

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. Typically used as a diverter or selector 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

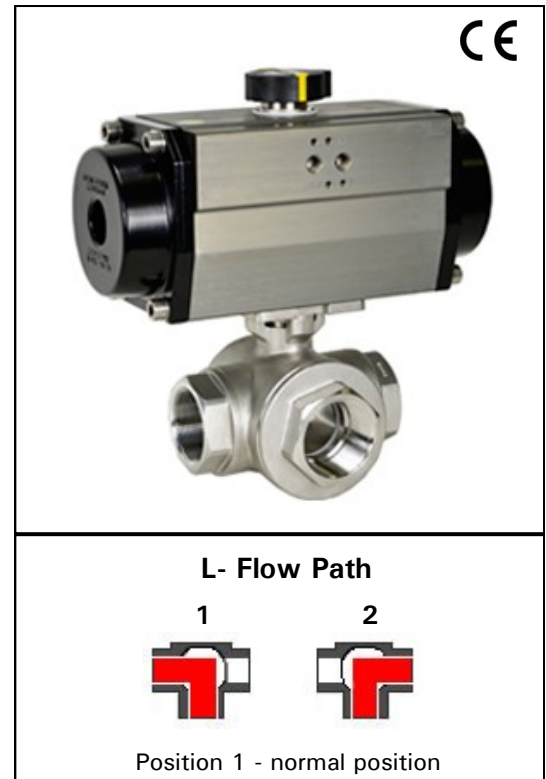
Ball Valve Temperature Rating: -4 to 325° F (-20 to 163° C)

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 L-port flow path for diverter or selector 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						
523302A	1/4	0.43	3.2	1000	1	1/4
523303A	3/8	0.43	3.5	1000	1	1/4
523304A	1/2	0.63	4.5	1000	1	1/4
523306A	3/4	0.79	10	1000	1	1/4
523308A	1	1.00	16	1000	1	1/4
523310A	1-1/4	1.25	31	1000	1	1/4
523312A	1-1/2	1.50	49	1000	1	1/4
523316A	2	2.00	82	1000	1	1/4
VALVE WITH DOUBLE ACTING ACTUATOR						
523202A	1/4	0.43	3.2	1000	1	1/8
523203A	3/8	0.43	3.5	1000	1	1/8
523204A	1/2	0.63	4.5	1000	1	1/8
523206A	3/4	0.79	10	1000	1	1/4
523208A	1	1.00	16	1000	1	1/4
523210A	1-1/4	1.25	31	1000	1	1/4
523212A	1-1/2	1.50	49	1000	1	1/4
523216A	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)

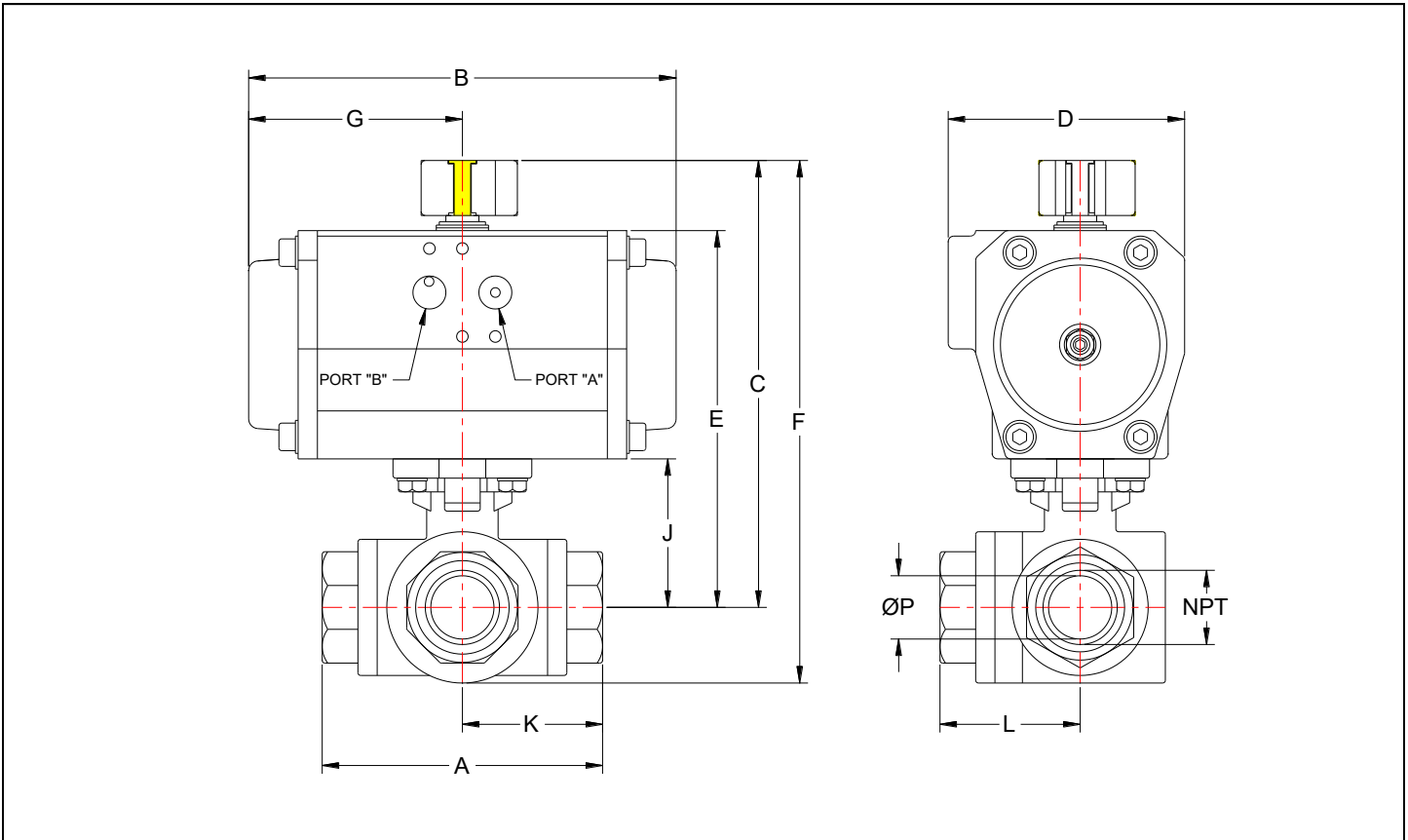
Stock Number	Pipe Size (NPT)	Orifice Size (mm)	Kv Flow Factor	Pressure Max.(Bar)*	Cycle Time/90° (seconds)	Pilot Air Port (NPT)
VALVE WITH SPRING RETURN ACTUATOR						
523302A	1/4	11	2.8	69	1	1/4
523303A	3/8	11	3.0	69	1	1/4
523304A	1/2	16	3.9	69	1	1/4
523306A	3/4	20	8.6	69	1	1/4
523308A	1	25	14	69	1	1/4
523310A	1-1/4	32	27	69	1	1/4
523312A	1-1/2	38	42	69	1	1/4
523316A	2	50	70	69	1	1/4
VALVE WITH DOUBLE ACTING ACTUATOR						
523202A	1/4	11	2.8	69	1	1/8
523203A	3/8	11	3.0	69	1	1/8
523204A	1/2	16	3.9	69	1	1/8
523206A	3/4	20	8.6	69	1	1/4
523208A	1	25	14	69	1	1/4
523210A	1-1/4	32	27	69	1	1/4
523212A	1-1/2	38	42	69	1	1/4
523216A	2	50	70	69	1	1/4

* Pressure @ 70° C (see P/T chart)

Pressure/Temperature Chart (Bar/°C)

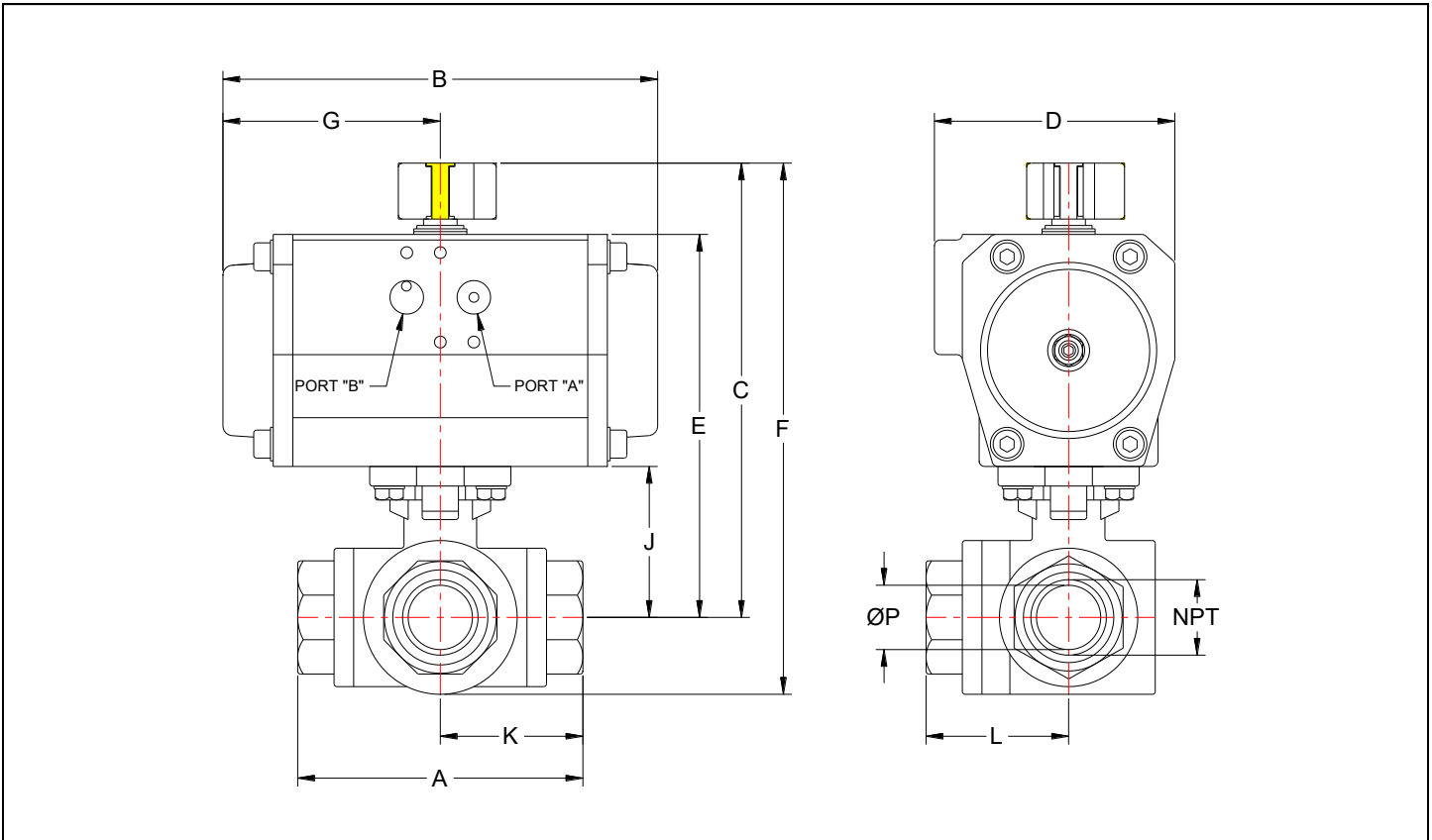
P/T Chart							
Bar	69	69	69	65	60	46.5	26
°C	-18	10	38	70	93	121	149

Dimensions: Spring Return



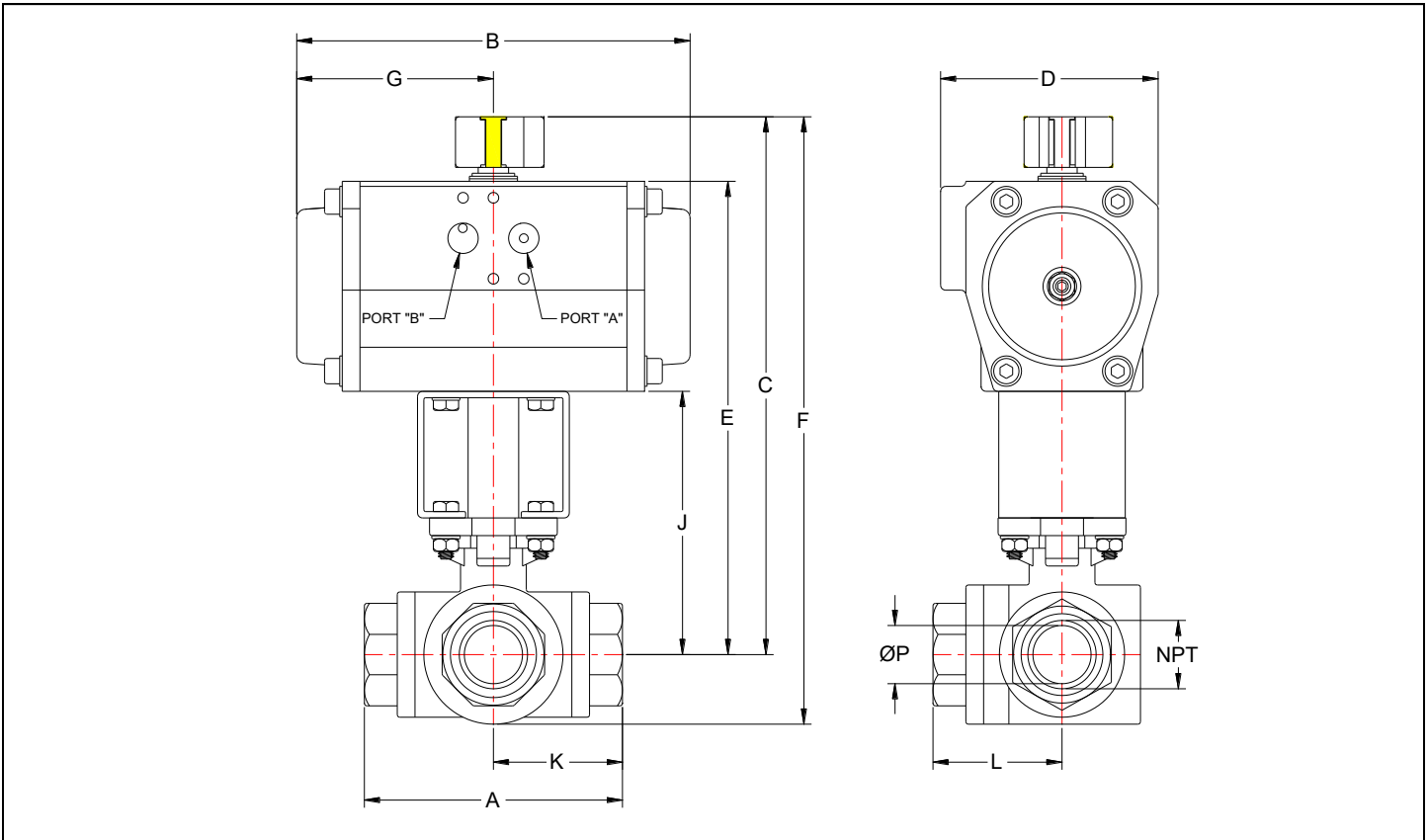
Pipe Size (NPT)		A	B	C	D	E	F	G	J	K	L	P	Ports (NPT)	Weight
1/4	inch	2.98	6.14	5.51	3.39	4.72	6.30	3.07	1.45	1.49	1.51	0.43	1/4	5.6 lb
	mm	75.7	156	140	86	120	160	78	36.8	37.9	38.3	11	-	2.5 kg
3/8	inch	2.98	6.14	5.51	3.39	4.72	6.30	3.07	1.45	1.49	1.51	0.43	1/4	5.6 lb
	mm	75.7	156	140	86	120	160	78	36.8	37.9	38.3	11	-	2.5 kg
1/2	inch	3.41	6.14	5.79	3.39	5.00	6.73	3.07	1.74	1.70	1.76	0.63	1/4	6.3 lb
	mm	86.6	156	147	86	127	171	78	44.1	43.3	44.7	16	-	2.9 kg
3/4	inch	4.06	6.14	6.22	3.39	5.43	7.32	3.07	2.17	2.03	2.00	0.79	1/4	7.5 lb
	mm	103	156	158	86	138	186	78	55.1	51.5	50.8	20	-	3.4 kg
1	inch	4.65	8.27	7.13	3.70	6.34	8.46	4.13	2.39	2.33	2.27	0.98	1/4	12.2 lb
	mm	118	210	181	94	161	215	105	60.7	59.1	57.7	25	-	5.5 kg
1-1/4	inch	4.95	9.06	8.07	4.09	7.28	9.61	4.53	2.96	2.48	2.46	1.26	1/4	17.9 lb
	mm	126	230	205	104	185	244	115	75.2	62.9	62.6	32	-	8.2 kg
1-1/2	inch	5.87	11.02	9.02	4.72	8.23	10.91	5.51	3.32	2.93	2.93	1.50	1/4	26.9 lb
	mm	149	280	229	120	209	277	140	84.4	74.5	74.3	38	-	12.2 kg
2	inch	6.74	12.20	10.51	5.28	9.33	12.60	6.10	3.72	3.37	3.37	1.97	1/4	39.3 lb
	mm	171	310	267	134	237	320	155	94.6	85.6	85.6	50.0	-	17.8 kg

Dimensions: Double Acting



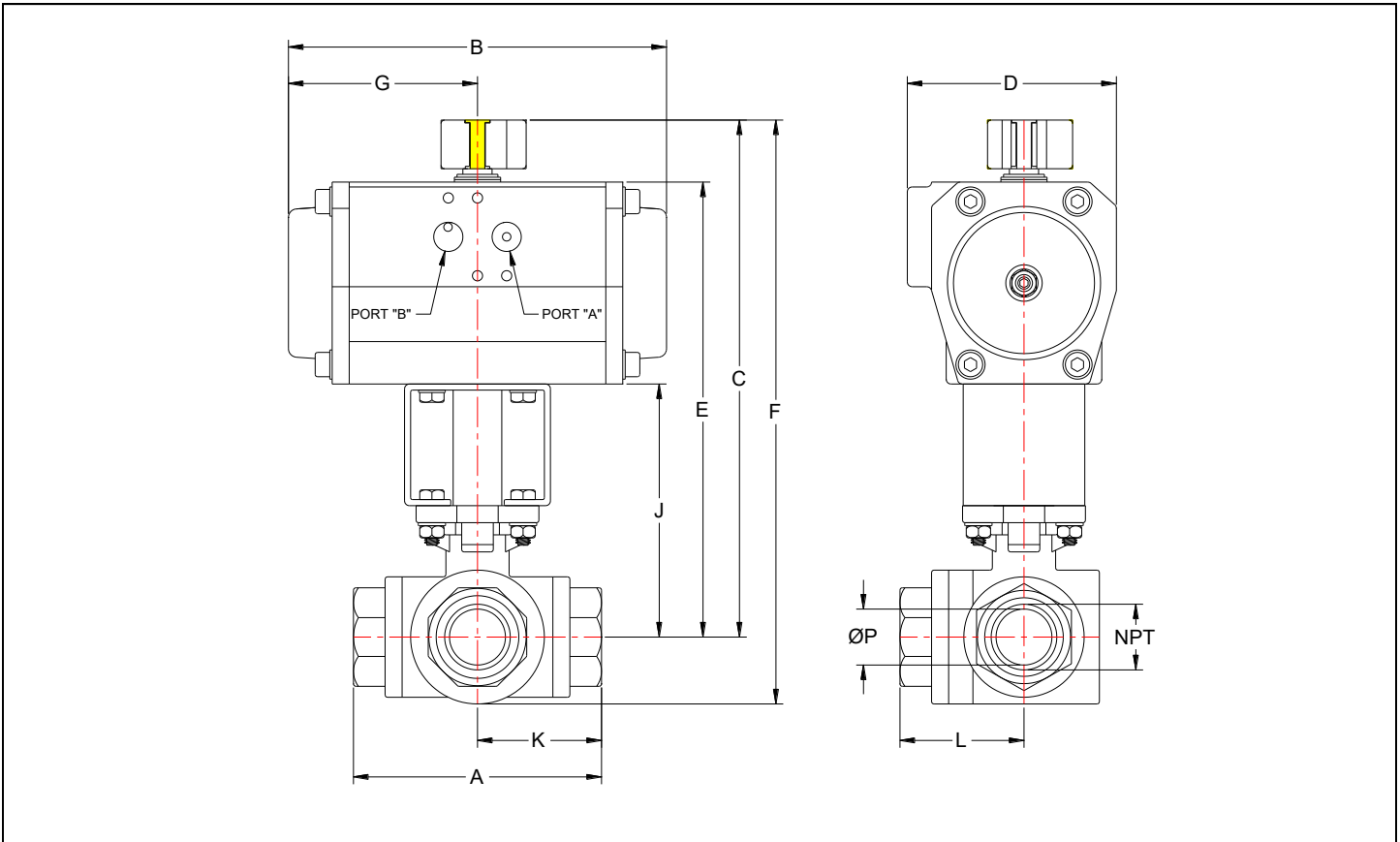
Pipe Size (NPT)		A	B	C	D	E	F	G	J	K	L	P	Ports (NPT)	Weight
1/4	inch	2.98	5.47	4.88	2.95	4.09	5.67	2.74	1.45	1.49	1.51	0.43	1/8	3.9 lb
	mm	75.7	139	124	75	104	144	69.5	36.8	37.9	38.3	11	-	1.8 kg
3/8	inch	2.98	5.47	4.88	2.95	4.09	5.67	2.74	1.45	1.49	1.51	0.43	1/8	3.9 lb
	mm	75.7	139	124	75	104	144	69.5	36.8	37.9	38.3	11	-	1.8 kg
1/2	inch	3.41	5.47	5.16	2.95	4.37	6.10	2.74	1.74	1.70	1.76	0.63	1/8	4.6 lb
	mm	86.6	139	131	75	111	155	69.5	44.1	43.3	44.7	16	-	2.1 kg
3/4	inch	4.06	6.14	6.22	3.39	5.43	7.32	3.07	2.17	2.03	2.00	0.79	1/4	6.9 lb
	mm	103	156	158	86	138	186	78	55.1	51.5	50.8	20	-	3.1 kg
1	inch	4.65	6.14	6.46	3.39	5.67	7.80	3.07	2.39	2.33	2.27	0.98	1/4	8.5 lb
	mm	118	156	164	86	144	198	78	60.7	59.1	57.7	25	-	3.9 kg
1-1/4	inch	4.95	8.27	7.68	3.70	6.89	9.21	4.13	2.96	2.48	2.46	1.26	1/4	13.9 lb
	mm	126	210	195	94	175	234	105	75.2	62.9	62.6	32	-	6.3 kg
1-1/2	inch	5.87	8.27	8.03	3.70	7.24	9.92	4.13	3.32	2.93	2.93	1.50	1/4	18.6 lb
	mm	149	210	204	94	184	252	105	84.4	74.5	74.3	38	-	8.5 kg
2	inch	6.74	9.06	8.86	4.09	8.07	10.94	4.53	3.72	3.37	3.37	1.97	1/4	26.3 lb
	mm	171	230	225	104	205	278	115	94.6	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	7.48	3.39	6.69	8.27	3.07	3.42	1.49	1.51	0.43	1/4	6.3 lb
	mm	75.7	156	190	86	170	210	78	86.8	37.9	38.3	11	-	2.9 kg
3/8	inch	2.98	6.14	7.48	3.39	6.69	8.27	3.07	3.42	1.49	1.51	0.43	1/4	6.3 lb
	mm	75.7	156	190	86	170	210	78	86.8	37.9	38.3	11	-	2.8 kg
1/2	inch	3.41	6.14	7.76	3.39	6.97	8.70	3.07	3.70	1.70	1.76	0.63	1/4	7.0 lb
	mm	86.6	156	197	86	177	221	78	94.1	43.3	44.7	16	-	3.2 kg
3/4	inch	4.06	6.14	8.19	3.39	7.40	9.29	3.07	4.13	2.03	2.00	0.79	1/4	8.1 lb
	mm	103	156	208	86	188	236	78	105	51.5	50.8	20	-	3.7 kg
1	inch	4.65	8.27	9.09	3.70	8.31	10.43	4.13	4.37	2.33	2.27	0.98	1/4	12.9 lb
	mm	118	210	231	94	211	265	105	111	59.1	57.7	25	-	5.8 kg
1-1/4	inch	4.95	9.06	10.04	4.09	9.25	11.57	4.53	4.92	2.48	2.46	1.26	1/4	18.9 lb
	mm	126	230	255	104	235	294	115	125	62.9	62.6	32	-	8.6 kg
1-1/2	inch	5.87	11.02	10.98	4.72	10.20	12.87	5.51	5.28	2.93	2.93	1.50	1/4	27.9 lb
	mm	149	280	279	120	259	327	140	134	74.5	74.3	38	-	12.7 kg
2	inch	6.74	12.20	12.48	5.28	11.30	14.57	6.10	5.71	3.37	3.37	1.97	1/4	40.4 lb
	mm	171	310	317	134	287	370	155	145	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	6.85	2.95	6.06	7.64	2.74	3.42	1.49	1.51	0.43	1/8	4.6 lb
	mm	75.7	139	174	75	154	194	69.5	86.8	37.9	38.3	11	-	2.1 kg
3/8	inch	2.98	5.47	6.85	2.95	6.06	7.64	2.74	3.42	1.49	1.51	0.43	1/8	4.6 lb
	mm	75.7	139	174	75	154	194	69.5	86.8	37.9	38.3	11	-	2.1 kg
1/2	inch	3.41	5.47	7.13	2.95	6.34	8.07	2.74	3.70	1.70	1.76	0.63	1/8	5.3 lb
	mm	86.6	139	181	75	161	205	69.5	94.1	43.3	44.7	16	-	2.4 kg
3/4	inch	4.06	6.14	8.19	3.39	7.40	9.29	3.07	4.13	2.03	2.00	0.79	1/4	7.5 lb
	mm	103	156	208	86	188	236	78	105	51.5	50.8	20	-	3.4 kg
1	inch	4.65	6.14	8.43	3.39	7.64	9.76	3.07	4.37	2.33	2.27	0.98	1/4	9.2 lb
	mm	118	156	214	86	194	248	78	111	59.1	57.7	25	-	4.2 kg
1-1/4	inch	4.95	8.27	9.65	3.70	8.86	11.18	4.13	4.92	2.48	2.46	1.26	1/4	14.9 lb
	mm	126	210	245	94	225	284	105	125	62.9	62.6	32	-	6.8 kg
1-1/2	inch	5.87	8.27	10.00	3.70	9.21	11.89	4.13	5.28	2.93	2.93	1.50	1/4	19.6 lb
	mm	149	210	254	94	234	302	105	134	74.5	74.3	38	-	8.9 kg
2	inch	6.74	9.06	10.83	4.09	10.04	12.91	4.53	5.71	3.37	3.37	1.97	1/4	27.4 lb
	mm	171	230	275	104	255	328	115	145	85.6	85.6	50	-	12.4 kg