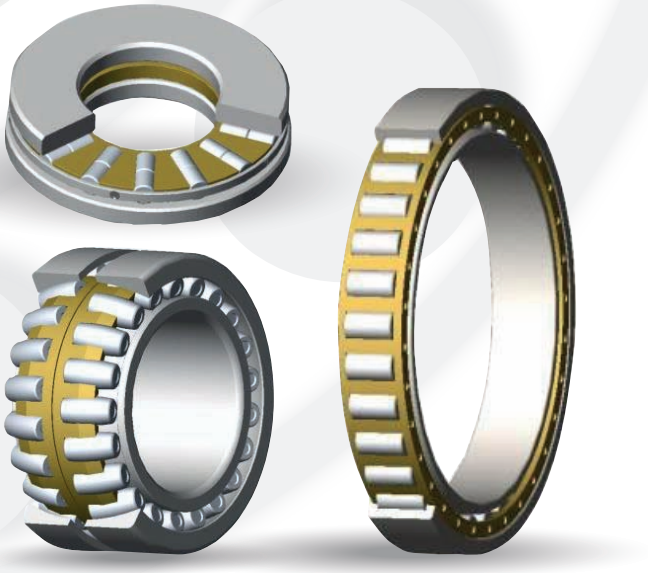
URB

The wise choice for **U**ltra **R**eliable **B**earings

URB GROUP

BEARINGS FOR STONE CRUSHERS

Special and Standard Bearings



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INTRODUCTION

Stone crushers are used extensively in mining applications. The type of crusher used will depend on a variety of factors including the type of mine in terms of what ore is being mined, the size of the required finished product to be produced by the mine, the industrial applications of the mine ore, and the type of mine in terms of how the ore is mined.

Various types of crushers are used in the stone crushing industry such as Jaw Crushers, Roller Crushers, Cone Crushers, Impactor, etc. Generally, only Jaw crushers are used as primary crushers. For secondary and tertiary crushing application either of Jaw, cone, roller, Impactor type crushers are used.

CONDITIONS OF OPERATION

The bearings in these applications are subjected to very severe operating conditions such as:

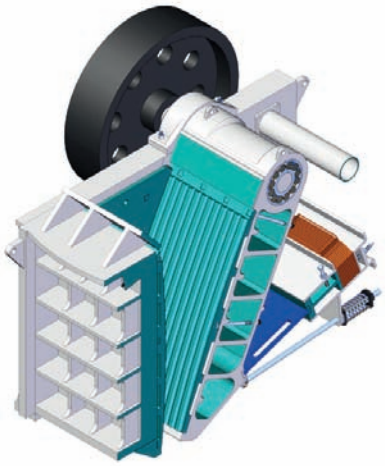
- Heavy load
- Shock load and vibration
- Dusty environment
- Shaft deflection
- Continuous operation
- Poor maintenance system

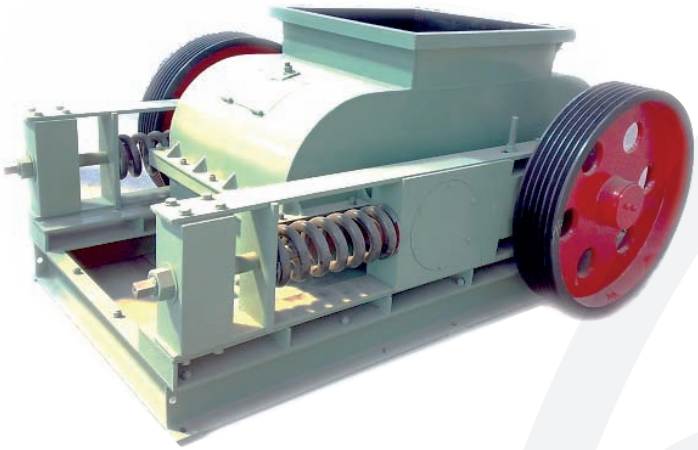
URB studied bearing failure analysis in stone crusher and developed the range of strong and robust spherical roller bearings for these applications. The sealed variant of URB spherical roller bearings keeps lubricant inside the bearing and contaminants out extending bearing service life.

An important factor of quality improvement of cylindrical roller bearings is continuing design improvement (tapered ribs and roller end crowning to increase the axial load capacity), optimizes lubrication, increases loading capacity and minimizes edge stresses.

The bearings are designed to support high loads and misalignment, shock and other heavy duty using high quality steel bearings with optimum mechanical properties and purity.

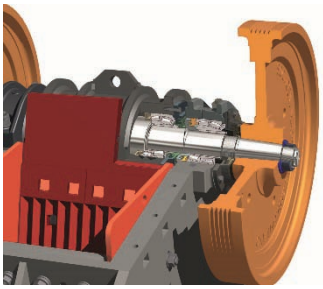
Our company provides technical support through counseling and guidance on mounting and dismounting of bearings, recommendations on suitable lubricants and inspection of bearings used properly.

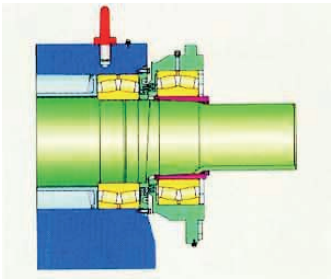




APPLICATIONS

Jaw crushers

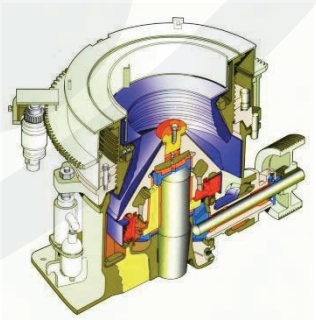


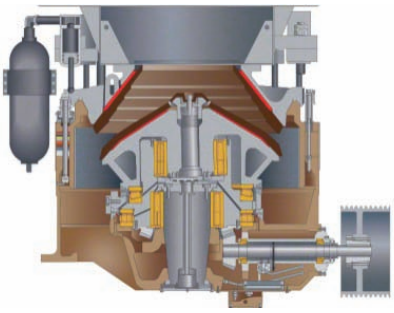


RECOMMENDED BEARINGS

- *Standard spherical roller bearings, type MB*
- *Specialized spherical roller bearings or vibrating applications*

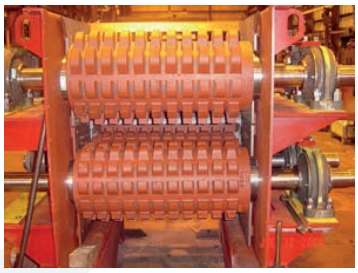
Cone crusher





- *Spherical roller bearings(standard and sealed)*
- *Tapered roller bearings*
- *Cylindrical roller bearings (single and double row)*
- *Cylindrical roller thrust bearings (single and double row)*
- *Tapered roller thrust bearings*

Roller Crushers



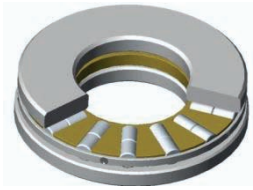
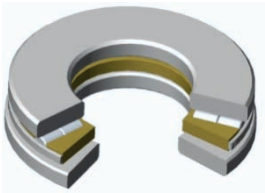
- *Spherical roller bearings (standard and sealed)*
- *Spherical roller thrust bearings*
- *Four-row cylindrical roller bearings*

Impactors

- *Spherical roller bearings, standard and specialized spherical roller bearings for vibrating applications*

OUR PRODUCTS FOR THE MOST POPULAR TYPES OF CRUSHERS

Bearings Type	Improved design and process	Benefits
Cylindrical Roller Bearings ***Size range: 30 mm ÷ 950 mm (outer diameter)***	** Premium raw material* ** Optimized shoulders geometry* ** Crowing profile of inner ring raceway* ** Smaller roughness and roundness values* ** Superior surface finish of roller, logarithmic profile* ** Increased rollers number* ** Cage optimization to allow extra rollers* ** Simulation on specialized software*	** Working temperature up to 150°C* ** Reduced friction in bearing* ** Capability to take greater axial load* ** Improved lubricant film formation* ** Reduced contact pressure* ** Increase of load ratings* ** Increase of life ratings*

Bearings Type	Improved design and process	Benefits
Spherical Roller Bearings ***Size range: 80 mm ÷ 620 mm (outer diameter)***	** High clean steel and heat treatment process* ** Optimized internal geometries* ** Improved manufacturing processes (texture of surface in contact).* ** Reduce stress concentrations using finite element analysis (ANSYS)* ** Massive and rigid brass cage to accommodate high shocks and vibrations. Optimized spherical profile of rollers*	** Longer life and greater rigidity* ** Small values for residual austenite* ** Reduce wear* ** Increasing load carrying capability* ** Lowering operating temperatures* ** Optimum oil film between the contacting surfaces*
Cylindrical Roller Thrust Bearings   ***Size range: 47 mm ÷ 515 mm (outer diameter)***	** Modify the contact line between the raceways and rollers* ** Low surface roughness*	** High axial load carrying capacity* ** High operating shock* ** Smaller stress at the roller ends*

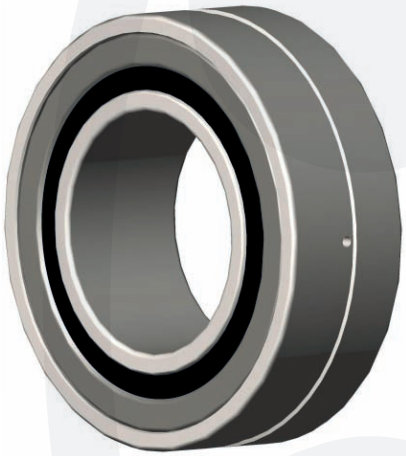
SPECIAL BEARINGS

Sealed Spherical Roller Bearings

These bearings are sealed with acrylonitrile rubber that assure special characteristics forwear to friction resistance to petroleum products and physical - mechanical properties and working temperature -50.....+150^{0}C.

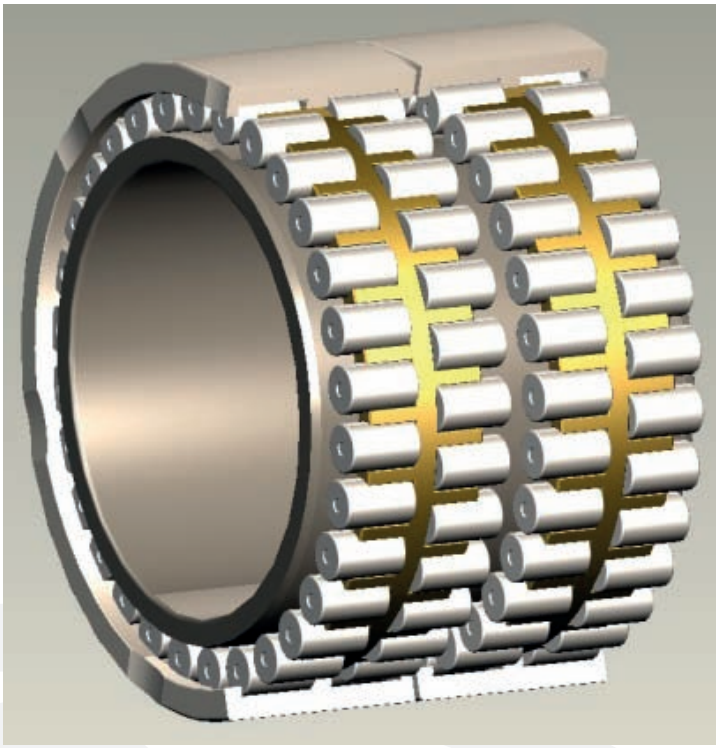
These bearings have greater width than standard bearings.

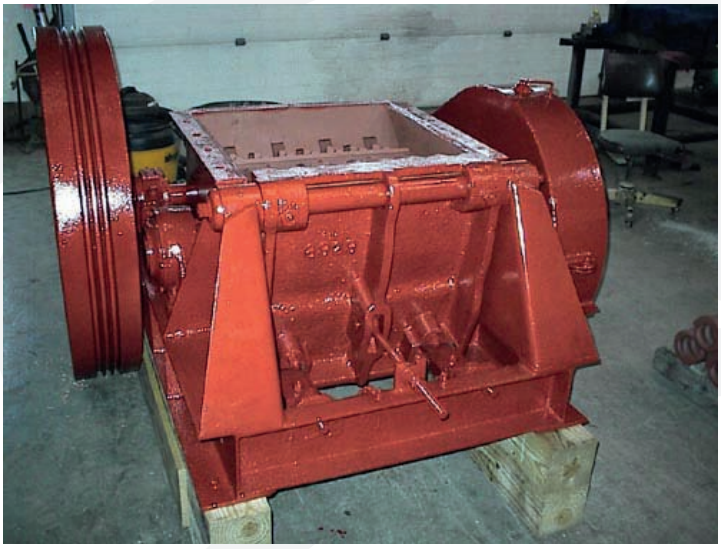
Seals protect the bearings and lubricant from contaminants and increase bearing service life.

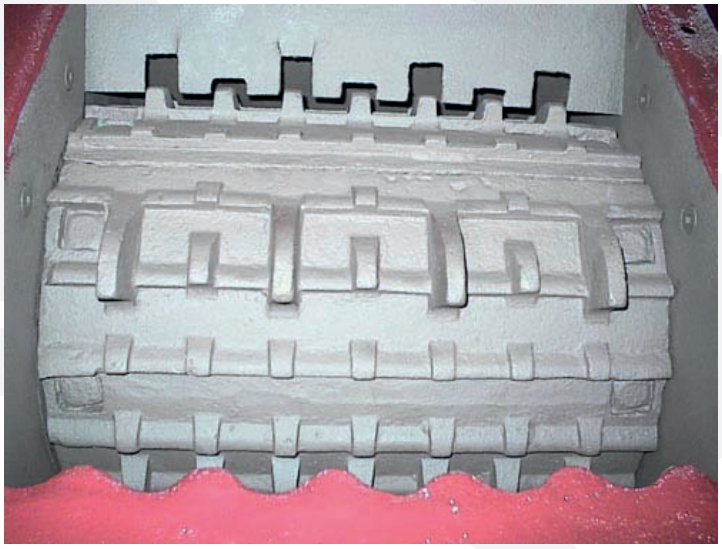


Four-row cylindrical roller bearings

These bearings are designed for extremely high radial load capacity with case-carburized steel materials for race and rollers maximize resistance to shock, wear and debris. Optimized internal design and improved surface quality extended the service life of bearing.







APPLICATIONS: **Roller Crushers**

Recommended grease

Grease	Manufacturer	Remark
KLUBERLUB BE 41-1501	***Kluber***	*Wear protection, for low-speed and high load*
KLUBERLUB BE 41-54	***Kluber***	*High-load, wear protection, ow to medium speeds*
KLUBERLUB BE 41-1002	***Kluber***	*Low speed and high loads*

URB GROUP

The company was set-up on May 1953 and it has a long tradition in manufacturing of bearings over 60 years, being one of the important bearing manufactures in the Central and South-East Europe.

The key to success has been a consistent emphasis on maintaining the highest quality of our products and services and investment in research and development.

We include the respect for clients and the satisfaction of their needs among our fundamental principles. Therefore we tried to respond better to the market requirements by offering, besides the bearings with standardized shapes and sizes, a large range of non-standardized bearings, specific to various applications.