

Electrically Actuated Ball Valve Type 107



General

- **Size:** 3/8"-2"
- **Material:** PVC, CPVC, ABS
- **Seat:** PTFE
- **Seals:** EPDM or FPM
- **End Connection:** Solvent cement socket, threaded, flanged
- **Actuator Housing:** Glass-filled PP
- **Voltage:** 100-230VAC
- **Mounting:** Stainless steel threaded inserts
- **Manual Override:** Integrated
- **Position Indicator:** Optical, integrated

Key Valve Certifications

- **NSF 61:** PVC and CPVC
- **FDA CFR 21 177.2600:** EPDM and FPM
- **FDA CFR 21 177.1550:** PTFE
- **ABS:** All materials

Features

The Type 107 Ball Valve shall be used in open/close applications. The actuator shall be a Type EA11. The ball valve shall be true union and utilize a floating ball design. The ball shall be fully molded and full port with two way blocking capability. The stem shall be blowout proof, utilizing a double o-ring seal and a predetermined break point opposite the media side of the stem seals. The seat carrier shall be adjustable and reverse threaded. A handle shall be provided to be used as a seat carrier adjustment or removal tool. The valve nut threads shall be of buttress type. Ball seats shall have an elastomeric backing o-ring and all elastomeric seals shall be of like material. ANSI flanged versions shall meet ANSI B16.5 150lb standards. All valves shall be tested in accordance to ISO9393 and designed to ISO16136 standards. All valves shall be manufactured under ISO9001 for Quality and ISO14001 for Environmental Management. Following assembly, every valve shall be tested and certified bubble tight exceeding Class VI standards

Material Specification

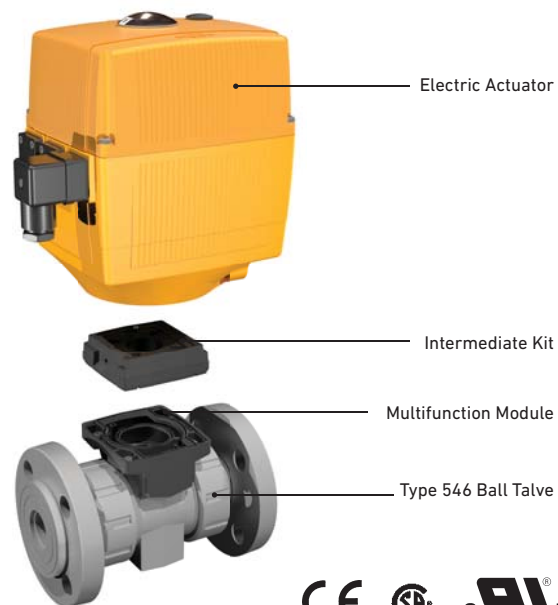
PVC valves shall meet ASTM D1784 cell classification 12454 standards. CPVC valves shall meet ASTM D1784 cell classification 23447-B standards. ABS valves shall meet ASTM D3965 cell classification 42222 standards. Valves of all materials shall be RoHS compliant.

Key Actuator Certifications

- CE 2006/42/EC, Annex II B: EA11
- CE 2004/108/CE: EA11
- CE 2006/95/CE: EA11
- UL 61010-1: EA11
- CSA C22.2 NO. 61010-1: EA11

Optional Features

- **Limit Switches:** Mechanical, inductive
- **Fail Safe Return:** Battery back-up
- **Heater:** Heating element
- **Manual Loading Station:** Local control box
- **Protection Class:** IP67 with conduit connection
- **Vented Ball:** For sodium hypochlorite use



Actuator Technical Data



Cycle Time	5s/90°
Cycles at 70°F	150,000
Housing Material	Glass-filled PP
Position Indicator	Optical, integrated
Emergency Manual Override	Integrated
Rated Voltage	100–230VAC, 50/60 Hz
Rated Voltage Tolerance	+/- 10%
Nominal Output	40VA
Direct Impedance	100kΩ
Duty Cycle	40%
Protection Class	IP65 per EN 60529 (3) UL/CSA: For interior use NEMA 4X
Overload Protection	Resetting (1)
Overvoltage Category	Category II according to DIN EN 61010-1
Power Connection	Connector plug 3 P+ E per DIN EN 175301-03
Pollution Grade	Grade 2 according to DIN EN 61010-1
Maximum Elevation	6561 feet
Ambient Temperature	14°F to 110°F (2)
Allowable Humidity	80% at 88°F (4)

(1) Overload protection of the motor is dimensioned so that the motor and the power supply board are protected. As soon as the load is within the torque range, the actuator will begin operating again.

(2) At temperatures below 14°F and if there is condensation, the heating element should be built in.

(3) Protection class IP67 for use of cable glands and vertical installation.

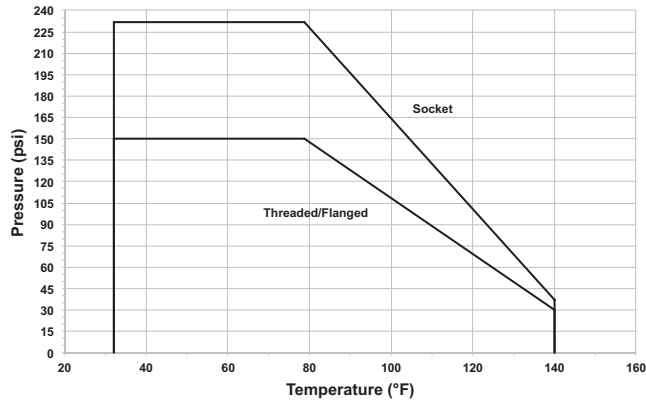
(4) Linear decrease up to 50% relative humidity at 104°F.

Technical Data

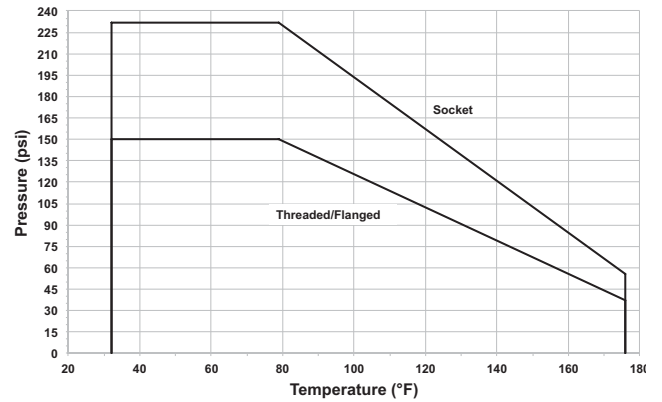
Pressure Temperature Curves

The following graphs are based on a 25 year lifetime water or similar media application

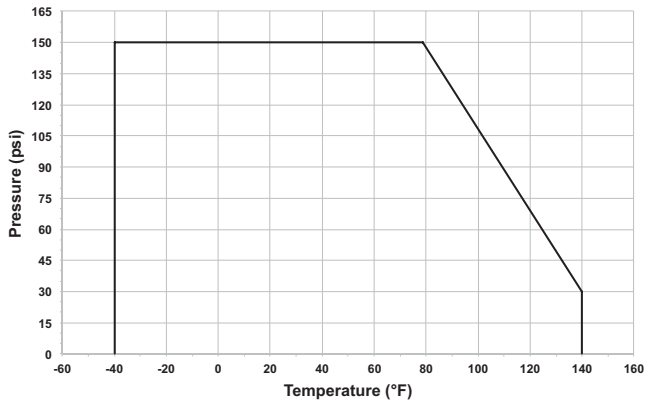
PVC



CPVC



ABS



Pressure-Temperature

Material	Temperature Range (°F)	Max Pressure (psi)
PVC	32 to 140	232
CPVC	32 to 176	232
ABS	-40 to 140	150

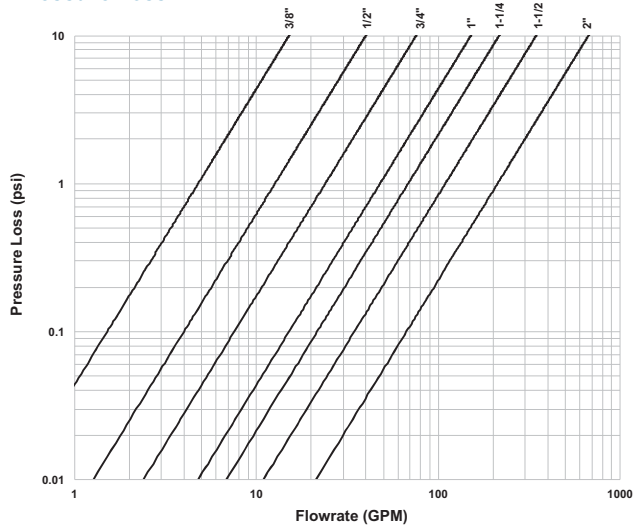
Vacuum Service

The Type 107 is rated for full vacuum service. Maximum differential pressure of 15psi at 122°F.

Flow

The following information is based on water applications at 68° F

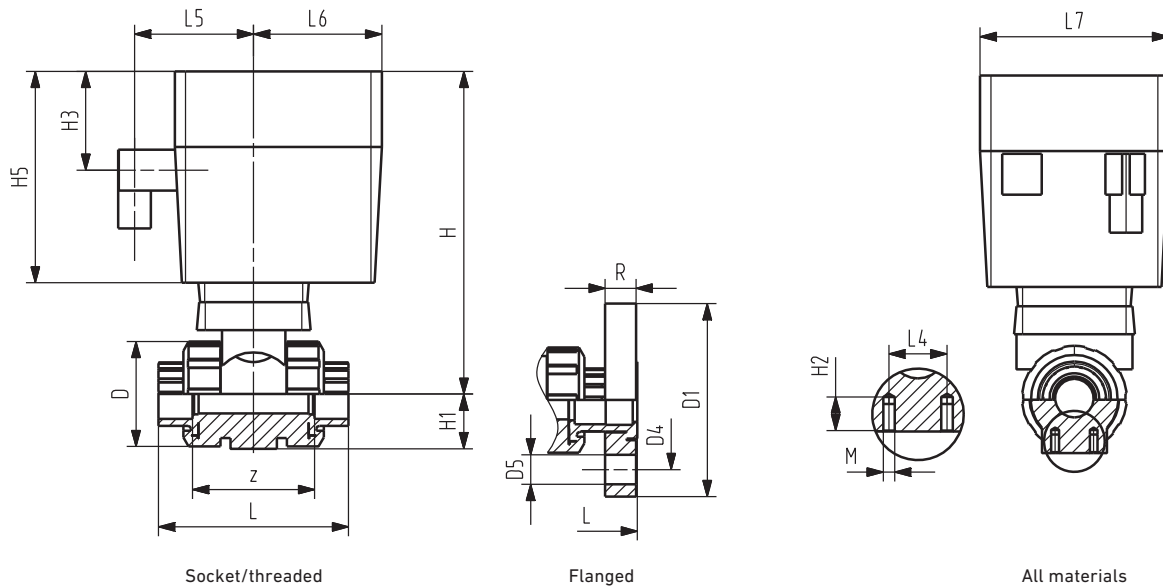
Pressure Loss



Cv Value

Size (inch)	d (mm)	Cv (gal/min)
3/8	16	5
1/2	20	13
3/4	25	25
1	32	49
1 1/4	40	70
1 1/2	50	112
2	63	217

Dimensions



All materials

Inch	D	H	H1	H2	H3	H5	L4	L5	L6	M
3/8	1.97	7.87	1.06	0.47	2.52	5.39	0.98	3.11	3.27	M6
1/2	1.97	7.87	1.06	0.47	2.52	5.39	0.98	3.11	3.27	M6
3/4	2.28	8.23	1.18	0.47	2.52	5.39	0.98	3.11	3.27	M6
1	2.68	8.23	1.42	0.47	2.52	5.39	0.98	3.11	3.27	M6
1 1/4	3.31	8.66	1.73	0.59	2.52	5.39	1.77	3.11	3.27	M8
1 1/2	3.82	8.66	2.01	0.59	2.52	5.39	1.77	3.11	3.27	M8
2	4.88	9.57	2.52	0.59	2.52	5.39	1.77	3.11	3.27	M8

PVC/CPVC

Inch	Socket		Threaded		Flanged				
	L	z	L	z	L	D1	D4	D5	R
3/8	4.13	2.64	3.86	2.72	-	-	-	-	-
1/2	4.13	2.4	3.86	2.56	5.87	3.5	2.38	0.5	0.57
3/4	4.76	2.76	4.37	2.92	6.5	3.88	2.75	0.5	0.58
1	5.24	2.99	5	3.23	7.24	4.25	3.13	0.5	0.66
1 1/4	6.06	3.54	5.79	3.85	8.11	4.63	3.5	0.5	0.69
1 1/2	6.46	3.7	6.18	4.33	8.7	5	3.88	0.5	0.76
2	7.2	4.21	7.2	5.31	9.88	6	4.75	0.63	0.82

ABS

	Socket	
	d	z
16	3.62	2.52
20	3.74	2.52
25	4.33	2.83
32	4.84	3.11
40	5.57	3.7
50	6.18	3.74
63	7.2	4.21

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