



CKA Birla Group |



Beyond Rotation: Bearing's Role in Textile Industry



Bearing Solutions for the Textile Industry

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.

77 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
manufacturing
capacity



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

Thread of Excellence: NBC Bearings for the Textile Industry

In the complex realm of textile production, even the thinnest thread holds significance. The textile industry comprises specialized equipment that creates fabrics through processes like spinning, weaving, dyeing and processing. The machinery used in the process plays a pivotal role in transforming raw materials into the diverse range of fabrics we encounter in our daily lives. The quest for flawless production of textiles hinges on precision and dependability, and here, bearings quietly emerge as pivotal players.

The Significance of Bearings in Textile Machinery

- Textile manufacturing units rely on an array of equipment to produce fabrics. This includes machines like **spinning machines, weaving machines, needle-felting machines, embroidery machines, carding m/c etc.** Bearings such as ball, roller, and needle types, work quietly in the background, reducing friction and ensuring smooth operation. These bearings contribute to the durability of machinery and help maintain the quality of textiles produced in the dynamic textile industry by:
 - **Minimizing friction:** Premium bearings curtail friction, resulting in energy savings and reduced wear on machinery components.
 - **Elevating Efficiency:** Bearings contribute to machinery efficiency, translating into heightened production rates.
 - **Prolonging Longevity:** By mitigating wear on moving parts, bearings increase machinery lifespan, an asset to sustained operations.



- **Unwavering Precision:** Dependable bearings equate to consistent performance and accurate processing, a cornerstone of textile production.
- **Downtime Reduction:** Bearings of excellence translate to fewer breakdowns, curtailing costly downtimes and maintenance outlays.

NBC Bearing Solutions for Textile Equipment

RING FRAME

Function: Fibers into yarn by twisting them.

Challenges:

- Ensuring smooth spindle rotation
- Supporting high-speed operation
- High power consumption
- Contamination



Bearings
used

• Deep Groove Ball Bearings

• Needle Roller Bearings

DRAW FRAME

Function: To straighten the curled and hooked fibers

Challenges:

- Contamination
- Critical Maintenance



Bearings
used

• Deep Groove Ball Bearings

• Needle Roller Bearings

WEAVING MACHINES

Function: Interlaces warp and weft threads to create woven fabric.

Challenges:

- Minimizing friction in weaving machines (warp and weft)
- Maintaining precise movement



Bearings
used

• Drawn Cup Needle Roller Bearing

NBC Bearing Solutions for Textile Equipment

KNITTING MACHINES

Function: Creates knitted fabric by interloping yarns.

Challenges:

- Enabling seamless needle movement
- Ensuring an uninterrupted knitting process



Bearings
used

• Needle Roller Bearing

• Deep Groove Ball Bearing

TEXTILE PRINTING MACHINES

Function: Applies patterns to fabric through rotating screens.

Challenges:

- Precision screen rotation for accurate printing
- Minimizing vibrations



Bearings
used

• Deep Groove Ball Bearing

• Needle Roller Bearing

TEXTILE FINISHING MACHINES: CALENDAR MACHINES

Function: Enhances fabric properties through pressure and heat.

Challenges:

- Achieving even pressure distribution on calendar rollers
- Maintaining uniform finishing
- High temperature



Bearings
used

• Spherical Roller Bearings

NBC Bearing Solutions for Textile Equipment

TEXTILE DYEING MACHINES: DYEING MACHINE ROLLERS

Function: Applies colour to fabric evenly and consistently.

Challenges:

- Guiding fabric during the dyeing process
- Facilitating smooth roller movement
- Contamination



Bearings
used

- Spherical Roller Bearing

CARDING MACHINES

Function: Separates, aligns, and forms Fibers into a thin web.

Challenges:

- Supporting carding roller movement
- Maintaining Fiber separation



Bearings
used

- Tapered Roller Bearing

- Deep Groove Ball Bearing

NBC Bearing Solutions for Textile Equipment

INDUSTRIAL MOTORS

Bearings used:

- Cylindrical Roller Bearing
- Deep Groove Ball Bearing (DGBB)
- Angular Contact Ball Bearing (ACBB)
- Spherical Roller Bearing



VIBRATORY MOTOR

Bearings used:

- Spherical Roller Bearing
- Cylindrical Roller Bearing
- Ball Bearing



SERVO MOTORS

Bearings used:

- Deep Groove Ball Bearing with or without seals



NBC Bearing Solutions for Textile Equipment

DEEP GROOVE BALL BEARING

For locating and non-locating positions of small to medium-sized motors and locating position for large-sized motors.



NBC Bearings features

- Clean bearing steel for longer bearing service life
- Superfinished balls and races for higher speed, reduced friction, and lower operating temperature
- Enhanced cage design for higher speeds, improved lubrication film
- Precisely controlled ball and race geometries for reduced noise and vibration (EML Series)
- Optimized ball and race contact for lower operating temperature

SPHERICAL ROLLER BEARING



NBC Bearings features

- Two-piece cage design
- Improved and robust cage design
- Central /Flange provides Roller guidance
- Larger Rollers for enhanced load capacity

NBC Bearing Solutions for Textile Equipment

TAPERED ROLLER BEARING



NBC Bearings features

- Optimized geometries of raceway and rolling elements for even load distribution
- Precise cage play for enhanced bearing life
- Superior surface finish on raceways reduce friction
- Improved design of large cone flange enhance lubrication

NEEDLE ROLLER BEARING



NBC Bearings features

- Compact design
- Greater load-bearing capacity
- Special heat treatment for contaminated environment
- Non-ferrous metallic coating on cages to avoid friction

Condition Monitoring Services from NBC



NBC provides intelligent solutions for Condition Monitoring in order to improve the reliability of your assets.

Our expertise in various streams of Condition Monitoring helps industries keep their machinery failure-free.

With a result-oriented approach towards avoiding machinery failure, the scope of CMS consists of Vibration Analysis and Lube Oil Analysis.

- **Vibration monitoring & analysis**
- **In-situ dynamic balancing**
- **Laser shaft alignment**
- **Thermography**
- **Annual maintenance contract / On-call service**

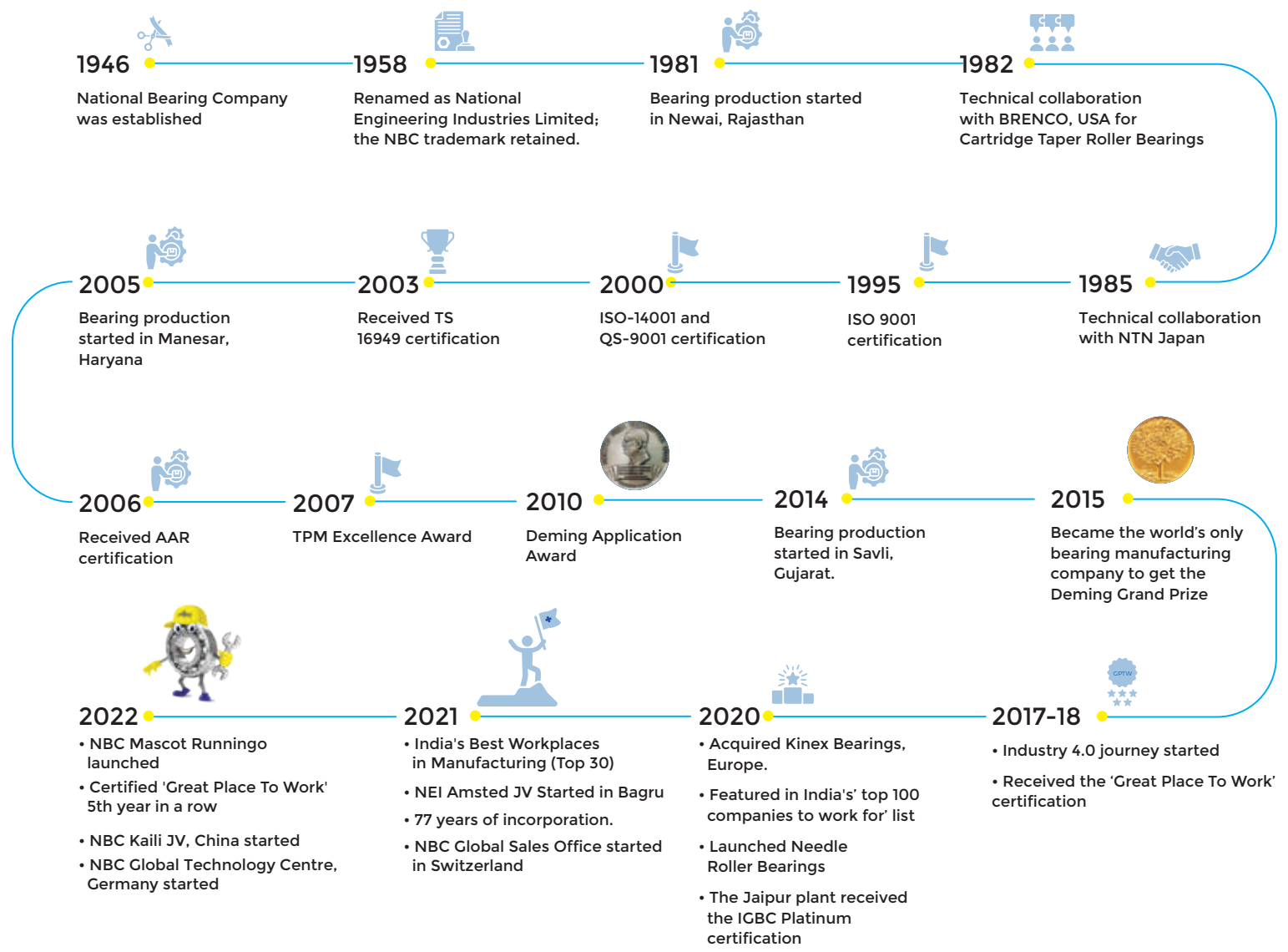
Other Products from NBC

Since the challenges faced by the industry 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.



* Products with special features like high temperature application, special heat treatment, coated roller/races and cage options are also available across product range.

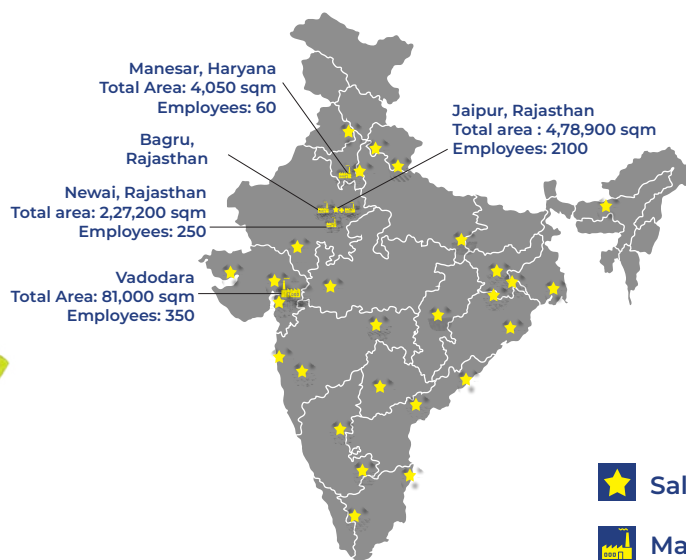
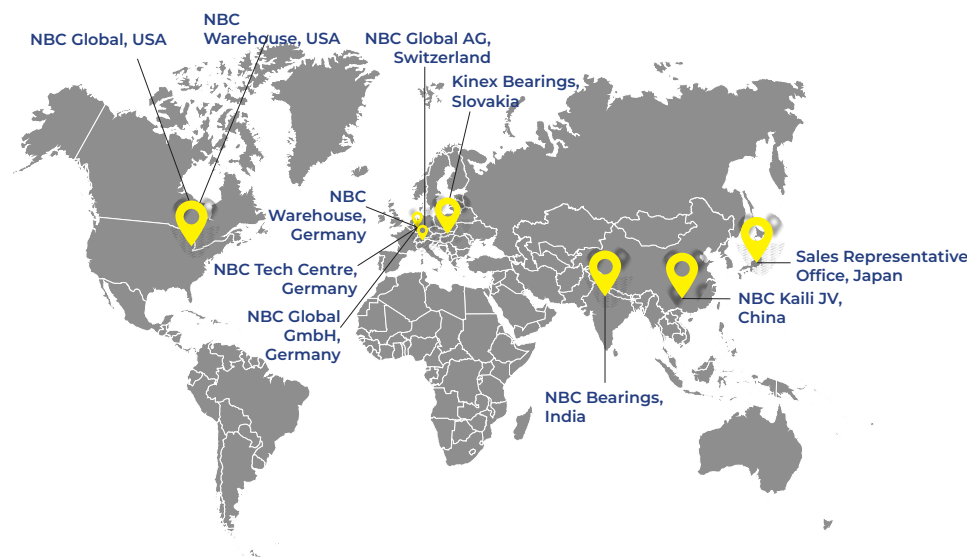
NBC Milestones



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 77 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



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