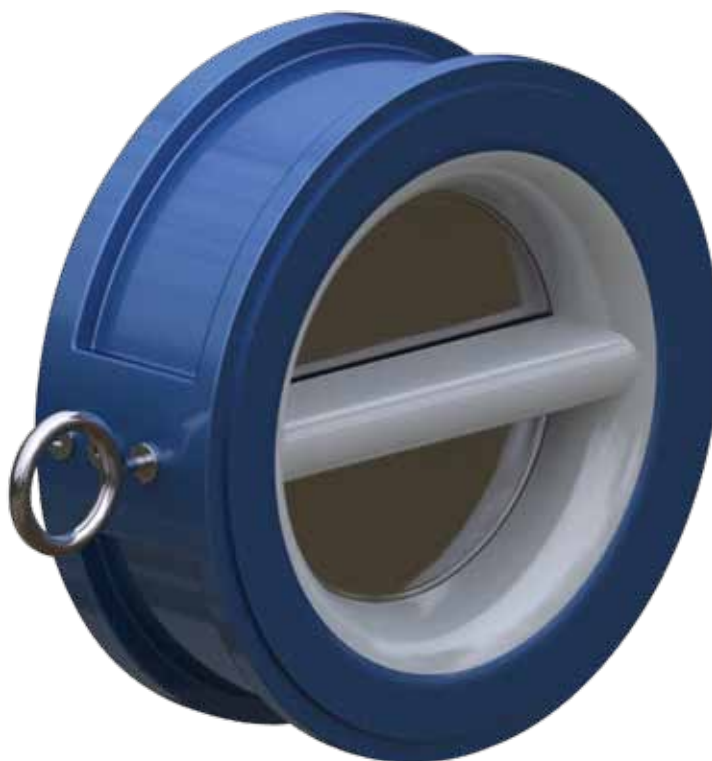




APCO DOUBLE DOOR CHECK VALVES



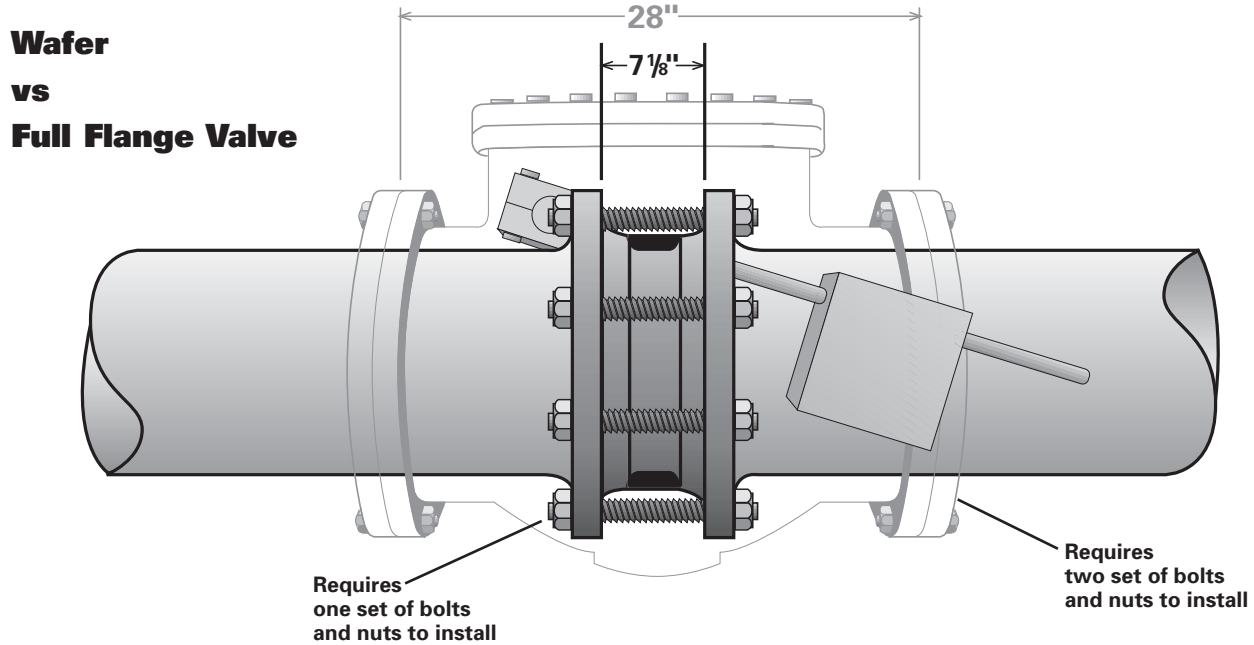
Series 9000/9000L/9400

The Advantages of Double Door Check Valves

This type of check valve is widely specified and has been successfully used for many years in refineries and petrochemical plants. Reasons for its success include the unique short face to face length, low purchase cost and non-slam principle of operation.

It is obvious why APCO Double Door Check Valves (DDCV) are the most economical to purchase and install by the following comparison.

- A 12" (300mm) Swing Check Valve of conventional design (as manufactured by APCO), Model 6012, 125# class has a face to face length of 28" (700mm) A 12" (300mm) APCO DDCV, Model 9012, 125# class has a face to face length of 7 $\frac{1}{8}$ " (181mm).
- The 12" (300mm) swing check valve 125# class weighs 900 lbs (408kg). The 12" (300mm) APCO DDCV 125# class weighs 125 lbs (57kg).



DDCVs have an excellent performance reputation in refineries, petrochemical and process plants. It should be understood that operating conditions in refineries, petrochemical and process plants are unique. Because they rarely shut down, DDCVs are used throughout the plant. Piping in these plants is usually designed to withstand the fast closing action of double door check type valves. When considering the DDCV for anything other than refineries, petrochemical or gas liquification plants, it is important to note that the DDCV is fast closing but not silent.

No single check valve is all serving. For example, the DDCV is excellent for refinery and petrochemical media, but it would be a poor selection for sewage media, due to the obstruction in the flow area, etc. DDCVs are available in various styles and materials for pressures up to 2500# class, sizes to 72" (1800mm).

For more comparison information about various type check valves, see Bulletin #769 - "APCO Check Valve Guide"

Factory Mutual System Approved

Series 9000

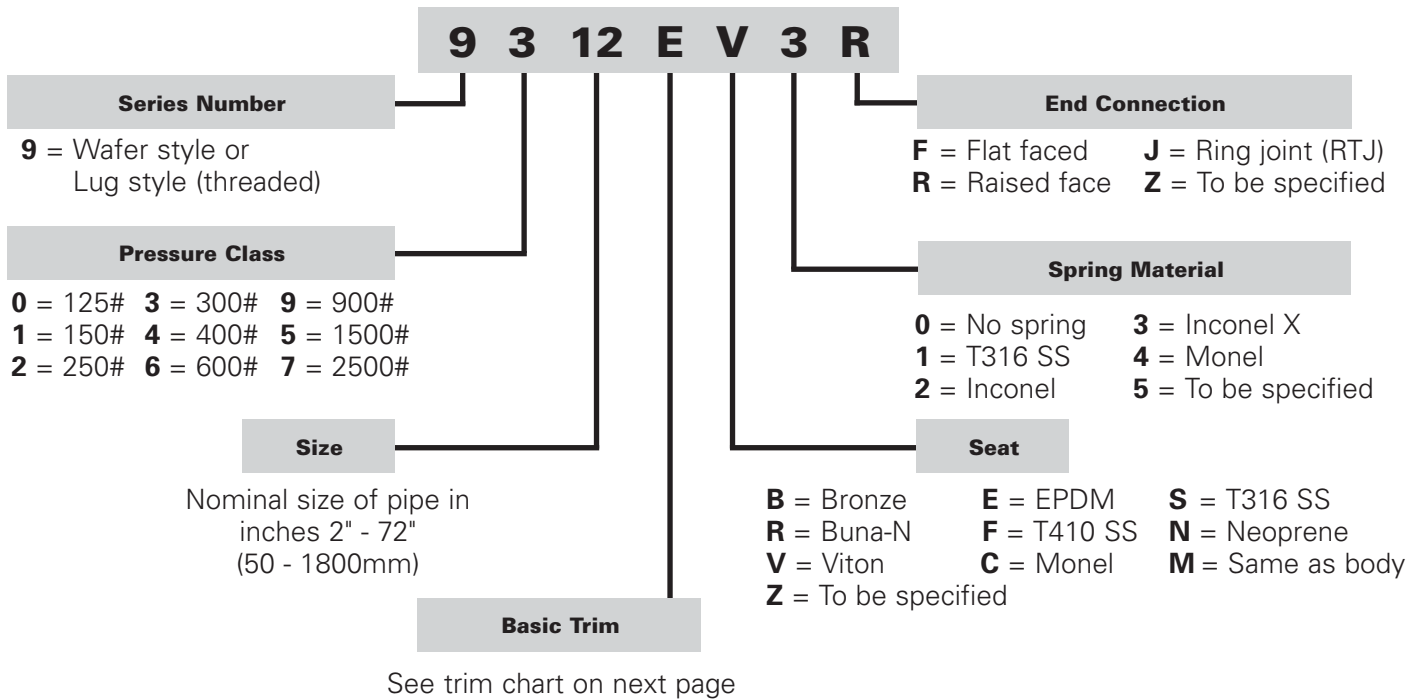
ISO dimensions available

Materials Designation Index

Series 9000

APCO Double Door Check Valves can be easily identified or specified by using the following index:

Example Specification: Series 9000 DDCV, 300 lb. raised face ends, 12" (300mm) size, carbon steel body, T316 stainless steel doors, hinge pin and stop pin with viton seat, Inconel X spring



Basic Trim

| | |
|---|--|
| Trim A 2" - 24" (50 - 600mm) | Ductile Iron Body – T304 Stainless Steel Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| 30" – 72" (750 - 1800mm) | Ductile Iron Body – Ductile Iron Doors – Stainless Steel Faced – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim B 2" - 12" (50 - 300mm) | Cast Iron Body – Cast Steel Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| 14" – 72" (350 - 1800mm) | Cast Iron Body – Ductile Iron Doors – Nickel Faced – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim C | Carbon Steel Body and Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim D | Carbon Steel Body – 410 Stainless Steel Doors – T316 Stainless Steel Hinge Pin and Stop Pin. Note: Body to Have 410 Stainless Steel Overlay in Seating Area Unless Otherwise Specified. |
| Trim E | Carbon Steel Body – T316 Stainless Steel Doors, Hinge Pin and Stop Pin. Note: Body to Have T316 Stainless Steel Overlay in Seating Area Unless Otherwise Specified. |
| Trim F | 410 Stainless Steel Body, Doors, Hinge Pin and Stop Pin. |
| Trim G | T316 Stainless Steel Body, Doors, Hinge Pin and Stop Pin. |
| Trim H | Cast Iron Body, T316 Stainless Steel Doors, Hinge Pin and Stop Pin. Note: 14" (350Mm) and Larger to Have Ductile Iron Doors with Stainless Steel Facing. |
| Trim I | Ductile Iron Body and T316 Stainless Steel Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim J | Ductile Iron Body – Aluminum Bronze Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim K | Aluminum Bronze Body and Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim L | Aluminum Body and Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim M | Carbon Steel Body – Monel Doors, Hinge Pin and Stop Pin. |
| Trim N | Alloy Steel ASTM A217 – Grades - C5 - WC6 - WC9 or C12 – 410 Stainless Steel Hinge Pin and Stop Pin. Please specify grade. |
| Trim P | Nickel Aluminum Bronze Body and Doors – Monel Hinge Pin and Stop Pin. |
| Trim Q | 316 L Stainless Steel Body and Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim R | 317 Stainless Steel Body and Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim S | Duplex Stainless Steel Body and Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Trim T | 254 SMO Stainless Steel Body and Doors – T316 Stainless Steel Hinge Pin and Stop Pin. |
| Additional Trim (Z) | Contact Factory for Optional Materials |

Note: Overlays for trim D & E
T410SS - T316SS - overlay available

All valves conform to A.P.I. 594 dimensional standards and are designed for mounting between A.N.S.I. flanges.

** All facing is for seating area only.

Trim Material Specification

Body And Door (Cast Parts)

| | | | |
|------------------------------|------------------------------|------------------|----------------------|
| Cast Iron | ASTM A126 GR. B | Monel | ASTM A494 GR. 35-1 |
| Ductile Iron | ASTM A536 GR. 65-45-12 | Aluminum . . . | ASTM B26 Alloy 713.0 |
| Aluminum Bronze | ASTM B148 C95200 (casting) | 5CR | ASTM A217 GR. C5 |
| | ASTM B169 C61400 (facing) | 9CR | ASTM A217 GR. C12 |
| Carbon Steel/Cast Steel . . | ASTM A216 GR. WCB* | Nickel | Per customer request |
| T410 Stainless Steel | ASTM A217 GR. CA-15 | | |
| T316 Stainless Steel | ASTM A351 GR. CF8M (casting) | | |
| | ASTM A240 S31600 (facing) | | |

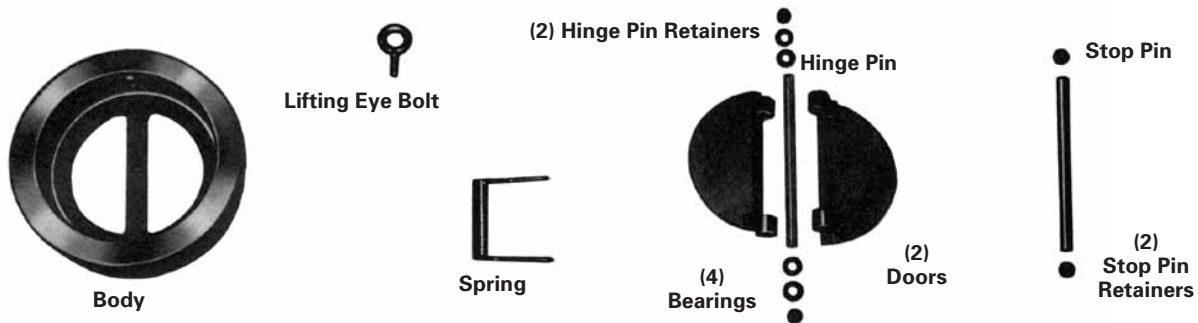
Hinge And Stop Pins, Pin Retainers (Bar Stock Parts)

| | |
|------------------------------|---------------------|
| T316 Stainless Steel | ASTM A276 S31600 |
| Monel | ASTM B164 Alloy 400 |

* Steel to ASTM A352 GR. LCB for low temperature service is available.

Note: For materials not listed above, use trim designation Z and specify required material.

Double Door Check Valve Components



| Recommended Temperature Limits for Standard Spring Materials | | |
|--|--------------------------------|-----|
| Spring Material | Maximum Operating Temperatures | |
| | °F | °C |
| Stainless Steel T316 | 325 | 163 |
| Inconel | 625 | 329 |
| Inconel X (Heat Treated) | 1000 | 538 |
| Monel | 225 | 107 |

| Operating Temperature Ranges For Standard Seat Materials | | |
|--|-----------------------------|-------------|
| Seat Material | Operating Temperature Range | |
| | °F | °C |
| Buna-N | -70 to 250 | -57 to 121 |
| Metal to Metal | -450 to 1000 | -268 to 538 |
| Viton A* | -40 to 425 | -40 to 218 |
| Neoprene | -40 to 250 | -40 to 121 |

For pressures of 25 psi (172 kpa) or less, contact factory for soft seat recommendations.

Cross Sectional Views Buna-N Seals

*A product designation of DuPont.





DDCV seals are compression molded under strict quality control standards. Every seal is tested.

Buna-N seals on high pressure series Double Door Check Valves (DDCVs) withstand elevated pressure without leaking, setting or damage. The seal is compression molded under tons of pressure into a groove in the body. Therefore, when the DDCV is shut off under high pressure the seal is forced back into the groove and protected against damage. Seals on all series DDCVs are compression molded into the bodies, not on the doors. In this manner the seal is further protected from the direct flow stream.

APCO Pressure-Temperature Ratings

| Maximum Non-Shock Service Pressure (psi/kpa) | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------------------|-------------------|----------------|-----------------|-------------------|----------------|---------------------------------|-------------|-----------------------|---------------|----------------------------------|--------------|---------------|---------------|---------------|---------------|------------------------------------|---------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|
| Temp °F °C | Cast Iron ASTM A126 GR.B | | | | | | Ductile Iron ASTM A536 | | Bronze ASTM B62 | | Carbon Steel ASTM A216 GR WCB | | | | | | Stainless Steel ASTM A351 CF 8M | | | | | | | | |
| | Class 125# | | | Class 250# | | | Pressure Class | | Pressure Class | | Pressure Class | | | | | | Pressure Class | | | | | | | | |
| | 1-12" 25-300 | 14-24" 350-600 | 30" > 750 ≥ | 1-12" 25-300 | 14-24" 350-600 | 30" > 750 ≥ | 150 | 300 | 150 | 300 | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 | |
| 0-150 -18-66 | | | | | | | | | | 225 1551 | 500 3447 | | | | | | | | | | | | | | |
| -20-100 -29-38 | | | | | | | 250 1724 | 640 4413 | | | | 285 1965 | 740 5102 | 990 6826 | 1480 10204 | 2220 15306 | 3705 25545 | 6170 42541 | 275 1896 | 720 4964 | 960 6619 | 1440 9928 | 2160 14893 | 3600 24821 | 6000 41369 |
| -20-150 -29-66 | 200 1379 | 150 1034 | 150 1034 | 500 3447 | 300 2068 | 300 2068 | 242 1669 | 620 4275 | | | 272 1875 | 707 4875 | 945 6516 | 1415 9756 | 2122 14631 | 3540 24407 | 5897 40658 | 257 1772 | 670 4619 | 892 6150 | 1340 9239 | 2010 13858 | 3347 23077 | 5580 38473 | |
| 200 93 | 190 1310 | 135 931 | 115 793 | 460 3172 | 280 1931 | 250 1724 | 235 1620 | 600 4137 | 210 1448 | 465 3206 | 260 1793 | 675 4654 | 900 6205 | 1350 9308 | 2025 13962 | 3375 23270 | 5625 38783 | 240 1655 | 620 4275 | 825 5688 | 1240 8549 | 1860 12824 | 3095 21339 | 5160 35577 | |
| 250 121 | 175 1207 | 125 862 | 85 586 | 415 2861 | 260 1793 | 200 1379 | 225 1551 | 582 4013 | 195 1344 | 425 2930 | 245 1689 | 665 4585 | 887 6116 | 1332 9184 | 1997 13769 | 3327 22939 | 5547 38245 | 227 1565 | 590 4068 | 785 5412 | 1180 8136 | 1770 12204 | 2945 20305 | 4910 33853 | |
| 300 149 | 165 1138 | 110 758 | 50 345 | 375 2586 | 240 1655 | 150 1034 | 215 1482 | 565 3896 | 180 1241 | 390 2689 | 230 1586 | 655 4516 | 875 6033 | 1315 9067 | 1970 13583 | 3280 22615 | 5470 37714 | 215 1482 | 560 3861 | 745 5137 | 1120 7722 | 1680 11583 | 2795 19271 | 4660 32130 | |
| Seat Test PSI kPa | 200 1379 | 150 1034 | 150 1034 | 500 3447 | 300 2068 | 300 2068 | 275 1896 | 720 4964 | 300 2068 | 1000 6895 | 315 2172 | 815 5619 | 1090 7515 | 1630 11238 | 2445 16858 | 4075 28096 | 6790 46815 | 305 2103 | 795 5481 | 1060 7308 | 1585 10928 | 2380 16410 | 3960 27303 | 6600 45505 | |
| Shell Test PSI kPa | 300 2068 | 230 1586 | 230 1586 | 750 5171 | 450 3103 | 450 3103 | 400 2758 | 975 6722 | 450 3103 | 1500 10342 | 450 3103 | 1125 7757 | 1500 10342 | 2225 15341 | 3350 23097 | 5575 38438 | 9275 63949 | 425 2930 | 1100 7584 | 1450 9997 | 2175 14996 | 3250 22408 | 5400 37232 | 9000 62053 | |

F° PSI Inch
C° kPa Millimeter



Actual flow testing for head loss characteristics. 1991, Conducted at Utah State University Water Research Laboratory, Logan, Utah



All APCO Valves including DDCVs are 100% hydrostatically pressure tested for soundness of body, door castings and tightness of seating. Each DDCV must pass a rigid, high pressure, no-leak test witnessed by a qualified inspector before it is released.

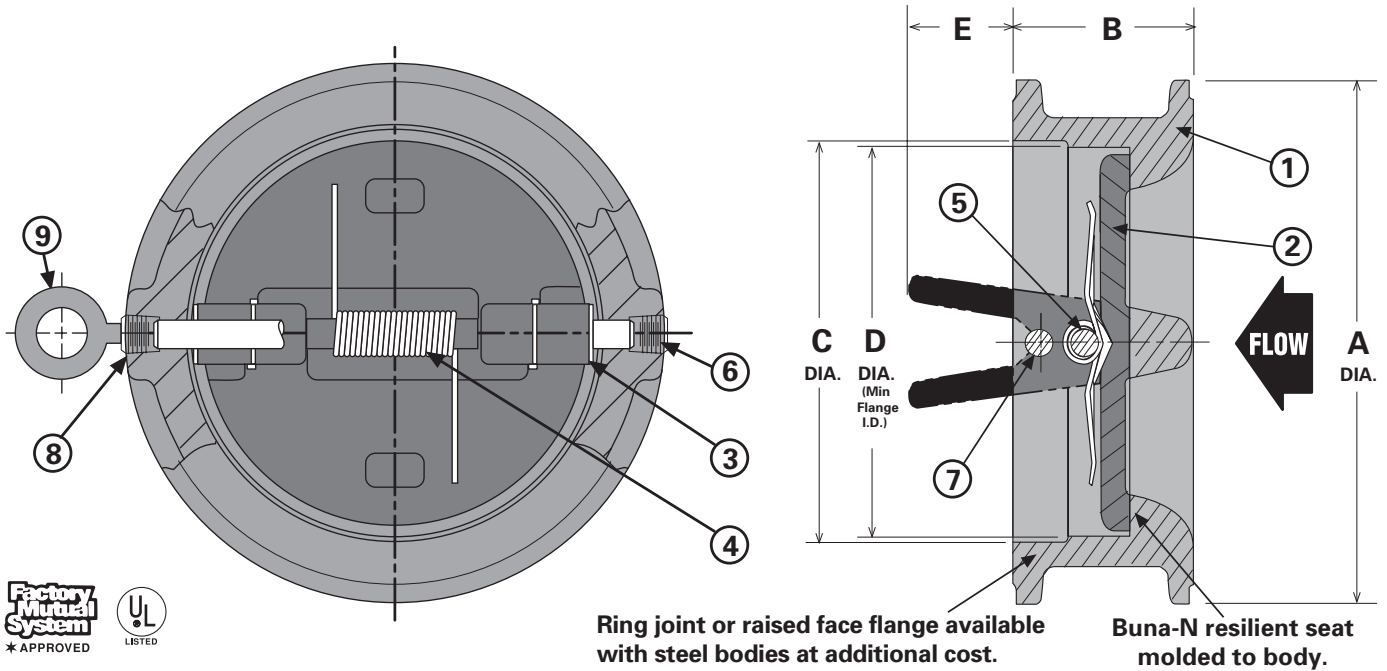
Double Door Check Valve

Pressure - Temperature Ratings (ANSI B16.5) (ANSI B16.34) for Carbon Steel ASTM A216-WCB and T316 Stainless Steel ASTM A351-CF8M

| Temp | Maximum Non-Shock Service Pressure (psi/kpa) | | | | | | | | | | | | | |
|---------------------------------------|--|-------------|--------------|--------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | 150# Class | | 300# Class | | 400# Class | | 600# Class | | 900# Class | | 1500# Class | | 2500# Class | |
| °F/°C | Steel | S.S. | Steel | S.S. | Steel | S.S. | Steel | S.S. | Steel | S.S. | Steel | S.S. | Steel | S.S. |
| -20 to 100 -29 to 37.8 | 285 1965 | 275 1896 | 740 5102 | 720 4964 | 990 6826 | 960 6619 | 1480 10204 | 1440 9928 | 2220 15306 | 2160 14893 | 3705 25545 | 3600 24821 | 6170 42541 | 6000 41369 |
| 200 93.3 | 260 1793 | 240 1655 | 675 4654 | 620 4275 | 900 6205 | 825 5688 | 1350 9308 | 1240 8549 | 2025 13962 | 1860 12824 | 3375 23270 | 3095 21339 | 5625 38783 | 5160 35577 |
| 300 148.9 | 230 1586 | 215 1482 | 655 4516 | 560 3861 | 875 6033 | 745 5137 | 1315 9067 | 1120 7722 | 1970 13583 | 1680 11583 | 3280 22615 | 2795 19271 | 5470 37714 | 4660 32130 |
| 400 204.4 | 200 1379 | 195 1344 | 635 4378 | 515 3551 | 845 5826 | 685 4723 | 1270 8756 | 1030 7102 | 1900 13100 | 1540 10618 | 3170 21856 | 2570 17720 | 5280 36404 | 4280 29510 |
| 500 260 | 170 1172 | 170 1172 | 600 4137 | 480 3309 | 800 5516 | 635 4378 | 1200 8274 | 955 6584 | 1795 12376 | 1435 9894 | 2995 20650 | 2390 16478 | 4990 34405 | 3980 27441 |
| 600 315.6 | 140 965 | 140 965 | 550 3792 | 450 3103 | 730 5033 | 600 4137 | 1095 7550 | 905 6240 | 1640 11307 | 1355 9342 | 2735 18857 | 2255 15548 | 4560 31440 | 3760 25924 |
| 650 343.3 | 125 862 | 125 862 | 535 3689 | 445 3068 | 715 4930 | 590 4068 | 1075 7412 | 890 6136 | 1610 11101 | 1330 9170 | 2685 18512 | 2220 15306 | 4475 30854 | 3700 25511 |
| 700 371.1 | 110 758 | 110 758 | 535 3689 | 430 2965 | 710 4895 | 575 3964 | 1065 7343 | 865 5964 | 1600 11032 | 1295 8929 | 2665 18375 | 2160 14893 | 4440 30613 | 3600 24821 |
| 750 398.9 | 95 655 | 95 655 | 505 3482 | 425 2930 | 670 4619 | 565 3896 | 1010 6964 | 845 5826 | 1510 10411 | 1270 8756 | 2520 17375 | 2110 14548 | 4200 28958 | 3520 24270 |
| 800 426.7 | 80 552 | 80 552 | 410 2827 | 415 2861 | 550 3792 | 555 3827 | 825 5688 | 830 5723 | 1235 8515 | 1245 8584 | 2060 14203 | 2075 14307 | 3430 23649 | 3460 23856 |
| 850 454.4 | 65 448 | 65 448 | 270 1862 | 405 2792 | 355 2448 | 540 3723 | 535 3689 | 810 5585 | 805 5550 | 1215 8377 | 1340 9239 | 2030 13996 | 2230 15375 | 3320 22891 |
| 900 482.2 | 50 345 | 50 345 | 170 1172 | 395 2723 | 230 1586 | 525 3620 | 345 2379 | 790 5447 | 515 3551 | 1180 8136 | 860 5929 | 1970 13583 | 1430 9860 | 3280 22615 |
| 950 510 | 35 241 | 35 241 | 105 724 | 385 2654 | 140 965 | 515 3551 | 205 1413 | 775 5343 | 310 2137 | 1160 7998 | 515 3551 | 1930 13307 | 860 5929 | 3220 22201 |
| 1000 537.8 | 20 138 | 20 138 | 50 345 | 365 2517 | 70 483 | 485 3344 | 105 724 | 725 4999 | 155 1069 | 1090 7515 | 260 1793 | 1820 12548 | 430 2965 | 3030 20891 |
| Hydrostatic Shell Test Pressure | 450 3103 | 425 2930 | 1125 7757 | 1100 7584 | 1500 10342 | 1450 9997 | 2225 15341 | 2175 14996 | 3350 23097 | 3250 22408 | 5575 38438 | 5400 37232 | 9275 63949 | 9000 62053 |

PSI
kPa

Double Door Check Valve



Standard Materials of Construction

| | | | |
|---|---|---|--------------------------------|
| 1 | Body | 6 | Hinge Pin Retainer |
| | Cast Iron ASTM A 126 GR. B* or Ductile Iron | | Steel |
| 2 | Door | 7 | Stop Pin |
| | Al. Bronze ASTM B148 C95200** or Stainless Steel T304 | | Stainless Steel ASTM A276 T316 |
| 3 | Door Lug Bearing | 8 | Stop Pin Retainer |
| | Teflon/Phenolic | | Steel |
| 4 | Spring | 9 | Lifting Eye Bolt |
| | Stainless Steel ASTM A313 T316 | | Steel |
| 5 | Hinge Pin | | |
| | Stainless Steel ASTM A276 T316 | | |

* 150-300 lb. class valves have cast steel ASTM A216 WCB bodies.

Note: Laying lengths for ductile iron and bronze bodies are same as 125 lb. and 250 lb. class valves.

** Sizes 30" & larger have Al. bronze or stainless steel facing on the door sealing area.

Design Advantages

APCO Double Door Check Valves (DDCVs) are excellent general purpose check valves. The Double Door Check combines compact design and heavy construction to permit low purchase price and lower cost of installation.

Installation

Wafer Style DDCVs are lightweight because they are extremely compact in laying length and have no flanges. Therefore sizes to 4" are easily installed by hand. Larger sizes come furnished with a lifting eye bolt for easier installation.

DDCVs can be installed horizontally or vertically (flow up) to conserve valuable piping space. Once installed between flanges, the DDCV has more rigidity than heavy steel walled pipe of the same length, therefore valve supports are not needed.

The valve must be installed with the hinge pin in the vertical position for horizontal flow applications.

Operation

The DDCV is held closed by the legs of the torsion spring. Flow (head) from the pump causes the DDCV to open. Conversely, when the pump is stopped flow decay occurs and at a point near zero velocity, the force from the legs of the torsion spring instantly closes the DDCV for quick shut-off.

Resilient Seating

Standard seal material in all APCO DDCVs is Buna-N. The sealing principle is similar to that of a static O-ring, but once shut off is effected, the Buna-N is pressed flat giving a wide seating area for an effective low pressure seal. In high pressure valves (400# class and higher), the Buna-N seal is pressed into its cavity and protected from damage caused by compression and metal to metal contact that develops between the double doors and the body seat. Buna-N has been successfully used for seals and seats in valves for many years. Buna-N has excellent water, oil and gas resistance and generally can be used in temperatures -70° to 250°F (-56° to 121° C).

Dimensions - Series 9000

| Size | Class | A | B | C | D | E | Wt. |
|----------------|---------|----------------|--------------|---------------|---------------|--------------|-----------|
| 2" 50 | 125 | 4" 102 | 2.125" 54 | 2.563" 65 | 1.875" 48 | .188" 5 | 5 2 |
| | 150 | 4" 102 | 2.375" 60 | 2.563" 65 | 1" 25 | — | 6 3 |
| | 250 | 4.25" 108 | 2.125" 54 | 2.563" 65 | 1.875" 48 | .188" 5 | 8 4 |
| | 300 | 4.25" 108 | 2.375" 60 | 2.563" 65 | 1" 25 | — | 8 4 |
| 2.5" 65 | 125 | 4.75" 121 | 2.375" 60 | 3.125" 79 | 2.375" 60 | .375" 10 | 8 4 |
| | 150 | 4.75" 121 | 2.625" 67 | 3.125" 79 | 2" 51 | .25" 6 | 8 4 |
| | 250 | 5" 127 | 2.375" 60 | 3.125" 79 | 2.375" 60 | .375" 10 | 11 5 |
| | 300 | 5" 127 | 2.625" 67 | 3.125" 79 | 2" 51 | .25" 6 | 12 5 |
| 3" 80 | 125 | 5.25" 133 | 2.625" 67 | 3.5" 89 | 3" 76 | .5" 13 | 10 5 |
| | 150 | 5.25" 133 | 2.875" 73 | 3.5" 89 | 2.75" 70 | .25" 6 | 11 5 |
| | 250 | 5.75" 146 | 2.625" 67 | 3.5" 89 | 3" 76 | .5" 13 | 15 7 |
| | 300 | 5.75" 146 | 2.875" 73 | 3.5" 89 | 2.75" 70 | .25" 6 | 16 7 |
| * 4" 100 | 125 | 6.75" 171 | 2.625" 67 | 4.5" 114 | 4.375" 111 | 1.125" 29 | 12 5 |
| | 150 | 6.75" 171 | 2.875" 73 | 4.5" 114 | 4" 102 | .875" 22 | 14 6 |
| | 250 | 7" 178 | 2.625" 67 | 4.5" 114 | 4.375" 111 | 1.125" 29 | 20 9 |
| | 300 | 7" 178 | 2.875" 73 | 4.5" 114 | 4" 102 | .875" 22 | 22 10 |
| 5" 125 | 125-150 | 6.75" 171 | 2.625" 67 | 4.5" 114 | 4.375" 111 | 1.125" 29 | 30 14 |
| | 250-300 | 8.375" 213 | 3.25" 83 | 5.563" 141 | 5" 127 | 1.25" 32 | 33 15 |
| * 6" 150 | 125 | 8.625" 219 | 3.75" 95 | 6.625" 168 | 6" 152 | 1.5" 38 | 30 14 |
| | 150 | 8.625" 219 | 3.875" 98 | 6.625" 168 | 5.875" 149 | 1.375" 35 | 32 15 |
| | 250 | 9.75" 248 | 3.75" 95 | 6.625" 168 | 6" 152 | 1.5" 38 | 40 18 |
| | 300 | 9.75" 248 | 3.875" 98 | 6.625" 168 | 5.875" 149 | 1.375" 35 | 44 20 |
| * † 8" 200 | 125-150 | 10.875" 276 | 5" 127 | 8.75" 222 | 7.75" 197 | 1.5" 38 | 52 24 |
| | 250-300 | 12" 305 | 5" 127 | 8.75" 222 | 7.75" 197 | 1.5" 38 | 70 32 |
| * † 10" 250 | 125 | 13.25" 337 | 5.5" 140 | 10.75" 273 | 10" 254 | 2.625" 67 | 63 29 |
| | 150 | 13.25" 337 | 5.75" 146 | 10.75" 273 | 9.75" 248 | 2.375" 60 | 100 45 |
| | 250 | 14.125" 359 | 5.5" 140 | 10.75" 273 | 10" 254 | 2.625" 67 | 110 50 |
| | 300 | 14.125" 359 | 5.75" 146 | 10.75" 273 | 9.75" 248 | 2.375" 60 | 115 52 |

| Size | Class | A | B | C | D | E | Wt. |
|----------------|---------|-----------------|----------------|---------------|-----------------|----------------|--------------|
| * † 12" 300 | 125-150 | 16" 406 | 7.125" 181 | 12.75" 324 | 10.875" 276 | 2.625" 67 | 150 68 |
| | 250-300 | 16.5" 419 | 7.125" 181 | 12.75" 324 | 10.875" 276 | 2.625" 67 | 220 100 |
| 14" 350 | 125-150 | 17.625" 448 | 7.25" 184 | 14" 356 | 13" 330 | 3.5" 89 | 220 100 |
| | 250-300 | 19" 483 | 8.75" 222 | 14" 356 | 12" 305 | 2" 51 | 440 200 |
| 16" 400 | 125-150 | 20.125" 511 | 7.5" 191 | 16" 406 | 15" 381 | 4.25" 108 | 275 125 |
| | 250-300 | 21.5" 546 | 9.125" 232 | 16" 406 | 14" 356 | 2.625" 67 | 550 249 |
| 18" 450 | 125-150 | 21.5" 546 | 8" 203 | 18" 457 | 17" 432 | 4.875" 124 | 300 136 |
| | 250-300 | 23.375" 594 | 10.375" 264 | 18" 457 | 16" 406 | 2.5" 64 | 665 302 |
| 20" 500 | 125 | 23.25" 591 | 8.375" 213 | 20" 508 | 18" 457 | 6.75" 171 | 325 147 |
| | 150 | 23.75" 603 | 8.625" 219 | 20" 508 | 18" 457 | 6.5" 165 | 490 222 |
| | 250 | 25.625" 651 | 11.5" 292 | 20" 508 | 17" 432 | 3.625" 92 | 450 204 |
| | 300 | 25.625" 651 | 11.5" 292 | 20" 508 | 17" 432 | 3.625" 92 | 800 363 |
| 24" 600 | 125-150 | 28.125" 714 | 8.75" 222 | 24" 610 | 22.625" 575 | 8.875" 225 | 700 318 |
| | 250-300 | 30.375" 772 | 12.5" 318 | 24" 610 | 21" 533 | 5.125" 130 | 1135 515 |
| 30" 750 | 125-150 | 34.625" 879 | 12" 305 | 30" 762 | 28.625" 727 | 11.125" 283 | 1100 499 |
| | 250-300 | 37.25" 946 | 14.5" 368 | 30" 762 | 27.375" 695 | 8.625" 219 | 1400 635 |
| 36" 900 | 125-150 | 41.125" 1045 | 14.5" 368 | 36" 914 | 34" 864 | 12.375" 314 | 1520 689 |
| | 250-300 | 43.75" 1111 | 18.875" 479 | 36" 914 | 33" 838 | 8" 203 | 1900 862 |
| 42" 1100 | 125-150 | 47.875" 1216 | 17" 432 | 42" 1067 | 40.375" 1026 | 15.125" 384 | 3000 1361 |
| | 250-300 | 50.625" 1286 | 22.375" 568 | 42" 1067 | 39" 991 | 9.75" 248 | 3500 1588 |
| 48" 1200 | 125-150 | 54.375" 1381 | 20.625" 524 | 48" 1219 | 46.625" 1184 | 16.875" 429 | 4500 2041 |
| | 250-300 | 58.625" 1489 | 24.75" 629 | 48" 1219 | 45.625" 1159 | 12.75" 324 | 5500 2495 |
| 54" 1400 | 125-150 | 60.875" 1546 | 21.25" 540 | 54" 1372 | 52.875" 1343 | 19.625" 498 | 6700 3039 |
| 60" 1500 | 125 | 67.25" 1708 | 25" 635 | 59.5" 1511 | 50" 1270 | 16" 406 | 7500 3402 |

Inch
Millimeter

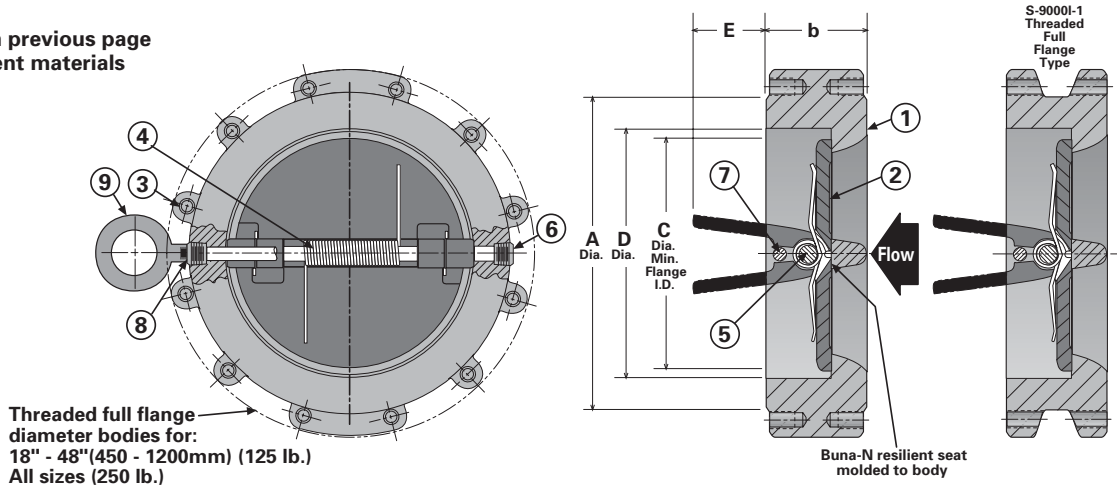
Inch lbs
Millimeter kg

* FM - valves are factory mutual approved (125 & 250 lb.).
† This size valve Underwriters Laboratories listed (125 lb.).

Note: Two or more springs used on sizes 14" (350mm) & larger.

Double Door Check Valve - Threaded Lug

See chart on previous page for component materials listed here.



Threaded full flange diameter bodies for:
18" - 48"(450 - 1200mm) (125 lb.)
All sizes (250 lb.)

| Size | 125# - 150# Class | | | | | | | 250# - 300# Class | | | | | | | | | | | | | | | |
|------|-------------------|---------|---------|--------|---------|------|---------------|-------------------|---------|--------|---------|---------|---------|--------|--------|------|---------------|---------|---------|--------|--|--|--|
| | A | B | C | D | E | Wt. | Threaded Lugs | | | | A | B | C | D | E | Wt. | Threaded Lugs | | | | | | |
| | | | | | | | No. | B.C. | UNC | ISO | | | | | | | No. | B.C. | UNC | ISO | | | |
| 2" | 4" | 2.125" | 2.063" | 2.563" | .188" | 9 | 4 | 4.75" | .625-11 | 16-2 | 4.25" | 2.125" | 1.938" | 2.563" | .188" | 10 | 8 | 5" | .625-11 | 16-2 | | | |
| 50 | 102 | 54 | 52 | 65 | 5 | 4 | 4 | 121 | | | 108 | 54 | 49 | 65 | 5 | 5 | 8 | 127 | | | | | |
| 2.5" | 4.75" | 2.375" | 2.469" | 3.125" | .375" | 13 | 4 | 5.5" | .625-11 | 16-2 | 5" | 2.375" | 2.344" | 3.125" | .375" | 14 | 8 | 5.875" | .75-10 | 18-2.5 | | | |
| 65 | 121 | 60 | 63 | 79 | 10 | 6 | 4 | 140 | | | 127 | 60 | 60 | 79 | 10 | 6 | 8 | 149 | | | | | |
| 3" | 5.25" | 2.625" | 3.063" | 3.5" | .5" | 15 | 4 | 6" | .625-11 | 16-2 | 5.75" | 2.625" | 2.906" | 3.5" | .5" | 16 | 8 | 6.625" | .75-10 | 18-2.5 | | | |
| 80 | 133 | 67 | 78 | 89 | 13 | 7 | 4 | 152 | | | 146 | 67 | 74 | 89 | 13 | 7 | 8 | 168 | | | | | |
| 4" | 6.75" | 2.625" | 4.375" | 4.5" | 1.125" | 20 | 8 | 7.5" | .625-11 | 16-2 | 7" | 2.625" | 4.375" | 4.5" | 1.125" | 22 | 8 | 7.875" | .75-10 | 18-2.5 | | | |
| 100 | 171 | 67 | 111 | 114 | 29 | 9 | 8 | 191 | | | 178 | 67 | 111 | 114 | 29 | 10 | 8 | 200 | | | | | |
| 5" | 7.625" | 3.25" | 5" | 5.563" | 1.25" | 28 | 8 | 8.5" | .75-10 | 18-2.5 | 8.375" | 3.25" | 4.813" | 5.563" | 1.25" | 31 | 8 | 9.25" | .75-10 | 18-2.5 | | | |
| 125 | 194 | 83 | 127 | 141 | 32 | 13 | 8 | 216 | | | 213 | 83 | 122 | 141 | 32 | 14 | 8 | 235 | | | | | |
| 6" | 8.625" | 3.75" | 6.063" | 6.625" | 1.5" | 36 | 8 | 9.5" | .75-10 | 18-2.5 | 9.75" | 3.75" | 5.766" | 6.625" | 1.5" | 40 | 12 | 10.625" | .75-10 | 18-2.5 | | | |
| 150 | 219 | 95 | 154 | 168 | 38 | 16 | 8 | 241 | | | 248 | 95 | 146 | 168 | 38 | 18 | 12 | 270 | | | | | |
| 8" | 10.875" | 5" | 7.969" | 8.75" | 1.5" | 68 | 8 | 11.75" | .75-10 | 18-2.5 | 12" | 5" | 7.625" | 8.75" | 1.5" | 75 | 12 | 13" | .875-9 | 20-2.5 | | | |
| 200 | 276 | 127 | 202 | 222 | 38 | 31 | 8 | 298 | | | 305 | 127 | 194 | 222 | 38 | 34 | 12 | 330 | | | | | |
| 10" | 13.25" | 5.5" | 10" | 10.75" | 2.625" | 101 | 12 | 14.25" | .875-9 | 20-2.5 | 14.125" | 5.5" | 9.563" | 10.75" | 2.625" | 111 | 16 | 15.25" | 1-8 | 24-3 | | | |
| 250 | 337 | 140 | 254 | 273 | 67 | 46 | 12 | 362 | | | 359 | 140 | 243 | 273 | 67 | 50 | 16 | 387 | | | | | |
| 12" | 16" | 7.125" | 11.938" | 12.75" | 2.625" | 183 | 12 | 17" | .875-9 | 20-2.5 | 16.5" | 7.125" | 11.375" | 12.75" | 2.625" | 201 | 16 | 17.75" | 1.125-7 | 30-3.5 | | | |
| 300 | 406 | 181 | 303 | 324 | 67 | 83 | 12 | 432 | | | 419 | 181 | 289 | 324 | 67 | 91 | 16 | 451 | | | | | |
| 14" | 17.625" | 7.25" | 12.5" | 14" | 3.5" | 301 | 12 | 18.75" | 1-8 | 24-3 | 19" | 8.75" | 12.5" | 14" | 2" | 331 | 20 | 20.25" | 1.125-7 | 30-3.5 | | | |
| 350 | 448 | 184 | 318 | 356 | 89 | 137 | 12 | 476 | | | 483 | 222 | 318 | 356 | 51 | 150 | 20 | 514 | | | | | |
| 16" | 20.125" | 7.5" | 15" | 16" | 4.25" | 393 | 16 | 21.25" | 1-8 | 24-3 | 21.5" | 9.125" | 14.313" | 16" | 2.625" | 432 | 20 | 22.5" | 1.25-7 | 30-3.5 | | | |
| 400 | 511 | 191 | 381 | 406 | 108 | 178 | 16 | 540 | | | 546 | 232 | 364 | 406 | 67 | 196 | 20 | 572 | | | | | |
| 18" | 21.5" | 8" | 16.875" | 18" | 4.875" | 490 | 16 | 22.75" | 1.125-7 | 30-3.5 | 23.375" | 10.375" | 16.875" | 18" | 2.5" | 539 | 24 | 24.75" | 1.25-7 | 30-3.5 | | | |
| 450 | 546 | 203 | 429 | 457 | 124 | 222 | 16 | 578 | | | 594 | 264 | 429 | 457 | 64 | 244 | 24 | 629 | | | | | |
| 20" | 23.75" | 8.375" | 18.813" | 20" | 6.75" | 575 | 20 | 25" | 1.125-7 | 30-3.5 | 25.625" | 11.5" | 17.938" | 20" | 3.625" | 632 | 24 | 27" | 1.25-7 | 30-3.5 | | | |
| 500 | 603 | 213 | 478 | 508 | 171 | 261 | 20 | 635 | | | 651 | 292 | 456 | 508 | 92 | 287 | 24 | 686 | | | | | |
| 24" | 28.125" | 8.75" | 22.625" | 24" | 8.875" | 745 | 20 | 29.5" | 1.25-7 | 30-3.5 | 30.375" | 12.5" | 21.563" | 24" | 5.125" | 819 | 24 | 32" | 1.5-6 | 36-4 | | | |
| 600 | 714 | 222 | 575 | 610 | 225 | 338 | 20 | 749 | | | 772 | 318 | 548 | 610 | 130 | 371 | 24 | 813 | | | | | |
| 30" | 34.625" | 12" | 29.25" | 30" | 11.125" | 1482 | 28 | 36" | 1.25-7 | 30-3.5 | 37.25" | 14.5" | 28.75" | 30" | 8.625" | 1630 | 28 | 39.25" | 1.75-5 | 42-4.5 | | | |
| 750 | 879 | 305 | 743 | 762 | 283 | 672 | 28 | 914 | | | 946 | 368 | 730 | 762 | 219 | 739 | 28 | 997 | | | | | |
| 36" | 41.125" | 14.5" | 35" | 36" | 12.375" | 2000 | 32 | 42.75" | 1.5-6 | 36-4 | 43.75" | 18.75" | 35" | 36" | 8" | 2200 | 32 | 46" | 2-4.5 | 52-5 | | | |
| 900 | 1045 | 368 | 889 | 914 | 314 | 907 | 32 | 1086 | | | 1111 | 476 | 889 | 914 | 203 | 998 | 32 | 1168 | | | | | |
| 42" | 47.875" | 17" | 41" | 42" | 15.125" | — | 36 | 49.5" | 1.5-6 | 36-4 | 50.5" | 22.375" | 41" | 42" | 9.75" | — | 36 | 52.75" | 2-4.5 | 52-5 | | | |
| 1100 | 1216 | 432 | 1041 | 1067 | 384 | — | 36 | 1257 | | | 1283 | 568 | 1041 | 1067 | 248 | — | 36 | 1340 | | | | | |
| 48" | 54.375" | 20.625" | 47" | 48" | 16.875" | — | 44 | 56" | 1.5-6 | 36-4 | 58.5" | 24.75" | 47" | 48" | 12.75" | — | 40 | 60.75" | 2-4.5 | 52-5 | | | |
| 1200 | 1381 | 524 | 1194 | 1219 | 429 | — | 44 | 1422 | | | 1486 | 629 | 1194 | 1219 | 324 | — | 40 | 1543 | | | | | |

Inch lbs
Millimeter kg

Threaded Lug Double Door Check Valves

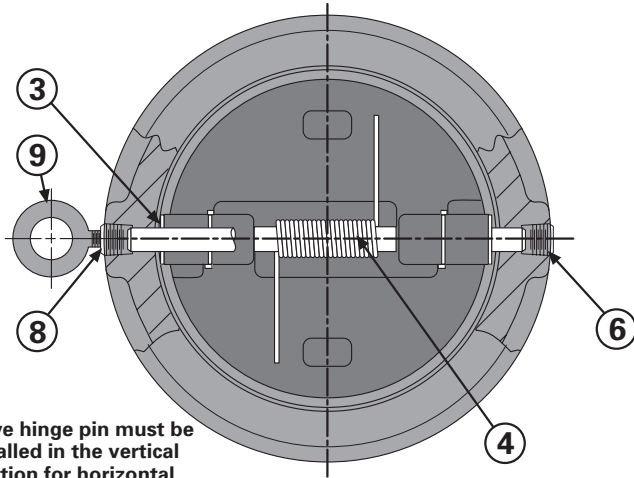
The most important feature of the Threaded Lug Double Door Check Valve (DDCV) is that it can be used as a block valve. This valve fits between flanges in the same manner the plain DDCV does, with the exception that the bolts coming through the pipe flange screw into the threaded lugs on the check valve body. In this manner, the check valve is securely fastened to the mating flange of the pipeline. With this feature, if repairs are necessary upstream of the check valve, the upstream flange can be disconnected. The repairs are then made to the pipeline or pump while the check valve remains in place acting as a block valve to the system.

The Threaded Lug DDCV minimizes maintenance to the pipeline and pumping system. Therefore, where it is essential to maintain fluid on the downstream side of the check valve, we recommend the use of the Threaded Lug DDCV.

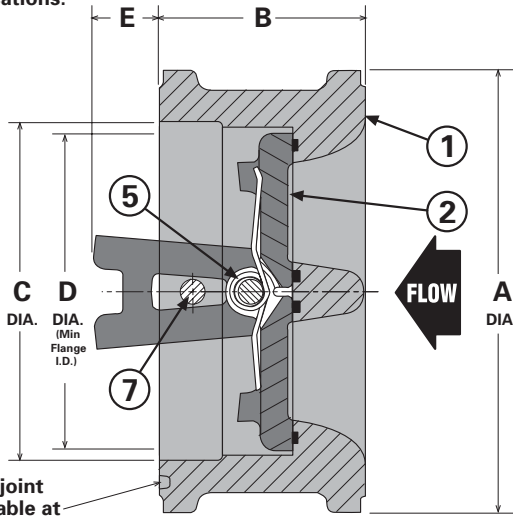
For example, mounting a Threaded Lug DDCV immediately to the discharge of the pump will allow access to the pump for repair without removal of the check valve from the line.

Double Door Check Valve - High Pressure

Series 9400



Valve hinge pin must be installed in the vertical position for horizontal flow applications.



Ring joint available at additional cost. Buna-N resilient seat molded to body. Metal to metal seating is available upon request.

| Size | Class | A | B | C | D | E | Wt. |
|------------|----------|----------------|---------------|---------------|--------------|--------------|------------|
| 2" 50 | 400-600 | 4.25" 108 | 2.375" 60 | 2.375" 60 | 1.5" 38 | .125" 3 | 6 3 |
| | 900-1500 | 5.5" 140 | 2.75" 70 | 2.375" 60 | 1" 25 | — | 14 6 |
| | 2500 | 5.375" 137 | 2.75" 70 | 2.375" 60 | 1" 25 | — | 30 14 |
| 2.5" 65 | 400-600 | 5" 127 | 2.625" 67 | 2.875" 73 | 2" 51 | .25" 6 | 9 4 |
| | 900-1500 | 6.375" 162 | 3.25" 83 | 2.875" 73 | 1" 25 | — | 16 7 |
| | 2500 | 6.5" 165 | 3.25" 83 | 2.875" 73 | 1" 25 | — | 32 15 |
| 3" 80 | 400-600 | 5.75" 146 | 2.875" 73 | 3.5" 89 | 3" 76 | .375" 10 | 14 6 |
| | 900 | 6.5" 165 | 3.25" 83 | 3.5" 89 | 2.75" 70 | .25" 6 | 28 13 |
| | 1500 | 6.75" 171 | 3.25" 83 | 3.5" 89 | 2.75" 70 | .25" 6 | 30 14 |
| | 2500 | 7.625" 194 | 3.375" 86 | 3.5" 89 | 2.5" 64 | .188" 5 | 46 21 |
| 4" 100 | 400 | 6.875" 175 | 3.125" 79 | 4.5" 114 | 4" 102 | .75" 19 | 23 10 |
| | 600 | 7.5" 191 | 3.125" 79 | 4.5" 114 | 4" 102 | .75" 19 | 25 11 |
| | 900 | 8" 203 | 4" 102 | 4.5" 114 | 3.75" 95 | .375" 10 | 38 17 |
| | 1500 | 8.125" 206 | 4" 102 | 4.5" 114 | 3.75" 95 | .375" 10 | 45 20 |
| | 2500 | 9.125" 232 | 4.125" 105 | 4.5" 114 | 3.5" 89 | .313" 8 | 92 42 |
| 5" 125 | 400 | 8.25" 210 | 4.125" 105 | 5.563" 141 | 4.75" 121 | .75" 19 | 35 16 |
| | 600 | 9.375" 238 | 4.125" 105 | 5.563" 141 | 4.75" 121 | .75" 19 | 60 27 |
| 6" 150 | 400 | 9.625" 244 | 5.375" 137 | 6.625" 168 | 5.5" 140 | .75" 19 | 68 31 |
| | 600 | 10.375" 264 | 5.375" 137 | 6.625" 168 | 5.5" 140 | .75" 19 | 73 33 |
| | 900 | 11.25" 286 | 6.25" 159 | 6.625" 168 | 5" 127 | .375" 10 | 120 54 |
| | 1500 | 11" 279 | 6.25" 159 | 6.625" 168 | 5" 127 | .375" 10 | 130 59 |
| | 2500 | 12.375" 314 | 6.25" 159 | 6.625" 168 | 5" 127 | .375" 10 | 200 91 |
| 8" 200 | 400 | 11.875" 302 | 6.5" 165 | 8.625" 219 | 7.5" 191 | 1.25" 32 | 145 66 |
| | 600 | 12.5" 318 | 6.5" 165 | 8.625" 219 | 7.5" 191 | 1.25" 32 | 150 68 |
| | 900 | 14" 356 | 8.125" 206 | 8.625" 219 | 7" 178 | .5" 13 | 200 91 |
| | 1500 | 13.375" 340 | 8.125" 206 | 8.625" 219 | 7" 178 | .5" 13 | 215 98 |
| | 2500 | 15.125" 384 | 8.125" 206 | 8.625" 219 | 7" 178 | .5" 13 | 285 129 |
| 10" 250 | 400 | 14" 356 | 8.375" 213 | 10.75" 273 | 9" 229 | 1.375" 35 | 215 98 |
| | 600 | 15.625" 397 | 8.375" 213 | 10.75" 273 | 9" 229 | 1.375" 35 | 230 104 |
| | 900 | 17" 432 | 9.5" 241 | 10.75" 273 | 8" 203 | .875" 22 | 290 132 |
| | 1500 | 17" 432 | 9.75" 248 | 10.75" 273 | 8" 203 | .75" 19 | 310 141 |
| | 2500 | 18.625" 473 | 10" 254 | 10.75" 273 | 8" 203 | .625" 16 | 365 166 |

Inch Pounds
Millimeter Kilograms

Materials of Construction

| | | | |
|----------|---|----------|-------------------------------|
| 1 | Body | 6 | Hinge Pin Retainer |
| | Cast Steel ASTM A216 GR. WCB | | Steel |
| 2 | Door | 7 | Stop Pin |
| | Stainless Steel ASTM A351 GR. CF8M ¹ | | Stainless Steel Type T316 |
| 3 | Door Lug Bearing | 8 | Stop Pin Retainer |
| | Teflon/Phenolic | | Steel |
| 4 | Spring | 9 | Lifting Eye Bolt ² |
| | Stainless Steel Type T316 | | Steel |
| 5 | Hinge Pin | | |
| | Stainless Steel Type T316 | | |

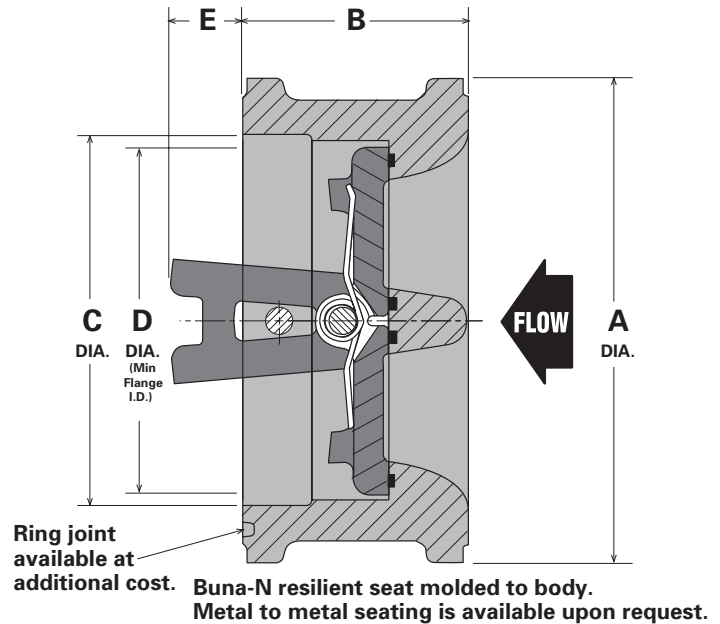
1-Size 14" (350mm) and larger have stainless steel ASTM A240 S31600 faced cast steel ASTM A216 GR. WCB doors.

2-Sizes 5" (125mm) and larger have a Lifting Eye Bolt.

Double Door Check Valve - High Pressure

Series 9400

| Size | Class | A | B | C | D | E | Wt. |
|-------------|-------|-----------------|----------------|---------------|------------|---------------|-------------|
| 12" 300 | 400 | 16.375" 416 | 9" 229 | 12.75" 324 | 11" 279 | 2.125" 54 | 300 136 |
| | | 17.875" 454 | 9" 229 | 12.75" 324 | 11" 279 | 2.125" 54 | 320 145 |
| | 600 | 19.5" 495 | 11.5" 292 | 12.75" 324 | 10" 254 | 1" 25 | 375 170 |
| | | 20.375" 518 | 12" 305 | 12.75" 324 | 10" 254 | .75" 19 | 395 179 |
| | | 21.5" 546 | 12" 305 | 12.75" 324 | 10" 254 | .75" 19 | 475 215 |
| 14" 350 | 400 | 18.875" 479 | 10.75" 273 | 14" 356 | 12" 305 | 2.25" 57 | 480 218 |
| | | 19.25" 489 | 10.75" 273 | 14" 356 | 12" 305 | 2.25" 57 | 500 227 |
| | 600 | 20.375" 518 | 14" 356 | 14" 356 | 11" 279 | .75" 19 | — |
| | | 22.625" 575 | 14" 356 | 14" 356 | 11" 279 | .75" 19 | — |
| 16" 400 | 400 | 21" 533 | 12" 305 | 16" 406 | 14" 356 | 2.375" 60 | 625 283 |
| | | 22.125" 562 | 12" 305 | 16" 406 | 14" 356 | 2.375" 60 | 650 295 |
| | 600 | 22.5" 572 | 15.125" 384 | 16" 406 | 13" 330 | 1" 25 | — |
| | | 25.125" 638 | 15.125" 384 | 16" 406 | 13" 330 | 1" 25 | — |
| 18" 450 | 400 | 23.25" 591 | 14.25" 362 | 18" 457 | 16" 406 | 2.5" 64 | 800 363 |
| | | 24" 610 | 14.25" 362 | 18" 457 | 16" 406 | 2.5" 64 | 850 386 |
| | 600 | 25" 635 | 17.75" 451 | 18" 457 | 15" 381 | 1" 25 | — |
| | | 27.625" 702 | 18.438" 468 | 18" 457 | 15" 381 | .75" 19 | — |
| 20" 500 | 400 | 25.375" 645 | 14.5" 368 | 20" 508 | 17" 432 | 3.375" 86 | 950 431 |
| | | 26.75" 679 | 14.5" 368 | 20" 508 | 17" 432 | 3.375" 86 | 1000 454 |
| | 600 | 27.375" 695 | 17.75" 451 | 20" 508 | 16" 406 | 2" 51 | — |
| | | 29.625" 752 | 21" 533 | 20" 508 | 15" 381 | .625" 16 | — |
| 24" 600 | 400 | 30.125" 765 | 15.5" 394 | 24" 610 | 21" 533 | 4.625" 117 | 1300 590 |
| | | 31" 787 | 17.25" 438 | 24" 610 | 20" 508 | 3.875" 98 | 1400 635 |
| | 600 | 32.875" 835 | 19.5" 495 | 24" 610 | 19" 483 | 2.875" 73 | — |
| | | 35.875" 911 | 19.5" 495 | 24" 610 | 19" 483 | 2.875" 73 | — |
| 30" 750 | 400 | 37.125" 943 | 18.125" 460 | 30" 762 | 27" 686 | 6.625" 168 | — |
| | 600 | 38.125" 968 | 19.875" 505 | 30" 762 | 26" 660 | 5.375" 137 | — |
| 36" 900 | 400 | 43.875" 1114 | 25" 635 | 36" 914 | 32" 813 | 6.625" 168 | — |
| | 600 | 44.375" 1127 | 25" 635 | 36" 914 | 32" 813 | 6.625" 168 | — |
| 42" 1100 | 400 | 50.125" 1273 | 27.813" 706 | 42" 1067 | 38" 965 | 8.5" 216 | — |
| | 600 | 50.875" 1292 | 27.813" 706 | 42" 1067 | 38" 965 | 8.5" 216 | — |



Inch Pounds
Millimeter Kilograms

Equivalent Pipe Length Chart

| Size | 2" 50 | 2.5" 65 | 3" 80 | 4" 100 | 5" 125 | 6" 150 | * 8" 200 | 10" 250 | 12" 300 | * 14" 350 | 16" 400 | 18" 450 | 20" 500 | 24" 600 | 30" 750 | 36" 900 | 42" 1100 | 48" 1200 | 54" 1400 | 60" 1500 |
|--------------------|----------|------------|----------|-----------|-----------|-----------|-------------|------------|------------|--------------|------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|
| C _v GPM | 88 | 139 | 223 | 408 | 669 | 993 | 1777 | 3882 | 4161 | 5119 | 6830 | 8777 | 10979 | 16104 | 25217 | 35744 | 49483 | 64000 | 81041 | 100205 |
| C _v LPM | 333 | 526 | 844 | 1544 | 2532 | 3759 | 6727 | 14695 | 15751 | 19378 | 25854 | 33225 | 41560 | 60960 | 95457 | 135306 | 187314 | 242266 | 306774 | 379317 |

* = Certified Flow Tested (CV = Q at 1 psi (7 kpa) Head Loss) for water at 60° F (16° C).

Inch
Millimeter

APCO certified flow test, conducted at Utah State University Water Research Laboratory, Report #299.

Note: When comparing similar competitors published data, only use certified flow test data.

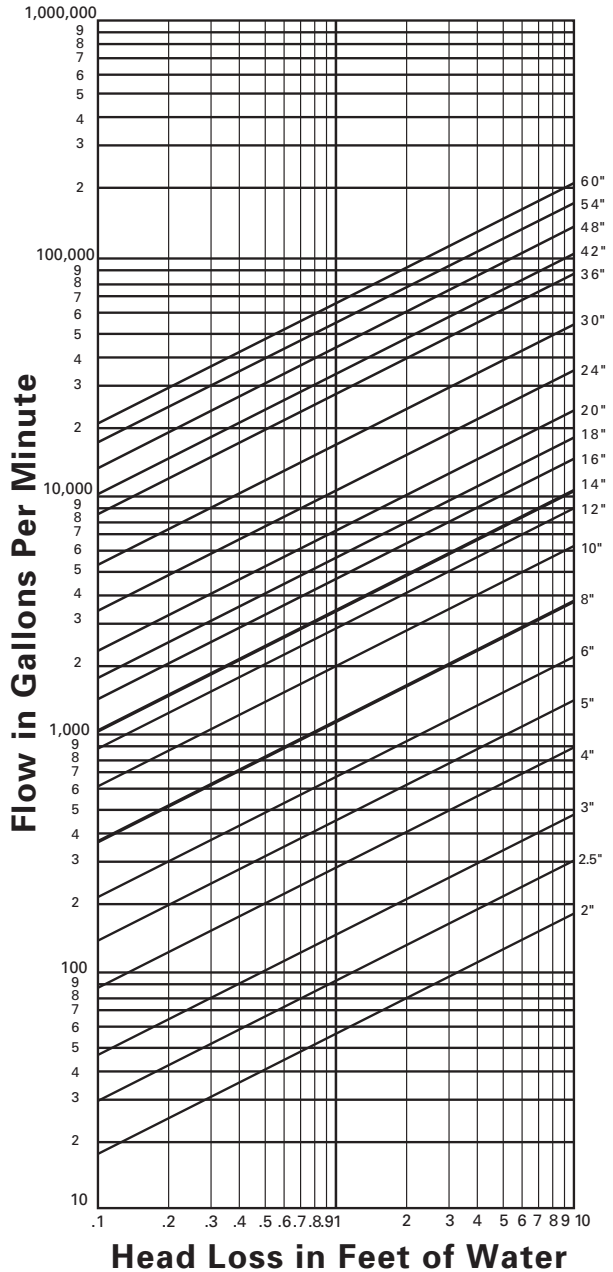
Double Door Check Valves

Water Service Head Loss Curves

Certified Flow Tested (1991)

Figures shown are based on certified flow test conducted at Utah State University, Water Research Laboratory, Report No. 299. Valves sizes 8" & 14" (200 & 350mm) Actual field conditions may vary from these curves.

Note: When comparing similar competitors published data, only use certified flow data.

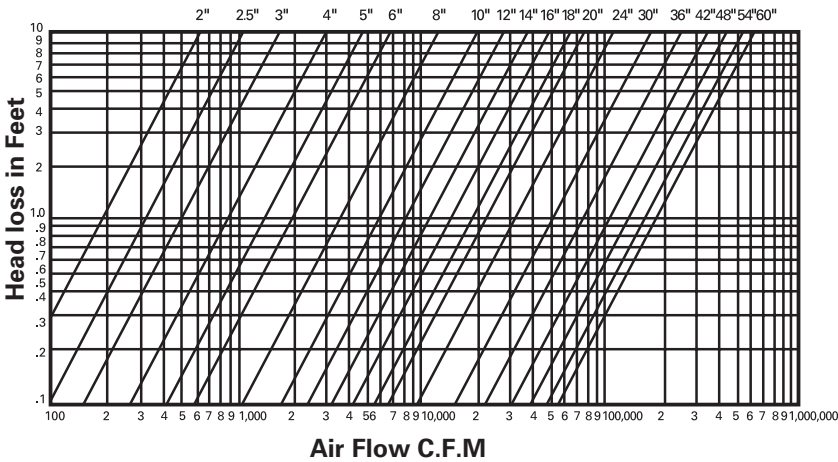


Air Service Head Loss Curves

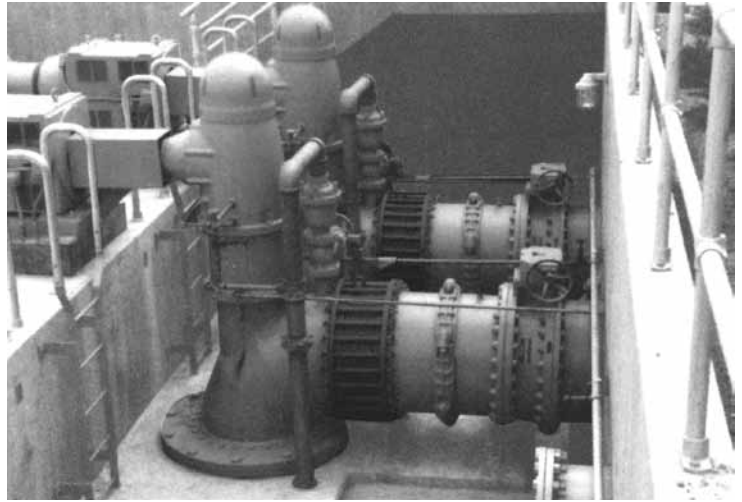
There are two main reasons why Double Door Check Valves (DDCVs) are commonly specified for use on air blowers in sewage treatment plants and other blower applications.

1. DDCVs are low in cost as compared to other check valves.
2. DDCVs have a low head loss.

Additional reasons are lightweight, short length and low installation cost.



Specifications



**Typical Double Door Check Valve Installation
Los Angeles County Sanitary District - Los Coyotes Plant
2-30" (750mm) Double Door Check Valves**

The Double Door Check Valve shall be compact wafer design to fit between ANSI flanges.

The check valve doors shall be spring loaded, normally closed, by means of one or more heavy duty stainless steel torsion springs. Flow from the pump shall cause the doors to open and upon pump shut down, the torsion spring will shut the doors before reverse flow starts. This occurs at a point of zero velocity for quick closure.

Seating shall be resilient and water tight. The sealing element shall be Buna-N molded to the body.

Valves 5" (125mm) and larger shall be fitted with a lifting eye bolt for installation purposes.

All materials of construction must be certified in writing to ASTM specifications as follows:

| | | | |
|-----------------|------------|---|-----------------------------|
| Body | Select one | { Cast Iron ASTM A126 GR.B Cast Steel ASTM A216 WCB Ductile Iron ASTM A536 Al. Bronze ASTM B148 C95200 Cast Steel ASTM A216 WCB Ductile Iron ASTM A536 Stainless Steel T316, T304, T410 Buna-N T316 Stainless Steel T316 Stainless Steel T316 Stainless Steel Universal Metal Primer | } Other materials available |
| Doors | Select one | | |
| Sealing element | | | |
| Torsion spring | | | |
| Hinge shaft | | | |
| Stop shaft | | | |
| Exterior paint | | | |

Double Door Check Valves shall be APCO series 9000-9000L-9400.

Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web Site: www.dezurik.com E-Mail: info@dezurik.com



250 Riverside Ave. N. Sartell, Minnesota 56377 • Phone: 320-259-2000 • Fax: 320-259-2227

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