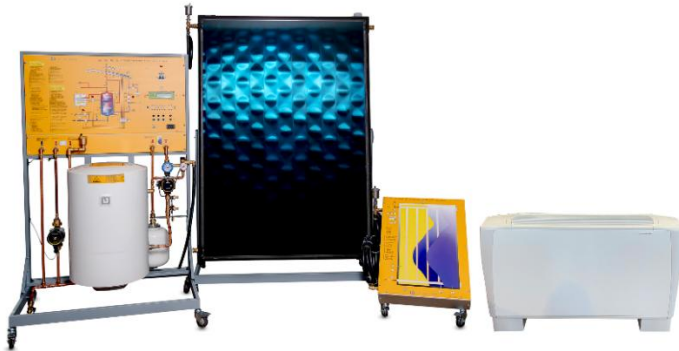




TRAINER FOR THE STUDY OF SOLAR THERMAL ENERGY WITH REAL AND SIMULATED COLLECTOR



DL THERMO-A12

Didactic system for the theoretical and practical study of solar power facilities used to obtain hot water for sanitation, air conditioning and similar services.

It is a forced circulation system with a wide range of didactic applications. It incorporates six temperature probes available at four different points, and a solar irradiation sensor that is used to calculate energy.

Complete with connecting cables, experiment manual and software for data acquisition from the solar controller and processing.

TRAINING OBJECTIVES

- Identification of all components and how they are associated with its operation.
- Interpretation of the technical parameters of all components.
- Local control of the processor
- Heating and check of the convector heater
- Forcing the reserve energy
- Forcing the recirculation pump
- Sizing criteria for domestic hot water facilities, air conditioning, etc.
- Assembly and maintenance criteria for facilities.
- Interpretation of situational data supplied by the control.

TECHNICAL SPECIFICATIONS

- Approx. packing dimensions: 1.52 x 1.77 x 2.28 m.
- Net weight: 408 kg.
- Average training hours: 15 h.



The trainer is composed of four operating units, as follows:

MAIN MODULE

It contains the components for the circulation, storage and control of the liquid in the primary and secondary circuits.

These components are placed vertically on a base, facilitating comfortable access to all parts for assembly and disassembly operations carried out during the practical sessions described in your handbook.

The front control panel is placed in the top part of the main module and it is composed of:

- Block diagram of the system,
- Electronic control centre with an LCD screen for the visualization of the data,
- Situation lights.

The hydraulic sockets for cold water inlet, hot sanitary water outlet, connection to the collectors, etc., are located at the back of the module.

- Dimensions 1000 x 650 x 1650 mm.

2x COLLECTORS

In this trainer there are two collectors. The first one is a real collectors placed in a metal structure and connected to the main module through flexible pipes, provided with discharge, safety and filling valves.

The second one is a simulator of a collectors supplied by the mains for the use in classroom. Both panels can be connected to the main module, one at a time.

CONVECTOR HEATER

As a means of applying the hot water produced, a convector heater is available for use. It is connected through flexible pipes.

This component allows us to experiment with the effects of hot water obtained with this system.

However, the system is sufficiently open to permit easy use with other applications, such as hot sanitary water supply, under-floor heating, etc.

ALTERNATIVE: DL THERMO-A1

Trainer with a simulator of a collectors supplied by the mains, instead of a real collectos, to allow performing the practical exercises in a classroom.

ALTERNATIVE: DL THERMO-A2

Trainer with a real collectors placed in a metal structure and connected to the main module through flexible pipes, provided with discharge, safety and filling valves.