

Features

- Full port with True Union design
- Pneumatic actuator with integral manual override
- Union nut locking device prevents back-off
- Energized ball seats for lower torque and extended cycle life
- Dual leak free stem seals
- Valve NSF certified for use with potable/drinking water
- 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 PVC ball valves for control of water and other liquid media compatible with the materials of construction (not suitable for compressed air or gas). 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 3 seconds per 90° rotation. Valve can be mounted in any orientation. Typical applications include industrial/process piping systems, pulp and paper, food processing, potable water and irrigation. Vacuum rated to 29inHg

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.

Construction

Valve Body	PVC (Grey)
Ball/Stem	PVC
Ball Seats	PTFE (Teflon), EPDM
Stem Seals	Dual EPDM seals
Actuator Seals	NBR (Buna-N)
Actuator Body	Extruded aluminium- 35 micron anodizing, 40 micron polyester coated end covers
Position Indicator	Glass filled Polyamide
Fasteners	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. Industrial quality PVC ball valve with a unique union nut locking system preventing back-off due to vibration or thermal cycling. Features include a patented seat stop carrier for inline micro-adjustment of the ball seats, high quality machined stem/ball system and energized Teflon ball seats for lower torque and extended life. Valves are NSF certified for potable (drinking) water. 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

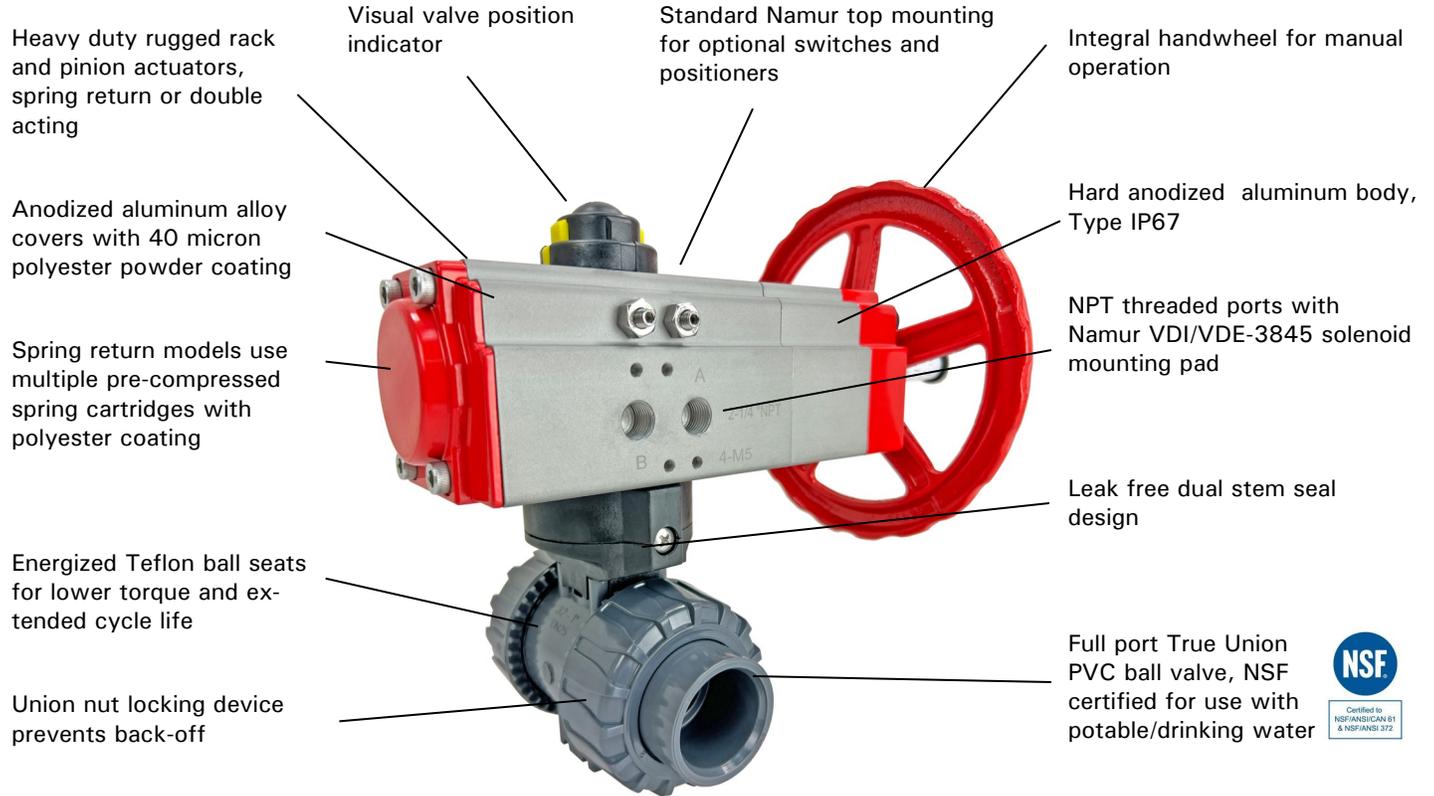
- CE Declaration of conformity
- EN ISO 12100:2010
- EN ISO 4414:2010
- ISO5211/ DIN3337 valve mounting
- Namur VDI/VDE 3845 accessory mounting
- ATEX- Ex II 2 G Ex h IIC T6 Gb; Ex II 2 D Ex H IIIB T85°C Db
- SIL3 per IEC 61508:2010

Valves

- Certified NSF/ANSI 61 G for Potable/Drinking Water
- NSF/ANSI 372



Construction Features



Pressure Rating

Valve Pressure Rating*: 232 PSI at 73° F(16 Bar at 23° C)

Vacuum rated to 29inHg

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: 32 to 140° F (0 to 60° 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
- Lock out/Tag out device
- Inline mounting

Specifications (English units)

Stock Number	Pipe Size (inch)	End Connections	Cv Flow Factor	Pressure Max.(PSI)*	Air Volume/ 90° (cubic inches)	Cycle Time /90° (seconds)	Pilot Air Port (NPT)
PVC VALVE WITH PNEUMATIC/ MANUAL SPRING RETURN ACTUATOR							
548404	1/2	Socket, NPT	14	232	18.3	1-1	1/4
548406	3/4	Socket, NPT	27	232	18.3	1-1	1/4
548408	1	Socket, NPT	54	232	18.3	1-1	1/4
548410	1-1/4	Socket, NPT	77	232	24.4	1-1	1/4
548412	1-1/2	Socket, NPT	123	232	42.7	1-1	1/4
548416	2	Socket, NPT	238	232	54.9	1-1	1/4
548420	2-1/2	Socket	368	232	91.5	2-1	1/4
548424	3	Socket	497	232	128.1	2-1	1/4
548432	4	Socket	665	232	201.4	3-1	1/4
PVC VALVE WITH PNEUMATIC/ MANUAL DOUBLE ACTING ACTUATOR							
548304	1/2	Socket, NPT	14	232	18.3	1-1	1/4
548306	3/4	Socket, NPT	27	232	18.3	1-1	1/4
548308	1	Socket, NPT	54	232	18.3	1-1	1/4
548310	1-1/4	Socket, NPT	77	232	18.3	1-1	1/4
548312	1-1/2	Socket, NPT	123	232	18.3	1-1	1/4
548316	2	Socket, NPT	238	232	24.4	1-1	1/4
548320	2-1/2	Socket	368	232	42.7	1-1	1/4
548324	3	Socket	497	232	54.9	1-1	1/4
548332	4	Socket	665	232	91.5	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 at 73° F, reduced pressure for higher temperatures (see P/T chart)

Note: Both socket and threaded NPT end connectors included with sizes 1/2" to 2", socket only for sizes 2-1/2", 3" and 4"

Pressure/Temperature Chart (PSI/°F)

P/T Chart					
PSI	232	232	180	90	40
°F	32	73	92	122	140

Specifications (Metric units)

Stock Number	Pipe Size (inch)	End Connections	Kv Flow Factor	Pressure Max.(Bar)*	Air Volume/90° (cubic liters)	Cycle Time /90° (seconds)	Pilot Air Port (NPT)
PVC VALVE WITH PNEUMATIC/ MANUAL SPRING RETURN ACTUATOR							
548404	1/2	Socket, NPT	12	16	0.3	1-1	1/4
548406	3/4	Socket, NPT	23	16	0.3	1-1	1/4
548408	1	Socket, NPT	46	16	0.3	1-1	1/4
548410	1-1/4	Socket, NPT	66	16	0.4	1-1	1/4
548412	1-1/2	Socket, NPT	106	16	0.7	1-1	1/4
548416	2	Socket, NPT	205	16	0.9	1-1	1/4
548420	2-1/2	Socket	316	16	1.5	2-1	1/4
548424	3	Socket	427	16	2.1	2-1	1/4
548432	4	Socket	572	16	3.3	3-1	1/4
PVC VALVE WITH PNEUMATIC/ MANUAL DOUBLE ACTING ACTUATOR							
548304	1/2	Socket, NPT	12	16	0.3	1-1	1/4
548306	3/4	Socket, NPT	23	16	0.3	1-1	1/4
548308	1	Socket, NPT	46	16	0.3	1-1	1/4
548310	1-1/4	Socket, NPT	66	16	0.3	1-1	1/4
548312	1-1/2	Socket, NPT	106	16	0.3	1-1	1/4
548316	2	Socket, NPT	205	16	0.4	1-1	1/4
548320	2-1/2	Socket	316	16	0.7	1-1	1/4
548324	3	Socket	427	16	0.9	1-1	1/4
548332	4	Socket	572	16	1.5	1-1	1/4

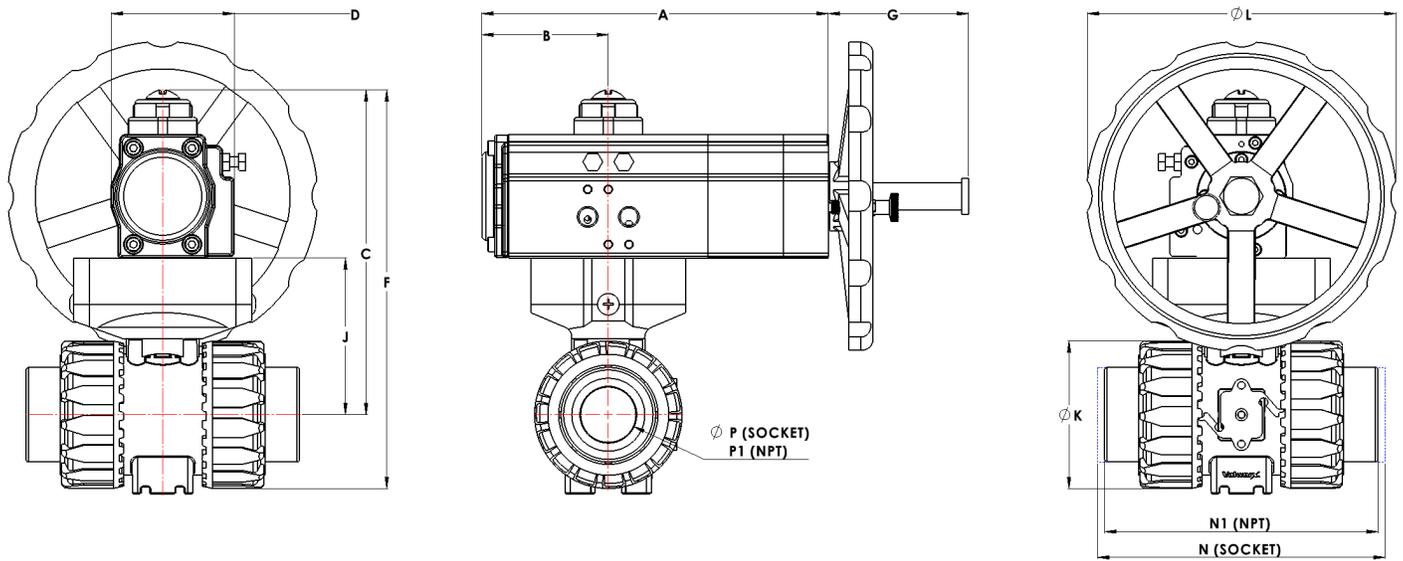
* Pressure at 23° C, reduced pressure for higher temperatures (see P/T chart)

Note: Both socket and threaded NPT end connectors included with sizes 1/2 to 2 inch, socket only for sizes 3 and 4 inch

Pressure/Temperature Chart (Bar/°C)

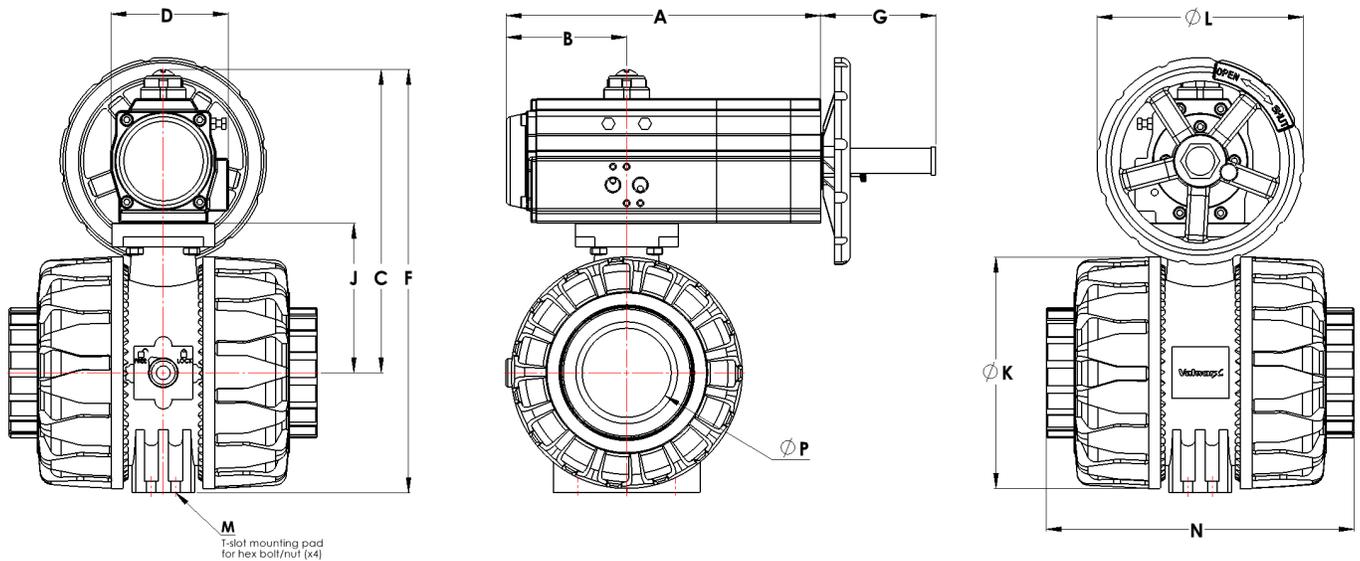
P/T Chart					
Bar	16	16	13	6.2	2.8
°C	0	23	33	50	60

Dimensions: Spring Return Sizes 1/2 to 2 inch



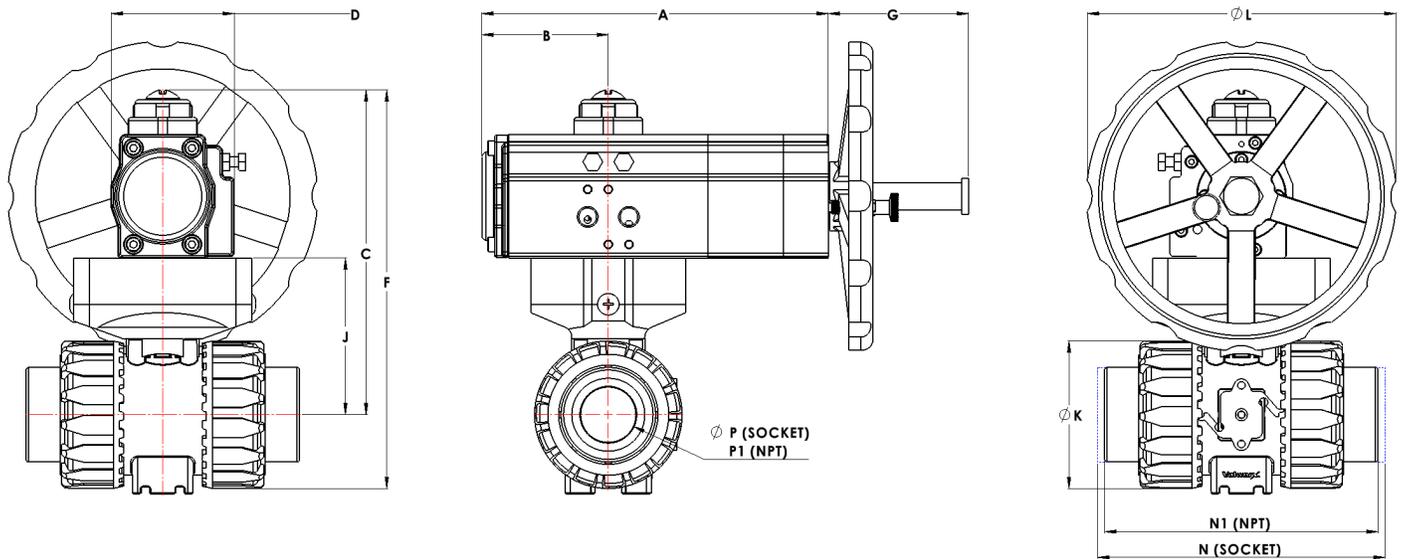
Pipe Size		A	B	C	D	F	G	J	K	L	N	N1	P	P1	Weight
1/2	inch	8.3	3.1	5.9	2.6	7.2	2.9	2.3	2.1	7.1	4.6	4.4	0.8	1/2	7.1 lb
	mm	210.8	78.7	149.9	66.0	182.9	73.7	58.0	54.0	180.0	117.0	11.0	—	—	3.2 kg
3/4	inch	8.3	3.1	6.4	2.6	7.5	2.9	2.8	2.6	7.1	5.1	4.6	1.1	3/4	7.3 lb
	mm	210.8	78.7	162.6	66.0	190.5	73.7	70.0	65.0	180.0	129.0	117.0	—	—	3.3 kg
1	inch	8.3	3.1	6.5	2.6	7.9	2.9	2.9	2.9	7.1	5.6	5.3	1.3	1	7.7 lb
	mm	210.8	78.7	165.1	66.0	200.7	73.7	74.0	73.0	180.0	142.0	135.0	—	—	3.5 kg
1-1/4	inch	9.2	3.3	7.9	2.8	9.4	3.3	3.6	3.4	7.7	6.4	6.0	1.7	1-1/4	12.4 lb
	mm	233.7	83.8	200.7	71.1	238.8	83.8	91.0	86.0	195.0	162.0	153.0	—	—	5.6 kg
1-1/2	inch	9.6	3.6	8.5	3.1	10.3	3.5	3.8	3.9	7.1	6.8	6.1	1.9	1-1/2	14.5 lb
	mm	243.8	91.4	215.9	78.7	261.6	88.9	97.0	98.0	180.0	172.0	156.0	—	—	6.6 kg
2	inch	10.7	4.2	9.6	3.6	11.8	4.0	4.5	4.8	7.7	7.8	7.3	2.4	2	18.2 lb
	mm	271.8	106.7	243.8	91.4	299.7	101.6	114.0	122.0	195.0	199.0	186.0	—	—	8.3 kg

Dimensions: Spring Return Sizes 2-1/2 to 4 inch



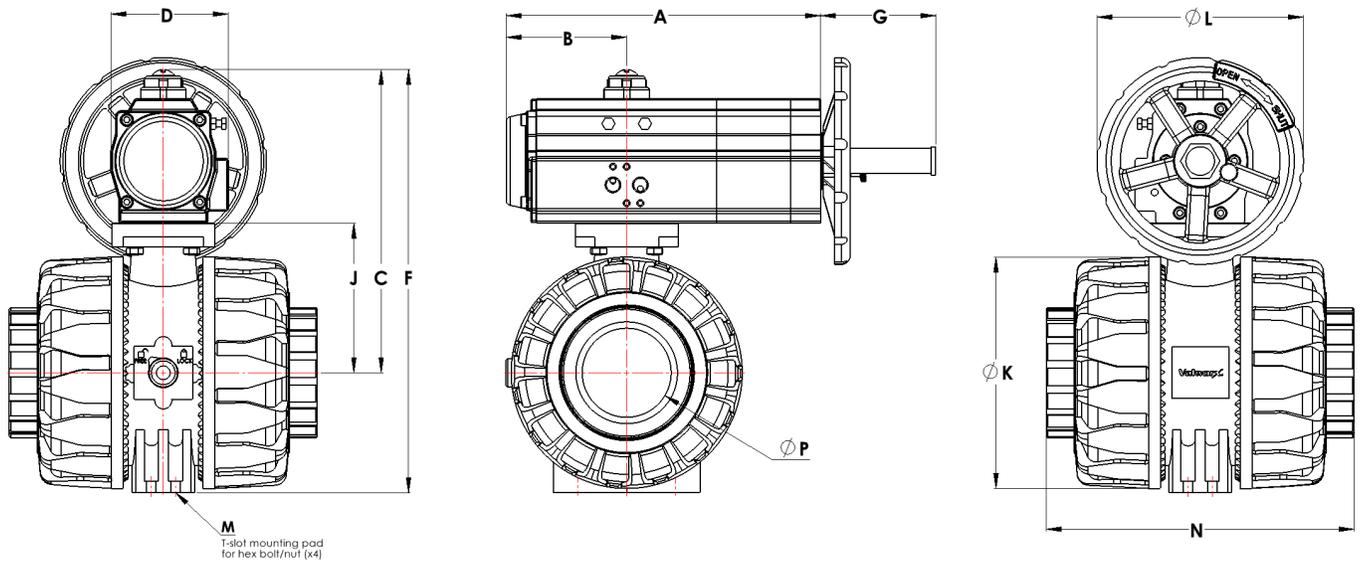
Pipe Size		A	B	C	D	F	G	J	K	L	M	N	P	Weight
2-1/2	inch	13.4	5.2	10.2	3.9	15.3	4.3	4.8	6.5	9.8	—	9.3	2.9	31.5 lb
	mm	340.4	132.1	259.1	99.1	388.6	109.2	122.0	164.0	250.0	6.5	235.0	—	14.3 kg
3	inch	13.6	5.3	11.2	4.3	17.1	4.9	5.2	8.0	9.8	—	10.6	3.5	41.5 lb
	mm	345.4	134.6	284.5	109.2	434.3	124.5	130.0	203.0	250.0	8.0	270.0	—	18.9 kg
4	inch	15.8	5.9	12.8	5.0	19.7	5.2	5.9	9.4	15.7	—	12.1	4.5	68.6 lb
	mm	401.3	149.9	325.1	127.0	500.4	132.1	149.0	238.0	400.0	8.0	308.0	—	31.2 kg

Dimensions: Double Acting Sizes 1/2 to 2 inch



Pipe Size		A	B	C	D	F	G	J	K	L	N	N1	P	P1	Weight
1/2	inch	8.3	3.1	5.9	2.6	6.9	2.9	2.3	2.1	7.1	4.6	4.4	0.8	1/2	7.1 lb
	mm	210.8	78.7	149.9	66.0	175.3	73.7	58.0	54.0	180.0	117.0	11.0	—	—	3.2 kg
3/4	inch	8.3	3.1	6.4	2.6	7.5	2.9	2.8	2.6	7.1	5.1	4.6	1.1	3/4	7.3 lb
	mm	210.8	78.7	162.6	66.0	190.5	73.7	70.0	65.0	180.0	129.0	117.0	—	—	3.3 kg
1	inch	8.3	3.1	6.5	2.6	7.9	2.9	2.9	2.9	7.1	5.6	5.3	1.3	1	7.7 lb
	mm	210.8	78.7	165.1	66.0	200.7	73.7	74.0	73.0	180.0	142.0	135.0	—	—	3.5 kg
1-1/4	inch	8.3	3.1	7.2	2.6	8.7	2.9	3.6	3.4	7.1	6.4	6.0	1.7	1-1/4	8.4 lb
	mm	210.8	78.7	182.9	66.0	221.0	73.7	91.0	86.0	180.0	162.0	153.0	—	—	3.8 kg
1-1/2	inch	8.3	3.1	7.4	2.6	9.2	2.9	3.8	3.9	7.1	6.8	6.1	1.9	1-1/2	8.9 lb
	mm	210.8	78.7	188.0	66.0	233.7	73.7	97.0	98.0	180.0	172.0	156.0	—	—	4.0 kg
2	inch	9.2	3.3	8.8	2.8	11.0	3.3	4.5	4.8	7.7	7.8	7.3	2.4	2	14.0 lb
	mm	233.7	83.8	223.5	71.1	279.4	83.8	114.0	122.0	195.0	199.0	186.0	—	—	6.4 kg

Dimensions: Double Acting Sizes 2-1/2 to 4 inch



Pipe Size		A	B	C	D	F	G	J	K	L	M	N	P	Weight
2-1/2	inch	9.6	3.6	9.5	3.1	14.6	3.5	7.1	6.5	4.8	—	9.3	2.9	20.0 lb
	mm	243.8	91.4	241.3	78.7	370.8	88.9	180.0	164.0	122.0	6.5	235.0	—	9.1 kg
3	inch	10.7	4.2	10.3	3.6	16.2	4.0	7.7	8.0	5.2	—	10.6	3.5	28.2 lb
	mm	271.8	106.7	261.6	91.4	411.5	101.6	195.0	203.0	130.0	8.0	270.0	—	12.8 kg
4	inch	13.4	5.2	11.3	3.9	18.2	4.3	9.8	9.4	5.9	—	12.1	4.5	44.5 lb
	mm	340.4	132.1	287.0	99.1	462.3	109.2	250.0	238.0	149.0	8.0	308.0	—	20.2 kg