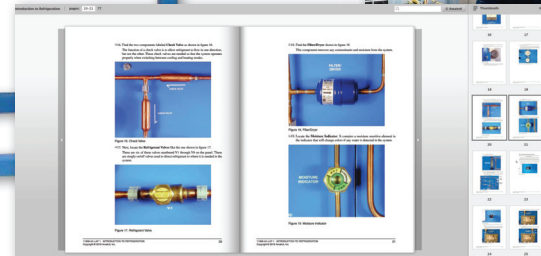
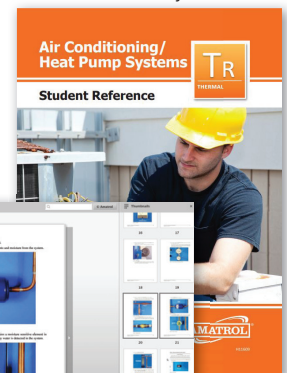


Air Conditioning/Heat Pump Operations Learning System

T7082



Student Reference Guide



Optional eBook Curriculum

Learning Topics:

- Refrigeration Systems
- Temperature and Pressure Measurement
- Enthalpy and Combined Gas Law
- Compressor Operation
- Phase Change Effects
- Condenser Operation and Performance
- Metering Devices and Evaporators
- Automatic and Thermostatic Expansion Valves
- Temperature and Pressure Control Devices
- Reversing Valves and Refrigerants

Amatrol's Air Conditioning / Heat Pump Operations Learning System (T7082) features industry-standard heating and cooling components that form a working heat pump, air conditioning and refrigeration system. The system teaches important heating and cooling concepts, such as compressors, condensers, metering devices, evaporators, temperature and pressure control devices, and reversing valves.

Thermal systems play a key role in industrial, commercial, and residential applications to provide heating and cooling of spaces and processes. The T7082 is ideal for HVAC technicians and installers. The system consists of a mobile workstation, compressor, pressure control system, refrigeration circuit, instrumentation set, temperature control system, blower control system, and much more! These real-world components provide hands-on experience with operating, monitoring, and adjusting air conditioning / heat pump systems like users will encounter on the job.



Technical Data

Complete technical specifications available upon request.

Mobile Workstation

Compressor

Pressure Control System

Refrigeration Circuit

- Refrigerant R134a
- Check Valves (2)
- Manual Valves (7)
- Receiver
- Filter/Dryer
- Suction Accumulator
- Moisture Indicator
- Reversing Valve
- Evaporator Condenser Coils (2)
- Capillary Tube
- Automatic Expansion Valve
- Thermostatic Expansion Valve

Instrumentation Set

- Flow Meter
- Current Meter
- Temperature Gauges (4)
- Pressure Gauges (4)

Temperature Control System

- Microprocessor Control
- Programmable Keypad
- LCD Display
- Lockout Switch
- RTD Remote Temperature Probe

Blower Control System

- Blowers (2)
- Dampers (2)
- Electric Motor Drives (2)

Valve Wrench

Drip Pans (2)

Student Curriculum (11609)

Instructor's Guide (11619)

Installation Guide (11629)

Student Reference Guide (H11609)

Thermodynamic Properties of HFC-134a

Reference Guide (11643)

Additional Requirements:

R134a refrigerant

Utilities Required:

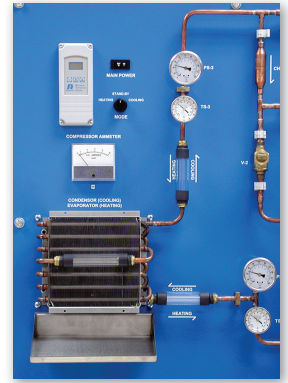
Electric (120 VAC/60 Hz/1 phase)

Options:

Environmental Applications Learning System (T7083)

Study Heating and Cooling Components and Practice on Real-World Equipment

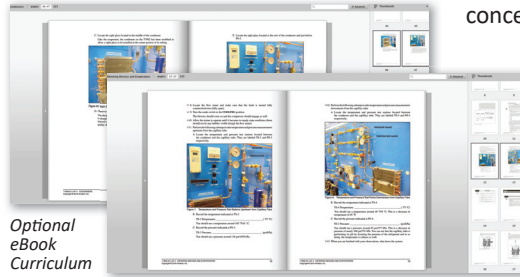
The T7082 includes a variety of industry-standard components, such as flow meters, three types of control valves, pressure/temperature gauges, evaporators, reversing valves, heavy-duty industrial blowers, and a microprocessor-based temperature control system. Learners will use these components to practice hands-on, skill-building tasks, such as determining the amount of subcooling in a mechanical refrigeration system, setting the pressures on a dual-pressure control device, using a gauge manifold to measure thermal system pressure, and testing a thermostatic expansion valve or compressor. Users will also learn how to observe and monitor heating and cooling systems using various instruments, including sight glasses, moisture indicators, and a panel-mounted compressor ammeter.



Real-World Equipment

In-Depth Curriculum with Optional eBook Format

The T7082 includes in-depth heating and cooling curriculum that covers a wide variety of major topics areas, such as heat transfer, dual-pressure devices, filter/dryers and moisture indicators, and refrigerants. Specifically, learners will study concepts like how to calculate conduction heat transfer and mass flow rates, how to use sight glass/moisture indicators, and how to test an automatic expansion valve. In addition to the included printed curriculum, Amatrol also offers this course in an optional eBook format. Amatrol's eBooks provide easy, quick navigation and searchable course content in an online, computer-based format.



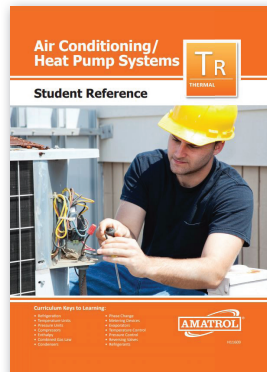
Optional eBook Curriculum

Expand Your System To Teach Environmental Applications

The T7082 can be expanded to teach environmental heating and cooling applications by adding the optional Environmental Applications Learning System (T7083). The T7083 models the unique characteristics of a living structure and replicates both outside environmental effects, such as sun or humidity, and internal design characteristics, such as insulation, lighting, and ceiling fans.



T7083



Student Reference Guide

A sample copy of the Air Conditioning / Heat Pump Systems Student Reference Guide is also included with the system for your evaluation. Sourced from the system's curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfectly-bound book. Student Reference Guides supplement this course by providing a condensed, inexpensive reference tool that learners will find invaluable once they finish their training, making it the perfect course takeaway.

