Mariani - *fluid control* -

FLOATING BALL VALVES

In this type of valve the sphere rests and spins on the seat ring, transferring to these the stress it bears due to the action of the service pressures. The insertion of resilient material to the seat ring assures a low torque operation as well as a perfect seal. Our valves are submitted to various standards for fire testing, which provides an effective metal to metal seal, in the event high temperatures destroys the resilient material inserts in the seat rings. The design of our valves does not permit the stem to be expelled due to the valve's inner pressure. The stem has a double Teflon seal, of which the internal part is compressed against the seat of the body due to the inner pressure effect of the valve, thus increasing the sealing action. The floating ball valve can be manufactured with complete or reduced bore and can be operated with a lever or mechanical, electromechanical, hydraulic and pneumatic operators. The variety of brass, bronze, ni/al bronze, carbon steels and alloys used allows us to supply appropriate valves for a wide range of services.

PLUG VALVES

Plug valves are typically utilized in chemical processing applications, including such severe service chemicals as chlorine and anhydrous hydrofluoric acid. The quarter turn design is most similar to a ball valve design, with the ball replaced by a plug. In contrasts to the ball valve, the plug valve typically requires higher operating torques, meaning larger and more expensive automation packages. The valve is typically categorized into one of the three following designs: lubricated, nonlubricated or eccentric. The advantage of the nonlubricated design is elimination of periodic lubrication and assurance that valve lubrication will not contaminate the process media or adversely affect downstream instrumentation. The eccentric plug valve is essentially a plug valve with the plug cut in half. The advantage of this design is a higher achieved seating force with minimal friction encountered from the open to closed position. Shut-off capabilities are improved without a significant increase in operating torque. General advantages of a plug valve are quarter turn design, chemical compatibility and standard face-to-face dimensions. Disadvantages of this valve are limited shut-off capability, relatively high operational torques and cavities that may promote contamination or entrap solids.

BUTTERFLY VALVES

Butterfly valves are typically utilized in large line sizes in chemical services, waste and water treatment applications and fire protection systems. Due to the valve design, incorporating a small face-to-face dimension and lower weight than most valve types, the butterfly valve is an economical choice for larger line sizes. Additional advantages of the butterfly valve are standard face to face dimensions, relatively high coefficient of flow (Cv) and their availability in chemically resistant materials. As with the ball valve, the butterfly valve complies with ASME face-to-face dimensions and pressure ratings. This enables the valve to be easily retrofitted in line regardless of the manufacturer. In addition, the small face-to-face dimension facilitates piping design. The ASME pressure classes adhered to by most manufacturers include 150, 300 and 600# allowing a maximum pressure of 1500 psi. Available in a wide variety of plastic and rubber linings and solid metal bodies and discs, the butterfly valve is a good choice for chemical lines. Disadvantages of the butterfly valve are lack of cleanliness and inability to handle slurry applications. Butterfly valves are generally not rated as bubble tight, although some high-performance butterfly valves may meet ASME class VI leakage ratings. As with ball valves, the cavities and leak paths around the disc stem where the stem attaches to the body are potential entrapments for fluids and slurries. The result is unwanted contamination in high purity systems and increased operating torque in slurry services.