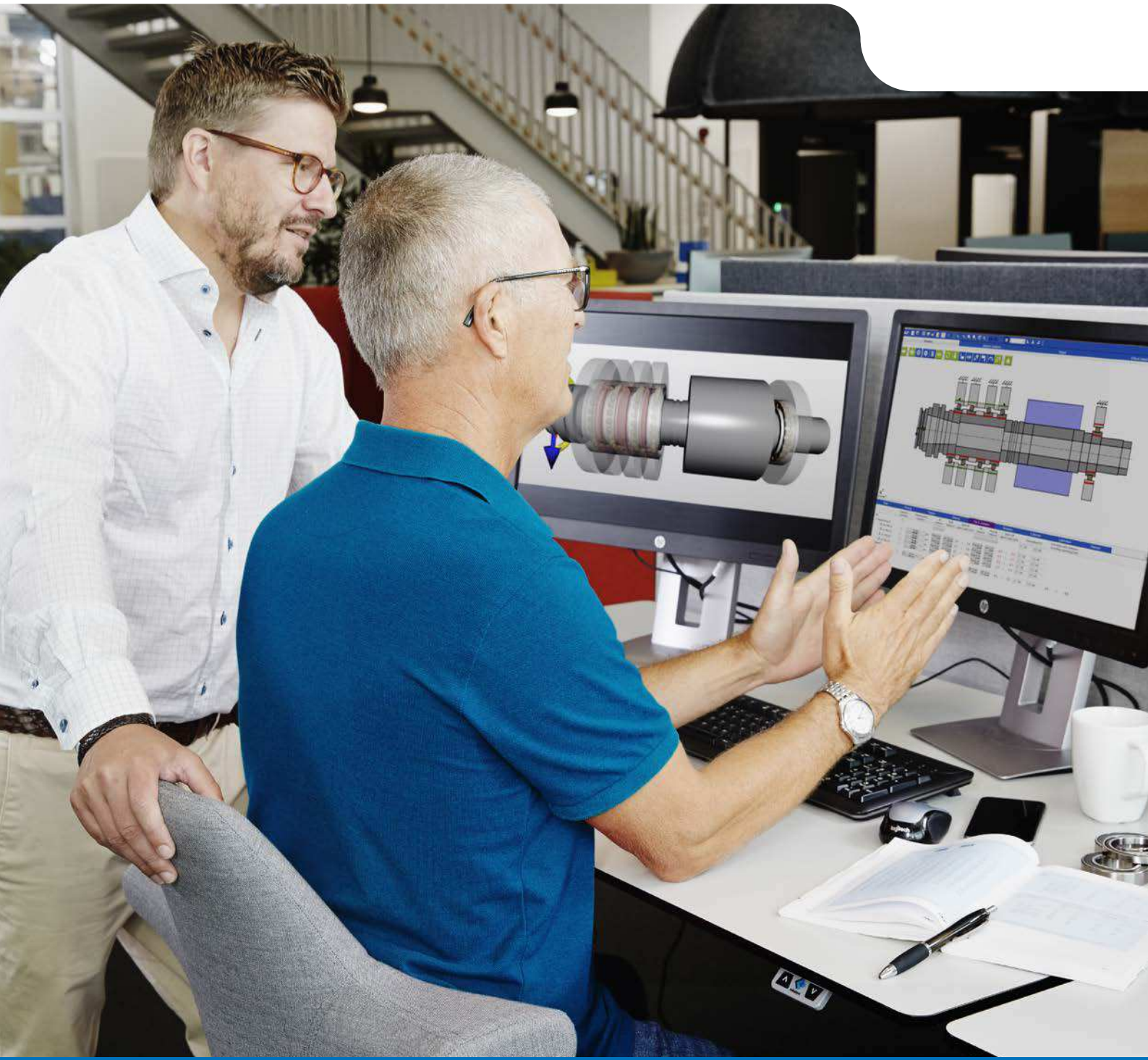
SKF SimPro Spindle

Accurate, intuitive evaluation tool for spindle bearing arrangements



Lead the way

Designing the most robust and cost-efficient machines under tight time restrictions can be a challenge. But with advanced, easy to use computer software and a broader range of parameters to choose from, design engineers can now explore new design alternatives that help reduce time to market and ensure they stay ahead of the competition.

Spindle bearing arrangement performance evaluation

With varying application conditions, getting the right bearing arrangements is essential for optimal performance. Accurate yet easy-to-use, SKF SimPro Spindle bearing simulation software can quickly evaluate a bearing arrangement in machine tool spindle applications, supporting you to find a suitable bearing arrangement for your design.

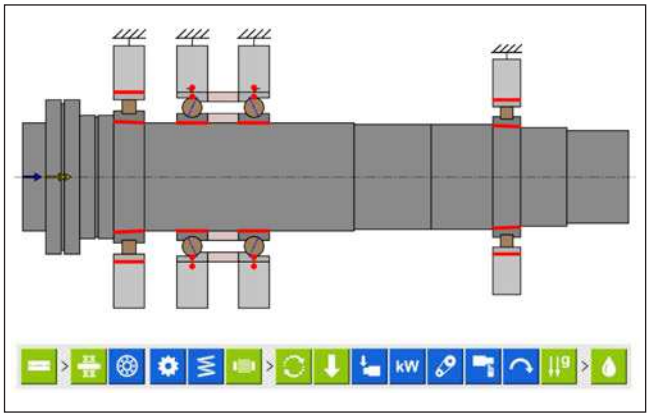
With SKF SimPro Spindle software you have access to SKF engineering expertise – a century of knowledge and experience of bearing applications in rotating machinery in a vast range of industries.

SKF SimPro Spindle – an overview

SKF SimPro Spindle is a single-shaft bearing simulation tool developed to quickly but accurately evaluate the design of bearing arrangements in machine tool spindles based on relevant application requirements and conditions. Accelerate your design process and optimize your choice of bearings with SKF Engineering knowledge.

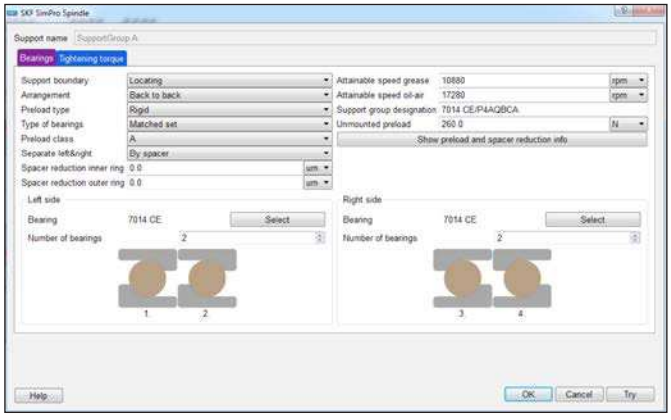
1. Application modelling

SKF SimPro Spindle has an intuitive interface to model your application with relevant components such as shafts, bearings, gears, lubricants, spacers and springs. A bearing selection dialogue enables the selection of bearings from an incorporated SKF Super-precision bearings catalogue database, which is updated regularly.



2. Adding operating conditions

Operating conditions such as speed, working loads, lubrication and fits of shaft and housing are added to the application model. The load and speed conditions can be entered as a combined load cycle.



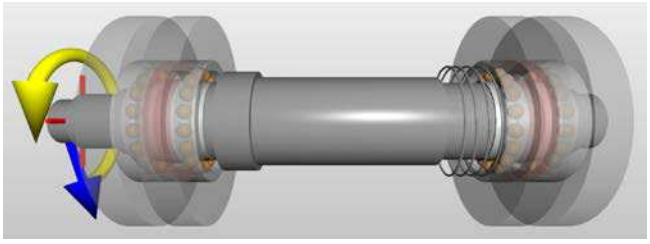
SKF SimPro Spindle options for bearing arrangements

3. Running calculation

Once your model is built, you can choose to run a single load analysis or a full load cycle analysis, depending on your machine operating conditions.

4. Viewing and Reporting

SKF SimPro Spindle provides calculation results with a comprehensive range of useful performance output parameters such as bearing rating life, bearing load, contact stress, bearing kinematics, bearing displacement & misalignment, critical system frequencies and deflection of the shaft. The (critical) eigenfrequencies of the system can be viewed in a Campbell diagram and the eigenmodes can be animated in a 3D model. A comprehensive report is automatically generated and is exportable in pdf format.



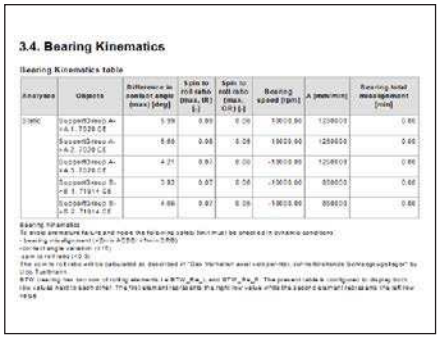
SKF SimPro Spindle 3D Modelling

Get the help you need from SKF Application Engineers

To get started with SKF SimPro Spindle, an SKF Application Engineer will provide you with initial training and will be available to assist you in the selection and evaluation of an optimal spindle bearing arrangement.

SKF SimPro Spindle main features

- Intuitive stepwise graphical interface
  - With guidance, warning system and 2D & 3D visualization
- Comprehensive modelling capabilities of components
  - Bearings, shaft, gears, lubricant, spacers, springs, rotor
  - Advance settings of bearing arrangements and preload
- Bearing selection based on
  - SKF selection criteria, using product data from SKF Super-precision bearing catalogue
  - With detailed and updated geometry data
- Various analysis and output options for bearing arrangements performance evaluation
  - Bearing load, contact stress, bearing rating life, critical frequencies, bearing kinematics, speed rating, shaft deflection, grease relubrication interval, grease life
- Basic Rating Life, Modified Reference Rating Life (according to ISO/TS 16281:2008).
- Global support

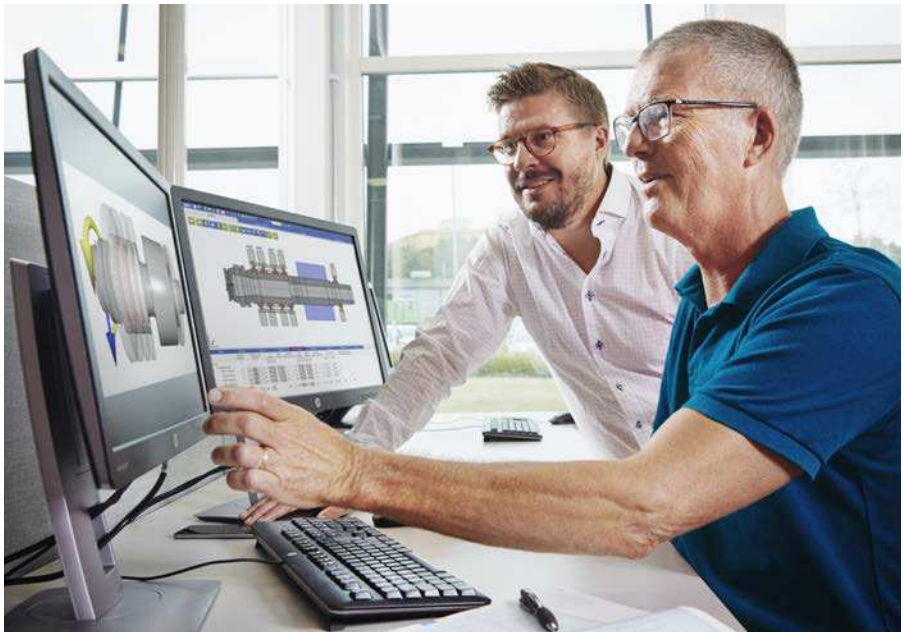


3.4. Bearing Kinematics

SKF SimPro Spindle: Report

Software requirements

- OS: Windows 7/8/10 (64-bit)
- Internet connection



More information/Registration link

To find out more and get registered, please contact your local SKF representative or follow the link below for online registration: http://www.skf.com/simprospindle/registration

skf.com

PUB SR/P2 18044 EN · August 2018