COLONIAL VALVE
A DIVISION OF COLONIAL ENGINEERING, INC.
6400 Corporate Avenue
Portage, MI 49002
269-323-2495 or 800-374-0234
Fax 269-323-0630 or 866-879-5982
www.colonialengineering.com

PLEASE READ THE FOLLOWING INFORMATION PRIOR TO INSTALLING AND USING COLONIAL VALVES, STRAINERS, AND OTHER ASSOCIATED PRODUCTS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY.

1. Colonial Valve warrantees its products against defective material and workmanship only. Colonial Valve does not assume responsibility for damage or injuries resulting from improper installation, misapplication, or abuse of any product.
2. Colonial Valve 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 Colonial Valve literature are based on ambient temperatures of 73º 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. Consult Colonial Valve literature to determine operating pressure and temperature limitations before installing any Colonial Valve product.

   Note that the maximum recommended fluid velocity through any Colonial Valve product is eight feet per second. Higher flow rates can result in possible damage due to water hammer effect. Consult with the adjoining pipe and pipe-fittings manufacturers' installation instructions to determine the maximum flow velocity for your piping system. Also note that maximum operating pressure is dependent upon material selection as well as operating temperature. ***Colonial Valve 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***.
4. Systems (or the leg of a system) should always be depressurized and drained prior to maintenance on butterfly valves.
5. 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 Colonial Valve equipment due to system misalignment, weight, shock, vibration, and the effects of thermal expansion and contraction.
6. Because PVC and CPVC will have reduced impact resistance and flexural strength as temperatures approach 32°F (0°C) and lower, caution is recommended if using pipe, valves or fittings below this temperature.
7. Published operating torque requirements are based upon testing of new valves using clean water at 70F. 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.
8. Install the valve no closer than 5 pipe diameters from a pump, or directional-changing fitting, or other sources of turbulence

WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov

INSTALLATION

1. Colonial Valve Butterfly Valves are "Wafer Type" and should be installed between two pipe flanges.
2. The use of additional gaskets is not necessary and not recommended.
3. 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 mild soap & water lubricant, applied to the flange sealing surface and disc seating area, will aid in installation.
4. Colonial Valve 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-degree angle to a diameter listed if the inside bore is smaller than listed. Sharp edges and burrs must be removed.
5. **Valves must be opened to approximately 15º when installed. Do not open fully during installation to prevent damage to the edge of the disc by the mating flanges**.
6. 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 nuts as follows in an alternating sequence, diametrically opposed to the previously tightened nut. See chart below.***
   - ✓ ***Final tightening should be performed in the same sequence following the recommended torque*.**
7. 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.
8. Normal pipe hanger spacing is recommended. ***Do not allow valve to support the weight of pipe***. When using pneumatic or electric actuators OR gear operators, additional support directly to the actuator is recommended.

COLONIAL VALVE
A DIVISION OF COLONIAL ENGINEERING, INC.
6400 Corporate Avenue
Portage, MI 49002
269-323-2495 or 800-374-0234
Fax 269-323-0630 or 866-879-5982
www.colonialengineering.com

PLEASE READ THE FOLLOWING INFORMATION PRIOR TO INSTALLING AND USING COLONIAL VALVES, STRAINERS, AND OTHER ASSOCIATED PRODUCTS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY.

INSTALLATION

9. ***NOTE***: *For "end of line" service, where "Lug Type" butterfly valves are often specified, Colonial offers the following alternative: Install the wafer type BFV as usual between two flanges. On the downstream side, cement a section of Sch 80 pipe into the flange socket. The length of pipe should be calculated as: Flange socket depth + (depth of socket of Sch 80 Dome Cap x 2). This will allow the installer to connect a downstream cap, and will leave a section of pipe for use in the future, if the piping system is to be extended. At that time, the installer can, with the BFV in the closed position, cut the Cap off, cement a Sch 80 coupling to the exposed downstream pipe, and then add to the system from the downstream side of the coupling. This is a reliable and cost-effective alternative to expensive, lug type butterfly valves.*

OPERATION

1. When installation is complete, check for proper alignment. Fully open and close the valve 3 or 4 times. With a lever installed, fully squeeze the handle and hold in for the full stroke 90º stroke of the lever. For optimum operation the lever handle should be held up until full stroke of valve is reached. The handle should be relaxed only at end of stroke. If the valve is actuated by a gear operator, then slowly cycle the valve to the open and closed positions 3 or 4 times after installing.
2. If an operating nut has been installed on the gear operator, note that the valve is "right – to – close"
3. Maximum operation pressure at ambient temperature is 150 PSI.

MAINTENANCE & DISASSEMBLY OF VALVE

- ✓ Minimal valve maintenance is required. The valve is field repairable.
  - Handle Assembly: Remove set screw on handle and lift handle off of valve.
  - Gear Operator: remove four (4) hex nuts and the washers that hold the actuator to the body.
  - Pneumatic / Electric Actuator: removed by unscrewing either four (4) socket head cap screws or hex nuts which hold the actuator to the valve.

- ✓ VALVE DISASSEMBLY
  Once Handle, Gear Operator, or Actuator has been removed, the shaft is accessible. Stem must be pulled out of body through the top in order to remove the disc and boot seal. Prior to re-assembly, clean and re-lubricate o-ring seals.

Torque Recommendations
Flange: ANSI / ASME B16.5 Class 150

Size (")	No. of Bolt Holes	Bolt Hole Ø	Rec. Torque Ft-lbs.
3	4	5/8	20-30
4	8	5/8	20-30
6	8	3 /4	35-50