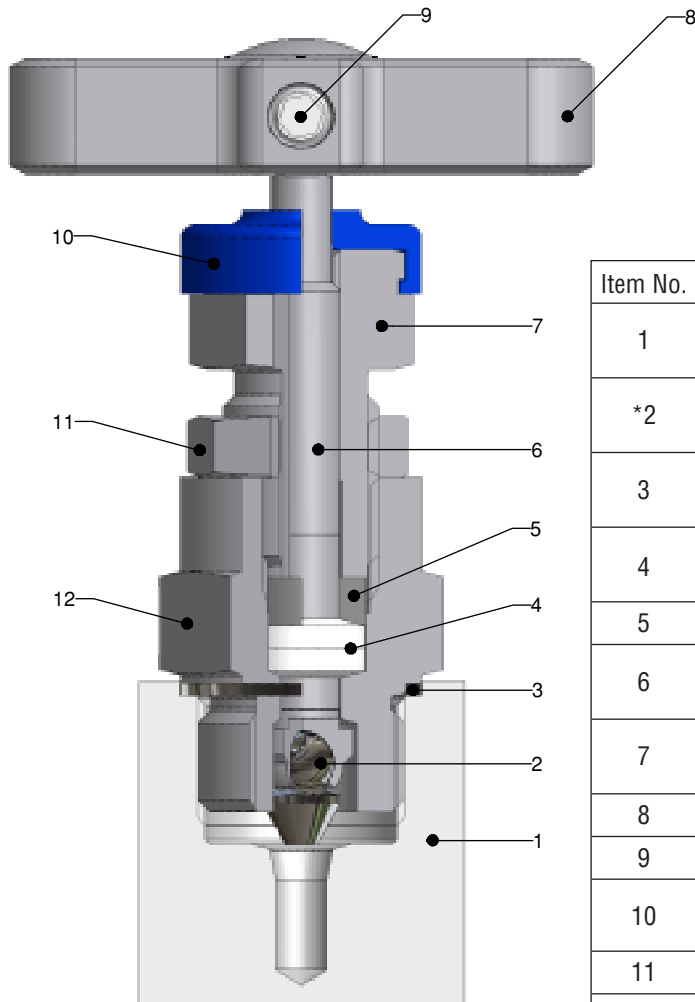




Material specification data sheet

Bul 4190 MS
June 2002

Maximum working pressure 6000psig (414 barg)
High pressure range 10,000psig (689 barg)
P.T.F.E. Packing: 260°C (500°F) Max.
Graphoil packing: 538°C (1000°F) Max.



| Item No. | Description | Material | | | | | | | |
|----------|-------------------|-------------------------|-------------------------|-----------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|-------------------------|
| | | St.St. | Monel | Duplex | Hastelloy | Titanium | 6Mo | Incoloy | Inconel |
| 1 | Body | 316 St.St. ASTM A479 | Monel M400 | Duplex UNS 31803 | Hastelloy C-276 | Titanium GR-2 | 6Mo | Incoloy 825 | Inconel 625 |
| *2 | Tip | 17-4PH St.St. | Monel K500 | Duplex UNS S.32750/32760 | Hastelloy B2 | Titanium GR-5 | Duplex UNS S.32750/32760 | Inconel 625 | Inconel 718 |
| 3 | Joint Seal | 316 St.St. ASTM A479 | Monel M400 | Duplex UNS 31803 | Hastelloy C-276 | Titanium GR-2 | 6Mo | Incoloy 825 | Inconel 625 |
| 4 | Packing | P.T.F.E. / Graphoil | P.T.F.E. / Graphoil | P.T.F.E. / Graphoil | P.T.F.E. / Graphoil | P.T.F.E. / Graphoil | P.T.F.E. / Graphoil | P.T.F.E. / Graphoil | P.T.F.E. / Graphoil |
| 5 | Thrust Bush | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. |
| 6 | Stem | 316 St.St. ASTM A479 | Monel M400 | Duplex UNS 31803 | Hastelloy C-276 | Titanium GR-2 | 6Mo | Incoloy 825 | Inconel 625 |
| 7 | Gland Adjuster | 316 St.St. ASTM A479 | 316 St.St. ASTM A479 | 316 St.St. ASTM A479 | 316 St.St. ASTM A479 | 316 St.St. ASTM A479 | 316 St.St. ASTM A479 | 316 St.St. ASTM A479 | 316 St.St. ASTM A479 |
| 8 | Handle | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. |
| 9 | Grub Screw | A4-80 St.St. | A4-80 St.St. | A4-80 St.St. | A4-80 St.St. | A4-80 St.St. | A4-80 St.St. | A4-80 St.St. | A4-80 St.St. |
| 10 | Dust Cap | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured |
| 11 | Lock Nut | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. | 316 St.St. |
| 12 | Bonnet | 316 St.St. ASTM A479 | Monel M400 | Duplex UNS 31803 | Hastelloy C-276 | Titanium GR-2 | 6Mo | Incoloy 825 | Inconel 625 |

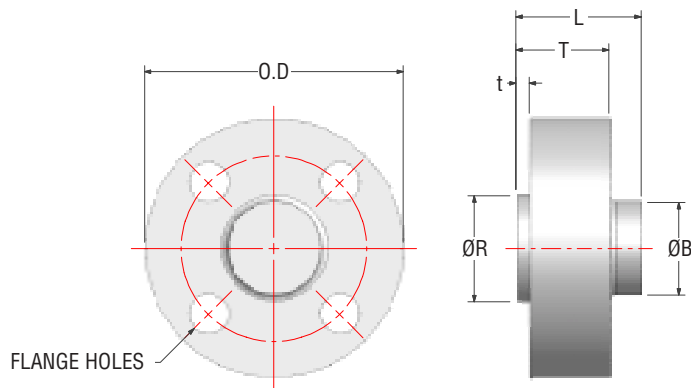
*Soft tip materials PEEK and PCTFE available for gaseous applications

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Monoflange - Table of dimensions

| Size | Class | O.D. +0.6 / -0.0 | T +0.5 / -0.0 | No. of Holes | Hole Dia. +0.5 / -0.0 | P.C.D. +0.3 / -0.3 | t +0.3 / -0.3 | R +0.3 / -0.3 | L +0.5 / -0.0 | B +0.5 / -0.0 |
|-------------|-------------|---------------------|------------------|-----------------|--------------------------|-----------------------|------------------|------------------|------------------|------------------|
| 1/2" N.B. | 150 LB | 88.90 (3.50") | 39.69 (1.56") | 4 | 15.75 (0.62") | 60.45 (2.38") | 1.59 (0.06") | 35.05 (1.38") | 60.00 (2.36") | 28.58 (1.13") |
| 3/4" N.B. | 150 LB | 98.55 (3.88") | 39.69 (1.56") | 4 | 15.75 (0.62") | 69.85 (2.75") | 1.59 (0.06") | 42.93 (1.69") | 60.00 (2.36") | 31.75 (1.25") |
| 1" N.B. | 150 LB | 107.95 (4.25") | 39.69 (1.56") | 4 | 15.75 (0.62") | 79.25 (3.12") | 1.59 (0.06") | 50.80 (2.00") | 60.00 (2.36") | 31.75 (1.25") |
| 1 1/2" N.B. | 150 LB | 127.00 (5.00") | 39.69 (1.56") | 4 | 15.75 (0.62") | 98.55 (3.88") | 1.59 (0.06") | 73.15 (2.88") | 67.00 (2.64") | 50.80 (2.00") |
| 2" N.B. | 150 LB | 152.40 (6.00") | 39.69 (1.56") | 4 | 19.05 (0.75") | 120.65 (4.75") | 1.59 (0.06") | 91.95 (3.62") | 60.00 (2.36") | 50.80 (2.00") |
| 1/2" N.B. | 300 LB | 95.25 (3.75") | 39.69 (1.56") | 4 | 15.75 (0.62") | 66.55 (2.62") | 1.59 (0.06") | 35.05 (1.38") | 60.00 (2.36") | 31.75 (1.25") |
| 3/4" N.B. | 300 LB | 117.35 (4.62") | 39.69 (1.56") | 4 | 19.05 (0.75") | 82.55 (3.25") | 1.59 (0.06") | 42.93 (1.69") | 60.00 (2.36") | 38.10 (1.50") |
| 1" N.B. | 300 LB | 123.95 (4.88") | 39.69 (1.56") | 4 | 19.05 (0.75") | 88.90 (3.50") | 1.59 (0.06") | 50.80 (2.00") | 60.00 (2.36") | 38.10 (1.50") |
| 1 1/2" N.B. | 300 LB | 155.45 (6.12") | 39.69 (1.56") | 4 | 22.35 (0.88") | 114.30 (4.50") | 1.59 (0.06") | 73.15 (2.88") | 67.00 (2.64") | 50.80 (2.00") |
| 2" N.B. | 300 LB | 165.10 (6.50") | 39.69 (1.56") | 8 | 19.05 (0.75") | 127.00 (5.00") | 1.59 (0.06") | 91.95 (3.62") | 60.00 (2.36") | 50.80 (2.00") |
| 1/2" N.B. | 600 LB | 95.25 (3.75") | 44.45 (1.75") | 4 | 15.75 (0.62") | 66.55 (2.62") | 6.35 (0.25") | 35.05 (1.38") | 60.00 (2.36") | 31.75 (1.25") |
| 3/4" N.B. | 600 LB | 117.35 (4.62") | 44.45 (1.75") | 4 | 19.05 (0.75") | 82.55 (3.25") | 6.35 (0.25") | 42.93 (1.69") | 60.00 (2.36") | 38.10 (1.50") |
| 1" N.B. | 600 LB | 123.95 (4.88") | 44.45 (1.75") | 4 | 19.05 (0.75") | 88.90 (3.50") | 6.35 (0.25") | 50.80 (2.00") | 60.00 (2.36") | 38.10 (1.50") |
| 1 1/2" N.B. | 600 LB | 155.45 (6.12") | 44.45 (1.75") | 4 | 22.35 (0.88") | 114.30 (4.50") | 6.35 (0.25") | 73.15 (2.88") | 67.00 (2.64") | 50.80 (2.00") |
| 2" N.B. | 600 LB | 165.10 (6.50") | 47.63 (1.88") | 8 | 19.05 (0.75") | 127.00 (5.00") | 6.35 (0.25") | 91.95 (3.62") | 60.00 (2.36") | 50.80 (2.00") |
| 1/2" N.B. | 900/1500 LB | 120.65 (4.75") | 44.45 (1.75") | 4 | 22.35 (0.88") | 82.55 (3.25") | 6.35 (0.25") | 35.05 (1.38") | 60.00 (2.36") | 31.75 (1.25") |
| 3/4" N.B. | 900/1500 LB | 130.05 (5.12") | 47.63 (1.88") | 4 | 22.35 (0.88") | 88.90 (3.50") | 6.35 (0.25") | 42.93 (1.69") | 60.00 (2.36") | 38.10 (1.50") |
| 1" N.B. | 900/1500 LB | 149.35 (5.88") | 50.80 (2.00") | 4 | 25.40 (1.00") | 101.60 (4.00") | 6.35 (0.25") | 50.80 (2.00") | 67.00 (2.64") | 38.10 (1.50") |
| 1 1/2" N.B. | 900/1500 LB | 177.80 (7.00") | 53.98 (2.13") | 4 | 28.45 (1.12") | 123.95 (4.88") | 6.35 (0.25") | 73.15 (2.88") | 74.00 (2.91") | 38.10 (1.50") |
| 2" N.B. | 900/1500 LB | 215.90 (8.50") | 60.33 (2.38") | 8 | 25.40 (1.00") | 165.10 (6.50") | 6.35 (0.25") | 91.95 (3.62") | 67.00 (2.64") | 50.80 (2.00") |
| 1/2" N.B. | 2500 LB | 133.35 (5.25") | 53.98 (2.13") | 4 | 22.35 (0.88") | 88.90 (3.50") | 6.35 (0.25") | 35.05 (1.38") | 60.00 (2.36") | 31.75 (1.25") |
| 3/4" N.B. | 2500 LB | 139.70 (5.50") | 53.98 (2.13") | 4 | 22.35 (0.88") | 95.25 (3.75") | 6.35 (0.25") | 42.93 (1.69") | 60.00 (2.36") | 38.10 (1.50") |
| 1" N.B. | 2500 LB | 158.75 (6.25") | 57.15 (2.25") | 4 | 25.40 (1.00") | 107.95 (4.25") | 6.35 (0.25") | 50.80 (2.00") | 67.00 (2.64") | 38.10 (1.50") |
| 1 1/2" N.B. | 2500 LB | 203.20 (8.00") | 66.68 (2.63") | 4 | 31.75 (1.25") | 146.05 (5.75") | 6.35 (0.25") | 73.15 (2.88") | 80.00 (3.15") | 50.80 (2.00") |
| 2" N.B. | 2500 LB | 234.95 (9.25") | 73.03 (2.88") | 8 | 28.45 (1.12") | 171.45 (6.75") | 6.35 (0.25") | 91.95 (3.62") | 80.00 (3.15") | 50.80 (2.00") |



Height of installed O.S. & Y: 96.2mm (3.79")
 Height of 'H' Series installed Needle Valve: 50.3mm (2.00")
 Height of 'H' Series Anti Tamper Valve: 48.8mm (1.92")
 All the above in fully open position
 Note: t dimension is for raised face joint seal only.