Australian Government

UEERA0002 Analyse the psychrometric performance of HVAC/R systems

Release: 1

UEERA0002 Analyse the psychrometric performance of HVAC/R systems

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to analyse the psychrometric performance of heating, ventilation and air conditioning/refrigeration (HVAC/R) systems.

It includes analysing HVAC/R system to provide solutions to psychrometric performance issues. It also includes working safely, gathering and analysing psychrometric performance data, applying problem-solving techniques, and developing and documenting results and solutions.

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

Pre-requisite Unit

UEERA0003 Analyse the thermodynamic performance of HVAC/R systems

or

UEERA0094 Verify functionality and compliance of refrigeration and air conditioning installations

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0042 Solve problems in ELV single path circuits

UEECD0020 Fix and secure electrotechnology equipment

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work

UEERA0059 Prepare and connect refrigerant tubing and fittings

UEERA0036 Establish the basic operating conditions of vapour compression systems

UEERA0035 Establish the basic operating conditions of air conditioning systems

UEERA0050 Install refrigerant pipe work, flow controls and accessories

UEERA0081 Select refrigerant piping, accessories and associated controls

UEERA0031 Diagnose and rectify faults in air conditioning and refrigeration control systems

UEERA0092 Solve problems in low voltage refrigeration and air conditioning circuits

UEERL0005 Locate and rectify faults in low voltage (LV) electrical equipment using set procedures

UEERL0004 Disconnect - reconnect electrical equipment connected to low voltage (LV) installation wiring

UEERL0001 Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply

UEERL0002 Attach cords, cables and plugs to electrical equipment for connection to 1000 V a.c. or 1500 V d.c.

Competency Field

Refrigeration and air-conditioning

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare to analyse psychrometric performance of HVAC/R system	**1.1** Work health and safety (WHS)/occupational health and safety (OHS) processes and workplace procedures for a given work area are identified and applied
	1.2 WHS/OHS risk control measures and workplace procedures are followed in preparation for HVAC/R work
	1.3 Extent of the psychrometric issues are determined from performance specifications and situation reports and in consultation with relevant person/s
	1.4 HVAC/R activities are planned to meet scheduled timelines in consultation with other person/s involved in the work
	1.5 Strategies are formed to ensure HVAC/R analysis and solution implementation is carried out efficiently in accordance with workplace procedures

2	**Analyse psychrometric performance of HVAC/R system**	**2.1** WHS/OHS risk control measures and workplace procedures for carrying out HVAC/R work are followed
		2.2 Psychrometric principles are applied to analytical solutions to HVAC/R system
		2.3 Parameters, specifications and performance requirements in relation to HVAC/R system are obtained in accordance with workplace procedures
		2.4 Analysis of HVAC/R psychrometric parameters is carried out to provide effective solutions
		2.5 Unplanned situations are responded to in accordance with regulatory requirements and workplace procedures in a manner that minimises risk to personnel and equipment
		2.6 Quality of work is monitored against performance agreement and/or workplace procedures and industry standards
3	**Document and report results of the HVAC/R psychrometric performance analysis and actions taken**	**3.1** Solution/s to HVAC/R psychrometric issues are evaluated to determine their effectiveness and modified, as required
		3.2 HVAC/R analysis is documented and includes details of findings, calculations and assumptions
		3.3 HVAC/R analysis is reported to appropriate person/s to determine appropriate action to be taken based on findings
		3.4 Justification for findings and any actions to be undertaken in relation to the HVAC/R equipment is documented for inclusion in work/project or development records in accordance with industry standards and workplace procedures

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

analysing psychrometric parameters of HVAC/R systems must include at least the following:

- two different refrigeration and air conditioning systems

Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ192A Analyse the psychrometric performance of HVAC/R systems.

Links

Companion Volume implementation guides are found in VETNet - - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6