

Electrically Insulated Bearings



The Problem

Bearings used in electrical machinery can be damaged by the passage of electrical currents. These stray electrical currents can cause damage to raceways and rolling elements. The use of additional insulation on the bearing shield can be complex and expensive.

The Solution

Electrically insulated bearings incorporate insulation which prohibits the passage of electrical current. Depending on the bearing size and design, this insulation can be achieved by using an oxide ceramic coating (on either the inner or the outer ring) or by incorporating electrically insulated rolling elements (i.e. hybrid bearings).

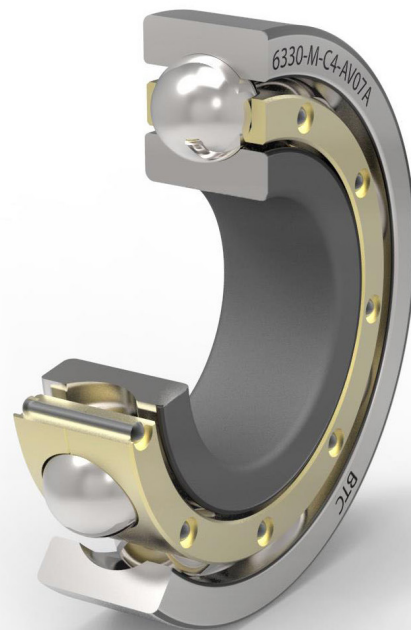
Design Variants

Electrically insulated bearings from BTC Engineering are identified using the suffix AV07. Depending on the bearing size and design there are several variants available:

	Suffix
AV07	Insulation on the outer ring
AV07A	Insulation on the inner ring
AV07B	Insulated rolling elements (hybrid bearings)

Application Examples

- Electric Motors
- Generators
- Railway Axle Box Bearings
- Traction Motors



Technical Characteristics

The designations AV07 and AV07A are used to classify bearings which feature rings with an oxide ceramic insulating layer applied. This coating guarantees a minimum breakdown strength ≥ 1000 V.

Hybrid Bearings

For smaller bearings the use of electrically insulating rolling elements has proven to be an ideal solution. In addition to their insulation characteristics, hybrid bearings possess very high speed limits.



Product Range

Electrically insulated bearings are commonly cylindrical roller bearings or deep groove ball bearings. BTC Engineering GmbH also offers other bearings types with electrical insulation.

Please contact us for more details.



Advantages

- Simple insulation
- Fully interchangeable with standard bearings
- Easy assembly
- High operational safety
- No additional design measures necessary





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