Harness leading technology to improve process performance.

AEV Ball Valves

Superior ball valve technology for cryogenic and severe service isolation applications.

EMERSON™

Is traditional technology returning traditional results?

Global energy markets are now more dynamic than ever as buyers become more price sensitive and seek out flexible sources of supply. Traditional production technologies are no longer enough to remain competitive in this new market reality.

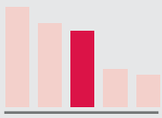
Opportunities for growth exist with burgeoning global demand, however disciplined investment is required. And that means selecting the right process technologies that not only enable efficient use of capital, but also build in long term productivity improvements.

What if you could partner with a valve expert who understands the challenges of cryogenic and severe service process isolation, and could apply their superior expertise and technology to deliver a step-change in your performance?

Inferior or poorly specified valves in critical applications can leak and put your operations at risk, potentially causing harm to personnel, environmental contamination, and product loss.

77% of executives from leading EPCs reported projects underperforming due to poor estimation and risk management processes.
- KPMG Global Construction Survey 2013

Valves are a leading cause of unplanned shutdowns and slowdowns resulting in annual production capacity losses of as much as 0.2%.
- “Improve reliability with essential asset monitoring”, InTech 2012



Increasingly dynamic global energy markets are rewarding the selection of optimized process technology, such as valves, as an enabler of project delivery and operational success.

Maximize your results with revolutionary, yet proven ball valve technology

Your choice of valve technology can have a profound impact on the profitability and on-time delivery of your projects, as well as the efficiency of your ongoing operations and cost of production. When you partner with Emerson, you gain access to the cutting-edge innovations and application experts that can drive these benefits in your business.

Introducing Emerson's latest innovation, set to revolutionize the way you think about ball valves in the isolation of your cryogenic and severe service processes. With its breakthrough "C" shaped ball design, the ^{2}XC™ ball valve delivers unrivalled torque seated isolation, with improved safety, reliability, and performance.

Emerson is your LNG valve technology partner

The breakthrough ^{2}XC ball valve joins the world renowned Vanessa Series 30,000 triple offset valve to complete Emerson's portfolio of leading isolation solutions for the LNG industry. You can now leverage a technology advantage across your plant at scale to improve performance, no matter the size or pressure class of the application. And all from a single partner with the experience, application expertise, and global resources to ensure that you capture the productivity and profitability benefits of your investment.

An expert valve partner can help you apply the latest process isolation technologies to improve your operational performance and competitiveness in a dynamic global marketplace.

How it works

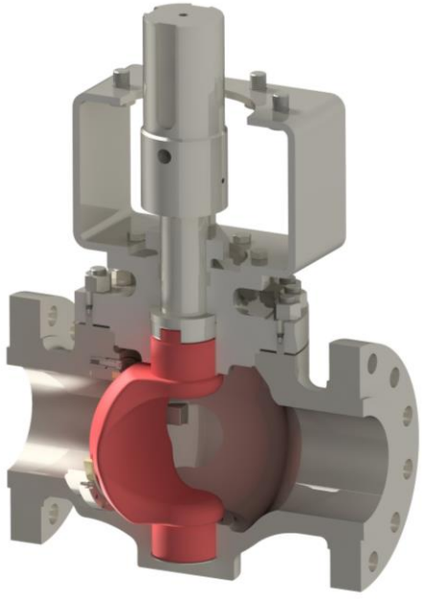
Enabled by a unique “C” ball shape and double eccentric design, the ²XC ball valve acts along two vectors of movement to allow opening and closing of the valve without friction or wearing at the seat and “C” contact.

At close, a zero leakage metal to metal seal is formed by cam effect one full order of magnitude greater than the prevailing industry standard (BS6364), assuring an ultra-tight mechanical seal.

Sealing energy is transmitted through the stem and against a fixed seat, eliminating the need for lipseals, springs, or dynamic seals. This results in superior, reliable, uniform sealing performance at high and low pressures in an inherently fire safe design.

In severe service, this seal design ensures no media can accumulate and harden between the seat and body, preventing a leading cause of valve failure.

The C shape also eliminates the ball cavity of traditional valves, removing the risk of catastrophic failure due to the expansion of unstable trapped product in a true bi-directional design.



Size Range	DN 15 – 1050 | NPS ½ – 42
Pressure Class	ASME Class 150 to 2500

Optimize your cryogenic processes with superior ball valve technology

Ensure safety

Make no compromise on safety as the "C" shaped ball eliminates the ball cavity and with it, the inherent risk of trapped product expanding to cause catastrophic valve failure. The valve seat is also fully encapsulated with stainless steel to safeguard against explosive failure.

Lower installed cost

Engineer cost out of your project with this true bidirectional valve that requires no venting, allowing streamlined pipe routing and fewer isolation valves. The ²XC also features a modern top entry design that is up to 30% lighter than traditional comparable ball valves.

Certified to perform

Rest assured of process isolation performance with the ²XC that is engineered to meet and exceed the most stringent industry standards and is certified to API 6D, BS6364, Shell TAT, and SIL 3 capable.

Alleviate your risk

Work with a single, accountable partner in Emerson who can manufacture, assemble, calibrate, test, and certify fully automated isolation valve solutions.

Minimize product loss

Drive towards maximum process efficiency with a truly zero leakage valve. Torque seating combines with an advanced fixed seat design to deliver assured mechanical sealing one full order of magnitude better than the prevailing industry standard (BS6364).

Maximize uptime

Improve plant throughput with the unique double eccentric "C" ball design that enables friction-free rotation to eliminate wear. Together with superior material selection, you can extend your maintenance intervals to run your processes for longer.

Reduce maintenance costs

Minimize labor costs and get back up and running fast with the ²XC's top entry design that facilitates rapid access to all repairable parts and all while the valve remains welded in-line.

Lower emissions

Lead the way in emission reduction performance with the ²XC torque seating design that eliminates dynamic seals and also features an ultra low emission packing system to meet applicable regulatory requirements.

Applications

²XC ball valves excel in some of the most challenging cryogenic applications ►

- LNG Liquefaction Terminals
- LNG Regasification Terminals
- Peak Shaving Plants
- LNG Bunkering
- FSRU
- FLNG
- LNG Fuelling
- LNG Ships
- Gas Fractionation Plants
- Ethylene Storage
- Rocket Engine Testing
- Air Separation
- Emergency Shutdown

Achieve ultimate dependability in severe service applications

Trouble-free operation

Enjoy smooth operation over an extended life with the cavity free design that eliminates the opportunity for product to build up in the cavity, harden and impair operation of the valve. The ²XC is also completely safe for volatile fluids that can expand, decompose or ignite in trapped cavities.

Minimize particle damage

Achieve longer lasting tight shutoff in severe service applications with a cam motion that creates low friction and thereby minimizes particle damage. In contrast, traditional ball valves with a concentric motion are highly susceptible to sealing service wear.

Impenetrable protection

Take on abrasive particle applications with a valve architecture that allows 100% unbroken HVOF coating of the ball surface. With no start or end point, the hard-wearing coating is extremely resistant to wear and is able to close on particles without damage.

Smooth rotation

Attending to even the smallest details, the ²XC features cloistered two-piece bearings to create an improved low friction surface for high cycle life.

Optimized sealing

Rely on the ²XC's fixed seat to provide repeatable, ultra-tight shutoff with a design that eliminates the use of springs and yet another opportunity for product build up that can result in fouling, seat contamination, and premature valve failure.

Particle sweeping

Minimize stress on valve closure with a convex-to-convex seat design that sweeps particles in the last 2-3 degrees of motion rather than compressing impurities into the valve trim to maintain seal integrity.

Trunnion area integrity

Ensure long term reliability and keep packing integrity with optimized seals that maintain zero ingress of particles into the trunnion area at the top and bottom of the C ball without creating wear on metal parts.

Superior construction

Massive integral trunnions fully support the ball, absorb process forces, and protect the stem from side loads to reduce wear on mechanical parts and preserve packing integrity in high cycle applications.

Applications

²XC ball valves are proven to perform in some of the most challenging severe service applications ▶

- Molecular sieve
- Polymers
- Fouling service
- Molten fluids
- Cavity free applications
- High Integrity Pressure Protection Systems
- Emergency Shutdown

Leverage the latest technology to excel in a dynamic global market

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