

Title	Interpret installation requirements and plan a complex plumbing system installation for a vessel		
Level	5	Credits	10

Purpose	People credited with this unit standard are able to: interpret installation requirements for a complex plumbing system on a vessel; and plan a complex plumbing system installation for a vessel.
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Classification	Boating Industries > Boatbuilding
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Available grade	Achieved
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Guidance Information

- 1 All work practices must meet recognised codes of practice and documented worksite health and safety procedures (where these exceed code) for personal, product, and worksite health and safety, and must meet the obligations required under the Health and Safety at Work Act 2015 and Resource Management Act 1991, and any subsequent amendments.
- 2 Assessment against this unit standard may be demonstrated by leading and supervising an actual installation or for a simulated situation using a set of plans as a basis for planning.
- 3 Definitions
Complex plumbing system includes cold and hot water supply systems and the following components – pumps, filtration, pressure control, reticulation pipework and component layout, water heating system.
Job specifications refer to the standard requirements of the job being undertaken.
- 4 References
Information about classification societies can be found at <http://www.iacs.org.uk/>.
National Standard for Commercial Vessels (Australia) <http://www.amsa.gov.au>.
New Zealand Gas Installations – NZS 5428:2006 *LPG installations for non-propulsive purposes in caravans and boats*; available at <http://www.standards.co.nz>.

Outcomes and performance criteria

Outcome 1

Interpret installation requirements for a complex plumbing system on a vessel.

Performance criteria

- 1.1 Location of relevant tanks is determined in accordance with boat plans and specifications.
- 1.2 Location of primary specified components is determined and verified in accordance with boat plans and specifications.
- 1.3 Installation criteria for specified components are determined in accordance with manufacturer's specifications and vessel plans and specifications.
- Range may include – insulation.
- 1.4 Piping requirements are established in terms of type and in accordance with space availability.
- 1.5 System corrosion protection and antifouling requirements are verified in accordance with system requirements.

Outcome 2

Plan a complex plumbing system installation for a vessel.

Performance criteria

- 2.1 Components are sourced in accordance with system requirements.
- Range custom made, vendor sourced.
- 2.2 Component warranty conditions are checked for compliance with job specifications.
- 2.3 Installation is planned in terms of order and stages of work.
- Range includes but is not limited to – main component mounting, pipework runs, connection, commissioning, documentation.
- 2.4 Installation planning is communicated and consulted with trades and contributors.
- Range trades and contributors may include – boatbuilders, pipework installers, electrical installers, design engineers.
- 2.5 Installation is planned to avoid potential conflict with other systems.
- Range may include but is not limited to – electrical, refrigeration, air conditioning, hydraulic, fuel.
- 2.6 Planned installation is complied with relevant rules.
- Range relevant rules may include but are not limited to – class society rules, maritime rules, company rules, designer specifications.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 May 2010	31 December 2023
Rollover and Revision	2	30 August 2018	31 December 2023
Review	3	26 August 2021	N/A

Consent and Moderation Requirements (CMR) reference	0136
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact the NZ Marine and Composites ITO training@nzmarine.com if you wish to suggest changes to the content of this unit standard.