



## BEARINGS AND SEALS FOR INDUSTRIAL EQUIPMENT

The area of competence includes the understanding and analysis of the bearing and sealing tasks of rotating and oscillating machine parts in almost all areas of industry. This includes the appropriate selection of elements to suit the installation environment, as well as the exploration of the cause of failures. A closely related topic is to clarify the lubrication task precisely, to prioritise environmentally friendly lubricants, and to modify an existing bearing and sealing system to bring it in accordance with an environmentally friendly solution to the greatest extent possible.

### COMPETENCIES

- Control calculation, testing and design of plain bearings
- Conversion of plain bearings to environmentally friendly lubricants
- Effect of shaft deformation on the bearing and sealing system
- Design of rolling bearings, investigation of the cause of failure
- Understanding contact and non-contact dynamic sealing tasks
- Selection of a suitable seal for a given task, design of the connecting machine elements



#### SERVICES

- Exploring the cause of a bearing error, finding a solution
- Exploring the cause of error related to sealing, finding a solution
- Detection of bearing and sealing faults
- Design of plain bearings
- Design of rolling bearings, redesign of existing bearings as needed



#### TOOLS

- Ansys finite element software system, industrial version
- Self-developed program for testing axles with statically indeterminate support



#### REFERENCES

- Examination of clinker kiln bearings after a failure, making a proposal to HCM to avoid recurrence
- Inspection of a conveyor reversing roller after a fault, making a proposal to HCM to avoid the recurrence
- Inspection of Kaplan turbine main bearing, calculation of shaft deformation, clarification of the safety role of the gap seal for Tiszavíz Vízerőmű
- Inspection of tubular turbine shaft and bearing in case of load increase due to impeller housing installation for Tiszavíz Vízerőmű