

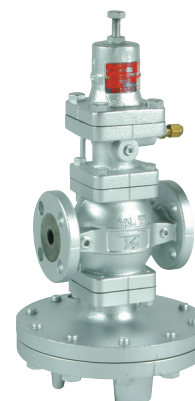
GP-2000

Features

1. Large-size diaphragm and external sensing method control reduced pressure more stably.
2. Since the Cv value is high, flow capability and control capability are significantly improved, one or two sizes smaller than the regular nominal size can be applied.
3. Spherical main valve offers great sealability and great reduction of valve seat leakage (compliant with ANSI Class IV).
4. Pressure management at low pressure (0.02 MPa or less) is possible.



Screwed type



Flanged type

Specifications

| Model | | GP-2000 | | |
|----------------------------------|------------------|--|--------------------|--------------------|
| Application | | Steam | | |
| Reduced pressure sensing method | | External sensing *1 | | |
| Inlet pressure | | 0.1-2.0 MPa | | 0.1-1.0 MPa |
| Reduced pressure | | 0.02-0.15 MPa *2 | | 0.02-0.15 MPa *2 |
| | | 0.1-1.4 MPa | | 0.1-0.85 MPa |
| | | 85% 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 | | |
| | Main valve | Stainless steel | | |
| | Valve seat | Stainless steel | | |
| | Pilot valve | Stainless steel | | |
| | Pilot valve seat | Stainless steel | | |
| Diaphragm | | Stainless steel | | |
| Reduced pressure sensing pipe | | Copper pipe ϕ 8-2 m | | |
| Connection | | JIS Rc screwed | JIS 20K RF flanged | JIS 10K FF flanged |

*1 External sensing is standard. Available with internal sensing type (nominal size: 15A to 100A) in different specifications. Note that Cv value of internal sensing type is lower than that of external sensing type.

*2 Available with the GP-2000L, reduced pressure of 0.01 to 0.02 MPa, from 15A to 100A, inlet pressure of 0.1 to 0.5 MPa and maximum pressure reduction of 50:1.

- Available with external pilot type.
- Available with ASME or EN flanged.

Dimensions (mm) and Weights (kg)

●Screwed type

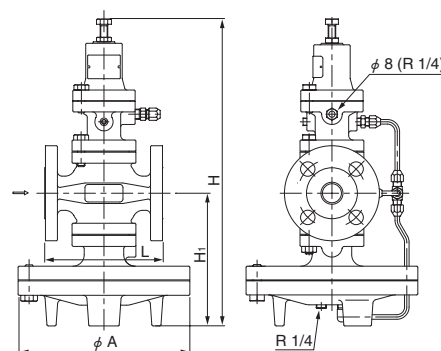
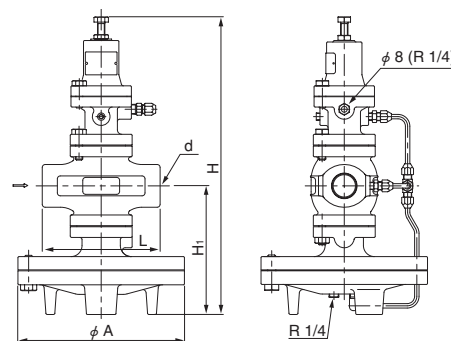
| Nominal size | d | L | H ₁ | H | A | Weight |
|--------------|----------|-----|----------------|-----|-----|--------|
| 15A | Rc 1/2 | 150 | 170 | 398 | 200 | 14.0 |
| 20A | Rc 3/4 | 150 | 170 | 398 | 200 | 14.0 |
| 25A | Rc 1 | 160 | 175 | 404 | 226 | 18.5 |
| 32A | Rc 1-1/4 | 180 | 192 | 434 | 226 | 21.5 |
| 40A | Rc 1-1/2 | 180 | 192 | 434 | 226 | 21.5 |
| 50A | Rc 2 | 230 | 216 | 498 | 276 | 33.0 |

- Available with NPT connection.

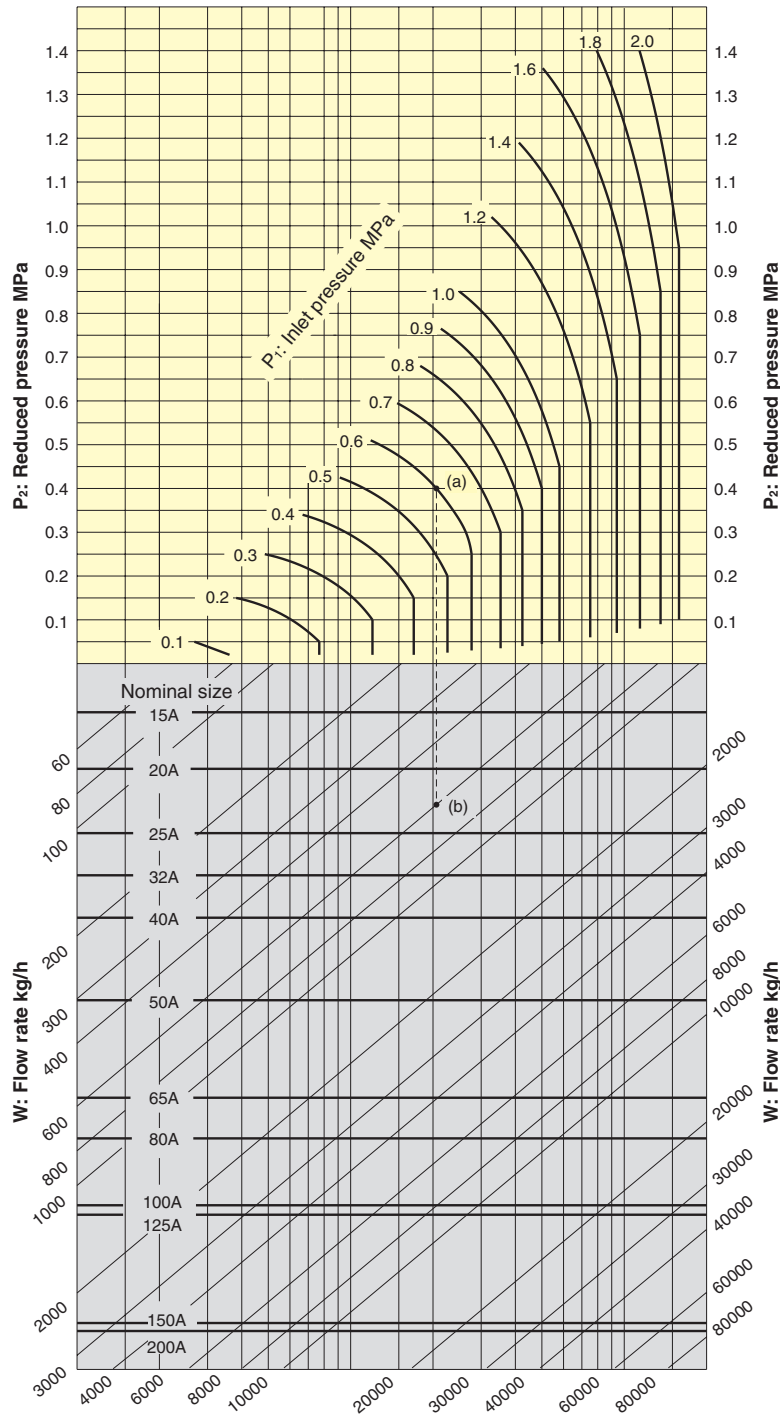
●Flanged type (JIS 20K RF)

| Nominal size | L | H ₁ | H | A | Weight |
|--------------|-----------|----------------|-----|-----|---------------|
| 15A | 146 (142) | 170 | 398 | 200 | 15.5 (15.3) |
| 20A | 146 (142) | 170 | 398 | 200 | 16.0 (15.8) |
| 25A | 156 (152) | 175 | 404 | 226 | 21.0 (20.6) |
| 32A | 176 (172) | 192 | 434 | 226 | 24.0 (23.6) |
| 40A | 196 (192) | 192 | 434 | 226 | 24.5 (24.1) |
| 50A | 222 (218) | 216 | 498 | 276 | 36.0 (35.8) |
| 65A | 282 (278) | 251 | 552 | 352 | 64.5 (64.2) |
| 80A | 302 (294) | 264 | 575 | 352 | 71.5 (68.8) |
| 100A | 342 (330) | 321 | 658 | 401 | 111.0 (106.9) |
| 125A | 400 (388) | 321 | 658 | 401 | 115.0 (112.0) |
| 150A | 465 (453) | 414 | 814 | 502 | 234.3 (230.0) |
| 200A | 469 (469) | 414 | 814 | 502 | 242.0 (238.0) |

- The above values in parentheses are the dimensions of JIS 10K FF flanged.



Nominal Sizes Selection Chart (For Steam/External Sensing)

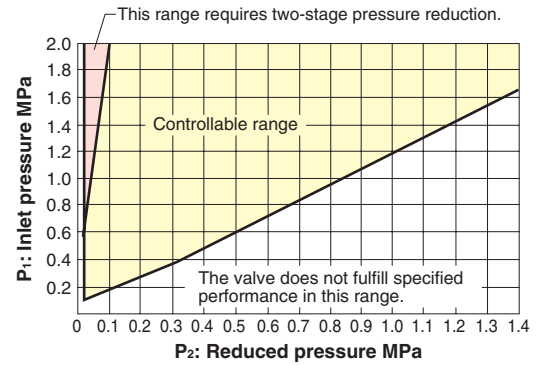


[Example]

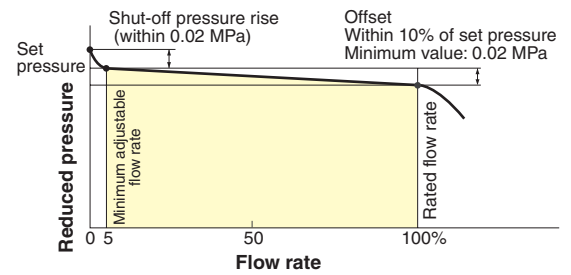
When selecting the nominal size of a pressure reducing valve whose inlet pressure (P₁), reduced pressure (P₂), and flow rate are 0.6 MPa, 0.4 MPa, and 600 kg/h, respectively, first find intersection point (a) of the inlet pressure of 0.6 MPa and the reduced pressure of 0.4 MPa. Trace down vertically from this intersection point to find intersection point (b) with the flow rate of 600 kg/h. Since intersection point (b) lies between nominal sizes 20A and 25A, select the larger one, 25A.

- Set the safety factor at 80 to 90%.

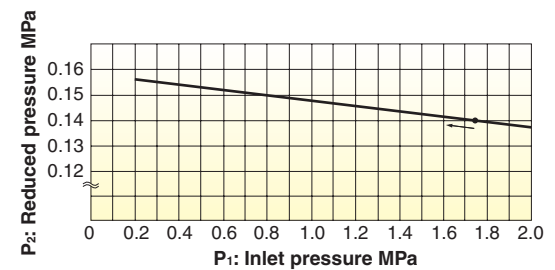
Specifications Selection Chart



Flow Characteristic Chart



Pressure Characteristic Chart



This chart shows a variation in the reduced pressure when the inlet pressure of 1.75 MPa is changed between the range from 0.2 MPa to 2.0 MPa with the reduced pressure set at 0.14 MPa.

GP-2000 Flow Rate Table

(kg/h)

| P ₁ (MPa) | P ₂ (MPa) | 15A | 20A | 25A | 32A | 40A | 50A | 65A | 80A | 100A | 125A | 150A | 200A |
|----------------------|----------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| 2.0 | 0.1-0.9 | 1,260 | 1,814 | 2,746 | 3,603 | 4,737 | 8,064 | 15,120 | 19,656 | 30,240 | 31,500 | 63,000 | 65,520 |
| | 1 | 1,232 | 1,775 | 2,687 | 3,525 | 4,634 | 7,889 | 14,792 | 19,230 | 29,584 | 30,817 | 61,635 | 64,100 |
| | 1.2 | 1,136 | 1,636 | 2,477 | 3,250 | 4,273 | 7,273 | 13,637 | 17,729 | 27,275 | 28,412 | 56,824 | 59,097 |
| | 1.4 | 1,012 | 1,458 | 2,207 | 2,896 | 3,808 | 6,481 | 12,153 | 15,799 | 24,306 | 25,319 | 50,638 | 52,664 |
| 1.8 | 0.1-0.8 | 1,140 | 1,641 | 2,485 | 3,260 | 4,286 | 7,296 | 13,680 | 17,784 | 27,360 | 28,500 | 57,000 | 59,280 |
| | 0.9 | 1,113 | 1,603 | 2,426 | 3,183 | 4,185 | 7,125 | 13,359 | 17,367 | 26,718 | 27,832 | 55,664 | 57,890 |
| | 1 | 1,067 | 1,537 | 2,327 | 3,053 | 4,014 | 6,832 | 12,810 | 16,653 | 25,621 | 26,688 | 53,377 | 55,512 |
| | 1.2 | 954 | 1,374 | 2,081 | 2,730 | 3,590 | 6,111 | 11,458 | 14,895 | 22,916 | 23,871 | 47,742 | 49,652 |
| | 1.4 | 803 | 1,157 | 1,751 | 2,298 | 3,021 | 5,143 | 9,643 | 12,536 | 19,287 | 20,090 | 40,181 | 41,788 |
| 1.6 | 0.1-0.7 | 1,020 | 1,468 | 2,223 | 2,917 | 3,835 | 6,528 | 12,240 | 15,912 | 24,480 | 25,500 | 51,000 | 53,040 |
| | 1 | 893 | 1,286 | 1,947 | 2,554 | 3,358 | 5,716 | 10,718 | 13,933 | 21,436 | 22,329 | 44,659 | 46,445 |
| | 1.3 | 664 | 956 | 1,448 | 1,900 | 2,498 | 4,253 | 7,974 | 10,366 | 15,949 | 16,613 | 33,227 | 34,556 |
| 1.4 | 0.1-0.6 | 900 | 1,296 | 1,962 | 2,574 | 3,384 | 5,760 | 10,800 | 14,040 | 21,600 | 22,500 | 45,000 | 46,800 |
| | 1 | 702 | 1,011 | 1,531 | 2,009 | 2,642 | 4,497 | 8,433 | 10,962 | 16,866 | 17,568 | 35,137 | 36,543 |
| | 1.1 | 620 | 893 | 1,352 | 1,773 | 2,331 | 3,969 | 7,442 | 9,675 | 14,884 | 15,504 | 31,009 | 32,250 |
| 1.2 | 0.1-0.5 | 780 | 1,123 | 1,700 | 2,230 | 2,932 | 4,992 | 9,360 | 12,168 | 18,720 | 19,500 | 39,000 | 40,560 |
| | 1 | 477 | 687 | 1,040 | 1,365 | 1,795 | 3,055 | 5,729 | 7,447 | 11,458 | 11,935 | 23,871 | 24,826 |
| 1.0 | 0.1-0.4 | 660 | 950 | 1,438 | 1,887 | 2,481 | 4,224 | 7,920 | 10,296 | 15,840 | 16,500 | 33,000 | 34,320 |
| | 0.5 | 635 | 914 | 1,385 | 1,817 | 2,388 | 4,066 | 7,623 | 9,911 | 15,247 | 15,883 | 31,766 | 33,036 |
| | 0.8 | 435 | 627 | 950 | 1,246 | 1,638 | 2,789 | 5,229 | 6,798 | 10,459 | 10,895 | 21,791 | 22,663 |
| 0.9 | 0.1-0.4 | 600 | 864 | 1,308 | 1,716 | 2,256 | 3,840 | 7,200 | 9,360 | 14,400 | 15,000 | 30,000 | 31,200 |
| | 0.5 | 551 | 793 | 1,201 | 1,576 | 2,072 | 3,528 | 6,615 | 8,600 | 13,230 | 13,782 | 27,564 | 28,666 |
| | 0.7 | 413 | 595 | 901 | 1,182 | 1,554 | 2,646 | 4,961 | 6,450 | 9,923 | 10,336 | 20,673 | 21,500 |
| 0.8 | 0.1-0.3 | 540 | 777 | 1,177 | 1,544 | 2,030 | 3,456 | 6,480 | 8,424 | 12,960 | 13,500 | 27,000 | 28,080 |
| | 0.5 | 462 | 665 | 1,007 | 1,322 | 1,738 | 2,958 | 5,547 | 7,211 | 11,094 | 11,556 | 23,113 | 24,037 |
| 0.7 | 0.1-0.3 | 480 | 691 | 1,046 | 1,372 | 1,804 | 3,072 | 5,760 | 7,488 | 11,520 | 12,000 | 24,000 | 24,960 |
| | 0.5 | 364 | 525 | 794 | 1,042 | 1,371 | 2,333 | 4,375 | 5,688 | 8,751 | 9,115 | 18,231 | 18,961 |
| 0.6 | 0.1-0.2 | 420 | 604 | 915 | 1,201 | 1,579 | 2,688 | 5,040 | 6,552 | 10,080 | 10,500 | 21,000 | 21,840 |
| | 0.3 | 395 | 570 | 862 | 1,132 | 1,488 | 2,533 | 4,750 | 6,175 | 9,500 | 9,896 | 19,793 | 20,584 |
| | 0.5 | 248 | 357 | 541 | 710 | 934 | 1,590 | 2,981 | 3,875 | 5,963 | 6,211 | 12,423 | 12,919 |
| 0.5 | 0.1-0.2 | 360 | 518 | 784 | 1,029 | 1,353 | 2,304 | 4,320 | 5,616 | 8,640 | 9,000 | 18,000 | 18,720 |
| | 0.3 | 308 | 443 | 671 | 881 | 1,158 | 1,972 | 3,698 | 4,807 | 7,396 | 7,704 | 15,408 | 16,025 |
| | 0.4 | 228 | 329 | 498 | 653 | 859 | 1,462 | 2,742 | 3,565 | 5,485 | 5,713 | 11,427 | 11,884 |
| 0.4 | 0.05-0.15 | 300 | 432 | 654 | 858 | 1,128 | 1,920 | 3,600 | 4,680 | 7,200 | 7,500 | 15,000 | 15,600 |
| | 0.3 | 206 | 297 | 450 | 591 | 777 | 1,323 | 2,480 | 3,225 | 4,961 | 5,168 | 10,336 | 10,750 |
| 0.3 | 0.05-0.1 | 240 | 345 | 523 | 686 | 902 | 1,536 | 2,880 | 3,744 | 5,760 | 6,000 | 12,000 | 12,480 |
| | 0.2 | 182 | 262 | 397 | 521 | 685 | 1,166 | 2,187 | 2,844 | 4,375 | 4,557 | 9,115 | 9,480 |
| 0.2 | 0.05 | 180 | 259 | 392 | 515 | 677 | 1,152 | 2,160 | 2,808 | 4,320 | 4,500 | 9,000 | 9,360 |
| | 0.1 | 154 | 221 | 335 | 440 | 579 | 986 | 1,849 | 2,403 | 3,698 | 3,852 | 7,704 | 8,012 |
| 0.1 | 0.05 | 91 | 131 | 198 | 260 | 342 | 583 | 1,093 | 1,422 | 2,187 | 2,278 | 4,557 | 4,740 |