



Australian Government

Assessment Requirements for AHCIRG340 Install irrigation pumps

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has installed irrigation pumps on at least one occasion, and has:

- followed drawings and specifications
- performed work-related calculations
- handled materials safely
- organised equipment and materials for installation work
- matched pump output and flow rate to pipe diameter
- set out and prepared the site
- positioned pumps and control devices
- used power tools and hand tools
- primed and operated pumps
- fixing and joining techniques
- identified and responded to operational problems
- monitored the performance of pumps
- adjusted and set pressure switches and air tanks to suit pump performance and site conditions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic principles of hydraulics, flow versus pressure, energy loss due to friction
- discharge and flow rates
- installation procedures for irrigation pumps
- pump components and their principles of operation
- pump gauges and controls
- advantages and disadvantages of each pump type

- servicing requirements for pumps
- types of pumps and their application in irrigation, such as centrifugal, vertical turbine, submersible and propeller
- types of pumps suitable as booster and floating pumps
- characteristics and application of different valves, pipes and fittings, including fixing and joining techniques and methods
- impellers, rotors and stators
- types of valves
- properties of water, including pressure and flow rates
- pump performance and pressure testing
- automatic pump switches, including timers, pressure switches, constant flow switches and variable speed drives.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - work instructions and workplace procedures applicable to installing irrigation pumps
 - irrigation pump operation and maintenance manual
 - irrigation pump installation equipment
 - personal protective equipment applicable to installing irrigation pumps
- specifications:
 - irrigation pump installation tools and equipment and procedures
 - recording procedures
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>