



**KUMERA**

MECHANICAL POWER TRANSMISSIONS  
**FOR MINING AND MINERALS**



**Mining and Minerals**

# KUMERA

## POWERFUL DRIVES FOR MINING AND MINERALS

Kumera is a prominent designer, manufacturer and service provider of mechanical power transmissions. The experience gathered over decades guarantees high expertise and innovative quality products and services for mining industry of today. Depending on customers' needs products can be offered from our standard gear range as well as tailor made solutions just for the particular need.

When an equipment manufacturer selects supplier and its drive solution, efficiency, guaranteed availability and secured long life-time shall be the major selecting criteria. Global service network and continuous availability of maintenance staff are backing the mining operations. Kumera meets all these requirements.

Kumera has wide program of standard and tailor made gearboxes for all operations in ore processing. We understand demanding specifications and harsh circumstances. We have long record in working in close cooperation with the original equipment manufacturers and mining operators. We are pleased to present our comprehensive references in all kind of conveying drives and other applications in various processing stages.

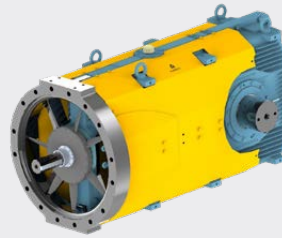


# KUMERA POWER TRANSMISSIONS FOR MINING AND MINERALS

## MATERIALS HANDLING

Belt conveyors – Underground conveyors – Bucket wheel drives – Stacker reclaimer drives

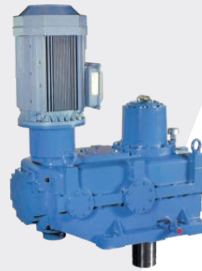
- Heavy Duty Conveyor gearboxes
- Kumera D, G and F-series
- Kumera NG series
- Bucket wheel drives



## SLURRY HANDLING

Mixing – Agitating – Flotation – Slurry pumping

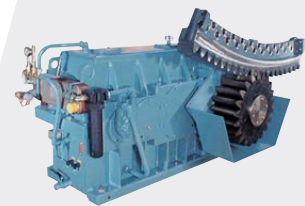
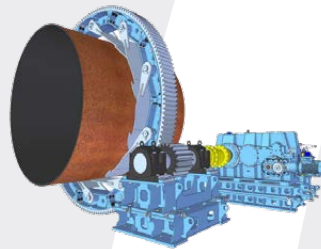
- Kumera Mixer gear unit range
- Kumera LX series pump drives
- Dredge pump drives



## PYRO PROCESSING

Rotary kilns – Pelletizing drums

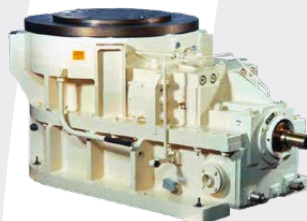
- Kumera segment girth gears
- Complete packages for kiln drives
- Individual pinions for kiln drives



## VERTICAL and HORIZONTAL GRINDING

Vertical mills – Vertical roller mills - Ball mills – AG/SAG mills

- Vertical mill drives (VRM)
- Kumera E- series vertical mill drives
- Special planetary drives for vertical mills
- Kumera Heavy Duty LX- series for Ball, AG and SAG mill drives



# EXTENSIVE EXPERTISE IN MINING AND MINERALS APPLICATIONS

Kumera supplies a full range of gear units for critical mining applications, such as conveying, mixing, agitating, grinding and drying. We have extensive expertise in drive applications in both underground and opencast mines. The special requirements of the mining environment have been taken into account in sealings, bearings, and breather valves. Products have the necessary environmental classifications, e.g. ATEX for gear units in coal mines.



*Kumera offers complete functional packages for rotary drum drives including gear units, pinion wheel, girth gears, and assembly base*

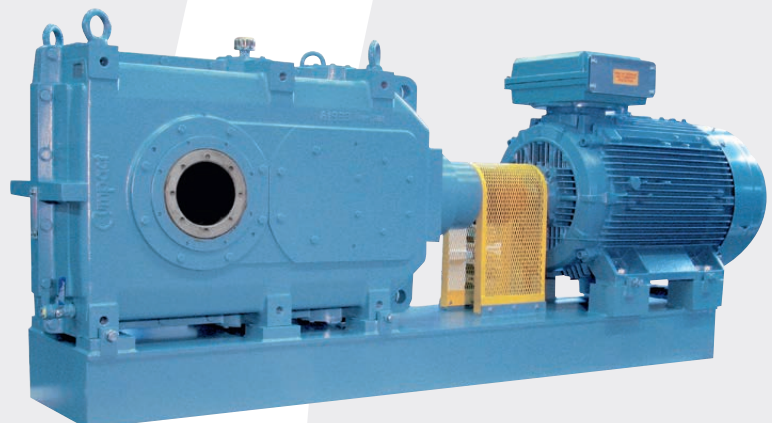


*Crusher drives*

*Bucket excavator drives*



*Agitator gear unit in mineral separating process*



*Typical drive package for conveyors*

# GEARBOXES FOR MINING AND MINERALS



## Conveyor belt gearbox

■ Power	$P_N$	750 kW
■ Speed	$n_1$	1000 rpm
	$n_2$	93,6 rpm
■ Ratio	$i$	10,6818
■ Weight		13900 kg



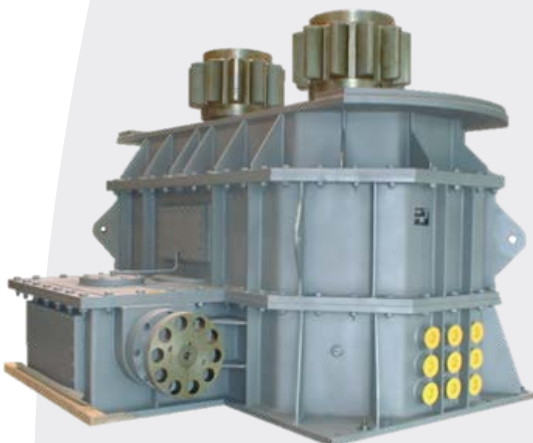
## Conveyor belt gearbox for a copper mine in Chile

■ Power	$P_N$	2500 kW
■ Speed	$n_1$	1142 rpm
	$n_2$	50,9 rpm
■ Ratio	$i$	22,42
■ Torque	$T_2$	520000 Nm/Shaft
■ Weight		25.500 kg



## Slewing gearbox

■ Power	$P_N$	80 kW
■ Speed	$n_1$	287,4 rpm
	$n_2$	2 rpm
■ Ratio	$i$	143,6
■ Torque	$T_2$	max. 2 x 400000 Nm
■ Weight		15.300 kg



## Bucket wheel gearbox

■ Power	$P_N$	265 kW
■ Speed	$n_1$	1000 rpm
	$n_2$	5,33 rpm
■ Ratio	$i$	187,52
■ Torque	$T_2$	442000 Nm
■ Weight		10980 kg





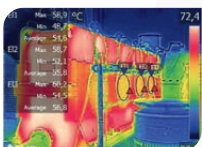
**1.**  
Staff training and solution engineering



**2.**  
Drive train installations



**3.**  
Condition monitoring



**4.**  
Preventive maintenance



**5.**  
On-site supervising and repairs work



**6.**  
Overhauls, modernizations and replacements



**7.**  
Original Kumeras spare parts

# PREVENTING BREAK DOWNS BY CONDITION MONITORING



## INSPECTION BY KUMERA: To keep gear unit moving

A systematic and regular inspection of the gearing and/or gear unit can avoid damage. So have your gear unit inspected by specialists.

### INSPECTION OF

- gear unit
- bearings
- gearing
- alignment of gear unit with coupling and motor



## Revamping “old” gearboxes

Whether a repair or a new production, all working procedures are subject to the same quality requirements.

### THERE ARE THREE LEVELS OF MAINTENANCE MEASURES TO BE CARRIED OUT

- Reviewing original engineering parameters and its suitability and noting content of damages.
- Repairing damages by replacing bearing arrangement and gearing if needed.
- Upgrading the torque up to 50% by complete replacement of power train, but saving - enforced - housing.

## THE “COMPLETE TROUBLE-FREE PACKAGE” Condition Monitoring

### CONDITION MONITORING FOR GEAR UNITS

- threats of damage are detected in time
- early warning to alarm future non-operational condition

## Health Monitoring

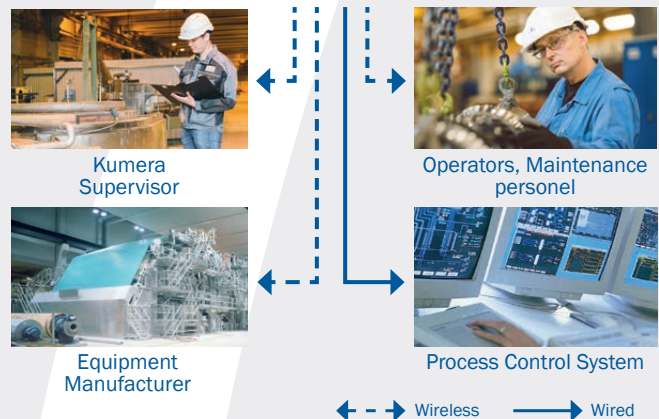
<b>OIL</b> <ul style="list-style-type: none"> <li>■ Quality</li> <li>■ Rel. Humidity</li> <li>■ Temperature</li> </ul>	<b>VIBRATION</b> <ul style="list-style-type: none"> <li>■ Velocity</li> <li>■ Acceleration</li> <li>■ Envelope</li> <li>■ Speed</li> </ul>	<b>OPTIONS</b> <ul style="list-style-type: none"> <li>■ Power</li> <li>■ Torque</li> <li>■ Pressure</li> <li>■ Flow</li> <li>■ Oil level</li> <li>■ Particles</li> <li>■ Cleanliness</li> </ul>
--	--	---

**MOBILE DATA**

101001  
011101



Power-Plaza - Health Portal  
• Online Dashboards





## Kumera Power Transmission Group and Marine Division



**KUMERA DRIVES OY**  
Kumerankatu 2  
FI-11100 Riihimäki  
FINLAND  
Tel: +358 20 755 4200  
E-mail: drives@kumera.com



**KUMERA (CHINA) CO, LTD.**  
168 Meifeng Road  
Kunshan 215300, Jiangsu  
CHINA  
Tel: +86 512 503 61701  
E-mail: kumerachina@kumera.com



**KUMERA GETRIEBE GMBH**  
Bonner Straße 38  
D-53842 Troisdorf  
GERMANY  
Tel: +49 2241 988-0  
Email: kumera.getriebe@kumera.com



**KUMERA AS**  
P.O. Box 2043  
N-3202 Sandefjord  
NORWAY  
Tel: +47 33 48 54 54  
E-mail: sales@kumera.no



**KUMERA ANTRIEBSTECHNIK GMBH**  
Raiffeisenstrasse 38-40  
A-8010 Graz  
AUSTRIA  
Tel: +43 316 471 524-0  
E-mail: kumera.graz@kumera.com



**HELSETH AS**  
Baklivegen 11-13  
N-6450 Hjelset  
NORWAY  
Tel: +47 71 202 900  
Email: helseth@helseth.no

## Kumera Technology Division & Foundry



**KUMERA TECHNOLOGY CENTER**  
RIIHIMÄKI, FINLAND



**KUMERA MACHINERY OY**  
AKAA, FINLAND



**PEIRON OY STEEL FOUNDRY**  
KOKEMÄKI, FINLAND



**KUMERA**  
CORPORATION

**KUMERA CORPORATION**

HEADQUARTERS

FI-11100 Riihimäki

Finland

Tel.: +358 20 755 4200

Email: kumera@kumera.com