

Classic Series Basic Valves

LEAD FREE*

F100 / F1100

Full Port Ductile Iron Single Chamber Basic Valve

The Watts ACV Models F100 and F1100 are full port, single chamber basic valves that incorporate 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.

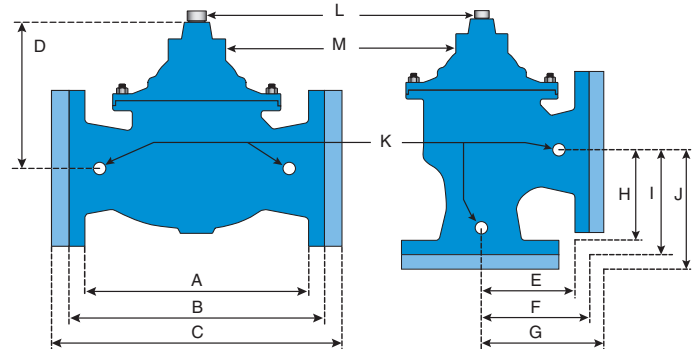
Watts ACV Main Valves are Lead Free. The Watts ACV piloting system contains Lead Free* components, ensuring all of our configurations are Lead Free compliant.

Model F100: Globe Pattern Single Chamber Basic Valve

Model F1100: Angle Pattern Single Chamber Basic Valve

F100 (Globe)

F1100 (Angle)



Dimensions

Valve Size	Globe Thread		Globe 150#		Globe 300#		Cover To Center		Angle Thread		Angle 150#		Angle 300#		Angle Thread		Angle 150#		Angle 300#		Port Size NPT	Port Size NPT	Port Size NPT	Shipping Weights*	
	A		B		C		D		E		F		G		H		I		J		K	L	M	lbs.	kgs.
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	in.	in.		
1 1/4	7 1/4	184					3 1/2	89	3 1/4	83					1 7/8	48					1/4	1/2	1/8	15	7
1 1/2	7 1/4	184	8 1/2	216			3 1/2	89	3 1/4	83	4	102			1 7/8	48	4	102			1/4	1/2	1/8	15	7
2	9 3/8	238	9 3/8	238	10	254	4 15/16	125	4	102	4	102	4 1/4	108	4	102	4	102	4 1/4	108	1/2	1/2	1/4	35	16
2 1/2	11	279	11	279			7	178	5 1/2	140	5 1/2	140	5 13/16	148	4	102	4	102	4 5/16	110	1/2	1/2	3/8	65	30
3	10 1/2	267	12	305	13 1/4	337	7	178	5 1/4	133	5 3/4	146	6 1/8	156	5 1/4	133	5 3/4	146	6 1/8	156	1/2	1/2	3/8	95	43
4			15	381	15 5/8	397	8 3/8	219			6 3/4	171	7 7/8	181			6 3/4	171	7 7/8	181	1/2	1/2	3/8	190	86
6			20	508	21	533	11 3/4	298			8 1/2	216	8 7/8	225			8 1/2	216	8 7/8	225	1/2	1/2	1/2	320	145
8			25 3/8	645	26 3/8	670	15 3/4	400			11	279	11 1/2	292			11	279	11 1/2	292	1/2	1	1/2	650	295
10			29 3/4	756	31 1/8	791	21 3/4	554			14 7/8	378	15 1/16	395			8 3/8	219	9 5/16	237	1	1	1	980	445

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)

Stem, Nut & Spring: Stainless Steel

Operating Pressure

Threaded = 400psi (27.6 bar)

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**: 140°F (60°F) Maximum

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

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.

*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.

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.



F100 / F1100 – Full Port Ductile Iron Single Chamber Basic Valve

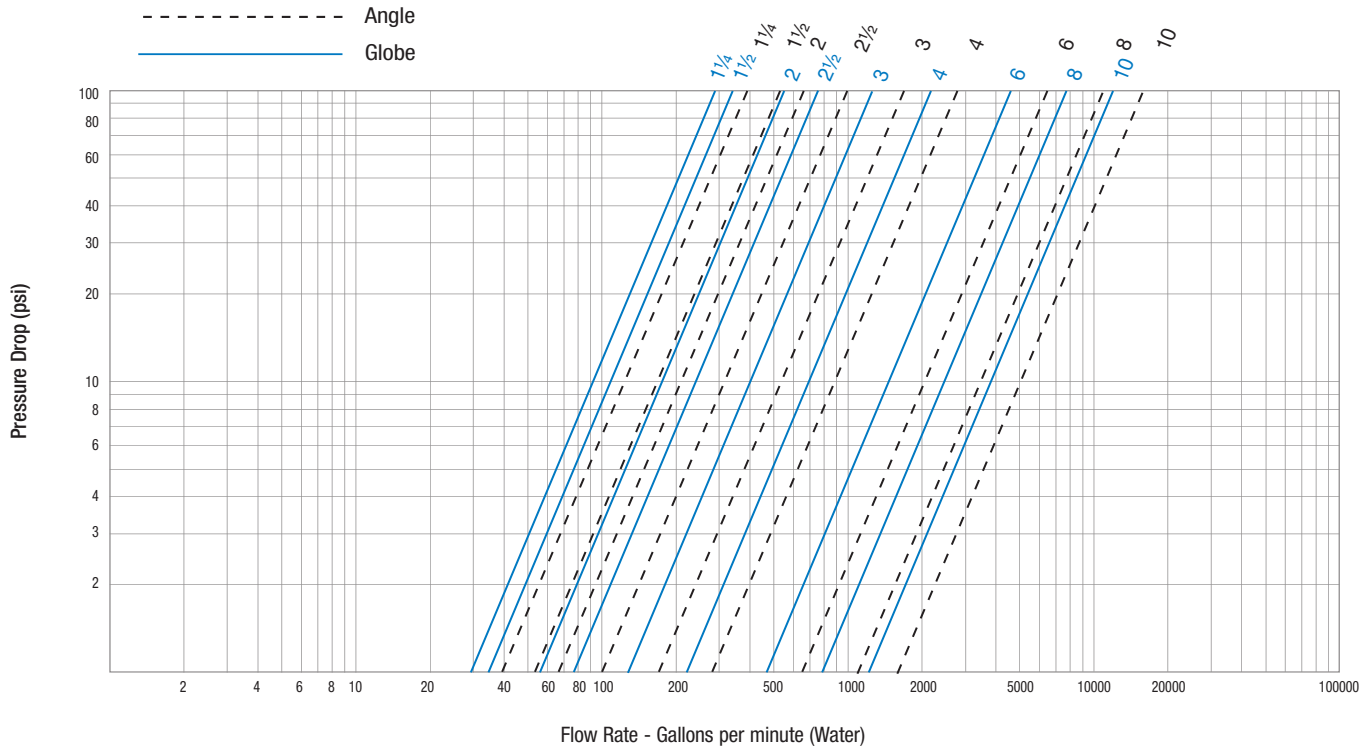
Flow Data - ACV F100 (Globe) / F1100 (Angle)

Valve Size - Inches		1¼	1½	2	2½	3	4	6	8	10
Suggested	Maximum Continuous Flow Rate Gpm (Water)	93	125	208	300	460	800	1800	3100	4900
	Maximum Intermittent Flow Rate Gpm (Water)	115	158	260	370	570	1000	2300	3900	6000
	Minimum Flow Rate Gpm (Water)	3	5	6	9	15	16	17	25	55
C _v	Factor GPM (Globe)	29	34	55	75	125	220	460	775	1200
	Factor GPM (Angle)	39	53	66	99	170	280	650	1100	1600

- 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_v Factor of a valve is the flow rate in US GPM at 60°F that will cause a 1psi drop in pressure.
- C_v 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_v 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

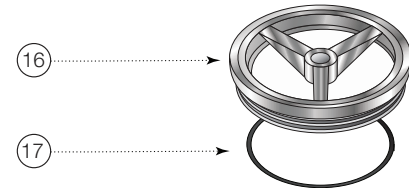
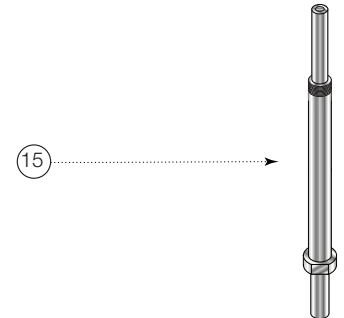
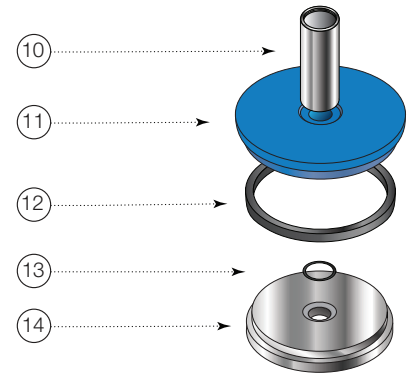
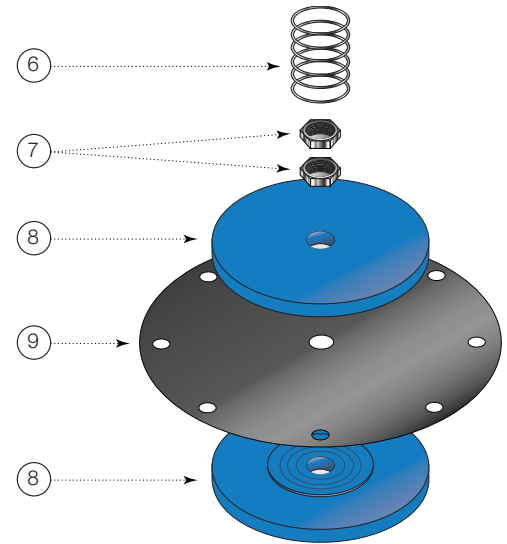
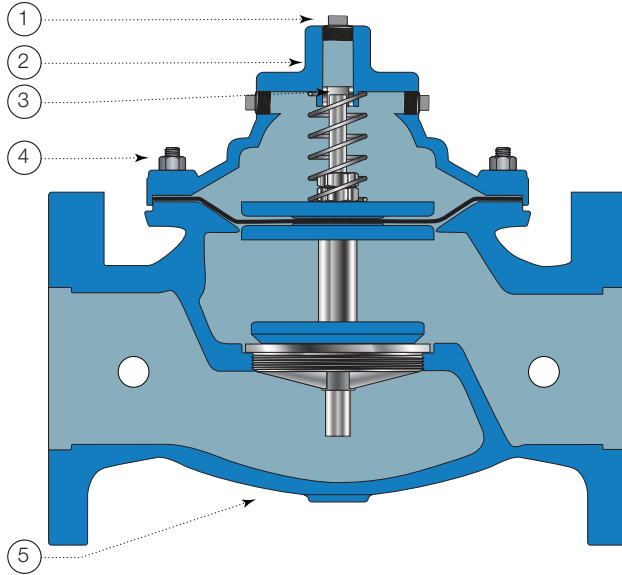
Valve Size - Inches	1¼	1½	2	2½	3	4	6	8	10
fl.oz.	4	4	4	10	10	22	70		
U.S. Gal								1 ¼	2 ½

Valve Travel

Valve Size - Inches	1¼	1½	2	2½	3	4	6	8	10
Travel - Inches	¾	¾	½	¾	¾	1	1½	2	2½

F100

Full Port Ductile Iron Single Chamber Basic Valve



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	Diaphragm Washer	ASTM A536 65-45-12 Epoxy Coated Ductile Iron
9	Diaphragm*	Buna-N (Nitrile)
10	Spacer	ASTM A276 304 Stainless Steel
11	Quad Seal Retainer	ASTM A536 65-45-12 Epoxy Coated Ductile Iron
12	Quad Seal*	Buna-N (Nitrile)
13	O-Ring*	Buna-N (Nitrile)
14	Quad Seal Plate	ASTM A743 CF8M (316) Stainless Steel
15	Shaft / Stem	ASTM A276 304 Stainless Steel
16	Seat Ring	ASTM A743 CF8M (316) Stainless Steel
17	Seat Gasket*	Buna-N (Nitrile)

* Contained in Main Valve Repair Kit



USA: T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
 Canada: T: (888) 208-8927 • F: (905) 332-7068 • Watts.ca
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