RAJENDRA
ENGINEERING WORKS

**"Engineering Brilliance.
Delivering Excellence."**

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About us

Welcome to **RAJENDRA ENGINEERING WORKS**, with decades of experience in heavy machinery manufacturing, we specialize in producing robust and efficient high-quality industrial equipment for industries such as **Fertilizer, Cement, Mining, Beverages, Sugar, Metallurgy, Power Plants, Chemical, Processing** like **Rotary Dryers, Rotary Coolers, Rotary Kilns, Ball Mills, Conveyors, Vibrator Screen, Screw Conveyor, Rotary Screen, Belt Elevator, Chain Elevator, Hammer Crusher, Air Slides, Silo, Hopper, Weighing Bin, Drag Chain, Dust Collector**, **White Metal Bearing** and also we are manufacturing of spare items likes **Girth Gears, Tyre Rings, Rollers, Shafts, Pinions, Coupling, Pulley, Sprocket, Plummer Block** with over 30 Years of experience in the industry, we have built a reputation for innovation, quality, and excellence in serving diverse sectors.

Our state-of-the-art manufacturing facility, equipped with advanced technology and precision engineering, ensures that each component meets quality standards.

At **RAJENDRA ENGINEERING WORKS**, QUALITY is our top priority. We adhere to stringent quality control measures, from raw material selection to final product inspection. Our manufacturing processes comply with ISO standards, ensuring reliability, durability, and optimal performance. Each product undergoes rigorous testing to meet global industry benchmarks.

Our dedicated research and development team continuously strives to improve design, performance, and sustainability, making us a leader in the industry.

Our customer-centric approach drives us to provide tailored solutions, on-time delivery, and exceptional after-sales support. With a global clientele spanning multiple industries, we have established a strong presence in national markets.

Whether you need a single component or a complete industrial solution, RAJENDRA ENGINEERING WORKS is your trusted Business Partner. Contact us today to learn more about our products and services.

Our Vision

The vision of the our company is to provide the latest product range of these machinery and to grow our market more in foreign countries as also to rule in the international market as we are ruling in our domestic market by delivering the best quality product and providing the best services for our precious customers.

Our Mission

To provide high-performance and cost-effective industrial solutions that enhance productivity and efficiency while maintaining environmental sustainability.

Our Comitmment

RAJENDRA ENGINEERING WORKS was built to cater to the growing needs of the world. Our commitment to research and operational excellence has enabled quality in delivery.

Rotary Dryer Drum

Principle of Rotary Dryer

A Rotary Dryer operates on the principle of moisture removal through heat transfer and mass transfer, utilizing a rotating drum to facilitate uniform drying.

Key Features & Applications of Rotary Dryer

High Thermal Efficiency

- The rotary dryer efficiently transfers heat to the material through conduction, convection, or radiation.
- Advanced designs incorporate heat recovery systems to reduce energy consumption.
- Insulated rotary drums minimize heat loss and improve efficiency.

Continuous and Uniform Drying

- Rotating drum motion ensures the material is evenly exposed to heat.
- Internal lifting flights (or lifters) toss and mix the material for uniform drying.
- Prevents clumping, over-drying, and inconsistencies in moisture content.

Versatile Application

- Mining & Minerals (e.g., drying sand, limestone, phosphate, etc.)
- Agriculture (e.g., drying grains, corn, soybeans, and sugar beets, Grapes)
- Biomass & Wood Processing (e.g., drying sawdust, wood chips, and pellets)
- Food Industry (e.g., drying coffee beans, starch, and spices)
- Chemical & Pharmaceutical (e.g., drying catalysts, fertilizers, and powders)
- Sludge & Waste Management (e.g., drying sewage sludge and industrial waste)

Large Processing Capacity

- Suitable for handling large volumes of bulk materials.
- Can operate continuously for high production rates.
- Available in small-scale (lab use) and large-scale (industrial) models.

Rotary Cooler

Principle of Rotary Cooler

A Rotary Cooler operates on the principle of heat transfer and mass transfer, using a rotating drum to cool hot materials efficiently. It is commonly used in industries like Fertilizer, Cement, Mining, Bauxite, Clinker, Limestone, Metallurgy, and chemical processing to cool bulk materials after high-temperature processes.

Key Features & Applications of Rotary Cooler

Efficient Heat Transfer

- Uses direct or indirect cooling to rapidly reduce material temperature.
- Heat is extracted using ambient air or Forced - cooled systems.
- Prevents thermal damage and enhances material handling safety.

High Processing Capacity

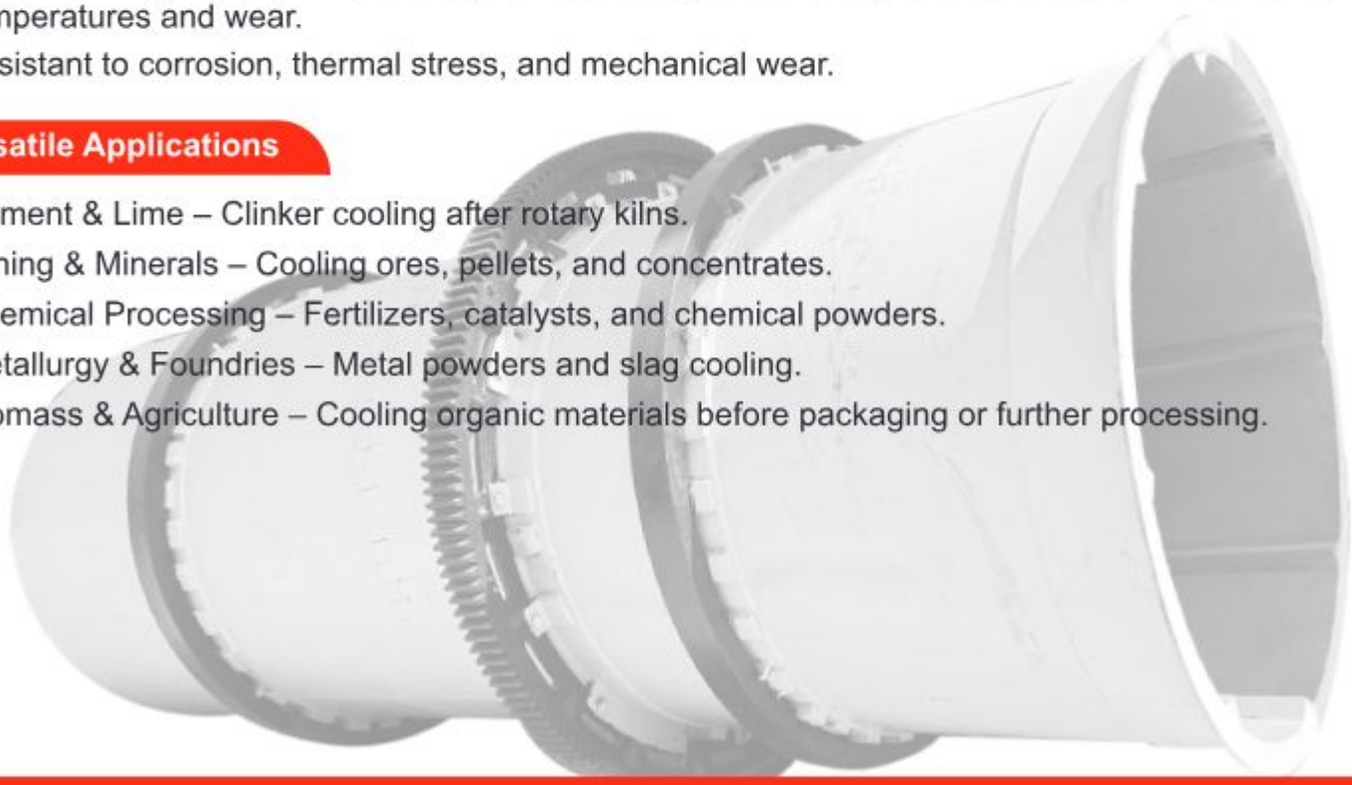
- Capable of handling large volumes of material, from a few tons per hour to hundreds of tons per hour.
- Works seamlessly with rotary dryers, kilns, and other high-output processes.

Durable and Robust Construction

- Made from high-strength materials (stainless steel, carbon steel, or alloy steel) to withstand high temperatures and wear.
- Resistant to corrosion, thermal stress, and mechanical wear.

Versatile Applications

- Cement & Lime – Clinker cooling after rotary kilns.
- Mining & Minerals – Cooling ores, pellets, and concentrates.
- Chemical Processing – Fertilizers, catalysts, and chemical powders.
- Metallurgy & Foundries – Metal powders and slag cooling.
- Biomass & Agriculture – Cooling organic materials before packaging or further processing.



Rotary Kiln

Principle of Rotary Kiln

A Rotary Kiln operates based on heat transfer, chemical reactions, and material movement to process raw materials at high temperatures. It is widely used in cement, metallurgy, lime, and chemical industries for processes like calcination, roasting, and pyrolysis.

Key Features & Applications of Rotary Kiln

High-Temperature Processing

- Capable of reaching 850°C – 1600°C, depending on the material and process.
- Enables processes such as calcination, pyrolysis, sintering, and thermal decomposition.
- Temperature zones (preheating, burning, cooling) are designed for optimized heat distribution.

Versatile Industrial Applications

- Cement & Construction Materials
- Environmental & Waste Processing
- Metallurgical & Chemical Processing
- Ore roasting, pelletizing, and smelting (e.g., iron, nickel, aluminum, and copper).
- Production of Alumina, limestone, Bauxite, Magnesite and Titanium dioxide.
- Production of ceramics, catalysts, and fertilizers.
- Oil shale retorting for fuel extraction.
- Robust and Durable Design

Robust and Durable Design

- Built from high-strength alloy or carbon steel.
- Lined with refractory bricks to withstand extreme temperatures and prevent wear.
- Kiln shell cooling systems prevent overheating and extend service life.

Ball Mill

Principle of Ball Mill

A Ball Mill operates on the principle of impact and attrition to grind materials into fine powder. It is widely used in mining, cement, chemicals, pharmaceuticals, and ceramics for size reduction and material mixing.

Key Features & Applications of Ball Mill

High Grinding Efficiency

- Uses grinding media (balls) to break down materials efficiently.
- Can grind a variety of hard, brittle, or fibrous materials.
- Suitable for dry or wet grinding processes.

Versatile Applications

- Used in mining (ore processing), cement, chemical, pharmaceutical, paint, and ceramics industries.
- Can handle materials like limestone, ores, coal, pigments, and more.
- Available in batch-type or continuous operation models.

Adjustable Particle Size

- Fineness of the product can be controlled by:
  - Varying ball size and material (steel, ceramic, rubber).
  - Adjusting speed, milling time, and feed rate.
  - Using different liners and grinding media.

Multiple Grinding Media Options

- Uses steel balls, ceramic balls, or pebbles, depending on material and application.
- Choice of media size and hardness affects grinding efficiency.
- Rubber or steel liners improve performance and reduce wear.

Girth Gear and Tyre Ring

Introduction to Girth Gear

A Girth Gear is a large, ring-shaped gear that encircles a rotating drum, mill, kiln, or other heavy industrial equipment. It is one of the critical components in industries such as cement, mining, steel, and power plants.

Function and Importance of Girth Gear

Girth gears serve as the primary means of transmitting torque and rotational movement from a motor-driven pinion gear to a larger rotating machine, such as a ball mill or rotary kiln. This enables continuous operation of industrial processes with high efficiency and durability.

Introduction to Tyre Ring

A Tyre ring (also known as a riding ring or rotary kiln Tyre) is a crucial component in large rotating equipment such as rotary kilns, dryers, and mills. It provides structural support and helps distribute the load evenly across the shell. The Tyre ring also allows for thermal expansion of the shell, preventing excessive mechanical stress.

Key Features of Tyre Ring:

- Made from high-strength steel or cast iron.
- Helps maintain structural integrity and alignment of the rotary equipment.
- Reduces wear and tear on the shell.
- Allows smooth rotation and movement.

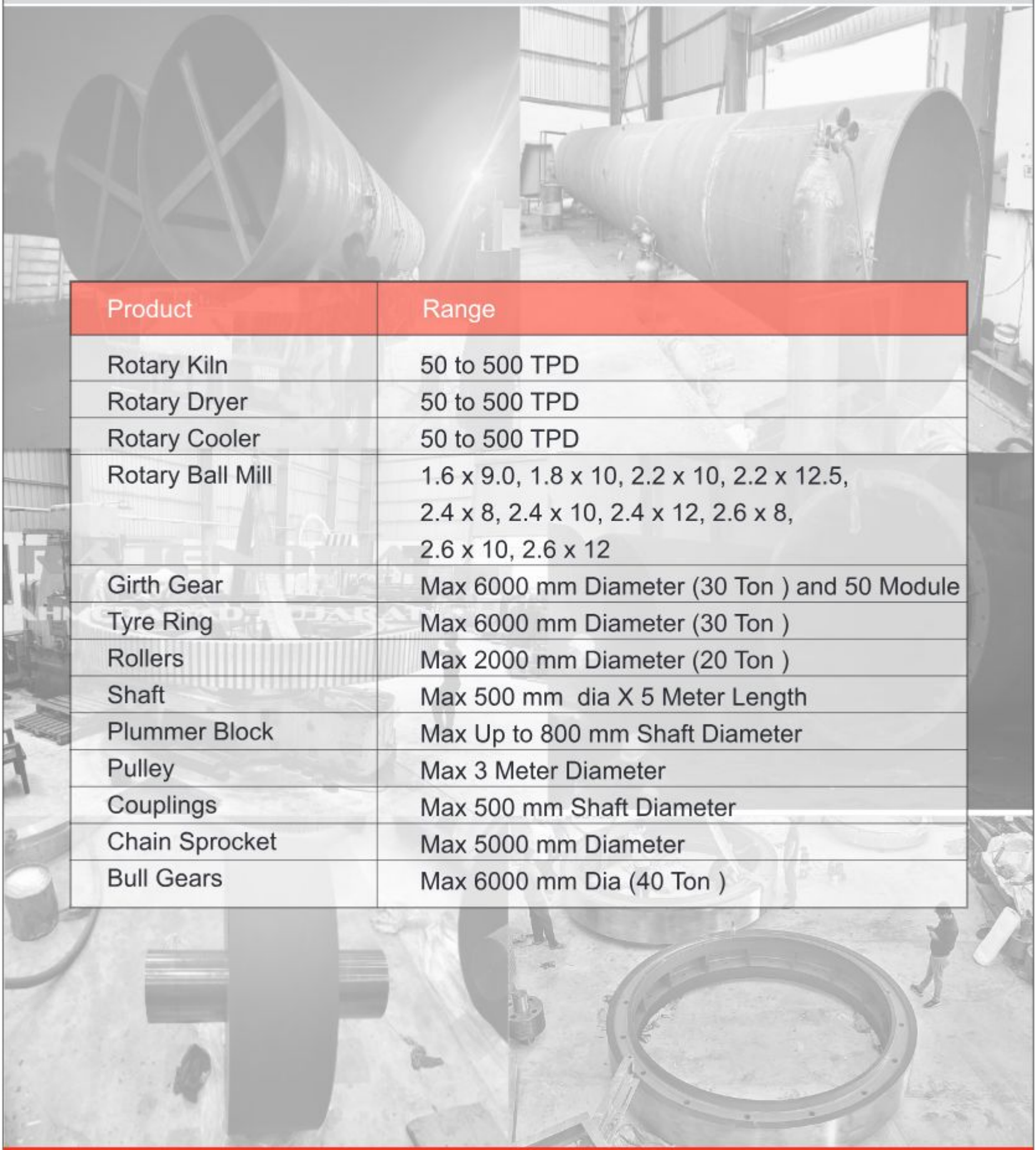
Key Features of Girth Gear

- Large Diameter: Typically ranges from 2 to 10 meters or more.
- High Load Capacity: Designed to handle heavy loads and torque.
- Material: Usually made from forged steel, cast steel, or ductile iron for strength and durability.
- Teeth Profile: Precision-machined to ensure smooth meshing with the pinion.
- Segmental Design: Often made in segments to facilitate transportation and installation.

Applications of Tyre Ring and Girth Gear

- Cement Industry: Drives rotary kilns and ball mills.
- Mining Industry: Used in SAG mills, ball mills, and crushers.
- Power Plants: Drives coal mills and other large rotating machinery.
- Steel Industry: Used in large industrial furnaces and rolling mills.

Product List



Product	Range
Rotary Kiln	50 to 500 TPD
Rotary Dryer	50 to 500 TPD
Rotary Cooler	50 to 500 TPD
Rotary Ball Mill	1.6 x 9.0, 1.8 x 10, 2.2 x 10, 2.2 x 12.5, 2.4 x 8, 2.4 x 10, 2.4 x 12, 2.6 x 8, 2.6 x 10, 2.6 x 12
Girth Gear	Max 6000 mm Diameter (30 Ton) and 50 Module
Tyre Ring	Max 6000 mm Diameter (30 Ton)
Rollers	Max 2000 mm Diameter (20 Ton)
Shaft	Max 500 mm dia X 5 Meter Length
Plummer Block	Max Up to 800 mm Shaft Diameter
Pulley	Max 3 Meter Diameter
Couplings	Max 500 mm Shaft Diameter
Chain Sprocket	Max 5000 mm Diameter
Bull Gears	Max 6000 mm Dia (40 Ton)

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