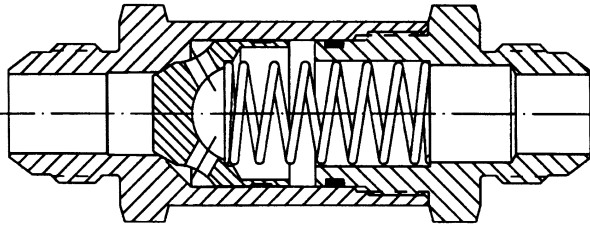


# Catalog Series 440, 450



**B**

## Features

- High-pressure check valves.
- Poppet 440F stainless steel.
- For high-shock service.
- AN and MS valves are qualified to military specifications MIL-V-5524 and MIL-V-19069.

## Specifications

**Service Applications:** Hydraulic.

### Pressure Range:

**Working:** Aluminum alloy, 3,000 PSI  
Steel and stainless steel, 5,000 PSI

**Proof:** Aluminum alloy, 4,500 PSI  
Steel and stainless steel, 7,500 PSI

**Cracking:** 6 ±2, or 65 PSI ±6  
Below 6 PSI, ±33%  
6 to 20 PSI, ±2 PSI

other settings available to order.

### Temperature Range:

-40° to 250° F.  
Higher on special order.

### Sizes:

**NPT:** 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1-1/4, 1-1/2, 2.  
**FLD, FLS:** 4, 6, 8, 10, 12, 16, 20, 24, 32.

### Type Ports:

**NPT:** Pipe threads.  
**FLD:** Flared tube connection SAE 37° MS33656.  
**FLS:** Flareless tube connection MS33514.  
**IST:** Internal straight threads per MS33649.

**Internal Leakage:** 1 drop in 2 minutes.

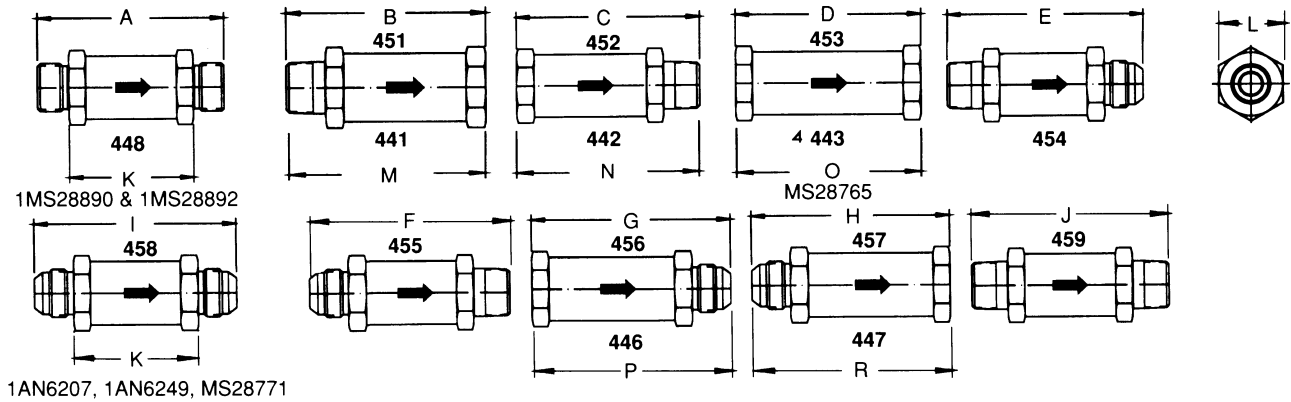
**Mounting:** In line.

### Materials:

**Body and Cap:** Aluminum alloy, steel or 303 stainless steel.  
**Poppet:** Hardened 440F stainless steel.  
**Tube:** Steel and aluminum valves, aluminum alloy, stainless steel valves, 316 stainless steel.  
**Spring:** 302 stainless steel.  
**Finish:** Aluminum alloy, anodized; steel, cadmium plated; stainless steel.  
**O-Ring:** Synthetic rubber. Aluminum and stainless steel valves, sizes 4 thru 16, when furnished to MS28765, MS28771, MS28890 and MS28892 only, O-rings are Code 27 (MIL-P-25732).  
**Back-up Rings:** PTFE.

Valve Size		Weights, Maximum (Approx.)		CV Factors	
		Aluminum Alloy	Steel and Stainless Steel	440 Series	450 Series
Tube	Pipe				
4	1/8	1 Oz.	2 Oz.	.6	.84
6	1/4	2 Oz.	4 Oz.	1.6	1.6
8	3/8	4 Oz.	8 Oz.	2.6	2.7
10	1/2	6 Oz.	10 Oz.	4.1	4.2
12	3/4	8 Oz.	1-1/4 Lbs.	6.5	6.5
16	1	14 Oz.	1-7/8 Lbs.	11	10
20	1-1/4	2-1/2 Lbs.	5 Lbs.	18	18
24	1-1/2	2-1/2 Lbs.	5 Lbs.	24	23
32	2	3-1/2 Lbs.	6-5/8 Lbs.	48	47

### Dimensions



Valve Size		All Dimensions in Inches																
Tube	Pipe	A	B	C	D	E	F	G	H	I	J	K	Flats L	M	N	O	P	R
4	1/8	2 7/16	2 15/64	2 35/64	2 11/32	2 15/32	2 39/64	2 37/64	2 13/32	2 41/64	2 7/16	1 17/32	1 11/16	2 29/64	2 47/64	2 3/4	2 49/64	2 5/8
6	1/4	2 11/16	2 3/4	2 15/16	2 11/16	2 59/64	2 31/32	2 55/64	2 11/16	2 55/64	3 1/32	1 3/4	1 13/16	2 57/64	3 9/64	3	3 1/2	2 53/64
8	3/8	3 11/32	3 5/16	3 19/32	3 3/8	3 17/32	3 17/32	3 19/32	3 5/16	3 17/32	3 17/32	2 7/32	1 1/16	3 3/8	3 25/32	3 5/8	3 25/32	3 3/8
10	1/2	3 21/32	3 21/32	4	3 23/32	3 59/64	3 15/16	3 63/64	3 43/64	3 59/64	3 15/16	2 13/32	1 1/8	3 29/32	4 3/32	4 1/16	5 4/64	3 59/64
12	3/4	4 1/8	4 5/64	4 3/8	4 5/64	4 3/8	4 31/64	4 3/8	4 3/16	4 31/64	4 3/8	2 3/4	1 7/16	4 9/32	4 19/32	4 1/2	4 19/32	4 25/64
16	1	4 11/16	4 13/16	5 15/32	4 7/8	5 3/32	5 1/4	5 11/32	4 43/64	5 1/8	5 13/32	3 5/16	1 11/16	5 1/4	5 9/32	5 1/8	5 5/32	5 3/32
20	1 1/4	5 7/16	5 15/16	6 1/4	6	6	6 1/8	6 1/16	5 7/8	5 15/16	6 3/16	4 1/16	2 1/4	6 1/16	6 1/4	6 1/8	6 1/16	6
24	1 1/2	5 5/8	6 3/32	6 5/8	6 3/16	6 13/32	6 17/32	6 1/2	6 3/32	6 13/32	6 17/32	4 1/4	2 1/2	6 3/32	6 5/8	6 3/16	6 1/2	6 3/32
32	2	6 3/16	6 27/32	7 9/32	7	7 1/4	7 11/32	7 13/32	7 1/16	7 15/32	7 1/8	4 13/16	3	7 7/32	7 17/32	7 5/8	7 21/32	7 7/16

### Interpretation of Valve Number

<b>A</b>	<b>441</b>	<b>-4</b>	<b>D</b>	<b>2</b>	<b>-</b>	<b>6</b>																																																															
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Valves meet or exceed AN or MS military specifications as shown.  
Part numbers marked \* should be used for new production, and for replacement of parts marked †.  
PARTS MARKED † SHOULD NOT BE USED IN PLACE OF THOSE MARKED \*.

MS or AN Number	Materials	Pressure P.S.I.	Military Spec.
†1AN6207	Alum. Alloy	1500	MIL-V-5524
†1AN6249	Alum. Alloy	3000	MIL-V-5524
*MS2771	Alum. Alloy, Stain. Steel	3000	MIL-V-19069
†1MS28890	Alum. Alloy	3000	MIL-V-5524
*1MS28892	Alum. Alloy, Stain. Steel	3000	MIL-V-19069
**1MS28765	Alum. Alloy, Stain. Steel	3000	MIL-V-19069

**NOTE:** AN and MS part numbers require the addition of a dash number for size identification, example MS28892-12.

NOTE: Valves requiring military certification must be ordered by the applicable AN or MS part number.

\*\* Add dash number for size and SS for Stainless Steel or AL for Aluminum.