



JOB NAME:	CONTRACTOR:
JOB LOCATION:	APPROVAL:
ENGINEER:	CONTRACTOR P.O.:
APPROVAL:	REPRESENTATIVE:

## MEPVCBFV\*

**PVCBFV\*** DIRECT MOUNT, FULL PORT PVC BUTTERFLY VALVE W **VALBIA METAL** ELECTRIC ACTUATOR

**SIZES 2" TO 12"**

**\*E=EPDM / V=VITON**

<b>*001</b> 12V AC/DC	<b>*002</b> 24V AC/DC	<b>*003</b> 100-240V AC
<b>*01*</b> BATTERY BACKUP	<b>*02*</b> POSITIONER	<b>*04*</b> BATTERY BACKUP W POSITIONER

### SPECIFICATIONS

The MEPVCBFV series electric package features the compact and lightweight PVCBFV ANSI class 150 PVC Butterfly valve with a 410 stainless steel stem with a PVC body and disc with EPDM seats standard. The PVCBFV also includes an ISO 5211 mounting pattern on top for direct mounting ideal for actuation.

The Valbia VBM series metal actuator housing is made from die cast aluminum, and standardly features dual voltages, two extra limit switches, a heater and thermostat, a torque limiter, dual ISO patterns, female star drive, a high-profile dome indicator, 1/2" conduit connections, and a 75% duty cycle motor. The actuator is NEMA 4 rated, and options include positioning boards, battery back-ups, or a combination of the two.

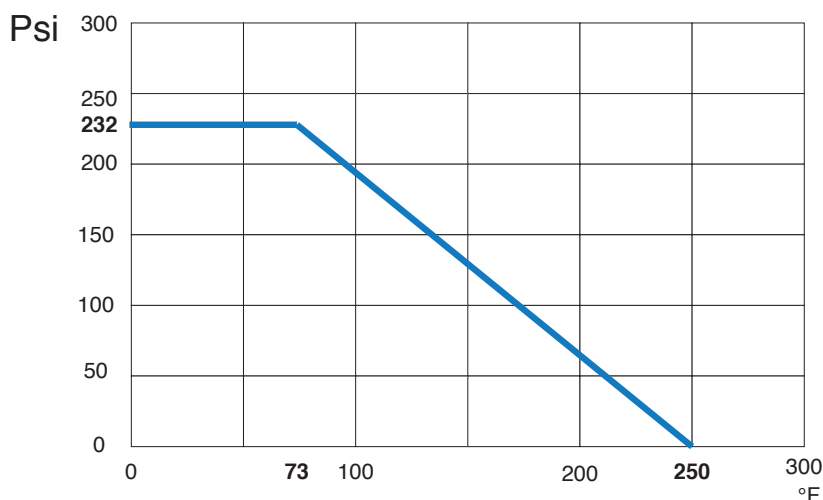
### ACTUATOR FEATURES

- Dual Voltages
- CSA, UL approved
- 24V AC/DC and 100-240V AC
- ISO 5211 dual patterns
- 75% Duty Cycle
- High-Strength, Die Cast Aluminum Powder Coated Housing
- Temperature Range -4°F to 131°F
- NEMA 4 Housing
- Two Auxiliary Switches Standard
- VB110M through VB350M includes manual override handwheel
- EA450 includes manual override handwheel
- Torque limiter standard
- 1/2" Conduit connections

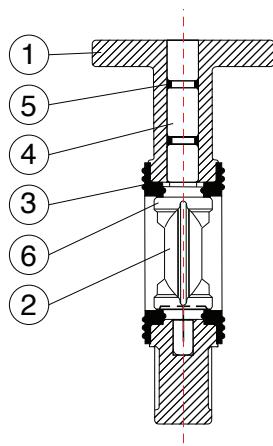
### VALVE FEATURES

- Corrosion resistant thermoplastic body and disc
- Compact and light weight design
- Standard EPDM seats (Viton seats optional)
- Full boot seal for durable performance
- ANSI B16.5 Class 150 Flange Pattern
- ISO 5211 compliant mounting pattern for actuators or gear operators
- Pressure rating: 150 psi non-shock wafer at 73°F 2-10", 100 psi for 12"
- With its robust boot/seal design, no flange gaskets are required
- 100% Bubble tight seal

### PRESSURE - TEMPERATURE CHART FOR SERIES PVCBFV\*

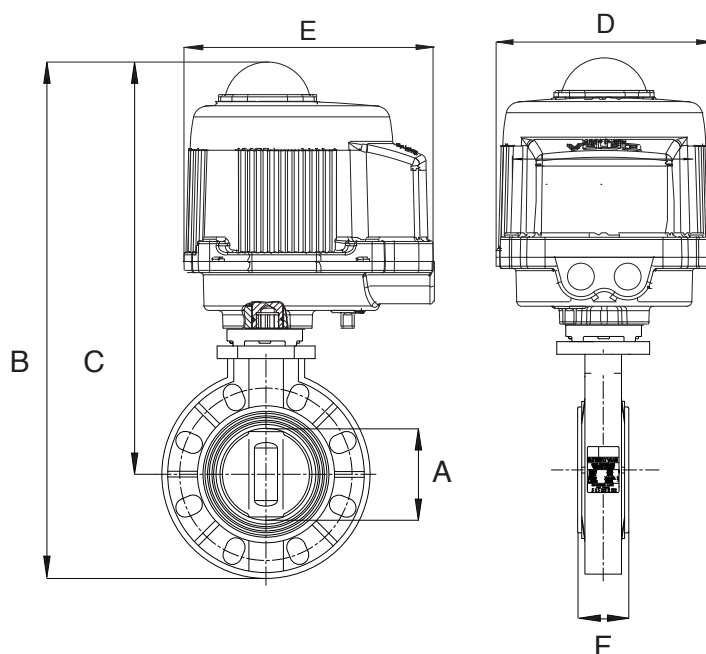


## BILL OF MATERIALS



N POS	PART NAME	MATERIAL	N PCS
1	BODY	PVC	1
2	DISC	PVC	1
3	SEAL	EPDM VITON	1
4	STEM	SUS 410	1
5	STEM O-RING	EPDM	1
6	DISC O-RING	EPDM	1

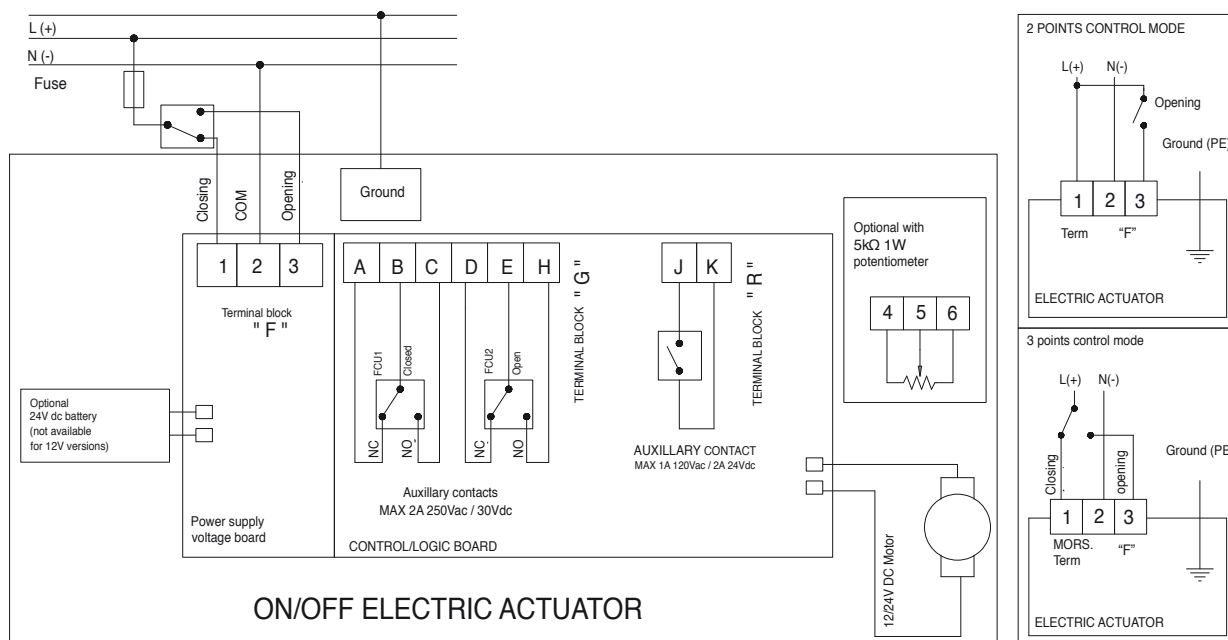
## DIMENSIONS



Size	A	B	C	D	E	F	Break Torque	CV	Act.
								90° OP	
2"	2.22	15.15	11.08	6.34	7.36	1.69	113	100	VB030M
3"	3.13	16.30	11.77	6.34	7.36	1.81	260	340	VB030M
4"	4.04	18.50	13.17	6.93	7.76	2.20	391	420	VB060M
6"	6.02	22.26	15.29	10.63	10.47	2.78	738	1160	VB110M
8"	7.88	24.70	16.43	10.63	10.47	3.35	1302	2200	VB190M
10"	10.03	32.84	19.16	10.83	10.98	4.29	2604	C/F	VB350M
12"	12.25	41.13	24.19	8.54	11.57	5.31	3906	C/F	EA450M

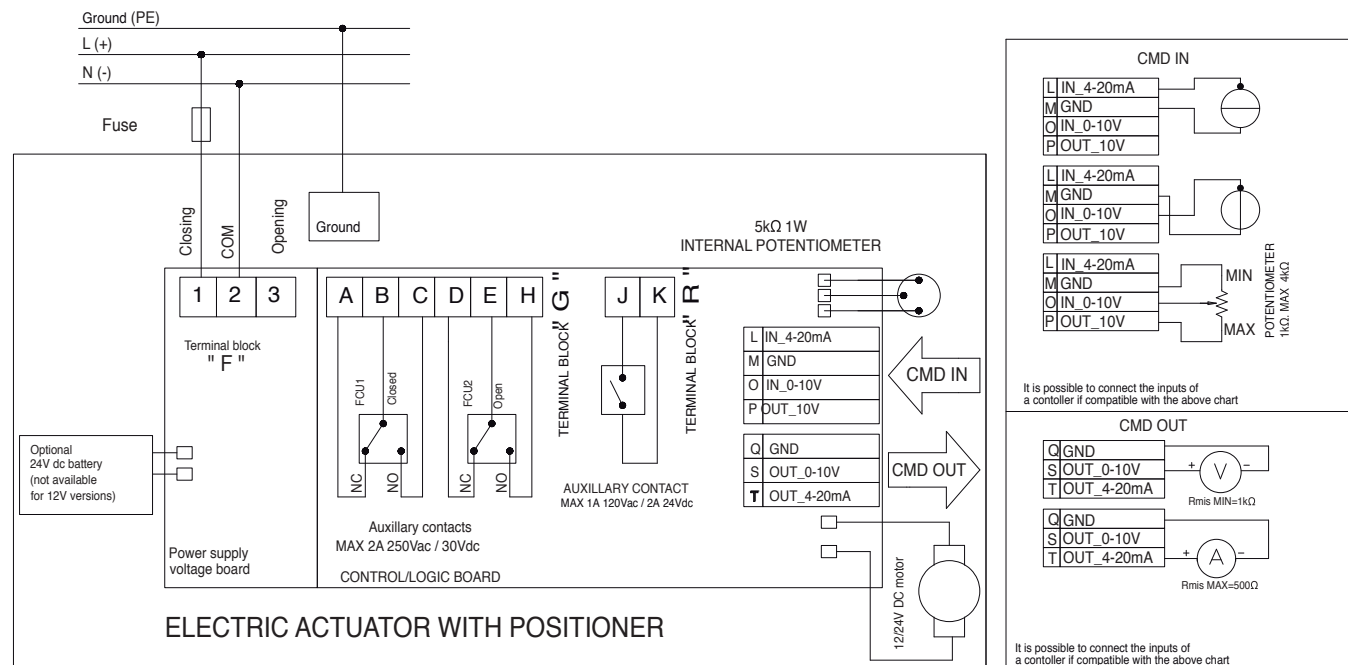
# ON/OFF WIRING DIAGRAM - VB030M -VB350M

12V AC/DC, 24V AC/DC &amp; 100-240VAC



# POSITIONER WIRING DIAGRAM - VB030M -VB350M

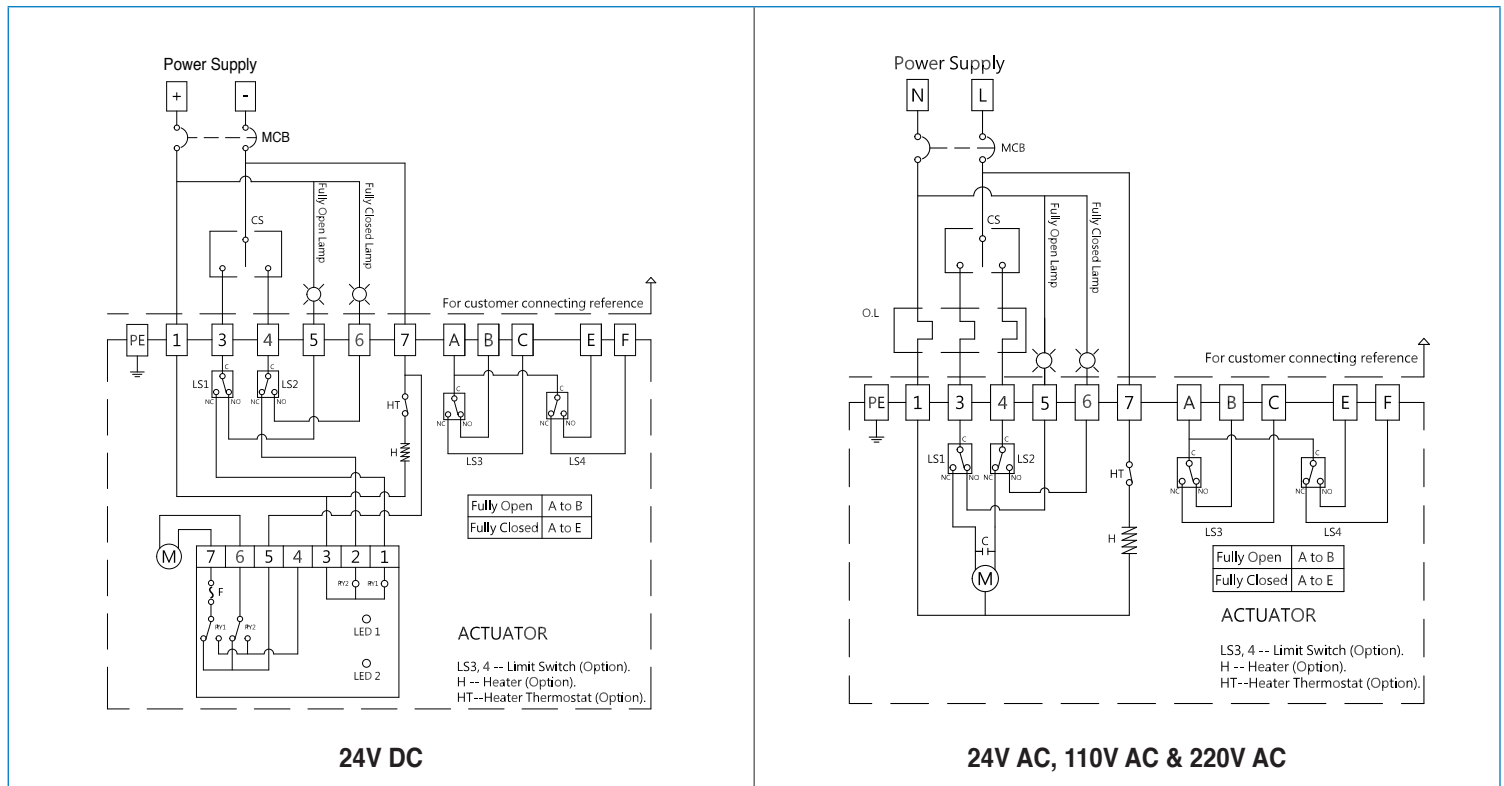
12V AC/DC, 24V AC/DC &amp; 100-240VAC



The power supply COM signal ( pin "2" terminal block "F" ) cannot share the same electrical command ground signal ( pin "GND" terminal block "CDM IN" ) or feedback ground signal ( pin "GND" terminal block "CDM OUT" ).

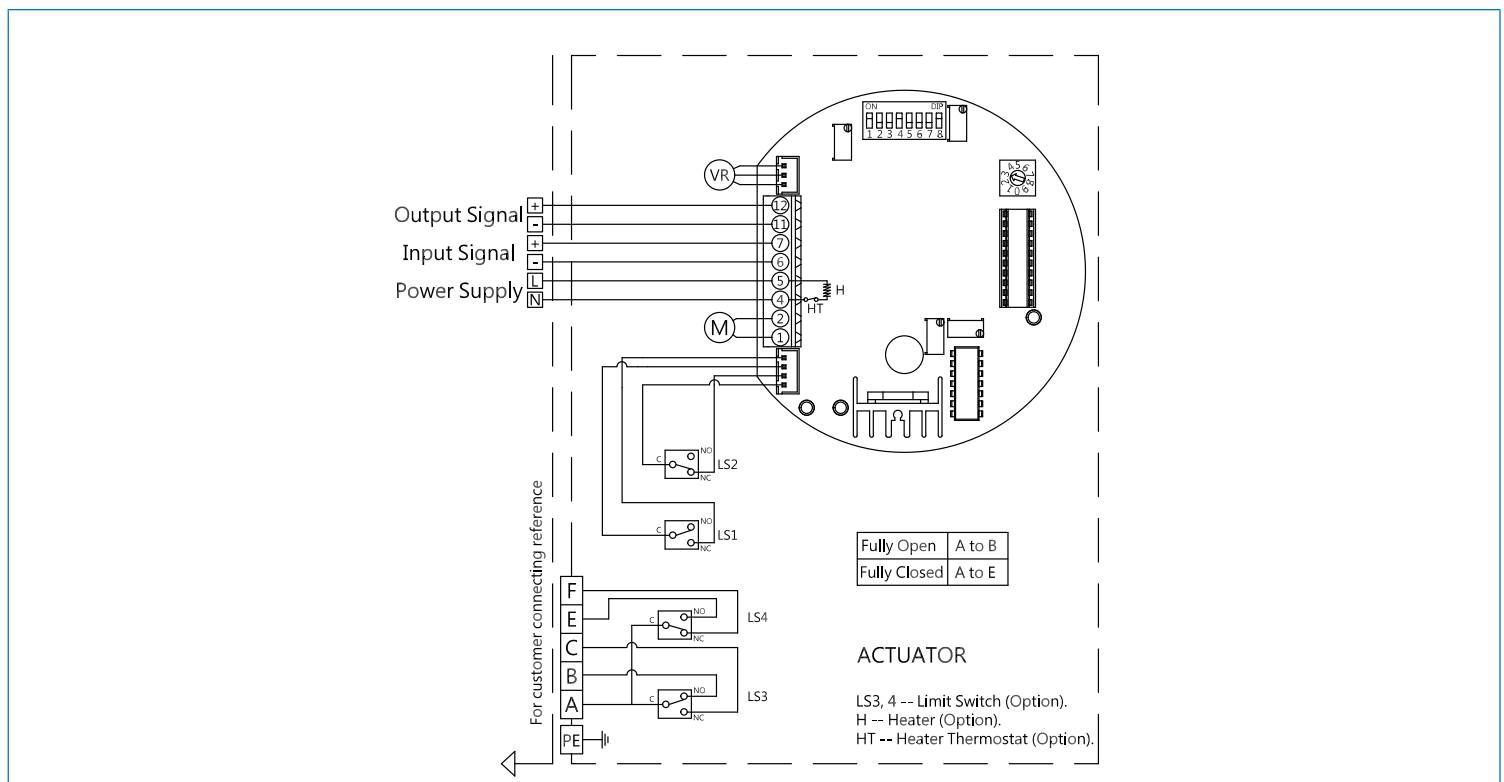
## EA450 ON/OFF WIRING DIAGRAM

24V DC, 24V AC, 110V AC & 220VAC



## EA450 POSITIONER WIRING DIAGRAM

24V DC, 24V AC, 110V AC & 220VAC



## INSTALLATION, USE AND MAINTENANCE INSTRUCTIONS

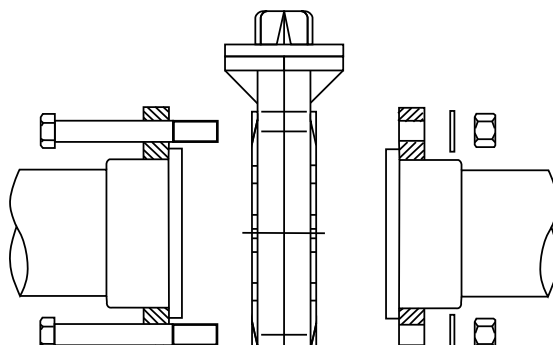
### INTRODUCTION

**PLEASE READ THE FOLLOWING INFORMATION PRIOR TO INSTALLING AND USING BONOMI NORTH AMERICA'S OTHER ASSOCIATED PRODUCTS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY.**

1. Bonomi North America warrants its products against defective material and workmanship only. Bonomi North America does not assume responsibility for damage or injuries resulting from improper installation, misapplication, or abuse of any product.
2. Bonomi North America does not assume responsibility for damage or injury resulting from chemical incompatibility between its products and the process fluids to which they are subjected. Compatibility charts provided in Bonomi North America literature are based on ambient temperatures of 73° F. The charts are based on information provided by raw material suppliers, and are for reference only. The installer should always test to determine application suitability.
3. The maximum recommended fluid velocity through any Bonomi North America product is five (5) feet per second. Higher flow rates can result in possible damage due to water hammer effect. Also note that maximum operating pressure is dependent upon material selection as well as operating temperature. Consult Bonomi North America literature to determine operating pressure and temperature limitations before installing any Bonomi North America product.
4. Bonomi North America products are designed primarily for use with non-compressible liquids. They should **never** be used or tested with compressible fluids such as compressed air or gas.
5. Systems should always be depressurized and drained prior to maintenance on butterfly valves.
6. Temperature effect on piping systems should always be considered when the systems are initially designed. Piping systems must be designed and supported to prevent excess mechanical loading on Bonomi North America equipment due to system misalignment, weight, shock, vibration, and the effects of thermal expansion and contraction.
7. Because PVC and CPVC plastic products become brittle below 34°F, Bonomi North America recommends caution in their installation and use below this temperature.
8. Published operating torque requirements are based upon testing of new valves using clean water at 70°F. Valve torque is affected by many factors including fluid chemistry, viscosity, flow rate, and temperature. These should be considered when sizing electric or pneumatic actuators.

### INSTALLATION

1. PVCBFV\* Butterfly Valves should be installed between two pipe flanges on the gravity pipe draining water from the gutter of a commercial pool or water feature to a surge tank, or for use in ponds or other low pressure / drainage applications.
2. When installed between two existing flanges, the flanges should be separated to provide clearance on the face to face of the valve. This will prevent the valve sealing surfaces from distortion during installation. Pipe flanges should be clean and, free of debris including old gasket material. A light coating of a silicone or soap-based lubricant, applied to the flange sealing surface and disc seating area, will aid in installation.
3. PVCBFV\* Butterfly Valves are designed for use with all pipe flanges that have bores equal to or larger than Schedule 80 pipe. The inside of the pipe flange must be chamfered at a 45° angle to a diameter listed if the inside bore is smaller than listed. Sharp edges and burrs must be removed.
4. **Valves must be opened to approximately 15° when installed. Do not open or close fully during installation to prevent damage to the edge of the disc by the mating flanges.**
5. Install the valves using well lubricated studs or bolts and nuts. For plastic flanges, metal washers are recommended between nut/bolt head and pipe flange. **With a torque wrench, uniformly tighten nut to approximately the foot pounds specified in the chart on the next page, in an alternating sequence, diametrically opposed to the previously tightened nut. Final tightening should be performed in the same sequence following the recommended torque.**
6. For plastic Schedule 80 pipe the maximum allowable displacement is 1/8" off center in any direction. Maximum angular misalignment of 1/16" is allowable.
7. Normal pipe hanger spacing is recommended. *Do not allow valve to support the weight of pipe.*



## OPERATION

1. When installation is complete, check for proper alignment. The operating nut on top of the valve is designed to fit a standard 2" valve key.
2. Fully open and close the valve 3 or 4 times to ensure proper operation. Note that the valve is "right – to close"
3. Since this valve has no throttling stops between open and close, the maximum operating pressure at ambient temperature is 15 PS

## MAINTENANCE & DISASSEMBLY OF VALVE

- I. Minimal valve maintenance is required. The operating nut is field-repairable.
  - A. Operating nut system can be replaced by simple removal of the four (4) fastening bolts.

## FLANGE ASSEMBLY INFORMATION

Torque Recommendations

Flange: ANSI/ASME B16.5 Class 150

Size	No. of Bolt Holes	Bolt Hole Ø	Rec. Torque ft. lbs.
4"	8	5/8	15-20
6"	8	3/4	25-35
8"	8	3/4	35-40
10"	12	7/8	45-55
12"	12	7/8	45-55