



## KOYO INSIDE October - 2021

### Koyo developed a new ultra-thin deep groove ball bearing with excellent properties for application in robotics

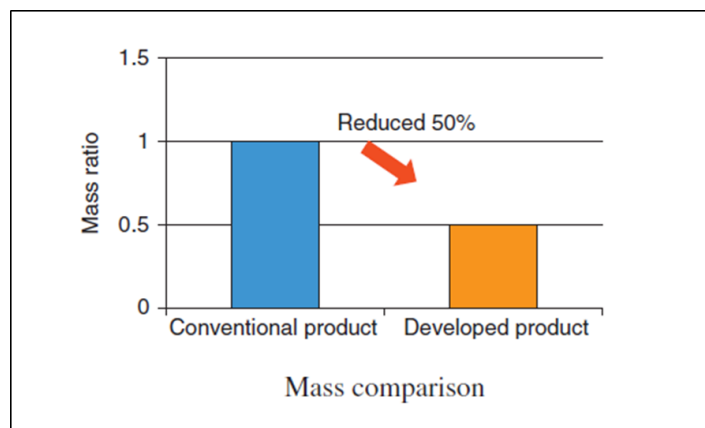
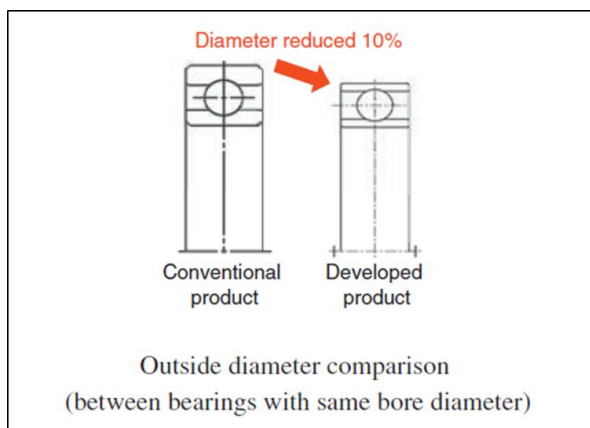
Koyo Bearings, a division of JTEKT Corporation, specialized in design and engineering of a wide range of roller bearings for numerous applications, ranging from automotive- and windmill applications to aerospace and tunnel drilling equipment, has now developed a special ultra-thin deep groove ball bearing for application in speed reducers for robots

#### Background of the development

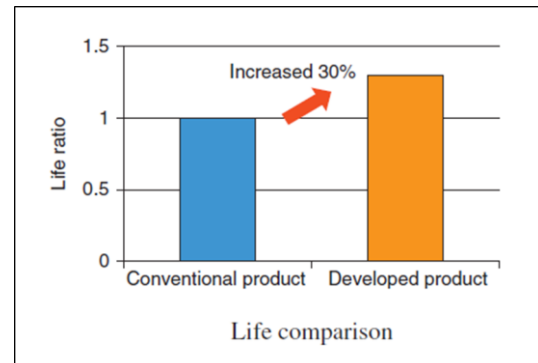
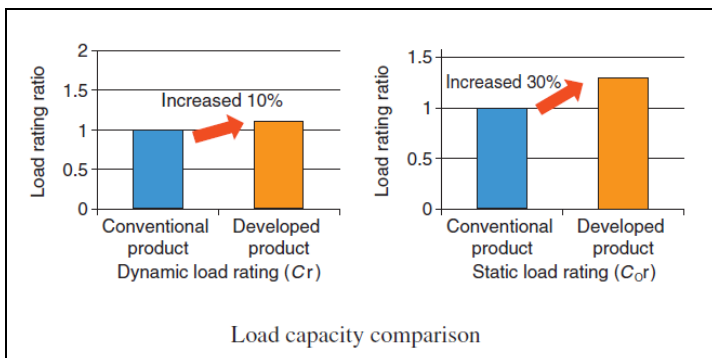
The global application of robots is shifting from mainly manufacturing to other sectors, including medical care (nursing) and other service applications (collaborative robots, etc.). This brings along new requirements for the bearings to make them suitable for specific applications, like high precision reduction gears (example: for the strain wave gearing ).

#### Features of the new product

The bearings for robot precision reduction gears, generally require capabilities such as: small size, light weight, long operating life and high reliability. The reduction in size and weight has been achieved by applying a new high accuracy machining process, capable of producing the inner and outer ring with a significantly reduced thickness, without losing critical properties. This led to an overall reduction of the bearing weight by 50%, while the OD could be reduced by 10% (downsizing).



The life of the bearing could be increased by an improved load carrying capacity, which was realized by increasing the number of rolling elements (balls), using a new manufacturing method. As can be seen below the dynamic load rating ( $C_r$ ) could be increased by 10% and the static load rating ( $C_{0r}$ ) by even 30%. This leads to an increased bearing life of 30%.



### Availability of this product.

This ultra-thin deep groove ball bearing has been newly developed by JTEKT/Koyo and is currently in mass production. For more information about available types and sizes, please do not hesitate to contact your regular Koyo contact person.

*Please do not hesitate to contact us, in case you would like to have more information about our company, products and services.*

Get to know our bearings at [www.koyo.eu](http://www.koyo.eu)

