

Title	Install and maintain air heating and ventilation ducting and equipment		
Level	3	Credits	5

Purpose	<p>This unit standard is for people who work, or intend to work, in the plumbing or gasfitting industries.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of air heating and ventilation ducting systems; install and maintain air heating and ventilation ducting and equipment; work safely and with care; and demonstrate knowledge of regulatory requirements, selection of methods and materials, and underpinning concepts and principles, as applied to the installation and maintenance of air heating and ventilation ducting and equipment.</p>
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Classification	Plumbing, Gasfitting and Drainlaying > Core Plumbing, Gasfitting, and Drainlaying
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Available grade	Achieved
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Guidance Information

- Legislation, standards, and codes relevant to this unit standard include but are not limited to:
 - Health and Safety in Employment Act 1992;
 - Building Act 2004;
 - NZS 3604:1999 *Timber Framed Buildings*;
 - New Zealand Building Code, Clause G4 Ventilation, Clause G5 Interior Environment, and Clause G6 Airborne and Impact Sound, current versions and any related compliance documents, available at <http://www.dbh.govt.nz>.
 Any legislation, standard, or code superseding the above will apply, pending review of this unit standard.
- Definitions
 - Ducting* refers to prefabricated flexible, semi-rigid, and/or rigid ducting.
 - Job requirements* refers to specific requirements of the job at hand not covered by job specifications.
 - Job specifications*, for the purpose of this unit standard, refers to instructions (oral, written, graphic) and may include any of the following: manufacturers' instructions; design drawing detail specifications; specifications from a specialist source such as an architect, designer, engineer, or a supervisor; and site or work specific requirements. Where job specifications are in conflict with applicable legislation, standards, and/or codes, such legislation, standards, and/or codes shall take precedence for the purpose of assessment.

Maintain may refer to all or any of – repair, upgrade, alter, remove.

Other services refers to any existing installed services.

Regulatory requirements, for the purpose of this unit standard, refers to applicable legislation, standards, and codes.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of air heating and ventilation ducting systems.

Performance criteria

- 1.1 Air heating and ventilation ducting systems are explained in terms of function and purpose.
- Range positive, negative, balanced.
- 1.2 Plenum, diffuser, and register are described in terms of their function and purpose in air heating and ventilation ducting systems.

Outcome 2

Install air heating and ventilation ducting and equipment.

Performance criteria

- 2.1 Flow and return air intake structures and filters are installed in accordance with job specifications.
- 2.2 Ducting is jointed and connected to connection and termination points in accordance with job specifications.
- 2.3 Ducting is secured in accordance with job specifications.
- Range securing fixtures may include but are not limited to – brackets, hangers, welding, rivets, screws, straps.
- 2.4 Installation and operational tests are carried out in accordance with job specifications.
- 2.5 The installation meets requirements of the Building Act 2004.

Outcome 3

Maintain air heating and ventilation ducting and equipment.

Performance criteria

- 3.1 Installed ducting and equipment is assessed to identify maintenance requirements.

- 3.2 Faults are identified in terms of causes and means of rectification.
- 3.3 Faults are rectified in accordance with maintenance requirements and job specifications.
- 3.4 Operational tests are carried out in accordance with maintenance requirements and job specifications.

Outcome 4

Work safely and with care.

Performance criteria

- 4.1 Practical activities are carried out avoiding harm to people and damage to property, other services, materials, tools, and equipment.

Outcome 5

Demonstrate knowledge of regulatory requirements, selection of methods and materials, and underpinning concepts and principles, as applied to the installation and maintenance of air heating and ventilation ducting and equipment.

Performance criteria

- 5.1 Applicable sections of legislation, standards, and codes are described in terms of their application to the installation and maintenance of air heating and ventilation ducting and equipment.
- 5.2 Selection of methods and materials is justified.
 - Range job specifications, operation of the installed system and components; may include job requirements.
- 5.3 Underpinning concepts and principles are explained in terms of their application to the installation and maintenance of air heating and ventilation ducting and equipment.
 - Range airflow, turbulence, friction, noise control, pressure.

Replacement information	This unit standard was replaced by unit standard 30597.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 July 1994	31 December 2022
Revision	2	19 June 1996	31 December 2022
Revision	3	3 April 1997	31 December 2022
Review	4	25 October 2007	31 December 2022
Review	5	26 October 2017	31 December 2022

Consent and Moderation Requirements (CMR) reference	0003
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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 Consent and Moderation Requirements (CMR). 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.

This unit standard is expiring