

# Bearings for the Quarrying Industry



# A single company, 35,000 products

## **NSK Technology. Investing globally.**

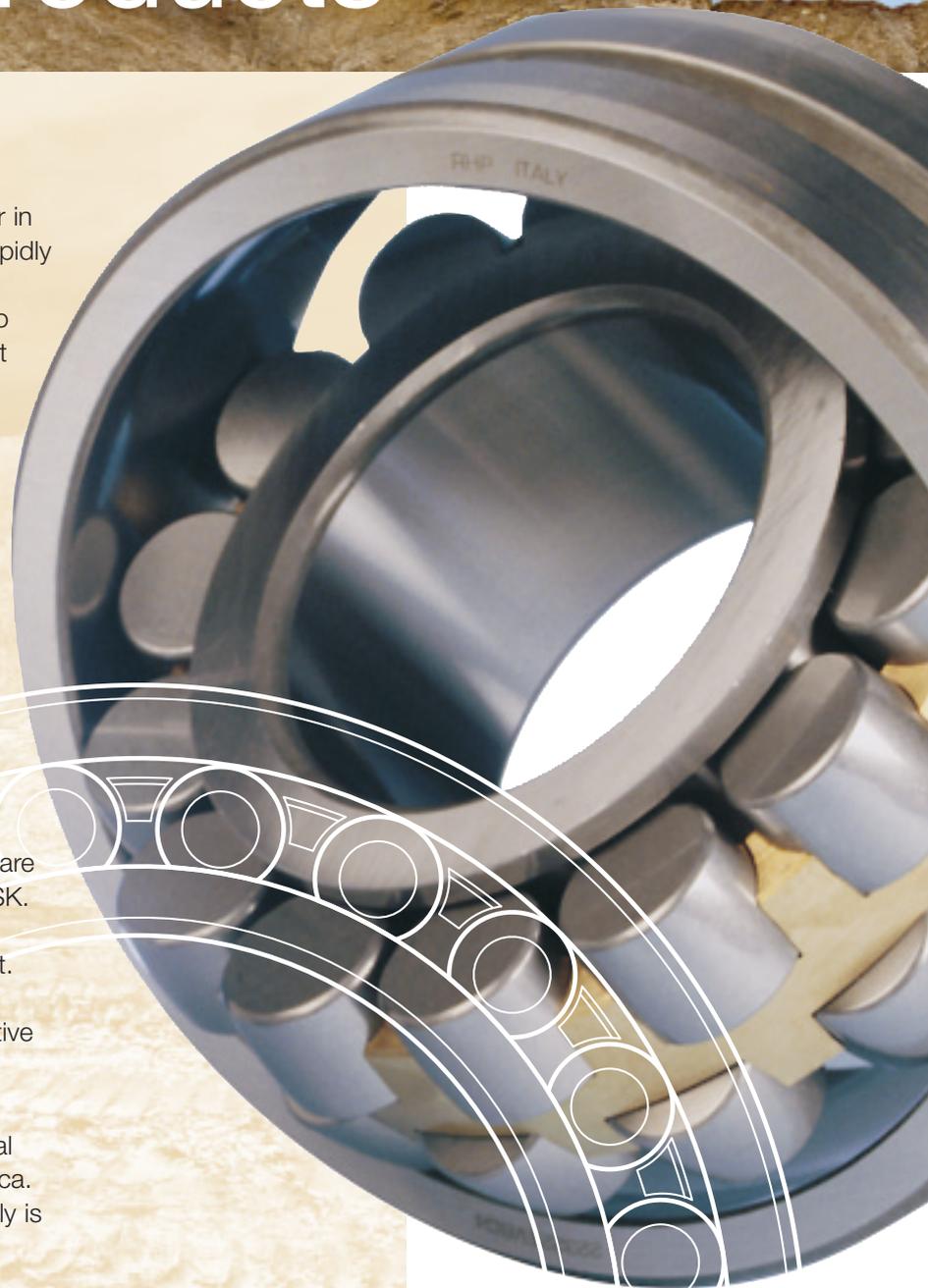
Worldwide, NSK is the acknowledged leader in advanced motion and control technology, rapidly driving major developments in materials, mechanical design, lubrication and sealing to downsize bearings and reduce costs without compromising machine performance.

Leaders in our field, we are not content simply to supply a range of products to meet the needs of today. At NSK we go much further: constantly challenging accepted thinking, exploring new and better methods of design and manufacture and, above all, looking beyond the needs of today to meet customer requirements in the future.

## **NSK Expertise. Investing locally.**

Versatile, responsive and dynamic solutions are what the world has come to expect from NSK. That's why the NSK Group invest over £80 million annually in research and development. And dedicate three pan-European business units to specific markets: Bearings, Automotive and Precision.

In the UK, our European Technology Centre shares information and data with other global technical centres based in Japan and America. In this way proven expertise gathered globally is focused to bring individual benefits to local markets through value-added products, improved service and innovative solutions.



Adding **value** through  
innovative **solutions**

**NSK**

# Giving the quarrying industry every advantage

## **NSK Versatility. Moving mountains.**

The pressurised, cost-down nature of global business puts every bearing under pressure to perform at higher speeds and under higher loads than ever before.

Nowhere is this more evident than in the rigorous environment and duty cycles of quarrying. Vibration, shock loads, dust or moisture ingress and even contaminated lubricant are constant enemies.

Continuous operation with minimum maintenance is the mantra of every quarry operator and equipment manufacturer. At NSK, we supply both with a vast range of products from a comprehensive portfolio of ball and roller bearings including spherical roller and vibrating screen bearings to a complete range of mounted units, plummer blocks, taper roller and crane sheave bearings.

## **NSK Endurance. Going further.**

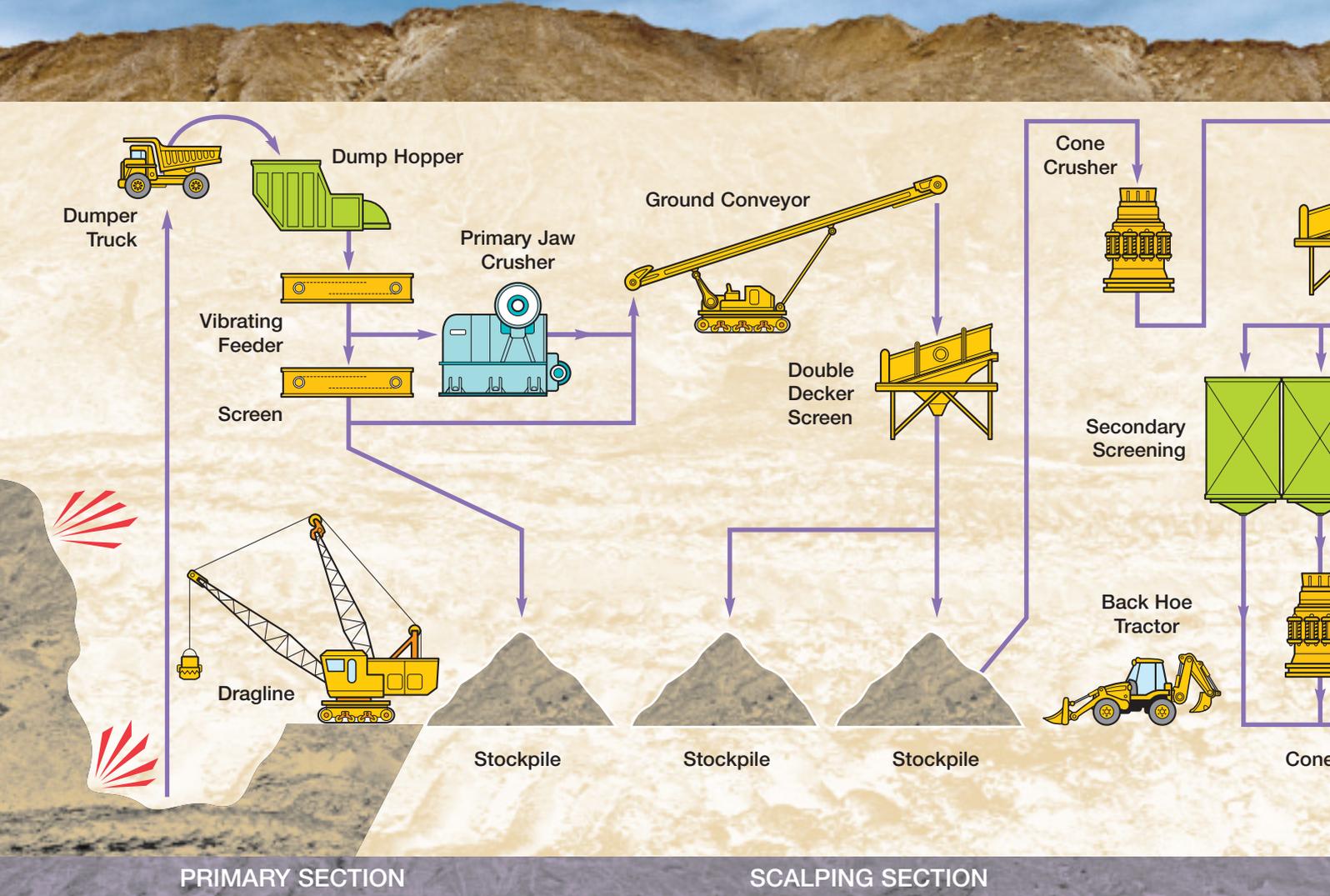
Our EVB and CAM-VS Series, for instance, have been developed to withstand arduous vibratory operations in mineral crushing, civil grading and earthmoving. And the Next Generation EA Series high performance spherical roller bearings offer longer life through increased ratings, low cage wear and improved heat resistance.

In the relentless effort to improve machine uptime, avoid unplanned maintenance and react speedily to quarrying needs, NSK service, uncompromising support and innovative solutions go all the way.

Over three million NSK and RHP bearings are used every day



# Quarrying Process



PRIMARY SECTION

SCALPING SECTION



## Single Row Taper Roller Bearings

Capable of taking high radial loads and axial loads in one direction, they are also available in two and four row versions to support axial loads in either direction. Optimised designs can be supplied with high strength cages and, for arduous applications, in a range of advanced special materials.



## Crane Sheave Bearings

Capable of supporting axial loads in either direction with high radial load capacities, these bearings are purpose designed for crane sheave applications. Integrally sealed to prevent debris and water ingress and phosphate-coated against corrosion, they feature holes on both inner and outer rings to facilitate in-situ re-lubrication.



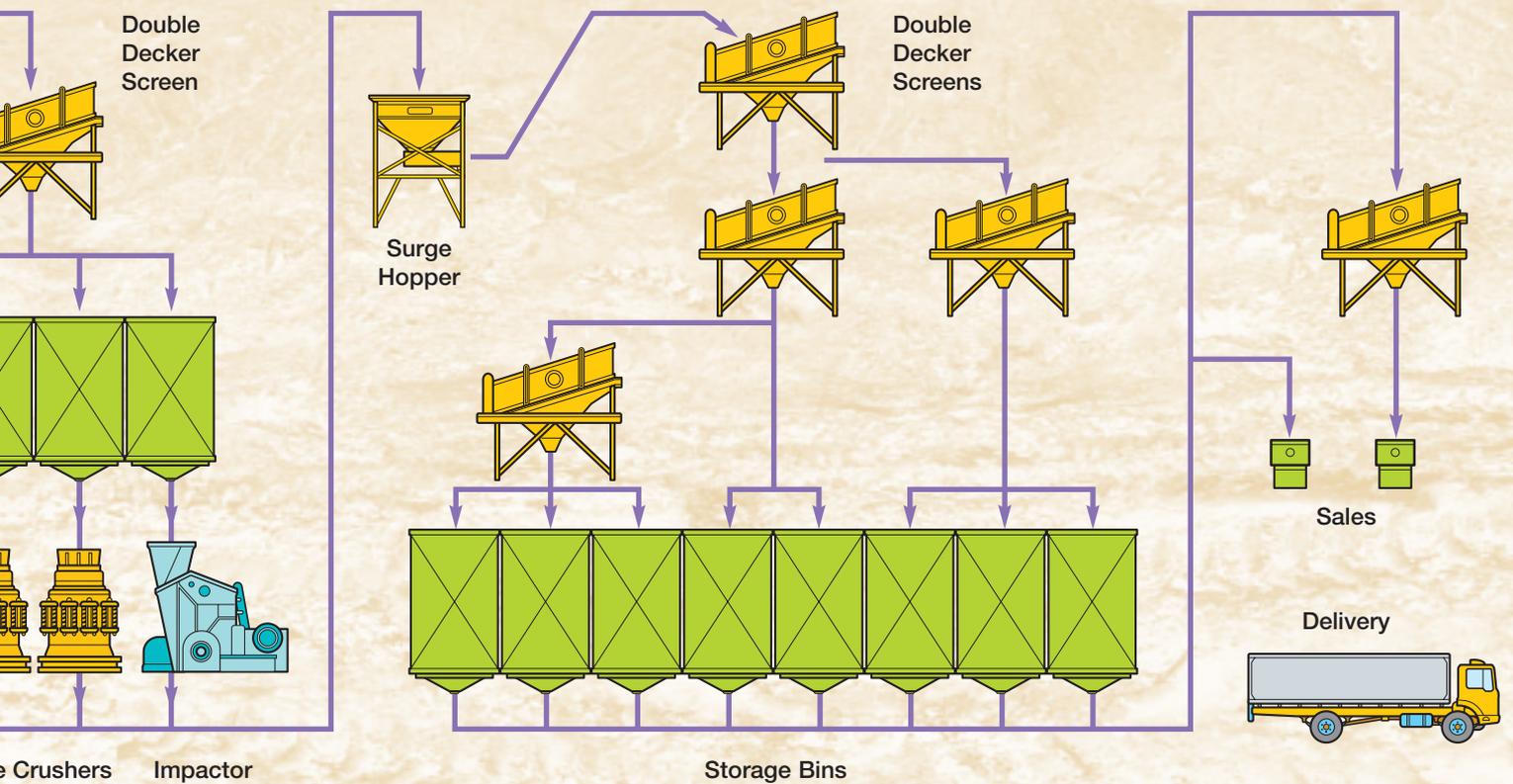
## EVB Spherical Roller Bearings

Heat stabilised for operating conditions up to 200°C, EVB bearings have a one-piece machined brass cage with special ring tolerances as part of their extra capacity design. Proven in many arduous applications, they demonstrate NSK's ability to design and manufacture spherical roller bearings that can withstand even the most testing conditions of vibrating machinery.



## CAM Spherical Roller Bearings

Supporting high radial loads and moderate axial loads in either direction, these are also suitable for applications involving moderate shock or impact loads. Featuring a one-piece machined brass cage with a floating guide ring to accommodate varying degrees of misalignment, they can be specified in a range of special advanced materials designed to withstand vibrating machinery applications.



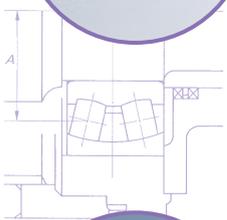
## SELECTOR SCREEN & TERTIARY

## FINAL SCREENING



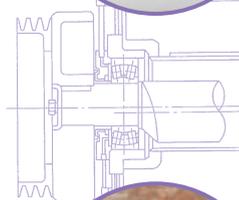
### Mounted Units

Easily mounted and particularly useful where fabricated machine frames are employed, RHP Self-Lube® units come in pillow block and flange mounted configurations with one-piece cast iron and triple lip seal available for very arduous applications. Self-Lube® inserts are wide inner ring ball bearings factory-charged with grease and effectively sealed but with re-lubrication facilities for units operating in arduous conditions.



### Cylindrical Roller Bearings

By virtue of the line contact between rolling elements and raceways, these bearings have high radial load capacity and are suited to high-speed applications. With a patented high strength cage design in pressed steel, machined brass or polyamide, they offer low noise and heat generation and, for more arduous applications, can be supplied in a range of advanced special materials.



### Bespoke Bushings

Rigorously designed and fully tested to meet exacting customer specifications, bespoke bushes in hardened bearing steel offer longer service life and superior resistance to wear, seizure and heat.



### Plummer Blocks

To ensure effective sealing, plummer blocks are available with a variety of special seal options and end covers. Manufactured in both NSK Japanese and RHP European styles, benefits include a facility for easy mounting and dismantling of pre assembled shafts.

# Bearings for the Quarrying Industry

## Spherical Roller Bearings



Latest generation designs, highest load ratings and opportunities for downsizing for OEMs.

### Features

- High load rating
- Machined brass cage
- Vibrating screen specification
- Tighter than normal tolerances
- Special heat treatment
- Special materials available

## Cylindrical Roller Bearings



### Features

- High load rating
- Special roller profiles
- Variety of cage types available
- High temperature low mass cages
- Proven in application

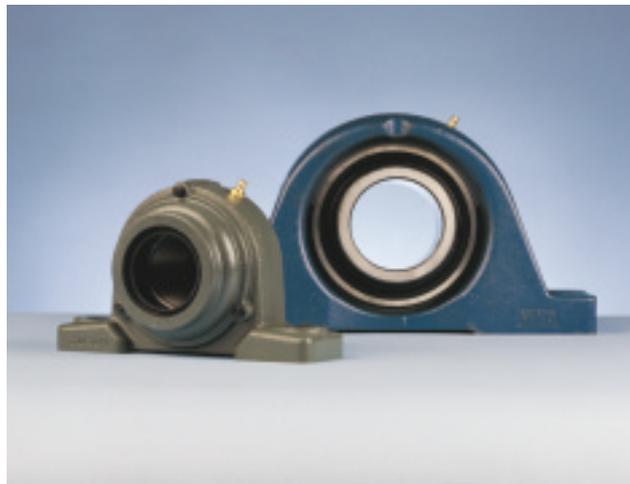
## Mounted Units



Mounted Units are suitable for the most arduous conditions. Available with a triple lip seal and cast iron covers, this additional sealing ensures nothing can get through.

### Features

- Full range of products available
- High quality cast iron housings
- Proven single lip seal



### Features

- Triple lip and cast iron covers available
- Shaft protector fits all units
- Relubrication facility as standard

### Crane Sheave Bearings



#### Features

- High load rating
- Full complement of rollers
- Effective sealing arrangement
- Corrosion resistant surface treatment
- Grease lubrication facility

### General Bearings

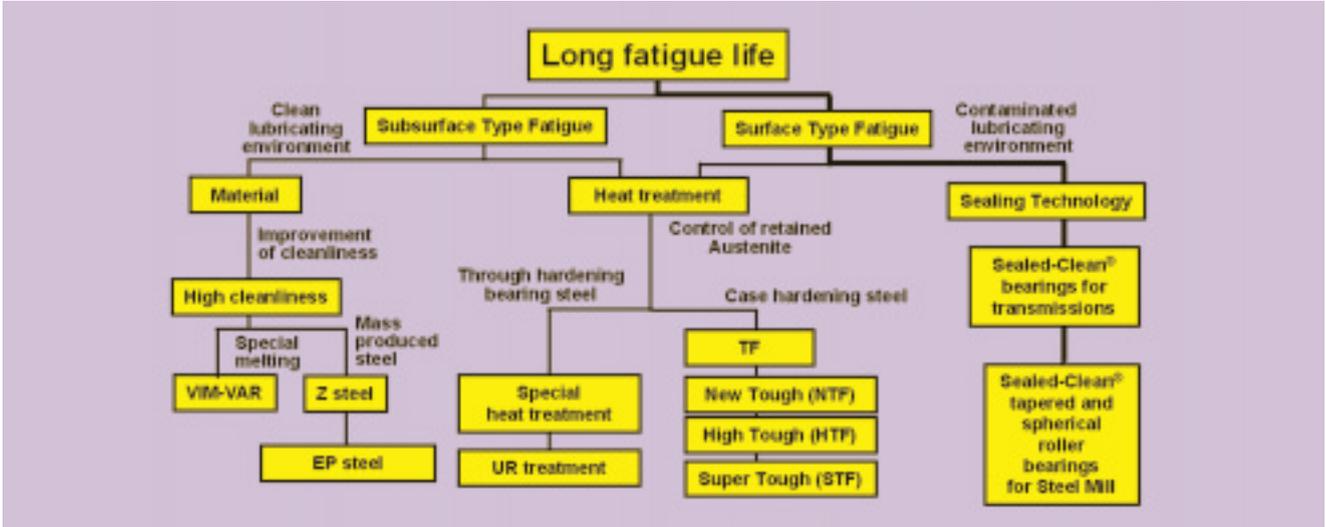


#### Features

- Widest range available
- Size 1 mm bore to 2 metres standard
- Bespoke bearings
- Full back up of technical services and engineering support
- £80 million invested annually in R & D

## NSK Technology

### Lubrication, Sealing and Materials



#### Features

- NSK mounted bearing units feature flinger seals as standard
- RHP Self-Lube® available with triple lip seals for arduous applications
- NSK developed special greases
- Molded-Oil™ solid lubricants
- High quality clean bearings steels
- Special materials to meet operating conditions
- Special heat treatment processes
- Special sealing technology allowing lubricant into the bearing whilst keeping contaminants out

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