



KUMERA
CORPORATION

FACTBOOK

EQUIPMENT & SERVICES



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Introduction to Kumera Corporation

Kumera Corporation is a private, family owned company, which consists of ten operating companies in four divisions, each in synergy with the other divisions adding value in the related value chain. These divisions are:

- 1 Kumera Technology Division**, the Process machinery supplier with affiliated mechanical workshop companies in Finland.
- 2 Kumera Power Transmissions** producing gearboxes and main related equipment to the pulp and paper, mining and metallurgical and dredging industries and to marine and offshore applications among others. The group has manufacturing plants in Finland, Austria, China, Germany and Norway.
- 3 Kumera Foundry Division** with a foundry in Finland being a major producer of steel and nodular iron castings supplying to engineering industries and Kumera's other divisions.
- 4 Kumera Marine Division** engineering, manufacturing and supplying propulsion gearboxes and propellers including control systems for any seafaring vessels.

We are committed to the promise of "Creating Efficiency" for customers by maximizing the synergy between the related divisions. We trust that you find Kumera equipment and products applicable to your requirements and see the advantage in sharing the benefit of the "Creating Efficiency" and reduced environmental impact.

Vision, Mission, Value Statement

Vision

Kumera Corporation shall endeavor to continually advance its technological expertise and operational capability in order to anticipate our customers' future needs.

Mission

To offer, through the vertical product delivery channels rising from our four distinct yet synergized divisions: Technology, Power Transmissions, Metal Foundries, and Marine, a range of products and services which will result in increased efficiency for the processes of our customers.

Value Statement

Kumera Corporation values those customers who entrust us with the fulfilment of their exacting requirements, and our human capital resources who meet and exceed customer expectations.



CORPORATE STRUCTURE



TECHNOLOGY

KUMERA TECHNOLOGY CENTER Riihimäki, Finland

- Process equipment
- Feasibility studies for metallurgical & environmental applications

KUMERA MACHINERY OY Akaa, Finland

- Fabrication of process equipment
- Large heat treatment facility (carbonizing, annealing, ADI)
- Extensive machining capacity

KUMERA TESTING CENTER Kangasala, Finland

- Testing facility for piloting customer's materials applicable to Kumera equipment capacity



POWER TRANSMISSIONS

KUMERA DRIVES OY Riihimäki, Finland

- Mechanical drives for industrial applications

KUMERA GETRIEBE GMBH Troisdorf-Spich, Germany

- Tailor-made gearboxes for various industrial applications

KUMERA ANTRIEBS-TECHNIK GMBH Graz, Austria

- Tailor-made gearboxes for industrial applications

KUMERA (CHINA) CO., LTD. Kunshan, Jiangsu, China

- Large size gearboxes



MARINE

KUMERA AS Sandefjord, Norway

- Propulsion and auxiliary gearboxes for marine and offshore applications

HELSETH AS Molde / Hjelset, Norway

- CCP propulsion systems for cargo and passenger vessels, ferries, tankers, work boats, high-speed vessels, fishing and offshore vessels

KUMERA GETRIEBE GMBH Troisdorf-Spich, Germany

- Tailor-made gearboxes for propulsion systems and offshore



FOUNDRIES

PEIRON OY Kokemäki, Finland

- Grey cast iron
- Nodular iron
- Construction steels
- Steels for quenching and tempering
- Heat resistant steels
- Stainless steels
- Wear resistant cast steels and irons
- ADI-castings
- Special castings
- Patterns

The synergic relationship between the various business units and companies of the Kumera Corporation afford essential cost and operational advantages. Our knowledge of process

requirements helps us to understand the importance of high availability and trouble-free output in all process industries generally.

Kumera Technology Division



Kumera Technology Center (KTC), is a liaison part of Kumera Technology Division, and includes research & development, engineering and project management units of the Kumera Corporation.

For copper, nickel, and other mineral and metallurgical industries KTC is a leading worldwide supplier of process equipment and process modernization services.

KTC provides the complete technology chain. This covers R&D, engineering, project management and project implementation in conjunction with marketing and in-house equipment manufacturing at Kumera Machinery.

Clean Coal

Kumera's proven and efficient steam drying technology is also very well suited for upgrading lignite and other low rank coals. Decreasing the moisture content of low rank fuels improves power plant efficiency, thus, decreasing greenhouse gas emissions.

Kumera Technology Center is committed to supplying reliable, proven, state-of-the-art technological solutions that benefit our customers with real value addition and increased profit via:

- improved availability,
- improved energy efficiency,
- reduced operational cost,
- reduced environmental footprint.



One of our main equipment – Kumera Steam Dryer.

Kumera Steam Dryer

For smelters that have by-product steam available, Kumera has developed advanced equipment for drying concentrates. During the past twenty years, the proven superiority of the Kumera Steam Dryer among drying technologies, has almost achieved exclusivity as the prime drying equipment for copper concentrates.

New applications for Kumera Steam Dryers are being developed in fuel treatment for power plants, resulting in a steadily increasing number of Kumera dryers in operation worldwide.



Benefits of the Kumera Steam Dryer relate to capital expenditure, operational expenditure, efficiency in operation and maintenance and environment impact including:

- High capacity of well over 200 t/h in a single unit.
- Low steam consumption due to low operational temperature and gas amount.
- Low wear of heating elements due to low speed difference between the elements and concentrate.
- High operational availability.
- No burning of fossil fuels, therefore no CO₂ emission.
- Low levels of copper loss due to low exhaust gas flow.



Kumera Heat Recovery Dryer

Kumera's continuous development efforts in improving energy efficiency have led to the development of a new generation of drying technology, the Kumera Heat Recovery Dryer. This novel concept is able to utilize low calorific value heat sources for feed material drying, thus, improving the energy efficiency of drying by a further 30 %.

Converters, Anode Furnaces and Drive Systems

With decades of experience in designing and supplying Peirce-Smith Converters and Anode Furnaces, Kumera is one of the leading global designers and manufacturers of these units.

Drive units play an important role especially in Anode Furnace function in anode casting. As Kumera Corporation is also a manufacturer of power transmissions, KTC is in the best position to make tailor-made drive solutions to fulfil rigorous requirements for reliable and safe operations. Control of drive units is by a PLC-based system developed in-house by KTC.



Rotary Dryers

Kumera Technology Center has a long tradition in making rotary dryers for a variety of concentrates and minerals.



Bucket Excavators and Roll Crushers

The Kumera Bucket Excavator, designed for lifting and dewatering of granulated matte and slag, typically reduces water content in the material to a level of 10 to 15 % during transportation (lifting).

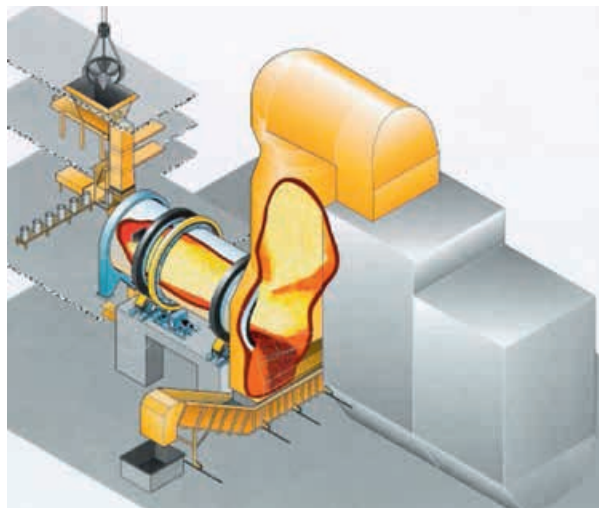


The Kumera Roll Crusher, designed for breaking agglomerated dusts from electrostatic precipitators and waste heat boilers, is a heavy duty design suitable for crushing both hot and abrasive materials.



Environmental Technology

We are a leading supplier of hazardous waste burning lines in Europe and have supplied equipment for hazardous waste treatment plants in Belgium, Germany, Holland, Hungary, Sweden, U.S.A. and of course in Finland.

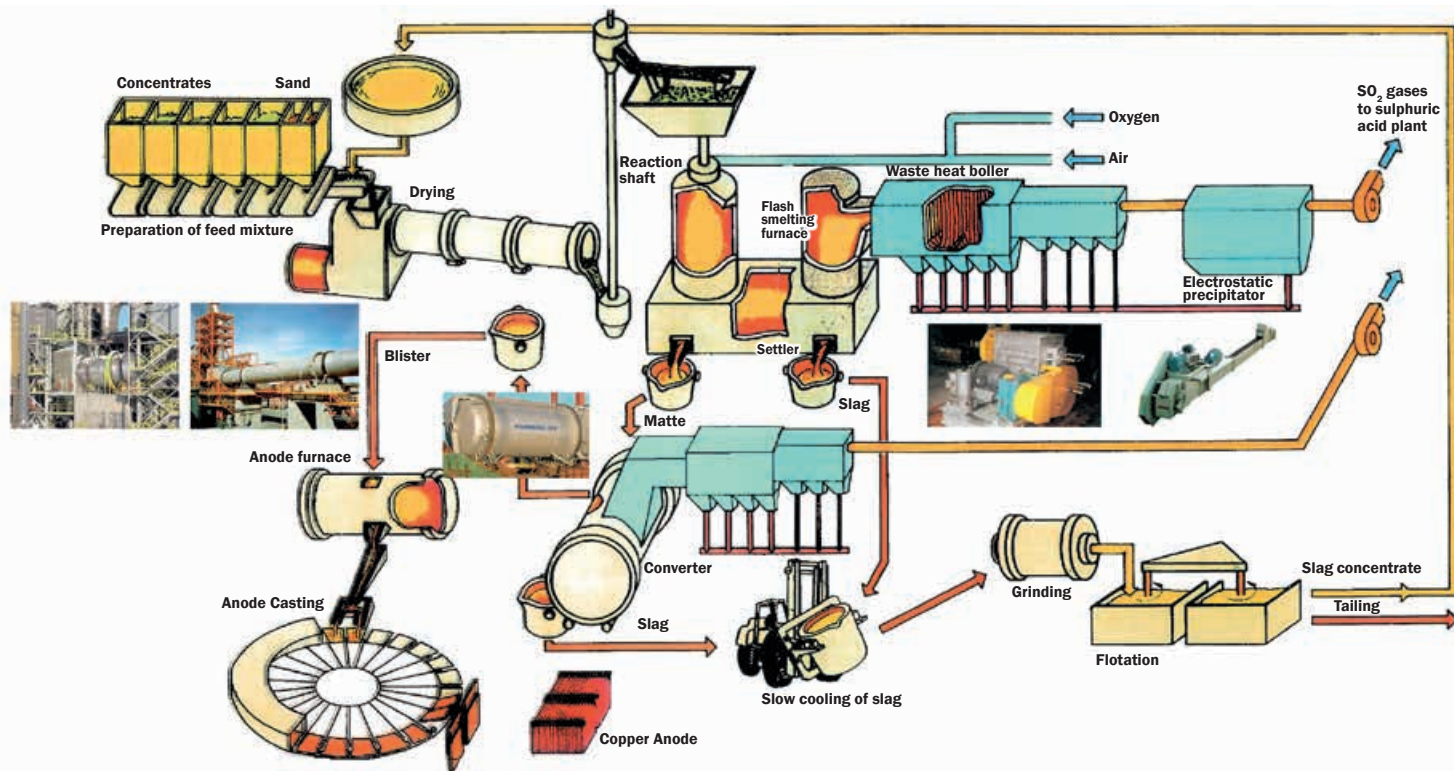


Kiln Maintenance Service



Rotary kiln tyre and roller on-site resurfacing.

For further technical information and inquiries for quotations, please contact sales at Kumera Technology Center tel. **+358 20 755 4200**, email address **technology@kumera.com**.



Most of the copper smelters in the world dry their concentrates before smelting to maximize the economic efficiency of their operations. We have supplied tens of conventional rotary dryers for this purpose in the past and more recently tens of modern, environmentally sustainable and energy efficient Kumera Steam Dryers.

After smelting of the dried sulfide concentrates, the produced copper matte needs to be converted into blister copper. The most widely used practice is the Peirce-Smith converter, which we have supplied in large quantities worldwide. Following the converter stage the blister copper needs to be fire refined in anode furnaces prior to casting and subsequent electro refining. We have supplied over 30 units of anode furnaces all over the world.

The chemical energy incorporated in exothermic reactions of combustion of sulfide concentrates is captured in waste heat boiler. This energy is partially utilized in our steam drying in form of steam. The hot, abrasive, lumpy dust collected in the waste heat boiler is further crushed by Kumera Roll Crusher for transportation back to the smelting furnace to recover valuable metals.





Kumera Machinery manufactures welded steel structures and has machining capabilities of large steel and cast components.

Our production plant, of some 2 hectares under the roof, is equipped with a wide range of the latest technology in machinery and equipment including press brakes, plate rollers, advanced welding, heat treatment and surface treatment. These facilities enable us to provide turnkey solutions to various demanding applications.

Valid Certificates:

- SFS-EN ISO 9001 Quality Management System
- SFS-EN ISO 14001 Environmental Management System
- SFS-EN ISO 3834-2 Quality Requirements for Welding
- PED 2014/68/EU EN 13445, pressure vessels
- ASME U-stamp, pressure vessels
- Registered supplier in the Maritime registers of shipping
- Registered supplier in the Achilles Power & Tech Community

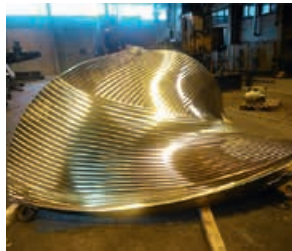
We have a large number of machines for

- machining (including 5-axis machining),
- welding (MIG/MAG),
- stress relieving (PWHT furnace),
- heat treatment (including ADI), and
- surface treatment.



Main Supplies

Kumera Machinery manufactures subcontracted equipment for heavy industries. These equipment are often related to the following segments in various industries:



Machined propeller blade



A complex welded structure being machined



Component for wind turbine



Components for paper making machines and pulp production



Shipment of subcontracted vessel



Equipment for base metal smelters

For further technical information and inquiries for quotations, please contact sales of Kumera Machinery Oy at tel. **+358 20 755 4340**, email address **machinery@kumera.com**.

Kumera Testing Center



Kumera Testing Center was founded in 2015 to expand the R&D capabilities of Kumera Technology Center. Equipped with pilot-scale models of Kumera Steam Dryer and Kumera Heat Recovery Dryer along with a broad range of other test setups, the Kumera Testing Center is well prepared to develop new solutions to improve the energy efficiency and reliability of Kumera equipment. Test runs and laboratory measurements are performed for prospective customers to assess the compatibility of their feedstocks with Kumera equipment.

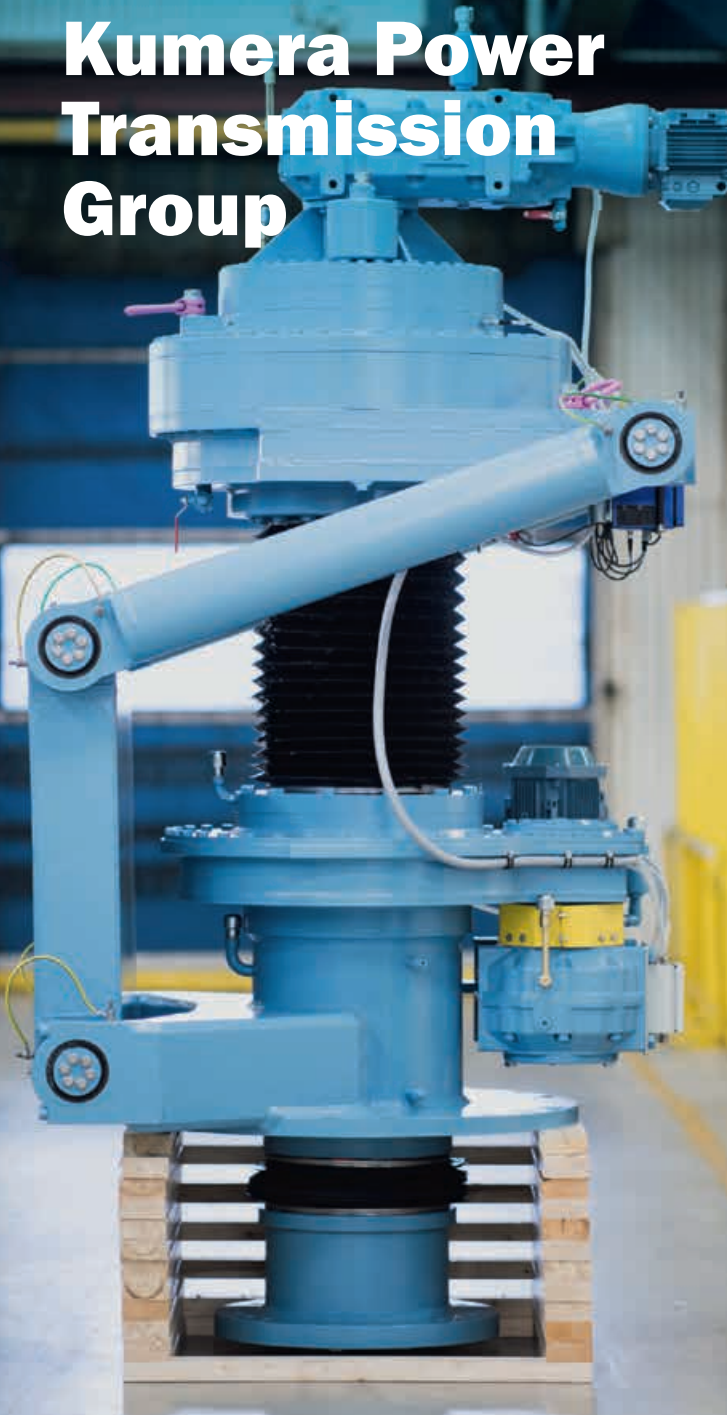


One of our main equipment – Kumera Steam Dryer.



Testing Heat Recover

Kumera Power Transmission Group



Kumera Decanter Gearbox with adjustable shaft length.

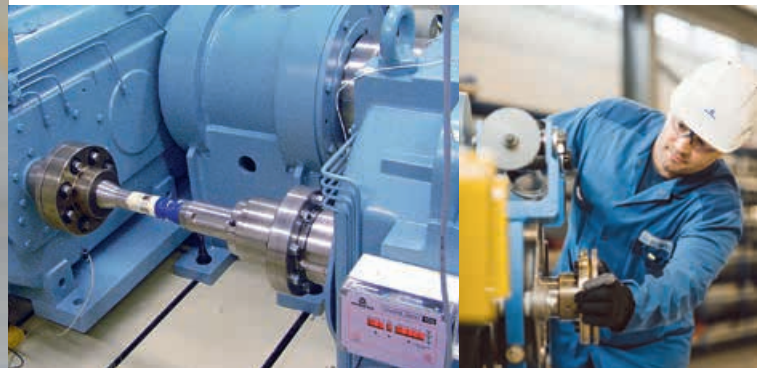


Kumera Drives is a provider of innovative mechanical power transmissions and related services. A wide product range is available to customers in the pulp and paper, mining and metallurgy, marine, offshore, material handling and mechanical engineering applications. Customers for Kumera Power Transmission Group are served by representatives in more than 30 countries around the world. The Group also employs appropriate services from other associated companies worldwide.



The comprehensive service concept that we provide is based upon:

- ISO 9001:2000 certified quality management system
- Maintenance contracts - on site or in our workshops
- Guard Gear 4.0 for continuous gear monitoring
- Maintenance consulting
- Power-Plaza.com – Multitool for gearbox selection, designing, buying, servicing





Kumera Getriebe GmbH continues the long tradition of high-quality and large-dimensioned Keller gearboxes, the roots of which are in the early years of the 20th century. The product range covers tailor-made gearboxes for dredging applications as well as gear units for cement, sugar, steel, plastics, open cast mining and the shipping industries, and related drive components.



For over 100 years, Kumera Antriebstechnik GmbH has been the centre of excellence in Graz for the development and production of custom-built industrial gear units and drive solutions.



These specialised products, developed in partnership with the customer for a wide variety industrial uses, are implemented in the most demanding applications and combine the highest levels of quality and reliability.

In addition, our qualified service team offers a wide range of support services, as well as repairs for our own products and those from other manufacturers.

Thanks to an extensive partner and service network, we offer our customers a 24/7 service organisation, which guarantees maximum safety and availability of operations around the globe.





Kumera (China) Co., Ltd. is a modern factory and a business unit of Kumera Corporation serving our industrial customers in China and more widely in Asia.

Kumera (China) enjoys the benefits of a favorable location on the east coast being 50 km from Shanghai with good access by train and highway connections and has sales representatives in several provinces in China. Production facilities cover e.g. modern machine tools, heat treatment plant, assembly lines and painting plant.

Wide product range includes small to middle-sized and large gearboxes for the specific industries with either standard or tailor made solutions. Customer service starting from new equipment design and continuing to after sales services which are provided with high attention to Customer needs.

Kumera (China) acts as Central hub location for our service activities for Asian markets while having close co-operation with other Kumera Power transmission units located in Europe. Spare parts being stored at the Kunshan factory and availability of competent staff ready to respond to customer requirements enable fast response. Well established local presence in China and Asia market, the service capabilities have made Kumera (China) a preferred partner with Customers in various industries.



**HIGHSPEED GEARBOX
FOR TEST BENCH**



**LH-TYPE
GEARBOX**



**INDUSTRIAL GEARBOX
ASSEMBLING**



**TD-SERIES
GEARBOX**



**GEARBOX FOR YANKEE-
CYLINDER DRIVE**



**GEARBOX FOR
ROLL DRIVE**



**GEARBOX FOR
HYDROPOWER**



**SPECIAL
GEARWHEEL**



**KUMERA
ACTIVE DRIVE**



**TAILOR-MADE GEARBOX
BY KUMERA**



**LEM-SERIES
GEARBOX**



**CONVEYOR
GEARBOX**



**GEARBOX FOR
ROLLING MILL**



**HASPEL
GEARBOX**



**GEARBOX WITH
TWO OUTPUT SHAFTS**



**HEAVY DUTY GEARBOX FOR
STEEL INDUSTRY**

Drives for Pulp Making Line

We offer products for the pulp making industry either, from our standard gear range or, a tailor made solution, in accordance to requirements.

Gear units meet:

- Long service life,
- High reliability,
- Low operating noise and vibration levels.

Taking advantage of the preventive maintenance procedure through our global service network improves operational reliability minimizing damage and shutdown cost.



Girth Gears
Output torque max 4000 kNm
Gear ratio 4 - 16



LEM-series
Output torque max 150 kNm
Gear ratio 5,6 - 630



SELM-series
Output torque max 840 kNm
Gear ratio 5,6 - 630



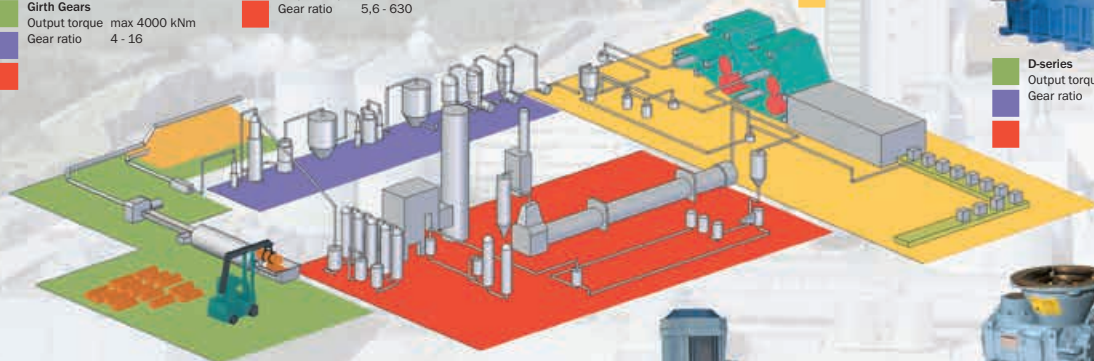
LX-series
Output torque max 195 kNm
Gear ratio 1 - 6,3



D-series
Output torque max 800 kNm
Gear ratio 5,6 - 630



CHG-series
Output torque max 300 kNm
Gear ratio 1 - 7,1



VLA-series
Output torque max 150 kNm
Gear ratio 1 - 6,8



G-series
Output torque max 100 kNm
Gear ratio 6,3 - 630

F-series
Output torque max 12 kNm
Gear ratio 7,1 - 1600



SF-series
Output torque max 12 kNm
Gear ratio 5,6 - 100

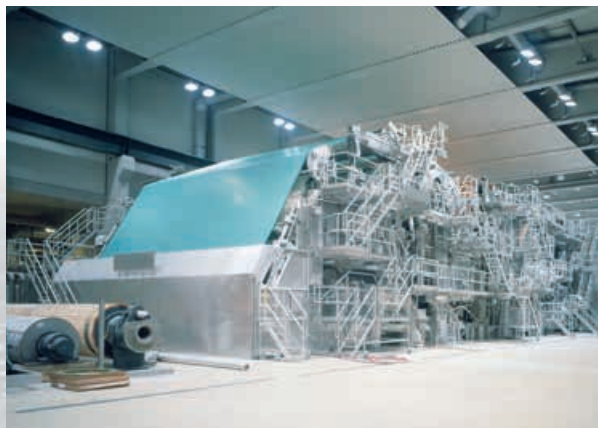
SG-series
Output torque max 100 kNm
Gear ratio 5,6 - 100

Wood handling		Fiber line / Pulping			Chemical recovery			Pulp dewatering	
Debarking drum - VLA-series - BDG-series - LD-series - Girth Gear	Flight conveyor - RG-series - TG-series	Classifiers - SGL-series - TFBM-series - SGTM-series	High/low pressure feeder - RGM-series - LGAM-series	Fiber drum - LD-series - KF-series - Girth gear segments	Lime kiln - LD-series - KF-series - Girth gear segments	Lime slaker-classifier - SELM-series - LFDM-series	Lime mud disc filter - TG-series - TF-series	Twin wire former - LD-series - LGA-series	Douple wire press - LGA-series - LFA-series - KFA-series - XLB-series
Chipper - VLA-series - CHG-series - LX-series	Belt conveyor - RG-series - TG-series	Air lock screw feeder - TG-series	Double diffuser - VLAM-series	Refiner - LX-series	Causticizing - TG-series - CAM-series - CTM-series	CD-filters - TG-series - CAM-series - CTM-series	Reburnt lime feeder - TFCM-series	Vacuum pums - LX-series	
	Screw conveyor - RF-series - TF-series	Double screw chip meter - TG-series	Tower scraper - LEM-series - SGLM-series - SELM-series			Lime mud storage agitator - SELM-series	Classifiers - TFBM-series - SGTM-series - SGL-series		
Screw reclaimer - D-series - G-series		Top separator - SGR-series - SGL-series	Bottom scraper - SGLM-series - SELM-series		Fresh lime feeder - TFCM-series	Aerator - SF-series - SG-series			

Complete Drive Packages

In papermaking processes, the essential requirements for transmitting power are reliability and feasibility. Design engineering, drive systems, tailor-made replacement gears and modernization projects are our expertise in finding optimum drive solutions for paper making processes.

The customer benefits from high-quality products, a complete concept for gear service, application expertise and flexibility in engineering.



Yankee cylinder drives
Nominal output torque max 350 000 Nm
Gear ratio 2.5 - 70
Hollow shaft diameter 200 - 600 mm

Forming section **Dryer section** **Reeling section**

Forming roll
LX-series

Dryer cylinder
Yankee cylinder gear units
Sunday drive
LF-series

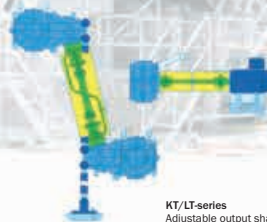
Reel drum
LX-series



TP-series
Output torque max 22.4 kNm
Gear ratio 2.5 - 5.5



LG-series
Output torque max 100 kNm
Gear ratio 5.6 - 630



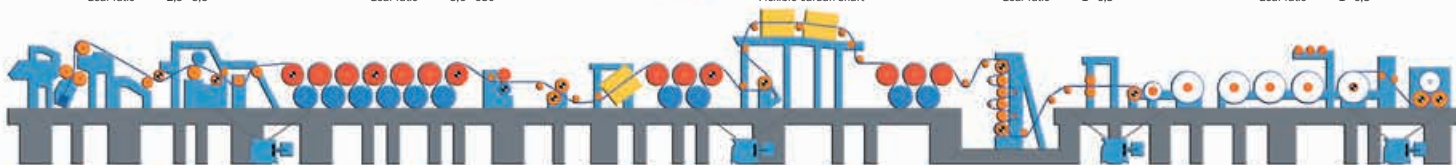
KT/LT-series
Adjustable output shaft hollow
Flexible cardan shaft



LPU-series
Output torque max 173 kNm
Gear ratio 1 - 6.3



LX-series
Output torque max 195 kNm
Gear ratio 1 - 6.3



Forming section

Press section

Dryer section

Calander

Sizer

Dryer section

Coating machine

Dryer section

Multi-nip calander

Reeling section

Winder section

Suction rolls
TPS-series
LX-series

Suction rolls
TPD-series
KT/LT-series

Deflection compensation rolls
TPZ-series

VAC rolls
TPV-series

Pulper
LX-series

VAC rolls
TPV-series

Vacuum Pumps
LX-series

Deflection compensation rolls
TPZ-series

Sizer rolls
LX-series

Dryer cylinders
TPD-series
KT/LT-series

VAC rolls
TPV-series

Pulper
LX-series

Dryer cylinders
TPD-series
KT/LT-series

VAC rolls
TPV-series

Deflection compensation rolls
TPZ-series

Pulper
LX-series

Jumbo roll couplings
Unwind section
LPU-series
LPW-series

Wind up section
LX-series

Pulper
LX-series

Kumera Drives Ltd.'s products and services fulfil the demanding requirements in mining applications. This capability has been achieved by working in close long-term cooperation with original mining equipment manufacturers and end-users in the mining and metallurgical industries.



Planetary gearbox for mining.



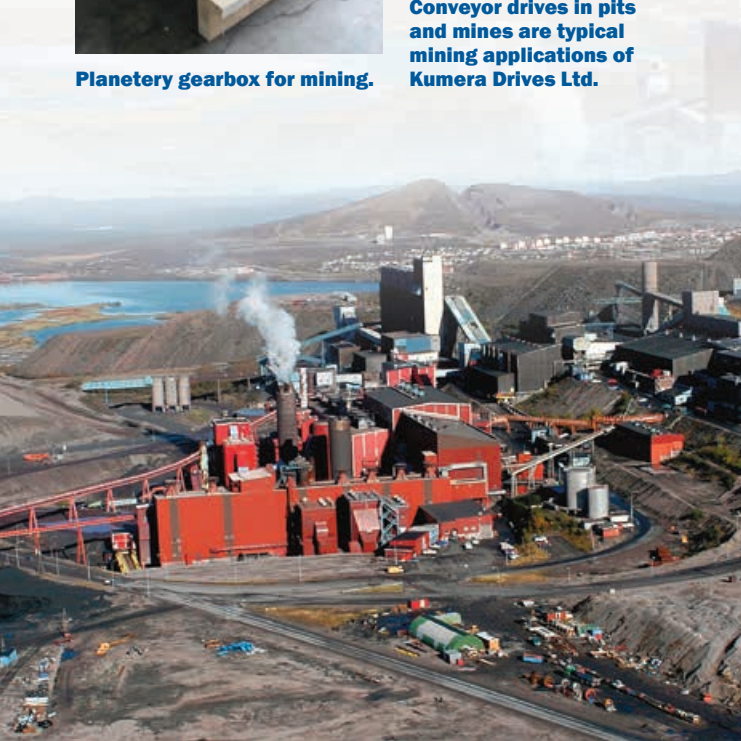
Conveyor drives in pits and mines are typical mining applications of Kumera Drives Ltd.



Kumera Drives supplies complete functional packages for rotary drum drives including gear units, pinion wheel, girth gears and assembly base.

Extensive expertise in mining applications

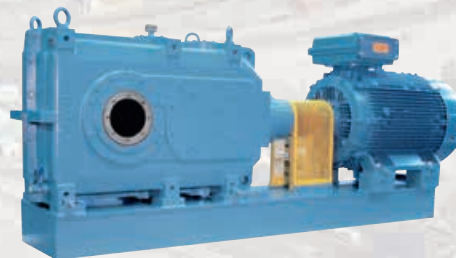
Kumera Drives designs and manufactures a full range of gear units for critical mining applications, such as conveying, mixing, agitating and drying. We have extensive expertise in conveyor drives in both pits and mines. The special requirements of the mining environment have been taken into account in sealing, bearings and breather valves. Our products also have the necessary environmental classifications, such as ATEX for gear units in coal mines.



Drives for bucket excavator.



Agitator gear unit in mineral separating process.



A drive package for conveyors.

Girth Gears for Drum Drives

A girth gear comprises 8–16 short segments joined by bolts. The segment length typically varies between 0.8–1.6 m. Short segments enable the use of small versatile and accurate machine tools that produce optimal and precise tooth reliefs. Segments are designed to be interchangeable reducing spare part costs; they enable easy handling and cost-efficient transportation.



A girth gear can be single or double pinion driven. Pinions are manufactured as a single part with an integrated shaft; however, the pinion can be separated and mounted on a separate shaft, supported by bearings, or, on the output shaft of the main gear unit.

The rotation speed of a drum normally varies between 0.5–20 rpm corresponding to the peripheral velocity from 0.3 to 10 m/s of the girth gear. The nominal power of a standard Kumera girth gear is up to 8 MW per mesh, i.e., 16 MW when double pinion driven.



Typical geometry of a girth gear

	Min.	Max.	Standard
Module	20	40	27
Pressure angle, [°]			24
Helix angle, [°]	0	45	0
Number of teeth:			
■ Girth Gear	100	300	
■ Pinion	18	30	
Face Width, [mm]	100	500	
Reference diameter, [mm]	2000	no limitation	
Quality			
Girth Gear	8-10	9-7	
Pinion	7	10	

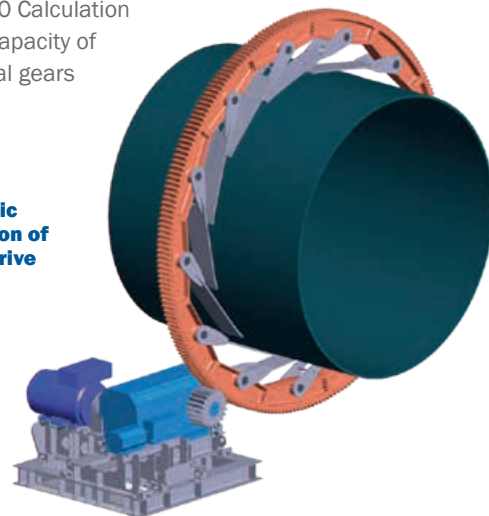
Calculation of tooth load carrying capacity is according to the following standards:

- ANSI/AGMA 6004-F88
Gear power rating for cylindrical grinding mills, kilns, coolers and dryers
- ISO 6336 Calculation of load capacity of spur and helical gears
- DIN 3990 Calculation of load capacity of cylindrical gears



Accurate machining of tooth profile

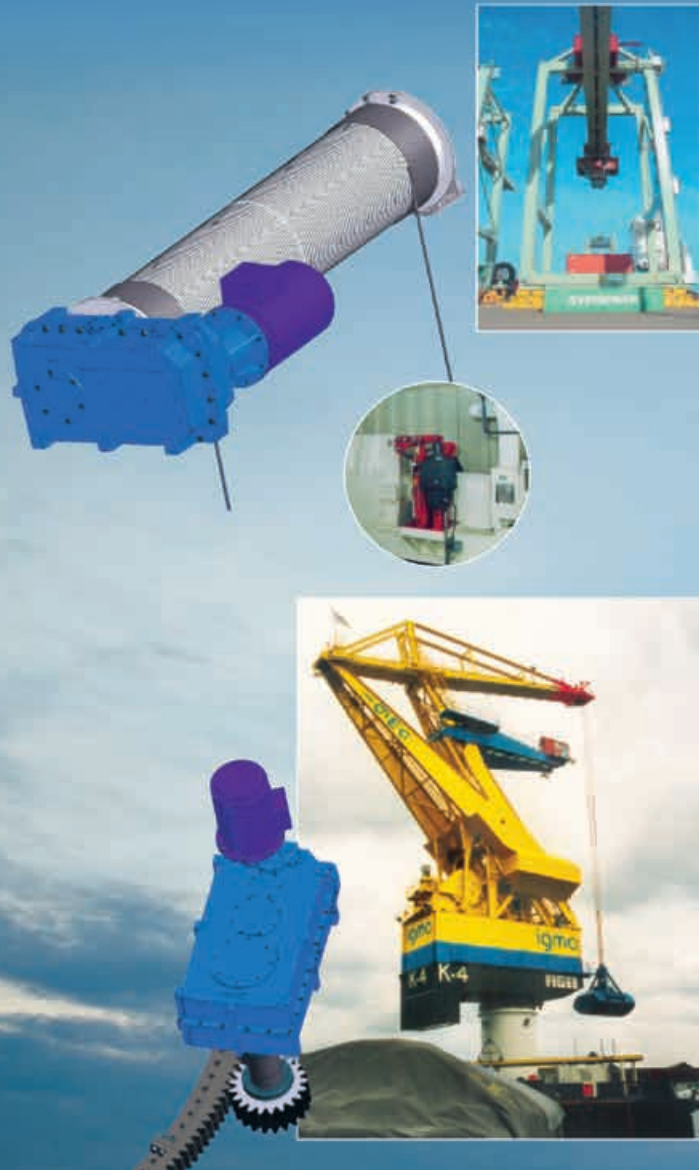
Schematic illustration of a drum drive



The Kumera Drives Ltd. modular standard products are applicable to crane drive duty. Our wide experience and expertise in power transmission technology enable us to design solutions for the crane and material handling sector. Proven standard designs or a special design solution offers operating cost savings with improved procurement competitiveness.

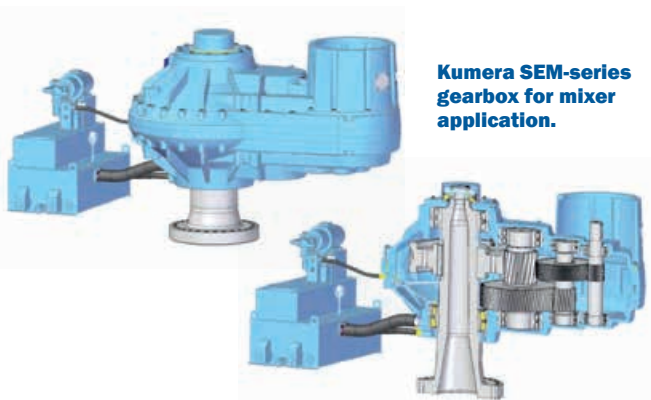
Applications:

- Ship-to-shore Cranes
- Rail Mounted Gantry Cranes
- Straddle Carriers
- Rubber Tyre Gantry Cranes
- Double Boom Cranes
- Single Boom Cranes
- Goliath Gantry Cranes
- Grab Unloader Cranes
- Multipurpose Cranes
- Overhead Travelling Cranes
- Process Duty Cranes



Kumera Mixer Gearbox SEM-series Features & Benefits

The Kumera Drives Ltd. modular standard products are applicable to crane drive duty. Our wide experience and expertise in power transmission technology enable us to design solutions for the crane and material handling sector. Proven standard designs or a special design solution offers operating cost savings with improved procurement competitiveness.



**Kumera SEM-series
gearbox for mixer
application.**

Feature	Benefits & Values
Mixer gear series with multiple sizes and rotations	Large power range of 200–1000 kW
Integrated flange coupling and output shaft	More rigid and reliable structure
Stronger shaft support by higher bearing span for mixer application	Higher bending load carrying capacity of the out shaft
Forced lubrication of all bearings	Cool, clean and filtered lubricant increase bearing reliability
Customized adapter plate for connection	Versatility in final assembly
Special ratios up to 1% of the requested ratio at moderate cost	Easy to select the optimal gear unit for a specific application value for money
A separate lubrication and cooling unit with an oil tank	Simple, standard systems for cooling and lubrication
Optimized tooth profiles using latest calculation tools	Better load distribution and lower dynamic forces reduce
Case-hardened gears	A hard case and through hardened core result in a more wear resistant gear that is capable of handling even high impact loads

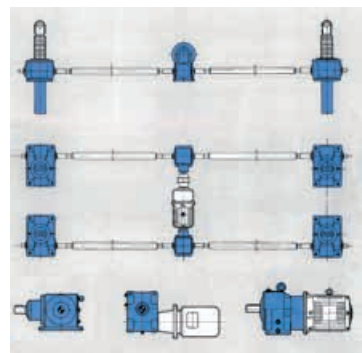
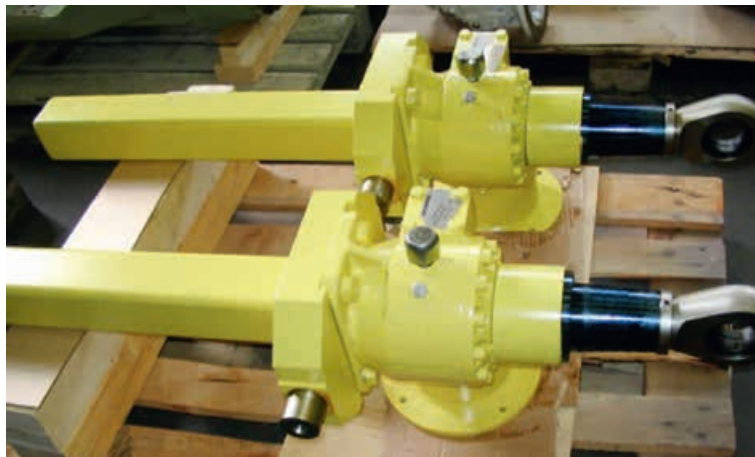
Kumera Anode Jacks

Since 1952 Kumera (Norgear) has been supplying Anode Jacking Systems for most used reduction technologies of aluminium production.

Smelters worldwide are served by Kumera Anode Jacking Systems securing high efficient pot operations.

Kumera has been upgrading aluminium smelters and has therefore deep expertise in different pot technologies and can help improving and upgrading efficiency in the pot. Highly accurate positioning system – patent pending - guarantee exact standstill and avoid anode effect.

Worldwide references available upon request.



This testing chamber enables full load testing of Anode Jacks in high ambient temperature upto 150 °C.

POWER-PLAZA.COM

**Multitool for Gearbox
selection, designing, buying, servicing**

Kumera Power-Plaza is a sophisticated portal to serve our gearbox customers. This platform is basically offering all features needed to assist the engineering stage to select proper drive unit and all its documentation to be placed on machinery or equipment blueprint. The ordering with accurate information on time of delivery for selected gearbox and price are included.

All after-sales documents, such as Material Certificates, Test-Protocols, Bill of Materials (BoM) and Assembly Drawings for spare parts ordering including information on their availability on stock, can be collected from power-plaza.com.



Registration and Login

Kumera standard gear units selection

Normal selection: A step-by-step process that finds the most suitable gearbox based on your input search data.

Express selection: Designed for customers familiar with Kumera products, this is the fastest process for configuring your gearbox.

Receive documentation and designs by email

☐ 3D model

☐ 2D model

☐ Technical Specification Sheet

E-mail address

Request selected documents

Spare Part Search

Spare Part Search

Search for spare parts using either the gear and casing number, enter number or individual item code.

Serial number or order number: 00000000-00000000

Keywords

View shopping cart

Shopping Cart and Payment Service



HELICAL GEAR UNITS,
CUMPACT F-RANGE



HELICAL GEAR UNITS,
CUMPACT G-RANGE



ONE STEP HELICAL GEAR
UNITS, CUMERA LH-RANGE



HEAVY DUTY HELICAL GEAR
UNITS, CUMERA D-RANGE



BEVEL GEAR UNITS,
CUMPACT F-RANGE



BEVEL GEAR UNITS,
CUMPACT G-RANGE



AGITATOR GEAR UNITS,
SF-RANGE



AGITATOR GEAR UNITS,
SG-RANGE



PLANETARY GEAR UNITS,
P-RANGE



WORM GEAR UNITS,
COVERA RANGE



DOUBLE WORM GEAR UNITS,
COVERA RANGE



HELICAL-WORM GEAR
UNITS, COVERA RANGE



SHAFT MOUNTED GEAR
UNITS, THV RANGE



SPECIAL GEAR UNITS



BEVEL GEAR UNITS,
KA-RANGE



FRONT END GEAR UNITS,
NORGEAR-RANGE



GIRTH GEARS



SPUR AND HELICAL
GEAR WHEELS



LAPPED AND GROUND
BEVEL GEARS



WORM GEAR SETS



INTERNAL GEARINGS



GEAR COUPLINGS



FLEXIBLE AND RIGID
COUPLINGS



CONDITION MONITORING
GUARD GEAR 4.0

For further technical information and inquiries for quotations, please visit **www.power-plaza.com** or contact Kumera directly or through sales representatives.

Kumera Marine Division

**Kumera AS
NORWAY**



Kumera AS is our marine gearbox supplier. The front-end gearboxes (PTO) are an important segment especially in driving external fire-fighting (FiFi) pumps, being the market leader for multiple PTO gearboxes for these applications.



The propulsion gearbox range has grown up to be another major focus area for the future. In addition to a standard range of Controllable Pitch Propeller (CPP) gearboxes, Kumera AS offers customized solutions, including hybrid gearboxes.

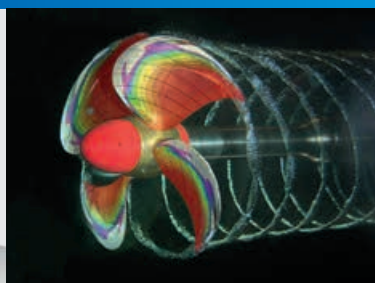
All gearboxes of Kumera AS are tested in an in-house test station according to all the major World Classification Societies rules and regulations. Kumera AS is certified according to ISO 9001, 14001 and 45001. We support the products throughout the service life with our own 24/7 Service Department.



Fitted with NORGEAR® drives for Voiths.

Fitted with NORGEAR® drives Fi-Fi 2 & hydraulic pumps.

Fire-fighting vessel equipped with gearboxes by Kumera AS.



Helseth AS is a highly specialized propeller manufacturer, operating in modern facilities in Molde, Norway. Helseth serves a wide variety of small and medium-sized professional vessels, such as cargo and passenger vessels, ferries, tankers, work boats, high-speed vessels, fishing and offshore vessels.



Optimized propeller design is a key factor for the overall efficiency. Three-dimensional and dynamic analysis methods facilitate the propeller design process and enable us to find the optimum tailor-made solution for our customers.


Front-end and propulsion gearboxes by Kumera AS

Gearboxes for propulsion systems and offshore applications by Kumera Getriebe GmbH

Propellers by Helseth AS
Application – Conventional Vessels

**CARGO
VESSEL**
**AQUACULTURE
SERVICE VESSEL**
**LIVE FISH
CARRIER**
**FISHING
VESSEL**

Application – High Speed Vessels

**WIND FARM
SERVICE VESSEL**
**RESQUE
VESSEL**
**PASSANGER
VESSEL**
**PILOT
VESSEL**


We have expertise on integrated propulsion solutions for a wide range of vessels. Solutions and experiences cover all aspects of the system – efficient and optimized propellers, reliable gearboxes and control systems for flexible and safe vessel operation.

Propellers

- Propeller design optimized to vessel requirements and operational profile ensuring the highest efficiency
- Engine power up to 4500 kW
- Propeller diameter up to 4500 mm
- Open and nozzle propellers
- 3- and 4-bladed

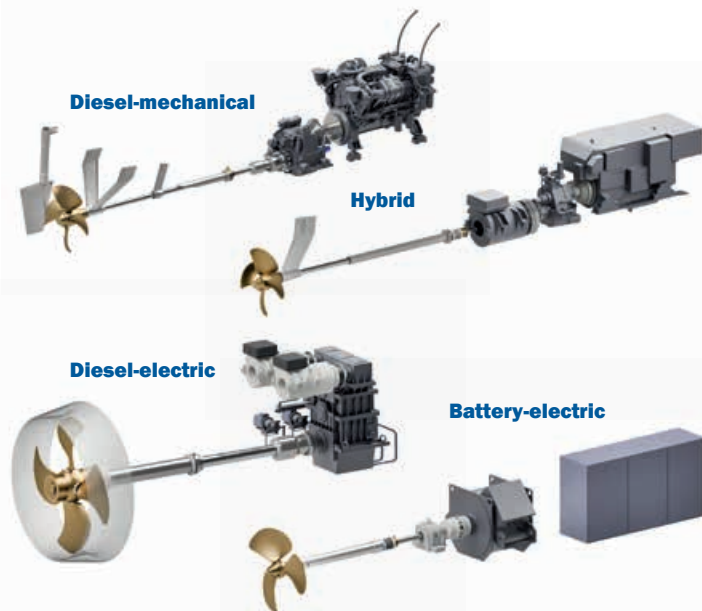
- with built-in servo
- with mounted OD-box and HPU
- 2-speed solution
- Hybrid gearboxes
- PTO/PTI selections

Control Systems

- Cost-effective and flexible solutions in setups adapted to vessel requirements
- When selecting solution and make, our main focus is:
 - Reliability
 - Cost/benefit
 - Maneuverability

Gearboxes

- Type selected to be most suitable for the vessel
- Pitch control system selections:



3H: 3-bladed CP propeller for small size conventional vessel. Propeller diameter range 500-2300 mm.



4H: 4-bladed CP propeller for small size conventional vessels and high speed vessels. Propeller diameter range 700-1700 mm.



4T: 4-bladed CP propeller for medium size conventional vessels and high speed vessels. Propeller diameter range 1300-2300 mm.



4TX: 4-bladed CP propellers for large size conventional vessels (and gearbox with built-in servo for pitch control). Propeller diameter range 1800-4500 mm.

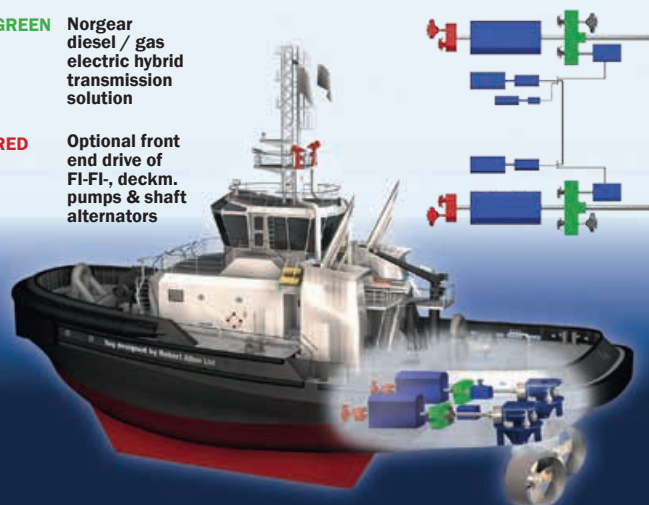


4SX: 4-bladed CP propellers for large size conventional vessels (incl. OD-box mounted to gearbox for pitch control). Propeller diameter range 1800-4500 mm.

Propulsion Line of a Tug Boat

GREEN Norgear diesel / gas electric hybrid transmission solution

RED Optional front end drive of FI-FI, deckm. pumps & shaft alternators



Metal Foundry



The Foundry Division of Kumera Corporation, named Peiron Oy, produces castings in steel and iron, both alloyed and non-alloyed, for a wide range of industrial applications.

Peiron Oy Product Categories:

- Grey Cast Iron
- Nodular Graphite Cast Iron
- Construction Steel
- Tempering Steel
- Heat Resistant Steel
- Stainless Steel
- Wear Resistant Steel
- Special Castings
- Patterns

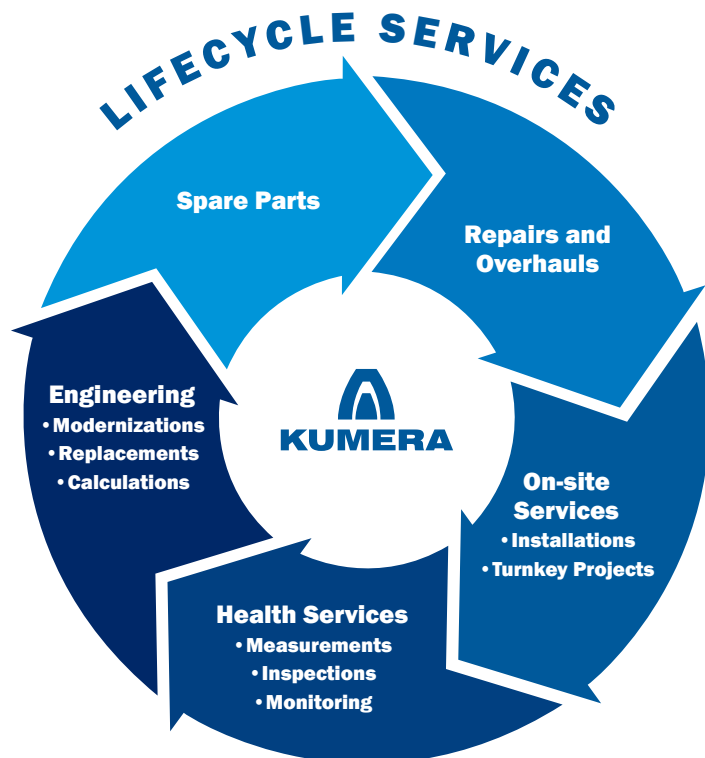
Production focus is mainly on single castings and short series, within a weight range of 0.5 to 5500 kg.



Kumera After Sales Support

Kumera Gearbox Lifecycle Management

Kumera recognizes its responsibilities through the entire lifecycle of its products. The product lifecycle management is based on the principles of environmental and social aspects, which are essential to Kumera in its operations.



Health Monitoring



Personnel Policy



The objective of Kumera Corporation's Social Policy is to offer its personnel tasks and motivation equal to the individual's ambitions and goals.

Kumera Corporation endeavours to employ people of all ages, representing various levels of experience, education, training, and intellectual development.

Kumera Corporation offers equal opportunity to each employee to develop in her or his career without regard to sex, race, age, religion, or any other factor other than personal skills and performance.

Long-term competitive and motivating incentives are part of Kumera's commitment to personal growth.

Much of the internal communication at Kumera is carried out in the English language due to our foreign experts and nature of operations.

In order to maintain growth and its organization's ability to constantly renew itself, Kumera continuously recruits new staff to interesting positions.

We are welcoming as many as possible to join our industry and to be selected to the Kumera team. We encourage all interested applicants to email us their Curriculum Vitae, and we will process your application immediately and give you prompt feedback.

Most important skills: top five

Ability to work with a wide variety of people



Time management and ability to prioritise



Understanding digital impact on business



Ability to build, sustain and expand network of people



Ability to solve complex problems



According to the poll carried out by Financial Times the five most important skills in demand are not specific hard skills, such as finance or marketing, but more loosely defined qualities, such as the ability to work with a wide variety of people and the ability to prioritise.

(Source: FT 4 Sept. 2017 What employers want from MBA graduates)

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