

For Steam Service

The GP-2000 is a high performance, externally piloted reducing valve for large capacity requirements. Typical use is on intermittent service, including applications such as heat exchangers, steam coils, rotating dryers, process equipment and heating systems.

With a 20:1 rangeability and high Cv, the GP-2000 is reliable and accurate ($\pm 1\%$ of pressure set point from 5% to 100% of flow) over a long, trouble-free service life. Hardened stainless steel working parts are renewable in-line. Single seated for dead-end service. Available with both BSPT (1/2" - 2") and flanged connections in DN15 - DN150 sizes.

Table PTC-261-1. GP-2000 Specifications

Application	Inlet Pressure (barg)	Reduced Pressure (barg)	Spring Color	Maximum Temperature (°C)	Minimum Differential (barg)	Materials				
						Body	Main Valve /Seat	Pilot Valve / Seat	Diaphragm	Color
Steam	1 - 20	0,1 - 0,2*	Yellow	232	0,5	Ductile Iron ASTM A536	Stainless Steel AISI 420	Stainless Steel AISI 301	Dark Gray	
		0,2 - 1,5	Yellow							
		1 - 14	Green							

* **Note:** When using this spring range, remove one (1) pilot diaphragm. Capacities are reduced by 1/2 of capacity chart when this spring is being used.

Table PTC-261-2. GP-2000 Dimensions and Weights

Size	Face-to-Face (L)		A	F	H Integral	H Remote	H ₁	H ₂	Weight		Cv
	BSPT	PN 25/40							BSPT	PN 25/40	
	mm	mm									
15 - 1/2"	150	150	200	176	398	362	170	244	14	16	5,0
20 - 3/4"	150	150	200	176	398	362	170	244	14	17	7,2
25 - 1"	160	160	226	180	404	367	175	254	19	23	10,9
32 - 1 1/4"	180	180	226	180	434	384	192	283	22	26	14,3
40 - 1 1/2"	180	200	226	180	434	384	192	283	22	26	18,8
50 - 2"	230	230	276	197	498	406	216	321	33	38	32,0
65 - 2 1/2"	—	290	352	211	552	440	251	375	—	67	60,0
80 - 3"	—	310	352	222	575	456	264	400	—	73	78,00
100 - 4"	—	350	401	240	658	511	321	489	—	114	120,0
150 - 6"	—	480	502	—	806	—	414	673	—	252	250,0

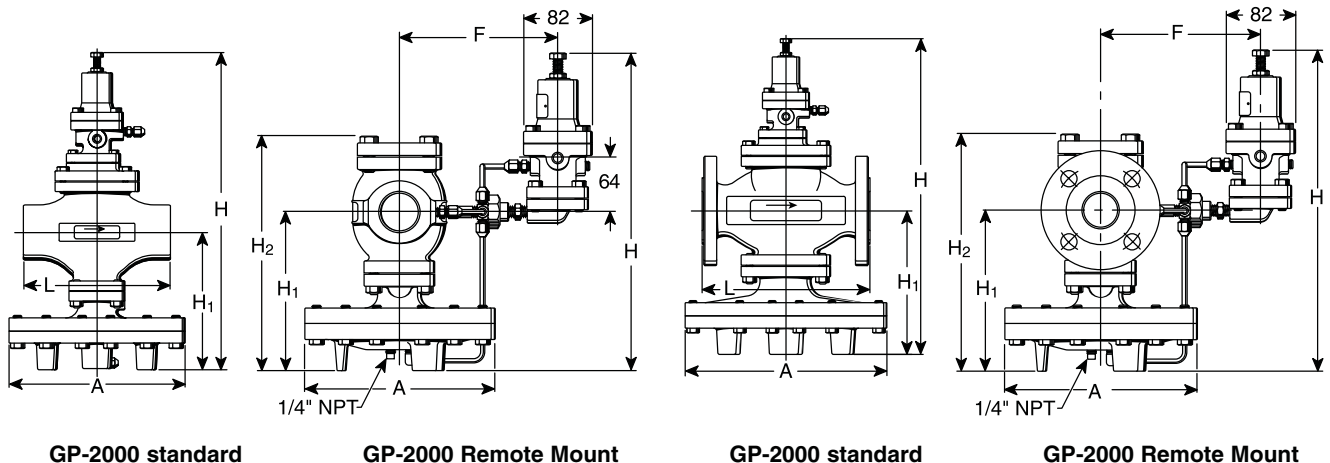
Shade indicates products that are CE Marked according to the PED (2014/68/UE). All the other sizes comply with the Article 4.3 of the same directive.

Note: DN150 valve is available in integral version only.

For capacities see page PTC-263.

External Sensing Line is not included as standard, but could be delivered on request. Internal Sensing Kit is also available.

Pressure sensing line size: 1/4"



All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.

For Steam Back Pressure Regulation

The GP-2000R is a high performance externally piloted throttling back pressure valve for large capacity applications. Typical applications would include those systems utilizing flash steam for low pressure heating or processes. The GP-2000R

valves will function to maintain a constant upstream pressure. This valve is not a safety valve and should not be used for that purpose.

Pressure and Temperature Controls

Table PTC-262-1. GP-2000R Specifications

Application	Inlet Pressure (barg)	Reduced Pressure (barg)	Spring Color	Maximum Temperature (°C)	Minimum Differential (barg)	Materials			
						Body	Main Valve / Seat	Pilot Valve / Seat	Diaphragm
Steam	1 - 14	*0,2 - 1,4	Yellow	232	0,2	Ductile Iron ASTM A536	Stainless Steel AISI 420	Stainless Steel AISI 301	Dark Gray
		1,4 - 11,0	Green						
		10,0 - 13,8	Brown						

Note: When using this spring range, remove one (1) pilot diaphragm. Capacities are reduced by 1/2 of capacity chart when this spring is being used.

Table PTC-262-2. GP-2000R Dimensions and Weights

Size	Face-to-Face (L)		A	F	H Integral	H Remote	H ₁	H ₂	Weight		Cv
	BSPT	PN 25/40							BSPT	PN 25/40	
	mm	mm									
15 - 1/2"	150	150	200	176	398	362	170	244	14	16	5,0
20 - 3/4"	150	150	200	176	398	362	170	244	14	17	7,2
25 - 1"	160	160	226	180	404	367	175	254	19	23	10,9
32 - 1 1/4"	180	180	226	180	434	384	192	283	22	26	14,3
40 - 1 1/2"	180	200	226	180	434	384	192	283	22	26	18,8
50 - 2"	230	230	276	197	498	406	216	321	33	38	32,0
65 - 2 1/2"	—	290	352	211	552	440	251	275	—	67	60,0
80 - 3"	—	310	352	222	575	456	264	400	—	73	78,0
100 - 4"	—	350	401	240	658	511	321	489	—	114	120,0
150 - 6"	—	480	502	—	806	—	692	405	—	252	250,0

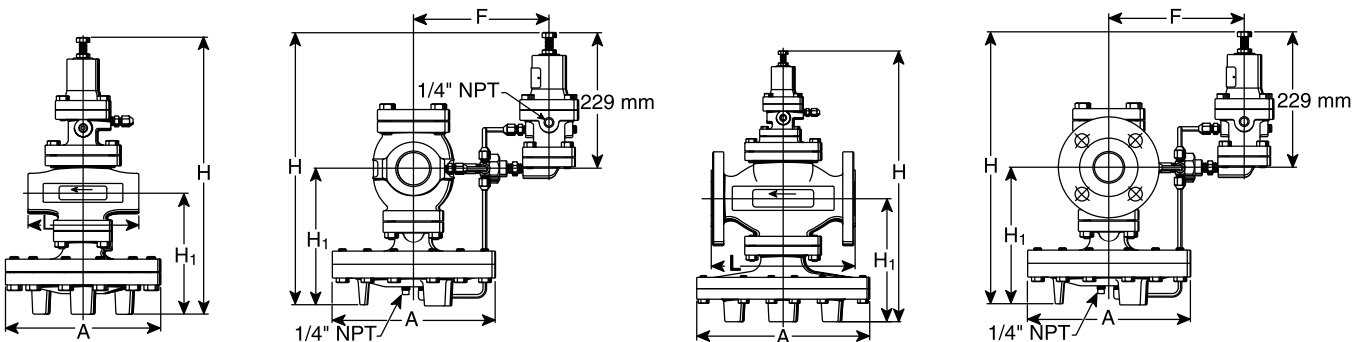
Shade indicates products that are CE Marked according to the PED (2014/68/UE). All the other sizes comply with the Article 4.3 of the same directive.

Note: DN150 valve is available in integral version only, but is not CE Marked.

For capacities see page PTC-263.

External Sensing Line is not included as standard, but could be delivered on request. Internal Sensing Kit is also available.

Pressure sensing line size: 1/4"



GP-2000R standard

GP-2000R Remote Mount

GP-2000R standard

GP-2000R Remote Mount

All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.

GP-2000, GP-2000K-1, 3 & 6, GD-2000K, GP-2000R



Capacities for Steam

Table PTC-263-1. GP-2000, GP2000K-1, GP2000K-3, GP2000K-6, GD-2000K, GP-2000R Capacities for Steam (kg/h)

Inlet Pressure (barg)	Outlet Pressure (barg)	Connection Size (inches or mm)									
		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
		15	20	25	32	40	50	65	80	100	150
1	0,5	89	128	194	255	335	571	1 071	1 392	2 142	4 465
	1	101	145	220	289	380	648	1 215	1 580	2 430	5 063
1,5	0,2	146	210	318	418	549	936	1 755	2 282	3 510	7 313
	1,5	111	161	243	320	420	716	1 343	1 745	2 686	5 597
2	0,2 - 0,5	175	252	382	501	659	1 123	2 105	2 737	4 210	8 769
	2,5	130	188	284	373	491	836	1 568	2 038	3 136	6 536
3	0,2 - 1,0	234	336	510	669	879	1 497	2 808	3 651	5 616	11 691
	3	202	291	441	579	761	1 296	2 430	3 159	4 860	10 125
4	0,2 - 1,5	292	421	637	836	1 099	1 872	3 510	4 563	7 020	14 614
	4	223	322	487	640	841	1 432	2 685	3 493	5 370	11 194
5	3	301	434	658	863	1 134	1 931	3 621	4 709	7 242	15 093
	0,5 - 2	351	505	765	1 003	1 319	2 246	4 211	5 475	8 422	17 537
	5	243	350	530	695	914	1 557	2 919	3 795	5 838	12 169
6	3,5	361	521	788	1 035	1 360	2 316	4 342	5 645	8 684	18 096
	0,5 - 2,5	409	589	892	1 171	1 539	2 620	4 913	6 386	9 826	20 460
	5,5	314	453	686	900	1 183	2 014	3 776	4 909	7 552	15 740
7	4	421	606	918	1 205	1 584	2 697	5 059	6 574	10 118	21 077
	0,5 - 3,0	468	673	1 020	1 338	1 759	2 995	5 615	7 300	11 230	23 383
	6,5	335	483	732	960	1 262	2 149	4 030	5 238	8 060	16 790
8	5	452	652	987	1 295	1 702	2 897	5 434	7 062	10 868	22 640
	0,5 - 3,5	526	758	1 147	1 505	1 979	3 369	6 319	8 214	12 638	26 306
	8,5	374	538	815	1 070	1 407	2 395	4 493	5 840	8 986	18 715
10	7	509	733	1 110	1 457	1 916	3 261	6 114	7 949	12 228	25 481
	0,5 - 4,5	643	926	1 402	1 840	2 419	4 118	7 721	10 038	15 442	32 151
	10	467	673	1 019	1 337	1 758	2 992	5 612	7 295	11 224	23 383
12	8	633	911	1 380	1 810	2 380	4 052	7 597	9 877	15 194	31 660
	1,0 - 5,5	760	1 095	1 657	2 175	2 859	4 867	9 126	11 863	18 252	37 997
	11,5	559	805	1 220	1 600	2 104	3 581	6 714	8 731	13 428	27 984
14	9	754	1 086	1 645	2 158	2 837	4 829	9 056	11 771	18 112	37 734
	1,0 - 6,5	877	1 263	1 912	2 509	3 299	5 616	10 530	13 689	21 060	43 843
	12,5	579	834	1 263	1 657	2 179	3 709	6 956	9 043	13 912	28 984
15	10	784	1 129	1 709	2 242	2 948	5 019	9 441	12 233	18 822	39 214
	1,0 - 7,0	936	1 347	2 040	2 676	3 519	5 990	11 231	14 600	22 462	46 765
	14	730	1 052	1 593	2 090	2 748	4 677	8 771	11 403	17 542	36 545
17,5	12	888	1 279	1 936	2 540	3 340	5 686	10 661	13 860	21 322	44 423
	1,0 - 8,0	1 082	1 558	2 359	3 095	4 069	6 926	12 986	16 882	25 972	54 113
	14	992	1 428	2 162	2 837	3 729	6 348	11 904	15 476	23 808	49 602
20	12	1 113	1 603	2 426	3 183	4 185	7 124	13 358	17 365	26 716	55 662
	1,0 - 9,5	1 228	1 769	2 678	3 513	4 619	7 862	14 741	19 164	29 482	61 380

Note: Maximum pressure reduction 20:1, except for GD-2000K (10:1).
Minimum pressure reduction is 85% of inlet pressure.

Pressure and Temperature Controls

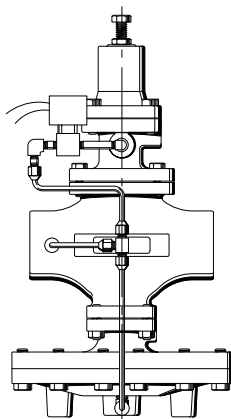
External Pilot Solenoid Operated Valves

The GP-2000 On/Off option allows for remote shutoff of pressure reducing valves. Automatic shutoff during power failures and shutoff based on set points of pressure, temperature or liquid levels of process fluids. This option is available as an accessory item or may be factory installed on any of the GP-2000 Series valves. The GP-2000 On/Off is designed for a maximum pressure of 10 barg and a maximum temperature of 186°C, coil: 220V standard. Available with normally open or normally closed solenoid valves.

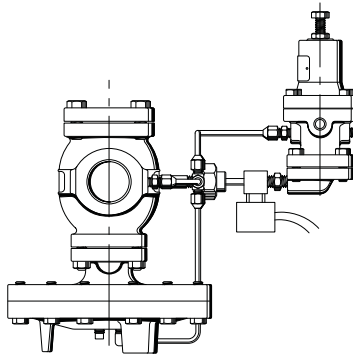
Non-Electric Gradient Monitoring Option

(Between Water and Steam Pressure)

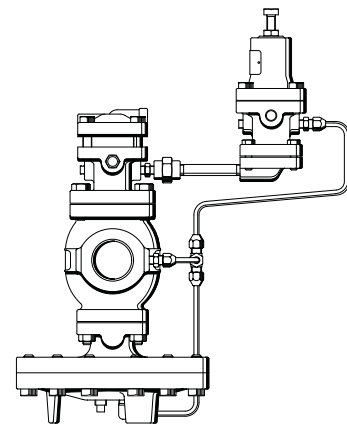
The GP-2000W1P provides a safe and dependable shutdown of steam when the water pressure falls or drops rapidly on a constant pressure, steam-to-water exchanger. Unlike a solenoid option that shuts the steam down when the water pressure drops below a pre-set point, the GP-2000W1P always maintains a constant steam pressure until water pressure drops to within 0,2 barg above the steam pressure. Lower water pressure will cause the steam pressure to fall, thereby maintaining a minimum 0,2 barg difference. This will allow the exchanger to produce hot water even when water pressure is low, and ensures that steam pressure will stay functional as long as water pressure is above 0,2 barg.



GP-2000, GP-2000R



GP-2000 Remote Mount



GP-2000W1P

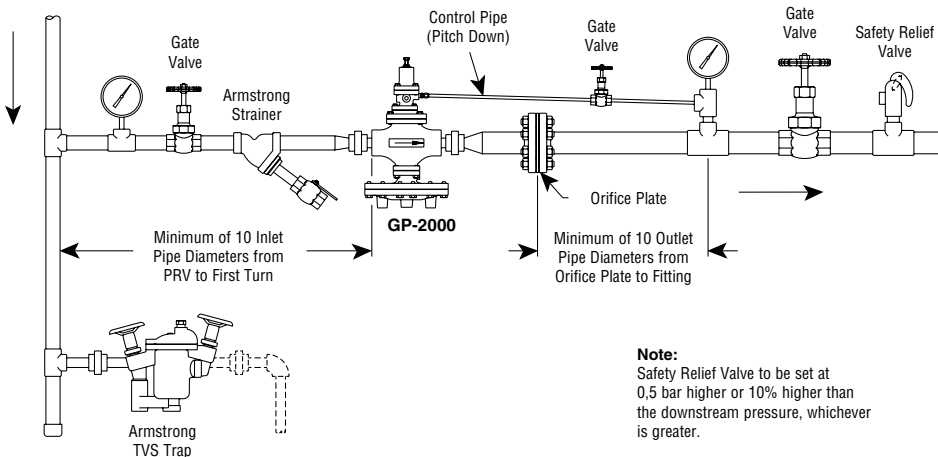
Noise Treatment

OSHA has established limits on the length of time any employee may be exposed to various sound levels. A sound level of 85 DbA or less is the acceptable standard for noise levels through a PRV in most applications. Certain facilities may require much less. Please consult Armstrong PRV Sizing Software or contact your local Representative for DbA levels for each application.

For DbA levels above 85 you can offer a 2" thick insulation cover for thermal conductivity and noise attenuation, a muffling orifice plate to reduce the velocity through the PRV, or a combination of both. A muffling orifice plate consists of a 1/4" thick stainless steel plate installed between mating ANSI flanges. The orifice plate is installed in

the enlarged piping downstream of the pressure regulator. Each orifice plate is engineered for specific applications to maximize noise reduction without reducing regulator capacity.

Consult Factory Representative for muffling orifice plate size and pricing.



Note:
Safety Relief Valve to be set at 0,5 bar higher or 10% higher than the downstream pressure, whichever is greater.



Insulation Cover



Muffling Orifice Plate