



## Valtek® Mark 200

The benchmark for high-pressure control valves



*Experience In Motion*



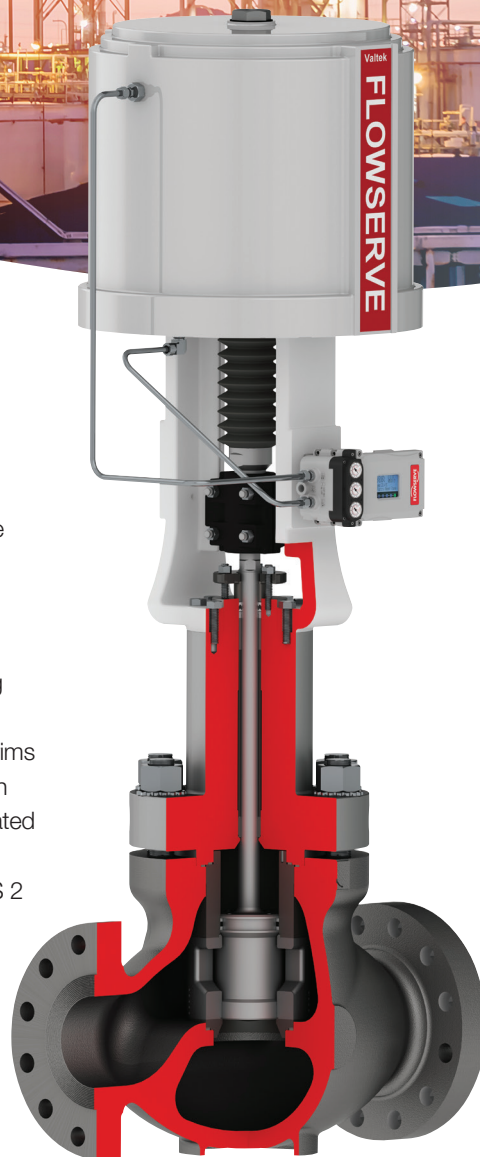
## High pressure, severe service, maximum capacity

The Valtek Mark 200 control valve is a versatile severe service control valve with answers to what keeps plant managers up at night. Tested and proven under the most extreme conditions, this high-pressure, maximum-capacity control valve provides both the high capacities and severe service options to effectively solve problem applications.

The flow capacity of the Valtek Mark 200 valve significantly outperforms competing brands and does so with a smaller, lighter and more cost-effective package. The longest stroke lengths in the industry provide fine, precise control. Anti-cavitation trims CavControl™, ChannelStream™ and DiamondBack™ minimize or eliminate cavitation damage. Noise control trims MegaStream™ and Stealth™ reduce noise and associated vibration. Large gallery areas provide more volume for severe service protection in smaller size valves. The Mark 200 valve comes in standard sizes ranging from NPS 2 to 16 and pressure classes 900 to 2500. Short lead times and on-time deliveries continue to be Flowserve benchmarks.

Flowserve technical competencies, application-specific expertise and project management capabilities provide a backdrop for everything we do. From general service to custom engineered severe service, to mission-critical needs, we provide the right leadership.

Whether your severe service control valve requirements are routine or tied directly to your bottom line, the Valtek Mark 200 control valve is the solution without equal.





# At a glance

## Features

- High-pressure, maximum capacity with smaller and more cost-effective valve sizes
- Competitive, economical choice among high-pressure, high-Cv globe control valves
- Wide variety of noise abatement and anti-cavitation trims
- Longer strokes for finer control
- Adept handling of extreme pressure drops

## Specifications

**Valve Type:** Linear globe and angle bodies

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

**Sizes:** NPS 2 to 16

**Pressure Rating:** Class 900 to 2500

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

## Solutions

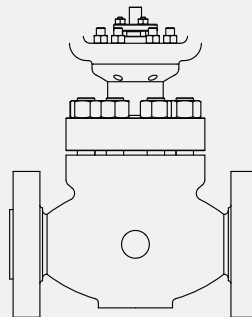
The industry choice for a simple, reliable, versatile globe valve. Ideal for solutions requiring high pressure, high pressure drops, high Cv, noise abatement and cavitation control. Handles a wide selection of process control applications for flow, pressure and temperature applications.

For more information, see document number VLENTB0200 at [www.flowserve.com](http://www.flowserve.com)

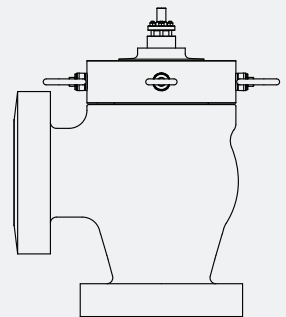
## Body styles

- Large body galleries include streamlined flow path
- Longer strokes offer finer control and higher capacity
- Design incorporates cage guiding for high pressure drops
- Durable, long-lasting parts
- Ease of maintenance includes:
  - Bonnet flange nuts fit socket and end wrenches
  - Tapped lifting holes are designed into most parts
  - Packing gland remains in place with actuator removal
  - Generous wrench clearance
  - Clamped seat ring — easy removal
  - Base stand — easy assembly
  - Downtime minimized — easy maintenance

Linear globe body



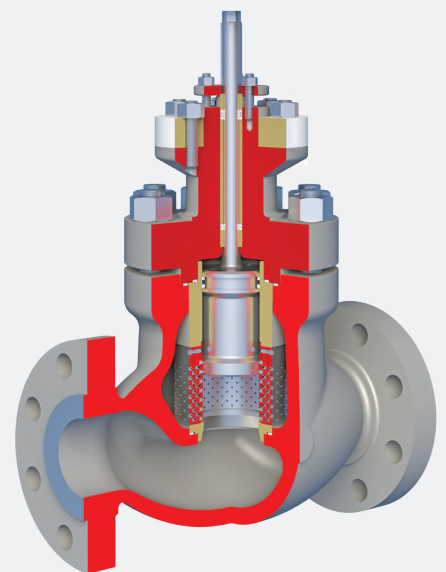
Linear angle body



## Valve design

The Valtek Mark 200 valve exceeds the capabilities of competing valves by delivering higher flow capacities, longer strokes for finer control, and more effective severe service protection. The Mark 200 valve expands on the overall design of the Valtek Mark One™ valve while retaining the same highly desirable qualities:

- Long stroke lengths — provide finer control
- Reliable, easy-to-maintain actuators — offer higher thrusts, longer strokes, faster speeds and low-cost maintenance
- Deep packing box — increases life of packing and minimizes packing leakage
- Fully enclosed gaskets — proper seat and bonnet gasket compression easily achieved
- Clamped, self-aligning seat ring — creates extremely tight shut-off
- Variety of end connections — integral flange, buttweld, RTJ, etc.





## What makes the Valtek Mark 200 control valve unique?

### High-pressure, maximum-flow capacity

The Valtek Mark 200 control valve replaces a long list of forerunners to handle a wide selection of process control applications for high-flow, high-pressure and extreme temperature applications in the oil and gas and power industries. It achieves a 20 to 60% higher flow capacity in both directions than comparable globe and angle valves.

### Cavitation control/noise attenuation

The Mark 200 valve is ideal for solutions required to handle high pressure, high pressure drops, high Cv, noise abatement and cavitation control. These trim solutions include CavControl, ChannelStream, MegaStream and Stealth. Larger galleries and longer strokes provide finer control and more stages of severe service protection in smaller valves.

### Smaller, lighter, cost-effective

Achieve high-pressure and maximum-flow capacity that outperforms competing brands with a significantly smaller, lighter and more cost-effective Mark 200 control valve.

### Severe service solutions

The Valtek Mark 200 control valve is groundbreaking in its ability to accommodate a broad spectrum of severe service trim solutions. Flowserve technical experts work directly with our customers to design, develop, manufacture and install engineered-to-order severe service valves.

### Short lead time. On-time delivery.

- Industry-leading, on-time delivery rate
- Flowserve Quick Response Centers (QRCs) are located worldwide to ensure rapid response times
- Single point of contact for the full inventory of Flowserve products and services
- Thousands of parts in stock, including original equipment manufacturer (OEM) and Flowserve custom built products
- Better than 95% on-time performance for all repairs
- 24-hour emergency repair, pick-up and delivery within QRC service areas
- On-site technical service within 24 hours in North America and 48 hours outside North America



## Valtek Mark 200 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](http://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](http://www.flowserve.com)

## Valtek Mark 200 valve trim options

The Valtek Mark 200 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  $\sigma$  as low as 1.2.

For more information, see document number FCENBR0068 at [www.flowserve.com](http://www.flowserve.com)



### ChannelStream

Prevents cavitation from forming and minimizes hydrodynamic noise in the most severe liquid applications. This design also offers easy maintenance and product longevity, even when installed in the most difficult applications.

#### Features

- Restrictive channels prevent fluid recovery from occurring adjacent to a critical trim surface.
- Expansion holes connected to the channels create a series of expansions and contractions that effectuate high pressure drops.

#### Solutions

Staged pressure drop eliminates cavitation in most applications and minimizes cavitation energy that may occur in other designs. Best suited to mild to moderate cavitation, but able to handle heavy cavitation applications as needed. Manages  $\sigma$  as low as 1.002.

For more information, see document number FCENBR0068 at [www.flowserve.com](http://www.flowserve.com)

**Cavitation control** —  
*manages  $\sigma$  as low as 1.0004*

**Noise abatement** —  
*reduces noise up to 40 dBa*







## MegaStream

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

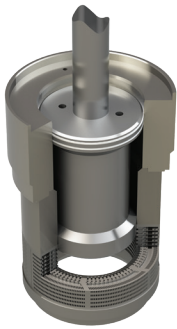
### Features

- 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 noise that can impact nearby personnel and environments and even cause mechanical damage to equipment.

For more information, see document number FCENBR0067 at [www.flowserve.com](http://www.flowserve.com)



## Stealth

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

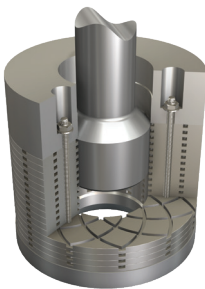
### Features

- 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](http://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  $\sigma$  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.



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## Unparalleled service: day or night, worldwide

### Service when and where you need it most

Flowserve Quick Response Centers (QRCs) are strategically located around the world to ensure rapid response to your time-critical repair needs. They serve as a local, single point of contact for the full inventory of Flowserve products and services, including the machinery to manufacture custom-built units. We offer better than 95% on-time performance for all repairs. Flowserve offers 24-hour emergency repair, pick-up and delivery within QRC service areas, mobile and on-site repair.

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

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VABR000474-02 (EN/A4) May 2023