



## FLUID FILM BEARINGS & SEALS

Bearings and seals are the lifeblood of rotating machines. They lay at the core of performance, reliability, efficiency, and durability. Understanding the function, design, selection, and performance is vital to meeting your plant wide reliability, production, and maintenance objectives. Specific courses are tailored to the interest and depth requested by the participants.

### TRAINING TOPICS

- Historical Perspective
- Basic Elements of Fluid Film Bearing and Seal Operation
- Description of Bearing Types
- Bearing Failures
- Basic Design
- Advanced Design
- Effects of Bearing Geometry
- Manufacturing and Inspection Techniques
- Case Studies

### BASIC LEVEL COURSE OBJECTIVES

- Be conversant with terms such as journal, thrust, tilting pad, fixed pad, multilobe, preload, offset, pivot type, minimum film, film pressure & temperature, power loss, stiffness, damping, labyrinth, honeycomb, hole pattern, dry gas seal.
- Identify & explain the basic operation of a wide variety of bearing & seal types
- Understand the physics of operation of any fluid film bearing and seal & name the three ingredients required for successful operation.
- Understand limits of operation, alarm & trip levels.
- To be able to troubleshoot the causes of most bearing failures.

### ADVANCED LEVEL COURSE OBJECTIVES

- Use state of the art design and analysis tools to troubleshoot, diagnose, & redesign bearings & seals.
- Optimize designs to improve rotor dynamic performance, reliability, & maintainability.
- Understand basic manufacturing & inspection methods to ensure bearing suppliers meet their requirements.

### WHO SHOULD ATTEND

Basic courses in fluid film bearings and seals are intended for vibration technicians, mechanics, and plant operators. They are also intended for new engineers working on the design of bearings and seals for turbomachines. Advanced level courses are intended for experienced engineers requiring a deeper background, and who need to design, redesign, select, audit, or maintain fluid film bearings and seals.