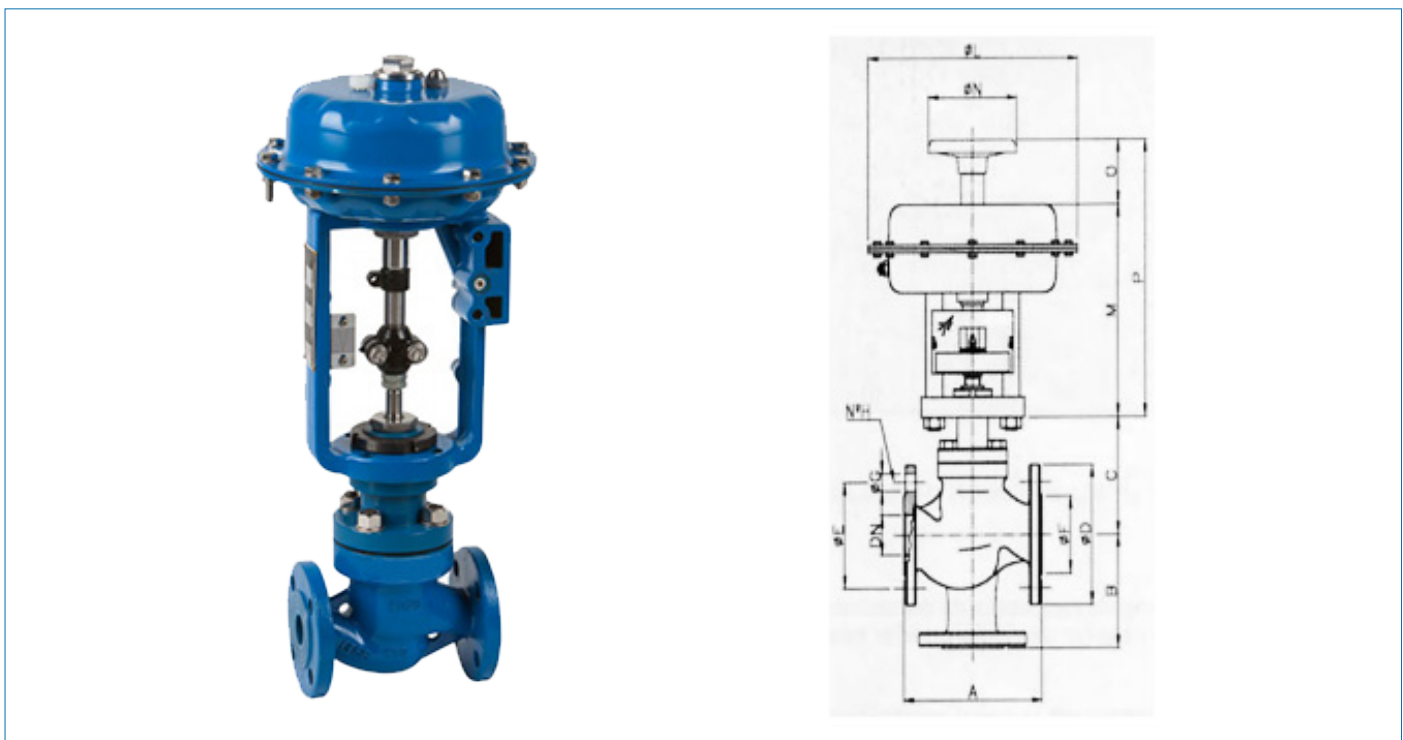




## PROCESS DIAGRAM AND UNIT ELEMENTS ALLOCATION



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 Worlddidac

## INTRODUCTION

Industry is quite broad and has many fields, although they have similarities in the use of certain devices, as for example the pneumatic valve. The pneumatic valves use an air circuit to operate the mechanisms of this type of valves.

One of the most common devices at industrial level are the globe valve that allows for pressure regulation and flow rate regulation of flow in the positions of open-closed (On-Off) and intermediate of a certain conduction by means of the strangulation of the section on the way. It presents greater losses of pressure due to the fact that the circulation path in this valve is in the form of 'S' and a tendency to leak. However, it is widely used in start and stop operations.

It can be used for different types of fluids, more or less viscous, air or fluids with suspended particles.

The Assembly of a Control Pneumatic Valve Unit, "ACPV", is a pneumatic globe valve with bellows designed for the study of the assembly, replacement of damaged components, repair and testing of the device by up to three students at the same time.

## GENERAL DESCRIPTION

The Assembly of a Control Pneumatic Valve Unit, "ACPV", is a globe valve with bellows supplied in a carrying case that also includes a manual with two-dimensional plans, drawing of individual parts and drawing of the whole unit, the main parts list and the regulations related to the manufacturing materials. The unit is supplied with a specific set of tools for the valve. The valve includes a body made of cast iron, a clamp cover, a packing gland frame, a taper and a spindle. It includes a set of gaskets, bolts and nuts with their corresponding identification. The gasket is made of graphite and the guide is made of carbon steel. The shaft is made of stainless steel.

This unit allows the student to gain knowledge about the installation of a valve and about the mounting and breaking up of this type of devices. It also guides the student in the knowledge of the different elements of the valve, the gland sealing method, the function of the gaskets and the testing of this type of devices. At the same time, it allows for studying and understanding industrial plans, together with the identification of the components in an industrial drawing. Additionally, the unit is supplied with a manual pump and two flange connections to perform the corresponding leak test.

## SPECIFICATIONS

Carrying case made of aluminum.

Main metal elements made of stainless steel.

### **Control pneumatic valve with clamp connections:**

DN 25.

PN 16.

Stoke: 11 mm.

Kv: 9.3 m<sup>3</sup>/h.

Body and cover made of cast iron.

Disc, seat, bellows and rod made of stainless steel.

Seal made of laminated graphite with stainless steel.

Gland nut made of stainless steel.

Operation temperature: -20 °C/ +250 °C.

### **Leak test set:**

Manual pump.

Manometer.

Flange connections.

### **Assembly and disassembly tools set:**

Tool case with several compartments.

Box with spare nuts and bolts (screws, nuts, washers and pins).

Four combination wrenches.

Adjustable wrench.

Soft face hammer.

Cylindrical punch.

Two spare seals.

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.- Identification of the valve in an industrial diagram. Introduction to industrial plans understanding (PFD and P&ID).
  - 2.- Identification of the industrial components in an industrial drawing (plan of the whole, the individual parts and exploded view).
  - 3.- Identification of the main components of a shut-off valve: gaskets, guide, wheel, seat, etc.
  - 4.- Operation of a control pneumatic valve.
  - 5.- Study of the tightness with the gland sealing principle.
  - 6.- Study and assembly of a control pneumatic valve.
  - 7.- Study and understanding of the maintenance of a control pneumatic valve. Replacement of the main components, repair and disassembly.
- Additional practical possibilities:
- 8.- Leak test.

## DIMENSIONS AND WEIGHTS

ACPV:

-Dimensions of the case: 150 x 445 x 310 mm approx. (5.90 x 17.51 x 12.20 inches approx.)

-Dimensions of the assembled valve: 200 x 217 mm approx. (7.87 x 8.54 inches approx.)

-Weight: 5 Kg approx. (11 pounds approx.)

**ACPV/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.

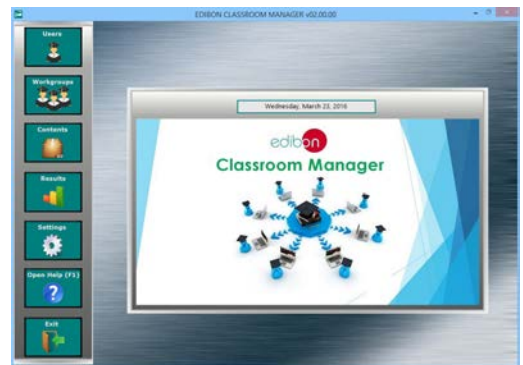
Instructor Software

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

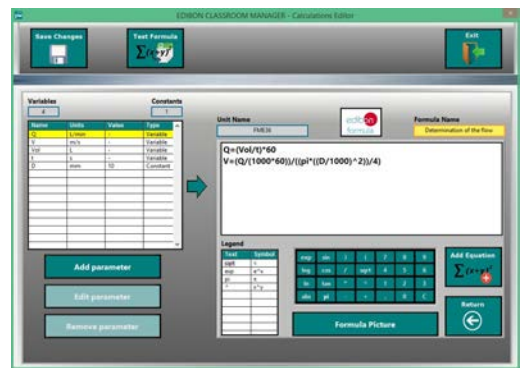
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual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

Innovative features:

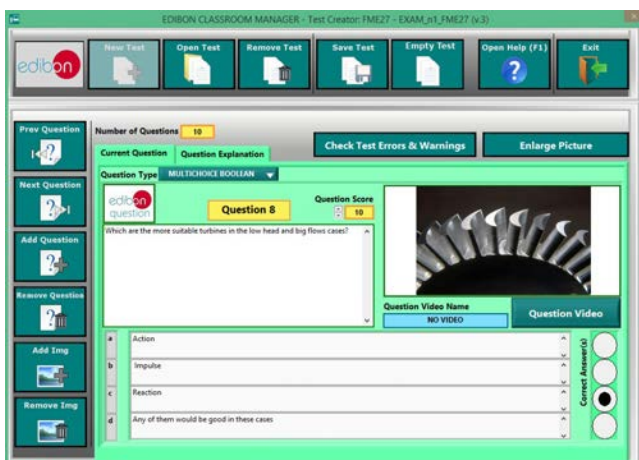
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.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

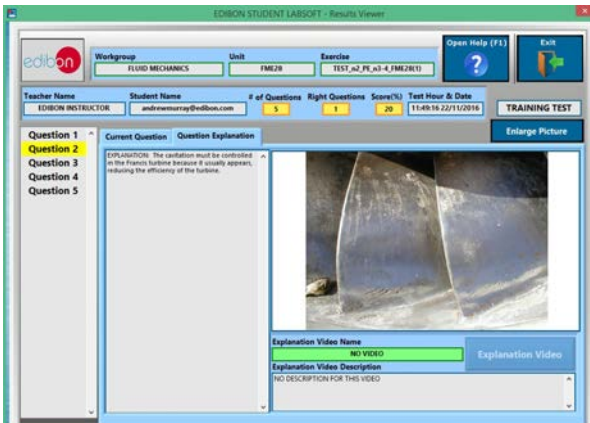
[www.edibon.com/en/files/expansion/ICAI/catalog](http://www.edibon.com/en/files/expansion/ICAI/catalog)



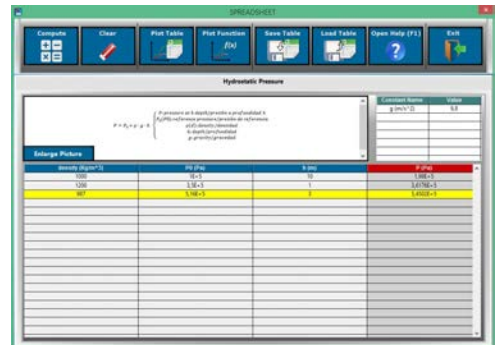
ESL-SOF. EDIBON Student LabSoft (Student Software)  
Application Main Screen



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:

