Sliding gate valves

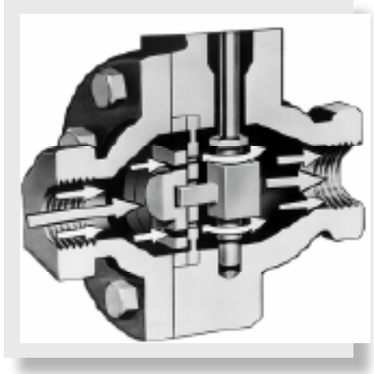
Tight shutoff

You'll notice something different in a Jordan valve . . . the sliding gate seat. A remarkably simple concept that offers sophisticated performance and benefits not found in traditional rising stem and rotary valves.

The sliding gate seat is made up of two primary parts: a moveable *disc* and stationary *plate* with multiple orifices. Together, this seat set achieves levels of performance, reliability and accuracy that are hard to find in other valve designs.

Straight-through flow

The control element in the Jordan Valve sliding gated design is perpendicular to the flow, unlike the traditional globe style design. With the straight thru flow design, the sliding gate design reduces turbulence and provides superior trim life.



The sliding gate design provides unparalleled low flow control since the flow works with the design, not against it. In a typical globe style design the flow goes underneath the plug, working against the plug. In the sliding gate design, the flow pushes the disc against the plate, helping to hold the desired setpoint. This also enables the disc and plate to lap and clean themselves. Thus the sliding gate design, wears in instead of wearing out!

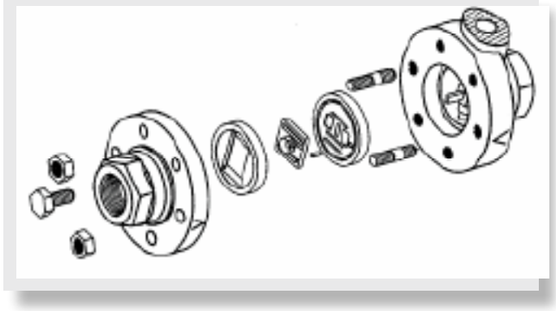
This unique ability provides much higher rangeability and better turndown while maintaining tight shut-off. When the alve is closed, the disc and plate form an area of closure, not a line of closure. The upstream pressure and a retaining guide combine to keep the disc and plate in constant contact, which eliminates the noisy chattering often encountered during valve operation. This construction also minimizes the hunting commonly found in conventional rising stem globe style valves.

Short stroke, fast response

The total stroke length of a sliding gate valve is just a fraction of the equivalent globe or rotary style valve. In pressure regulators, the stroke length is typically 1/3 that of a globe valve, reducing the amount of droop in the regulator. In a Jordan control valve, the stroke length can be as low as 1/6 that of a conventional globe or cage guided design. This allows much smaller actuators, reducing air consumption and weight. In both regulators and control valves, the response time from a change in the input signal is dramatically reduced. This also lessens the wear on the packing and lengthens the diaphragm life.

Easy to maintain

When maintenance is needed on a sliding gate valve, the simplistic design makes them easy to perform. Disassembly of the valve is very simple and, since the seats are not pressed or screwed into the valve body, they conveniently lift out. Should your flow requirements change, interchangeable Cv's are available in flow coefficients as low as 0.0008 and as high as 395 (depending on body size).

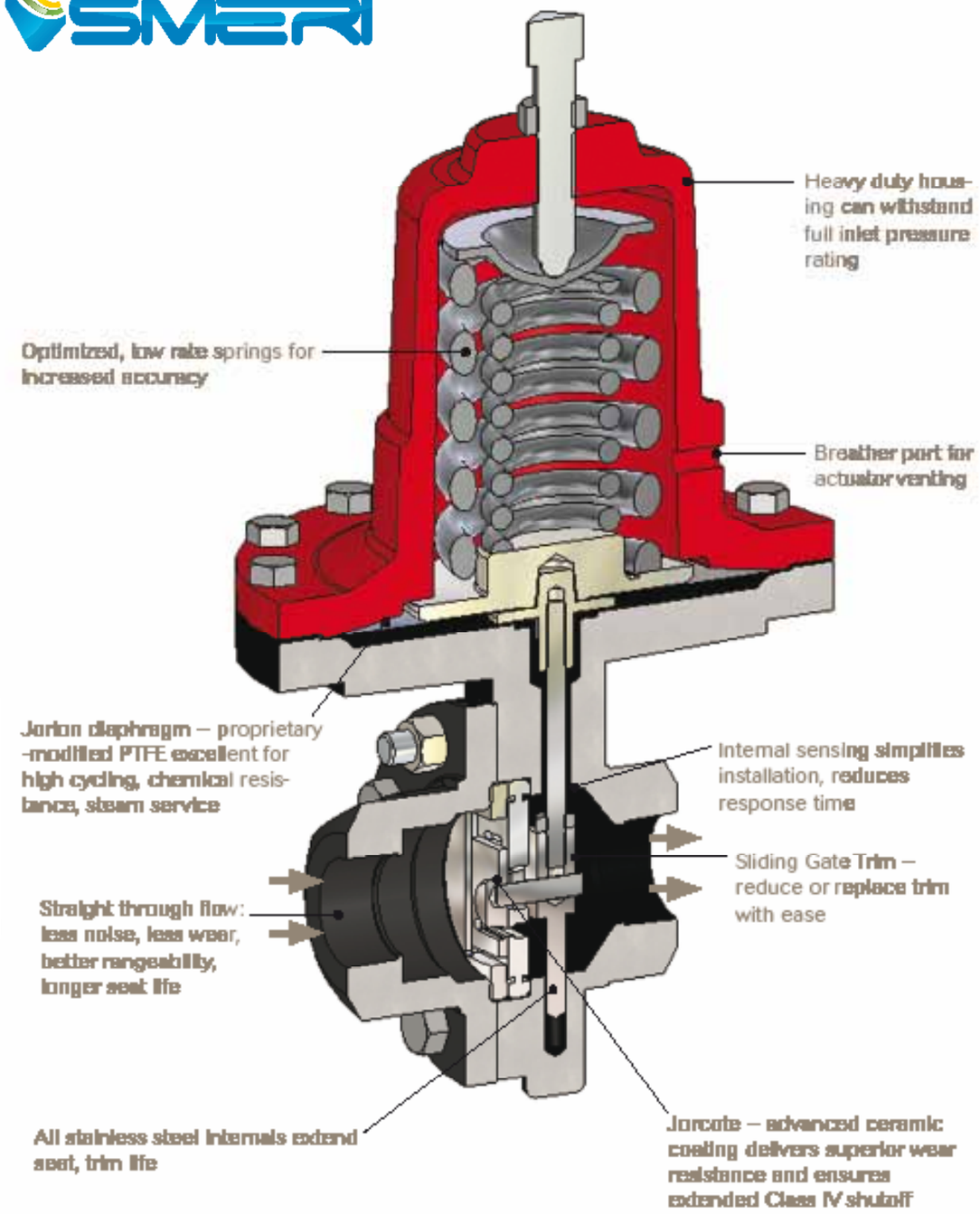


Quiet operation

Quiet operation is a standard feature of Jordan sliding gate valves. Compared to conventional globe and cage designs, the sliding gate seat generates between 5-10dBa less noise. In addition, you won't find a premium price adder for "low-noise trim". The sliding gate valve is inherently quieter than other types of valves because:

- The disc and plate remain in constant contact, eliminating the chatter found in plug and seat designs
- The straight-through flow passage minimizes turbulence found in globe and rotary designs, a prime cause of valve noise
- The multiple orifices in the plate and disc divide the flow into smaller, noise-dissipating flow streams.

Mark 60 Series
Sliding gate pressure regulator



Sliding gate control valves

Mark 60/61 Series
Self-operated pressure regulators

The Mark 60 handles the broadest range of applications including steam, water, oil, gas, air and chemicals.
It features the Sliding Gate seat which combines excellent control and extreme longevity in a compact, lightweight design. The Mark 61 features a larger diaphragm to provide greater sensitivity.

Seat	Sliding gate – ANSI Class IV shutoff
Sizes	Mk 60:1/4” – 4” (DN8 – DN100); Mk 61: 1/4” – 3/4” (DN8 – DN20)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel, Cast Iron
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv):	up to 200 (up to 172)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Diaphragm	Stainless Steel, Jorlon, Buna-N, Viton
Setpoints	1 to 450 psi (0,07 to 31,02 bar)

Mark 601/602 Series
High-flow pressure regulators

The high-flow MK601 and super high-flow MK602 are used for applications that require a higher Cv rating without using a larger valve. Each valve is standard with Jordan’s Sliding Gate seats, which help to reduce the droop commonly associated with high flow regulators.

Seat	Sliding gate – ANSI Class IV shutoff
Sizes	1-1/2” through 2” (DN40 through DN50)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv)	up to 70 (up to 60)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Diaphragm	Stainless Steel, Jorlon, Buna-N, Viton
Setpoints	20 to 160 psi (1,4 to 11,0 bar)

Mark 63/64 Series
Differential pressure regulators

The Mark 63 is designed to maintain a constant differential between the pressure on the discharge side of the regulator and the signal pressure loaded on the diaphragm. The Mark 64 provides the same flow capacity but with less offset. It features a larger effective diaphragm area for greater sensitivity.

Seat	Sliding gate – ANSI Class IV shutoff
Sizes	MK 63: 1/4” – 2” (DN8 – DN50); MK 64: 1/4” – 3/4” (DN8 – DN20)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv)	up to 30 (up to 25,8)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Diaphragm	Stainless Steel, Jorlon, Buna-N, Viton
Setpoints	1 to 450 psi (0,07 to 31,02 bar)

VALVOLE REGOLATORI

Sliding gate pressure regulators

Mark 50/51 Series Self-operated back pressure regulators

The Mark 50/51 handles the broadest range of applications including steam, water, oil, gas, air and chemicals. Excellent capacity and the sliding gate trim enable the Mark 50 to quickly and accurately regulate upstream pressure, preventing overpressure situations.
The Mark 51 features a larger diaphragm.

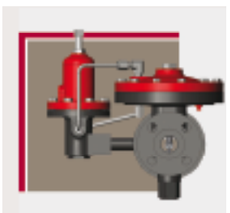
Seat	Sliding gate – ANSI Class IV shutoff
Sizes	Mk 50: 1/4” – 4” (DN8 – DN100); Mk 51: 1/4” – 3/4” (DN8 – DN20)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel, Cast Iron
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv)	up to 200 (up to 172)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Diaphragm	Stainless Steel, Jorlon, Buna-N, Viton

Mark 501/502 Series High-flow pressure regulators

The high-flow MK501 and super high-flow MK502 are used for applications that require a higher Cv rating without going to the next highest line size. Each valve is standard with Jordan’s Sliding Gate seats, which helps to reduce the build-up commonly associated with high flow back pressure regulators.

Seat	Sliding gate – ANSI Class IV shutoff
Sizes	1-1/2” through 2” (DN40 through DN50)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv)	up to 70 (up to 60,2)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Diaphragm	Stainless Steel, Jorlon, Buna-N, Viton
Setpoints	0.5 to 150 psi (0,03 to 10,3 bar)

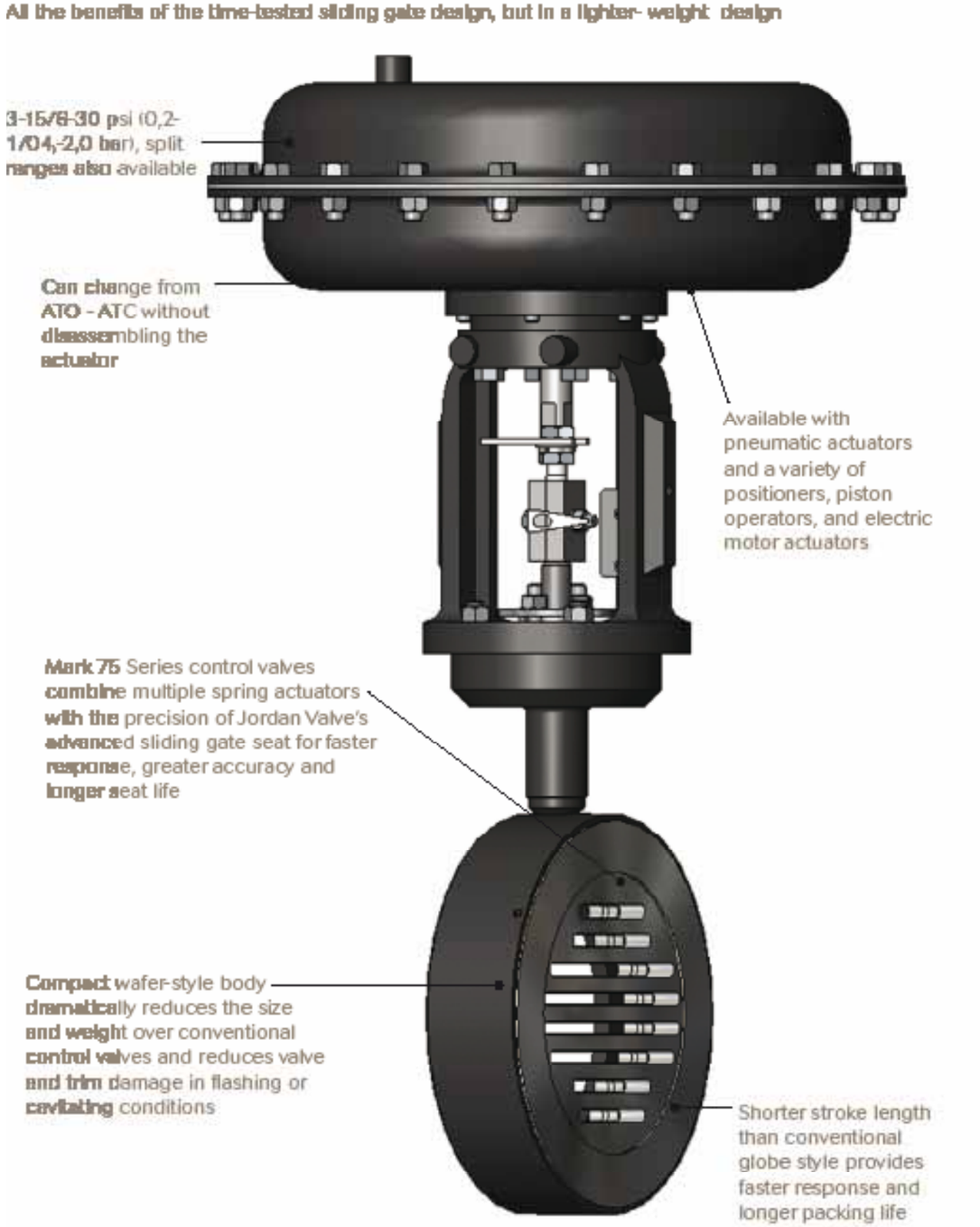
Mark 53/54 Series Differential pressure regulators



The Mark 53 is designed to maintain inlet pressure at a set differential pressure over the signal pressure loaded on the diaphragm. The Mark 54 provides the same low capacity as the Mark 53 but with less offset in controlled pressure due to a larger diaphragm.

Seat	Sliding gate – ANSI Class IV shutoff
Sizes	MK 53: 1/4” – 2” (DN8 – DN50); MK 54: 1/4” – 3/4” (DN8 – DN20)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv)	up to 30 (up to 25,8)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Diaphragm	Stainless Steel, Buna-N, Viton, Jorlon
Setpoints	0.5 to 450 psi (0,03 to 31,02 bar)

Mark 75 Series Sliding gate control valve



Sliding gate control valves

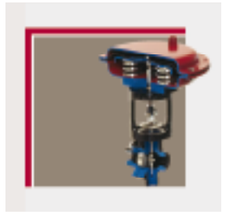
Mark 75 Series
Wafer style sliding gate control valves

With all the benefits of the time-tested Sliding Gate design, but in a lighter weight, compact wafer-style body, the Mark 75 dramatically reduces the size and weight of conventional control valves.

Sizes	1” – 6” (DN25 – DN150)
Body Materials	316 Stainless Steel, Carbon Steel
Seat Materials	Jorcote/316SS standard; Jorcote/Jordanic/316SS opt.
Cv (Kv)	up to 400 (up to 345)
Shutoff	ANSI Class IV
Turndown	up to 100:1
Action	Direct (ATC) or Reverse (ATO)
Ranges	3-15 psi, 6-30 psi or split ranges (0,2-1,0 bar, 0,4-2,1 bar)

Mark 70 Series
Sliding gate control valves

The Mark 70 Series is a line of pneumatically-operated diaphragm control valves that combine multiple spring actuators with the precision of Jordan Valve’s advanced sliding gate seat for closer control and greater accuracy. Above a 2” the Mark 70 is a Mark 711.



Sizes	1/4” – 2” (DN8 – DN50)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
Seat Materials	Jorcote on SST standard; Jorcote/Jordanic on SST
Cv (Kv)	up to 30 (up to 26)
Shutoff	ANSI Class IV
Turndown	100:1
Action	Direct (ATC) or Reverse (ATO)
Ranges	3-15 psi, 6-30 psi or split ranges (0,2-1,0 bar, 0,4-2,1 bar)

Mark 701/702 Series
High flow & super high flow control valves

The Mark 701/702 high flow and super high-flow sliding gate control valves provide shorter stroke than a globe or plug style valve, straight through flow and ease of maintenance.

Sizes	1/2” – 2” (DN15 – DN50)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
Seat Materials	Jorcote on SST standard; Jorcote/Jordanic on SST
Cv (Kv)	up to 70.0 (up to 60,3)
Shutoff	ANSI Class IV
Turndown	100:1
Action	Direct (ATC) or Reverse (ATO)
Ranges	3-15 psi, 6-30 psi or split ranges (0,2-1,0 bar, 0,4-2,1 bar)

Control valves

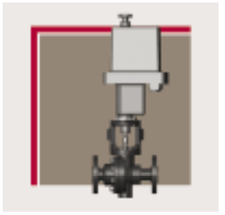
Mark 74 Series
Bellows seal control valve

The Mark 74 provides exceptional bellows life with a valve stroke that is just a fraction of that of other rising stem valves. This means Jordan Valve can use a smaller formed bellows that has minimal movement during operation.

Sizes	1/4” – 2” (DN8 – DN50)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
Seat Materials	Jorcote/316SS standard; Jorcote/Jordanic/316SS opt.
Cv (Kv)	up to 30 (up to 10,3)
Shutoff	ANSI Class IV
Turndown	100:1
Action	Direct (ATC) or Reverse (ATO)
Ranges	3-15 psi, 6-30 psi or split ranges (0,2-1,0 bar, 0,4-2,1 bar)

Mark 37 Series
Final control element valve

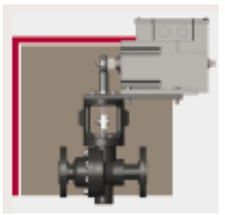
The Mark 37 is a motor-operated control valve that combines a state-of-the-art electronic linear actuator with the exceptional performance of Jordan’s sliding gate seat design. The result is a superior degree of ccuracy that makes it ideal for use as the final control element in distributed process control systems.



Seat Type	Sliding Gate – ANSI Class IV shutoff
Sizes	1/4” – 6” (DN8 – DN150)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel, Cast Iron
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv)	up to 395 (up to 339,7)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Seat Materials	Jorcote, Jorcote/Jordanic
Command Signals	Current or voltage command, on/off

Mark 33 Series
Electric motor control valves

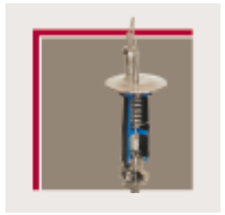
The Mark 33 is a motor operated valve featuring the Jordan sliding gate seat and heavy-duty industrial motors for proportional (resistance), on-off, or 4-20mA electronic format.



Seat	Sliding Gate – ANSI Class IV shutoff
Sizes	1/4” – 2” (DN8 – DN50)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv)	up to 30 (up to 25,9)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Seat Materials	Jorcote, Jorcote/Jordanic
Command Signals	Proportional (resistance), on/off, milliamp, or 2-10 VDC

Temperature regulators

Mark 80 Series Self-operated temperature regulators



The Mark 80 Series is completely self-operated and requires no external power source or other expensive instrumentation to operate the valve.

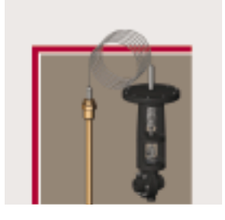
Seat Type	Sliding Gate – ANSI Class IV shutoff
Sizes	1/4” – 2” (DN8 – DN50)
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
Cv (Kv)	up to 30 (up to 25,8)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Seat Materials	Jorcote, Jorcote/Jordanic
Thermal System	Seal-welded actuator (SWA) with capillary and bulb

Mark 801/802 Series Self-operated temperature regulators

The Mark 801/802 Series is completely self-operated and requires no external power source or other expensive instrumentation to operate the valve. The Mark 801/802 Series are high-flow and super highflow versions of our Mark 80 Series temperature regulators.

Seat Type	Sliding Gate – ANSI Class IV shutoff
Sizes	1/2” – 2” (DN15 – DN50)
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
Cv (Kv)	up to 70 (up to 60,2)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Seat Materials	Jorcote, Jorcote/Jordanic
Thermal System:	Seal-welded actuator (SWA) with capillary and bulb

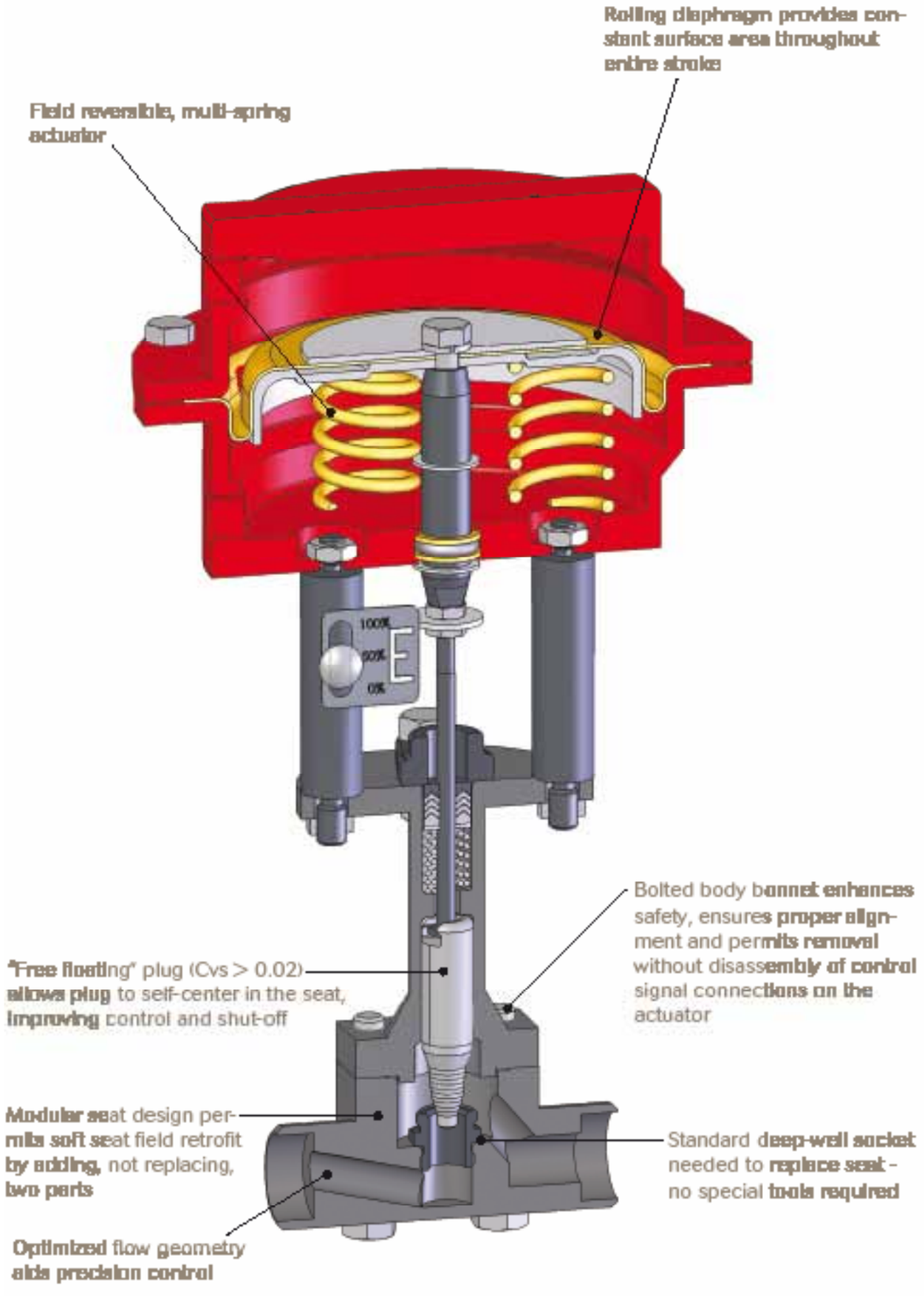
Mark 85 Series “Controlled failure” temperature regulator



The Mark 85 is a self-operated temperature regulator with controlled failure option which allows you to predetermine the position of the valve in the event of a thermal system failure. The Mark 85 is designed to fail closed on heating applications and to fail open on cooling applications.

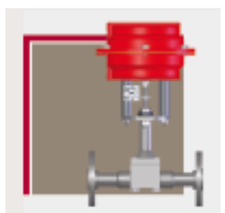
Seat Type	Sliding Gate – ANSI Class IV
Sizes	1/4” – 3/4” (DN8 – DN20)
Body Materials	Ductile Iron, Bronze, Carbon Steel, Stainless Steel
End Connections	Threaded, Flanged, Socket Weld, Butt-Weld
Cv (Kv)	up to 4.4 (up to 3,8)
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20
Seat Materials	Jorcote, Jorcote/Jordanic
Thermal System	Bolted Cast Iron Actuator with capillary and bulb

Mark 708 Series Low flow valves



Low flow valves

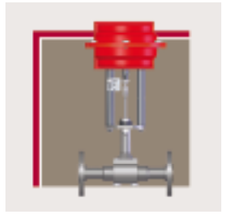
Mark 708 Series Fractional flow control valves



The Mark 708 provides the most accurate control available for fractional flow services, whether for pilot plant installations, test stands, R & D facilities, or for specialized processes such as dosing, injection, and venting applications.

Seat Type	Globe/Needle – Class III, IV or VI
Sizes	1/4” – 3/4” (DN8 – DN20)
End Connections	Threaded, Socket Weld, Integral Tube, Flanged
Body Materials	Carbon Steel, Stainless Steel, Hastelloy, others
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20, others
Control Ranges	3-15 psi, 6-30 psi (0,2-1,0 bar, 0,4-2,1 bar)
Cv (Kv)	up to 4.0 (up to 3,4)
Service	Steam, air, gas, oil, water, chemicals

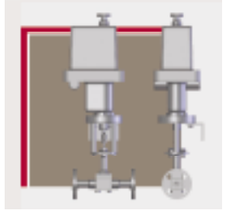
Mark 708QC Series Quick change trim fractional flow control valves



The quick change option allows change of the trim without removing the valve body from the process line or disturbing the actuator setting.

Seat Type	Globe/Needle – Class III, IV or VI
Sizes	1/4” – 3/4” (DN8– DN20)
End Connections	Threaded, Socket Weld, Integral Tube, Flanged
Body Materials	Carbon Steel, Stainless Steel, Hastelloy C, others
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20, others
Control Ranges	3-15 psi, 6-30 psi (0,2-1,0 bar, 0,4-2,1 bar)
Cv (Kv)	up to 4.0 (up to 3,4)
Service	Steam, air, gas, oil, water, chemicals

Mark 708MV Series Electronic fractional flow control vValves



The Mark 708MV is a premiere control valve for applications involving chemical injection, dosing, pilot plants and research labs. It offers several advantages including extreme accuracy, high turndown ratios, and repeatability.

Seat Type	Globe/Needle – Class III, IV or VI
Sizes	1/4” – 3/4” (DN8 – DN20)
End Connections	Threaded, Socket Weld, Integral Tube, Flanged
Body Materials	Carbon Steel, Stainless Steel, Hastelloy C, others
Trim Materials	Stainless Steel, Monel, Hastelloy C, Alloy 20, others
Command Signals	Current or Voltage Command, On/Off
Cv (Kv)	up to 4.0 (up to 3,4)
Approvals	Nema 4x/7/9, CE mark and ATEX approvals available

Sanitary control valves

Mark 978 Series Sanitary control valve

The Mark 978 sanitary control valve is designed to meet the rigid specifications for all sterile process control applications. ASME BPE compliance makes it suitable for a wide variety of applications in the bio-pharmaceutical, pharmaceutical, cosmetic, dairy and food & beverage industries.

High rangeability, true characterized trim, high capacities, superior temperature and pressure ratings along with a lifetime diaphragm warranty make the Mark 978 the sanitary control valve for all of your sanitary liquid, gas and clean steam services.

Clean steam. WFI. Process gas, buffer or biologic media. The Mark 978 has the user in mind so purity, precision and control are assured.

Key features

- Lifetime warranty on Jorlon diaphragm
- All stem guiding above the diaphragm (wet process) to eliminate particulate generation
- Self-draining geometry in either vertical or horizontal orientation allows installation flexibility (8)
- Contoured plug design for true equal percentage or linear flow characteristics throughout entire stroke length (2)
- Bolted bonnet provides enhanced strength and safety over clamped bonnet (2)
- Corrosion resistant SST Namur yoke assembly (1) suitable for washdown, permitting easy mounting of positioners (5)
- Solid ASME A479 316L barstock construction offers excellent chemical resistance, ensures consistent material integrity and surface finish (3)
- INLINE designs offered as standard product
- Corrosion resistant actuator coating with SST fasteners (4)
- Extended PEEK guide bushing ensures smooth, stable movement throughout entire stroke length (6)
- FDA/USP Class VI Jorlon diaphragm resistant to aggressive chemicals, suitable for indefinite steam service, offers unsurpassed service life (7)

Quick specs

- Sizes: 1/2” – 3” (DN15 – DN80) with Jorlon diaphragm; 1/2” – 2” (DN15 – DN50) with O-Ring
- End Connections: Tri-Clamp® fitting, tube weld and extended tube weld end, DIN/ISO sanitary connections
- Body and all wetted material: ASTM A479 316L SST barstock
- Seat materials: Integral 316L SST; FDA & USP Class VI Teflon/PEEK optional
- Diaphragm materials: Jorlon, EPDM, Silicone, TFE/ Viton; FDA and USP Class VI – standard
- O-ring materials: EPDM, Viton, Buna-N, Silicone, Kalrez, TFE encapsulated; FDA and USP Class VI – standard
- Shutoff: to ANSI Class VI
- SF5 (20 Ra µin electropolish) standard internal finish

VALVOLE REGOLATORI

Sanitary regulators

Mark 96 & Mark 96C Series
Sanitary pressure regulators

The Mark 96 Series are ASME BPE compliant pressure reducing valves. The Mark 96 is a bolted bonnet design and offered in sizes from 3/4” – 3”. The Mark 96C is a 1/2” – 1” clamped body design. Both valves regulate downstream pressure of process and clean utility applications in sanitary and aseptic systems.

Both Series operate by sensing pressure under the diaphragm after the medium has entered the valve from the bottom inlet port. As the downstream pressure approaches the setpoint, the force caused by the pressure acting on the diaphragm overcomes the force of the range spring, and the plug begins to move up toward closed. This reduces the downstream pressure and maintains the setpoint as the flow exits the valve from the side outlet port.

Key features

- Lifetime warranty on Jorlon diaphragm
- All stem guiding above the diaphragm (wet process) to eliminate particulate generation
- Soft seat for ANSI Class VI shutoff available
- Corrosion resistant 316 SST housing and T-handle
- Spring cylinder contains spring when disassembled, improving safety and retaining setpoint (clamped version only)
- Body and all wetted material: ASTM A479 316L SST barstock
- Diaphragm restraint standard – supports diaphragm during vacuum service
- Body/ferrule heat numbers on bottom surface for material traceability
- Large Jorlon diaphragm area
- Minimal stroke

Quick specs

- Mark 96 Series in sizes 3/4” – 3”;
  Mark 96C Series in sizes 1/2” – 1”
- End Connections: Tri-Clamp® fitting, tube weld end, and DIN/ISO sanitary connections optional
- Body and all wetted material: ASTM A479 316L SST barstock
- SF5 (20 Ra µin electropolished) standard internal finish; 8 Ra µin electropolished (internal or external) optional for clean room installations
- Seat material: Standard hard seat – integral 316L SST; Optional soft seat – FDA & USP Class VI compliant Teflon, PEEK
- Diaphragm material: Jorlon FDA & USP Class VI compliant, EPDM/Nylon, SS
- O-ring material: FDA & USP Class VI compliant EPDM, Buna-N, Viton, Silicone, Teflon-Encapsulated, Viton, Teflon-Encapsulated Silicone

Note