



Australian Government

Assessment Requirements for MEM23115

Evaluate fluid power systems

Release: 1

Assessment Requirements for MEM23115 Evaluate fluid power systems

Modification History

Release 1. Supersedes and is equivalent to MEM23115A Evaluate fluid power systems.

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:

- determining parameters and context of evaluation task
- determining work health and safety (WHS) and regulatory requirements, and risk management and organisational procedures
- investigating and reviewing sustainability implications, features and functions of fluid power systems and components
- identifying fluid power principles and techniques, analysis techniques, software and software validation techniques
- Evaluating fluid systems and components for the following characteristics on at least two occasions:
 - suitability
 - compatibility and treatment
 - features and functions
 - digital fluid and electrical/electronic control elements
- reporting and documenting results of evaluation.

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 and regulatory requirements, codes of practice, standards and risk management requirements
- availability of professional and technical assistance
- fluid power systems
- current options and trends in performance analysis software, including underpinning program techniques and software validation techniques
- common applications for pneumatics and hydraulics
- comparative advantages of fluid power over mechanical and electrical power
- characteristics and properties of pneumatic and hydraulic fluids and relative compressibility of air and hydraulic fluid

- applications and selection criteria for mineral, synthetic and fire-resistant fluids and compatibility of fluids with system materials
- fluid power fundamental principles and calculations for system components including:
 - conservation of energy
 - energy measurement and units
 - energy forms
 - hydraulics fundamentals including pressure, temperature and flow rate relative to actuator force
 - pneumatic fundamentals including gas laws, pressure difference and flow rate, and flow to atmosphere
- features and functions and selection criteria of fluid power components in applications including:
 - pumps
 - valves electrical circuits and control elements actuators
 - accumulators
 - compressors (pneumatics)
 - reservoirs
 - gauges and instrumentation
 - hoses, pipes, filters and fittings
- types and requirements for fluid and electrical circuits maintenance requirements for fluid power systems
- methods of circuit presentation including standard symbols, circuit sequence and signal condition diagrams for multi-actuator circuits.
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Assessment Conditions

- Assessors must:
 - have vocational competency in evaluating fluid power systems and components 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 found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>