

<b>National Vocational Certificate in Air conditioning and Refrigeration (Level 4)</b>
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**Level of qualification: 4**

**Total credits available: 96**

**Total credits required: 96**

	<b>Compulsory</b>	<b>Elective</b>
<b>Level 4 credits available</b>	<b>96</b>	-
<b>Minimum totals required</b>	<b>96</b>	-

**Registration date:** 28 March 2018

**Scheduled review date:** 2023

**Body responsible for the qualification:** Namibia Training Authority through the Mining Quarrying, Construction, Electricity, Gas, Water Supply and Sanitation Industry Skills Committee.

**Other bodies whose unit standards are included in the qualification:** None

## **1. Purpose**

This qualification recognises people who have the competencies required for performing air conditioning and refrigeration tasks. It is awarded to people who have demonstrated the skills and knowledge required to service evaporative coolers; perform star and delta connections in motors; analyse faults in printed circuit board in air conditioners; solve problems in central plant air conditioning systems; service industrial refrigeration systems; analyse the operation of heating, ventilating air conditioning and refrigeration systems; commission commercial and industrial refrigeration systems; analyse noise and vibration in air conditioning and refrigeration systems; build up cold and freezer room.

This qualification is designed to be accessible and flexible. The entry requirement is the National Vocational Certificate in Air conditioning and Refrigeration (Level 3) or equivalent.

The main focus is on the outcomes of this qualification, not the how, when and where learning occurred. Some people applying to do this qualification may currently be competent in one or more of the learning outcomes and should then be given the opportunity to apply for recognition of prior learning.

## **2. Regulations for the qualification**

### **2.1 Summary of qualification requirements**

This qualification will be awarded to people who are credited with **96** credits and have met the requirements of the compulsory sections, as well as all requirements for Workplace Integrated

Learning (WIL) as laid out in the National Policy On Work-Integrated Learning (WIL) for Technical and Vocational Education and Training (TVET).

## 2.2 Detailed qualification requirements

### Compulsory

*All the unit standards listed below are required.*

**FIELD:** Manufacturing, Engineering and Technology  
**Subfield:** Mechanical Engineering  
**Domain:** Air conditioning and Refrigeration

Unit No.	Unit Standard Title	Level	Credits
595	Service evaporative coolers as part of air condition and refrigeration operations	4	4
596	Perform star and delta connections in motors as part of air conditioning and refrigeration operations	4	4
597	Analyse faults in printed circuit board in air conditioners	4	6
598	Repair faults in central plant Air conditioning systems	4	6
599	Service industrial refrigeration systems	4	4
600	Analyse the operation of heating, ventilating air conditioning and refrigeration systems	4	4
601	Commission commercial and industrial refrigeration systems	4	6
602	Analyse noise and vibration in air conditioning and refrigeration systems	4	4
603	Construct cold and freezer rooms	4	11

### AND

**FIELD:** Business, Commerce and Social Studies  
**Subfield:** Business Development  
**Domain:** Entrepreneurship

Unit ID	Unit Standard Title	Level	Credits
735	Establish a business as part of entrepreneurship operations	4	12
736	Implement, control and monitor business operations	4	15

**AND**

**FIELD:** Manufacturing, Engineering and Technology  
**Subfield:** Mechanical Engineering  
**Domain:** Foundational Numeracy, Engineering Science and Drawing

Unit ID	Unit Standard Title	Level	Credits
892	Apply knowledge of intermediate mathematics in a different context	4	6
896	Apply advanced knowledge of engineering science in different contexts	4	6

**AND**

**FIELD:** Health Science and Social Studies  
**Subfield:** Core Health  
**Domain:** First Aid

Unit ID	Unit Standard Title	Level	Credits
845	Provide advanced First Aid	4	8

**3 Credit recognition and transfer arrangements**

Credits for any version of a unit standard of the same identification number will be recognised in the award of this qualification.

**4 Special arrangements**

4.1 Providers seeking registration and/or accreditation to deliver this qualification must meet the following special arrangements.

4.1.1 This qualification will be offered to trainees **either** including a 6 months' period of **industrial/job attachment**, **or** as an **apprenticeship scheme** of a duration determined and agreed upon by the employer and the training provider on a ratio of 70/30 (70% at workplace and 30% at Training institution) basis.

**Industrial/job attachment** is defined as a period in a workplace setting where a trainee obtains structured practical experience in a specific occupation in order to complement competencies acquired during training at a technical vocational training provider (TVTP).

**Apprenticeship** refers to the system of work integrated learning, where an apprentice is employed by a company on contractual basis, earning a monthly salary, learning and working side-by-side with an experienced mentor.

In this case the employer must be an NTA approved entity (company) to register apprentices and has to identify a suitable training provider to provide the apprentice with the opportunity to gain skills and knowledge from theoretical training.

Employers and training providers are encouraged to consult the **National Policy On Work-Integrated Learning (WIL) for Technical and Vocational Education and Training (TVET)** Sector for further details on WIL implementation.

4.1.2 Providers involved in the assessment of this qualification and the associated unit standards must comply with the national assessment framework for the TVET system up to and including level 5 of the National Qualifications Framework. Assessment will include performance and achievement assessment acquired through work integrated learning periods.

Assessment arrangements apply to all occupations and industries which are encompassed in the technical vocational education and training sector.

4.1.3 Providers of this qualification and the associated unit standards must be registered and/or accredited.

4.1.4 Providers of this qualification and their associated unit standards must have access to all equipment and facilities detailed in the tools and equipment list of the relevant training program.

4.2 Competencies covered in this qualification may be assessed through Recognition of Prior Learning (RPL).

4.3 Further relevant information and documentation may be accessed through:

Namibia Training Authority  
10 Rand Street  
Khomasdal  
Namibia  
Telephone number: 061 207 8550  
Facsimile number: 061 207 8551

## **5 Transitions arrangements**

### **5.1 Non National Qualifications Framework transition**

None.

### **5.2 National Qualifications Framework transition**

#### **Version 2**

This qualification was updated and issued as Version 2 in 2018.

Version 1 of this qualification will not be awarded as from 31 December 2020. People currently working towards Version 1 of this qualification are advised to transfer their existing credit awards to this version of the qualification at any time during 2019 and beyond.

People holding the earlier version of this qualification will continue to have their qualification recognised with the Air Conditioning and Refrigeration industry in terms of meeting relevant career and further learning entry and/or progression requirements.