Electric Actuated Sanitary Ball Valve

2 Way Stainless Steel, Full Port
1/2 to 4 inch Tri-Clamp with EPS Positioner

SERIES
5706
5708

Features

- All valve materials comply with FDA and USDA requirements
- Tri-Clamp ends for hygienic connections
- Dyneon® TF-1641 (PTFE) FDA approved ball seats and cavity fillers
- Triple PTFE/Viton® high cycle live loaded stem seal packing
- Highly polished internals and end caps with 8-12 Ra finish
- Rugged aluminum Type 4X weatherproof enclosure
- Heavy duty motor with overload protection
- Thermostatically controlled anti-condensation heater
- Manual override with end of travel mechanical stops
- Actuator CSA Listed per UL429 and CSA22.2

Description

Electric operated EPS sanitary ball valves utilize a servo-controlled positioner for valve positioning and modulation. Investment cast 3-piece full port stainless steel body and end caps allow for unrestricted flow and minimum pressure loss. Valve seals are cavity filled with Dyneon® PTFE. Rugged corrosion-resistant actuator includes a manual override, auto calibration positioner module, thermostatically controlled anti-condensation heater and integral over-torque protection.

Approvals– Actuators

- CSA Listed to:
  - UL429 and CSA C22.2 no 139
  - Type 4X, IP67 weatherproof enclosure
- CE conformance
  - ISO5211 Mounting

Standards– Valves

- Construction:
  - ANSI B16/B2/B18
  - FDA 21 CFR 177.1550
  - ANSI B16.34
- Pressure Testing:
  - API 598
- Marking
  - MSS-SP-25

Applications

Sanitary ball valves are typically used for food, beverage, pharmaceutical, personal care, and pet care applications where sanitary construction is required, as well as for utility, process, and corrosive environment applications where quick clamp connections are beneficial.

Operation

Electric actuated valves with EPS- Electronic Positioning System provide an accurate valve positioning function whereby the movement of the actuator is controlled by 4-20mA input control signal. Any change in the control input signal results in a corresponding and proportional change in the position of the actuator (valve disc). Flow is adjustable anywhere between 0-100%. Unique electronic positioning module is fully potted to help protect the electronics from vibration/moisture resistance.

Construction

Valve Body	ASTM 316 Stainless Steel
Ball/Stem/End Caps	ASTM 316 Stainless Steel
Ball Seats/ Cavity Filler	Dyneon® PTFE
Stem Seals	PTFE/ Viton®
Gear Drive	Heavy duty alloy steel/aluminium bronze, self locking
Actuator Enclosure	Aluminium, polyester powder painted, Type 4X, IP67
Visual Valve Position Indicator	Clear cover, red/yellow open-closed
Fasteners	ASTM 304 Stainless Steel
Position Feedback	4-20mA analog output signal

Construction Features

Heavy duty integral motor design significantly reduces physical size of actuator

Rugged polyester powder coated aluminum corrosion resistant Type 4X weatherproof enclosure

Live-loaded triple PTFE stem seal

Internals polished to Ra 8-12

Standard Tri-Clamp end caps for sanitary connections*

* Refer to specifications table for Tri-Clamp size

* Note: Tri-Clamp size is **NOT** determined by the OD of the end cap

Anti-Condensation Heater

Terminal Box, wire directly to terminal strip via included cable connector, or optional 1/2" NPT conduit adapters

EPS servo-controlled positioner

Manual Override with protective cover

Self-locking all metal gear train, no additional brake required

Dyneon® PTFE encapsulated ball seats

Dyneon® TF-1641 PTFE encapsulated cavity filler

ASTM 316 (CF8M) investment grade casting (body & end caps)

ASTM 304 Stainless steel fasteners

Visual Valve Position Indicator

Pressure Rating

Shell Pressure Rating (Max)*: 1000 PSI @ 120°F (1/2" to 2"),

800 PSI (2 1/2" to 4")

* See P/T chart (pages 3 & 4)

Temperature Rating

Actuator Temperature Rating: -13 to 131° F (-25 to 55° C)

Valve Temperature Rating: -4° to 356° F (-20 to 180°C)

* See P/T chart (pages 3 & 4)

EPS - Electronic Positioning System

Valve positioning and how it works?

Valworx electric actuators with EPS - Electronic Positioning System provide an accurate valve positioning function whereby the movement of the actuator is controlled by a 4-20mA input control signal. Any change in the control input signal results in a corresponding and proportional change in the position of the actuator (valve).

Unique electronic positioning module is fully potted to help protect the electronics from vibration/moisture resistance.

An internal microprocessor on the EPS circuit board continuously monitors the analog input and output signals and compares them to the physical position via a precision potentiometer feedback system, moving the actuator as required to balance the signals.

The EPS system is self-calibrating which virtually eliminates "hunting". The following functions are standard:

-Position monitoring output signal in same format as input. Ex: 4-20mA input, 4-20mA output

-Adjustable forward or reversing action.

-Sensitivity, Zero and Span adjustments

-Selectable fail mode: fail closed, fail open or stop in place (for loss of input command signal).

-Electric manual control with onboard selector switches

-Fault LED lights indicate valve jam or signal loss

-Electronic brake function

Specifications (English units)

Stock Number	Pipe Size (inch)	Tri-Clamp Size (inch)	Cv Flow Factor*	Shell Pressure Max. (PSI)	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
110 VAC ELECTRIC ACTUATED SANTIARY VALVE, TRI-CLAMP EPS POSITIONER 4-20mA INPUT									
570600C	1/2	3/4	13.0	1000	20/17	110 VAC, 50/60Hz	0.27	70%	E
570601C	3/4	3/4	18.0	1000	20/17	110 VAC, 50/60Hz	0.27	70%	E
570602C	1	1-1/2	48.0	1000	20/17	110 VAC, 50/60Hz	0.27	70%	E
570603C	1-1/2	1-1/2	165.0	1000	20/17	110 VAC, 50/60Hz	0.27	70%	E
570604C	2	2	207.0	1000	20/17	110 VAC, 50/60Hz	0.27	70%	E
570605C	2-1/2	2-1/2	450.0	800	30/25	110 VAC, 50/60Hz	0.73	70%	E
570606C	3	3	780.0	800	30/25	110 VAC, 50/60Hz	0.73	70%	E
570607C	4	4	1050.0	800	30/25	110 VAC, 50/60Hz	0.73	70%	E
24 VDC ELECTRIC ACTUATED SANITARY VALVE, TRI-CLAMP EPS POSITIONER 4-20mA INPUT									
570800C	1/2	3/4	13.0	1000	20	DC24	1.00	70%	GEY
570801C	3/4	3/4	18.0	1000	20	DC24	1.00	70%	GEY
570802C	1	1-1/2	48.0	1000	20	DC24	1.00	70%	GEY
570803C	1-1/2	1-1/2	165.0	1000	20	DC24	1.00	70%	GEY
570804C	2	2	207.0	1000	20	DC24	1.00	70%	GEY
570805C	2-1/2	2-1/2	450.0	800	30	DC24	3.57	70%	GEY
570806C	3	3	780.0	800	30	DC24	3.57	70%	GEY
570807C	4	4	1050.0	800	30	DC24	3.57	70%	GEY

Cv = The GPM of water at 60° F that will pass through the valve with 1 PSI pressure drop

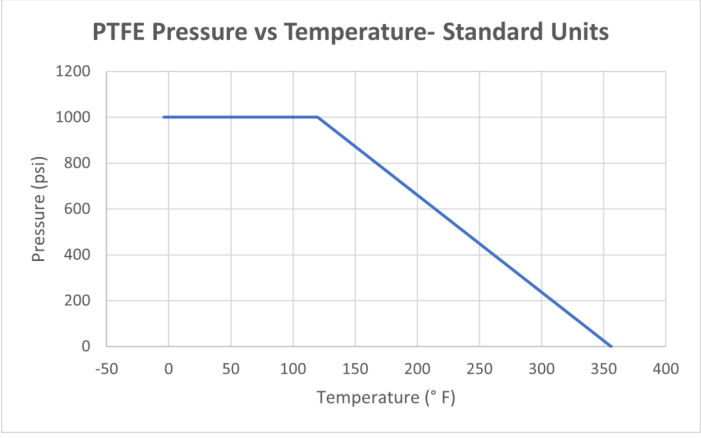
* Pressure @ -4°to 356° F (reduced pressure at higher temperatures—see P/T chart)

• Torque at 1000 PSI and 72°F

Pressure Temperature Chart

Standard Units

Temp	-4	120	356
Pressure	1000	1000	0



Specifications (Metric units)

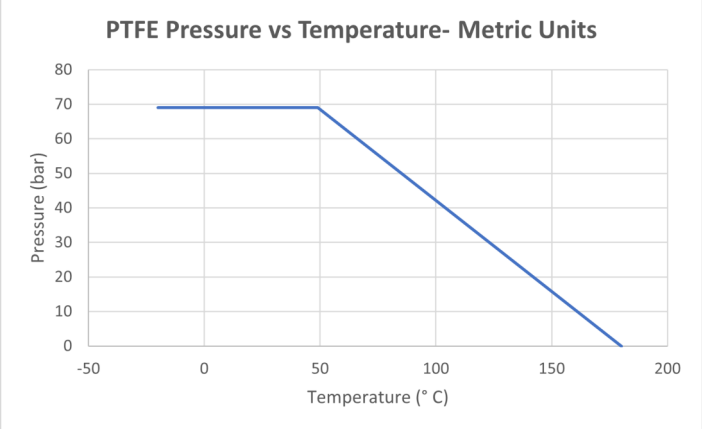
Stock Number	Pipe Size (mm)	Tri-Clamp Size (inch)	Kv Flow Factor*	Shell Pressure Max. (Bar)	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
110 VAC ELECTRIC ACTUATED SANTIARY VALVE, TRI-CLAMP EPS POSITIONER 4-20mA INPUT									
570600C	12.7	3/4	11.2	69	20/17	110 VAC, 50/60Hz	0.27	70%	E
570601C	19.1	3/4	15.6	69	20/17	110 VAC, 50/60Hz	0.27	70%	E
570602C	25.4	1-1/2	41.5	69	20/17	110 VAC, 50/60Hz	0.27	70%	E
570603C	38.1	1-1/2	142.7	69	20/17	110 VAC, 50/60Hz	0.27	70%	E
570604C	50.8	2	179.1	69	20/17	110 VAC, 50/60Hz	0.27	70%	E
570605C	63.5	2-1/2	389.3	55	30/25	110 VAC, 50/60Hz	0.73	70%	E
570606C	76.2	3	674.7	55	30/25	110 VAC, 50/60Hz	0.73	70%	E
570607C	101.6	4	908.3	55	30/25	110 VAC, 50/60Hz	0.73	70%	E
24 VDC ELECTRIC ACTUATED SANITARY VALVE, TRI-CLAMP EPS POSITIONER 4-20mA INPUT									
570800C	12.7	3/4	11.2	69	20	DC24	1.00	70%	GEY
570801C	19.1	3/4	15.6	69	20	DC24	1.00	70%	GEY
570802C	25.4	1-1/2	41.5	69	20	DC24	1.00	70%	GEY
570803C	38.1	1-1/2	142.7	69	20	DC24	1.00	70%	GEY
570804C	50.8	2	179.1	69	20	DC24	1.00	70%	GEY
570805C	63.5	2-1/2	389.3	55	30	DC24	3.57	70%	GEY
570806C	76.2	3	674.7	55	30	DC24	3.57	70%	GEY
570807C	101.6	4	908.3	55	30	DC24	3.57	70%	GEY

* Pressure range @ -20° to 180° C (reduced pressure for higher temperatures—see P/T chart)

Pressure Temperature Chart

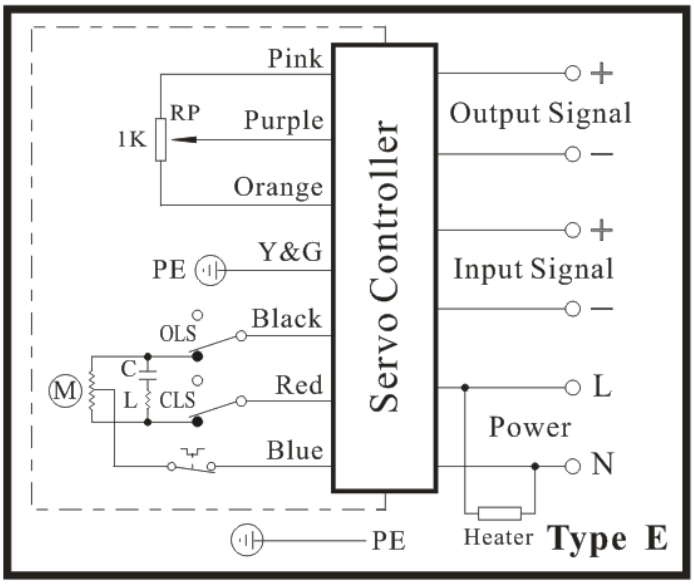
Metric Units

Temp	-20	49	180
Pressure	69	69	0

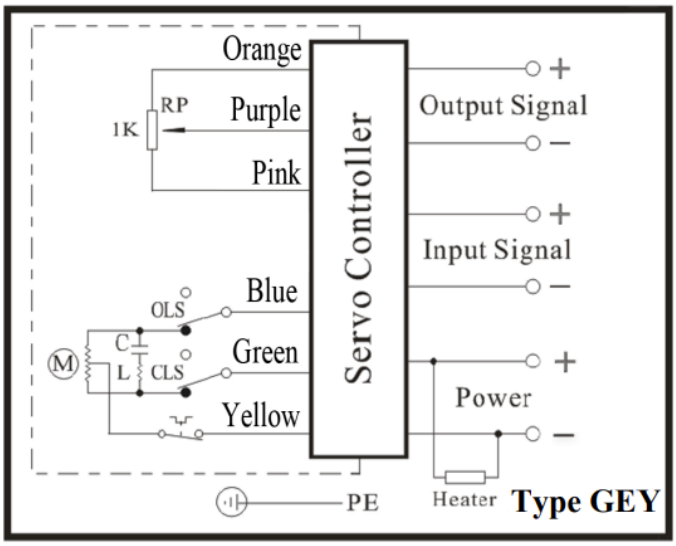


Electrical Wiring

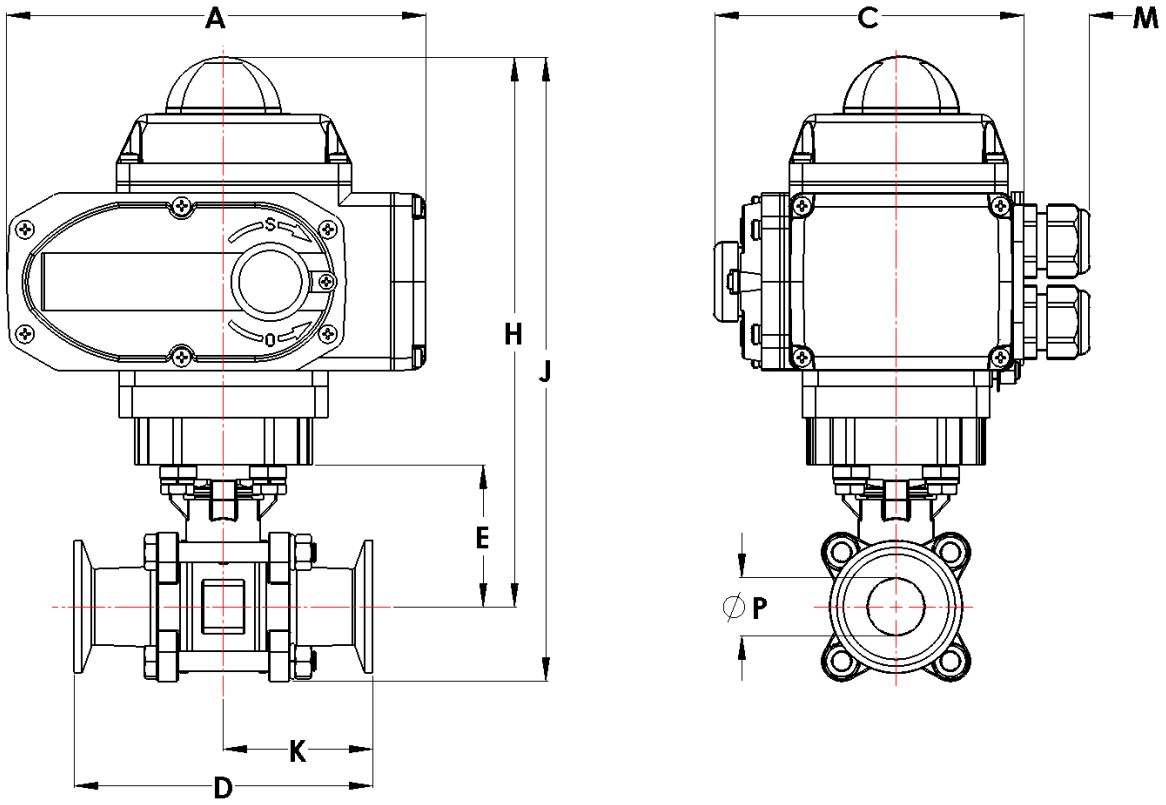
Valves with EPS Positioners
AC Voltages



Valves with EPS Positioners
DC Voltages



Dimensions:(24 VDC & 110 VAC)



Pipe Size		A	C	D	E	H	J	K	M	P	Valve ISO	Weight (AC/DC)
1/2	inch	6.4	4.7	3.5	1.5	7.7	8.6	1.8	1.0	0.4	F03/F04	7.3 lb
	mm	162.0	118.5	88.9	37.0	195.6	218.4	44.5	25.0	10.2		3.3 kg
3/4	inch	6.4	4.7	4.0	1.8	8.0	9.0	2.0	1.0	0.6	F03/F04	7.6 lb
	mm	162.0	118.5	101.6	45.0	203.2	228.6	50.5	25.0	15.2		3.4 kg
1	inch	6.4	4.7	4.5	2.1	8.3	9.4	2.2	1.0	0.9	F04/F05	8.4 lb
	mm	162.0	118.5	114.3	53.5	210.8	238.8	57.0	25.0	22.9		3.8 kg
1-1/2	inch	6.4	4.7	5.5	2.9	9.1	10.6	2.8	1.0	1.4	F05/F07	11.1 lb
	mm	162.0	118.5	139.7	74.8	231.1	269.2	70.0	25.0	35.6		5.0 kg
2	inch	6.4	4.7	6.2	3.3	9.5	11.3	3.1	1.0	1.9	F05/F07	14.1 lb
	mm	162.0	118.5	157.5	83.5	241.3	287.0	78.0	25.0	48.3		6.4 kg
2-1/2	inch	10.1	6.4	7.0	4.3	12.8	15.0	3.9	1.0	2.4	F07/F10	36.2 lb
	mm	255.5	161.5	177.8	108.8	325.1	381.0	98.5	25.0	61.0		16.4 kg
3	inch	10.1	6.4	9.0	4.7	13.2	15.8	4.5	1.0	2.9	F07/F10	44.6 lb
	mm	255.5	161.5	228.6	118.3	335.3	401.3	114.5	25.0	73.7		20.2 kg
4	inch	10.1	6.4	9.5	6.1	14.6	18.5	4.8	1.0	3.8	F07/F10	67.1 lb
	mm	255.5	161.5	241.3	153.8	370.8	469.9	121.5	25.0	96.5		30.4 kg