BULLETIN 15.00-1
OCTOBER 2012

DeZURIK
APCO | HILTON

DeZURIK VPB V-PORT BALL VALVES

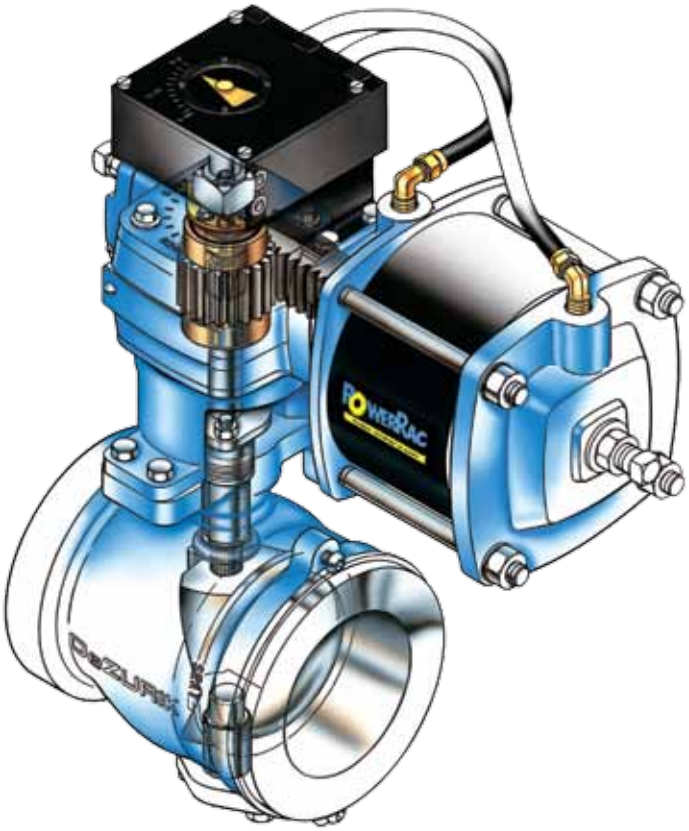
VPB V-Port Ball Valves

Design and Construction

DeZURIK V-Port Ball valves deliver superior performance and reliability required to optimize process performance. This versatile valve is designed for control of fibrous suspension applications, plus clean, dirty, viscous and corrosive liquids and gases.

DeZURIK V-Port Ball valves feature one-piece construction and are available in flanged or flangeless end connections. They conform to or exceed North American and International Standards for control valves. Superior control performance is designed into the geometry of the ball for critical management of flow. A locked ball-to-shaft connection ensures no lost motion for critical control. Bearings, covers and fasteners are designed for maximum reliability.

The VPB valve combines accuracy of 0.5% and control over a full 90° of rotation. When combined with DeZURIK's Digital Valve Controller the VPB V-Port Ball valve sets a new standard for high performance and predictive maintenance functionality.



In the event maintenance is needed, DeZURIK's unique design facilitates fast, easy breakdown and assembly of valve components with no special tools required. The result is reduced maintenance time and the lowest overall cost of ownership.

Drop-in-place, self-aligning, bi-directional and interchangeable seat options offer ease in maintenance. Available seat options include reinforced PTFE, flexible metal and rigid metal. Reinforced PTFE seats provide FCI 70-2/ANSI Class VI shutoff, while the flexible metal seat provides shutoff equal to FCI 70-2/ANSI Class IV. DeZURIK's rigid metal seat provides FCI 70-2/ ANSI Class IV shutoff when the valve is installed in the preferred direction of flow into the ball face.

Throttling Control

The V-Port Ball valve design ensures unsurpassed accuracy over 90° of operation. Splined and locked ball-to-shaft connection, computer-designed ball, characterized v-port, low-friction bearings and low-friction packing combine to give superior control, including fast, accurate response to signal changes. These rigid connections effectively eliminate mechanical backlash and hysteresis.

The V-Port Ball valve accuracy up to 0.5% means a resolution of up to 200 discrete positions of operation. This exceeds industry valve dynamic performance standards as well as the accuracy levels of most alternative control valves

To enhance accuracy of the VPB in real world process systems, the control valve assembly can be fitted with a smart digital positioner that not only provides near zero air bleed but also can be used in control systems using HART, Foundation Fieldbus, or Profibus proticols. This allows precise control and feedback of valve performance to the DSC

Stainless Steel Fasteners

As standard, all DeZURIK V-Port Ball valve fasteners are stainless steel, providing easy disassembly. An additional maintenance feature is a bottom access cover for valve disassembly and reassembly.

Streamlined Maintenance

DeZURIK V-Port Ball valves feature the simplest maintenance procedures among control valves available. There are no threaded trim parts. The seat retainer and trim components drop in place ensuring precise alignment of plug and seat. Disassembly and reassembly are easily completed with no special wrenches or other tools required. On viscous and suspended fibrous services where routine maintenance is expected, the VPB's drop-in trim, sealed bearings and self-aligning ball/seat reduce maintenance costs and minimize lost production.

Sealed Bearings

The sealed-bearing option prevents media from entering the bearing areas, which can hinder valve operation. PFA or Kalrez® seals are available for bearings that need exceptional protection from scaling, plating, abrasive or polymerizing media

Corrosion-Resistant Bearings

The one-piece bearing provides a large area of radial support to the shaft. The shaft is fully supported, greatly reducing shaft fatigue and breakage. The PTFE-lined bearing has a low coefficient of friction that minimizes operating torques and reduces actuator sizing requirements. For severe-service applications, a Stellite® bearing is available. A sealed-bearing option is also available.

Stellite® is a registered trademark of Stoody Deloro Stellite, Inc

A Digital Field Device With Highly Intergrated Microcontroller

The SIPART PS2® can be used in a conventional 4-20ma, analog control environment. It can also be used with HART, Foundation fieldbus, or Profibus communication protocals bringing you access to diagnostic capabilities that will allow you to ensure your process is operating at its peak effectiveness.

NEMA 4X Housing

Explosion-proof unit

SIPART PS2® is a registered trademark of Siemens.

V-Ball Design

Utilizing computer-aided design and extensive flow-loop testing, the v-orifice was designed to provide the high rangeability and precision throttling required on fibrous suspension applications, as well as clean or dirty liquids and gases.

The straight through flow passage provides maximum efficiency and excellent erosion resistance. The ball can be furnished with a range of high-alloy materials, all provided with a heat-treated nickel overlay. This overlay provides a non-porous and lubricous surface, resulting in greater corrosion resistance and less sliding friction. For abrasive and high temperature applications, a 317 stainless steel ball can be furnished with a tungsten carbide overlay

Splined Shaft with Solid Ball-to-Shaft Connection

The splined shaft and ball on DeZURIK V-Port Ball valves provide a high-strength, positive connection that effectively eliminates mechanical backlash and hysteresis. The splined connection ensures accurate, precise positioning of the ball

Laying Length Flexibility

DeZURIK VPB valves offer the ultimate in face-to-face flexibility. The solid one-piece body is available in either ANSI or ISA take-out dimensions. V-Port Ball valves are available in flanged or flangeless construction to meet individual requirements and common piping standards. For added versatility, these valves meet ISA, ANSI, IEC, ISO and EN face-to-face dimensions. In plants that have an installed base of both ANSI and ISA control valves, VPB users have been able to minimize storeroom inventory by stocking valve bodies, ISA retainers and ANSI retainers. A replacement valve with either face-to-face dimension can be quickly installed. DeZURIK also offers an integrally flanged one-piece ANSI body. Laying length flexibility is just another example of how the VPB can save money.

International Bolting

PN 10, 16, 25 and 40, with DIN 10, 16, 25 and 40, and JIS 10, 16 and 20 bolting options are available in addition to ANSI.

Streamlined Flow Passages

DeZURIK V-Port Ball valves feature a streamlined flow passage, providing maximum efficiency (Cv/Kv per valve size) and minimizing erosion inside the valve body.

Rugged, Easy-to-Maintain Construction

The heavy-duty cast body is a one-piece design for increased installed-pipe integrity and minimal potential leak paths. Stainless steel construction combined with drop-in seats and a splined shaft and ball connection makes the DeZURIK V-Port Ball valve easy to maintain.

High Alloy Valves Available

The VPB valve is available in titanium construction. Titanium VPB valves are ideally suited for severely corrosive applications such as sodium chlorate and chlorine dioxide. VPB valves are also available in 317 stainless steel, carbon steel, Hastelloy C and other alloys

Uninterrupted Gasket Surface

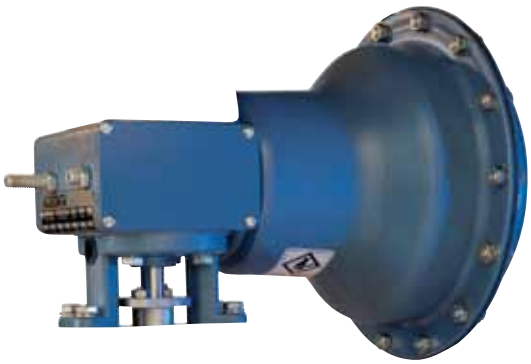
V-Port Ball valves feature a full, uninterrupted, raised-face gasket surface that provides maximum gasket integrity. The gasket surface provides full seal contact area with ANSI B16.20 gaskets.

Self-Aligning Ball and Seat

The self-aligning ball and seat on the VPB valve reduces lengthy setup time during repair and reassembly. Valves can easily be returned to like-new performance without time-consuming special procedures. And, because of the spring-loaded metal seat design, the ball and seat self-compensate for wear on either surface. This means that balls and seats do not have to be machine-matched the way many competitive styles do. Individual balls and seats can be maintained in storerooms–again reducing inventory on hand and associated costs.

Common Valve Components

DeZURIK's V-Port Ball valve was designed to share a majority of valve components with the Maxum™ RCV Rotary Control valve. The two valves use the same bodies, packing components, bearings, brackets and fasteners. The common components reduce spare parts in inventory requirements and associated costs for plants utilizing both styles of DeZURIK control valves



Close Coupling of Actuator to Valve

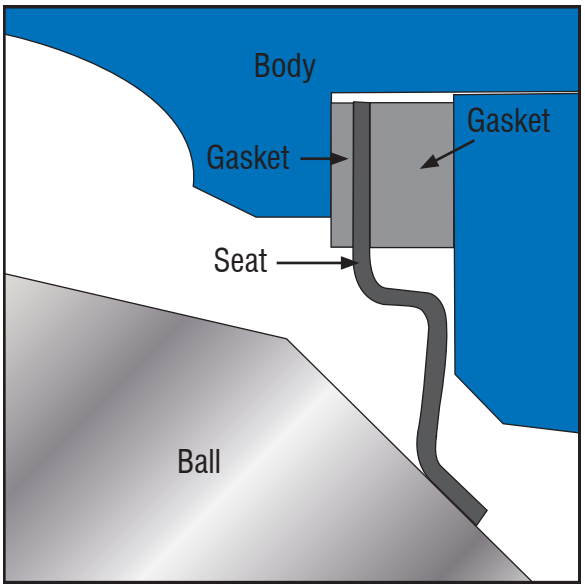
Diaphragm and PowerRac® actuators rigidly connect to the valve and the positioner on the actuator housing. This accurately feeds exact valve position directly to the positioner. In addition, the close coupling of the actuator to the valve makes the total package as compact as possible

Actuator Flexibility Options

V-Port Ball valves are available with DeZURIK PowerRac® or Diaphragm actuators. The actuator top mounting pads or adapter brackets of currently manufactured DeZURIK rotary control and isolation valves (RCV, VPB, BHP) are compatible with the ISO-5211/1 standard. This common actuator platform increases flexibility and helps reduce spare parts inventory.

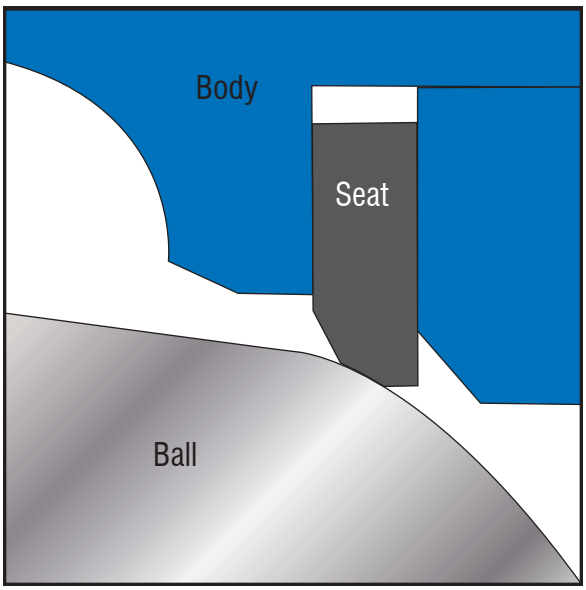
Accessories

A full line of accessories integrated to the actuator system is available to meet your individual mill/plant requirements



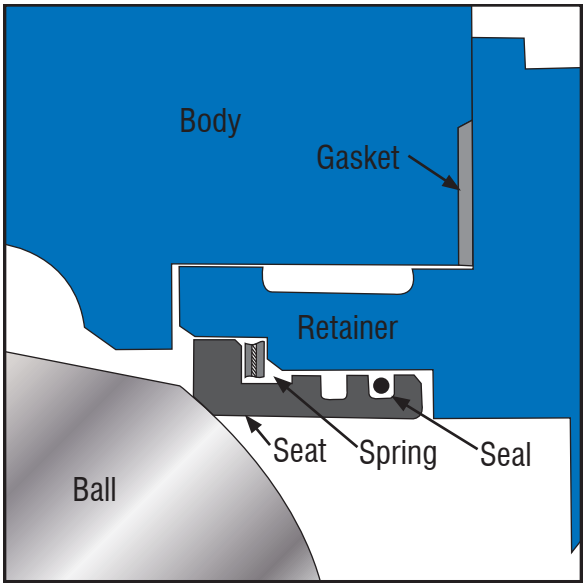
Flexible Metal Seat

The flexible metal seat is available in various special alloys and provides shutoff up to FCI 70-2/ANSI Class IV standard.



Reinforced PTFE Seat

For applications where FCI 70-2/ANSI Class VI shutoff per B16.104 is required, DeZURIK V-Port Ball valves feature a reinforced PTFE seat. For added versatility, all V-Port Ball valve seat options are field-interchangeable.



Rigid Seat

Rigid seats are available for abrasive application including reclaimed fiber systems and applications with suspended chemical solids. The rigid seat provides shutoff performance to FCI 70-2/ANSI Class IV. Materials include 317 stainless steel and Hastelloy C. For enhanced abrasion resistance, a 317 stainless steel seat with tungsten carbide seating surface and solid Stellite® alloy bearing are available.

An optional Inconel spring can be substitute fro the 17-7 PH stainless steel seat spring when added corrosion resistance is required.

The rigid seat is designed for flow-to-open operations and is field-interchangeable with the reinforced PTFE and flexible metal seats.

Stellite® is a registered trademark of Stoody Deloro Stellite, Inc

Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:
Web Site: www.dezurik.com E-Mail: info@dezurik.com

DeZURIK
APCO | HILTON

250 Riverside Ave. N. Sartell, Minnesota 56377 • Phone: 320-259-2000 • Fax: 320-259-2227

Printed in the U.S.A.