

# R-410a Refrigerant Recovery & Charging Training | eLearning Course

Introduction to Residential Heat Pump Systems - WX19173-AA01EEN-E1

Objective 2: Describe the Basic Operation of a Mechanical Refrigeration System

Expansion Device

Liquid refrigerant leaves the condenser and enters an expansion valve. The valve's restriction allows the refrigerant to expand, causing its pressure and temperature to decrease. This expansion creates a cold temperature at the evaporator so it can absorb the maximum amount of heat. The refrigerant exiting the valve is liquid and some vapor.

The refrigerant might enter at 39°C (102°F) and 2696kPa (391psi) and exit at 2°C (35°F) and 896kPa (130psi).

Refrigerant Path

Expansion Valve

Condenser

Evaporator

Compressor

391 psi (2696 kPa)  
102 °F (39 °C)

2 °C (35 °F) and 896 kPa (130 psi)

This page is interactive. Click here to show the instructions.

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## eLearning Course: M19175

Amatrol's Multimedia Courseware - Refrigerant Recovery and Charging for R-410a eLearning course (M19175) teaches aspiring HVACR technicians the critical skills they need to succeed on the job. Learners will cover a wide variety of relevant refrigerant recovery and charging topics, including: refrigerant fundamentals, leak detection, pressure and temperature measurement, refrigerant recovery and recycling, and refrigerant charging.

## Interactive eLearning Curriculum with Learning Management System

### Highly-Interactive Multimedia Format Appeals to All Learning Styles

Amatrol's refrigerant recovery and charging eLearning course features interactive eLearning curriculum that integrates various types of learning methods to create an engaging, effective learning experience. Amatrol's multimedia eLearning curriculum includes text with voiceovers, videos, 3D animations, pictures, and interactive activities, quizzes, and self-reviews. The curriculum teaches learners the fundamentals of refrigerant recovery and charging. For example, learners will study relevant topics, such as leak detection, pressure and temperature measurement, refrigerant recovery and recycling, and refrigerant charging.

### Free Learning Management System (LMS)

Amatrol eLearning is easy-to-use for both students and instructors. Its web-based interface is simple to navigate and available on any WebGL-compatible Internet browser. Instructors love Amatrol eLearning for its simple, yet sophisticated Learning Management System (LMS). The LMS allows instructors to create custom courses, monitor student participation, track course progress, assess knowledge levels prior to a course, and test knowledge levels after completion. Learners appreciate the fact that they can start and stop as needed, moving through each Amatrol course at their own pace. If a self-review reveals that they didn't understand a particular topic as well as they thought they did, they can revisit it before moving on.

## Additional Info



### Requires:

- Computer: [See Computer Requirements](#)

### Options:

- Refrigerant Recovery and Charging Learning System for R-410a (T7032)
- Amatrol SkillTrace Software (94-ST1)

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### Address

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