



INTRODUCTION

In engineering, a bearing is the part supporting the rotating shaft that conveys the rotating momentum of a machine.

The journal bearing is the simplest type of bearing used in engineering. Its operating principle is based on the sliding ability between two surfaces in contact, where a sliding movement occurs between a bearing and a journal, due to the presence of fluid that acts as a lubricant between both. Hydrodynamic bearings do not require the continuous external injection of lubricant, as the moving parts create a hydrodynamic effect that causes the oil to lubricate the parts in contact. Wear is thereby prevented, and this allows operation with high no. of revolutions, large diameters and big loads. Apart from lubricating the parts, the lubricant plays a role in expelling the heat produced by the friction during the operation.

The largest hydrodynamic bearings are located in hydraulic power stations and their role is to support the turbine shafts.

The Unit to Study a Hydrodynamic Journal Bearing Assembly, "HJBA", allows to study the assembly and disassembly, maintenance and repair of a shaft with hydrodynamic bearings. With this unit, the student will be able to know perfectly both the unit's operation and all its components.

GENERAL DESCRIPTION

The Unit to Study a Hydrodynamic Journal Bearing Assembly, "HJBA", is a horizontally sectioned hydrodynamic bearing. For an even transfer of the generated forces to the lower part of the bearing case, the bearings in said case are supported by a spherical surface.

The lubrication of the bearing is given by a loose lubrication ring. Commercial mineral oils may be used as lubricants.

The unit contains an auxiliary shaft that allows to make an ideal assembly and check the operation. The unit consists of a floating gasket to seal the shaft by the front face. The contact areas of the half-cases are sealed by using sealant putty, which does not harden, and prevents dirt from coming in from the outside.

The parts are supplied in an aluminum case with adequate protection. Teaching materials are also included, providing all the necessary information to carry out the different actions, information on the operation, structure and field of application of a journal bearing.



ISO 9001: Quality Management (for Design, Manufacturing, Commercialization and After-sales service)



European Union Certificate (total safety)



Certificates ISO 14001 and ECO-Management and Audit Scheme (environmental management)



Certificate and Worlddidac Member

SPECIFICATIONS

Aluminum transporting case.

Cast bearing case.

Bearing with steel supporting body and covered with metal:

Bearing diameter: $\varnothing = 80$ mm.

Thermo-resistant plastic seal reinforced with fibers.

Stainless steel drive shaft:

Nominal diameter: $\varnothing = 80$ mm.

Toolbox with separable compartments.

Manuals: This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manual.

EXERCISES AND PRACTICAL POSSIBILITIES

- 1.- Study of the operation of a hydrodynamic journal bearing.
- 2.- Analysis of the structure of a hydrodynamic journal bearing.
- 3.- Study and understanding of the sealing components.
- 4.- Study and analysis of the principles and different types of lubrication.
- 5.- Study and performance of assembly and disassembly exercises, as well as repair and maintenance.
- 6.- Reading comprehension of technical drawings and instruction manuals.

DIMENSIONS AND WEIGHTS

HJBA:

- Case dimensions: 150 x 445 x 310 mm approx. (5.90 x 17.52 x 12.20 inches approx.)
- Toolbox dimensions: 311 x 168 x 130 mm approx. (12.24 x 6.61 x 5.11 inches approx.)
- Weight: 58 Kg approx. (127 pounds approx.)

HJBA/ICAI. Interactive Computer Aided Instruction Software System:



With no physical connection between unit and computer (PC), this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF). Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.

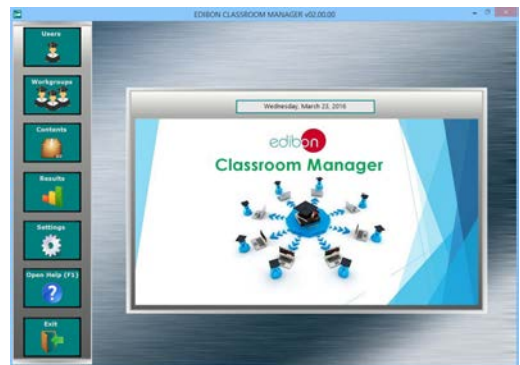
Instructor Software

- ECM-SOF. EDIBON Classroom Manager (Instructor Software).

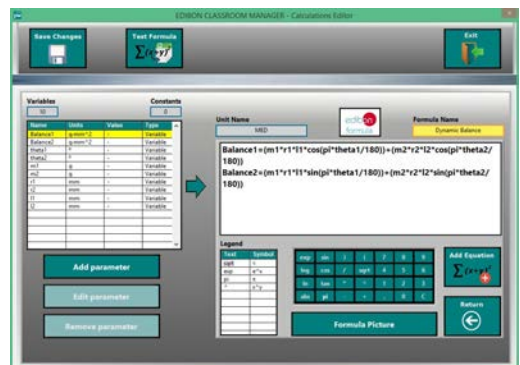
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc... so the teacher can know in real time the level of understanding of any student in the classroom.

Innovative features:

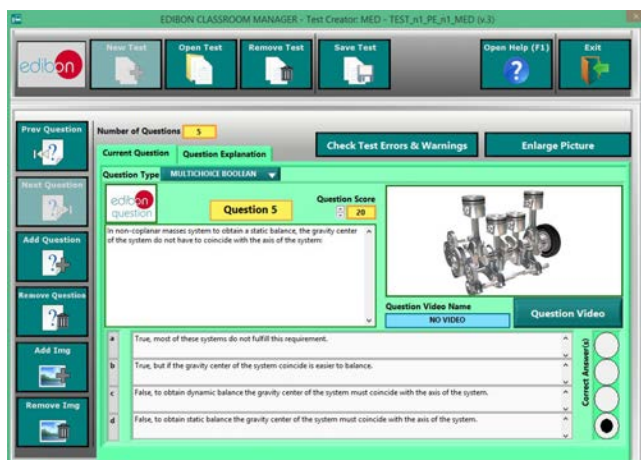
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- Updatable Contents.
- Report generation, User Progression Monitoring and Statistics.



ECM-SOF. EDIBON Classroom Manager (Instructor Software) Application Main Screen



ECAL. EDIBON Calculations Program Package - Formula Editor Screen



ETTE. EDIBON Training Test & Exam Program Package - Main Screen with Numeric Result Question



ERS. EDIBON Results & Statistics Program Package - Student Scores Histogram

Optional
Student Software

- ESL-SOF. EDIBON Student Labsoft (Student Software).

ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.

Innovative features:

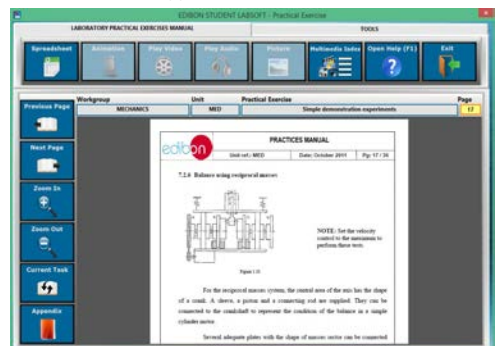
- Student Log-In & Self-Registration.
- Existing Tasks checking & Monitoring.
- Default contents & scheduled tasks available to be used from the first session.
- Practical Exercises accomplishment by following the Manual provided by EDIBON.
- Evaluation Methods to prove your knowledge and progression.
- Test self-correction.
- Calculations computing and plotting.
- Equation System Solver Engine.
- User Monitoring Learning & Printable Reports.
- Multimedia-Supported auxiliary resources.

For more information see ICAI catalogue. Click on the following link:

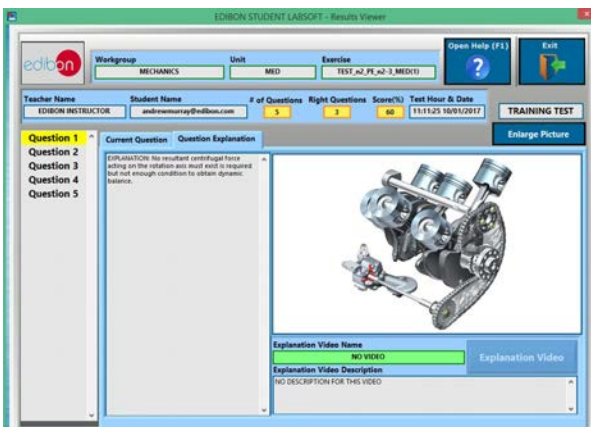
www.edibon.com/en/files/expansion/ICAI/catalog



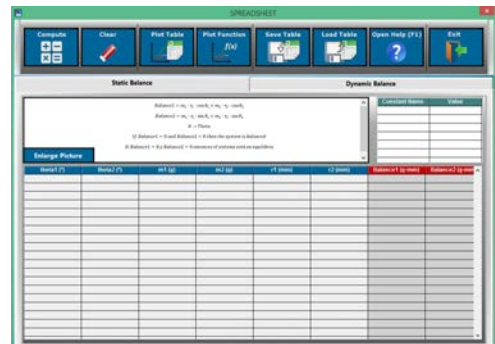
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



EPE. EDIBON Practical Exercise Program Package Main Screen



ERS. EDIBON Results & Statistics Program Package - Question Explanation



ECAL. EDIBON Calculations Program Package Main Screen

* Specifications subject to change without previous notice, due to the convenience of improvement of the product.



C/ Del Agua, 14. Polígono Industrial San José de Valderas.
28918 LEGANÉS. (Madrid). ESPAÑA - SPAIN.
Tel.: 34-91-6199363 Fax: 34-91-6198647
E-mail: edibon@edibon.com Web: www.edibon.com

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REPRESENTATIVE:

