



Optimized Axial Tapered Roller Bearing for Top Drive Applications

Higher load rating and longer life required by today's drilling market

With decades of experience as an original equipment supplier to the oil and gas industry, Schaeffler designs every one of its axial tapered roller bearings taking into consideration the challenges faced by today's drilling market. From onshore to offshore applications through to vertical and deviated wells, Schaeffler understands the changing demands on the top drive – increased torque requirements, increased load requirements, higher reliability.

The new axial tapered roller bearing, designed exclusively for the oil and gas market, offers superior load ratings in a given envelope, providing our customers with a longer bearing service life together with higher overall reliability.

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Top Drive Application

Features and characteristics

Improved API load ratings

Higher API load ratings provide a higher level of security that your top drive will complete the service interval without any issues. Higher overall ratings also mean a higher safety factor for the working loads on the top drive assembly.

Ultra-clean carburized materials

Schaeffler selects SAE 3311 carburized bearing grade material and specifies that this material should be produced using ultra-clean melt processes. This design feature provides increased overall durability and bearing reliability.

Improved surface finishes and tighter internal tolerances

Maintaining proper lubrication under top drive conditions is difficult. Schaeffler takes extra care to design and manufacture the contacting surfaces to encourage oil film generation in order to protect the bearing top drives during operation.

Pin-type cage – for high-end applications

The current trend in top drives is for increased API 8C load ratings of the main axial bearing. Some OEMs have already adopted these higher ratings. Because of this trend, Schaeffler offers the well tested pin-type cage in the same dimensional envelopes in all the popular shaft sizes.

This option allows an operator to increase the bearing's API rating by up to 13% simply by specifying this cage option.

Brass cage – fully machined

Top drive applications experience continuous load and speed changes as well as sudden impact loads. These conditions lead to extreme "roller-to-cage" loads. Schaeffler's selection of high strength brass alloy and processing ensures cage integrity under the most adverse conditions.



Axial tapered roller bearing product series

available in both pin-type cage design and brass cage design

Bore diameter [inch]	7"	8"	9"	9,25"	11"
Dimensions [mm] (bore×outside dia.× width)	177,8×368,3× 82,550	203,2×419,1× 92,075	228,6×482,6× 104,775	234,95×546,1× 127	279,4×603,25× 136,525
Dimensions [inch] (bore×outside dia.× width)	7×14,5×3,25	8×16,5×3,625	9×19×4,125	9,25×21,5×5	11×23,75×5,375
Pin-type cage version Part number	KT711	KT811	KT911	KT921	KT1120
Brass cage version Part number	KT711-MPA	KT811-MPA	KT911-MPA	KT921-MPA	KT1120-MPA

More Information: Animation Drilling Rigs at <http://oil-and-gas.schaeffler.com>

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