



C&U Americas Offers Hybrid Ceramic Ball Bearings

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C&U Americas, the North American subsidiary of The C&U Group, offers a wide range of hybrid ceramic ball bearings for electrical machinery and general industry applications. C&U hybrid ceramic ball bearings are engineered to maximize the benefits of precision steel ring construction and lightweight ceramic balls. In addition to delivering electric insulation properties, they provide a higher-speed and higher temperature capability and longer service life than all-steel bearings in most applications. The bearings are available in a variety of configurations with bores from 17 – 90 mm, ODs from 40 – 190 mm, and speed ratings as high as 21,600 RPM/min.

C&U hybrid ceramic bearings are constructed of steel rings and silicon nitride (Si3N4) balls, which are approximately 40% of the density of steel. This gives the bearings a lower inertia and better high-speed capability than standard bearings. The lower inertia results in less loading on the raceway and provides superior performance during rapid acceleration and deceleration. The silicon nitride balls also have a lower coefficient of friction so they generate less heat at high speed, greatly improving the life of the grease and the bearing. As a result, the bearings are less sensitive to temperature changes and high temperature operating conditions that can affect both running accuracy and internal clearance.



The silicon nitride used in C&U hybrid ceramic bearings is much harder than steel, which improves the overall stiffness of the bearings and makes them resistant to damage from contamination. C&U hybrid ceramic bearings are also less susceptible to false brinells. When a stationary bearing is subjected to external vibration, the metal-to-metal contact between the balls and raceways can result in abrasions known as false brinells. The wear particles created by false brinells can contaminate and breakdown the lubricant, causing increased noise and vibration.

These hybrid ceramic bearings are suitable for use in electric motors and generators that are prone to stray electric currents. The bearing design insulates the inner ring and the outer ring of the bearing, effectively preventing the flow of stray currents. This helps to avoid arcs and secondary damage that can result in increased noise and vibration, heat generation, lubricant breakdown, and premature failure of the bearing.

They can be used as direct replacements for existing hybrid ceramic bearings as well as conventional bearings in all applications. They are lubricated for life with Mobil Polyrex EM grease and sealed with low-torque, non-contact seals (-2RZ) to ensure optimum efficiency for torque-sensitive applications and adequate protection from contamination. Handling and mounting are identical to steel bearings, so standard installation tools and methods can be used.

C&U Americas offers a full line of bearing types and styles for use in original equipment manufacturing, aftermarket replacement, and MRO operations. The C&U portfolio includes over 30,000 types of bearings in a wide range of specifications and sizes ranging from 1.5 mm ID to 4,000 mm OD.

C&U Americas

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