



Valtek® Mark 100

Ultra-capacity control valve that delivers extra-fine control



Experience In Motion



Higher capacity in a smaller valve

The Valtek® Mark 100 globe control valve delivers exceptional capacity, extra-fine control and easy maintenance — all in a valve designed specifically for use with severe service trims. Based on proven Valtek Mark One control valve technology and built for use in a broad range of industries, the Mark 100 control valve is suited for the most demanding applications.

Extra-fine control

The Valtek Mark 100 control valve utilizes the longest stroke lengths of any standard globe valve. The long stroke combined with both double top stem guiding and cage guiding enables the Mark 100 control valve to provide precision control. Finer control means more precision in your process, and that means less waste, better product, fewer upsets and high profits.

Easy maintenance and rugged design

With simple top-entry clamped seats, independent stem and plug head guiding, the Valtek Mark 100 globe control valve is designed for durability and ease of maintenance. The Mark 100 control valve saves you money by reducing critical downtime and minimizing maintenance workloads.

Short-term, long-term savings

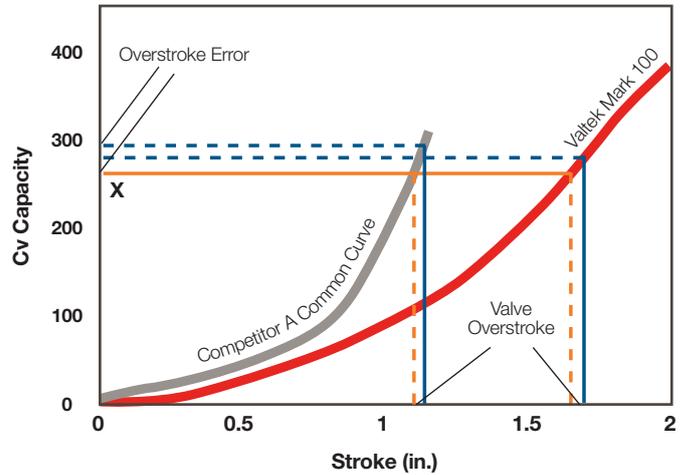
Not only does the Valtek Mark 100 control valve work in the most demanding processes, it saves money on the initial capital investment and provides incredible return on investment (ROI). In addition to the high flow rates and reduced maintenance cost savings, the cumulative effect of the increased precision delivered by the Mark 100 control valve is measurable and significant.

For more information on the Valtek Mark 100 control valve, visit www.flowserve.com or contact your local Flowserve representative.

Maximum Cv, minimum error

By streamlining the gallery, the Valtek Mark 100 control valve delivers higher capacities than other globe valves of the same size. Increases average 15% over competitors' valves, providing end-users significant cost savings by often allowing a drop in valve size while maintaining the needed flow rate — even when the service becomes harsh. This also often eliminates the need to replace smaller valves with larger ones to accommodate process changes that require greater flow capacities.

As shown in the graph (at right), to achieve a given Cv capacity (X), Competitor A strokes to a little over 1 in., while the Mark 100 control valve strokes to just under 1.75 in. Say, due to the deadband inherent in every valve, each valve overstrokes some equal amount (indicated by the blue and orange lines). Now look at the resulting Cv errors from the equal overstrokes. It's obvious that for the same amount of positioner error, the Mark 100 control valve controls flow more precisely.



At a glance

Features

- Cost-effective performance, as higher Cv capacity allows for smaller valve sizes
- Superior process control made possible by long stroke lengths, the position accuracy, repeatability and assured response from the positioner, and the stiff and high-thrust, spring-cylinder actuator
- Reduced downtime with the clamped-in seat and self-aligning seat ring
- Severe service application versatility provided by a wide variety of noise abatement and anti-cavitation trims

Specifications

Valve Type: Linear globe and angle bodies

Materials: Carbon steel, stainless steels, chrome moly steels, and other castable alloys

Sizes: NPS 6 to 36, larger sizes as needed

Pressures: Class 150 to 600

Temperatures: -196°C to 815°C (-320°F to 1,500°F)

Solutions

A large control valve designed for higher flow rate and severe service applications. Suited for maximum-capacity Cv and severe applications in both gas and liquid services.

For more information, see document number FCATB0100 at www.flowserve.com

Features and benefits



- 1 Integral cast bonnet and body flange
- 2 Actuator removal without removal of packing gland
- 3 Bonnet nuts fit both socket and end wrenches
- 4 Tapped lifting holes in most trim parts (not shown)
- 5 Designed for use with severe service cages
- 6 Streamlined gallery
- 7 Integral body stand
- 8 Double top stem guiding and cage guiding
- 9 Powerful and rigid actuators in compact packages

Valtek Mark 100 control valve options



Logix™ 3800 digital positioner — Maximize production and reduce operating costs

Latest generation digital HART and Foundation Fieldbus positioner designed for superior performance and reliability in tough environments. The Logix 3800 Series positioner can be easily configured using local buttons, handhelds or ValveSight™ software.

Features

- Shielded, dual-element, non-contact, magneto-resistive position sensor and temperature-compensated, dual-poppet pneumatic relay
- One-button setup automatically configures the zero, span and gain of the positioner for most valves in less than 60 seconds.
- Predictive diagnostics enable operators to take early action and avoid unscheduled downtime.
- Up to 80% more air capacity with minimal air consumption

Solutions

Ideal for most applications that require precise, accurate control of valve packages. For use in hazardous locations worldwide. Double- or single-acting, linear and rotary applications in chemical, refining, food and beverage, and power industries.

For more information, see document number AIBR000110 at www.flowserve.com



RedRaven — Proactively identify and address valve issues

RedRaven advanced IoT condition monitoring programs make it easy to prevent valve failures, increase uptime, lower maintenance costs, and improve safety across all of your sites. Real-time performance data and analytics from positioners and sensors enable you to take prompt action when a valve deviates from normal operating conditions to prevent production-stopping failures.

Features

- Wired and/or wireless sensors installed on equipment reliably gather performance data.
- Insight portal provides a secure visualization cloud platform tailored for valve monitoring.
- Prevents equipment failures, minimizes downtime, and improves productivity
- Reduces maintenance costs and total cost of ownership (TCO)
- Improves safety

Solutions

Flowserve Monitoring Centers (FMCs) identify insights in complex data and support your team by recommending best responses.

For more information, see document number SEFLY000304 at www.flowserve.com



Valtek Mark 100 valve trim options

The Valtek Mark 100 valve accommodates a broad spectrum of severe service trim solutions. Flowserve also offers a comprehensive suite of custom-engineered solutions and unique product designs to meet your exacting specifications.



CavControl™

Contains the cavitating bubbles in the center of the retainer, away from the metal surfaces of the valve — a simple but very effective method of controlling cavitation in low to mild services.

Features

- Directs cavitation bubbles away from metal surfaces and into opposing streams
- Impinging jets create a column of cavitation in the center of the retainer, isolating the cavitation bubbles away from the metal surfaces
- Increases product service life

Solutions

Works best in low to mild cavitation applications. Characterizations available to cover a wide range of conditions. Manages σ as low as 1.2.

For more information, see document number FCENBR0068 at www.flowserve.com



MegaStream™

Decades of proven service make this heavy-duty, drilled-hole cage one of the most common and effective solutions to control valve noise.

Features

- Fluid expansion and velocity are controlled by increasing the flow areas of each subsequent stage.
- Each stage takes a small pressure drop, avoiding the high velocities present in single-stage trims.

Solutions

Effectively lowers sound pressure levels associated with turbulence generated within the valve, helping to avoid downstream turbulence that can vibrate relatively thin pipe walls and impact the surrounding environment.

For more information, see document number FCENBR0067 at www.flowserve.com



Stealth™

The most sophisticated noise attenuation design available. Effectively reduces sound pressure levels in the most demanding applications.

Features

- Gradual reduction of pressure without generating high velocities reduces process line noise.
- Small outlet holes leverage frequency shifting to raise the frequency and lower the noise.

Solutions

Angled paths direct the flow to the valve exit to reduce exit turbulence, thereby lowering noise and increasing the flow capacity of the valve. Combines pressure reduction and velocity control features with noise elimination features to create the most advanced noise elimination technology available.

For more information, see document number FCENBR0067 at www.flowserve.com



DiamondBack™

DiamondBack trim offers the most technologically advanced anti-cavitation design, and works where other products have failed. The efficient, field-proven design reduces pressure by utilizing more energy control mechanisms than any other design in the industry.

Features

- Multiple staged pressure drop to eliminate cavitation
- Utilizes expansion, contraction, mutual impingement, turbulent mixing and sudden turns to effectively manage and reduce fluid pressure without creating cavitation
- Easy-to-clean, stacked disc design
- Available in a variety of materials, including tungsten carbide
- Manages σ as low as 1.0004

Solutions

With DiamondBack trim, staged pressure drops eliminate cavitation in difficult applications. It is suited for moderate to severe cavitation applications. The product can pass slurries and particulates of small to moderate size.

Cavitation control — manages σ as low as 1.0004

Noise abatement — reduces noise up to 40 dBa





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