

Title	Integrate heating, ventilating, and air conditioning system components		
Level	3	Credits	7

Purpose	<p>This unit standard is intended primarily for use in the training of personnel in the heating, ventilating, and air conditioning (HVAC) industry and covers integration of HVAC components.</p> <p>People credited with this unit standard are able to integrate components for a basic HVAC system; and complete documentation.</p>
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Classification	Mechanical Engineering > Heating, Ventilating, and Air Conditioning
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Available grade	Achieved
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Guidance Information

- References and legislation
Health and Safety at Work Act 2015.
NZS 4219:2009, *Seismic performance of engineering systems in buildings*. Available at www.standards.govt.nz.
- Definitions
Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider mechanical engineering industry sectors as examples of best practice.
Chilled water systems include plain water, brine, and glycol systems.
Hot water heating systems include low, medium, and high temperature systems.
Industrial liquids may include acids, alkalis, detergents, printing inks, and food products.
Potable hot and cold water systems include commercial, industrial, and institutional systems larger than domestic systems.
Specifications include technical standards, documented operating and maintenance procedures or instructions for the system, installation drawings, schematics, manufacturers' data, installation instructions, installation programme schedules, material schedules, and site instructions.
Workplace procedures refer to procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.

- 3 Assessment information
- a Evidence may be gathered by the candidate over several work sites and may need to be spread between several time periods. There typically will be jobs where part of the job is completed in conjunction with other HVAC personnel. The evidence relates to the candidate's own specific work, not work jointly performed with other team members, except where the other team member is checking or assessing the candidate.
 - b All activities must comply with applicable workplace procedures and must be consistent with accepted industry practice.

Outcomes and performance criteria

Outcome 1

Integrate components for a basic HVAC system.

Range examples of systems are – hot water heating system, chilled water system, potable hot and cold water system, condenser water system, steam and condensate systems, ventilation and air conditioning systems, gas systems, industrial liquids systems, fume cupboards.

Performance criteria

- 1.1 Integration procedure is described.
- 1.2 Components are placed and fixed in the positions shown in specifications, schematics, and plans.
 - Range examples of components – fan coil units, valves, regulators, dampers, grills, diffusers, pipe-work, duct, fans, heat exchangers, calorifiers.
- 1.3 Integration of components is completed in accordance with specifications, schematics, and plans.

Outcome 2

Complete documentation.

Performance criteria

- 2.1 Documents are completed, distributed, and stored.
 - Range examples are – as built drawings, quality assurance or management documents, list of materials and components used.

Planned review date	31 December 2022
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Process	Version	Date	Last Date for Assessment
Registration	1	16 July 2010	31 December 2022
Review	2	26 October 2017	N/A

Consent and Moderation Requirements (CMR) reference	0013
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This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.