

Masoneilan™ 41005 Series

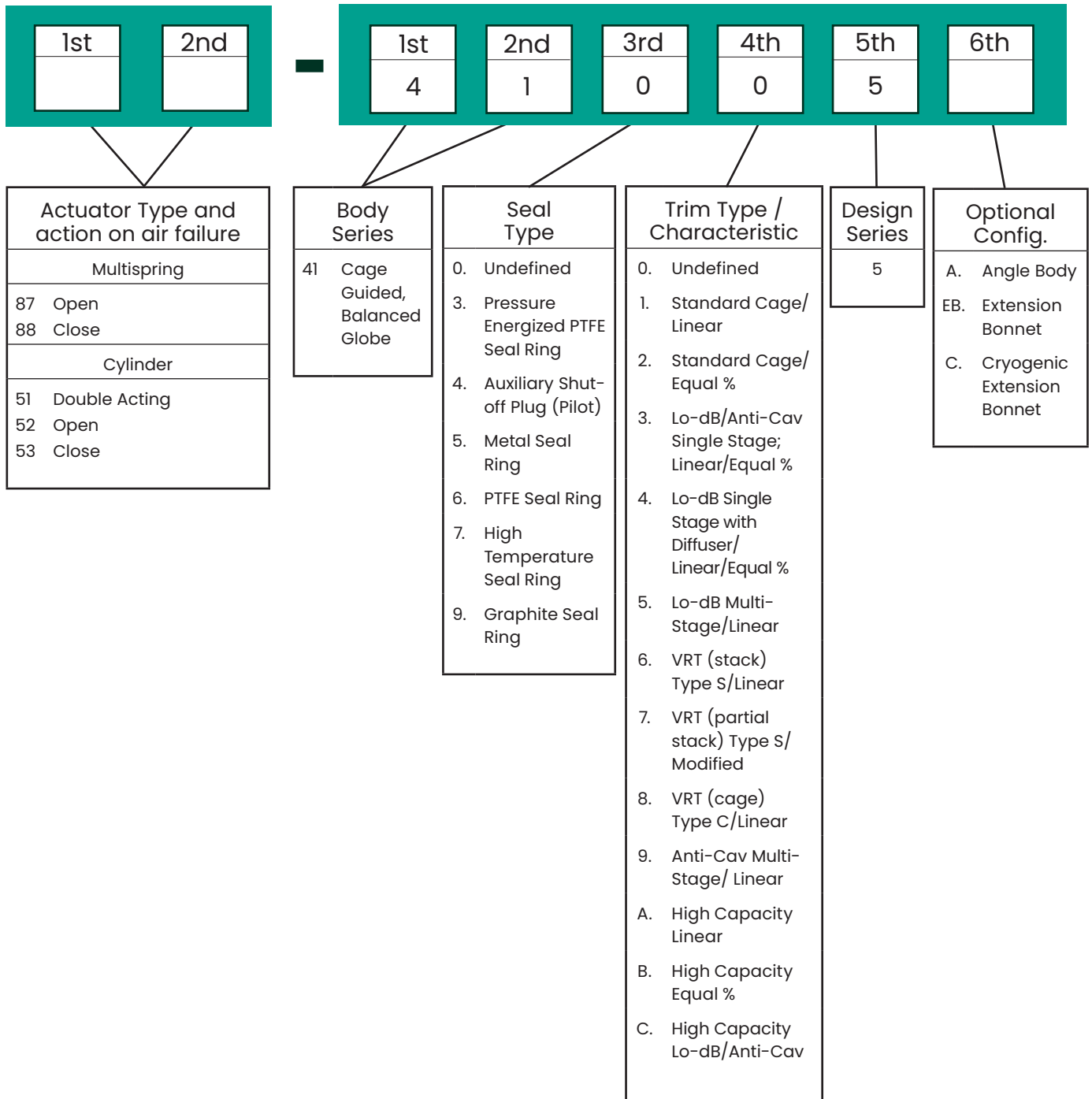
Complete Line of Rugged,
Cage-Guided, Globe
Valves with *Lo-dB™*
and Anti-Cavitation
Capabilities.



Table of Contents

| | |
|--|-------|
| Numbering System | 3 |
| Ratings / Connections..... | 4 |
| Seal Type vs. Temperature Range /Seat Leakage..... | 5 |
| Seal Type vs Trim Type..... | 5 |
| C _v and F _L Versus Travel..... | 6-16 |
| Body S/A Construction..... | 17-18 |
| Materials of Construction..... | 19-22 |
| Trim Types..... | 23 |
| Seal Ring Construction..... | 24-25 |
| Materials of Construction..... | 26-29 |
| Dimensions (inches)..... | 30-32 |
| Dimensions (mm) | 33-35 |
| Weights | 36-38 |
| Options..... | 38 |

Numbering System



Engineered trim options are also available for high temperature and high pressure drop applications. Please consult factory for details.

Ratings / Connections

 Threaded
  Socket Weld
  Butt Weld
  RF & RTJ

| Valve Size | | ASME Class 150 to 1500 and equivalent PN | | | | ASME Class 2500 and equivalent PN | | |
|-------------------|---------|---|---|---|---|--------------------------------------|---|---|
| inch | mm | | | | | | | |
| 2 | 50 | ■ | ● | □ | ○ | ■ | ● | □ |
| 3 | 80 | ■ | | □ | | ■ | | □ |
| 4 | 100 | ■ | | □ | | ■ | | □ |
| 6 ⁽¹⁾ | 150 | ■ | | □ | | ■ | | □ |
| 8 ⁽¹⁾ | 200 | ■ | | □ | | ■ | | □ |
| 10 ⁽¹⁾ | 250 | ■ | | □ | | ■ | | □ |
| 12 ⁽¹⁾ | 300 | ■ | | □ | | ■ | | □ |
| 14 ⁽³⁾ | 350 | ■ | | □ | | | | |
| 16 ⁽²⁾ | 400 | ■ | | □ | | ■ | | |
| 18 ⁽¹⁾ | 450 | ■ | | □ | | | | |
| 20 ⁽⁴⁾ | 500 | ■ | | □ | | | | |
| 24 ⁽⁵⁾ | 600 | ■ | | □ | | | | |
| 3x2 | 80x50 | ■ | | □ | | ■ | | □ |
| 4x2 | 100x50 | ■ | | □ | | ■ | | □ |
| 4x3 | 100x80 | ■ | | □ | | | | |
| 6x3 | 150x80 | ■ | | □ | | | | |
| 6x4 | 150x100 | ■ | | □ | | | | |
| 8x4 | 200x100 | ■ | | □ | | | | |
| 8x6 | 200x150 | ■ | | □ | | | | |
| 10x6 | 250x150 | ■ | | □ | | | | |
| 10x8 | 250x200 | ■ | | □ | | | | |
| 12x8 | 300x200 | ■ | | □ | | | | |
| 16x12 | 400x300 | ■ | | □ | | | | |

- 6" through 12" + 18" High Capacity designs available in ASME Class 150 to 600 only. 20" and 24" High Capacity designs available in ASME Class 150 to 300 only.
- 16" ASME Class 2500 available in Butt Weld end connections only. 16" High Capacity design is available in ASME Class 600 only.
- 14" ASME Class limited to 1500. There is no 14" size in High Capacity design.
- 20" available in ASME Classes 150 to 900 only.
- 24" available in ASME Classes 150 to 600 only.
- Angle body versions are available in 2" to 6" in ASME Classes 150 to 1500 with Raised Face and RTJ Flanged end connections only.
- Consult Baker Hughes for DIN and special end connections and unlisted constructions.

Seal Type vs Temperature Range/Seat Leakage

| Valve Model | Seal Type | Valve Size | | Temperature Range ⁽¹⁾ | | | | Seat Leakage per IEC 534-4 and ASME / FCI 70.2 Class |
|-------------|---|-----------------------|-----------|----------------------------------|--------|---------------------------|------------------|--|
| | | inches | mm | Minimum | | Maximum | | |
| 41305 | Pressure Energized PTFE Seal Ring | 2 - 24 | 50 - 600 | -148°F | -100°C | +450°F | +232°C | IV (standard) V (optional) |
| | | 2 - 12 ⁽²⁾ | 50 - 300 | | | +575°F | +302°C | |
| 41405 | Auxiliary Pilot Plug with Metal Seal Ring | 2 | 50 | -320°F | -196°C | +1050°F | +566°C | IV (standard) V (optional) |
| | | 3 - 4 | 80 - 100 | | | +800°F | +427°C | |
| | | 6 - 18 | 150 - 450 | | | +1050°F | +566°C | |
| 41505 | Metal Seal Ring | 2 | 50 | -320°F | -196°C | +1050°F | +566°C | II |
| | | 3 - 4 | 80 - 100 | | | +800°F | +427°C | II |
| | | 6 - 18 | 150 - 450 | | | +1050°F | +566°C | III |
| | | 20 & 24 | 500 & 600 | | | -51°F | -46°C | +650°F |
| 41605 | PTFE Seal Ring | 2 - 24 | 50 - 600 | -20°F | -29°C | +300°F | +149°C | IV |
| 41705 | High Temperature Seal Ring | 4 | 100 | -20°F | -29°C | +800°F | +427°C | V |
| | | 6 - 12 | 150 - 300 | | | FTO +850°F FTC +1050°F | +454°C +566°C | |
| 41905 | Graphite Seal Ring | 2 | 50 | -320°F | -196°C | +1050°F | +566°C | III |
| | | 3 - 4 | 80 - 100 | | | +800°F | +427°C | |
| | | 6 - 18 | 150 - 450 | | | +850°F | +454°C | IV |
| | | 20 & 24 | 500 & 600 | | | -51°F | -46°C | |

1. See Materials of Construction Tables for other temperature limitations.

2. Pressure Energized PTFE Seal w/ backup rings for 2-12" up to 575°F (302°C)

Seal Type vs Trim Type

| Model No. | 413X5 | 414X5 ^(1 & 4) | 415X5 | 416X5 | 417X5 ⁽⁷⁾ | 419X5 |
|--|--|---|---------------------------|---------------------------|----------------------------|---------------------------|
| Trim Type | Seal Type | | | | | |
| | Pressure Energized PTFE Seal Ring | Auxiliary Pilot Plug with Metal Seal Ring | Metal Seal Ring | PTFE Seal Ring | High Temperature Seal Ring | Graphite Seal Ring |
| Standard Trim 41X15/41X25 | 41315/41325 FTO or FTC ⁽²⁾ | 41415/41425 FTC | 41515/41525 FTO or FTC | 41615/41625 FTO or FTC | 41715/41725 FTO or FTC | 41915/41925 FTO or FTC |
| Lo-dB Single Stage 41X35 | 41335 FTO | 41435 FTC | 41535 FTO | 41635 FTO | 41735 FTO | 41935 FTO |
| Anti-Cavitation, Single Stage 41X35 | 41335 FTC | 41435 FTC | 41535 FTC | 41635 FTC | 41735 FTC | 41935 FTC |
| Lo-dB Single Stage with Internal Diffuser 41X45 ⁽³⁾ | - | 41445 FTC | - | - | - | - |
| Lo-dB Multi-Stage 41X55 | 41355 FTO | - | 41555 FTO | 41655 FTO | 41755 FTO | 41955 FTO |
| High Pressure Anti-Cavitation VRT | 41365 ⁽⁵⁾ 41375 ⁽⁶⁾ | - | - | - | - | - |
| Anti-Cavitation, Multi-Stage 41X95 | 41395 FTC | - | 41595 FTC | 41695 FTC | 41795 FTC | 41995 FTC |

1. Flow direction for Pilot Plug Seal configuration is always FTC.

2. Seal ring must be installed in correct orientation relative to high pressure direction.

3. Flow direction with Internal Diffuser is always FTC.

4. 41405 is not available in 20" or 24" sizes.

5. 41365 available in 8", 10" and 12" sizes.

6. 41375 available in 3" to 10".

7. 41705 available in 4" to 12". 4" size is limited to 800 F for both FTO and FTC.

Cv and FL Versus Travel

Standard Trim

Models: 41315, 41415⁽¹⁾, 41515, 41615, 41715 and 41915

Flow Characteristic: LINEAR

| Percent of Travel FL | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | | | | | | | | | | | | | | |
|-------------------------|---------|------------------------------|------------------|------|--------------------|---------------------|----------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | | | | | | 0.94 | 0.94 | 0.93 | 0.93 | 0.92 | 0.92 | 0.91 | 0.91 | 0.90 | 0.90 | | | | | | | | | | | | | | |
| Valve Size | | ASME CLASS and Equivalent PN | Orifice Diameter | | Travel | | Rated Cv | | | | | | | | | | | | | | | | | | | | | | | |
| inches | mm | | in. | mm | in. | mm | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 50 | 900-1500-2500 | 1.84 | 46.7 | 0.8 | 20.3 | 1.4 | 2.7 | 4.2 | 6 | 8 | 10 | 12.5 | 14 | 15.5 | 16 | | | | | | | | | | | | | | |
| | | | | | | | 2 | 4.9 | 8.3 | 13 | 19 | 25 | 30 | 35 | 38 | 40 | | | | | | | | | | | | | | |
| 2 | 50 | 150-600 | 2.5 | 63.5 | 1.5 | 38.1 | 2.7 | 5.1 | 7.9 | 11 | 15 | 19 | 23 | 26 | 29 | 30 | | | | | | | | | | | | | | |
| 3x2 ⁽²⁾ | 80x50 | 150-1500 | | | | | 4 | 9 | 15 | 24 | 35 | 47 | 57 | 65 | 71 | 75 | | | | | | | | | | | | | | |
| 4x2 | 100x50 | 2500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 80 | 2500 | 3.5 | 88.9 | 2 | 50.8 | 5 | 10 | 16 | 22 | 30 | 38 | 46 | 52 | 58 | 60 | | | | | | | | | | | | | | |
| 4x3 | 100x80 | 150-1500 | | | | | 8 | 19 | 31 | 50 | 73 | 96 | 118 | 135 | 147 | 155 | | | | | | | | | | | | | | |
| 6x3 | 150x80 | 2500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 100 | 2500 | 4.38 | 111 | 2 | 50.8 | 9 | 16 | 25 | 35 | 48 | 60 | 72 | 83 | 91 | 95 | | | | | | | | | | | | | | |
| 6x4 | 150x100 | 150-1500 | | | | | 12 | 29 | 48 | 77 | 113 | 149 | 182 | 209 | 228 | 240 | | | | | | | | | | | | | | |
| 8x4 | 200x100 | 2500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 150 | 2500 | 5.12 | 130 | 0.8 ⁽³⁾ | 20.3 ⁽³⁾ | 7 | 15 | 28 | 41 | 58 | 74 | 94 | 117 | 144 | 165 | | | | | | | | | | | | | | |
| 8x6 | 200x150 | 150-1500 | | | | | 2 | 50.8 | 20 | 52 | 92 | 148 | 204 | 260 | 308 | 348 | 376 | 400 | | | | | | | | | | | | |
| 10x6 | 250x150 | 2500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 200 | 2500 | 6.5 | 165 | 1.5 | 38.1 | 17 | 37 | 71 | 104 | 145 | 187 | 237 | 295 | 361 | 415 | | | | | | | | | | | | | | |
| 10x8 | 250x200 | 150-1500 | | | | | 2.5 | 36.5 | 32 | 83 | 147 | 237 | 326 | 416 | 493 | 557 | 602 | 640 | | | | | | | | | | | | |
| 12x8 | 300x200 | 2500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 2500 | 2500 | 8 | 203 | 1.5 | 38.1 | 20 | 46 | 87 | 128 | 179 | 230 | 291 | 362 | 444 | 510 | | | | | | | | | | | | | | |
| 12 | 300 | 2500 | | | | | 3 | 76.2 | 50 | 130 | 230 | 370 | 510 | 650 | 770 | 870 | 940 | 1000 | | | | | | | | | | | | |
| 16 | 400 | 150-1500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 400 | 150-1500 | 9.75 | 248 | 2 | 50.8 | 31 | 69 | 131 | 193 | 270 | 347 | 439 | 547 | 670 | 770 | | | | | | | | | | | | | | |
| | | | | | | | 16x12 | 400x300 | 3.75 | 95.3 | 70 | 182 | 322 | 518 | 714 | 910 | 1078 | 1218 | 1316 | 1400 | | | | | | | | | | |
| | | | | | | | 16 | 400 | | | | | | | | | | | | | 2500 | | | | | | | | | |
| 14 | 350 | 150-1500 | 11.55 | 293 | 2.5 | 63.5 | 15 | 97 | 195 | 304 | 413 | 528 | 643 | 757 | 872 | 980 | | | | | | | | | | | | | | |
| | | | | | | | 4 | 102 | 57 | 216 | 391 | 573 | 756 | 935 | 1106 | 1262 | 1399 | 1520 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 5 | 127 | 105 | 330 | 573 | 822 | 1064 | 1288 | 1486 | 1654 | 1792 | 1900 |
| 16 | 400 | 150-1500 | 13 | 330 | 2.5 | 63.5 | 51 | 128 | 211 | 320 | 448 | 576 | 730 | 922 | 1114 | 1280 | | | | | | | | | | | | | | |
| | | | | | | | 4 | 102 | 104 | 268 | 464 | 744 | 1024 | 1304 | 1544 | 1720 | 1880 | 2000 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 5 | 127 | 130 | 335 | 580 | 930 | 1280 | 1630 | 1930 | 2150 | 2350 | 2500 |
| 18 | 450 | 150-1500 | 14.5 | 368 | 3.5 | 88.9 | 84 | 217 | 376 | 603 | 829 | 1056 | 1251 | 1393 | 1523 | 1620 | | | | | | | | | | | | | | |
| | | | | | | | 5 | 127 | 120 | 310 | 536 | 859 | 1183 | 1506 | 1783 | 1987 | 2171 | 2310 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 7 | 178 | 168 | 434 | 752 | 1205 | 1659 | 2112 | 2501 | 2786 | 3046 | 3110 |
| 20 | 500 | 150-900 | 19 | 483 | 4 | 102 | 79 | 422 | 790 | 1158 | 1517 | 1860 | 2182 | 2481 | 2753 | 3000 | | | | | | | | | | | | | | |
| | | | | | | | 6 | 152 | 244 | 792 | 1343 | 1866 | 2342 | 2762 | 3124 | 3431 | 3688 | 3900 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 9 | 229 | 524 | 1356 | 2103 | 2724 | 3219 | 3604 | 3907 | 4147 | 4342 | 4500 |
| 24 | 600 | 150-600 | 23 | 584 | 4 | 102 | 114 | 608 | 1138 | 1668 | 2187 | 2688 | 3161 | 3604 | 4011 | 4300 | | | | | | | | | | | | | | |
| | | | | | | | 6 | 152 | 345 | 1115 | 1892 | 2635 | 3321 | 3933 | 4468 | 4928 | 5320 | 5600 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 9 | 229 | 703 | 1832 | 2871 | 3765 | 4499 | 5094 | 5569 | 5952 | 6265 | 6500 |
| | | | | | | | | | | | | | | | | | | | 11 | 279 | 964 | 2327 | 3511 | 4460 | 5191 | 5749 | 6180 | 6519 | 6793 | 7000 |

1. Model 41415 is not available in 20" and 24" sizes.
2. Ex. 3x2 size = valve with 3" body with standard 2" trim.
3. Travel of 1.5 inches (38.1 mm) for 41405.

CV and FL Versus Travel

Balanced Trim

Models: 413A5, 415A5, 416A5 and 419A5 Series

Flow Characteristic: LINEAR, High Capacity

| Percent of Travel | | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|-------------------|-----|------------------------------|------------------|-----|--------|------|-----------|----------|------|------|------|------|------|------|------|------|------|
| FL | | | | | | | | 0.94 | 0.94 | 0.93 | 0.93 | 0.92 | 0.92 | 0.91 | 0.91 | 0.90 | 0.90 |
| Valve Size | | ASME CLASS and Equivalent PN | Orifice Diameter | | Travel | | Flow Dir. | Rated CV | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | |
| 6 | 150 | 150-600 | 6.5 | 165 | 2.5 | 63.5 | FTC | 67 | 123 | 185 | 246 | 303 | 353 | 396 | 430 | 454 | 469 |
| | | | | | | | FTO | 71 | 132 | 197 | 262 | 323 | 377 | 423 | 458 | 485 | 501 |
| 8 | 200 | 150-600 | 8 | 203 | 3.5 | 88.9 | FTC | 109 | 202 | 303 | 403 | 497 | 580 | 649 | 705 | 745 | 770 |
| | | | | | | | FTO | 125 | 231 | 346 | 461 | 568 | 663 | 742 | 805 | 851 | 880 |
| 10 | 250 | 150-600 | 9.57 | 243 | 3.5 | 88.9 | FTC | 153 | 283 | 424 | 564 | 695 | 812 | 909 | 986 | 1042 | 1078 |
| | | | | | | | FTO | 174 | 322 | 482 | 642 | 791 | 923 | 1034 | 1122 | 1186 | 1226 |
| 12 | 300 | 150-600 | 10.75 | 273 | 5.5 | 140 | FTC | 145 | 290 | 435 | 580 | 725 | 870 | 1015 | 1160 | 1305 | 1450 |
| | | | | | | | FTO | 151 | 303 | 454 | 605 | 757 | 908 | 1059 | 1210 | 1362 | 1513 |
| 16 | 400 | 600 | 14.4 | 366 | 6 | 152 | FTC | 356 | 660 | 989 | 1316 | 1622 | 1893 | 2121 | 2301 | 2432 | 2515 |
| | | | | | 6.15 | 156 | FTO | 397 | 735 | 1101 | 1465 | 1806 | 2107 | 2361 | 2562 | 2707 | 2800 |
| 18 | 450 | 150-600 | 16.89 | 429 | 7.5 | 191 | FTO | 296 | 789 | 1322 | 1870 | 2293 | 2600 | 2939 | 3081 | 3374 | 3430 |
| | | | | | | | FTC | 299 | 913 | 1419 | 1954 | 2445 | 2878 | 3201 | 3471 | 3610 | 3705 |
| 20 | 508 | 150-300 | 23 | 584 | 11 | 279 | FTC | 540 | 1082 | 1622 | 2163 | 2704 | 3245 | 3786 | 4326 | 4867 | 5408 |
| | | | | | | | FTO | 571 | 1142 | 1714 | 2285 | 2856 | 3425 | 4000 | 4570 | 5140 | 5712 |
| 24 | 609 | 150-300 | 27 | 686 | 12 | 305 | FTC | 1205 | 2233 | 3345 | 4450 | 5483 | 6400 | 7170 | 7780 | 8220 | 8500 |
| | | | | | | | FTO | 1177 | 2180 | 3266 | 4345 | 5354 | 6248 | 7000 | 7595 | 8030 | 8000 |

CV and FL Versus Travel

Standard Trim

Models: 41325, 41425¹, 41525, 41625, 41725 and 41925

Flow Characteristic: EQUAL PERCENTAGE

| Percent of Travel | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | | |
|--------------------------------|---------------------------|------------------------------|------------------|------|--------|------|----------------------|------|------|------|------|------|------|------|------|------|------|--|
| F _L | | | | | | | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.93 | 0.92 | 0.92 | 0.92 | 0.90 | |
| Valve Size | | ASME CLASS and Equivalent PN | Orifice Diameter | | Travel | | Rated C _V | | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | | |
| 2 | 50 | 900-1500-2500 | 1.84 | 46.7 | 0.8 | 20.3 | 0.2 | 0.4 | 0.8 | 1.3 | 2.1 | 3.8 | 6.7 | 10 | 12 | 14 | | |
| | | | | | | | 0.5 | 1.1 | 2 | 3.2 | 5.2 | 9.5 | 17 | 25 | 31 | 35 | | |
| 2 3x2 ⁽²⁾ 4x2 | 50 80x50 100x50 | 150-600 | 2.5 | 63.5 | 1.5 | 38.1 | 0.3 | 0.8 | 1.5 | 2.3 | 4 | 7 | 12 | 18 | 23 | 26 | | |
| 3 | 80 | 2500 | | | | | 0.8 | 2 | 4 | 6 | 10 | 18 | 31 | 46 | 58 | 65 | | |
| 3 4x3 6x3 | 80 100x80 150x80 | 150-1500 | 3.5 | 88.9 | 2 | 50.8 | 0.7 | 1.7 | 3 | 5 | 8 | 15 | 27 | 39 | 50 | 56 | | |
| 4 | 100 | 2500 | | | | | 1.8 | 4 | 8 | 13 | 21 | 38 | 67 | 100 | 124 | 140 | | |
| 4 6x4 8x4 | 100 150x100 200x100 | 150-1500 | 4.38 | 111 | 2 | 50.8 | 1.2 | 3 | 5 | 8 | 13 | 24 | 43 | 64 | 81 | 90 | | |
| 6 | 150 | 2500 | | | | | 3 | 7 | 13 | 20 | 33 | 61 | 107 | 160 | 200 | 225 | | |
| 6 8x6 10x6 | 150 200x150 250x150 | 150-1500 | 5.12 | 130 | 2 | 50.8 | 4 | 8 | 15 | 24 | 35 | 54 | 80 | 108 | 130 | 144 | | |
| 8 | 200 | 2500 | | | | | 9 | 21 | 39 | 60 | 87 | 135 | 200 | 269 | 326 | 360 | | |
| 8 10x8 12x8 | 200 250x200 300x200 | 150-1500 | 6.5 | 165 | 2.5 | 63.5 | 6 | 14 | 25 | 39 | 56 | 86 | 128 | 172 | 208 | 230 | | |
| 10 | 250 | 2500 | | | | | 14 | 34 | 62 | 97 | 140 | 215 | 320 | 430 | 521 | 575 | | |
| 10 | 250 | 150-1500 | 8 | 203 | 3 | 76.2 | 9 | 21 | 39 | 60 | 87 | 135 | 200 | 269 | 326 | 360 | | |
| 12 | 300 | 2500 | | | | | 23 | 53 | 97 | 151 | 219 | 337 | 500 | 672 | 815 | 900 | | |
| 12 16x12 | 400 400x300 | 150-1500 | 9.75 | 248 | 3.75 | 95.3 | 13 | 30 | 54 | 84 | 122 | 187 | 278 | 374 | 453 | 500 | | |
| 16 | 400 | 2500 | | | | | 32 | 75 | 136 | 212 | 306 | 471 | 700 | 941 | 1142 | 1260 | | |
| 14 | 350 | 150-1500 | 11.5 | 292 | 5 | 127 | 17 | 28 | 43 | 62 | 93 | 139 | 196 | 286 | 469 | 680 | | |
| | | | | | | | 38 | 116 | 202 | 321 | 511 | 789 | 1099 | 1357 | 1553 | 1700 | | |
| 16 | 400 | 150-1500 | 13 | 330 | 5 | 127 | 22 | 53 | 97 | 151 | 219 | 337 | 500 | 672 | 815 | 900 | | |
| | | | | | | | 56 | 133 | 243 | 378 | 547 | 842 | 1251 | 1681 | 2038 | 2250 | | |
| 18 | 450 | 150-1500 | 14.5 | 368 | 3.5 | 127 | 29 | 69 | 125 | 195 | 282 | 434 | 645 | 867 | 1051 | 1160 | | |
| | | | | | 7 | 178 | 72 | 171 | 313 | 487 | 705 | 1085 | 1612 | 2167 | 2627 | 2784 | | |
| 20 | 500 | 150-900 | 19 | 483 | 4 | 102 | 12 | 82 | 162 | 257 | 386 | 589 | 854 | 1119 | 1375 | 1620 | | |
| | | | | | 9 | 229 | 75 | 218 | 404 | 656 | 981 | 1426 | 2109 | 2944 | 3596 | 4050 | | |
| 24 | 600 | 150-600 | 23 | 584 | 6 | 152 | 39 | 139 | 249 | 386 | 574 | 852 | 1256 | 1694 | 2118 | 2520 | | |
| | | | | | 11 | 279 | 133 | 344 | 572 | 1005 | 1608 | 2406 | 3553 | 4814 | 5692 | 6300 | | |

1. Model 41425 is not available in 20" and 24" sizes.
2. Ex. 3x2 size = valve with 3" body with standard 2" trim.

Cv and FL Versus Travel

Balanced Trim

Models: 413B5, 415B5, 416B5 and 419B5 Series

Flow Characteristic: EQUAL PERCENT, High Capacity

| | | | | | | | | Percent of Travel | | | | | | | | | | |
|------------|-----|------------------------------|------------------|-----|--------|------|-----------|-------------------|------|------|------|------|------|------|------|------|------|------|
| | | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
| | | | | | | | | FL | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.93 | 0.92 | 0.92 | 0.90 |
| Valve Size | | ASME CLASS and Equivalent PN | Orifice Diameter | | Travel | | Flow Dir. | Rated Cv | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | | |
| 6 | 150 | 150-600 | 6.5 | 165 | 2.5 | 63.5 | FTC | 20 | 32 | 53 | 85 | 131 | 191 | 261 | 331 | 394 | 437 | |
| | | | | | | | FTO | 21 | 34 | 56 | 90 | 139 | 201 | 275 | 349 | 415 | 461 | |
| 8 | 200 | 150-600 | 8 | 203 | 3.5 | 88.9 | FTC | 51 | 79 | 124 | 189 | 277 | 383 | 494 | 595 | 670 | 707 | |
| | | | | | | | FTO | 63 | 97 | 152 | 232 | 340 | 470 | 607 | 731 | 822 | 869 | |
| 10 | 250 | 150-600 | 9.57 | 243 | 4 | 102 | FTC | 48 | 78 | 127 | 204 | 315 | 458 | 624 | 793 | 942 | 1047 | |
| | | | | | | | FTO | 55 | 90 | 148 | 237 | 365 | 531 | 724 | 920 | 1093 | 1215 | |
| 12 | 300 | 150-600 | 10.75 | 273 | 5.5 | 140 | FTC | 143 | 286 | 429 | 572 | 715 | 858 | 1001 | 1144 | 1287 | 1430 | |
| | | | | | | | FTO | 108 | 166 | 260 | 399 | 584 | 805 | 1040 | 1253 | 1410 | 1490 | |
| 16 | 400 | 600 | 14.4 | 366 | 7 | 178 | FTC | 178 | 275 | 431 | 660 | 956 | 1333 | 1721 | 2074 | 2334 | 2466 | |
| | | | | | | | FTO | 190 | 293 | 458 | 701 | 1027 | 1418 | 1831 | 2206 | 2483 | 2623 | |
| 18 | 450 | 150-600 | 16.89 | 429 | 7.5 | 191 | FTC | 66 | 188 | 348 | 558 | 969 | 1509 | 2158 | 2621 | 2801 | 2976 | |
| | | | | | | | FTO | 70 | 195 | 360 | 599 | 997 | 1591 | 2339 | 2957 | 3431 | 3661 | |
| 20 | 508 | 150-300 | 23 | 584 | 11 | 279 | FTC | 117 | 273 | 507 | 780 | 1131 | 1755 | 2600 | 3497 | 4238 | 4680 | |
| | | | | | | | FTO | 128 | 300 | 556 | 856 | 1241 | 1926 | 2853 | 3837 | 4650 | 5135 | |
| 24 | 609 | 150-300 | 27 | 686 | 12 | 305 | FTC | 310 | 513 | 862 | 1414 | 2205 | 3215 | 4353 | 5418 | 6250 | 6700 | |
| | | | | | | | FTO | 323 | 536 | 900 | 1477 | 2303 | 3360 | 4538 | 5660 | 6530 | 7000 | |

CV and FL Versus Travel

Single Stage Lo-dB/Anti-Cavitation

Models: 41335, 41435⁽¹⁾, 41445⁽¹⁾, 41535, 41635, 41735, and 41935
(with internal diffuser)

Flow Characteristic: LINEAR

| Percent of Travel | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | | | |
|-------------------|--------|------------------------------|------------------|------|--------|------|----------|------|------|------|------|------|------|------|------|------|------|------|-----|
| FL | | | | | | | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | | |
| Valve Size | | ASME CLASS and equivalent PN | Orifice Diameter | | Travel | | Rated CV | | | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | |
| 2 | 50 | 900-2500 | 1.84 | 46.7 | 0.8 | 20.3 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | |
| | | | | | | | 1.3 | 2.6 | 3.9 | 5.2 | 6.5 | 7.8 | 9.1 | 10.4 | 11.7 | 13 | | | |
| | | | | | | | 1.7 | 3.4 | 5.1 | 6.8 | 8.5 | 10.2 | 11.9 | 13.6 | 15.3 | 17 | | | |
| | | | | | | | 2.3 | 4.6 | 6.9 | 9.2 | 11.5 | 13.8 | 16.1 | 18.4 | 20.7 | 23 | | | |
| | | | | | | | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | | | |
| 2 | 50 | 150-600 | 2.5 | 63.5 | 1.5 | 38.1 | 2.5 | 5 | 7.5 | 10 | 12.5 | 15 | 17.5 | 20 | 22.5 | 25 | | | |
| | | | | | | | 3 | 6 | 10 | 13 | 16 | 19 | 22 | 26 | 29 | 32 | | | |
| | | | | | | | 4 | 9 | 13 | 17 | 22 | 26 | 30 | 34 | 39 | 43 | | | |
| 3x2 | 80x50 | 150-1500 | 2.5 | 63.5 | 1.5 | 38.1 | 6 | 12 | 17 | 23 | 29 | 35 | 41 | 46 | 52 | 58 | | | |
| 4x2 | 100x50 | | | | | | 7 | 14 | 22 | 29 | 36 | 43 | 50 | 58 | 65 | 72 | | | |
| 3 | 80 | 2500 | 3.5 | 88.9 | 2 | 50.8 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | | | |
| 3 | 80 | 150-1500 | | | | | 5 | 11 | 16 | 22 | 27 | 32 | 38 | 43 | 49 | 54 | | | |
| | | | | | | | 7 | 14 | 22 | 29 | 36 | 43 | 50 | 58 | 65 | 72 | | | |
| | | | | | | | 10 | 19 | 29 | 38 | 48 | 57 | 67 | 76 | 86 | 95 | | | |
| 4 | 100 | 2500 | | | | | 13 | 25 | 38 | 50 | 63 | 75 | 88 | 100 | 113 | 125 | | | |
| 4 | 100 | 150-1500 | 4.38 | 111 | 2 | 50.8 | 7 | 13 | 20 | 26 | 33 | 39 | 46 | 52 | 59 | 65 | | | |
| | | | | | | | 9 | 17 | 26 | 34 | 43 | 51 | 60 | 68 | 77 | 85 | | | |
| | | | | | | | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 110 | | | |
| | | | | | | | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | | | |
| 6 | 150 | 2500 | 20 | 39 | 59 | 78 | 98 | 117 | 137 | 156 | 176 | 195 | | | | | | | |
| 6 | 150 | 150-1500 | 5.12 | 130 | 2.5 | 63.5 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | | | |
| | | | | | | | 13 | 26 | 39 | 52 | 65 | 78 | 91 | 104 | 117 | 130 | | | |
| | | | | | | | 18 | 35 | 53 | 70 | 88 | 105 | 123 | 140 | 158 | 175 | | | |
| | | | | | | | 23 | 46 | 69 | 92 | 115 | 138 | 161 | 184 | 207 | 230 | | | |
| | | | | | | | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | | | |
| 8 | 200 | 150-1500 | 6.5 | 165 | 2.5 | 63.5 | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144 | 160 | | | |
| | | | | | | | 21 | 42 | 63 | 84 | 105 | 126 | 147 | 168 | 189 | 210 | | | |
| | | | | | | | 27 | 54 | 81 | 108 | 135 | 162 | 189 | 216 | 243 | 270 | | | |
| | | | | | 10 | 250 | 2500 | 3 | 76.2 | 36 | 72 | 108 | 144 | 180 | 216 | 252 | 288 | 324 | 360 |
| | | | | | | | | | | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| 10 | 250 | 150-1500 | 8 | 203 | 2.5 | 63.5 | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | | | |
| | | | | | | | 26 | 52 | 78 | 104 | 130 | 156 | 182 | 208 | 234 | 260 | | | |
| | | | | | | | 36 | 72 | 108 | 144 | 180 | 216 | 252 | 288 | 324 | 360 | | | |
| 12 | 300 | 2500 | 3.5 | 88.9 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | | | | | |
| | | | | | 65 | 130 | 195 | 260 | 325 | 390 | 455 | 520 | 585 | 650 | | | | | |
| 12 | 400 | 150-1500 | 9.75 | 248 | 2.5 | 63.5 | 45 | 90 | 135 | 180 | 225 | 270 | 315 | 360 | 405 | 450 | | | |
| | | | | | | | 60 | 120 | 180 | 240 | 300 | 360 | 420 | 480 | 540 | 600 | | | |
| | | | | | | | 81 | 162 | 243 | 324 | 405 | 486 | 567 | 648 | 729 | 810 | | | |
| 16 | 400 | 2500 | 5 | 127 | 110 | 220 | 330 | 440 | 550 | 660 | 770 | 880 | 990 | 1100 | | | | | |
| 14 | 350 | 150-1500 | 11.5 | 292 | 2.5 | 63.5 | 38 | 113 | 170 | 244 | 318 | 389 | 442 | 510 | 592 | 640 | | | |
| | | | | | | | 4 | 102 | 73 | 178 | 281 | 383 | 482 | 578 | 671 | 760 | 848 | 920 | |
| | | | | | | | 4 | 102 | 89 | 222 | 352 | 478 | 599 | 713 | 821 | 921 | 1014 | 1100 | |
| | | | | | | | 5.5 | 140 | 140 | 346 | 523 | 690 | 847 | 1007 | 1137 | 1254 | 1357 | 1450 | |

Table continued next page.

CV and FL Versus Travel (Cont.)

Single Stage Lo-dB/Anti-Cavitation

Models: 41335, 41435⁽¹⁾, 41445⁽¹⁾, 41535, 41635, 41735, and 41935
(with internal diffuser)

Flow Characteristic: LINEAR

| Percent of Travel | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
|-------------------|-----|------------------------------|------------------|-----|--------|------|----------|------|------|------|------|------|------|------|------|------|------|
| FL | | | | | | | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Valve Size | | ASME CLASS and equivalent PN | Orifice Diameter | | Travel | | Rated Cv | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | |
| 16 | 400 | 150-1500 | 13 | 330 | 2.5 | 63.5 | 73 | 146 | 219 | 292 | 365 | 438 | 511 | 584 | 657 | 730 | |
| | | | | | 4 | 102 | 99 | 198 | 297 | 396 | 495 | 594 | 693 | 792 | 891 | 990 | |
| | | | | | | | 130 | 260 | 390 | 520 | 650 | 780 | 910 | 1040 | 1170 | 1300 | |
| 6 | 152 | 180 | 360 | 540 | 720 | 900 | 1080 | 1260 | 1440 | 1620 | 1800 | | | | | | |
| 18 | 450 | 150-1500 | 14.5 | 368 | 3.5 | 88.9 | 107 | 214 | 321 | 428 | 535 | 642 | 749 | 856 | 963 | 1070 | |
| | | | | | 5 | 127 | 139 | 278 | 417 | 556 | 695 | 834 | 973 | 1112 | 1251 | 1390 | |
| | | | | | | | 185 | 370 | 555 | 740 | 925 | 1110 | 1295 | 1480 | 1665 | 1850 | |
| 7 | 178 | 243 | 486 | 729 | 972 | 1215 | 1458 | 1701 | 1944 | 2187 | 2430 | | | | | | |
| 20 | 500 | 150-900 | 19 | 483 | 4 | 102 | 190 | 380 | 570 | 760 | 950 | 1140 | 1330 | 1520 | 1710 | 1900 | |
| | | | | | 6 | 152 | 280 | 560 | 840 | 1120 | 1400 | 1680 | 1960 | 2240 | 2520 | 2800 | |
| | | | | | 9 | 229 | 350 | 700 | 1050 | 1400 | 1750 | 2100 | 2450 | 2800 | 3150 | 3500 | |
| 24 | 600 | 150-600 | 23 | 584 | 4 | 102 | 270 | 540 | 810 | 1080 | 1350 | 1620 | 1890 | 2160 | 2430 | 2700 | |
| | | | | | 6 | 152 | 350 | 700 | 1050 | 1400 | 1750 | 2100 | 2450 | 2800 | 3150 | 3500 | |
| | | | | | 9 | 229 | 480 | 960 | 1440 | 1920 | 2400 | 2880 | 3360 | 3840 | 4320 | 4800 | |
| | | | | | 11 | 279 | 540 | 1080 | 1620 | 2160 | 2700 | 3240 | 3780 | 4320 | 4860 | 5400 | |
| | | | | | 15 | 381 | 660 | 1320 | 1980 | 2640 | 3300 | 3960 | 4620 | 5280 | 5940 | 6600 | |

1. Models 41435 and 41445 are not available in 20" and 24" sizes.

2. Ex. 3x2 size = valve with 3" body with standard 2" trim.

CV and FL Versus Travel

Balanced Single Stage Anti-Cav / Lo-dB Trim
Models: 413C5, 415C5, 416C5 and 419C5 Series

Flow Characteristic: LINEAR High Capacity

| Percent of Travel | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
|-------------------|-----|------------|------------------|-----|--------|------|----------------------|------|------|------|------|------|------|------|------|------|------|
| F _L | | | | | | | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Valve Size | | ASME CLASS | Orifice Diameter | | Travel | | Rated C _V | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | |
| 6 6x8x6 | 150 | 150-600 | 6.5 | 165 | 2.5 | 63.5 | 27 | 54 | 81 | 108 | 135 | 162 | 189 | 216 | 243 | 270 | |
| | | | | | | | 34 | 67 | 101 | 135 | 168 | 202 | 236 | 269 | 303 | 337 | |
| | | | | | 3 | 76.2 | 41 | 82 | 123 | 164 | 205 | 246 | 287 | 328 | 369 | 410 | |
| 8 8x10x8 | 200 | 150-600 | 8 | 203 | 3.5 | 88.9 | 52 | 104 | 155 | 207 | 259 | 311 | 362 | 414 | 466 | 518 | |
| | | | | | | | 63 | 126 | 188 | 251 | 314 | 377 | 439 | 502 | 565 | 630 | |
| 10 | 250 | 150-600 | 9.57 | 243 | 4 | 102 | 77 | 155 | 232 | 309 | 387 | 464 | 541 | 618 | 696 | 773 | |
| | | | | | | | 5 | 127 | 95 | 190 | 285 | 380 | 475 | 570 | 665 | 760 | 855 |
| 12 | 300 | 150-600 | 10.75 | 273 | 5.5 | 140 | 130 | 260 | 390 | 520 | 650 | 780 | 910 | 1040 | 1170 | 1300 | |
| 16 | 400 | 600 | 14.4 | 366 | 5 | 127 | 186 | 372 | 558 | 745 | 931 | 1117 | 1304 | 1490 | 1676 | 1863 | |
| | | | | | | | 7 | 178 | 223 | 452 | 679 | 905 | 1131 | 1357 | 1584 | 1810 | 2036 |
| 18 | 450 | 150-600 | 16.89 | 429 | 7.5 | 191 | 290 | 579 | 869 | 1158 | 1448 | 1737 | 2027 | 2316 | 2606 | 2895 | |
| 20 | 508 | 150-300 | 23 | 584 | 11 | 280 | 425 | 851 | 1276 | 1701 | 2127 | 2552 | 2978 | 3403 | 3829 | 4254 | |
| 24 | 609 | 150-300 | 27 | 686 | 12 | 305 | 690 | 1380 | 2070 | 2760 | 3450 | 4140 | 4830 | 5520 | 6210 | 6900 | |
| | | | | | | | 15 | 381 | 753 | 1506 | 2259 | 3012 | 3765 | 4518 | 5271 | 6024 | 6777 |

Note : Consult Baker Hughes Engineering for Lo-dB Equal percentage for High Capacity designs.

CV and FL Versus Travel

Single-Stage Lo-dB /Anti-Cavitation

Models: 41335, 41435, 41535, 41635, 41735 and 41935

Flow Characteristic: EQUAL PERCENTAGE

| Percent of Travel | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 110 | |
|--------------------------------|---------------------------|------------------------------|-----------------|------|--------|------|----------|------|------|------|------|------|-------|-------|-------|------|------|
| FL | | | | | | | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Valve Size | | ASME CLASS and equivalent PN | Office Diameter | | Travel | | Rated CV | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | |
| 2 | 50 | 900-2500 | 1.84 | 46.7 | 0.8 | 20.3 | 0.2 | 0.3 | 0.6 | 1 | 1.6 | 3 | 5.2 | 7.9 | 9.8 | 11 | |
| | | | | | | | 0.2 | 0.5 | 0.9 | 1.5 | 2.4 | 4.4 | 7.6 | 11.4 | 14.2 | 16 | |
| | | | | | | | 0.3 | 0.7 | 1.3 | 2.1 | 3.4 | 6.3 | 11 | 16.5 | 20.4 | 23 | |
| 2 3x2 ⁽¹⁾ 4x2 | 50 80x50 100x50 | 150-600 | 2.5 | 63.5 | 1.5 | 38.1 | 0.3 | 0.8 | 1.5 | 2.4 | 3.8 | 7.1 | 12.4 | 18.5 | 23.1 | 26 | |
| | | 150-1500 | | | | | 0.5 | 1.2 | 2.2 | 3.5 | 5.6 | 10.4 | 18.1 | 27.1 | 33.8 | 38 | |
| 3 | 80 | 2500 | | | | | 0.7 | 1.7 | 3.1 | 4.9 | 8 | 14.8 | 25.8 | 38.5 | 48 | 54 | |
| 3 4x3 6x3 | 80 100x80 150x80 | 150-1500 | 3.5 | 88.9 | 2 | 50.8 | 0.6 | 1.3 | 2.7 | 4.4 | 7.1 | 12.8 | 22.5 | 33.6 | 41.6 | 47 | |
| | | | | | | | 0.9 | 1.9 | 3.8 | 6.2 | 10.1 | 18.2 | 32.1 | 47.9 | 59.4 | 67 | |
| 4 | 100 | 2500 | | | | | 1.2 | 2.7 | 5.5 | 8.9 | 14.4 | 26.1 | 46 | 68.6 | 85.1 | 96 | |
| 4 6x4 8x4 | 100 150x100 200x100 | 150-1500 | 4.38 | 111 | 2 | 50.8 | 0.9 | 2.2 | 4 | 6.2 | 10.3 | 19 | 33.3 | 49.8 | 62.2 | 70 | |
| | | | | | | | 1.3 | 3.1 | 5.8 | 8.9 | 14.7 | 27.2 | 47.6 | 71.2 | 88.9 | 100 | |
| 6 | 150 | 2500 | | | | | 1.9 | 4.5 | 8.4 | 12.9 | 21.3 | 39.4 | 69.1 | 103.2 | 128.9 | 145 | |
| 6 8x6 10x6 | 150 200x150 250x150 | 150-1500 | 5.12 | 130 | 2.5 | 63.5 | 3 | 6 | 12 | 18 | 27 | 41 | 61 | 82 | 99 | 110 | |
| | | | | | | | 3.9 | 9.1 | 16.9 | 25.9 | 37.6 | 58.3 | 86.4 | 116 | 140.5 | 155 | |
| 8 | 200 | 2500 | | | | | 5.7 | 13.2 | 24.5 | 37.7 | 54.7 | 84.8 | 125.4 | 168.3 | 203.8 | 225 | |
| 8 10x8 12x8 | 200 250x200 300x200 | 150-1500 | 6.5 | 165 | 3 | 76.2 | 4 | 11 | 19 | 30 | 44 | 67 | 100 | 135 | 163 | 180 | |
| | | | | | | | 6 | 15 | 28 | 44 | 64 | 97 | 145 | 195 | 236 | 260 | |
| 10 | 250 | 2500 | | | | | 9 | 22 | 41 | 64 | 92 | 141 | 209 | 281 | 340 | 375 | |
| 10 | 250 | 150-1500 | 8 | 203 | 3.5 | 88.9 | 6 | 14 | 25 | 39 | 56 | 86 | 128 | 172 | 208 | 230 | |
| | | | | | | | 9 | 20 | 37 | 57 | 83 | 128 | 190 | 254 | 308 | 340 | |
| 12 | 300 | 2500 | | | | | 12 | 29 | 53 | 82 | 119 | 183 | 270 | 363 | 439 | 485 | |
| 12 16x12 | 400 400x300 | 150-1500 | 9.75 | 248 | 5 | 127 | 10 | 24 | 43 | 67 | 97 | 150 | 222 | 299 | 363 | 400 | |
| | | | | | | | 15 | 34 | 62 | 97 | 140 | 215 | 320 | 430 | 521 | 575 | |
| 16 | 400 | 2500 | | | | | 21 | 49 | 89 | 139 | 201 | 309 | 459 | 617 | 748 | 825 | |
| 16 | 400 | 150-1500 | 13 | 330 | 6 | 152 | 17 | 39 | 72 | 112 | 162 | 249 | 370 | 497 | 603 | 665 | |
| | | | | | | | 24 | 56 | 103 | 160 | 232 | 356 | 529 | 711 | 861 | 950 | |
| | | | | | | | 34 | 80 | 146 | 228 | 329 | 507 | 752 | 1009 | 1223 | 1350 | |

1. Ex. 3x2 size = valve with 3" body with standard 2" trim.

Consult Baker Hughes Engineering for Lo-dB Equal Percentage for High Capacity designs.

CV and FL Versus Travel

Multi-Stage Lo-dB

Models: 41355, 41555, 41655, 41755 and 41955

Flow Characteristic: FLOW TO OPEN

| Percent of Travel | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | | |
|--------------------|--------|------------------------------|------------------|------|--------|------|----------|---------|------|------|------|------|------|------|------|------|------|------|
| FL | | | | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | |
| Valve Size | | ASME CLASS and equivalent PN | Orifice Diameter | | Travel | | Rated CV | | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | | |
| 2 | 50 | 900-2500 | 1.84 | 46.7 | 0.8 | 20.3 | 1.2 | 2.4 | 3.6 | 4.8 | 6 | 7.2 | 8.4 | 9.6 | 10.8 | 12 | | |
| | | | | | | | 1.9 | 3.8 | 5.7 | 7.6 | 9.5 | 11.4 | 13.3 | 15.2 | 17.1 | 19 | | |
| | | | | | | | 2.4 | 4.8 | 7.2 | 9.6 | 12 | 14.4 | 16.8 | 19.2 | 21.6 | 24 | | |
| 2 | 50 | 150-600 | 2.5 | 63.5 | 1.5 | 38.1 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | | |
| 3x2 ⁽¹⁾ | 80x50 | 150-1500 | | | | | 4 | 9 | 13 | 17 | 22 | 26 | 30 | 34 | 39 | 43 | | |
| 4x2 | 100x50 | 2500 | | | | | 5 | 11 | 16 | 21 | 27 | 32 | 37 | 42 | 48 | 53 | | |
| 3 | 80 | 150-1500 | 3.5 | 88.9 | 2 | 50.8 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | | |
| | | | | | | | 4x3 | 100x80 | 8 | 15 | 23 | 30 | 38 | 45 | 53 | 60 | 68 | 75 |
| | | | | | | | 6x3 | 150x80 | 10 | 19 | 29 | 38 | 48 | 57 | 67 | 76 | 86 | 95 |
| 4 | 100 | 150-1500 | 4.38 | 111 | 2 | 50.8 | 7 | 14 | 22 | 29 | 36 | 43 | 50 | 58 | 65 | 72 | | |
| | | | | | | | 6x4 | 150x100 | 11 | 21 | 32 | 42 | 53 | 63 | 74 | 84 | 95 | 105 |
| | | | | | | | 8x4 | 200x100 | 13 | 26 | 39 | 52 | 65 | 78 | 91 | 104 | 117 | 130 |
| 6 | 150 | 150-1500 | 5.12 | 139 | 2.5 | 63.5 | 10 | 19 | 29 | 38 | 48 | 58 | 67 | 77 | 86 | 96 | | |
| | | | | | | | 8x6 | 200x150 | 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 |
| | | | | | | | 10x6 | 250x150 | 19 | 38 | 57 | 76 | 95 | 114 | 133 | 152 | 171 | 190 |
| 8 | 200 | 150-1500 | 6.5 | 165 | 2.5 | 63.5 | 16 | 31 | 47 | 62 | 78 | 93 | 109 | 124 | 140 | 155 | | |
| | | | | | | | 10x8 | 250x200 | 25 | 50 | 75 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
| | | | | | | | 12x8 | 300x200 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 |
| 10 | 250 | 2500 | 3 | 76.2 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | | | | |
| 10 | 250 | 150-1500 | 8 | 203 | 2.5 | 63.5 | 23 | 46 | 69 | 92 | 115 | 138 | 161 | 184 | 207 | 230 | | |
| | | | | | | | 35 | 70 | 105 | 140 | 175 | 210 | 245 | 280 | 315 | 350 | | |
| | | | | | | | 3 | 76.2 | 42 | 84 | 126 | 168 | 210 | 252 | 294 | 336 | 378 | 420 |
| 12 | 300 | 2500 | 9.75 | 248 | 2.5 | 63.5 | 38 | 75 | 113 | 150 | 188 | 225 | 263 | 300 | 338 | 375 | | |
| | | | | | | | 4 | 102 | 60 | 120 | 180 | 240 | 300 | 360 | 420 | 480 | 540 | 600 |
| | | | | | | | 5 | 127 | 73 | 145 | 218 | 290 | 363 | 435 | 508 | 580 | 653 | 725 |
| 14 | 350 | 150-1500 | 11.55 | 293 | 2.5 | 63.5 | 31 | 96 | 148 | 198 | 246 | 292 | 335 | 386 | 424 | 450 | | |
| | | | | | | | 4 | 102 | 66 | 149 | 226 | 301 | 378 | 440 | 508 | 573 | 624 | 678 |
| | | | | | | | 5 | 127 | 87 | 201 | 302 | 399 | 489 | 575 | 655 | 736 | 802 | 863 |
| 16 | 400 | 150-1500 | 13 | 330 | 2.5 | 63.5 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | | |
| | | | | | | | 4 | 102 | 80 | 160 | 240 | 320 | 400 | 480 | 560 | 640 | 720 | 800 |
| | | | | | | | 6 | 152 | 111 | 221 | 332 | 442 | 553 | 663 | 774 | 884 | 995 | 1105 |
| 18 | 450 | 150-1500 | 14.5 | 368 | 3.5 | 88.9 | 73 | 146 | 219 | 292 | 365 | 438 | 511 | 584 | 657 | 730 | | |
| | | | | | | | 5 | 127 | 117 | 234 | 351 | 468 | 585 | 7002 | 819 | 936 | 1053 | 1170 |
| | | | | | | | 7 | 178 | 146 | 292 | 438 | 584 | 730 | 876 | 1022 | 1168 | 1314 | 1460 |
| 20 | 500 | 150-900 | 19 | 483 | 4 | 1012 | 79 | 422 | 790 | 1158 | 1517 | 1860 | 2182 | 2481 | 2753 | 3000 | | |
| | | | | | | | 6 | 152 | 244 | 792 | 1343 | 1866 | 2342 | 2762 | 3124 | 3431 | 3688 | 3900 |
| | | | | | | | 9 | 229 | 524 | 1356 | 2103 | 2724 | 3219 | 3604 | 3907 | 4147 | 4342 | 4500 |
| 24 | 600 | 150-600 | 23 | 584 | 4 | 102 | 130 | 260 | 390 | 520 | 650 | 780 | 910 | 1040 | 1170 | 1300 | | |
| | | | | | | | 6 | 152 | 190 | 380 | 570 | 760 | 950 | 1140 | 1330 | 1520 | 1710 | 1900 |
| | | | | | | | 9 | 229 | 280 | 560 | 840 | 1120 | 1400 | 1680 | 1960 | 2240 | 2520 | 2800 |
| | | | | | | | 11 | 279 | 320 | 640 | 960 | 1280 | 1600 | 1920 | 2240 | 2560 | 2880 | 3200 |
| | | | | | | | 15 | 381 | 420 | 840 | 1260 | 1680 | 2100 | 2520 | 2940 | 3360 | 3780 | 4200 |

1. Ex. 3x2 size=valve with 3" body with standard 2" trim

Multi-stage Lo-dB trim is not available for High Capacity designs.

Cv and FL Versus Travel

Multi-Stage Anti-Cavitation
Model: 41395

Flow Characteristic: LINEAR

| Percent of Travel | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
|--------------------------------|---------------------------|------------------------------|------------------|------|--------|------|----------------------|------|------|------|------|------|------|------|------|------|------|
| F _L | | | | | | | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Valve Size | | ASME CLASS and equivalent PN | Orifice Diameter | | Travel | | Rated C _v | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | |
| 2 | 50 | 900-2500 | 1.52 | 38.6 | 0.8 | 20.3 | 0.9 | 1.8 | 2.7 | 3.6 | 4.5 | 5.4 | 6.3 | 7.2 | 8.1 | 9 | |
| | | | | | | | 1.3 | 2.6 | 3.9 | 5.2 | 6.5 | 7.8 | 9.1 | 10.4 | 11.7 | 13 | |
| | | | | | | | 1.5 | 3 | 4.5 | 6 | 7.5 | 9 | 10.5 | 12 | 13.5 | 15 | |
| 2 3x2 ⁽¹⁾ 4x2 | 50 80x50 100x50 | 150-600 | 2.15 | 54.6 | 1.5 | 38.1 | 2.3 | 4.6 | 6.9 | 9.2 | 12 | 14 | 16 | 18 | 21 | 23 | |
| | | | | | | | 3.5 | 7 | 10.5 | 14 | 18 | 21 | 25 | 28 | 32 | 35 | |
| 3 | 80 | 2500 | | | | | 4.4 | 8.8 | 13.2 | 18 | 22 | 26 | 31 | 35 | 40 | 44 | |
| 3 4x3 6x3 | 80 100x80 150x80 | 150-1500 | 3.15 | 80.0 | 1.5 | 38.1 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | |
| | | | | | | | 6.5 | 13 | 20 | 26 | 33 | 39 | 46 | 52 | 59 | 65 | |
| 4 | 100 | 2500 | | | | | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | |
| 4x3 6x3 | 100x80 150x80 | 150-1500 | 3.15 | 80.0 | 2 | 50.8 | 9.3 | 18.6 | 28 | 37 | 47 | 56 | 65 | 74 | 84 | 93 | |
| 4 6x4 8x4 | 100 150x100 200x100 | 150-1500 | 4.0 | 102 | 2 | 50.8 | 6.5 | 13 | 20 | 26 | 33 | 39 | 46 | 52 | 59 | 65 | |
| | | | | | | | 10.5 | 21 | 32 | 42 | 53 | 63 | 74 | 84 | 95 | 105 | |
| 6 | 150 | 2500 | | | | | 12.5 | 25 | 38 | 50 | 63 | 75 | 88 | 100 | 113 | 125 | |
| 6 8x6 10x6 | 150 200x150 250x150 | 150-1500 | 4.78 | 121 | 2.5 | 63.5 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
| | | | | | | | 16 | 32 | 48 | 64 | 80 | 96 | 112 | 128 | 144 | 160 | |
| 8 | 200 | 2500 | | | | | 20 | 39 | 59 | 78 | 98 | 117 | 137 | 156 | 176 | 195 | |
| 8 10x8 12x8 | 200 250x200 300x200 | 150-1500 | 6.15 | 156 | 2.5 | 63.5 | 17 | 34 | 51 | 68 | 85 | 102 | 119 | 136 | 153 | 170 | |
| | | | | | | | 26 | 52 | 78 | 104 | 130 | 156 | 182 | 208 | 234 | 260 | |
| 10 | 250 | 2500 | | | 3 | 76.2 | 32 | 64 | 96 | 128 | 160 | 192 | 224 | 256 | 288 | 320 | |
| 10 | 250 | 150-1500 | 7.63 | 194 | 2.5 | 63.5 | 23 | 46 | 69 | 92 | 115 | 138 | 161 | 184 | 207 | 230 | |
| | | | | | | | 88.9 | 38 | 76 | 114 | 152 | 190 | 228 | 266 | 304 | 342 | 380 |
| 12 | 300 | 2500 | | | 3.5 | 88.9 | 45 | 90 | 135 | 180 | 225 | 270 | 315 | 360 | 405 | 450 | |
| 12 16x12 | 400 400x300 | 150-1500 | 9.37 | 238 | 2.5 | 63.5 | 40 | 80 | 120 | 160 | 200 | 240 | 280 | 320 | 360 | 400 | |
| | | | | | | | 64 | 128 | 192 | 256 | 320 | 384 | 448 | 512 | 576 | 640 | |
| 16 | 400 | 2500 | | | 5 | 127 | 80 | 160 | 240 | 320 | 400 | 480 | 560 | 640 | 720 | 800 | |
| 16 | 400 | 150-1500 | 13 | 330 | 2.5 | 63.5 | 60 | 120 | 180 | 240 | 300 | 360 | 420 | 480 | 540 | 600 | |
| | | | | | | | 95 | 190 | 285 | 380 | 475 | 570 | 665 | 760 | 855 | 950 | |
| | | | | | | | 131 | 262 | 393 | 524 | 655 | 786 | 917 | 1048 | 1179 | 1310 | |

1. Ex. 3x2 size= valve with 3" body with standard 2" trim

C_V and F_L Versus Travel

Variable Resistance Trim (VRT) Type S
Model: 41365

Flow Characteristic: LINEAR

| Percent of Travel | | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|-------------------|-----|------------------------------|------------------|------|--------|-----|---------------------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| F _L | | | | | | | | 0.999 | 0.999 | 0.999 | 0.998 | 0.997 | 0.996 | 0.994 | 0.992 | 0.990 | 0.988 |
| Valve Size | | ASME CLASS and equivalent PN | Orifice Diameter | | Travel | | Minimum Operable C _V | Rated C _V | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | |
| 8 | 200 | 300 - 1500 | 2.99 | 75.9 | 4 | 102 | 2.1 | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 |
| 10 | 250 | 300 - 1500 | 4.11 | 104 | 4 | 102 | 2.3 | 19 | 38 | 57 | 76 | 95 | 114 | 133 | 152 | 171 | 190 |
| 12 | 300 | 300 - 1500 | 4.91 | 125 | 4 | 102 | 2.8 | 27 | 54 | 81 | 108 | 135 | 162 | 189 | 216 | 243 | 270 |

C_V and F_L versus Travel

Variable Resistance Trim (VRT) Partial Stack Type S
Model: 41375

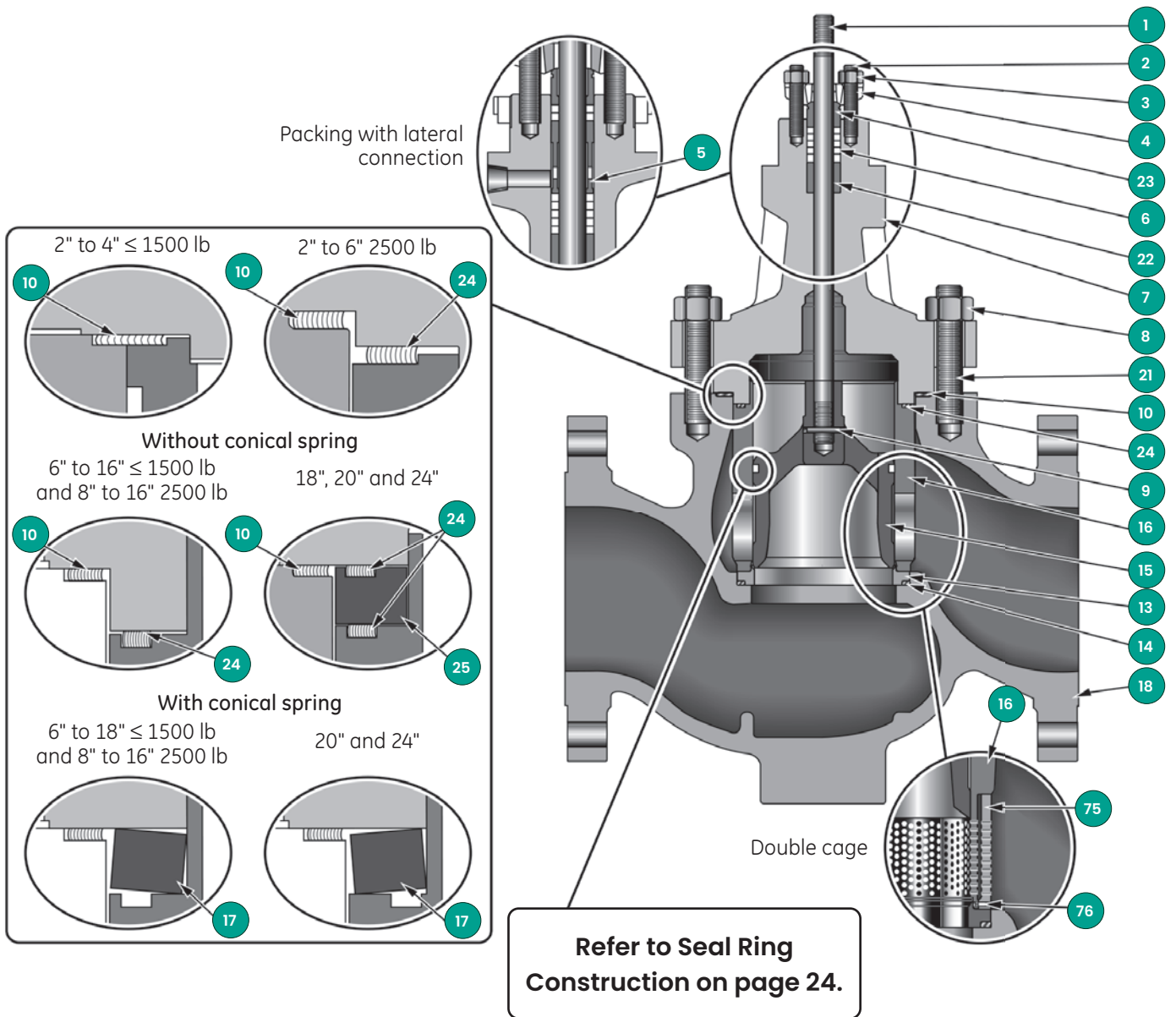
Flow Characteristic: LINEAR

| Percent of Travel | | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
|-------------------|-----|------------------------------|------------------|------|--------|------|---------------------------------|----------------------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| Valve Size | | ASME CLASS and equivalent PN | Orifice Diameter | | Travel | | Minimum Operable C _V | Rated C _V | | | | | | | | | | |
| in. | mm | | in. | mm | in. | mm | | | | | | | | | | | | |
| 3 | 80 | 150-1500 | 2.42 | 61.5 | 2.5 | 63.5 | 1.0 | C _V | 7 | 11 | 15 | 23 | 33 | 42 | 54 | 67 | 83 | 95 |
| 4 | 100 | 2500 | | | | | | FI | 0.998 | 0.996 | 0.991 | 0.98 | 0.958 | 0.927 | 0.92 | 0.92 | 0.92 | 0.92 |
| 4 | 100 | 150-1500 | 2.99 | 75.9 | 2.5 | 63.5 | 1.3 | C _V | 7 | 11 | 17 | 25 | 36 | 52 | 66 | 86 | 113 | 140 |
| 6 | 150 | 2500 | | | | | | FI | 0.998 | 0.996 | 0.991 | 0.98 | 0.956 | 0.927 | 0.92 | 0.92 | 0.92 | 0.92 |
| 6 | 150 | 150-1500 | 3.99 | 101 | 3.5 | 88.9 | 1.8 | C _V | 14 | 22 | 35 | 57 | 82 | 115 | 163 | 210 | 245 | 270 |
| 8 | 200 | 2500 | | | | | | FI | 0.998 | 0.995 | 0.987 | 0.969 | 0.929 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| 8 | 200 | 150-1500 | 5.36 | 136 | 4 | 102 | 3.8 | C _V | 22 | 38 | 58 | 99 | 140 | 192 | 280 | 360 | 425 | 480 |
| 10 | 250 | 2500 | | | | | | FI | 0.998 | 0.994 | 0.984 | 0.962 | 0.926 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| 10 | 250 | 150-1500 | 7.49 | 190 | 4 | 102 | 3.9 | C _V | 22 | 43 | 65 | 110 | 165 | 240 | 375 | 520 | 640 | 750 |
| 12 | 300 | 2500 | | | | | | FI | 0.998 | 0.994 | 0.982 | 0.956 | 0.923 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |

Note: Throttling at less than minimum operable C_V levels for extended period of time can result in trim damage.

Body S/A Construction

Models 41X15, 41X25, 41X35, 41X45, 41X55, 41X95, 41XA5, 41XB5, and 41XC5

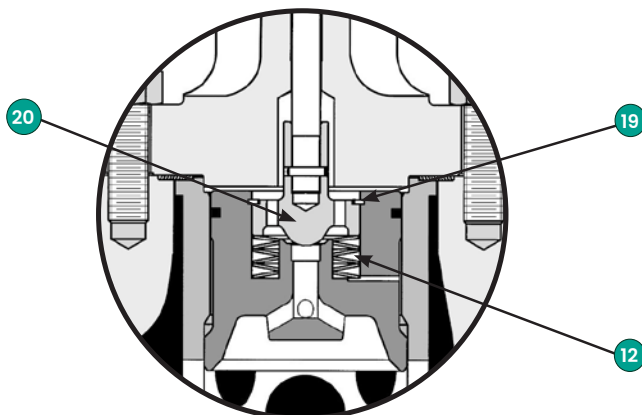


Note: 6" through 24" High Capacity designs are not available with conical spring construction.

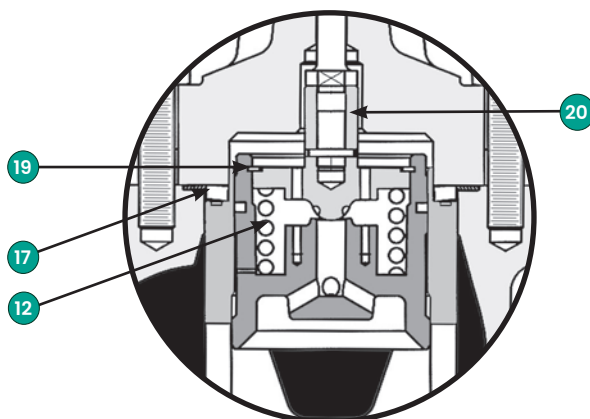
Body S/A Construction

Models 41X15, 41X25, 41X35, 41X45, 41X55, 41X95, 41XA5, 41XB5 and 41XC5

| Ref. No. | Part Name |
|----------|---------------------------|
| 1 | Valve Plug Stem |
| 2 | Packing Flange Stud |
| 3 | Packing Flange Nut |
| 4 | Packing Flange |
| 5 | Packing Spacer |
| ● | 6 Packing |
| 7 | Bonnet |
| 8 | Valve Body Nut |
| 9 | Plug Stem Pin |
| ● | 10 Body Gasket |
| * | 12 Pilot Spring(s) |
| 13 | Seat Ring |
| ● | 14 Seat Ring Gasket |
| 15 | Valve Plug (or Piston) |
| 16 | Cage |
| + | 17 Conical Spring |
| 18 | Valve Body |
| * | 19 Retaining Ring |
| * | 20 Auxiliary Pilot Plug |
| 21 | Valve Body Stud |
| 22 | Guide Bushing |
| 23 | Packing Follower |
| ● | 24 Cage Gasket |
| ⊕ ● | 31 Tec Seal |
| ○ ● | 35 Ni-resist® Seal Ring |
| ★ ● | 40 PTFE Seal Ring |
| ★ ● | 41 Nordel® Backup Ring |
| ▲ | 42 High Temp Seal |
| □ ● | 45 Graphite Seal Ring |
| ● | 46 Ni-resist® Backup Ring |
| 75 | Double cage |
| 76 | Pin |



Pilot Balanced Construction Model 41405
Sizes 2" to 4" shown



Pilot Balanced Construction Model 41405
Applications above 450°F to 1050°F
(232°C to 566°C)
Sizes 6" to 18" shown

- * For 41405 Series Valves only
- + For all valve sizes above 450°F (232°C)
- ★ For 41605 Series Valves only
- Recommended Spare Parts
- ▲ For use with 41705 Series Valves only
- For 41905 Series Valves only
- For 41405 / 41505 Series Valves only
- ⊕ For 41305 Series Valves only

Note: 6" through 24" High Capacity designs are not available with pilot construction.

Materials of Construction

Models 41X15, 41X25, 41X35, 41X45, 41X55, & 41X95

Models 41XA5, 41XB5 & 41XC5 limited to 575°F for sizes 6" and 8" and limited to 450°F for sizes 10" to 24" High

Capacity designs

Standard Carbon Steel Version

| Ref. No | Temperature Range | | -20°F (-29°C) | 450°F (232°C) | 650°F (343°C) | 800°F (427°C) |
|---------|--|-----------|---|---|------------------|--|
| | Description | | Standard Materials | | | |
| 1 | Plug Stem | | 17-4 PH St. St. ASTM A564 GR 630 | | | See Optional Materials |
| 2 | Packing Flange Stud | | 304 St. St. ASTM A193 GR B8 | | | |
| 3 | Packing Flange Nut | | 304 St. St. ASTM A194 GR 8 | | | |
| 4 | Packing Flange | | Carbon Steel ASTM A105 Zinc Plated | | | |
| 5 | Packing Spacer | | 303 St. St. ASTM A582 TY 303 | | | |
| 6 | Packing | | Carbon Core Braided PTFE (ASME Class 150-900) PTFE/Carbon + Braided Graphite End Rings (ASME Class 1500-2500) For use with standard length bonnet | | | See Optional Materials |
| 7 | Valve Bonnet | | Carbon Steel ASTM A216 Grade WCC | | | |
| 8 | Valve Body Nut | | Carbon Steel ASTM A194 GR 2H | | | |
| 9 | Plug Stem Pin | | 316 St. St. ASTM A479 TY 316 | | | |
| 10 | Valve Body Gasket | | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | |
| 12 | Pilot Spring(s) (41405 Only) | 2" to 4" | Inconel X-750 AMS 5598 (Stacked Washers) | | | |
| | | 6" to 16" | Inconel X-750 ASTM B637 GR 688 | | | |
| 13 | Seat Ring | | 410 St. St. ASTM A479 TY 410 Hardened | | | See Optional Materials |
| 14 | Seat Ring Gasket | | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | |
| 15 | Valve Plug | | 17-4 PH St. St. ASTM A747 GR CB7CU-1 Condition HI075 | | | See Optional Materials |
| 16 | Cage | | Martensitic St. St. ASTM A487 GR CA6NM CL B Hard Chrome Plated | | | See Optional Materials |
| 17 | Conical Spring ⁽¹⁾ (6" to 24") | | See Note 1 | 17-4 PH ASTM A564 GR 630 Condition HI075 | | Inconel X-750 ASTM B637 + Shot Peening |
| 18 | Valve Body | | Carbon Steel ASTM A216 Grade WCC | | | |
| 19 | Retaining Ring (41405 Only) | | Inconel X-750 AMS 5598 | | | |
| 20 | Auxiliary Pilot Plug (41405 Only) | 2" to 4" | 410 St. St. ASTM A479 TY 410 Hardened | | | |
| | | 6" to 16" | Martensitic St. St. ASTM A487 GR CA6NM CL B with Chrome Plated Guide and Hardfaced Seat | | | |
| 21 | Valve Body Stud | | Alloy Steel ASTM A193 GR B7 | | | |
| 22 | Guide Bushing | | 440C St. St. ASTM A276 TY 440C | | | |
| 23 | Packing Follower | | Solution Annealed 316L St. St. Hrc 22 Maximum | | | |
| - | Internal Diffuser ⁽²⁾ (6" to 24") | | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat | | | |
| 24 | Cage Gasket ⁽³⁾ | | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | See Note 3 |
| 30 | Retainer | | 17-4 PH St. St. HI075 | | | |
| 31 | Seal Ring | | See Page 24 | | | |
| 35 | | | | | | |
| 40 | | | | | | |
| 41 | | | | | | |
| 42 | | | | | | |
| 45 | | | | | | |
| 46 | | | | | | |

1. Conical spring only required for valve sizes 6" to 24" for applications > 450°F (232°C) and no conical spring available for any High Capacity designs.
2. Internal Diffuser includes an internal 316SS Seat Ring with hardfaced seat. This part replaces the Seat Ring (Ref. No. 13) when this option is selected. See graphic on page 15.
3. Cage gasket only required for valve sizes 6" to 24" for applications ≤ 450°F (232°C) and all applications for 2" to 6" ASME 2500 Class ratings only.

Materials of Construction

Models 41X15, 41X25, 41X35, 41X45, 41X55 and 41X95

Models 41XA5, 41XB5 and 41XC5 limited to 575°F for sizes 6" and 8" and limited to 450°F for sizes 10" to 24" High Capacity designs.

Standard Stainless Steel Version⁽¹⁾

| Ref. No | Temperature Range | -320°F (-196°C) | -148°F (-100°C) | -50°F (-46°C) | -20°F (-29°C) | 450°F (232°C) | 650°F (343°C) | 800°F (427°C) | 850°F (454°C) | 950°F (510°C) | 1050°F (566°C) | |
|---------|---|--|-----------------|------------------------------|--|---------------|------------------------|---------------|-------------------|---------------|----------------|--|
| | | Standard Materials | | | | | | | | | | |
| 1 | Plug Stem | See Optional Materials | | 316 St. St. ASTM A479 TY 316 | | | See Optional Materials | | | | | |
| 7 18 | Valve Bonnet ⁽²⁾ Valve Body | 316 St. St. ASTM A351 GR CF8M | | | | | | | | | | |
| 13 | Seat Ring | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat | | | | | | | | | | |
| 15 | Valve Plug | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat | | | | | | | | | | |
| 16 | Cage | 316 St. St. ASTM A479 TY 316 Chrome-Plated | | | | | See Optional Materials | | | | | |
| 17 | Conical Spring (6" to 16") ⁽³⁾ | See Optional Materials | | | Inconel X-750 ASTM B637 + Shot Peening | | | | | | | |
| 20 | Auxiliary Pilot Plug (41X5) Only | 316 St. St. ASTM A479 TY 316 with Chrome Plated Guide and Hardfaced Seat | | | | | | | | | | |
| 22 | Guide Bushing | 316 St. St. ASTM A479 TY 316 with Hardfacing Stellite or Equivalent 6 UNS 30006 (HRC 22 Max.) | | | | | | | | | | |
| 21 | Valve Body Stud | | | | ASTM A193 GR B7 – ZINC PLATING | | A 193 Gr B7 | | ASTM A 193 Gr B16 | | | |
| | | ASTM A320 GR L7 ZINC PLATING | | | | | | | | | | |
| | | ASTM A 193 GR B8 class 2 (optional for 2" and 3" ASME class 300 and 600 only) | | | | | | | | | | |
| | | ASTM A453 GRADE 660 or ASTM A193 GRADE B8RA ⁽⁴⁾ | | | | | | | | | | |
| 8 | Valve Body Nut | | | | ASTM A194 GR 2H – ZINC PLATING | | A 194 Gr 2H | | | | | |
| | | ASTM A194 GR 7 – ZINC PLATING | | | | | | | | | | |
| | | ASTM A 194 Gr 8 (optional for 2" and 3" ASME class 300 and 600 only) | | | | | | | | | | |
| | | ASTM A 194 Gr 8 ⁽⁴⁾ | | | | | | | | | | |
| 30 | Retainer | 17-4 PH St. St. H1075 Hardfacing Stellite No. 6 on 316 St. St. | | | | | | | | | | |

- Materials for other components are same as listed for Standard Carbon Steel Version.
- Extension bonnet : use a low temperature extension bonnet between -46°C and -100°C. Use a cryogenic bonnet between -101°C and 196°C.
- Conical spring only required for valve sizes 6" to 24" for applications > 450°F (232°C).
- Bolting must be checked by the Engineering Department.

Optional Configurations and Materials

| Ref. No. | Temperature Range | -320°F (-196°C) | -100°F (-73°C) | -50°F (-46°C) | -20°F (-29°C) | 650°F (343°C) | 800°F (427°C) | 1050°F (566°C) | |
|----------|-------------------|--|---|---|---|---|---------------|----------------|--|
| | | Optional Materials | | | | | | | |
| 1 | Plug Stem | A286 Super Alloy ASTM A638 GR 660 | | | | | | | |
| 6 | Packing | Teflon V-Ring For use with Cryogenic bonnet | Carbon Core Braided PTFE (ASME Class 150-900) PTFE/Carbon + Braided Graphite End Rings (ASME Class 1500-2500) For use with extended length bonnet | Carbon Core Braided PTFE (ASME Class 150-900) PTFE/Carbon + Braided Graphite End Rings (ASME Class 1500-2500) For use with standard length bonnet | Carbon Core Braided PTFE (ASME Class 150-900) PTFE/Carbon + Braided Graphite End Rings (ASME Class 1500-2500) For use with extended length bonnet | Low-E Packing ⁽¹⁾ For use with standard length bonnet | | | |
| | | | | | | Flexible Graphite / For use with standard length bonnet. | | | |
| | | | | | | | | | |
| 7 | Valve Bonnet | Chrome-Moly Steel ASTM A217 Grade WC6 or Grade WC9 | | | | | | | |
| 18 | Valve Body | Carbon Steel ASTM A 352 Grade LCC | | | | | | | |
| 13 | Seat Ring | 2" to 4" | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat | | | | | | |
| | | 6" to 16" | Martensitic St. St. ASTM A487 GR CA6NM CL A with Hardfaced Seat | | | | | | |
| 15 | Valve Plug | Martensitic St. St. ASTM A487 GR CA6NM CL B Nitride | | | | | | | |
| 16 | Cage | Martensitic St. St. ASTM A487 GR CA6NM CL B Nitrided | | | | | | | |
| | | 316 St. St. ASTM A479 TY 316 Nitrided | | | | | | | |

- Low Emissions packing options and application guidelines are available in Tech Spec titled Masoneilan Low-E Packing Series, Ref. 32991.

Materials of Construction

Optional Bolting Materials

| Ref. No. | Temperature Range | -320°F to -150°F (-196°C to -101°C) | -150°F to -20°F (-101°C to -29°C) | 850°F to 950°F (454°C to 510°C) | 950°F to 1050°F (510°C to 566°C) |
|----------|--------------------------------|--|--------------------------------------|------------------------------------|-------------------------------------|
| | Description | Optional Materials | | | |
| 8 | Valve Body Nut ⁽¹⁾ | 304 SS ASTM A194 Grade 8 | Alloy Steel ASTM A194 Grade 4 | Alloy Steel ASTM A194 Grade 8 | 304 SS ASTM A194 Grade 8 |
| 21 | Valve Body Stud ⁽¹⁾ | Super Alloy ASTM A453 Grade 660 | Alloy Steel ASTM A320 Grade L7 | Alloy Steel ASTM A193 Grade B16 | Super Alloy ASTM A453 Grade 660 |

1. Use following materials for 2" and 3" sizes ASME Class 300/600 at temperatures below -20°F (-29°C).
Studs - 304 SS ASTM A193 Grade B8 Class 2 • Nuts - 304 SS ASTM A194 Grade 8.

Additional Material Options:

The 41005 Series is also available in the following body materials with appropriate trim and bolting options.

| | | |
|-----------------|---------------|-----------------|
| A351 Grade CF3M | A995 Grade 4A | A217 Grade C5 |
| A351 Grade CF8C | A995 Grade 6A | A217 Grade C12A |

Products in these materials can be fully configured in ValvStream.
Consult Baker Hughes for appropriate material combinations.

Materials of Construction

NACE⁽¹⁾ Configuration and Material Options

Models 41X15, 41X25, 41X35, 41X45, 41X55 and 41X95

Model 41XA5, 41XB5 and 41XC5 limited to 575°F for sizes 6" and 8"

and limited to 450°F for sizes 10" to 24" High Capacity designs

| Ref. No | Temperature Range | | -20°F (-29°C) | 650°F (343°C) |
|---------|---|-----------|---|------------------|
| | Description | | Standard and Optional Materials | |
| 1 | Plug Stem | | 316 St. St. ASTM A479 TY 316 (HRC 22 Max.) Super Alloy ASTM A638 GR 660 (HRC 35 Max.) | |
| 2 | Packing Flange Stud | | 304 St. St. ASTM A193 GR B8 ⁽²⁾ 304 St. St. ASTM A193 Gr B8 ⁽³⁾ (HRC 22 Max.) | |
| 3 | Packing Flange Nut | | 304 St. St. ASTM A194 GR 8 ⁽²⁾ 304 St. St. ASTM A194 GR 8A ⁽³⁾ (HRC 22 Max.) | |
| 4 | Packing Flange | | Corrosion Protected Carbon Steel (HRC 22 Max.) | |
| 5 | Packing Spacer | | 304 St. St. ASTM A479 TY 304 | |
| 6 | Packing | | Carbon Core Braided PTFE (ASME Class 150-900) PTFE/Carbon + Braided Graphite End Rings (ASME Class 1500-2500) For use with standard length bonnet | |
| 7 | Valve Bonnet | | Carbon Steel ASTM A216 Grade WCC (HRC 22 Max.) | |
| | | | Carbon Steel ASTM A105 (HRC 22 Max.) | |
| | | | 316 St. St. ASTM A351 Gr CF8M (HRC 22 Max.) | |
| 8 | Valve Body Nut | | Alloy Steel ASTM A194 GR 2H ⁽²⁾ | |
| | | | Alloy Steel ASTM A194 Gr 2HM ⁽³⁾ | |
| 9 | Plug Stem Pin | | 316 St. St. ASTM A479 TY 316 (HRC 22 Max.) | |
| 10 | Valve Body Gasket | | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | |
| 12 | Pilot pring(s) (41405 Only) | 2" to 4" | Inconel X-750 AMS 5598 (HRC 50 Max.) | |
| | | 6" to 16" | Inconel X-750 ASTM B637 GR 688 (HRC 50 Max.) | |
| 13 | Seat Ring | | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat (HRC 22 Max.) | |
| 14 | Seat Ring Gasket | | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | |
| 15 | Valve Plug | | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat (HRC 22 Max.) | |
| | | | Martensitic St. St. ASTM A487 GR CA6NM CL B (HRC 22 Max.) | |
| 16 | Cage | | 316 St. St. ASTM A479 TY 316 Hard Chrome Plated (HRC 22 Max.) | |
| | | | Martensitic St. St. ASTM A487 GR CA6NM CL B Hard Chrome Plated (HRC 23 Max.) | |
| 17 | Conical Spring ⁽¹⁾ (6" to 24") | | Inconel X-750 ASTM B637 + Shot Peening | |
| 18 | Valve Body | | Carbon Steel ASTM A216 Grade WCC (HRC 22 Max.) | |
| | | | 316 St. St. ASTM A351 Gr CF8M (HRC 22 Max.) | |
| 19 | Retaining Ring (41405 Only) | | Inconel X-750 AMS 5598 (HRC 50 Max.) | |
| 20 | Auxiliary Pilot Plug (41405 Only) | | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat (HRC 22 Max.) | |
| | | | Martensitic St. St. ASTM A487 GR CA6NM CL B Chrome Plated Guide and Hardfaced Seat (HRC 23 Max.) | |
| 21 | Valve Body Stud | | Alloy Steel ASTM A193 GR B7 ⁽²⁾ | |
| | | | Alloy Steel ASTM A193 Gr B7M ⁽³⁾ | |
| 22 | Guide Bushing | | Stelliteor Equivalent 6 UNS 30006 (HRC 22 Max.) | |
| | | | 316 St. St. ASTM A479 TY 316 with Hardfacing (HRC 22 Max.) | |
| 23 | Packing Follower | | 316 St. St. ASTM A479 TY 316 (HRC 22 Max.) | |
| - | Internal Diffuser ⁽²⁾ (6" to 24") (not shown) | | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat (HRC 22 Max.) | |
| 24 | Cage Gasket ⁽³⁾ | | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | |
| 30 | Retainer | | CA6NM ASTM 487 Gr CA 6 NM Class B | |
| | | | Hardfacing Stellite No. 6 on 316 St. St. | |
| 31 | Seal Ring | | See Page 24 & 25 | |
| 35 | | | | |
| 40 | | | | |
| 41 | | | | |
| 42 | | | | |
| 45 | | | | |
| 46 | | | | |
| - | Drive Nut (not shown) | | Carbon Steel SAE 1117 ⁽²⁾ | |
| | | | Carbon Steel ASTM A105 or SAE 1010-1025 ⁽³⁾ | |

1. Standard materials and processes are in accordance with the requirements of NACE specification MR0103. Applications requiring compliance to MR0175-2003 or ISO15156 must be reviewed by Masonellan.

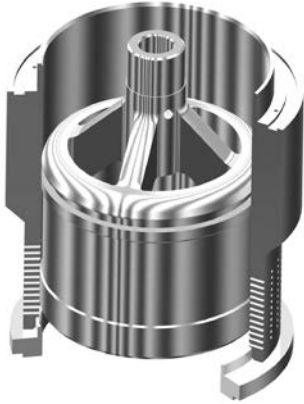
2. Materials designated for these parts conform to NACE Class III bolting requirements. (Non-Exposed)

3. Materials designated for these parts conform to NACE Class I or Class II bolting requirements. (Exposed)

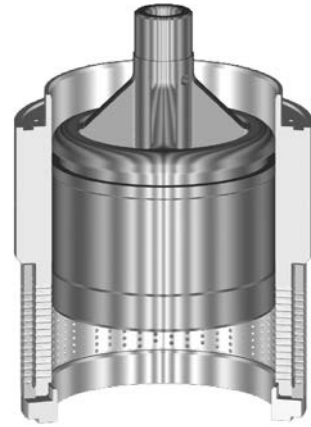
4. Cage gasket only required for valve sizes 6" to 24" for applications ≤ 450°F (232°C) and all applications for 2" to 6" ASME 2500 Class ratings only.

5. Seal ring materials for Model 41605 (PTFE Seal Ring) will be replaced with Glass-Reinforced PTFE External Seal Ring (Ref. No. 40) and Viton Internal Seal Ring (Ref. No. 41). Maximum temperature for Models 41305 and 41605 limited to 450°F (232°C).

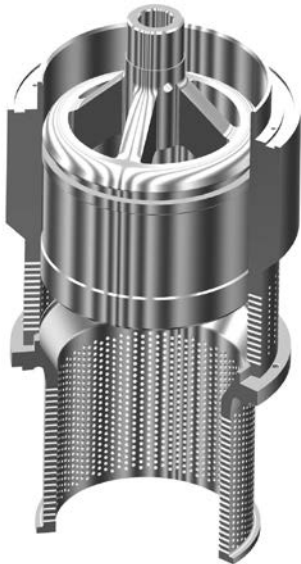
Trim Types



Models 41335 - 41535 - 41635 - 41735 - 41935
413C5 - 415C5 - 416C5 - 419C5
 Single Stage Low Noise Trim FTO
 Anti-Cavitation Trim FTC



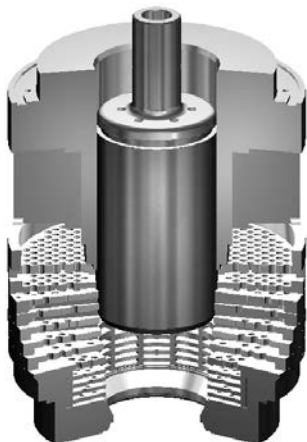
Models 41355 - 41555 - 41655 - 41755 - 41955
 Multi-Stage Low Noise Trim FTO



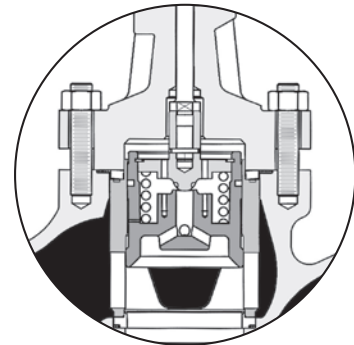
Model 41045
 Single Stage with Internal Diffuser
 (Sizes 6" - 24")



Models 41395 - 41595 - 41695 - 41795 - 41995
 Multi-Stage Anti-Cavitation Trim FTC



Model 41365 - 41375
 High Pressure Anti-Cavitation VRT



Model 41405
 Pilot Balanced Construction FTC

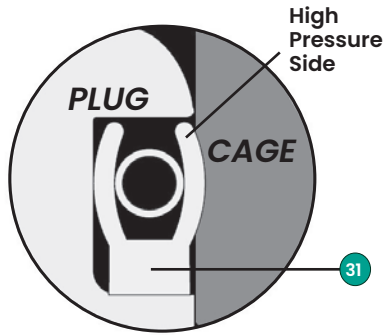
Seal Ring Construction

Model 41305

Seal Type:
Pressure Energized
Polymeric

Leakage:
Class IV Standard
(Class V Optional)

Temperature:
-148°F (-100°C) to
+450°F (+232°C)



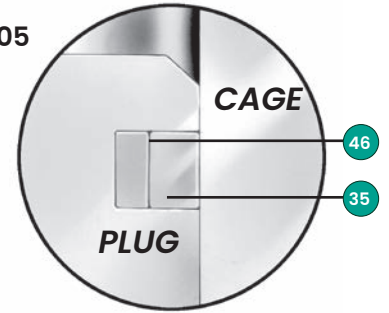
Seal Shown in FTO Orientation

Models 41405 and 41505

Seal Type:
Metal

Leakage:
From Class II to
Class V (with pilot)

Temperature:
-320°F (-196°C) to
+1050°F (+566°C)



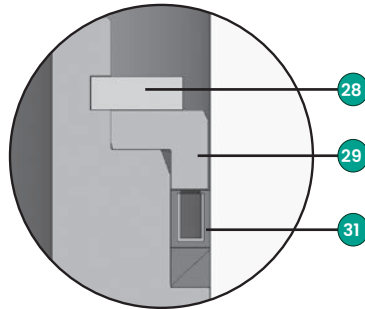
Model 41305⁽¹⁾

Optional High
Temperature Version
(VRT)

Seal Type:
Pressure Energized
Polymeric

Leakage:
Class IV Standard
(Class V Optional)

Temperature:
+450°F (+232°C) to
+600°F (+316°C)

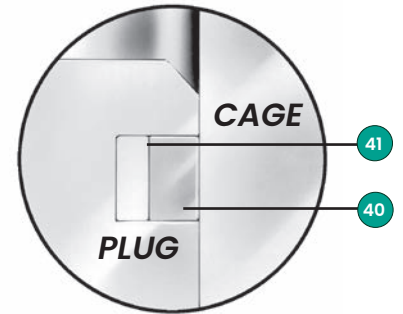


Model 41605

Seal Type:
TFE and Resilient Inner

Leakage:
Class IV Standard

Temperature:
-20°F (-29°C) to
+300°F (+149°C)



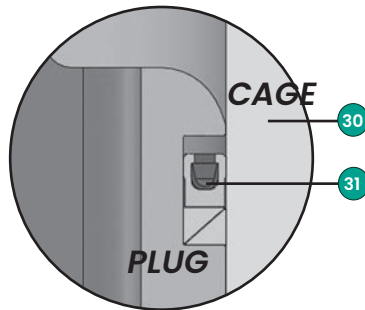
Model 41305^(2 & 3)

Optional High
Temperature Version
(non VRT)

Seal Type:
Pressure Energized
Polymeric

Leakage:
Class IV Standard
(Class V Optional)

Temperature:
-148°F (-100°C) to
+575°F (+302°C)



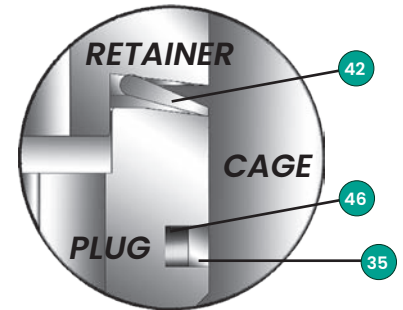
Model 41705

Seal Type:
Metal

Leakage:
Class V

Temperature: (FTC)
-20°F (-29°C) to
+1050°F (+566°C)

Temperature: (FTO)
-20°F (-29 C) to
+850°F (+454°C)

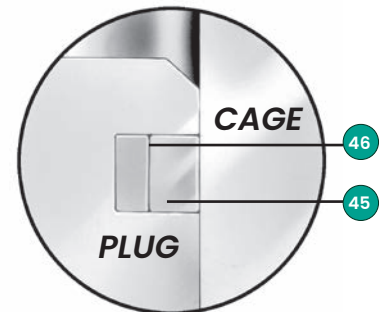


Model 41905

Seal Type:
Graphite and Metal Inner

Leakage:
Class III and
Class IV Standard

Temperature:
-320°F (-196°C) to
+850°F (+454°C)



1. Optional high temperature seal for 41365 and 41375 VRT.
2. Optional high temperature seal for 41305 non-VRT applications.
3. FTO & FTC capable.
4. For all plug seal ring types, 3" and 4" sizes are limited to 800°F (427°C).

Seal Ring Construction

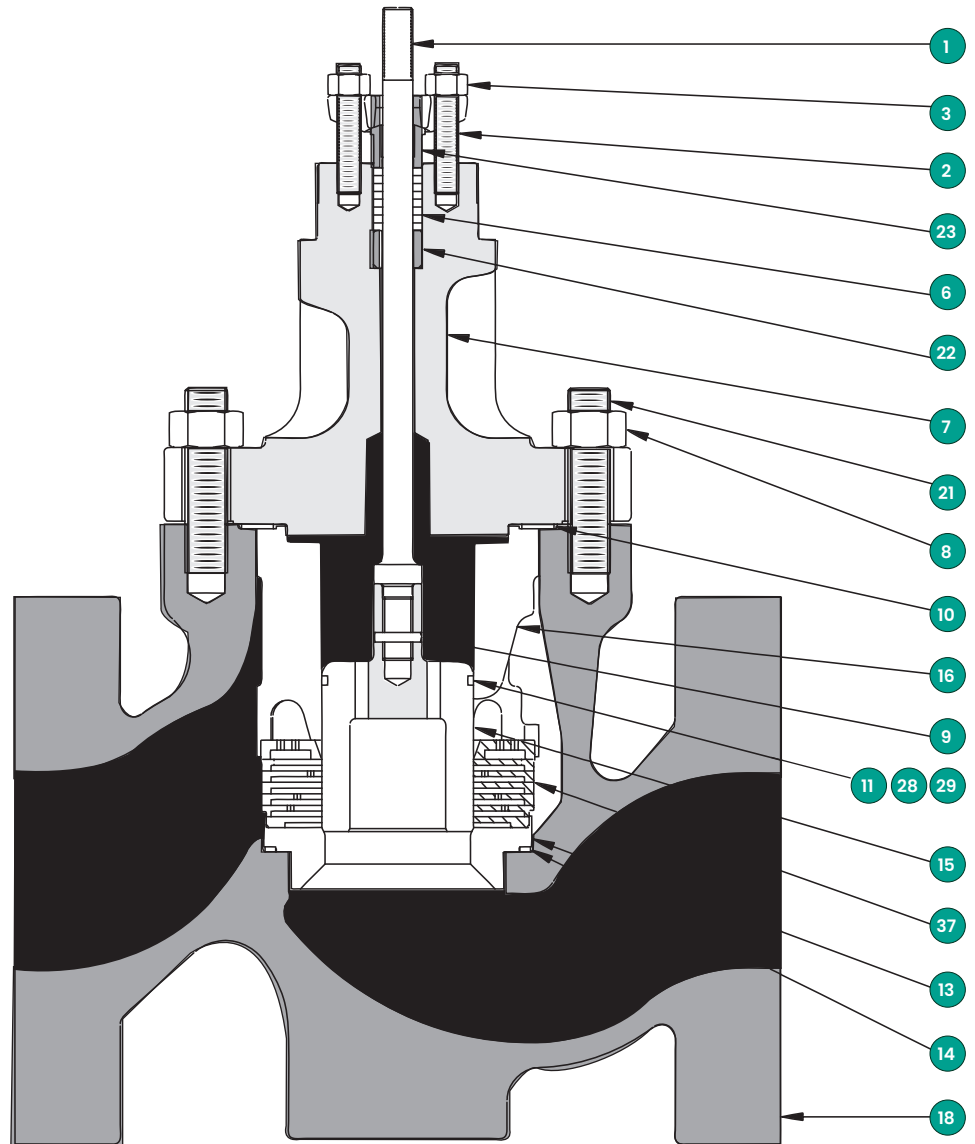
| Ref. No. | Temperature Range | -320°F | -148°F | -20°F | 300°F | 450°F | 600°F | 650°F | 850°F | 1050°F | |
|-------------|--------------------|--|----------|---------|----------|----------|----------|-----------------------------|----------------|----------|--|
| | | (-196°C) | (-100°C) | (-29°C) | (+149°C) | (+232°C) | (+316°C) | (+343°C) | (+454°C) | (+566°C) | |
| Description | | Materials | | | | | | | | | |
| 31 | Seal Ring | PTFE + 25% Graphite and ELGILOY Spring | | | | | | | | | |
| | Seal Ring | | | | | | | Fluoroly A21 ⁽³⁾ | | | |
| 35 | External Seal Ring | NiResist ASTM A439 Type D3 | | | | | | | Nitrided CA6NM | | |
| 40 | External Seal Ring | Bronze PTFE | | | | | | | | | |
| | | Glass Reinforced PTFE ⁽¹⁾ | | | | | | | | | |
| 41 | Internal Seal Ring | Nordel | | | | | | | | | |
| | | Viton ^(1 & 2) | | | | | | | | | |
| 42 | High Temp. Seal | Surface Hardened Inconel 718 | | | | | | | | | |
| 45 | External Seal Ring | Graphite | | | | | | | | | |
| 46 | Internal Seal Ring | NiResist ASTM A439 Type D3 | | | | | | | | | |

1. Optional materials for NACE service. Viton not recommended for water or steam service.
2. Viton is recommended for oil and hydrocarbon service.
3. Optional high temperature seal for 41365 and 41375 VRT.
4. For all plug seal ring types, 3" and 4" sizes are limited to 800°F (427°C).

Materials of Construction

Models 41365 and 41375 VRT

| Ref. No | Part Name |
|---------|--------------------------------|
| 1 | Plug Stem |
| 2 | Packing Flange Stud |
| 3 | Packing Flange Nut |
| 4 | Packing Flange |
| 5 | Packing Spacer |
| • 6 | Packing |
| 7 | Valve Bonnet |
| 8 | Valve Body Nut |
| 9 | Plug Stem Pin |
| • 10 | Valve Body Gasket |
| • 11 | Seal Ring |
| 13 | Seat Ring |
| • 14 | Seat Ring Gasket |
| 15 | Valve Plug |
| 16 | Cage |
| 18 | Valve Body |
| 21 | Valve Body Stud |
| 22 | Guide Bushing |
| 23 | Packing Follower |
| • 24 | Cage Gasket |
| 28 | Retaining Ring |
| 29 | Retaining Ring |
| 37 | Stack |
| • | Recommended Spare Parts |



Materials of Construction

Models 41365 and 41375 VRT
Standard Carbon Steel Version

| Ref. No | Temperature Range | -20°F (-29°C) | | 450°F (232°C) | | 600°F (316°C) | | |
|---------|--------------------------|--|---|--------------------|--|------------------------------|--|--|
| | | Description | | Standard Materials | | | | |
| 1 | Plug Stem | 174 PH St. St. ASTM A564 GR 630 | | | | | | |
| 2 | Packing Flange Stud | 304 St. St. ASTM A193 GR B8 | | | | | | |
| 3 | Packing Flange Nut | 304 St. St. ASTM A194 GR 8 | | | | | | |
| 4 | Packing Flange | Carbon Steel ASTM A105 Zinc Plated | | | | | | |
| 5 | Packing Spacer | 303 St. St. ASTM A582 TY 303 | | | | | | |
| 6 | Packing | Carbon Core Braided PTFE (ASME Class 150-900) PTFE/Carbon + Braided Graphite End Rings (ASME Class 1500-2500) For use with standard length bonnet | | | | | | |
| 7 | Valve Bonnet | Carbon Steel ASTM A216 Grade WCC | | | | | | |
| 8 | Valve Body Nut | Carbon Steel ASTM A194 GR 2H | | | | | | |
| 9 | Plug Stem Pin | 316 St. St. ASTM A479 TY 316 | | | | | | |
| 10 | Valve Body Gasket | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | | | | |
| 11 | Seal Ring | Standard | PTFE + Graphite (25%) with ELGILOY Spring | | | | | |
| | | Optional | | | | Fluoroly A21 | | |
| 13 | Seat Ring | 410 St. St. ASTM A479 TY 410 Hardened | | | | | | |
| 14 | Seat Ring Gasket | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | | | | |
| 15 | Valve Plug | 3" to 6" | 440C St. St. ASTM A276 TY 440C | | | | | |
| | | 8" and 10" | 17-4 PH St. St. ASTM A747 Gr CB7CU-1 Condition H900 | | | | | |
| 16 | Cage | Martensitic St. St. ASTM A487 GR CA6NM CL B Hard Chrome Plated | | | | | | |
| 18 | Valve Body | Carbon Steel ASTM A216 Grade WCC | | | | | | |
| 21 | Valve Body Stud | Alloy Steel ASTM A193 GR B7 | | | | | | |
| 22 | Guide Bushing | 440C St. St. ASTM A276 TY 440C | | | | | | |
| 23 | Packing Follower | 303 St. St. ASTM A582 TY 303 | | | | | | |
| 24 | Cage Gasket ³ | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | | | | |
| 28 | Retaining Ring | | | | | ASTM A564 Gr 632 H950 St. St | | |
| 29 | Retaining Ring | | | | | 316 St. St. ASTM A479 TY 316 | | |
| 30 | Retaining Ring | Hardfacing Stellite No.6 on 316 Stainless Steel ASTM A487 Gr CA 6 NM Class B 17-4 PH Stainless Steel H1075 ASTM A479 UNS S31803 + Chrome Plating ASTM A479 UNS S31803 + Hardfacing | | | | | | |
| 37 | Stack | 410 St. St. QT ASTM A743 Grade CA15 | | | | | | |

Materials of Construction

Models 41356 and 41375 VRT
Standard Stainless Steel Version

| Ref. No | Temperature Range | -20°F (-29°C) | 450°F (232°C) |
|---------|--------------------------|---|------------------|
| | Description | Standard Materials | |
| 1 | Plug Stem | A286 Super Alloy ASTM A638 GR 660 | |
| 2 | Packing Flange Stud | 304 St. St. ASTM A193 GR B8 | |
| 3 | Packing Flange Nut | 304 St. St. ASTM A194 GR 8 | |
| 4 | Packing Flange | Carbon Steel ASTM A105 Zinc Plated | |
| 5 | Packing Spacer | 303 St. St. ASTM A582 TY 303 | |
| 6 | Packing | Carbon Core Braided PTFE (ASME Class 150-900) PTFE/Carbon + Braided Graphite End Rings (ASME Class 1500-2500) For use with standard length bonnet | |
| 7 | Valve Bonnet | 316 St. St. ASTM A351 GR CF8M | |
| 8 | Valve Body Nut | Carbon Steel ASTM A194 GR 2H | |
| 9 | Plug Stem Pin | 316 St. St. ASTM A479 TY 316 | |
| 10 | Valve Body Gasket | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | |
| 11 | Seal Ring | PTFE + Graphite (25%) with ELGILOY Spring | |
| 13 | Seat Ring | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat | |
| 14 | Seat Ring Gasket | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | |
| 15 | Valve Plug | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat | |
| 16 | Cage | 316 St. St. ASTM A479 TY 316 Chrome-Plated | |
| 18 | Valve Body | 316 St. St. ASTM A351 GR CF8M | |
| 21 | Valve Body Stud | Alloy Steel ASTM A193 GR B7 | |
| 22 | Guide Bushing | 316 St. St. ASTM A479 TY 316 with Hardfacing | |
| 23 | Packing Follower | 303 St. St. ASTM A582 TY 303 | |
| 24 | Cage Gasket ³ | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | |
| 28 | Retaining Ring | ASTM A564 Gr 632 H950 St. St. | |
| 29 | Retaining Ring | 316 St. St. ASTM A479 TY 316 | |
| 37 | Stack | 410 St. St. QT ASTM A743 Grade CA15 | |

Note: Materials for other components are as listed for Standard Carbon Steel Version.

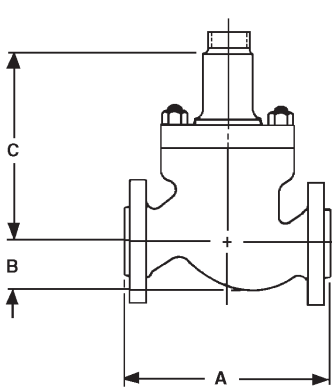
Materials of Construction

NACE⁽¹⁾ Configuration and Material Options
Models 41356 and 41375 VRT

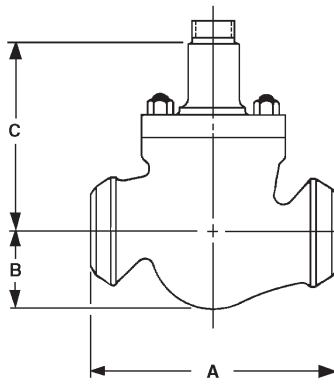
| Ref. No | Temperature Range | -20°F (-29°C) | | 450°F (232°C) | | 600°F (316°C) | | |
|---------|----------------------------|---|---|--------------------|--|------------------------------|--------------|--|
| | | Description | | Standard Materials | | | | |
| 1 | Plug Stem | A286 Super Alloy ASTM A638 GR 660 | | | | | | |
| 2 | Packing Flange Stud | 304 St. St. ASTM A193 GR B8 ⁽²⁾ 304 St. St. ASTM A193 GR B8 ⁽³⁾ (HRC 22 Max.) | | | | | | |
| 3 | Packing Flange Nut | 304 St. St. ASTM A194 GR 8 ⁽²⁾ 304 St. St. ASTM A194 GR 8A ⁽³⁾ (HRC 22 Max.) | | | | | | |
| 4 | Packing Flange | Corrosion Protected Carbon Steel (HRC 22 Max.) | | | | | | |
| 5 | Packing Spacer | 304 St. St. ASTM A479 TY 304 | | | | | | |
| 6 | Packing | Carbon Core Braided PTFE (ASME Class 150-900) PTFE/Carbon + Braided Graphite End Rings (ASME Class 1500-2500) For use with standard length bonnet | | | | | | |
| 7 | Valve Bonnet | Carbon Steel ASTM A216 Grade WCC (NRC 22 Max.) | | | | | | |
| | | 316 St. St. ASTM A351 Gr CF8M (HRC 22 Max) | | | | | | |
| 8 | Valve Body Nut | Carbon Steel ASTM A194 GR 2H ⁽²⁾ Carbon Steel ASTM A194 GR 2HM ⁽³⁾ | | | | | | |
| 9 | Plug Stem Pin | 316 St. St. ASTM A479 TY 316 (HRC 22 Max.) | | | | | | |
| 10 | Valve Body Gasket | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | | | | |
| 11 | Seal Ring | Standard | PTFE + Graphite (25%) with ELGILOY Spring | | | | | |
| | | Optional | | | | | Fluoroly A21 | |
| 13 | Seat Ring | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat (HRC 22 Max.) | | | | | | |
| 14 | Seat Ring Gasket | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | | | | |
| 15 | Valve Plug | 316 St. St. ASTM A479 TY 316 with Hardfaced Seat (HRC 22 Max.) | | | | | | |
| 16 | Cage | Martensitic St. St. ASTM A487 GR CA6NM CL B Hard Chrome Plated | | | | | | |
| 18 | Valve Body | Carbon Steel ASTM A216 Grade WCC (NRC 22 Max.) | | | | | | |
| | | 316 St. St. ASTM A351 Gr CF8M (HRC 22 Max) | | | | | | |
| 21 | Valve Body Stud | Alloy Steel ASTM A193 GR B7 ⁽²⁾ Alloy Steel ASTM A 193 GRADE B7M | | | | | | |
| 22 | Guide Bushing | 316 St. St. ASTM A479 TY 316 with Hardfacing | | | | | | |
| 23 | Packing Follower | 316 St. St. ASTM A479 TY 316 (HRC 22 Max.) | | | | | | |
| 24 | Cage Gasket ⁽³⁾ | 316L St. St. w/Flexible Graphite Filler (Spiral Wound) | | | | | | |
| 28 | Retaining Ring | | | | | ASTM A564 Gr 632 H950 St. St | | |
| 29 | Retaining Ring | | | | | 316 St. St. ASTM A479 TY 316 | | |
| 37 | Stack | Inconel 718 ASTM B637 Solution Annealed and Precipitation Hardened | | | | | | |

- Standard materials and processes are in accordance with the requirements of NACE specification MR0103. Applications requiring compliance to MR0175-2003 or ISO15156 must be reviewed by Baker Hughes.
- Materials designated for these parts conform to NACE Class III bolting requirements. (Non-Exposed).
- Materials designated for these parts conform to NACE Class I or Class II bolting requirements. (Exposed).

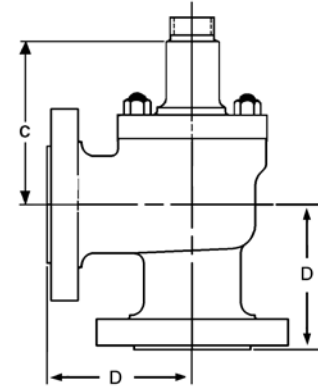
Dimensions (inches)



Flanged



Butt, Socket Weld
or Screwed Ends



Angle

| Pressure Class | | A | | | | | | | | | | |
|----------------|---------|--|-------|--|-------|-------|--|-------|-------|--|----------------------|----------------------|
| | | ASME Class 150 and equivalent PN | | ASME Class 300 and equivalent PN | | | ASME Class 600 and equivalent PN | | | ASME Class 900 and equivalent PN | | |
| Valve Size | | RF | RTJ | BW & SW | RF | RTJ | BW & SW | RF | RTJ | BW & SW | RF | RTJ |
| in. | mm | | | | | | | | | | | |
| 2 | 50 | 10.00 | 10.50 | 11.26 | 10.50 | 11.12 | 11.26 | 11.24 | 11.38 | 14.76 | 14.74 | 14.88 |
| 3 | 80 | 11.75 | 12.25 | 13.27 | 12.50 | 13.12 | 13.27 | 13.25 | 13.37 | 18.11 ⁽¹⁾ | 17.38 ⁽¹⁾ | 17.48 ⁽¹⁾ |
| 4 | 100 | 13.86 | 14.33 | 15.51 | 14.50 | 15.12 | 15.51 | 15.50 | 15.62 | 20.87 ⁽¹⁾ | 20.12 ⁽¹⁾ | 20.24 ⁽¹⁾ |
| 6 | 150 | 17.75 | 18.27 | 20 | 18.64 | 19.25 | 20 | 20 | 20.12 | 30.24 | 28.12 | 28.24 |
| 6x3 | 150x80 | | | | | | | | | | | |
| 6x4 | 150x100 | | | | | | | | | | | |
| 8 | 200 | 21.38 | 21.87 | 24.02 | 22.38 | 22.99 | 24.02 | 24 | 24.13 | 32.76 | 36.00 | 36.00 |
| 8x4 | 200x100 | | | | | | | | | | | |
| 8x6 | 200x150 | | | | | | | | | | | |
| 10 | 250 | 26.50 | 27.00 | 29.61 | 27.88 | 28.50 | 29.61 | 29.62 | 29.72 | 39.02 | 43.00 | 43.12 |
| 10x6 | 250x150 | | | | | | | | | | | |
| 10x8 | 250x200 | | | | | | | | | | | |
| 12 | 300 | 29.02 | 29.53 | 32.24 | 30.51 | 31.14 | 32.24 | 32.25 | 32.36 | 44.49 | 44.49 | 44.61 |
| 12x8 | 300x200 | | | | | | | | | | | |
| 14 | 350 | 35 | 35.5 | 38.25 | 36.50 | 37.13 | 38.25 | 38.25 | 38.39 | 49.88 | 49.5 | 49.88 |
| 16 | 400 | 40.00 | 40.51 | 43.62 | 41.61 | 42.25 | 43.62 ⁽¹⁾ | 43.62 | 43.74 | 55.98 ⁽¹⁾ | 54.72 ⁽¹⁾ | 55.08 ⁽¹⁾ |
| 18 | 450 | 44.76 | 45.08 | 48.82 | 46.85 | 47.32 | 48.82 ⁽³⁾ | 51.50 | 51.97 | 64.72 | 58.03 | 58.50 |
| 20 | 500 | 65.43 | 65.91 | 71.14 | 67.09 | 67.80 | 74.41 | 69.57 | 69.80 | 84.72 | 71.06 | 71.57 |
| 24 | 600 | 78.70 | 79.21 | 86.22 | 80.94 | 81.81 | 94.33 | 83.46 | 83.86 | - | - | - |

1. Consult Baker Hughes.
2. Ex. 3x2 size = valve with 3" body x standard 2" trim.
3. Applies to Schedule 40 only. Schedule 80 Face to Face is 58.27 in.

Dimensions (inches)

| Pressure Class | | A | | | A | | | B max | | | | | C max | | | | |
|-------------------------|----------------------|-----------------------------------|-------|-------|-----------------------------------|-------|-------|----------------|----------|----------|-----------|-----------|----------------|----------|----------|-----------|-----------|
| | | ASME Class 1500 and equivalent PN | | | ASME Class 2500 and equivalent PN | | | ASME 150 / 300 | ASME 600 | ASME 900 | ASME 1500 | ASME 2500 | ASME 150 / 300 | ASME 600 | ASME 900 | ASME 1500 | ASME 2500 |
| Valve Size | | BW & SW | RF | RTJ | BW & SW | RF | RTJ | | | | | | | | | | |
| in. | mm | | | | | | | | | | | | | | | | |
| 2 | 50 | 14.76 | 14.74 | 14.88 | 15.75 | 17.17 | 17.24 | 3.70 | 3.70 | 2.24 | 2.24 | 5.12 | 9.84 | 9.84 | 8.50 | 8.50 | 10.31 |
| 3 | 80 | 18.11 | 18.13 | 18.23 | 19.61 | 19.13 | 19.33 | 4.49 | 4.49 | 5.63 | 5.63 | 6.89 | 11.81 | 11.81 | 11.81 | 11.81 | 14.06 |
| 3x2 | 80x50 ⁽²⁾ | (i) | (i) | (i) | (i) | (i) | (i) | 4.57 | 4.57 | 5.63 | 5.63 | (i) | 9.88 | 9.88 | 10.39 | 10.39 | (i) |
| 4 | 100 | 20.87 | 20.88 | 21.00 | 22.64 | 23.66 | 23.98 | 5.51 | 5.51 | 6.26 | 6.26 | 7.87 | 12.99 | 12.99 | 12.99 | 12.99 | 14.76 |
| 4x2 | 100x50 | (i) | (i) | (i) | (i) | (i) | (i) | 5.51 | 5.51 | 6.06 | 6.06 | (i) | 10.28 | 10.28 | 10.08 | 10.08 | (i) |
| 4x3 | 100x80 | 20.87 | 20.88 | 21.00 | (i) | (i) | (i) | 5.51 | 5.51 | 6.26 | 6.26 | (i) | 12.68 | 12.68 | 12.68 | 12.68 | (i) |
| 6 | 150 | 30.24 | 30.24 | 30.47 | 32.24 | 29.33 | 29.45 | 7.80 | 7.80 | 8.54 | 8.54 | 10.35 | 15.35 | 15.35 | 15.35 | 15.35 | 15.39 |
| 6x3 | 150x80 | 30.24 | 30.24 | 30.47 | (i) | (i) | (i) | 7.48 | 7.48 | 6.30 | 6.30 | (i) | 12.68 | 12.68 | 12.60 | 12.60 | (i) |
| 6x4 | 150x100 | 30.24 | 30.24 | 30.47 | (i) | (i) | (i) | 7.48 | 7.48 | 6.30 | 6.30 | (i) | 13.46 | 13.46 | 13.27 | 13.27 | (i) |
| 8 | 200 | 32.76 | 38.25 | 38.62 | 40.51 | 35.12 | 35.67 | 7.32 | 7.52 | 7.52 | 8.07 | 11.81 | 19.53 | 19.53 | 20.51 | 20.51 | 17.72 |
| 8x4 | 200x100 | 32.76 | 38.25 | 38.62 | (i) | (i) | (i) | 8.74 | 8.74 | 6.69 | 6.69 | (i) | 14.41 | 14.41 | 12.99 | 12.99 | (i) |
| 8x6 | 200x150 | 32.76 | 38.25 | 38.62 | (i) | (i) | (i) | 8.74 | 8.74 | 6.77 | 6.77 | (i) | 17.05 | 17.05 | 15.35 | 15.35 | (i) |
| 10 | 250 | 39.02 | 46.00 | 46.38 | 50.00 | 42.72 | 43.54 | 8.66 | 8.98 | 9.06 | 9.61 | 14.25 | 21.65 | 21.65 | 22.44 | 22.44 | 24.21 |
| 10x6 | 250x150 | | | | (i) | (i) | (i) | 9.13 | 9.13 | 9.09 | 9.09 | (i) | 18.46 | 18.46 | 15.35 | 15.35 | (i) |
| 10x8 | 250x200 | | | | (i) | (i) | (i) | 9.13 | 9.13 | 8.58 | 8.74 | (i) | 19.65 | 19.65 | 20.51 | 20.51 | (i) |
| 12 | 300 | 44.49 | 47.95 | 48.58 | 55.98 | 46.93 | 47.76 | 12.80 | 13.19 | 13.58 | 14.17 | 16.30 | 24.41 | 24.41 | 24.65 | 24.65 | 24.90 |
| 12x8 | 300x200 | (i) | (i) | (i) | (i) | (i) | (i) | 9.53 | 9.53 | 9.84 | 9.84 | (i) | 19.53 | 19.53 | 20.51 | 20.51 | (i) |
| 14 | 350 | 54.92 | 49.50 | 50.25 | - | - | - | 17.32 | 17.32 | 18.50 | 18.50 | - | 26.10 | 26.10 | 27.48 | 31.85 | - |
| 16 | 400 | 55.98 | 59.37 | 60.24 | 72.44 | - | - | 17.32 | 17.72 | 18.11 | 19.09 | 17.36 | 27.32 | 27.32 | 31.69 | 31.69 | 27.52 |
| 16x12 | 400x300 | (i) | (i) | (i) | (i) | - | - | 17.72 | 17.72 | 17.83 | 18.78 | (i) | 25.59 | 25.59 | 27.40 | 27.40 | (i) |
| 18 | 450 | 72.05 | 61.34 | 61.81 | - | - | - | 20.43 | 20.91 | 20.91 | 21.97 | - | 33.62 | 33.62 | 39.13 | 42.09 | - |
| 20 | 500 | - | - | - | - | - | - | 26.34 | 26.77 | 27.24 | - | - | 34.13 | 35.59 | 37.40 | - | - |
| 24 ^(3&4) | 600 | - | - | - | - | - | - | 31.65 | 32.28 | - | - | - | 40.00 | 41.18 | - | - | - |
| | | | | | | | | 31.65 | 32.28 | | | | 47.99 | 49.17 | | | |

1. Consult Baker Hughes.
2. Ex. 80x50 size = valve with 80mm body x standard 50mm trim.
3. 11" Nominal stroke length.
4. 15" Nominal stroke length.

Dimensions (inches)

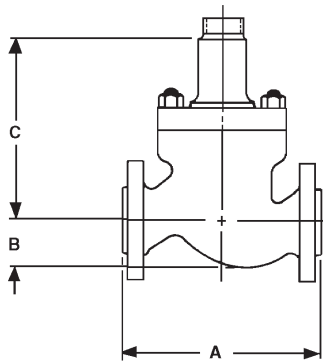
High Capacity Globe valve (inches)

| Pressure Class | | 150 | | 300 | | | 600 | | | | |
|----------------|-----|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Valve Size | | Dimension | RF | RTJ | BW | RF | RTJ | BW | RF | RTJ | |
| in. | mm | | | | | | | | | | |
| 6 | 150 | A | 17.76 | 17.76 | 20.00 | 18.62 | 18.62 | 20.00 | 20.00 | 20.00 | |
| | | B | 5.43 | 5.43 | 5.43 | 5.43 | 5.43 | 5.47 | 5.47 | 5.47 | |
| | | C (no ext.) | 15.51 | 15.51 | 15.51 | 15.51 | 15.51 | 15.51 | 15.51 | 15.51 | 15.51 |
| | | C (w. ext.) | 18.62 | 18.62 | 18.62 | 18.62 | 18.62 | 18.62 | 18.62 | 18.62 | 18.62 |
| 8 | 200 | A | 21.38 | 21.38 | 24.02 | 22.36 | 22.36 | 24.02 | 24.02 | 24.02 | |
| | | B | 7.48 | 7.48 | 7.48 | 7.48 | 7.48 | 7.68 | 7.68 | 7.68 | |
| | | C (no ext.) | 16.46 | 16.46 | 16.46 | 16.46 | 16.46 | 16.46 | 16.46 | 16.46 | 16.46 |
| | | C (w. ext.) | 19.57 | 19.57 | 19.57 | 19.57 | 19.57 | 19.57 | 19.57 | 19.57 | 19.57 |
| 10 | 250 | A | 26.50 | 27.01 | 29.61 | 27.87 | 28.50 | 29.61 | 29.61 | 29.72 | |
| | | B | 10.16 | 10.16 | 10.16 | 10.16 | 10.16 | 10.43 | 10.43 | 10.43 | |
| | | C | 24.37 | 24.37 | 24.37 | 24.37 | 24.37 | 24.37 | 24.37 | 24.37 | 24.37 |
| 12 | 300 | A | 29.02 | 29.49 | 32.24 | 30.51 | 31.10 | 32.24 | 32.24 | 32.36 | |
| | | B | 10.98 | 10.98 | 10.98 | 10.98 | 10.98 | 11.50 | 11.50 | 11.50 | |
| | | C | 31.26 | 31.26 | 31.26 | 31.26 | 31.26 | 31.61 | 31.61 | 31.61 | |
| 16 | 400 | A | 40.00 | 40.51 | 43.62 | 41.61 | 42.24 | 43.62 | 43.62 | 43.74 | |
| | | B | 14.41 | 14.41 | 14.41 | 14.41 | 14.41 | 15.12 | 15.12 | 15.12 | |
| | | C | 32.87 | 32.87 | 32.87 | 32.87 | 32.87 | 32.87 | 32.87 | 32.87 | 32.87 |
| 18 | 450 | A | 44.76 | 45.08 | 48.82 | 46.85 | 47.32 | 48.82 | 51.50 | 51.97 | |
| | | B | 15.35 | 15.35 | 15.35 | 15.35 | 15.35 | 16.89 | 16.89 | 16.89 | |
| | | C | 33.78 | 33.78 | 33.78 | 33.78 | 33.78 | 33.78 | 33.78 | 33.78 | |
| 20 | 500 | A | 65.43 | 65.91 | 71.14 | 67.09 | 67.80 | - | - | - | |
| | | B | 20.94 | 20.94 | 20.94 | 20.94 | 20.94 | - | - | - | |
| | | C | 39.21 | 39.21 | 39.21 | 39.21 | 39.21 | - | - | - | |
| 24 | 600 | A | 78.82 | 79.33 | 86.34 | 81.06 | 81.93 | - | - | - | |
| | | B | 22.85 | 22.95 | 22.95 | 22.95 | 22.95 | - | - | - | |
| | | C | 45.91 | 45.91 | 45.91 | 45.91 | 45.91 | - | - | - | |

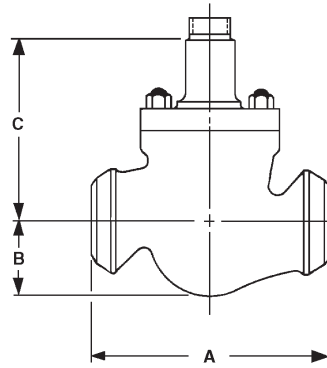
Angle Body S/A (inches)

| Pressure Class | | D | | | | | | | | | |
|----------------|-----|----------------------------------|------|----------------------------------|------|----------------------------------|-------|----------------------------------|-------|-----------------------------------|-------|
| | | ASME Class 150 and equivalent PN | | ASME Class 300 and equivalent PN | | ASME Class 600 and equivalent PN | | ASME Class 900 and equivalent PN | | ASME Class 1500 and equivalent PN | |
| Valve Size | | RF | RTJ | RF | RTJ | RF | RTJ | RF | RF | RF | RFJ |
| in. | mm | | | | | | | | | | |
| 2 | 50 | 5.15 | 5.38 | 5.27 | 5.58 | 5.78 | 5.84 | 7.27 | 7.35 | 7.27 | 7.35 |
| 3 | 80 | 5.92 | 6.17 | 6.29 | 6.61 | 7.04 | 7.12 | 8.89 | 8.97 | 9.28 | 9.36 |
| 4 | 100 | 7.71 | 7.94 | 8.04 | 8.34 | 8.53 | 8.61 | 10.38 | 10.46 | 10.78 | 10.86 |
| 6 | 150 | 8.34 | 8.59 | 8.77 | 9.09 | 11.02 | 11.07 | 12.04 | 12.10 | 13.89 | 14.01 |

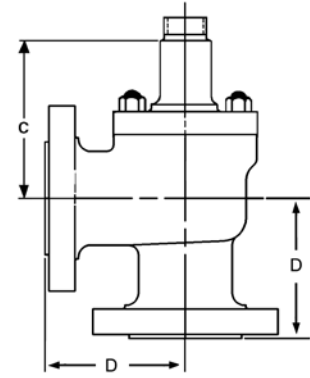
Dimensions (mm)



Flanged



**Butt, Socket Weld
or Screwed Ends**



Angle

| Pressure Class | | A | | | | | | | | | | |
|----------------|----------------------|--|-------|--|-------|-------|--|-------|-------|--|-------|-------|
| | | ASME Class 150 and equivalent PN | | ASME Class 300 and equivalent PN | | | ASME Class 600 and equivalent PN | | | ASME Class 900 and equivalent PN | | |
| Valve Size | | RF | RTJ | BW & SW | RF | RTJ | BW & SW | RF | RTJ | BW & SW | RF | RTJ |
| in. | mm | | | | | | | | | | | |
| 2 | 50 | 254 | 266.5 | 286 | 266.5 | 282.5 | 286 | 285.5 | 289 | 375 | 374.5 | 378 |
| 3 | 80 | 298.5 | 311 | 337 | 317.5 | 333.5 | 337 | 336.5 | 339.5 | 460 | 441.5 | 444 |
| 3x2 | 80x50 ⁽²⁾ | | | | | | | | | (1) | (1) | (1) |
| 4 | 100 | 352 | 364 | 394 | 368.5 | 384 | 394 | 393.5 | 397 | 530 | 511 | 514 |
| 4x2 | 100x50 | | | | | | | | | (1) | (1) | (1) |
| 4x3 | 100x80 | | | | | | | | | 530 | 511 | 514 |
| 6 | 150 | 451 | 464 | 508 | 473 | 489 | 508 | 508 | 511 | 768 | 714 | 717 |
| 6x3 | 150x80 | | | | | | | | | | | |
| 6x4 | 150x100 | | | | | | | | | | | |
| 8 | 200 | 543 | 555.5 | 610 | 568.5 | 584 | 610 | 609.5 | 613 | 832 | 914.5 | 917.5 |
| 8x4 | 200x100 | | | | | | | | | | | |
| 8x6 | 200x150 | | | | | | | | | | | |
| 10 | 250 | 673 | 686 | 752 | 708 | 724 | 752 | 752 | 755 | 991 | 1092 | 1095 |
| 10x6 | 250x150 | | | | | | | | | | | |
| 10x8 | 250x200 | | | | | | | | | | | |
| 12 | 300 | 737 | 750 | 819 | 775 | 791 | 819 | 819 | 822 | 1130 | 1130 | 1133 |
| 12x8 | 300x200 | | | | | | | | | | | |
| 14 | 350 | 889 | 902 | 972 | 927 | 943 | 972 | 972 | 975 | 1267 | 1257 | 1267 |
| 16 | 400 | 1016 | 1029 | 1108 | 1057 | 1073 | 1108 | 1108 | 1111 | 1422 | 1390 | 1399 |
| 16x12 | 400x300 | | | | | | (1) | | | (1) | (1) | |
| 18 | 450 | 1137 | 1145 | 1240 | 1190 | 1202 | 1240 ⁽³⁾ | 1308 | 1320 | 1644 | 1474 | 1486 |
| 20 | 500 | 1662 | 1674 | 1807 | 1704 | 1722 | 1890 | 1767 | 1773 | 2152 | 1805 | 1818 |
| 24 | 600 | 1999 | 2012 | 2190 | 2056 | 2078 | 2396 | 2120 | 2130 | - | - | - |

1. Consult Baker Hughes.
2. Ex. 80x50 size = valve with 80mm body x standard 50mm trim.
3. Applies to Schedule 40 only. Schedule 80 Face to Face is 1480 mm.

Dimensions (mm)

| Pressure Class | | A | | | A | | | B max | | | | | C max | | | | |
|-------------------|----------------------|-----------------------------------|-------|-------|-----------------------------------|------|------|----------------|----------|----------|-----------|-----------|----------------|----------|----------|-----------|-----------|
| | | ASME Class 1500 and equivalent PN | | | ASME Class 2500 and equivalent PN | | | ASME 150 / 300 | ASME 600 | ASME 900 | ASME 1500 | ASME 2500 | ASME 150 / 300 | ASME 600 | ASME 900 | ASME 1500 | ASME 2500 |
| Valve Size | | BW & SW | RF | RTJ | BW & SW | RF | RTJ | | | | | | | | | | |
| in. | mm | | | | | | | | | | | | | | | | |
| 2 | 50 | 375 | 374.5 | 378 | 400 | 436 | 438 | 94 | 94 | 57 | 57 | 130 | 250 | 250 | 216 | 216 | 262 |
| 3 | 80 | 460 | 460.5 | 463 | 498 | 486 | 491 | 114 | 114 | 143 | 143 | 175 | 300 | 300 | 300 | 300 | 357 |
| 3x2 | 80x50 ⁽²⁾ | (i) | (i) | (i) | (i) | (i) | (i) | 116 | 116 | 143 | 143 | (i) | 251 | 251 | 264 | 264 | (i) |
| 4 | 100 | 530 | 530.5 | 533.5 | 575 | 601 | 609 | 140 | 140 | 159 | 159 | 200 | 330 | 330 | 330 | 330 | 375 |
| 4x2 | 100x50 | (i) | (i) | (i) | (i) | (i) | (i) | 140 | 140 | 154 | 154 | (i) | 261 | 261 | 256 | 256 | (i) |
| 4x3 | 100x80 | 530 | 530.5 | 533.5 | (i) | (i) | (i) | 140 | 140 | 159 | 159 | (i) | 322 | 322 | 322 | 322 | (i) |
| 6 | 150 | 768 | 768 | 774 | 819 | 745 | 748 | 198 | 198 | 217 | 217 | 263 | 390 | 390 | 390 | 390 | 391 |
| 6x3 | 150x80 | 768 | 768 | 774 | (i) | (i) | (i) | 190 | 190 | 160 | 160 | (i) | 322 | 322 | 320 | 320 | (i) |
| 6x4 | 150x100 | 768 | 768 | 774 | (i) | (i) | (i) | 190 | 190 | 160 | 160 | (i) | 342 | 342 | 337 | 337 | (i) |
| 8 | 200 | 832 | 971.5 | 981 | 1029 | 892 | 906 | 186 | 191 | 191 | 205 | 300 | 496 | 496 | 521 | 521 | 450 |
| 8x4 | 200x100 | 832 | 971.5 | 981 | (i) | (i) | (i) | 222 | 222 | 170 | 170 | (i) | 366 | 366 | 330 | 330 | (i) |
| 8x6 | 200x150 | 832 | 971.5 | 981 | (i) | (i) | (i) | 222 | 222 | 172 | 172 | (i) | 433 | 433 | 390 | 390 | (i) |
| 10 | 250 | 991 | 1168 | 1178 | 1270 | 1085 | 1106 | 220 | 228 | 230 | 244 | 362 | 550 | 550 | 570 | 570 | 615 |
| 10x6 | 250x150 | | | | (i) | (i) | (i) | 232 | 232 | 231 | 231 | (i) | 469 | 469 | 390 | 390 | (i) |
| 10x8 | 250x200 | | | | (i) | (i) | (i) | 232 | 232 | 218 | 222 | (i) | 499 | 499 | 521 | 521 | (i) |
| 12 | 300 | 1130 | 1218 | 1234 | 1422 | 1192 | 1213 | 325 | 335 | 345 | 360 | 415 | 620 | 620 | 626 | 626 | 632 |
| 12x8 | 300x200 | (i) | (i) | (i) | (i) | (i) | (i) | 242 | 242 | 250 | 250 | (i) | 496 | 496 | 521 | 521 | (i) |
| 14 | 350 | 1395 | 1257 | 1276 | - | - | - | 440 | 440 | 470 | 470 | - | 663 | 663 | 698 | 809 | - |
| 16 | 400 | 1422 | 1508 | 1530 | 1840 | - | - | 440 | 450 | 460 | 485 | 441 | 694 | 694 | 805 | 805 | 699 |
| 16x12 | 400x300 | (i) | (i) | (i) | (i) | - | - | 450 | 450 | 453 | 477 | (i) | 650 | 650 | 696 | 696 | (i) |
| 18 | 450 | 1830 | 1558 | 1570 | - | - | - | 519 | 531 | 531 | 558 | - | 854 | 854 | 994 | 1069 | - |
| 20 | 500 | - | - | - | - | - | - | 669 | 680 | 692 | - | - | 867 | 904 | 950 | - | - |
| 24 ⁽³⁾ | 600 | - | - | - | - | - | - | 804 | 820 | - | - | - | 1016 | 1046 | - | - | - |
| 24 ⁽⁴⁾ | 600 | - | - | - | - | - | - | 804 | 820 | - | - | - | 1219 | 1249 | - | - | - |

1. Consult Baker Hughes.
2. Ex. 80x50 size = valve with 80mm body x standard 50mm trim.
3. 11" Nominal stroke length.
4. 15" Nominal stroke length.

Dimensions (mm)

High Capacity Globe valve (mm)

| Pressure Class | | 150 | | 300 | | | 600 | | | |
|----------------|-----|-------------|------|------|------|------|------|------|------|------|
| Valve Size | | Dimension | RF | RTJ | BW | RF | RTJ | BW | RF | RTJ |
| in. | mm | | | | | | | | | |
| 6 | 150 | A | 451 | 451 | 508 | 473 | 473 | 508 | 508 | 508 |
| | | B | 138 | 138 | 138 | 138 | 138 | 139 | 139 | 139 |
| | | C (no ext.) | 394 | 394 | 394 | 394 | 394 | 394 | 394 | 394 |
| | | C (w. ext.) | 473 | 473 | 473 | 473 | 473 | 473 | 473 | 473 |
| 8 | 200 | A | 543 | 543 | 610 | 568 | 568 | 610 | 610 | 610 |
| | | B | 190 | 190 | 190 | 190 | 190 | 195 | 195 | 195 |
| | | C (no ext.) | 418 | 418 | 418 | 418 | 418 | 418 | 418 | 418 |
| | | C (w. ext.) | 497 | 497 | 497 | 497 | 497 | 497 | 497 | 497 |
| 10 | 250 | A | 673 | 686 | 752 | 708 | 724 | 752 | 752 | 755 |
| | | B | 258 | 258 | 258 | 258 | 258 | 265 | 265 | 265 |
| | | C | 619 | 619 | 619 | 619 | 619 | 619 | 619 | 619 |
| 12 | 300 | A | 737 | 749 | 819 | 775 | 790 | 819 | 819 | 822 |
| | | B | 279 | 279 | 279 | 279 | 279 | 292 | 292 | 292 |
| | | C | 794 | 794 | 794 | 794 | 794 | 803 | 803 | 803 |
| 16 | 400 | A | 1016 | 1029 | 1108 | 1057 | 1073 | 1108 | 1108 | 1111 |
| | | B | 366 | 366 | 366 | 366 | 366 | 384 | 384 | 384 |
| | | C | 835 | 835 | 835 | 835 | 835 | 835 | 835 | 835 |
| 18 | 450 | A | 1137 | 1145 | 1240 | 1190 | 1202 | 1240 | 1308 | 1320 |
| | | B | 390 | 390 | 390 | 390 | 390 | 429 | 429 | 429 |
| | | C | 858 | 858 | 858 | 858 | 858 | 858 | 858 | 858 |
| 20 | 500 | A | 1662 | 1674 | 1807 | 1704 | 1722 | - | - | - |
| | | B | 532 | 532 | 532 | 532 | 532 | - | - | - |
| | | C | 996 | 996 | 996 | 996 | 996 | - | - | - |
| 24 | 600 | A | 2002 | 2015 | 2193 | 2059 | 2081 | - | - | - |
| | | B | 583 | 583 | 583 | 583 | 583 | - | - | - |
| | | C | 1166 | 1166 | 1166 | 1166 | 1166 | - | - | - |

Angle Body S/A (mm)

| Pressure Class | D | | | | | | | | | | |
|----------------|----------------------------------|-----|----------------------------------|-----|----------------------------------|-----|----------------------------------|-----|-----------------------------------|-----|-----|
| | ASME Class 150 and equivalent PN | | ASME Class 300 and equivalent PN | | ASME Class 600 and equivalent PN | | ASME Class 900 and equivalent PN | | ASME Class 1500 and equivalent PN | | |
| Valve Size | | RF | RTJ | RF | RTJ | RF | RTJ | RF | RF | RF | RFJ |
| in. | mm | | | | | | | | | | |
| 2 | 50 | 131 | 137 | 134 | 142 | 147 | 148 | 185 | 187 | 185 | 187 |
| 3 | 80 | 150 | 157 | 160 | 168 | 179 | 181 | 226 | 228 | 236 | 238 |
| 4 | 100 | 196 | 202 | 204 | 212 | 217 | 219 | 264 | 266 | 274 | 276 |
| 6 | 150 | 212 | 218 | 223 | 231 | 280 | 281 | 306 | 307 | 353 | 356 |

Weights

Globe Style Body S/A Weights (lbs)

| Valve Size | | Flanged Connection | | | | | | Threaded / Welded Connection | | | | | |
|-------------------|--------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|
| in. | mm | ASME Class 150 and equivalent PN | ASME Class 300 and equivalent PN | ASME Class 600 and equivalent PN | ASME Class 900 and equivalent PN | ASME Class 1500 and equivalent PN | ASME Class 2500 and equivalent PN | ASME Class 150 and equivalent PN | ASME Class 300 and equivalent PN | ASME Class 600 and equivalent PN | ASME Class 900 and equivalent PN | ASME Class 1500 and equivalent PN | ASME Class 2500 and equivalent PN |
| 2 | 50 | 99 | 99 | 88 | 121 | 121 | 320 | 88 | 88 | 88 | 88 | 88 | (i) |
| 3 | 80 | 176 | 187 | 187 | 265 | 287 | 518 | 165 | 165 | 165 | 220 | 220 | (i) |
| 3x2 | 80x50 | 143 | 154 | 165 | 198 | 220 | (i) | 132 | 132 | 132 | 154 | 154 | (i) |
| 4 | 100 | 231 | 254 | 265 | 463 | 496 | 860 | 209 | 209 | 209 | 386 | 397 | (i) |
| 4x2 | 100x50 | 176 | 198 | 209 | 331 | 364 | (i) | 154 | 154 | 154 | 254 | 265 | (i) |
| 4x3 | 100x80 | 209 | 220 | 243 | 397 | 430 | (i) | 176 | 187 | 187 | 331 | 331 | (i) |
| 6 | 150 | 397 | 430 | 518 | 893 | 1036 | 1653 | 363 | 363 | 408 | 750 | 816 | (i) |
| 6x3 | 150x80 | 320 | 364 | 441 | 739 | 893 | (i) | 286 | 297 | 342 | 595 | 661 | (i) |
| 6x4 | 150x100 | 353 | 386 | 474 | 805 | 948 | (i) | 319 | 319 | 364 | 650 | 717 | (i) |
| 8 | 200 | 772 | 827 | 937 | 1400 | 1698 | 2679 | 727 | 738 | 783 | 1146 | 1323 | (i) |
| 8x4 | 200x100 | 584 | 639 | 750 | 1157 | 1466 | (i) | 529 | 540 | 584 | 915 | 1091 | (i) |
| 8x6 | 200x150 | 628 | 683 | 794 | 1257 | 1554 | (i) | 573 | 584 | 628 | 1003 | 1179 | (i) |
| 10 | 250 | 1168 | 1257 | 1378 | 2227 | 2646 | 4806 | 1102 | 1113 | 1124 | 1863 | 2006 | (i) |
| 10x6 | 250x150 | 838 | 926 | 1047 | 1775 | 2194 | (i) | 771 | 782 | 794 | 1422 | 1554 | (i) |
| 12 | 300 | 1532 | 1631 | 2116 | 2932 | 4288 | 7176 | 1421 | 1444 | 1819 | 2458 | 3329 | (i) |
| 12x8 | 300x200 | 1135 | 1235 | 1720 | 2502 | 3671 | (i) | 1036 | 1047 | 1422 | 2028 | 2723 | (i) |
| 14 | 350 | 1951 | 2129 | 2698 | 4576 | 6867 | - | 1893 | 1893 | 2336 | 4096 | 5782 | - |
| 16 | 400 | 3274 | 3472 | 3847 | 6338 | 7959 | - | 3119 | 3152 | 3318 | 5666 | 6294 | (i) |
| 16x12 | 400x300 | 3009 | 3197 | 3395 | 5776 | 7363 | - | 2843 | 2888 | 2877 | 5093 | 5699 | (i) |
| 18 | 450 | 3583 | 3869 | 5192 | 8267 | 12765 | - | 3163 | 3163 | 4652 | 7507 | 11023 | - |
| 20 | 500 | 6989 | 7363 | 9160 | 11729 | - | - | 6790 | 6790 | 8311 | 11442 | - | - |
| 24 ⁽¹⁾ | 600 ⁽¹⁾ | 10659 | 11431 | 13702 | - | - | - | 10813 | 10813 | 13062 | - | - | - |

1. Consult Baker Hughes.

Globe Style Body S/A Weights (kg)

| Valve Size | | Flanged Connection | | | | | | Threaded / Welded Connection | | | | | |
|-------------------|--------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|
| in. | mm | ASME Class 150 and equivalent PN | ASME Class 300 and equivalent PN | ASME Class 600 and equivalent PN | ASME Class 900 and equivalent PN | ASME Class 1500 and equivalent PN | ASME Class 2500 and equivalent PN | ASME Class 150 and equivalent PN | ASME Class 300 and equivalent PN | ASME Class 600 and equivalent PN | ASME Class 900 and equivalent PN | ASME Class 1500 and equivalent PN | ASME Class 2500 and equivalent PN |
| 2 | 50 | 45 | 45 | 40 | 55 | 55 | 145 | 40 | 40 | 40 | 40 | 40 | (i) |
| 3 | 80 | 80 | 85 | 85 | 120 | 130 | 235 | 75 | 75 | 75 | 100 | 100 | (i) |
| 3x2 | 80x50 | 65 | 70 | 75 | 90 | 100 | (i) | 60 | 60 | 60 | 70 | 70 | (i) |
| 4 | 100 | 105 | 115 | 120 | 210 | 225 | 390 | 95 | 95 | 95 | 175 | 180 | (i) |
| 4x2 | 100x50 | 80 | 90 | 95 | 150 | 165 | (i) | 70 | 70 | 70 | 115 | 120 | (i) |
| 4x3 | 100x80 | 95 | 100 | 110 | 180 | 195 | (i) | 80 | 85 | 85 | 150 | 150 | (i) |
| 6 | 150 | 180 | 195 | 235 | 405 | 470 | 750 | 165 | 165 | 185 | 340 | 370 | (i) |
| 6x3 | 150x80 | 145 | 165 | 200 | 335 | 405 | (i) | 130 | 297 | 155 | 270 | 300 | (i) |
| 6x4 | 150x100 | 160 | 175 | 215 | 365 | 430 | (i) | 145 | 145 | 165 | 295 | 325 | (i) |
| 8 | 200 | 350 | 375 | 425 | 635 | 770 | 1215 | 330 | 335 | 355 | 520 | 600 | (i) |
| 8x4 | 200x100 | 265 | 290 | 340 | 525 | 665 | (i) | 240 | 245 | 265 | 415 | 495 | (i) |
| 8x6 | 200x150 | 285 | 310 | 360 | 570 | 705 | (i) | 260 | 265 | 285 | 455 | 535 | (i) |
| 10 | 250 | 530 | 570 | 625 | 1010 | 1200 | 2180 | 500 | 505 | 510 | 845 | 910 | (i) |
| 10x6 | 250x150 | 380 | 420 | 475 | 805 | 995 | (i) | 350 | 355 | 360 | 645 | 705 | (i) |
| 12 | 300 | 695 | 740 | 960 | 1330 | 1945 | 3255 | 645 | 655 | 825 | 1115 | 1510 | (i) |
| 12x8 | 300x200 | 515 | 560 | 780 | 1135 | 1665 | (i) | 470 | 475 | 645 | 920 | 1235 | (i) |
| 14 | 350 | 885 | 966 | 1224 | 2076 | 3115 | - | 859 | 859 | 1060 | 1858 | 2623 | - |
| 16 | 400 | 1485 | 1575 | 1745 | 2875 | 3610 | - | 1415 | 1430 | 1505 | 2570 | 2855 | (i) |
| 16x12 | 400x300 | 1365 | 1450 | 1540 | 2620 | 3340 | - | 1290 | 1310 | 1305 | 2310 | 2585 | (i) |
| 18 | 450 | 1625 | 1755 | 2355 | 3750 | 5790 | - | 1435 | 1435 | 2110 | 3405 | 5000 | - |
| 20 | 500 | 3170 | 3340 | 4155 | 5320 | - | - | 3080 | 3080 | 3770 | 5190 | - | - |
| 24 ⁽¹⁾ | 600 ⁽¹⁾ | 4835 | 5185 | 6215 | - | - | - | 4905 | 4905 | 5925 | - | - | - |

1. Consult Baker Hughes.

Weights

Globe Style Body S/A High Capacity Trim Weights (lbs)

| Valve Size | | Flanged Connection | | | Welded Connection | |
|------------|-----|--------------------|----------------|----------------|-------------------|----------------|
| Inches | mm | ASME Class 150 | ASME Class 300 | ASME Class 600 | ASME Class 300 | ASME Class 600 |
| 6 | 150 | 390 | 390 | 507 | 333 | 575 |
| 8 | 200 | 664 | 664 | 935 | 576 | 774 |
| 10 | 250 | 1155 | 1230 | 1786 | 1096 | 1552 |
| 12 | 300 | 1768 | 1881 | 2269 | 1826 | 2134 |
| 16 | 400 | 3305 | 3495 | 4807 | 3151 | 4322 |
| 18 | 450 | 4937 | 5228 | 8824 | 4847 | 8401 |
| 20 | 500 | 7651 | 8017 | - | 7632 | - |
| 24 | 600 | 12238 | 12789 | - | 12436 | - |

Globe Style Body S/A High Capacity Trim Weights (kg)

| Valve Size | | Flanged Connection | | | Welded Connection | |
|------------|-----|--------------------|----------------|----------------|-------------------|----------------|
| Inches | mm | ASME Class 150 | ASME Class 300 | ASME Class 600 | ASME Class 300 | ASME Class 600 |
| 6 | 150 | 177 | 177 | 230 | 151 | 270 |
| 8 | 200 | 301 | 301 | 424 | 261 | 351 |
| 10 | 250 | 524 | 558 | 810 | 497 | 704 |
| 12 | 300 | 802 | 853 | 1029 | 828 | 968 |
| 16 | 400 | 1499 | 1585 | 2180 | 1429 | 1960 |
| 18 | 450 | 2239 | 2371 | 4002 | 2198 | 3810 |
| 20 | 500 | 3470 | 3636 | - | 3461 | - |
| 24 | 600 | 5550 | 5800 | - | 5640 | - |

Weights

Angle Style Body S/A Weights (lbs)

| Valve Size | | Flanged Connection | | | | |
|------------|-----|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|
| | | ASME Class 150 and equivalent PN | ASME Class 300 and equivalent PN | ASME Class 600 and equivalent PN | ASME Class 900 and equivalent PN | ASME Class 1500 and equivalent PN |
| in. | mm | | | | | |
| 2 | 50 | 77 | 79 | 82 | 110 | 110 |
| 3 | 80 | 154 | 165 | 165 | 231 | 254 |
| 4 | 100 | 209 | 220 | 243 | 419 | 463 |
| 6 | 150 | 353 | 375 | 452 | 838 | 992 |

Angle Style Body S/A Weights (kg)

| Valve Size | | Flanged Connection | | | | |
|------------|-----|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|
| | | ASME Class 150 and equivalent PN | ASME Class 300 and equivalent PN | ASME Class 600 and equivalent PN | ASME Class 900 and equivalent PN | ASME Class 1500 and equivalent PN |
| in. | mm | | | | | |
| 2 | 50 | 35 | 36 | 37 | 50 | 50 |
| 3 | 80 | 70 | 75 | 75 | 105 | 115 |
| 4 | 100 | 95 | 100 | 110 | 190 | 210 |
| 6 | 150 | 160 | 170 | 205 | 380 | 450 |

Options

- Extension Bonnets
- Environmental Capabilities (Low-E Packing)
- Lubricator & Isolation Valve
- Other Flange Facings
- Limit Stops
- Body Drain Plug
- Reducer and Nipple Connections
- NACE Compliance
- Custom Trim Materials
- U.O.P. Trim Materials
- Other Materials
- Soft Seat (IEC 534-4 and ASME Class VI)
- Non-Destructive Examination
- Oxygen Cleaning
- Electric Actuators

For Accessories and additional Options, please consult Baker Hughes.

Direct Sales Office Locations

Australia

Brisbane
Phone: +61-7-3001-4319

Perth
Phone: +61-8-6595-7018

Melbourne
Phone: +61-3-8807-6002

Brazil

Phone: +55-19-2104-6900

China

Phone: +86-10-5738-8888

France

Courbevoie
Phone: +33-1-4904-9000

India

Mumbai
Phone: +91-22-8354790

New Delhi

Phone: +91-11-2-6164175

Italy

Phone: +39-081-7892-111

Japan

Tokyo
Phone: +81-03-6871-9008

Korea

Phone: +82-2-2274-0748

Malaysia

Phone: +60-3-2161-03228

Mexico

Phone: +52-55-3640-5060

Russia

Veliky Novgorod
Phone: +7-8162-55-7898

Moscow

Phone: +7-495-585-1276

Saudi Arabia

Phone: +966-3-341-0278

Singapore

Phone: +65-6861-6100

South Africa

Phone: +27-11-452-1550

South & Central America and the Caribbean

Phone: +55-12-2134-1201

Spain

Phone: +34-935-877-605

United Arab Emirates

Phone: +971-4-8991-777

United Kingdom

Phone: +44-7919-382-156

United States

Houston, Texas

Phone: +1-713-966-3600

Find the nearest local Channel Partner in your area:
valves.bakerhughes.com/contact-us

Tech Field Support & Warranty:

Phone: +1-866-827-5378
valvesupport@bakerhughes.com

valves.bakerhughes.com

Copyright 2020 Baker Hughes Company. All rights reserved. Baker Hughes provides this information on an "as is" basis for general information purposes. Baker Hughes does not make any representation as to the accuracy or completeness of the information and makes no warranties of any kind, specific, implied or oral, to the fullest extent permissible by law, including those of merchantability and fitness for a particular purpose or use. Baker Hughes hereby disclaims any and all liability for any direct, indirect, consequential or special damages, claims for lost profits, or third party claims arising from the use of the information, whether a claim is asserted in contract, tort, or otherwise. Baker Hughes reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation. Contact your Baker Hughes representative for the most current information. The Baker Hughes logo, Masoneilan, and Lo-dB are trademarks of Baker Hughes Company. Other company names and product names use

Baker Hughes 

bakerhughes.com