



Valbart[®] TMCBV Trunnion-Mounted Control Ball Valve



Experience In Motion

High rangeability and reliable flow control

The Valbart TMCBV trunnion-mounted control ball valve is engineered to deliver high rangeability along with cavitation control and noise attenuation in demanding oil and gas applications. It provides exceptional control at minimum operating conditions as well as high flow rate requirements.

Noise and cavitation solutions

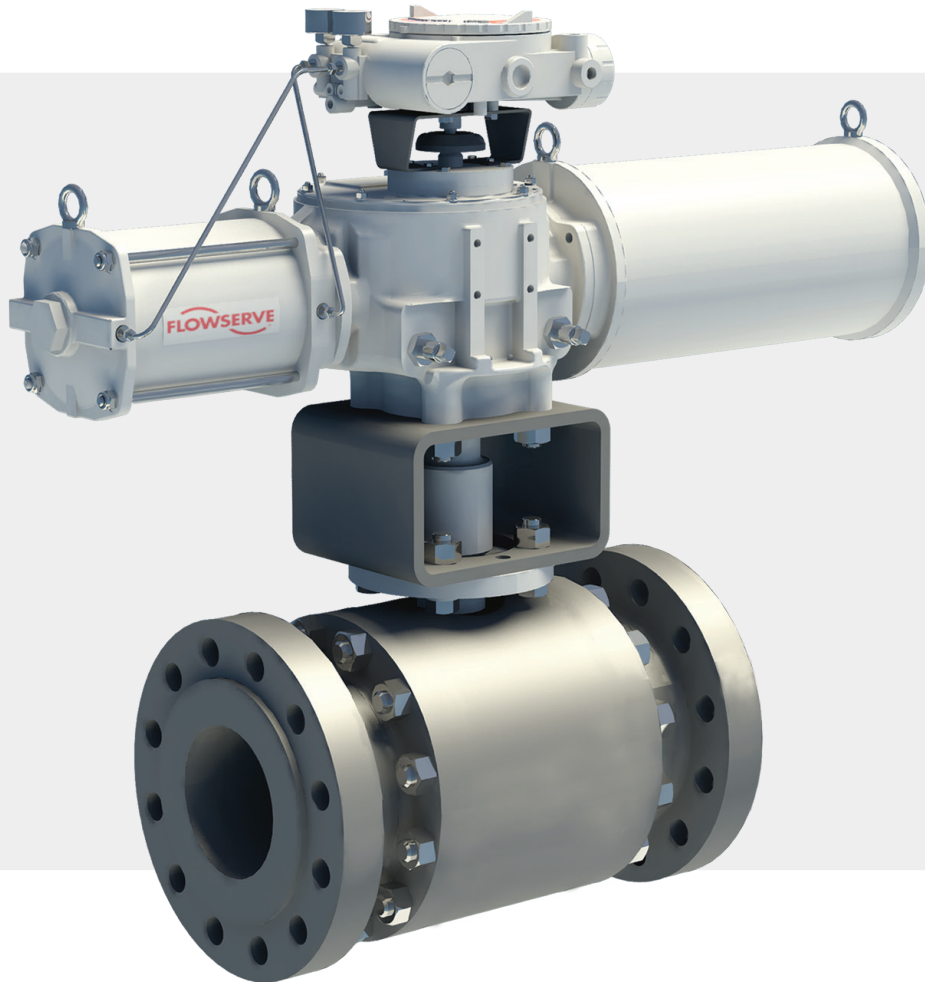
Flowserve has been developing industry-leading noise and cavitation solutions for our customers' control valve applications for more than 50 years. Severe-service trims designed for liquid and gas applications reduce noise and cavitation, even under the most challenging conditions.

Reliable control

The TMCBV valve is designed to operate at high pressures while minimizing the torque needed to operate the valve. Our innovative trim technologies, combined with a standard tungsten carbide coating on the ball and seat, ensure the TMCBV valve provides reliable continuous control.

Lower fugitive emissions

Rotary seals, precision machining and accurate trunnion guiding all contribute to zero external leakage, ensuring that the Valbart TMCBV valve meets all environmental standards.



Typical applications

- LNG liquefaction, transportation and regasification
- Hydrogen production and transportation
- Oil and gas exploration and production
- Oil and gas transportation and processing



Specifications

Sizes and pressure classes	NPS 4 to 56: Class 150, 300, 600 NPS 4 to 48: Class 900, 1500 NPS 4 to 24: Class 2500 NPS 2 to 11: API 3000, 5000, 10000
End connection	Integral flange or integral hub
Flange facing	Raised face (RF), flat face (FF) or ring-type joint (RTJ)
Body material	A350 LF2, A182 F316; alloys upon request
Face-to-face	API 6D, ASME B16.10, API 6A
Body style	Side-entry or top-entry
Trim style	Full port, reduced port
Bonnet type	Standard, extended, cryogenic or high-temperature
Packing	PTFE V-ring, graphite; others upon request
Fire safety	API 607, ISO 10497, API 6FA
Temperature	-196°C to 450°C (-320°F to 842°F)
Shut-off	ANSI/FCI 70-2: Class IV or V (metal seat) or VI (soft seat)

Design standards

API 6D, API 6A, IEC 60534, ISA 75

Test standards

API 6D, API 6A, API 598, ANSI/FCI 70-2, IEC 60534-4

Certifications/approvals

ISO 9001, PED, CRN, TRCU, ATEX, TSG, ISO 15848, IEC 61508, API 6FA



High-rangeability noise control

High rangeability of 300:1 ensures exceptional control at minimum and maximum flow rates.

Severe-service trims provide effective noise attenuation and cavitation control in the most demanding applications.

Tungsten carbide-coated ball and seat enable low-friction throttling to improve control and increase seat reliability.

Spring-loaded metal and soft seats deliver reliable long-life, shut-off capability.

Fugitive emissions compliance is ensured by a variety of stem packing options.

Compact, high-capacity design enables a smaller valve and actuator to be used for a given Cv, leading to significant space, weight and cost savings.

Valve design with few moving parts improves reliability and performance while reducing total cost of ownership.

High-thrust actuator allows for small, accurate movements.

Tight tolerances on the ball, shaft and actuator connections permit precise process control.

Severe service trims

Noise reduction

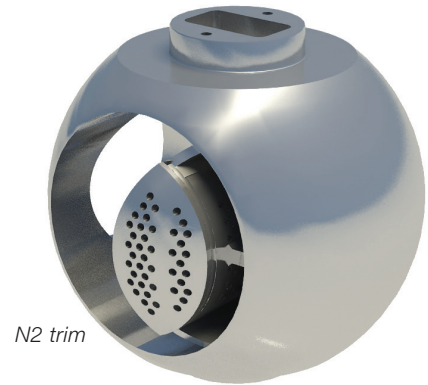
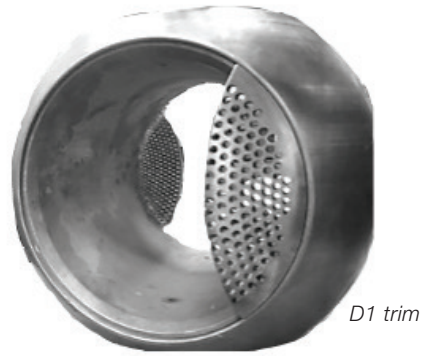
TMCBV noise reduction trims effectively reduce control valve noise in a range of gas applications by controlling turbulence carried into the downstream piping. Each stage is designed to take a small pressure drop, avoiding the high velocities through gradual pressure reduction.

D1 trim

Versatile trim maximizes rangeability. It uses a two-stage design to provide noise attenuation at low flows, and opens up to allow straight-through flow for higher-capacity conditions.

N2 trim

Three- to four-stage trim employs a torturous flow path to gradually reduce the pressure, providing up to 30 dBA attenuation.



Cavitation reduction

TMCBV cavitation control trims reduce or eliminate cavitation, depending on the application requirements. The trims are available in multiple styles optimized for cavitation control and flow capacity.

C1 trim

Minimizes the cavitation damage to valve internals by controlling the location and concentration of cavitation vapor bubble implosion in an area away from the metal parts

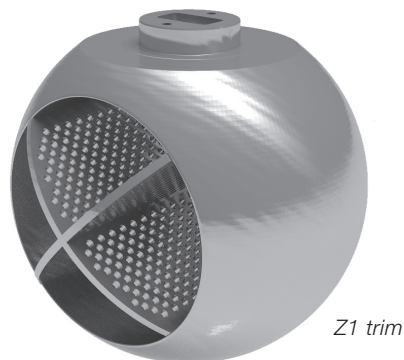
C2 trim

An extension of the C1 trim customized for applications which see cavitation in lower openings but would need more flow capacity at higher openings



Z1/Z2 trim

Omnidirectional and self-cleaning. Useful for preventing cavitation and noise for dual-phase applications.



Actuation and instrumentation



Logix™ 3800 digital positioner

Compatible with linear and rotary valves and actuators, the Logix 3800 digital positioner delivers high reliability in harsh environments. It provides unparalleled modularity and versatility within a single unit. Its ability to handle double- or single-acting, linear and rotary applications reduces inventory and operating costs. An innovative, one-button, quick-calibration feature simplifies installation.

PMV™ D3 digital positioner

Featuring a zero-bleed pneumatic relay, the PMV D3 positioner is suitable for linear or rotary valves, single- or double-acting actuators, and special applications. Available with general purpose, intrinsically safe or explosion-proof housings, and with plug-in modules for limit switches and feedback.



Limitorque® LPS pneumatic Scotch yoke actuator

The Limitorque LPS actuator is ideal for medium or large valve actuation and any application requiring robust design, long service life and high-speed operation. Its modular construction allows easy on-site maintenance without special tools or valve removal. The actuator's 25-year design life and maintenance intervals of up to six years lower its total cost of ownership.



Global service network



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, routine maintenance and product upgrades.

Single point of contact

Our QRCs 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 and can turn around new and custom-built units within 72 hours.



Time-critical repairs

To meet your time-critical repair needs, Flowserve offers 24-hour emergency repair, free pick-up and delivery within QRC service areas, and mobile and on-site repairs. When a service technician is needed on-site, we can have one there within 24 hours anywhere in North America, and 48 hours outside of North America.

To locate a Flowserve representative near you, visit www.flowserve.com



Increased visibility to condition and performance

Compatibility with IoT tools, such as the RedRaven platform from Flowserve, provides advanced condition monitoring and predictive analytics to alert operators before equipment issues cause unplanned downtime.



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