

## M Series Basic Valves

# LEAD FREE\*

### Reduced Port Ductile Iron Single Chamber Basic Valve

This Watts ACV is a reduced port, single chamber basic valves that incorporates a one-piece disc and diaphragm assembly. This assembly is the only moving part within the valve, allowing it to open, close, or modulate as commanded by the pilot control system. The reduced port design offers improved low-flow perform

Watts ACV Main Valves are Lead Free. The Watts ACV piloting system contains Lead Free\* components, ensuring all of our configurations are Lead Free compliant.

Globe Pattern Single Chamber Basic Valve (M6100)

Angle Pattern Single Chamber Basic Valve (M61100)



Globe Flanged



Angle Flanged

#### Standard Materials

Body & Cover: Ductile Iron ASTM A536

Coating: NSF Listed Fusion Bonded Epoxy Lined and Coated

Trim: 316 Stainless Steel

Elastomers: Buna-N (standard)  
EPDM (optional)  
Viton (optional)

Nut, Spring & Stem: Stainless Steel

Anti-Scale (Optional): Xylan Coated Stem and Seat



Certified to NSF/ANSI 61-G

#### Operating Pressure

150# Flanged = 250psi (17.2 bar)

300# Flanged = 400psi (27.6 bar)

#### Operating Temperature

Buna-N: 160°F (71°C) Maximum

EPDM: 300°F (140°C) Maximum

Viton®: 250°F (121°C) Maximum

Epoxy Coating\*\*: 225°F (107°C) Maximum

\*\* Valves can be provided without internal epoxy coating consult factory

\*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Viton® is a registered trademark of DuPont Dow Elastomers.

#### NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

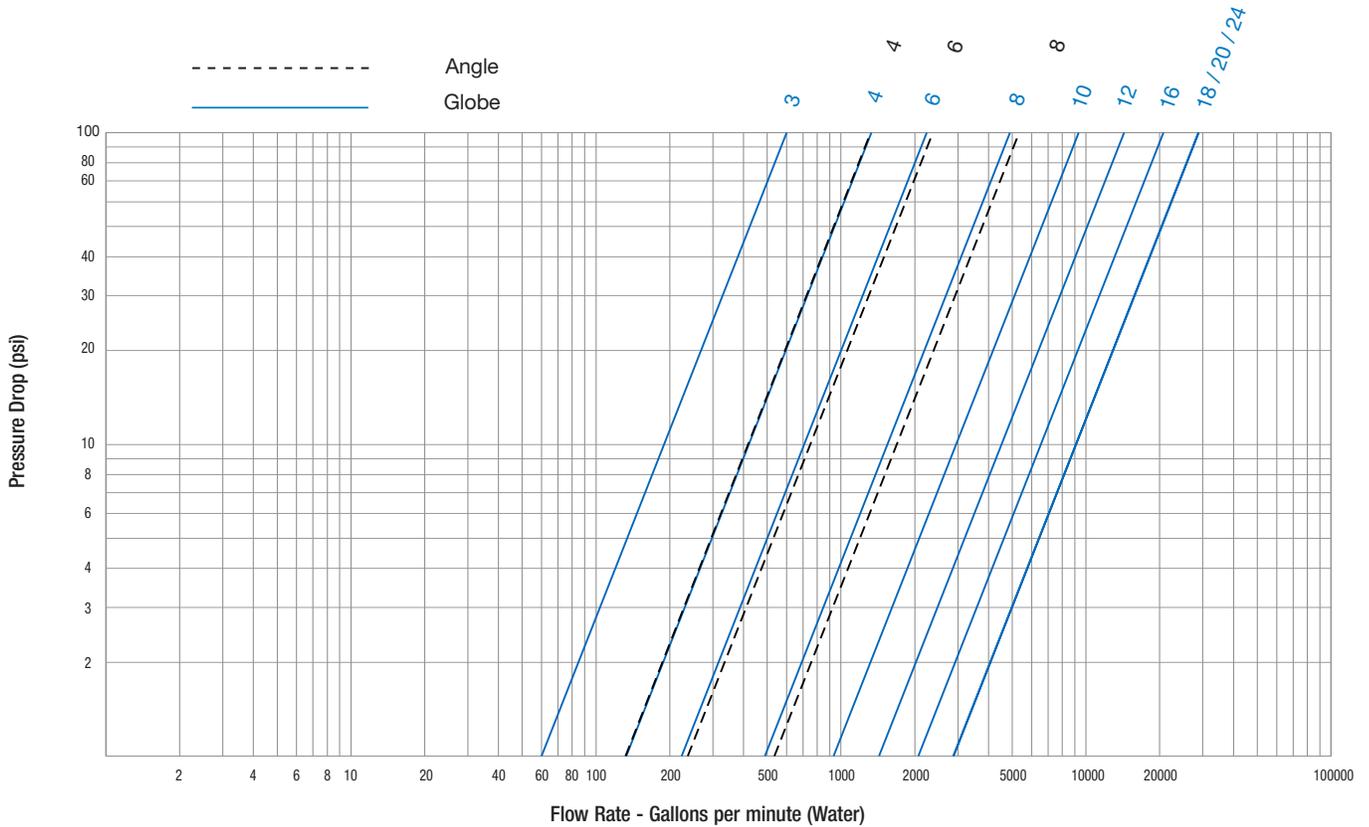
WATTS® logo with a stylized blue and white 'W' symbol.

# Reduced Port Ductile Iron Single Chamber Basic Valve

## Flow Data

Valve Size - Inches		3	4	6	8	10	12	16	18	20	24
<b>Suggested</b>	Maximum Continuous Flow Rate Gpm (Water)	210	485	800	1850	3100	5000	7000	11100	11100	11100
	Maximum Intermittent Flow Rate Gpm (Water)	265	590	1000	2300	4000	6250	8900	14100	14100	14100
	Minimum Flow Rate Gpm (Water)	6	15	16	17	25	55	70	400	400	400
<b>C<sub>v</sub></b>	Factor GPM (Globe)	60	120	224	402	932	1314	2067	2881	2881	2881
	Factor GPM (Angle)		132	237	534						

- Maximum continuous flow based on velocity of 20 ft. per second.
- Maximum intermittent flow based on velocity of 25 ft. per second.
- Minimum flow rates based on a 20-40 psi pressure drop.
- The C<sub>v</sub> Factor of a valve is the flow rate in US GPM at 60°F that will cause a 1psi drop in pressure.
- C<sub>v</sub> factor can be used in the following equations to determine Flow (Q) and Pressure Drop (ΔP):
 
$$Q \text{ (Flow)} = C_v \sqrt{\Delta P} \quad \Delta P \text{ (Pressure Drop)} = (Q/C_v)^2$$
- The C<sub>v</sub> factors stated are based upon a fully open valve.
- Many factors should be considered in sizing control valves including inlet pressure, outlet pressure and flow rates.
- For sizing questions including cavitation analysis consult Watts with system details.



## Valve Cover Chamber Capacity

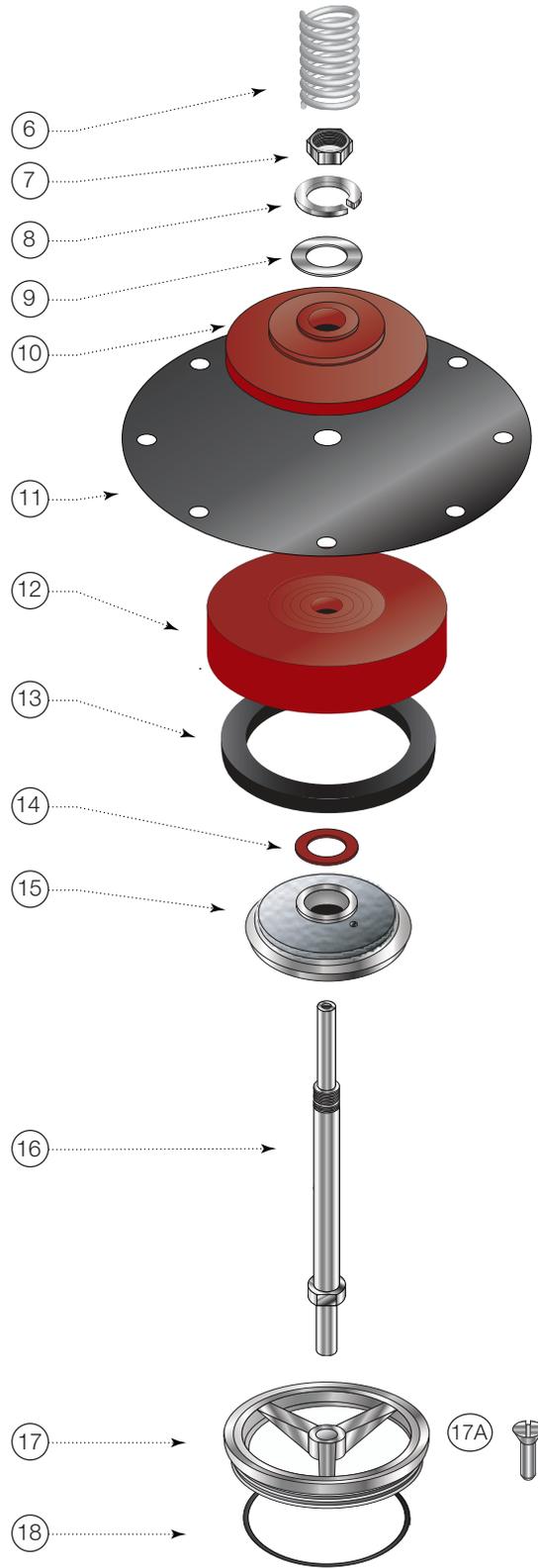
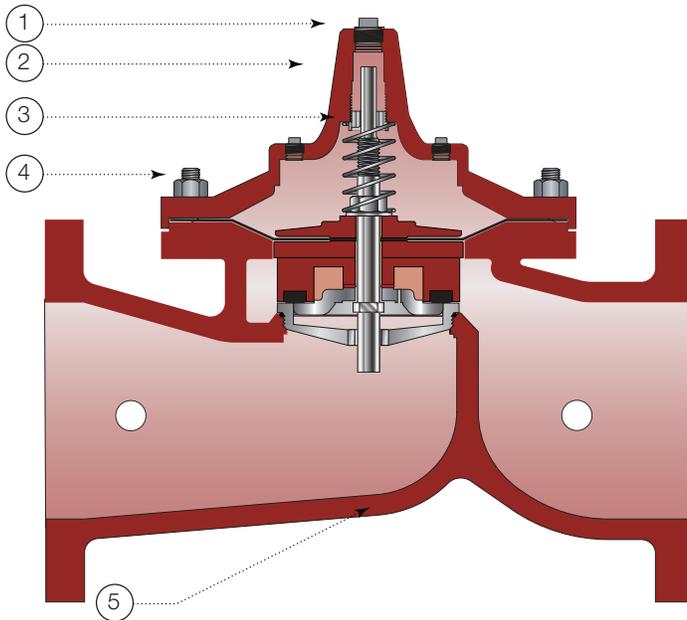
Valve Size (in)	3	4	6	8	10	12	16	18	20	24
fl.oz.	4	10	22	70						
U.S. Gal					1¼	2½	4	9½	9½	9½

## Valve Travel

Valve Size (in)	3	4	6	8	10	12	16	18	20	24
(in)	½	¾	1	1½	2	2½	3	4	4	4

# Reduced Port Ductile Iron Single Chamber Basic Valve

**LEAD FREE\***



ITEM	DESCRIPTION	MATERIAL
1	Pipe Plug	Lead Free Brass
2	Cover	ASTM A536 65-45-12 Epoxy Coated Ductile Iron
3	Cover Bearing	ASTM A276 304 Stainless Steel
4	Stud with Cover Nut and Washer	ASTM A570 Gr.33 Zinc Plated Steel
5	Body	ASTM A536 65-45-12 Epoxy Coated Ductile Iron
6	Spring	ASTM A276 302 Stainless Steel
7	Stem Nut	ASTM A276 304 Stainless Steel
8	Lock Washer	ASTM A276 304 Stainless Steel
9	Stem Washer	ASTM A276 304 Stainless Steel
10	Diaphragm Washer	ASTM A536 65-45-12 Epoxy Coated Ductile Iron
11	Diaphragm*	Buna-N (Nitrile)
12	Disc Retainer	ASTM A536 65-45-12 Epoxy Coated Ductile Iron
13	Seat Disc*	Buna-N (Nitrile)
14	Spacer Washer* x5	NY300 Fiber*
15	Disc Guide	ASTM A743 CF8M (316) Stainless Steel
16	Shaft	ASTM A276 304 Stainless Steel
17	Seat Ring**	ASTM A743 CF8M (316) Stainless Steel
17A	Seat Screw** (10" and Larger)	ASTM A276 304 Stainless Steel
18	Seat Gasket*	Buna-N (Nitrile)

\* Contained in Main Valve Repair Kit

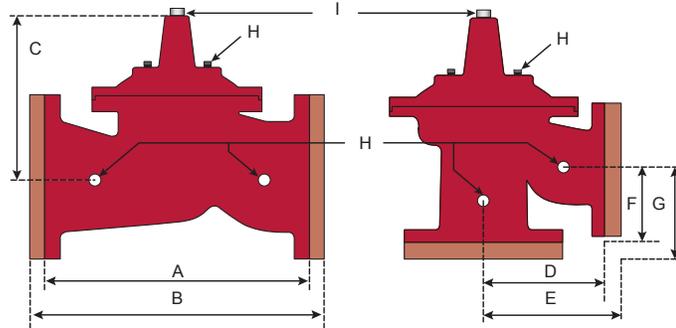
\*\*Note: 8 inch and Smaller Valves, Seat Ring is threaded

**NOTICE**

Installation: If unit is installed in any orientation other than horizontal (cover up) OR extreme space constraints exist, consult customer service prior to or at the time of order.

# Reduced Port Ductile Iron Single Chamber Basic Valve

## Dimensions



Valve Size	Globe 150#		Globe 300#		Cover To Center		Angle 150#		Angle 300#		Angle 150#		Angle 300#		Port Size NPT	Port Size NPT	Shipping Weights*	
	A		B		C		D		E		F		G		H	I	lbs.	kgs.
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	in.		
3	10¼	260	11	279	6⅝	169									¾	½	21	10
4	13⅞	352	14½	368	8½	214	6⅛	176	7¼	184	5½	140	5⅜	148	½	½	39	18
6	17¾	451	18⅞	473	11½	288	8⅞	225	9⅞	238	6¾	171	7¼	184	¾	¾	89	40
8	21⅜	543	22⅜	568	14½	369	10⅛	271	11⅜	284	7¼	184	7¾	197	¾	¾	150	68
10	26	660	27⅞	695	17⅞	448									1	1	283	128
12	30	762	31½	800	20⅞	523									1	1	408	185
16	35	889			25¾	654									1	1¼	626	234
18	48	1219			31	787									1	2	1145	519
20	48	1219			31	787									1	2	1170	531
24	48	1219			31	787									1	2	1265	574



USA: T: (978) 689-6066 • F: (978) 794-1848 • Watts.com  
 Canada: T: (905) 332-4090 • F: (905) 332-7068 • Watts.ca  
 Latin America: T: (52) 81-1001-8600 • Watts.com