

Style DD

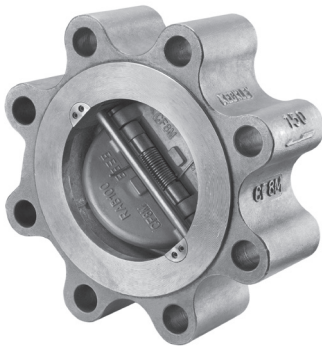
Cast Iron (ASTM A 126, Class B)
125 lb. Class

Carbon Steel (ASTM A 216, Grade WCB)
150 lb. Thru 1500 lb. Class

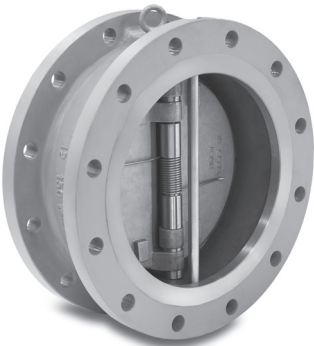
Stainless Steel (ASTM A 351, Grade CF8M)
150 lb. Thru 1500 lb. Class



Style DL



Style DF



Wafer Double Disc Check Valve

APPLICATIONS

Flow reversal solutions for Liquid and Gas applications where protection from flow reversal in a pipeline is required

CONSTRUCTION

Keckley Style DD wafer body double disc check valves are produced by the investment casting process. These castings are thoroughly inspected and machined to exacting specifications. Reference individual technical data pages for standard materials utilized in the construction of valve components.

FEATURES

- A short face-to-face dimension.
- The spring loaded double disc design creates a low cracking pressure and allows for the valve discs to close prior to any flow reversal minimizing water hammer and/or surges in the media.
- Tension on the specially designed spring with extended spring legs allows the disc center section to lift off the seat prior to the outside edge opening preventing seat wear in the center “heel” section of the seating surface.
- Standard elastomeric seats can produce zero leakage when correctly specified, loaded, and installed. Metal seating surfaces are precision machined and lapped to a mirror finish to provide a long lasting seal which meets or exceeds the API 598 leakage standard.
- Retainerless design check valves have no body penetrations eliminating potential leak paths.
- Allows for interchangeability of the hinge pin and stop pin.
- Epoxy coating is standard.
- Field serviceable without the need for special tools.

INSTALLATION

The Style DD can be installed in both vertical and horizontal applications. Contact Keckley for all downward vertical flow installations.

ORDERING

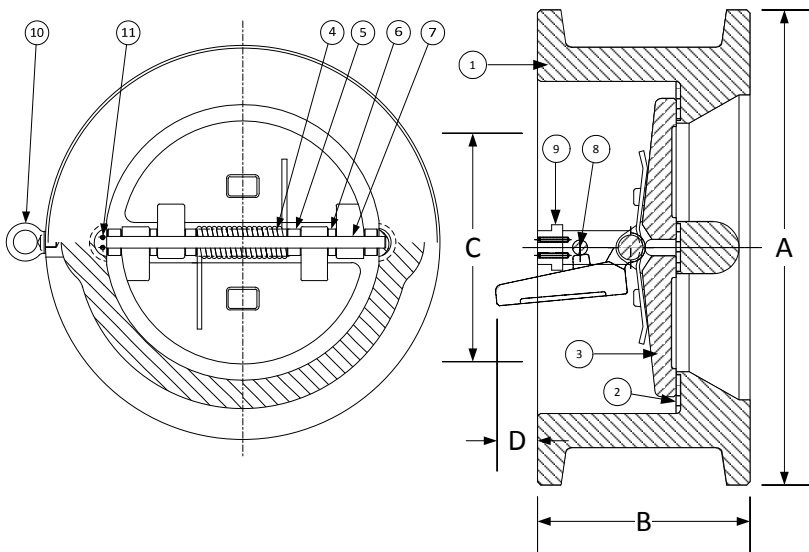
Reference page C2 for Keckley Check Valve Product Numbers.

WORKING PRESSURES - NON SHOCK

| NOM. RATING | BODY MATERIAL | MEDIA | 2" to 12" | 14" to 24" |
|-------------|--|--------|-----------------|-----------------|
| 125# | CAST IRON (ASTM A 126, CLASS B) | W.O.G. | 200 PSI @ 150°F | 150 PSI @ 150°F |
| NOM. RATING | BODY MATERIAL | MEDIA | 2" to 24" | |
| 150# | CARBON STEEL (ASTM A 216, GRADE WCB) | W.O.G. | 285 PSI @ 100°F | |
| | STAINLESS STEEL (ASTM A 351, GRADE CF8M) | W.O.G. | 275 PSI @ 100°F | |
| NOM. RATING | BODY MATERIAL | MEDIA | 2" to 24" | |
| 300# | CARBON STEEL (ASTM A 216, GRADE WCB) | W.O.G. | 740 PSI @ 100°F | |
| | STAINLESS STEEL (ASTM A 351, GRADE CF8M) | W.O.G. | 720 PSI @ 100°F | |

Style DD

Retainerless Wafer Body
Double Disc Check Valve, 600 lb.
Duplex (ASTM A 351, Grade CD4MCu)


PARTS LIST

| ITEM | DESCRIPTION | MATERIAL |
|------|----------------|---|
| 1 | Body | Duplex (ASTM A 351, Grade CD4MCu) |
| 2 | Seat | Viton O-Ring |
| 3 | Disc | Duplex (ASTM A 351, Grade CD4MCu) |
| 4 | Spring | Inconel X-750 |
| 5 | Spring Plate | Stainless Steel (ASTM A 182, Grade F-316) |
| 6 | Thrust Washer | Stainless Steel (ASTM A 182, Grade F-316) |
| 7 | Hinge Pin | Stainless Steel (ASTM A 182, Grade F-316) |
| 8 | Stop Pin | Stainless Steel (ASTM A 182, Grade F-316) |
| 9 | Locating Piece | Stainless Steel (ASTM A 182, Grade F-316) |
| 10 | Lifting Lug | Carbon Steel |
| 11 | Screw | Stainless Steel (316) |

Above "Standard" Product Number – **DD5R-DP-DP4IX**
 Other Options - Reference **C2** for available materials.

| SIZE | | DIMENSIONS | | | | | | | | WEIGHTS | |
|-------|------|------------|------|--------|-----|----------|------|----------|-----|---------|------|
| | | A | | B | | C* | | D | | | |
| in | mm | in | mm | in | mm | in | mm | in | mm | lbs | kgs |
| 2 | 50 | 4-3/8 | 111 | 2-3/8 | 60 | 1-15/16 | 49 | - | - | 7 | 3 |
| 2-1/2 | 65 | 5-1/8 | 130 | 2-5/8 | 67 | 2-11/32 | 60 | 1/8 | 3 | 11 | 5 |
| 3 | 80 | 5-7/8 | 149 | 2-7/8 | 73 | 2-29/32 | 74 | 1/4 | 6 | 15 | 7 |
| 4 | 100 | 7-5/8 | 194 | 3-1/8 | 79 | 3-53/64 | 97 | 7/8 | 22 | 26 | 12 |
| 5 | 125 | 9-1/2 | 241 | 4-1/8 | 105 | 4-13/16 | 122 | 1 | 25 | 50 | 23 |
| 6 | 150 | 10-1/2 | 267 | 5-3/8 | 136 | 5-49/64 | 146 | 1-7/16 | 36 | 80 | 36 |
| 8 | 200 | 12-5/8 | 321 | 6-1/2 | 165 | 7-5/8 | 194 | 2 | 51 | 135 | 61 |
| 10 | 250 | 15-3/4 | 400 | 8-3/8 | 213 | 9-9/16 | 243 | 2-9/32 | 58 | 238 | 108 |
| 12 | 300 | 18 | 457 | 9 | 229 | 11-3/8 | 289 | 3-15/32 | 88 | 333 | 151 |
| 14 | 350 | 19-3/8 | 492 | 10-3/4 | 273 | 12-1/2 | 318 | 2-3/4 | 70 | 455 | 206 |
| 16 | 400 | 22-1/4 | 565 | 12 | 305 | 14-5/16 | 364 | 4-5/16 | 110 | 640 | 290 |
| 18 | 450 | 24-1/8 | 613 | 14-1/4 | 362 | 16-1/8 | 410 | 3-11/16 | 94 | 890 | 404 |
| 20 | 500 | 26-7/8 | 386 | 14-1/2 | 368 | 17-15/16 | 456 | 5-5/16 | 135 | 1120 | 508 |
| 24 | 600 | 31-1/8 | 791 | 17-1/4 | 438 | 21-9/16 | 548 | 6-9/16 | 167 | 2040 | 925 |
| 30 | 750 | 38-1/4 | 972 | 19-7/8 | 505 | 28-3/4 | 730 | 9-9/16 | 243 | 3375 | 1531 |
| 36 | 900 | 44-1/2 | 1130 | 25 | 635 | 33-3/4 | 857 | 11-15/16 | 303 | 6300 | 2858 |
| 42 | 1050 | 48 | 1219 | 27-5/8 | 702 | 39-1/2 | 1003 | 14-1/4 | 362 | 8447 | 3832 |

*Minimum companion flange bore.

Sizes 30" and larger fit **Series A** flanges.

| Seat Material | Operating Temperature** | |
|---------------|-------------------------|------------|
| | °F | °C |
| Buna-N | -20 to 250 | -29 to 121 |
| Viton | -20 to 400 | -29 to 204 |
| EPDM | -40 to 300 | -40 to 149 |

**Subject to limitations of body material.

| Applicable Standards |
|----------------------------|
| • Design ASME B16.5 |
| • Design ASME B16.34 |
| • Testing API 598 |
| • Conforms to API 594 & 6D |
| • MSS SP – 6 |
| • MSS SP – 25 |
| • MSS SP – 55 |

FLOW COEFFICIENTS

| Size | 2" | 2½" | 3" | 4" | 5" | 6" |
|----------------|-------|-------|-------|-------|-------|------|
| C _v | 48 | 98 | 170 | 290 | 495 | 720 |
| Size | 8" | 10" | 12" | 14" | 16" | 18" |
| C _v | 1800 | 2600 | 4300 | 5500 | 7200 | 9400 |
| Size | 20" | 24" | 30" | 36" | 42" | |
| C _v | 12600 | 19000 | 37500 | 60000 | 89000 | |

PRESSURE DROP CHART

Wafer Double Disc Check Valve (Style DD, DL, and DF)

This pressure drop chart is based on the flow of clean water through the Keckley Double Disc Check Valve. The Keckley Style DD has a cracking pressure equal to or less than 0.3 psi when mounted horizontally. Check valves should be placed at a distance equal to 5 to 10 pipe diameters from any turbulence producing device such as elbows, pumps, etc.

TO USE CHARTS:

Find your desired rate of flow (GPM) on the left hand side of the chart. Follow its corresponding horizontal line to the point where it intersects the diagonal line indicating the check valve pipe size. From this point of intersection, follow the vertical line down to the bottom of the chart to determine the approximate pressure drop.

