

Georg Fischer Type 107 Electrically Actuated Ball Valve

Standard Features

- **Size**
3/8"-2"
- **Voltage**
24 AC or DC
110-230 AC
- **Emergency Manual Override**
- **Material**
PVC, CPVC
- **Connection Ends**
Socket, Flanged, Threaded NPT
- **Seat**
PTFE
- **Seals**
EPDM or FPM
- **Mounting**
Stainless steel threaded inserts
for easy and secure mounting
- **Duty Cycle**
40%

Optional Features

- **Pneumatic Actuation**
- **Limit Switches**
- **Fail Safe Return**
Back up battery pack
- **Heating Element**



General

Available in PVC and CPVC, the type 107 ball valve is ideal for a variety of applications. The type 107 valve is a perfect fit where simple open/close operation is required. It operates on either AC or DC voltage and has the option for position signalization limit switches. Included with each valve are NPT and Socket end connectors. Manual versions can easily be retrofitted in the field.

Technical specifications Electric actuator 11



EA 11

Nominal torque M _{dn}	10 Nm
Peak torque	20Nm
Control time	5 s/ 90° at M _{dn}
Actuating angle	max. 180°, set to 90°
L/W/H	129/122/138
Cycles at 70°F and M _{dn}	150,000
Flanges	F05
Housing materials	PP fiberglass reinforced, flame retardant, external stainless steel screws
Position indicator	optical, integrated
Emergency manual override	integrated
Rated voltage	100- 230V, 50/60 Hz 24V = /24V, 50/60 Hz
Rated voltage tolerance	+/- 10%
Rated output	28 Watts
Direct impedance	230V, 100k 24V, 4k7
Duty cycle ED	40% at 77°F/15 min
Protection class	IP 65 per EN 60529 [3] UL/CSA: for interior use
Overload protection	current / time dependent (resetting) [1]
Overvoltage category [5]	II
Electrical connections	Connector plug 3 P+ E per DIN EN 175301-03 (formerly DIN 43650), additional cable entry point for PG11
Pollution grade [5]	2
Height over NN (UL/CSA)	< 2000m
Ambient temperature	14° to + 110°F [2]
Allowable humidity	max. 80% to 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 in the torque range, the actuator runs again.

[2] At temperatures below 14°F and if there is condensation, the heating element no. 198 190 086 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.

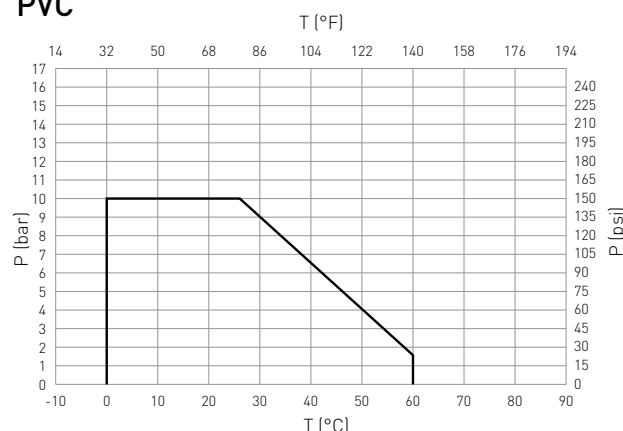
[5] According to DIN EN 61010-1

Technical Data

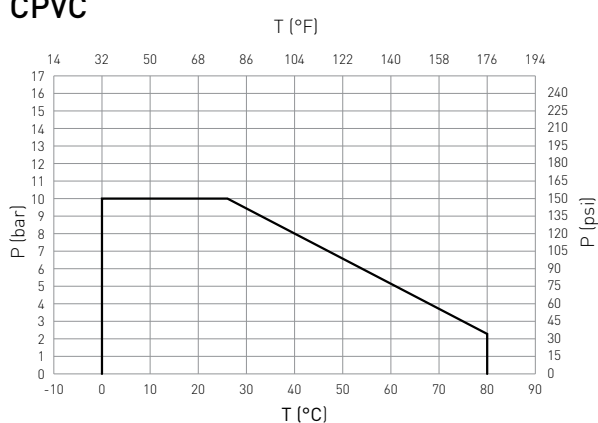
Pressure-Temperature Diagrams Technical data for Type 107 Ball Valves 3/8"-2"

The following pressure temperature diagrams are based on a lifetime of 25 years and the medium water or similar media

PVC

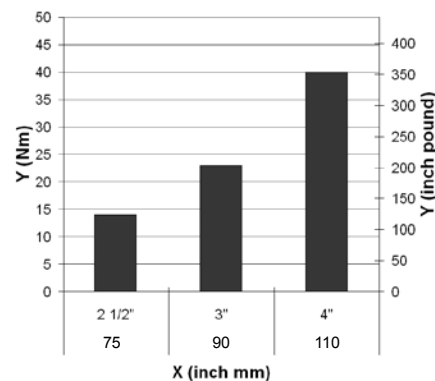
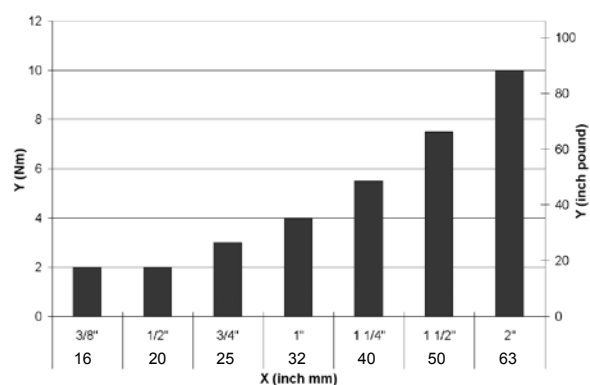


CPVC



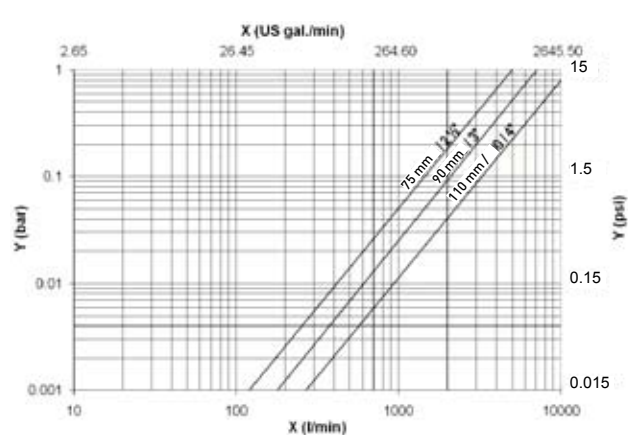
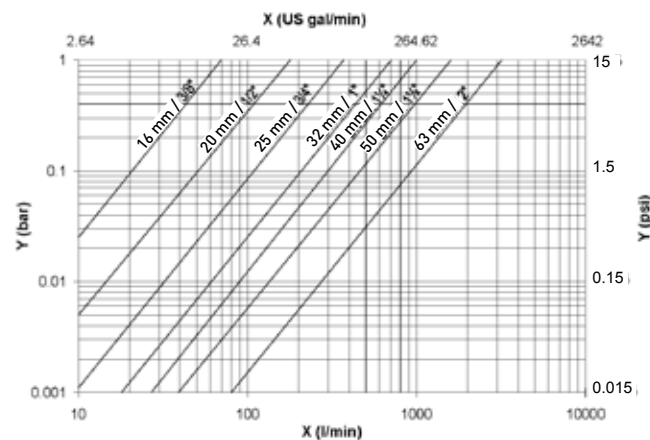
Operating Torque

Average values at nominal pressure



X Size (mm, inch) Y Torque (Nm, inch pound)

Pressure loss



Medium: water, 20°C

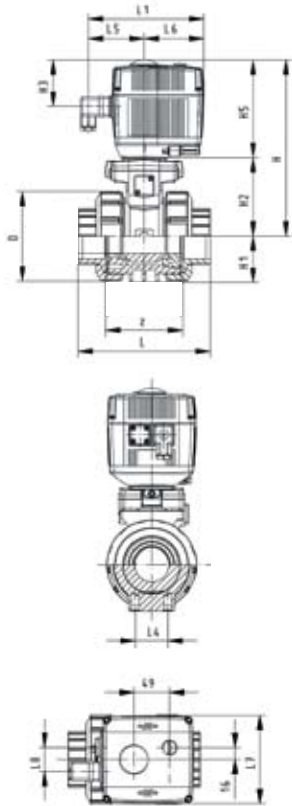
X Flow rate (l/min / U.S. gal/min) Y Pressure loss Δp (bar / psi)

PVC

Type 107 Electrically Actuated Ball Valve

With manual emergency override

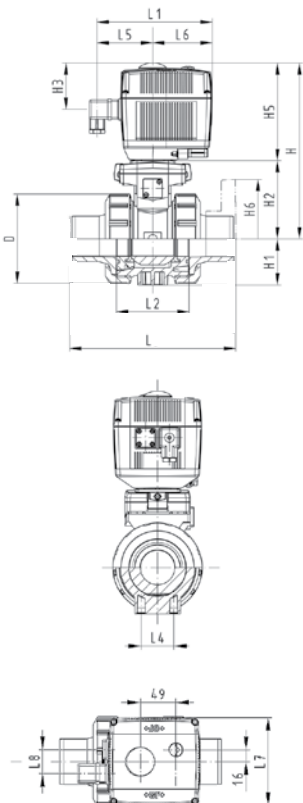
With solvent cement sockets inch ASTM/threaded NPT



Inch	Cv-value [gal/min]	psi		D [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H5 [mm]
		socket	NPT						
3/8	4.9	150	150	50	200	27	64	64	137
1/2	12.9	150	150	50	200	27	64	64	137
3/4	24.5	150	150	58	209	30	73	64	137
1	49.0	150	150	68	209	36	73	64	137
1 1/4	70.0	150	150	84	220	44	84	64	137
1 1/2	112.0	150	150	97	220	51	84	64	137
2	217.1	150	150	124	243	64	106	64	137

L [mm]		L1 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	L7 [mm]	L8 [mm]	z [mm]
Sockets	NPT							
105	98	161	25	79	83	122	67	67
105	98	161	25	79	83	122	67	61
121	111	161	25	79	83	122	67	70
133	127	161	25	79	83	122	67	76
154	147	161	45	79	83	122	67	90
164	157	161	45	79	83	122	67	94
183	183	161	45	79	83	122	67	107

With flanges, ANSI



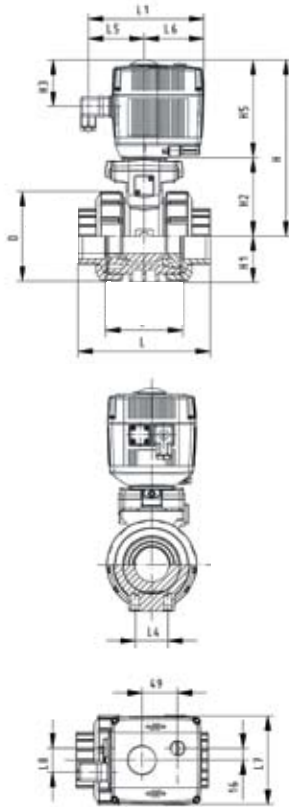
Inch	psi	Cv-value [gal/min]	D [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H5 [mm]	L [mm]
1/2	150	12.9	50	200	27	64	64	137	149
3/4	150	24.5	58	209	30	73	64	137	165
1	150	49.0	68	209	36	73	64	137	184
1 1/4	150	70.0	84	220	44	84	64	137	206
1 1/2	150	112.0	97	220	51	84	64	137	221
2	150	217.0	124	243	64	106	64	137	251

L1 [mm]	L2 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	L7 [mm]	L8 [mm]
161	56	25	77	83	122	33
161	65	25	77	83	122	33
161	71	25	77	83	122	33
161	85	45	77	83	122	33
161	89	45	77	83	122	33
161	101	45	77	83	122	33

CPVC

Type 107 Electrically Actuated Ball Valve

With solvent cement sockets inch ASTM/threaded NPT



Inch	Cv-value [gal/min]	psi		D [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H5 [mm]
		socket	NPT						
3/8	4.9	150	150	50	200	27	64	64	137
1/2	12.9	150	150	50	200	27	64	64	137
3/4	24.5	150	150	58	209	30	73	64	137
1	49.0	150	150	68	209	36	73	64	137
1 1/4	70.0	150	150	84	220	44	84	64	137
1 1/2	112.0	150	150	97	220	51	84	64	137
2	217.1	150	150	124	243	64	106	64	137

L [mm]		L1 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	L7 [mm]	L8 [mm]	z [mm]
Socket	NPT							
105	98	161	25	79	83	122	67	67
105	98	161	25	79	83	122	67	61
121	111	161	25	79	83	122	67	70
133	127	161	25	79	83	122	67	76
154	147	161	45	79	83	122	67	90
164	157	161	45	79	83	122	67	94
183	183	161	45	79	83	122	67	107

GF Piping Systems Product Lines

Piping Systems

Schedule 40 PVC
Hi-Strength Schedule 80 PVC and CPVC
PROGEF® Polypropylene
PPro-Seal™ Natural Polypropylene
PROGEF® Natural PP-n Polypropylene
SYGEF® Plus PVDF
FuseBond™ PFA Schedule 40
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Fusion Technology:

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- Socket fusion featuring the SG 110
- IR Plus®
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