OUR RANGE
FOR YOUR INDUSTRY

in bearings, related components and accessories

NTN SNR

www.ntn-snr.com

With You

The expertise of a manufacturer, the scale of a leader

NTN-SNR ROULEMENTS, part of the 3rd largest bearing manufacturing group in the world, is a major force as a designer, developer and manufacturer. Thanks to its strong brands, NTN-SNR is highly active in the automobile, industrial and aeronautics sectors. Each division meets the expectations of a global market and focuses on the business segments of its customers.

NTN-SNR offers top quality technical products and can provide specialist solutions.

With the widest range on the market, our teams work towards other requirements. Innovation is a decisive factor in our development: anticipating new solutions, enriching bearing functionalities, etc. More compact, lighter, more economical, more reliable, more effective, better for the environment... we are constantly innovating for and with our customers.

NTN-SNR is clearly focused on ecological solutions and is recognised as the partner and by developer of the companies of the future, ready to take up all market opportunities.

Together, we can create the world of the future.

The identity of NTN-SNR is based on strong, real and shared values.
Proximity, a professional approach, quality and technical proficiency: the key values for the group for nearly a century.

Both individually and as a group, we make significant commitments: **listening and performance** for those with which we work and live and who we serve.

NTN-SNR, With You

With You

At the heart of the action,
in the centre of change

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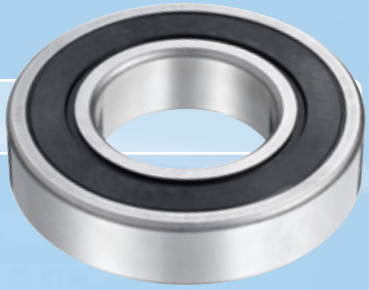
BALL BEARINGS



The basic bearing of excellence, the ball bearing is designed to accept radial and/or axial loads according to internal design.

RADIAL CONTACT BEARINGS

STANDARD ranges: sheet, solid or reinforced polyamide cage depending on the series and dimensions

> METRIC range:
1 row: 6700, 6800, 6900,16000, 6000, 6200, 6300, 6400
- Miniature range (pg.5)
- Large bearings: bore ≤ 1320 mm

2 rows: 4200, 4300

> INCH range (R-)

> Sealing

Possible cage variants (suffixes)

Type of cage	NTN	SNR
Brass	-L1	-M
Solid steel	-F1	-
Riveted steel	-JR	-
Reinforced polyamide fibre glass	-T2	-G15

Type of sealing	Characteristics	Suffixes
Shield	Metal	-Z / -ZZ
Seal	Standard contact	-LU / -LLU (NTN); -E / -EE (SNR)
Seal	Non-contact (labyrinth effect)	-LB / -LLB
Seal	Low torque contact with pressure balancing system	-LH / -LLH
Seal	Standard contact for high temperatures (+150°C)	-LUA / -LLUA
Seal	Standard contact for very high temperatures (+200°C)	-LUA1 / -LLUA1
Seal	Standard contact for extreme temperatures (from -100°C to +200°C)	-LUA2 / -LLUA2

Reduced (-C2) or enhanced (-C3, -C4, -C5) **internal radial clearances**

Increased precisions (-P6, -P5, -P4)

Ring modifications
- Presence of a groove on the outer ring with (-NR) or without a snap ring (-N)
- Tapered bore (-K), spherical outer diameter (-S)

Other materials
- Case hardened steel (E-)
- Stainless steel (see Stainless steel range)
- Special steel with special heat treatment for long lifetime (TMB-, TAB-)

Stabilisation for higher-than-standard operating temperatures (TS1 / TS2 / TS3 / TSX)

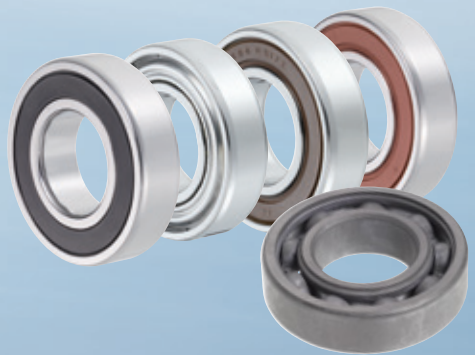
SPECIFIC Ranges developed for tough environments:

Expansion compensating bearings
- **EC- :** if a tight adjustment on the outer ring (rotating loads on the outer ring) is impossible or a risk of ring rotation exists.
- **AC- :** similar concept to EC- range, the anti-rotation function is provided by two O- rings

Stainless steel range (S- by SNR, F- by NTN): to prevent corrosion (maritime environments, food, etc.)

TOPLINE range: Standard dimensions for specific applications

Specific restrictions	Characteristics	Suffixes
High temperatures	+150°C	-FT150
High temperatures	+200°C	-HT200
High temperatures	+350°C	-F600
Low temperatures	-60°C	-LT
High speeds	Up to 700 000 NDm	-HV



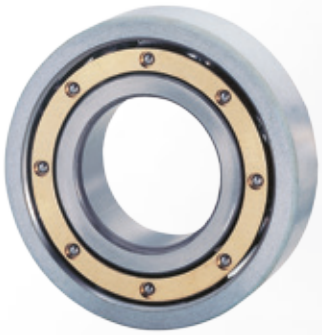
EMTR range: low noise quality level with optimised design especially for electrical motors

MEGAOHM range: bearings with electrical insulation, mainly for applications with electrical motors and generators

CLEAN range: for environments with an extreme vacuum (semi-conductors, aeronautics, etc.)

Bearings with integrated sensors (pg.16)

Bearings with solid lubrication (pg.15)



Possible cages

Cage materials	Suffixes
Phenolic resin	T1 -
Sheet	-J
Reinforced polyamide fibre glass	-G15 (SNR) -T2 (NTN)
Brass	-M (SNR) -L1 (NTN)
Solid Steel	-F1 (NTN)

ANGULAR CONTACT BEARINGS

High precision range (see pg. 12)

STANDARD range
depending on series and dimensions, angle of 30°:
1 row: 7800, 7900, 71900, 7000, 7200, 7300, 7400
Large bearings: bore < 1060 mm.
2 rows: 5200, 5300, 3200, 3300

For series 3200 and 3300, angle 25° or 32° depending on type.

Variants	Suffixes	Brands
Angle at 25°	-AD	NTN
Angle increased to 40°	-B	NTN and SNR
Universal fitting with no pre-load	-G	NTN and SNR
Non-contact metal **protection flange**	-ZZ	NTN and SNR
Contact seal	-EE	SNR
Non-contact seal (labyrinth effect)	-LLB	NTN

4-POINT ANGULAR CONTACT BEARINGS

STANDARD range: solid cage (-M by SNR, -L1 by NTN): QJ200, QJ300

DOUBLE-ROW SELF-ALIGNING BALL BEARINGS

Standard range: sheet or reinforced polyamide fibre glass cages (-G15 by SNR, - T2 by NTN)
Series 1200, 2200, 1300, 2300

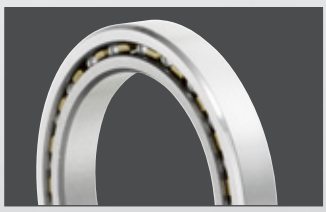
Possible variants
- Contact seal (-EE, SNR)
- Tapered bore (-K)
- Large inner rings for series 11200 and 11300

MINIATURE BEARINGS

Standard range: 670, 680, 690, 600, 620, 630
- with or without shield
- with or without seal
- range with flange (FL-)
- metric or inch (R-)

Range with rubber dampers (F-SX)
Pivot bearing range (BCP-)
Stainless steel bearing range (F-)

THIN-SECTION BEARINGS



Type of contact	Prefix / Suffix
Radial	KR
Angular	KY
4 points	KX

Also deliverable with seals

TAPERED ROLLER BEARINGS

These accept high radial loads and axial loads in one direction.
They are generally fitted opposite a bearing of the same type.
Load capacity depends on contact angle.

TAPERED ROLLER BEARINGS 1 ROW

Metric dimensions: ISO 355 and JIS B 1512 standards
Available with contact angles, spread from 10° to 31°
including 2 series of large contact angle (T7FC and 303xx D)
Inch dimensions: ABMA standard (including J metric series)

Can be equipped with flanges

TAPERED ROLLER BEARINGS 2 ROWS

Appears in the same form as two single-row bearings
Fitted face-to-face or back-to-back, with metric or inch dimensions
One-piece outer or inner rings
Single-row assemblies with spacers also exist

TAPERED ROLLER BEARINGS 4 ROWS

Composed of two double cones, two single flanges and one double flange
Extended service life thanks to the use of case hardened steel, hollow rollers and pin-type cages
Very high load capacities, adapted to rolling type applications
Available in sealed version (-LL) and ULTAGE range

ECO-TOP RANGE: FOR CHALLENGING APPLICATION

Life time: +180% compared to through hardened steel
Optimised design, enhanced service life, more compact bearing and reduced energy consumption

NTN BOWER RANGE

Wide range of tapered roller bearings with inner diameters up to 16 inches

Steel

Through hardened bearing steel
Vacuum degassed case hardened steel (4T, ET) and special heat treatment for a longer service life (ETA / ECO)

Cage

Generally equipped with a steel sheet cage
Solid or steel pin-type cages for large bearings
Fibre glass reinforced polyamide cage possible depending on the application for smaller bearings

Small torque specification

Bearing identified with the suffix -ST:
- Reduced drag torque
- Reduced heating
- Improved seizure resistance
- Simplified adjustments at assembly

SPHERICAL ROLLER BEARINGS

This unit compensates for shaft bending and absorbs misalignment defects. These accept high radial loads and axial loads in both directions. Available with tapered or cylindrical bores. Tapered bores are delivered with adapter or withdrawal sleeves.

NTN-SNR HIGH PERFORMANCE RANGE:

- Series: 21300 / 22200 - 22300 / 23000 - 23100 - 23200 - 23800 - 23900 / 24000 - 24100 - 24800 - 24900
- High performance standard. Optimal quality steel, geometry and optimised surface conditions, maximum dynamic load capacity service life of the bearings (X2).
- Increased speed limits
- Reduced energy consumption
- Reduced dimensions for identical performance
- Allow to extend intervals between maintenance actions, reduced environnemental impact.

+24%
for load capacity.

x 2
minimum for service life.

NTN RANGE:

- Large dimensions range D>650 mm : suffixe B (NTN)
- Type B. Asymmetric rollers. Reduced vibrations and low operating temperatures

Suffixes

Suffixes	Description
C2	Category 2 ISO radial clearance
C3	Category 3 ISO radial clearance
C4	Category 4 ISO radial clearance
C5	Category 5 ISO radial clearance
K	Tapered bore 1/12
K30	Tapered bore 1/30
W33	Groove and relubrication holes on the outer ring

Lubrication

To improve lubrication, bearing are supplied with a groove and lubrication holes in the outer ring
Series 21300: without holes or grooves in standard. With holes or grooves on request.

Cage

Cage materials	Description	Temperature
Steel sheet EA by SNR, - by NTN	Standard applications	Up to +200°C
Solid steel (F1) and brass L1 by NTN, M by SNR	Severe applications	Up to +200°C
Fibre glass reinforced polyamide T2X by NTN, G15 by SNR	Standard applications	Up to +150°C

Vibrating applications

- Designations: EF800 (SNR) ULTAGE
- Solid brass cage, reduced diameter tolerances and special clearance
- Designed to absorb higher accelerations than standard bearings
- Anti-fretting corrosion treatment on the inner ring (MX- prefix option)

Special bearings

- Bearings with case hardened inner ring (NTN range) for printing or paper machines
- Bearings for high temperature operation (>200°C)
- Railway, steel, mining & quarries applications
- Split bearing
- Bearings with solid lubrication (maintenance-free)

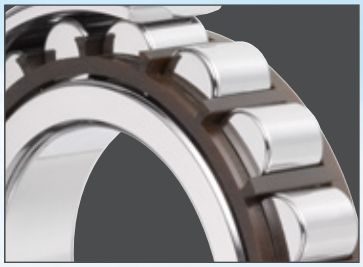
Sealing
Sealed and greased bearings on request

CYLINDRICAL ROLLER BEARINGS

These bearings are highly rigid and can absorb high radial forces. Cage versions accept higher speeds than full complement versions.

Equipped with separable rings, dismounting and withdrawal are simple, even when tight clearances are necessary.

1 ROW CYLINDRICAL BEARINGS WITH CAGE



Standard range
ISO standard: NU, N, NJ, NF, NUP, NH, RNU, HJ
Series of bearings: 200, 300, 400, 1800, 1900, 1000, 2900, 2200, 2300, 3800, 3100, 3200, 3300
US types (BOWER): M, W

Suffixes	NTN	SNR
Increased capacity design	E	E
Fibre glass reinforced polyamide +120°C (continuous)	T2	G15
Fibre glass reinforced polyamide +150°C (continuous)	T2X	-
Massive brass cage roller centered	-	M
Massive brass cage inner or outer ring guided	G1	-
Massive brass cage in two parts, inner or outer ring guided	L1	-
Massive steel cage in two parts, inner or outer ring guided	F1	-
Pressed steel cage	J	-
NUP types : washer bore diameter not grinded	U	-

Possible variants
- Tapered bore (K)
- Grooves with (NR) or without a snap ring (N) on the outer diameter to simplify assembly
- Fully case hardened bearings for types M and W (BOWER)
- Shoulder rings (HJ-)

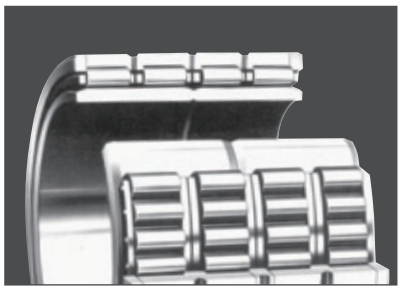
Specific applications

MEGAOHM range: bearings with electrical insulation, mainly for applications with electrical motors and generators

2 ROWS CYLINDRICAL BEARINGS WITH CAGE

Standard range: NN and NNU with solid cage
Series: 3900, 3000, 3100, 4800, 4900, 4000
Type NN and NNU bearings: also available with a tapered bore

Types of applications: machine tools (see § High Precision pg.12) or heavy industry



4 ROWS CYLINDRICAL BEARINGS WITH CAGE (TYPE 4R)

Bearings with solid cage, also available in large dimensions (d. ≤ 1200 mm)

Possible variants
- Case hardened or carbo-nitrided steel for improved resistance
- Lubrication holes

2 ROWS CYLINDRICAL FULL COMPLEMENT (TYPE SL)

Range suitable for high radial loads and/or to meet the need for excellent rigidity

Types SL01, SL02 and SL04 can absorb axial forces in both directions in addition to substantial radial forces

Possible variants
- Grooves for snap rings in the outer ring (series SL04) for pulley applications, for example
- Double sealing (LL)

CROSSED ROLLER BEARINGS (TYPE QR)

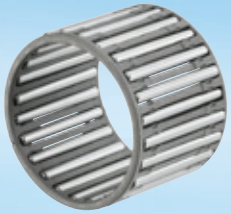
Suitable for high rotation precision combined with high forces

Types of applications: robotics, indexing tables

NEEDLE BEARINGS

These bearings are mainly selected for constructions requiring reduced radial dimensions and maximum rigidity and load capacity. They have little resistance for axial forces (except thrusts and combined bearings).

NEEDLE ROLLER AND CAGE ASSEMBLIES



A needle cage comprises an inseparable cage and needles and can be used to design very compact, light, constructions with maximum capacity. The shaft and housing act as a raceway and must be machined in compliance with hardness, geometry and roughness characteristics. The needles are guided precisely, therefore the needle cage can absorb much higher speeds of rotation than contact needles.

Depending on the application, different types of materials and cages are available:

Types	Characteristics	Suffixes
K	Fibre glass reinforced polyamide	**-T2**
K or KJ	Welded pressed steel cage	-S
GK / GPK	In two parts	
K	Two rows	**-ZW**
KBK	For piston pins application	
KV	For piston pins application	**-S**
PK / GPK	For crank pins application	
KMJ	For crank pins application	**-S**

Inch solutions are also available (PCJ).

DRAWN CUP NEEDLE ROLLER BEARINGS

Compact and light, mainly used in applications with low loads, needle sockets represent a low-cost bearing solution; the outer ring is not machined, but is obtained using precision pressing processes. It must be noted that the geometry of the raceway depends on the geometry of the housing (the low thickness of the outer ring only provides the hardness and roughness necessary for the raceway).

Standard (HK) and heavy (HMK) series, available with or without sealing, with open or closed ends (BK, BMK)
Some dimensions are delivered with 2 rows of needles (-ZW)
Inches versions with cage (DCL, SCE) and contact needle versions (HCK).

NTN drawn cup needle roller bearing offer:
• simplified adapting thanks to an ideal geometry
• an improved service life: specific treatment of the cage and needles

NEEDLE ROLLER BEARINGS WITH SOLID RINGS

Needle roller bearings with solid rings are mainly used in applications with high loads.

• **Inseparable versions:** with or without an inner ring
- Series 48, 49, 59 and 69. (Series 49 is also available with simple or double sealing)

- NK series: also deliverable with the inner ring (NK+IR designation)
If the bearing is used without an inner ring, the shaft will act as a raceway and must be machined appropriately

• **Separable versions:** RNAO and NAO
With these versions, the inner and outer rings and the cage can be separated, opening up more assembly options.
• **The inner rings** are delivered separately.
Versions with plunge grinding for seal support surfaces are also available.

These solid rings and needle bearings are also available in inch dimensions. (MR,MI)

NEEDLE AND ROLLER THRUST BEARINGS

Needle or roller thrust bearings are designed to absorb axial forces in one direction only. Support surfaces used as raceways must be ground and hardened.

• Needle thrust bearings: type AXK11

• Roller thrust bearings: series 811, 812, 874 and 893
Available with Polyamide cage (-T2), Aluminium alloy cage (-: lightness and enhanced performance when lack of lubricant) or pressed steel cage.

• Washers:
- type **AS11** washers are thin (1 mm), therefore their support surfaces must be flat and rigid enough
- types **WS** (centered on the shaft) and **GS** (centered on the housing) are more rigid

COMBINED BEARINGS

When the application requires resistance to forces combined with substantial rigidity or minimum room, the use of combined bearings can lead to benefits. Depending on the type of bearings, axial forces may be absorbed in one or two directions.

• **Uni-directiona• axial forces**
The thrust part may comprise, either:
- a radial contact (NKX) or angular contact (NKIA) ball bearing
- rollers for high axial loads (NKXR)
If the unit must be inseparable, a flange (-Z) is proposed

• **Two-way axial forces**
Depending on the intensity of the forces, the trust part will consist of needles (AXN) or rollers (ARN)

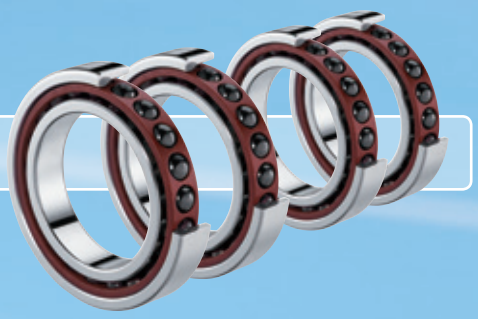
CAM FOLLOWERS

Cam followers are used for applications requiring guidance with minimum contact with cam and the linear guidance systems.
Cam followers applications are very different to bearing applications.
The cam followers is not fitted in a housing and its thicker outer ring rolls directly over a surface to provide guidance.

With or without a seal, with an outer ring with a convex or cylindrical profile, all cam followers are proposed:
- contact needle version (KRV-NATV) to accept significant loads
- cage version (KR-NATR) to accept higher speeds
Versions with two 2 rows of contact bearings also exist to increase capacity (NUTR, NUTW et NUKR)

- Stud Type: threaded shaft has a slot head or hex head screwdriver tightening system to simplify the attachment of the roller on the support surface. These rollers may be regreased by the shaft.
- Yoke Type: with or without lateral guidance

HIGH PRECISION BEARINGS



These bearings are mainly selected for constructions requiring reduced radial dimensions and maximum rigidity and load capacity. They have little resistance for axial forces (except thrusts and combined bearings).

MACHLINE BY SNR

• High precision MACHLINE: Standard

71900V and 7000V series:
An ideal compromise between performances in terms of speed, rigidity, capacity and precision

7200G1 series:
- Specially designed for applications with predominantly high axial loads.
- Variants depending on contact angle: C for 15°, H for 25°
- Variants depending on preload: light, medium, high
- Hybrid versions available as option (ceramic ball)

• MACHLINE ML: High speed

Designed and developed to meet the toughest requirements for high-speed applications 30% extra speed thanks to:
- an optimised geometry
- a reduced ball diameter
- an increased number of balls
- optimised guidance of the cage on the outer ring
- Hybrid versions available as option (ceramic ball)

• MACHLINE MLE: Sealed

Nitrile seals fixed on the outer ring, with no contact with the inner ring, can be used to maintain the same maximum speed as with an open bearing, lubricated with grease.
- Hybrid versions available as option (ceramic ball)

• Self-locking precision nuts

Indispensable for all assemblies of precision bearings, especially when the preload and long-term reliability of an assembly must be guaranteed, or if high axial forces exist.

ULTAGE BY NTN

• Angular contact ball bearings

Standard range: 70U, 72, 78, 79U
- Optimised internal design.
- Fiber glass reinforced polyamide cage guaranteed improvements in rigidity, reliability and improved ball guidance and substantial reduction in noise.
- Contact angles: 15° (C), 25° (AD), and 30° (-).
- Hybrid version with ceramic balls as option (prefix 5S).

High speed series: HSE
- Special 2LA- steel
- Optimized internal design and surface condition.
- Phenolic resin cage.
  Improved bearing performance, improved resistance, lower operating temperatures at maximum speeds.
- Contact angles: 15° (C), 25° (AD), and 30° (-).
- Hybrid version with ceramic balls as option (prefix 5S).

Ultra high speed series : HSF
- Special 2LA- steel.
- Smaller ceramic balls (prefix -5S).
  Reduced temperature at higher speeds and improved service life.
- Contact angle: 25° (AD)

Sealed series

	Standard LLB	High speed, BNS LLB
Series	70 and 79	BNS0 and BNS9
Contact angle	CD for 15°, AD for 25°	C for 15°, - for 30°, AD for 25°

• Cylindrical roller bearings

Double row: Standard NN (U)49 (K), NN30 (K), High speed NN30 HS (K)
- Machined brass cage.

Single row: N series, High speed HS and Ultra high speed HSR
- High strength machined brass cage for HS types.
- Special molded resin cage for HSR types.

Optimised internal designs allow higher speed limits and result in lower temperature rise.

• Ball screw support bearings

BST: Single row, open or sealed types
- Surface optimised treatment on the bearing race way for a longer bearing life and improved fretting resistance.
- Sealed types with a special grease to reach a longer life and simplify maintenance work.

BSTU: Single or double row, sealed
- Highest load rating
- Low friction contact-type seal
- Special long-life grease
- Easy mounting

Others: Needle bearings AXN, ARN

• Other bearings
- Thrust ball bearing: single row HTA
  double row 5629XX, 5620XX

THRUST BEARINGS

SPHERICAL ROLLER THRUST BEARING

Composed of 2 separable elements and able to absorb very high axial loads and high radial loads (approx. 50% of the axial load).
Can absorb misalignment of approximately 3°.

Series: 29000
- Steel sheet cage: version E optimised, interchangeable

Lubric ation
- Oil lubrication required by design

THRUST BALL BEARING

For axial load only
Series: 51000

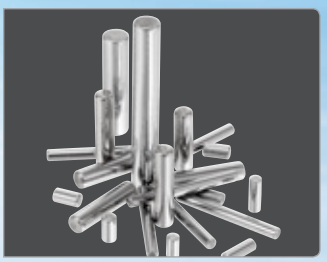
TAPERED ROLLER THRUST BEARING

For further information, please refer to your NTN-SNR contact person

COMPONENTS AND ACCESSORIES

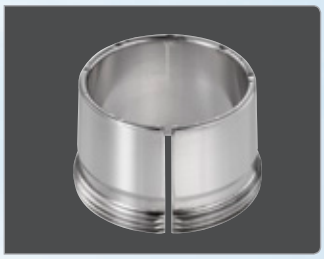
Balls

Rollers



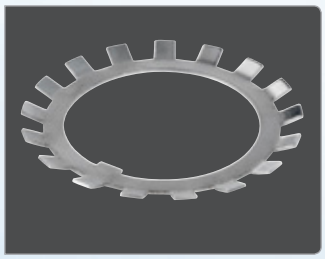
Needles

Adapter sleeve

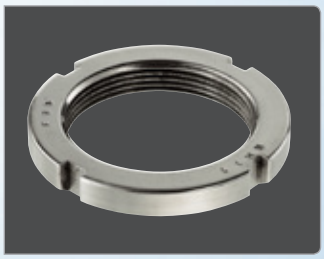


Withdrawal sleeve

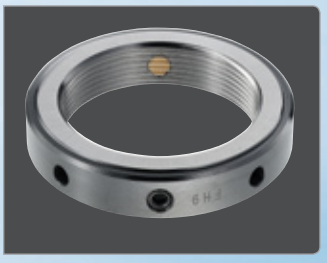
Hydraulic sleeve



Washer



Standard nut



Self-locking precision nuts

SPECIFIC RANGES

BEARINGS WITH SOLID LUBRICATION

Bearings with solid lubrication are manufactured under the NTN brand (SolidGrease) and the SNR brand (LubSolid). They require a special grease, solidified after injection in the bearings, which can retain a greater quantity of oil than standard grease, as necessary for the lubrication of the bearing during operation.

• No service
- Reduced, or even zero, servicing
- Less servicing for inaccessible bearings

• Resistance to contamination
- High performances in dusty and/or humid environments
- The use of sealed bearings is recommended for applications with high levels of contamination. This type of lubrication can be used to improve bearing sealing

• No grease leakage
- No grease leakage and low oil leakage: guaranteed clean operation

• Excellent resistance to centrifugal forces, vibrations and low-scale oscillations
Lubricant in the form of a solid mass, ensuring:
- excellent resistance to centrifugal forces
- the amount of oil necessary for satisfactory operation

• Low start-up torque
“SPOT PACK” type bearings: very low start-up torque at ambient temperature

Version	Brands	Type	Filling	Operating temperature
Standard	NTN	LP03	Full & Spot	-20°C to +60°C continuously, +80°C intermittent
	SNR	GEN1 (LSO) - GEN2*	Full & Spot (GEN2)	-20°C to +100°C continuously
High temperature	NTN	LP05	Spot	-20°C to +100°C continuously, +120°C intermittent
	SNR	GEN2*	Full & Spot	-20°C to +150°C continuously
Low temperature	SNR	GEN1 (LSF)	Full	-40°C to +110°C
Food	NTN	LP06 / LP09	Full & Spot	-10°C to +80°C continuously, +100°C intermittent
	SNR	GEN1 (LSA)	Full	-50°C to +100°C continuously
Special needle bearings	NTN	LP03	Full	-20°C to +100°C continuously, +120°C intermittent
	SNR	GEN1	Full	-20°C to +100°C continuously

* GEN2 on process, small quantities only

NTN-BCA® BALL BEARINGS

Whether in metric or inch dimensions, standard or customised, NTN-BCA® manufactures multiple products, even in small quantities.

- Metric or inch radial ball bearings
- Angular contact bearings
- Mounted bearing units / bearings
- Special agricultural bearings for plough discs
- Mast rollers / chain guide bearing units
- Flat and/or non-circular bearings
- Clutch products
- Wheel bearings
- Pulling or transfer pulleys

BEARINGS WITH INTEGRATED SENSORS

Integration of a speed and/or position measuring function, in the bearing function

Basis bearing: LU sealed version (unilateral), greased. A magnetic encoder is fitted opposite the seal on the inner ring, with a sensor on the outer ring.
The sensor detects the magnetic variations induced by the rotation of the encoder. The sensor then emits an output signal, enabling the electronics to recalculate the speed of rotation.
By modifying the type of magnetic encoder, it is also possible to measure angular position.

Range: 6202 to 6210
Service temperature: from -40° to +120 °C

RADIAL AND AXIAL PLAIN BEARINGS

The range includes plain bearings steel / steel (lubrication required) and in steel / self-lubricating (PTFE + inner ring with hard chromium plating):

Steel/steel	
Series	**Definition**
SA1	Equivalent to ISO “E” series
SA1 ..SS	Identical to SA1, but with seals
SA2	Inch plain bearing
SA4	Increased dimensions
SAT	Axial plain bearings

Steel/self-lubricating	
Series	**Definition**
SAR1	Equivalent to ISO “E” series
SAR1 ..SS	Identical to SAR1, but with seals
SAR2	Inch plain bearing
SAR4	Increased dimensions

INDUSTRIAL CONSTANT VELOCITY JOINT

The range includes entirely constant velocity joints, even for large angles, with the following characteristics:

• 3-ball joints (TBJ)
- Standard catalogue components
- Sealed with life-long greasing
- Flange or direct shaft assembly
- Single or double-effect
- Drive torque: from 3.2 to 1500 kgf.m

• 6-ball joints (BJ)
- High power constant velocity joints
- Supplied with fixed or sliding shafts
- Open or sealed
- Drive torque: from 155 to 6440 kgf.m

Applications: machine tools, glasswork, industrial washing machines, agricultural machines, industrial packing machines, vibrating platforms, steel and metal industry, crushers, screeners, etc.

TENSION LEVELLER

Complete assemblies equipped with low-torque bearings and with a ground outer diameter.
CU type leveller cylinders can be used to absorb radial and axial loads thanks to angular contact ball bearings, while maintaining high rotational precision and compatibility with high speeds.

- Equipped with baffle-type low-torque seals
- For higher loads, these components can be equipped with needle bearings (type NKZ) enabling an increase in load capacity for the entire assembly while maintaining very high rotational precision and a compact format.

Cylinder lengths are adapted to each application based on a standard range of defined diameters.

SPLIT BEARING

For some applications, it is not possible to fit traditional bearings, split bearings must be used.

Mounting, dismounting and maintenance are all simplified.

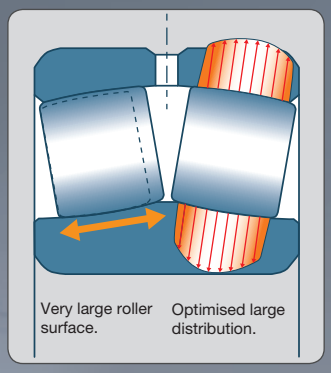
Possible variants
- Cylindrical roller bearings
- Spherical roller bearings
- Needle cages, needle bearings
- Complete bearing units equipped with cylindrical roller bearings with no cage for steel and iron units (continuous casting)

RESEARCH & DEVELOPMENT

TECHNICAL SOLUTIONS ADAPTED TO YOUR SPECIFIC REQUIREMENTS

Competent technical teams working at your sides, using NTN-SNR expertise and tools adapted to your requirements.

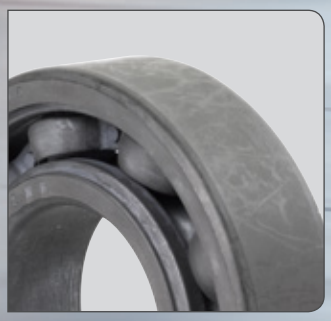
High loads and/or extreme service life

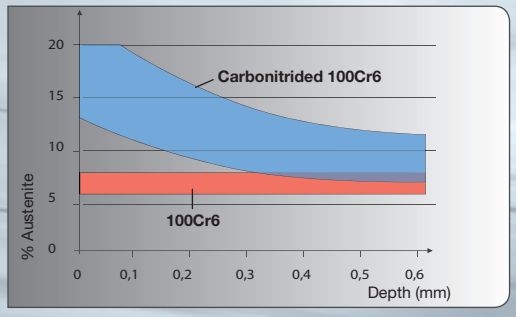


- Enhanced capacity internal definition
- High-performance steel
- Solid grease for life-long lubrication

Extreme environments

- Heat treatment to ensure dimensional stability at high temperatures
- Surface treatments for very high temperatures
- Specific greases adapted to extreme environments
- High-performance seals for use in contaminated environments
- Carbonitrided raceways for use in contaminated environments
- Case hardened steel for impact resistance
- Robust cages for impact resistance



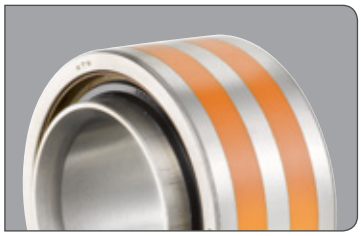


Demanding applications

- Reduced noise
- Optimised drag torque
- High speeds
- Severe rotation conditions (High centrifugal forces, low-level oscillations)
- High precision

Optimised bearing/housing and bearing/shaft interfaces

- Resistance against contact corrosion by surface treatment (DLC, phosphating, etc.)
- Resistance to variations in thermal expansion: AC/EC range



Mechanical integration / compactness

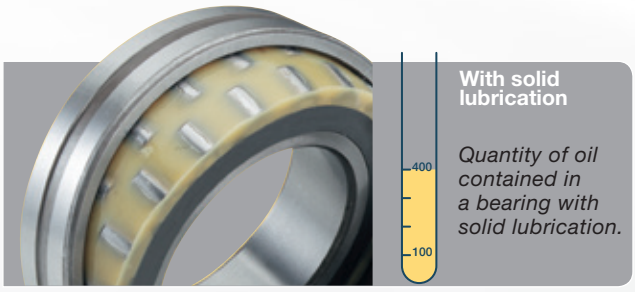
- Integrated fixations
- Integrated mechanical environment (gear teeth, flanges, etc.)

Additional functionalities

- Electrical insulation (coating of rings, ceramic balls)
- Integrated instrumentation (information on speed, position, angle, etc.)

Accessibility limitations

- Solid grease for life-long lubrication
- Automatic greasing
- “Smart” centralized lubrication system



With solid lubrication

Quantity of oil contained in a bearing with solid lubrication.

Without solid lubrication

Quantity of oil contained in a greased bearing.

Environmentally-friendly products

- Energy-saving bearings
- Recyclable components
- Products designed for sustainable development applications (wind turbine, rail, solar, etc.)

SELF-ALIGNING BEARING UNITS

Standard range with more than 25 000 solutions

- The most extensive range on the market
- Materials: grey cast iron, sheet steel, stainless steel and thermoplastic
- Efficient protection against corrosion by chemical passivation (grey cast housings)
- Efficient dust protection by stainless steel covers (stainless steel / grey cast range) or in plastic (thermoplastic range)
- Different bearing inserts for high and low temperature applications
- Bearing inserts available with cylindrical outer diameter
- Bearing inserts available with common inch bore diameter
- Housings according european and asian standard

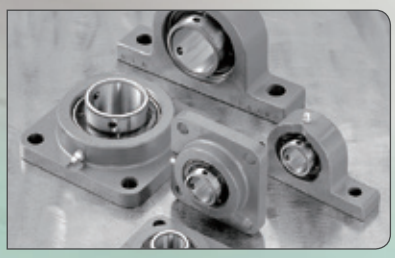
Bearings with solid grease (Spot Pack)

- Reduce lubricant leakage because the base oil is retained in a solid mixture
- Prevents contamination of the surrounding environment
- Ensures a constant flow of lubricant at the bearing / raceway contact point
- Low running torque characteristics
- Solid grease protects a bearing against in foreign matters

Bearing units with EN-GJS grey cast housings (ductile)

- More economical, energy saving through weight reduction
- 40% lighter and more compact than standard grey cast units
- Approximately 30% stronger in comparison with standard grey cast housings
- Shock resistant material even at low temperature
- Available as relubricatable or non-relubricatable
- Flange and pillow block versions available
- Interchangeable with standard self-aligning bearing units

Bearing units with rolled steel housings

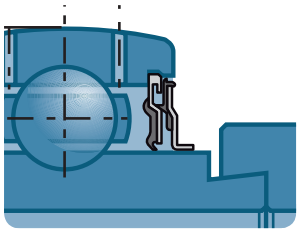


- Superior housing strength: more resistant than cast iron or steel sheets
- Reducing the risk of housing fracture, including under severe conditions
- Housing load 5 times higher than bearing insert dynamic capacity
- Suited for extreme applications: impact, high loads, vibrations
- Suited for steel and iron applications, extraction machines and equipment in contaminated environments

Bearing inserts with rubber damping rings

- Reduced vibrations
- Smooth running characteristics
- Maintenance free, filled with long life grease
- Ideally suited for air-handling applications, etc.
- Operating temperature: from -20 to +85°C
- Reduced friction during rotation/reduced power requirements
- Galvanised inner ring and eccentric locking collar

L4 bearing inserts with sealing system for high demands

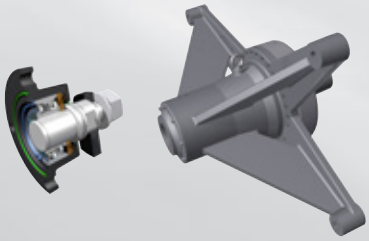


- Two sealing elements on each side
- Highly recommended for agricultural machinery
- Suited for stable operating conditions
- Increases bearing service life
- Zinc plating on inner and outer rings, sealing, tightening screw and eccentric locking collar

Special Food solutions

- Stainless steel or zinc chromated inserts with food applicable grease
- All inserts can be used in stainless steel or thermoplastic housings of different shape
- Lubsolid solutions for stainless steel inserts.
  Maintenance free, no grease leakage

Customised solutions for self-aligning bearing units, plummer block units and bearing systems

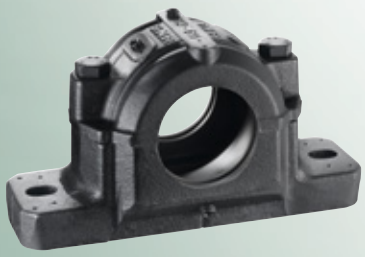


- Customised development for special requirements
- Selected materials: grey cast iron, ductile EN-GJS cast iron, sheet steel, stainless steel and thermoplastic
- Special surface protection
- Cost saving pre assembled modules consisting of bearing, housing, shaft, sensor, sealing or other individual defined components

PLUMMER BLOCK OR ONE-PIECE BEARING UNITS

Grease lubrication

Split plummer block units SNC (SNCD)



- Excellent rigidity and stability under all loading conditions
- Optimised to enhance resistance to vibration
- Improved heat dissipation characteristics
- Reduced stress levels in the bearing
- Extended service life for the bearing
- 5 different sealing systems
- Ready for use, easy to fit
- Shaft diameter: 20 mm - 160 mm
- Also available in ductile cast

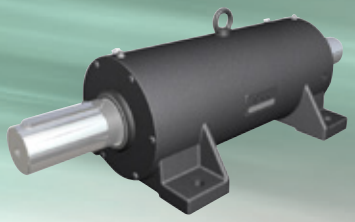
Split plummer block unit SD31, large version

- For self-aligning spherical roller bearings on adapter sleeve
- Economical
- Suited for heavy machine constructions, roll crushers, belt pulleys, conveyor screws or other machines running under severe conditions
- Shaft diameter: 150 mm - 400 mm

SPW / SFCW – Heavy duty mounted units

- Suited for rugged industry with tough environmental conditions
- Anti-corrosion treatment on components
- Can be used for the quick replacement of patented inserts
- Equipped with sealed spherical roller bearings
- Reduced downtime and increased productivity
- The SPW range is interchangeable with SN housings
- Shaft diameter: 50 mm - 140 mm

One-piece bearing units ZLG / DLG



- For two or three bearing arrangements
- Adapted for high operating speeds (industrial ventilators)
- High-precison shaft alignment
- Felt seal with additional V-ring
- Ready for fitting
- **ZLG** shaft diameter: 30 mm – 120 mm / **DLG**: 70 mm - 120 mm

Plummer block units for special applications 722500, F11200, TVN, TN

- Sealed plummer block units

Split plummer block units

- TVN: for continuous (or intermittent) operating temperatures between +200°C and +350°C.
- Suitable for critical environments: hot and humid / hot and dry
- Sand-lime brick industry, clinker hardening plants
- TVN/TN: pillow bricks, can be installed in all positions
- **TVN** shaft diameter: 20 mm – 75 mm / **TN**: 20 mm - 60 mm

One-piece block units

- F11200 / 722500: bearings with attachment flange
- **F11200** shaft diameter: 20 mm – 50 mm / **722500**: 20 mm - 100 mm

PLUMMER BLOCK OR ONE-PIECE BEARING UNITS

Oil lubrication

Oil-lubricated one-piece bearing units ZLOE

- Equipped with two radial contact ball bearings or a combination of a radial contact ball bearing with a cylindrical roller bearing
- Suitable for applications with high load capacities combined with high temperatures
- Adapted for high speed applications (industrial ventilators)
- Lubricant cools the system down
- Longer service life
- Equipped with an oil-level indicator
- Shaft diameter: 75 mm - 120 mm

Oil-lubricated split plummer block units SNOE

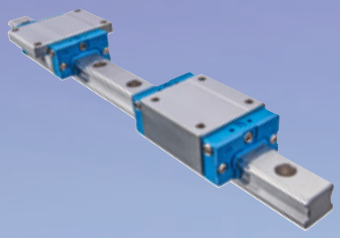
- Suitable for spherical roller bearings
- Excellent for high operating speeds and loads
- Material: EN-GJS-600-3 giving the housing a high stiffness and rigidity
- Internal distribution of oil via a ring oiler
- Sealed with labyrinth system
- Equipped with oil-level indicator with anti-fitting device
- Possible integration of oil cooling or heating device
- Excellent heat dissipation
- Industrial ventilators, hammer crushers.
- Maximum shaft dimension: 260 mm (the largest of the standard oil-lubricated bearing units on this market)

Oil-lubricated split plummer block units SNOL (compact version)

- Suitable for spherical roller bearings
- Sealed with labyrinth system
- Can replace grease-lubricated split bearing units when rotational speeds reach a critical point or if operating temperatures could damage the bearing
- Interchangeable with SN bearing units with the same dimensions
- Equipped with oil-level indicator
- Shaft diameter: 60 mm - 140 mm

LINEAR MOTION

Standard Linear Guides



- Size: 15 to 55
- Conventional types and with ball chain technology
- Wide range of carriages
- Dimensions in accordance with DIN/ISO

Miniature Guides

- Size: 7 to 15
- Narrow and wide rail versions available
- Conventional types with ball chain technology
- Corrosion resistance materiel

Ball screws

- Ground and rolled types
- Diameter 6-80 mm, lead 1-50 mm
- Rolled type accuracy T7 from stock available
- Wide range of nuts (DIN/ISO, cylindrical, screw nut, with big lead)

Linear bushings

- Ball bushings
- Ball sleeve
- Super ball bushings
- Linear Sets with ball bushings and super ball bushings
- Shaft support rails, shaft support blocks, solid and hollow shafts

Ball splines

- Size: 4 to 100
- Wide range of nuts
- The design principle allow the transmission of forces, tilting and rotation moments by simultaneous linear motions.

Compact axis AXC

- Size: 40/60/80/100/120
- Optimized modular design system
- Variable guiding system (track roller or linear guide)
- Variable drive system (tooth belt drive, spindle drive or toothbelt-Ω-drive)

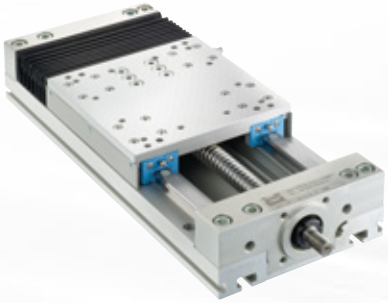
Parallel axis AXDL

- Size: 110/160/240
- Two parallel guiding systems
- Variable guiding system (track roller or linear guide)
- Variable drive system (tooth belt drive, spindle drive or toothbelt-Ω-drive)
- Profile with high rigidity
- Service friendly (the tooth belt, cover strips and return pulleys of the cover strip can be replaced without having to remove the table or the load)

Precision axis AXBG

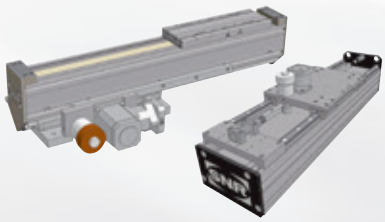
- Size: 15/20/26/33/46/55
- Minimum space requirement
- High stiffness
- High precision

Linear tables AXLT



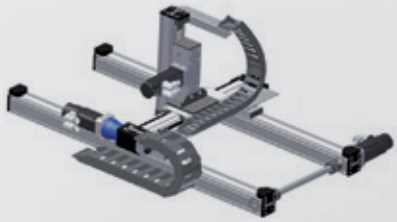
- Size: 155/225/325/455
- Particularly suitable for high loads, especially torque loads
- Screw drive and two parallel linear guides
- Can be combined to create cross table variations

Gantry, lifting and telescopic axis AXS



- Size: 110/120/160/200/230/240/280/460
- Stroke length up to 10m (one-piece)
- Optional permanent lubrication system or connection to the central lubrication system
- Telescopic axis for vertical and horizontal applications with minimal installation space
- Velocity up to 10 m/s (telescopic axis)
- Lifting axis for loads up to 1,000 kg; optional with safety brake
- Gantry axis with rack and pinion drive (for long stroke lengths) or with tooth belt drive (for dynamic applications)

Complete linear axis systems



- Modular design system (connection possibilities for AXC, AXDL,AXS, AXLT)
- Drive adaptations
- Power and cable tracks, gantry support legs
- Ready for installation as an integrated package

SLIDING PRODUCTS

Bearphite

- Sintered bronze or metal rings
- Variable dimensions and shapes, enabling sliding rotation if compatible with speeds of rotation and loads
- Types of applications: small items of electrical equipment (hand tools, photocopiers, etc.)
- These rings can replace bearings to reduce costs

Bearee

- Sliding product: all shapes are possible because this product can be moulded, machined, injected and projected like paint, impregnated via soaking, etc.
- Synthetic PTFE-based material
- Standard range of dimensions suitable for most applications
- Operating temperatures: from -250 to + 250°C depending on the grades used

Possible variants

R-ML range: ring in rolled sheeting, bore coated with an anti-friction product

BAP-BAF-BSF

B-BAP, B-BAF or B-BSF bearing units combine sintered bronze rings with mini-bearing units in pressed sheet

Whether in a flange (B-BAP), pillow block (B-BAF), or with a remote pillow blow (B-BSF) these bearing units offer an economical alternative to traditional self-aligning bearing units

EXPERTS & TOOLS: THE TOOLS

Experts & Tools

MOUNTING & DISMOUNTING TOOLS:

Mounting and dismounting a bearing: these essential stages determine the life span of the installation as well as its correct operation.

Cold mounting:
The tool case for a quick and accurate bearing fitting in complete safety.

Hot mounting:
Induction heating: practical, simple, safe, environmentally-friendly…
For bearings up to 1200 kg and more

Hydraulic mounting:
Precise, effortless with a revolutionary nut, always ready for use thanks to its "back & forth" feature!
Hydraulic nuts can be proposed up to a 1000 mm bore diameter

Dismounting tools:
Hydraulic or mechanical dismounting:
All kinds of pullers (2 or 3 arms) for a safe and clean operation whatever the position and the size of the bearing.

Instruments:
Simple, safe and precise monitoring of operating machine temperature with a laser pointer thermometer.

And more tools for bearing fitting and handling...

EXPERTS & TOOLS: LUB'SOLUTIONS

LUB'SOLUTIONS: we can provide support for your lubrication project from design to installation offering lubricants specially selected for your applications and single-point or multi-point lubrication systems according to your process size and requirements.

Universal

Duty

Vib

High Temp

Ultra High Temp

Food AL

High Speed

Chain Oil

Food Chain Oil

Cartridges and tanks from 400 gr up to 190 kg

Automatic single-point lubricators

We have the right lubricator for all your applications thanks to our wide range of technologies combined with our top-quality bearing lubricants.
All you need is here!

lub'solutions

Automatic Multi-Single Points

POLIPUMP
Do you have several points close between each other to lubricate, the POLIPUMP is the right lubrication system. Available with 12, 24 or 35 outlets, independent flowrate between 0.01 up to 0.13 cc/cycle for each point, up to 80 bars & large grease reservoir, the POLIPUMP is a very common & EASY-TO-USE lubication system.

EXPERTS & TOOLS: SERVICES

Experts & Tools

Experts & Tools: the NTN-SNR team of experts can support your organisation to obtain the best performance from your bearings and your operations.

SYNERGY training

Improve the skills of your maintenance technicians and designers in bearing selection and maintenance.
Whether at our training centre or on your **premises** with our BEBOX van, we can provide made-to-measure training courses covering both theory and practice, because all customers are different.
Our teaching methods make the difference!

Damaged bearing diagnosis

Let our experts determine the causes of your bearing failures in our lab or on your site. Our reactivity and advice can provide the keys to your improvements... and track your bearing diagnosis request on the NTN-SNR website.

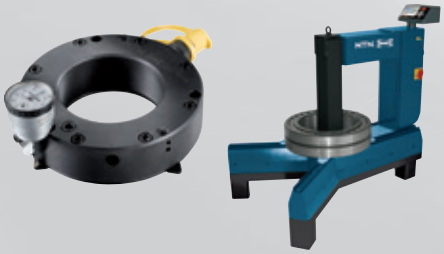
Bearing reconditioning

Have your industrial bearings reconditioned by a company used to renovating aircraft jet engine or bullet train bearings.
And for a fraction of their brand new cost!

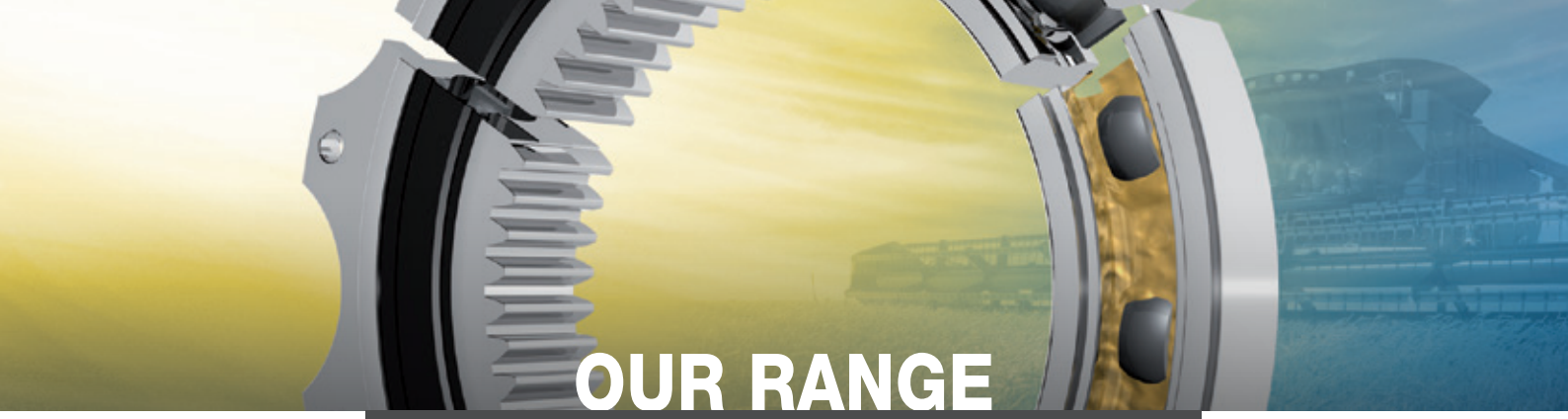
Technical assistance for bearings and lubrication systems

Rely on our experts to supervise your maintenance operations: bearing dismounting and fitting, lubrication system set-up and improvement...

Tool rent



Experts & Tools offers a wide range of large bearing maintenance tools for rent: induction heaters, hydraulic nuts, pumps…



OUR RANGE
FOR YOUR INDUSTRY

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With You

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