

**SAFE AND RELIABLE
SOLUTIONS FOR
SMOOTHER JOURNEYS!**



Bearings for Passenger Cars

WHO IS
NBC



Founded in 1946, NBC is India's first bearings manufacturer and the last word in quality and durability. In 2020, the company acquired leading European manufacturer, Kinex Bearings to further boost its expertise.

75 years since its beginning, NBC remains India's leading bearings manufacturer and exporter. NBC is also the world's only bearings manufacturer to receive the prestigious Deming Grand Prize for Total Quality Management.



1946 India's
first bearing
manufacturer



250+ million
bearings
manufactured/
annum



3100+ variants
of bearings
offered



5 manufacturing
locations



Leading
exporter



Happy customers
in 30+ countries



R&D and
Innovation
Centre



2800+People



Automotive



Industrial



Railway



Aerospace

COMPREHENSIVE SOLUTIONS FOR AUTOMOTIVE INDUSTRY



UNITISED TAPERED
ROLLER BEARINGS



UNITISED TAPERED
ROLLER BEARINGS 2



DOUBLE ROW
ANGULAR CONTACT
GEN 1



GEN 2 WHEEL HUB
BEARINGS



CLUTCH RELEASE
BEARINGS



NEEDLE ROLLER
BEARINGS



PRE-SET HUB
BEARINGS



WATER PUMP
BEARINGS



TAPERED ROLLER
BEARINGS



CYLINDRICAL ROLLER
BEARINGS



DEEP GROOVE
BALL BEARINGS



PINION BEARINGS



POWER DENSE - Special heat treatment,
Integrated solutions

ENGINE



The primary function of the bearing in the engine operation is to allow the rotation of the crankshaft with the minimum power loss. The critical application areas of these bearings in the engine are Belt Tensioner Pulleys, Cam Shaft, Connecting Rod and Mass Balance Shaft.

Critical application requirements of bearings:

- High operating temperatures
- Cyclic bearing loads carrying capacity
- Resistance to contamination
- High speed

NBC Engine Bearing Solutions:

- Low Torque Bearings: LT Series
- Low noise, Vibration, and Harshness (NVH)
- Special surface heat treatment
- Improved internal geometry
- Sealing solution

Bearings offered:



Sealed Type DGBB
(Single and Double Side)



Thin Series
Deep Groove
Ball Bearing

TRANSMISSION



Transmission bearings support the gearbox shaft systems and effectively transmit power. They also help achieve minimum power loss, low noise, and smooth continuous operation of vehicles. The critical application areas of these bearings are Input Shaft/Counter Shaft, Gear Blanks, and Differential Shaft.

Critical application requirements of bearings:

- High speeds for E gearboxes
- High component/system reliability
- Resistance to contamination
- High service life
- High static loading

NBC Solutions:

- Low Torque solutions for improved efficiency: LT Series Bearings
- Power Dense solution
- Special surface treatment
- Improved internal geometry for higher static loading
- Sealing solutions

Bearings offered:



Deep Groove
Ball Bearing



Taper Roller
Bearing



Cylindrical Roller
Bearing

WHEEL-END APPLICATION



Difficult weather conditions and rough terrain can impact the performance of the wheel-end system. However, robust wheel-end application bearings provide operational reliability under heavy radial and thrust loads and gruelling road conditions. The critical application areas of a bearing are the wheel hub and axle.

Critical application requirements of these bearings are:

- Ease of mounting and maintenance with long service life
- Ability to withstand shock loads
- Resistance to contamination
- Integrated solutions

NBC solutions:

- Power Dense solutions
- 'More Life' solutions with special heat treatment: ML Bearing
- Maintenance-free solutions: Oil Impregnated Bearing Cage (OIBC)
- Low torque solutions for higher efficiency: LT Series
- Improved sealing solutions
- Next-gen integrated solutions for ease of assembly

Bearings used:



Sealed Type DGBB
(Single and
Double Side)



Double Row
Angular Contact
Gen 1



Gen 2
Wheel Hub
Bearings



Gen 3

NBC ADVANCED SOLUTIONS

SENSOR BEARINGS

Sensor Bearings are special bearings in which sensors are integrated within the bearing unit to measure critical parameters like Shaft Speed (RPM), the direction of rotation, and temperature. They are compact, reliable, simple, and ready to mount.



Features

- High speed, low torque, and low noise bearing
- Integrated with sensors capable to measure

Benefits

- Compact & robust design yielding reliable results & ready to use
- Onboard condition monitoring of the system
- Hassle-free & integrated solution for EV OEM

OIL IMPREGNATED BEARINGS

Oil-impregnated bearings are composed of 70-80% of synthetic lubricating oil. Oil is molded and solidified with polymer to form a casing that acts as a lubricant reservoir throughout the bearing's life.



Features

- Superior lubricant – synthetic oil
- Lesser torque due to no churning phase
- Excellent performance in water and dusty environment

Benefits

- Long life and maintenance-free
- Higher operational reliability
- No re-lubrication needed

NBC ADVANCED SOLUTIONS

CRS BEARINGS

CRS stands for controlled compressive residual stress. It is a special proprietary process that enhances the fatigue life of the bearing multiple times. Our unique surface treatment induces high residual compressive stress compared to conventional methods.



Features

- Introduced compressive residual stresses to enhance fatigue life
- Resistance to bending and higher radial load
- Improved surface texturing helps the lubricant retention

Benefits

- Higher operational reliability
- Higher performance and higher power density
- Improved lubricant effectiveness

BLACK OXIDE BEARINGS

The black oxide conversion treatment applied to the rings and rolling elements improves lubricant adhesion on the raceway, enhancing the bearing's performance by reducing smearing wear and micro pitting, especially during run-in periods.



Features

- Increased wear resistance during the initial running-in period
- Improved adhesion properties of the lubricant

Benefits

- Longer operating time
- Increased wear resistance

NBC ADVANCED SOLUTIONS

HCR- WEAR RESISTANT BEARINGS

Wear resistance coating on rolling elements helps to avoid metal-to-metal contact in dry and low lambda lubricated conditions.



Features

- Optimized coating with metal-containing amorphous carbon coating with a multilamellar structure
- High dimensional accuracies

Benefits

- Higher operational reliability
- Resistant to adhesive wear and micro pitting
- Debris tolerance - removes dents created in the contaminated application

INSUOHM BEARINGS

Electrical insulation coating prevents electrical pitting in the bearings and hence improves bearing life in motor bearings.



Features

- Improves bearing's life in the electrical current passage
- High insulation resistance
- High dimensional stability after coating

Benefits

- Increased machine uptime
- Reduced overall operating costs
- Insulation over a wide range of operating temperatures

NBC ADVANCED SOLUTIONS

SLC BEARINGS

NBC has developed an SLC bearing to enhance the life of these bearings. In addition, special heat treatment is given to the bearings made of low-carbon steel, which forms a hard surface and rigid core on the components.



Features

- Hard, worn/fatigue surface
- Tough, crack-resistant core
- Compressive residual stresses

Benefits

- Better performance under shock loads and misalignment
- Improved contamination resistance
- Enhanced bearing life

HYBRID BEARINGS

Hybrid Bearing, also known as anti-friction ball bearing, consists of a rolling element made of Silicon nitride in place of steel. Silicon nitride rolling elements perform exceptionally well in high-speed operating conditions.



Features

- Lower friction
- Reduced weight
- Current insulation

Benefits

- High-speed capability
- Less wear under slippage
- Higher operational reliability

NBC ADVANCED SOLUTIONS

LOW TORQUE BEARINGS

Various studies show that only 13 to 15% of the energy is used to move the vehicle; the rest is lost due to mechanical and friction losses. The low torque bearing technology reduces energy consumption by reducing torque in the bearing.



Features

- Optimization of bearing raceways curvature
- Effective sealing solution
- Modified cage geometry

Benefits

- Low Carbon emissions
- Reduced heat loss and friction losses
- Enhanced fuel economy

OPTIMILE BEARINGS

The Optimile Bearing has an extended life because of heat treatment processes, thereby improving the steel grain structure at the surface and core.



Features

- Improves the yield strength and rolling contact fatigue properties
- Offers better resistance to wear and seizure

Benefits

- Higher capacity of bearing within a given size (Improved yield strength)
- Greatly extended bearing's life in a contaminated environment
- Downsizing possible; higher power density

NBC ADVANCED SOLUTIONS

MEDIUM CARBON STEEL BEARINGS

In automotive applications, the bearings should be capable of taking shock-load in severe contaminated lubrication conditions. Medium Carbon Steel bearings offer optimal performance due to their modified intrinsic microstructure properties.



Features

- High amount of retained austenite and hardness after heat treatment
- Consists of carbides or/and carbonitrides
- Hard surface and rigid core

Benefits

- Higher resistance to fractures and crack
- Better performance in a contaminated environment

HIGH-SPEED ELECTRIC MOTOR BEARINGS

Electric Motor Bearings (EMB) are for high-speed applications with expectations of lightweight, low friction, high transient ramp capability, high RPM, and low noise.



Features

- Lightweight cage design
- Optimized internal design
- Grease with noise suppression properties

Benefits

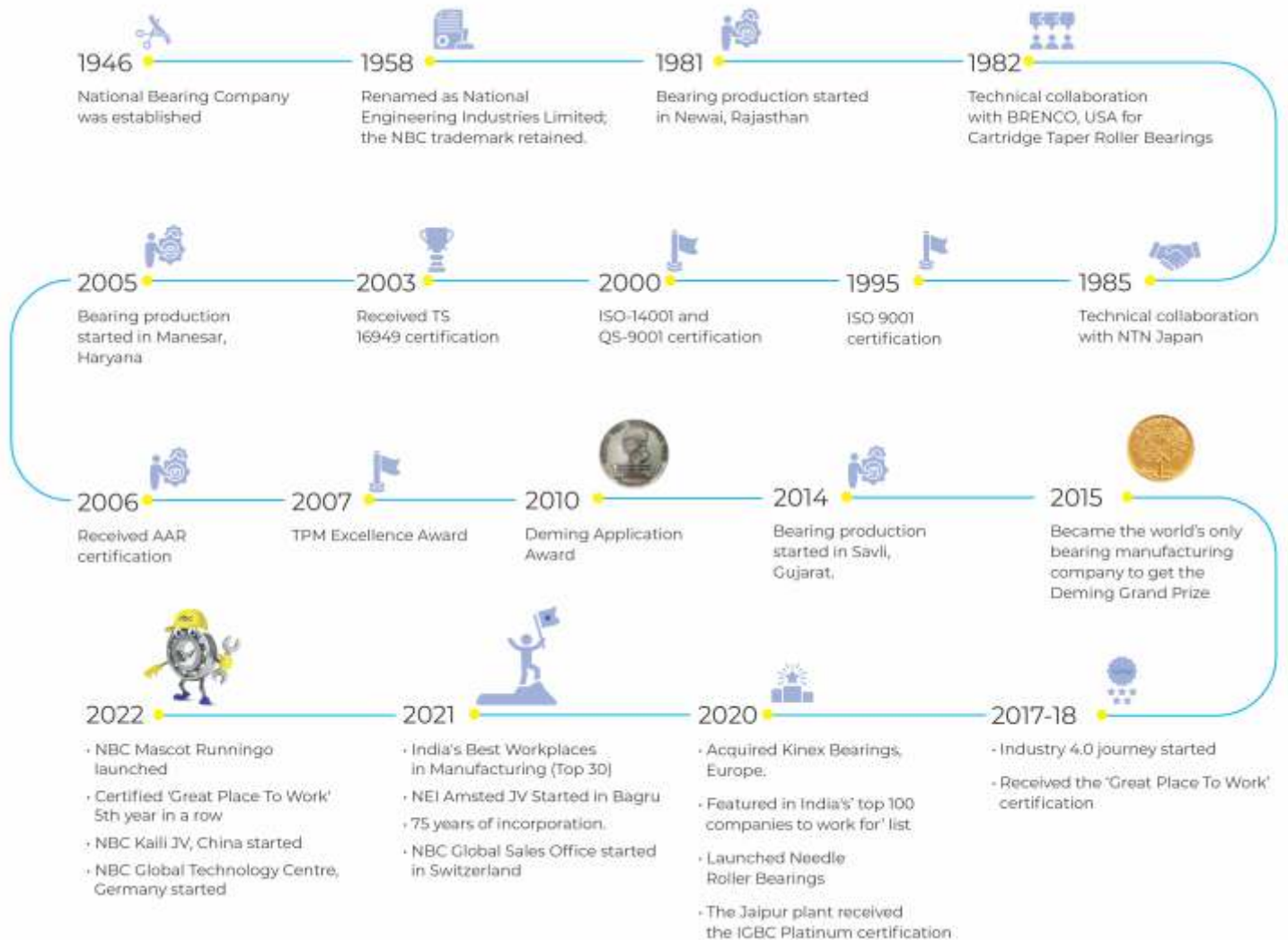
- High-speed stability
- Low noise
- Energy efficient bearing

OTHER PRODUCTS FROM NBC

Since the challenges faced by industries are many, NBC offers a diverse range of exceptional bearings. NBC bearings are available in sizes from 06 mm bore to 2000 mm outer diameter.



NBC MILESTONES



OUR GLOBAL REACH

The NBC Bearings: Product, Technology & Services

NBC provides a wide range of bearings and associated service solutions to diverse industries such as Industrial, Automotive, Railways, and Aerospace. As a company that has been established for over 75 years, NBC Bearings has an international presence with offices and R&D centers across the globe. For us, engineering goes beyond manufacturing; it is the fusion of Product, Technology, and Services that make us different and the most preferred choice of our customers worldwide.



Over 550 stockists and thousand of retailers across India



National Engineering Industries Ltd

Khatipura Road, Jaipur, Rajasthan, India 302 006

T: +91 141 2223 221 | F: +91 141 2222 259 | Toll free: 1800 3000 6222

E: neilsales@nbcbearings.in

Follow us on:      /nbcbearings | www.nbcbearings.com

