

FIGURE 31 CAST IRON SERIES

SIZES 1½" - 6"

PRESSURES to 250 PSIG at 406°F



FIGURE 31 CAST IRON SERIES

- Meets ASME Section I & VIII Code for Steam, Air & Non-hazardous Gas Service
- "UV" National Board Certified
- Dual Ring Control
- Heavy Duty Construction
- Flanged or Threaded Connections
- SS Trim Design Available
- Heavy Duty Open Lever Assembly

OPTIONS

- SS Trim
- BSP Connections

MODELS

- 0031 - ASME Section I Steam, Bronze Trim
- 0041 - ASME Section VIII Steam, Bronze Trim
- 041A - ASME Section VIII Air, Bronze Trim
- 0032 - SS Base & Disc on 0031
- 0042 - SS Base & Disc on 0041
- 042A - SS Base & Disc on 041A

APPLICATION DATA

- Steam Boilers
- Pressure Reducing Stations
- Unfired Steam Pressure Vessels & Lines
- Air compressors, Cookers, Receivers
- Pneumatic Systems
- OEM Equipment

VALVE RATINGS *Capacity Charts*

| Model | Pressure PSIG (bar) | Temperature °F (°C) |
|-------|--------------------------|----------------------------|
| All | 5 to 250 (.3 to 17.2) | -20 to 406 (-29 to 208) |

APPLICABLE CODES

- ASME Section I "V" for Steam
- ASME Section VIII "UV" for Steam/Air/Gas
- API 527
- Canadian Registration # 0G0591.9C

[Sizing Guidelines](#)

[Testing Specifications](#)

[Installation/Maintenance](#)

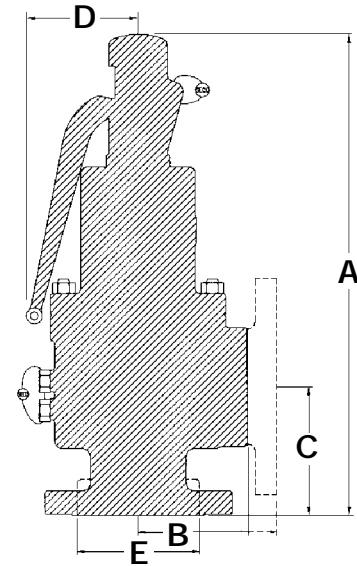
ORDERING CODE

| MODEL NUMBER (Must be 4 Digits) | ORIFICE | INLET SIZE | CONNECTIONS | — | SET PRESSURE (Must be 3 Digits) |
|---|----------|---------------|-----------------|---|------------------------------------|
| example: <u>041A</u> | <u>K</u> | <u>H</u> | <u>C</u> | — | <u>100</u> |
| 0031 - ASME Section I Steam, Bronze Trim | J | G - 1½" | B - FPT x FPT | | Set Pressure |
| 0041 - ASME Section VIII Steam, Bronze Trim | K | H - 2" | C - 250# x FPT | | LAS - Loosely Assembled† |
| 041A - ASME Section VIII Air, Bronze Trim | L | J - 2½" | D - 250# x 125# | | |
| 0032 - SS Base & Disc on 0031 | M | K - 3" | Z - Other | | |
| 0042 - SS Base & Disc on 0041 | N | M - 4" | | | |
| 042A - SS Base & Disc on 041A | P | P - 6" | | | |
| | Q | | | | |
| | R | | | | |

†Spence Certified Assemblers Only (use 0031 or 0032 only)

FIGURE 31 CAST IRON SERIES SPECIFICATION

The valve shall meet the ASME Section VIII Code for steam, air and gas services. It shall be "UV" National Board Certified. The valve shall have dual blowdown ring to allow better adjustment of the pop and blowdown. The valve shall be top guided and shall have a semi nozzle for optimum flow performance. The valve shall have an open lever assembly.



0031, 0041, 041A
0032, 0042, 042A

DIMENSIONS* inches (mm) AND WEIGHTS pounds (kg)

| Model | Inlet | Orifice | Outlet | A | B | C | D ⁽¹⁾ | E | Weight |
|------------------------|------------------|---------|------------------|--------------------------------|---------------|-----------------|------------------|---------------|----------------|
| ****JGB | 1½" FPT (40) | J | 2½" FPT (65) | 15½ (384.2) | 3½ (88.9) | 4¼ (108) | 3 (76.2) | ¾ (82.6) | 29 (13.2) |
| ****JGC | 1½" 250# (40) | J | 2½" FPT (65) | 15½ (384.2) | 3½ (88.9) | 4¼ (108) | 3 (76.2) | — | 36 (16.3) |
| ****JHC | 2" 250# (50) | J | 3" FPT (80) | 15¾ (400.1) | 4 (101.6) | 45/8 (117.5) | 3½ (88.9) | — | 42 (19.1) |
| ****KHB | 2" FPT (50) | K | 3" FPT (80) | 15¾ (400.1) | 4 (101.6) | 4½ (117.5) | 3½ (88.9) | ¾ (92.1) | 36 (16.3) |
| ****KHC | 2" 250# (50) | K | 3" FPT (80) | 15¾ (400.1) | 4 (101.6) | 4½ (117.5) | 3½ (88.9) | — | 42 (19.1) |
| ****KJC | 2½" 250# (65) | K | 3" FPT (80) | 15¾ (400.1) | 4 (101.6) | 4¼ (120.7) | 3½ (88.9) | — | 45 (20.4) |
| ****LJB | 2½" FPT (65) | L | 4" FPT (100) | 23 ⁽²⁾ (584.2) | 5½ (130.2) | 5½ (139.7) | 6 (152.4) | 4½ (114.3) | 97 (44.0) |
| ****LJC | 2½" 250# (65) | L | 4" FPT (100) | 23 ⁽²⁾ (584.2) | 5½ (130.2) | 5½ (139.7) | 6 (152.4) | — | 105 (47.6) |
| ****KKC | 3" 250# (80) | K | 3" FPT (80) | 15¾ (400.1) | 4 (101.6) | 5 (127) | 3½ (88.9) | — | 48 (21.8) |
| ****LKC | 3" 250# (80) | L | 4" FPT (100) | 23 ⁽²⁾ (584.2) | 5½ (130.2) | 5½ (139.7) | 6 (152.4) | — | 107 (48.5) |
| ****MKB | 3" FPT (80) | M | 4" FPT (100) | 23½ ⁽²⁾ (587.4) | 5½ (130.2) | 55/8 (142.9) | 6 (152.4) | 4½ (114.3) | 99 (44.9) |
| ****MKC | 3" 250# (80) | M | 4" FPT (100) | 23 ⁽²⁾ (584.2) | 5½ (130.2) | 5½ (139.7) | 6 (152.4) | — | 107 (48.5) |
| ****NMD | 4" 250# (100) | N | 6" 125# (150) | 28½ ⁽²⁾ (723.9) | 7¼ (184.2) | 6¾ (171.5) | 6 (152.4) | — | 212 (96.2) |
| ****PMD | 4" 250# (100) | P | 6" 125# (150) | 28½ ⁽²⁾ (723.9) | 7¼ (184.2) | 6¾ (171.5) | 6 (152.4) | — | 212 (96.2) |
| ****QPD ⁽²⁾ | 6" 250# (150) | Q | 8" 125# (200) | 45⅝ ⁽²⁾ (1150.9) | 10 (254) | 9¼ (235) | 10½ (266.7) | — | 675 (306.2) |
| ****RPD ⁽²⁾ | 6" 250# (150) | R | 8" 125# (200) | 45⅝ ⁽²⁾ (1150.9) | 10 (254) | 9¼ (235) | 10½ (266.7) | — | 675 (306.2) |

*Accurate to ±1/8".

**** Use appropriate Model Number.

⁽¹⁾ Add 50% to D Dimension when lever is pulled out to manually operate valve.

⁽²⁾ Dimensions are current as of printing, consult factory for updated dimensions as they may change.

FIGURE 31 CAST IRON SERIES MATERIALS OF CONSTRUCTION

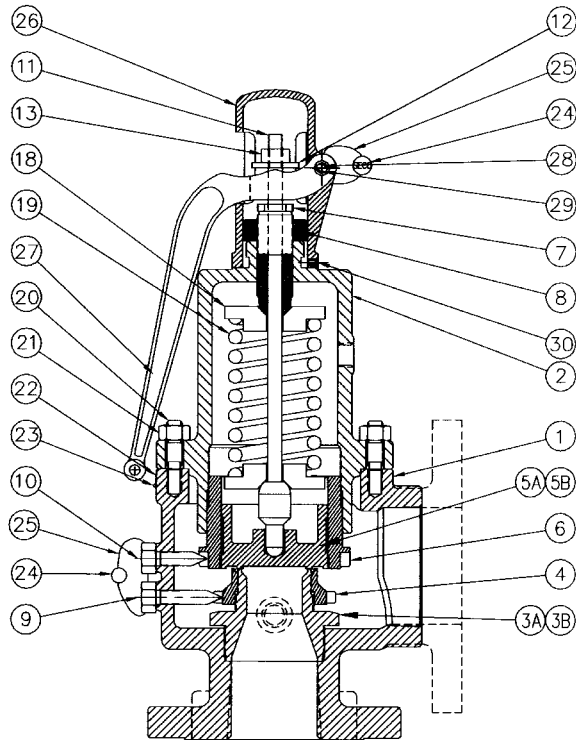
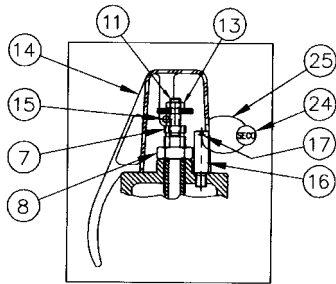


FIGURE 31 CAST IRON SERIES



**CAP & LEVER CONFIGURATION
FOR J & K ORIFICES**

| Materials | | |
|-----------|------------------------|--|
| Ref | Part Name | Material |
| 1 | Body | Cast Iron ASTM A126-B |
| 2 | Bonnet | Cast Iron ASTM A126-B |
| 3A | Nozzle - Bronze | Brass or Bronze ASTM B16 or B62 |
| 3B | Nozzle - SST | SST ASME SA351, CF8M or ASME SA479, S31600 |
| 4 | Nozzle Ring | Bronze ASTM B584-C84400 |
| 5A | Disc - Bronze | Brass or Bronze ASTM B16 or B62 |
| 5B | Disc - SST | SST ASTM A479, S31600 |
| 6 | Guide Ring | ASTM B584-C84400 |
| 7 | Adjusting Bolt | Brass ASTM B16 |
| 8 | Adjusting Bolt Locknut | Steel, Zinc Plated |
| 9 | Nozzle Ring Set Screw | Brass ASTM B16 |
| 10 | Guide Ring Set Screw | Brass ASTM B16 |
| 11 | Spindle | Steel ASTM A108 Grade 1212 |
| 12 | Spindle Nut | Steel ASTM A108 Grade 1212 |
| 13 | Spindle Nut Locknut | Steel, Zinc Plated |
| 14 | Lifting Cap | Zinc Alloy Zamac #3 |
| 15 | Lifting Cap Pins | Steel, Zinc Plated AISI 1020 |
| 16 | Pivot Post | Steel AISI 1020 |
| 17 | Post Pin | Steel, Zinc Plated AISI 1070 |
| 18 | Spring Washer | Steel AISI 1212 |
| 19 | Spring | Steel Zinc Plated |
| 20 | Stud | Steel, Chrome-Moly ASTM A193 B7 |
| 21 | Stud Nut | Steel, Chrome-Moly ASTM A194 2H |
| 22 | Nameplate | SST AISI 304 |
| 23 | Nameplate Screws | SST Commercial 18-8 |
| 24 | Lead Seal | Lead |
| 25 | Seal Wire | SST AISI 304 |
| 26 | Lifting Cap | Cast Iron A126-B |
| 27 | Lifting Lever | Cast Iron ASTM A126-B |
| 28 | Clevis Pin | Steel, Zinc Plated |
| 29 | Cotter Pin | Steel |
| 30 | Liftcap Lockscrew | Steel |

SATURATED STEAM CAPACITY CHART

CAST IRON MODELS 0031 & 0032

ASME Section I "V" 90% rated at 3% Overpressure LBS/HR (KGS/HR)

Flow Coefficient = .9 x .975 = .878

LBS/HR

KGS/HR

| Set Pressure PSIG | Orifice Area, in ² | | | | | | | |
|----------------------|-------------------------------|-------|-------|-------|-------|-------|--------|--------|
| | J | K | L | M | N | P | Q | R |
| | 1.391 | 1.892 | 2.935 | 3.715 | 4.468 | 6.564 | 11.365 | 16.475 |
| 5 * | 1363 | 1854 | 2875 | 3640 | 4377 | 6431 | 11134 | 16141 |
| 10 * | 1465 | 2281 | 3538 | 4478 | 5386 | 7912 | 13700 | 19860 |
| 15 | 1991 | 2708 | 4200 | 5318 | 6394 | 9394 | 16265 | 23579 |
| 20 | 2305 | 3135 | 4863 | 6157 | 7403 | 10876 | 18831 | 27298 |
| 25 | 2619 | 3562 | 5526 | 6996 | 8412 | 12358 | 21396 | 31017 |
| 30 | 2983 | 3989 | 6188 | 7835 | 9420 | 13839 | 23962 | 34736 |
| 35 | 3247 | 4416 | 6851 | 8674 | 10429 | 15321 | 26527 | 38455 |
| 40 | 3561 | 4843 | 7513 | 9512 | 11437 | 16803 | 29093 | 42174 |
| 45 | 3875 | 5270 | 8176 | 10351 | 12446 | 18285 | 31658 | 45893 |
| 50 | 4189 | 5697 | 8838 | 11190 | 13455 | 19766 | 34224 | 49612 |
| 55 | 4503 | 6125 | 9501 | 12029 | 14463 | 21248 | 36789 | 53331 |
| 60 | 4817 | 6552 | 10163 | 12868 | 15472 | 22730 | 39355 | 57050 |
| 65 | 5131 | 6979 | 10826 | 13707 | 16480 | 24212 | 41920 | 60769 |
| 70 | 5451 | 7414 | 11502 | 14562 | 17509 | 25723 | 44537 | 64562 |
| 75 | 5774 | 7854 | 12184 | 15426 | 18548 | 27249 | 47180 | 68393 |
| 80 | 6098 | 8294 | 12866 | 16290 | 19587 | 28775 | 49822 | 72223 |
| 85 | 6421 | 8734 | 13549 | 17154 | 20626 | 30302 | 52464 | 76054 |
| 90 | 6745 | 9174 | 14231 | 18018 | 21665 | 31828 | 55107 | 79884 |
| 95 | 7068 | 9614 | 14914 | 18882 | 22703 | 33354 | 57749 | 83715 |
| 100 | 7392 | 10054 | 15596 | 19746 | 23742 | 34880 | 60392 | 87546 |
| 105 | 7715 | 10494 | 16279 | 20610 | 24781 | 36406 | 63034 | 91376 |
| 110 | 8038 | 10934 | 16961 | 21474 | 25820 | 37932 | 65677 | 95207 |
| 115 | 8362 | 11374 | 17643 | 22338 | 26859 | 39459 | 68319 | 99037 |
| 120 | 8685 | 11813 | 18326 | 23202 | 27898 | 40985 | 70962 | 102868 |
| 125 | 9009 | 12253 | 19008 | 24066 | 28937 | 42511 | 73604 | 106699 |
| 130 | 9332 | 12693 | 19691 | 24930 | 29975 | 44037 | 76247 | 110529 |
| 135 | 9655 | 13133 | 20373 | 25794 | 31014 | 45563 | 78889 | 114360 |
| 140 | 9979 | 13573 | 21055 | 26658 | 32053 | 47090 | 81532 | 118190 |
| 145 | 10302 | 14013 | 21738 | 27522 | 33092 | 48616 | 84174 | 122021 |
| 150 | 10626 | 14453 | 22420 | 28386 | 34131 | 50142 | 86817 | 125851 |
| 155 | 10949 | 14893 | 23103 | 29250 | 35170 | 51668 | 89459 | 129682 |
| 160 | 11273 | 15333 | 23785 | 30114 | 36208 | 53194 | 92101 | 133513 |
| 165 | 11596 | 15773 | 24468 | 30978 | 37247 | 54721 | 94744 | 137343 |
| 170 | 11919 | 16212 | 25150 | 31842 | 38286 | 56247 | 97386 | 141174 |
| 175 | 12243 | 16652 | 25832 | 32706 | 39325 | 57773 | 100029 | 145004 |
| 180 | 12566 | 17092 | 26515 | 33570 | 40364 | 59299 | 102671 | 148835 |
| 185 | 12890 | 17532 | 27197 | 34434 | 41403 | 60825 | 105314 | 152666 |
| 190 | 13213 | 17972 | 27880 | 35298 | 42442 | 62351 | 107956 | 156496 |
| 195 | 13537 | 18412 | 28562 | 36162 | 43480 | 63878 | 110599 | 160327 |
| 200 | 13860 | 18852 | 29244 | 37026 | 44519 | 65404 | 113241 | 164157 |
| 205 | 14183 | 19292 | 29927 | 37890 | 45558 | 66930 | 115884 | 167988 |
| 210 | 14507 | 19732 | 30609 | 38754 | 46597 | 68456 | 118526 | 171818 |
| 215 | 14830 | 20172 | 31292 | 39618 | 47636 | 69982 | 121169 | 175649 |
| 220 | 15154 | 20612 | 31974 | 40482 | 48675 | 71509 | 123811 | 179480 |
| 225 | 15477 | 21051 | 32656 | 41346 | 49714 | 73035 | 126453 | 183310 |
| 230 | 15800 | 21491 | 33339 | 42210 | 50752 | 74561 | 129096 | 187141 |
| 235 | 16124 | 21931 | 34021 | 43074 | 51791 | 76087 | 131738 | 190971 |
| 240 | 16447 | 22371 | 34704 | 43938 | 52830 | 77613 | 134381 | 194802 |
| 245 | 16771 | 22811 | 35386 | 44802 | 53869 | 79140 | 137023 | 198633 |
| 250 | 17094 | 23251 | 36069 | 45666 | 54908 | 80666 | 139666 | 202463 |
| 1.0 | 64.6 | 88.0 | 136.4 | 172.8 | 207.8 | 305.2 | 528.4 | 766.0 |

| Set Pressure Barg | Orifice Area, cm ² | | | | | | | |
|----------------------|-------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | J | K | L | M | N | P | Q | R |
| | 8.97 | 12.21 | 18.94 | 23.97 | 28.83 | 42.35 | 73.32 | 106.29 |
| 0.4* | 641 | 872 | 1352 | 1712 | 2059 | 3025 | 5237 | 7591 |
| 0.6* | 724 | 984 | 1527 | 1932 | 2324 | 3414 | 5912 | 8570 |
| 0.8* | 806 | 1097 | 1701 | 2153 | 2589 | 3804 | 6587 | 9548 |
| 1* | 889 | 1209 | 1875 | 2374 | 2855 | 4194 | 7262 | 10527 |
| 1.2 | 971 | 1321 | 2050 | 2594 | 3120 | 4584 | 7937 | 11505 |
| 1.4 | 1054 | 1434 | 2224 | 2815 | 3385 | 4974 | 8611 | 12483 |
| 1.6 | 1137 | 1546 | 2398 | 3036 | 3651 | 5363 | 9286 | 13462 |
| 1.8 | 1219 | 1658 | 2573 | 3256 | 3916 | 5753 | 9961 | 14440 |
| 2 | 1302 | 1771 | 2747 | 3477 | 4182 | 6143 | 10636 | 15419 |
| 2.2 | 1384 | 1883 | 2921 | 3697 | 4447 | 6533 | 11311 | 16397 |
| 2.4 | 1467 | 1995 | 3095 | 3918 | 4712 | 6923 | 11986 | 17376 |
| 2.6 | 1550 | 2108 | 3270 | 4139 | 4978 | 7313 | 12661 | 18354 |
| 2.8 | 1632 | 2220 | 3444 | 4359 | 5243 | 7702 | 13336 | 19332 |
| 3 | 1715 | 2333 | 3618 | 4580 | 5508 | 8092 | 14011 | 20311 |
| 3.2 | 1797 | 2445 | 3793 | 4801 | 5774 | 8482 | 14686 | 21289 |
| 3.4 | 1880 | 2557 | 3967 | 5021 | 6039 | 8872 | 15361 | 22268 |
| 3.6 | 1963 | 2670 | 4141 | 5242 | 6304 | 9262 | 16036 | 23246 |
| 3.8 | 2045 | 2782 | 4316 | 5462 | 6570 | 9652 | 16711 | 24225 |
| 4 | 2128 | 2894 | 4490 | 5683 | 6835 | 10041 | 17386 | 25203 |
| 4.2 | 2211 | 3007 | 4664 | 5904 | 7100 | 10431 | 18061 | 26181 |
| 4.4 | 2293 | 3119 | 4838 | 6124 | 7366 | 10821 | 18736 | 27160 |
| 4.6 | 2376 | 3231 | 5013 | 6345 | 7631 | 11211 | 19411 | 28139 |
| 4.8 | 2461 | 3347 | 5192 | 6572 | 7904 | 11613 | 20106 | 29146 |
| 5 | 2546 | 3463 | 5372 | 6800 | 8178 | 12014 | 20801 | 30154 |
| 5.2 | 2631 | 3579 | 5551 | 7027 | 8451 | 12416 | 21497 | 31162 |
| 5.4 | 2716 | 3694 | 5731 | 7254 | 8724 | 12817 | 22192 | 32170 |
| 5.6 | 2801 | 3810 | 5911 | 7481 | 8998 | 13219 | 22887 | 33177 |
| 6 | 2971 | 4042 | 6270 | 7936 | 9544 | 14022 | 24277 | 35193 |
| 6.5 | 3184 | 4331 | 6718 | 8504 | 10228 | 15025 | 26015 | 37713 |
| 7 | 3397 | 4620 | 7167 | 9072 | 10911 | 16029 | 27753 | 40232 |
| 7.5 | 3610 | 4910 | 7616 | 9640 | 11594 | 17033 | 29491 | 42751 |
| 8 | 3822 | 5199 | 8065 | 10208 | 12277 | 18037 | 31229 | 45271 |
| 8.5 | 4035 | 5488 | 8514 | 10776 | 12961 | 19041 | 32967 | 47790 |
| 9 | 4248 | 5778 | 8963 | 11345 | 13644 | 20045 | 34705 | 50310 |
| 9.5 | 4460 | 6067 | 9411 | 11913 | 14327 | 21048 | 36443 | 52829 |
| 10 | 4673 | 6356 | 9860 | 12481 | 15010 | 22052 | 38181 | 55349 |
| 10.5 | 4886 | 6646 | 10309 | 13049 | 15694 | 23056 | 39919 | 57868 |
| 11 | 5099 | 6935 | 10758 | 13617 | 16377 | 24060 | 41657 | 60388 |
| 11.5 | 5311 | 7224 | 11207 | 14185 | 17060 | 25064 | 43395 | 62907 |
| 12 | 5524 | 7514 | 11656 | 14753 | 17744 | 26067 | 45133 | 65426 |
| 12.5 | 5737 | 7803 | 12104 | 15321 | 18427 | 27071 | 46871 | 67946 |
| 13 | 5949 | 8092 | 12553 | 15889 | 19110 | 28075 | 48609 | 70465 |
| 13.5 | 6162 | 8382 | 13002 | 16458 | 19793 | 29079 | 50347 | 72985 |
| 14 | 6375 | 8671 | 13451 | 17026 | 20477 | 30083 | 52085 | 75504 |
| 14.5 | 6588 | 8960 | 13900 | 17594 | 21160 | 31086 | 53823 | 78024 |
| 15 | 6800 | 9250 | 14349 | 18162 | 21843 | 32090 | 55561 | 80543 |
| 15.5 | 7013 | 9539 | 14798 | 18730 | 22526 | 33094 | 57299 | 83063 |
| 16 | 7226 | 9828 | 15246 | 19298 | 23210 | 34098 | 59037 | 85582 |
| 16.5 | 7438 | 10118 | 15695 | 19866 | 23893 | 35102 | 60775 | 88102 |
| 17 | 7651 | 10407 | 16144 | 20434 | 24576 | 36105 | 62513 | 90621 |
| 0.1 | 42.5 | 57.9 | 89.8 | 113.6 | 136.6 | 200.8 | 347.6 | 503.9 |

* Pressure settings below 15 PSIG (1.034 barg) are non code.

SATURATED STEAM CAPACITY CHART

CAST IRON MODELS 0041 & 0042

ASME Section VIII "UV" 90% rated at 10% Overpressure LBS/HR (KGS/HR)
Flow Coefficient = .9 x .975 = .878

| LBS/HR | | | | | | | | | KGS/HR | | | | | | | | |
|-------------------|-------------------------------|-------|-------|-------|-------|-------|--------|--------|-------------------|-------------------------------|-------|-------|-------|-------|-------|-------|--------|
| Set Pressure PSIG | Orifice Area, in ² | | | | | | | | Set Pressure Barg | Orifice Area, cm ² | | | | | | | |
| | J | K | L | M | N | P | Q | R | | J | K | L | M | N | P | Q | R |
| | 1.391 | 1.892 | 2.935 | 3.715 | 4.468 | 6.564 | 11.365 | 16.475 | | 8.97 | 12.21 | 18.94 | 23.97 | 28.83 | 42.35 | 73.32 | 106.29 |
| 5 * | 1428 | 1845 | 3013 | 3813 | 4586 | 6737 | 11665 | 16910 | 0.4* | 670 | 912 | 1414 | 1790 | 2153 | 3163 | 5477 | 7939 |
| 10 * | 1742 | 2251 | 3676 | 4653 | 5596 | 8221 | 14235 | 20635 | 0.6* | 753 | 1024 | 1589 | 2011 | 2419 | 3554 | 6153 | 8919 |
| 15 | 2057 | 2798 | 4340 | 5494 | 6606 | 9706 | 16804 | 24360 | 0.8* | 836 | 1137 | 1763 | 2232 | 2685 | 3944 | 6829 | 9899 |
| 20 | 2371 | 3225 | 5003 | 6335 | 7617 | 11190 | 19374 | 28085 | 1* | 918 | 1249 | 1938 | 2453 | 2950 | 4334 | 7504 | 10879 |
| 25 | 2686 | 3653 | 5667 | 7175 | 8627 | 12674 | 21943 | 31809 | 1.2 | 1001 | 1362 | 2113 | 2674 | 3216 | 4725 | 8180 | 11858 |
| 30 | 3000 | 4081 | 6330 | 8015 | 9637 | 14158 | 24513 | 35534 | 1.4 | 1084 | 1474 | 2287 | 2895 | 3482 | 5115 | 8856 | 12838 |
| 35 | 3346 | 4551 | 7060 | 8939 | 10748 | 15790 | 27339 | 39631 | 1.6 | 1167 | 1587 | 2462 | 3116 | 3747 | 5505 | 9532 | 13818 |
| 40 | 3692 | 5022 | 7790 | 9863 | 11859 | 17422 | 30165 | 43729 | 1.8 | 1249 | 1699 | 2636 | 3337 | 4013 | 5896 | 10208 | 14798 |
| 45 | 4038 | 5492 | 8520 | 10787 | 12970 | 19055 | 32992 | 47826 | 2 | 1332 | 1812 | 2811 | 3558 | 4279 | 6286 | 10884 | 15777 |
| 50 | 4384 | 5963 | 9250 | 11711 | 14081 | 20687 | 35818 | 51923 | 2.2 | 1420 | 1932 | 2997 | 3793 | 4562 | 6702 | 11604 | 16821 |
| 55 | 4730 | 6433 | 9980 | 12636 | 15193 | 22320 | 38645 | 56020 | 2.4 | 1511 | 2056 | 3189 | 4036 | 4854 | 7131 | 12347 | 17899 |
| 60 | 5076 | 6904 | 10710 | 13560 | 16304 | 23952 | 41471 | 60117 | 2.6 | 1602 | 2179 | 3381 | 4279 | 5146 | 7561 | 13091 | 18977 |
| 65 | 5422 | 7374 | 11440 | 14484 | 17415 | 25585 | 44297 | 64215 | 2.8 | 1693 | 2303 | 3573 | 4522 | 5439 | 7990 | 13834 | 20055 |
| 70 | 5768 | 7845 | 12170 | 15408 | 18526 | 27217 | 47124 | 68312 | 3 | 1784 | 2427 | 3765 | 4765 | 5731 | 8420 | 14578 | 21132 |
| 75 | 6114 | 8316 | 12900 | 16332 | 19637 | 28849 | 49950 | 72409 | 3.2 | 1875 | 2551 | 3957 | 5008 | 6023 | 8849 | 15321 | 22210 |
| 80 | 6460 | 8786 | 13630 | 17256 | 20748 | 30482 | 52777 | 76506 | 3.4 | 1966 | 2674 | 4149 | 5251 | 6316 | 9278 | 16065 | 23288 |
| 85 | 6805 | 9257 | 14359 | 18180 | 21860 | 32114 | 55603 | 80604 | 3.6 | 2057 | 2798 | 4341 | 5494 | 6608 | 9708 | 16808 | 24365 |
| 90 | 7151 | 9727 | 15089 | 19105 | 22971 | 33747 | 58429 | 84701 | 3.8 | 2148 | 2922 | 4533 | 5737 | 6900 | 10137 | 17552 | 25443 |
| 95 | 7497 | 10198 | 15819 | 20029 | 24082 | 35379 | 61256 | 88798 | 4 | 2239 | 3046 | 4725 | 5980 | 7192 | 10567 | 18295 | 26521 |
| 100 | 7843 | 10668 | 16549 | 20953 | 25193 | 37012 | 64082 | 92895 | 4.2 | 2330 | 3169 | 4917 | 6223 | 7485 | 10996 | 19038 | 27599 |
| 105 | 8189 | 11139 | 17279 | 21877 | 26304 | 38644 | 66909 | 96992 | 4.4 | 2421 | 3293 | 5109 | 6466 | 7777 | 11425 | 19782 | 28676 |
| 110 | 8538 | 11609 | 18009 | 22801 | 27415 | 40276 | 69735 | 101090 | 4.6 | 2512 | 3417 | 5301 | 6709 | 8069 | 11855 | 20525 | 29754 |
| 115 | 8881 | 12080 | 18739 | 23725 | 28527 | 41909 | 72561 | 105187 | 4.8 | 2603 | 3541 | 5493 | 6952 | 8362 | 12284 | 21269 | 30832 |
| 120 | 9227 | 12550 | 19469 | 24649 | 29638 | 43541 | 75388 | 109284 | 5 | 2694 | 3665 | 5685 | 7195 | 8654 | 12713 | 22012 | 31910 |
| 125 | 9573 | 13021 | 20199 | 25574 | 30749 | 45174 | 78214 | 113381 | 5.2 | 2785 | 3788 | 5877 | 7438 | 8946 | 13143 | 22756 | 32987 |
| 130 | 9919 | 13491 | 20929 | 26498 | 31860 | 46806 | 81041 | 117479 | 5.4 | 2876 | 3912 | 6069 | 7681 | 9238 | 13572 | 23499 | 34065 |
| 135 | 10265 | 13962 | 21659 | 27422 | 32971 | 46438 | 83867 | 121576 | 5.6 | 2967 | 4036 | 6261 | 7924 | 9531 | 14002 | 24243 | 35143 |
| 140 | 10611 | 14432 | 22388 | 28346 | 34082 | 50071 | 86693 | 125673 | 6 | 3149 | 4283 | 6645 | 8410 | 10115 | 14860 | 25730 | 37298 |
| 145 | 10957 | 14903 | 23118 | 29270 | 35194 | 51703 | 89520 | 129770 | 6.5 | 3377 | 4593 | 7125 | 9018 | 10846 | 15934 | 27588 | 39993 |
| 150 | 11303 | 15373 | 23848 | 30194 | 36305 | 53336 | 92346 | 133868 | 7 | 3604 | 4902 | 7605 | 9626 | 11577 | 17007 | 29447 | 42687 |
| 155 | 11648 | 15844 | 24578 | 31118 | 37416 | 54968 | 95173 | 137965 | 7.5 | 3832 | 5212 | 8085 | 10233 | 12307 | 18081 | 31305 | 45381 |
| 160 | 11994 | 16314 | 25308 | 32043 | 38527 | 56601 | 97999 | 142062 | 8 | 4059 | 5521 | 8565 | 10841 | 13038 | 19154 | 33164 | 48075 |
| 165 | 12340 | 16785 | 26038 | 32967 | 39638 | 58233 | 100825 | 146159 | 8.5 | 4287 | 5830 | 9045 | 11448 | 13769 | 20228 | 35023 | 50770 |
| 170 | 12686 | 17256 | 26768 | 33891 | 40749 | 59865 | 103652 | 150256 | 9 | 4514 | 6140 | 9525 | 12056 | 14499 | 21301 | 36881 | 53464 |
| 175 | 13032 | 17726 | 27498 | 34815 | 41861 | 61498 | 106478 | 154354 | 9.5 | 4742 | 6449 | 10005 | 12663 | 15230 | 22375 | 38740 | 56158 |
| 180 | 13378 | 18197 | 28228 | 35739 | 42972 | 63130 | 109305 | 158451 | 10 | 4969 | 6759 | 10485 | 13271 | 15961 | 23448 | 40599 | 58853 |
| 185 | 13724 | 18667 | 28958 | 36663 | 44083 | 64763 | 112131 | 162548 | 10.5 | 5196 | 7068 | 10965 | 13878 | 16691 | 24522 | 42457 | 61547 |
| 190 | 14070 | 19138 | 29688 | 37587 | 45194 | 66395 | 114957 | 166645 | 11 | 5424 | 7378 | 11445 | 14486 | 17422 | 25595 | 44316 | 64241 |
| 195 | 14416 | 19608 | 30418 | 38512 | 46305 | 68028 | 117784 | 170743 | 11.5 | 5651 | 7687 | 11925 | 15094 | 18153 | 26669 | 46174 | 66936 |
| 200 | 14762 | 20079 | 31147 | 39436 | 47416 | 69660 | 120610 | 174840 | 12 | 5879 | 7996 | 12404 | 15701 | 18884 | 27742 | 48033 | 69630 |
| 205 | 15108 | 20549 | 31877 | 40360 | 48527 | 71292 | 123437 | 178937 | 12.5 | 6106 | 8306 | 12884 | 16309 | 19614 | 28816 | 49892 | 72324 |
| 210 | 15454 | 21020 | 32607 | 41284 | 49639 | 72925 | 126263 | 183034 | 13 | 6334 | 8615 | 13364 | 16916 | 20345 | 29889 | 51750 | 75019 |
| 215 | 15800 | 21490 | 33337 | 42208 | 50750 | 74557 | 129089 | 187131 | 13.5 | 6561 | 8925 | 13844 | 17524 | 21076 | 30963 | 53609 | 77713 |
| 220 | 16146 | 21961 | 34067 | 43132 | 51861 | 76190 | 131916 | 191229 | 14 | 6789 | 9234 | 14324 | 18131 | 21806 | 32036 | 55468 | 80407 |
| 225 | 16492 | 22431 | 34797 | 44057 | 52972 | 77822 | 134742 | 195326 | 14.5 | 7016 | 9543 | 14804 | 18739 | 22537 | 33110 | 57326 | 83102 |
| 230 | 16837 | 22902 | 35527 | 44981 | 54083 | 79455 | 137569 | 199423 | 15 | 7244 | 9853 | 15284 | 19346 | 23268 | 34183 | 59185 | 85796 |
| 235 | 17183 | 23372 | 36257 | 45905 | 55194 | 81087 | 140395 | 203520 | 15.5 | 7471 | 10162 | 15764 | 19954 | 23998 | 35256 | 61044 | 88490 |
| 240 | 17529 | 23843 | 36987 | 46829 | 56306 | 82719 | 143221 | 207618 | 16 | 7699 | 10472 | 16244 | 20562 | 24729 | 36330 | 62902 | 91185 |
| 245 | 17875 | 24313 | 37717 | 47753 | 57417 | 84352 | 146048 | 211715 | 16.5 | 7926 | 10781 | 16724 | 21169 | 25460 | 37403 | 64761 | 93879 |
| 250 | 18221 | 24784 | 38447 | 48677 | 58528 | 85984 | 148874 | 215812 | 17 | 8154 | 11091 | 17204 | 21777 | 26191 | 38477 | 66619 | 96573 |
| 1.0 | 69.2 | 94.0 | 146.0 | 184.8 | 222.2 | 326.4 | 565.2 | 819.4 | 0.1 | 45.5 | 61.9 | 96 | 121.5 | 146.1 | 214.7 | 371.7 | 538.9 |

* Pressure settings below 15 PSIG (1.034 barg) are non code.



AIR CAPACITY CHART

CAST IRON MODELS 041A & 042A

ASME Section VIII "UV" 90% rated at 10% Overpressure SCFM (M³/HR)
Flow Coefficient = .9 x .975 = .878

SCFM

M³/HR

| Set Pressure PSIG | Orifice Area, in ² | | | | | | | |
|-------------------|-------------------------------|-------|-------|-------|-------|-------|--------|--------|
| | J | K | L | M | N | P | Q | R |
| | 1.391 | 1.892 | 2.935 | 3.715 | 4.468 | 6.564 | 11.365 | 16.475 |
| 5 * | 508 | 691 | 1072 | 1357 | 1632 | 2398 | 4152 | 6019 |
| 10 * | 620 | 843 | 1308 | 1656 | 1992 | 2926 | 5067 | 7345 |
| 15 | 732 | 996 | 1545 | 1956 | 2351 | 3455 | 5981 | 8671 |
| 20 | 844 | 1148 | 1781 | 2255 | 2711 | 3983 | 6896 | 9996 |
| 25 | 956 | 1300 | 2017 | 2554 | 3071 | 4511 | 7810 | 11322 |
| 30 | 1068 | 1453 | 2253 | 2853 | 3430 | 5039 | 8725 | 12648 |
| 35 | 1191 | 1620 | 2513 | 3182 | 3826 | 5620 | 9731 | 14106 |
| 40 | 1314 | 1787 | 2773 | 3511 | 4221 | 6201 | 10737 | 15565 |
| 45 | 1437 | 1955 | 3033 | 3840 | 4617 | 6782 | 11743 | 17023 |
| 50 | 1560 | 2122 | 3292 | 4169 | 5012 | 7363 | 12749 | 18482 |
| 55 | 1684 | 2290 | 3552 | 4498 | 5408 | 7945 | 13755 | 19940 |
| 60 | 1807 | 2457 | 3812 | 4826 | 5803 | 8526 | 14761 | 21398 |
| 65 | 1930 | 2625 | 4072 | 5155 | 6199 | 9107 | 15767 | 22857 |
| 70 | 2053 | 2792 | 4332 | 5484 | 6594 | 9688 | 16773 | 24315 |
| 75 | 2176 | 2960 | 4592 | 5813 | 6990 | 10269 | 17779 | 25773 |
| 80 | 2299 | 3127 | 4851 | 6142 | 7385 | 10850 | 18785 | 27232 |
| 85 | 2422 | 3295 | 5111 | 6471 | 7781 | 11431 | 19791 | 28690 |
| 90 | 2545 | 3462 | 5371 | 6800 | 8176 | 12012 | 20797 | 30149 |
| 95 | 2669 | 3630 | 5631 | 7129 | 8572 | 12593 | 21804 | 31607 |
| 100 | 2792 | 3797 | 5891 | 7458 | 8967 | 13174 | 22810 | 33065 |
| 105 | 2915 | 3965 | 6150 | 7787 | 9363 | 13755 | 23816 | 34524 |
| 110 | 3038 | 4132 | 6410 | 8116 | 9758 | 14336 | 24822 | 35982 |
| 115 | 3161 | 4300 | 6670 | 8445 | 10154 | 14917 | 25828 | 37440 |
| 120 | 3284 | 4467 | 6930 | 8774 | 10549 | 15498 | 26834 | 38899 |
| 125 | 3407 | 4635 | 7190 | 9103 | 10945 | 16079 | 27840 | 40357 |
| 130 | 3531 | 4802 | 7449 | 9432 | 11340 | 16660 | 28846 | 41816 |
| 135 | 3654 | 4970 | 7709 | 9761 | 11736 | 17241 | 29852 | 43274 |
| 140 | 3777 | 5137 | 7969 | 10090 | 12131 | 17822 | 30858 | 44732 |
| 145 | 3900 | 5305 | 8229 | 10418 | 12527 | 18403 | 31864 | 46191 |
| 150 | 4023 | 5472 | 8489 | 10747 | 12922 | 18984 | 32870 | 47649 |
| 155 | 4146 | 5640 | 8748 | 11076 | 13318 | 19565 | 33876 | 49107 |
| 160 | 4269 | 5807 | 9008 | 11405 | 13713 | 20147 | 34882 | 50566 |
| 165 | 4392 | 5974 | 9268 | 11734 | 14109 | 20728 | 35888 | 52024 |
| 170 | 4516 | 6142 | 9528 | 12063 | 14504 | 21309 | 36894 | 53483 |
| 175 | 4639 | 6309 | 9788 | 12392 | 14900 | 21890 | 37900 | 54941 |
| 180 | 4762 | 6477 | 10047 | 12721 | 15295 | 22471 | 38906 | 56399 |
| 185 | 4885 | 6644 | 10307 | 13050 | 15691 | 23052 | 39912 | 57858 |
| 190 | 5008 | 6812 | 10567 | 13379 | 16086 | 23633 | 40918 | 59316 |
| 195 | 5131 | 6979 | 10827 | 13708 | 16482 | 24214 | 41924 | 60774 |
| 200 | 5254 | 7147 | 11087 | 14037 | 16877 | 24795 | 42930 | 62233 |
| 205 | 5378 | 7314 | 11346 | 14366 | 17273 | 25376 | 43936 | 63691 |
| 210 | 5501 | 7482 | 11606 | 14695 | 17668 | 25957 | 44942 | 65150 |
| 215 | 5624 | 7649 | 11866 | 15024 | 18064 | 26538 | 45948 | 66608 |
| 220 | 5747 | 7817 | 12126 | 15353 | 18459 | 27119 | 46954 | 68066 |
| 225 | 5870 | 7984 | 12386 | 15682 | 18855 | 27700 | 47960 | 69525 |
| 230 | 5993 | 8152 | 12646 | 16010 | 19251 | 28281 | 48966 | 70983 |
| 235 | 6116 | 8319 | 12905 | 16339 | 19646 | 28862 | 49972 | 72441 |
| 240 | 6239 | 8487 | 13165 | 16668 | 20042 | 29443 | 50979 | 73900 |
| 245 | 6363 | 8654 | 13425 | 16997 | 20437 | 30024 | 51985 | 75358 |
| 250 | 6486 | 8822 | 13685 | 17326 | 20833 | 30605 | 52991 | 76817 |
| 1.0 | 24.6 | 33.6 | 52.0 | 65.8 | 79.2 | 116.2 | 201.2 | 291.8 |

| Set Pressure Barg | Orifice Area, cm ² | | | | | | | |
|-------------------|-------------------------------|-------|-------|-------|-------|-------|-------|--------|
| | J | K | L | M | N | P | Q | R |
| | 8.97 | 12.21 | 18.94 | 23.97 | 28.83 | 42.35 | 73.32 | 106.29 |
| 0.4* | 894 | 1216 | 1886 | 2387 | 2871 | 4218 | 7303 | 10587 |
| 0.6* | 1004 | 1366 | 2119 | 2682 | 3225 | 4739 | 8205 | 11893 |
| 0.8* | 1114 | 1516 | 2352 | 2976 | 3580 | 5259 | 9106 | 13200 |
| 1* | 1225 | 1666 | 2584 | 3271 | 3934 | 5780 | 10007 | 14506 |
| 1.2 | 1335 | 1816 | 2817 | 3566 | 4288 | 6300 | 10908 | 15813 |
| 1.4 | 1445 | 1966 | 3050 | 3860 | 4643 | 6821 | 11810 | 17119 |
| 1.6 | 1556 | 2116 | 3283 | 4155 | 4997 | 7341 | 12711 | 18426 |
| 1.8 | 1666 | 2266 | 3515 | 4450 | 5351 | 7862 | 13612 | 19732 |
| 2 | 1776 | 2416 | 3748 | 4744 | 5706 | 8382 | 14513 | 21039 |
| 2.2 | 1894 | 2576 | 3996 | 5058 | 6083 | 8937 | 15474 | 22431 |
| 2.4 | 2015 | 2741 | 4252 | 5382 | 6473 | 9510 | 16465 | 23868 |
| 2.6 | 2137 | 2906 | 4508 | 5706 | 6863 | 10082 | 17456 | 25305 |
| 2.8 | 2258 | 3071 | 4764 | 6030 | 7252 | 10655 | 18448 | 26742 |
| 3 | 2379 | 3236 | 5020 | 6354 | 7642 | 11227 | 19439 | 28179 |
| 3.2 | 2501 | 3401 | 5276 | 6678 | 8032 | 11800 | 20430 | 29617 |
| 3.4 | 2622 | 3566 | 5532 | 7002 | 8422 | 12372 | 21422 | 31054 |
| 3.6 | 2743 | 3731 | 5788 | 7326 | 8811 | 12945 | 22413 | 32491 |
| 3.8 | 2865 | 3896 | 6044 | 7651 | 9201 | 13518 | 23405 | 33928 |
| 4 | 2986 | 4061 | 6300 | 7975 | 9591 | 14090 | 24396 | 35365 |
| 4.2 | 3107 | 4226 | 6556 | 8299 | 9981 | 14663 | 25387 | 36802 |
| 4.4 | 3229 | 4391 | 6812 | 8623 | 10370 | 15235 | 26379 | 38239 |
| 4.6 | 3350 | 4556 | 7068 | 8947 | 10760 | 15808 | 27370 | 39676 |
| 4.8 | 3471 | 4722 | 7324 | 9271 | 11150 | 16381 | 28361 | 41114 |
| 5 | 3593 | 4887 | 7580 | 9595 | 11540 | 16953 | 29353 | 42551 |
| 5.2 | 3714 | 5052 | 7836 | 9919 | 11929 | 17526 | 30344 | 43988 |
| 5.4 | 3835 | 5217 | 8092 | 10243 | 12319 | 18098 | 31336 | 45425 |
| 5.6 | 3957 | 5382 | 8348 | 10567 | 12709 | 18671 | 32327 | 46862 |
| 6 | 4199 | 5712 | 8860 | 11215 | 13488 | 19816 | 34310 | 49736 |
| 6.5 | 4503 | 6124 | 9501 | 12025 | 14463 | 21247 | 36788 | 53329 |
| 7 | 4806 | 6537 | 10141 | 12836 | 15437 | 22679 | 39267 | 56922 |
| 7.5 | 5109 | 6950 | 10781 | 13646 | 16412 | 24110 | 41745 | 60515 |
| 8 | 5413 | 7362 | 11421 | 14456 | 17386 | 25542 | 44224 | 64108 |
| 8.5 | 5716 | 7775 | 12061 | 15266 | 18360 | 26973 | 46702 | 67700 |
| 9 | 6019 | 8187 | 12701 | 16076 | 19335 | 28405 | 49180 | 71293 |
| 9.5 | 6323 | 8600 | 13341 | 16886 | 20309 | 29836 | 51659 | 74886 |
| 10 | 6626 | 9013 | 13981 | 17696 | 21283 | 31268 | 54137 | 78479 |
| 10.5 | 6929 | 9425 | 14621 | 18507 | 22258 | 32699 | 56616 | 82072 |
| 11 | 7233 | 9838 | 15261 | 19317 | 23232 | 34131 | 59094 | 85665 |
| 11.5 | 7536 | 10250 | 15901 | 20127 | 24206 | 35562 | 61573 | 89257 |
| 12 | 7839 | 10663 | 16541 | 20937 | 25181 | 36994 | 64051 | 92850 |
| 12.5 | 8143 | 11076 | 17181 | 21747 | 26155 | 38425 | 66530 | 96443 |
| 13 | 8446 | 11488 | 17821 | 22557 | 27130 | 39856 | 69008 | 100036 |
| 13.5 | 8749 | 11901 | 18461 | 23368 | 28104 | 41288 | 71486 | 103629 |
| 14 | 9053 | 12313 | 19101 | 24178 | 29078 | 42719 | 73965 | 107221 |
| 14.5 | 9356 | 12726 | 19741 | 24988 | 30053 | 44151 | 76443 | 110814 |
| 15 | 9659 | 13139 | 20381 | 25798 | 31027 | 45582 | 78922 | 114407 |
| 15.5 | 9963 | 13551 | 21022 | 26608 | 32001 | 47014 | 81400 | 118000 |
| 16 | 10266 | 13964 | 21662 | 27418 | 32976 | 48445 | 83879 | 121593 |
| 16.5 | 10570 | 14376 | 22302 | 28228 | 33950 | 49877 | 86357 | 125186 |
| 17 | 10873 | 14789 | 22942 | 29039 | 34925 | 51308 | 88836 | 128778 |
| 0.1 | 60.7 | 82.5 | 128 | 162 | 194.9 | 286.3 | 495.7 | 718.6 |

* Pressure settings below 15 PSIG (1.034 barg) are non code.