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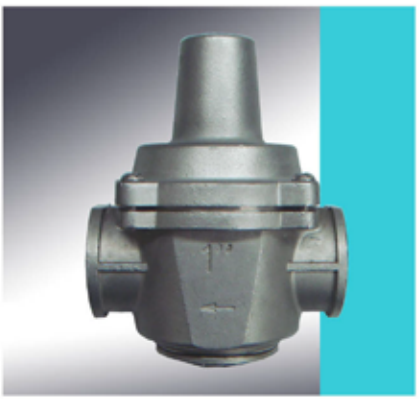
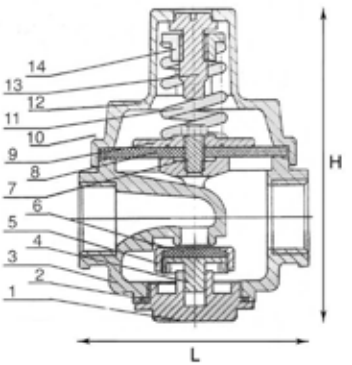
Stainless Steel Pressure Reducing Valve Screwed End





General Description :

The stainless steel, directing acting pressure reducing valve is to protect water installations against excessive pressure from the supply.

Material

No	Part Name	Material
1	Plug	Stainless Steel
2	'O' Ring	Silicone
3	Body	Stainless Steel
4	Guide Seat	Stainless Steel
5	Seat	Stainless Steel
6	Sealing Sheet	Stainless Steel
7	Bolt	Stainless Steel
8	Diaphragm	Silicone
9	Diaphragm Plate	Stainless Steel
10	Bolt	Stainless Steel
11	Adjusting Spring	Stainless Steel
12	Bonnet	Stainless Steel
13	Adjusting Bolt	Stainless Steel
14	Spring Plate	Stainless Steel

Specification :

Working Pressure : 1.0 Mpa
StrengthTest : 1.5 Mpa
Sealing Test : 1.1 Mpa
Adjustable Pressure Range : 0.1~0.8 Mpa
Working Temperature : 80~100 deg C

Diamension (mm)

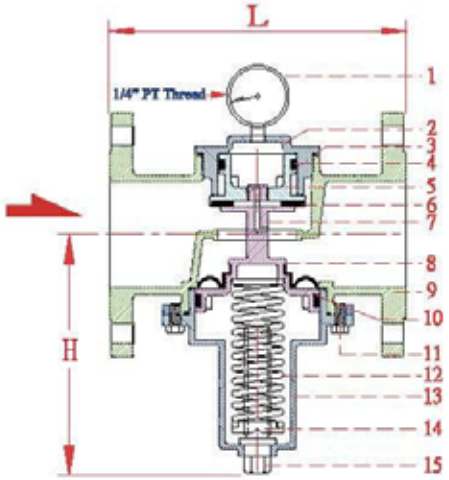
Size	L	H
1/2"	67	90
3/4"	78	103
1"	88	114
1.1/4"	104	143
1.1/2"	104	143
2"	111	156

DIRECT-ACTIVATED PRESSURE REDUCING VALVE
(Stainless Steel 316)

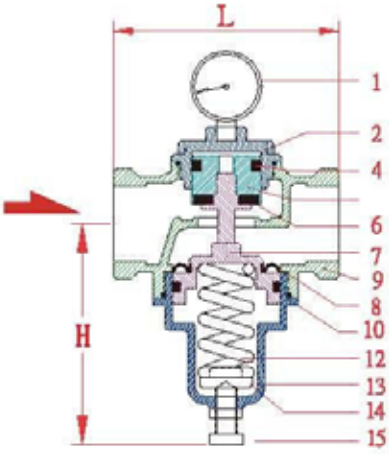
- Valve Body is made by Stainless Steel #316, suitable for fluid, air and steam.
- The gate is balanced-pressure designed, which will not influence the outlet pressure caused by unstable inlet pressure. Pressure needed from fully-closed gate to fully-opened gate : 1.5 kgf/cm^2.
- When the outlet pressure responds directly to the pressure control chamber and adjusts the setting pressure, it responds quickly and adjusts the pressure accurately.
- Design of piston and diaphragm improves the inability of sustaining pressure and leakage.

- Pressure Adjusting Range : 1～6 kgf/cm^2 (1 kgf/cm^2 = 14.2 psi) 4～10 kgf/cm^2 8～13 kgf/cm^2
- Applied Temperature : -15～100℃ 100～180℃ (For steam)
- Valve Body Testing Pressure : 35 kgf/cm^2
- Maximum Applied Pressure : 25 kgf/cm^2
- Please cover steam pipelines with thermal materials

◎Special order can be arranged for higher pressure adjustment range.



No	Part Name	Material
1	Pressure Gauge	Stainless Steel
2	Upper Cover	Stainless Steel 316
3	O-ring	NBR / Viton / Teflon
4	U-ring	NBR / Viton
5	Piston	Stainless Steel 316
6	Sealing Spacer	NBR / Viton / Teflon
7	Shaft	Stainless Steel 316
8	Diaphragm	NBR/ Viton
9	Main Body	Stainless Steel 316
10	UH-ring	NBR / Viton
11	Fixed Bolt	Stainless Steel 304
12	Spring	Spring Steel
13	Lower Cover	Stainless Steel 316
14	Washer	Brass
15	Adjusting Stem	Stainless Steel 304



(Thread End)

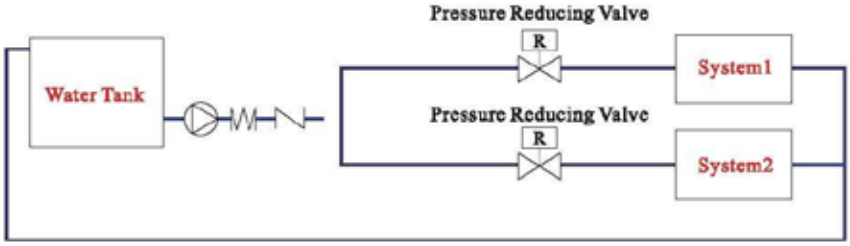
Item No	Size	H(mm)	L(mm)	Weight(kg)	CV
RET15-S	1/2"	80	70	0.8	2.4
RET20-S	3/4"	105	85	1.0	9.0
RET25-S	1"	105	92	1.1	11.0
RET40-S	1.5"	130	115	2.2	21.0
RET50-S	2"	130	120	3.1	25.0

(Flange End)

Item No	Size	H(mm)	L(mm)	Weight(kg)	CV
REF15-S	1/2"	85	150	2.0	2.4
REF20-S	3/4"	105	150	2.8	9
REF25-S	1"	105	150	3.5	11
REF40-S	1.5"	130	190	5.9	21
REF50-S	2"	130	190	6.5	25
REF65-S	2.5"	185	210	11.5	75
REF80-S	3"	185	225	12.0	80
REF100-S	4"	230	250	19.0	120
REF150-S	6"	290	310	45.0	250

Applied condition of Direct-activated Pressure Reducing Valve：

- ▶ Installing pressure reducing valve directly in sub-pipe can reduce fluid pressure inside the pipe.
- ▶ Installing a filter in the inlet of pressure reducing valve can prevent block of valve gate caused by impurities and limescale.
- ▶ Installing pressure relief valve downstream pressure reducing valve can protect the system.
- ▶ While using screws to connect pressure reducing valve, joints should be installed in the inlet and outlet to make maintainance easy.



Pressure Setting and Flow Rate of Direct-activated Pressure Reducing Valve：

- ▶ Direct-activated pressure reducing valve directly opens and closes the valve gate by the outlet pressure. When outlet pressure is under setting pressure, valve gate automatically opens. To make valve gate fully open, adjustable pressure range and setting pressure are relative points.
- ▶ A：Pressure drop needed for fully-opened valve gate = $\frac{B}{4}$ ，B=Adjustable Pressure Range Maximum-Minimum

  B：Adjustable Pressure Range (= Maximun Minimum Adjustable Pressure Rang)

  C：Setting Pressure of Outlet

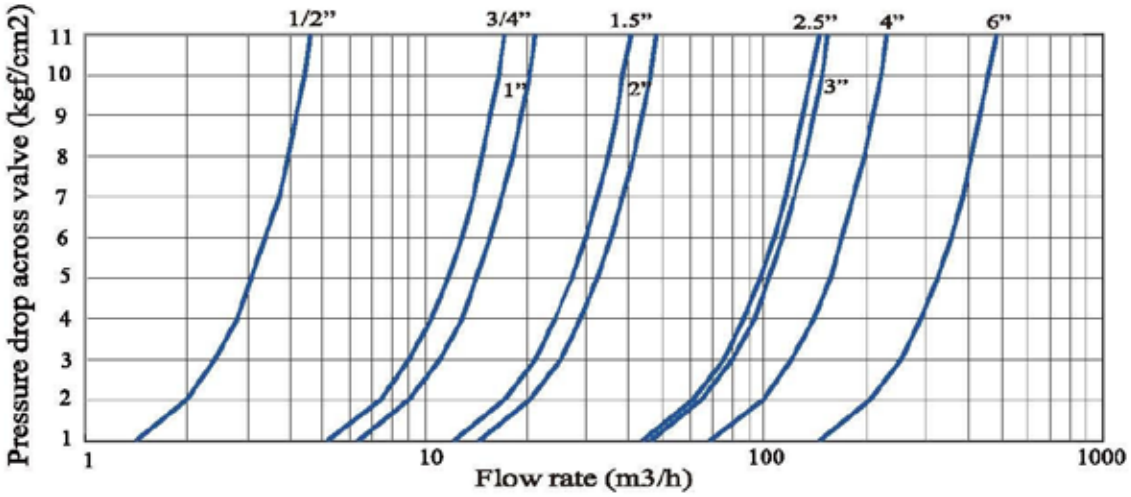
  P：Pressure of fully-opened outlet valve gate, P=C-A

Example：

Pressure drop needed for fully-opened valve gate for adjusting pressure range 3～9 kgf/cm² of direct-activated pressure reducing valve. A= $\frac{B}{4}=\frac{9-3}{4}$ =1.5 kgf/cm²

If the setting pressure of outlet is 6 kgf/cm², pressure of fully-opened valve gate will be P=6-1.5= 4.5 kgf/cm² (Outlet pressure should go down under 4.5 kgf/cm² to make valve gate fully open)

Flow Chart of Direct-activated Pressure Reducing Valve



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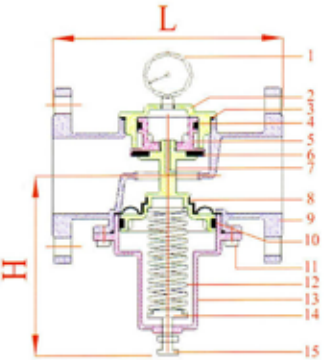
Stainless Steel Pressure Reducing Valve Flanged End



General Description :

Valve body is made by Stainless Steel #316, suitable for fluid, air and steam.The gate is balanced-pressure designed, which will not influence the outlet pressure caused by unstable inlet pressure. When the outlet pressure responds directly to the pressure control chamber and adjust the setting pressure, it responds quickly and adjusts the pressure accurately. Design of piston and diaphragm improves the inability of sustaining pressure and leakage.

Material

No	Part Name	Material
1	Gauge	Stainless Steel
2	Upper Cover	SS 316
3	O-ring	NBR / Viton
4	U-ring	NBR / Viton
5	Piston	SS 316
6	Sealing Spacer	NBR / Viton / Teflon
7	Shaft	SS 316
8	Diaphragm	NBR / Viton
9	Main Body	SS 316
10	UH-ring	NBR / Viton
11	Fixed Bolt	SS 304
12	Spring	Spring Steel
13	Lower Cover	SS 316
14	Washer	Brass
15	Adjusting Stem	SS 304

Features :

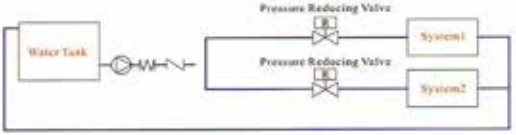
>Pressure Adjusting Range : 1~6 kgf/cm 2
2~10 kgf/cm 2
8~13 kgf/cm 2
>Pressure needed from fully-closed gate to fully-opened gate : 1.5 kgf/cm 2
>Applied Temperature : -15~100 deg C
100~180 deg C (for steam)
>Valve Body Testing Pressure : 35 kgf/cm 2
>Maximum Applied Pressure : 25 kgf/cm 2

Dimension (mm)

Size	H	L	Weight (kg)
2.1/2"	185	210	11.5
3"	185	225	12
4"	230	250	19

Applied condition of Direct-activated Pressure Reducing Valve :

- Installing pressure reducing valve directly in sub-pipe can reduce fluid pressure inside the pipe.
- Installing a filter in the inlet of pressure reducing valve can prevent block of valve gate caused by impurities and limescale.
- Installing pressure relief valve downstream pressure reducing valve can protect the system.
- While using screws to connect pressure reducing valve, joints should be installed in the inlet and outlet to make maintainance easy.



Pressure Setting and Flow Rate of Direct-activated Pressure Reducing Valve :

- Direct-activated pressure reducing valve directly opens and closes the valve gate by the outlet pressure. When outlet pressure is under setting pressure, valve gate automatically opens. To make valve gate fully open, adjustable pressure range and setting pressure are relative points.
- A : Pressure drop needed for fully-opened valve gate = $\frac{B}{4}$ · B=Adjustable Pressure Range Maximum-Minimum

B : Adjustable Pressure Range (= Maximun Minimum Adjustable Pressure Rang)

C : Setting Pressure of Outlet

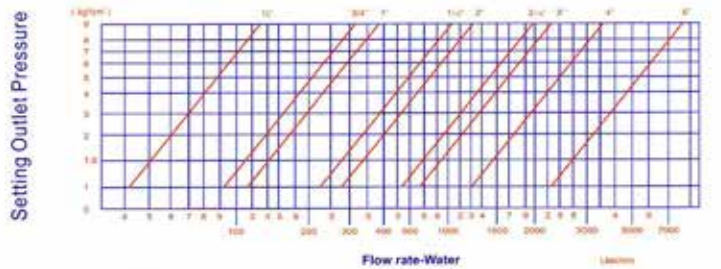
P : Pressure of fully-opened outlet valve gate, P=C-A

Example :

Pressure drop needed for fully-opened valve gate for adjusting pressure range 3～9 kgf/cm^2 of direct-activated pressure reducing valve. A=$\frac{B}{4}=\frac{9-3}{4}$=1.5 kgf/cm^2

If the setting pressure of outlet is 6 kgf/cm^2, pressure of fully-opened valve gate will be P=6-1.5= 4.5 kgf/cm^2 (Outlet pressure should go down under 4.5 kgf/cm^2 to make valve gate fully open)

Flow Chart of Direct-activated Pressure Reducing Valve

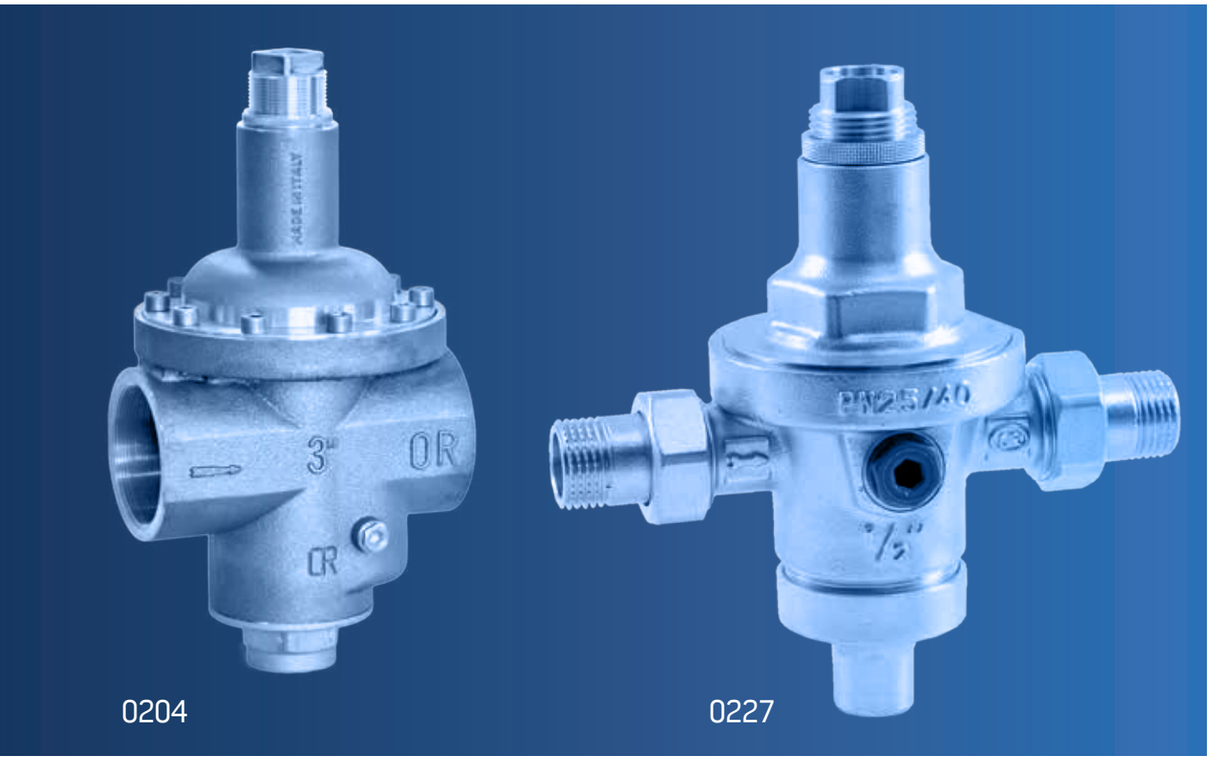


0204 • 1/2”- 4”

0227 • 1/2”- 2”

PRESSURE REDUCING VALVES WITH DIAPHRAGM PN 40
WITH COMPENSATION CHAMBER AND STAINLESS STEEL SEAT

CONNECTIONS: FEMALE-FEMALE
DISMANTLING FITTINGS MALE



HYDRAULIC FEATURES

The pressure reducing valve with diaphragm PN 40 with compensation chamber is an automatic valve that reduces and stabilizes the pressure of a fluid in a water distribution conduit according to a preset value. The use of this hydraulic device is necessary if the maximum possible pressure at any point in the water distribution system can reach or exceed the relative maximum allowable working pressure, or if apparatus and equipment that function exclusively at lower levels of pressure are connectable. The enhanced mechanical strength of the shell and its internal components renders this valve particularly suitable for sanitary installations for water distribution outside buildings (EN 805), where the water pressure in the water mains may reach values as high as 40 bar. Further, the compensated seat offsets the influence that variations in upstream pressure may have on the downstream pressure. The flexible diaphragm in EPDM rubber is reinforced with high mechanical strength polyamide textile and in conjunction with the antistick-slip O-ring made of Perox EPDM rubber, they allow a precise and long-lasting pressure regulation. The internal finish of the valve’s body and the absence of moving parts guarantee an elevated flow capacity, even when the water draw is minimal. The diaphragm-type pressure reducing valve with compensation chamber (PN 40) is used in air conditioning plants, sanitary installations for water supply, irrigation systems, compressed air (not oil mist) distribution systems, sanitary installations for water supply within buildings, according to EN 806-2; and for fire suppression piping. (It should nevertheless be borne in mind that local government standards for fire protection must always be observed.)
This product adheres to the standards set forth by the European health authorities for the transport of alimentary fluids and potable water.

ATTENTION: THE PRESSURE GAUGE CONNECTED TO THE PRESSURE REDUCING VALVE INDICATES THE ALREADY-REDUCED PRESSURE (Ps) OF THE OUTLET LIQUID FLOW.

TECHNICAL FEATURES

Pressure:	
Maximum allowable working pressure (PN)	40 bar
Outlet settings (Ps)	from 1 to 7 bar
Ps value set during testing	3 bar
Outlet Ps set tolerance on varying inlet pressure	± 5 %
Temperature:	
Maximum working temperature (TS)	0°C (excluding ice) 80°C
Compatible fluids:	
water	
glycolate solutions	glycol 50%
compressed air	
Threading:	
Pipeline connection	Threads according to ISO 228/1
Gauge connection	Threads according to EN 10226- Rp1/4” (ex ISO 7/1)
Tests according to:	EN 1567
Verification of the deviation from the pre-set pressure (Ps) according to	EN 1567 § 8.3.2
Verification of the setpoint range according to	EN 1567 § 8.3.1
Flow rate and outlet pressure according to	EN 1567 § 8.3.4
Acoustic group	II - Lmax (dBA) < 30

DESIGN

Brass body dimensions 1/2”-2” EN12165-CW617N
Cast bronze body dimensions 2”1/2-4” EN1982-CB491K
Brass bonnet dimensions 1/2”-2” EN12165-CW617N
Cast bronze bonnet dimensions 2”1/2-4” EN1982-CB491K
Other forged brass components dimensions 1/2”-4” EN12165-CW617N
Other cast bronze components dimensions 2”1/2-4” EN1982-CB491K
Other components in turned brass dimensions 1/2”-4” EN12164 - CW614N
EPDM rubber diaphragm, nylon reinforced to 70 Sh
Static O-ring washers and seat gaskets in NBR RUBBER
Dynamic O-ring washers in EPDM RUBBER (peroxide-cured)
SM GALVANIZED STEEL calibration spring - EN 10270-1
STAINLESS STEEL insert seat EN 10088-1.4305 (AISI 303)

PRODUCT CODES

0204.015	female/female	1/2”	0227.015	dismantling fittings male	1/2”
0204.020	female/female	3/4”	0227.020	dismantling fittings male	3/4”
0204.025	female/female	1”	0227.025	dismantling fittings male	1”
0204.033	female/female	1”1/4	0227.033	dismantling fittings male	1”1/4
0204.042	female/female	1”1/2	0227.042	dismantling fittings male	1”1/2
0204.050	female/female	2”	0227.050	dismantling fittings male	2”
0204.066	female/female	2”1/2			
0204.080	female/female	3”			
0204.100	female/female	4”			

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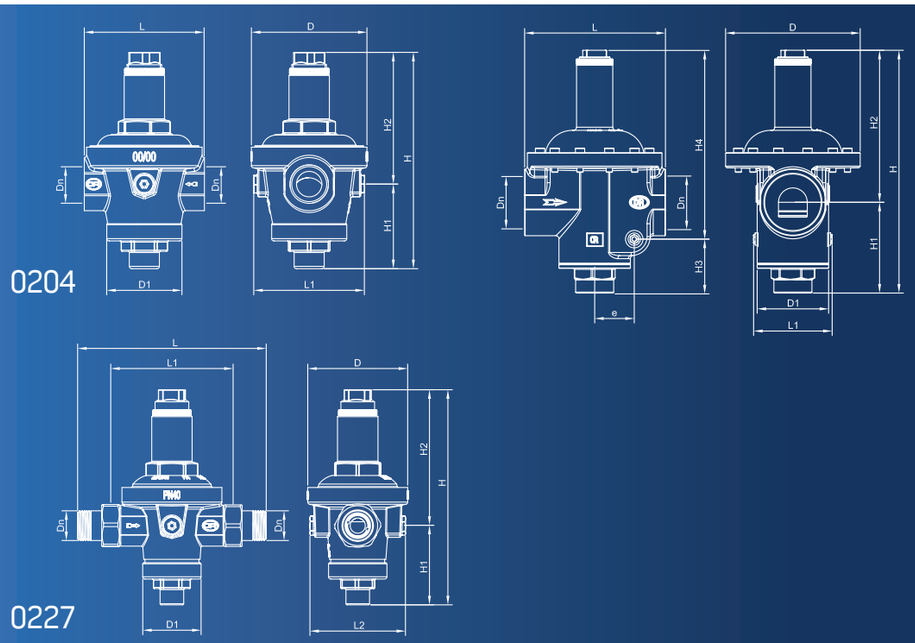
export@officinerigamonti.it

0204 • 1/2”- 4”

0227 • 1/2”- 2”

PRESSURE REDUCING VALVES WITH DIAPHRAGM PN 40
WITH COMPENSATION CHAMBER AND STAINLESS STEEL SEAT

CONNECTIONS: FEMALE-FEMALE
DISMANTLING FITTINGS MALE



FEATURES

0204

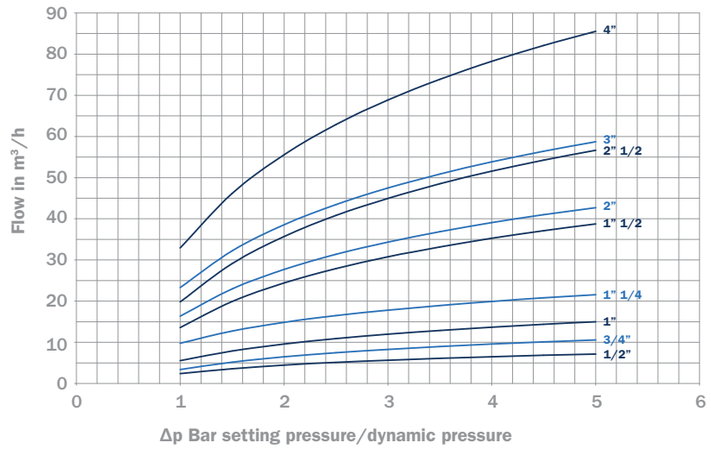
Dn	D	D1	L	L1	H	H1	H2	H3	H4	e
1/2”	Ø72,5	Ø44	76	67	152,5	65	87,5	\	\	\
3/4”	Ø89	Ø52	91	85	191,5	70,5	121	\	\	\
1”	Ø100	Ø65	104	96	187	73	114	\	\	\
1”1/4	Ø123	Ø72	137	92	229,5	82,5	147	\	\	\
1”1/2	Ø153	Ø80	170	109	258	93	165	\	\	\
2”	Ø168	Ø90	183,5	119	276	92	184	\	\	\
2”1/2	Ø179	Ø93	206	104	339	122	217	77	262	43
3”	Ø191	Ø102,5	203	129,5	374,5	141,5	233	91,5	283	30
4”	Ø260	Ø139	274	153	482	176,5	305,5	105	377	77

0227

Dn	D	D1	L	L1	H	H1	H2
1/2”	Ø72,5	Ø44	147	95	146	63	83
3/4”	Ø89	Ø52	168	109	191,5	70,5	121
1”	Ø100	Ø65	196	127	192,5	78,5	114
1”1/4	Ø123	Ø72	239	158	232,5	82,5	150
1”1/2	Ø153	Ø80	279	195	256	93	163
2”	Ø168	Ø90	316,5	209,5	276	92	184

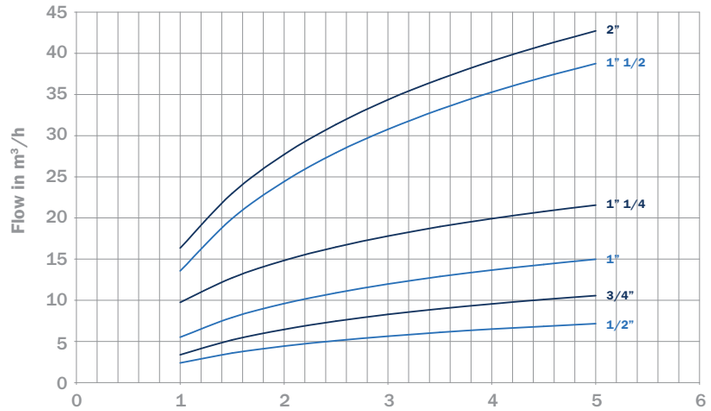
2004

PRESSURE REDUCING VALVE 0204 1/2” - 4”



0227

PRESSURE REDUCING VALVE 0227 1/2” - 2”



Type YPR-50 Pressure Reducing Valve For Steam

As a direct operating pressure reducing valve for steam that can be used for pipelines and a wide array of steam facilities, this product can be employed for various purposes in an environment with small flow.

■ Features

- Direct operating pressure reducing valve for small flow for outstanding pressure control performance and wide pressure regulating range.
- Stainless steel components for corrosion resistance, long service life and durability.

■ Specifications

Applicable fluid		Steam
Primary pressure		Maximum 14 kgf/cm²g
Secondary pressure regulating range		0.2~1 kgf/cm²g (for low pressure), 1~2 kgf/cm²g (for medium pressure), 2~10 kgf/cm²g (for standard pressure)
Maximum pressure reduction ratio		10:1
Minimum differential pressure in the inlet and outlet side of the valve		0.5kgf/cm²
Fluid temperature		220°C below
Leakage allowance		0.05% less of rated flow
End connection		KS PT SCREW
Materials	Body	GC200
	Disc, seat	STS
Hydraulic test pressure		21 kgf/cm²g

▶ Strainer (over 80 Mesh) installation is required to ahead inlet when valve installing.
▶ Install a water separator at the inlet of the pressure reducing valve to ensure the removal of condensate.

■ Dimensions

(mm)

Size	L	H1	H2	Weight (kg)
15(½")	110	54	180	5.5
20(¾")	110	54	180	5.5
25(1")	144	66	256	8.6

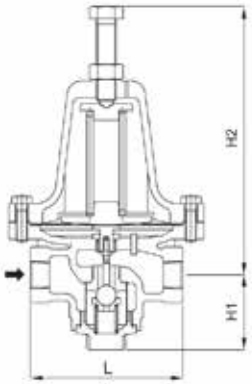
■ Capacity

(kg/h)

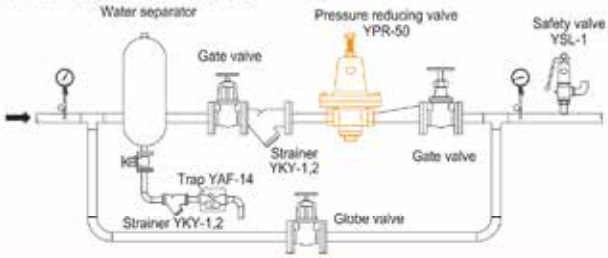
Primary pressure (kgf/cm²g)	Secondary pressure (kgf/cm²g)	Size 15(½")	Size 20(¾")	Size 25(1")
1.0	0.5	3.4	3.9	6.5
1.4	0.9	3.7	3.4	7.4
	0.5	3	3.9	4.4
2.1	1.6	4.4	5	7.9
	1	3.7	4.2	7.1
	0.2	2.3	2.8	4.2
2.8	2.3	7	8.5	13.2
	1.4	5.6	6.8	11.2
	0.3	2.8	3.9	5.4
3.5	2.8	9.1	10.1	17
	1.4	7	8.1	13.2
	0.4	3.4	4.4	6.2
4.2	3.4	9.6	10.8	18.6
	2.8	10.6	11.6	20.3
	1.3	6.3	7.3	12
	0.4	3.9	5.1	7
5.6	4.5	12.4	14.4	24
	3.8	13.1	15.8	24.8
	1.6	8.5	9.6	15.5
	0.6	4.2	5.4	7.6

Primary pressure (kgf/cm²g)	Secondary pressure (kgf/cm²g)	Size 15(½")	Size 20(¾")	Size 25(1")
7.0	5.6	14.3	17	27.9
	4.6	15.8	18.4	30.7
	2.8	13.9	16.2	26.4
	0.7	4.8	5.6	9.3
8.4	6.8	16.2	19.4	31.8
	4.9	19.4	21.9	36.4
	3.2	16.9	18.8	31.6
	0.8	7.7	8.5	13.9
10.6	8.4	20.2	23.4	38.7
	6	25.6	29.6	50
	3.9	21	24.8	41.8
	1	9.3	11.6	17.9
12.7	9.8	28.7	34.1	55.8
	8.1	30.2	35.6	60.5
	4.9	27.1	30.2	52
	1.3	11.6	13.2	21.7
14.0	9.8	32.4	36.4	61.2
	8.1	33.3	38	63.6
	5.6	30.2	34.9	58.2
	1.4	14.7	17	27.1

■ Dimensional drawing



■ Application Diagram (Example)



Type YPR-1S Pressure Reducing Valve For Steam

This pressure reducing valve, which is used for construction facilities and industrial steam lines, demonstrates stable control and subtle operations. It features an outstanding performance even with severe changes in the steam flow and primary pressure.

■ Features

- Pilot-type pressure reducing valve for steam features a precise adjustment function.
- With only a single adjustment, a constant pressure level is maintained, thereby ensuring safety.
- Convenient piping construction, thanks to its simple structure and solidity.
- Superb performance even in places where primary steam pressure changes are severe.
- Pressure at a constant level, regardless of changes in the secondary flow.

■ Specifications

Applicable fluid		Steam
Primary pressure		Maximum 10 kgf/cm²g
Secondary pressure regulating range		0.35~5 kgf/cm²g (for standard pressure) 4~8 kgf/cm²g (for medium pressure)
Maximum pressure reduction ratio		10:1
Minimum differential pressure in the inlet and outlet side of the valve		0.7kgf/cm²
Leakage allowance		0.05% less of rated flow
Fluid temperature		220° C below
End connection		KS 10K RF FLANGE
Materials	**Body**	GC200
	Disc, seat	BC6
Hydraulic test pressure		15 kgf/cm²g

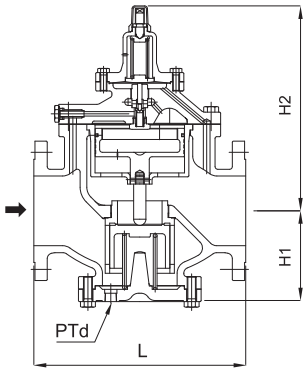
▶ Strainer (over 80 Mesh) installation is required to ahead inlet when valve installing.
▶ Install a water separator at the inlet of the pressure reducing valve to ensure the removal of condensate.

■ Dimensions

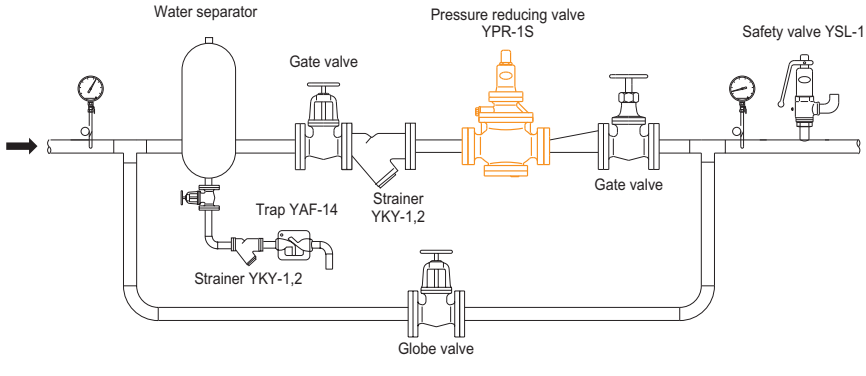
(mm)

Size	L	H1	H2	d	Cv	Weight (kg)
15(½")	152	63	230	¼"	1	8.0
20(¾")	152	63	230	¼"	2.5	8.0
25(1")	170	71	255	¼"	4	12.5
32(1¼")	200	81	265	¼"	6.5	16
40(1½")	200	81	265	¼"	9	16.5
50(2")	215	86	270	¼"	16	21
65(2½")	245	110	285	⅜"	25	29
80(3")	285	130	295	⅜"	36	39.5
100(4")	320	148	308	⅜"	64	68
125(5")	380	173	368	⅜"	100	83.3
150(6")	420	189	378	⅜"	144	101
200(8")	500	229	451	⅜"	256	183

■ Dimensional drawing



■ Application Diagram (Example)



Type YPR-100, 100A Pressure Reducing Valve For Steam

This pressure reducing pilot diaphragm valve for steam is a self-operated valve that has a high Cv value, and maintains an outstanding level of controllability in primary pressure changes as well as steam equipments' load fluctuations.

■ Features

- 20:1 Maximum Pressure Turndown Ratio provides one-stage reduction without the customary costly two stage reduction.
- High Cv value and superb flow-controlling capacity allows even products that are one or two size smaller than the usual nominal diameter.
- Low pressure (0.21 kgf/cm²g) management is possible.
- Three different springs are employed based on the secondary pressure regulating range, thereby color-differentiating the pressure range based on the pipeline conditions.
- Simple structure, and major moving parts are made of durable stainless steel : removal of an adapter between the main valve and pilot valve enables easy repair and inspection.

■ Specifications

Type		YPR-100	YPR-100A
Applicable fluid		Steam	
Primary pressure		Maximum 17 kgf/cm²g	Maximum 30 kgf/cm²g
High pressure regulating range		0.21~2.1kgf/cm²g(for low pressure), 1.4~7.0kgf/cm²g(for medium pressure), 5.~14.0kgf/cm²g(for high pressure)	
Maximum pressure reduction ratio		20:1	
Minimum differential pressure in the inlet and outlet side of the valve		0.5kgf/cm²	
Leakage allowance		0.01% less of rated flow	
Fluid temperature		220° C below	250° C below
End connection		KS 10K, 20K kgf/cm²g RF FLANGE	KS 20K, 30K kgf/cm²g RF FLANGE
Material	Body	GCD450	SCPH2
	Disc, seat	STS	
	Diaphragm	Copper	
Hydraulic test pressure		30 kgf/cm²g	45 kgf/cm²g

▶ Strainer (over 80 Mesh) installation is required to ahead inlet when valve installing.
▶ Install a water separator at the inlet of the pressure reducing valve to ensure the removal of condensate.

■ Pressure regulating spring range

Yellow	0.21~2.1kgf/cm²g
Red	1.4~7.0kgf/cm²g
Blue	5.6~14.0kgf/cm²g

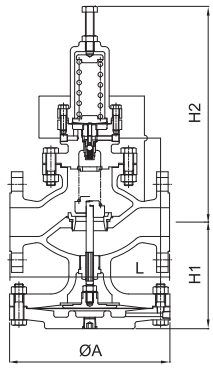
■ Dimensions

(mm)

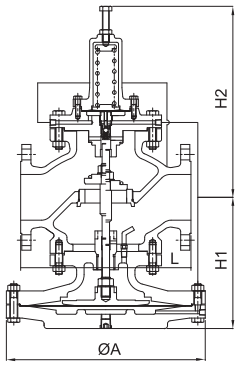
Size	L	øA	H1	H2	Cv	Weight (kg)
15(½")	130(130)	196	140(127)	273(130)	5	17.5
20(¾")	150(150)	196	135(130)	281(130)	7.2	18
25(1")	184(197)	223	150(135)	283(130)	10.9	23.5
32(1¼")	180(180)	223	163(143)	293(130)	14.3	24.5
40(1½")	222(235)	223	173(148)	297(130)	18.8	26
50(2")	254(267)	272	195(194)	292(130)	32	41.5
65(2½")	276(292)	348	255(227)	327(130)	60	69.5
80(3")	298(318)	348	260(230)	332(130)	78	75
100(4")	352(368)	402	285(252)	343(130)	120	97.5
125(5")	400	460	330(368)	415(368)	160	180
150(6")	451(473)	530	384(368)	445(368)	245	230

▶ Dimensions in parenthesis are for YPR-100A.

■ Dimensional drawing

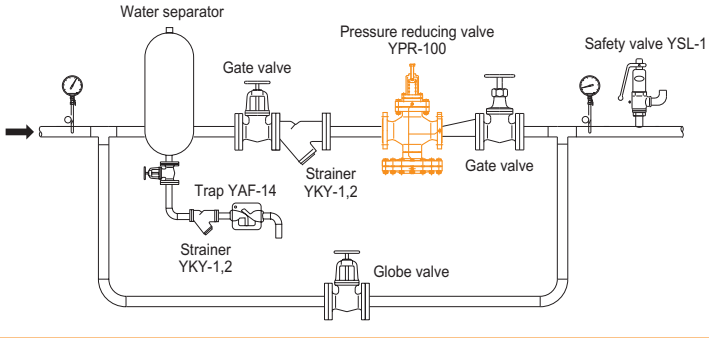


Type 15-40A



Type 50-150A

■ Application Diagram (Example)



Type YPR-2A Pressure Reducing Valve for Water

This is a direct operating pressure reducing valve for cold and hot water that can be used for small to large flows, with a small pressure fluctuation range. Used for construction facilities, this valve is employed for pressure control of each level's water supplied by an elevated water tank of a medium or high-rise building; as well as for pressure control of feed water from a directly-coupled pump and other boiler feed water.

Screwed type

Flanged type

■ Features

- Outstanding functions for controlling the pressure of water supplied by a building's elevated water tank to each floor.
- Easy to handle : small size and light weight.
- Two ways to install : horizontally or vertically.
- A constant pressure level with only a single adjustment.
- Wide flow range ability : an outstanding level of minimum adjustable flow & adjustable and stable in a wide flow range.
- All parts can be disassembled through the top of the valve : complete repairs even in limited spaces is possible.
- Built-in spring-type orifice that prevents a water hammering action.
- Linear flow pass-through method, which removes noise during operation.

■ Specifications

Applicable fluid		Water	
Primary pressure		Maximum 10 kgf/cm²g	
Secondary pressure regulating range		Outer spring	0.5~3.5kgf/cm²g
		Inner+outer spring	3~7kgf/cm²g
Maximum pressure reduction ratio		10:1	
Minimum differential pressure in the inlet and outlet side of the valve		0.5kgf/cm²	
Minimum adjustable flow		2~5 liters of water/min	
Fluid temperature		Maximum 5~80° C	
End connection		KS PT SCREW(15~25A), KS 10K FF FLANGE(32~150A)	
Materials	**Body**	GC200	
	Disc, seat	NBR, BC6	
Hydraulic test pressure		15 kgf/cm²g	

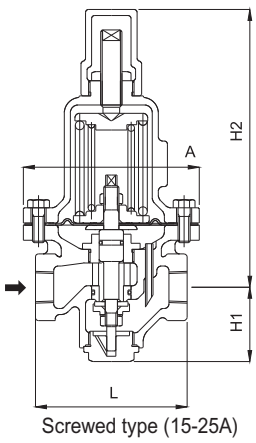
▶ Multi-step pressure reduction is needed when the cavitation index is 0.5 or lower.
▶ Strainer (over 40 Mesh) installation is required to ahead inlet when valve installing.

■ Dimensions

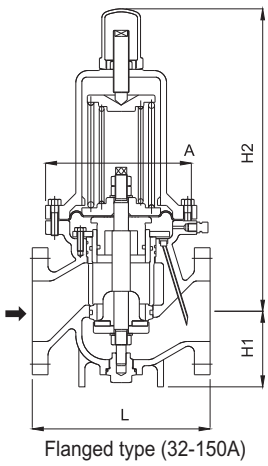
(mm)

Size	L	A	H1	H2	Cv	Weight (kg)
15(½")	100	116	50	184	2.1	3.7
20(¾")	100	116	50	184	2.1	3.7
25(1")	120	142	68	224	3.5	6.9
32(1¼")	190	174	81	327	8.0	17.0
40(1½")	190	174	81	327	8.0	17.0
50(2")	190	174	81	327	14	18.6
65(2½")	250	228	100	374	22	36.3
80(3")	250	228	100	374	32	37.4
100(4")	290	250	125	490	48	67.0
150(6")	390	340	165	655	108	150

■ Dimensional drawing



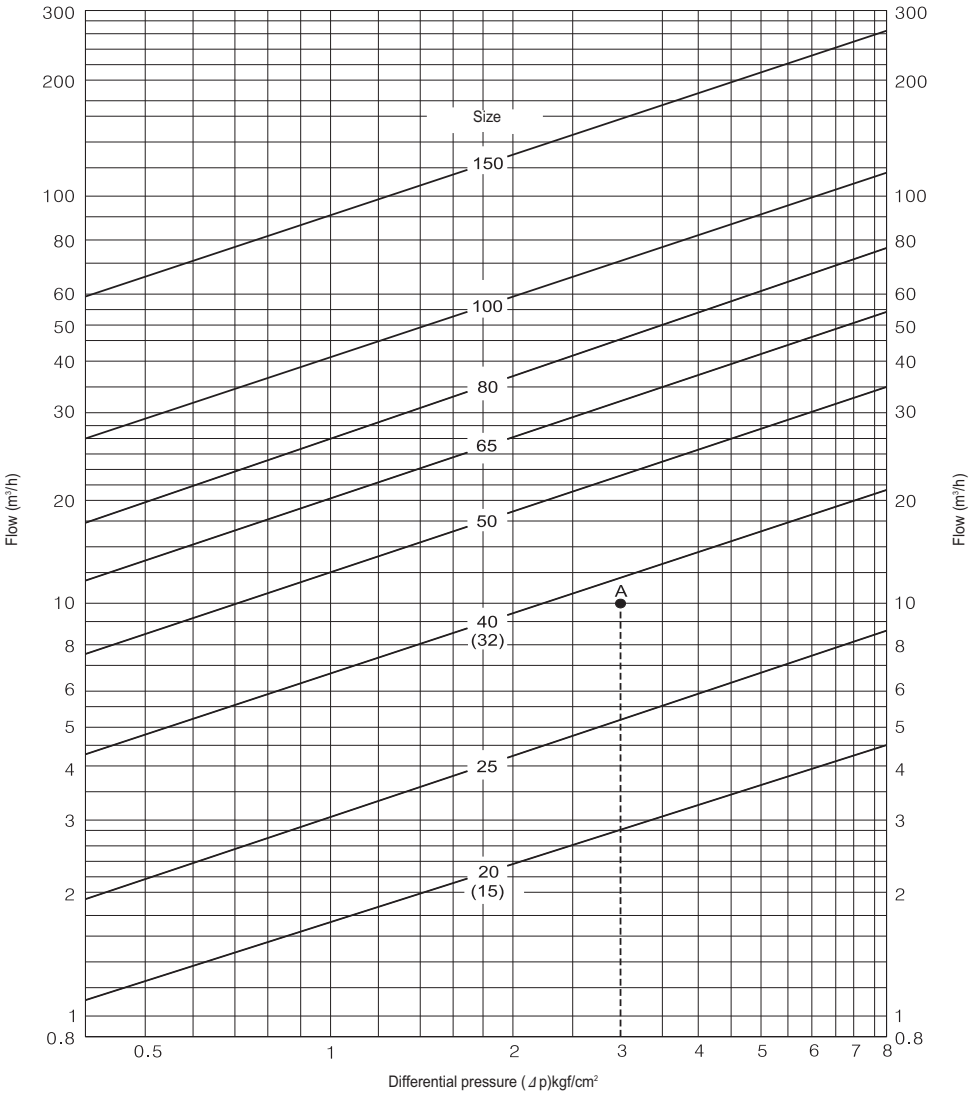
Screwed type (15-25A)



Flanged type (32-150A)

Type YPR-2A Pressure Reducing valve

■ Chart on selecting a size

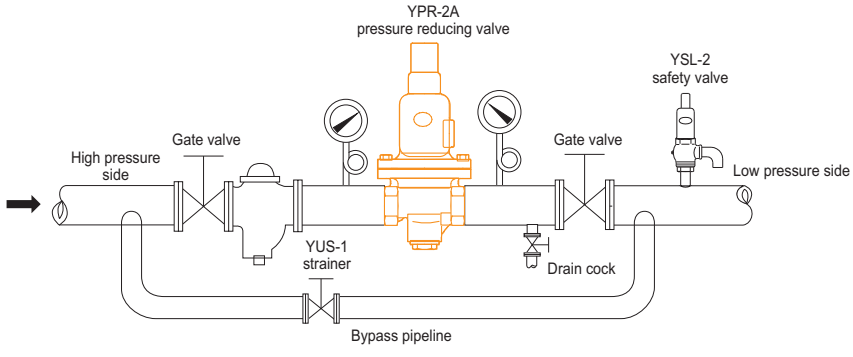


How to select the size of a valve by the chart

Example) If the primary pressure is 5 kgf/cm²g, secondary pressure is 2 kgf/cm²g, and flow is 10 cm³/h,

1) The differential pressure ($\Delta P=P_1-P_2$) between the primary pressure (5 kgf/cm²g) and secondary pressure (2 kgf/cm²g) is 3 kgf/cm².
2) Determine point "A" by vertically connecting the differential pressure (3 kgf/cm²) with the flow (10 cm³/h).
3) Now that "A" is in between a size of 25 and 40, a size of 40 should be selected.

■ Application Diagram (Example)



Type YPR-2A Pressure Reducing Valve for Water

This is a direct operating pressure reducing valve for cold and hot water that can be used for small to large flows, with a small pressure fluctuation range. Used for construction facilities, this valve is employed for pressure control of each level's water supplied by an elevated water tank of a medium or high-rise building; as well as for pressure control of feed water from a directly-coupled pump and other boiler feed water.

Screwed type

Flanged type

■ Features

- Outstanding functions for controlling the pressure of water supplied by a building's elevated water tank to each floor.
- Easy to handle : small size and light weight.
- Two ways to install : horizontally or vertically.
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- All parts can be disassembled through the top of the valve : complete repairs even in limited spaces is possible.
- Built-in spring-type orifice that prevents a water hammering action.
- Linear flow pass-through method, which removes noise during operation.

■ Specifications

Applicable fluid		Water	
Primary pressure		Maximum 10 kgf/cm²g	
Secondary pressure regulating range		Outer spring	0.5~3.5kgf/cm²g
		Inner+outer spring	3~7kgf/cm²g
Maximum pressure reduction ratio		10:1	
Minimum differential pressure in the inlet and outlet side of the valve		0.5kgf/cm²	
Minimum adjustable flow		2~5 liters of water/min	
Fluid temperature		Maximum 5~80° C	
End connection		KS PT SCREW(15~25A), KS 10K FF FLANGE(32~150A)	
Materials	**Body**	GC200	
	Disc, seat	NBR, BC6	
Hydraulic test pressure		15 kgf/cm²g	

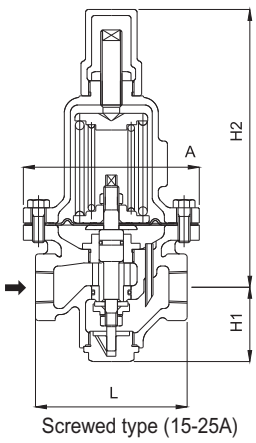
▶ Multi-step pressure reduction is needed when the cavitation index is 0.5 or lower.
▶ Strainer (over 40 Mesh) installation is required to ahead inlet when valve installing.

■ Dimensions

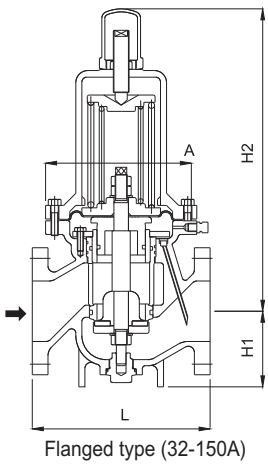
(mm)

Size	L	A	H1	H2	Cv	Weight (kg)
15(½")	100	116	50	184	2.1	3.7
20(¾")	100	116	50	184	2.1	3.7
25(1")	120	142	68	224	3.5	6.9
32(1¼")	190	174	81	327	8.0	17.0
40(1½")	190	174	81	327	8.0	17.0
50(2")	190	174	81	327	14	18.6
65(2½")	250	228	100	374	22	36.3
80(3")	250	228	100	374	32	37.4
100(4")	290	250	125	490	48	67.0
150(6")	390	340	165	655	108	150

■ Dimensional drawing



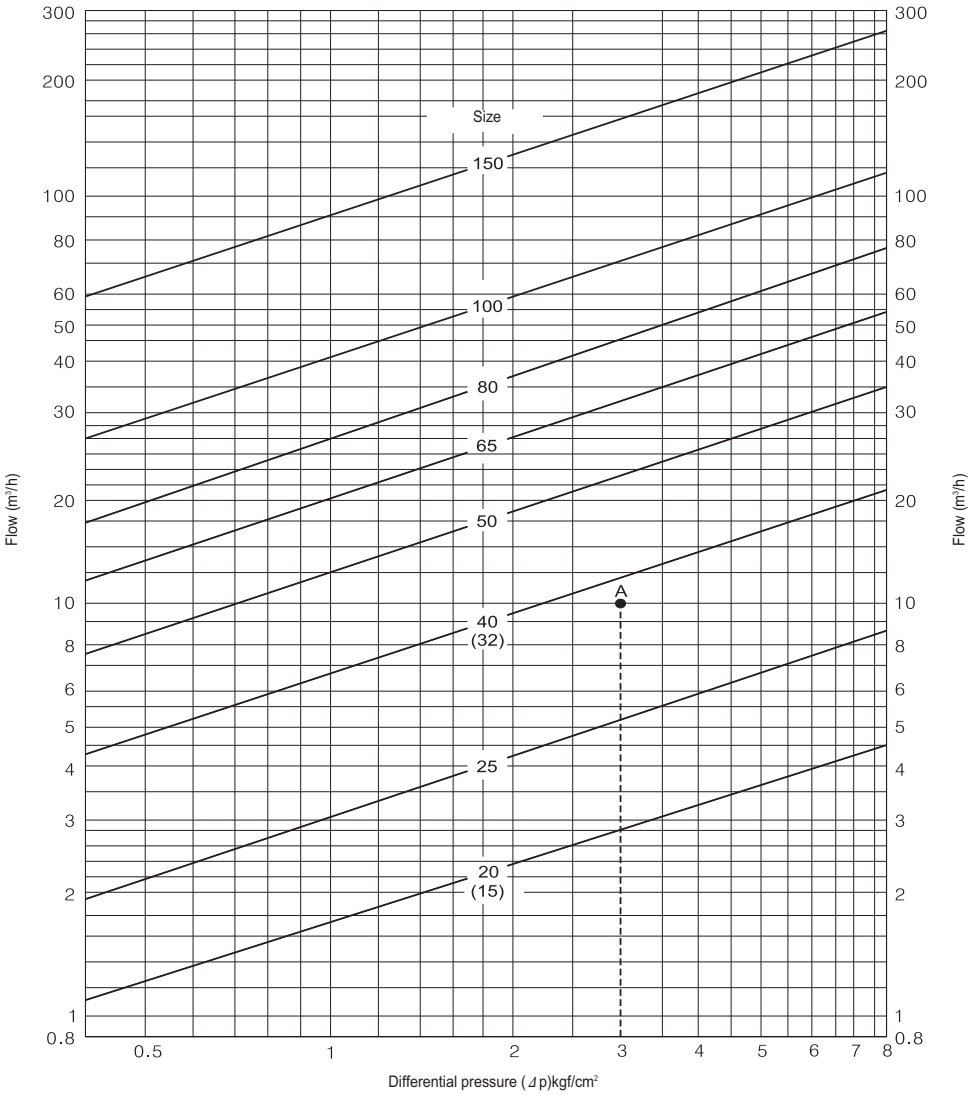
Screwed type (15-25A)



Flanged type (32-150A)

Type YPR-2A Pressure Reducing valve

■ Chart on selecting a size

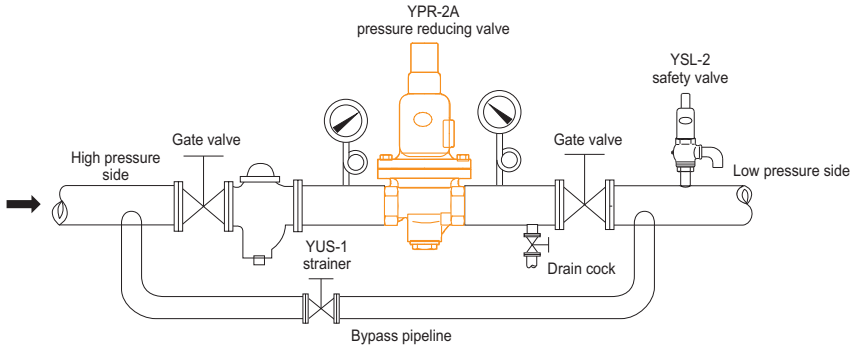


How to select the size of a valve by the chart

Example) If the primary pressure is 5 kgf/cm²g, secondary pressure is 2 kgf/cm²g, and flow is 10 cm³/h,

1) The differential pressure ($\Delta P=P_1-P_2$) between the primary pressure (5 kgf/cm²g) and secondary pressure (2 kgf/cm²g) is 3 kgf/cm².
2) Determine point "A" by vertically connecting the differential pressure (3 kgf/cm²) with the flow (10 cm³/h).
3) Now that "A" is in between a size of 25 and 40, a size of 40 should be selected.

■ Application Diagram (Example)



PRESSURE REDUCING VALVE

DESCRIPTION

TL Pressure Reducing Valve is designed for automatically reduce the pressure to a lower "preset pressure" and constant flow regardless of fluctuations of inlet pressure as long as the supply pressure does not drop below the preset pressure.
We recommend to install a self cleaning filter or Y-Strainer upstream before the pressure reducing valve in case of dirty fluids. It can be installed in horizontal or vertical

#TL-15/SS - CAST IRON/CF8

SPECIFICATION

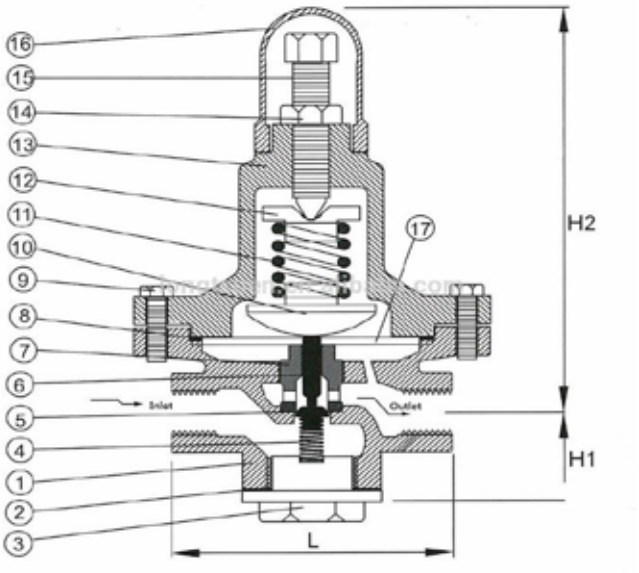
- Direct acting pressure reducing valve
- Max. inlet pressure 10bar
- Adjustable outlet pressure 1 to 4 bar
- Preset pressure at 3 bar
- Threaded end BSPT

APPLICATIONS

- Suitable for water steam and fluid compactible to the "Material of construction"
- Max. temperature 200°C

MATERIAL of construction

PART NAME	TL-15	TL-15SS
1. Body	Cast Iron	CF8
2. Gasket	Asbestos	Asbestos
3. Plug	Cast Iron	CF8
4. Spring	SUP-6	SUP-6
5. Knob	PTFE	PTFE
6. Stem	CF8	CF8
7. Guide	CF8	CF8
8. Gasket	Asbestos	Asbestos
9. Bolt	SS41	CF8
10. Knob	SS41	SS41
11. Spring	SUP-6	SUP-6
12. Holder	SS41	SS41
13. Cover	Cast Iron	CF8
14. Nut	SS41	CF8
15. Screw	SS41	CF8
16. Cap	Cast Iron	CF8
17. Diaphragm	AIS-301	AIS-301



DIMENSIONS (mm)

Size (inch)	1/2	3/4	1	1-1/4	1-1/2	2
DN	15	20	25	32	40	50
L	95	95	59	130	130	168
H1	55	55	55	72	72	90
H2	185	185	185	205	205	260
Weight (kg)	4	4.2	4.4	6.5	7	13

The specification and dimensions are subject to change without prior notice!

GD-45P·45

Features

1. Compact and lightweight.
2. Simple structure and easy maintenance.
3. Applicable to inlet pressure of up to 2.0 MPa.
4. A screen (60 mesh) is incorporated to protect the valve and valve seat from dirt.
5. Excellent workability accomplished by the external pressure type bellows of pressure sensing part.
6. Pressure adjustment is handle-operated without any tool (GD-45P).

GD-45P

GD-45

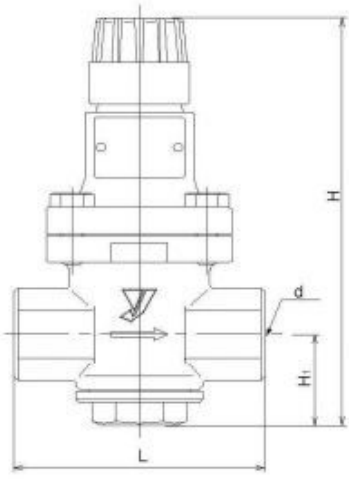
Specifications

Model		GD-45P·45
Application		Steam
Inlet pressure		2.0 MPa or less
Reduced pressure		(A) 0.02-0.1 MPa
		(B) 0.05-0.4 MPa
		(C) 0.35-1.0 MPa
Minimum differential pressure		0.05 MPa
Maximum pressure reduction ratio		10:1
Maximum temperature		220°C
Valve seat leakage		0.1% or less of rated flow rate
Material	Body	Ductile cast iron
	Valve, valve seat	Stainless steel
	Bellows	Phosphor bronze
Connection		JIS Rc screwed

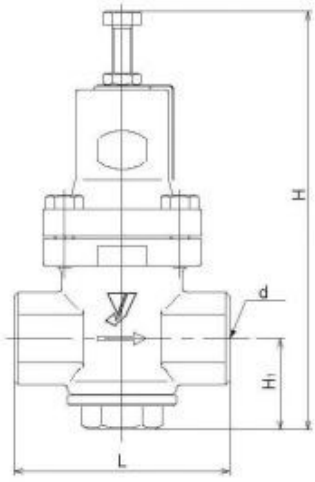
Dimensions (mm) and Weights (kg)

Nominal size	d	L	H_1	H	Weight
15A	Rc 1/2	111	47	213 (216)	3.2
20A	Rc 3/4	111	47	213 (216)	3.2
25A	Rc 1	111	47	213 (216)	3.2

• The above values in parentheses are the dimensions of the GD-45.

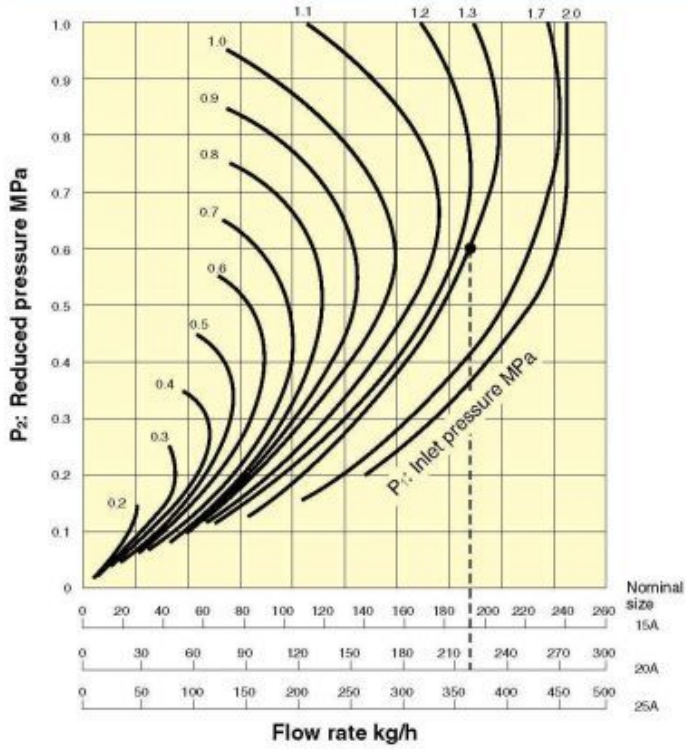


GD-45P



GD-45

Chart for Selecting Nominal Sizes



[Example]

When selecting the nominal size of a pressure reducing valve whose inlet pressure (P_1), reduced pressure (P_2), and flow rate are 1.3 MPa, 0.6 MPa, and 200 kg/h, respectively, first find the intersection point of the inlet pressure of 1.3 MPa and the reduced pressure of 0.6 MPa. Trace down vertically from this intersection point to find the nominal size with a flow rate of 200 kg/h or over. In this case, the nominal size is 20A.

• Set the safety factor at 80 to 90%.

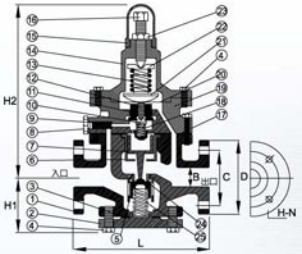
TL-12 / 12SS

Pressure Reducing Valve Full Port Flanged Ends

- Material: Cast Iron / ASTM A351-CF8
- Steam / Air
- Size: 1/2"~6" / 1/2"~4"

Working Condition

- Working pressure: 1-10 kg/cm^2
- Working temperature: 200°C
- Medium: Steam



Material list

NO	Parts name	TL-12	TL-12SS	NO	Parts name	TL-12	TL-12SS
1	Main body	Cast Iron	SUS 304	14	Top cover	Cast Iron	SUS 304
2	Bottom cover	Cast Iron	SUS 304	15	Top cap	Cast Iron	SUS 304
3	Gasket	Asbestos	Asbestos	16	Adjusting screw	SS41	SUS 304
4	Bolt	SS 41	SUS 304	17	Middle packing	Asbestos	Asbestos
5	Valve seat	CF8	CF8	18	Setral spring	SUS 304	SUS 304
6	Cylinder	CF8	CF8	19	Transit body	Cast Iron	SUS 304
7	Piston	CF8	CF8	20	Diaphragm disc	AIS-301	AIS-301
8	Strainer plug	SS 41	SUS 304	21	Spring knob	SS 41	SS 41
9	Screen	S.S.304	SUS 304	22	Spring holder	SS 41	SS 41
10	Spring knob	SUS 304	SUS 304	23	Positoning nut	SS 41	SUS304
11	Pin guide	SUS 304	SUS 304	24	Gasket	PTFE	PTFE
12	Floating pin	SUS 304	SUS 304	25	Lower spring	SUP-6	SUP-6
13	Upper spring	SUP-6	SUP-6				

JIS-10K Dimensions

UNIT : M/M

MM	INCH	L	L	D	C	B	H1	H2	H	N	KG
		C.I.	CF8								
15A	1/2"	155	158	95	70	15	74	260	15	4	10
20A	3/4"	155	158	100	75	20	74	260	15	4	10.5
25A	1"	165		125	90	25	74	260	19	4	11
32A	1 1/4"	195		135	100	32	99	280	19	4	16
40A	1 1/2"	195		140	105	40	99	280	19	4	17
50A	2"	225		155	120	50	116	310	19	4	24
65A	2 1/2"	250		175	140	65	125	322	19	4	31
80A	3"	290		185	150	80	135	325	19	8	37
100A	4"	330		210	175	100	153	370	19	8	50
125A	5"	410		250	210	125	195	540	23	8	98
150A	6"	410		280	240	150	195	540	23	8	105

GP-1000 Series

1.0/1.6 MPa | Steam | Air | Pressure reducing valve

GP-1000

- Pilot operated piston type
- Inlet pressure up to 1.6MPa (GP-1000H)
- Wetted parts stainless steel (GP-1□□□SS)
- All stainless steel (GP-1□□□AS)
- Air-loaded type (GP-1200 series)

Model	GP-1000
Application	Steam
Inlet pressure	0.1~1.0MPa {1~10kgf/cm²G}
Reduced pressure	0.05~0.9MPa {0.5~9kgf/cm²G}
Max. temperature	220℃
Connection	JIS 10K FF Flanged
Material	Body : Ductile cast iron
	Main valve & seat : Stainless steel
	Pilot valve & seat : Stainless steel
	Piston & Cylinder : Brass or bronze
Size	1/2"~4"

Model	GP-1000H
Application	Steam
Inlet pressure	0.1~1.6MPa {1~16kgf/cm²G}
Reduced pressure	(A) 0.05~0.9MPa {0.5~9kgf/cm²G}
	(B) 0.9~1.4MPa {9~14kgf/cm²G}
Max. temperature	220℃
Connection	JIS 16K FF Flanged
Material	Body : Ductile cast iron
	Main valve & seat : Stainless steel
	Pilot valve & seat : Stainless steel
	Piston & Cylinder : Stainless steel
Size	1/2"~4"

Model		GP-1000S	GP-1000SS	GP-1000AS	GP-1200	GP-1200S	GP-1200SS
Application		Steam					
Inlet pressure		0.1~1.0MPa {1.0~10kgf/cm²G}					
Reduced pressure		0.05~0.9MPa {0.5~9.0kgf/cm²G}					
Max. temperature		220℃					
Connection		JIS 10K FF flanged					
Material	Body	Ductile cast iron	Stainless steel		Ductile cast iron		Stainless steel
	Main valve & seat	Stainless steel					
	Pilot valve & seat	Stainless steel					
	Piston & cylinder	Stainless steel			Brass or bronze	Stainless steel	
Size		1/2"~4"					

Model		GP-1000T	GP-1000TS	GP-1000TSS	GP-1000TAS	GP-1200T	GP-1200TS	GP-1200TSS
Application		Air, Non-corrosive gases						
Inlet pressure		0.1~1.0MPa {1.0~10kgf/cm²G}						
Reduced pressure		0.05~0.9MPa {0.5~9.0kgf/cm²G}						
Max. temperature		80℃						
Connection		JIS 10K FF flanged						
Material	Body	Ductile cast iron		Stainless steel		Ductile cast iron		Stainless steel
	Main valve & seat	NBR & Stainless steel						
	Pilot valve & seat	NBR & Stainless steel						
	Piston & cylinder	Brass or bronze	Stainless steel			Brass or bronze	Stainless steel	
Size		1/2"~4"						

GP-2000 2.0 MPa Steam Pressure reducing valve

- Pilot operated diaphragm type
- Far superior capacity and performance
- Stable reduced pressure control
- Valve leakage meets ANSI class Ⅳ
- High reduction ratio (20 : 1)

Application	Steam
Inlet pressure	0.1~2.0MPa {1.0~20kgf/cm²G}
Reduced pressure	(A) 0.02~0.15MPa {0.2~1.5kgf/cm²G}
	(B) 0.1~1.4MPa {1.0~14kgf/cm²G}
Max. temperature	220℃
Connection	Scrd : JIS Rc(PT) screwed
	Flgd : JIS 20K RF, JIS 10K FF flanged
Material	Body : Ductile cast iron
	Main valve & seat : Stainless steel
	Pilot valve & seat : Stainless steel
	Diaphragm : Stainless steel
Size	Scrd : 1/2"~2"
	Flgd : 1/2"~8"

2.0 MPa Steam Air loaded pressure reducing valve

GDK-2000

- For remote control

GDK-2000 (Direct acting)

Application	Steam
Inlet pressure	0.1~2.0MPa {1.0~20kgf/cm²G}
Reduced pressure	0.05~1.4MPa {0.5~14kgf/cm²G}
Max. temperature	220℃
Connection	Scrd : JIS Rc(PT) screwed
	Flgd : JIS 20K RF, JIS 10K FF flanged
Material	Body : Ductile cast iron
	Valve & seat : Stainless steel
	Diaphragm : Stainless steel
Size	Scrd : 1/2"~2"
	Flgd : 1/2"~4"

GPK-2001,2003 (Pilot operated)

Model	GPK-2001	GPK-2003
Application	Steam	
Inlet pressure	0.1~2.0MPa {1.0~20kgf/cm²G}	0.25~2.0MPa {2.5~20kgf/cm²G}
Reduced pressure	0.05~0.9MPa {0.5~9kgf/cm²G}	0.2~1.4MPa {2~14kgf/cm²G}
Max. temperature	220℃	
Connection	Scrd : JIS Rc(PT) screwed	
	Flgd : JIS 20K RF, JIS 10K FF flanged	
Material	Body : Ductile cast iron	
	Valve & seat : Stainless steel	
	Diaphragm : Stainless steel	
Size	Scrd : 1/2"~2"	
	Flgd : 1/2"~4"	