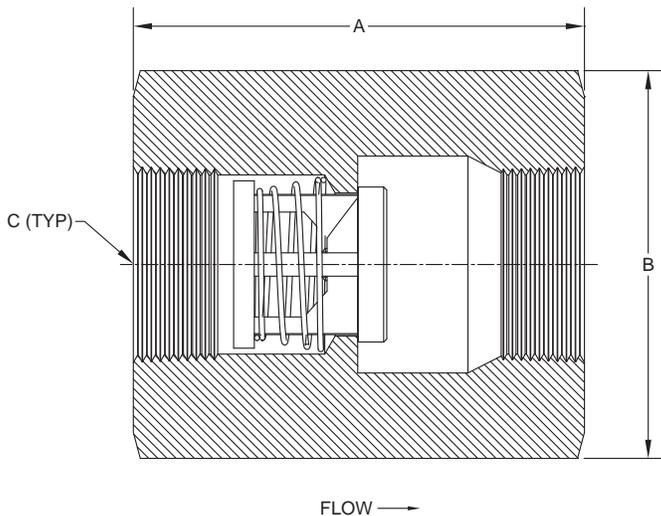


The **Universal High Pressure (U1, R1)** check valve is a one piece body machined from bar stock with female pipe threads. The valve is designed and manufactured for high pressure applications. These valves can also be used as low pressure relief valves or vacuum breakers by using the desired spring settings. This valve is normally supplied with a “metal-to-metal” seat. NPT threads are per ASME B1.20.1. Also available with ISO 7 “Rp” threads. (R1).

**NOTE:** Many valves in this series can be supplied with B16.34 certification. Consult the factory for more information.



Nom. Pipe Size	Size Code	A	Hex <sup>1</sup> Size B	C	Orifice Diameter
3/8	C	2.16	1	3/8 NPT	0.348
1/2	D	2.71	1-1/4	1/2 NPT	0.464
3/4	F	2.95	1-5/8	3/4 NPT	0.593
1	H	3.64	2-1/4	1 NPT	0.890
1-1/4	I	3.91	2-3/4	1-1/4 NPT	1.135
1-1/2	J	4.36	3-1/4	1-1/2 NPT	1.385

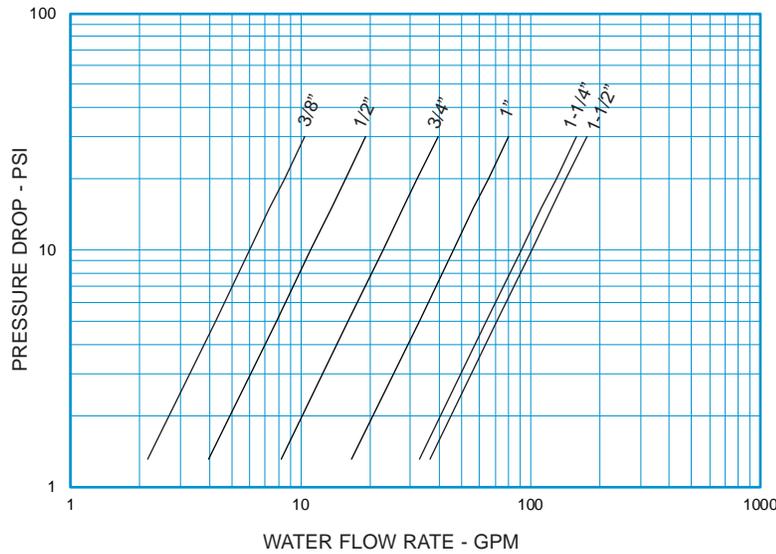
<sup>1</sup> May be larger and/or round.

Body Material <sup>2</sup>	Availability	Non-Shock Pressure-Temperature Rating
316 Stainless Steel (SS)	Standard	10,000 PSIG @ 100°F
Carbon Steel (CS)		
Alloy 20 (A2)	Semi-standard	
Alloy C-276 (HC)		
Alloy 400 or Monel <sup>®</sup> (MO)		
Alloy B (HB)	Contact the factory for these or other materials	
Titanium (TI)		

<sup>2</sup> See page 54 for material grade information.

**Universal High Pressure**  
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 U1 C <sub>v</sub> VALUES & VALVE WEIGHTS		
C <sub>v</sub>	SIZE	SS & CS ALLOYS
1.9	3/8	5.9 oz.
3.5	1/2	11.8 oz.
7.2	3/4	1.4 lb.
14.6	1	3.5 lb.
28.8	1-1/4	5.4 lb.
31.9	1-1/2	8.1 lb.

See page 49 for Flow Formulae.  
Valve weights are approximate.

**HOW TO ORDER  
CHECK-ALL STYLE U1**

**BODY MATERIAL**

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

See p. 3 for temperature rating

**SPRING CRACKING PRESSURES**  
Replace "X" with actual desired setting.  
Must use decimal as a character.

(PSI)	FORMAT	EXAMPLE
.000 TO .999	= .XXX	.500
1.00 TO 9.99	= X.XX	1.50
10.0 TO 99.9	= XX.X	15.0
NO SPRING	= NOSPRG	NOSPRG

**STANDARD CRACKING PRESSURES ①**

.125	.500	1.50	3.50
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(Sizes C-I Only)

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

U
M
T

**VALVE STYLE**

NPT Threads = U1  
ISO 7 Rp Threads = R1

**SIZE**

3/8 = C  
1/2 = D  
3/4 = F  
1 = H  
1-1/4 = I  
1-1/2 = J

**SEAT MATERIAL ②**

"METAL-TO-METAL" = MT  
Same temperature rating as body

**SPECIAL OPTIONS**

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

**SPRING MATERIAL**

316 SS = SS  
ALLOY C-276 = HC  
ALLOY B = HB  
ALLOY X750 OR INCONEL® X750 = IX  
ALLOY 400 OR MONEL® = 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.**

① .500 PSI is the only standard cracking pressure for spring materials other than Stainless Steel. .125 PSI springs are not recommended for installations with flow vertical down.

② "Metal-to-Metal" seats are not resilient. See page 50 for allowable leakage rates.