

Features

- Full Port 3-way "T" flow path
- Direct mount valve with standard ISO5211 mount
- 316 stainless steel body, ball and stem
- Actuators designed for minimum 1 million cycles
- Quarter turn rack and pinion design
- Highly visible valve position indicator
- Actuator factory lubricated for normal lifetime
- Triple PTFE/Viton live loaded stem seals, adjustable
- Anti-static device
- Silicone free

Applications

Stainless steel 3-way ball valves are typically used to control water, air, oil, vacuum and other media compatible with the materials of construction. T-port flow path is typically used as a diverter valve. Unique four ball seat design allows for full pressure at any port. Cycle times approx. 1 second per 90° rotation. Steam service up to 50 PSI with optional high temperature mounting bracket. Suitable for vacuum service to 29"Hg.

Pressure-Temperature*

Pressure Rating: 1000 PSI (69 Bar), **Vacuum to 29inHg**

Air Pilot Pressure Required: 80-120 PSI (5.5-8.3 Bar)

Working Temperature: 0 to 180° F (-18 to 82° C)
Media temperatures up to 300° F (149° C)
with optional high temp. mounting bracket

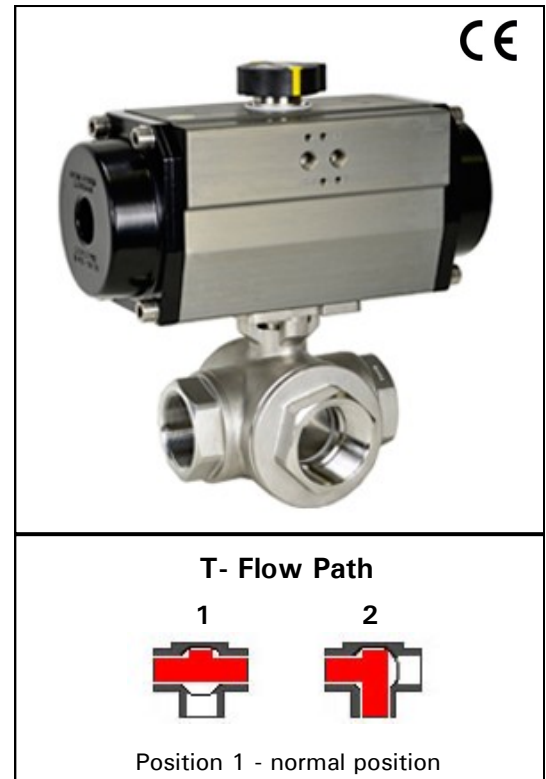
Ball Valve Temperature Rating: -4 to 325° F (-20 to 163° C)

Actuator Temperature Rating: 0 to +180° F (-18 to 82° C)

*See P/T chart

Construction

Valve Body	316 stainless steel ASTM A351 CF8M
Ball/Stem	316 stainless steel
Ball Seats	PTFE (Teflon)
Stem Seals	PTFE, Viton
Anti-static Device	Ball to Stem (1/4" - 1-1/2") + Stem to Body (1-1/4" - 2")
Actuator Seals	NBR (Buna-N)
Actuator Body	Anodized aluminium, epoxy-polyester coated end covers
Position Indicator	Glass filled Polyamide
Fasteners	Stainless Steel



Operation

Double acting actuators use air pressure to open and air pressure to close (change position) of the ball valve (4-way pilot). Spring return actuators use air pressure to open and springs to close the ball valve (3-way pilot). Actuator will work with filtered dry or lubricated compressed air. Air supply pilot pressure should be between 80 and 120 PSI. Easy to read visual valve position indicator located on top of actuator.

Description

Heavy duty quarter turn air actuators designed for long life and tested for a minimum 1 million operations. Three port valve has a T-port flow path for diverter type applications. 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 accessories, including position confirmation switches and pilot solenoid valves.

Specifications (English units)

Stock Number	Pipe Size (NPT)	Orifice Size (inch)	Cv Flow Factor	Pressure Max.(PSI)*	Cycle Time /90° (seconds)	Pilot Air Port (NPT)
VALVE WITH SPRING RETURN ACTUATOR						
524002C	1/4	0.43	3.2	1000	1	1/4
524003C	3/8	0.43	3.5	1000	1	1/4
524004C	1/2	0.63	4.5	1000	1	1/4
524006C	3/4	0.79	10	1000	1	1/4
524008C	1	1.00	16	1000	1	1/4
524010C	1-1/4	1.25	31	1000	1	1/4
524012C	1-1/2	1.50	49	1000	1	1/4
524016C	2	2.00	82	1000	1	1/4
VALVE WITH DOUBLE ACTING ACTUATOR						
523902C	1/4	0.43	3.2	1000	1	1/8
523903C	3/8	0.43	3.5	1000	1	1/8
523904C	1/2	0.63	4.5	1000	1	1/8
523906C	3/4	0.79	10	1000	1	1/4
523908C	1	1.00	16	1000	1	1/4
523910C	1-1/4	1.25	31	1000	1	1/4
523912C	1-1/2	1.50	49	1000	1	1/4
523916C	2	2.00	82	1000	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)

Pressure/Temperature Chart (PSI/°F)

P/T Chart							
PSI	1000	1000	1000	925	875	675	375
°F	0	50	100	150	200	250	300

Optional Accessories

- DMS: Direct Mount Solenoid
 - pilot to electrically operate the ball valve
- VPS: Valve Position Switches
 - limit switches to confirm valve position
- HTB: High Temperature Bracket
 - increases media working temperature

Specifications (Metric units)

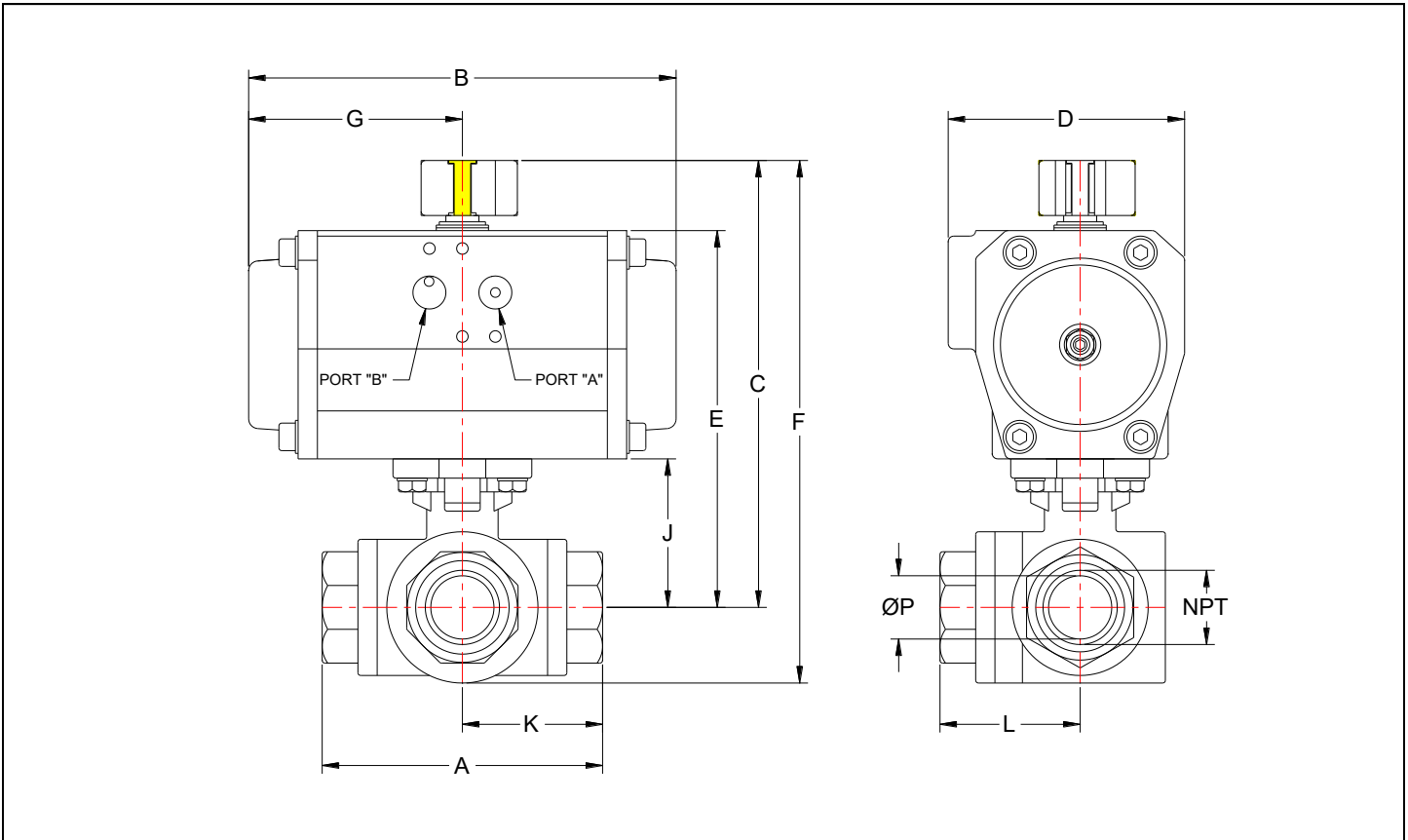
Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Cycle Time/90° (seconds)	Pilot Air Port (NPT)
VALVE WITH SPRING RETURN ACTUATOR						
524002C	1/4	11	2.8	69	1	1/4
524003C	3/8	11	3.0	69	1	1/4
524004C	1/2	16	3.9	69	1	1/4
524006C	3/4	20	8.6	69	1	1/4
524008C	1	25	14	69	1	1/4
524010C	1-1/4	32	27	69	1	1/4
524012C	1-1/2	38	42	69	1	1/4
524016C	2	50	70	69	1	1/4
VALVE WITH DOUBLE ACTING ACTUATOR						
523902C	1/4	11	2.8	69	1	1/8
523903C	3/8	11	3.0	69	1	1/8
523904C	1/2	16	3.9	69	1	1/8
523906C	3/4	20	8.6	69	1	1/4
523908C	1	25	14	69	1	1/4
523910C	1-1/4	32	27	69	1	1/4
523912C	1-1/2	38	42	69	1	1/4
523916C	2	50	70	69	1	1/4

* Pressure @ 70° C (see P/T chart)

Pressure/Temperature Chart (Bar/°C)

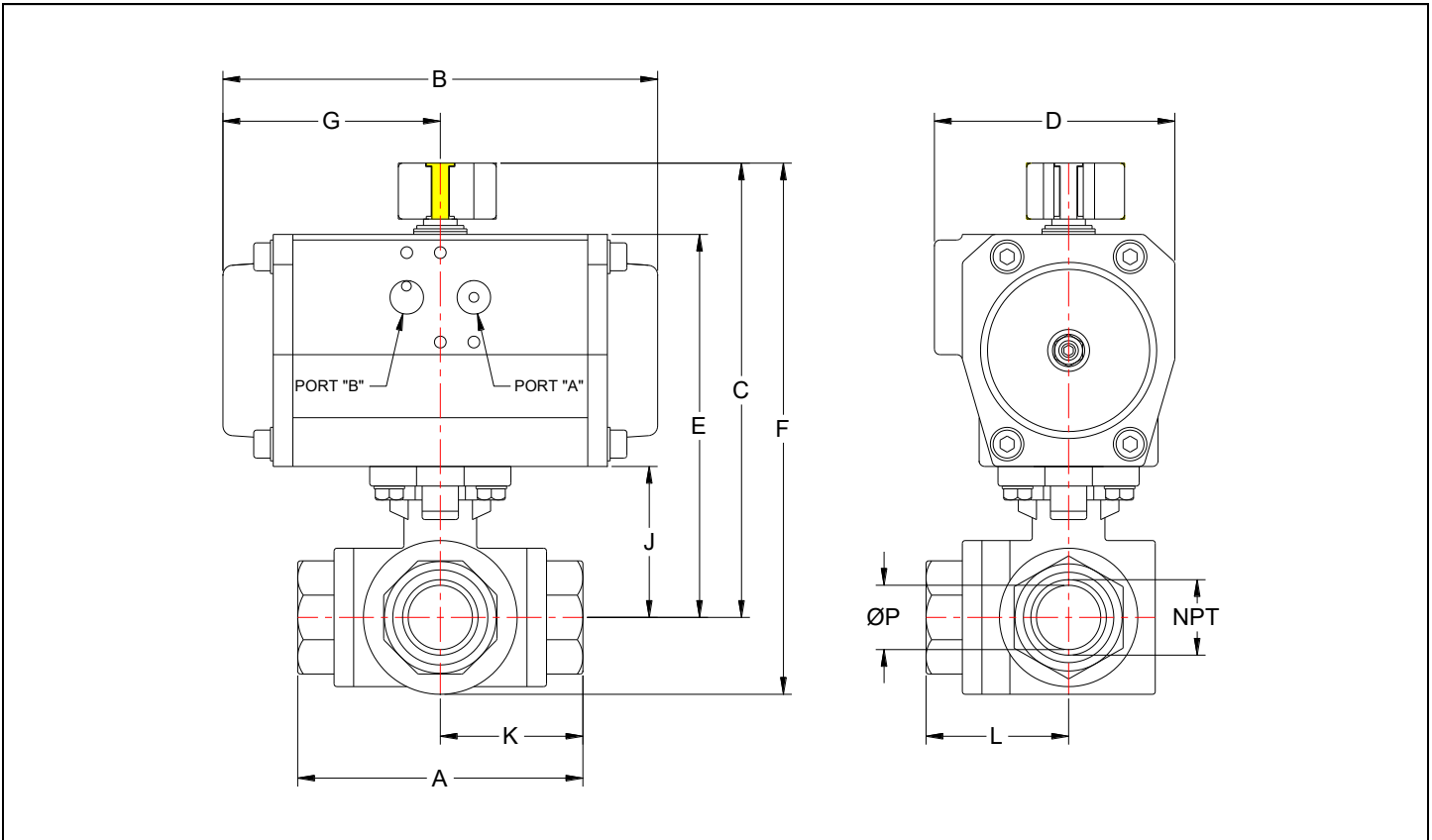
P/T Chart							
Bar	69	69	69	65	60	46.5	26
°C	-18	10	38	70	93	121	149

Dimensions: Spring Return



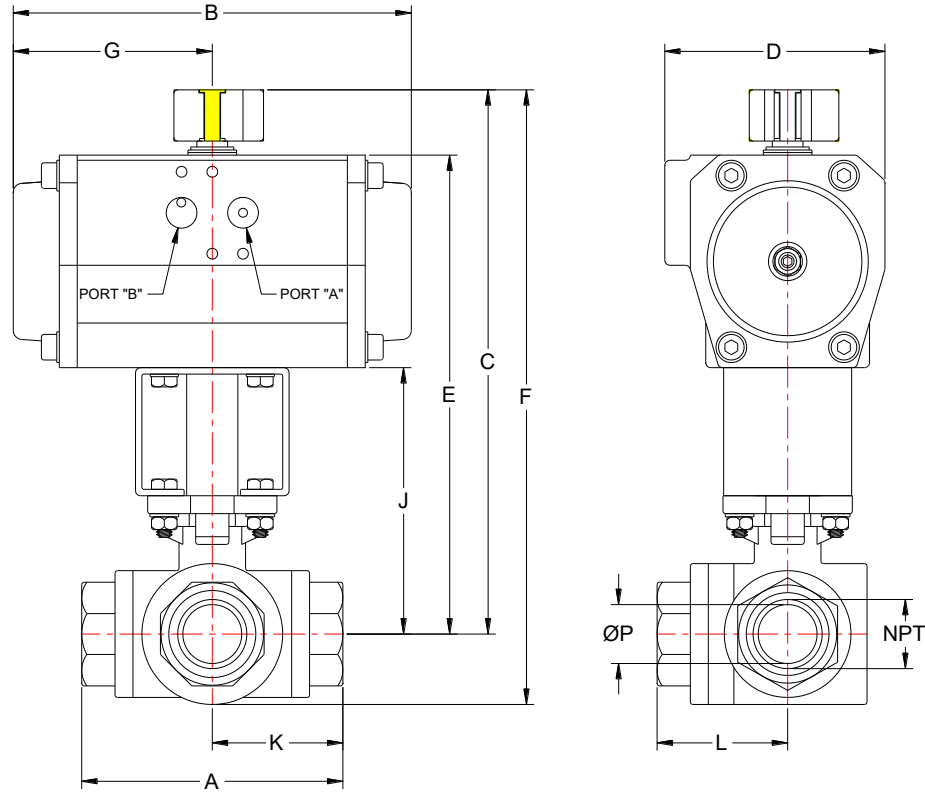
Pipe Size (NPT)		A	B	C	D	E	F	G	J	K	L	P	Ports (NPT)	Weight
1/4	inch	2.98	6.14	5.75	3.39	4.80	6.50	3.07	1.50	1.49	1.51	0.43	1/4	5.6 lb
	mm	75.7	156	146	86	122	165	78	38.2	37.9	38.3	11	-	2.5 kg
3/8	inch	2.98	6.14	5.75	3.39	4.80	6.50	3.07	1.50	1.49	1.51	0.43	1/4	5.6 lb
	mm	75.7	156	146	86	122	165	78	38.2	37.9	38.3	11	-	2.5 kg
1/2	inch	3.41	6.14	6.03	3.39	5.07	6.97	3.07	1.78	1.70	1.76	0.63	1/4	6.3 lb
	mm	86.6	156	153.2	86	128.7	177.0	78	45.2	43.3	44.7	16	-	2.9 kg
3/4	inch	4.06	6.14	6.49	3.39	5.53	7.59	3.07	2.22	2.03	2.00	0.79	1/4	7.5 lb
	mm	103	156	164.9	86	140.4	192.9	78	56.5	51.5	50.8	20	-	3.4 kg
1	inch	4.65	8.27	7.38	3.70	6.40	8.72	4.13	2.44	2.33	2.27	0.98	1/4	12.2 lb
	mm	118	210	187.4	94	162.5	221.4	105	61.9	59.1	57.7	25	-	5.5 kg
1-1/4	inch	4.95	9.06	8.40	4.09	7.41	9.94	4.53	3.08	2.48	2.46	1.26	1/4	17.9 lb
	mm	126	230	213.4	104	188.3	252.4	115	78.3	62.9	62.6	32	-	8.2 kg
1-1/2	inch	5.87	11.02	9.37	4.72	8.36	11.26	5.51	3.44	2.93	2.93	1.50	1/4	26.9 lb
	mm	149	280	238.0	120	212.4	286.0	140	87.4	74.5	74.3	38	-	12.2 kg
2	inch	6.74	12.20	10.95	5.28	9.75	13.11	6.10	4.17	3.37	3.37	1.97	1/4	39.3 lb
	mm	171	310	278.15	134	247.75	333.0	155	105.8	85.6	85.6	50.0	-	17.8 kg

Dimensions: Double Acting



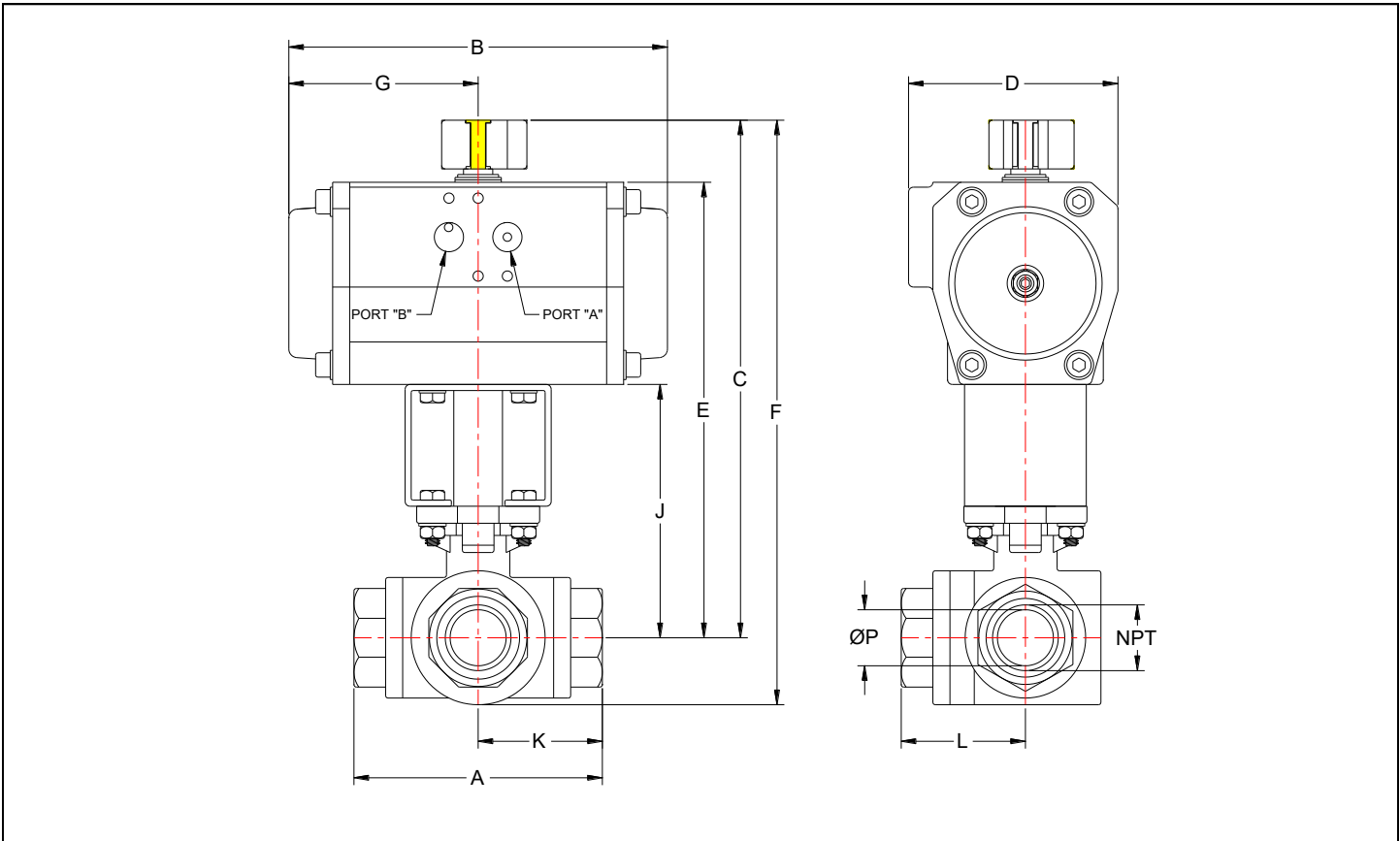
Pipe Size (NPT)		A	B	C	D	E	F	G	J	K	L	P	Ports (NPT)	Weight
1/4	inch	2.98	5.47	5.13	2.95	4.18	5.88	2.74	1.50	1.49	1.51	0.43	1/8	3.9 lb
	mm	75.7	139	130.3	75	106.2	149.3	69.5	38.2	37.9	38.3	11	-	1.8 kg
3/8	inch	2.98	5.47	5.13	2.95	4.18	5.88	2.74	1.50	1.49	1.51	0.43	1/8	3.9 lb
	mm	75.7	139	130.3	75	106.2	149.3	69.5	38.2	37.9	38.3	11	-	1.8 kg
1/2	inch	3.41	5.47	5.41	2.95	4.46	6.34	2.74	1.78	1.70	1.76	0.63	1/8	4.6 lb
	mm	86.6	139	137.3	75	113.2	161.1	69.5	45.2	43.3	44.7	16	-	2.1 kg
3/4	inch	4.06	6.14	6.49	3.39	5.53	7.59	3.07	2.22	2.03	2.00	0.79	1/4	6.9 lb
	mm	103	156	164.9	86	140.4	192.9	78	56.5	51.5	50.8	20	-	3.1 kg
1	inch	4.65	6.14	6.71	3.39	5.75	8.05	3.07	2.44	2.33	2.27	0.98	1/4	8.5 lb
	mm	118	156	170.5	86	146.0	204.5	78	61.9	59.1	57.7	25	-	3.9 kg
1-1/4	inch	4.95	8.27	7.33	3.70	6.37	8.87	4.13	3.08	2.48	2.46	1.26	1/4	13.9 lb
	mm	126	210	186.3	94	161.8	225.3	105	78.3	62.9	62.6	32	-	6.3 kg
1-1/2	inch	5.87	8.27	8.36	3.70	7.37	10.25	4.13	3.44	2.93	2.93	1.50	1/4	18.6 lb
	mm	149	210	212.3	94	187.3	260.3	105	87.4	74.5	74.3	38	-	8.5 kg
2	inch	6.74	9.06	9.48	4.09	8.50	11.64	4.53	4.17	3.37	3.37	1.97	1/4	26.3 lb
	mm	171	230	240.9	104	215.8	295.7	115	105.8	85.6	85.6	50	-	11.9 kg

Dimensions: Spring Return with High Temp. Bracket



Pipe Size (NPT)		A	B	C	D	E	F	G	J	K	L	P	Ports (NPT)	Weight
1/4	inch	2.98	6.14	7.72	3.39	6.77	8.46	3.07	3.47	1.49	1.51	0.43	1/4	6.3 lb
	mm	75.7	156	196.0	86	172.0	215.0	78	88.2	37.9	38.3	11	-	2.9 kg
3/8	inch	2.98	6.14	7.72	3.39	6.77	8.46	3.07	3.47	1.49	1.51	0.43	1/4	6.3 lb
	mm	75.7	156	196.0	86	172.0	215.0	78	88.2	37.9	38.3	11	-	2.8 kg
1/2	inch	3.41	6.14	8.0	3.39	7.04	8.94	3.07	3.75	1.70	1.76	0.63	1/4	7.0 lb
	mm	86.6	156	203.2	86	178.7	227.0	78	95.2	43.3	44.7	16	-	3.2 kg
3/4	inch	4.06	6.14	8.46	3.39	7.50	9.56	3.07	4.19	2.03	2.00	0.79	1/4	8.1 lb
	mm	103	156	214.9	86	190.4	242.9	78	106.5	51.5	50.8	20	-	3.7 kg
1	inch	4.65	8.27	9.35	3.70	8.37	10.69	4.13	4.41	2.33	2.27	0.98	1/4	12.9 lb
	mm	118	210	237.4	94	212.5	271.4	105	111.9	59.1	57.7	25	-	5.8 kg
1-1/4	inch	4.95	9.06	10.37	4.09	9.38	11.91	4.53	5.05	2.48	2.46	1.26	1/4	18.9 lb
	mm	126	230	263.4	104	238.3	302.4	115	128.3	62.9	62.6	32	-	8.6 kg
1-1/2	inch	5.87	11.02	11.34	4.72	10.33	13.23	5.51	5.41	2.93	2.93	1.50	1/4	27.9 lb
	mm	149	280	288.0	120	262.4	336.0	140	137.4	74.5	74.3	38	-	12.7 kg
2	inch	6.74	12.20	12.92	5.28	11.72	15.08	6.10	6.13	3.37	3.37	1.97	1/4	40.4 lb
	mm	171	310	328.15	134	297.75	383.0	155	155.8	85.6	85.6	50.0	-	18.3 kg

Dimensions: Double Acting with High Temp. Bracket



Pipe Size (NPT)		A	B	C	D	E	F	G	J	K	L	P	Ports (NPT)	Weight
1/4	inch	2.98	5.47	7.1	2.95	6.15	7.85	2.74	3.47	1.49	1.51	0.43	1/8	4.6 lb
	mm	75.7	139	180.3	75	156.2	199.3	69.5	88.2	37.9	38.3	11	-	2.1 kg
3/8	inch	2.98	5.47	7.1	2.95	6.15	7.85	2.74	3.47	1.49	1.51	0.43	1/8	4.6 lb
	mm	75.7	139	180.3	75	156.2	199.3	69.5	88.2	37.9	38.3	11	-	2.1 kg
1/2	inch	3.41	5.47	7.37	2.95	6.43	8.31	2.74	3.75	1.70	1.76	0.63	1/8	5.3 lb
	mm	86.6	139	187.3	75	163.2	211.1	69.5	95.2	43.3	44.7	16	-	2.4 kg
3/4	inch	4.06	6.14	8.46	3.39	7.50	9.56	3.07	4.19	2.03	2.00	0.79	1/4	7.5 lb
	mm	103	156	214.9	86	190.4	242.9	78	106.5	51.5	50.8	20	-	3.4 kg
1	inch	4.65	6.14	8.68	3.39	7.72	10.02	3.07	4.41	2.33	2.27	0.98	1/4	9.2 lb
	mm	118	156	220.5	86	196.0	254.5	78	111.9	59.1	57.7	25	-	4.2 kg
1-1/4	inch	4.95	8.27	9.30	3.70	8.34	10.84	4.13	5.05	2.48	2.46	1.26	1/4	14.9 lb
	mm	126	210	236.3	94	211.8	275.3	105	128.3	62.9	62.6	32	-	6.8 kg
1-1/2	inch	5.87	8.27	10.33	3.70	9.34	12.22	4.13	5.41	2.93	2.93	1.50	1/4	19.6 lb
	mm	149	210	262.3	94	237.3	310.3	105	137.4	74.5	74.3	38	-	8.9 kg
2	inch	6.74	9.06	11.45	4.09	10.46	13.61	4.53	6.13	3.37	3.37	1.97	1/4	27.4 lb
	mm	171	230	290.9	104	265.8	345.7	115	155.8	85.6	85.6	50	-	12.4 kg