



**Australian Government**

# **MEM18012 Perform installation and removal of mechanical seals**

**Release: 2**

# MEM18012 Perform installation and removal of mechanical seals

## Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18012 Perform installation and removal of mechanical seals (Release 1).

Release 1. Supersedes and is equivalent to MEM18012B Perform installation and removal of mechanical seals.

## Application

This unit of competency defines the skills and knowledge required to check, dismantle, select, reassemble and install a range of mechanical seals.

Skills covered by this unit include the knowledge of appropriate applications for a range of mechanical seals and the ability to remove, select, repair or replace all component parts of the seal.

Where straightforward replacement of seals is required see unit MEM18055 Dismantle, replace and assemble engineering components.

Lubrication requirements are attended to according to suppliers' instructions and recommendations or specifications.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

**Band: A**

**Unit Weight: 2**

## Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

MEM18003	Use tools for precision work
MEM18006	Perform precision fitting of engineering components
MEM18055	Dismantle, replace and assemble engineering components

## Competency Field

Maintenance and diagnostics

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	<b>Determine job requirements</b>	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	<b>Determine mechanical seal requirements</b>	2.1	Apply principles and operational function of mechanical seals and component parts to determine seal requirements
		2.2	Interpret specifications from engineering drawings for new mechanical seal installation
3	<b>Dismantle mechanical seal installations</b>	3.1	Examine mechanical seal assembly and select appropriate dismantling techniques, tools and equipment to suit work requirements
		3.2	Dismantle mechanical seal assembly
		3.3	Examine all component parts for wear, including housing, shafts, primary sealing elements, secondary seals and seat assembly, to determine need for repair or

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

		replacement
	3.4	Repair serviceable items by appropriate means
	3.5	Remove primary sealing elements and secondary seals for replacement, where required
4	<b>Select replacement items and reassemble mechanical seal installations</b>	
	4.1	Select replacement items from appropriate sources or sample using SOPs
	4.2	Fit mechanical seal components, including seal head, secondary seals, seat assembly, shaft and housing
	4.3	Tension and adjust mechanical seal assembly to manufacturers' specifications
	4.4	Test mechanical seal assembly using appropriate methods for compliance with specifications and operational performance

## Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

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

## Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- Seals include one (1) or more of the following:**
- carbon
  - stellite
  - neoprene
  - other associated materials
- Mechanical seals**
- pusher

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- include (1) one or more of the following:**
- non-pusher
  - conventional
  - balanced
  - unbalanced
  - cartridge
  - single spring
  - multiple spring

## Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM18012 Perform installation and removal of mechanical seals (Release 1).

Release 1. Supersedes and is equivalent to MEM18012B Perform installation and removal of mechanical seals.

## Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>