

Series W-M116

Ductile Iron Pressure Relief, Sustaining or Backpressure Control Valve

**Size: Thread DN32-DN50
Flange DN50-DN300**

The Watts W-M116 Pressure Relief, Sustaining or Backpressure Control Valve is designed to adjust, set and maintain piping upstream pressure when it's installed in the pipeline. while it is installed in the by-pass line, the function is pressure relief. It's generally used in city water supply, industrial and agricultural water transmission pipeline, etc.

Features

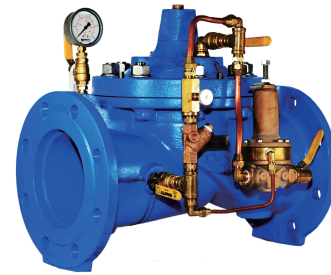
- Stable performance, safe and reliable
- Simple operation, convenient adjusting
- Precise pressure reducing
- Long service life

Test Pressures

Class	Pneumatic	Hydraulic
PN16	Seat: 7 bar	Shell: 24 bar Seat: 17.6 bar
CL150	Seat: 7 bar	Shell: 25.2 bar
CL300	Seat: 7 bar	Shell: 40 bar

Material

NO.	Component	Material	Standard
1	Cover	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
2	Cover Bearing	Stainless Steel	ASTM A276 304
3	Shaft/Stem	Stainless Steel	ASTM A276 304
4	Stud	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
5	Cover Nut	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. S3/ASTM A276 304
6	Washer	Zinc Plated Steel/Stainless Steel	ASTM A570 Gr. 33/ASTM A276 304
7	Diaphragm	Buna- N(Nitrile) +Nylon	
8	Spring	Stainless Steel	ASTM A276 302304
9	Disc Retainer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
10	Seat Disc	Buna-N(Nitrile)	
11	Body	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
12	Plug	Brass/Zinc Plated Steel	H62/ASTM A570 Gr. 33
13	Stem Nut	Stainless Steel	ASTM A276 304
14	LockWasher	Stainless Steel	ASTM A276 304
15	Spring Washer	Stainless Steel	ASTM A276 304
16	Diaphragm Washer	Ductile Iron+Epoxy Coated	ASTM A536 65-45-12
17	Spacer Washer Fiber	Fiber	
18	Disc Guide	Stainless Steel	ASTM A743 CF8M(316)
19	SeatO-Ring	Buna- N(Nitrile)	
20	Seat Ring	Stainless Steel	ASTM A743 CF8M(316)



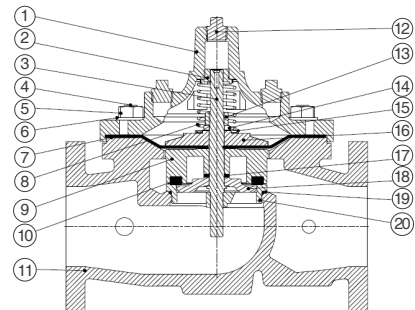
Specification

- Design Standard: AWWA C530
- Test Standard: ISO/DIS 5208:2007
- Connection Type: Thread & Flanged is available
W-M116-BSPT CL 300 BSPT to ISO 7-1
W-M116-Flange to PN16 to BS EN 1092-2 & CL150 to ANSI B16.42 & CL300 to ANSI B16.42
- Medium: water

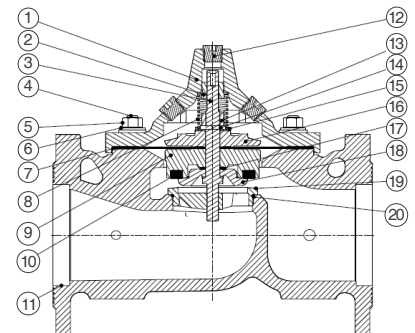
Pressure - Temperature

- Nominal Pressure: PN16/ CL150/ CL300
- Temperature Range: 0°C~80°C
- Pressure Regulating Range: 20 Psi~200 Psi (0.14MPa~1.4MPa)(Pilot valve)
- Pressure gauge: 0-350Psi
- Standard pressure setting:100 Psi(0.68Mpa)

Mustang Series Main valve



EU Series Main valve

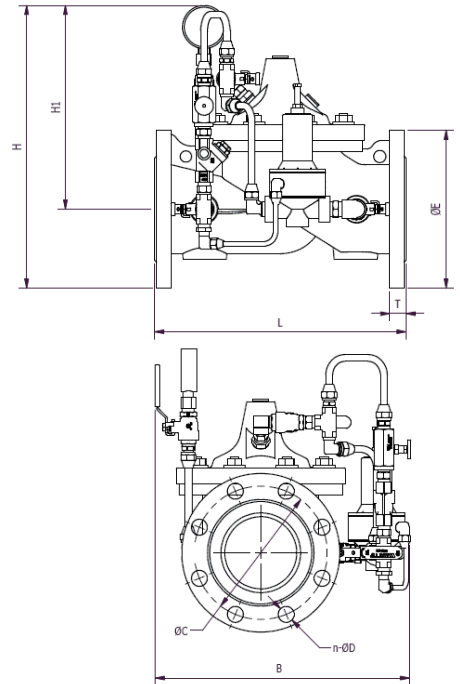


Installation Dimensions

Connection Dimension: PN16 to BS EN1092-2

Size DN (mm)	Dimensions(mm)				Flange Dimensions(mm)				Weight (Kg)
	L	H	H1	B	C	n-ØD	E	T	
32 BSPT	184	305	271	265	/	/	/	/	17.5
40 BSPT	184	305	271	265	/	/	/	/	17.5
50 BSPT	238	315	268	275	/	/	/	/	18.2
50	230	272	190	290	125	4-Ø19	165	19	18.9
65	290	290	198	300	145	4-Ø 19	185	19	19.5
80	310	290	190	310	160	8- Ø 19	200	19	20.4
100	350	395	285	355	180	8- Ø 19	220	19	36.7
125	400	395	285	360	210	8- Ø 19	250	19	58.9
150	480	430	288	420	240	8- Ø 23	285	19	72.3
200	600	540	370	485	295	12-Ø 23	340	20	140.4
250	660	655	450	570	355	12-Ø 28	406	30.2	265.5
300	762	760	520	680	410	12-Ø 28	482	31.8	465.5
400	889	889	600	760	525	16-Ø 31	596.9	36.6	618

*Please contact the local salesmen if the size ≥ DN300 is needed.

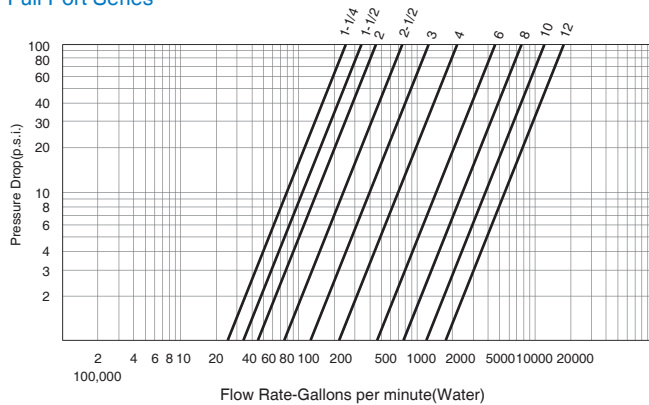


Flow Rates

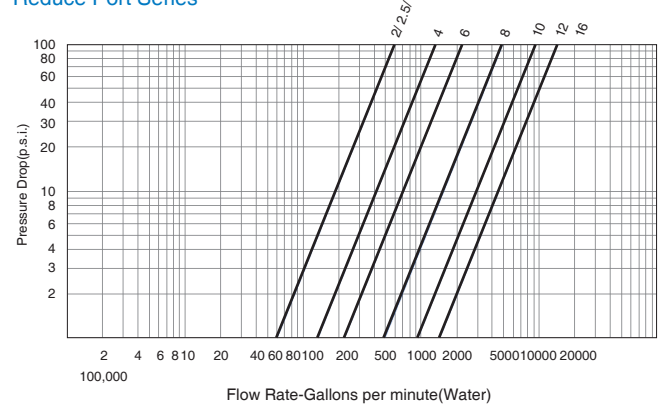
Size DN (mm)	32	40	50	65	80	100	150	200	250	300
Maximum Continuous (l/s)	95	130	210	300	485	800	1850	3100	5000	7000
Maximum Intermittent (l/s)	119	161	265	390	590	1000	2300	4000	6250	8725
Minimum Continuous (l/s)	1	1	1	20	30	50	115	200	300	400
CV Factor GPM	25	30	45	75	100	175	490	770	1200	1750

Characteristic Curves

Full Port Series



Reduce Port Series



*NOTE: The Cv Factor of a value 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.

Cv factor can be used in the following equations to determine Flow (Q) and Pressure Drop (Δ P):

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

The above table is a suggested guide-.Inlet pressure, outlet pressure, minimum, normal and maximum flow rates should be considered for specific valve sizing. Contact Watts ACV details.

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