

Heating, Air Conditioning, and Refrigeration Mechanics and Installers

SOC: 49-9021 • Career Profile Report

■ Key Facts

\$59,810

Median Salary

425,200

Employment

+8.0%

Growth Rate

■ Requirements & Salary Range

Education: Postsecondary

■ Automation Risk Assessment

Low Risk - 25.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■ Work-Life Balance

8.5/10 - Excellent work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	8.8/10	Investigative	7.4/10
Artistic	4.4/10	Social	5.6/10
Enterprising	4.6/10	Conventional	6.4/10

■ Top Skills Required

Customer-service skills, Detail oriented, Math skills, Mechanical skills, Physical stamina, Physical strength, Problem-solving skills, Technology skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Heating, Air Conditioning, and Refrigeration Mechanics and Installers typically perform the following tasks:

- Test electrical circuits or components for continuity, using electrical test equipment.
- Comply with all applicable standards, policies, or procedures, such as safety procedures or the maintenance of a clean work area.
- Study blueprints, design specifications, or manufacturers' recommendations to ascertain the configuration of heating or cooling equipment components and to ensure the proper installation of components.
- Discuss heating or cooling system malfunctions with users to isolate problems or to verify that repairs corrected malfunctions.
- Connect heating or air conditioning equipment to fuel, water, or refrigerant source to form complete circuit.
- Adjust system controls to settings recommended by manufacturer to balance system.
- Recommend, develop, or perform preventive or general maintenance procedures, such as cleaning, power-washing, or vacuuming equipment, oiling parts, or changing filters.
- Inspect and test systems to verify system compliance with plans and specifications or to detect and locate malfunctions.
- Repair or replace defective equipment, components, or wiring.
- Install or repair self-contained ground source heat pumps or hybrid ground or air source heat pumps to minimize carbon-based energy consumption and reduce carbon emissions.
- Install, connect, or adjust thermostats, humidistats, or timers.
- Install auxiliary components to heating or cooling equipment, such as expansion or discharge valves, air ducts, pipes, blowers, dampers, flues, or stokers.
- Braze or solder parts to repair defective joints and leaks.
- Lay out and connect electrical wiring between controls and equipment, according to wiring diagrams, using electrician's hand tools.
- Perform mechanical overhauls and refrigerant reclaiming.
- Install expansion and control valves, using acetylene torches and wrenches.
- Measure, cut, thread, or bend pipe or tubing, using pipe fitter's tools.
- Mount compressor, condenser, and other components in specified locations on frames, using hand tools and acetylene welding equipment.
- Install dehumidifiers or related equipment for spaces that require cool, dry air to operate efficiently, such as computer rooms.
- Record and report time, materials, faults, deficiencies, or other unusual occurrences on work orders.

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Source: <https://www.bls.gov/ooh/installation-maintenance-and-repair/heating-air-conditioning-and-refrigeration-mechanics-and-installers.htm>