

### Features

- 316 stainless steel valve body, ball, & stem
- Pneumatic actuator with integral manual override
- RTFE (reinforced Teflon) ball seats
- Triple PTFE/Viton live loaded stem seals, adjustable
- Valves are tested per API 598
- Rack and pinion quarter turn (90°) rotation
- Spring Return or Double Acting Actuators
- Type IP67 weatherproof actuator
- Variable open/close stroke setting
- ATEX approved
- Highly visible valve position indicator
- Actuator factory lubricated for normal lifetime

### Applications

Pneumatic/ manual actuated stainless ball valves for control of water, air, oil and other media compatible with the materials of construction. The de-clutch option can be used for manual operation or to set a stop limit for opening or closing. Cycle times approx. 1 to 4 seconds per 90° rotation. Steam service up to 25 PSI with optional high temperature mounting bracket. Suitable for vacuum service to 29.92 InHg (2.3 x 10<sup>-3</sup> Torr).

### Operation

Double acting actuators require air pressure to open and air pressure to close. Spring return actuators require air pressure to open and utilize springs to close for failsafe operation. Pulling the handwheel détente pin allows manual operation of the valve via the handwheel. Re-engaging the détente pin mid-stroke creates a partial stroke position, ie the automatic stroke begins/ends at the locked handwheel position. Rotating the handwheel counterclockwise rotates the output drive counterclockwise when viewed from the top.

Pilot Air should be filtered, dry or lubricated.

### Construction

<b>Valve Body</b>	316 stainless steel ASTM A351 CF8M
<b>Ball/Stem</b>	316 stainless steel
<b>Ball Seats</b>	RTFE (reinforced Teflon)
<b>Stem Seals</b>	PTFE, Viton
<b>Actuator Seals</b>	NBR (Buna-N)
<b>Actuator Body</b>	Extruded aluminium– 35 micron anodizing, 40 micron polyester coated end covers
<b>Position Indicator</b>	Glass filled Polyamide
<b>Fasteners</b>	Stainless Steel



### Description

Valworx heavy duty pneumatic/manual combination actuator features hard anodized aluminum enclosure, type IP67. Actuators are available in double acting and spring return models. Investment cast 2-piece full port stainless steel body/ball for unrestricted flow and minimum pressure loss. Adjustable live loaded stem seal packing helps compensate for wear, pressure or temperature fluctuations, extending the cycle life of the valve. Blow-out proof stem. Standard Namur mounting pads for optional accessory confirmation switches, pilot valves and valve positioners. Rotation adjustment +5° at the 0° and 90° positions. The integral handwheel is used for manual operation and setting a limit stop.

### Approvals– Actuators

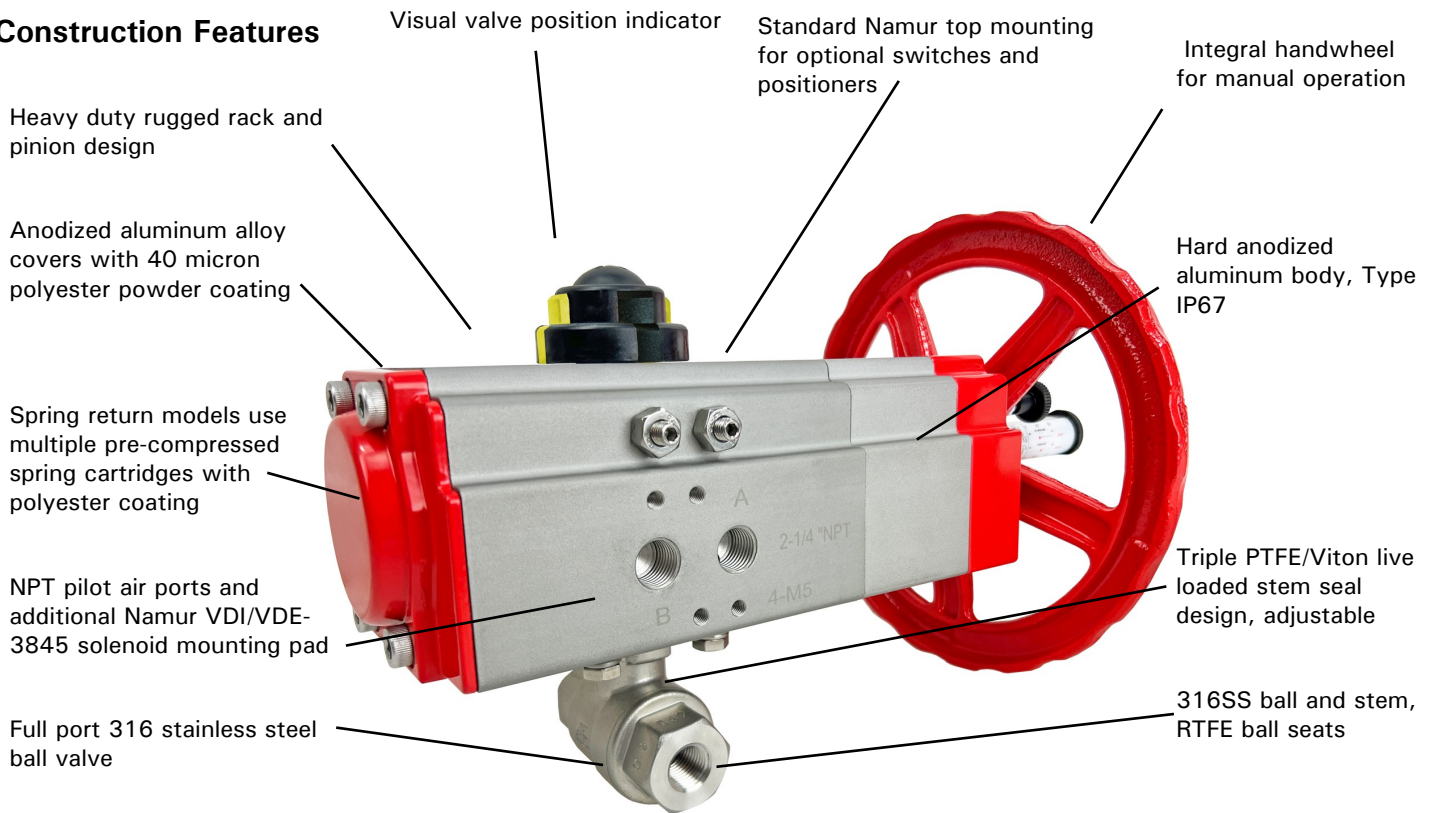
- CE Declaration of conformity
- EN ISO 12100:2010
- EN ISO 4414:2010
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting
- ATEX- Ex II 2 G Ex h IIC T6 Gb; Ex II 2 D Ex H IIB T85°C Db
- SIL3 per IEC 61508:2010



### Standards– Valves

- Design: API 608
- Testing: API 598
- Threaded Connection:
- ASME B1.20.1 (NPT)/ ISO 228-1/ BS21
- Pressure/Temperature Rating:
- ASME B16.34
- Marking: MSS SP-25
- CE conformance- EPED 2014/68/UE

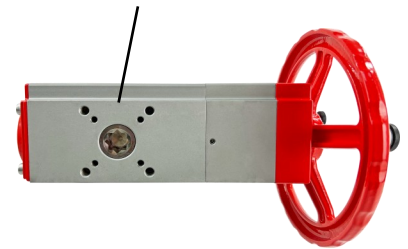
### Construction Features



\*Inline option shown below-  
A5313/A5314 Accessory



International standard ISO5211  
valve mounting pad



### Pressure Rating

**Valve Pressure Rating:** 1000 PSI (69 Bar) (1/4"-2")  
800 PSI (55 Bar) (2-1/2"-4") CWP non-shock,  
25 PSI saturated steam with high temp kit,  
Vacuum 29.92 InHg (2.3 x 10<sup>-3</sup> Torr)

\*See P/T chart

**Pilot Air Pressure– Double Acting:** 43-120 PSI (3-8 Bar)

**Pilot Air Pressure– Spring Return:** 87-120 PSI (6-8 Bar)

### Temperature Rating

**Ball Valve Temperature Rating:** -4 to 392° F (-20 to 200° C)

**Actuator Temperature Rating:** -4 to 176° F (-20 to 80° C)

\*See P/T chart

### Optional Accessories

DMS: Direct Mount Solenoid  
- pilot to electrically operate the ball valve  
VPS: Valve Position Switches  
- limit switches to confirm valve position  
PVP: Pneumatic Valve Positioner  
- position the ball with 4-20mA  
HTB: High Temperature Bracket  
- increases media working temperature  
Lock out/Tag out device  
Inline mounting

**Specifications (English units)**

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max.(PSI) *	Air Volume/90° (cubic inches)	Cycle Time /90° (open-close)	Pilot Air Port (NPT)
<b>VALVE WITH PNEUMATIC/ MANUAL SPRING RETURN ACTUATOR</b>							
531402	1/4	0.5	6.9	1000	18.3	1-1	1/4
531403	3/8	0.5	6.9	1000	18.3	1-1	1/4
531404	1/2	0.6	9.7	1000	18.3	1-1	1/4
531406	3/4	0.8	18.4	1000	24.4	1-1	1/4
531408	1	1.0	55.4	1000	42.7	1-1	1/4
531410	1-1/4	1.3	89.7	1000	42.7	1-1	1/4
531412	1-1/2	1.5	144.2	1000	91.5	1-1	1/4
531416	2	2.0	226.0	1000	128.1	2-1	1/4
531420	2-1/2	2.6	289.0	800	201.4	2-1	1/4
531424	3	3.1	454.0	800	341.7	3-1	1/4
531432	4	3.9	710.0	800	341.7	3-1	1/4
<b>VALVE WITH PNEUMATIC/ MANUAL DOUBLE ACTING ACTUATOR</b>							
531302	1/4	0.5	6.9	1000	18.3	1-1	1/4
531303	3/8	0.5	6.9	1000	18.3	1-1	1/4
531304	1/2	0.6	9.7	1000	18.3	1-1	1/4
531306	3/4	0.8	18.4	1000	24.4	1-1	1/4
531308	1	1.0	55.4	1000	24.4	1-1	1/4
531310	1-1/4	1.3	89.7	1000	24.4	1-1	1/4
531312	1-1/2	1.5	144.2	1000	42.7	1-1	1/4
531316	2	2.0	226.0	1000	42.7	1-1	1/4
531320	2-1/2	2.6	289.0	800	91.5	1-1	1/4
531324	3	3.1	454.0	800	128.1	1-1	1/4
531332	4	3.9	710.0	800	201.4	1-1	1/4

Cv is the GPM of water at 60° F that will pass through the valve with 1 PSI pressure drop

\* Pressure @ 100° F (see P/T chart)

**Specifications (Metric units)**

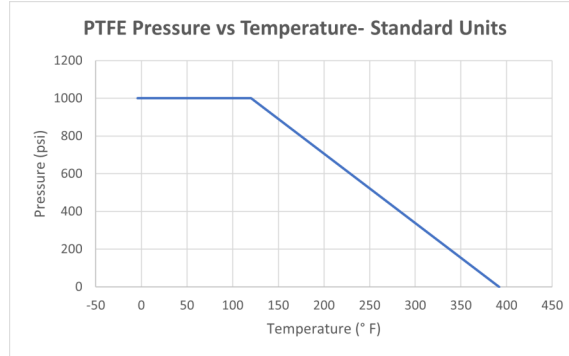
Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Air Volume/90° (cubic liters)	Cycle Time/90° (open-close)	Pilot Air Port (NPT)
<b>VALVE WITH PNEUMATIC/ MANUAL SPRING RETURN ACTUATOR</b>							
531402	1/4	11.5	5.9	69	0.3	1-1	1/4
531403	3/8	12.5	5.9	69	0.3	1-1	1/4
531404	1/2	15	8.4	69	0.3	1-1	1/4
531406	3/4	20	15.9	69	0.4	1-1	1/4
531408	1	25	47.9	69	0.7	1-1	1/4
531410	1-1/4	32	77.6	69	0.7	1-1	1/4
531412	1-1/2	38	124.7	69	1.5	1-1	1/4
531416	2	50	195.5	69	2.1	2-1	1/4
531420	2-1/2	65	250.0	55	3.3	2-1	1/4
531424	3	80	392.7	55	5.6	3-1	1/4
531432	4	100	614.2	55	5.6	3-1	1/4
<b>VALVE WITH PNEUMATIC/ MANUAL DOUBLE ACTING ACTUATOR</b>							
531302	1/4	11.5	5.9	69	0.3	1-1	1/4
531303	3/8	12.5	5.9	69	0.3	1-1	1/4
531304	1/2	15	8.4	69	0.3	1-1	1/4
531306	3/4	20	15.9	69	0.4	1-1	1/4
531308	1	25	47.9	69	0.4	1-1	1/4
531310	1-1/4	32	77.6	69	0.4	1-1	1/4
531312	1-1/2	38	124.7	69	0.7	1-1	1/4
531316	2	50	195.5	69	0.7	1-1	1/4
531320	2-1/2	65	250.0	55	1.5	1-1	1/4
531324	3	80	392.7	55	2.1	1-1	1/4
531332	4	100	614.2	55	3.3	1-1	1/4

\* Pressure @ 70° C (see P/T chart)

## Pressure/Temperature Chart:

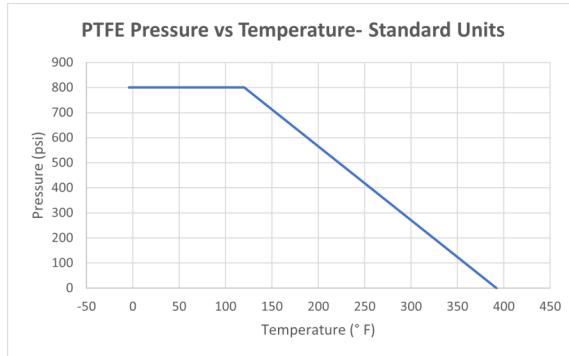
### Pressure/Temp. Chart - 1000 PSI (69 Bar)

P/T Chart (PSI/°F)				
PSI	1000	1000	100	0
°F	-4	50	330	392



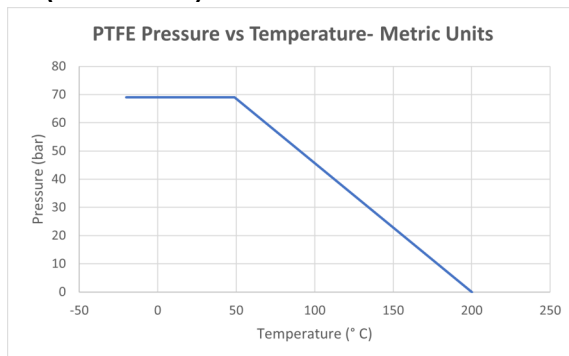
### Pressure/Temp. Chart - 800 PSI (55 Bar)

P/T Chart (PSI/°F)				
PSI	800	800	100	0
°F	-4	50	330	392



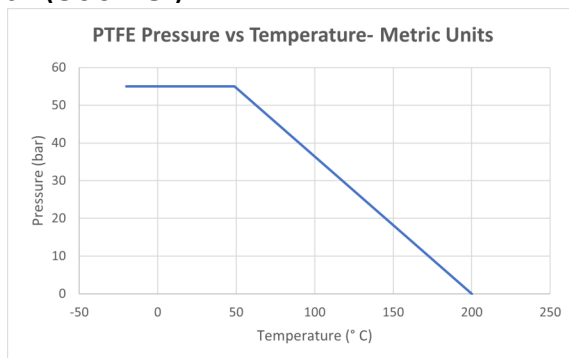
### Pressure/Temp. Chart - 69 Bar (1000 PSI)

P/T Chart (BAR/°C)				
Bar	69	69	7	0
°C	-20	10	166	200

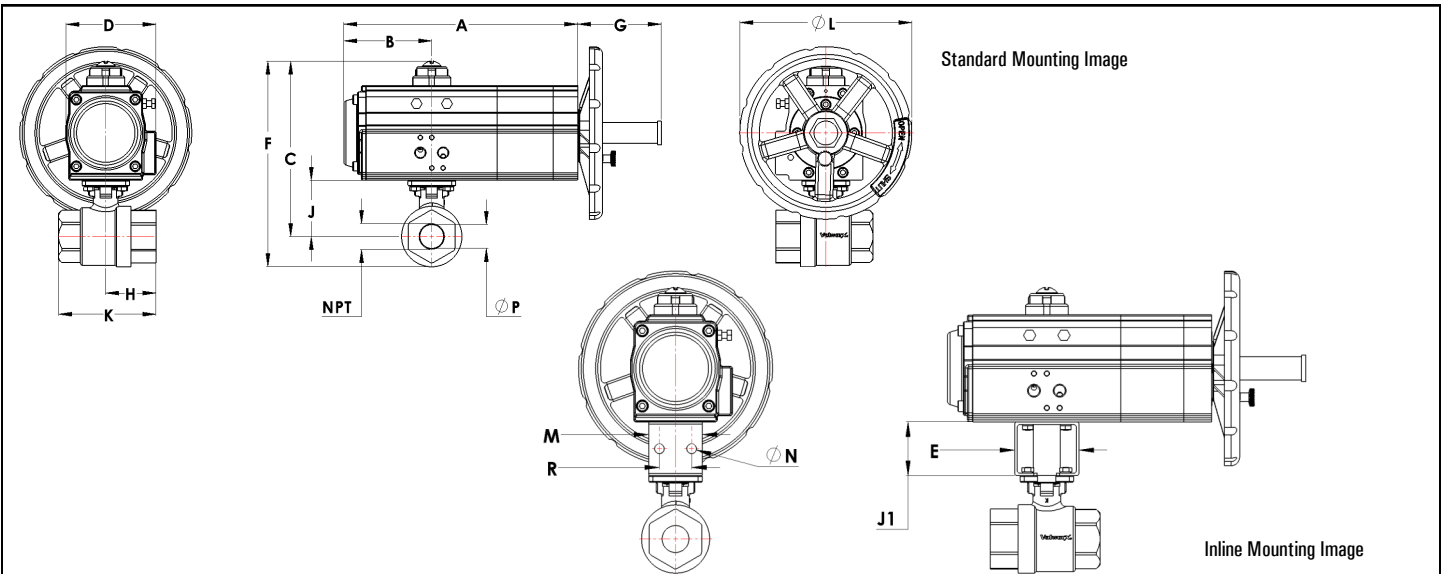


### Pressure/Temp. Chart - 55 Bar (800 PSI)

P/T Chart (BAR/°C)				
Bar	55	55	7	0
°C	-20	10	166	200

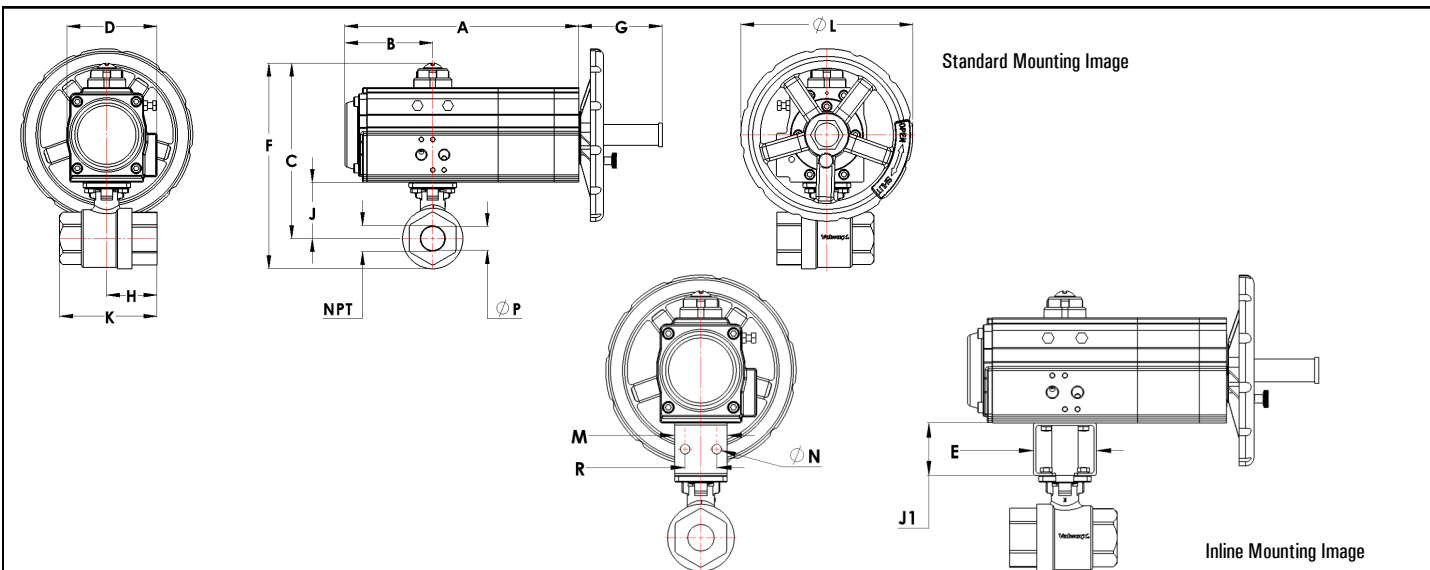


## Dimensions: Spring Return



Pipe Size (NPT)		A	B	C	D	E	F	G	H	J	J1	K	L	M	N	P	R	Weight
1/4	inch	8.3	3.1	5.3	2.6	2.4	5.9	2.9	1.2	1.5	1.9	2.6	7.1	1.9	0.3	0.5	1.2	7.3 lb
	mm	211.0	79.7	134.6	65.0	60.0	152.1	74.0	31.0	37.0	50.0	65.3	180.0	50.0	9.0	11.5	30.0	3.3 kg
3/8	inch	8.3	3.1	5.3	2.6	2.4	5.9	2.9	1.2	1.5	1.9	2.6	7.1	1.9	0.3	0.5	1.2	7.3 lb
	mm	211.0	79.7	134.6	65.0	60.0	152.1	74.0	31.0	37.0	50.0	65.3	180.0	50.0	9.0	12.5	30.0	3.3 kg
1/2	inch	8.3	3.1	5.3	2.6	2.4	5.9	2.9	1.2	1.5	1.96	2.6	7.1	1.9	0.3	0.6	1.2	7.0 lb
	mm	211.0	79.7	134.6	65.0	60.0	152.1	74.0	31.0	37.0	50.0	65.3	180.0	50.0	9.0	15.0	30.0	3.2 kg
3/4	inch	9.2	3.3	6.3	2.8	2.4	7.1	3.3	1.5	1.8	1.9	3.0	7.7	1.9	0.3	0.8	1.2	11.4 lb
	mm	233.0	84.0	159.2	72.0	60.0	181.0	85.0	38.9	45.0	50.0	77.3	195.0	50.0	9.0	20.0	30.0	5.2 kg
1	inch	9.6	3.6	7.0	3.1	2.4	8.0	3.5	1.7	2.1	1.9	3.5	7.1	1.9	0.3	1.0	1.2	13.5 lb
	mm	244.0	92.5	179.0	80.0	60.0	204.0	89.0	44.3	53.5	50.0	88.7	180.0	50.0	9.0	25.0	30.0	6.1 kg
1-1/4	inch	9.6	3.6	7.2	3.1	2.4	8.5	3.5	2.0	2.3	1.9	4.0	7.1	1.9	0.3	1.3	1.2	14.5 lb
	mm	244.0	92.5	184.0	80.0	60.0	216.0	89.0	50.7	59.0	50.0	102.4	180.0	50.0	9.0	32.0	30.0	6.6 kg
1-1/2	inch	13.4	5.2	8.5	3.9	3.1	10.0	4.3	2.2	2.9	1.9	4.3	9.8	2.8	0.3	1.5	1.4	28.0 lb
	mm	341.0	131.0	217.0	98.0	80.0	254.2	109.0	55.0	74.8	50.0	109.0	250.0	70.0	9.0	38.0	35.0	12.7 kg
2	inch	13.6	5.3	9.5	4.3	3.1	11.3	4.9	2.4	3.3	1.9	4.9	9.8	2.8	0.3	2.0	1.4	33.0 lb
	mm	346.0	134.5	242.2	110.0	80.0	287.0	124.0	62.2	83.5	50.0	125.3	250.0	70.0	9.0	50.0	35.0	15.0 kg
2-1/2	inch	15.8	5.9	11.4	5.0	4.7	13.7	5.2	3.2	4.3	1.9	6.5	15.7	4.0	0.4	2.6	1.9	59.2 lb
	mm	402.0	151.5	290.0	128.0	120.0	347.2	133.0	82.5	108.8	50.0	165.0	400.0	102.0	11.0	65.0	50.0	26.9 kg
3	inch	20.1	7.8	12.4	5.4	4.7	15.1	6.3	3.7	4.7	1.9	7.5	19.7	4.0	0.4	3.1	1.9	86.2 lb
	mm	511.0	197.0	316.2	138.0	120.0	383.7	161.0	94.8	118.3	50.0	189.5	500.0	102.0	11.0	80.0	50.0	39.2 kg
4	inch	20.1	7.8	13.8	5.4	4.7	17.3	6.3	4.7	6.1	1.9	9.4	19.7	4.0	0.4	3.9	1.9	100.9 lb
	mm	511.0	197.0	351.7	138.0	120.0	437.7	161.0	119.0	153.8	50.0	238.0	500.0	102.0	11.0	100.0	50.0	45.9 kg

## Dimensions: Double Acting



Pipe Size (NPT)		A	B	C	D	E	F	G	H	J	J1	K	L	M	N	P	R	Weight lb (kg)
1/4	inch	8.3	3.1	5.1	2.6	2.4	5.7	2.9	1.2	1.5	1.9	2.6	7.1	1.9	0.3	0.5	1.2	7.3 lb
	mm	211.0	78.7	129.5	65.0	60.0	144.8	74.0	31.0	37.0	50.0	65.3	180.0	50.0	9.0	11.5	30.0	3.3 kg
3/8	inch	8.3	3.1	5.1	2.6	2.4	5.7	2.9	1.2	1.5	1.9	2.6	7.1	1.9	0.3	0.5	1.2	7.3 lb
	mm	211.0	78.7	129.5	65.0	60.0	144.8	74.0	31.0	37.0	50.0	65.3	180.0	50.0	9.0	12.5	30.0	3.3 kg
1/2	inch	8.3	3.1	5.1	2.6	2.4	5.7	2.9	1.2	1.5	1.96	2.6	7.1	1.9	0.3	0.6	1.2	7.0 lb
	mm	211.0	78.7	129.5	65.0	60.0	144.8	74.0	31.0	37.0	50.0	65.3	180.0	50.0	9.0	15.0	30.0	3.2 kg
3/4	inch	9.2	3.3	6.1	2.8	2.4	6.9	3.3	1.5	1.8	1.9	3.0	7.7	1.9	0.3	0.8	1.2	11.4 lb
	mm	233.0	83.8	154.9	72.0	60.0	175.3	85.0	38.9	45.0	50.0	77.3	195.0	50.0	9.0	20.0	30.0	5.2 kg
1	inch	9.2	3.3	6.4	2.8	2.4	7.4	3.3	1.7	2.1	1.9	3.5	7.7	1.9	0.3	1.0	1.2	11.6 lb
	mm	233.0	83.8	162.6	72.0	60.0	188.0	85.0	44.3	53.5	50.0	88.7	195.0	50.0	9.0	25.0	30.0	5.3 kg
1-1/4	inch	9.2	3.3	6.6	2.8	2.4	7.9	3.3	2.0	2.3	1.9	4.0	7.7	1.9	0.3	1.3	1.2	13.0 lb
	mm	233.0	83.8	167.6	72.0	60.0	200.7	85.0	50.7	59.0	50.0	102.4	195.0	50.0	9.0	32.0	30.0	5.9 kg
1-1/2	inch	9.6	3.6	7.6	3.1	3.1	9.1	3.5	2.2	2.9	1.9	4.3	7.1	2.7	0.3	1.5	1.4	15.5 lb
	mm	244.0	91.4	193.0	80.0	80.0	231.1	89.0	55.0	74.8	50.0	109.0	180.0	70.0	9.0	38.0	35.0	7.0 kg
2	inch	9.6	3.6	8.0	3.1	3.1	9.8	3.5	2.4	3.3	1.9	4.9	7.1	2.7	0.3	2.0	1.4	17.8 lb
	mm	244.0	91.4	203.2	80.0	80.0	248.9	89.0	62.2	83.5	50.0	125.3	180.0	70.0	9.0	50.0	35.0	8.1 kg
2-1/2	inch	13.4	5.2	9.7	3.9	3.1	11.7	4.3	3.2	4.3	1.9	6.5	9.8	2.7	0.3	2.6	1.4	35.0 lb
	mm	341.0	132.1	246.4	98.0	80.0	297.2	109.0	82.5	108.8	50.0	165.0	250.0	70.0	9.0	65.0	35.0	15.9 kg
3	inch	13.6	5.3	10.7	4.3	4.7	13.3	4.9	3.7	4.7	1.9	7.5	9.8	4.0	0.4	3.1	1.9	45.0 lb
	mm	346.0	134.6	271.8	110.0	120.0	337.8	124.0	94.8	118.3	50.0	189.5	250.0	102.0	11.0	80.0	50.0	20.4 kg
4	inch	15.8	5.9	13.0	5.0	4.7	16.2	5.2	4.7	6.1	1.9	9.4	15.7	4.0	0.4	3.9	1.9	77.0 lb
	mm	402.0	149.9	330.2	128.0	120.0	411.5	133.0	119.0	153.8	50.0	238.0	400.0	102.0	11.0	100.0	50.0	35.0 kg