

<b>Title</b>	<b>Adjust wine temperature using heat exchange equipment in a commercial wine cellar operation</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	<p>This unit standard is for people working as entry level cellar hands in the winemaking industry.</p> <p>People credited with this unit standard are able to: explain heat exchange operations; prepare for heat exchange operations; operate heat exchange equipment and adjust wine temperature; and complete heat exchange operations in a commercial wine cellar operation.</p>
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<b>Classification</b>	Food and Related Products Processing > Wine Production - Cellar Operations
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<b>Available grade</b>	Achieved
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### Explanatory notes

- 1 **References**  
Enactments and codes relevant to this unit standard include but are not limited to the: Food Act 1981 and Food Act 2014; Health and Safety in Employment Act 1992, which will be replaced by the Health and Safety at Work Act 2015 when it becomes effective on 4 April 2016; Resource Management Act 1991; Food (Safety) Regulations 2002; Food Hygiene Regulations 1974; Australia New Zealand Food Standards Code, available at <http://www.foodstandards.govt.nz/>.
- 2 **Definitions**  
*Cellar notes* refer to instructions written by the winemaker that relate to the processing of juice and wine.  
*Workplace procedures* – approved 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, site safety procedures, equipment operating procedures, codes of practice, quality assurance procedures, housekeeping standards, and procedures to comply with legislative and local body requirements.  
*Wine* in this unit standard includes unfermented juice.
- 3 **Range**  
Heat exchange equipment includes but is not limited to – tube-in-tube, plate, spiral flow, counter current, primary or secondary refrigeration.
- 4 **Assessment information**  
Evidence is required of a minimum of three operations involving heat exchangers.

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## Outcomes and evidence requirements

### Outcome 1

Explain heat exchange operations in a commercial wine cellar operation.

#### Evidence requirements

- 1.1 Reason for altering wine or juice temperature in winemaking are explained in accordance with oenology principles.
- 1.2 Heat exchange equipment used at the candidate's workplace is explained in terms of its purpose, operating principles, and components, in accordance with workplace procedures.
- 1.3 Operating parameters and capability of the heat exchange equipment described in Evidence Requirement 1.2 are explained in accordance with workplace procedures.
- Range parameters may include but are not limited to – pressure, flow, inlet temperature, outlet temperature; capability may include but is not limited to – volume per hour, temperature change.
- 1.4 Roles and responsibilities of the heat exchange equipment operator are explained in accordance with workplace procedures.

### Outcome 2

Prepare for heat exchange operations in a commercial wine cellar operation.

#### Evidence requirements

- 2.1 Potential hygiene and safety hazards are identified, and the steps required to control them are explained and used, in accordance with workplace procedures.
- 2.2 Instructions in cellar notes relating to heat exchange process; source and receiving tanks; target temperature, are interpreted in terms of workplace procedures.
- 2.3 Cleaning and sanitising of the heat exchange equipment are confirmed in accordance with workplace procedures.
- 2.4 Equipment is selected and connected, and set up is verified by supervisor, in accordance with workplace procedures.
- Range may include but is not limited to – heat exchanger, pumps, valves, fittings, instrumentation, temperature specifications.

**Outcome 3**

Operate heat exchange equipment and adjust wine temperature in a commercial wine cellar operation.

**Evidence requirements**

3.1 Heat exchange equipment is operated and monitored in accordance with workplace procedures.

3.2 Deviations in heat exchange operation are identified, reported, and corrective actions are taken, in accordance with workplace procedures.

Range may include but is not limited to – inlet temperature, outlet temperature, tank levels, flow rate, leakage, product loss, product oxidation.

Evidence of corrective action for 3 different deviations is required.

3.3 Equipment changeovers are completed in accordance with workplace procedures.

**Outcome 4**

Complete heat exchange operations in a commercial wine cellar operation.

**Evidence requirements**

4.1 Heat exchange operations are verified as complete and equipment is shut down in accordance with workplace procedures.

Range may include but is not limited to – final wine temperature, shutdown, push through, disconnection.

4.2 Equipment used in heat exchange operations is cleaned in accordance with workplace procedures.

4.3 The results of heat exchange operations are documented and communicated, in accordance with workplace procedures.

<b>Planned review date</b>	31 December 2019
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	19 November 2015	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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This CMR 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, 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.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the CMRs. The CMR 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.

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**Comments on this unit standard**

Please contact Competenz at [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.