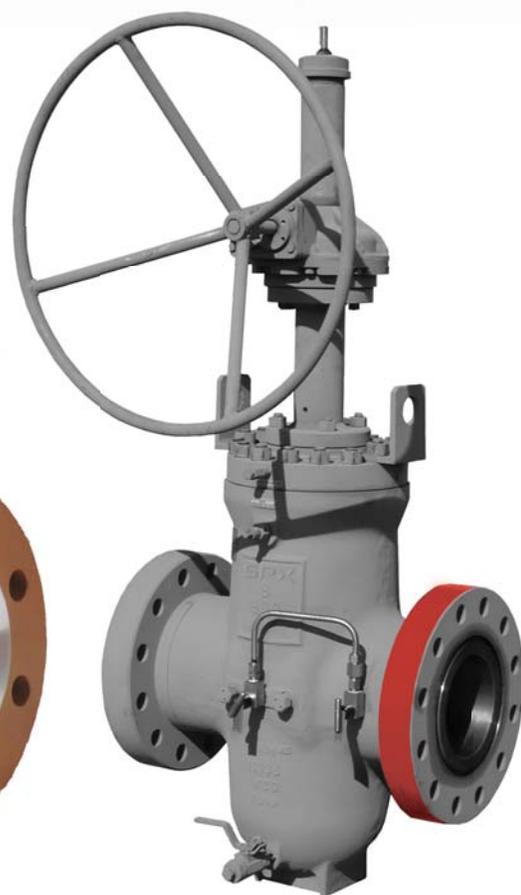
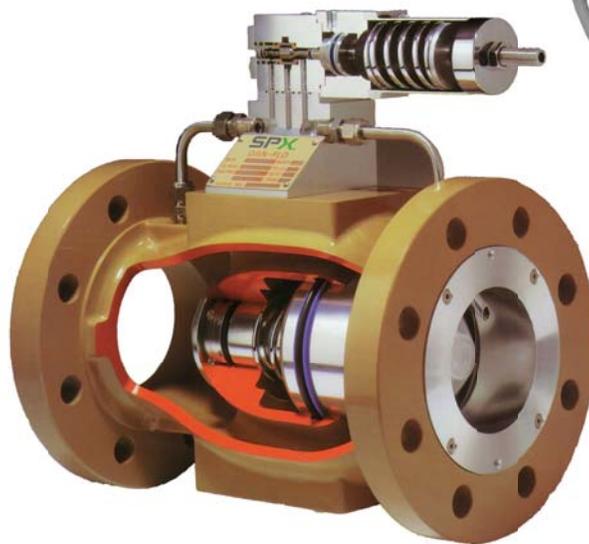


## M&J Valve Product Overview



M&J Valve was founded in 1962 by Marvin Grove and has been a leader in the pipeline valve industry since its inception. Now part of SPX FLOW, M&J Valve meets or exceeds the quality standards of our customers and the valve industry. With a product offering of slab and expanding through-conduit gate valves, axial surge valves and rotary control valves, piston, ball, and swing check valves. SPX FLOW can provide a wide variety of flow control solutions for liquid, geothermal and gas markets.

The SPX FLOW plant in Houston was designed and created specifically to manufacture valves in all sizes up to 84". Our combination of products, technical know-how and field experience has allowed for a history of product innovation which has positioned SPX FLOW in a leadership position within the valve industry.

SPX FLOW, Inc. (NYSE:FLOW) is a leading manufacturer of innovative flow technologies, many of which help define the industry standard in the market segments they serve. From its headquarters in Charlotte, North Carolina, it operates a sales and support network, centers of manufacturing excellence, and advanced engineering facilities, throughout the world. Its cutting-edge flow components and process equipment portfolio includes a wide range of pumps, valves, heat exchangers, mixers, homogenizers, separators, filters, UHT, and drying technology that meet many application needs. Its expert engineering capability also makes it a premium supplier of customized solutions and complete, turn-key packages to meet the most exacting of installation demands.

Incorporating many leading brands, SPX FLOW has a long history of serving the food and beverage, power and energy, and industrial market sectors. Its designs and engineered solutions help customers drive efficiency and productivity, increase quality and reliability, and meet the latest regulatory demands. To learn more about SPX FLOW capabilities, its latest technology innovations and complete service offerings, please visit [www.spxflow.com](http://www.spxflow.com).

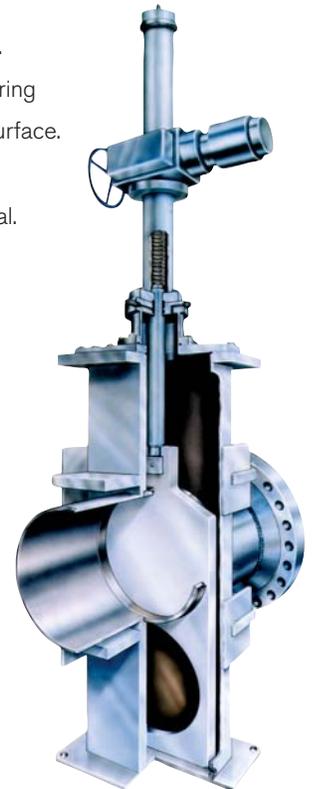
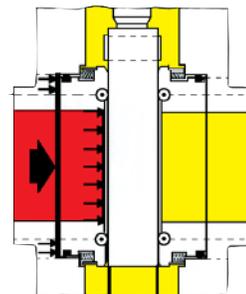
## Gate Valves

### M303

The M&J Valve model M-303 is an advanced fabricated body design slab gate valve manufactured and tested to API-6D. The fabricated body allows for a wide selection of material choices. The floating slab gate uses the natural force of line pressure to obtain a dynamically tight downstream seal in high-pressure differential applications. Low-pressure sealing is accomplished with coil springs that energize the seat pushing it against the gate.

Ease of maintenance and versatility make the M-303 the leading gate valve in the industry. The two-piece stem/common yoke simplifies operator mounting and conversions. The two-piece stem design (14" and larger) allows different materials to be used in wetted areas while standard material is used for stem threads. Combined with the bolted packing retainer, the two piece stem allows quick operator and extension changes in the field with the valve under pressure.

- Thru-conduit floating slab gate valve 6"-84" API 6D
- Fabricated design allows rapid delivery.
- Major components of popular sizes maintained in stock.
- Pressure energized sealing for high pressures
- The higher the pressure, the tighter the seal.
- M303 gate valves use increasing line pressure to force the floating-slab gate against the downstream seat even more securely.
- Sealing to only 5 psig
- Low-pressure sealing with spring-loaded seat rings.
- This series of compressed springs around the seat ring creates a uniform force around the entire sealing surface.
- A patented nylon/elastomer primary seal is complemented by an optional secondary grease seal.



## EG (EXPANDING GATE) GATE VALVES

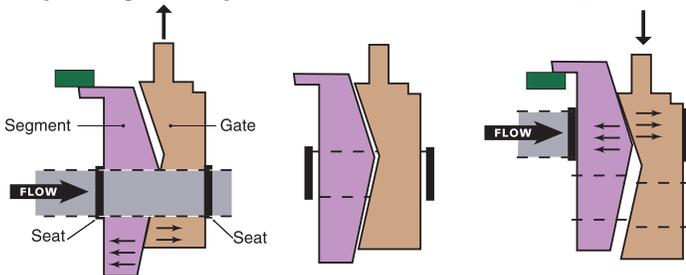
A two-piece expanding gate (gate and matching “segment”) provides tight mechanical seal for both high and low line pressure. The more this valve is torqued, the tighter it seals. The wedge-shaped gate and matching segment move relative to each other as the valve is completely opened or closed. This movement forces the gate and segment apart to seal very tightly against the gate seat.

Between open and closed, the gate and segment are centered for minimum wear during movement. The valve should be fully torqued closed or opened to achieve full mechanical seal.

- Cast body
- Chevron stem seal standard; options available
- Emergency sealant fitting
- Pressure relief provisions



### Expanding Gate Operation



**OPEN:**  
Movement of gate upward forces gate and segment apart for mechanical seal.

**DURING TRAVEL:**  
Gate and seat centralized to reduce drag and wear.

**CLOSED:**  
Wedge action expands gate and segment for tight mechanical seal.

## C303 GATE VALVE

Model C303 gate valves offer all the features advantages of M303 designs except bodies are cast steel instead of fabricated. Both M303 and C303 valves meet API 6D specifications with a variety of trims including NACE sour crude/gas service.



## Typical product applications

SPX FLOW products can provide a wide variety of solutions for liquid and gas applications.

### Production



### Refining & Processing



### Gas Storage



### Gas Transport



### Liquid Storage



### Liquid Transport

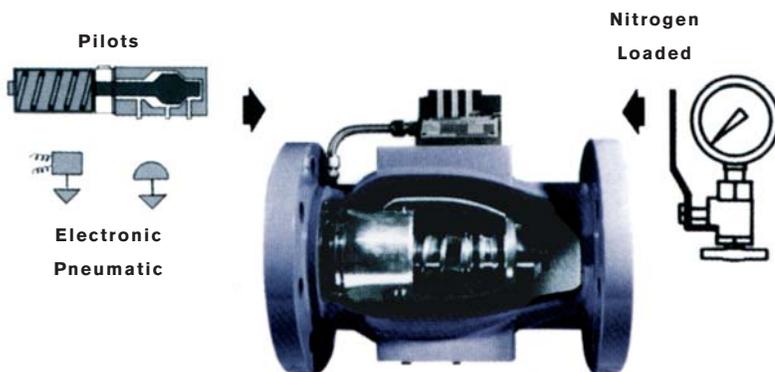
### Oil Sands

## Control Valves

### DANFLO™ CONTROL VALVES

Control action in a DANFLO™ valve depends on how various valve ports are connected and what type pilot or regulator is used. Ports allow upstream/downstream pressure to be piped to the cavity “behind” the plug.

Pilot-operated valves use line pressure or electronic/pneumatic control signals to feed line fluid into selected ports for the desired control action. Special versions of the valve, using an integral hydraulic piston, are available for electrohydraulic/servo control.



### LIQUID SURGE RELIEF WITH A DANFLO™ VALVE

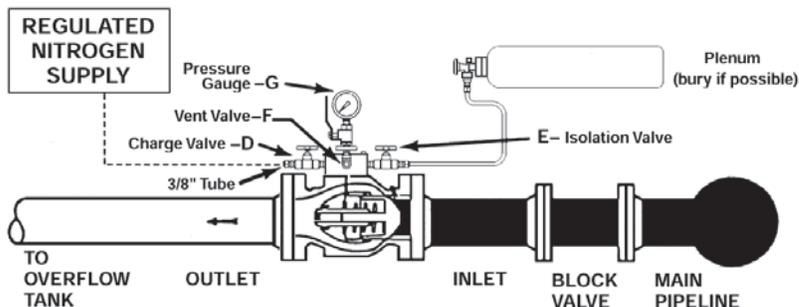
Surge relief for a liquid line is achieved by “loading” the plug cavity from a regulated nitrogen source. A line pressure surge above the nitrogen set point immediately opens the valve. The transient surge pressure is reduced as the extra surge volume is relieved. The plug tracks line pressure until equilibrium is re-established and the valve closes.

All Danflo™ Valves Offer

- Superior Performance
- Axial “straight-path” smooth flow pattern
- Large annular flow area for high pressure recovery, low pressure drop, and high flow coefficients
- Large selection of hookup options for various control functions
- Low-noise and anti-cavitation trims available



### TYPICAL INSTALLATION

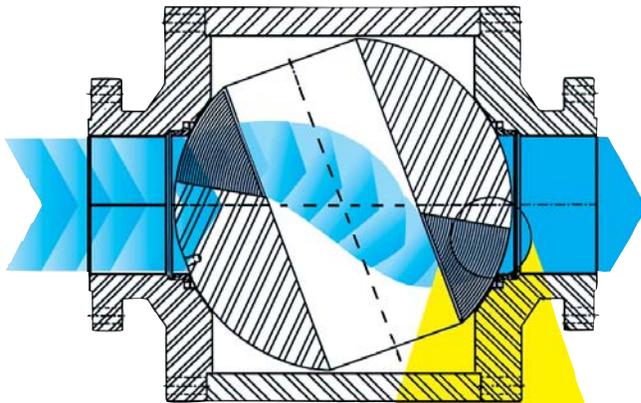


## BALL-TROL™ ROTARY CONTROL VALVE

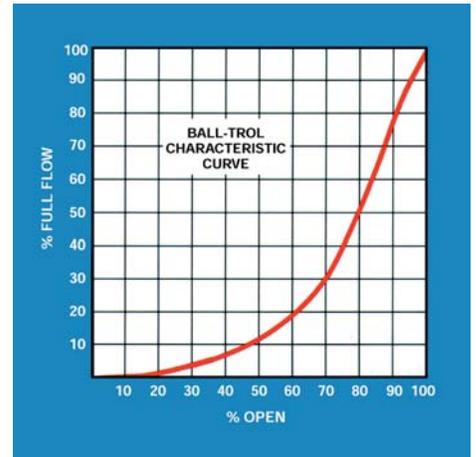
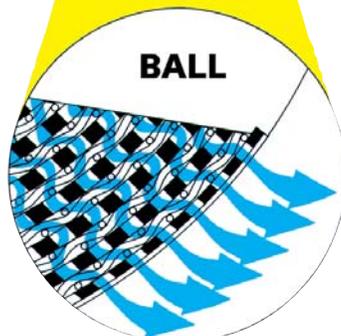
The Ball-Trol rotary control valve is a unique ball valve design that exhibits full open 1, no pressure drop and excellent control through tapered slots at the low end. This bi-directional valve is ideal for controlling varying flow rates of gas, liquids and slurries. This control valve operates with 90 degrees rotation and has up to a 350:1 control range. Low noise and anti-cavitation trims are available. Ideal for controlling varying flow rates of gas, steam, and liquids. Twin “V” grooves in the ball provide nearly equal percentage flow characteristics from closed to 70% open; flow then gradually changes to full-port without any obstructions. There are no protruding shafts to interfere with flow or add pressure drop.

Optional trim prevents cavitation and reduces noise. Multiple plates stage pressure drop and reduce flow velocity.

- Bidirectional, quarter turn
- 1" to 20", 150 to 2500 ANSI
- Fire test qualified
- Positively retained stem; change actuator with valve pressurized
- Spring-loaded seat rings for low pressures; high-pressure seal enhanced by differential area of seat ring



*A full-open ball valve and control valve with rangeability 350:1 or greater—all in one valve.*



with trim



without trim

# Check Valves

## SWING CHECK VALVES

M&J Valve swing check valve design is based on many years of field experience, engineering expertise and the latest state of the art technology. These valves are ideal for pipelines, transmission and distribution, subsea, and general industrial applications. M&J offers swing check valves with a wide range of convenience, performance and safety options. The M&J swing check valve is a one-piece body, top entry design for reliable operation and extended seat seal life. Top entry construction allows field service and in-line maintenance, if necessary. Full opening designs minimize pressure drop across the valve and permit passage of intelligent pigs, scraper pigs and spheres.



- Closes to prevent backflow in a fraction of a second without any external power.
- Valve extremely reliable with clapper only moving part.
- Maintenance, when required, is fast and easy.
- For protection of environment at river crossings, personnel on offshore platforms, and equipment at steam turbines.
- Full-opening; permit passage of intelligent pigs, scrapers and spheroids. Minimum pressure drop across open valve.
- Sizes 6" through 30". Carbon steel standard, stainless steel available.
- Pressure ratings ANSI class 150 through 900. Flanged and/or weld-end connections.
- Available with metal-to-metal seal and ring joint cover seal. Removable seats optional. Wide range of additional options.

## PISTON CHECK VALVES

Designed to prevent backflow, the M&J Valve piston controlled check valve is silent in operation and has no flapper to hammer against the seat. The patented "floating piston" rides up and down in the cylinder with flow surges. As flow pressure is reduced, the piston softly settles on the seat to prevent backflow. Opening and closing actions are positively controlled to minimize pulsation and to eliminate chattering.

Available in line sizes 1" - 20", class 150-2500.



## 4-Way Diverter Valves

The M&J 4-way diverter valve has a unique design and operating characteristics allowing the valve to be cycled hundreds of times per day. The 4-way diverter valve and its operating mechanism (manual, electric motor or hydraulic actuator) are designed to operate as a system ideally suited for meter proving.

- Automatic pressure-gauge indication of double-block-and-bleed seal
- All seals can be replaced in the field
- The valve provides fast, frequent, tight shutoff
- Available in 3"-24" sizes.

## Trunnion Mounted Ball Valve

The M&J ball valve is a three piece bolted body design, with internal trunnion blocks. The M&J ball valve incorporates a version of the patented "EN" style seat seal currently used in the M-303 gate valve. A combination nylon and elastomer seal in the same face groove acts as the primary seal in both high and low pressure differential conditions. Seat rings are spring loaded for low pressure sealing. Standard features include a positively retained stem, double block and bleed capability, anti-static design, and grease seal feature. The M&J ball valve is designed to provide ease of operation, low torque, and extended seal life. The through conduit full bore API 6D design assures unrestricted flow and allows both pigging and hot tapping. All M&J ball valves are bi-directional and may be installed for flow in either direction. The ball valve provides an attractive solution for positive shut off requirements in oil & gas pipelines.

## Flow Loop

A full-scale, fully instrumented flow loop allows all M&J valves to be tested under actual operating conditions—including surge tests for surge-relief systems. A line valve can close within one second to generate transient pressure surges over 1100psi.



SPX FLOW welcomes your inquiry about any special requirements.





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