Advanced Thermal Technology Training | AC, Refrigeration & Heat Pumps

Thermal Technology 2 Learning System: 96-TT2

The model Thermal Technology 2 Learning System (96-TT2) teaches three types of thermal systems: air conditioning, refrigeration, and heat pumps. Students will learn industry-relevant skills including how to operate, install, analyze, and adjust these systems.

The Advanced Thermal Technology training is a working system with industrial components that can perform heat pump, air conditioning, and refrigeration systems operation. These components are mounted on a mobile workstation and supported by instrumentation, microprocessor control, student learning materials for both theory and lab, and teacher's guide.

The 96-TT2 training course uses the principle of vapor compression and offers three different types of expansion methods, enabling students to explore a wide range of thermal application and system designs. Components are arranged in a breadboard fashion on the workstation to make it easy for students to follow the system flow and understand its operation. Manual valves are provided throughout so students can create faults and change system performance. Extensive instrumentation is included.

This tabletop thermal technology training course showcases a full range of components, such as a fire syringe, a vacuum hand pump, bi-metallic ball and ring, and many more on a vertical panel for easy access and inventory. These components are used in various combinations to conduct experiments that show learners physical examples of thermal concepts and build foundational knowledge that they can use in real-world applications!

Teach Hands-On Skills

Instrumentation Features
The 96-TT2 includes many instrumentation features to observe and monitor system operation. Sight glasses are located at three points on both the evaporator and condenser coils to show how the refrigerant changes phase as it passes through each coil. Pressure and temperature gauges are placed at the inlet and outlet of the condenser and evaporator to determine heating and cooling performance. Other teaching components include moisture indicator, panel-mounted compressor ammeter, and flow meter.

Variable Conditions
The Advanced Thermal Technology training course can replicate a variety of performance conditions with features such as heavy-duty industrial blowers attached to the condenser and evaporator coils and manual valves placed throughout the refrigeration system. The blowers have dampers that can vary the air flow across the coils, showing the effect of varying heat transfer rates. Manual valves are used to restrict the flow of refrigerant and change the amount of refrigerant in the system by allowing it to flow into or out of the accumulator.

Modern Temperature Control
The 96-TT2 uses a modern microprocessor-based temperature control of the air temperature at either coil. It includes a programmable keypad for both heating and cooling modes, electrical reversing valve, RTD-type remote temperature probe, and digital display. The display shows current temperature and set-point.

In-Depth Multimedia Curriculum

Interactive Multimedia Curriculum

Amatrol's unmatched multimedia utilizes text, audio, and stunning 3D animations that engage learners in both theoretical knowledge and hands-on skills. This thorough, exceptionally detailed curriculum is built to begin with the basics and steadily advance to more complex concepts and skills. Through partnerships with key industry leaders and leading edge educators, Amatrol developed the right balance of knowledge and applied skills needed to train learners to work in their chosen field.

Additional Info

Additional Requirements

- Computer: See requirements
- Electricity (120 VAC/60Hz/1 phase)

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