

Residential & Light Commercial HVAC System Performance

Learn how to diagnose performance problems and offer real solutions!

It's estimated over 50% of new HVAC equipment installations result in little or no energy saved. Even more end up with unresolved comfort issues.

This is a huge opportunity for contractors who want to differentiate themselves by:

- Testing both new and existing installations
- Diagnosing comfort, IAQ and energy efficiency issues
- Providing real solutions through system renovations and documented results

Your ability to test and improve your customers' HVAC systems will set you apart from the competition.

NCI is the world leader in HVAC System Performance training. We created the industry's best practices, processes and forms for HVAC System Performance Testing, and have been teaching them for nearly two decades! What makes NCI's approach different? We show you how to thoroughly test and diagnose the system using practical, easy to follow methods so you'll know exactly what to do to provide your customers with optimum comfort, indoor air quality, and energy efficiency.

Benefits of NCI's HVAC Performance Training and Certifications

- Learn the basics and step up to advanced, easy to understand performance measurement testing static pressures, temperature and airflows using plain English procedures and forms
- Increase sales and customer loyalty - add HVAC performance testing to your service offerings by integrating it into your differentiated service and maintenance approach
- Use HVAC performance diagnostic techniques to identify and solve system performance issues, improve IAQ and reduce energy consumption
- Establish yourself in your marketplace as a true beyond-the-box HVAC expert, and the go-to contractor to solve long-standing problems
- Sell highly profitable professional services at margins far beyond those available from typical service and equipment replacement alone

Deliver high quality repair, maintenance and installation services, and produce professional reports and documentation to differentiate your company from your competition!



**Course Qualifies for
NATE, BPI & Most
State CEUs**



SPSheM0713



Who Should Attend?
HVAC Service & Installation
Technicians, HVAC Professionals &
Contractor Owners, Energy
Professionals, Facility Managers &
Technicians, Distributor Field Service
Reps, In-Plant HVAC Service Techs



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Agenda

Day 1 - The Key Elements of HVAC System Performance

- Review the typical sales call and its shortcomings
- Overview of test methods to identify performance issues
- Test instruments review - the good, the bad and the ugly
- Testing principles of static pressure, airflow and temperature
- Verifying BTUs at the equipment and at the registers
- Airflow testing and verification methods
- Static pressure measurement - a key diagnostic tool
- Measuring dry bulb temperatures and diagnostic properties
- Understanding total system performance
- Introduction to ComfortMaxx[™] QuickCheck[™] software*

Day 2 - Diagnose and Improve Poor System Performance

- Review of test methods, measurement and calculations
- Temperature, humidity and enthalpy measurement
- Equipment BTUs versus delivered BTUs at the registers
- Measuring airflow using NCI's 3 test methods: Static Pressure/Fan Tables, Flow Hood and Duct Traverse
- Rating operating HVAC system performance
- Sharing findings with customers in easy to understand terms
- Air distribution system renovation and repair
- Review ComfortMaxx[™] QuickCheck[™] and full test-in and test-out software*
- The day concludes with NCI's exclusive Residential HVAC System Performance Analyst certification exam

*Students get a One Month Free Trial of ComfortMaxx[™] online testing software (one trial per company; not applicable for existing users)

Day 3 - Light Commercial HVAC Performance (Optional)

- Review of the differences between residential and light commercial (up to 20 tons) air diagnostics and performance testing
- Production balancing versus analytical testing and solutions
- Integrating testing into commercial maintenance work
- Advanced testing and diagnostics
- Advanced airflow traverse methods
- Understanding and testing economizers
- Light commercial system renovation and repair
- Practical fan law usage and application
- The day concludes with NCI's exclusive Light Commercial HVAC System Performance Analyst Certification Exam

Prerequisite for Day 3: NCI Residential System Performance or Air Balancing Certification.

Frequently Asked Questions

Q: What kind of certification do I earn?

NCI's Residential and Light Commercial HVAC System Performance certifications are among the most recognized certifications in our industry. NCI has certified more than 18,000 industry professionals across North America and beyond. These certifications are valid for two years. Recertification is achieved with 8 hours of NCI continuing education.

Q: Do I need to bring any special tools to the class?

While all the tools needed for the training are provided in the class, you are welcome to bring your air testing instruments and verify if they are still within calibration.

Q: What are the start and end times of the class and is lunch included?

The typical NCI training day is 8:00 am to 5:00 pm. Light refreshments and lunch are included.

Who is National Comfort Institute (NCI)?

National Comfort Institute (NCI), the HVAC industry's leader in Performance-Based Contracting[™], is an international membership and training organization that provides heating, air conditioning, plumbing and electrical contractors with services and tools to help them improve their businesses.

NCI coined the phrase "Performance-Based Contracting[™]", a unique approach to managing a contracting business through accountability and measurable results. During the past two decades, NCI has trained and certified more than 18,000 HVAC industry professionals. For more information about NCI, please call 800-633-7058 or visit www.nationalcomfortinstitute.com.

Additional Training from National Comfort Institute:

- Residential & Light Commercial Air Balancing
- Residential HVAC System Renovation & Retrofit
- Home Performance for HVAC Professionals
- Carbon Monoxide Safety & Combustion
- Performance-Based Selling