TRANSNET

Project Specification

PE DEPOT SUPPLY AND INSTALLATION OF RELAY ROOM AIR CONDITIONERS

Supply and installation of air conditioners at various relay rooms

Table of Contents

1. PROJECT DESCRIPTION

This project entails the installation of an air conditioning (AC) systems within various relay rooms containing railway signalling interlocking equipment. The primary objective is to maintain a controlled temperature environment for optimal performance and reliability of the critical signalling equipment.

2. DELIVERABLES

Installation of new air conditioning units (12 000 BTU) at the following railway station (relay rooms).

1. Swartkops (Approx. 10km from Port Elizabeth)
2. Aloes (Approx. 16km from Port Elizabeth)
3. Alicedale (Approx. 99km from Port Elizabeth)
4. Saltaire (Approx. 110km from Port Elizabeth)
5. Cookhouse (Approx. 165km from Port Elizabeth)
6. Witmos (Approx. 206km from Port Elizabeth)
7. Rosmead (Approx. 354km from Port Elizabeth)
8. Evendown (Approx. 356km from Port Elizabeth)
9. Noupoort (Approx. 387km from Port Elizabeth)
10. Bletterman (Approx. 496km from Port Elizabeth)

- The aircon units should not have an outdoor unit as this will attract theft and vandalism. **Please see annexure A for the type of system that is required.**
- Installation of an adequate voltage stabiliser to protect the air-conditioning system against fluctuations in the electrical supply. The stabiliser should provide protection against:

  1. Over and under voltage

  2. Current overload

  3. Harmonic suppression

- Electrical wiring and connection of AC units to a designated power source.
- Drainage system for condensate disposal, ensuring no water accumulation near sensitive equipment.
- Thermostat installation for temperature control.
- Functional testing and commissioning of the entire AC system.

3. GENERAL REQUIREMENTS

1. All work shall comply with relevant railway safety regulations and standards for signalling systems.
2. Prior to installation, a detailed site survey shall be conducted to determine the optimal placement of AC units, considering airflow, existing wiring, and equipment layout.
3. Noise generated by the AC units should be minimal to avoid interference with signalling equipment operation.
4. Fire safety considerations are paramount. AC units with built in safety features and flame-retardant materials are preferred.

4. SPECIFIC TASKS

1. Pre installation:
    - Conduct a comprehensive site survey of the relay room.
    - Obtain all necessary permits and approvals for the installation work.
2. Installation:
    - Protect existing signalling equipment from dust and debris during installation.
    - Install AC units in designated locations as per the approved plan, minimizing disruption to existing wiring and equipment.
    - Perform electrical wiring and connection of AC units to the designated power source, adhering to safety regulations.
    - Install a proper condensate drainage system to prevent water accumulation.
3. Testing and Commissioning:
    - Thoroughly test the functionality of the installed AC system, including cooling capacity, airflow, and thermostat operation.
    - Verify proper condensate drainage and absence of leaks.
    - Ensure the AC system operates quietly without interfering with signalling equipment.
    - Provide a commissioning report documenting the testing procedures and results.

5. PROJECT ACCEPTANCE

- Upon successful completion of the installation and commissioning process, the contractor shall provide a handover document outlining the installed equipment details, operation manuals, and warranty information.
- The client shall have the opportunity to inspect the installation and test the functionality of the AC system.
- Final project acceptance will be granted after all punch list items and outstanding issues are addressed.

6. ADDITIONAL CONSIDERATIONS

- Inclusion of a proposed preventative maintenance plan for the AC system is recommended to ensure long term reliability.

7. PAYMENT

The Project Manager will secure payment upon successful completion of the project.

Compiled by: Rail Network- Signals	**Contractor Representative**
Name: Siphosethu Thuthu	Name: _____
Grade: Engineering Technician	Grade: _____
Date: 18-02-2026	Date: _____
Signed: _____	Signed: _____

Reviewed/Approved by: Rail Network- Signals

Name: _____

Grade: _____

Date: _____

Signed: _____

ANNEXURE A

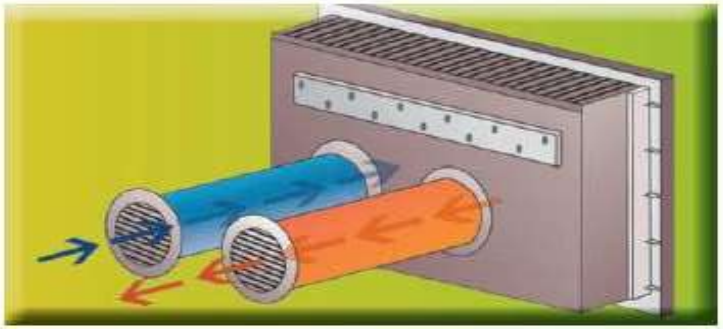
NOT BRAND SPECIFIC BUT SOMETHING SIMILAR

Design

- No outdoor unit.
- Allows fitment in any building without interfering with building appearance.
- Designed to replace old fashioned office console.
- Designed to fit townhouses, conforming with Body corporate restrictions.
- Easy istallation, no HVAC skills required.
- Modern Italian design.

Two-duct design

- Requires only two ducts for air circulation.
- Small diameter holes prevent security breaches into the building.
- Can fit any wall/ glass thickness.
- No collar needed.
- Installation done from the interior only
  (especially convenient and cost effective in high-rise buildings).



TRANSNET
freight rail

Environment

- Unicon Fresh Air System refereshes the air in the room by switching the intake to the outside air.
- Environmentally friendly refrigerant R410A,
- Highly efficeint power consumption.

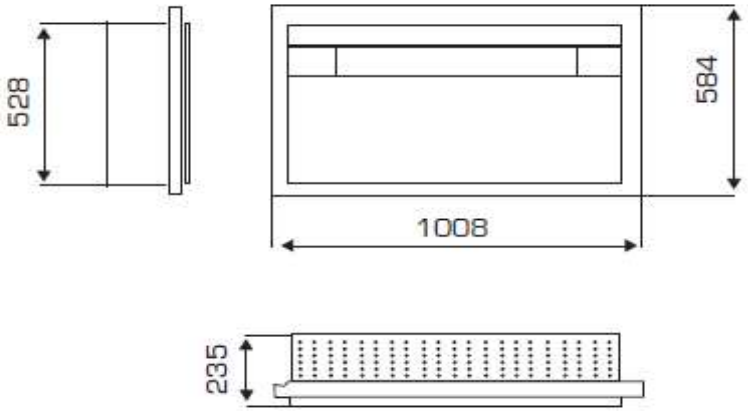
MODEL	UNIT	MU30	MU40
Cooling Performance			
Refrigerating Capacity	BTU	10,500	14,000
Cooling Rated Input	W	980	1,340
Cooling Rated Current	A	4.3	6
Heat Pump Performance			
Heating Capacity	**W**	**11,000**	**14,500**
Heating Rated Input	W	860	1,300
Heating Rated Current	A	3.8	5.85
Refrigerant Type		R410	R410
Max Pressure	Mpa	4	4.1
Air Flow (Max)	**m^3/h**	**450**	**500**
Noise Level	dB(A)	37-46	37-48
Dehumidifying	l/h	1	1.3
Exhaust Pipes Diameter	mm	162	162
Net Weight	KG	42	44
Gross Weight	KG	50	52
Dimension (WxHxD)	mm	1008x584x235	1008x584x245
Package Dimension (WxHxD)	mm	1235x660x347	1240x660x350

Heat Pump

- Unicon cab ne installed without drainpipes.
- No drainage heat pump.
- Saves up to 80% electricity consumption.

Space Savers

- Space saving 23cm thickness.
- Can be fitted also as a high wall.



Power Supply: 220 - 240v/50HZ -
The above mentioned data are indicative and subjected to change without notice.

*Most efficient in its "no drain" category for all year round use when combined 50% heating and 50% cooling.