

KTM Ball Valves



Innovative ball valves for demanding applications

An unending search for excellence has seen KTM become the premium brand for industrial ball valves.





TIMELESS RELIABILITY

CONTINUOUS INNOVATION

For more than 80 years, KTM has remained an innovator and a world leader in the design and delivery of reliable, high-quality valves. A combination of engineering expertise, industry-leading technologies and a truly global network enables us to bring safe and sustainable solutions right to your door. Our goal is simple: to help you to improve operating efficiency and profitability, minimize risk and protect what's most vital - people, assets and the environment.

INNOVATION MILESTONES

Since pioneering the development of ball valves in Japan, KTM has built the experience and expertise required to meet virtually any type of user demand. The list of outstanding R&D achievements continues to grow:

- 1932 Company founded in Tokyo to manufacture GGC valves
- 1948 Develops diaphragm valves and becomes the first supplier in Japan
- 1958 Develops the ball valve and becomes the first world's first supplier of full bore, split body type ball valves
- 1965 Creates V bore control valves
- 1973 Launches OM ball valves which have since become well-recognized as a key industry benchmark
- 1978 Gratite® seated ball valves designed and patented
- 1993 Metaltite® seated ball valves launched and registered as a trademark
- 1994 AK pneumatic actuator for quarter turn valves arrives
- 2001 The GF14 selective valves designed and marketed
- 2005 Partial Stroke Test (PST) device developed and certified to SIL3
- 2011 Forged trunnion mounted ball valves added to product range
- 2014 Powder Discharge System (PDS) valves enhanced to perform up to one million cycles

SAFETY-CRITICAL APPLICATIONS

Our KTM products are designed to deliver outstanding performance in corrosive or toxic process industry environments and offer the most versatile and cost-effective performance in fugitive emissions control.

For example, in the KTM OM2 ball valve, emissions control is built into the stem packing, eliminating the need for any upgrades or extra investment. The OM2 primary containment seals - certified to ISO 15848 - far exceed minimum EPA performance requirements, reducing the monitoring burden on customers.

Featuring fire safe designs certified to API 607 Fourth or Fifth Ed. / ISO 10497, fugitive emissions approved to TA-Luft VDI 2440 or certified to ISO 15848-1, as well as SIL assessed to IEC 61508, KTM valves set the standard for performance and reliability in safety-critical applications.

HIGH SPEED, HIGH CYCLE APPLICATIONS

When you need high-speed, high-cycle performance, you can count on KTM valves. Capable of opening and closing in as little as 0.2-0.3 seconds, or accommodating up to a million cycles a year, their reliability and durability contribute to a long and uninterrupted service life. They also ensure significantly less and potentially costly downtime for maintenance.

KTM's constant drive for innovation prompts us to develop products that improve processes and provide optimal performance and/or solutions. Hence, each product is designed with the specific application in mind, in strict adherence with global safety requirements. For example, KTM scraper seats, powder proof seals and buffed internal flow paths eliminate build-up of powder in the unit, thus increasing life cycle of each valve.

KTM's quality and performance is no accident. It springs from decades of market experience and continual enhancement designed to provide customers with the safest and more reliable solutions possible.



QUALITY DRIVES DOWN TOTAL COST OF OWNERSHIP

Since 1932, KTM valves have provided outstanding performance. Their pioneering soft and metal seated designs were engineered in Japan to meet and exceed exacting international specifications for the process industry. At best when sized and matched with KTM specific actuator packages, KTM can meet the most demanding applications in the chemical and petrochemical industries.

SETTING THE STANDARD IN ANY ENVIRONMENT

KTM has a broad range of products designed and certified for use in the process industry. We go beyond simply meeting standards; we lead the industry in setting them. Emerson representatives sit on the boards of many standards bodies, presiding over the management of existing standards and the development of new specifications and performance and testing criteria.

QUALITY DRIVES DOWN TOTAL COST OF OWNERSHIP

KTM's emphasis on quality ensures a variety of benefits for our customers. These include reliability, durability and a lower total cost of ownership during the service life of the product.

OPERATIONAL EXCELLENCE

We follow a lean manufacturing approach, ensuring both efficiency and minimum waste. We incorporate modern techniques and technologies, such as Sales & Operation Planning and global ERP and CRM solutions, combined with leadership, teamwork and problem solving.

The end result is a culture of continuous improvement that pervades the entire organization. This dedication to operational excellence means our customers pay only for the value they actually receive.

ENVIRONMENTAL, HEALTH AND SAFETY

Throughout our plants, we are constantly exploring new ways to improve safety and reduce our environmental impact. These include protecting colleagues in the workplace, helping customers to run safer and cleaner operations, and demanding ever higher standards from our suppliers. True to our Zero Harm vision, we do not compromise on environmental, health and safety.

TESTING TIME

Our products are used globally, from the most mundane roles to mission critical applications. But regardless of the end application, every single valve is thoroughly tested, from its raw materials to end product, before it leaves the factory.

Some of the tests that we conduct for flow control products include:

CASTING INTEGRITY

- Liquid penetrant testing
- Magnetic particle testing
- Ultra-sonic testing
- X-ray testing

VALVE TESTING TO INTERNATIONAL STANDARDS

- Non-destructive testing
- Seat leakage testing

SPECIAL APPLICATIONS TESTING

- Hydrostatic testing
- Cryogenic testing
- High temperature testing
- Life cycle testing

COMMITMENT TO QUALITY

KTM has been certified repeatedly for its outstanding product quality. Certifications include:

- ISO 9001-2008 by Lloyd's (LRQA) and TUV
- API 6D by American Petroleum Institute
- Pressure Equipment Directive (PED) 97/23/EC by Lloyd's and TUV
- Equipment of Protective System intended for use in Potentially Explosive Atmospheres (ATEX) 94/9/EC by Lab. Central des Industries Electriques
- Fire Type Tests to ISO 10497, API 607, API 6FA by Lloyd's Register of Shipping and TUV
- Ball Valves Type Approval by Technical Standards & Safety Authority, Canada
- IEC 61508 SIL 3 by Bureau Veritas
- VDI 2440 to TA-Luft regulation by German third-party



OUR KNOWLEDGE IS YOUR BENEFIT

YOUR SUCCESS

KTM's long track record of success stems from its highly practical yet specifications compliant, and tailor-made solutions, combined with excellence in after-sales service.

KTM BREATHES NEW LIFE INTO 20-YEAR-OLD AMMONIA PLANT

KTM has helped one of the largest ammonia producers in the UK to improve performance and extend the service-life of a plant that first opened in the mid-1980s. The project included overhauling and re-installing a number of original KTM valves which had already delivered more than 20 years of reliable, trouble-free service.

The existing, 20-year-old KTM valves required no replacement or modification; an overhaul was all they needed to restore them to factory specifications. Emerson supplied new seat kits, lagging extensions and new gear operators for KTM valves up to DN 450 (NPS 18) in size. Moreover, all of the spares and replacement parts were drawn from stock - a feat that few, if any, other valve provider could equal.

KTM HELPS SOLAR ENERGY GIANT TO BUILD A BRIGHTER FUTURE

One of China's leading renewable energy players has turned to KTM to help build the country's largest polysilicon plant that will produce 3,000 tons of polysilicon a year. It is using over 940 pieces of KTM OM2 metal seated and soft seated ball valves throughout the plant in areas such as reduction, hydrogenation, tank yard, and recovery applications.

KTM's record in polysilicon applications - particularly its OM2 ball valves - and a proven reputation for quality made the solutions the perfect choice. So did performance, such as the ability to manage temperatures from ambient to 150°C (302°F) and rated up to a maximum pressure of Class 300.

Fast factory feedback and the presence of a KTM technical support team to ensure that each and every valve is installed correctly and operating efficiently are keys to the success.

KTM 3-WAY VALVE SOLVES HF VAPOUR TRANSFLOW APPLICATION AT MAJOR CHEMICAL COMPANY

A major US chemical company has replaced existing solutions with KTM 3-way ball valves to optimize its HF vapour transflow systems. In addition to providing an immediate boost in terms of service life, the side-entry design also offers a much lower pressure drop than more common, bottom-entry designs.

Meeting strict application criteria, the majority of valves were supplied in a double packing configuration to pass stringent helium emission tests and ensure safe installation in hazardous environments. The valves were also modified with exotic alloy trim to stand up to the corrosive environments found in HF vapour applications.

COAL GASIFICATION PLANT CHOOSES KTM

One of India's major steel producers has chosen KTM solutions for the country's first coal gasification plant. The plant will use more than 150 pieces of KTM ball valves, ranging in size from DN 50 to DN 450 (NPS 2 to NPS 18). Of these metal seated ball valves supplied, some are floating design, while the rest are trunnion-mounted with extension bonnets for low to high temperature service.

The gasification process converts coal to gas using a combination of oxygen and superheated steam. The KTM valves were required to meet extreme conditions, from very low to extremely high temperatures and operating pressures from Class 150 to Class 600. As well as passing vacuum and helium leakage tests, the KTM solutions were also fully compliant with Lurgi's RCAT and ACAT specifications. This, coupled with the KTM valves' fire safe and low emission designs, provides the steel maker with performance as well as peace of mind.

FLOATING

UNIBODY



OM2



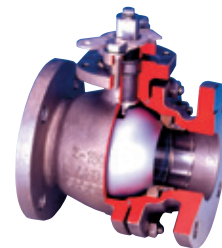
CONSTRUCTION	Split Body		Split Body	
DESIGN	Bidirectional		Bidirectional	
BORE	Full Bore	Reduced Bore	Full Bore	Reduced Bore
ANSI Class 150	DN 15 – DN 40 NPS 0.5 – NPS 1.5	DN 50 – DN 200 NPS 2 – NPS 8	DN 15 – DN 200 NPS 0.5 – NPS 8	DN 150 – DN 250 NPS 6 – NPS 10
ANSI Class 300	DN 15 – DN 40 NPS 0.5 – NPS 1.5	DN 50 – DN 200 NPS 2 – NPS 8	DN 15 – DN 200 NPS 0.5 – NPS 8	DN 150 – DN 250 NPS 6 – NPS 10
ANSI Class 600				
ANSI Class 900				
ANSI Class 1500				
TEMPERATURE	-29°C to 232°C -20°F to 450°F		-29°C to 270°C -20°F to 518°F	
END CONNECTION	Flanged		Flanged	
FACE TO FACE DIMENSION	API 6D, ASME B16.10, BS 2080, BS EN 558.2		ASME B16.10, JIS B2002	
SHUT-OFF CLASS	Soft seat - Class VI, ISO 5208 rate A, API 598		Soft seat - Class VI, ISO 5208 rate A, API 598	
BODY MATERIALS	Carbon steel, Stainless steel, Alloy 20, Hastelloy C, Monel		Carbon steel, Stainless steel	
TRIM MATERIALS	Stainless steel, Alloy 20, Hastelloy C, Monel		Carbon steel, Stainless steel	
AVAILABLE SEAT MATERIALS	PTFE/PFA Copolymer (E), Reinforced PTFE		PTFE/PFA Copolymer (E), PEEK, Gratite®, Metaltite®	
FEATURES	Locking Device Cavity Relief Positive Shut-Off Blow-Out Proof Stem Fugitive Emission Control Fire Safe Construction Anti-Static Electricity Integral Mounting Flange ISO Integral Mounting Flange Sulfide Stress Cracking Resistant (Compliance to NACE MR-01-75-2002) Positive Flow Stem Indicator Vacuum Service		Locking Device Cavity Relief Positive Shut-Off Blow-Out Proof Stem Fugitive Emission Control Fire Safe Construction Anti-Static Electricity Integral Mounting Flange ISO Integral Mounting Flange Sulfide Stress Cracking Resistant (Compliance to NACE MR-01-75-2002) Positive Flow Stem Indicator Cryogenic Vacuum Service Lethal/Toxic	

HIGH TEMPERATURE

GRATITE®



METALTITE®



CONSTRUCTION	Split Body	Split Body
DESIGN	Floating, Bidirectional Uni-directional (Class 600)	Floating, Trunnion, Bidirectional
BORE	Full Bore	Full Bore
ANSI Class 150	DN 15 - DN 200 NPS 0.5 - NPS 8	DN 15 - DN 500 NPS 0.5 - NPS 20
ANSI Class 300	DN 15 - DN 200 NPS 0.5 - NPS 8	DN 15 - DN 500 NPS 0.5 - NPS 20
ANSI Class 600	DN 15 - DN 100 NPS 0.5 - NPS 4	DN 15 - DN 400 NPS 0.5 - NPS 15
ANSI Class 900		DN 40 - DN 300 NPS 1.5 - NPS 12
ANSI Class 1500		
TEMPERATURE	-29°C to 500°C -20°F to 932 °F	-29°C to 500°C -20°F to 932 °F
END CONNECTION	Flanged	Flanged
FACE TO FACE DIMENSION	ASME B16.10, JIS B2002	ASME B16.10, JIS B2002
SHUT-OFF CLASS	Gratite seat - Class V	Metal seat - Class V
BODY MATERIALS	Carbon steel, Stainless steel	Carbon steel, Stainless steel
TRIM MATERIALS	Stainless steel	Stainless steel with Hcr or Stellite
AVAILABLE SEAT MATERIALS	Gratite®	Metaltite®
FEATURES	Locking Device Cavity Relief Positive Shut-Off Blow-Out Proof Stem Fugitive Emission Control Fire Safe Construction Anti-Static Electricity Positive Flow Stem Indicator Lethal/Toxic	Locking Device Cavity Relief Positive Shut-Off Blow-Out Proof Stem Fugitive Emission Control Fire Safe Construction Anti-Static Electricity Positive Flow Stem Indicator Lethal/Toxic

TRUNNION

CAST BODY



FORGED BODY (TM3)



CONSTRUCTION	Split Body		Split Body	
DESIGN	Bidirectional		Bidirectional	
BORE	Full Bore	Reduced Bore	Full Bore	Reduced Bore
ANSI Class 150	DN 50 – DN 600 NPS 2 – NPS 24	DN 80 – DN 60 NPS 3 – NPS 24	DN 50 – DN 600 NPS 2 – NPS 24	DN 80 – DN 700 NPS 3 – NPS 28
ANSI Class 300	DN 50 – DN 600 NPS 2 – NPS 24	DN 80 – DN 600 NPS 3 – NPS 24	DN 50 – DN 600 NPS 2 – NPS 24	DN 80 – DN 700 NPS 3 – NPS 28
ANSI Class 600	DN 50 – DN 600 NPS 2 – NPS 24	DN 80 – DN 600 NPS 3 – NPS 24	DN 50 – DN 600 NPS 2 – NPS 24	DN 80 – DN 700 NPS 3 – NPS 28
ANSI Class 900	DN 40 – DN 400 NPS 1.5 – NPS 16	DN 80 – DN 400 NPS 3 – NPS 16		
ANSI Class 1500	DN 40 – DN 300 NPS 1.5 – NPS 12	DN 80 – DN 300 NPS 3 – NPS 12		
TEMPERATURE	-46°C to 220°C -51°F to 428°F		-29°C to 200°C -20°F to 392°F	
END CONNECTION	Flanged and Butt Welded		Flanged and Butt Welded Mechanical joint on request	
FACE TO FACE DIMENSION	ASME B16.10, API 6D		ASME B16.10, API 6D	
SHUT-OFF CLASS	Soft seat - ISO 5208 rate A, API 598, API 6D		Soft seat - ISO 5208 rate A, API 598, API 6D	
BODY MATERIALS	Carbon steel, Stainless steel, Duplex, Alloy 20, Monel, Hastelloy B & C, Inconel and others		Carbon steel, Stainless steel	
TRIM MATERIALS	Carbon steel, Stainless steel, Duplex, Alloy 20, Monel, Hastelloy B & C, Inconel and others		Carbon steel, Stainless steel	
AVAILABLE SEAT MATERIALS	PTFE, RTFE, Nylon, PEEK and others		PFA, Nylon, DEVLON	
FEATURES	Locking Device Cavity Relief Positive Shut-Off Blow-Out Proof Stem Fugitive Emission Control Fire Safe Construction Anti-Static Electricity Block & Bleed ISO Integral Mounting Flange Sulfide Stress Cracking Resistant (Compliance to NACE MR-01-75-2002) Cryogenic Vacuum Service Lethal/Toxic		Cavity Relief Positive Shut-Off Blow-Out Proof Stem Fugitive Emission Control Fire Safe Construction Anti-Static Electricity Block & Bleed Sulfide Stress Cracking Resistant (Compliance to NACE MR-01-75-2002) ISO Integral Mounting Flange	

CONTROL

V-PORT

DUAL V-PORT



CONSTRUCTION	Split Body		Split Body
DESIGN	Trunnion, Unidirectional		Trunnion, Unidirectional
BORE	Full Bore	Reduced Bore	Reduced Bore
ANSI Class 150	DN 25 – DN 300 NPS 1 – NPS 12	DN 40 – DN 500 NPS 1.5 – NPS 20	DN 25 – DN 200 NPS 1 – NPS 8
ANSI Class 300	DN 25 – DN 250 NPS 1 – NPS 10	DN 40 – DN 300 NPS 1.5 – NPS 12	DN 25 – DN 200 NPS 1 – NPS 8
ANSI Class 600			
ANSI Class 900			
ANSI Class 1500			
TEMPERATURE	-29°C to 350°C -20°F to 662°F		-20°C to 270°C -4°F to 518°F
END CONNECTION	Flanged		Flanged and Flangeless
FACE TO FACE DIMENSION	ASME B16.10		ASME B16.10, JIS B2002
SHUT-OFF CLASS	ANSI / FCI 70-2 - Laminated - Class IV - Thick- Class II		ANSI / FCI 70-2 - Laminated - Class IV - Thick- Class II
BODY MATERIALS	Carbon steel, Stainless steel (Standard)		Carbon steel, Stainless steel (Standard)
TRIM MATERIALS	Stainless steel with Hcr or Stellite		Stainless steel with Hcr or Stellite
AVAILABLE SEAT MATERIALS	Laminated metal seat, Stellite thick (solid) metal seat		Metaltite®
FEATURES	Locking Device Blow-Out Proof Shaft ISO Integral Mounting Flange Positive Flow Stem Indicator		Locking Device Blow-Out Proof Shaft Fugitive Emission Control Integral Mounting Flange Positive Flow Stem Indicator Lethal/Toxic

THREE WAY

2 SEATS (L PORT)

4 SEATS (L & T PORT)

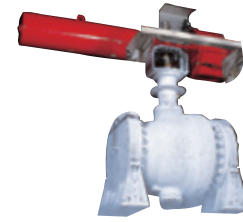


CONSTRUCTION	Split Body		Split Body	
DESIGN	Floating		Floating	
BORE	Full Bore	Reduced Bore	Full Bore	Reduced Bore
ANSI Class 150	DN 40 – DN 200 NPS 1.5 – NPS 8	DN 125 – DN 250 NPS 5 – NPS 10	DN 15 – DN 200 NPS 0.5 – NPS 8	DN 125 – DN 200 NPS 5 – NPS 8
ANSI Class 300	DN 40 – DN 200 NPS 1.5 – NPS 8	DN 125 – DN 250 NPS 5 – NPS 10		
ANSI Class 600				
ANSI Class 900				
ANSI Class 1500				
TEMPERATURE	-29°C to 270°C -20°F to 518°F Gratite®, up to 500°C (932°F)		-29°C to 150°C -20°F to 302°F	
END CONNECTION	Flanged		Flanged	
FACE TO FACE DIMENSION	KTM standard		KTM standard	
SHUT-OFF CLASS	Soft seat - ISO 5208 rate A, API 598 Gratite seat - Class V		Soft seat - ISO 5208 rate A, API 598	
BODY MATERIALS	Carbon steel, Stainless steel		Carbon steel, Stainless steel	
TRIM MATERIALS	Carbon steel, Stainless steel, Duplex, Alloy 20, Monel, Hastelloy B & C, Inconel and others		Carbon steel, Stainless steel	
AVAILABLE SEAT MATERIALS	PTFE, RTFE, PEEK, Gratite® and others		RTFE, PTFE, PEEK	
FEATURES	Locking Device Positive Shut-Off Blow-Out Proof Stem Fire Safe Construction (Optional) Anti-Static Electricity Sulfide Stress Cracking Resistant (Compliance to NACE MR-01-75-2002) Positive Flow Stem Indicator Lethal/Toxic		Locking Device Positive Shut-Off Fire Safe Construction (Optional) Anti-Static Electricity Sulfide Stress Cracking Resistant (Compliance to NACE MR-01-75-2002) Positive Flow Stem Indicator Lethal/Toxic	

STEAM JACKETED



CRYOGENIC



CONSTRUCTION	JACKETED		LOW TEMPERATURE
	Single Piece Body		Split Body
DESIGN	Floating, Bidirectional		Unidirectional
BORE	Full Bore	Reduced Bore	Reduced Bore
ANSI Class 150	DN 15 – DN 200 NPS 0.5 – NPS 8	DN 80 – DN 250 NPS 3 – NPS 10	DN 15 – DN 750 NPS 0.5 – NPS 30
ANSI Class 300	DN 15 – DN 200 NPS 0.5 – NPS 8	DN 80 – DN 250 NPS 3 – NPS 10	DN 15 – DN 750 NPS 0.5 – NPS 30
ANSI Class 600			DN 15 – DN 750 NPS 0.5 – NPS 30
ANSI Class 900			
ANSI Class 1500			
TEMPERATURE	-29°C to 270°C -20°F to 518°F Jacketed part, max. 350°C (662°F)		Ambient temperature to -196°C (-321°F) (for DN 15/NPS 0.5 to DN 300/NPS 12) Ambient temperature to -46°C (-51°F) (for DN 15/NPS 0.5 to DN 750/NPS 30)
END CONNECTION	Flanged		Flanged
FACE TO FACE DIMENSION	KTM standard		JIS B2002, ASME B16.10, JPA-7S-67
SHUT-OFF CLASS	Soft seat - ISO 5208 Rate A, API 598 Gratite seat - Class V Metal seat - Class V		Soft seat - to Cryogenic Test Standard
BODY MATERIALS	Carbon steel, Stainless steel		Carbon steel, Stainless steel
TRIM MATERIALS	Stainless steel		Stainless steel
AVAILABLE SEAT MATERIALS	PTFE (T), PTFE/PFA copolymer (E), Carbon-fiber filled PTFE (G), PEEK, Gratite®, Metaltite®		PTFE, PTFE/PFA Copolymer(E), RPTFE
FEATURES	Locking Device Cavity Relief Positive Shut-Off Fugitive Emission Control Fire Safe Construction (Optional) Positive Flow Stem Indicator Vacuum Service Lethal/Toxic ISO Integral Mounting Flange		Locking Device Cavity Relief Positive Shut-Off Blow-Out Proof Stem Fugitive Emission Control Fire Safe Construction (Optional) Anti-Static Electricity Integral Mounting Flange Positive Flow Stem Indicator Cryogenic

EMERGENCY SHUT DOWN

PST



ESD



FEATURE	SIL 3 Certification for PST Actuator type	Single/Double acting type (Spring return, manual and remote control type are also available)
DESIGN		
TYPE/SIZE	PST Actuator Type: AGN series AW series Mechanical Lock Type: AGN series AK series AW series For large size actuator, please contact your local sales office.	Actuator Type: AGN series AK series AW series CW series Standard size range: DN 15 - DN 600 NPS 0.5 - NPS 24 For large size actuator (eg CW series), please contact your local sales office.
OUTPUT TORQUE		
SUPPLY PRESSURE	Maximum allowable pressure is dependent on actuator type	
TEMPERATURE	Maximum allowable pressure is dependent on actuator type	
STANDARDS		

ACTUATORS

AGN



AK



AW



FEATURE	Rack & Pinion		Rack & Pinion, Double Piston		Scotch Yoke, Double Piston	
DESIGN	Double Acting	Spring Return	Double Acting	Spring Return	Double Acting	Spring Return
TYPE/SIZE	AGN06 AGN09 AGN13	AGN06S, D, R AGN09S, D, R AGN13S, D, R	AK05 AK07 AK09 AK12 AK15	AK07S, L, H AK09S, L, H AK12S, L, H AK15S, L, H	AW13 AW17 AW20 AW28	AW13S, L AW17S, L AW20S, L AW28S, L
OUTPUT TORQUE	28 Nm to 265 Nm 248 lbs in to 2345 lbs in	12 Nm to 175 Nm 106 lbs in to 1549 lbs in	23.5 Nm to 270 Nm 208 lbs in to 2390 lbs in	0.3 MPa to 0.7 MPa 43.5 psi to 101.5 psi	784 Nm to 8985 Nm 6934 lbs in to 79524 lbs in	275 Nm to 5259 Nm 2434 lbs in to 46546 lbs in
SUPPLY PRESSURE	0.3 Mpa to 0.7 Mpa 43.5 psi to 101.5 psi	0.2 MPa to 0.7 MPa 29 psi to 101.5 psi	0.3 Mpa to 0.7 MPa 43.5 psi to 101.5 psi	0.3 Mpa to 0.7 MPa 43.5 psi to 101.5 psi	0.3 Mpa to 0.7MPa 43.5 psi to 101.5 psi	0.3 MPa to 0.7 MPa 43.5 psi to 101.5 psi
TEMPERATURE	-20°C to 80°C -4°F to 176°F	-20°C to 80°C -4°F to 176°F	-20°C to 80°C -4°F to 176°F	-20°C to 80°C -4°F to 176°F	-20°C to 80°C -4°F to 176°F	-20°C to 80°C -4°F to 176°F
STANDARDS	Compliance to ISO5211 and Namur standards		Compliance to ISO5211 and Namur standards		Compliance to Namur standards	

KTM's quality and performance is no accident. It springs from decades of market experience and continual enhancement designed to provide customers with the safest and more reliable solutions possible.

PROVEN PRODUCTS

PROVEN KNOW HOW

METAL-SEATED BALL VALVE



AMMONIA

CO₂ REMOVAL & METHANATION

KTM Metalltite metal-seated ball valves are ideally suited to applications in the ammonia production process including CO₂ removal and methanation due to the abrasive nature of this service.

KTM Metalltite ball valves feature specially hardened components with a hard chrome plated ball and Stellite seat providing reliable tight shut-off. They also incorporate a spring-loaded seat design, which ensures a tight seal between ball and seat even when there are solid contaminants in the process.

This stage of the ammonia production process requires a high flow rate and a large valve; the KTM Metalltite ball valve is available in sizes up to DN 500 (NPS 20) making it ideal in these applications. The valves are also suitable for high temperatures and can be specified with a trim for up to 500°C (932°F) where required.

KTM ball valves are widely installed on ammonia plants providing dependable performance, reduced maintenance and longer service life, which ultimately lead to better plant productivity.

CONTROL BALL VALVE



SUGAR

LIMING & EVAPORATION

The KTM Dual V-ball high performance control ball valve is suitable for both on/off and control applications in the liming process and evaporation process in the sugar production process.

The Dual V-ball valve has a unique secondary V-notch, which will control extremely small and accurate flow rates – with a rangeability in excess of 250:1 – as well as the primary V-ball providing straight through non-clogging flow for large capacity heterogeneous fluids.

This characteristic is ideal for process control applications involving fibrous juice following sugar milling, including liming and evaporation. The liming operation requires accurate control of small flow rates without clogging and evaporation requires

throttling control for level, pressure and density, which is provided by the high performance Dual V-ball valve.

The heavy duty V-ball surface and a spring loaded Stellite seat provide excellent sealing performance at low torque, even on abrasive media, whilst the Unibody design reduces stress and the minimum body cavity reduces build up of any transition process materials.

The KTM Dual V-ball provides Class V shut-off and has been proven in tough operating conditions, including sugar mills and ethanol plants across the globe.

HIGH SPEED BALL VALVE



ETHYLENE OXIDE (EO) / ETHYLENE GLYCOL (EG)

OXYGEN SERVICE

The manufacture of Ethylene Oxide and Ethylene Glycol requires specialty valves which are able to operate at very high speeds both from open to close (OTC) and close to open (CTO). The potentially hazardous nature of the process also means that valves on emergency shut down (ESD) service must be able to operate a complete open to close cycle in between 0.2 and 0.3 seconds including valves of up to DN 200 (NPS 8) in size.

The presence of oxygen also means that the valves must be certified anti-static with specialist materials required, including Monel® and Inconel® trim, to prevent oxidation and the entire valve must be de-greased to prevent the risk of explosion.

KTM ball valves and actuators have been specifically designed to meet these needs with many years experience providing valves on critical applications for EO and EG. KTM valves and actuators also use unlubricated, dry metal bearings with high wear resistance and low friction for smooth operation. The combination of KTM ball valves and actuators is also able to deliver the extra high stroke speed of less than 0.3 seconds required to manage the quality and efficiency of the EO/EG process.

KTM ball valves are specially designed to meet the demanding conditions of these applications, reducing downtime and helping to increase production output.

POWDER DISCHARGE SYSTEM (PDS) BALL VALVE



POLYETHYLENE (PE) / POLYPROPYLENE (PP)

POWDER HANDLING

Polyethylene and Polypropylene manufacture is a high output process and requires specialty valves that can cope with powder fluid conditions for prolonged periods of operation. Requirements to manage high speed and extra high cycle (>1 million) operations are typical for these applications.

Specially designed for the application, KTM PDS ball valves have a scraper seat which minimizes powder between the seat and the ball to maintain sealability and ensure a smooth and reliable open/close action during operation. The seat ring incorporates a coil spring with a powder proof function to eliminate powder build-up in the seat pocket area that enables the coil spring to maintain a constant seating force between the seat and the ball. The double contained packing system and powder proof O rings in

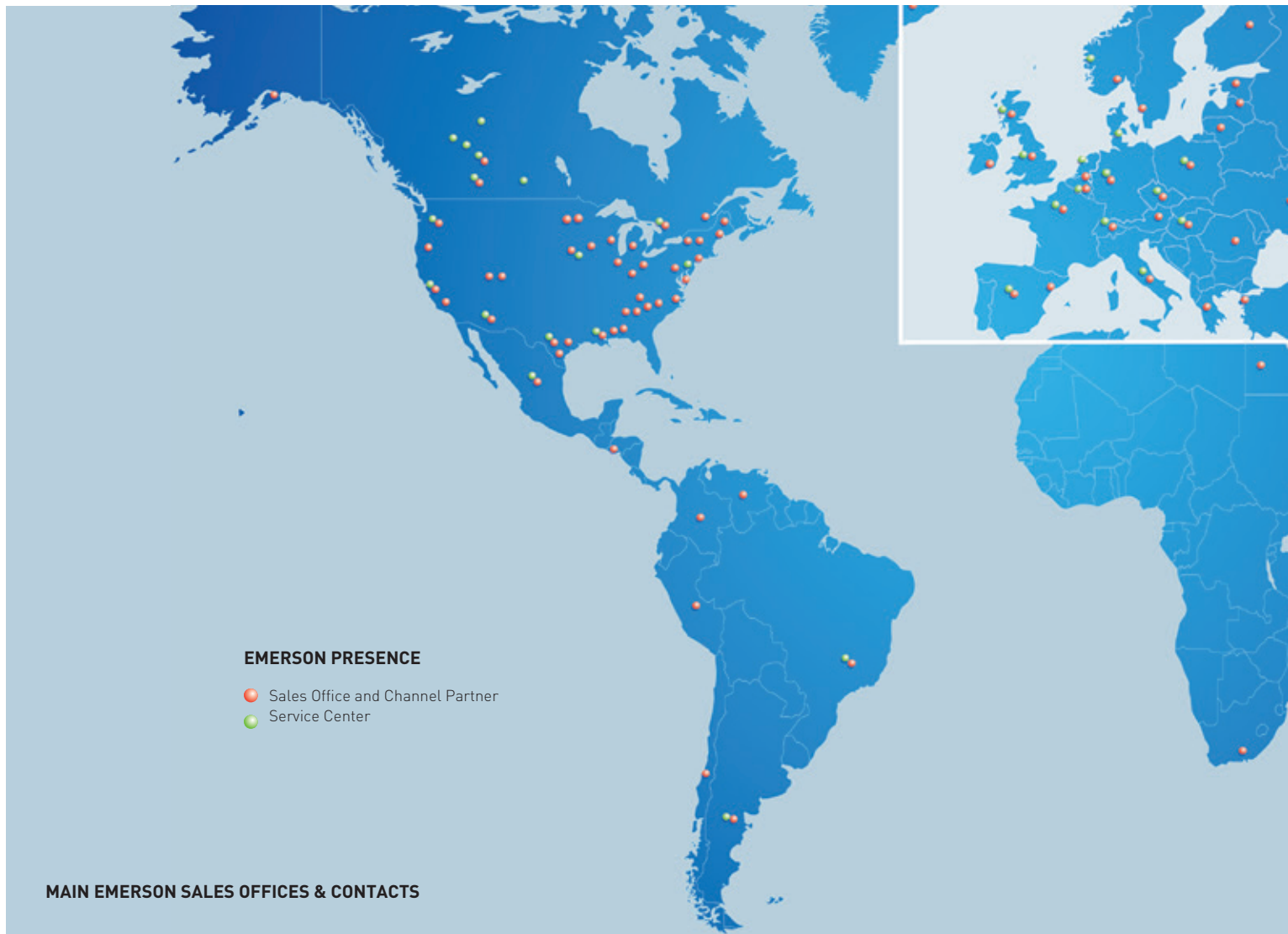
the stem area eliminate powder build-up in the packing chamber and help insure against any fugitive emission release, providing further protection for the environment.

The KTM actuator has also been specially adapted for PE/PP high cycle applications with dry metal bearings for low friction and shock absorbers to eliminate excessive shock load from the quick opening and closing cycles. The actuator is mounted via a purpose-designed connector capable of handling the high loads and frequent operation throughout the valve life cycle.

KTM automated PDS ball valves are installed on PE/PP plants, delivering high performance, long life and extended maintenance intervals surpassing the expectations of demanding plant operators.

GLOBAL PRESENCE

LOCAL EXPERTISE



EMERSON PRESENCE

- Sales Office and Channel Partner
- Service Center

MAIN EMERSON SALES OFFICES & CONTACTS

NORTH AMERICA

UNITED STATES

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