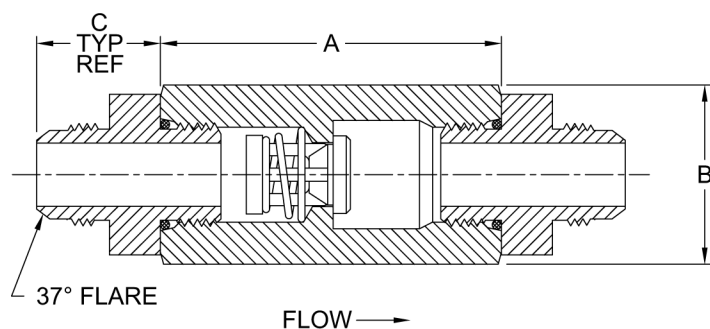


The **Tubing Check Valve-Flared (TF)** is a three-piece check valve with 37° flared end fittings that conform to SAE J514 & ISO 8434-2 . These valves are designed for maximum flow with minimal pressure drop. The TF valve can also be used as a low pressure relief valve or vacuum breaker by using the desired spring settings.



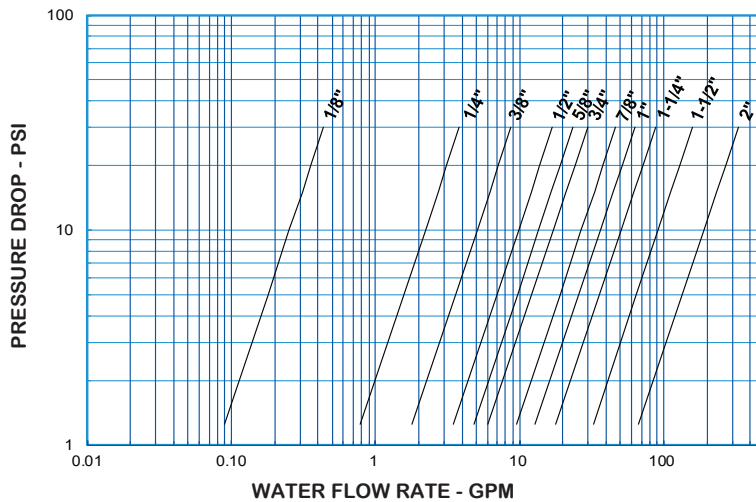
| Tubing O.D. Size | Size Code | A | Hex ^① Size B | C | Orifice Diameter |
|------------------|-----------|------|-------------------------|------|------------------|
| 1/8 | A | 2.16 | 7/8 | 0.69 | 0.348 |
| 1/4 | B | 2.16 | 7/8 | 0.89 | 0.348 |
| 3/8 | C | 2.16 | 7/8 | 0.91 | 0.348 |
| 1/2 | D | 2.47 | 1-1/8 | 1.04 | 0.464 |
| 5/8 | E | 2.63 | 1-1/4 | 1.20 | 0.464 |
| 3/4 | F | 2.92 | 1-1/2 | 1.38 | 0.593 |
| 7/8 | G | 3.34 | 1-7/8 | 1.40 | 0.890 |
| 1 | H | 3.34 | 1-7/8 | 1.46 | 0.890 |
| 1-1/4 | I | 3.48 | 2-1/4 | 1.58 | 1.135 |
| 1-1/2 | J | 3.81 | 2-1/2 | 1.79 | 1.385 |
| 2 | K | 5.09 | 3-1/2 | 2.19 | 2.025 |

^① May be larger and/or round.

| Line Size | Non-Shock Pressure-Temperature @ Rating 100°F | | |
|-------------|---|--|--|
| | Stainless Steel (SS) ^② | Carbon Steel (CS) ^② | Brass (BR) ^② |
| 1/8" - 1/2" | 7700 PSIG (1500 PSIG for o-ring seats) | 6000 PSIG (1500 PSIG for o-ring seats) | 3000 PSIG (1500 PSIG for o-ring seats) |
| 5/8" - 3/4" | 6000 PSIG (1500 PSIG for o-ring seats) | 5000 PSIG (1500 PSIG for o-ring seats) | 1600 PSIG (1500 PSIG for o-ring seats) |
| 7/8" | 5400 PSIG (1500 PSIG for o-ring seats) | 5000 PSIG (1500 PSIG for o-ring seats) | 1600 PSIG (1500 PSIG for o-ring seats) |
| 1" | 5400 PSIG (1500 PSIG for o-ring seats) | 4500 PSIG (1500 PSIG for o-ring seats) | 1600 PSIG (1500 PSIG for o-ring seats) |
| 1-1/4" | 3600 PSIG (1500 PSIG for o-ring seats) | 4000 PSIG (1500 PSIG for o-ring seats) | 1600 PSIG (1500 PSIG for o-ring seats) |
| 1-1/2" | 2400 PSIG (1500 PSIG for o-ring seats) | 3000 PSIG (1500 PSIG for o-ring seats) | 1600 PSIG (1500 PSIG for o-ring seats) |
| 2" | 1800 PSIG (1500 PSIG for o-ring seats) | 2000 PSIG (1500 PSIG for o-ring seats) | 1600 PSIG (1500 PSIG for o-ring seats) |

^② See page 58 for material grade information.

Tubing Check Valve Flared For Water at 72°F



Note: All flow curves and Cv values presume the valves are fully open with 1/2 PSI cracking pressure springs. Consult the factory for more information.

| STYLE TF C _v VALUES & VALVE WEIGHTS | | |
|---|-------|----------|
| C _v | SIZE | ALL MATL |
| 0.08 | 1/8 | 5.5 oz. |
| 0.7 | 1/4 | 6.6 oz. |
| 1.6 | 3/8 | 7.2 oz. |
| 3.1 | 1/2 | 13 oz. |
| 4.3 | 5/8 | 1.8 lb. |
| 5.4 | 3/4 | 2.3 lb. |
| 8.5 | 7/8 | 2.7 lb. |
| 11.5 | 1 | 3.0 lb. |
| 16.0 | 1-1/4 | 5.7 lb. |
| 29.0 | 1-1/2 | 7.8 lb. |
| 60.0 | 2 | 15lb. |

See page 53 for Flow Formulae.
Valve weights are approximate.

HOW TO ORDER CHECK-ALL STYLE TF

BODY MATERIAL ^②

BRASS = BR
CARBON STEEL = CS
316 SS = SS

See p. 3 for temperature ratings

SPRING CRACKING PRESSURES (PSI)

Must use decimal as a character unless selecting NO SPRING. Specify Exact Setting

| SPRING RANGES | EXAMPLE |
|---------------|----------|
| .000 TO .999 | = .500 |
| 1.00 TO 9.99 | = 1.50 |
| 10.0 TO 85.0 | = 15.0 |
| NO SPRING | = NOSPRG |

STANDARD CRACKING PRESSURES ^①

| | | | |
|------------------|------|------|------|
| .125 | .500 | 1.50 | 3.50 |
| (Sizes A-I Only) | | | |

Note: Many other cracking pressures are available. All spring tolerances +/- 15%.

SPECIAL OPTIONS

T = FEP ENCAPSULATED SPRING
-O = Outer o-ring seals same as seat
Contact the factory for more options

See pages 3 & 4 for temperature rating

TF

VALVE STYLE

SIZE

| | |
|-------|-----|
| 1/8 | = A |
| 1/4 | = B |
| 3/8 | = C |
| 1/2 | = D |
| 5/8 | = E |
| 3/4 | = F |
| 7/8 | = G |
| 1 | = H |
| 1-1/4 | = I |
| 1-1/2 | = J |
| 2 | = K |

SEAT MATERIAL ^③

| | |
|---------------------|------|
| AFLAS [®] | = AS |
| BUNA-N | = BN |
| EPDM ^④ | = EP |
| KALREZ [®] | = KZ |
| "METAL-TO-METAL" | = MT |
| NEOPRENE | = NE |
| PTFE | = TF |
| FKM | = VT |

See p. 3 for temp ratings

STANDARD END FITTING O-RING MATERIAL

| |
|-----------------------------|
| PTFE |
| BUNA-N |
| EPDM ^④ |
| PTFE |
| SEE NOTE BELOW ^⑤ |
| NEOPRENE |
| PTFE |
| FKM |

SPRING MATERIAL

| | |
|---|------|
| 316 SS | = SS |
| ALLOY C-276 | = HC |
| INCONEL [®] X750 OR ALLOY X750 | = IX |
| ALLOY 400 OR MONEL [®] 400 | = MO |
| 17-7PH SS | = PH |
| TITANIUM | = TI |

See p. 4 for temperature ratings

Listed above are the most common material selections. Please contact the factory for additional options.

- .500 PSI is the only standard cracking pressure for spring materials other than Stainless Steel. 0.125 PSI springs are not recommended for installations with flow vertical down.
- Brass valves have plated Carbon Steel tube fittings if applicable. Consult factory if other body or fitting materials are desired.
- Seat materials other than "metal-to-metal" have a maximum pressure rating of 1500 PSI. "Metal-to-Metal" and PTFE seats are not resilient. See page 54 for allowable leakage rates.
- EP seats not recommended for use with Carbon Steel valves.
- Fitting o-rings are the same as the seat for standard seat materials. For "metal-to-metal" seated valves, end fitting o-rings are Buna-N for brass and carbon steel valves and FKM for stainless steel valves. Consult the factory for further information.