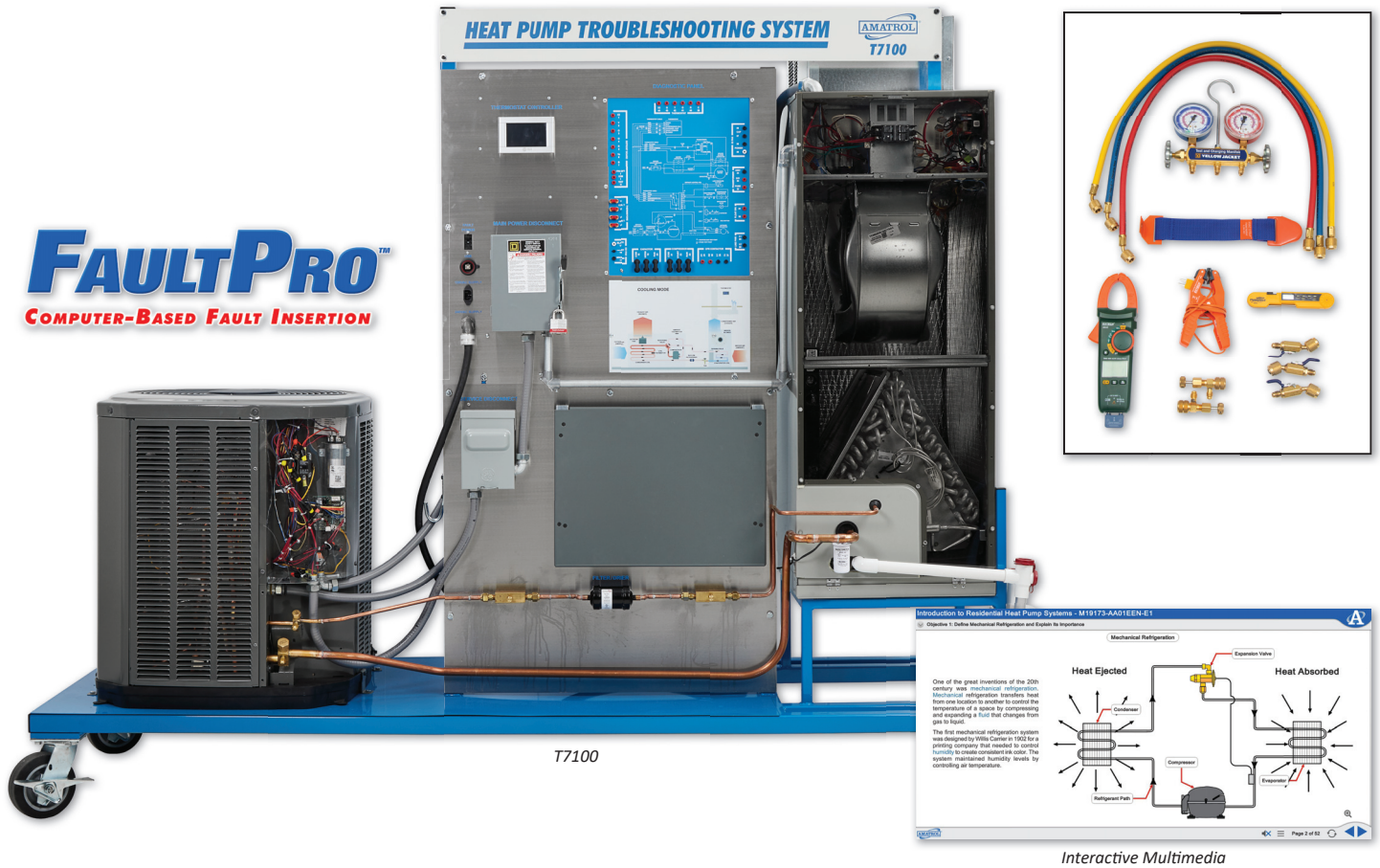


# Residential Heat Pump Troubleshooting Learning System

T7100



## Learning Topics:

- Mechanical Refrigeration Systems
- Forced-Air Residential Heat Pump Systems
- Electronic Thermostat Operation
- Heating and Cooling Modes
- HVAC Pressure and Temperature Measurements
- Subcooling Method to Determine System Charge
- Heat Pump Component Tests
- Residential Heat Pump System Troubleshooting

Amatrol's Residential Heat Pump Troubleshooting Learning System (T7100) teaches the critical hands-on skills HVACR technicians need to succeed when working with residential HVAC systems that use a heat pump and traditional ducting. Learners will work with real equipment, such as: a heat pump condenser, heat pump air handler, Wi-Fi-enabled thermostat, fuse box, ducting, and manifold.

In addition to developing hands-on skills with real equipment, learners will use Amatrol's interactive multimedia eLearning curriculum to cover a wide variety of fundamental residential heat pump topics, including: thermostat operation, pressure and temperature measurements, component tests, and system troubleshooting.



## Technical Data

Complete technical specifications available upon request.

Mobile Workstation  
Heat Pump Condenser  
Heat Pump Air Handler with Evaporator and Electric Heater  
WiFi-enabled Thermostat  
Disconnect Fuse Box  
Condensate Pump  
Filter/Drier  
Gauge Set  
Temperature Probe  
FaultPro Computer-Based Fault Insertion Program  
Student Curriculum – Interactive PC-Based Multimedia (M19173)  
Instructor's Guide (C19173)  
Installation Guide (D19173)  
Student Reference Guide (H19173)

### Additional Requirements:

R410a refrigerant  
Customer-supplied floor drain  
Instructor with EPA 608 Certification for United States customers or equivalent protocol for local authorities outside the US  
Computer (Visit [www.amatrol.com/support/computer-requirements](http://www.amatrol.com/support/computer-requirements) for details.)

### Utilities Required:

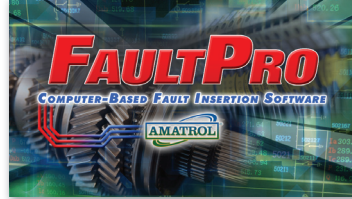
Electric (220V/60Hz/1ph) and (120V/60Hz/1ph)

## Study Residential Heat Pump System Components and Practice on Real-World Equipment

When it comes to learning important residential heat pump system troubleshooting skills, there's simply no substitute for hands-on experience with real equipment that technicians will encounter on the job. That's why Amatrol's T7100 features a wide variety of real industrial HVACR equipment, such as: a heat pump condenser, heat pump air handler, Wi-Fi-enabled thermostat, fuse box, ducting, and manifold. The T7100 was also designed to include transparent housings, pipes, and ducting with LED illumination that allows learners to see inside the system.



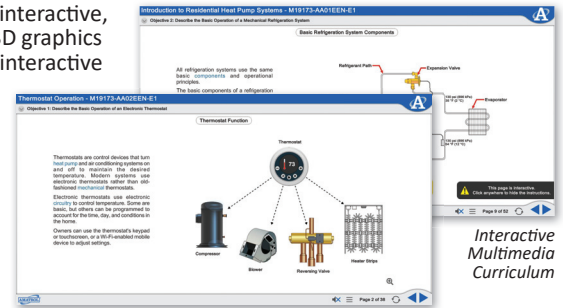
## Real-World Troubleshooting with FaultPro



The T7100 features FaultPro, Amatrol's exclusive electronic fault insertion system. FaultPro allows users to insert more than 25 mechanical and electrical faults into the system for realistic troubleshooting of situations they will encounter on the job. FaultPro's computer-based faults automatically track progress, enabling learners to gain troubleshooting skills in a self-paced environment that ensures that faults are inserted safely, protecting both learners and equipment.

## Interactive Multimedia eLearning Curriculum

Amatrol's curriculum features a highly-interactive, multimedia format that includes stunning 3D graphics and videos, voiceovers of all text, and interactive quizzes and exercises designed to appeal to learners with different learning styles. The T7100 curriculum teaches learners the fundamentals of residential heat pump systems. For example, learners will study relevant topics, such as electronic thermostat operation, pressure and temperature measurements, heat pump component tests, and residential heat pump system troubleshooting.



The combination of theoretical knowledge and hands-on skills solidifies understanding and creates a strong basis for pursuing more advanced skills. For example, learners using these systems can expect to learn critical hands-on skills, including:

- Operating a heat pump in heating and cooling modes
- Using a gauge manifold to measure thermal system pressures
- Determining if a system is properly charged using the subcooling method
- Testing a thermostatic expansion valve
- Troubleshooting insufficient cooling

## Student Reference Guides

A sample copy of the Residential Heat Pump Troubleshooting 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.

## Related HVACR Training Systems

Want to explore more HVACR topics? Be sure to check out Amatrol's other HVACR training systems, including the Residential Mini-Split Heat Pump Learning System (T7130) and the Refrigerant Recovery and Charging Learning Systems for R134a/R410a (T7031/T7032). Each of these systems features Amatrol's interactive multimedia eLearning curriculum and real, industrial HVACR equipment to teach critical hands-on skills.

