TRAINING UNIT CATALOG

SPECIALIZING IN HVAC/R TRAINING

iConnect® TRAINING

NEW R-290 MODELS AVAILABLE!

BUILDING AUTOMATION SYSTEM UNITS

NORTH AMERICAN TECHNICIAN EXCELLENCE
NATE
CERTIFYING THE FINEST IN HVACR ®

PRESENTING CROSS-REFERENCE TO NATE KNOWLEDGE AREAS BY TRAINING UNIT IN TABLE OF CONTENTS

TU-601 MULTI-HEAD MINI SPLIT HEAT PUMP TRAINING UNIT

NORTH PARK INNOVATIONS GROUP, INC.

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TRAINING UNITS

OUR COMMITMENT TO QUALITY EDUCATION

We strongly believe in providing the HVAC/R student with the knowledge and training for the safe and efficient operation of all types of systems found in our industry. We also believe that prior to going out into the field, the student should fully understand the theory and operational or service techniques behind each specific system. iConnect Training provides the finest training units to the educational market. They can be found in high schools, technical colleges, government facilities and other educational settings all over the world (see partial listing of locations on page 37). The training units in this catalog represent a wide variety of subjects in the heating, refrigeration, air conditioning and electrical industries. The training units range from demonstrating simple concepts to illustrating advanced troubleshooting and servicing techniques. Our expertise certainly does not end here. We can custom design and build training units to your exact specifications and needs. For custom requirements or applications, please give us a call at 716.699.2031.

Our company's goal is to provide top quality training units at reasonable prices that fit our customers' precise needs and exceed their expectations. We look forward to working with you.

iCONNECT TRAINING UNITS BY CATEGORY

CURRICULUM

Model #	HVACR.edu	BAS: BL-01	BAS:BL-02	BAS:PT-201	BAS: PT-181	HVAC Basic
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AIR CONDITIONING

Model #	TU-601	TU-9240	TU-9250	TU-805	TU-806	TU-808	TU-810	TU-100	TU-206C	TU-406C	TU-521	EP-525	TU-900
Page #	6	13	14	18	3	4	19	20	25	26	30	34	36

REFRIGERATION

Model #	TU-9230	TU-805	TU-810	TU-100	TU-130	TU-105	TU-106	TU-155	TU-101
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HEATING

Model #	TU-210	TU-9250	TU-208	TU-302	TU-502
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HEAT PUMP

Model #	TU-601	TU-100	TU-406C	TU-701
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ELECTRICAL

Model #	TU-9240	TU-9250	TU-302	TU-521	TUE-150	TUE-200
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BAS BUILDING AUTOMATION SYSTEMS (BAS)

Model #	BL-01	BL-02	PT-201	PT-181
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HVAC CONTROLS

Model #	TU-9240	TU-9250
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Join our iConnect Training Instructors-Only Technical Club

See page 35

SOLAR, CUSTOM AND EQUIPMENT PACKAGES

Model #	DIGITAL EQUIPMENT KIT	EP-525	CUSTOMIZATIONS	TU-900 SOLAR
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TABLE-TOP UNITS

Model #	BL-01	BL-02	PT-201	PT-181	TU-9250	TU-805	TU-810	TU-701	TU-302	TU-502
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GAS UNITS

Model #	TU-206CGF	TU-406CGF	TU-208	TU-9250	TU-502	TU-210
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eLEARNING CURRICULUM OFFERINGS

iCONNECT TRAINING IN PROUD PARTNERSHIP WITH HVACREDU.NET ARE PLEASED TO PRESENT OUR ELEARNING CURRICULUM PACKAGES.

HVACedu.net maintains the most extensive selection of online courses related to air conditioning, refrigeration, and building automation. These highly accredited programs are now available to our education customers through this unique iConnect Training offer.

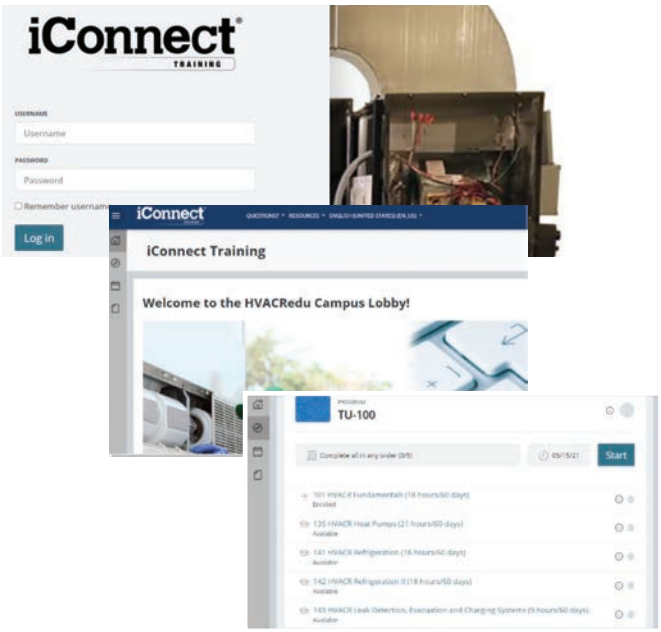
HVACRedu.net
Workforce Development Online for the HVACR Industry

LEARN FROM THE BEST

Developed by Subject Matter Experts and Certified Master HVAC Educators, our partnership with HVACRedu.net provides your program with access to over 1,700 hours of content including over 800 hours of streaming video, over 3,000 downloadable PDF handouts, voiced "learn out loud modules", eBooks, games, animations, simulations, assessments, and other instructional assets.

eLEARNING CURRICULUM NOW AVAILABLE FOR EACH ICONNECT TRAINING MODEL.

Students can access the HVACRedu.net eLearning package by simply logging in through the program portal from any device. Instructors are set up as a group manager, and have access to their learners' progress tracking, reports, grades, and the enrolled curriculum. A personal dashboard helps students stay on track as they move through the course materials. Learner groups are identified by school and logo on their pages.



CUSTOMIZED EXPERIENCE

We have carefully selected curriculum packages to accompany each iConnect Training unit.

Additional courses can also be selected from HVACRedu.net's extensive catalog. Subscriptions are available for students using their unique user email ID (one subscription per user), and are available at secondary and post-secondary pricing levels. Consider our suggested curriculum bundle featured with each iConnect Training model, or customize your own package from the HVACRedu.net catalog.

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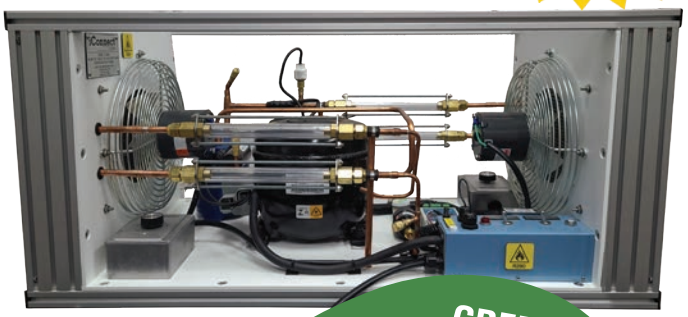
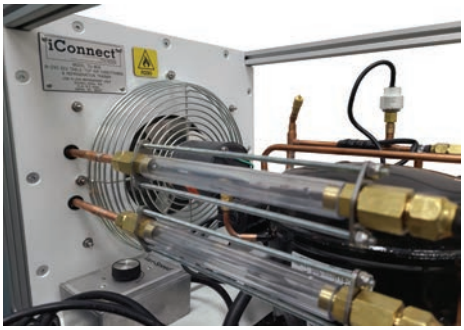
NEW PRODUCT

TU-806 R-290 EEV TABLE-TOP AIR CONDITIONING & REFRIGERATION TRAINING UNIT

This training unit demonstrates a basic refrigeration and air conditioning system featuring an electronic expansion valve, using a natural refrigerant.



GREEN REFRIGERANT!



Specifications

Utilizes "green" refrigerant R-290

Electrical Requirements: 120VAC; 60Hz; 15A

Overall Size: 34" L x 16" W x 16" H

Weight: 80 lbs.

1/3 HP hermetically sealed reciprocating compressor.

Features

- **Electronic Expansion Valve (EEV) to control the flow of refrigerant with a sophisticated design. This cutting-edge technology can also operate as a fixed orifice metering device.**
- Demonstrate, operate and program an EEV electronic controller.
- R-290 natural refrigerant: can be vented to outdoor atmosphere (does not need to be recovered)
- Easy access for electrical measurements.
- Lightweight for easy on-the-go training; weighing only 80 lbs., this unit can be moved, transported and stored.
- Variable fan speed controls for evaporator and condenser load adjustment
- Sight glasses at inlet and outlet of evaporator and condenser constructed of explosion-proof, tie-bolt design
- Conditions of refrigerant and oil can be observed under fluid and gas stages of operation
- Evaporator and condenser copper tube coils with aluminum fins
- Drip pan located under the evaporator for condensation drain
- Includes Operation Manual
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

This unit utilizes a natural refrigerant, R-290, and certain schools and campuses may have restrictions on maximum ounces of such A3 refrigerants. Verify your situation before ordering.

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See page 33 for more information on the iConnect Training Digital Equipment Kit.

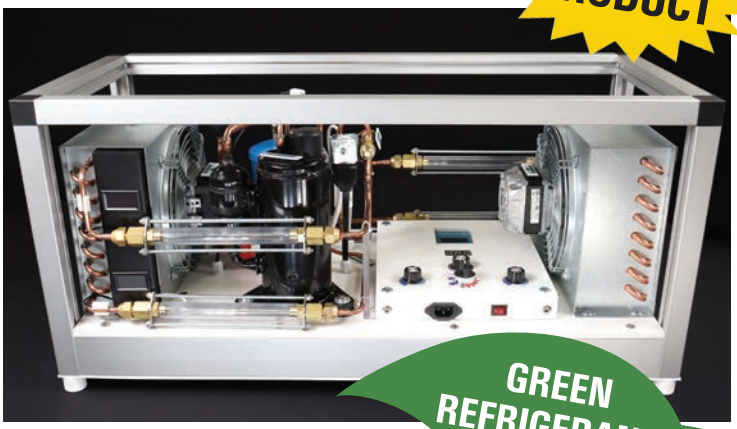
Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 230 lbs.
Shipping Dimensions: 36" L x 44" W x 25" H

NEW PRODUCT

TU-808 HEAT PUMP TRAINER WITH INVERTER COMPRESSOR & R-290 REFRIGERANT

This training unit demonstrates a heat pump system utilizing the R-290 propane refrigerant.



GREEN REFRIGERANT!

Specifications

Utilizes "green" refrigerant R-290

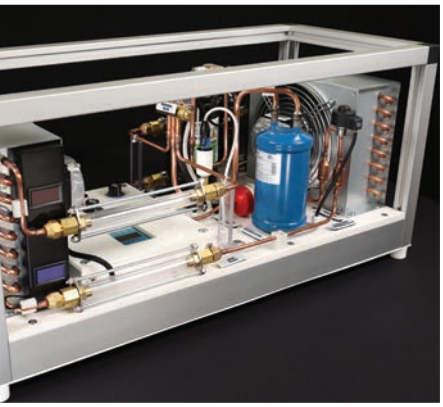
Electrical Requirements: 120VAC; 60Hz; 15A

Weight: 73 lbs.

Features

- Reversible thermodynamic "heat pump" system with hot/cold mode selector
- R-290 natural refrigerant: can be vented to outdoor atmosphere (does not need to be recovered)
- Inverter Compressor with manual speed control (75Hz to 124 Hz): illustrate the change of phases of refrigerant in the sight glasses & the power consumption changes from inverter variations.
- Real-time read out of compressor frequencies
- Advanced technology in a portable, light weight unit
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

This unit utilizes a natural refrigerant, R-290, and certain schools and campuses may have restrictions on maximum ounces of such A3 refrigerants. Verify your situation before ordering.



See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

iConnect® TRAINING

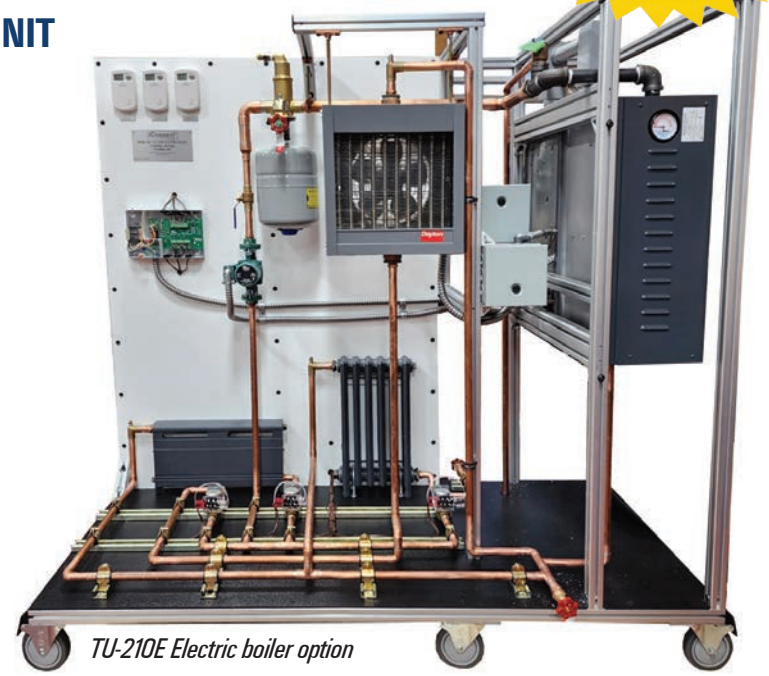
NEW PRODUCT

TU-210 HYDRONIC HEATING TRAINING UNIT

This training unit demonstrates the operation of a boiler (customer chooses one option between gas or electric), unit heater, baseboard and radiator, with 3 zones valves and thermostats, expansion tank, and faults allowing simulations of failed components.

Specifications

Electrical Requirements:
Gas version: TU-210G: 120V; 60Hz; 20A, plug included
Electric version: TU-210E: 240V; 60Hz, 100A, plug not included
Overall Size: 70" L x 33" W x 77" H



TU-210E Electric boiler option

TU-210G Gas boiler option

CUSTOMERS HAVE THE CHOICE OF EITHER:
Gas *or* Electric Boiler

***TU-WPP** Optional Water Pump Package comes with 25 gallon tank and convenient cart.*

Shipping Weight: 320 lbs.
Shipping Dimensions: 48" L x 48" W x 64" H

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

TU -210G Shipping Weight: 920 lbs.
Shipping Dimensions: 80" L x 48" W x 78" H

TU -210E Shipping Weight: 1050 lbs.
Shipping Dimensions: 80" L x 48" W x 78" H

NEW PRODUCT

TU-601 MULTI-HEAD MINI SPLIT HEAT PUMP TRAINING UNIT

Ductless mini split technology is the largest growing sector in the industry. Use this new model training unit to teach the skills necessary to capitalize on the growing electrification of HVAC to reduce global warming.

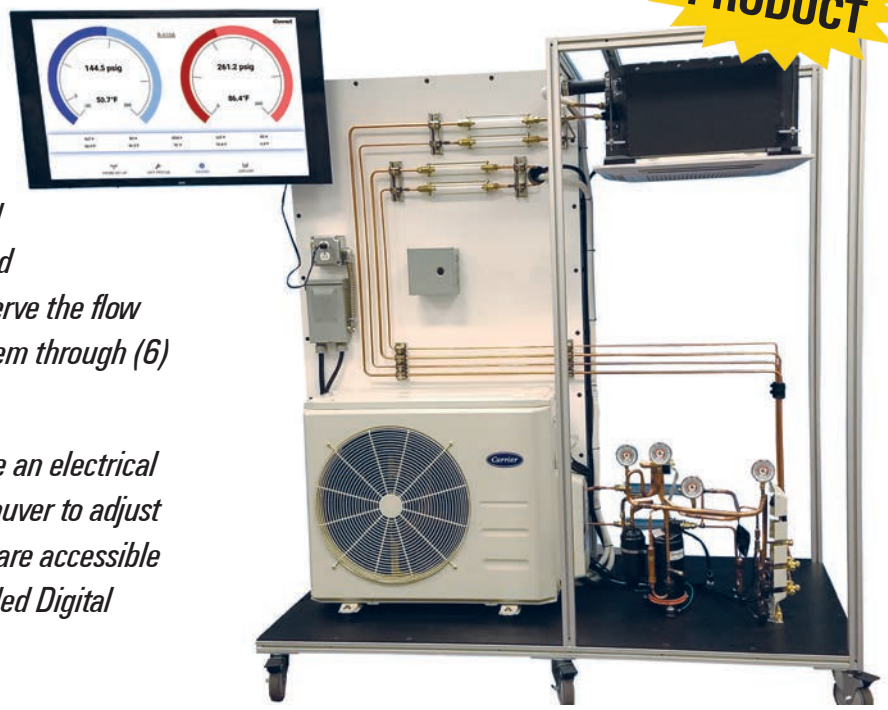
Back side of unit showing louvers and wall-mounted unit

THE TU-601 FAULT PACKAGE

1. *Outdoor fan*
2. *EEV A*
3. *EEV B*
4. *Reversing Valve*
5. *High Wall Signal*
6. *Cassette Signal*
7. *Simulated Compressor Fault: Shorted windings*
8. *Simulated Compressor Fault: Grounded windings*
9. *Simulated Compressor Fault: Open windings*

NEW PRODUCT

TU-601 MULTI-HEAD MINI SPLIT HEAT PUMP TRAINING UNIT



This training unit features a 2-zone mini split heat pump system including high wall mounted unit and ceiling cassette mounted on an aluminum frame. Students can observe the flow of refrigerant at key points within the system through (6) 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 Digital Equipment Kit.

Specifications

Electrical Requirements: 208/230VAC; 60Hz; 20A

Overall Size: 73" L x 33" W x 79" H

Uses R-410A Refrigerant

Features

- Dual Zone Ductless Mini Split Heat Pump system
- Zone 1 – Indoor High Wall Unit
- Zone 2 – Ceiling Cassette
- Louver for control of air flow to outdoor unit
- Toggle switches for electrical faults
- Access to service ports on high and low side of system
- TV display screen
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

New Features

- (4) Inline Pressure Gauges located on each side of reversing valve

** NOTE: Plug is not supplied with the unit; customer should hard-wire or terminate with appropriate plug following local codes and guidelines.*

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 980 lbs.
Shipping Dimensions: 86" L x 48" W x 90" H

iConnect® TRAINING

BL-01 BAS CONTROLLER TRAINING UNIT

This benchtop learning system is intended for Building Automation and HVAC controls technicians/programmers who work with BAS controllers. Input/output devices are prewired. The Level 1 Intro to Sedona curriculum is and highly interactive emphasizing BACnet networking and Sedona. This benchtop unit features a Contemporary Controls Bc20 BACnet IP controller.

Specifications

Power Requirements: 10W 24VDC (via 120 VAC to 24VDC Wall Adapter)
Operating Temperature: 55°F to 85°F
Storage Temperature: 10°F to 110°F
Relative Humidity: 10 to 95% RH non-condensing
Mounting: Benchtop
Dimensions: 10"W x 12"H x 7"D

Features

- Programmable Sedona 20 point unitary controller with BACnet IP, and web interface
- Instrument panel with Input/Output components and 24VDC posts
- 0-10 VDC Digital meter
- 24VDC 1.5A Wall adapter
- USB Drive with included Course Curriculum and Setup/support documents
- BAS Software Toolkit open licensed

Also Available in DIN Rail Version

BL-01 – Contemporary Controls Bc20 controller, BAS Toolkit software, Intro to Sedona Course Curriculum (USB Drive).

BL-01-DIN – DIN rail mount (No controller included), BAS Toolkit software. Limited 1yr. warranty. No curriculum included. Note: DIN rail model requires some final user wiring due to lack of controller.

*Requires Windows-based PC or Laptop with standard ethernet port

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 8 lbs.
Shipping Dimensions: 12" L x 14" W x 14" H

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BL-02 BAS CONTROLLER TRAINING UNIT

The BL-02 is designed specifically for training DDC/ BAS technicians and programmers who work with programmable unitary controllers. Graphical object oriented programming is introduced using the non-proprietary, open-licensed Sedona Framework®. The Intro to Sedona curriculum can be presented as an instructor-led or self-paced learning experience. Designed for the introductory level, users will interact with PC software to communicate with web-based configurations to test and communicate with BAS/DDC field controllers and create a basic DDC program using the Sedona Framework, which includes the three fundamental elements of controls including inputs, logic, and outputs. Offering students hands-on experience with DDC, this benchtop unit features a Contemporary Controls Bc20 BACnet IP controller, a Belimo Actuator, and Senva wall setter.

Specifications

Power Requirements: 20W 24VDC (via 120VAC to 24VDC Wall Adapter)

Operating Temperature: 55°F to 85°F

Storage Temperature: 10°F to 110°F

Relative Humidity: 10 to 95% RH non-condensing

Mounting: Benchtop

Dimensions: 17"W x 12"H x 7"D

Features

- Programmable Sedona 20 point unitary controller with BACnet IP, and web interface
- Instrument panel with Input/Output components and 24VDC posts
- 0-10 VDC Digital meter, 2-10v Belimo actuator
- 24VDC 1.5A Wall adapter
- Senva AQW Wall Setter with integral temperature, setpoint slider and CO2 sensor
- USB Drive with included Course Curriculum and Setup/support documents
- Sedona toolkit open licensed

Also Available:

BL-02-DIN – DIN rail mount (No controller included). Limited 1yr. warranty. No curriculum included. Note: DIN rail model requires some final user wiring due to lack of controller.

*Requires Windows-based PC or Laptop with standard ethernet port

iConnect® TRAINING

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 9 lbs.
Shipping Dimensions: 20" L x 14" W x 14" H

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PT-201 DDC/BAS PROGRAMMER TRAINING UNIT

The PT-201 is designed specifically for training DDC/BAS programmers who work with programmable unitary controllers. Graphical object oriented programming is presented using the non-proprietary, open-licensed Sedona Framework®. Students can practice wiring using the included banana plug jumper kit. Includes Level 1 Intro to Sedona curriculum.

Specifications

Power Requirements: 50W; 120VAC; 60Hz

Operating Temperature: 55°F to 85°F

Storage Temperature: 10°F to 110°F

Relative Humidity: 10 to 95% RH non-condensing

Mounting: 5/16" carriage bolts (2) optional

Dimensions: 18.5"W x 14"H x 7"D (w/cover)

Features

- Programmable Sedona 20 point unitary controller with BACnet IP, and web interface
- Instrument panel with Input/Output components and 24VAC posts
- Belimo 2-10VDC Actuator with 2-10VDC position feedback
- Relay with HOA switch
- 0 - 10 VDC Digital meter
- 5 port Ethernet switch 10/100mpbs
- Banana plug jumper kit
- USB Drive with included Course Curriculum

Also Available:

PT-201-DIN – DIN rail mount (No controller included), BAS Toolkit, Banana Test Lead Kit. Limited 1yr. warranty. No curriculum included.

*Requires Windows-based PC or Laptop with standard ethernet port

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 22 lbs.
Shipping Dimensions: 24" L x 18" W x 14" H

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PT-181 DDC PORTABLE TRAINING UNIT

The PT-181 is a portable training unit specifically designed for the DDC (Direct Digital Controls) industry. It is packaged with Intro to Niagara curriculum that is both embedded in the training unit and contained in a written workbook resulting in a highly interactive student – training unit experience. The PT-181 incorporates some of the most popular DDC devices currently in use.

Specifications

Power Requirements: 100W; 120VAC; 60Hz

Operating Temperature: 55°F to 85°F

Storage Temperature: 10°F to 110°F

Relative Humidity: 10 to 95% RH non-condensing

Mounting: 3/8" carriage bolts (2) optional

Dimensions: 24"W x 21"H x 10"D (w/cover)

Features

- DDC Controller, Web enabled, JACE 8000 series, with permanent BACnet, LON, Modbus licenses for up to 5 devices
- Uses Niagara N4 framework
- 34 point Remote Input/Output module with integral power supply
- Programmable RTU thermostat with color touchscreen, BACnet MSTP, and web interface
- Communicating FCU thermostat with analog output and BACnet MSTP interface
- CO2 / temperature room sensor with setpoint slider
- Micro VFD with 0 - 10v signal and speed feedback and 3 phase visual output indicators
- 90 degree stroke Actuator with 2-10VDC position feedback
- Status CT, Pilot relay with Auto/On override, Thermistor temp probe
- Instrument panel with Input/Output devices and 24VAC posts
- 0 to 10 VDC Digital Meter
- 5 port Ethernet switch 10/100mpbs
- USB Drive with included Course Curriculum

iConnect® TRAINING

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 43 lbs.
Shipping Dimensions: 28" L x 24" W x 20" H

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HVAC ELECTRICAL CONTROLS AND REFRIGERATION TRAINING

iConnect Training has added this line of training units specific for HVAC Electrical Controls and Refrigeration Training. Designed by a master union technician and instructor, they are modular and flexible. Check out these models on pages 10-13.

Choose our standard model or customize your TU-9240 HVAC Electrical Control Training System by adding additional panels that meet your classroom and lab needs. See our web site for the full description of panels available: www.iConnectTraining.com/Panels.

See a few examples of the individual panels below:

PART NUMBER	PHOTO	DESCRIPTION
3009100		**Transformer Panel:** Power panel for the unit. 120V supply to the transformer, reducing the voltage to 24 volts. Fused on low voltage side for 5 amps and the high voltage side for 6 amps. Gives user the choice of using direct wiring or plug and play. Also gives a diagram of the transformer, as found on an electrical or engineering print.
3009101		**ETC Control Panel:** (Electronic Temperature Control): 2-stage temperature controller, could be used for heating or cooling applications. Thermistor type temperature sensor. Powered by 24 volt. Direct wiring.
3009102		**Time Delay Panel:** This shows a delay scenario, useful for demonstrating a delay in time for starting a load. Normally used in refrigeration systems to prevent short-cycling a compressor. Plug and play.

TU-9240 HVAC ELECTRICAL CONTROL TRAINING UNIT

This system gives students the opportunity to learn the basics of electricity, and then proceed to learn how to set up a control circuit. It is designed for courses teaching the apprentice or vocational student early in their training. Built on a rolling frame with 36 modular panels, the instructor can position 12 panels on the front display for the lessons of the day. All refrigeration controls used are designed for the HVAC industry. The student can learn from connecting the controls using two different methods, depending on the panel: banana jack or terminal block connections.

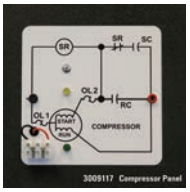
The instructor can teach the principles of circuitry, all with this low voltage system (24-volt) to ensure beginner safety. Students can experience taking voltage, amperage and resistance readings to build their basic understanding of an electrical system. Lessons with this unit will also teach them basic knowledge of series (as seen in pressure controls) and parallel circuitry (as seen in relays).

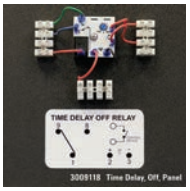
The TU-9240 HVAC Electrical Control Training Unit can be used for lectures explaining the controls and how they function and/or for practice demos. This unit is designed for electrical programs, HVAC programs, and control calibration courses.

Specifications

Electrical requirements: 120VAC; 60Hz;15A

Overall size: 45" L x 24" W x 69" H





Features

- Low voltage 24-volt system
- The unit comes standard with 36 panels
- The lower rack and back rack provide storage for the panels not being used in the current lessons
- Circuits including basic electricity, basic refrigeration, heating and air conditioning, commercial air conditioning and other load circuits can be created.
- Controls include power transformer, lamp holder panels, single, three-way, and four-way switches, single pole contactor, switching relays, programmable thermostat, fan relay, stop-start station, 3-pole contactors with auxiliary contacts and overload protection, high and low pressure controls both in-line and commercial, commercial step controller, load fans, mechanical temperature control
- Transformer Panel Steps down to 24V
- Wire test lead hit with banana plugs and additional wire leads
- Includes Student Lab Manual with wiring diagrams and multiple exercises and Instructors Manual

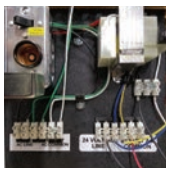
iConnect® TRAINING

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 570 lbs.
Shipping Dimensions: 61" L x 48" W x 78" H

TU-9250 HVAC CONTROLS TRAINING SYSTEM

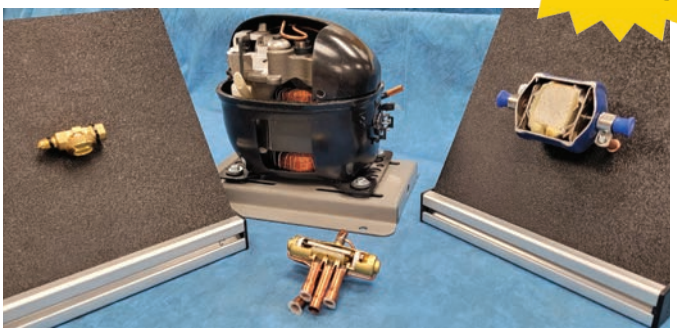
See details on all 12 of the panels in this training unit at www.iConnectTraining.com/Panels. See a few examples of the individual panels below:

PART NUMBER	PHOTO	DESCRIPTION
3009130		**Combustion Blower Panel:** This 2-stage fan operation demonstrates airflow to the burner section of a furnace. 120VAC
3009131		**Control Module Panel:** This unit is common for furnace applications. Once power is applied to the board, it will start the combustion blower motor, which will activate the pressure switch, so that the panel will get the "go signal" to start the burner.
3009132		**Control Power Panel:** This demonstrates how power is supplied to both furnace and air conditioning systems. Includes a fused surface switch, a 24-volt transformer, and is direct wired to both 120-volt and 24-volt control systems.
3009134		**High/Low Pressure Safety Panel:** This is used in the safety circuit of a furnace operation, to sense pressure created from the combustion blower through a pitot tube. If it fails to register pressure, it will shut the system down.
3009135 (Panel) 3009136 (Burner Assembly)		**Combination Gas Valve Panel and Burner:** This 2-stage gas valve receives a signal from the Control Board. Once there is a call for heating, the igniter is started, and gas is supplied to the burner for ignition. Includes Gas Valve panel and Burner Assembly with cage and regulator. Safety Note: the regulator provided has low-, medium- and high-pressure settings; it is recommended to operate only on low pressure in this application. The recommended 1-pound propane tank can be purchased by user at any local hardware supply.

NEW PRODUCT

CUT-AWAYS

iConnect Training's new line of cutaways provide students with an understanding of how HVAC components are assembled and how they function. (Models pictured here range from the small sight glass moisture indicator to a hermetic compressor, a filter drier, and a reversing valve.)

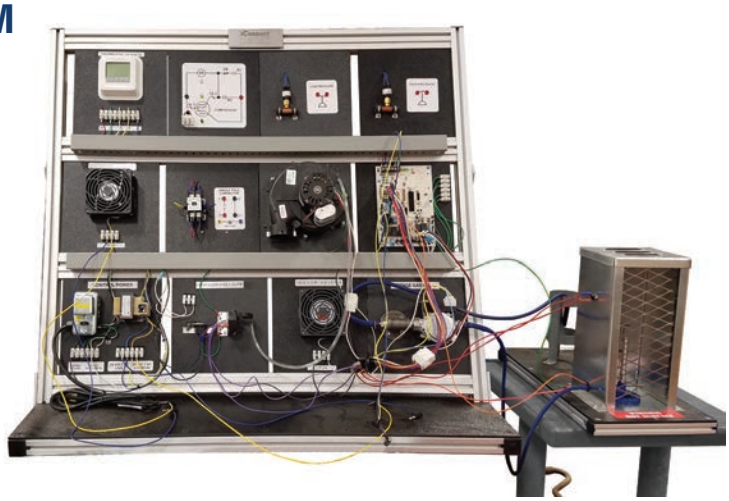


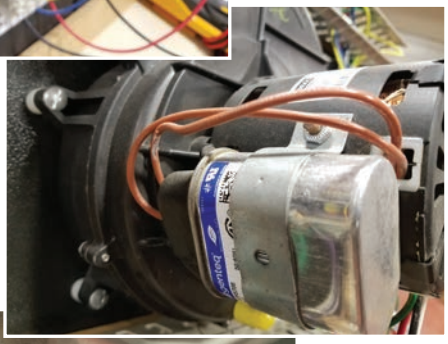
TU-9250 HVAC CONTROLS TRAINING SYSTEM

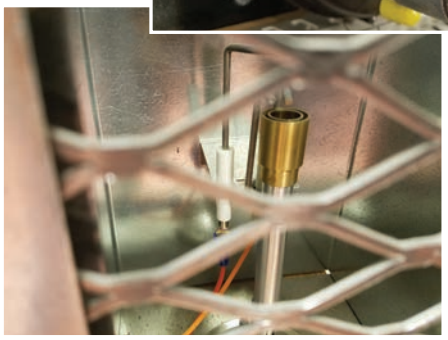
This training unit is designed to show the sequence of operation of a residential heating and cooling system. Built as a tabletop unit with 12 modular panels, it functions as a working model so the instructor can teach the basic principles of heating and cooling controls, complete with all the elements.

For the heating system, the unit includes a working model of a furnace burner, so the student gains familiarity of the operation of an entire furnace system.

The air conditioning portion of this system is simulated with the compressor contactor, high-pressure and low-pressure controls, and the compressor panel, with direct wiring or plug and play options.







Specifications

Electrical requirements: 120VAC; 60Hz; 15A

Overall size: 45" L x 24" W x 39" H

Features

- 120VAC with transformer
- The unit comes standard with 12 panels
- Wiring harnesses provided
- Fuel source is a customer-supplied standard propane canister
- Operations manual included with electrical configurations
- 12 Panel Table-Top frame with burner assembly

iConnect® TRAINING

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 350 lbs.
Shipping Dimensions: 56" L x 48" W x 36" H

NORTH PARK INNOVATIONS GROUP, INC. P.O. Box 900 | 6442 Route 242 East | Ellicottville, NY 14731 | 716.699.2031 | iConnectTraining.com

TU-9230 REFRIGERATION TRAINING SYSTEM

This training unit teaches the principals of medium and low-temp refrigeration. The unit is a split-system design with an evaporator featuring an EEV (electronic expansion valve), a suction pressure transducer, and temperature sensors to control the evaporator. With the Heatcraft intelliGen Refrigeration Controller, the student can perform educational tasks using advanced commercial refrigeration controls, such as programming of parameters and troubleshooting common failures. Airflow can be controlled to simulate various refrigeration field situations. Includes fault package to teach the student to recognize and troubleshoot common refrigeration problems, such as an open contactor coil, open safety control, and open condenser fan.

Specifications

Electrical Requirements: 208/240VAC; 60Hz; 15A

Uses R-449A refrigerant

Overall Size: 30" L x 40" W x 79" H

Includes a fused disconnect, emergency stop switch, thermostat, condensate drain pan, condensate pump, and auxiliary heater to control load

Features

- Plexiglass enclosure to simulate walk-in cooler environment
- (6) Electrical faults
- IntelliGen Controller
- Heater to create load conditions
- Condensate pump
- Louvres to control airflow
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

NOTE: 240V plug not included

The freezing effects can be visually seen and clearly felt as the temperatures reduce in the upper chamber.

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 600 lbs.
Shipping Dimensions: 51" L x 48" W x 89" H

iCONNECT TRAINING'S BASIC REFRIGERATION FUNDAMENTALS CURRICULUM

1 PRACTICE SAFE WORK HABITS

- OSHA Regulations
- Safe refrigerant handling practices
- Safe use of a portable fire extinguisher

2 DEMONSTRATE KNOWLEDGE OF REFRIGERATION SCIENCE

- Matter & Energy
- Thermodynamics
- P/T Relationships
- Refrigerants

3 COMFORT CONDITIONS AND TYPES OF COOLING SYSTEMS

- Comfort Conditions
- Identifying Cooling Systems

4 EXPLAIN THE OPERATION OF THE VAPOR COMPRESSION CYCLE

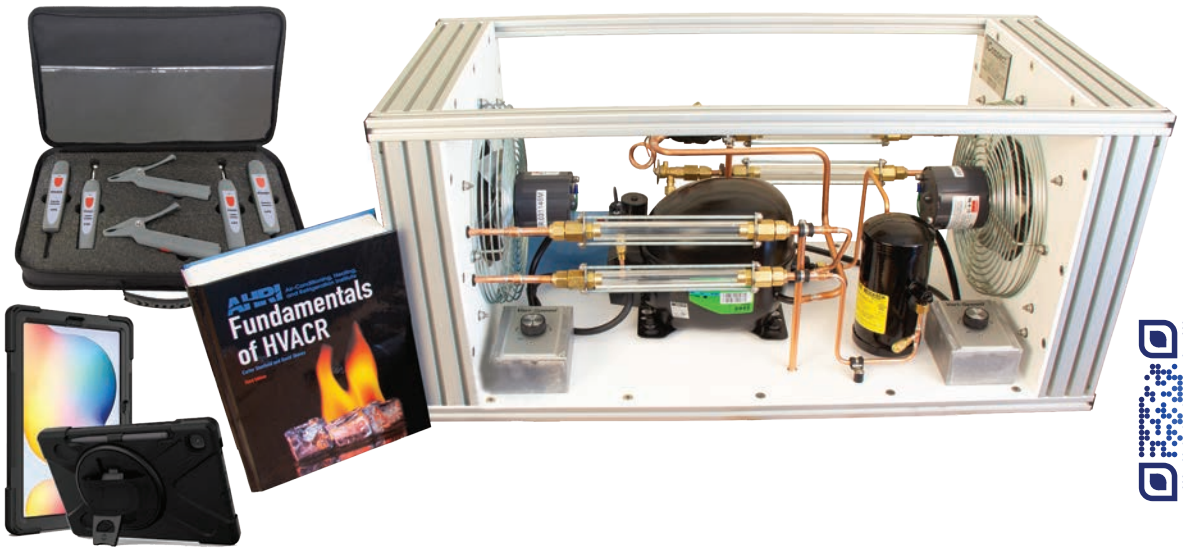
- Vapor compression cycle operation
- Different refrigeration system applications

FEATURES:

- Specifically for use with the TU-805 training unit. TU-805 includes our Digital Equipment Kit with tablet and our proprietary app.
- Recommended text is *Fundamentals of HVACR , 3rd Edition,* by Carter Stanfield and David Skaves
- Delivered online – Power Point presentations, videos, lab sheets and tests are available on the website, lecture notes are sent directly to instructor.
- Lab sheets are downloadable PDF forms
- Lecture notes are emailed to instructor in PDF format
- Once assigned, the student license is 2 year access
- No minimum number of licenses per purchase
- Contact your iConnect® Training representative for pricing and package options

iCONNECT® TRAINING BASIC REFRIGERATION FUNDAMENTALS COURSE

BY CARTER STANFIELD AND JASON OBRZUT, CMHE



NORTH PARK INNOVATIONS GROUP, INC. P.O. Box 900 | 6442 Route 242 East | Ellicottville, NY 14731 | 716.699.2031 | iConnectTraining.com

TU-805 MOBILE TABLE-TOP AIR CONDITIONING AND REFRIGERATION TRAINING UNIT

This training unit demonstrates basic refrigeration and air conditioning principles in a compact size perfect for classroom or mobile training.

Specifications

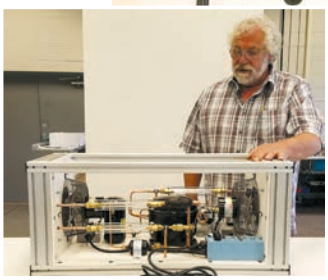
Electrical Requirements: 120VAC; 60Hz; 15A

Uses R-134a Refrigerant

Overall Size: 34" L x 16" W x 16" H

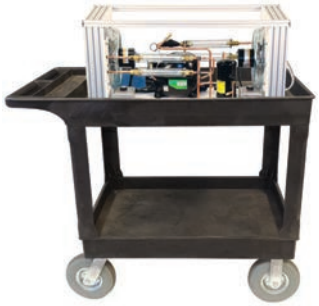
Weight: 80 lbs.

1/3 HP hermetically sealed reciprocating compressor.



Features

- Lightweight for easy on-the-go training; weighing only 80 lbs., this unit can be easily moved, transported and stored.
- Variable fan speed controls for evaporator and condenser load adjustment
- Sight glasses at inlet and outlet of evaporator and condenser constructed of explosion-proof, tie-bolt design
- Conditions of refrigerant and oil can be observed under fluid and gas stages of operation
- Evaporator and condenser copper tube coils with aluminum fins
- Drip pan located under the evaporator for condensation drain
- Includes Operation Manual
- Easy access for electrical measurements
- Recommended Basic Refrigeration Fundamentals Course, see prior page.
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app



**Convenient push cart available separately*

See page 33 for more information on the iConnect Training Digital Equipment Kit.

FULL CURRICULUM AVAILABLE SPECIFICALLY FOR TU-805: iCONNECT TRAINING'S BASIC REFRIGERATION FUNDAMENTALS *(see prior page)*

Shipping Weight: 220 lbs.
Shipping Dimensions: 36" L x 44" W x 25" H

iConnect® TRAINING

NORTH PARK INNOVATIONS GROUP, INC. P.O. Box 900 | 6442 Route 242 East | Ellicottville, NY 14731 | 716.699.2031 | iConnectTraining.com

TU-810 EEV TABLE-TOP AIR CONDITIONING AND REFRIGERATION TRAINING UNIT

This training unit demonstrates a basic refrigeration and air conditioning system featuring an electronic expansion valve.

Specifications

Electrical Requirements: 120VAC; 60Hz; 15A

Uses R-134a Refrigerant

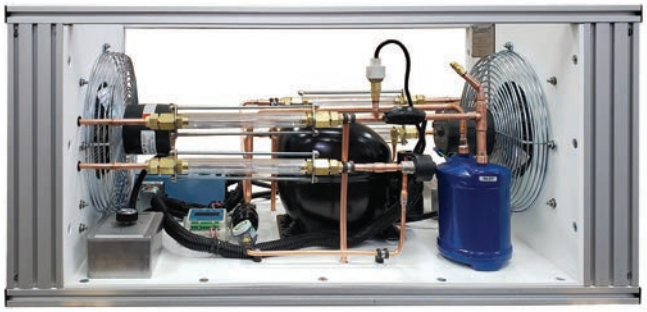
Overall Size: 34" L x 16" W x 16" H

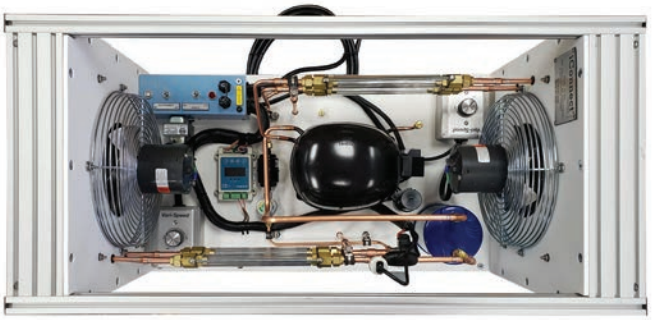
Weight: 80 lbs.

1/3 HP hermetically sealed reciprocating compressor.

Features

- **Electronic Expansion Valve (EEV) to control the flow of refrigerant with a sophisticated design. This cutting-edge technology can also operate as a fixed orifice metering device.**
- Demonstrate, operate and program an EEV electronic controller.
- Easy access for electrical measurements.
- Lightweight for easy on-the-go training; weighing only 80 lbs., this unit can be easily moved, transported and stored.
- Variable fan speed controls for evaporator and condenser load adjustment
- Sight glasses at inlet and outlet of evaporator and condenser constructed of explosion-proof, tie-bolt design
- Conditions of refrigerant and oil can be observed under fluid and gas stages of operation
- Evaporator and condenser copper tube coils with aluminum fins
- Drip pan located under the evaporator for condensation drain
- Includes Operation Manual
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app





Top view

**Convenient push cart available separately*

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 220 lbs.
Shipping Dimensions: 36" L x 44" W x 25" H

iConnect® TRAINING

TU-100 BASIC REFRIGERATION TRAINING UNIT

This training unit demonstrates domestic refrigerators, freezers, self-contained air conditioning units and reverse cycle or heat pump systems. This is 4 training units in one!

Specifications

Electrical requirements: 120VAC; 60Hz; 15A

Uses R-134a Refrigerant

Overall Size: 34.5" L x 18" W x 77.5" H

1/3 HP hermetically sealed reciprocating compressor.

Panels are 1/4" thick plastic with steel reinforced component shelf

Features

- Extended view sight glass tubes at inlet and outlet of evaporator and condenser constructed of explosion-proof, tie-bolt design
- Drip pans with drains located under each both indoor coil and outdoor coil
- Color-coded valves, gauges, and hand valves to bypass various components and change from cooling to heating (heat pump operation)
- Conditions of refrigerant and oil can be observed under various methods of operation
- Pressure gauges located at each point in which pressure variation is likely to occur
- Refrigerant flow to evaporator metered either by capillary tube, automatic expansion valve (AXV), or thermostatic expansion valve (TXV) – "3 metering devices"
- Indoor and outdoor copper tube coils with aluminum fins and variable speed fans
- Service access points on high and low side so students can practice charging and recovery techniques
- Variable fan speed controls for indoor coil and outdoor coil load adjustment
- Includes booklet which contains a Student Lab Manual, Operation Manual, and Instructor's Manual
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 550 lbs.
Shipping Dimensions: 49" L x 45" W x 87" H

iConnect® TRAINING

TU-130 BASIC REFRIGERATION TRAINING UNIT WITH WATER COOLED CONDENSER

This training unit demonstrates a light commercial refrigeration system with dual pressure control, digital thermostat and a co-axial, tube-in-tube heat exchanger/condenser. With this training unit, course instructors give HVAC/R students hands-on experience with refrigeration systems from the comfort of their classroom before they go out into the field.

Specifications

Electrical requirements: 120VAC; 60Hz; 15A

Uses R-134a Refrigerant

Overall Size: 34.5" L x 18" W x 77.5" H

1/3 HP hermetically sealed reciprocating compressor.

Panels are 1/4" thick plastic with steel reinforced component shelf

Features

- Extended view sight glass tubes at inlet and outlet of evaporator and condenser constructed of explosion-proof, tie-bolt design
- Drip pan with drain located under evaporator
- Color-coded valves, gauges, and hand valves to bypass various components
- Conditions of refrigerant and oil can be observed under various methods of operation
- Pressure gauges located at each point in which pressure variation is likely to occur
- Refrigerant flow to evaporator metered either by capillary tube, automatic expansion valve (AXV), or thermostatic expansion valve (TXV)
- Aluminum fin, copper tube evaporator with variable speed fan for load adjustment
- Water cooled condenser with standard hose connections and ball valves to meter water flow (water hoses not included)
- A combination low and high pressure control in the circuit at all times to prevent damage to the compressor
- Electronic temperature control with a range of -30°F to 100°F
- Includes Operation Manual
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 480 lbs.
Shipping Dimensions: 49" L x 45" W x 87" H

iConnect® TRAINING

TU-105 COMMERCIAL REFRIGERATION TRAINING UNIT

This commercial refrigeration training unit is an advanced unit used to train students in commercial refrigeration and air conditioning systems.

Specifications

Electrical requirements: 120VAC; 60Hz; 15A

Uses R-134a Refrigerant

Overall Size: 72" L x 20.75" W x 77.5" H

Compressor: Single phase, 1/2 HP semi-hermetic (bolted reciprocating-type)

Panels: 1/4" thick plastic with steel reinforced component shelf

Features

- Evaporator Pressure Regulator (EPR)
- 2 Liquid Refrigerant Flow Meters
- Customizable isolated access ports for alternate metering devices
- Extended view sight glass tubes at inlet and outlet of evaporators and condenser constructed of explosion-proof, tie-bolt design
- Cut-out and by-pass valves
- Hand valves allow malfunctions to be simulated
- Combination low pressure and high pressure control
- Electronic temperature control with an adjustable range of -30°F to 100°F
- 2 solenoid liquid line valves
- Evaporators and condenser: Copper tube coils with aluminum fins and variable speed fans mounted on back of panel
- Includes Lab Manual and Operation Instructions
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 1,000 lbs.
Shipping Dimensions: 81" L x 45" W x 88" H

iConnect® TRAINING

TU-106 DUAL-APPLICATION COMMERCIAL REFRIGERATION TRAINING UNIT

This deluxe training unit can show operation of multi-evaporator systems, dual temperature applications (low and medium) and an electric resistant heat defrost cycle.

Specifications

Electrical requirements: 120VAC; 60Hz; 15A

Uses R-134a Refrigerant

Overall Size: 72" L x 20.75" W x 79" H

Compressor: Single phase, 1/2 HP semi-hermetic (bolted reciprocating-type)

Panels: 1/4" thick plastic with steel reinforced component shelf

Features

- Customizable isolated access ports for alternate metering devices
- Electric Defrost Timer
- 2 Liquid Refrigerant Flow Meters
- Electrical Fault Package with (5) Toggle Faults
- Evaporator Pressure Regulator (EPR)
- (6) Extended view sight glass tubes at inlet and outlet of evaporators and condenser constructed of explosion-proof, tie-bolt design
- Cut-out and by-pass valves
- Electronic temperature control with an adjustable range of -30°F to 100°F
- 2 solenoid liquid line valves
- Condenser and Low and Medium Temperature Evaporators: Copper tube coils with aluminum fins and adjustable speed fans mounted on back of panel.
- Combine low pressure and high pressure control
- Includes Lab Manual and Operation Instructions
- Medium and Low temp evaps (1 each)
- (3) metering devices
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

Electrical Fault Package on the back of the training unit

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 1,000 lbs.
Shipping Dimensions: 81" L x 45" W x 88" H

iConnect® TRAINING

TU-155 INDUSTRIAL REFRIGERATION TRAINING UNIT

This training unit enables students to learn principles of commercial and industrial refrigeration systems.

Specifications

Electrical Requirements: 240VAC; 60Hz; 30A

Uses R-422B Refrigerant

Compressor: Semi-hermetic type with 2 HP capacity

Overall Size: 95" L x 25.25" W x 80" H

Water Tower: 120VAC; 60Hz; single phase; 60,000 BTU/hour
(This is an optional add-on)

Utility Requirements: city water, drain, and means to vent water vapor

Features

- Training unit is self-contained and freestanding with storage space underneath
- 2 forced air type evaporators have 2 common types of defrost mechanisms complete with solenoids, timers, and associated equipment
- 2 standard types of water cooled condensers (tube-in-tube and shell-in-tube) are supplied and piped to be used with city water or optional water tower
- Hot gas by-pass system keeps operating pressures of the compressor constant regardless of the evaporator level
- Crankcase pressure regulator allows the compressor to start easily under high evaporator pressures
- Includes Instructor Guide
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

** NOTE: 240V plug not included*

PLEASE NOTE: Customer is responsible for installation, including on-location setting, plumbing, and wiring the optional Water Tower.

OPTIONAL WATER TOWER AND WATER PUMP

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

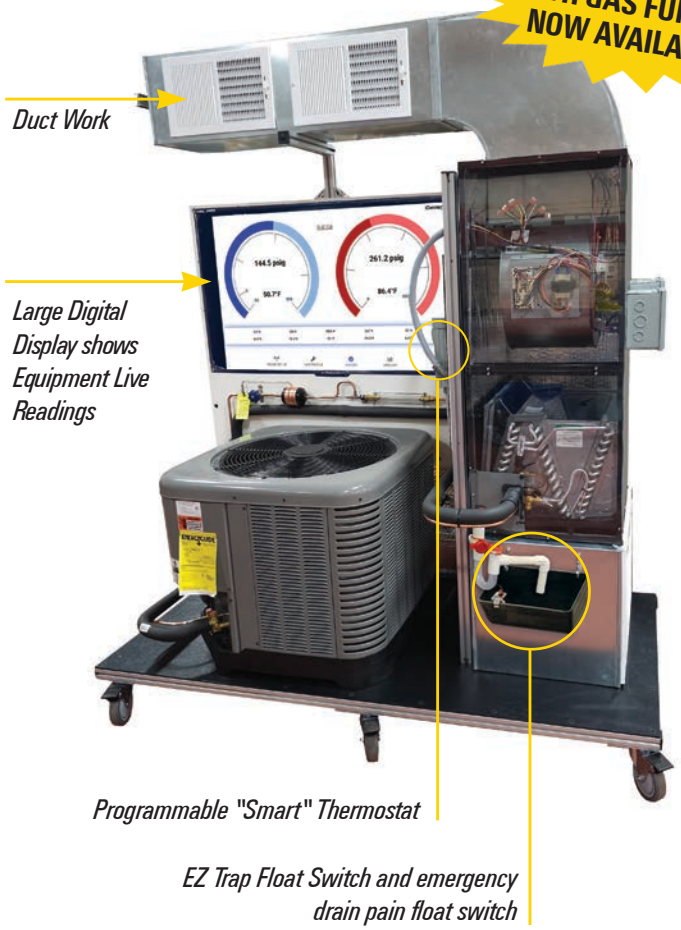
WILL SHIP IN 1 OR 2 CRATES
Shipping Weight and Dimensions:
Crate 1: 1,200 lbs. / 99" L x 48" W x 92" H
Crate 2: 380 lbs. / 58" L x 46" W x 70" H
(Crate 2 is the optional Water Tower)

iConnect® TRAINING

NEW OPTION WITH GAS FURNACE NOW AVAILABLE!

TU-206C RESIDENTIAL AIR CONDITIONING TRAINING UNIT

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.



Specifications

Electrical requirements: 240VAC; 60Hz; 20A; 4-wire

Uses R-410A Refrigerant

TU-206 Overall Size:70" L x 33" W x 67" H

TU-206C Overall Size:70" L x 33" W x 85" H

Features

- Fault simulation
  - (4) electrical faults
  - Simulation of plugged filter/drier
  - Airflow restriction with adjustable louvers mounted in duct work
- Provides numerous real-world applications and trouble-shooting examples
- Refrigeration cycle can be observed
- High-pressure refrigeration tubing piped to (1) extended view sight glass for direct observation of the fluid stage of the refrigeration cycle
- Pressure, temperature and electrical readings can be made
- Visible wiring and piping
- Metering device/thermostatic expansion valve
- Includes Operation Manual and book *Refrigeration and Air Conditioning Technology*
- Optional add-on equipment package provides all the professional tools necessary to complete service checks
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, (1) Manometer, and a tablet pre-loaded with the custom iConnect Training app

Optional Unit Configuration

- **TU-206:** Base Unit (without TV and duct work)
- **TU-206C:** Base Unit plus TV and duct work
- **TU-206CGF:** Base Unit plus TV, duct work and gas furnace

** NOTE: 240V plug not included*

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

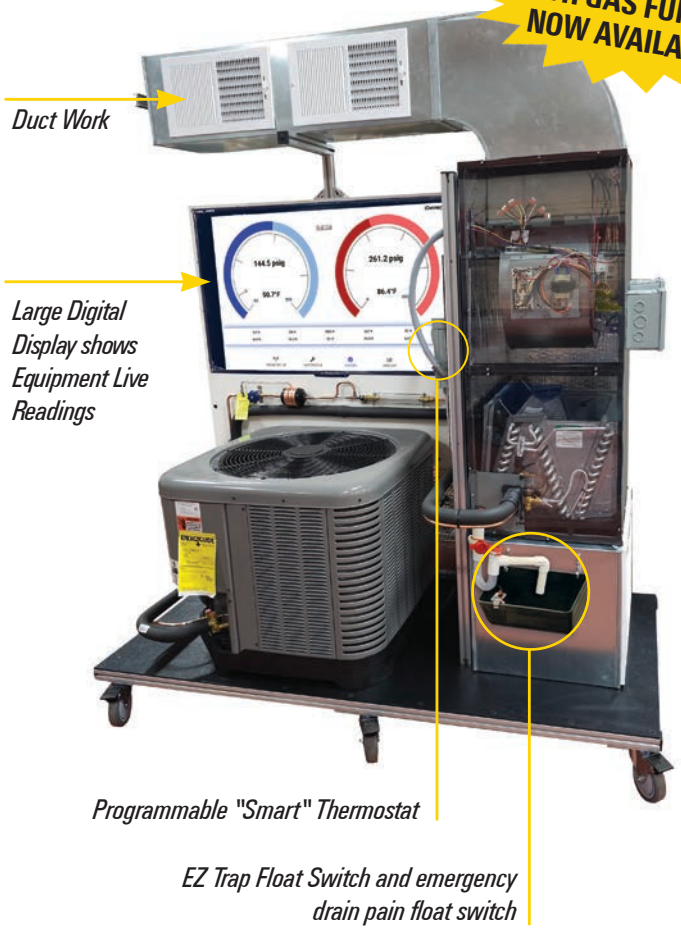
Shipping Weight: 1,115 lbs.
Shipping Dimensions: 80" L x 48" W x 78" H

iConnect® TRAINING

NEW OPTION WITH GAS FURNACE NOW AVAILABLE!

TU-406C RESIDENTIAL HEAT PUMP TRAINING UNIT

Teach real world experience in troubleshooting wiring, piping and controls of a working heat pump unit for a whole house. This residential split system shows indoor and outdoor components, with a 1.5 ton heat pump and matching air handler.



Specifications

Electrical requirements: 240VAC; 60Hz; 20A; 4-wire

Uses R-410A Refrigerant

TU-406 Overall Size:70" L x 33" W x 67" H

TU-406C Overall Size:70" L x 33" W x 85" H

Features

- Fault simulation
  - (4) electrical faults
  - Simulation of plugged filter/drier
  - Airflow restriction with adjustable louvers mounted in duct work
- Provides numerous real-world applications and trouble-shooting examples
- Refrigeration cycle can be observed
- Reversing valve for heat pump operation
- High-pressure refrigeration tubing piped to (1) extended view sight glass for direct observation of the fluid stage of the refrigeration cycle
- Pressure, temperature and electrical readings can be made
- Visible wiring and piping
- Metering device/thermostatic expansion valve
- Includes Operation Manual and book *Refrigeration and Air Conditioning Technology*
- Optional add-on equipment package provides all the professional tools necessary to complete service checks
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, (1) Manometer and a tablet pre-loaded with the custom iConnect Training app

Optional Unit Configuration

- **TU-406:** Base Unit (without TV and duct work)
- **TU-406C:** Base Unit plus TV and duct work
- **TU-406CGF:** Base Unit plus TV, duct work and gas furnace

** NOTE: 240V plug not included*

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 1,115 lbs.
Shipping Dimensions: 80" L x 48" W x 78" H

iConnect® TRAINING

TU-701 TABLE-TOP HEAT PUMP TRAINING UNIT

Real world experience in troubleshooting wiring, piping and controls on a working heat pump unit. The training unit is perfect for introduction to heat pump theory.

Specifications

Electrical Requirements: 120VAC; 60Hz; 15A

Uses R-134a Refrigerant

Overall Size: 34" L x 17" W x 32" H

Features

- Refrigeration heat pump cycle can be observed
- Pressure, temperature and electrical readings can be made
- (2) Extended view sight glass tubes before and after metering device constructed of explosion-proof, tie-bolt design
- Evaporator and condenser: copper tube coils with aluminum fins and fixed speed fans
- Condensate drain pans under both coils
- Pre-piped suction and high pressure refrigeration tubing is visible for direct observation of the fluid and gas stages of the refrigeration cycle
- All necessary line voltage wiring
- 120VAC with circuit breaker
- Includes Operation and Instructor's Guide and book *Heat Pumps: Operation, Installation & Service,* with student assignments and Instructor's Guide CD
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, and a tablet pre-loaded with the custom iConnect Training app

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 255 lbs.
Shipping Dimensions: 37" L x 48" W x 42" H

iConnect® TRAINING

CUSTOMIZE YOUR TRAINING UNIT!

TU-208 COMBINATION FORCED AIR & HYDRONIC HEATING TRAINING UNIT

This combination training unit provides demonstration and service practice with forced air and hydronic heating systems, including hot water heating systems. All components are standard brands of equipment, full size, and completely operational.

Specifications

Electrical requirements: 208/240VAC; 60Hz; 100A

Uses R-410A Refrigerant

Overall Size:191" L x 34" W x 95" H

Training unit can be custom built to meet your needs

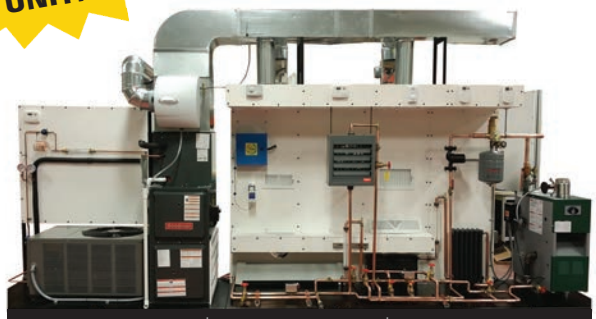
Features

- Forced air portion with (2) thermostats, (2) zones
- Hydronic portion with (2) thermostats, (2) zones
- A student experiment manual specifically written for this equipment
- Experiments include: Introduction of Principles, References, Pre-Lab Questions, Lab Procedure, Post-Lab Exercises
- Experiment topics include: Forced Air Furnace, Circulation Systems, Burner Systems, Flue Gas Analysis, Duct System, Air Balancing, Flame Safety Devices, Temperature and Humidity Control, Heat Transfer Devices, Draft Regulators and Piping Systems
- Includes Operations Manual and various textbooks depending on customization
- Includes new digital equipment kit with (2) Temperature Pipe Clamps, (2) Humidity/Temperature Probes, (2) Pressure Probes, (1) Wireless HDMI Display Adapter for TV Casting, (1) Manometer, and a tablet pre-loaded with the custom iConnect Training app

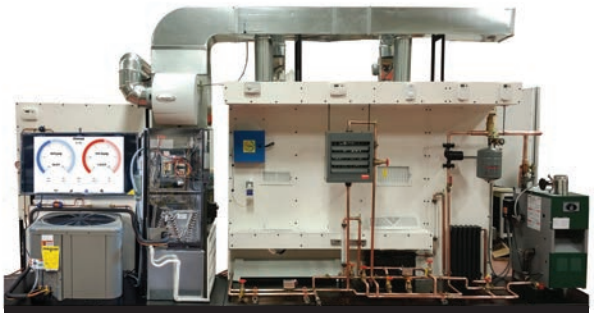
NOTE: 240V plug not included

"See optional Water Pump Package TU-WPP (on page 5.)

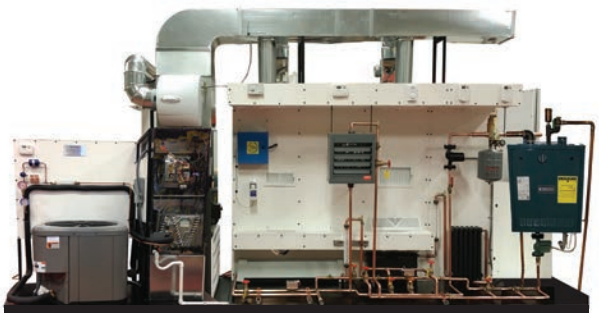
EXAMPLES



HEAT PUMP | GAS FURNACE | GAS BOILER



HEAT PUMP WITH TV | AIR HANDLER | GAS BOILER



AC | AIR HANDLER | ELECTRIC BOILER

CUSTOMERS HAVE THESE OPTIONS:

- **TV** *or* **No TV**
- **Heat Pump** *or* **Condensing Unit**
- **Gas Furnace** *or* **Air Handler**
- **Electric Boiler** *or* **Gas Boiler**

See page 33 for more information on the iConnect Training Digital Equipment Kit.

Additional e-Learning curriculum available, contact us for more information.

MORE COMBINATIONS AVAILABLE!

4 CRATES **Shipping Dimensions and Weight:**

80" L x 48" W x 78" H, 800 lbs.

80" L x 48" W x 84" H, 650 lbs.

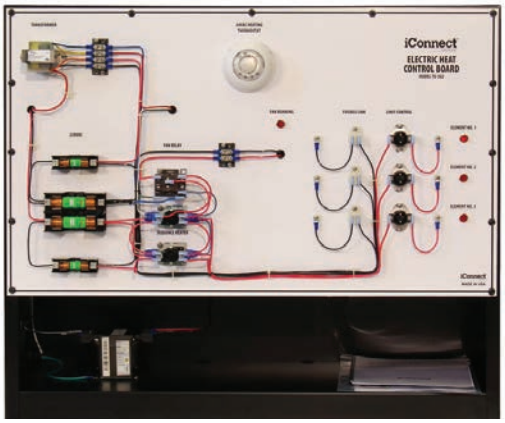
60" L x 48" W x 84" H, 840 lbs.

80" L x 48" W x 37" H, 400 lbs.

iConnect® TRAINING

TU-302 CONTROL BOARD, ELECTRIC HEAT TRAINING UNIT

This training unit is perfect for students to learn the basics of electric heat control systems.



Specifications

Electrical Requirements: 120VAC; 60Hz; 15A

Overall Size: 35" L x 13" W x 30" H

Weight: 70 lbs.

Features

- Complete set of operating controls of an electric furnace
- Wired 3 element furnace circuit
- Simulated heater elements operation shown by signal lamps
- Transformer steps voltage from 120 VAC to 240 VAC
- Head Sequencers
- Klixon limit switch
- Fusible link safety device
- Thermostat
- Fan delay control
- Board designed for use on a bench or table
- Includes Instructor Guide

*Optional Plexiglass safety cover available – contact us for pricing

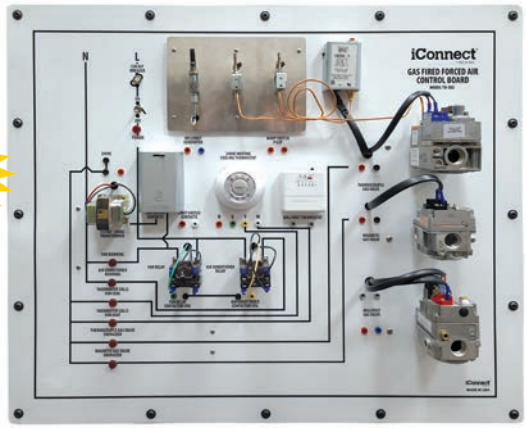
Shipping Weight: 200 lbs.
Shipping Dimensions: 37" L x 48" W x 42" H

TU-502 GAS FIRED HEATING CONTROL BOARD

The control board contains a complete set of electrical controls for a furnace, with air conditioning, to demonstrate basic principles and provide electrical service experience.

NEW FEATURE

New Propane Canister Holder included with TU-502



Specifications

Electrical Requirements: 120VAC; 60Hz; 15A

Overall Size: 35" L x 13" W x 30" H

Weight: 70 lbs.

Features

- All components are panel mounted and the wires are brought to terminals on the front panel
- Equipped for both thermocouple and thermopile systems
- Signal lamps show simulated operation of burner valves, circulating fan air, and air conditioning compressor
- Includes Operation Manual

*Optional Plexiglass safety cover available – contact us for pricing

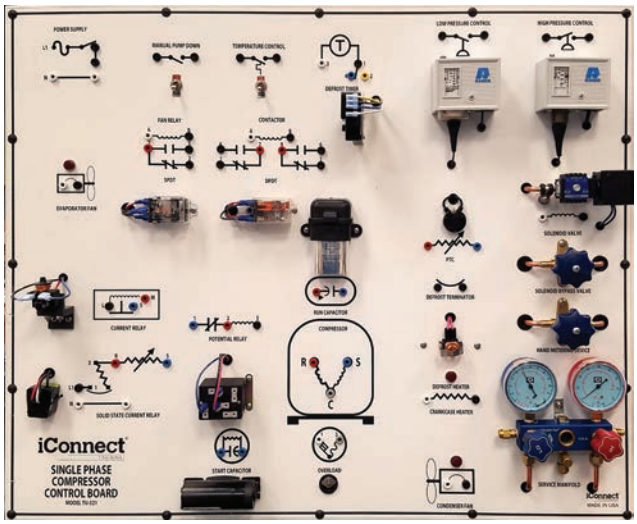
Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 190 lbs.
Shipping Dimensions: 37" L x 48" W x 42" H

iConnect® TRAINING

TU-521 CONTROL BOARD, SINGLE PHASE COMPRESSOR TRAINING UNIT

Consists of a single phase compressor with components necessary to demonstrate all common types of controls in refrigeration and air conditioning systems. The compressor on this control board was built to be a split phase compressor. It is used with this training unit as a permanent split phase, capacitor start – induction run, and capacitor start – capacitor run compressor.



Specifications

Electrical Requirements: 120VAC; 60Hz; 15A

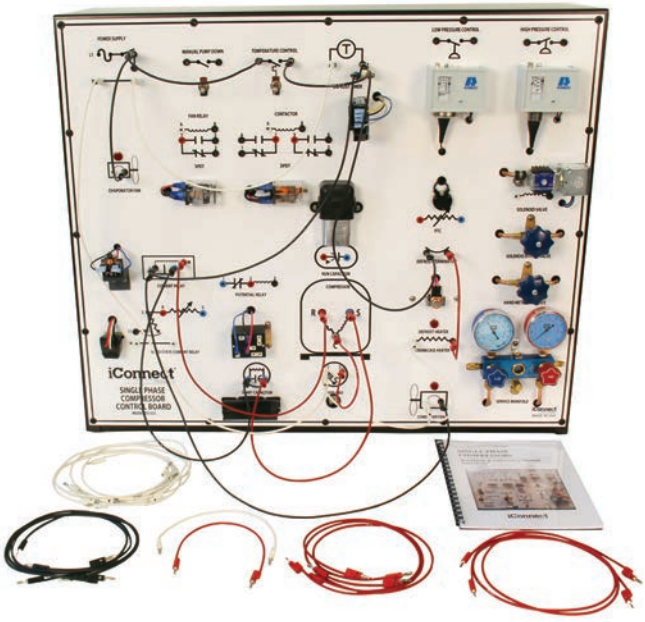
Uses R-134a Refrigerant

Overall Size: 35" L x 13" W x 30" H

Weight: 70 lbs.

Features

- Components are wired into the system with patch cords
- Using a hand valve as a metering device allows pressures to be varied to operate the low pressure control and high pressure cutout
- PSC (permanent split capacitors) and run capacitors are supplied for capacitor (capacitive) start systems
- Includes Operation Manual



The TU-521 is an operating simulation and not an actual functioning refrigeration unit. The evaporator and condenser operation are simulated with indicator lights, not true coils with fans.

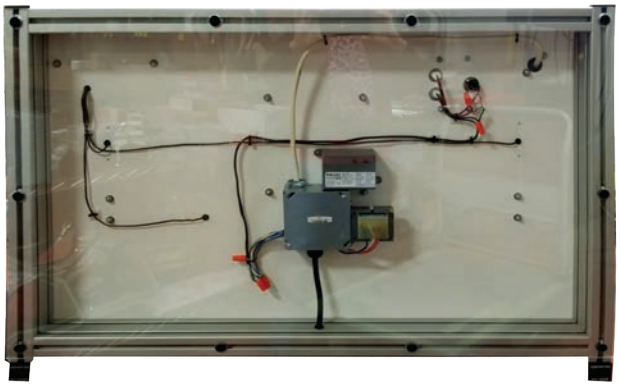
iConnect® TRAINING

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 240 lbs.
Shipping Dimensions: 37" L x 48" W x 42" H

TUE-150 RESIDENTIAL WIRING TRAINING UNIT

This training unit demonstrates electrical principles typically found in a residential use. It has provisions for extensive switching and connection of lamps and outlets. The training unit has a 24 volt power supply that is used to wire and test all circuits. After the instructor has approved wiring, 120 VAC can be applied using the key lock voltage control. The ability to use low voltage for testing and 120 VAC for final wiring is a valuable teaching aid. The inclusion of the dual 24 VAC power supply makes this a very useful training unit for introductory classes. Since all initial wiring and testing can be done at low voltage, the 120 VAC is only made available after the instructor has used the key to turn on the key lock switch to apply 120 VAC. Students learn wiring as well as the proper electrical hookups from the manual that is included.



Specifications

Electrical requirements: 120VAC

Overall size: 31" L x 36" W x 25" H

Features

- Low voltage doorbell with push button switches
- Pilot light to indicate low voltage, 24V, "ON"
- Two standard duplex receptacles
- GFI duplex receptacle
- Two lamp sockets
- Pilot light to indicate 120VAC is "ON"
- Two three-way toggle light switches
- Standard residential 4 circuit breaker panel
- Three wire grounding 120VAC cord
- Includes Operation Manual

Add the optional EP-656 Multimeter Accessory Package which includes the 285 Clamp On Meter and display electrical readings real-time in the classroom using the iConnect Training app on the included tablet.

iConnect® TRAINING

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 230 lbs.
Shipping Dimensions: 37" L x 45" W x 33" H

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TUE-200 RESIDENTIAL WIRING DEMONSTRATOR

Students gain a full understanding of residential electrical circuits. Through real-world application practice, students attain a substantial beginning level skill and proficiency using tools of the electrical trade, while gaining an understanding of the practices and guidelines contained in the National Electric Code.

Specifications

Electrical requirements: 240VAC; 60Hz; 30A

Overall size: Triangular Layout: 67" x 67" x 99", 90" Height

Features

- Casters, locking hardware, inter-connecting twist lock plugs and caps to connect the ceiling section. Folds to occupy minimum floor space. Sturdy construction and completely wired. Training Unit will provide 100-Amp service panel.
- 2 and 3-way switches
- Lights controlled from 1 or more locations
- Central distribution with circuit breakers
- EMT conduit, romex and greenfield wiring
- In-wall and surface mounted wiring devices
- Low voltage signaling devices, 120 and 240VAC, 3-wire Edison wiring
- Control and installation – fluorescent lighting
- Control and installation – LED lighting
- Includes two books, *National Electrical Code Book* and *Electrical Wiring Residential,* that offer students opportunities for hands-on practice in interpreting and applying Code requirements, making this an ideal resource for those who will work in the residential electrical industry.

** NOTE: 240V plug not included*

Add the optional EP-656 Multimeter Accessory Package which includes the 285 Clamp On Meter and display electrical readings real-time in the classroom using the iConnect Training app on the included tablet.

iConnect® TRAINING

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 822 lbs.
Shipping Dimensions: 97" L x 45" W x 80" H

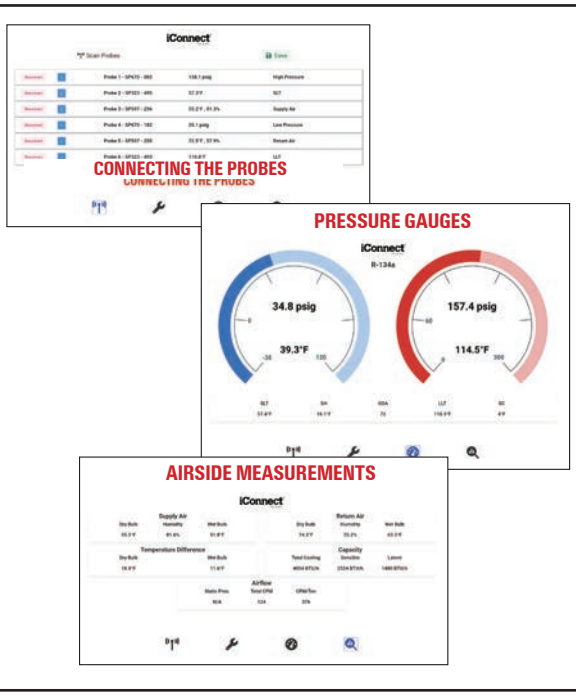
OUR NEW DIGITAL EQUIPMENT KIT & TABLET OFFERING with the new iCONNECT TRAINING APP

Now each iConnect Training unit with a refrigeration cycle comes with this enhanced app, digital equipment set and tablet:

** This replaces the original iManifold kit & iManifold Pulse provided in the past. This change, with updated technology and simplified connectivity, allows us to provide an improved platform for content delivery to our HVAC/R instructors.*

DELUXE CHARGING KIT in a carrying case with these Smart Probes:

- (2) each Clamp-Type Temperature Probes
- (2) each Humidity/ Temperature Probes
- (2) each Pressure Probes
- (1) Manometer w/ Hose for Ductwork Units
- (2) Static Pressure Tips for Ductwork Units



TABLET INCLUDED

- 10.5" tablet
- Shock-proof case with stand & swivel hand strap
- Wireless HDMI Display Adapter for casting to a TV

ADVANTAGES:

- This advanced digital service gauge set **provides quick and easy** access to all the live data on our training units such as pressures, temperatures, superheat & subcooling calculations, and more.
- The app was designed by HVAC educators **exclusively for HVAC educators.**
- Probes: **no wires needed!**
- **Ease of Connectivity:**
  - Each provided tablet will come pre-loaded with this custom iConnect Training app, ready to display to your students.
  - No Internet Required!!!
  - No account necessary, no sign-in needed with logins, or passwords.
  - The iConnect Training app allows the user to show measurements and calculations simultaneously from all provided probes.

iConnect® TRAINING

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EP-525 RESIDENTIAL A/C AND HEAT PUMP EQUIPMENT PACKAGE

This is a great selection of tools and analytic equipment for the HVAC Tech. A service wrench sized for accessing refrigerant ports and valves, a Refrigerant Leak Detector for detecting refrigerant leaks, a Digital Vacuum Gauge for measuring vacuum, a multimeter for electrical readings, and a high quality vacuum pump for pulling vacuum on a system.

Features

- 1/4" x 5/16" service wrench
- Refrigerant Leak Detector
- Multimeter with temperature probes and clamp
- Digital Vacuum Gauge
- 6.0 CFM Vacuum pump

Vacuum Pump

Digital Vacuum Gauge

Multimeter

Refrigerant Leak Detector

Service Wrench

TU-101 DOMESTIC REFRIGERATION BUILD-UP TRAINING UNIT

Designed for the student who has a working knowledge of the theory of refrigeration. Using this training unit, students are asked to design a system to match specifications of a particular situation. Instruction kit and experiment manual provide set-up and assembly directions. Students will create a dual evaporator system that demonstrates basic principles and provides service experience.

Specifications

Electrical Requirements: 120VAC; 60Hz; 15A
Uses R-134a Refrigerant
Overall Size: 34.5" L x 18" W x 73" H

Build-up Training Unit

Components are provided for backboard mounting in preferred arrangement. (Mounting hardware not included.)

Features

- 1/4 HP hermetic compressor with air-cooled condenser
- Domestic freezer static evaporator
- Finned high humidity evaporator
- Capillary tube
- Dehydrator
- Temperature control
- Hand valve to regulate temperature differences in evaporator
- Includes Lab Manual Instructor Guide

iConnect® TRAINING

Additional e-Learning curriculum available, contact us for more information.

Shipping Weight: 350 lbs.
Shipping Dimensions: 49" L x 45" W x 87" H

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CUSTOMIZATIONS

We are pleased to quote any specialty training unit you would like! We can customize our training units to meet your needs. We can customize our training units to meet your individual requirements, as well as to meet specific electrical needs of countries around the world.

Here at North Park Innovations Group, designing your custom training unit is a personalized, collaborative, and enjoyable experience. Once we have received your request, we will join you for a team consultation where we get to know you and gain an understanding of your needs and vision. Since our training units are built on site, we can keep you updated through all stages of the design and build process. Partnering in this way ensures you'll have great support and service while we design and build your new training unit, and for years to come as you put it to work.

Our custom training units are used on Air Force bases, at HVAC contractor training facilities and in vocational programs around the world. We would be delighted to discuss your custom training unit design. Please visit us at www. iConnectTraining.com and send us your requests today, or call 716.699.2031.

A customized PT-201 frame used for an OEM request.

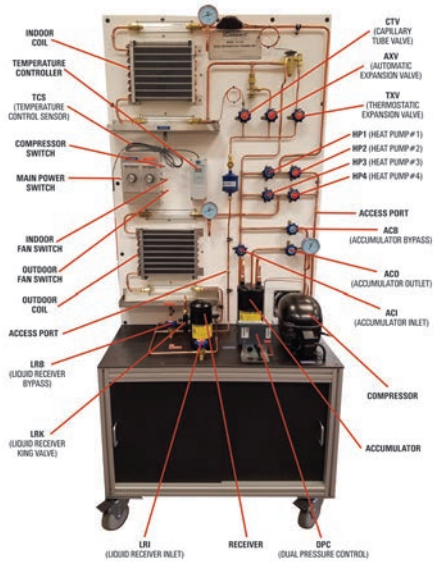
Customized TU-130

Customized TU-106

Join our iConnect Training Instructors-Only Technical Club

- Work with your peers to expand the exercises and principles that you teach with iConnect Training units
- Have special virtual presentations and sessions with our factory experts to ask your questions and present your suggestions for product improvement
- Meet our sales and marketing personnel
- Give us your ideas
- Get professional recognition on our web site and
- Receive your choice of these goodies from us when you sign up (shipped to your school at no charge):
  - A mounted poster (24" x 36") for your classroom of an iConnect Training Unit, OR
  - An iConnect Training thermal stainless-steel mug for hot & cold drinks

Contact Marketing@NPInnovations.com to request involvement and be qualified to join this Technical Club



Interested in Freelancing?

Get even more involved! Freelance for us: Get paid to provide technical expertise, teaching ideas, video script, video review, lab exercises, reviewing new products, and other ways to improve our product offering. You may even be invited to be a movie star in one of our videos! We are always interested in meeting people who might be good resources in our specialized field for HVAC/R education. To learn more, contact Marketing@NPInnovations.com directly.

iConnect® TRAINING

HYBRID TRAINING UNIT

NEW PRODUCT!

TU-900 SunTrac HYBRID TRAINING UNIT: Demonstrating the power of the sun for the refrigeration and cooling cycle

Technicians will learn the newest technology in HVAC/R with this hybrid thermal demonstrator training unit: a 3 ton package unit, **combined with the patented SunTrac thermal system.** It will have **our popular, high-quality sight glasses for viewing the refrigerant** cycle, and heavy duty wheels for ease of rolling from the classroom into the outdoor sun for a live demonstration of the panel's tracking technology. This energy-efficient teaching tool will be a must in the classroom of the future.

FEATURES

The Hybrid Thermal approach uses the sun's energy to displace an average of 40% of the electrical energy used by the HVAC system.

SunTrac features the platform for installation, monitoring & reports

Demonstrate real-time savings and reports

iConnect® TRAINING

SUNTRAC™ HYBRID CLIMATE SYSTEMS

See page 33 for more information on the

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WHAT OUR CUSTOMERS ARE SAYING

"We are super excited for the new electrical trainers to be delivered and we are hoping to order a bunch more by the end of the year. We have iConnect table top refrigeration trainers are they are great to work with!"

– Matthew Leach
HVAC Instructor
Local 469 – Phoenix, AZ

We are proud to have iConnect Training units used for training and teaching HVAC/R techs around the world, including at these facilities:

Northwest Technical College – Bemidji, MN
Texas State Tech College, TX
Salt Lake City Community College, UT
Tennessee Valley Authority, TN
Saskatchewan Power, Canada
Sacramento Job Corps Center, CA
Lawrence Gardner High School, KS
Columbus State Community College, OH
Pulaski Technical College, AR
Bruce Power, Canada
Browns Ferry Nuclear Plant, AL
Delgado Community College, LA
Sheppard Air Force Base, TX
Marine Corps Base Camp LeJeune, NC
Vermont Technical College, VT
The Refrigeration Institute, NY
Entrade Aps, Denmark
Iowa Central Community College, IA
Cobb Innovation & Technology Academy, GA

"The TU-100 iConnect trainer is fantastic. I used it a few times this 2nd semester. The students had been hand drawing the refrigeration cycle, but once they were able to take their hand drawing and relate it to the trainer (and then to see the refrigerant state via the glass tubes) it was amazing to see the light bulb go off in their heads. I will utilize it way more next year. It's a great piece of equipment and teaching tool. Thanks again for your help."

– Russell Radney, HVAC Instructor
Amarillo Independent School District
Amarillo, Texas

iConnect® TRAINING

"Until I saw the iConnect Training Unit Catalog and watched the instructional videos on the iConnect website, I had no idea such amazing training units existed! I am going to recommend these training units to the school management."

– Robert VonStein
15 year Lead Maintenance Coordinator
Hudson City Schools – Hudson, Ohio

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All Training Units are built right here in our plant in Western New York State.

iConnect®
TRAINING

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