

Bearings for the Wind Power Industry

High-performance, high-quality bearings offer long life for stable, low-maintenance operation.

Example Bearing Designations D 092



■ Bearings for the Wind Power Industry

Air Turbine
Dental
Handpieces

Pumps &
Compressors

Agricultural
Machinery

Construction
Machinery

Mining
Machinery

Railway
Rolling Stock

Papermaking
Machines

Wind Power
Industry

Steel Industry

INDUSTRY
SOLUTIONS

Air Turbine
Dental
Handpieces

Pumps &
Compressors

Agricultural
Machinery

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Machinery

Mining
Machinery

Railway
Rolling Stock

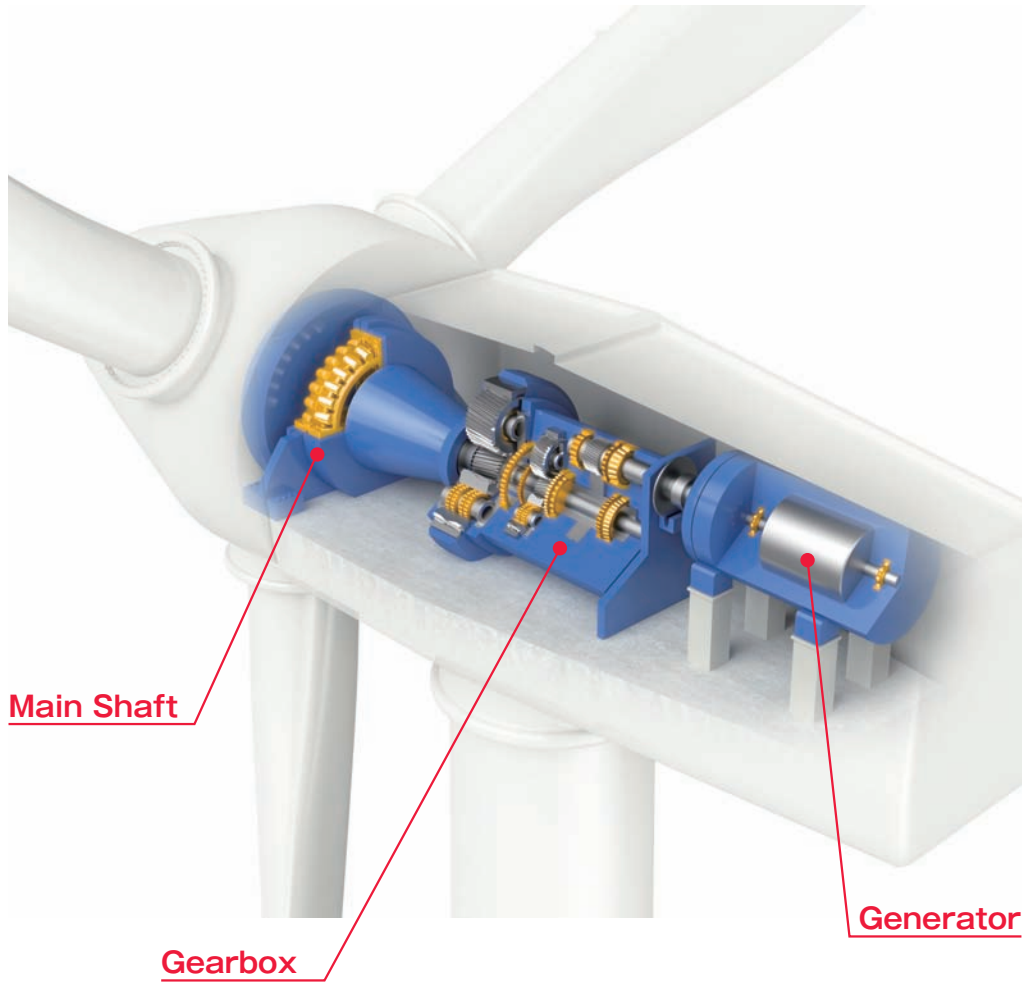
Papermaking
Machines

Wind Power
Industry

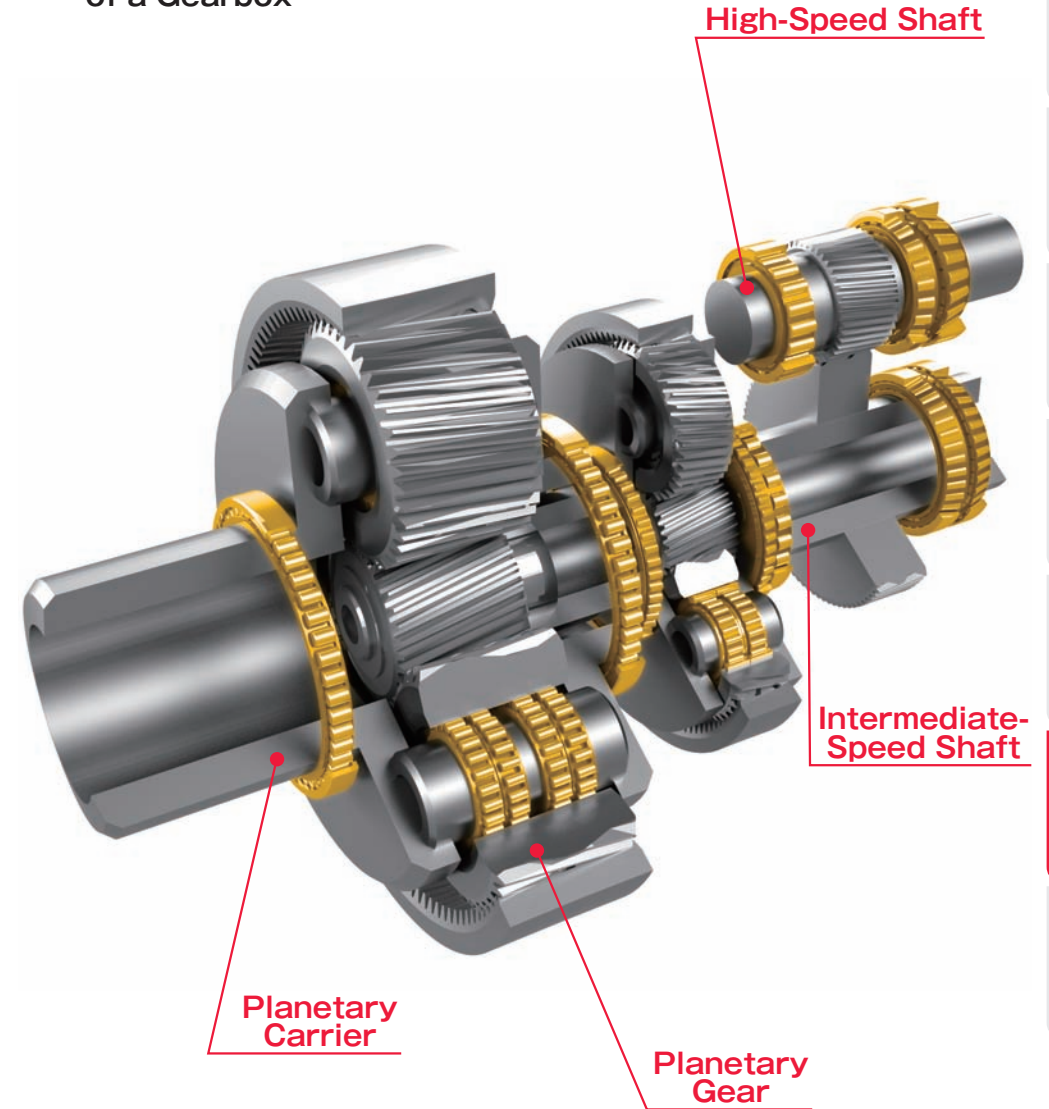
Steel Industry

INDUSTRY
SOLUTIONS

Perspective View
of a Nacell



Perspective View
of a Gearbox



Main Shaft

Gearbox

Generator

High-Speed Shaft

Intermediate-Speed Shaft

Planetary Carrier

Planetary Gear

■ Bearings for the Wind Power Industry**Bearing Features****CA Series Spherical Roller Bearings**

CA Series double-row self-aligning spherical roller bearings feature a machined-brass cage and high load capacity, superior durability, and high resistance to wear. The CA Series is especially suitable for applications with heavy loads or shocks.

■ Applications: Main shafts

**NCF (Single-Row) and NNCF (Double-Row) Series Full Complement Cylindrical Roller Bearings**

Cageless full complement cylindrical roller bearings have the maximum possible number of rollers and can sustain much heavier loads than cylindrical roller bearings of the same size with cages.

■ Applications: Planetary carriers (NCF), Planetary gears (NNCF)

**XM Series High Load Capacity Cylindrical Roller Bearings**

By increasing the number of rollers, NSK has reduced the surface pressure exerted on the contact area between the rollers and rings, thereby increasing load capacity and extending the life of the bearing.

■ Applications: Gearboxes

**HR Series High-Load Capacity Tapered Roller Bearings**

HR Series tapered roller bearings are capable of taking combined heavy radial loads and axial loads in one direction.

The HR series features tapered rollers guided by larger rollers for superior high-load ratings.

■ Applications: Gearboxes

**Bearings With Black Oxide Coating**

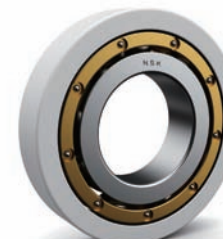
These bearings feature a black oxide coating based on the DIN50938 standard to suppress white-structure flaking. Standard bearing steel, carburized steel, or original NSK materials (Super-TF™, AWS-TF™) can be used.

■ Applications: Gearboxes

**QJ Series Four-Point-Contact Ball Bearings**

The inner ring is split radially into two pieces. This design allows one bearing to sustain significant axial loads in either direction with high axial load capacity. This type is suitable for carrying pure axial loads or combined loads where axial load is high.

■ Applications: Gear Box intermediate-speed shafts, high-speed shafts

**Ceramic-Coated Insulated Bearings**

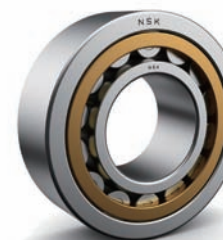
A layer of insulation is formed on the outer ring surface. The boundary dimensions are identical to a standard bearing, enabling easy replacement.

■ Applications: Generators

**Super-TF™ Bearings**

Super-TF bearings were developed with innovative materials and heat treatment technology for increased durability under harsh conditions.

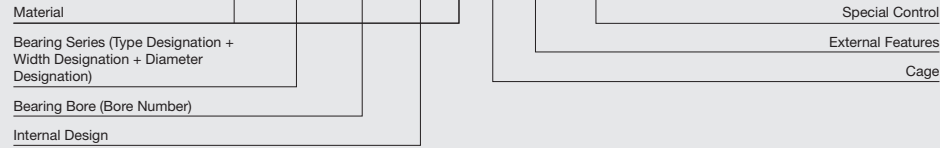
They combine long service life with high resistance to wear and seizure to achieve outstanding cost performance even under contaminated lubrication conditions.

**AWS-TF™ Bearings**

AWS-TF bearings were developed with a combination of special heat treatment technology and materials. They provide excellent resistance to flaking, including white-structure flaking.

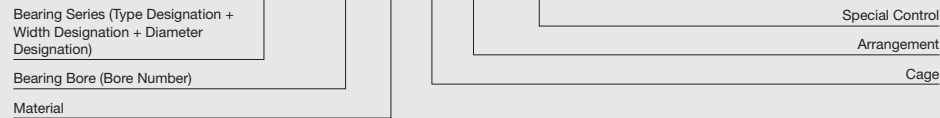
Example Bearing Designations

STF 240 /600 CA g M E4 U303



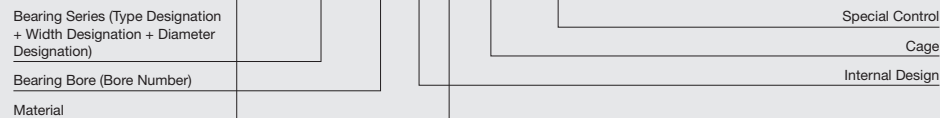
- 240 : Spherical Roller Bearing Width Series 4 Diameter Series 0
- /600 : Bearing Bore 600 mm
- CA : High-Capacity Design
- STF~g : Long-Life Steel
- M : Machined-Brass Cage
- E4 : Lubricating Groove in Outside Surface and Holes in Outer Ring
- U303 : Special Process Control for Wind Turbine Bearings

NNCF50 44 /S/ V DR U303



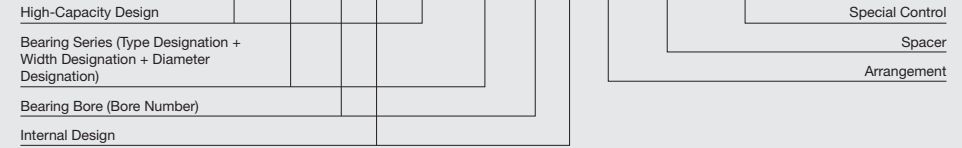
- NNCF50 : NNCF Full Complement Cylindrical Roller Bearing Width Series 5 Diameter Series 0
- 44 : Bearing Bore 220 mm
- /S/ : Black Oxide Coating
- V : Without Cage
- DR : Controlled Size Variation Arrangement
- U303 : Special Process Control for Wind Turbine Bearings

AWS NU23 26 E g XM U303



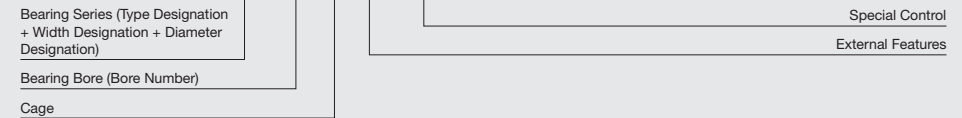
- NU23 : NU-Type Cylindrical Roller Bearing Width Series 2 Diameter Series 3
- 26 : Bearing Bore 130 mm
- E : High Capacity Design
- AWS~g : Long-Life Steel, Specialized to Prevent White-Structure Flaking
- XM : High-Capacity Machined-Brass Cage
- U303 : Special Process Control for Wind Turbine Bearings

HR 303 26 J /HR 313 26 J DF +KR U303



- HR/HR : High-Capacity Design
- 303/313 : Tapered Roller Bearing Width Series 0/1 Diameter Series 3
- 26/26 : Bearing Bore 130 mm
- J/J : Conforms to ISO
- DF : Face-to-Face Arrangement
- +KR : Bearings With Outer Ring Spacer
- U303 : Special Process Control for Wind Turbine Bearings

QJ3 28 M E U303



- QJ3 : Four-Point-Contact Ball Bearing Diameter Series 3
- 28 : Bearing Bore 140 mm
- M : Machined-Brass Cage
- E : Notch in Outer Ring
- U303 : Special Process Control for Wind Turbine Bearings

63 30 HDY2 MR X26 U303



- 63 : Single-Row Deep Groove Ball Bearing Diameter Series 3
- 30 : Bearing Bore 150 mm
- HDY2 : Ceramic-Insulated Coating on Outer Ring
- MR : Ball-Guided Machined-Brass Cage
- X26 : Dimensional Stabilizing Treatment
- U303 : Special Process Control for Wind Turbine Bearings