

Features

- Epoxy coated ductile iron body with 316 SS disc
- Direct mount wafer butterfly valve with ISO5211 mount
- Unique wave line seat reduces torque and extends seal life
- Quarter turn (90°) operation with mechanical travel stops
- Visual dial style valve position indicator
- Rugged aluminum Type 4X/IP67 weatherproof enclosure
- Heavy duty motor with overload protection
- Thermostatically controlled anti-condensation heater
- Manual override with end of travel mechanical stops
- Two auxiliary position confirmation limit switches
- Actuators CSA Listed per UL429 and CSA C22.2 and Explosion ratings per Approvals section
- Electrical interface: Two 1/2" NPT threaded ports with temporary plugs. Remove and replace with corresponding explosion proof cable connectors, pipe or plugs

Applications

For use in applications where explosive gases may be present. Multi-standard alignment holes, suitable for flanges: ANSI/ASME Class 125/150, EN1092 PN10,PN16, BS10 Table D, E and JIS B2239 10K,16K. Actuators designed for 70% duty cycle.

Operation

Electric actuated valves 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 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	Epoxy coated ductile iron
Disc	316 stainless steel CF8M
Disc Seat/Liner	EPDM or NBR (Buna-N)
Stem/Stem Seals	420 stainless steel / (2) v-rings same material as seat
Gear Drive	Heavy duty alloy steel/aluminum bronze, self locking
Actuator Enclosure	Anti-corrosive durable painted aluminum alloy, Type 4X/ IP67
Visual Valve Position Indicator	High strength glass lens
Fasteners	Stainless Steel
Auxiliary Limit Switches	2 x SPDT (5A/125VAC), on-off actuators only



Description

Electric Explosion Proof direct mount butterfly valves with epoxy-coated ductile iron wafer body are designed for commercial and industrial applications. Valve mounts between two standard ANSI/ASME Class 150 flanges and includes integral molded flange gaskets. Disc is precision machined 316SS. Two piece stem and disc design enhances the flow capacity and reduces turbulence. Rugged corrosion resistant electric actuator includes a manual override, auto calibration positioner module, thermostatically controlled anticondensation heater, and over-torque protection.

Approvals

Actuators



ANTI EXPLOSION GRADE

The anti-explosion grade of these actuators is

- ♦ Class 1, Division 1, Groups C & D T5
- ♦ Ex db IIC T5 Gb Class 1 Zone 1
- ♦ AEx db IIC T5 Gb

Where:

Class I – Hazard Class
Division I/ Zone 1 – Area Classification
db – Explosion Proof Type
II – Electrical Equipment design for explosive atmospheres (except colliery)
C – Magnitude of the explosion
T5 – Highest allowed surface temperature of the actuator (+55C)
Gb – Protection Grade

The grades of combustible gas, steam and temperature group are listed in CSA 22.2 No 60079-0:2019, CSA 22.2 No 60079-1:2016, CSA 22.2 No 30-M1986(R2016), CSA 22.2 No 145-11(R2015), ANSI/UL 60079-2:2020, ANSI/UL 1203-2013, ANSI/UL 674 Fifth Edition. It is the user's responsibility to ensure compatibility with the applicable regulations.

CE- EN 60204-1:2006

Valves

- Design complies with API-609, MSS SP-67
- Tests per API-598, AWWA C502-87
- CE according to PED 2014/68/UE

Construction Features



Installation Requires-Two 1/2" NPT threaded explosion-proof connectors or pipe for electrical interface

(Not included**)**

Pressure Rating

Pressure Rating: 230 PSI (16 Bar), Vacuum 29in Hg

Temperature Rating

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

Valve Temperature Rating: EPDM seals 0 to 248° F (-18 to 120°C)

NBR seals 5 to 185° F (-15 to 85°C)



Visual Valve
Position Indicator

Specifications (English units)

Stock Number	Pipe Size (inch)	Orifice Size (inch)	Cv Flow Factor	Pressure Max. (PSI)	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC ACTUATED WAFER BODY BUTTERFLY VALVE, EPDM SEALS EPS POSITIONER 4-20mA INPUT									
587702	2	2.0	124	230	20	110 VAC, 50/60Hz	0.27	70%	E
587703	2-1/2	2.6	247	230	20	110 VAC, 50/60Hz	0.27	70%	E
587704	3	3.2	470	230	20	110 VAC, 50/60Hz	0.27	70%	E
587705	4	3.9	929	230	20	110 VAC, 50/60Hz	0.27	70%	E
587707	6	5.9	2243	230	30	110 VAC, 50/60Hz	0.63	70%	E
24 VDC ELECTRIC ACTUATED WAFER BODY BUTTERFLY VALVE, EPDM SEALS EPS POSITIONER 4-20mA INPUT									
587722	2	2.0	124	230	20	DC24	1.8	70%	GEY
587723	2-1/2	2.6	247	230	20	DC24	1.8	70%	GEY
587724	3	3.2	470	230	20	DC24	1.8	70%	GEY
587725	4	3.9	929	230	20	DC24	1.8	70%	GEY
587727	6	5.9	2243	230	30	DC24	2.4	70%	GEY
120 VAC ELECTRIC ACTUATED WAFER BODY BUTTERFLY VALVE, NBR (BUNA-N) SEALS EPS POSITIONER 4-20mA INPUT									
587902	2	2.0	124	230	20	110 VAC, 50/60Hz	0.27	70%	E
587903	2-1/2	2.6	247	230	20	110 VAC, 50/60Hz	0.27	70%	E
587904	3	3.2	470	230	20	110 VAC, 50/60Hz	0.27	70%	E
587905	4	3.9	929	230	20	110 VAC, 50/60Hz	0.27	70%	E
587907	6	5.9	2243	230	30	110 VAC, 50/60Hz	0.63	70%	E
24 VDC ELECTRIC ACTUATED WAFER BODY BUTTERFLY VALVE, NBR (BUNA-N) SEALS EPS POSITIONER 4-20mA INPUT									
587922	2	2.0	124	230	20	DC24	1.8	70%	GEY
587923	2-1/2	2.6	247	230	20	DC24	1.8	70%	GEY
587924	3	3.2	470	230	20	DC24	1.8	70%	GEY
587925	4	3.9	929	230	20	DC24	1.8	70%	GEY
587927	6	5.9	2243	230	30	DC24	2.4	70%	GEY

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

EPS - Electronic Positioning System

Valworx electric actuators with EPS Electronic Positioning Systems 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.

This is achieved with a unique built in electronic positioning module. The module is fully potted to help protect the electronics from vibration and moisture resistance.

The EPS system is self-calibrating which virtually eliminates "hunting" and provides a 4-20mA output monitoring signal as standard. The following features are standard on the EPS module:

- Adjustable forward or reversing action. Ex: standard 4mA close/20mA open or selectable 4mA open/20mA close
- Deadband adjustment from 0.5%-5.0%
- Selectable fail mode: fail closed, fail open or stop in place. This is not for loss of power, but for loss of input command signal.
- Electric manual control on control module
- Fault LED lights indicate valve jam or signal loss
- Power on LED

Specifications (Metric units)

Stock Number	Pipe Size (inch)	Orifice Size (mm)	Kv Flow Factor	Pressure Max. (Bar)	Cycle Time/90° (seconds)	Voltage	Current (amps)	Duty Cycle	Electrical Dwg.
120 VAC ELECTRIC ACTUATED WAFER BODY BUTTERFLY VALVE, EPDM SEALS EPS POSITIONER 4-20mA INPUT									
587702	2	50	107	16	20	110 VAC, 50/60Hz	0.27	70%	E
587703	2-1/2	65	212	16	20	110 VAC, 50/60Hz	0.27	70%	E
587704	3	80	404	16	20	110 VAC, 50/60Hz	0.27	70%	E
587705	4	100	799	16	20	110 VAC, 50/60Hz	0.27	70%	E
587707	6	150	1929	16	30	110 VAC, 50/60Hz	0.63	70%	E
24 VDC ELECTRIC ACTUATED WAFER BODY BUTTERFLY VALVE, EPDM SEALS EPS POSITIONER 4-20mA INPUT									
587722	2	50	107	16	20	DC24	1.8	70%	GEY
587723	2-1/2	65	212	16	20	DC24	1.8	70%	GEY
587724	3	80	404	16	20	DC24	1.8	70%	GEY
587725	4	100	799	16	20	DC24	1.8	70%	GEY
587727	6	150	1929	16	30	DC24	2.4	70%	GEY
120 VAC ELECTRIC ACTUATED WAFER BODY BUTTERFLY VALVE, NBR (BUNA-N) SEALS EPS POSITIONER 4-20mA INPUT									
587902	2	50	107	16	20	110 VAC, 50/60Hz	0.27	70%	E
587903	2-1/2	65	212	16	20	110 VAC, 50/60Hz	0.27	70%	E
587904	3	80	404	16	20	110 VAC, 50/60Hz	0.27	70%	E
587905	4	100	799	16	20	110 VAC, 50/60Hz	0.27	70%	E
587907	6	150	1929	16	30	110 VAC, 50/60Hz	0.63	70%	E
24 VDC ELECTRIC ACTUATED WAFER BODY BUTTERFLY VALVE, NBR BUNA-N) SEALS EPS POSITIONER 4-20mA INPUT									
587922	2	50	107	16	20	DC24	1.8	70%	GEY
587923	2-1/2	65	212	16	20	DC24	1.8	70%	GEY
587924	3	80	404	16	20	DC24	1.8	70%	GEY
587925	4	100	799	16	20	DC24	1.8	70%	GEY
587927	6	150	1929	16	30	DC24	2.4	70%	GEY

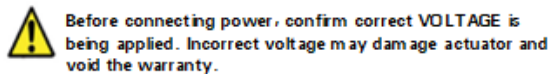
• Kv = The number of m³ per hour of 20° C water at 1 bar pressure drop

Electrical Wiring

Confirm the actuator VOLTAGE is correct, then remove the terminal box cover and connect wiring to terminal strip according to appropriate wiring diagram.

Wiring diagrams for each actuator are attached to the inside of the terminal box cover.

Input control signal type is 4-20mA. Actuator should have its own fused and isolated circuit. Do not connect actuators in parallel. Power to actuator should be maintained to activate the internal heater. This heater will help prevent condensation build-up inside the actuator.



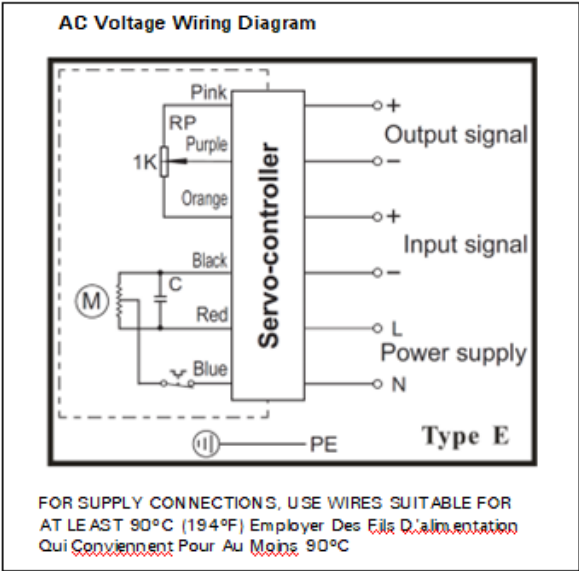
OPERATION (EPS

ONLY)

Valworx 5818 series 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 drive output.

This is achieved with a unique built in electronic positioning module. The module is fully potted to help protect the electronics from vibration and moisture.

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 drive output as required to balance the signals



AC Voltage Wiring:

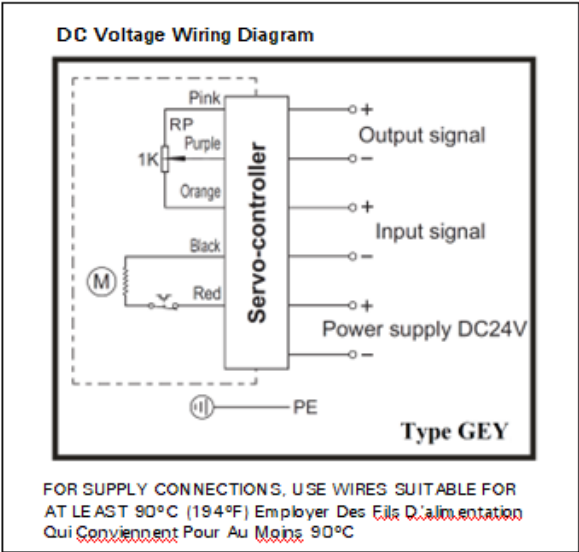
1. AC power - Neutral
2. AC power - Line/Hot
3. Input control signal - Negative (-)
4. Input control signal - Positive (+)
5. Output monitoring signal - Negative (-)
6. Output monitoring signal - Positive (+)

EPS POSITIONER TECHNICAL DATA

Input Signal: 4-20mA

Output Signal: 4-20mA

Deadband: 0.5% to 5.0%

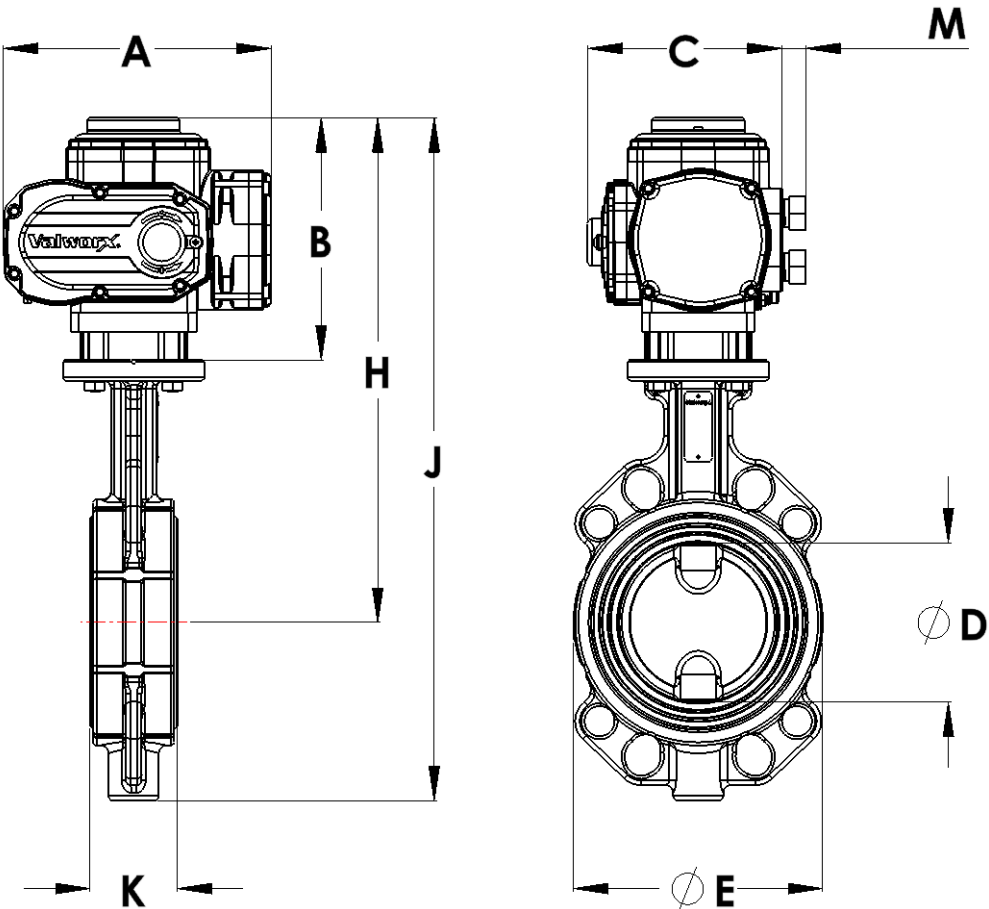


DC Voltage Wiring:

1. DC power - Negative (-)
2. DC power - Positive (+)
3. Input control signal - Negative (-)
4. Input control signal - Positive (+)
5. Output monitoring signal - Negative (-)
6. Output monitoring signal - Positive (+)

NOTES: 1. Actuator should have its own fused and isolated circuit. 2. Do not wire actuators in parallel. 3. Output signal is 4-20mA. Use of the output is optional.

Dimensions:



Suitable between flanges:

- ◆ ANSI/ASME B16.5 CLASS150
- ◆ ANSI/ASME B16.1 CLASS125
- ◆ EN1092 PN10, PN16
- ◆ JIS B 2239 10K, 16K
- ◆ BS 10 Table D, Table E

Pipe Size		A	B	C	D	E	H	J	K	M	Weight
2	inch	6.7	4.7	4.7	2.0	3.9	12.4	15.4	1.8	0.6	11.4 lb
DN50	mm	170.5	120.0	120.5	50.0	99.0	316.0	392.0	46.0	15.0	5.2 kg
2-1/2	inch	6.7	4.7	4.7	2.6	4.5	12.8	16.0	1.9	0.6	12.5 lb
DN65	mm	170.5	120.0	120.5	65.0	113.0	324.0	406.0	49.0	15.0	5.7 kg
3	inch	6.7	4.7	4.7	3.2	5.1	13.7	17.4	1.9	0.6	13.8 lb
DN80	mm	170.5	120.0	120.5	80.0	129.0	347.0	442.0	49.0	15.0	6.3 kg
4	inch	6.7	4.7	4.7	3.9	6.2	13.9	18.4	2.2	0.6	17.1 lb
DN100	mm	170.5	120.0	120.5	100.0	157.0	354.0	467.0	56.0	15.0	7.8 kg
6	inch	8.6	5.5	4.5	5.9	8.4	16.6	22.2	2.3	0.6	28.5 lb
DN150	mm	217.5	139.0	114.0	150.0	213.0	421.0	564.0	59.0	15.0	13.0 kg