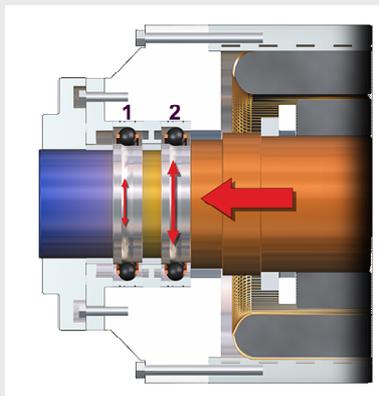


FAG application-specific tandem sets are representative of the solutions that FAG develops in partnership with its customers for increasing the efficiency and safety of their bearing supports.

Where tandem sets are concerned, it is vital to keep the load absorption of both bearings as equal as possible, particularly in the case of high-performance spindles with very high speeds, where high preload values are often selected due to the high rigidity required.

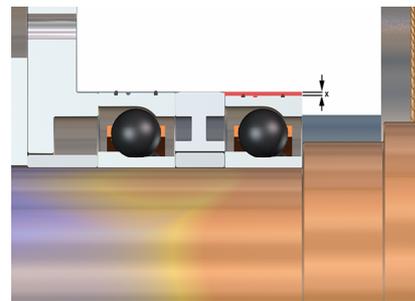
As a rule, the temperature of the inner ring of the bearing on the motor side is higher, whereas the temperature of the outer rings of both bearings is virtually the same due to the cooling of the housing. This leads to increased loads on the motor side bearing due to the changing contact angle and the varying axial overhang.



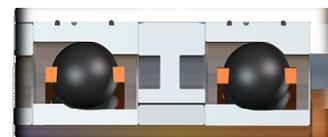
In extreme cases, this can lead to this bearing supporting the preload force on its own, which has a negative effect on the rigidity and characteristic frequency of the spindle thereby reducing the operating life of the bearing.

With FAG application-oriented tandem sets, the load levels of both bearings can be brought more into line by suitable modifications after the operating conditions with regards to loads, speeds and temperatures are known.

This can be carried out by modifying the design of the inside of the bearing as well as the radial relief of the bearing closest to the motor. This enables more uniform load distribution, since the bearing reacts more “smoothly” or deflects to a greater extent due to the radial expansion facility.



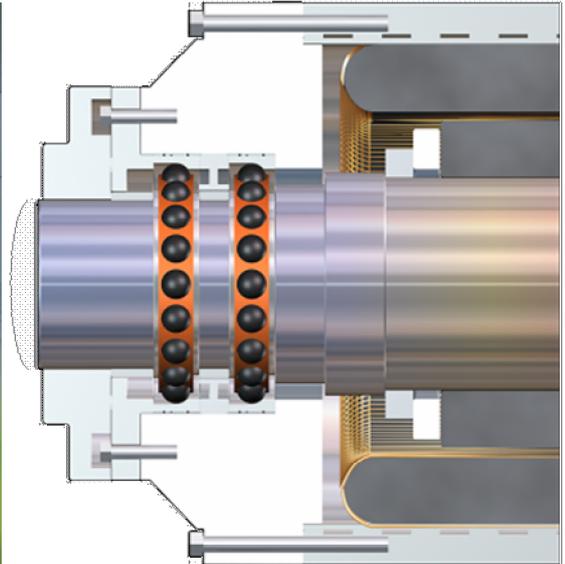
Further improvements are possible by changing the standard designs, depending on the application in question.



Schaeffler KG
Productline Spindle Bearings
 Georg-Schäfer-Straße 30
 D-97421 Schweinfurt
 Phone +49 (0) 9721 / 911 911
 Fax +49 (0) 9721 / 911 435
 E-MAIL:
 Web: www.fag.de



FAG



Application Specific Tandem Sets For Main Spindles In Machine Tools

SCHAEFFLER GROUP
INDUSTRIAL