how to decide nominal diameter of valve at the following conditions: primary pressure 0.45MPa, secondary pressure 0.2MPa, flow of saturated steam 700 kg/h.

First, find out the intersection point A of primary pressure curve 0.45MPa and secondary pressure curve 0.2MPa.

Draw a vertical line from point A. This line intersects with flow curve 700kg/h. The intersection point is B. Since B is located between a nominal diameter range of size 40mm~50mm. The larger value, which is size 50mm, is taken as the nominal diameter that we are looking for. Now let's find out the nominal diameter at an

additional condition: the temperature is 205°C . Draw a vertical line from point A until it intersects with the saturated steam curve. The intersection point is named C. Now move from point C to temperature curve 205°C parallelly and we can stop at point D. Draw a vertical line from point D until it intersects with flow curve 700kg/h. The intersection point is named E. Since point E is located between a nominal diameter range of size 40mm~50mm. The larger value, which is size 50mm, is taken as the nominal diameter that we are looking for.

Example 2:

Now let's try to find out the nominal diameter at the following conditions: primary pressure 0.8MPa;

secondary pressure 0.05MPa; and flow of saturated steam 700kg/h.

First, we should find out the intersection point F between primary pressure curve 0.8MPa and oblique line. Next, move on the oblique line and find it the intersection point G on the secondary pressure curve 0.05MPa. Draw a vertical line from point G until it intersects with flow curve 700kg/h. the intersection point is named H.

Since point H is located between a nominal diameter range of size 32mm~40mm. The larger value, which is size 40mm in this case, is taken as the nominal diameter that we are looking for.