

SKF Turbocharger Ball Bearing Unit

SKF Turbocharger Ball Bearing Units for car engines improve energy efficiency and reduce CO₂ emissions

Today the turbocharger plays an essential role in engine solutions. The SKF Turbocharger Ball Bearing Unit has been developed to further improve engine performance. It is a robust, high precision, double row bearing that has gone through extensive development and validation. The unit is designed to operate at speeds up to 280 000 rpm and withstand temperatures over 300 °C during shut down.

When compared to plain (journal) bearings, the design and material combinations of these units, can reduce friction by more than 50%. This has not only an improvement on turbo efficiency but also has a positive impact on transient response and engine performance. Compared to plain bearings, the SKF Turbocharger Ball Bearing Unit cuts fuel consumption and CO₂ emissions significantly (following the current European drive cycle, NEDC). The compact design of these units enables them to be used within virtually any existing dimensional envelope.

Available applications

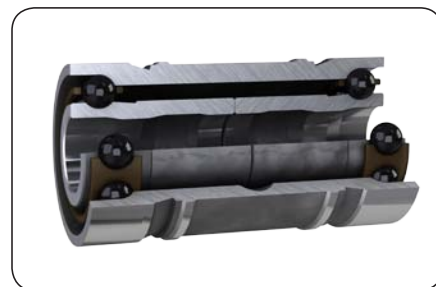
- Engine
- Turbocharger
- Supercharger
- Turbo compound
- Waste heat recovery

Features of the product

- Aerospace grade steel
- Light-weight ceramic balls
- Single, rigid unit
- Super precision quality (ABEC 7 or P4)
- Compact design with integrated inner and outer bearing rings
- Fewer components
- Integrated squeeze film damper function
- Customized anti rotation

Benefits

- Significantly reduced CO₂ emissions and fuel consumption
- Increased turbo power density for downsizing
- Outstanding transient performance
- Good (cold) start-up performance
- Reduced oil flow and oil contamination
- Single unit simplifies mounting
- Improved reliability and durability
- Low noise and improved running operating accuracy
- Provides a high degree of stiffness
- Excellent temperature resistance



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