We pioneer motion

Hybrid Bearings for Maximum Performance and Reliable Protection

Combining the best of both worlds

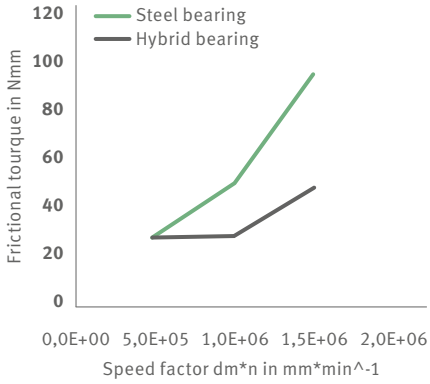
Hybrid bearings – developed for maximum performance and reliability
Are your bearings exposed to demanding conditions such as contamination, vibrations, or current passage? Then our hybrid bearings, which combine ceramic (silicon nitride) rolling elements and rings made of rolling bearing steel, are the right choice for you. Hybrid bearings from Schaeffler are robust, durable, electrically insulating, and a true multi-talent due to their numerous additional properties. This means that we can supply the perfect hybrid bearing solution for a wide range of applications, including electric motors in drive technology, traction motors in rail vehicles, wind power generators, machine tools, and vacuum pumps, to name just a few of the many examples. Hybrid bearings are indicated by the prefix HC and are available as both ball bearings and cylindrical roller bearings.

SCHAEFFLER

Hybrid Bearings for Maximum Performance and Reliable Protection

These are the defining features of our hybrid bearings

- **Efficient protection against current passage** – ceramic (silicon nitride) rolling elements have an insulating effect due to their high electrical resistance and prevent electrical erosion.
- **Designed for higher speeds** – the ceramic rolling elements have a lower density and exhibit reduced friction, enabling up to 20% higher limiting speeds than those achievable with standard bearings.
- **Resistant, even in cases of inadequate lubrication** – lower operating temperatures and reduced friction double the grease service life and lead to a reduction in product-specific life cycle costs of up to 20% compared with bearings containing steel rolling elements.
- **Particularly wear-resistant** – good emergency running characteristics enabled by low adhesion and low friction protect the hybrid bearings against adhesive wear in cases of inadequate lubrication or dry running. The bearings also exhibit high levels of wear resistance in the presence of low loads and under slippage conditions.
- **Protecting effect on the environment and climate** – CO2 emissions in the application are reduced as a result of the reduced friction and lower weight of the hybrid bearings.



Maximum performance enabled courtesy of reduced friction, even under difficult conditions.

The benefits to you

- Particularly effective protection against bearing currents and reduction in current damage and WEC (White Etching Cracks) in bearings
- Reduced maintenance costs and increased machine availability compared with bearings containing steel rolling elements
- Increased lubricating grease operating life
- Reduced energy requirements and conserving effect on the environment
- Same dimensions and tolerances as standard bearings facilitate easy substitution

Applications

The use of our bearings has already met with successful results in practice across many industrial applications.


Generators in wind turbines


Traction motors in rail vehicles


Industrial electric motors


Machine tools


Aerospace


Vacuum pumps


Paper rolls

To find your solution and learn more about our products, visit **Schaeffler medias.**

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