

Your selection of valve
technology, matters.



Isolation Valves
Product Portfolio Overview





Isolation Valve Technology Engineered for your business success

The isolation valves you install in your facility have a direct impact on the performance and profitability of your operations. Your selection of valve technology matters if you are looking to:

- Improve process quality and efficiency
- Increase uptime and throughput
- Minimize fugitive emissions; and
- Eliminate safety risks

Emerson offers a portfolio of superior isolation valve technology that is defined by exceptional sealing tightness, reliable operation, minimal maintenance and a lower total cost of ownership. Our technology is backed by the expertise of our global engineering teams and delivered with the experience of your local partner.

Trust Emerson as your expert partner to optimize your isolation valve assets to help you achieve project delivery success and meaningful improvements in your business performance.

Our leading brands:

VANESSA
AEV
CLARKSON
KEYSTONE
KTM
NEOTECHA



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Triple Offset Valves

Triple Offset Valves

Triple offset valves are an alternative solution to traditional process valves providing premium performance, long service life and minimum maintenance in extreme operating conditions.

Vanessa™

Vanessa triple offset valves are lighter, easier to install and virtually maintenance free, with advanced reliability, durability and reduced total cost of ownership.

According to 'Leakage Rate A' when * tested with high pressure water and low pressure air of ISO 5208 and EN 12266-1 standards and the 'Resilient Seat Valves' requirement of API 598.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

Triple Offset



Vanessa Series 30,000 Triple offset valve.

Featuring an integral-to-body seat, these valves are suitable for a wide range of applications including zero leakage* isolation, on-off, emergency shutdown and pressure/flow control.

Features

- Full metal construction
- Stellite® grade 21 seat overlays provide excellent durability
- Resilient metal seal ring ensures perfect seating force distribution
- The one-piece shaft ensures high pressure containment safety/maximum torque seating integrity
- Two-piece packing gland and graphite packing minimize external emission risk
- Heavy duty bearings withstand high pressure loads and wear

Technical Data

Size range:

DN 80 to 3000 (NPS 3 to 120)

Pressure rating:

ASME class 150-1500,
EN PN 10-250

Temperature rating:

-254°C to 815°C (-425°F to 1500°F)

Applications

Oil and gas, LNG, gas treatment, chemical and petrochemical, power, district heating (HVAC), desalination, mining and water

Vanessa Series 30,000 Standard configuration.

Suitable for temperatures between -50°C (-58°F) and 425°C (800°F) the Series 30,000 standard configuration is extremely robust and inherently fire-resistant thanks to its all metal construction.



Vanessa Series 30,000 High temperature configuration.

The high temperature configuration is suitable for applications up to 815°C (1500°F). The valve is designed to compensate for the thermal expansion of components and to withstand 'material creep' at temperatures over 600°C (1112°F). The extended bonnet helps to maintain the packing operating temperature which greatly reduces the risk of fugitive emissions.



Vanessa Series 30,000
Cryogenic configuration.

Series 30,000 cryogenic valves feature an extended bonnet, which meets the requirements of BS 6364, and are constructed from materials carefully selected to match pipe specification and project requirements while also being unaffected by cryogenic conditions and severe temperature fluctuations.



Vanessa Series 30,000
Cryogenic butt weld top entry.

When an inline maintenance capability is mandatory, this design allows for access without removing the valve body from the line. The entire valve trim can be removed from the body and individual valve parts can be accessed in total safety.



Vanessa Series 30,000
Molten salt solutions.

A 'molten salt' valve has been specifically designed for solar power generation applications. The butt weld body style features an extremely compact design that fully integrates with the pipeline and significantly reduces thermal dissipation simplifying the piping insulation design.



Vanessa Series 30,000
Sulfur recovery solutions.

Series 30,000 valves featuring a thermal jacket, bearing flushing and with suitable material selection have long proven to be the key solution for both ON-OFF and by-pass functions within the catalytic section of SRUs and for the handling of tail gas.



C-Ball Valves

C-Ball Valves

A double eccentric C-ball valve is similar in principle to a conventional ball valve, but with a half ball that makes a “C” shape. This C-shaped ball rotates on two planes of motion with energy from the stem to close and seal against a fixed seat.

AEV™

Emerson’s latest innovation, the AEV C-Ball Valve, is 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 ²XC™ ball valve delivers unrivalled torque seated isolation, with improved safety, reliability, and performance.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

Double Eccentric C-Ball



AEV ²XC™

Double eccentric c-ball valve.

The AEV ²XC deploys a breakthrough C-Ball design that delivers unrivalled torque seated isolation, with improved safety, reliability and performance.

Features

- The “C” shaped ball design eliminates the ball cavity and with it, the inherent risk of trapped product
- Minimize product loss with a truly zero leakage valve. Torque seating combines with an advanced fixed seat design
- Reduce emissions with the torque seated design that eliminates dynamic seals and also features an ultra low emission packing system
- Enjoy a high cycling life with non-rubbing rotation and a cavity free design
- Engineer cost out of your project with this true bidirectional valve that requires no venting, allowing streamlined pipe routing and fewer isolation valves.
- Designed and tested to meet and exceed the most stringent industry standards and is certified to API 6D, Shell TAT, SIL 3 capable, Firesafe and Fugitive Emissions.

Technical Data

Size range:

DN 15 to 1050 (NPS ½ to 42)

Pressure rating:

ASME 150 to 4500

EN PN 10 to 760

Temperature range:

-253°C to 600°C (-328°F to 1112°F)

Applications

Cryogenic process isolation, rocket engine testing, severe service, molecular sieve, polymers

AEV ²XC

Cryogenic.

Optimize your cryogenic processes with superior ball valve technology. The AEV ²XC design eliminates the ball cavity to improve safety and enables mechanically assured shutoff for zero leakage performance, despite extremes in temperature and pressure.



AEV ²XC

Rocket engine testing.

The ²XC is in a class of its own when it comes to reliable, rapid sealing performance in extreme cryogenic applications. Emerson also has the experience and application expertise to custom-engineer bespoke solutions.



AEV 2XC

Severe service.

Achieve ultimate dependability in severe service applications. The 2XC's design ensures reliable isolation and long service life with non-rubbing rotation and zero cavity for particulate build up that can cause the serious reliability issues seen in traditional ball valves.



AEV 2XC

Mini.

The 2XC Mini delivers the same revolutionary safety and performance in a compact cryogenic valve ideal for OEM's, Marine LNG, and LNG Bunkering.



Knife Gate Valves

Knife Gate Valves

Emerson manufactures knife gate valves for light to heavy slurry service in the mining and mineral processing, power, pulp and paper, waste water and chemical industries. Customers rely on our knife gate valves for reliability, longer service life and lower total cost of ownership.

Clarkson™

Designed for light to medium and arduous duty service suitable in water, process and mining industries, Clarkson high performance knife gate valves can be relied on to deliver a 100% bubble-tight isolation shut off where absolute zero downstream leakage is essential.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

General Purpose



Clarkson Figure 952

General purpose knife gate valve.

Compact, uni-directional valve for high flow rates with low pressure drops.

Features

- Self-aligning gland box
- One piece 316 SS integral cast body, chest and lugs
- Integral cast in gate wedges minimize flow obstructions
- High quality gate finish for optimum sealing
- Integral RTFE gate scraper and gate guides to support gate
- Complies with MSS SP-81 face-to-face dimensions

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)

Pressure rating:

10 bar (150 psi)

Temperature rating:

316 SS seat: 230°C (445°F)

RTFE seat: 150°C (300°F)

FKM seat: 150°C (300°F)

Applications

Pulp and paper, metals and mining, oil and gas, power and water

Perimeter Seated



Clarkson PCS17

Resilient seated knife gate valve.

A bi-directional valve that ensures zero leakage in either direction.

Features

- Unique drop-in perimeter cartridge seats ensure zero leakage and quick and cost-effective maintenance
- Seat geometry and precision moulding process ensure zero water leakage at low or high pressures
- In-line replaceable seat
- Solid cast, one piece 316 stainless steel body for optimum performance and reliability
- Complies with MSS SP-81 face to face and full port design to Schedule 40

Technical Data

Size range:

DN 50 to 750 (NPS 2 to 30)

Pressure rating:

DN 50 to 600: 10 bar (150 psi)

DN 750: 6 bar (100 psi)

Temperature rating:

EPDM seat: 150°C (300°F)

NBR seat: 95°C (200°F)

FKM seat: 205°C (400°F)

Applications

Pulp and paper, metals and mining, oil and gas, power and water



Clarkson SU10R Slurry knife gate valve.

Bi-directional isolation with a field replaceable snap-in liner that completely protects the wetted area from abrasion and corrosive slurries.

Features

- True bi-directional flow and shut-off.
- Unique one-piece, precision molded high strength polyurethane liner protects the wetted parts, from corrosion and abrasion.
- The liner has integral sealing beads to support and wipe slurry from the gate.
- It can replace conventional and short pattern slurry knife gate valves.
- Compact two-piece split body construction for easy maintenance.
- Fully rated 316 stainless steel gate, with optional 17-4 ph for improved resistance to highly abrasive applications.
- Complies with MSS SP-81 face-to-face dimensions.

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)

Pressure rating:

1000 kPa (150 psi) at cold working pressure (non-shock)

Not suitable for vacuum service

Temperature rating:

50°C (120°F) on liquid service

80°C (175°F) on dry service

Applications

Mining, mineral processing, coal preparation, chemicals and wastewater



Clarkson KGD Slurry knife gate valve.

A wafer style slurry knife gate valve that offers the latest in elastomer technology with the Clarkson Mark III sleeve design.

Features

- 100% isolation, bubble-tight shut-off results in absolutely zero downstream leakage.
- Double-seated design provides bi-directional flow and shut-off.
- Unobstructed flow eliminates turbulence, minimizes pressure drop across valve.
- No seat cavity where solids can collect and prevent full gate closure.
- No gate or stem packing is required, eliminating packing leakage and maintenance.
- No metal parts in contact with the flowing slurry.

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)

Pressure ratings:

10 bar (150 psi) max.

Temperature ratings:

Up to 150°C (300°F)

Applications

Metals and mining and power





Clarkson KGA+
Slurry knife gate valve.

A heavy duty slurry valve with new features including an improved secondary seal and full face flanges.

Features

- Improved secondary seal is capable of being lubricated without disassembly, simplifying valve maintenance.
- Full flange body design with available flange drilling including ASME B16.5, PN10 & PN16 (per DIN and BS standards), and Australian Table D & E (per AS 2129) among others.
- Simplified two-piece body design allows for easier rebuilds.
- Can be used in wet or dry services easily dealing with large, heavy particles and tramp material.
- 100% isolation; bubble tight shut-off results in absolutely zero downstream leakage.
- Heavy duty, field replaceable elastomer sleeves with internal stiffener.

Technical Data

Size range:

DN 80 to 1500 (NPS 3 to 60)

Pressure ratings:

6.9 bar (100 psi) max.

Temperature ratings:

Up to 205°C (400°F)

Applications

Metals and mining and power

Clarkson KGF
Slurry knife gate valve.

A heavy-duty, full port elastomer sleeves for isolation against heavy slurries.

Features

- 100% isolation bubble-tight shut-off results in absolute zero downstream leakage.
- Double-seated design provides bi-directional flow and shutoff. Field replaceable elastomer sleeves.
- Dynamic, self-adjusting secondary seal.
- Unobstructed flow helps eliminate turbulence and minimizes pressure drop across valve.
- No seat cavity where solids can collect and prevent full gate closure.
- No metal parts in contact with the flowing slurry.
- No gate or stem packing is required, eliminating packing leakage and maintenance.
- Adaptable frame (yoke) design, featuring a top-removal stem nut, can be field modified to an air cylinder or bevel gear in the field.

Technical Data

Size range:

DN 80 to 900 (NPS 3 to 36)

Pressure ratings:

31 bar (450 psi) max.

Temperature ratings:

Up to 150°C (300°F)

Applications

Metals and mining and power

Clarkson KGH
Slurry knife gate valve.

A heavy-duty, high pressure valve for isolation of heavy slurries.

Features

- 100% isolation bubble-tight shut-off results in absolute zero downstream leakage.
- Double-seated design provides bi-directional flow and shutoff. Field replaceable elastomer sleeves.
- Dynamic, self-adjusting secondary seal.
- Unobstructed flow helps eliminate turbulence and minimizes pressure drop across valve.
- No seat cavity where solids can collect and prevent full gate closure.
- No metal parts in contact with the flowing slurry.
- No gate or stem packing is required, eliminating packing leakage and maintenance.
- Adaptable frame (yoke) design, featuring a top-removal stem nut, can be field modified to an air cylinder or bevel gear in the field.

Technical Data

Size range:

DN 80 to 900 (NPS 3 to 36)

Pressure ratings:

51 bar (740 psi) max.

Temperature ratings:

Up to 150°C (300°F)

Applications

Metals and mining and power



Clarkson KS1

Severe service knife gate valve.

A true bi-directional, zero-leakage ASME Class 150 Knife Gate Valve designed for the rigors of severe service applications.

Features

- True bi-directional flow and zero leakage shut-off; can be installed in either direction
- Heavy cross section precision-molded elastomer seat provides more surface area for superior isolation
- Field-adjustable, patent-pending gate edge seal system prevents leakage through top of valve
- Enclosed body design prevents any leakage to the outside environment
- Full round port and seat design offers low pressure drop across valve and longer service life in abrasive applications
- Standard inlet and outlet replaceable, rotatable Ni-resist wear rings extend service life
- Modular frame design allows for installation of any standard accessory without modification
- Fully piggable
- Available in raised or flat face

Technical Data

Size range:

DN 50 to 400 (NPS 2 to 16)

Pressure ratings:

ASME Class 150

Temperature rating:

Up to 150 °C (300 °F) depending on elastomer

Applications

Mining and mineral processing, oil sands processing, pulp and paper, coal preparation, power and steel processing



Clarkson ZP300

Zero pocket knife gate valve.

An ASME Class 300 rated Zero Pocket bi-directional valve designed for the rigors of high pressure slurry and oil sands applications.

Features

- Full round port, adaptable to match specific pipe I.D.s offers lowest possible pressure drop across the valve
- Zero Pocket design reduces downstream turbulence offering longer service life of valve and pipework in abrasive applications
- Shut off conforms to ASME Class V
- Compliance to MSS-SP135 (Long Pattern) and ASME B16.34 Class 300
- Integral flow rings provide protection of castings and provide longer service life
- True bidirectional flow and shut-off, can be installed in either direction
- Suitable for dead end service up to full rated pressure of valve
- Designed as a repairable asset for total lower cost of ownership

Technical Data

Size range:

DN 50 to 1200 (NPS 2 to 48)

Pressure ratings:

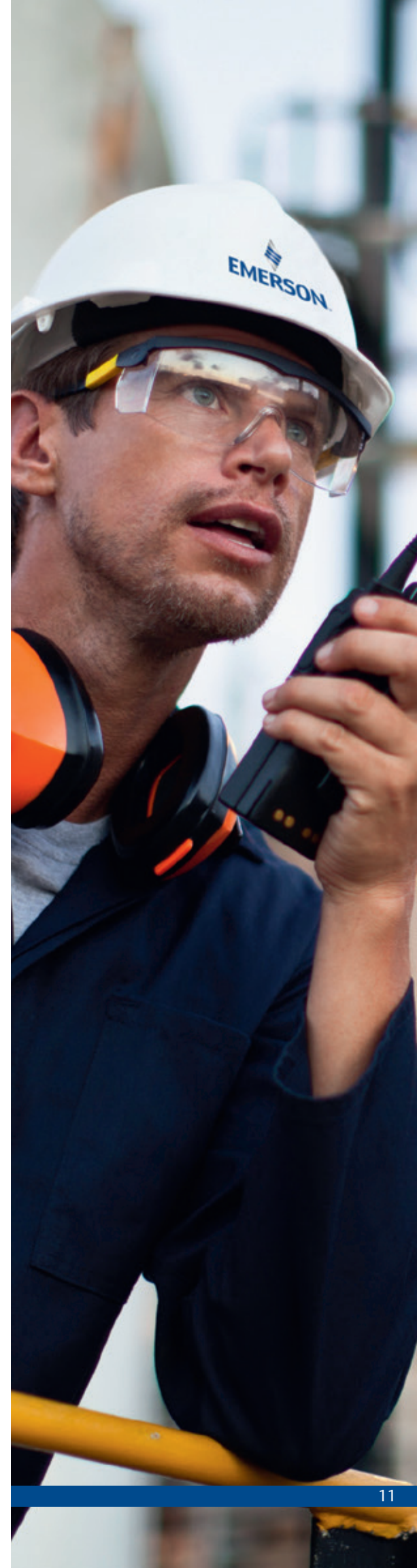
ASME Class 300

Temperature rating:

Up to 205°C (400°F) depending on elastomer

Applications

Mining, mineral processing and oil sands tailings



Butterfly Valves

Butterfly Valves

Emerson manufactures a complete range of butterfly valves from general purpose through to heavy duty and high performance models. This includes resilient seated valves for long service life and tight shut-off; high performance valves capable of temperatures of 538°C (1000°F) and pressures to PN 50 (class 300); double flanged valves in sizes up to DN 3000 (NPS 120) and lined valves suitable for highly corrosive liquids, gases and slurries.

Keystone™

Keystone butterfly valves set the standard, with a reliable and robust construction and have a higher cycle life with lower total cost of ownership than comparable products.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

Resilient Seated



Keystone Series GR Resilient seated butterfly valves.

A heavy duty resilient seated butterfly valve with a field replaceable seat.

Features

- Designed acc. to EN 593 / API 609
- Field replaceable seat isolates the body and shaft from media
- Rounded polished disc edge gives full concentric sealing, lower torques and longer seat life
- Top and bottom shaft bearings for decreased torque and increased valve life
- A molded-in O-ring on face of the seat eliminates flange gaskets

Technical Data

Size range:

Lug and wafer DN 50 to 900
(NPS 2 to 36)

Double flanged DN 600 to 1800
(NPS 24 to 72)

Pressure rating:

16 bar to DN 300 (230 psi to NPS 12)
10 bar to DN 1800 (150 psi to NPS 72)

End of line:

10 bar to DN 300 (150 psi to NPS 12)
6 bar to DN 1800 (90 psi to NPS 72)

Temperature:

-40°C to 160°C (-40°F to 320°F)

Applications

General industrial such as air, water and dry media

Keystone Figure 221/222/320/322 Resilient seated butterfly valves.

An economical resilient seated butterfly valve with a moulded in seat.

Features

- Bubble tight shut-off at full rated pressure in both directions
- Lugged version is suitable for full rated bi-directional end-of-line service
- Moulded-in seat isolates the body and shaft from the media
- Top and bottom bearings assure longer life and lower torques
- A moulded-in O-ring on face of the seat eliminates flange gaskets
- Figure 221/222 to ASME standards
- Figure 320/322 to ISO standards

Technical Data

Size range:

DN 50 to 300 (NPS 2 to 12)

Pressure rating:

16 bar (250 psi)

Full 16 bar (250 psi) end-of-line shut-off capabilities with lugged valve

Temperature:

-30°C to 150°C (-20°F to 300°F)

Applications

Building and construction, irrigation, utilities and water



Keystone Series 60 Resilient seated butterfly valves.

A heavy duty resilient seated butterfly valve with a cartridge seat design.

Features

- Cartridge seat design suitable for high pressure and vacuum service
- The valve can be installed with the disc in the closed position eliminating the risk of damage during installation
- Maximum flow and rangeability is achieved with the use of a streamlined disc
- Longer seat life with low operating torques is ensured by utilizing upper and lower stem bearings

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)

Pressure rating:

DN 50 to 300 - 17.2 bar

(NPS 2 to 12 - 250 psi)

DN 350 to 600 - 13.7 bar

(NPS 14 to 24 - 200 psi)

PTFE seat or elastomer covered disc

DN 50 to 300 - 10.3 bar

(NPS 2 to 12 - 150 psi)

Applications

Chemical and pharmaceutical, oil and gas, food and beverage and power



Keystone Figure 990/920 Resilient seated butterfly valves.

A split body butterfly valve utilizing a one piece disc stem and field replaceable seat.

Features

- One-piece wafer-thin disc-stem provides high strength, positive disc control and the minimum obstruction to flow
- Thin disc profile provides a larger open area, increased flow capacity and control capability
- Field replaceable seat fully isolates the body and stem from flow
- A moulded-in O-ring on face of the seat eliminates flange gaskets
- Rubber and PFA molded discs available for light abrasion or chemical resistance

Technical Data

Size range:

DN 25 to 500 (NPS 1 to 20)

Pressure rating:

10 bar to DN 300 (150 psi to NPS 12)

5 bar to DN 500 (75 psi to NPS 20)

Coated Disc 7 bar DN 50 to 300

(100 psi NPS 2 to 12)

Temperature rating:

-40°C to 150°C (-40°F to 302°F)

Applications

Chemical, pharmaceutical, pulp and paper, food and beverage and modulating services





Keystone OptiSeal

Resilient seated butterfly valves.

A split body butterfly valve utilizing a one piece disc stem and field replaceable seat.

Features

- Thin disc profile provides a larger open area, increased flow capacity and control capability
- Rounded polished disc edge gives full concentric sealing, lower torques and longer seat life
- Field replaceable seat fully isolates the body and stem from flow
- Primary stem sealing exceeds the pressure rating of the valve and prevents leakage through shaft area
- Top and bottom shaft bearings for minimum friction up to DN 300 (except cast iron)

Technical Data

Size range:

DN 40 to 1000 (NPS 1½ to 40)

Pressure rating:

16 bar (CI body 10 bar)

Temperature rating:

-40°C to 160°C (-40°F to 320°F)

Applications

Chemical, pharmaceutical, pulp and paper, food and beverage and modulating services



Keystone Figure 56

Double flanged butterfly valves.

A large diameter double flanged eccentric disc butterfly valve.

Features

- Cast double flanged butterfly valve, drilled acc. various flange standards (JIS, BS, ISO/EN, ASME, AWWA)
- Seat replaceable and adjustable in line, without use of special tools for maximum serviceability
- Body and disc protective coatings or rubber linings are available for sea water or corrosive services
- Seat and disc edge contours reduce seating torque, providing better shut-off and longer service life
- Stainless steel disc edge resists corrosion and avoids encrust build-up
- Self lubricating sleeve bearings allow valve installation with the shaft horizontal or vertical

Technical Data

Size range:

DN 500 to 3000 (NPS 20 to 120)

Pressure rating:

PN 10 / 16

Temperature rating:

-40°C to 120°C (-40°F to 250°F)

Applications

Power generation plants, municipal water treatment and industrial water



Keystone K-LOK®

High performance butterfly valves.

A high performance butterfly valve available with ASME Class 150 and 300 pressure ratings.

Features

- High cycle life and lower cost of ownership is achieved by high quality upper and lower shaft bearings
- Packing integrity and a lower cost of maintenance is achieved by a unique packing gland bridge which eliminates the need for even packing adjustment
- Extended neck allows for two inches of pipeline insulation
- Polymer, elastomer and fire-safe seats provide bi-directional, drop-tight closure throughout all pressure ranges
- Unique seat design does not rely on line pressure to energize the sealing and therefore will seal in low pressures as well as vacuum applications
- Increased safety of field personnel is obtained by the use of a blow-out resistant shaft

Technical Data

Size range:

DN 50 to 900 (NPS 2 to 36)

Pressure rating:

ASME 150 and 300

Temperature rating:

-40°C to 538°C (-40°F to 1000°F)

Applications

Chemical and pharmaceutical, food and beverage, marine, metals and mining, oil and gas, power and water



Process Ball Valves

Process Ball Valves

With an outstanding portfolio of proven products, Emerson manufactures and markets an extensive range of full and reduced bore process ball valves serving a wide spectrum of applications in the downstream oil and gas, petrochemical, chemical, pharmaceutical and allied process industries. The Emerson ball valve portfolio includes a diverse range of standard and customized ball valves that can be configured to suit most process applications or project packages.

KTM™

KTM soft and metal seated designs are capable of a million cycles a year, making them the reliable, efficient and long lasting solution in arduous conditions.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

Two Piece



KTM Series EB1 Floating ball valves.

High performance two-piece ball valve where fire-safe and fugitive emission compliance is mandatory.

Features

- Soft E seat copolymer, Gratiite® Metaltite® and Cryogenic designs
- Compliance to ASME B16.34, API 608, ISO 17292 and EN 12616-1
- Full and reduced bore options
- Fire Tested and Certified to API 607 and ISO 10497 (soft and metal seated)
- Fugitive emission compliant stem seal design to ISO 15848-1 Class BH C03 and API 641
- Cryogenic design to -196°C (-321°F)
- Anti-static design acc to ISO 17292
- Tightness to API 598 soft seat, ISO 5208 Rate A for soft seat and Rate B for metal seat, EN 12266-1 Rate A for soft seat and Rate B for metal seat

Technical Data

Size range:

Full bore:

DN 15 to 200 (NPS ½ to 8)

Reduced bore:

DN 150 to 250 (NPS 6 to 10)

Pressure rating:

ASME Class 150 and 300

Temperature range:

-196°C to 500°C (-321°F to 932°F) (seat dependent)

Applications

Petrochemical, chemical

One Piece



KTM Series EB7 Floating ball valves.

KTM Fire-safe and Anti-Static ASME 150/300 one piece, end entry, flanged ball valve for oil, gas, petrochemical and chemical industries.

Features

- Designed to ASME B16.34, API 608 and ISO 17292
- Optional testing to API 6D / ISO 14313
- Single piece end entry body design complies with ASME B16.34
- ISO 5211 top mounting flange
- Face to Face to API 6D/ASME B16.10/BS 2080/BS EN 558.2
- One piece body offers total pipe integrity minimizing the number of potential leak paths
- Carbon steel or stainless steel body
- Precision 316 stainless steel ball as standard
- Blowout proof shouldered stem
- Anti-static device

Technical Data

Size range:

DN 15 to 200 (NPS ½ to 8)

Pressure rating:

ASME Class 150 and 300

Temperature Rating:

-29°C to 232°C (-20°F to 450°F)

Applications

Chemical, petrochemical, oil and gas



KTM Series EF1 Floating ball valves.

High performance two-piece ball valve where fire-safe and fugitive emission compliance is mandatory.

Features

- Full compliance to ASME B16.34 and EN 12516-1
- Fire Tested and Certified to API 607 and ISO 10497
- Sealmaster™ double stem seal design complies with ISO 15848-1 Class BH C03
- Double body seal PTFE primary seal and secondary graphite fire safe seal
- Standard ball valve with respect to the PAS1085 specification Class D
- Anti-static design according to ISO 17292
- Tightness to API 598 and EN 12266-1 Rate A

Technical Data

Size range:

DN 15 to 200 (NPS ½ to 8)

Pressure rating:

PN 10/16, PN 25/40,
ASME Class 150 and 300

Applications

Chemical, petrochemical, oil and gas, process



KTM Series RA Floating ball valves.

Allows in-line welding without disassembly and one-bolt-removal for ease of maintenance.

Features

- Soft, metal and cryogenic seating options
- Bubble-tight sealing to API 598 and EN 12266-1 Rate A
- Integrated ISO top flange for easy automation
- Cast body materials
- Carbon steel and stainless steel body, stainless steel trim
- Reduced and full bore options
- 'Swing-out' center for easy seat and gasket replacements
- Butt weld, socket weld, threaded ends and flanged versions (EU only)

Technical Data

Size range:

DN 8 to 250 (NPS ¼ to 10)

Pressure rating:

Up to PN 100

Temperature range:

-196°C to 400°C (-321°F to 752°F)

Applications

Chemical and pharmaceutical, food and beverage, marine, metals and mining, oil and gas, power and water



K-Ball™ Floating ball valves.

A comprehensive range of ball valves to suit a wide variety of industrial applications.

Features

- The range includes one, two and three piece ball valve designs with threaded or welded end connections
- ISO 5211 top mounting plate available, for easy actuation, on selected models
- Body construction - investment casting
- Carbon steel or stainless steel body materials.
- Wide range of pressure ratings available
- Reduced and full bore models
- Locking device on all models
- Seat material options available
- Fire tested valves available

Technical Data

Size range:

DN 8 to 100 (NPS ¼ to 4)

Pressure rating:

PN 40 to 100

Applications

Petrochemical, chemical



KTM Series E01

Trunnion mounted ball valves.

Two-piece, bi-directional, cast body trunnion ball valves.

Features

- Energized soft and metal seated
- Metaltite® metal seated option to 450°C (842°F)
- Fully adjustable gland packing per API 608
- Locking device
- Cavity relief
- Positive shut-off
- Blow-out proof stem
- Fugitive emission certified to ISO 15848-1, Class BH CO3 and API 641
- Fire safe construction
- ISO integral mounting flange
- Sulfide stress cracking resistant (compliant to NACE MR-01-75-2002)
- Suitable for cryogenic, vacuum and lethal/toxic services

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)

Pressure rating:

ASME Class 150 to 1500

Temperature range:

-196°C to 450°C (-321°F to 842°F)

Applications

Oil and gas, chemical, petrochemical, refineries, pulp and paper and power



KTM Series PDS

Powder discharge system ball valves.

Suitable for high speed and high frequency powder handling applications.

Features

- Superior seating to ANSI/FCI 70-2 Class V
- Spring loaded seat assures tight sealing even at low pressure
- Scraper design minimizes residual powder between ball and seat to maintain seal and smooth open-close action
- Powder proof devices around seat areas shield against contaminants
- Non-lubricated dry PEEK bearing with low friction provides high abrasion resistance

Technical Data

Size range:

DN 15 to 350 (NPS ½ to 14)

Pressure rating:

ASME Class 150 to 600

Temperature:

-46° to 180°C (-51° to 356°F)

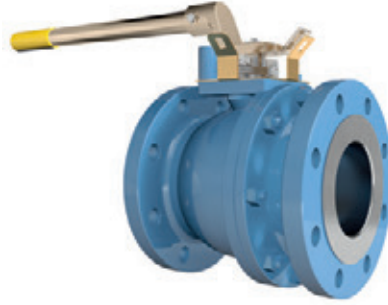
Applications

High cycle powder applications such as polyethylene and polypropylene production



Oil & Gas Ball Valves

Two Piece



Oil & Gas Ball Valves

Emerson's ball valves service the oil and gas industry with products up to DN 900 (NPS 36) in size and pressures up to ASME Class 2500. These valves are engineered for reliability in a wide spectrum of oil and gas applications, with inbuilt features required by industry including SIL 3 rated design, multiple sealing stem, low operating torque and zero leakage bi-directional performance.

KTM™ Virgo Series

End Users worldwide specify Emerson's ball valves on some of their most demanding applications where zero leakage is required and valves must comply with stringent fugitive emissions regulations.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

KTM Virgo Series S

Cast / forged floating ball valves.

An API 6D compliant, two-piece floating ball valve with a live-loaded stem seal for protection against leakage, even at low pressures and with reduced maintenance.

Features

- Extra wall thickness for increased corrosion allowance
- PED 2014/68/EU compliance
- Low operating torques
- Bi-directional zero leakage
- SIL 3 compliant
- Live-loaded graphite stem gasket with Belleville disc spring reduces maintenance and provides the ideal seal
- Adjustable gland packing and O-ring seal for optimum sealing for valves DN 50 (NPS 2) and above
- Integral ISO 5211 mounting pads
- Anti-static device maximizes safety
- Fire safe design to API 607 / API 6FA
- Low fugitive emission: ISO 15848-1
- Blowout-proof stem construction

Technical Data

End connections:

Flanged-RF, RTJ and welding ends

Size range:

Full Bore:

DN 15 to 200 (NPS ½ to 8)

Reduced Bore:

DN 20 to 250 (NPS ¾ to 10)

Pressure rating:

ASME Class 150 to 2500

Temperature range:

-110°C to 200°C (-166°F to 392°F)

Applications

Oil & Gas

KTM Virgo Series N

Cast / Forged trunnion mounted ball valves.

Robust, API 6D compliant, two and three-piece, soft seated, side entry ball valves with triple sealing stem using 2 O-rings and a fire safe gasket.

Features

- Extra wall thickness for increased corrosion allowance
- PED 2014/68/EU compliance
- Bi-directional zero leakage for maximum life with minimum maintenance
- SIL 3 compliant
- Fire safe design to API 607 / API 6FA
- Fugitive emissions: ISO 15848-1
- Mounting to ISO 5211 standards
- Anti-static device improves safety
- Blowout-proof stem
- Compression springs provide uniform loading of seats ensuring sealing at low pressures

Technical Data

End Connection:

Flanged-RF, RTJ and welding ends

Size range:

Full Bore:

DN 50 to 900 (NPS 2 to 36)

Reduced Bore:

DN 50 to 900 (NPS 2 to 36)

Pressure rating:

ASME Class 150 to 2500

Design Temperature range:

-50°C to 200°C

Applications

Oil & Gas

Lined Valves

Lined Valves

Emerson supplies a diverse range of ball, butterfly and sampling valves the wetted parts of which are lined for resistance to corrosion in a multitude of applications in industries such as chemical, petro-chemical, pharmaceutical, pulp and paper, semiconductor (UPW), foundries and mining. A dedicated reactor sampling valve enables samples to be taken from reactors or vessels containing poisoned, biological, corrosive or environmentally unfriendly media.

Neotecha™

Neotecha PTFE, TFM and PFA lined valves are designed for highly corrosive media. The molding technique of applying PFA over a metal core achieving mechanical strength from the core and chemical resistance from the encapsulation has given Neotecha valves a worldwide reputation for reliability in the most severe corrosive applications.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

Ball



Neotecha NXR Lined ball valves.

High performance lined ball valves for isolation and control in highly corrosive and highly toxic applications.

Features

- Fully PFA lined body offering the highest corrosion resistance
- Precision machined ball and seats guarantees a leak-free valve
- One piece ball/stem prevents lining damage and eliminates hysteresis
- Patented self-adjusting stem seal ensures lowest fugitive emissions and is maintenance free
- Optimized process flow for on-off or C-ball for control applications
- Elimination of static electricity
- Low torque throughout its life cycle
- TA-Luft and ISO 15848-1 certified

Technical Data

Size range:

DN 15 to 150 (NPS ½ to 6)

Pressure class:

Full vacuum to PN16

Temperature range:

-40° to 210°C (-40° to 410°F)

Applications

Chemical and pharmaceutical, food and beverage



Neotecha NTB/NTC Lined ball valves.

These PFA lined ball valves are used in a wide variety of applications in many industries.

Features

- PFA lining offers highest corrosion resistance
- Bubble tight shut-off
- Full bore offers high Kv-value equal to the pipe
- One-piece ball/stem
- Specific anti blow-out shaft design
- Any build-up of static electricity is eliminated
- Constant torque
- The handle lever features a positive locked position
- The body has a thermally applied polyester powder coating
- Direct mounting according to ISO 5211

Technical Data

Size range:

DN 15 to 150 (NPS ½ to 6)

Pressure class:

Vacuum 0.1 mbar to 16 bar

Temperature range:

-40°C to 210°C (-40°F to 410°F)

Applications

Chemical and pharmaceutical, food and beverage



Neotecha NeoSeal Lined butterfly valve.

Lined butterfly valve for highly corrosive liquids, gases and slurry.

Features

- TA-Luft approved valve with continuous loaded mechanical stem seals
- Ultra pure water approved with assembly in clean room (level 8)
- Machined to close tolerances for low torque and reduced stress/deformation during operation
- Excellent sealing properties using elastomer pads behind the liner
- Improved protection using thick lining on disc (3 mm)
- Serrated body flanges reducing the cold flow of the seat

Technical Data

Sizes:

DN 40 to 900 (NPS 1½ to 36)

Pressure class:

Full vacuum to PN10

Temperature range:

-40° to 200°C (-40° to 392°F)

Applications

Chemical and pharmaceutical, semiconductor and food and beverage



Neotecha KR and SG Lined ball check valve/sight glass.

Heavy duty lined products preventing back flow or providing overflow protection.

Features

- Heavy duty body in ductile iron GGG40.3 (ASTM A-395)
- Heavy duty PFA lining
- Borosilicate glass for temperatures up to 200°C
- PTFE ball guided with 4 ribs for vertical and horizontal applications
- Replaceable soft seats in EPDM, FPM and Perfluor for bubble tightness
- Blind covers in carbon steel or glass protector in FEP for HF application
- Suitable for full vacuum
- Leak free flange connection

Technical Data

Sizes:

DN 25 to 80 (NPS 1 to 3)

Pressure class:

Full vacuum to PN16

Temperature range:

-40° to 200°C (-40° to 392°F)

Applications

Chemical and pharmaceutical, pulp and paper, food and beverage



Neotecha In-line and Reactor Sampling Systems

Compact, complete sampling systems designed to handle highly corrosive liquids in a closed environment, without process interruption.

Features

- Engineered for sampling accuracy
- Precision PTFE, PFA or glass linings available of all wetted parts to ensure maximum life
- Various sample collection methods to suit your specific application
- Security features available to prevent unauthorized sampling
- Simple assembly/disassembly to allow easy access cleaning for more reliable sampling
- Various international approvals in place

Technical Data

Sizes:

DN 25 to 100 (NPS 1 to 4)

Pressure:

Vacuum to 10/16/25 bar (145/232/363 psi)

Temperature range:

Up to 200°C (392°F)

Applications

Chemical and pharmaceutical, pulp and paper, food and beverage

Angle Slurry & Isolation Valves

Angle Slurry & Isolation Valves

Angle slurry / isolation valves are designed and engineered specifically for the mining and process industry or other applications where built up scale or settled slurries need to be cleared to allow flow. These include: Alumina - bauxite slurries, digestion slurries, flash vessel vapor return, green and spent liquors, washer underflow/overflow, tertiary and secondary thickeners, press filter isolation, mudline disposal; precipitation; filtrate underflow; hydrate slurry storage.

Lunkenheimer™

Lunkenheimer high quality isolation valves are used in severe applications such as alumina, nickel and gold mining, they are relied on for critical isolation preventing expensive downtime.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

Angle Slurry



Lunkenheimer Figure 603-607 Isolation and check valves.

Specially designed for severe service in alumina and mining applications where scale and erosion are present.

Features

- Valves can be reground in-line
- Designed to ASME B16.34
- Heavy duty wall and flange thickness well in excess of ASME B16.34 and ASME B16.5
- Pads for fitting drain ports
- Tested to API 598
- Large stem diameters for strength and stiffness
- Stellite 6 hardfacing as standard on disc and seat surfaces
- Hard facing available on stem
- Documentation to EN 10424 1999 Type 3.1B (DIN 50409)

Technical Data

Size range:

DN 50 to 600 (NPS 2 to 24)

Pressure rating:

ASME Class 150 to 600

Temperature rating:

up to 345°C (650°F)

Applications

Alumina refining, mining

Isolation



Lunkenheimer Figure K4050/4250 Isolation valves.

Specially designed for severe service in alumina and mining applications where scale and erosion are present.

Features

- Venturi style inlet throat design increases fluid velocity across seating area to reduce scale formation
- Split body design allows for easy maintenance
- Bolted bonnet
- Body, connector and yoke in CS
- Design offers low torque and easy manual operation
- Replaceable surface-hardened Stellite facing disc and seats
- Design to ASME B16.34; tested as per API 598

Technical Data

Size range:

DN 50 to 500 (NPS 2 to 20)

Pressure rating:

ASME Class 150

Temperature range:

-29° to 425°C (-20° to 797°F)

Applications

Alumina refining, mining



Check Valves

For Process and Oil and Gas Applications

Emerson supplies engineered check valve solutions for reliable reverse prevention in the upstream oil and gas, power and petrochemical markets.

Keystone™

Keystone check valves are purpose designed to provide reliable and fast acting prevention of reverse flow to protect your critical assets such as pumps.

Automated Valves from a single source

Emerson isolation valves are available as complete automated valve solutions supplied as a single product rather than packaged components.

See page 25 for more details.

Swing Check



Keystone Figure 85/86 Swing type wafer check valves.

Weight loaded valves with short face-to-face dimensions or spring-loaded high capacity models.

Features

- Figure 85 has compact, low weight, wafer thin body allowing installation between various flange standards
- Figure 86 has a special shaped disc with a large opening angle resulting in high Kv values
- Choice of cast iron (86), stainless steel, carbon steel or NiAlBz (85) body types
- Field replaceable O-ring seat
- Low pressure shut-off (< 0.1 bar)
- Positive shut-off even at very small differential pressures

Technical Data

Size range:

DN 40 to 900 (NPS 1½ to 36)

Pressure rating:

16 bar (232 psi)

Temperature rating:

85: -60°C to 204°C (-76°F to 399°F)

86: -40°C to 190°C (-40°F to 374°F)

Applications

Building, chemical and pharmaceutical, food and beverage, marine, metals and mining, oil and gas and water

Spring Loaded



Keystone Model MB Spring loaded check valve.

Dual plate, spring loaded, wafer style design for the protection of gas or liquid piping systems.

Features

- Light weight, versatile design
- Spring-loaded, double door design
- Discs open 85° to ensure positive closing
- Materials and trims available for all services
- Extended leg springs
- Springs are precisely calculated to increase the responsiveness of disc
- Resilient or metal-to-metal seat available
- Buna-N, FKM, EPDM (and other materials as required) molded into the body

Technical Data

Size range:

DN 50 to 1200 (NPS 2 to 48)

Pressure classes:

ASME 125 to 900

Temperature rating:

-40°C to 538°C (-40°F to 1000°F)

Applications

Back flow prevention, high slam risk systems requiring high flow decelerations, combined low line velocity and low pressure tightness, vacuum breaker, high capacity/low pressure drop



Complete automated valve solutions from a single source

When it comes to providing complete Automated Valve solutions, Emerson is the only company you need to know.

Forget about juggling with multiple vendors or the complexities of valve integration. Emerson can supply you with the fully engineered, integrated configured Automated Valves you demand, from a single source.

Consider the advantages of a single supplier:

- Emerson will manage, administer and produce your Automated Valves as 'Product' and not packaged components
- Emerson's Automated Valves are designed to function as one optimized solution, eliminating integration complexity
- All valves are fully tested to a global set of standards
- Emerson manufactures all its components. This makes us totally responsible and accountable for the solutions we supply, irrespective of the parts we integrate into each product
- Having one supplier will minimize risk and commissioning complexities, whilst also ensuring on-time delivery and project certainty
- Modular automated valve solutions allow streamlined maintenance and inventory planning





Lifecycle Services

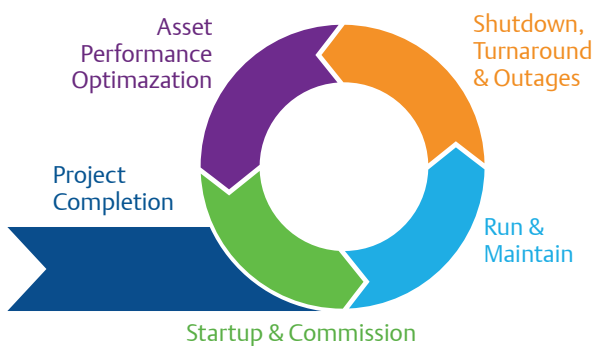
Emerson's Main Valve Partner Service Portfolio is a comprehensive program of support and expertise for planning and executing plant maintenance and optimizing valve reliability at any or all stages within the plant lifecycle. Emerson's OEM engineering expertise, scalable and proven solutions, global reach, digital efficiency tools, and breadth of valve, actuator, regulator, and instrumentation product offering are unmatched --which allows you to achieve your key performance indicators and work towards Top Quartile performance.

When we look across the full lifecycle of your plant, we can see critical areas where there are improvement opportunities related to valve assemblies. Valves matter because they have a significant impact on both unplanned shutdowns and slowdowns --and they're one of the assets that require the most operational and maintenance spend. As your strategic partner, we can help you uncover areas of focus that impact your ability to achieve operational excellence and help you find the right solution.

Capabilities

With service centers strategically located, available 24/7/365, and a fleet of fully stocked service vehicles, Emerson can support you anywhere you need us - from the field to our own state-of-the-art production facilities. Our pickup and delivery services assist you with your service and repair needs with minimal downtime.

Strategic Support Throughout the Lifecycle of Your Plant



Only Emerson has what it takes to provide you complete support throughout each stage of your plant cycle.

- Start up and commissioning support after a new build or an outage
- Day-to-day strategies as you run and maintain your process
- Shutdown, turnaround or outage (STO) planning and execution
- Proven asset performance optimization tools and processes



QuickShip Everyday

With the rapid changes in today's business environment, you can't afford to slow down – especially when it comes to product repair and replacement.

What if you could:

- Get the items you need with shorter lead times?
- Reduce the impact of unexpected, late-stage changes in your project?
- Backfill spares and build inventory faster?

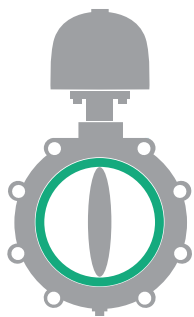
The **QuickShip Everyday** tier of Emerson's QuickShip program delivers all this and for no additional cost on everyday items you need.

QuickShip Everyday provides market-leading production and shipment services designed to reduce lead time on your commonly-ordered products and parts, ensuring fast, convenient and reliable delivery. You can select from a list of available items, and place orders

that will ship from your nearest Emerson regional fulfillment center within five business days from receipt of an order.

Put Emerson's wealth of resources and expertise to work for you to resolve all your part and product shipping needs, no matter the circumstances.

Contact your local Emerson sales representative for more information and the range of available products.



THOUSANDS
of possible
isolation valve
configurations...

Available to
ship in **FIVE**
days or less!



QuickShip is a world-class fulfillment program offered by Emerson with tiered service levels that allow for fast shipment of parts and products to maximise speed and responsiveness, while optimizing cost.

It leverages our global infrastructure, local presence and commitment to service to help you avoid downtime, stay on schedule, respond to the unexpected, and control costs in today's challenging environments.

For faster shipment options, ask your local Emerson representative about the availability of QuickShip Expedite and QuickShip Emergency premium shipment services.

Visit Emerson.com/QuickShip to learn more.

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VCPBR-07281-EN 21/04



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