Koyo. Low-torque Long-life Deep Groove Ball Bearings for Electric Motors

Optimized grease composition substantially reduces rotational torque & extends service life!!



- Combining low viscous base oil and optimized thickener substantially reduces stir resistance.
- Combining improved heat resistance and base oil retention capacity of the thickener with improved heat resistance of the base oil substantially extends bearing service life.

Grease compositions

	Newly developed grease	SR	KVC	H8
Thickener	Diurea	Lithium soap	Diurea	Diurea
Base oil	Synthetic oil	Ester oil	Synthetic oil	Synthetic oil
Base oil kinetic viscosity (40°C)	25 mm²/s	24 mm²/s	47 mm²/s	47 mm²/s
Additives	Oxidation inhibitors	Oxidation inhibitors	Oxidation inhibitors	Oxidation inhibitors

50% reduction of rotational torque from conventional products saves energy.

2 times longer service life compared to conventional bearings provides maintenance-free operation.



Stir resistance

Generated when a rolling element or cage pushes grease aside

- Rolling viscous resistance Generated when a ball breaks oil film over raceway
- Sliding friction resistance
- Sliding friction between balls and cage

Rolling friction resistance Sliding friction between balls and raceway created by spinning balls





Rotational torque measurement results



Test conditions

Bearing	6302 (Non-contact seal)			
Load	Fr=0 kN			
Rotational speed	1,800 min⁻¹			
Ambient temperature	25°C (Room temperature)			
Test duration	30 min			

Fretting resistance





Test conditions

Bearing	6306 (Non-contact seal)				
Load	Fr=0.1 kN Fa=0.17 kN				
Rotational speed	1,800 min ⁻¹				
Ambient temperatur	e 140°C				
Test duration	1,000 h (Suspension)				



Fafnir test equipment

Applications

Household appliances/ Industrial motors

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