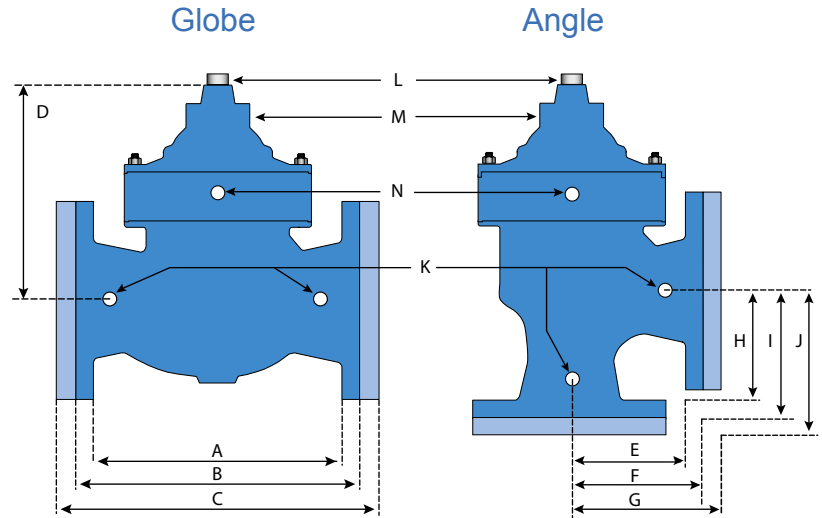


### Standard Materials

Body & Cover: Ductile Iron ASTM A536  
 Coating: NSF Listed Fusion Bonded Epoxy Lined and Coated  
 Trim: 316 Stainless Steel (1-1/4" – 8")  
 ASTM B62 Bronze (10" – 24")  
 (Stainless Steel Optional)  
 Elastomers: Buna-N (standard)  
 EPDM (optional)  
 Viton (optional)  
 Stem, Nut & Spring: Stainless Steel



### Dimensions

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	SHIPPING WEIGHTS*
VALVE SIZE	GLOBE THRD.	GLOBE 150#	GLOBE 300#	COVER TO CENTER	ANGLE THRD.	ANGLE 150#	ANGLE 300#	ANGLE THRD.	ANGLE 150#	ANGLE 300#	PORT SIZE	PORT SIZE	PORT SIZE	PORT SIZE	
2	9-3/8	9-3/8	10	6-3/8	4	4	4-1/4	4	4	4-1/4	1/2	1/2	1/4	1/4	40
2-1/2	11	11	11-5/8	8-1/2	5-1/2	5-1/2	5-13/16	4	4	4-5/16	1/2	1/2	3/8	1/4	70
3	10-1/2	12	13-1/4	8-3/4	5-1/4	5-3/4	6-1/8	5-1/4	5-3/4	6-1/8	1/2	1/2	3/8	1/4	105
4		15	15-5/8	10-1/4		6-3/4	7-1/8		6-3/4	7-1/8	1/2	1/2	3/8	1/4	230
6		20	21	14		8-1/2	8-7/8		8-1/2	8-7/8	1/2	1/2	1/2	1/2	375
8		25-3/8	26-3/8	19-1/2		11	11-1/2		11	11-1/2	1/2	1	1/2	3/4	800
10		29-3/4	31-1/8	22-1/2		14-7/8	15-5/8		14-7/8	15-5/8	1	1	1	3/4	1100
12		34	35-1/2	24-3/4		17	17-3/4		17	17-3/4	1	1	1	1	1720
14		39	40-1/2	26							1	1	1	1	2600
16		41-3/8	43-1/2	30-1/2							1	1	1	1	3300

\*Estimated in lbs.

### Description

The WATTS ACV Models F518 and F1518 are full port, dual chamber basic valves that incorporate a two-piece telescoping disc and diaphragm assembly. This assembly is the only moving part within the valve, allowing it to open or close as commanded by the pilot control system. The lower portion of this two-piece assembly is a mechanical check feature, which acts independent of diaphragm position or pilot control system, and provides immediate check action when flow ceases.

When pressure is applied to the upper diaphragm chamber and released from the lower diaphragm chamber, the valve travels to a closed position. When pressure is applied to the lower diaphragm chamber and released from the upper diaphragm chamber the valve travels to a full open position.

Model F518: Globe Pattern Dual Chamber Basic Valve with Mechanical Check Feature.

Model F1518: Angle Pattern Dual Chamber Basic Valve with Mechanical Check Feature.

### Operating Pressure

Threaded = 400 psi / 150 Flanged=250 psi / 300 Flanged = 400 psi

### Operating Temperature

Buna-N: 160°F Maximum

EPDM: 300°F Maximum

Viton: 250°F Maximum

## Flow Data - ACV F518 (Globe) / F1518 (Angle)

Valve Size - Inches	2	2-1/2	3	4	6	8	10	12	14	16
Maximum Continuous Flow Rate Gpm (Water)	208	300	460	800	1800	3100	4900	7000	8500	11000
Maximum Intermittent Flow Rate Gpm (Water)	260	370	570	1000	2300	3900	6000	8600	10500	14000
CV Factor GPM (Globe)	55	75	125	220	460	775	1200	1730	2100	2800
CV Factor GPM (Angle)	66	99	170	280	650	1100	1600	2500	3060	4210

Estimated

Maximum continuous flow based on velocity of 20 ft. per second.

Maximum intermittent flow based on velocity of 25 ft. per second.

The  $C_v$  factor of a valve is the flow rate in US GPM at 60° F that will cause a 1 psi drop in pressure.

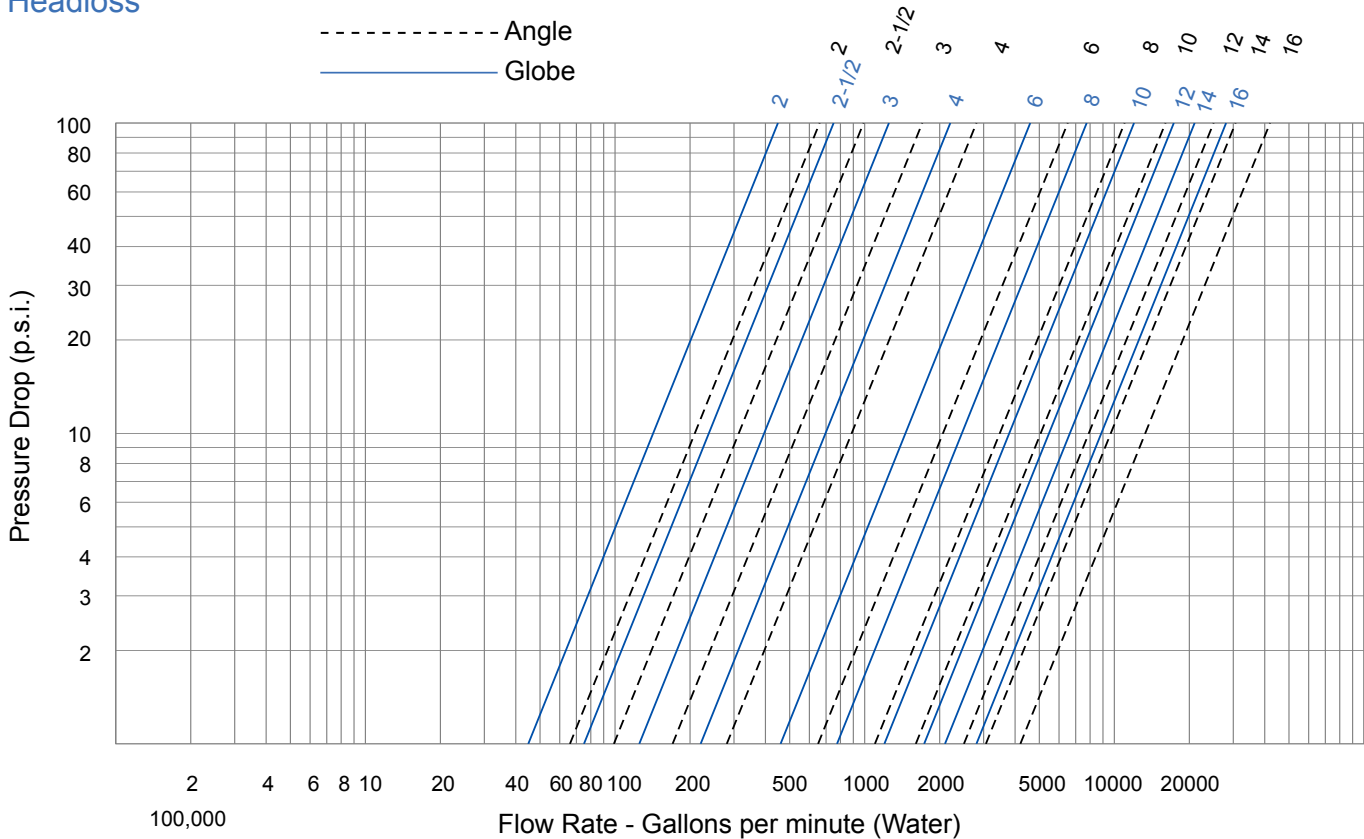
The factors stated are based upon a fully open valve.

$C_v$  factor can be used in the following equations to determine Flow (Q) and Pressure Drop ( $\Delta P$ ):

$$Q (\text{Flow}) = C_v \sqrt{\Delta P}$$

$$\Delta P (\text{Pressure Drop}) = (Q/C_v)^2$$

## Headloss



## Valve Cover Chamber Capacity

Valve Size (in)	2	2-1/2	3	4	6	8	10	12	14	16
fl.oz.	4	10	10	22	70					
U.S. Gal						1-1/4	2-1/2	4	6-1/2	9-1/2

## Valve Travel

Valve Size (in)	2	2-1/2	3	4	6	8	10	12	14	16
Travel (in)	1/2	5/8	3/4	1	1-1/2	2	2-1/2	3	3-1/2	4