

EMU TOOLS AND MAINTENANCE INSTRUMENTS FOR ROLLING STOCK

USER REQUIREMENT SPECIFICATION

Confidentiality clause:

This document and the information contained within are confidential between PRASA Engineering services and Railway Safety Regulation (RSR). Any disclosure to the third parties without written consent from the senior manager of rolling stock is in breach of confidentiality. And is subject to disciplinary measures.



Document details

Compilation date	13 November 2024
Last edited date	23 June 2025
Document version	Version 1

Functions	Name	Date	Signature
Compiler	Maintenance Engineering	13 October 2026	Page 1 of 24
Reviewer	Mr. Thabo Mokoena	13 October 2026	
Approver	Mr. Manekie Tapu	13 October 2026	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN				 prasa tech TECHNICAL SOLUTIONS
Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 2 of 24	
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena	
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu	

1. Scope

- 1.1. The scope covers the procurement of EMU Maintenance Instruments.

2. Definitions.

- 2.1. **Metrorail:** Suburban commuter rail transport.
- 2.2. **EMU:** Electrical Multiple Units
- 2.3. **PRASA:** Passenger Rail Agency of South Africa.
- 2.4. **"Supply"** includes fabrication, installation, testing and commissioning and Certification of the equipment/Instruments/Tools.

3. Scope of the Supply.

The scope of a supplier is for providing PRASA Maintenance Operations with tools/Instruments as prescribed in the EMU Manual Instruction for proper and standard maintenance of EMU sets in line with Prasa requirements for Maintenance Best Practices, this includes and is not limited to the following:

Tool/Equipment Supply:

3.1. Quality Assurance:

- 3.1.1. **Standards Compliance:** Ensuring all tools and equipment meet relevant industry standards and specifications.
- 3.1.2. **Inspection and Testing:** Pre-delivery inspection and testing of tools and equipment to ensure they are in proper working condition.

3.2. After Sale Support: Warrantee, Spares, Technical service.

3.3. Technical Documentation:

- 3.3.1. **User Manuals:** Detailed manuals for all supplied tools and equipment.
- 3.3.2. **Standards Compliance:** Provide compliance certification

4. Requirements.

Suppliers are hereby invited to supply the following services to Prasa Braamfontein Metrorail Depot;

- 4.1. To supply and deliver tools and instruments for performing preventative and corrective maintenance on EMU fleet at the Braamfontein Maintenance Depot.

5. Technical Requirements.

Guarantee and Inherent Defects:

- 5.1. Until such time that equipment warrantee has expired (eg. 12 months), the approved supplier shall be entirely responsible for repairing all defects occurring within stipulated warrantee period.
- 5.2. Quality of work must be as set by Prasa requirements and relevant standards.
- 5.3. The approved supplier shall guarantee that when the equipment fails it will be repaired and returned to service within 10 (ten) working days, from the date of being notified of the defect.

5.4. Document Management.

- 5.4.1. Standard certificate of compliance, calibration and guarantee should be submitted during the delivery.
- 5.4.2. Technical and Service manuals should be submitted during the delivery.

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN				 prasa tech TECHNICAL INSTITUTE
Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 3 of 24	
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena	
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu	

6. Pricing and delivery schedule

Definitions

SANS – South African National Standard

ISO – International standard organization

Refer to BOQ in the RFQ document for line items and quantities required

7. Specification

	Name	Application	Description	Image
1	RJ45 TO M12 CABLE	To connect and download	RJI CAB IP20/M12 4XAWG 22/7SCHL;1,5m (RJ45 TO M12 CABLE)	
2	RJ45 to RJ45 Straight Ethernet Cable	To connect and download	• hell Material: PVC • Color: Blue • Cable Type: UTP • Interface Type: RJ-45 • Core: 30AWG • Transmission Rate: 500MHZ In 10GBase-T ethernet	
3	Rj45 to RJ45 Straight Ethernet Cable with connector socket.	To connect with another RJ45 cabling system.	Weight :46g Length :0.5m Operating frequency :250MHz Diameter : 6mm square •	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 4 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image														
4	PTE ethernet cable 5M cable with connector socket.	To test the EPRV valve.	Length :5M Diameter:6mm square															
5	3-Phase power supply extension cord	It is used to connect shore supply to the EMU 3 phase equipment.	<table><tr><td>Model:</td><td>1 Way Track side Shore Supply</td></tr><tr><td>Voltage:</td><td>400V 3 phase 50hz</td></tr><tr><td>Incomer Rating:</td><td>1000 Amps per phase</td></tr><tr><td>Outgoing Way Rating:</td><td>160A per Phase set at 125A</td></tr><tr><td>Load Limit:</td><td>400A/phase</td></tr><tr><td>Length:</td><td>250 m long</td></tr><tr><td>Size:</td><td>16 mm square</td></tr></table>	Model:	1 Way Track side Shore Supply	Voltage:	400V 3 phase 50hz	Incomer Rating:	1000 Amps per phase	Outgoing Way Rating:	160A per Phase set at 125A	Load Limit:	400A/phase	Length:	250 m long	Size:	16 mm square	
Model:	1 Way Track side Shore Supply																	
Voltage:	400V 3 phase 50hz																	
Incomer Rating:	1000 Amps per phase																	
Outgoing Way Rating:	160A per Phase set at 125A																	
Load Limit:	400A/phase																	
Length:	250 m long																	
Size:	16 mm square																	
6	Standard mechanic's tooling Manometer (pressure gauge)	To test air pressure at the trainset's testing points.	• Product Type: Manometer • Pressure Port Type: Differential (2 pressure ports) • Pressure Range: -10 bar to 10 bar (Min/Max pressure measurement: -10 bar / 10 bar) • Maximum Overpressure: 10 bar															

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 5 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
7	High Voltage Probe	A 4.4-meter stick voltage presence indicator suitable for use between contact wire and rail	Up 5000VDC detector: This live line indicator designed for high voltage overhead lines and rail systems up to 4500V C. It must have visual bright red LED indicators and a 70dB audible tone to alert users of live voltages.	
	Voltage absence tester	Voltage Absence Tester is ideal for detecting the presence of voltage in electrical installations	Display Type LCD RCD Trip Test Yes IP Rating IP64 Battery Type AAA Power Source Battery	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 6 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
8			Weight 180g Maximum Voltage 0-690V ac/dc Length 260mm Width 70mm Height 38mm Safety Category Voltage 690V, 600V Safety Category Level CAT III, CAT IV	
9	Sound level meter	- Measuring interior passenger cabin noise levels for passenger comfort. - Monitoring noise generated by traction motors during operation. - Assessing noise from HVAC (Heating, Ventilation, and Air Conditioning) systems. ➤ Measuring wheel-rail interaction noise while the train is in motion. ➤ Evaluating noise levels in driver cabs to ensure a safe working	- Measures sound intensity levels in decibels (dB). - Used to monitor noise levels inside EMU trains and surrounding areas. - Assesses passenger cabin noise to improve comfort during travel. - Measures noise generated by traction motors, compressors, and cooling fans. - Monitors noise from braking systems and wheel-rail contact. - Detects abnormal sounds that may indicate equipment faults or wear. - Evaluates noise levels in the driver's cab to ensure crew safety. - Verifies compliance with railway noise standards and regulations. - Assesses the performance of soundproofing and insulation systems. - Supports preventive and predictive maintenance activities. - Helps identify sources of excessive vibration-related noise. - Measures noise emissions at stations during train arrival and departure.	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 7 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
		environment. ➤ Detecting abnormal equipment noise that may indicate faults or wear.	- Assists in reducing environmental noise pollution from railway operations. - Improves overall train reliability, safety, and passenger experience. - Used during testing, commissioning, and routine maintenance of EMU trains.	
10	Air leak detector (identify unwanted air or gas escaping from—or entering—pressurized systems)	Air leak Detectors are essential tools for maintaining the efficiency and reliability of compressed air systems	- Auto-OFF function: Automatic switch-off after 10 minutes - Display: 7-segment LCD (2 lines) - Housing material: Plastic (ABS) - Power supply: 4 x 1.5 Volt AA - Dimensions: 173 x 66 x 56 mm (L x W x H) - Weight: 1000 g	
11	Digital outside calipers	To obtain the measurement of any part on outside its surface.	It must be 0-300mm/0-6in x 0.01mm/0.0005in combines ABS.	

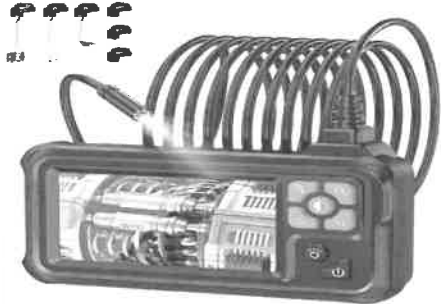
EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 8 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
12	Vernier Caliper	Measure inside and outside dimensions of any part within its range	Precision :0.02 Resolution :1m Accuracy :0.02 Measurement range :0-300mm Leg Thickness :19mm	
13	Digital Infrared Thermometer	Infrared thermometers are essential in industrial settings for monitoring machinery, electrical panels, boilers, and high-temperature pipes	30°C to + 600°C (-22°F to +1112°F) temperature range 20:1 distance to spot ratio Auto capture for unattended spot temperature (For a tripod adapter for unattended use, see RS 752-8959) 99 point data logging 30-hour battery life Hi/Low alarm Response Time: 500 ms Length: 85mm Width: 75mm Height: 175mm Weight: 255g	

Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 9 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
14	Telescopic inspection mirror	Telescopic inspection for checking hidden components in hard-to-reach areas. and confined-space visual checks	Photo sensor technology CMOS Optical zoom 1.0 Brand Generic Model name endoscope Maximum webcam image resolution 1 MP Photo Sensor Size 25 mm Effective still resolution 1.0 Special feature Waterproof Colour Black Connectivity technology Auxiliary Lengh 600 mm	
15	Hose Pipe fitting (Male and Female)	Hose pipe fittings join hoses to taps, accessories, or other hoses to create secure, leak-free fluid paths	Tap fittings. To be used on the high pressure washer	
16	Hose pipe joints	To connect two hoses together	To be used on the high pressure washer	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 10 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image										
17	Flexible pipes with fittings	To be used on the oil dispenser machine	➤ 2 x 150 Kpa 10m pipes. ➤ 2 x 150 Kpa 15m pipes. ➤ 2 x 150 Kpa 20m pipes. ➤ 1 x 150 Kpa 5m pipes											
18	Air Compressor Hose pipe with fittings -2M	Compressor air pipes	• Suitable for air tool accessories use • Material: Rubber • Colour: Black • Size: 15mm (OD) x 9.5mm (ID)											
19	PCS 1/4" BSP Galvanised Zinc Coupler Set	• Useful for assembling , repairing or modifying pneumatic hose and compressor connections • 1/4 in BSP format suited to compatible workshop compressed-air systems	<table><tr><td>SKU</td><td>ACOUPL15</td></tr><tr><td>TYPE</td><td>PNEUMATIC QUICK COUPLER SET</td></tr><tr><td>NUMBER OF PIECES</td><td>5 PIECES</td></tr><tr><td>THREAD SIZE</td><td>¼ IN BSP</td></tr><tr><td>MATERIAL</td><td>GALVANISED ZINC</td></tr></table> •	SKU	ACOUPL15	TYPE	PNEUMATIC QUICK COUPLER SET	NUMBER OF PIECES	5 PIECES	THREAD SIZE	¼ IN BSP	MATERIAL	GALVANISED ZINC	
SKU	ACOUPL15													
TYPE	PNEUMATIC QUICK COUPLER SET													
NUMBER OF PIECES	5 PIECES													
THREAD SIZE	¼ IN BSP													
MATERIAL	GALVANISED ZINC													

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 11 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
20	Oil extractor syringe for oil sampling	manual pump designed for efficient fluid extraction and filling. Made from durable materials with a leak-proof design	• Dimensions 30Lx6.7W centimetres • Volume 200 Millilitres • Must have measuring levels (10mm segments) • Material Plastic	
21	HV Box simulator connecting probes	They are used to make a connection that simulate the closing and opening of a HSCB inside the HV box	• Electro PJP Test Lead Kit With Flexible Test Clip, Test Probes, Adapters, Crocodile Clip, Test Leads • Safety Category Voltage 690V, 600V • Safety Category Level CAT III, CAT IV	

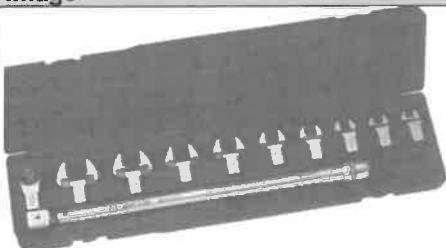
Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 12 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
22	Digital force gauge	Instrument designed for precise push and pull force measurements	• Accuracy: $\pm 0.2\%FS \pm 1$ Digit • Display: Reversed 4-digit LCD • Power Supply: 2x1.5V AA batteries or optional 6V DC power supply • Operating Conditions: ○ Temperature: 0°C to 40°C (32°F to 104°F) ○ Humidity: <80%, vibration-free environment • Dimensions: 211 x 80 x 36 mm (8.3 x 3.1 x 1.4 inches) • Weight: 390g (13.76 oz) Standard Accessories: • Main Unit • Pulling Hook • Flat Tip • Cone Tip • V-shaped Groove Tip • V-shaped Wedge Tip • Lengthening Connection Rod • Carrying Case • Operation Manual Optional Accessories: • USB Cable and Software • Bluetooth Adapter and Software • Force Gauge Test Stand	
23	Back-to-back	To measure span between the wheels in one axle	FDIMR Back-to-back distance measurement gauge • ± 0.1 mm measurement error • Bluetooth data transfer • Direct wheelset measurement	

Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 13 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
24	Gear box oil refill machine		10 L Capacity Tank: This tool comes with a thicker and translucent tank designed for frequent use and monitoring of fluid levels. At the same time, the main hose with touch control allows easy control of the conveyed fluid with a switch - Features: Provided with a pressure gauge which can be read to control the pressure in the tank more easily. Provided with the valve, pre-set to 43 psi (3 Bar), the excess pressure will be released automatically - Full Set Includes: All metal 13 pcs ATF packing adapter, 1x60 inch main hose with control valve and quick coupling, 3x39 inch flexible clear silicone hoses (6 mm, 8 mm, 10 mm), 1x39 inch brake bleed hose NB: The machine may not be like the one displayed, but functions must be similar	
25	Cordless angle grinder 18V	Robust angle grinder ideal for daily use in an industrial environment	Material Metal Dimensions 20L x 30W x 40H (centimetres) Style GWS 18 V-10 PC Power source Cordless Colour Blue Item weight 9 Grams Voltage 18 Volts Wattage 3600 watts Maximum Rotational speed 9000 RPM	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN				 prasa tech Power. Precision. Performance.
Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 14 of 24	
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena	
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu	

	Name	Application	Description	Image
26	11PC. Interchangeable torque wrench set	To be used to torque different fasteners	 34522-3DG (60 - 340) 345012 - Sizes: 13 - 14 - 15 - 17 - 1 34503204R (1/2")	
27	Battery torque wrench CP 86 series	Battery torque wrench impact machine designed for bolting applications in various industries such as energy, heavy equipment or maintenance.	Square drive 3/4" Accuracy (6 sigma) +/-4% Min/Max torque (ft.lbs) 50 - 240 Min/Max torque (Nm) 70 - 325 Nominal working torque (ft.lbs) 65 - 190 Nominal working torque (Nm) 90 - 260 Lower minimum torque (ft.lbs / Nm)** 25 / 35 Max speed all torque (rpm) 20 Weight - with battery and reaction arm (lbs / kg) 9.0 / 4.1 Sound pressure (dB(A)) 59 Vibration (m/s²) <2.5 Number of cycles by battery 700	
28	Open end torque wrench 5nm	To be used on the pantograph	9mm-12mm adapter size 30mm open end 3/8 - Adjustable handles	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN


Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 15 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
29	Open end spanner	To be used to loosen the dump valve bolt	- Open end (46mm) - Length > 400mm	
30	Open End Torque Wrench for Dump Valves	To be used to loosen the dump valve bolt	- Open end (46mm) - Length > 400mm	
31	Socket converted adapters 1/2 to 3/8, 3/8 to 1/4 & 3/4 to 1/2	- Maintenance work where only a 1/2" drive ratchet is available. - Automotive repairs require medium-sized sockets. - Improves tool versatility by reducing the need for multiple ratchets.	- Reduces a 1/2-inch drive ratchet, breaker bar, or torque wrench to accept 3/8-inch drive sockets. - Allows use of smaller sockets with larger drive tools.	
32	Harting crimper (09 99 000 0021 and 09 99 000 0191)	This crimping tool is used with Harting Han D, Han E and Han-Yellock contacts. It is used for on-site maintenance.	- Wire cross section of 0.14mm² to 2.5mm² (26AWG to 12AWG) - Net weight of 632g	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 16 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
33	High-pressure cleaner	For cleaning of air filters from EMU equipment.	LENGTH: 516 mm WIDTH: 295 mm HEIGHT: 282 mm SKU WEIGHT: 10.7 kg PRODUCT TYPE: Pressure cleaners PRODUCT: High Pressure Cleaner K4 Classic COLOUR: Black/Yellow WATER TEMPERATURE: 40 FLOW RATE: 420 L/min MAXIMUM PRESSURE RATING: 130 POWER OUTPUT: 1800 W MATERIAL: Plastic INSTALLATION: Inland Coastal	
34	Portable Vacuum cleaner	To suck out or remove dust and dirt	The size of the vacuum cleaner will be determined by the area that needs vacuuming. Advised to buy from smallest to biggest, each operation will determine what type of vacuum to be used. Battery operational and light weight.	
36	1/4" DR. Socket & Ball Point Hex Key Wrench set (Allen Keys set)	- Installation and maintenance of machinery and equipment. - Assembly and disassembly of mechanical components. Automotive repair and maintenance tasks.	- A hand tool set consisting of 1/4" drive hex bit sockets and ball point hex key wrenches (Allen keys). - Designed for tightening and loosening hexagonal socket-head fasteners. Ball point ends allow operation at an angle, making it easier to reach fasteners in confined or obstructed spaces.	
37	Special Socket wrench for mouthpiece for Auto-coupler	It is used to remove mouthpieces of Auto coupler	- Length>130mm - Width>130mm - Height>36mm - Weight<1	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN				 prasa tech TECHNICAL DIVISION
Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 17 of 24	
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena	
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu	

	Name	Application	Description	Image
38	ANGLED SOCKET WRENCH	Unique swivel function in design enables the socket end to rotate through 180°moment for convenient access to confined area	• finish: Satin Chrome • Product Height [Metric]: 34 mm • Head Width: 22.5 • Product Weight [Metric]: 0.23 Kg •	
39	9L Plastic Buckets		Colour Grey Material Plastic Item weight 0.58 Kilograms Product dimensions 26L x 37.5W x 28H cm Capacity 9L litres Handle material Plastic Shape Rectangular •	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



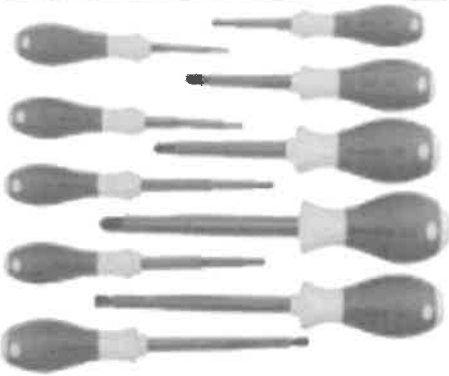
Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 18 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
40	Small socket Pantograph allen keys 1/2 +1/4 inch		- Imperial /hex key sockets - Size ½+1/4 inch - Short Allen key bit	
41	5 Piece ¼ inch socket adaptor	converts power drills or impact drivers with a 1/4-inch hex chuck to fit standard square-drive sockets.	Material Chrome Vanadium Steel Brand Generic Item dimensions L x W x H 15 x 10 x 7 cm Item weight 700 Grams	
42	12 PIECE RACHET SPANNER SET	Fastening and losing screws and nuts	8mm 10mm 12mm 13mm 15mm 16mm 17mm 18mm 19mm 20mm	

Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 19 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
43	46-piece socket wrench set		Tool Standard: ANSI. High-quality chrome-vanadium finish. Long-lasting and reliable. 1/4" drives and comes with extensions, Phillip head bits, and Allen key bits. Drive Size: 1/4" IN Quantity: 46 PCS Points Of Contact: 6 Points Case Material: Thermoplastic Tool Standard: A Material: Chrome Vanadium What's Included: 1/4" Ratchet Handle 1/4" x 6" Extension Spinner Handle 1/4" x 6" Sliding T-Bar 1/4" x 6" Flexible Shaft Bit Driver 1/4" Universal Joint 1/4" x 2" Extension Bar 1/4" x 4" Extension Bar 1/4" Drive Sockets (Hex): 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, 14 MM HEX SCREW DRIVERS 3, 4, 5, 6, 7, 8. PHILIP SCREW DRIVERS 1, 2, 3. POZIDRIV SCREW DRIVERS 1, 2, 3.	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN				 prasa tech TECHNICAL DIVISION
Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 20 of 24	
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena	
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu	

	Name	Application	Description	Image																																			
44	8P TAMPER PROOF SCREWDRIVER SET TORX	Screwing and unscrewing screws	320 93 Set 10 Pcs. Slotted & Phillips <table> <tr> <th>Item No.</th><th>Slotted</th><th>Phillips</th><th>Size</th><th>mm</th></tr> <tr> <td>320 05</td><td>2.0</td><td>60</td><td>321 00</td><td>0 60</td></tr> <tr> <td>320 10</td><td>2.5</td><td>75</td><td>321 01</td><td>1 60</td></tr> <tr> <td>320 12</td><td>3.0</td><td>100</td><td>321 02</td><td>2 100</td></tr> <tr> <td>320 15</td><td>3.5</td><td>100</td><td>321 03</td><td>3 150</td></tr> <tr> <td>320 24</td><td>4.5</td><td>125</td><td></td><td></td></tr> <tr> <td>320 39</td><td>6.5</td><td>150</td><td></td><td></td></tr> </table>	Item No.	Slotted	Phillips	Size	mm	320 05	2.0	60	321 00	0 60	320 10	2.5	75	321 01	1 60	320 12	3.0	100	321 02	2 100	320 15	3.5	100	321 03	3 150	320 24	4.5	125			320 39	6.5	150			
Item No.	Slotted	Phillips	Size	mm																																			
320 05	2.0	60	321 00	0 60																																			
320 10	2.5	75	321 01	1 60																																			
320 12	3.0	100	321 02	2 100																																			
320 15	3.5	100	321 03	3 150																																			
320 24	4.5	125																																					
320 39	6.5	150																																					
45	3,5mm drill bits	Material Cutting diameter Finish type Shank type Cutting angle string Brand Item dimensions L x W H Tool flute type Point style Surface recommendati	High Speed Steel (HSS) 11.1 Millimeters Gold Straight 135 Degrees 14.6 x 4.1 x 0.5 centimetres Spiral Taper Point Metal																																				

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 21 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
46	3,2mm drill bits	High tensile for daily use in an industrial environment	A 3.2 mm drill bit is primarily used for precision drilling in metals, plastics, and wood. Standard jobber bits feature a 118°- or 130°-point angle for centering, straight round shanks, and are made from durable High-Speed Steel (HSS).	
47	USB for JRU/DRU data for EVC not in the EVC Periodical tester	To save or store the downloaded data of the JRU/DRU	It should be any brand of normal USB storage device with a capacity of 64G	
48	Rigid Back Probe Pins	- Used to measure voltage signals on electrical connectors without disconnecting the circuit. - Allow testing of live circuits while maintaining normal circuit operation. - Used for fault finding and diagnostics in automotive electrical systems.	- Thin, rigid metallic pins are designed for electrical circuit testing. - Used to access connector terminals from the back (wire-entry side). - Allow testing without disconnecting the electrical connector.	
49	Sure, Grip Alligator Clips	Electrical troubleshooting and fault-finding in industrial and commercial systems.	- Large alligator clips designed to provide a secure electrical connection during testing and measurement tasks. - Features nickel-plated steel jaws for durability and reliable electrical conductivity.	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 22 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
		Connecting multimeters and test leads to wires, terminals, and busbars for hands-free measurements. Voltage, continuity, and resistance testing in electrical circuits.	- Rubber overfolded surfaces and ergonomic finger-hugging curves improve grip and control, especially in slippery environments. - Must be compliant to SABS	
50	LR44 Batteries	To supply devices that are compatible to its output voltage.	Chemistry :Alkaline Voltage :1.5V Capacity :120mAh	
51	Pliers	To cut and twist electrical wires.	Voltage capacity: 1000V Length : 160mm Material : Steel	
52	Side Cutter	To cut electrical wires	Voltage capacity: 1000V Dimension : 8L x 2L centimeters Material : Chrome-Vanadium Steel	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN



Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 23 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu

	Name	Application	Description	Image
53	10mm wrench spanner	use on threaded bolts, hose clamps, plumbing, lock nuts, spring tensioners	Material Chrome Vanadium Steel Item Length 8.8 Centimeters Item weight 0.08 Kilograms Item package quantity 1 Head style Fixed Ratchet Finish type Polished Unit count 1 Count Number of items	
54	13mm wrench spanner	use on threaded bolts, hose clamps, plumbing, lock nuts, spring tensioners	Material Chrome Vanadium Steel Item Length 8.8 Centimeters Item weight 0.08 Kilograms Item package quantity 1 Head style Fixed Ratchet Finish type Polished Unit count 1 Count Number of items	
55	17mm wrench spanner	use on threaded bolts, hose clamps, plumbing, lock nuts, spring tensioners	Size (mm): 17 D1 (mm): 35.0 D2 (mm): 26.2 H1 (mm): 8.1 H2 (mm): 10.7 L (mm): 250 Weight (g): 250	
56	19mm wrench spanner	use on threaded bolts, hose clamps, plumbing, lock nuts, spring tensioners	Dimension (mm): 19 D1 (mm): 41.2 D2 (mm): 29.3 H1 (mm): 9.8 H2 (mm): 12.2 L (mm): 250 Weight (g): 250	

EMU TOOLS/INSTRUMENTS BRAAMFONTEIN			
Doc. No. & Version	EMU/2025/07/001	Maintenance Engineering	Page 24 of 24
Creation Date	2024-11-13	System Engineer	Mr. Thabo Mokoena
Last Edited Date	2024-06-23	Head Of Department	Mr. Manekie Tapu



	Name	Application	Description	Image
57	Tool bag To carry technical tools during maintenance activities		Features ✓ Waterproof ✓ Robust and Ideal for daily use in the industrial environment. ✓ Good quality Specification Size : 65x73x21cm Gross Weight : 2.3kg Color : Black Kind : Double shoulder Bearing Capacity : >6≥16Kg Fabric Composition: Polyester, Polycotton, Nylon cotton	 

END OF DOCUMENT