

## LHP 104 HEATING AND SANITARY SYSTEMS



The LHP-104 laboratory covers all areas, theoretical and practical, concerning the installation, operation and maintenance of **Residential and Industrial Heating systems** and **Sanitary systems**.

The laboratory consists of a set of simulators, trainers and equipment listed on the right of this page. The laboratory deals with central systems for heating and sanitary water production, heating technology principles, gas pipes and leaks, hot water generation for standard and industrial heating systems. It includes trainers which replicate the above systems and their operation in real size real conditions mode.

The laboratory's simulators are also accompanied by the appropriate software to run interactively with PC workstations, wherever this is applicable. The software is organized in subjects corresponding to the simulations and the experimental exercises with scope:

- A series of aims for the specific experiment and the level of knowledge that must be obtained.
- Theoretical background relevant to the lesson as well as practical examples of use.
- Tests/Questions for the students and fault testing.

The simulators and Trainers are accompanied by relevant software to enable the student to follow step-by-step the theory and the exercise. The whole exercise procedure is carried out on the simulators. The system is accompanied by technical manuals for theory and exercises.

### PT-TH01

Heating & Sanitary Installation System

### PT-TH02

Heating Unit With Liquid Or Gas Heat Generator

### PT-03DG

Home Gas Supply Training Simulator

### PTH-354T

Heating Element Module

### PTH-353T

Hot Water Production Module

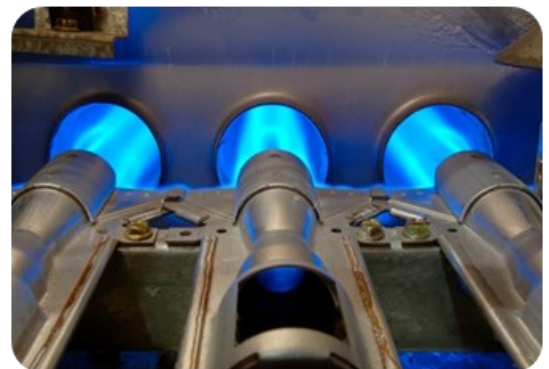
### PTH-355T

Energy Distribution And Control Module

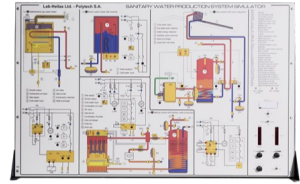
### Thermal System Simulator Application

### PTH-350 S

Gas, Solar and Oil heating Software simulation



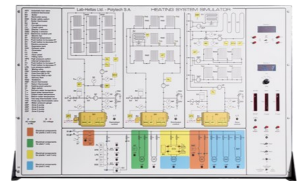
### PT-TH01 Simulator Heating And Sanitary Installation System



The PT-TH01 simulator for Heating And Sanitary Installation System deals with:

- Instantaneous geyser;
- Store electric water heater;
- Solar system for sanitary water production with boiler integration;
- Central system for heating and sanitary water production.

### PT-TH02 Simulator Heating Unit With Liquid Heat Generation



The PT-TH02 simulator for Heating Unit With Liquid has been designed to demonstrate the heating technology principles.

It has the facility of introducing and detecting faults.

The simulator offers training in the following:

- Central heating systems;
- Heating systems with distributed regulation;
- Zone heating systems.

### PT-03DG Trainer Home Gas Supply Training system



With the PT-03DG trainer for Home Gas Supply is possible:

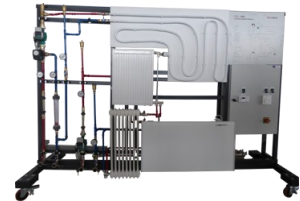
- to simulate/detect leaks;
- to practice on gas pipes, including testing in accordance to standard rules before and after the connection of the gas.

**PTH-353T** Trainer  
Hot Water Production Module Trainer



The PTH-353T Hot Water Production Module Trainer is aimed for the study, the design and the operational parameters of a domestic hot water generation system, its mechanical and electrical systems and controls, system efficiency and overall performance.

**PTH-354T** Trainer  
Heating Element Module



The PTH-354T Trainer module connects to the Hot Water Production Module Trainer and is comprised of 2 different heating circuits:

- a) 3 different heating elements: two different type of radiators and one hot water convector in a single water circuit supplied with circulating pump
  - b) a floor heating system in a second circuit, with a circulating pump.
- Both circuits are provided with necessary safety and control parameters.

**PTH-355T** Trainer  
Energy Distribution And Control Module

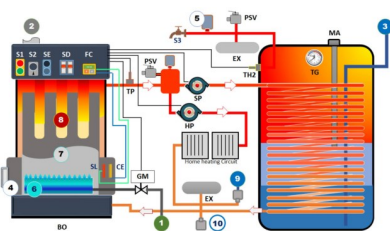


The PTH-355T Trainer module connects to the Hot Water Production Module Trainer and is comprised of 2 different heating circuits:

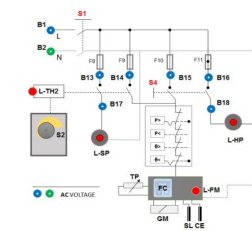
- \*A **central heating circuit** with 3 aluminum radiators and an outdoor temperature simulator with a temperature sensor.
- \*A **distributed heating 2 - zone circuit**, each circuit zone includes two steel radiators and a thermostat.

**PTH-350S** Thermal System Simulator Application  
Gas, Solar and Oil heating system - Software simulation

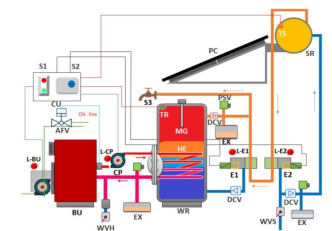
This application offers a **simulation** of **gas furnace central heating system** and **oil furnace** integrated **with a passive solar heating system**. Its aim is to assist the students to comprehend the basic thermal technology, circuits and components, their operation and troubleshooting in the above mentioned types of central heating systems.



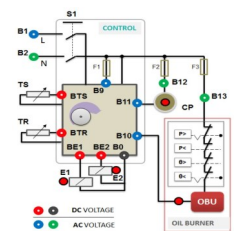
The **Mechanical components** of the **Gas Heater**



The **Electrical System** of a **Gas Heater**



The **Mechanical component** of the **Oil burner hot sanitary water production with solar system integration**



The **Electrical System** of an **Oil Burner**