

Unit of Competency CPCPMS4023

Design compressed air systems

Application

This unit specifies the skills and knowledge required to design and size compressed air distribution systems and prepare system plans, specifications, testing and commissioning schedules and operation and maintenance manuals.

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Prerequisite Unit

Nil.

Elements and Performance Criteria

1. Identify compressed air system requirements.	<p>1.1 Access and read plans, job specifications, relevant Australian Standards, codes, manufacturers' instructions and jurisdictional requirements to determine design and size of compressed air systems.</p> <p>1.2 Identify and apply workplace, work health and safety (WHS) and environmental requirements.</p> <p>1.3 Determine quantity, location, fixtures and legal points of discharge.</p>
2. Design and size system layout.	<p>2.1 Design and size system layout in accordance with relevant manufacturers' instructions, Australian Standards and jurisdictional requirements.</p> <p>2.2 Use the proposed design to identify and specify optimal material requirements.</p> <p>2.3 Prepare testing and commissioning schedule.</p> <p>2.4 Produce operation and maintenance manual.</p> <p>2.5 Identify and analyse noise reduction methods and specify suitable methods.</p> <p>2.6 Produce final system layout plans according to relevant drawing design standards.</p>

Foundation skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPCPMS4023A Design compressed air systems.

Links

Companion Volume Implementation Guide:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCPMS4023 Design compressed air systems

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria for this unit by:

- evaluating and documenting design parameters including client, Australian Standards, codes, manufacturers' instructions and jurisdictional requirements for at least two (2) compressed air systems.

The design must include evidence of the application of sustainability principles and concepts, manufacturer and regulatory requirements and identification of electrical hazards.

Design, sizing layouts and plans must include:

- industry standard layouts for compressed air systems
- pipe sizes according to regulations and manufacturers' requirements
- specifications for compressed air systems
- testing and commissioning schedules
- operation and maintenance manuals.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- architectural specifications
- builders' specifications
- owner requirements
- specialist use applications
- cost-benefit analysis which compares the range of suitable treatment and disposal options, materials, system choices, disinfection options, water savings and environmental benefits compared to initial and ongoing maintenance costs
- design and performance requirements for compressed air systems
- relevant manufacturers' requirements, Australian Standards and jurisdictional requirements
- job specifications
- system testing
- commissioning schedule requirements
- operation and maintenance manual information
- tools, materials and equipment used to design, size and document the layout of compressed air systems
- work health and safety (WHS) requirements for designing, sizing and documenting the layout of compressed air systems

Assessment Conditions

Assessors must satisfy the requirements for assessors listed in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

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