Segmented V-Port Ball valves and actuators shall be model VPB as manufactured by DeZURIK, Inc, or pre-approved equal.

**Accuracy** for valve, actuator and positioner assembly shall be 0.5% or better with a resolution of 200 or more discrete positions over 90° range of operation. Each valve, actuator and positioner shall be assembled, adjusted, and tested as a unit by the valve manufacturer or an authorized automation facility. **Performance Testing** shall be performed on each valve with the Benchmark Control Valve Diagnostics™ System. Test results shall be tied to the valve serial number.

**Shafts** shall be blowout proof and constructed of 2205 duplex stainless steel (ASTM A276) or 17-4 pH condition H900 (ASTM A564) or higher alloy. **Shaft to Ball connection** shall be splined and have a torque screw to eliminate backlash (deadband).

**Actuator connection** shall be a clamped design to rigidly hold the valve shaft. The use of double-D or keyed connections shall not be allowed.

V-Port ball design shall be optimized to meet or exceed 200:1 rangability. Back of ball must be streamlined to transition flow and minimize erosion. Hollow ball designs shall not be allowed. **Seat to ball interface** shall be self-aligning and controlled without the use of shims or threaded components.

**Valve Seats** shall be interchangeable in the same body.
- Reinforced PTFE seat used for clean fluids and gases provide ANSI/FCI 70-2 Class VI shut-off up to 300°F
- Flexible Metal seat used for fibrous media provides shut-off to ANSI/FCI 70-2 Class IV.
- Rigid Seat used for abrasives, solids and scaling media provide shut-off to ANSI/FCI 70-2 Class IV. Rigid seat shall have nickel overlay. Tungsten carbide overlay shall be required in severe abrasive or hard scaling applications.
- Clearance seat used for maximum control and minimum hysteresis when tight shutoff is not required.

**Bearings** shall be 317 stainless steel wire mesh reinforced PTFE or solid metal with optional seal.

**Packing** shall be multiple v-ring PTFE or braided carbon graphite including anti-extrusion ring, shall permit inspection, adjustment or complete replacement of packing without disturbing any part of the valve or actuator assembly except the packing follower.

**Bodies** shall be constructed of 317 stainless steel (ASTM A351), carbon steel (ASTM A216), 316 stainless steel (ASTM A351) or Hastelloy C (ASTM A494). The valve body shall be one piece, either integral cast flanged or flangeless. Face-to-face dimensions shall meet ASME B16.10, ISO 5752 (PN10/16) and EN 558-1 or ANSI/ISA 75.04 and IEC 534-3-2.

**Two Year Warranty** shall be provided for all valves and actuators.