

M&J VALVE

AN SPX BRAND

Ball-Trol™ Rotary Control Valve

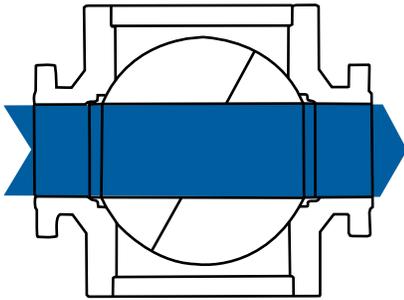


SPX®

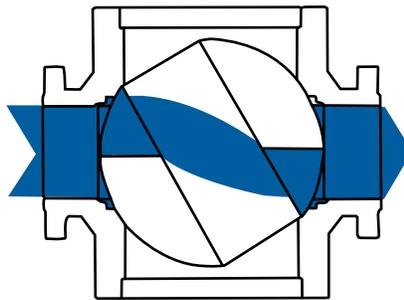
BALL-TROL™

ROTARY CONTROL VALVE

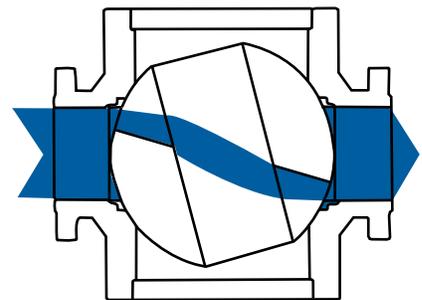
Patented



100 % Open



50 % Open



25 % Open

The M&J Valve Ball-Trol™ design is the latest in the state of the art technology. This valve offers the highest Cv's of any competitive valve in the wide open position, yet gives modulating control over the full range of travel. This bi-directional valve is ideal for controlling varying flow rates of gas, liquids and slurries.

Design Features

Body

The M&J Ball-Trol is a three piece, bolted body, trunnion mounted design providing ease of operation, low torque, and extended seat seal life. The bolted body construction allows access for field service and maintenance.

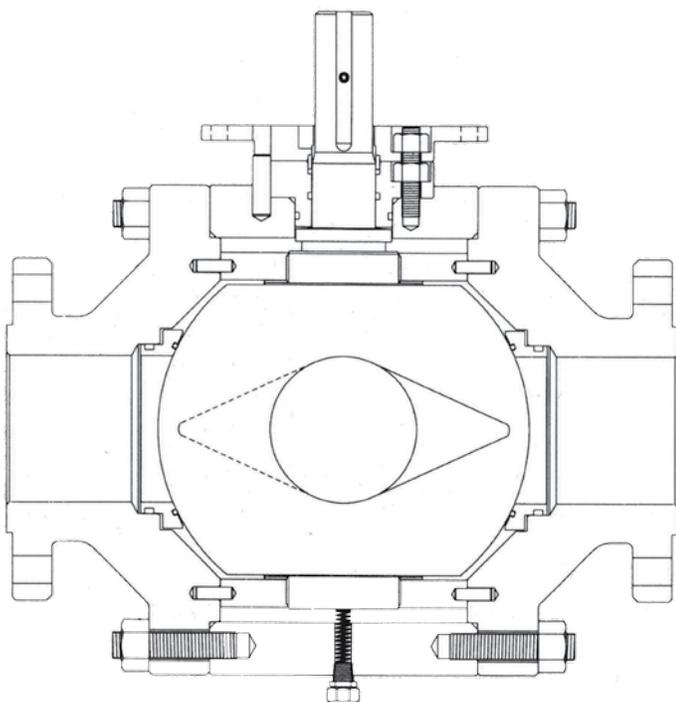
All major components of the Ball-Trol are normally made from forgings, allowing the use of widely accepted materials.

Trunnion

The M&J Ball-Trol is a trunnion mounted design. The trunnions are integral with the ball and are precisely fitted into TFE lined bearing blocks supported within the body. This design provides exact location and support of the ball while insuring low, consistent torque.

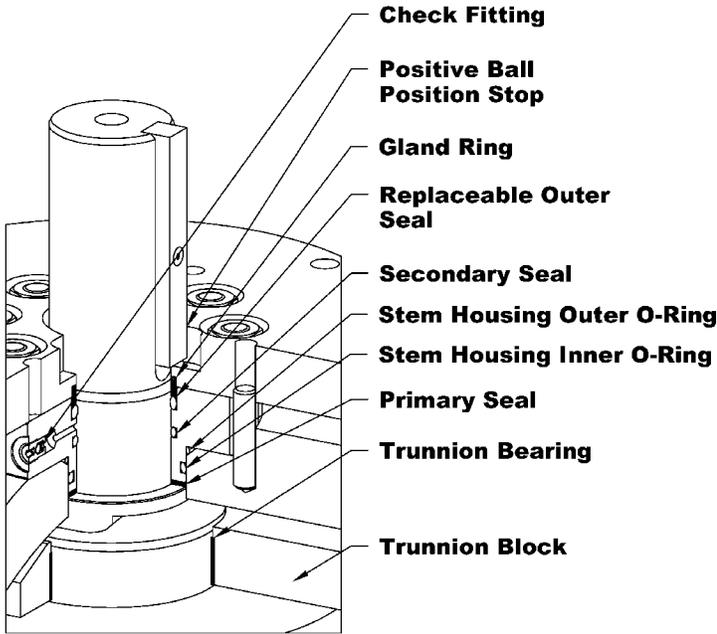
Seat Sealing

Seat rings are spring loaded for low pressure sealing. For higher pressure sealing, the differential area between the seat O.D. seal and the face enhance the seal.



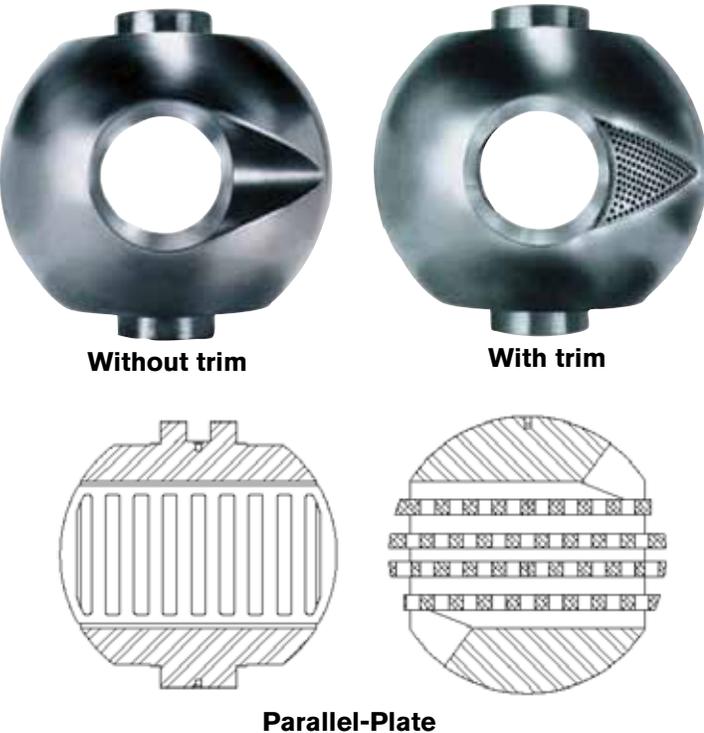
Stem Sealing

The M&J Ball-Trol is designed with a positively retained to allow removal of the topworks with the valve under pressure. The design utilizes three seals to insure the integrity of the stem seal. The primary seal is a backseated design using reinforced TFE, combined with a secondary inner seal and an externally replaceable outer seal. Between the inner seal and the outer seal, a port with a check fitting is provided for integrity testing and venting prior to outer seal removal.



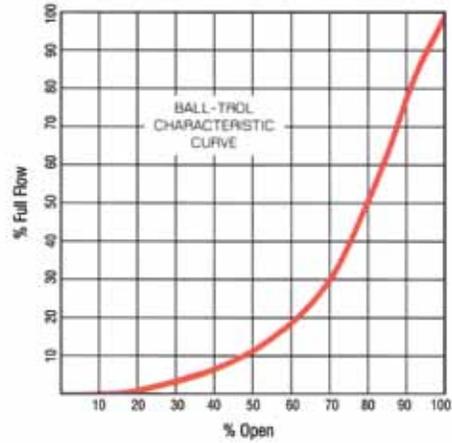
Rangeability

In applications where flow rates fluctuate from high to low extremes and two control valves are required, one Ball-Trol with the 350:1 rangeability will meet most requirements.



Flow Characteristic

The twin "V" grooves designed in the ball provides nearly equal percentage type characteristic through 70% opening. From 70% and up, the "V" grooves gradually change to full port opening without any obstruction. No protruding shafts to interfere with the flow of fluids or add pressure drop.



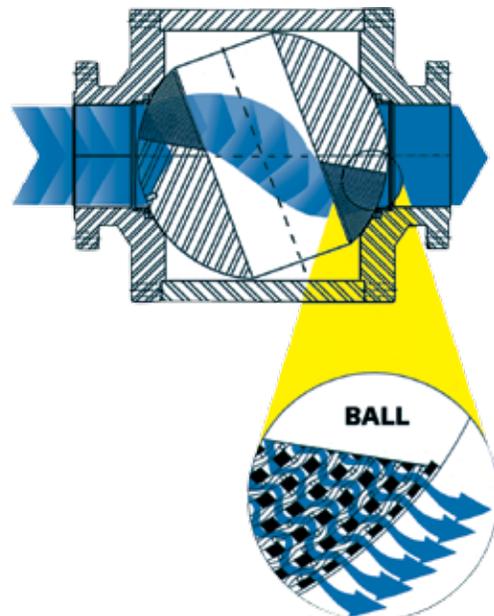
Ball/Bi-Directional

M&J Valve's unique twin characterized "V" grooves in the ball gives a two staged pressure drop across the ball which reduces noise or cavitation. The bidirectional feature provides the option of controlled flow in either direction.

Trim Options-Noise/Cavitation Abatement

For clean service (natural gas, refined fuels, water, etc.) applications requiring cavitation and or noise abatement type trims, the Ball-Trol offers the optional V-Slot with Trim ball. This proven design utilizes multiple deflector plates that stage the pressure drop as the flow passes through the twin "V" ports. This multiple stage drop reduces velocities, noise, cavitation, and material erosion.

For dirty service (crude oil, slurries, etc.) applications requiring cavitation type trims, the Ball-Trol offers the Parallel Plate trim option. This trim also stages the pressure drop, but can pass very large particles without plugging.



Noise Abatement

M&J V-Slot with trim reduces noise up to 28 dBA.

Maximum Cv Valves			
Valve Sizes Inches (mm)	Full-Bore (No V-Slots)	V-Slot & V-Slot with Trim	Parallel Plate
2" (50)	305	299	N/A
3" (80)	695	672	N/A
4" (100)	1,201	1,195	N/A
6" (150)	2,700	2,689	971
8" (200)	5,120	3,903	1,409
10" (250)	8,010	6,098	2,201
12" (300)	11,550	8,781	2,750
16" (400)	20,500	15,811	4,566
20" (500)	31,900	24,392	7,014
24" (600)	44,100	35,124	10,143

Shut-Off Class

GTFE & Ryton seats = Class V (Standard)
Class VI (Optional)

Fixed Metal seats = 1% of Rated Capacity

Differential

The maximum differential (dP) across the seat equals the ANSI rating of the valve.

Temperature

Standard temperature is -20°F (-29°C) to 400°F (204°C)
(Consult factory for applications above or below this range.)

Actuation

The Ball-Trol can be fitted with a variety of operators including electric, hydraulic, and pneumatic actuators. M&J can furnish limit switches, controllers, positioners, and other types of auxiliary equipment to accommodate our customer's needs.

Quality

SPX - M&J Valve Facility, Houston, TX, is in conformance to ISO 9001:2000 for the design and manufacture of valves and related accessories under IAF scope Category 18.

APIQR registration number 0093.

The Ball-Trol is designed, manufactured, tested, and certified to one or more of the following: B16.5, ANSI B16.10, ANSI B16.34, ANSI B2.1, API-598, API-1104, ANSI/FCI-70-2-1991, BS 2080, BS 5146, BS 6755.

BALL-TROL MODEL NUMBER

754-AB-1VNL-E2

Ball-Trol Control Valve
7

ANSI Pressure Class
1=150 ANSI
3=300 ANSI
5=600 ANSI
6=900 ANSI
7=1500 ANSI
8=2500 ANSI
X=Other

End Connection
4=RF
5=RTJ
X=OTHER

Body Materials of Construction

A = CS (Standard)
B = 316 SS
C = CS NACE
D = CS-ENP
E = CS Low Temp LF2
G = CS Low Temp NACE
X = Other

Trim

A=CS (Standard)
B=316 SS w/17-4 stem
C=CS-NACE
X=Other

Seat Face Seal

1=Teflon
(Std. ANSI 150-900)
2=Ryton
(ANSI 1500 & up)
4 = NONE
(Fixed seat design)
X=Other

Seals

V=Viton (Std)
N=Buna-N
E = EPDM
G = VITON-GFLT
H = LOW TEMP BUNA-N
X=Other

Ball Type

L=Low Noise Trim & Anti-Cavitation Trim (V-Slot with Trim)
P=Dirty Service Anti-Cav Trim (Parallel Plate)
S=Standard (V-Slot)
T=Full Bore (No V-Slot)

Fire Safe
N=No

Actuator/Signal

P1=Pneumatic/3-15 psi
P2=Pneumatic /4-20 MA
H2=Hydraulic/4-20 MA
E2=Electric/4-20 MA
XX=Other

SPX®

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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.spxft.com.

SPX Corporation reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing.