

PRESSURE REDUCING VALVE

Type GP-1000,1000EN / Steam

YOSHITAKE



Pilot type

Internal sensing

With handle

Piston

Built-in strainer

Remote

FEATURES

1. Significantly improved workability and durability compared with conventional pressure reducing valves.
2. Spherical main valve offers great sealability and great reduction of valve seat leakage (compliant with ANSI Class IV).
3. Compliant with SHASE-S106 Pressure Reducing Valves (by the Society of Heating, Air-Conditioning and Sanitary Engineers of Japan).
4. Simple and robust internal structure.

DESCRIPTION OF GP-1000 SERIES MODEL CODE

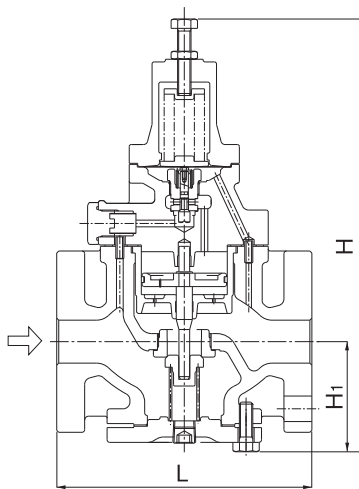
GP-1000 □

Material,
S: trim parts made of stainless steel,
SS: wetted parts made of stainless steel,
AS: all stainless steel

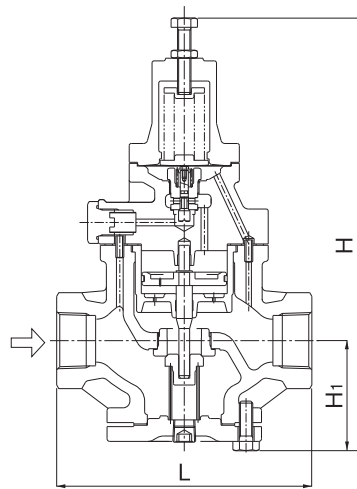
0: standard, 1: equipped with a handle,
2: for low pressure

0: flanged, 1: screwed

0: standard, 2: air loading type



GP-1000



GP-1010

DIMENSIONS (MM) AND WEIGHTS (KG)

· GP-1000					
Nominal size	L	H 1	H	Weight	
15A	150	64	285	8.0	
20A	155	64	285	8.5	
25A	160	67	300	10.0	
32A	190	82	323	14.0	
40A	190	82	323	14.5	
50A	220	93	347	20.0	
65A	245	100	357	30.0	
80A	290	122	404	35.0	
100A	330	144	450	52.5	

· GP-1010					
Nominal size	d	L	H 1	H	Weight
15A	Rc 1/2	150	64	285	7.0
20A	RC 3/4	155	64	285	7.0
25A	Rc 1	160	67	300	8.5
32A	Rc 1-1/4	190	82	323	12.0
40A	Rc 1-1/2	190	82	323	12.5
50A	Rc 2	220	93	347	18.0



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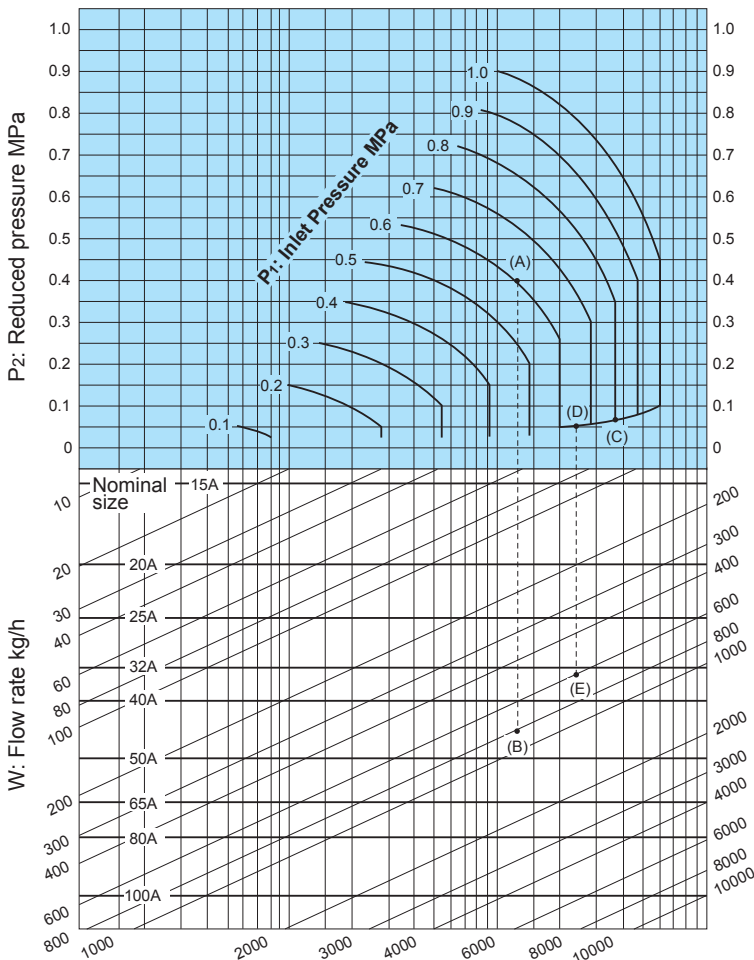
SPECIFICATIONS

For low pressure

Model		GP-1000 · 1001	GP-1002	GP-1010	GP-1200	GP-1210	GP-1000EN
Application		Steam					
Inlet pressure		0.1-1.0 MPa	0.1-0.5 MPa	0.1-1.0 MPa			
Reduced pressure		0.05-0.9 MPa	0.03-0.15 MPa	0.05-0.9 MPa			
		90% or less of inlet pressure (gauge pressure)					
Minimum differential pressure		0.05 MPa					
Maximum pressure reduction ratio		20:1					
Maximum temperature		220°C					
Valve seat leakage		0.01% or less of rated flow					
Material	Body	Ductile cast iron					
	Valve, valve seat	Stainless steel					
	Bellows	Brass or bronze					
Connection		JIS 10K FF flanged	JIS Rc screwed	JIS 10K FF flanged	JIS Rc screwed	EN PN16 flanged	

· Available with trim parts (piston and cylinder) made of stainless steel (GP-□□□□S).

NOMINAL SIZES SELECTION CHART (FOR STEAM)



[Example 1]

When selecting the nominal size of a pressure reducing valve whose inlet pressure (P1), reduced pressure (P2), and steam flow rate are 0.6 MPa, 0.4 MPa, and 800 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 800 kg/h. Since intersection point (B) lies between nominal sizes 40A and 50A, select the larger one, 50A.

[Example 2]

When selecting the nominal size of a pressure reducing valve whose inlet pressure (P1), reduced pressure (P2), and steam flow rate are 0.8 MPa, 0.05 MPa, and 600 kg/h, respectively, first find intersection point (C) of the inlet pressure of 0.8 MPa and the diagonal line. Trace down to the left from this intersection point to find intersection point (D) with the reduced pressure of 0.05 MPa. Trace down vertically from intersection point (D) to find intersection point (E) with the flow rate of 600 kg/h. Since intersection point (E) lies between nominal sizes 32A and 40A, select the larger one, 40A.

· Set the safety factor at 80 to 90%.

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GP-1000 FLOW RATE TABLE

(kg/h)

P ₁ (MPa)	P ₂ (MPa)	15A	20A	25A	32A	40A	50A	65A	80A	100A
1	0.05 *	92	212	369	600	831	1,478	2,310	3,326	5,913
	0.1-0.4	132	303	528	858	1,188	2,112	3,300	4,752	8,448
	0.5	127	292	508	825	1,143	2,033	3,176	4,574	8,132
	0.6	116	268	467	760	1,052	1,871	2,923	4,210	7,484
	0.7	104	239	416	676	936	1,664	2,601	3,745	6,659
	0.8	87	200	348	566	784	1,394	2,179	3,137	5,578
	0.9	63	145	252	410	568	1,010	1,578	2,273	4,042
0.9	0.1-0.4	120	276	480	780	1,080	1,920	3,000	4,320	7,680
	0.5	110	253	441	716	992	1,764	2,756	3,969	7,056
	0.6	98	226	393	639	885	1,574	2,460	3,543	6,299
	0.7	82	190	330	537	744	1,323	2,067	2,976	5,292
	0.8	60	138	240	390	540	961	1,501	2,162	3,844
0.8	0.1-0.3	108	248	432	702	972	1,728	2,700	3,888	6,912
	0.4	103	237	412	670	928	1,650	2,578	3,712	6,600
	0.5	92	212	369	600	832	1,479	2,311	3,328	5,916
	0.6	77	179	311	506	701	1,247	1,949	2,806	4,989
	0.7	56	130	227	369	511	909	1,420	2,045	3,636
0.7	0.1-0.3	96	220	384	624	864	1,536	2,400	3,456	6,144
	0.4	86	197	344	559	774	1,377	2,151	3,098	5,508
	0.5	72	167	291	474	656	1,166	1,823	2,625	4,667
	0.6	53	122	213	346	480	854	1,334	1,921	3,416
0.6	0.1-0.2	84	193	336	546	756	1,344	2,100	3,024	5,376
	0.3	79	182	316	514	712	1,266	1,979	2,850	5,067
	0.4	67	155	270	438	607	1,080	1,687	2,430	4,321
	0.5	49	114	198	322	447	795	1,242	1,788	3,180
0.5	0.1-0.2	72	165	288	468	648	1,152	1,800	2,592	4,608
	0.3	61	141	246	400	554	986	1,540	2,218	3,944
	0.4	45	105	182	297	411	731	1,142	1,645	2,925
0.4	0.1	60	138	240	390	540	960	1,500	2,160	3,840
	0.2	55	126	220	358	496	882	1,378	1,984	3,528
	0.3	41	95	165	268	372	661	1,033	1,488	2,646
0.3	0.1	48	110	192	312	432	768	1,200	1,728	3,072
	0.2	36	83	145	237	328	583	911	1,312	2,333
0.2	0.1	30	70	123	200	277	493	770	1,109	1,972
0.1	0.05	18	41	72	118	164	291	455	656	1,166

* When the inlet pressure is more than 0.7 MPa and the pressure reduction ratio is more than 10:1, calculate the corrected Cv value multiplying the rated Cv value by the correction factor C obtained from Fig.1.

