

## **INTERNATIONAL GROUND SOURCE HEAT PUMP ASSOCIATION**

312 S. 4<sup>th</sup> Street, Suite 100  
Springfield, Illinois 62701 USA  
igshpa.org • 1-800-626-4747 • info@igshpa.org



### **IGSHPA Residential Installer Training**

(rev241015)

#### **Course Description**

This specialized course aims to equip existing professional HVAC residential installation technician who are interested in expanding their knowledge and skills for Installing ground source heat pump systems for the inside building side of the job. The course is based upon the ANSI/CSA C448 Standard design requirements. Additionally, architects, home builders, consultants, HVAC equipment manufacturers, distributors, rep agencies, mechanical engineers, trenching/water well drilling/drilling contractors, government agencies, public utilities, private utilities, rural electric cooperatives, trade unions or trade related organizations can also benefit from the training.

The course is primarily focused on forced air applications for both packaged or split unit equipment for closed or open loop designs. Students will learn about proper installation designs and attachment of high/low voltage electrical circuits, ductwork fittings, supplemental/auxiliary heat options, source side water piping, water quality, common heat transfer fluids, and water side accessories for a closed or open loop application, condensate drains and the optional domestic water heat feature when sold with a unit. An in-depth review of closed Loop fluid pumps, debris flushing, air removal, system fluid antifreeze, pressurization, fluid fill requirements and the specialty testing tools needed for completing a system installation, and pre-startup/startup final checkout. These topics are crucial for proper system operation, peak system efficiency, long system life, customer satisfaction and safety.

Many state, utility and ground source heat pump manufactures may require this recognized professional certification for their programs.

#### **Learning Outcomes**

Upon completion of this course, each participant should be able to:

- Understand and use essential installation designs and procedures to set indoor packaged or split system equipment for residential water source/ground source heat pump applications
- Recognize the importance of good duct system design good duct for the indoor unit
- Properly pipe the indoor unit and water side connections (flow centers, expansion tanks, etc.)
- Understand antifreeze solutions, requirements and safety.
- Use the proper tools to fill and purge debris/air from a closed loop system
- Correctly pipe open loop applications
- Select, install and pipe the correct materials for optional domestic water heating applications
- Complete a proper pre-startup, startup and final checkout of the equipment.

#### **Prerequisites**

To be eligible for the IGSHPA Residential Installer Technician Training course, candidates must have a minimum high school education, basic problem solving, communication and computer skills along with multiple years (2 or more) of direct field experience related to installing residential HVAC equipment or an industry recognized HVAC training certificate, degree or license.

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### Required Texts and Materials

Publications and materials must be purchased online 6 weeks in-advance using <https://igshpa.org/shop/> (non-Member or Member Price options)

- IGSHPA Residential Installation Technician Student Guide
- ANSI/CSA/IGSHPA – C448 Standard
- Residential Installation Tech Testing Fee - Final Exam (completed electronically on-line after the course by student, open book, open notes, 2 Hour time limit. 2 test attempt limits.)
- Calculator (brought and supplied by student)

### Certification:

Participants who successfully complete the course and pass the final exam (on-line) will with an 80% or higher score will receive a professionally recognized certification from The International Ground Source Heat Pump Association (IGSHPA).

### Instructional Time/Policies and Expectations

A minimum of 8 hours of instructor led training in-person or on-line.

Course registration should be completed 6 weeks in advance of the training date using the IGSHPA/Training & Events Calendar. Call the IGSHPA office @ (212) 212-2112 for more information.

See the link: <https://igshpa.org/calendar/>

Attendees must have 100% course attendance and purchase the Residential Tech Testing Fee to be eligible for the on-line final exam.

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