

JUSTIFICATION ANALYSIS OF THE APPLICATION OF CYLINDRICAL ROLLER BEARINGS WITHIN THE UNIVERSAL MOTOR HELICAL GEAR REDUCERS

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ABSTRACT

Within the universal motor helical gear reducer, single row deep groove ball bearings are usually used, but for larger driver dimensions and heavily loaded shafts, spherical roller bearings are used. In order to achieve the maximum load capacity of the gearbox, within the same axis height, relatively large single-row ball bearings are necessary. In some cases, due to dimensions constraints, they can not be installed in the gearbox, so many manufacturers, in certain cases, use somewhat smaller and more expensive single-row cylindrical roller bearings. Though these bearings are not specifically designed to transmit axial forces, they can bear axial loads. The idea of this paper is to point out this problem and the benefits that come from the use of cylindrical roller bearings.

Keywords: helical gear reducers, roller bearings