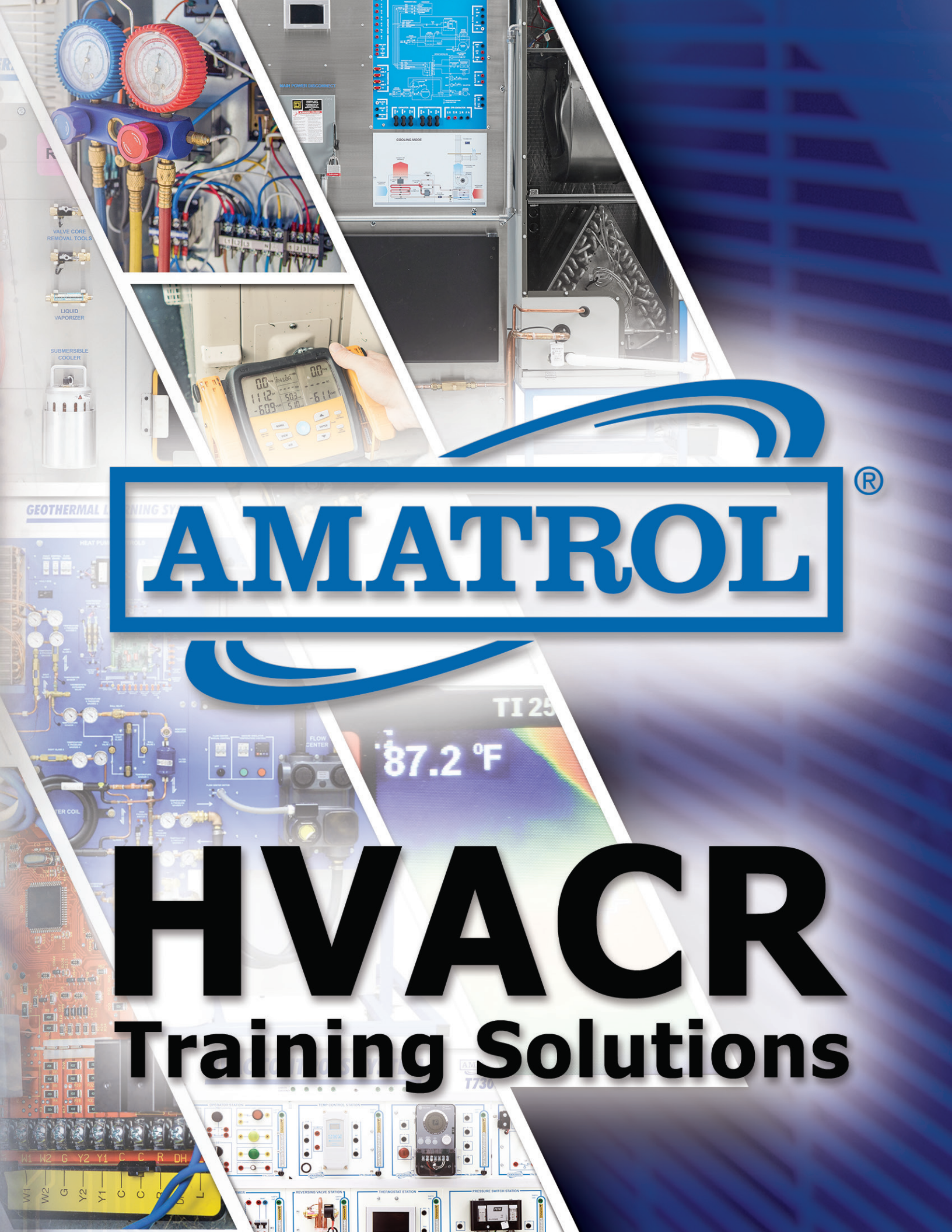

AMATROL
HVACR
Training Solutions

Teach Hands-On HVACR Skills with Real World Equipment



Amatrol's HVACR program combines practical hands-on skills with essential knowledge to teach the next generation of HVACR technicians.

Interactive eLearning Curriculum to Prepare Today's HVACR Technician

Amatrol's library of interactive HVACR eLearning curriculum provides a comprehensive learning experience from thermal concepts to the latest smart HVAVR technology and applications. Amatrol's eLearning features voiceovers of all text, interactive quizzes, stunning 3D animations, and more to fully engage learners.

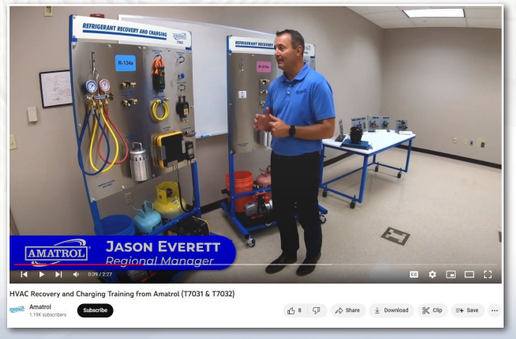
Teach Key Troubleshooting Skills

Amatrol's FaultPro computer-based fault insertion software is the industry's only electronic troubleshooting training system. FaultPro allows instructors to instantly set and tailor faults to test a student's weaknesses and turn them into strengths.

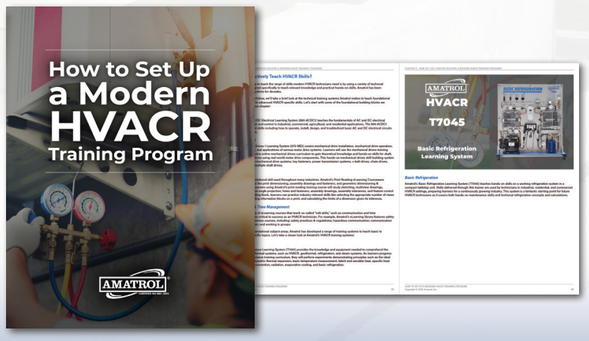
FaultPro™
Computer-Based Fault Insertion

Amatrol HVACR Client Resources

Check out Amatrol's HVACR YouTube playlist!



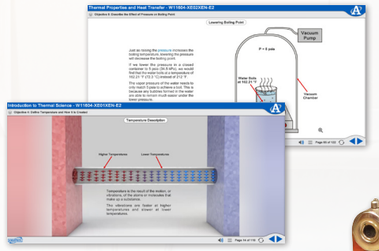
Download Amatrol's HVACR eBook!



THERMAL SCIENCE

Thermal Science ▸ T7081

- Temperature and Pressure Measurement
- Thermal Expansion
- Enthalpy, Phase Change
- Heat Transfer, Thermodynamic Laws
- Gas Laws and Phase Equilibrium



T7081 Multimedia Included



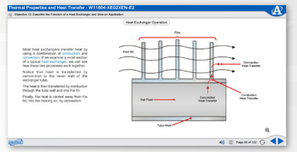


T7081

BASIC REFRIGERATION

Basic Refrigeration ▸ T7045

- Temperature and Pressure Measurement
- Refrigeration Energy
- Compressors
- Heat Transfer
- Phase Change Effects
- Condensers and Evaporators
- Auxiliary Refrigeration Components
- Refrigeration System Performance



T7045 Multimedia Included



T7045

Teach Industry-Relevant HVACR Skills: From Basic to Advanced

REFRIGERANT RECOVERY AND CHARGING



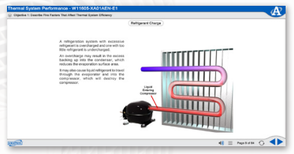
T7031



T7032



T7034



T7031/T7032/T7034 Multimedia Included

Refrigerant Recovery and Charging

- **T7031** (Uses R-134A Refrigerant)
- **T7032** (Uses R-410A Refrigerant)
- **T7034** (Uses R-454B Refrigerant)

- Refrigerant Fundamentals
- Environmental Regulation of Refrigerants
- Ultrasonic, Dye, & Halide Leak Detectors
- Gas Pressurization and Soap Leak Detection
- Refrigerant Recovery & Recycling
- Refrigerant Handling & Storage Procedures
- Refrigerant Charging Methods
- Charging Blended Refrigerants



T7033



Digital Gauge Manifold ▸ T7033

- Bluetooth Probes for Wireless Measurement
- Results via Smart App
- Pressure and Temperature Measurement
- Superheat and Subcooling Measurement
- Vacuum Measurement

REFRIGERATION INSTALLATION

Combined Refrigeration Installation ▸ T7200

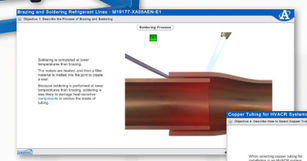
- Fluid Conductors / Tubing / Piping
- Fitting Selection and Sizing
- Soldered / Brazed Connections
- Circuit Breakers
- Wiring Selection and Sizing
- Testing System Operation



T7200 (Mechanical)



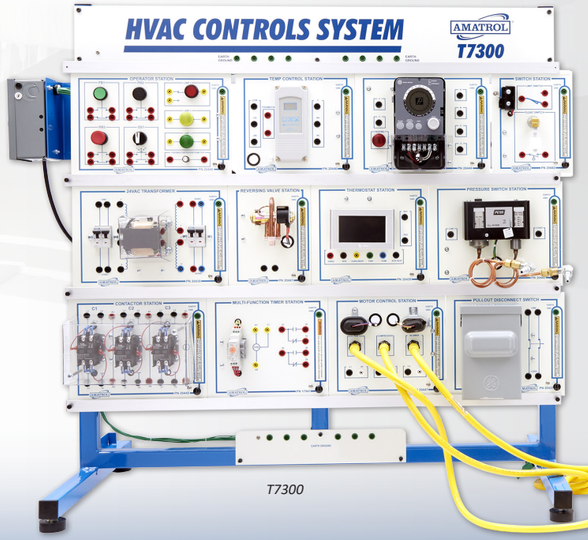
T7200 (Electrical)





T7200 Multimedia Included

HVAC CONTROLS

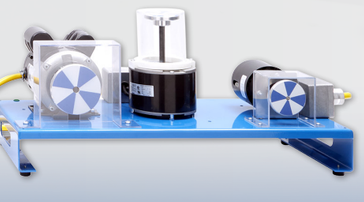


T7300

HVAC Controls Learning System ▸ T7300

- Thermostats & Temperature Controllers
- Control Transformers
- Fan & Blower Motors
- Compressor Motors
- Basic Refrigeration Control Circuits
- Residential & Commercial HVAC Control Circuits

FaultPro™
Computer-Based Fault Insertion



HEAT PUMPS



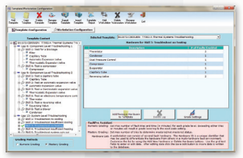
T7082-A

T7083 adds to T7082-A

T7083 Multimedia Included

Heat Pump Troubleshooting ▸ T7082-A
(Also available as a T7082 without Troubleshooting)

- Thermal Energy and Heat Transfer
- Thermodynamic Laws and Properties
- Refrigeration Thermodynamics
- Heat Pump Operations
- Thermal System Troubleshooting
- Phase Diagrams
- Property Tables
- Refrigerant Types



T7082-A includes FaultPro Electronic Fault Insertion

Environmental Applications ▸ T7083

- Insulation
- Psychrometrics
- Residential Heating and Cooling
- Thermal System Performance



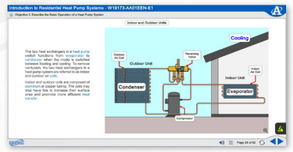
T7082-A



T7130

Residential Mini-Split Heat Pump Troubleshooting ▸ T7130

- Introduction to Residential Mini-Split Heat Pump Systems
- Mini-Split Heat Pump Operation
- HVAC Pressure and Temperature Measurements
- Mini-Split Heat Pump Component Tests
- Troubleshooting Residential Mini-Split Heat Pump Systems



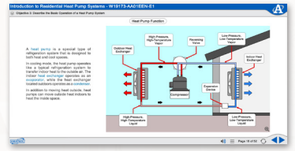
T7130 Multimedia Included

FAULTPRO
COMPUTER-BASED FAULT INSERTION

RESIDENTIAL HEAT PUMPS

Residential Heat Pump Troubleshooting ▸ T7100

- Introduction to Residential Heat Pump Systems
- Heat Pump Thermostat Operation
- HVAC Pressure and Temperature Measurements
- Heat Pump Component Tests
- Troubleshooting Residential Heat Pump Systems

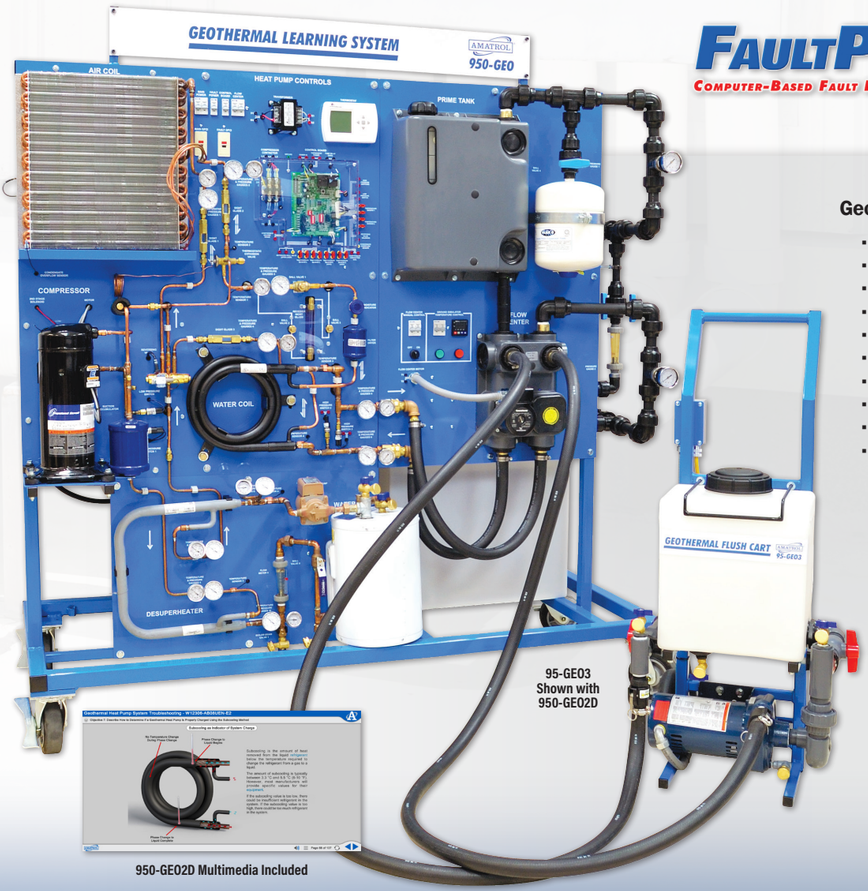


T7100 Multimedia Included



T7100

GEOTHERMAL



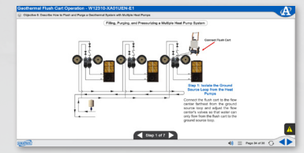
95-GEO3 Shown with 950-GEO2D

950-GEO2D Multimedia Included

FAULTPRO
COMPUTER-BASED FAULT INSERTION

Geothermal Troubleshooting ▸ 950-GEO2D

- Geothermal Heat Pump Systems
- System Performance
- Components and Operation
- Component Troubleshooting
- System Troubleshooting
- Coefficient of Performance
- Source Circuit Piping and Components
- Energy Units of Measure
- Phase Change Effects
- Heat Transfer



95-GEO3 Multimedia Included

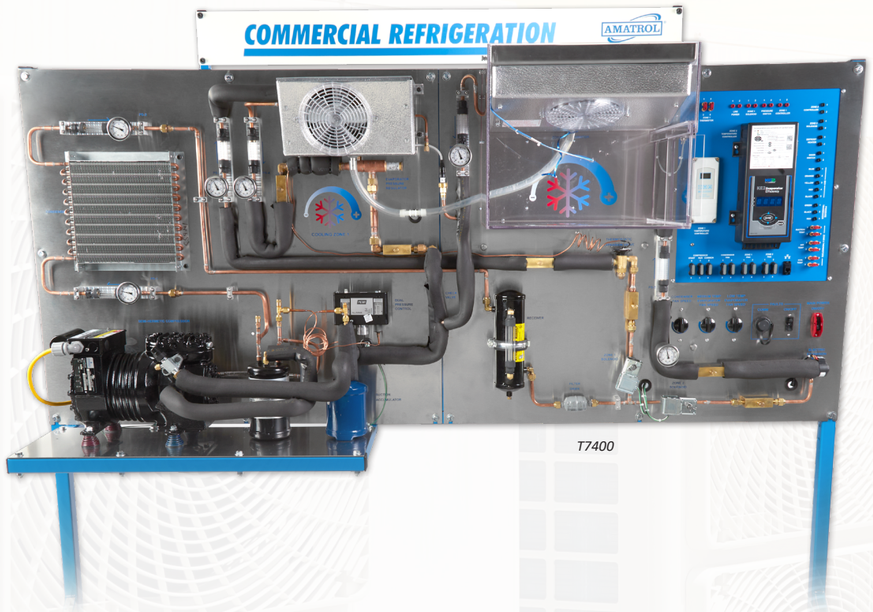
Geothermal Flush Cart ▸ 95-GEO3
(Adds to 950-GEO2D for Pressurized Operation)

- Circulator Pump
- Control Unit
- Control Valves
- Hose Set
- Water Tank

Teach HVACR Skills with Hands-On Trainers & Equipment Cutaways

AMATROL

COMMERCIAL REFRIGERATION



T7400

Commercial Refrigeration
▸ T7400

- Mechanical and Electrical Control Components & Connection
- Semi-Hermetic Compressors
- Smart Controllers
- Electronic Expansion Valves
- Multi-Zone Refrigeration
- Defrost Control
- Programming Commercial Refrigeration Systems
- Troubleshooting Commercial Refrigeration Systems

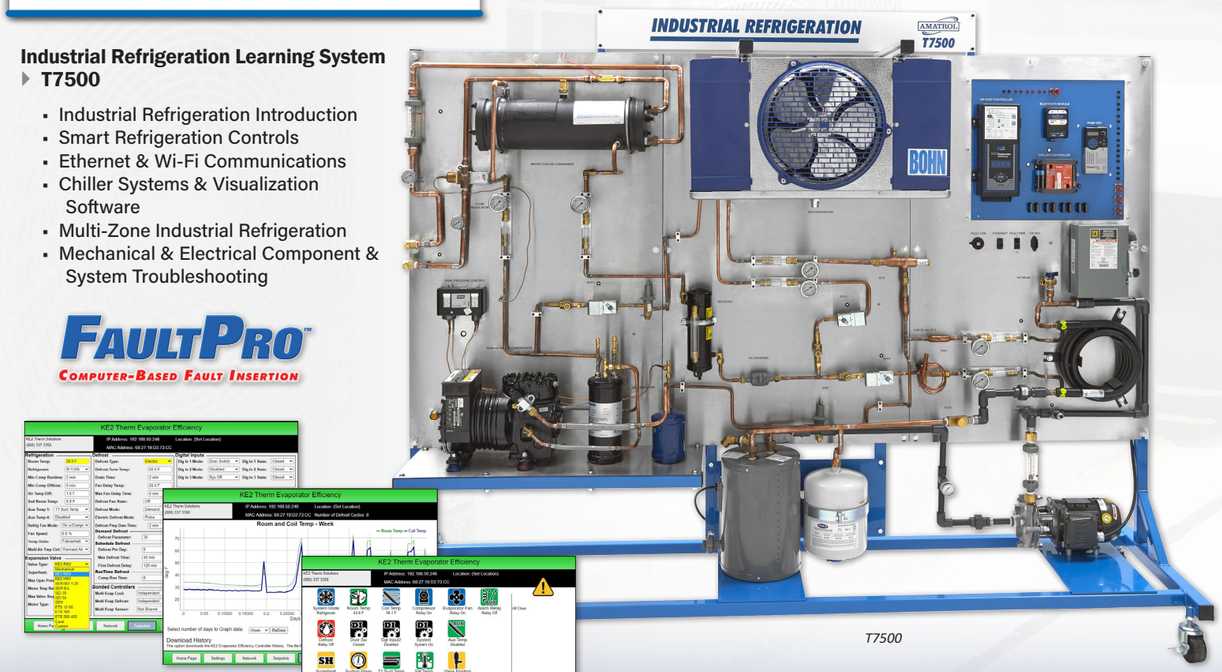
FaultPro™
Computer-Based Fault Insertion

INDUSTRIAL REFRIGERATION

Industrial Refrigeration Learning System
▸ T7500

- Industrial Refrigeration Introduction
- Smart Refrigeration Controls
- Ethernet & Wi-Fi Communications
- Chiller Systems & Visualization Software
- Multi-Zone Industrial Refrigeration
- Mechanical & Electrical Component & System Troubleshooting

FaultPro™
Computer-Based Fault Insertion



T7500

STEAM

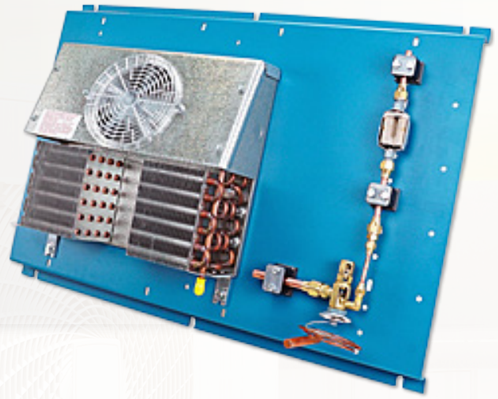


Steam Systems ▸ 950-SH1

- Steam System Operation
- Temperature Measurements
- Pressure Measurements
- Thermal Expansion
- Steam States
- Internal Energy & Enthalpy
- Steam Tables & Diagrams
- Boiler Operation
- Boiler Subsystems
- Stem & Yoke Valve Operation
- Strainer Inspection
- Preventive Maintenance

HVAC System Cutaway

- Teach about the cooling needed for fresh and frozen food preservation
- Sectioned example of refrigeration system
- Enhance training in HVAC system design, maintenance, troubleshooting, and preventive/predictive maintenance

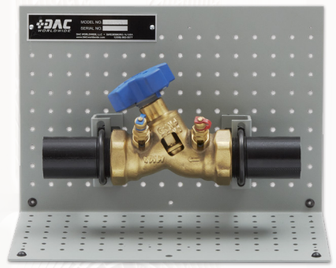


373-991 | Ceiling Unit Cooler System Cutaway

Component Cutaways



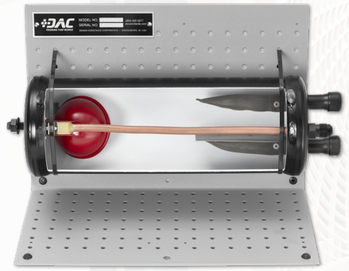
373-502 | ACR Solenoid Valve & 373-505 | Heat Pump Reversing Valve



373-551 | ACR Manual Balancing Valve



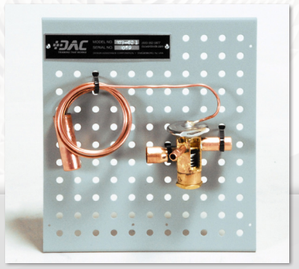
373-601 | ACR Liquid Line Filter/Drier



373-721 | ACR Oil Separator, Float-Type



373-701 | ACR Suction Line Accumulator



373-521 | ACR Thermostatic Expansion Valve, Fixed-Type



373-195 | Compressor Service King Valve



373-510 | ACR Magnetic Check Valve



373-501 | ACR Steel Ball Valve

DAC Worldwide's line of HVAC cutaways are real-world industrial components that have been restored and refinished. Each component has been professionally sectioned to expose primary components that students will encounter in the field.

Compressor Cutaways

DAC Worldwide offers students wide-ranging experience using a variety of different compressor types commonly found in HVAC systems, including:

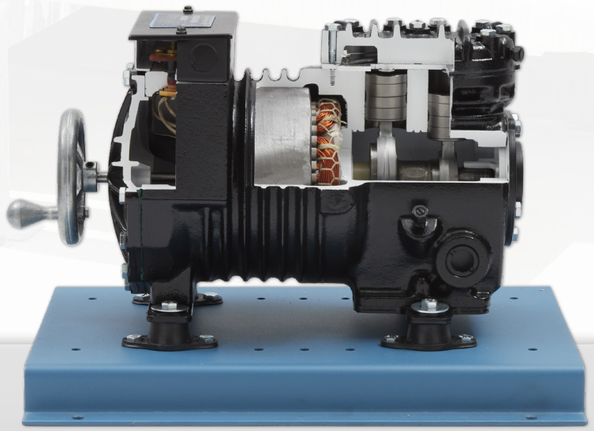
- Hermetic
- Semi-Hermetic
- Open Drive Refrigeration
- Hermetic Rotary



373-130 | Hermetic Scroll Refrigeration Compressor



373-110 | Hermetic Compressor



373-120 | Semi-Hermetic Compressor



373-160 | Hermetic Rotary Compressor Cutaway

AMATROL® Certifications

HVAC Excellence™

From Skills To Certification

In today's HVACR industry, success takes more than just technical skills. Employers are looking for problem solvers who can think critically and professionals who can prove their knowledge where it counts...on the job. That's where two powerful tools come together:

Amatrol's Critical Thinking Assessments

Help identify and sharpen critical skills in real-world scenarios.

HVAC Excellence's Knowledge Validation Exams

Validate the learners have the retained knowledge necessary for employment in various disciplines.



AMATROL & HVAC Excellence together give students the confidence to think smarter, prove stronger, and get hired faster.

Turning Training Into Certification

Employment Ready Certifications serve as a standardized assessment for employers to evaluate applicants' readiness, regardless of their training source.

These discipline-specific assessments help instructors pinpoint areas that may require additional training, unlike course grades. Nationally-recognized, these certifications address grading inconsistencies and enable easy assessment and comparison of student achievements within institutions or across states.

Many of the Amatrol HVACR trainer curricula have been cross-walked with the HVAC Excellence competency and task list, allowing instructors to easily assess student readiness on the trainer while also aligning with national certification standards with the HVAC Excellence, Employment Ready Certification Exams.

Employment Ready Certifications

- Air Conditioning
- Basic Refrigeration and Charging Procedures *
- Brazing and Soldering *
- Building Automation Systems
- Carbon Monoxide & Combustion Analysis
- Combustion Appliance Zone
- Electrical *
- Electric Heat *
- Fuel Oil Combustion
- Gas Heat
- Geothermal Heat Pumps
- Heat Pumps *
- Light Commercial Air Conditioning
- Light Commercial Refrigeration
- Mini-Split Core Essentials
- Natural Gas Combustion
- Oil Heat
- Pressure Enthalpy
- Psychrometrics
- Residential & Light Commercial Hydronic Heat
- System Diagnostics & Troubleshooting
- System Recovery and Evacuation *
- Water Heaters *

** Available in Spanish*

Competency and Task List

Download your FREE roadmap to the competencies and tasks that need to be incorporated into each subject matter area of the program at escogroup.org by clicking the certification link.

Instructor Reports

Proctors can log in to review candidate test results and access detailed statistical reports. These reports are helpful in satisfying Perkins compliance.

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