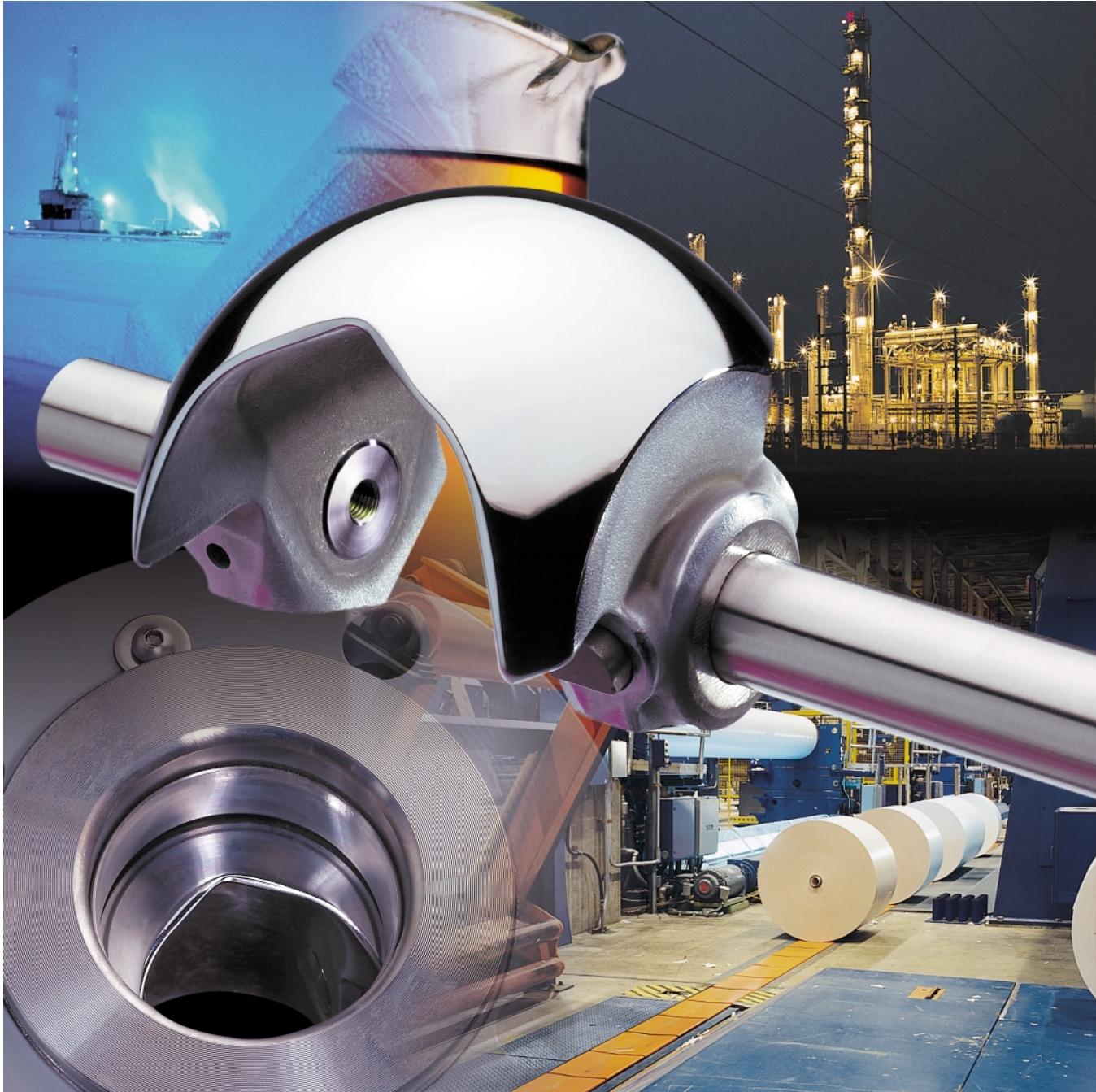


VEE-BALL® ROTARY CONTROL VALVE



A SINGLE, HIGHLY EFFICIENT ROTARY VALVE TO MEET A VARIETY OF APPLICATIONS.

FISHER®

FISHER-ROSEMOUNT™ Managing The Process Better™

In the early 1960s, Fisher engineers responded to the needs of the process control industry by developing an improved rotary control valve design capable of high-capacity flow control of slurries. A uniquely designed V-notch ball made all the difference in efficiencies. Over the years, Fisher has consistently improved on this design and the Vee-Ball® rotary control valve is now the standard for non-clogging, high-capacity flow control of gas, steam, clean and dirty fluids and abrasive chemicals. The Vee-Ball rotary control valve is still your best choice for fibrous slurries, too!

Today, Fisher engineers are responding to the needs of the process control industry once again, adding versatility by ensuring parts commonality across the Vee-Ball line. This way, you can rely on one design to meet your range of easy-to-tough control valve needs. This results in significant efficiencies for your operation. Greater versatility is also achieved by offering the Vee-Ball rotary control valve in stainless and carbon steel as well as corrosion-resistant alloys.

To further enhance performance levels, the Fisher Vee-Ball rotary control valve is compatible with a selection of Fisher actuators, positioners and other accessories, including the innovative FIELDVUE® Digital Valve Controller.

Fisher Vee-Ball rotary control valves may have been originally designed for a very specific application, but today you will find this valve hard at work in the power, chemical, petrochemical and other industries where reducing process variability and maximizing profit opportunities are a must!



The Vee-Ball Rotary Control Valve — Your Best Choice For Performance And Cost-Effectiveness Across A Broad Range Of Applications.

Regardless of the application, incorporating the Fisher Vee-Ball valve into your process can have significant money and time-saving benefits.

Improve Total Cost of Ownership

Quality Fisher construction assures you of long-life performance from your Vee-Ball valve. Minimum service requirements are necessary.

Reduce Process Variability

The Vee-Ball rotary control valve is a highly engineered component essential to the accuracy and controllability of your flow system. Extensive flow loop testing has demonstrated the Vee-Ball valve's unmatched performance advantage in controlling process variability.

Reduce Downtime

The rugged Vee-Ball valve incorporates large margins of safety in its design. This, coupled with extensive flow testing and evaluation, results in a rotary control valve that is the industry standard for dependability and longevity.

Reduce Parts Inventory

Commonality of parts across the Vee-Ball line helps you keep trim inventory costs to a minimum, resulting in bottom-line savings.

Reduce Maintenance Costs

The V-notch ball seal can be replaced without valve disassembly or actuator removal.

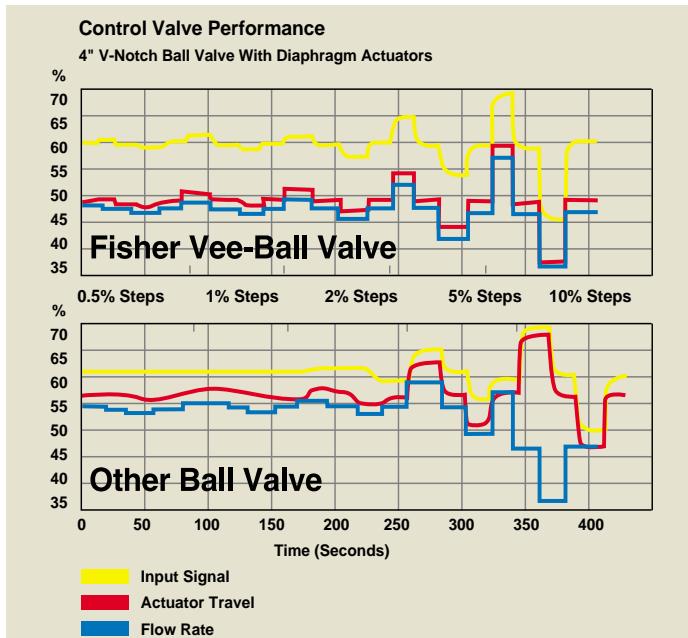
Reduce Training Costs

The Vee-Ball valve meets the requirements of a broad range of applications, which means engineering and maintenance training can focus on a single valve design. Your staff can quickly take advantage of the Vee-Ball valve's flexibility, saving training time and expense.

Achieve Worldwide Consistency

With manufacturing plants and service facilities worldwide, you can count on Fisher and its products to deliver the same high level of performance wherever your operations are located.

In addition to providing top quality, expertly engineered valves, Fisher is committed to providing you with exceptional customer service. Fisher's application assistance, responsive replacement parts service, control valve repair and training add even more value to the Vee-Ball rotary control valve.



Comparing the response of the Vee-Ball valve to that of a competitive V-notch ball valve reveals a significant difference.

As demonstrated in the performance test results above, the Vee-Ball valve initiates accurate actuator travel and flow rate changes in response to step changes in input signal as low as 0.5%. In contrast, the competitive unit shows inaccurate response until reaching 5% step changes, where it begins to show a degree of flow accuracy.

In the majority of closed loop tests, Fisher Vee-Ball control valve assemblies simply outperformed the competition.

Everything About The Vee-Ball Rotary Valve Is Designed For Versatility, Superior Performance And Low Operating Cost.

The Vee-Ball rotary control valve combines the best of Fisher application experience with the latest in control valve engineering and construction. No other rotary valve offers the broad range application versatility of the Fisher Vee-Ball rotary control valve. All components work together, delivering superior performance and low operating cost. Your Fisher representative has the expertise to help you select the best Vee-Ball design and configuration to get the job done.

Consider These Vee-Ball Valve Advantages

Minimal Deadband

A patented, taper key ball-to-shaft connection eliminates lost motion and minimizes deadband. During maintenance procedures, this arrangement proves to be more reliable and easier to assemble than conventional connections.



Taper key provides solid ball-to-shaft connection.

Easy Installation

To reduce installation time and headaches, the Vee-Ball rotary control valve is available with either a flangeless ANSI body or an integral flange body. Both designs simplify alignment procedures.

Compact Packages

The Vee-Ball rotary control valve can be coupled with a full range of Fisher actuators and positioners (see next page) to yield compact, easy-to-handle control valve packages.

Heavy-Duty (HD) Seal

The Fisher patented heavy-duty ball seal offers exceptional wear and pressure drop performance over a wide range of steam, gas, liquid and slurry applications. The metal seal is pressure-balanced which reduces operating torques and allows higher pressure drops without excessive wear.



HD metal seal fights off scale and sludge buildup; inspects and replaces easily since it requires no adjustment.

Easy Seal Replacement And Inspection

Just remove two screws and the seal assembly is easily extracted from the body. No need to disassemble the valve body or remove the actuator. Metal and soft seals are fully interchangeable.



Trim Interchangeability

Across the Vee-Ball line, size-for-size, trim components remain the same regardless of body style. This reduces parts inventory requirements and costs. It also simplifies maintenance training and procedures.

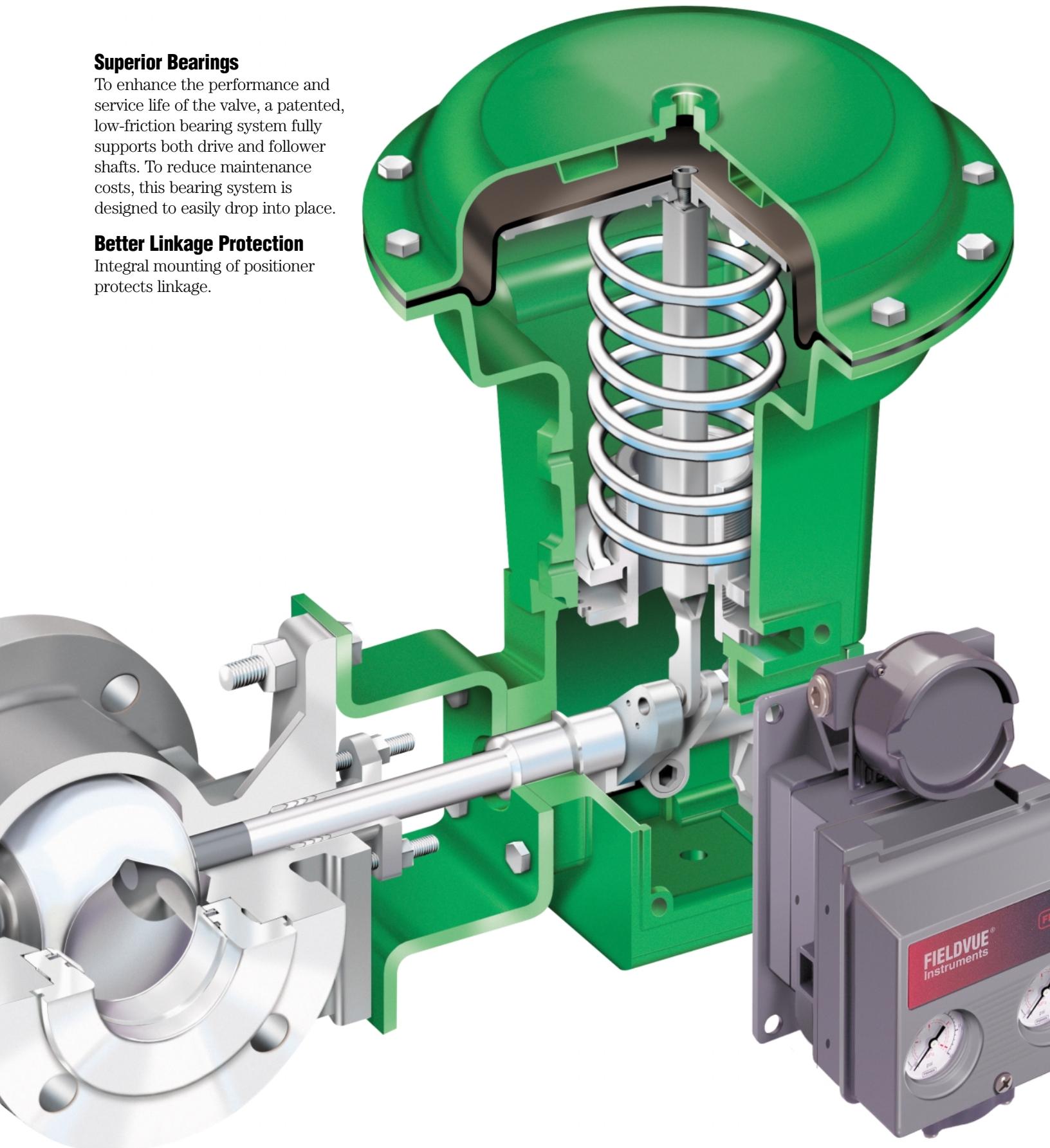


Superior Bearings

To enhance the performance and service life of the valve, a patented, low-friction bearing system fully supports both drive and follower shafts. To reduce maintenance costs, this bearing system is designed to easily drop into place.

Better Linkage Protection

Integral mounting of positioner protects linkage.



V-Notch Ball Design

The V-notch ball provides positive shearing action and a nearly equal percentage flow characteristic. The extended notch design in the ball reduces rocking of the ball seal, thereby enhancing the life of the seal and valve.



Available in ceramic and Alloy 6, as well as 317 SST materials, Micro-notch balls allow extremely small flow rates.



Severe service attenuator reduces liquid cavitation and aerodynamic noise.



Structural Integrity

One-piece body improves structural integrity of the pressure boundary by eliminating the potential leak paths found in two-piece, bolted valve designs.

Accurate Positioning

Splined driveshaft coupled with clamped actuator lever helps ensure zero lost motion.

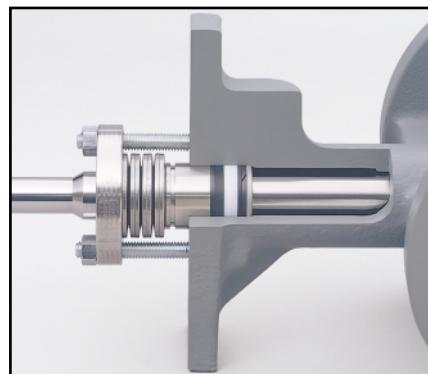
Process Compatibility

A wide choice of materials for valve body, V-notch ball, ball seals, shafts and other components allows you to specify a Vee-Ball valve to meet most process applications.

- Stainless and carbon steel
- Alloys — Avesta, Hastelloy, Monel and Alloy 20

Shaft Packing Options

A choice of shaft packing systems provides enhanced shaft sealing to meet specific application requirements.



ENVIRO-SEAL® packing, which is available in all Vee-Ball valves, helps meet stringent emission control requirements.



Choose The Actuator And Accessories To Fit The Control Situation.

A choice of Fisher pneumatically operated rotary actuators makes it easy to specify the right Vee-Ball control valve package for each application. The rotary actuators, available in spring-and-diaphragm and piston styles, share design and construction features that ensure efficient and stable valve operation, even under application extremes.

- All actuator/positioner/valve linkages are enclosed for both personnel safety and protection against damage.
- Actuator housings are rugged to meet repeated, high-torque requirements.
- Splined-and-clamped valve shaft lever, plus a single-point actuator rod connection, minimize lost motion for maximum throttling control accuracy.
- A selection of actuator sizes allows matching actuator output to operating torque requirements.



Types 1051 and 1052 pneumatically operated diaphragm actuators allow efficient on/off or throttling control with a built-in, fail-safe feature.



Type 1061 pneumatically operated piston actuator gives powerful two-position or throttling control.

For Even Greater Versatility, Specify Fisher Valve Positioners

While the rotary actuators, alone, provide either on-off or throttling control, the addition of a pneumatic or current-to-pneumatic positioner provides even greater control flexibility. Designed specifically for the Fisher Vee-Ball rotary valve, these positioners give fast, accurate response to input signals received from pneumatic or electronic control devices. Operating settings can be changed quickly and easily to fine-tune positioner action.



Compact and rugged, direct-mounted current-to-pneumatic valve positioner accepts 4-20mA input signal.



Integrally mounted, high-performance pneumatic valve positioner gives fast, accurate response.

FIELDVUE® Digital Valve Controllers — Capabilities That Extend Beyond Traditional Valve Control

While a traditional valve positioner serves a single purpose, which is to maintain a valve in its intended control position, FIELDVUE digital valve controllers provide much more. FIELDVUE instrumentation collects real-time data about valve performance which proves crucial not only to reducing process variability but also to enhancing plant operations.



FIELDVUE instruments bring real-time information about valve conditions directly to the control console, helping operators make informed process control decisions.

Vee-Ball Valve Selection Guide



V150 Vee-Ball valve is a flanged design with a Class 150 rating.



V200 Vee-Ball valve features a flangeless body that provides a multiclass rating.



V300 Vee-Ball valve is a Class 300 rated flanged design.

Availability Overview						
Design	End Connection	Size (Inches)	Rating		Flow Characteristic	Flow Coefficient Ratio
			ANSI ⁽¹⁾	DIN		
V150	Flanged	1 - 20	150	PN10 or 16	Equal Percentage	300:1
V200	Flangeless	1 - 2	150/300/600 multirated	PN10,16,25, 40,63,100	Equal Percentage	300:1
		3 - 4	150 or 300/600 multirated	—		
		6 - 8	150/300 multirated	—		
		10	150	—		
V300	Flanged	1 - 20	300	PN25 or 40	Equal Percentage	300:1

(1) ASME/ANSI B 16.34 Class Rating

Vee-Ball Capacity	
Nominal Body Size	C _v With Ball Wide Open (90° Rotation)
1 inch	26
1 1/2 inch	77
2 inch	127
3 inch	321
4 inch	596
6 inch	1100
8 inch	1820
10 inch	3000
12 inch	3980
14 inch	5610
16 inch	8270
20 inch	10,300

Vee-Ball Fluid Compatibility Guidelines	
Nature Of Fluid	
Clean	A
Dirty	B
Viscous	A
Corrosive	A
Erosive	B
Fibrous Slurry	A

A = Best choice. Highly suited to this type of service.
B = Good choice. May require use of options for enhanced performance.

When You See The Fisher Name, You Are Getting More Than A Piece of Hardware.

In the battle for performance and production, you need every advantage you can get. From application expertise to training to quick replacement parts to valve repairs, you can always count on Fisher for quality, service and expertise.

Expert Application Assistance From The Application Experts

The next time you need to specify a control valve for your system, whether for general service or severe, consider the Vee-Ball rotary control valve. Contact your Fisher sales office or sales representative location where highly skilled and experienced applications personnel are ready to help you take advantage of the many benefits of the Vee-Ball valve.



Fisher Control Valve Training Puts You In The Know

Fisher offers comprehensive customer training and education programs that cover a wide range of process topics. The programs consist of structured courses that are geared to real-world situations. Customer training is provided at our educational facilities located in 11 countries, as well as at regional training centers and many of our

local sales offices. In addition to standard programs, tailored courses designed for the specific needs of an organization are conducted on-site. Prepackaged Fisher training courses are available in video format, making self-training convenient and cost-effective.

FAST Replacement Parts Service Keeps You Up And Running

Access Fisher's FAST Service parts system, and you're in touch with the valve industry's largest valve parts inventory dedicated solely to meeting repair and replacement needs. Computerized and centralized, Fisher FAST Service gives you express delivery of parts orders to help meet emergency as well as day-to-day repair parts requirements. Now you can fine-tune your in-plant maintenance inventory with the knowledge that replacement valve parts are readily available to support plant turnarounds and scheduled control valve maintenance programs, as well as unplanned valve repair.

Fisher Control Valve Repair Is At Your Service

With facilities at strategic locations around the world, Fisher Service Company gives you fast turnaround of emergency and routine valve repairs. You'll get factory-authorized repair using genuine Fisher parts, plus each total valve repair receives a one-year warranty. All Fisher Service Company locations have direct access to Fisher's extensive serial number database so your repairable Fisher valves are rebuilt to meet original factory specifications.



The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy they are not to be construed as warranties or guarantees, expressed or implied, regarding the products or services described herein or their use or applicability. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

*© Fisher Controls International, Inc. 1999
All Rights Reserved.*

*Fisher, Fisher-Rosemount, Managing The Process Better,
Vee-Ball, FIELDVUE and ENVIRO-SEAL are marks of the
Fisher-Rosemount group of companies. All other marks
are the property of their respective owners.*

Fisher Controls International, Inc.

205 South Center Street
Marshalltown, Iowa 50158
Phone: (515) 754-3011
Fax: (515) 754-2830
Email: fc-valve@frmail.frc.com
Web site: www.fisher.com

FISHER®