

INTRODUCTION

Gears are mechanisms used to transmit mechanical power from one component to another in a machine.

The simplest gears are composed of two, one inlet and one outlet, cogwheels (the largest is called crown and the smallest pinion), which transmit circular movement through their coupling, tooth by tooth.

There are different types of gears depending on the shape of the teeth, the position of the cogwheels, the arrangement of their axes of rotation, etc.

Straight-cut or spur gears are used in transmissions of parallel axles, in this way, the input and output shafts are arranged in parallel. They are one of the most used mechanisms, and are found in any type of machine: watches, toys, machine tools, etc.

The planetary gears represent a type of gear in which the input and output shafts are located on the same axle.

The Unit for the Kinematic Study of Gear Trains, "KSGT", has been designed to perform the kinematic study of spur gears and planetary gears.

GENERAL DESCRIPTION

The Unit for the Kinematic Study of Gear Trains, "KSGT", unit includes a pivoting rail with a fixed axle to which two more axles can be fixed in any position in function of the feature to study.

The cogwheels may be assembled on the axles in combination, thus studying different gear ratios.

The spur gears can be studied having the pivoting rail fixed. One or two more axles, and therefore one or two more cogwheels, may be placed on the rail.

The planetary gears may be studied having the pivoting rail loose. The pivoting rail is used to support the planetary cogwheel on which the planetary cogwheels are located. Thus, the motion of the rail acts as input of the gear. The planet gears transmit their motion to the sun gear, which is the output element of the gear train.

The gear ratio may be determined in both cases by counting the complete turns of the cogwheels.



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)



"Worlddidac Quality Charter"
and Platinum Member of
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SPECIFICATIONS

Bench-top unit with pivoting legs.

Anodized aluminum frame and panels made of painted steel.

The "KSGT" unit mainly consists of:

Gears:

Four cogwheels.

Material: plastic.

Module: 1 mm.

Number of teeth: 40, 60, 80 and 100.

Pivoting rail.

Rail lock.

Axles and pins.

Box to store the removable elements.

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

EXERCISES AND PRACTICAL POSSIBILITIES

1.- Study of single-stage spur gears.

2.- Study of multistage spur gears.

3.- Study of planetary gears.

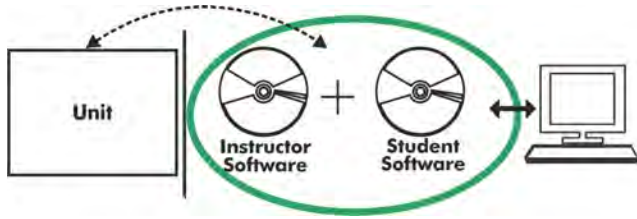
4.- Determine the gear ratio.

DIMENSIONS AND WEIGHTS

KSGT:

- Dimensions: 450 x 300 x 150 mm approx.
(17.71 x 11.81 x 5.90 inches approx.)
- Weight: 5 Kg approx.
(11 pounds approx.)

KSGT/ICAI. Interactive Computer Aided Instruction Software System:



With no physical connection between unit and computer, 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.

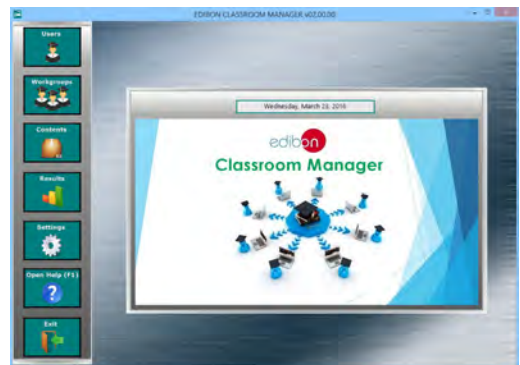
Instructor Software

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

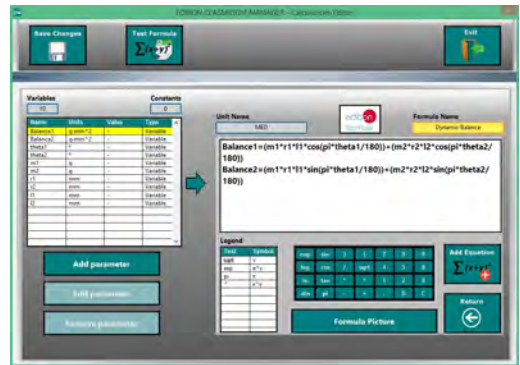
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual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

Innovative features:

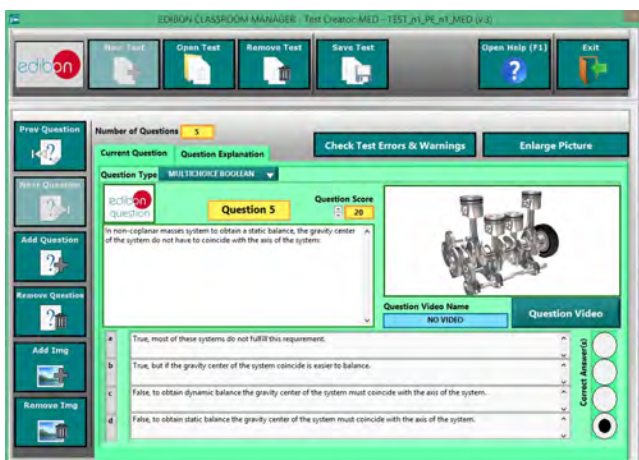
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.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

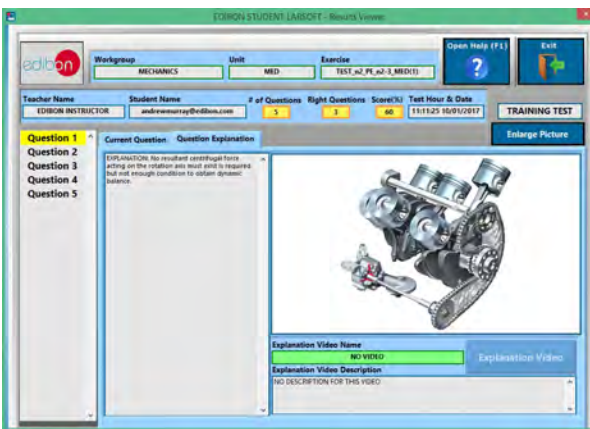
www.edibon.com/en/files/expansion/ICAI/catalog



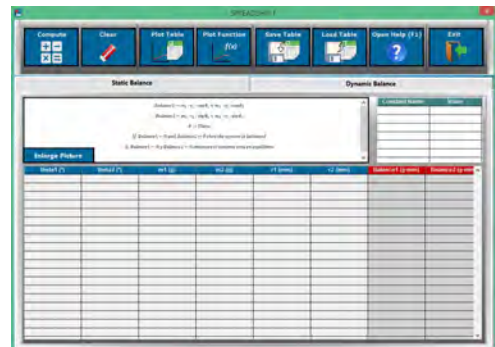
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



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.



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REPRESENTATIVE:

