

	Portable Drilling, Honing, and Milling equipment SCOPE OF WORK	Turbo Gen Services
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Title: **Supply and delivery of Portable Drilling, Honing, and Milling equipment.**

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Date: 20/11/2024	Date: 20/11/2024	Date: 20/11/2024

1. PURPOSE

The purpose of this document is to define the specifications of equipment to supplied and delivered to Bearing Services and site services section of Eskom Rotek Industries.

2. CONTEXT FOR MACHINES AND EQUIPMENT MAINTENANCE AND REPAIRS

Eskom Rotek Industries on site machining Services needs a supply and delivery service of equipment as detailed on the below scope of work.

3. SCOPE OF WORK

TYPE OF EQUIPMENT

- Portable drilling, honing, and milling equipment.
- M/T 4 magnet base drills
- M/T 3 magnet base drills
- M/T 2 magnet base drills
- Small magnet base drills
- Portable Milling Machine
- Hydraulic Compact Drilling machine
- Rotor bore honing machine.

The machine must be capable of drilling all the turbine generators components. The machine must be capable of machining to specified tolerances on all XYZ axis.

SPECIFICATIONS OF EQUIPMENT M/T 4

Annular cutting ø	12-80 mm
Twist drilling ø	1-31.75 mm
Countersinking ø	10-85 mm
Stroke	260 mm
Magnet (L x W x H)	220 x 110 x 64 mm
Magnetic force	3000 Kg
Motor power	1700 W
Total power	1800 W
Speed (no load)	(i)200 rpm (ii)300 rpm (iii)415 rpm (iv)650 rpm
Speed (1700W-15.4A)	(i)150 rpm

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	(ii)200 rpm (iii)275 rpm (iv)400 rpm
Spindle	MT/4
Voltage	220-240 V

SPECIFICATIONS OF EQUIPMENT M/T 3

Annular cutting ø	12-55 mm
Twist drilling ø	1-23 mm
Countersinking ø	10-60 mm
Stroke	170 mm
Magnet (L x W x H)	168 x 84 x 49 mm
Magnetic force	1850 Kg
Motor power	1600 W
Total power	1700 W
Speed (no load)	(i)60-275 rpm (ii)100-500 rpm
Speed (1600W-14.5A)	(i)60-275 rpm (ii) 100-500 rpm
Spindle	MT/3
Voltage	220-240 V

SPECIFICATIONS OF EQUIPMENT M/T 2

Annular cutting ø	12-36 mm
Twist drilling ø	1-14 mm
Countersinking ø	10-40 mm
Stroke	90 mm
Magnet (L x W x H)	160 x 80 x 37 mm
Magnetic force	1200 Kg
Motor power	1050 W
Total power	1100 W
Speed (no load)	700 rpm
Speed (1050W-9.5A)	400 rpm

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Spindle	MT/2
Voltage	110-220 V /220-240V

SPECIFICATIONS OF EQUIPMENT small magnet base drills

Capacity depth	30-55 mm
Drill ø metal drill bits	1.0-13 mm
Drill ø metal cutters	13-32 mm
Power consumption	720w
No load speed	550 rev/min
Load speed	440 rev/min
Magnetic force	1200Nm
Dimensions magnetic base	80 x 160 mm

SPECIFICATIONS OF EQUIPMENT portable milling machine

Max longitudinal stroke	6000 mm
Max vertical stroke	100 mm
Max transversal stroke	300 mm
Max cutter diameter	250 mm
Max torque	950 Nm
Cutting feed rate	1-1000 mm/min
Rapid feed rate	10 m/min
Min speed	20 rpm
Max speed	2000 rpm
Machine weight	3000 Kg
Machine dimensions	6700 x 700 x 900 mm
Power supply	380 V

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6000 Gantry**Specifications:**

X-axis	6000 mm
Y-axis	6000 mm
X/Y feed	Auto
X power	Electric motor
Y power	Electric motor

SPECIFICATIONS OF EQUIPMENT hydraulic compact drilling machine

Feed rate	5.1-63.5 mm/min
Stroke lengths	177.8,254,304.8, or 457.2 mm
Spindle size	Morse taper 4
Drill size	Up to 101.6 mm
Power option	Hydraulic 10Hp

SPECIFICATIONS OF EQUIPMENT rotor bore honing machine.

Stroke length	4000mm
Diameter range max ID	25-550 mm
Diameter range max OD	600 mm
Stroke speed	1-40 m/min
Spindle speed	13-180 rpm
Filtration	Magnetic filtration
electrical	380v/ 50hz /3-ph
Control system	Siemens touch HMI
Spindle motor	3kw
Stroke servo motor	3.2kw
Pneumatic requirements	30l/min @6bar
Fixturing	Standard with v-chain

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DOCUMENTATION

- Maintenance and operational manuals, BOM's and maintenance schedules to be included.
- EC declaration of conformity
- Test Certificate
- User friendliness of machine must be explained by the supplier on the quotation.
- Supplier to provide life cycle / design life curve with asset management instruction.
- Spare parts list.
- Specify and supply special tools.
- Outline drawings including the mass and Centre of Gravity of the machine itself.
- Specify Motor schedules.
- Supply lubrication and coolant schedules.
- Supply design information as required by Rotek, such as absorbed power, installed power and safety factors.
- Supplier to provide details of successful completion of work within tolerances using the recommended boring machine.
- Machine design to accommodate future upgrades easily.

MACHINE TOLERANCES

Supplier to quote highlighting deviations from required tolerances.

TECHNICAL SUPPORT AND TRAINING

- Technical Assistance on site in South Africa
- Including: Installation, commissioning, operator training.
- 2-year warranty on hardware and software.
- 5-year service and maintenance plan inclusive of spares

PROOF OF COMPLIANCE WITH THE LAW

The contractor shall ensure that:

1. All employees are registered with the Workmen's Compensation Commissioner in a manner which is acceptable to the Department of Labour, and which satisfies the requirement of the compensation for occupational injuries and diseases act.
2. All employees are registered for unemployment.

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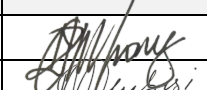
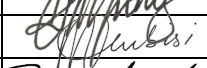
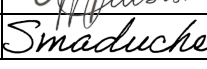
3. All unskilled/casual staff must be paid in accordance with the Labour Act. The contractor will be responsible for their training.
4. All personnel shall wear the necessary protective clothing in accordance with Occupational Health and Safety Act No.85 / 1993 and the Construction Regulations of 2003.

HEALTH AND SAFETY

The Contractor shall always comply with the requirements of the Occupational Health & Safety Act (1993), Construction Regulations (2003) and the Employer's Pre-construction Health and Safety Specification. In pursuit of the, the Contractor shall allow for:

- Carrying out and documenting risk assessments of all work to be carried out under the contract.
- Preparation of safe work procedures for all work to be carried out under the contract.
- Preparation of an H&S plan, discussing it with the Employer, and then amending it as agreed.
- Preparation for and conducting "toolbox talks" with relevant employees.
- Induction and training as and where required.
- Preparation of a Project H&S File.
- Regular updating of all the foregoing.
- Provision of PPE and protective clothing for employees
- Complying with all H&S requirements for the duration of the contract
- Storage of cleaning material / equipment

DOCUMENT SUPPORTED BY:

NAME	POSITION	SIGNATURE	DATE
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