



**Australian Government**

**Assessment Requirements for MEM23142  
Determine psychrometric processes and  
system performance**

**Release: 1**

# Assessment Requirements for MEM23142 Determine psychrometric processes and system performance

## Modification History

Release 1. Supersedes and is equivalent to MEM23142A Determine psychrometric processes and system performance.

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- interpreting drawings and specifications
- implementing work health and safety (WHS) procedures and practices including the use of risk control measures
- determining psychrometric processes and system performance
- plotting the psychrometric performance of a heating, ventilation and air conditioning and refrigeration (HVACR) coil on at least two occasions
- determining the plant capacity and airflow rates for a building on at least two occasions
- determining system performance
- calculating the following:
  - psychrometric performance of the coil
  - psychrometric performance of HVACR spray equipment
  - required plant capacity and airflow rates
- communicating technical and procedural requirements to others
- dealing with unexpected situations.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

## Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- WHS considerations
- appropriate personnel
- systemic performance parameters
- adiabatic and evaporative cooling
- isothermal humidification
- cooling and dehumidification with high latent load
- cooling and dehumidification with all outdoor air
- cooling and dehumidification with all outdoor air and with dehumidified air requirements less than supply air

- cooling with evaporative humidification
- spray processes including cooling and dehumidification, cooling and humidification with heated spray water, heating and humidification including:
  - partial load processes
  - reheat
  - bypass of return air and mix of return air and outside air including:
    - variable air volume
    - variable coil effective surface temperature
- analysis of cooling coil selection and performance
- psychrometric analyses, formulae and charts
- indirect evaporative coolers
- analysis of cooling coil selection and performance
- systemic performance parameters
- cooling tower characteristics
- environmental considerations
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## Assessment Conditions

- Assessors must:
  - have vocational competency determining psychrometric processes and system performance at least to the level being assessed with relevant industry knowledge and experience
  - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015 or its replacement* and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
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## Links

Companion Volume Implementation Guides are available on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

