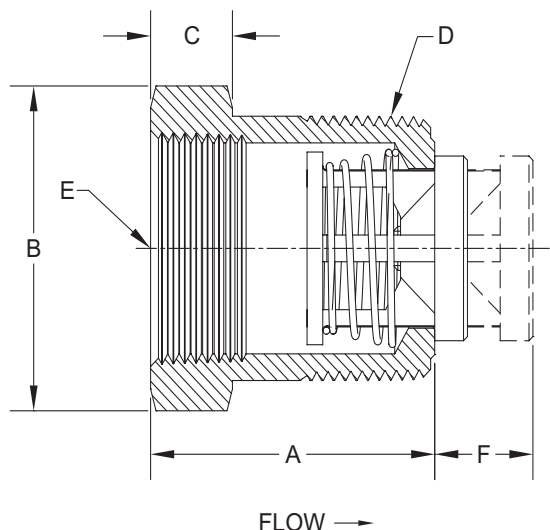


The **Bushing (BU, BR)** check valve is a valve with a standard bushing housing. This valve is adaptable to many types of service applications. It has very little restriction and produces a low pressure drop. It can be used quite effectively in systems where flow and pressure drop are critical by the use of a reducer coupling. The BU valve can also be used as a low pressure relief valve or vacuum breaker by using the desired spring settings.

The bushing thread sizes are designated by two sets of numbers; the first being the male thread, the second the female thread. NPT threads are per ASME B1.20.1.

Also available with ISO 7 "R" & "Rp" (R male x Rp female) threads (BR).



Nom. Pipe Size	Size Code	A	Hex <sup>①</sup> Size B	C	D	E	F <sup>②</sup>	Orifice Dia.
1/2 x 3/8	D	1.30	7/8	1/4	1/2 NPT	3/8 NPT	0.53	0.348
3/4 x 1/2	F	1.30	1-1/8	1/4	3/4 NPT	1/2 NPT	0.61	0.464
1 x 3/4	H	1.83	1-3/8	1/2	1 NPT	3/4 NPT	0.78	0.593
1-1/4 x 1	I	1.83	1-3/4	1/2	1-1/4 NPT	1 NPT	0.85	0.890
1-1/2 x 1-1/4	J	2.17	2	5/8	1-1/2 NPT	1-1/4 NPT	1.01	1.135
2 x 1-1/2	K	2.17	2-1/2	5/8	2 NPT	1-1/2 NPT	1.19	1.385
2-1/2 x 2	L	2.53	3	5/8	2-1/2 NPT	2 NPT	1.43	1.555
3 x 2-1/2	M	3.09	3-1/2	1	3 NPT	2-1/2 NPT	1.59	2.025

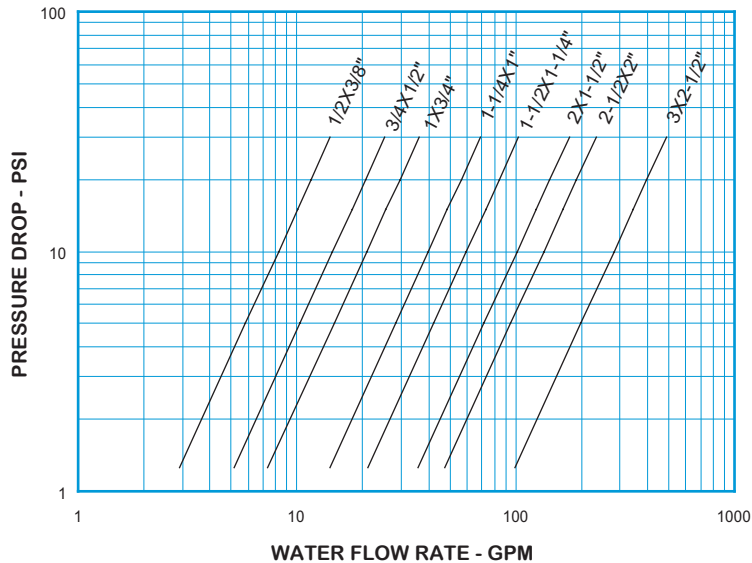
① May be larger and/or round.

② Maximum nominal dimension for a fully open valve with no spring.

Body Material ③	Availability	Non-Shock Pressure-Temp. Rating @ 100° F Consult factory for P-T rating above 100°F
316 Stainless Steel (SS)	Standard	3000 PSIG (1500 PSIG for o-ring seats)
Carbon Steel (CS)		
Brass (BR)		
Alloy 20 (A2)	Semi-standard	
Alloy C-276 (HC)		
MONEL® 400 / Alloy R405 (MO)		
Alloy B (HB)	Contact the factory for these or other materials	
Titanium (TI)		

③ See page 57 for material grade information.

### Bushing 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.

#### STYLE BU, BR Cv VALUES & VALVE WEIGHTS

C <sub>v</sub>	SIZE	SS/CS	BR
2.6	1/2 x 3/8	2.2 oz	2.4 oz.
4.6	3/4 x 1/2	3.6 oz	3.8 oz.
6.6	1 x 3/4	7.3 oz	7.9 oz.
12.6	1-1/4 x 1	11.9 oz	12.6 oz.
18.8	1-1/2 x 1-1/4	1.1 lb	1.1 lb.
32.0	2 x 1-1/2	1.8 lb	1.9 lb.
42.5	2-1/2 x 2	2.6 lb	2.8 lb.
89.0	3 x 2-1/2	4.6 lb	4.9 lb.

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

## HOW TO ORDER CHECK-ALL STYLE BU, BR

#### BODY MATERIAL

ALLOY 20 = A2  
BRASS = BR  
CARBON STEEL = CS  
ALLOY B = HB  
ALLOY C-276 = HC  
MONEL® 400 OR ALLOY R405 = MO  
316 SS = SS  
TITANIUM = TI

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

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
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(Sizes D-J Only)

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

#### SPECIAL OPTIONS

T = FEP ENCAPSULATED SPRING  
See p. 4 for temperature rating  
Contact the factory for more options

**B**

#### VALVE STYLE

NPT Threads = BU  
ISO 7 R & Rp Threads = BR

#### SIZE

1/2 x 3/8	= D
3/4 x 1/2	= F
1 x 3/4	= H
1-1/4 x 1	= I
1-1/2 x 1-1/4	= J
2 x 1-1/2	= K
2-1/2 x 2	= L
3 x 2-1/2	= M

#### SEAT MATERIAL ②

AFLAS® = AS  
BUNA-N = BN  
EPDM ③ = EP  
KALREZ® (FFKM) = KZ  
FLUOREZ® (FFKM) = FZ  
"METAL-TO-METAL" = MT  
NEOPRENE = NE  
PTFE = TF  
FKM = VT

See p. 3 for temperature ratings

#### SPRING MATERIAL

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

See p. 4 for temperature ratings

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

- ① .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.
- ② 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.
- ③ EP seats not recommended for use with Carbon Steel valves.