“Fire-Safe” Requirements

Two seat and several seal arrangements are available to address valves in applications where performance during and immediately after a fire are a concern. The #7 (PTFE) and "A" (RPTFE) seat configurations offer "tested" fire-safe performance. Flexible graphite in the form of die-cut, die-formed or spiral wound gaskets are available for bonnet seals. Die-formed Grafoil® in various configurations provide the stem seals.

Abrasive & Erosive Services

"Soft Seated" valves for abrasive services feature seat inserts completely confined by metallic components. Some designs feature inner and outer seat support rings, where the inner ring helps shield the seat insert from abrasives in the service. Other designs feature one piece seatholders which completely confine the seat insert and provide the same function in protecting the soft seat from abrasive particles in the flow stream.

In addition to the seat configuration options, resilient and rigid seat materials are available. The rigid seat choices include carbon-graphite, ceramic, peek, and carbon-reinforced peek. The seats and the ball are both produced from ceramic in the one case. Any of these seats provide improved resistance to abrasion and erosion and additionally extend the potential service range to 1000°F.

For steam services, the #5 seat, a RPTFE containing 55% bronze and 5% molybdenum disulfide, is an excellent choice as is the #4 carbon-graphite seat.

Valves for Chlorine Service

Valves intended for service in dry chlorine require specific alloy selections, design features, cleaning and testing procedures. In accordance with the guidelines established by "The Chlorine Institute", Pamphlet 6-13th Edition (April 1993), Hastelloy trimmed carbon steel valves (model numbers starting with "CH") are suggested, and M35-1 trimmed carbon steel valves (model numbers beginning "CM") are the alternative for dry chlorine. All Hastelloy or M35-1 valves are also available, however, stainless steel valves or components are not recommended.

Selecting the required "HO" feature insures a valve that has been vented, cleaned, and tested to comply with the requirements of The Chlorine Institute Pamphlet 6.

Oxygen Service Valves

For this application, cleanliness is of utmost importance. Apollo Top Entry Valves specified for oxygen service (option "PO") are subjected to rigorous preparation procedures including special pre-cleaning and inspection followed by ultrasonic cleaning and more intense inspection. All to insure that the finished valve is free of burrs and sharp edges as well as cleaned of hydrocarbon residues and particulate matter. Once valves destined for oxygen service enter Conbraco's clean room for preparation, they do not leave until they have been cleaned, assembled, thoroughly tested, inspected, tagged and bagged to meet customer requirements.

All Apollo Top Entry Valves have "anti-static" features designed in. Valves for oxygen service must also be fitted with PTFE or RPTFE seats and packing. When planning to insulate valves, consider specifying one of our extended bonnet options.

High Temperature Service

For any applications utilizing metal, graphite, carbon graphite, peek, carbon reinforced peek, or ceramic seats, a ball stop should be incorporated into the valve design (option "RS"). This option is suggested at any temperature but it becomes a necessity above 500°F or when using ceramic or metal seats. The ball stop prevents the ball and seat from sliding down the 7° wedge when expansion caused by the temperature increase widens the wedge. If the ball was permitted to slide down the wedge, the valve would be locked tight when cooling caused the wedge to contract.