

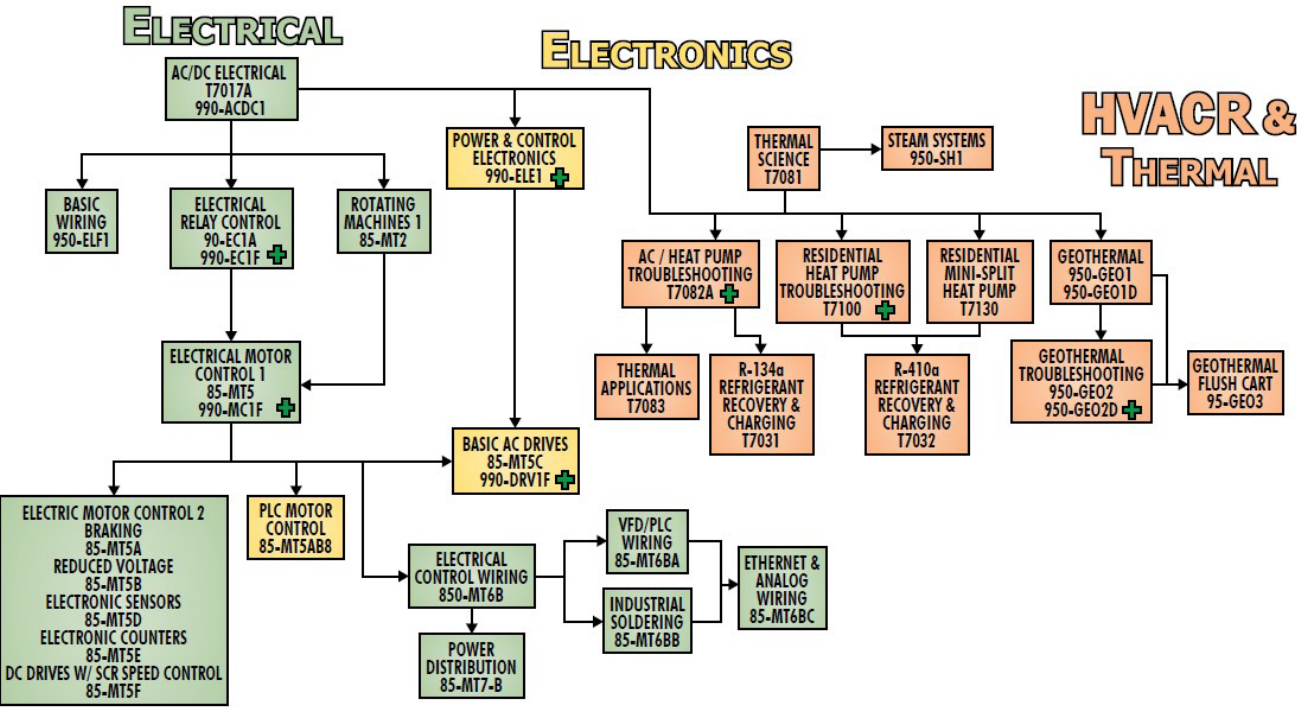


HVAC Solutions





HVAC-R Skills



Hands-On Training & Job-Ready Skill-Building for Careers in HVAC!

Amatrol’s HVAC Training Program combines HVAC training courses with world-class simulators featuring industry-standard components so that learners are prepared for successful HVAC maintenance careers. Amatrol offers an unrivaled pairing of theoretical depth and breadth and hands-on skills in areas such as electrical, fluid power, mechanical, electronics, and many more!

Multimedia Curriculum Features

Amatrol’s peerless interactive multimedia curriculum utilizes text with voiceovers, pictures, videos, stunning 3D animations, and interactive quizzes and reviews that engage learners in theoretical knowledge and concepts to provide mining courses online. This thorough, detailed curriculum begins with the basics and advances to complex concepts. These courses provide 24/7 access through our eLearning web portal so you can train whenever you need. Through partnerships with key industry leaders and leading educators, Amatrol developed the right balance of knowledge to train learners to work in their chosen field.



Hands-On HVAC-R Training



Model	Curriculum	Air Conditioning	Refrigeration	Heating	Heat Pump	Electrical	Building Automation Systems	HVAC Controls	Solar, Custom, & Packages	Tabletop Units	Build-Up Units
HVACR.edu	x										
BL-01	x						x			x	
BL-02	x						x			x	
PT-201	x						x			x	
PT-181	x						x			x	
HVAC Basic	x										
TU-210				x							
TU-601		x			x						
TU-9240		x				x		x			
TU-9250		x		x		x		x		x	
TU-9230			x								
TU-805		x	x							x	
TU-810		x	x							x	
TU-100		x	x		x						
TU-130			x								
TU-105			x								
TU-106			x								
TU-420			x							x	
TU-155			x								
TU-206C		x									
TU-406C					x						
TU-701					x					x	
TU-208				x							
TU-302				x		x				x	
TU-502				x						x	
TU-521		x				x					
TU-101			x								x
TU-501								x			x
TUE-150						x					
TUE-200						x					
TU-900		x							x		
EP-525		x							x		
iManifold Kits									x		

Core Skills for HVAC



T-7017A AC/DC Electrical Systems

Amatrol's AC/DC Electrical Training System (T7017A) explores the fundamental concepts of AC and DC electrical systems. Learners will see how electricity is used for power and control in industrial, commercial, agricultural, and residential applications. This training system covers industry-relevant technical skills including how to operate, install, design, and troubleshoot basic AC and DC electrical circuits for various applications.

990-EC1 Electric Relay Control System

Amatrol's Electric Relay Control Training System teaches the basics of electric relay control, from the elements of control logic to more advanced topics like a timer relay's operation within an unloaded motor start circuit. Learners will apply what they learn by practicing hands-on skills. For example, learners will study how multiple cylinders can be controlled by limit switches and then immediately operate a dual-cylinder control circuit using two limit switches.



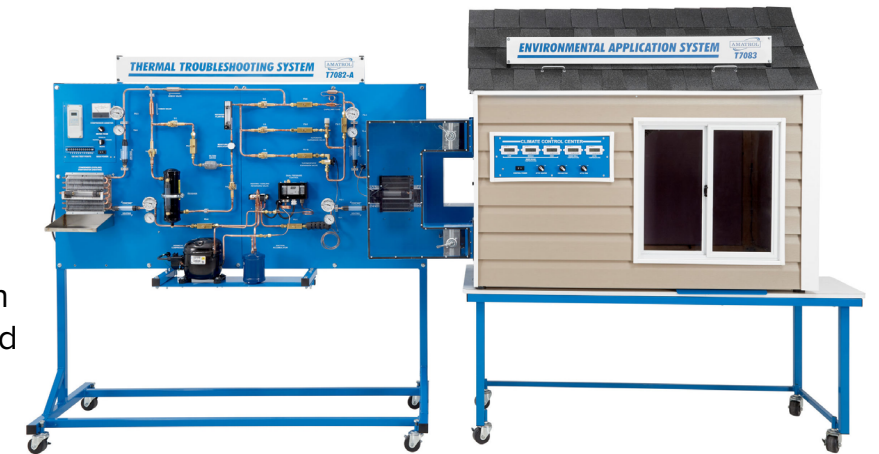
T-7081 Applied Thermal Science

Amatrol's Thermal Science Learning System (T7081) provides the knowledge and equipment needed to comprehend the principles of modern thermal systems, such as HVAC, geothermal, refrigeration, and steam systems. As learners progress through the thermal science training curriculum, they will perform experiments demonstrating principles such as the ideal gas law, linear and volumetric thermal expansion, basic temperature measurement, latent and sensible heat, specific heat capacity, conduction, convection, radiation, evaporative cooling, and basic refrigeration.



T-7082 & T-7083 Thermal Troubleshooting System & Environmental Application System

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 Environmental Applications Learning System (T7083) is a model of a house complete with insulation, siding, shingles, and a window. When connected with one of the Air Conditioning / Heat Pump systems via a duct system, learners can use real-world instruments to measure and adjust the temperature within this scaled home replica. This combination of trainers will serve as an unparalleled learning experience for anyone in the HVAC or home construction field.



TU-805 Mobile Table-top Air Conditioning & Refrigeration Trainer

This training unit demonstrates basic refrigeration and air conditioning principles in a compact size perfect for classroom or mobile training. Includes the popular iManifold 900C service kit, and a new iManifold Pulse kit for permanent installation and 24/7 monitoring on a package unit. Includes full iConnect curriculum Basic Refrigeration Fundamentals.

iConnect
TRAINING



Technician/Troubleshooting



85-MT5 AC Electric Motor Control Systems

Amatrol's Electric Motor Control Learning System (85-MT5) covers electric relay control of AC electric motors found in industrial, commercial, and residential applications. Learners study industry-relevant skills including how to operate, install, design, and troubleshoot AC electric motor control circuits for various applications. Troubleshooting skills include testing an indicator lamp, manual switch, control relay, motor contactor, overload relay, and many more!

T-7031 R-134a Refrigerant Recovery & Charging

Amatrol's Refrigerant Recovery and Charging Learning System for R-134a (T7031) teaches aspiring HVACR technicians the critical hands-on skills they need to succeed on the job. Learners will work with real equipment, such as: a recovery machine, manifold gauges, submersible cooler, temperature probe, filter dryer, low side liquid charger, vacuum pump, and micron vacuum gauge.



T-7032 R-410a Refrigerant Recovery & Charging

Amatrol's Refrigerant Recovery and Charging Learning System for R-410a (T7032) teaches aspiring HVACR technicians the critical hands-on skills they need to succeed on the job. Learners will work with real equipment, such as: a recovery machine, manifold gauges, submersible cooler, temperature probe, filter dryer, liquid vaporizer, low side liquid charger, vacuum pump, and micron vacuum gauge.



T-7100 Residential Heat Pump 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.

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.

T-7130 Residential Mini-Split Troubleshooting

Amatrol's Residential Mini-Split Heat Pump Learning System (T7130) teaches the critical hands-on skills HVACR technicians need to succeed when working with residential ductless ("mini-split") HVAC systems. Learners will work with real equipment, such as: a heat pump condenser, evaporator unit, thermostat, panel-mounted gauges, and condensate pump.

The T7130 was designed to include transparent housings and pipes with LED illumination that allows learners to see inside the system. Learners will also gain invaluable troubleshooting experience solving a combination of both mechanical and electrical faults using Amatrol's exclusive FaultPro computer-based fault insertion system. For example, the T7130 includes 28 faults related to failures involving the fan motor, fuses, input power/wiring, compressor, and sensors.





Technician/Troubleshooting



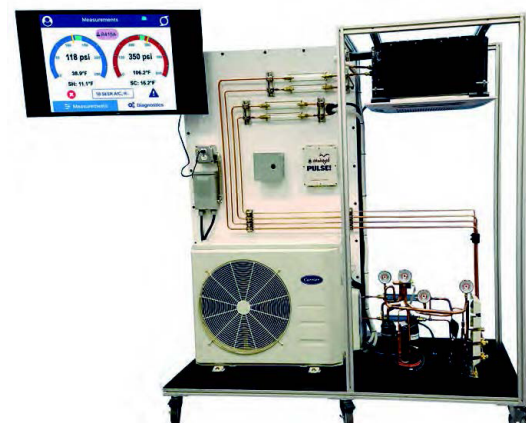
TU-100 Basic Refrigeration Trainer

This training unit demonstrates domestic refrigerators, freezers, self-contained air conditioning units, and reverse cycle or heat pump systems. Features sight glass tubes at inlet and outlet of evaporator and condenser, pressure gauges located at each point in which pressure variation is likely to occur, variable fan speed controls for indoor coil and outdoor coil load adjustment, and more.

TU-601 Multi-Head Mini Split Heat Pump Training Unit

Ductless mini split technology is the largest growing sector in the HVAC industry. Use this new model training unit to teach the skills necessary to capitalize on the growing electrification of HVAC to reduce global warming. This training unit features a 2-zone mini split heat pump system including high wall mounted unit and ceiling cassette mounted on an aluminium frame. Students can observe the flow of refrigerant at key points within the system through six extended-view sight glasses.

Advanced troubleshooting features include an electrical fault package via toggle switches, and a louver to adjust air flow to the outdoor unit. Service ports are accessible on high and low side to connect the included iManifold service tool.



TU-206C Residential Air Conditioning Trainer

Teach real world experience in troubleshooting wiring, piping, and controls of a working air conditioning unit for a whole house. This residential split system shows indoor and outdoor components with a 1.5 ton straight cool condenser and matching air handler. Features fault simulation with two refrigerant faults and four electrical faults, providing numerous real-world applications and troubleshooting examples.



TU-406C Residential Heat Pump Trainer

Teach real world experience in troubleshooting wiring, piping, and controls of a working air conditioner/head pump unit for a whole house. This residential split system shows indoor and outdoor components with a 1.5 ton heat pump condensing unit and matching air handler. Features a programmable “smart” thermostat, EZ Trap Float Switch and emergency drain pan float switch, plus fault simulation with two refrigerant faults and four electrical faults for real-world troubleshooting experience.



TU-701 Table-Top Heat Pump Trainer

Real world experience in troubleshooting wiring, piping, and controls on a working heat pump unit. The trainer is perfect for introduction to heat pump theory. Features sight glass tubes before and after metering device, pre-piped suction and high pressure refrigeration tubing visible for direct observation of fluid and gas stages of the refrigeration cycle.





Supplemental Trainers

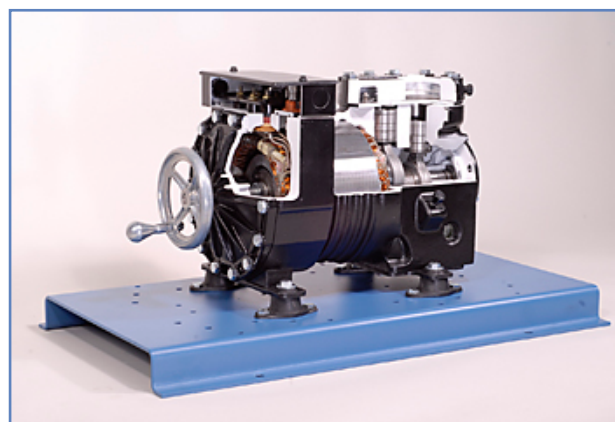


373-110 Hermetic Compressor Cutaway

DAC Worldwide's Hermetic Compressor Cutaway (373-110) is an expertly-sectioned example of a common fractional-horsepower refrigeration compressor, which facilitates and supports practical training in compressor design, operating principles, and maintenance. Both the steel shell and the compressor itself are cut away, allowing for full visibility of the compressor's operating components.

373-120 Semi-Hermetic Compressor Cutaway

DAC Worldwide's Semi-Hermetic Compressor Cutaway (373-120) is an expertly-sectioned example of a common intermediate (1"-1 1/2") horsepower semi-hermetic refrigeration compressor that facilitates and supports practical training in compressor design, operating principles, and maintenance. A full longitudinal cutaway allows for full visibility of the compressor's operating components, including multiple cylinders, valves, internal motor, and crank shaft.



373-002 Tabletop Support Frame Assembly

DAC Worldwide's Tabletop Support Frame Assembly (373-002) is an optional display rack for the 373-Series panel-mounted HVAC cutaways, as well as other product cutaways and equipment samples. Fabricated from 16-gauge formed-steel and powder-coated standardized components, the assembly allows for 36" of panel mounting area. Thanks to its high-durability, power-coated surfaces throughout, this display rack allows for rough handling and will easily provide years of trouble-free duty in the training lab or classroom.



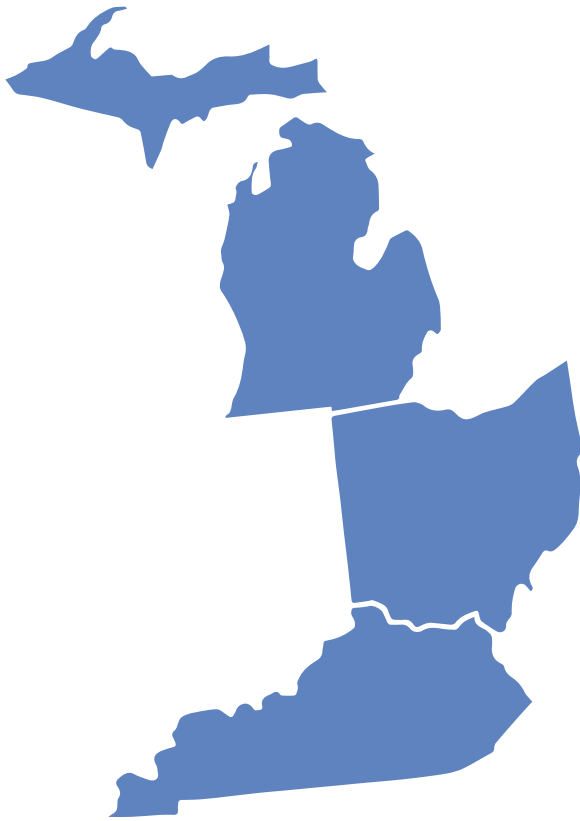
BL-01 BAS Controller Training Unit

iConnect Training's BL-01 BAS Controller Training Unit is a packaged benchtop learning system intended for Building Automation and HVAC controls technicians/programmers who work with BAS controllers. Input/ output devices are prewired. Also, it comes with web-based and highly interactive level 1 curriculum emphasizing BACnet networking and Sedona programming.

BL-02 Intro to BAS Controllers

The BL-02 BAS Controller Training Unit is designed specifically for training DDC/ BAS technicians and programmers who work with programmable unitary controllers. Graphical object oriented programming is introduced using the nonproprietary, open-licensed Sedona Framework®. The Intro to Sedona curriculum can be presented as an instructor lead or self-paced learning experience. Designed for the introductory level, users interact via PC software to connect with web-based configurations where they test and communicate with BAS/DDC field controllers. Using the Sedona Framework, users can create a basic DDC program that includes the three fundamental elements of controls: inputs, logic, and outputs. Offering students hands-on experience with DDC, this benchtop unit features a Contemporary Controls Bc022 controller and (2) BACnet discoverable devices including a Bellimo Actuator and Senva wall setter.





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