



**SCOPE OF WORK FOR SUPPLY, INSTALL
AND TEST ONE OFF REFRIGERATED AIR
DRYER AND 500KG AIR HOISTS.**

**WAGONS MAINTENACE DEPOT, CRANE
ROAD, BAYHEAD.**

REFERENCE No: FAI_DBN_SPEC_030

Revision 0


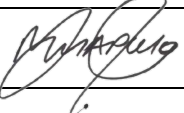

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Department Affected	Facilities and Infrastructure
Effective Date	May 2026
Compiled by	Zolani Mngqithi
Designation	Engineering Technician
Signature	 07.05.2026
Reviewed by	Mzwenkosi Mapuko
Designation	Maintenance Manager
Signature	 07.05.2026
Approved by	Sphamandla Mkhwanazi
Designation	Plant Engineer – Container Corridor
Signature	 07/05/2026

1. INTRODUCTION

#	TASK	REQUIRED
1	Design	
2	Manufacture	
3	Supply, delivery	✓
4	Documentation	✓
5	Testing	✓
6	Training	✓

#	ITEM	REQUIRED
1	Supply, Install and Test one off Refrigerated Air Dryer	1
2	Supply, Install and Test four 500kg air hoists and three 1000kg Air hoists.	7
3	Train 5 Transnet Engineering personnel on how to use the supplied equipment and submit the project completion documents.	1
4.	Testing, commissioning and handover.	

2. SITE INSPECTION

- 2.1 All prospective contractors shall be required to undertake a compulsory site inspection to fully acquaint themselves with all aspects involved.
- 2.2 Arrangements to visit the site and confirmation of the date and time of the site inspection shall be made with Transnet Engineering Contract Manager.
- 2.3 The site inspection certificate shall be completed and countersigned by the Contract Manager on the day of the visit and must be submitted with the tender documents.

3. INFORMATION REQUIRED

- 3.1 Offers will not be considered unless full particulars and sufficient information are provided at the tendering stage to enable Transnet Engineering Technical Officers the opportunity to assess each technical offer properly.
- 3.2 As prospective contractors are considered to be experts in their field, they are obliged to identify any shortcomings, such as omissions or sub-standard requirements, to the completeness of this specification. These must be brought to the attention of Transnet Engineering at tender stage.

4. TECHNICAL REQUIREMENTS

The following regulation and codes must be complied with:-

- **Occupational Health and Safety Act and Regulations 85 of 1993, driven machinery regulations.**

4.1 Except where otherwise provided for in the specification, all equipment offered will comply with the requirements of the relevant standard specifications of the SABS / SANS.

5. SPECIFICATION REQUIREMENTS

- 5.1 Loads and duty cycles
- 5.2 Environment
 - Indoors and outdoors.
- 5.3 Minimum requirements

Minimum Requirements - Refrigerated Air Dryer	
Detailed Specifications	
Component / Parameter	Specification Detail
Airflow Capacity	1000 CFM (at 100 PSI / 7 bar reference)
Max Working Pressure	10 bar (approx. 145 PSI)
Electrical Supply	400V / 3 Phase / 50Hz
Refrigerant Type	R407C (Eco-friendly HFC blend)
Estimated Weight	620 lbs (281 kg)
Connection Size	3" ANSI Flange
Dimensions (HxWxD)	Plus or minus 58" x 31" x 39" (these are approximate dimensions based on existing space of compressor house)
Drain Mechanism	No-Loss Automatic Drain (prevents compressed air wastage)

Minimum Requirements -500kg Air Hoist (Qty: 4)	
Component	Technical Specification
Capacity (WLL)	500 kg
Control Type	Pendant Control (Variable speed for precision spotting)
Lifting Speed (Full Load)	4.6 m/min (15 ft/min)
Air Consumption	32 CFM @ 6.3 Bar (Approx. 0.9 m ³ /min)
Air Connection	1/2" BSP (Minimum 1/2" hose diameter)
Safety Features	Failsafe automatic internal disc brake; Upper/Lower limit switches
Duty Cycle	100% (Designed for continuous industrial operation)
Compliance/Certification	Recommended: CE Certified and ATEX Zone 2 (as per Red Rooster TCR-500)
2. 1000kg (1 Tonne) Air Hoist (Qty: 3)	
Component	Technical Specification
Capacity (WLL)	1000 kg
Operating Pressure	6 Bar (Approx. 90 PSI)

Lifting Speed (Loaded)	5.3 – 6.0 m/min
Lifting Speed (Unloaded)	Up to 11.3 m/min
Control Type	Pendant Control (Variable speed for precision spotting)
Air Consumption	~25 – 46 CFM (Depending on load and motor type)
Standard Lift	3 Metres (Customisable to project requirements)
Chain Falls	1 (Single fall for faster speeds) or 2 (For compact height)
Net Weight (3m lift)	~22 kg – 35 kg
Protection	Integrated Load Limiter (Prevents accidental overloading)

- 5.4 Markings
- Appropriate markings required by an applicable standard for equipment and installation required shall be indelible and only removable by deliberate intent.
- 5.5 Quality controls and monitoring
- The boom lift shall come equipped with panel profile or analogue meter/gauge counting running time (hour meter). The meter/gauge shall be protected from manipulation.
- 5.6 Delivery
- The Refrigerated Air Dryer and Air hoists shall be supplied, delivered and installed at the Bayhead Wagons Depot (Crane Road, Bayhead).
- 5.7 Testing
- A functionality test to the satisfaction of the stakeholders shall be deemed sufficient.
 - Load tests shall be done and issue certificate.
- 5.8 Commissioning
- **A testing period of 1 month .**
 - **No equipment will be accepted by Transnet without the satisfaction of the conditions above.**
 - The contractor shall be fully responsible for any damage caused to all supplied equipment to Transnet Engineering's assets during the installation, testing and commissioning.
- 5.9 Warranty
- **The warranty shall be for 12 months.**
- 5.10 After-Sales Service
- The successful tenderer shall provide Transnet Engineering with acceptable proof that spares can be easily and speedily procured for the equipment within 7 working days through agents locally.

5.11 **The following must be supplied on delivery:**

- Schematic drawings for all components.
- Operational and Maintenance instructions and schedule for all components supplied.
- Parts catalogue.
- Operator and maintenance staff training for not less than 4 people.
- All required software (Soft copies)
- Maintenance manuals and parts catalogues (3 hard copies and 1 PDF copy) shall be supplied.
- Operating manuals (3 hard copies and 1 PDF copy) shall be supplied.
- Load test certificate.

6. **GENERAL**

- 6.1 The successful tenderer will be subjected to a workshop inspection by Transnet Engineering, to ensure that the facilities are to the satisfaction of the Transnet Engineering in terms of the quality control and equipment capabilities for manufacturing such type of equipment.
- 6.2 The tenderers shall guarantee that the rating and size etc. of the equipment offered, will be adequate to perform the duties required.

7. **OTHER INFORMATION RELATED TO THE SCOPE**

- 7.1 This specification states the minimum requirements relating to the work and in no way absolves the contractor from responsibility for sound engineering practice. Any omissions or sub-standard requirements of this specification must be brought to the attention of Transnet Engineering at tender stage and optional prices for addressing such omissions must be provided.
- 7.2 Any matter relating to this work, which requires a decision from Transnet Engineering shall be presented to the Project Manager in charge.

8. **HEALTH AND SAFETY REQUIREMENTS**

- 8.1 All equipment and installation whether detailed in this specification or not shall comply with the requirements of the Occupational Health and Safety Act 85 of 1993 as amended and all other applicable legislation including specific set of regulations and local authority bylaws where applicable. All equipment shall be designed **to be fail safe.**
- 8.2 All the necessary safety equipment such as guards over rotating equipment shall be supplied and the equipment shall comply fully with all the requirements of the South African Occupational Health and Safety Act, Act 85 of 1993 and all other applicable legislation including specific set of regulations and local authority bylaws where applicable.

At all times during the manufacture, assembly and testing of the equipment the contractor will be responsible for the safety of all persons on site and the equipment.

8.3 SHE SPECIFICATION

Prior to commencement of contract, the contractor shall be issued with a SHE specification in order to compile a SHE file in line with TE requirements.

Prior to establishing on site, it is an explicit requirement of this contract that all of the Contractor's personnel directly involved with this contract, including those of sub-contractors, attend a **Safety induction course**. Transnet will provide the course free of charge and attendance is compulsory for all Personnel under the control of the Contractor who, during the duration of the contract, will be present on site whether on a full time or adhoc basis.

The contractor must allow for all additional charges because of these requirements as no claims for extras will be accepted in connection with the foregoing.

8.4 As part of the legislative and TE SHE requirements.

The successful contractor is required to conduct a Risk assessment to ascertain all potential risks associated with this project. The completed risk assessment is to be formally submitted to the Risk department via the project manager at least two weeks prior to the commencement of the actual project. A safety file and associated documents will be required from a successful tenderer, and such will be communicated by the Risk department.

9. SPECIALIST SUB-CONTRACTORS

9.1 Only specialist sub-contractors who have previously successfully completed work of the type and extent specified in this document should be engaged.

The tenderer shall provide the technical officer with sufficient proof of having suitable experience regarding the design and manufacturing of similar equipment.

To this end, complete and detailed reference list shall be submitted with the tender. Reference list shall include addresses as well as contact person who may be visited for inspection of the equipment during the adjudication period.

9.2 The tender shall submit a complete list of proposed sub-contractors and suppliers of major components with his tender.

9.3. The tenderer shall be prepared to commit themselves in writing to the technical officer with an adequate, experienced and stable project team for the duration of the contract.

9.4 Transnet Engineering will not consider any Tenderer's offer that, in the sole opinion of Transnet Engineering, does not have adequate experience in the design and manufacture of such equipment.

9.5 Contractors shall do the installation simultaneously with other contractors on-site busy with other work and shall plan work that it integrates with other work performed.

10. MATERIAL AND WORKMANSHIP

10.1 Machinery shall be offered complete in all respects, including all standard Equipment normally offered by manufactures, all of which shall be specified in detail.

10.2 The equipment, as made and supplied, shall be complete in every respect, of modern design, using the most advanced proven technology extensively supported by reputable local companies, and be built to good engineering practices.

Tenderers shall supply a list of all the main components (mechanical, electrical etc.) proposed as well as the addresses of local the support companies.

10.3 All parts and components shall be adequately protected against damage and corrosion during shipping, transport and storage.

Should any of the items called for be standard equipment, then the words "Standard Equipment" shall appear against the item.

10.4 The equipment, as made and supplied, shall be complete in every respect, of modern design, using the most advanced proven technology extensively supported by reputable local companies and be built to good engineering practices.

11. GENERAL REQUIREMENTS

Operation will be in the following conditions:

Altitude	Sea level
Ambient temperature	0°C to 45°C
Relative humidity	50% to 100%
Atmosphere	Heavy saline

11.1 Tenderers shall indicate clause-by-clause either that they comply in every respect with the specific requirements, or if not, exactly how it differs.

12. DEFINITIONS AND ABBEVIATIONS

CLIENT	Transnet Engineering
TECHNICAL OFFICER	Project Manager, Transnet Engineering Durban
CONTRACTOR	Contractor appointed under this specification document

SABS	South African Bureau of Standards
SANS	South African National Standards

13. GENERAL

- 13.1 The successful tenderer will be subjected to a workshop inspection by Transnet Engineering, to ensure that the facilities are to the satisfaction of the Transnet Engineering in terms of the quality control and equipment capabilities for manufacturing such type of equipment.
- 13.2 The tenderers shall guarantee that the rating and size etc. of the equipment offered, will be adequate to perform the duties required.

14. SITE ESTABLISHMENT

- 14.1 The contractor shall be solely responsible for safety of his staff and for providing security to safeguard his works and material on site, until such a time.
- 14.2 The contractor shall be required to attend site meetings when convened by the Project Leader controlling the contract.
- 14.3 The contractor will be responsible for any damages caused by his staff to the Building, Electrical, Civil Engineering infrastructure and all the property on site.

15. PENALTIES

- 15.1 Due to the criticality of this equipment, penalties will be levied for late deliveries.