

Title	Select components for RAC and HVAC mechanical services		
Level	5	Credits	5

Purpose	<p>This unit standard is for people in the Refrigeration and Air Conditioning (RAC) and Heating, Ventilating, and Air Conditioning trades (HVAC) who need to select system component parts, either to replace faulty components, or for the purpose of retrofitting existing installations.</p> <p>People credited with this unit standard are able to determine component parameters and ratings, and analyse alternatives and specify components for RAC and HVAC mechanical services.</p>
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Classification	Mechanical Engineering > Refrigeration and Air Conditioning
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Available grade	Achieved
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Explanatory notes

- 1 For the purpose of this unit standard, Mechanical Services includes work covered by the Refrigeration and Air Conditioning and the Heating, Ventilating, and Air Conditioning trades.
- 2 Definition
Retrofitting refers to the improvement or upgrading of existing refrigeration or air conditioning systems through the installation of components of different capacity or greater energy efficiency.
- 3 Assessment information
Selection of components excludes replacement of faulty components with identical stock components or the simple selection of equivalent maintenance replacements such as filters.
Evidence of selection of a compressor and at least five other components is required.

Outcomes and evidence requirements

Outcome 1

Determine parameters and ratings for RAC and HVAC mechanical services components.

Evidence requirements

- 1.1 Equipment name plate data and system documentation are analysed to determine operating parameters and ratings of existing components.

- 1.2 Components are analysed to determine physical parameters including dimensions, mounting arrangements, and associated duct and pipe sizes.
- 1.3 Parameters and ratings of new components are determined from consideration of existing parameters and ratings and the job objectives.
- Range job objectives may include replacement of faulty components or retrofitting.

Outcome 2

Analyse alternatives and specify components for mechanical services.

Evidence requirements

- 2.1 Suppliers' data catalogues are searched to find at least two alternative components matching the required parameters and ratings.
- 2.2 Alternative components are evaluated and the most suitable specified in writing to enable correct purchasing in accordance with job objectives.
- Range evidence of evaluation must include – availability in desired time frame, purchase cost, installation cost and difficulty, expected life, operating costs, energy efficiency.

Planned review date	31 December 2016
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 October 2010	N/A

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

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Consent requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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.