



SOUTH AFRICAN REFRIGERATION & AIR CONDITIONING CONTRACTORS' ASSOCIATION

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SARACCA Approved Skills Development Providers (SDP'S) to present Safe Handling of Refrigerants and Pressure Equipment Training.

Provider / Facilitator Guide

The Department of Labour has mandated SAQCC Gas with the responsibility of registering and maintaining a data base of "Authorised Persons" for handling and working with gasses under pressure. SARACCA is an accredited Association member of SAQCC Gas with the responsibility to review and process applications for registration as Authorised Refrigerant Gas Practitioners in the refrigeration and air conditioning industry.

As a signatory Country to the Montreal Protocol South Africa has the obligation to abide by the requirements as set out by the Montreal Protocol and its amendments to ensure that all persons handling Refrigerants are trained in the safe use and understand the requirements and responsibilities regarding the phase out of banned refrigerants (CFC's) and the phase out of HFC's).

What is accreditation?

SAQA defines accreditation as:

"The certification usually for a particular period of time, of a person, a body or an institution as having the capacity to fulfil a particular function in the quality assurance system set up by the South African Qualifications Authority." SAQA and The quality Council for trades and occupations (QCTO)

Accreditation is awarded to providers who offer outcomes-based learning programmes aligned to the SAQA / QCTO qualifications.

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Accreditation must also be seen as an audit process of the provider's quality system and the learning programme which will be offered. It ensures that learning and assessments result in a nationally recognised formal qualification.

Why accreditation?

It is important that one standard of high-quality training is presented nationally. Only SDP's that meet the minimum requirements will be approved by SARACCA.

Who will be approved?

All Skills Development Providers (SDP's) of which the **core** business is the training of learners and apprentices for the Refrigeration and Air conditioning Industry in South Africa, except where the SDP is a TVET College, which has the facilities to train multiple trades on one campus.

What are the minimum requirements?

a) QCTO Accreditation

The SDP must carry accreditation by the QCTO for the full air conditioning and/or Refrigeration qualification, which is SAQA registered for qualifications and individual unit standards / modules to offer institutional training.

b) SETA's

The refrigeration and air conditioning industry skills development is facilitated by the SETA's and as such are responsible for the quality assurance through their quality assurance sections "ETQA". Therefore, the SDP must adhere to the ETQA'S requirements.

SETA accreditation has been superseded by QCTO accreditation and therefore SETA accreditation is no longer acceptable for training providers.

Workplace SETA accreditation remains valid for workplaces.

c) NAMB

The training centres must have registered assessors and moderators registered with the National Artisan Moderation Body against the relevant qualifications.

d) Training Centre

The Accreditation will be issued to the registered address of the SDP.

The training centre must be equipped with the following facilities:

- The required classroom with tables, chairs white board, multimedia projector.

- Have the appropriate learning material for hand out to students
- Workshop Facilities with the following equipment additional to the main qualification accreditation requirements as per QCTO Annexure 1 included in this document.
- Archives

e) Off Site Training

The SDP will be allowed to provide training at the premises of a client provided that the clients' facilities comply with the training equipment and tooling as outlined in QCTO Annexure 1, included in this document.

f) Facilitator

The Facilitator must be an experienced lecturer in the training of refrigeration and air conditioning learners. He / she must have completed the Safe Handling and Pressure Equipment Training and is in a possession of a valid SAQCC Gas card.

It is a requirement that the facilitator/lecturer/assessor be a qualified refrigeration artisan who is registered with SAQCC Gas as a Category B6 or B7 or B8 dependent on the refrigerant type.

Facilitator with one of the following qualifications: Facilitators must have a minimum of 5 years post trade test qualification commercial or industrial industry experience. Acceptable trade tests are:

- Refrigeration Mechanic (Commercial)
- Air-Conditioning and Refrigeration Mechanic
- Electrician (Air Conditioning and Refrigeration)
- Refrigeration Mechanic (Industrial)
- Air Conditioning, Refrigeration and Ventilation qualification suite Levels 2, 3 and 4 culminating with a trade test.

g) Facilitator / Learner Ratio

The Facilitator / Learner ratio shall not exceed one to fifteen. This is to ensure that proper attention can be applied to the individual learner.

h) Assessor

A qualified NAMB registered Assessor must be employed by the SDP to assess the theoretical and practical tests. The Facilitator and the Assessor may be the same person
Refrigeration Assessor Registered with NAMB in one of the trades:

- Refrigeration Mechanic (commercial),
- Air-Conditioning and Refrigeration Mechanic,
- Electrician (Air Conditioning and Refrigeration)
- Refrigeration Mechanic (Industrial)
- Air Conditioning, Refrigeration and Ventilation qualification suite Levels 2, 3 and 4 culminating with a trade test.

i) Moderator

A qualified and NAMB registered Moderator must be employed by the SDP to internal moderate the theoretical and practical tests. The Assessor and the Moderator may not be the same person. The SDP can make use of an external moderator to perform this function.

A minimum of twenty percent of assessments must be moderated.

Moderator registered with NAMB

(May not be the same person as Assessor)

- Refrigeration Mechanic (Commercial)
- Air-Conditioning and Refrigeration Mechanic
- Electrician (Air Conditioning and Refrigeration)
- Refrigeration Mechanic (Industrial)
- Air Conditioning, Refrigeration and Ventilation qualification suite Levels 2, 3 and 4 culminating with a trade test.

j) External Moderation by SARACCA

External moderation shall be done by a qualified, registered NAMB Moderator appointed by SARACCA.

k) Learning Material / Documentation

The learning material is defined by SARACCA and must be used to ensure that one standard is maintained nationally. The SDP will need to purchase the learning material handbook from SARACCA for each learner of which the cost should be included in the price of the training. This is to ensure uniformity and conformity across all training.

The mandatory learning material, guides, enrolment forms, knowledge questionnaires, task instructions, observation checklists, work place experience affidavit / logbooks, daily sign on forms and reports are available to approved providers from SARACCA.

l) Unique Numbering System

Each training manual has a unique number printed on the top righthand corner of the inner cover page.

This unique number is allocated to an individual student.

All documentation concerning each individual student including final certification must reflect this unique number.

SARACCA allocates each unique number to the students registration and without this number the student will not be registered with SAQCC gas.

No Documentation may be altered or used for any other purpose than intended for the training, assessment and registration of persons in the safe handling of refrigerants.

m) Body of Evidence

It is the responsibility of the SDP to compile a BOE (Body of Evidence) to prove that the competency of learners has been achieved, and which can be used in court of law should require so.

Bodies of evidence must be archived on completion of the training for the lifetime of the candidate.

Bodies of evidence must be available for inspection as may be required.

Bodies of Evidence must include:

Certified copy of candidates ID.

Enrolment Form

Workplace Affidavit / Logbook

Daily attendance registers.

Observation checklist

Knowledge questionnaire

Assessment outcome / report

Moderation outcome / report

Copy of certificate

n) Certification

Training providers will be provided with an electronic SARACCA certificate template. The template may not be altered. The candidates unique number, details together with the training provers details are to be fully completed. Training Providers may use their logos above their name in the space provided.

o) Duration of training

The training is based on credits therefore based on the '**Notional learning hours**' are the estimated learning time taken by the 'average' student to achieve the specified learning outcomes of the course-unit or programme. They are therefore not a precise measure but provide students with an indication of the amount of study and degree of commitment expected. SARACCA requires that the minimum time for training and assessment be 5 days at the training provider and 2 days for renewal. A certain amount of home study will also be necessary.

The SDP may not decrease the time / credits to save on costs.

p) Recognition of Prior Learning

Given the nature of the training / assessment forming part of the legislated requirements in the Occupation Health and Safety Act Recognition of prior learning does not apply. Providers are required to develop a full body of evidence for all candidates.

q) Certification of Conformity of SDP's Refrigeration equipment used for training

The requirements from SAQCC Gas and DOL is that a valid COC for the refrigeration equipment and systems is requirement for their accreditation and recognition as a training provider.

The facilitator/lecturer/assessor who is registered with SAQCC Gas shall regularly inspect the systems to ensure safety and integrity. A COC to be issued at twice a year intervals.

r) Curriculum

<u>Cirriculum</u>	<u>Knowledge component</u>	<u>Application component (Practical)</u>
<p>The listing of modules under topics of the skills programme means the entire content in that module is applicable for the skills programme.</p> <p>Knowledge Component: At training provider SDP</p> <p>Application Component (Practical) At training provider</p> <p>Workplace component. At workplace.</p> <p>The training material and task instructions include all the required content.</p> <p>The Affidavit / Logbooks repent the required evidence for the minimum experience required to undergo this training</p>	<p>Fundamental understanding of relevant policies, procederes, general rules and regulations</p> <p>Interpretation of National Safety Legislation (OHS Act & Construction Regulations Montreal protocol and amendments, pressure equipment regulation)</p> <p>General workshop safety</p> <p>Safe Handling and use of refrigerants</p> <p>Evacuation of a refrigeration system,</p> <p>Maintenance of refrigeration and air conditioning systems</p> <p>Refrigerants and lubricants</p> <p>Charging the refrigeration system</p>	<p>Pressure test the refrigeration system</p> <p>Evacuate the refrigeration system</p> <p>Charge the refrigeration system</p> <p>Recover refrigerants from a refrigeration system</p> <p>Install various piping and insulation at least three times over a period of not less than three weeks each.</p> <p><u>Workplace component</u></p> <p>Processes related to pressure testing of an air conditioning system</p> <p>Evacuate the air conditioning and refrigeration system to the required level at least three times over a day.</p> <p>Perform vacuum test the system at least three times over a day.</p> <p>Charge the system with refrigerants at least three times over a day.</p>

The intention of the training and assessment is to train persons working in the industry with relevant experience in the Safe Handling of Refrigerants. This training is not a basic refrigeration course.

A candidate therefore required a minimum of three months relevant experience in industry as per table above.

For individuals without the minimum experiential requirement a basic course and the gaining of the relevant experience is recommended.

<u>Credits</u>	<u>Credit Values</u>
<p>Indicate the number of credits for the skills programme.</p> <p>(NB: The credit value is linked to the time required to achieve all competencies for the skills programme. The credits must be calculated on the basis of one credit is equal to ten notional hours)</p>	<p>Credit Values</p> <p>Knowledge modules and Practical Modules to be completed at an accredited training provider = 17 Credits</p>

The duration of the course has been calculated from the credits resulting in a five day training / assessment intervention

s) Archives

It is the responsibility of the SDP to provide facilities to safely store Body Of Evidence's (BOE's), either in the hard copy form or the preferred option is an electronic soft copy stored on the cloud. The period of storage is for the lifetime of the person and should be readily available should any enquiry is done regarding the competency of the individual.

t) Cost of the Training

The cost of the training is determined by the SDP and is not prescribed by SARACCA. It is recommended that the cost should be market related to encourage the registration of new applications and renewals.

u) SAQCC Gas License Registration & Card Cost

The cost for the registration and issue of the card and to be loaded on the SAQCC database by SARACCA is not included in the cost of the training at a training provider. The registration fee is payable by the applicant with the application to SARACCA. The fee is determined and set by SAQCC Gas annually.

v) Renewal

The three yearly renewal process is identical to the full course with the exception of the training content and training assessment duration.

Courseware will be updated, as necessary on an annual basis to include any advancements in technology and legislation made by industry and Government.

The renewal courseware for classroom / workshop instruction is included in the training manual and forms the latter portion of the material. The start of the required training for the renewal is indicated in the training material.

However the candidate is expected to revise the complete manual including the health and safety aspects.

The renewal training is to be conducted over a minimum period of two days.

The assessment utilises the same task instructions, observation checklists and knowledge questionnaires as for the full course.

w) Documentation to be returned to SARACCA for candidates registration.

Approved providers are required to send SARACCA the following documents on successful completion of training intervention.

Completed candidates application forms as required by SARACCA.

Completed signed code of conduct form

Certified copy of candidates ID with Passport size colour photo.

Attendance Register

Copy of candidates Safe Handling Certificate

Copy of Trade Test Certificate (if applicable)

Training Provider Monthly report (the monthly training report is important to confirm registrations and is to include candidates who are not yet competent / absconded / did not attend). SARACCA will use the monthly reports for verification processes.

x) Training providers non compliance, code of ethics

SARACCA expects that all accredited SDP's will conduct training and business in an ethical professional manner to ensure that the standard of training is on an acceptable level. In the event that a SDP is found to be guilty of noncompliance with this guide or unethical behaviour, SARACCA reserves the right to cancel the accreditation.

SARACCA Approval for Training Providers

How does the application process work?

The SDP that seek approval from SARACCA need to complete the application form "Form 1" and submit to the SARACCA office, the director will evaluate the application and make a recommendation to the NEC for approval.

A Representative of SARACCA shall visit the SDP's Training Facility to evaluate the facility to ensure that the minimum criteria is met as set out in this document.

On approval of the Application, an Accreditation Certificate shall be issued to the SDP.

How long is the accreditation Valid?

1. Probationary Accreditation

The accreditation by SARACCA is valid for a period of one year. Assessment shall be conducted by SARACCA to ensure the minimum requirements are met by the SDP, on which a motivation shall be submitted to the NEC for approval.

2. Full Accreditation

The accreditation by SARACCA is valid for a period of 5 years.

An application for reaccreditation must be submitted at least three months before the expiration date to the office of SARACCA to ensure that the application is approved before the renewal date.



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FORM 1

Application for Accreditation as a Skill Development Provider (SDP) to present Safe Handling of Refrigerants and Pressure Equipment Training.

1. Details of Skills Development Provider

Name of Skills Development Provider	
Postal Address	
Physical Address	
Suburb	
City	
Province	
Name and Surname of Contact Person	
Telephone Number	
Cell Phone number	
Email address	

2. QCTO Accreditation

QCTO Registration number	
Date Registered	
Expiry date	
Qualification on registration	

4. Training Centre

Type refrigeration equipment on hand to present the training:

5. Facilitator

Name and Surname	
Telephone Number	
Cell Phone number	
Email address	
Years of experience in the HVAC Industry	
SAQCC Gas card no	
Expiry date of SARACCA Gas card	
Category indicated on card	

6. Assessor

Name and Surname	
Telephone Number	
Cell Phone number	
Email address	
Years of experience in the HVAC Industry	
SAQCC Gas card no	
Expiry date of SARACCA Gas card	
Category indicated on card	
NAMB Registration Number	
Expiry Date of Assessor Certificate	

7. Moderator

Name and Surname	
Telephone Number	
Cell Phone number	
Email address	
Years of experience in the HVAC Industry	
SAQCC Gas card no	
Expiry date of SARACCA Gas card	
Category indicated on card	
NAMB Registration Number	
Expiry Date of Moderator Certificate	

I, _____ declare that all the above is true and correct.

Name: _____

Signature: _____

Date: _____

November 2019 -Revised September 2021

For Office Use:

Assessment of the SDP was done by:

Name: _____ NAMB: Assessor Registration Number: _____

Motivation / Comment:

Signature: _____

Date: _____

This is a probationary application

This is full Accreditation

Checklist

- 1. Details correct
- 2. QCTO Accreditation Letter
- 3. Training Centre Equipment in accordance with QCTO Annexure 1
- 4. Facilitator
- 5. Assessor (registered with NAMB/DHET)
- 6. Moderator (registered with NAMB/DHET)

Motivation by Director SARACCA:

Director SARACCA

Name: _____ Signature: _____ Date: _____

Approval by NEC of SARACCA

The application was presented at the NEC Meeting held on the _____ day of _____ year _____ at _____ .

Approved Not Approved

President SARACCA

Name: _____ Signature: _____ Date: _____



SARACCA

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FORM 2

Application for a Skill Development Provider (SDP) to present Safe Handling of Refrigerants and Pressure Equipment Regulations Training at a Premises other than the registered address of the Training Centre.

1. Details of Skills Development Provider

Name of Skills Development Provider	
Postal Address	
Physical Address	
Suburb	
City	
Province	
Name and Surname of Contact Person	
Telephone Number	
Cell Phone number	
Email address	
QCTO Accreditation number:	

2. Details of the Client / Venue where training will be conducted.

Name of Client / Venue	
Postal Address	
Physical Address	
Suburb	
City	
Province	
Name and Surname of Contact Person	
Telephone Number	
Cell Phone number	
Email address	

3. Description of the equipment on hand to conduct the training

4. Declaration

I, _____ declare that all the above is true and correct, and that the time required in credit value will be .

Name: _____

Signature: _____

Date: _____



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Annexure 1 to National safe Handling skills Program

Physical Resource List For Safe Handling of Refrigerants Skills Program

TOOLS REQUIRED

Tools / Equipment / Consumables

Maximum Class size 15

Ratio of tools per learner, all tools and equipment required

Item Description	Evidence	Acceptable Yes / No
QCTO Accredited Training Centre Including workshops		
Full QMS		
Document archives for Safe Handling Bodies of evidence.		

Item Description	Registration Number	Acceptable Yes / No
Facilitator with one of the following qualifications: Facilitators must have a minimum of 5 years post trade test qualification commercial or industrial industry experience. Acceptable trade tests are: <ul style="list-style-type: none"> • Refrigeration Mechanic (commercial), • Air-Conditioning and Refrigeration Mechanic, • Electrician (Air Conditioning and Refrigeration) • Refrigeration Mechanic (industrial) • Air Conditioning, Refrigeration and Ventilation qualification suite Levels 2, 3 and 4 culminating with a trade test. 	N/A	
Refrigeration Assessor Registered with NAMB in one of the trades: <ul style="list-style-type: none"> • Refrigeration Mechanic (commercial), • Air-Conditioning and Refrigeration Mechanic, • Electrician (Air Conditioning and Refrigeration) • Refrigeration Mechanic (industrial) • Air Conditioning, Refrigeration and Ventilation qualification suite Levels 2, 3 and 4 culminating with a trade test. 		

Item Description	Registration Number	Acceptable Yes / No
Moderator registered with NAMB (May not be the same person as Assessor) <ul style="list-style-type: none"> • Refrigeration Mechanic (commercial), • Air-Conditioning and Refrigeration Mechanic, • Electrician (Air Conditioning and Refrigeration) • Refrigeration Mechanic (industrial) • Air Conditioning, Refrigeration and Ventilation qualification suite Levels 2, 3 and 4 culminating with a trade test. 		

Item Description		
Class room for 15 Students with:	Evidence	Acceptable Yes / No
Adequate Lighting		
White Board		
Multi media projector		
Tables / chairs		
Documentation for each Student including:	Evidence	Acceptable Yes / No
Attendance registers		
Monthly Reports		
Student Report		
Student Feedback forms		
Bodies of evidence completed		
Bodies of evidence archived		
Proof of internal Moderation		

Workshop

A workshop with a minimum capacity of 15 Students

Tools and equipment (Minimum required)

Ratio: E.G: 1:1 means 1 tool per 1 student

Item Description	Ratio	Required	Sufficient Y/N
Hand Tools			
Flaring and swaging tool kit including pipe cutter	1:1	15	
Mechanical pipe benders 1/4, 3/8, 1/2, 5/8	1:3	5 sets	
Spring pipe benders	1:3	5 sets	
Electrical screwdriver set	1:1	15	
Combination Pliers	1:1	15	
Long nose pliers	1:1	15	
Side cutter	1:1	15	
Cable knife	1:1	15	
Deburring tool	1:1	15	
Combination spanner set	1:5	3	
Socket spanner set	1:15	1	
Reversible ratchet spanner with 1/4" and 3/16" at one end and 3/8" and 3/16" at the other end.	1:1	15	
Paint Brushes 25mm	1:1	15	
Constricting roller	1:3	5	
Spark lighter	1:5	3	
Pinch-off tool	1:5	3	
Piercing Tool	1:1	15	
Adjustable spanner -200mm	1:1	15	
Flare nut spanners - open ring sets	1:3	5	
Hacksaw	1:1	10	
Allen key set	1:1	10	
Refrigeration specific Tools			
Vacuum pump	1:5	3	
Recovery unit	1:5	3	
Service cylinder	1:5	3	

Item Description	Ratio	Required	Sufficient Y/N
Electronic scale	1:5	3	
Manifold gauges with hoses (R22/134a/404a) Note*	1:1	8	
Manifold gauges with hoses (R410a) Note*	1:1	8	
Manifold gauges with hoses (R290/600a) Note*	1:1	8	
Note*: Can be sets for multiple refrigerants but all mentioned refrigerants must be covered.	-	-	
Piercing pliers or (tap-a-line)	1:5(1:1)	3(15)	
Pinch off pliers	1:5	3	
Shroeder valves	-	15	
Measuring Equipment			
Measuring tape	1:1	4	
Steel Ruler	1:1	5	
Square - 200mm	1:1	4	
Thermometer	1:3	5	
Micron vacuum gauge	1:5	3	
Workshop Equipment			
Vice mounted on stand or Work bench	1:2	8	
Workbenches	Minimum	2	
Oxy-acetylene sets (Complete, secured cylinders, flash back arrestors and Brazing torches)	Minimum	2	
Brazing consumables, Copper to Copper, Silver Solder	As required	Y	
Safety equipment, signage and PPE requirements	As required	Y	
Nitrogen cylinders with safety regulator (+/-2600 - 3300kPa)	1:8	2	
High pressure regulator for R410a (4000kPa)	1:15	1	
Equipment			
Operational cold/freezer rooms or operational simulator where all required practical tasks and assessments can be conducted.	1:3	5	
Operational R410a A/C systems or operational simulator where all required practical tasks and assessments can be conducted.	1:3	5	

Item Description	Ratio	Required	Sufficient Y/N
Operational Hydro Carbon systems (Domestic) or operational simulator where all required practical tasks and assessments can be conducted.	1:3	5	
Operational Hydro Carbon systems (Commercial) or operational simulator where all required practical tasks and assessments can be conducted.	1:3	5	
Leak detectors, electronic for HCFC, HFCs and HC refrigerants	1:5	3	
Refrigerant cylinders, disposable, HC's, HCFCs, HCs	Minimum	5	
Refrigerant cylinders, service.	Minimum	5	
Refrigerants: HCFC, HC and HFCs	-	Each Group	
Refrigerant charging Scale	1:3	5	
Safety			
Assessor and Facilitators with current SAQCC registration (Minimum Category B)	All	All	
CoC for refrigeration plants (Not older than 6 Months)	All	All	
Safety File	-	Y	
OHS safety report issued by: DOL registration Number:	-	Y	
OHS safety certificate issued by: DOL registration Number:		Y	
Logistics And Lay-Out			
Floor Demarcations	-	Y	