

"Tell me and I forget, teach me and I may remember, involve me and I learn". Benjamin Franklin

**T
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ACADEMY

EST. 2023

**Fall
2024**

**Training
Catalog**

DAIKIN

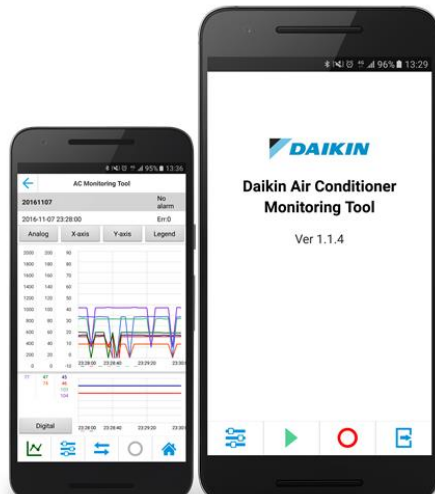
Goodman[®]
GOODMAN DISTRIBUTION, INC.

Amana[®]
Heating & Air Conditioning

TotalAirSupply.com



Daikin Air Conditioner Monitoring Tool



WELCOME TO TAS ACADEMY

Total Air Supply has always been a strong proponent of training for our contractors & their technicians. That is why we decided to name our training program “TAS Academy” because helping technicians improve their HVAC knowledge and skills will be our focus.

We will do this by having:

Live & Online
Classes

Tech Tip Videos
on YouTube

Providing
Industry News

TAS Academy offers a variety of training classes in our Fall, Winter & Spring Training Seasons to help technicians become more knowledgeable in their chosen career path such as our most popular class the 4-Evening AC Boot Camp, Manual D--Duct Design, Electrical Theory, Diagrams and Troubleshooting, Gas Furnace & HP Troubleshooting, NH Gasfitter License Renewal Continuing Ed, EPA 608 Refrigeration Certification Testing and Review classes, Etc.

We offer a series of **FREE Goodman / Amana** equipment specific **Installation & Start-up** and **Service & Troubleshooting** classes to provide contractors and their technicians the information they need to be more knowledgeable and efficient at "Installing and Servicing" Goodman and Amana Furnaces, Air handlers, AC's and HP's. While these classes are geared for Goodman/Amana equipment and some of the information is specific to our equipment, a lot of the information and testing applies to most residential furnaces.

We also offer Free certified Daikin Mini/Multi Split Installation & Start-Up and Servicing & Troubleshooting classes in our Daikin Training Area at our 1 B Street, Derry, NH facility. We are open to developing other Daikin Training Classes and now offer a full Daikin D-Checker class to provide techs a much clearer picture of how this equipment works and how to diagnose it.

We will start dropping (adding to us older techs) short training videos on our [*NEW* You-Tube page](#) in September. Subscribe to our page and never miss a new video release.

Most classes in our catalog can be done at our facility, your facility or Online, except the Daikin Certified Install & Service Classes. If you would like to have **Goodman/Amana** equipment Installation & Start-up or Service & Troubleshooting classes or some of our other training classes at your company facility or in our Nashua or Derry classrooms, please **call Randal at 1-603-845-1710**. We hope you take advantage of this opportunity to get some good training for a great price, FREE!

Course Descriptions

6 Hour NH Gasfitter License Renewal Seminar modules 2023 & 2024 Modules 8 am to 2:30 pm \$80—This Saturday Class will cover the 2023 & 2024 code update modules required by the State of New Hampshire for your Gasfitter License renewal. Those who want to attend just *one module may attend the 2023 segment from 8-11 am or the 2024 module from 11 am to 2 pm depending on your needs. The cost will be \$40 per unit. *A total of Two 3-hour modules are required to renew your NH Gasfitter License. **Alternates monthly between our *Derry* & *Nashua* locations.**

Derry – Sat. Sept. 14, 2024, 8 am

Nashua – Sat. Oct. 19, 2024, 8 am

Derry – Sat. Nov. 16, 2024, 8 am

Nashua – Sat. Dec. 14, 2024, 8 am

Derry – Daikin Mini/Multi Split Installation - Free

**Sept 24th & 26th, 2024
5 pm to 9 pm**

The Installation class has: Exercises on wiring, tube-flaring, torque wrench set up and use, pressure test exercise, evacuation exercise, charging exercise, error code retrieving exercise, several Daikin wired, and wireless handheld Controller set up exercises.

***The Installation class is a prerequisite** for the Service & Troubleshooting class.

If you have not taken the Installation class, you must take it before taking the Service & Troubleshooting Class. *Attendees will receive a Certificate of Completion from Daikin. Those who attend this Installation Class will automatically have a spot in the following weeks Service & Troubleshooting Class. To attend class, you must register for a Dakin City account (no cost).* **Call Randal for the details at 1-603-845-1710**

Derry – Daikin Mini/Multi Split Service & Troubleshooting Free

**Sept. 30th & Oct. 1st, 2024
5 pm to 9 pm**

Attendees will learn the operation and functionality of the components of a Daikin Ductless system, apply proper troubleshooting techniques for the single and multi-split systems, apply proper utilization of the tools required to troubleshoot single and multi-split systems mechanical and electronic components, understand proper utilization the Inverter Analyzer, and understand the application, operation, and functionality of the Bluetooth D-Checker software program.

Attendees will receive a Certificate of Completion from Daikin. ***The Installation class is a prerequisite** for the Service & Troubleshooting class.

Call Randal for the details at 1-603-845-1710

Course Descriptions

Derry – How to Use Electrical Theory, Sequence of Events, Diagrams, and your Electrical Meter to Troubleshoot HVAC Equipment. Cost \$60

**Oct. 7, 8, 10, 2024
5:30 pm to 8:30 pm**

This 9-hour class will cover the basics of electrical theory, 1 ph. and 3 ph., different types of wiring diagrams, the different sections of a wiring diagram, the symbols and how to read the different diagrams both 1 ph. & 3 ph., we will go over series, parallel and series-parallel circuits, what each circuit is used for and how it functions, we will trace out safety and control circuits according to the sequence of operation on heating and cooling equipment, review meters and their use and finally attendees will put what they have learned in class to use by solving a series of trouble shooting questions by going through the wiring diagrams and marking where they would put their electrical probes in order to find the answers.

Derry – Troubleshooting with the Daikin D-Checker – FREE

**Tuesday Oct. 15, 2024
5:30 pm to 8:30 pm**

The Daikin D-Checker is software that allows the monitoring or recording of operation data from Daikin Mini/Multi Splits and other Daikin equipment using the Daikin Air Conditioner Monitor Tool App you can download for free from your App store and the

Daikin Air Conditioner Monitoring Tool wireless adaptor (Model: BTSC/12S) part number 999187T. This class focuses on Mini/Multi Split Equipment.

By connecting the adaptor to the Daikin outdoor unit PCB and establishing a blue tooth connection with the app on your phone or tablet, this software can monitor data from temperature sensors, status of actuators such as EEV Valve pulses, stepper valve solenoid coils, compressors, amperage readings, temps, discharge temp, etc., etc., their relationship to each other and how the equipment uses this data to determine how it will operate. We will then to a live Daikin system and discussing what the data we are seeing means.

Online – Gas Furnace Troubleshooting – Free

**Oct. 22 – 23, 2024
5:30 pm to 8:30 pm**

[Webinar Registration Link](#)

This **Two evening**, 6-hour Gas Furnace Troubleshooting Seminar will improve the technician's knowledge of how the equipment works and the troubleshooting skills necessary for gas furnaces.

If a technician doesn't understand how a furnace works, it can be a daunting task to figure out how to fix it. So, if you would like to improve your gas furnace knowledge and troubleshooting skills, this is a class you should attend.

Course Descriptions

The class will cover the components of a furnace and the role they play in making this equipment work, wiring, setting up airflow with the fan performance chart, temp rise, static pressure, sequence of operation, the wiring diagram, and using our meter to troubleshoot the various components.

We will cover electrical Line & Low Voltage & temperature testing of furnace components such as the different blower motors, pressure switches, ignitors, limits, gas valve, venter motor, circuit board, etc., grounding, temperature rise, gas pressure & static pressure to name a few. We also will cover using a jumper wire to troubleshoot and more.

Duct Design With Manual D - \$120

Nights 1 & 2 **ONLINE** - Oct. 28th & 29th, 2024

Nights 3 & 4 **DERRY** - Nov. 6th & 7th, 2024

5:30 pm to 8:30 pm

[Webinar Registration Link](#)

If someone asked you, "How do you know your duct designs work?", What would you tell them? Taking **this 4 Evening, 12-hour class** will provide the attendee with the information necessary to make a successful journey through the Residential Manual D Duct Sizing process from start to finish.

Topics we will cover Include: the information necessary for a Manual D Duct Design, why **a room-by-room Manual J load calculation** is necessary, the benefits of correctly sized equipment, how and why air flows or will not flow through a duct system and the test necessary to prove airflow. Why static & velocity pressure, cfm, pressure drop, available pressure, friction rate etc. and the relationship between cfm, static and amps matter. The importance of choosing evaporator coils & filters with less pressure drop, the "Do's and Don'ts of Duct Design and Duct Fittings", What is equivalent & effective length, why fitting choices matter and the consequences of choosing poorly, how to correctly use a duct calculator for duct sizing. We will walk through 2 small residential Duct Designs using the ACCA Manual D Duct Design worksheets and close out with how grilles, registers and diffusers work and how to size them.

ONLINE - Troubleshooting Conventional HP's – Free

Nov. 19 & 20, 2024
5:30 pm to 8:30 pm

[Webinar Registration Link](#)

This 6-hour class. This class will start out going over what a heat pump is, its various components, how it works, why the equipment must be correctly matched, airflow, defrost, wiring, balance point, dual fuel, electric heat strips and troubleshooting the components.

Course Descriptions

Goodman/Amana Equipment Specific

FREE Goodman/Amana Equipment Training

TAS Academy realizes having well trained technicians that are knowledgeable in installing, commissioning, troubleshooting & servicing the ever-changing technology of Daikin-Goodman-Amana equipment is crucial to your business's success.

To assist you in keeping your technicians up-to-date, TAS Academy is offering a group of **FREE** Goodman-Amana specific AC, Furnace & HP training classes. These classes can be done in our Nashua or Derry Training Rooms or at your facility. We can break them down to fit your install or service training meetings. We can even do them online if that is easier for you.

For more information or to schedule classes or webinars, call Randal at 1-603-401-0874.

Goodman/Amana 92% and 96% Single or Two-Stage Non-Communicating Gas Furnaces—Installation

Review of the 92% & 96% Goodman and Amana Non-communicating furnaces, features, nomenclature, models, accessories, Installation best practices, tips we've learned along the way, grounding, various low voltage wiring options, Heating & Cooling set-up options, start-up/Commissioning Testing and completing the Data Test Sheet

Goodman/Amana 92% - 96% Single or 2-Stage Non-Communicating Gas Furnaces—Service & Troubleshooting

The class will start with a functional overview of the furnaces, the different methods of viewing error codes, the control boards, and wiring diagrams before moving into the troubleshooting segment that will cover sequence of operation, the roles key components play in the system, the diagnostic test you need to know to confirm if a key component has failed, and test to determine if the problem is water or Airside related.

Goodman/Amana GMVC96 2-Stage & GMVM97 Modulating Communicating Blue Tooth Furnaces--Installation

These are Goodman/Amana's top of the line communicating furnaces. We start with explaining the features, nomenclature, models, accessories, & Blue Tooth Technology. We then move on to installation best practices, tips we've learned along the way, grounding, various low voltage wiring options, sensor installation and draining, The CoolCloud App, how to use it or the push buttons to set-up Heating & Cooling options, the algorithms explained, Dual Fuel settings, and start-up/commissioning Testing.

Course Descriptions

Goodman/Amana Equipment

DERRY: Goodman/Amana GMVC96 2-Stage & GMVM97 Modulating Blue Tooth Furnaces-Service & Troubleshooting

The class will start with a functional overview of the furnaces, the different methods of viewing error codes, the control boards, wiring diagrams before moving into the troubleshooting segment where we will cover troubleshooting with error codes and the CoolCloud App, rate of change algorithm, temperature sensor, sequence of operation, the roles key components play in the system, how to test them, and other tips and tricks you need to know to determine the cause of the problem and using the App to get start-up/commissioning sheet numbers.

Understanding & Troubleshooting motors Used in Goodman/Amana Furnaces

We will be discussing the three types of air circulation blower motors used in Goodman/Amana furnaces & AH's over the years, the Permanent Split Capacitor (PSC) Motor, Electronically Commutated Motor (ECM) Constant Torque Motor (CTM) and the ECM Variable Speed, Constant Volume Motor, both the 4 pin and 16 pin types.

We will discuss how each of the different motors work, how they are controlled, testing control and line voltages, Ohms testing, motor testers, determining if low airflow, a symptom of high static pressure, is the problem, is it the motor or the end bell, speed selection and more.

We Do EPA 608 Refrigerant Certification Testing year-round:

If you would like to test only, call Randal at 603-845-1710 to set up test time and get the study guide.

We also provide EPA 608 Refrigerant Certification Review Seminars held on two consecutive evenings from 5:30-8:45 PM and Testing the 3rd evening. These dates to be announced in the Spring Training catalog

Cost:
\$120 — Review and Test
\$60 -- Testing Only

*Nights 1 & 2 will be **Online Webinars** (power point presentation) covering the review materials. This should not be considered a "substitute for studying", but as a final review before the test. The 3rd evening will be testing. *People testing only attend the 3rd evening to take the proctored Test. **Please register early to get the study guide emailed to you.***

Introducing TAS Academy Technical Trainer Randal S. Ripley

Randal has a total of more than 30 years in the HVACR industry with 10 years as a Service Technician before coming to TAS in March of 2004 to be the Technical Support & Training person.

Randal understands that training content requires constant monitoring and communication about what is happening in the field and updates TAS Academy Training classes accordingly. In fact, one of the things he likes best about his job is, "He learns a lot everyday".

He has given hundreds of seminars on many HVACR industry topics in his time at TAS and has taken many classes over the years as well to include:

- Associates Degree in HVACR from NH Community College 1999
- National Propane Gas Association "Certified Employee Training Program" Certified in Natural & Propane Gas, Basic Principles and Practices, Appliance Installation, & Appliance Service 1999
- Certificate, Building Automation Controls from The Peterson School, Woburn, MA 2002
- Wrightsoft Beginner & Advanced classes on Manual J, S, & D



- North American Technician Excellence (NATE) Installation & Service Certified in the following subjects:
 - Gas & Oil Warm Air Heating
 - Gas & Oil Hydronics
 - Air Distribution
 - Air Conditioning A/C
 - Air-to-Air Heat-pump
- Certified Daikin Instructor:
 - Daikin Mini/Multi Split AC and HP Installation
 - Daikin Mini/Multi Split AC and HP Service & Troubleshooting
- State of NH Approved Gasfitter Continuing Education Provider

If your chosen career path is the HVAC industry and you would like to learn more to advance, Randal looks forward to seeing you in the classroom or online this Fall.

Registering and paying for TAS Academy Seminars and Webinars:

NOTE: All TAS Academy HVAC Training seminars can potentially have an **ONLINE** component. **DERRY** or **NASHUA** indicates the Classroom location for the seminar.

When the ONLINE webinar is FREE, you still must click on the registration link provided with the class description, enter the requested information and click submit. *The Webinar link will be sent to you automatically.*

When the seminar has an ONLINE component and a fee to attend, you must complete Steps 1 and 2 below. *The Webinar link will be sent to attendee **after payment** is confirmed by sales.*

When the seminar does not have an ONLINE component, You must complete Step 2 below or send in a completed registration form

Fax sign-up Sheet to 603-425-6117
Email to randal@totalairsupply.com

Step 1: Click on the provided link under the **online** date of the class you want to attend. If you want to take more than one class, you will need to complete this step for each class with an **online** component by clicking on the provided registration link for each class. You will be redirected to the registration page, click on the "Register Now" Box, fill out the form and click submit. **The links to attend the webinar(s) will be sent to you by email AFTER you have completed STEP 2.**

Step 2: Make Payment - Call Total Air Supply's sales department at 1-603-889-0100 or 1-800-370-0100 and let them know you need to pay for the upcoming class or classes you want to attend. You can pay with your credit or debit card or your Total Air Supply charge account, if applicable.

If registering multiple people on one form please fill in the name, contact # & desired classes section for each attendee. You can print and fax the information or Microsoft word savvy people can fill out the form and email it back to me at randal@totalairsupply.com

Total Air Supply, 171 East Hollis St., Nashua, NH 03060 Phone: 603-889-0100
Fax sign-up Sheet to: 603-425-6117 Attn: Randal

Company Name: _____

Company Phone: _____

Name of Attendee: _____

contact # _____

Classes desired: _____

Email Address: _____

Name of Attendee: _____

contact # _____

Classes desired: _____

Email Address: _____

Billing to company—authorized by: _____

Card type: Please circle one-----Visa-----Master card-----American Express

Name on credit card: _____

Card Number: _____

Billing address for card: _____

Expiration Date: _____ Security Code: _____

Amount enclosed: _____

Authorized Signature: _____

A Minimum class size of 7 people is necessary for the class to run. All In Person classes will have food & drink provided unless otherwise stated. All classes will be held at the Perry Haymann Memorial Training Room at our 171 East Hollis St., Nashua, NH location or our 1B Street, Derry, NH location. Starting time is listed in the class description. Seating is limited and will be filled on a first come, first reserved basis. **No billing for training is done until after the training is over.** If more than one person is attending, please duplicate this form as necessary and make *checks payable* to Total Air Supply. * Applies to non-account holders only.

Training Locations

Total Air Supply
1 B Street
Derry, NH 03038
603-425-2709



Total Air Supply
171 E. Hollis Street
Nashua, NH 03060
603-889-0100



Non-Training Store Locations

Total Air Supply
875 Page Street
Manchester, NH
03060
603-622-8061

