

NSK Deep Groove Ball Bearings

NSK Deep Groove Ball Bearings provide outstanding performance in a wide range of applications offering world class quality in:

- Bearing Steel • Lubricants • Sealing Technology



Why is NSK the Brand in Demand?

Bearings make the world go around. And in virtually all four corners, one name in ball bearings is most often in demand. NSK. As one of the first on the bearings frontier, we are harder on our own products than our toughest critic. Your total experience is paramount to us, and each of our products is backed by world class technical expertise, years of research and development and customer service that goes far beyond the purchase order. If smooth, reliable motion is critical, compromise is not an option. It has to be NSK.

First in the minds of our customers

When demanding customers insist on NSK, they are insisting on the NSK experience. Although we offer a product range of nearly 150,000 bearings, we don't believe in off-the-shelf solutions. Your application is unique to us and our goal is to offer you the right bearing for your application. NSK offers unmatched expertise in bearing technologies and brings keen industry insight. Share your need with us, and if a suitable bearing for your application doesn't exist, we'll create one. We appreciate that on time product availability is critical to



our customers. NSK's domestic plants at Clarinda, Iowa and Ann Arbor, Michigan are dedicated to quick turnaround on product orders and uninterrupted product supply. Our Technical Center located in Ann Arbor, Michigan offers state-of-the-art test facilities to aid customer product development and troubleshooting. We believe in continuing relationships with our customers and offer world class technical support and customer service that lasts through your product life-cycle and beyond.

Making the best even better

As industry evolves, so too must our products. That's why NSK products are constantly under our own microscopes. NSK Technology Centers in Japan, Europe, China and the United States ensure that new NSK bearing technology delivers unmatched performance in applications across the globe. Ground breaking products like our SPACEA™ Series bearings, Dent Resistant Bearings, environment-friendly lubricants and low torque bearings are proof positive that NSK bearings are the ones to use today – and well into the future.



Quality assured

You want the same things we do — bearings that deliver unsurpassed performance and the highest level of quality. Only, we want it more. Each piece is pushed to the limit to ensure it can rise to the challenge, no matter where it's utilized. Bearing components are repeatedly checked dimensionally using automated gauging, and every assembled bearing is 100% noise-tested. Every NSK plant, domestic and overseas, is ISO 9000 / TS16949 certified. If NSK products don't pass our own rigorous test parameters, they don't leave the plant – guaranteed.

Engineered to outperform

Easy to mount and suitable for many different configurations, deep groove ball bearings are the ideal solution for a wide variety of applications. And yes, many companies make them. But if they don't carry the NSK name, they don't come with the NSK edge.



The NSK Edge

High Quality Steel

Ultra clean steel to extend bearing life by up to 80%

Advanced Lubricant Technology

NSK's own lubricants extend grease life and performance

Precision Balls

Quiet and smooth operation, even at high speed

Super Finished Raceways

Specially honed to minimize race noise. Improves lubricant distribution and life

Patented Seals

Provide resistance to contamination in the toughest environments

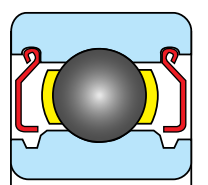
Quality Assured

100% testing ensures total product quality

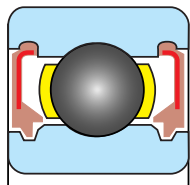
Advanced sealing technology

A world leader in bearing sealing technology, NSK has developed a vast range of bearing closures, including metallic shields and polymeric seals. NSK closures provide years of trouble-free service in the toughest environments. Tightly controlled clearances and patented labyrinth designs not only deliver high level sealing performance, but also minimum torque and power loss.

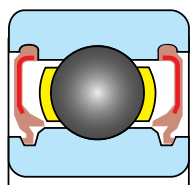
NSK offers several different seal / shield designs and materials, each developed to meet specific needs of your application. As an example, we offer seals with varying degrees of contamination resistance and drag characteristics, including our full contact DU seals, light contact DW seals and non-contact V seals. So, whether it is a photocopier fuser roll demanding contamination resistance at temperatures in excess of 200°F or an electric motor that requires sealing capability without compromising energy efficiency, NSK has the right closure for your application.



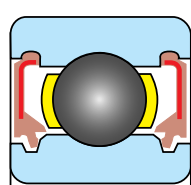
ZZ
Non-contact shield



VV
Non-contact seal



DDW
Light-contact seal



DDU
Contact seal

Advanced lubricant technology

Every NSK bearing package is complete with our advanced lubricant technology – the result of years of collaboration with leading grease manufacturers. Our portfolio of advanced lubricants includes greases for high temperature environments, high speed applications, low noise, electrically conductive and food grade greases. Our Molded Oil™ formulation provides an environmentally friendly alternative for high performance under water and dust contaminated environments.

Unique cage design

NSK offers steel and polyamide cages for ball bearings. Steel cages have two piece riveted or tabbed construction and find universal applicability in ball bearing applications. Our close coined cage pockets and tightly controlled clearances reduce friction and ensure the even distribution of lubricant.

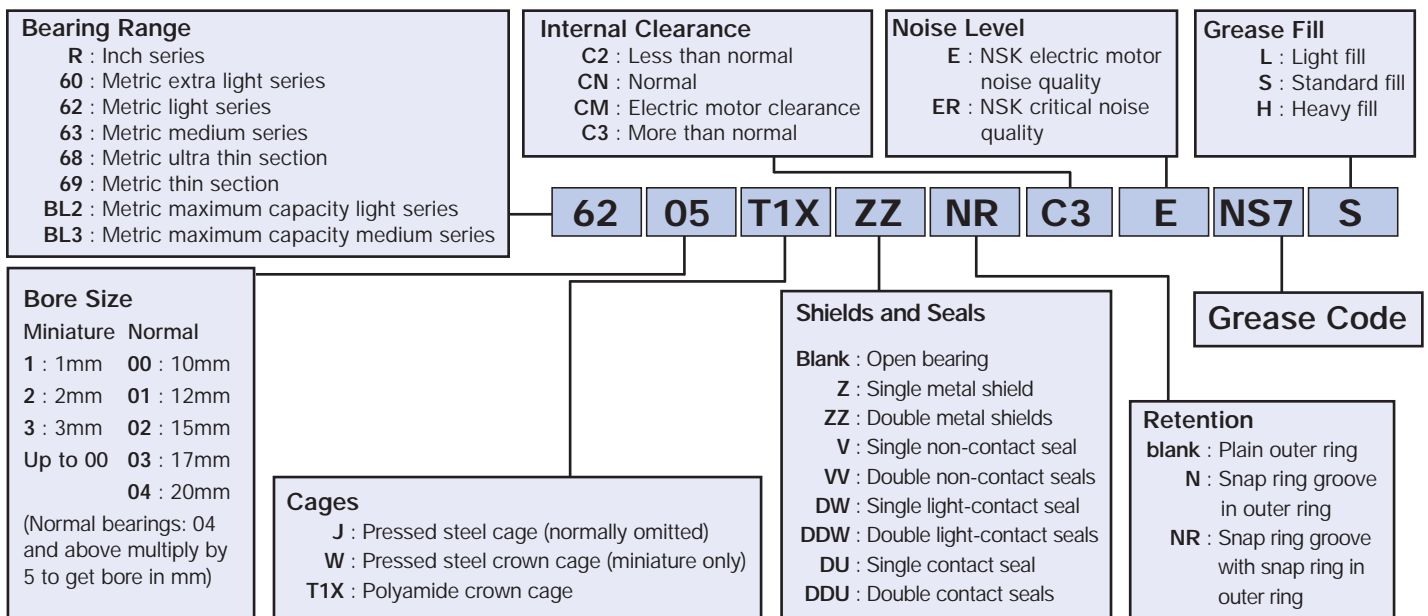
Cages made from advanced engineered plastics (polyamide) help extend grease life while reducing noise and power loss in the bearing. Polyamide cages offer longer bearing life under high misalignment and better resistance to instability. In addition to steel and polyamide cages, NSK offers cages made of other materials for extreme operating conditions.

Superior steels

The key to bearing life lies beyond what can be seen with the naked eye. Cleaner bearing steel results in longer life, and it is this principle that has led NSK to develop unrivalled steel cleanliness. Our standard vacuum degassed steel, called Z grade, is so free from impurities that bearing life can be extended by up to 80% over other conventional steels. NSK's Extra-Pure (EP™) Steel is ideal for heavy duty applications that require extended bearing life or higher load capability.

Tough Steel™ is a revolutionary new material from NSK for contaminated environments and offers unparalleled advantages of low wear and significantly greater resistance to seizure than standard bearing steels.

NSK References – Single row deep groove ball bearings



The right bearing solutions for your industry

The right bearing solution is much greater than the sum of its parts. It is a result of our understanding of your application requirements based on decades of expertise and experience working with people in your industry.

Electric motors

The preferred brand for virtually all the leading electric motor manufacturers, NSK bearings assure minimal noise and maximum life under tough operating conditions such as very high speeds and elevated temperatures. Specifically designed for electric motor applications, NSK bearings with special 'CM' clearances and reduced 'E' noise class facilitate smooth operation, improved efficiency and quiet operation.

As evidence of our commitment to continually better our outstanding technologies, NSK offers bearings with the 'ER' and the 'ERU6' noise class, which are ideal in electric motor applications such as sleep apnea machines. Our Dent Resistant bearings offer protection against axial brinells, one of the most common sources of electric motor ball bearing damage and noise.

Electrical appliances and office equipment

From washing machines to photocopiers, deep groove ball bearings are critical components in the workings of electrical appliances. Where specification is critical, NSK works directly with the manufacturer to develop the right bearing solution for the need.

As an example, the bearing package for washing machines may utilize NSK's special EP™ Steel bearings with EA5 grease, extending the drum bearing life by up to three times. Our eco-friendly GR™ Series bearings are designed to provide overall superior vacuum cleaner and power tool performance by way of greater power and longer life, with enhanced energy efficiency and lower noise.

Industrial applications

General machines such as compressors, pumps, gearboxes and fans use deep groove ball bearings, but the demands on the bearings may call for unique solutions.

For ball bearings used in air conditioning equipment, NSK has developed the low noise NSA grease to address vibration damage caused by handling and transport when the bearings are stationary. NSK's 'UR' carbonitrided heat treatment enhances bearing fatigue life under contaminated environments such as ones commonly found in gearboxes.



Special operating environments

For over 10 years, NSK has been designing advanced motion and control products to support the increasingly sophisticated needs of the high-tech industry. Our efforts in this area have culminated in the creation of the SPACEA™ Series, a range of ceramic bearings designed for special operating environments such as those in outer space, clean rooms for semiconductor manufacturing, or other environments where highly corrosive chemical solutions are used.



Automotive

A major supplier to the automotive industry, NSK uses specially developed materials, heat treatment, seals and greases to ensure that our bearings meet the rigors of automotive applications with high reliability.

NSK's patented TM seals, used on transmission bearing applications permit lubricating oil to pass through the bearing, while filtering out debris and contaminants that impair performance and life. NSK bearings designed specifically for alternator applications include high strength - low noise cages, high seizure life greases and low torque seals with excellent resistance to dust and water splash. Whether it is a Fan Clutch, an Alternator or a Wheel Hub, each bearing is custom designed for the specific application and delivered with pride and NSK's commitment to customer satisfaction.





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