

What is Refrigerated Air-conditioning work?

A guide to read before you apply for registration

Do you have the **skills, knowledge and experience** to apply for registration as a plumbing practitioner in Refrigerated Air-conditioning work? To help you, this guide explains some of the typical tasks of Refrigerated Air-conditioning work. If you are asked to an assessment interview, some of your interview questions will be based on this information.

Get to know the regulation

Under Part 4 of the *Plumbing Regulations 2018*, Refrigerated Air-conditioning work is:

- (1) (a) the construction, installation, replacement, repair, alteration, maintenance, testing or commissioning of refrigerated air-conditioning equipment associated with the heating or cooling of a building including -
- (i) Any compressor, condenser, condensing unit, fan coil unit, fan and air distribution equipment, evaporator, pipework and any tubing, motors and associated controls; and
 - (ii) Any ductwork that is necessary for the purpose of any work described in this paragraph; and
 - (iii) Any roof sheeting and roof flashing that is necessary for the purpose of any work described in this paragraph
 - (iv) Any part of a single head split system, ceiling cassette system or any add-on condenser unit for the ducted system; and
- (b) the construction, installation, replacement, repair, alteration, maintenance, testing or commissioning of a split system heat pump water heater; and
- (c) any design work that is incidental to, or associated with, any work described in paragraph (a) or (b).

Under Part 4 of the *Plumbing Regulations 2018*, Refrigerated Air-conditioning work **does not include**:

- (2) (a) the connection or disconnection of refrigerated air-conditioning equipment from a water supply other than the disconnection of that equipment from a water supply at an isolating valve adjacent to a mechanical component of that equipment; or
- (b) any treatment of heating or cooling water; or
- (c) the connection or disconnection of a split system heat pump water heater from a water supply.

Typical Refrigerated Air-conditioning work

Refrigerated Air-conditioning work is conducted in domestic, commercial and industrial environments, to provide desired heating and cooling requirements. Experienced Refrigerated Air-conditioning plumbers typically do the following work:

- Installing and commissioning air-conditioning systems
- Testing air-conditioning systems for leaks and undertaking appropriate repairs or alterations
- Maintaining and repairing refrigerated air-conditioning systems and components
- Completing required compliance documentation about handling gases.

What do Refrigerated Air-conditioning plumbers need to know and do?

Plumbers undertaking Refrigerated Air-conditioning work apply critical knowledge and skills to ensure the health and safety of the community. What does this mean for you?

As a registered practitioner, you must be able to understand and apply the compliance requirements of Refrigerated Air-conditioning work. These requirements include:

- AS/NZS 1677.1 Refrigerating systems Part 1: Refrigerant classification
- AS/NZS 1677.2 Refrigerating systems Part 2: Safety requirements for fixed applications
- HB 276 – 2004 A Guide to Good Practice for Energy Efficient Installation of Residential Heating, Cooling and Air-conditioning Plant and Equipment
- Australia and New Zealand refrigerant handling code of practice 2007 Part 1 – Self-contained low charge systems
- Australia and New Zealand Refrigerant handling code of practice 2007 Part 2 – Systems other than self-contained low charge systems.

To undertake Refrigerated Air-conditioning work to a safe and competent standard, you must also be able to:

- Read site or building plans and identify installation locations
- Read, interpret and apply manufacturer specifications
- Locate and rectify faults in motors and controls in refrigeration and air-conditioning systems and low voltage composite appliances
- Fabricate, assemble and dismantle utilities industry components
- Install and commission air-conditioning and refrigeration systems
- Recover, pressure test, evacuate, charge and leak test refrigerants
- Select refrigerant piping, accessories and associated controls
- Diagnose and rectify faults in air-conditioning and refrigeration systems and components
- Disconnect/reconnect composite appliances connected to low voltage installation wiring.

What competencies and experience do you need?

The VBA publishes a set of units of competency for each class of plumbing work. Each unit of competency describes a work outcome, all the knowledge and skills needed to do the work to the expected standard, and how the knowledge and skills should be assessed. The Victorian Building Authority (VBA) uses the units of competency to assess your skills and experience if you apply to register in a class of plumbing work.

To meet the **knowledge requirements** for registration in Refrigerated Air-conditioning work, you must:

- demonstrate knowledge and competence equivalent to the qualification, **and**
- hold a restricted electrical workers licence.

To meet the **experience requirements** for registration, you must:

- have completed an apprenticeship under the supervision of a plumber who is licensed in refrigerated air-conditioning work, **or**
- demonstrate practical experience you were employed in Refrigerated Air-conditioning work for at least four years.

Before applying for registration, please read the current approved units of competency for Refrigerated Air-conditioning.

Units of Competency for Refrigerated Air-Conditioning work

- Apply environmentally and sustainable procedures in the energy sector (UEENEEK142A)
- Apply Occupational Health and Safety regulations, codes and practices in the workplace (UEENEEE101A)
- Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply (UEENEEP024A)
- Attach cords, cables and plugs to electrical equipment for connection to 1000 Va.c. or 1500 Vd.c. supply (UEENEEP025A)

- Commission air conditioning and refrigeration systems (UEENEEJ113A)
- Diagnose and rectify faults in air conditioning and refrigeration systems and components (UEENEEJ111A)
- Diagnose and rectify faults in air conditioning and refrigeration control systems (UEENEEJ170A)
- Disconnect / reconnect composite appliances connected to low voltage installation wiring (UEENEEP012A)
- Document and apply measures to control OHS risks associated with electrotechnology work (UEENEEE137A)
- Establish the basic operating conditions of air conditioning systems (UEENEEJ104A)
- Establish the basic operating conditions of vapour compression systems (UEENEEJ103A)
- Fabricate, assemble and dismantle utilities industry components (UEENEEE102A)
- Find and rectify faults in motors and associated controls in refrigeration and air conditioning systems (UEENEEJ153A)
- Fix and secure electrotechnology equipment (UEENEEE105A)
- Install air conditioning and refrigeration systems, major components and associated equipment (UEENEEJ107A)
- Install refrigerant pipe work, flow controls and accessories (UEENEEJ106A)
- Locate and rectify faults in low voltage composite appliances using set procedures (UEENEEP017A)
- Participate in refrigeration and air conditioning work and competency development activities (UEENEEC025B)
- Prepare and connect refrigerant tubing and fittings (UEENEEJ102A)
- Recover, pressure test, evacuate, charge and leak test refrigerants (UEENEEJ108A)
- Select refrigerant piping, accessories and associated controls (UEENEEJ110A)
- Solve problems in ELV single path circuits (UEENEEE103A)
- Solve problems in low voltage refrigeration circuits (UEENEEJ194A)
- Use drawings, diagrams, schedules, standards, codes and specifications (UEENEEE105A)
- Verify functionality and compliance of refrigeration and air conditioning installations (UEENEEJ109A).

Your next step

If you think you have the required skills, knowledge and experience in Refrigerated Air-Conditioning work, then go to the [VBA website](#) to learn how to apply for registration in this class of plumbing work.