

National Apprenticeship - Occupational Profile

Craft Occupation

Refrigeration & Air Conditioning

Industry Served

Dairy, agricultural, chemical/food processing; Industrial (pharmaceutical, power systems, large warehouses/cold storage, breweries, bulk tankers); Transport: (marine, container, lorries, car, coach, train, cranes); Commercial: retail shops, supermarkets, air conditioning building services, tower blocks, offices and shopping malls, clean room processes, micro-electronics and comfort/critical conditioned spaces

Profile of Craft

The job of Refrigeration/Air Conditioning Craftsperson concerns installation, service and maintenance of high, medium and low temperature refrigeration and air conditioning equipment in industrial, commercial and domestic environments. Key aspects of the occupation include close control of temperature/humidity environmental conditions; supply/extraction/filtration of air conditioned heat pumps and energy management systems, storage of blood and medical items, cryogenics and electronic motor applications,

At the end of the apprenticeship the Craftsperson will be able to demonstrate competence in the following:

Core Skills

Installation, service and maintenance of a broad range of high, medium and low temperature refrigeration equipment.

Installation, service, maintenance of air conditioning systems and associated plant, ranging from split or remote type heatpumps to large capacity/tonnage chilled water machines. Safe handling and identification of refrigerants

Specialist Skills

- Dedicated PLC controllers of large refrigeration plant.
 - BEMS networking of outstations and slave controllers within buildings to control HVAC plant
 - Industrial ammonia systems
 - Large centrifugal/screw machines
 - VRV systems (inverters). Clean room environments
 - Close control
 - Air balancing/distribution
 - Energy management heat recovery
 - Pack systems
 - Cascade systems
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Common Skills

- Electrical trade
- Power supplies
- Motor control
- PLC control systems
- Safety/hardware interlocks
- Wiring / terminating
- Control protective devices

Personal Skills

- Initiative, adaptability
- Work independently
- Versatility
- Communication skills
- Customer relations awareness
- Problem solving
- Work under pressure/responsibility
- Perseverance.

NOTE: Integrated curriculum includes maths, science and theory
