



Valtek MARK 200

The new benchmark for severe service control valves



Experience In Motion

Flowserve® – Solutions to keep you flowing

Flowserve is one of the world's leading providers of fluid motion and control products and services. Globally, we produce engineered and industrial pumps, valves, seals, systems, and automation equipment, and provide a range of related flow management services. Our solutions move even the most volatile and corrosive fluids safely and securely through some of the most extreme temperatures, terrain, and challenging operating environments on the planet.

Flowserve products and services are specified for use in a vast range of industries, including oil and gas, chemical, power generation, and various general industries.



Valtek Mark 200 high pressure, severe service, maximum-capacity control valve

The Mark 200 is the most dynamic severe service control valve to debut in 50 years, and is the answer to what keeps plant managers up at night. Tested and proven under the most extreme conditions, this high-pressure, maximum-capacity control valve single-handedly replaces a fleet of up to a dozen separate control valves.

Mark 200 flow capacity significantly outperforms competing brands and does so with smaller, lighter, and more cost-effective valves. Longer strokes provide finer control while trims – CavControl, ChannelStream, MegaStream, Stealth, and TigerTooth – all but eliminate noise and cavitation. Large gallery areas provide more stages of severe service protection in smaller size valves. The Mark 200 comes in standard 2" to 16" (DN 50 to DN 400) designs and custom sizes, all are engineered to order. 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 at Flowserve. From general service to severe service, to mission critical needs, we provide the right leadership for the right job.

Whether your severe service control valve requirements are routine or tied directly to your P&L, the Flowserve Mark 200 control valve is the solution without equal.



Valtek Mark 200 control valve 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

SPECIFICATIONS

- **Valve Type:** Linear Globe and Angle bodies
- **Size:** DN 50 to DN 400; 2" to 16"
- **Pressure:** PN 160 to PN 400; Class 900 to 2500
- **Material:** Carbon Steel; Chrome Moly; Stainless Steel; Duplex
- **Temperature:** -196 °C to 815 °C; -320 °F to 1500 °F

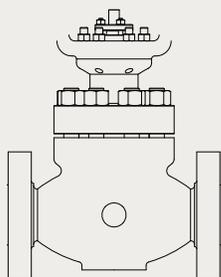
SOLUTIONS

The industry choice for a simple, reliable, tough 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 in oil and gas and power industries.

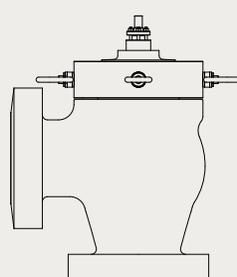
For more information see document number VLENTB0200 at www.flowsolve.com

Body styles

LINEAR GLOBE BODY



LINEAR ANGLE BODY

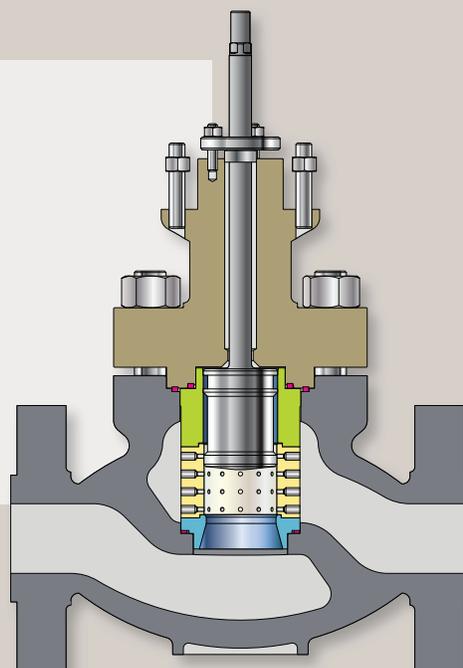


- Large body galleries include streamlined flow path
- Longer strokes offer finer control and higher capacity
- Design incorporates cage guiding for high pressure drops
- Durable, long-lasting parts
- Ease of maintenance includes:
 - a. Bonnet flange nuts fit socket and end wrenches
 - b. Tapped lifting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

Valve design

The Valtek Mark 200 exceeds the capability of competing valves by delivering higher flow capacities, longer strokes for finer control, and more stages of severe service protection. The Mark 200 expands on the overall design of the Mark One 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, low-cost maintenance
- Deep packing box—increases life of packing; 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, butt weld, RTJ, etc.



Features / Benefits

- High-pressure design
- Significantly higher flow capacity than competing valves
- Replaces up to a dozen different control valves
- Cavitation control / Noise attenuation — more stages of protection
- Smaller valve sizes, lighter weight
- Longer strokes for finer control
- Adept handling of extreme pressure drops
- Effectively handles erosion /corrosion
- Greater cost efficiencies



What makes the Valtek Mark 200 control valve unique?

High-pressure, maximum-flow capacity

The Mark 200 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. The Mark 200 achieves a 20% to 60% higher flow capacity in both directions than comparable globe and angle valves.

Cavitation control / Noise attenuation

The Mark 200 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, Stealth, and TigerTooth. 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 Mark 200 is ground-breaking 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 (QRC) 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 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, 48 hours, outside North America

The Valtek Mark 200 accommodates a broad spectrum of severe service trim solutions.



Valtek Mark 200 trim options



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 conditions.

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 to remove the collapsing bubbles
- Increases product service life

SOLUTIONS

Works best in low to mild cavitation applications. Characterizations available to cover a wide range of applications.

For more information see document number FCENBR0068 at 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.

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 throttle 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 surrounding environs.

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

Cavitation Control
manages sigma
as low as 1.002

Noise Abatement
reduces noise
up to 40 dBa



Flowserve offers a comprehensive suite of custom-engineered solutions and unique product designs to meet your exacting specifications.



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



TigerTooth

One of the most effective cavitation elimination and noise reduction trims available, especially at high-pressure drops. Reduces sound pressure levels in gas applications and prevents the formation of gas bubbles, thereby eliminating cavitation in liquid applications.

FEATURES

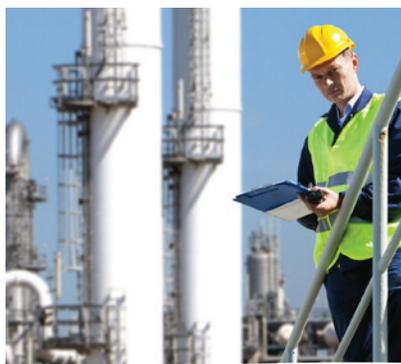
- Noise reduced through sudden expansion and contraction phenomenon that takes place as the flow passes over the teeth
- Pressure is gradually reduced without generating high velocities, which in turn reduces process line noise

SOLUTIONS

Reduces process velocities (which generate noise) at every point across the disks. As the fluid progresses through the stack, the expanding tooth pattern allows the pressure to be reduced in a series of successively smaller pressure drops without excursions below the vapor pressure – avoiding the formation of cavitation altogether.

For more information see document number FCENBR0067 & FCDNBR0068 at www.flowserve.com

ValveSight uses the manufacturer's experience to translate alarms into an overall assessment of health so you don't have to



Valtek Mark 200 control valve options



Logix 3000MD Series Digital Positioner – For superior performance

Easiest calibration and configuration of any positioner available. Single, push-button calibration and DIP switch configuration allow you to fully commission the positioner in a matter of minutes. 24/7 diagnostics with ValveSight Software DTM.

FEATURES

- Best-in-class accuracy with dual stage piezo technology and inner loop control
- Explosion-proof aluminum or stainless steel housings work in virtually any hazardous location worldwide
- Balanced spool design provides flexibility to convert from 3-way to 4-way operation in the field
- Multiple mounting options are suitable for use with most linear and rotary actuators

SOLUTIONS

Suitable for most applications that require precise, accurate control of valve packages. For use in hazardous locations worldwide. Linear and rotary applications for use in chemical, refining, food and beverage, and power industries.

For more information see document number LGENIM0059, LGENIM3404 at www.flowserve.com



ValveSight™ – Prevention delivered

Standalone or portable software and positioner system offers an integrated package to confidently monitor valve package performance 24/7 with DCS or asset management tools that support FDT/DTM technology. Monitors and evaluates the condition of four key health indicators on any integrated control valve when performing critical control valve operations. Degradations are displayed in simple, intuitive formats that draw attention and spark immediate actions.

FEATURES

- Displays real-time evaluation of valve, actuator and positioner performance
- Deviations can be recognized and evaluated immediately to eliminate costly downtime
- Help screens offer probable causes and solutions to active alarm conditions
- Maximizes production uptime

SOLUTIONS

Runs on any DCS system with certified FDT frame. Suitable for oil & gas, chemical, food and beverage, refining, power, and mining industries.

For more information see document number VSENSF0003 at www.flowserve.com



Unparalleled service: day or night, worldwide

Service when and where you need it most

Flowserve Quick Response Centers (QRC) 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.

FCD VLENBR0200-00 Printed in USA. December 2012.

To find your local Flowserve representative:

For more information about Flowserve Corporation, visit www.flowserve.com or call USA 1 800 225 6989

Due to continuous development of our product range, we reserve the right to alter the dimensions and information contained in this leaflet as required. Information given in this leaflet is made in good faith and based upon specific testing but does not, however, constitute a guarantee.

USA

Flowserve Flow Control Division
1350 N. Mt. Springs Parkway
Springville, UT 84663

USA

Phone: +1 801 489 8611

Fax: +1 801 489 3719

Austria

Flowserve Control Valves Gmbh
Control Valves-Villach Operation
Kasernengasse 6

9500 Villach

Austria

Phone: 43 (0) 4242 41 181 0

Fax: 43 (0) 4242 41181 50

India

Flowserve India Controls Pvt Ltd.
Plot # 4, 1A, Road #8 EPIP Whitefield
Bangalore, Karnataka, 560066

India

Phone: 91 80 40146200

Fax: 91 80 28410286

China

Flowserve Fluid Motion and
Control (Suzhou)Co., Ltd.

No.35, Baiyu Road,
Suzhou Industrial Park, Suzhou
Jiangsu Province, P.R. 215021

China

Phone: 86 512 6288 8790

Fax: 86 512 6288 8736

Saudi Arabia

Flowserve Abahsain Flow Control Co., Ltd.
Makkah Road, Phase 4

Plot 10 & 12, 2nd Industrial City
Damman, Kingdom of Saudi Arabia

Phone: +966 3 857 3150 X 243

Fax: +966 3 8574243