

SCOPE OF WORK

To: Deva Moodley

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SUBJECT: PURCHASE OF EQUIPMENT SPECIFICATION

TYPE OF EQUIPMENT

- ***Coupling line boring machine***

The machine will be used for the machining of turbo-generator couplings. We are looking for a portable machine which will be clamped onto the rotor couplings and able to line bore to specified diameters across the coupling hole length. The machine must be able to achieve the specified tolerances.

SPECIFICATIONS OF EQUIPMENT

Base Unit Assembly with:

- Rotational Drive assembly
- Axial Feed Assembly
- Axial Stroke: Along full length of the boring bar assembly
- Electric Motors for rotational drive and axial assembly
- With remote control pendant allowing for variable feed on axial feed and variable speed for rotational drive
- Coupling Mounting Assembly with chain and ridgeback system
- 2x Bearings Assembly

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Eskom RoteK Industries SOC Ltd Reg. No. 1990/006897/30

- Machine to centralize to coupling reference band and adjacent coupling holes within 0,005mm.
- Maximum taper and ovality (refer to table 1).
- Machine excluding auxiliary equipment to be portable and easily transported (maximum weight ± 30 kg). The supplier shall investigate weight reduction.
- Machinery to machine holes ranging from 30mm to 120mm with integrated rail system and metric spindle to accept tool holder
- Please refer to table below for final tolerances.
- Maximum boring cutting length 400mm
- Boring tool easily adjustable (cartridge with tungsten insert/s required finish 1.6 μ m Ra).
- Supplied and driven by 380 Volt electric hydraulic power pack, by electric motor 220 or 380 volt 50 Hz or pneumatic motor (supplier to specify compressed Air requirements).
- To meet test specifications (refer section number 4).
- Materials to be machined are as follow: EN19, EN 24 "T", 30CrNiMo8, 34CrNiMo6V, 28NiCrMo44.
- Machine and auxiliary equipment to be stored / fitted in a box for long term use and durability.
- The preferred method to achieve the specified boring bar run out is high precision needle pin bearings.
- CNC controller to be incorporated.
- Ball feed screw shall have a shear pin that shall fail first during overload conditions.

DOCUMENTATION

- Maintenance and operational manuals, BOM's and maintenance schedules to be included.
- Wiring Scheme/diagram of connection
- 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.
- Supply annual failure rate of the machine (for calculating annual failure cost).
- The specification and supply of the first fill of lubricants.
- Spare part list.

- Specify and supply special tools.
- Specify Painting and Protective Coatings.
- Specify Export Packaging.
- Specify Stainless steel nameplate.
- Outline drawings including the mass and Centre of Gravity of the machine itself.
- Specify Motor schedules.
- Supply Lubrication 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.

TOLERANCES

Machine tolerances	
Parameter	Tolerance – Single hole – (mm)
Boring Bar run-out (Taper)	0.0127 over the total specified cutting length
Tool mounting run-out relative to tool path (Ovality)	0.005
Hole diameter tolerance	0.01

SHIPPING CONTAINER

- Metal shipping container

TECHNICAL SUPPORT AND TRAINING

- Technical Assistance on site in South Africa
Including: commissioning, operator training
- 2-year warranty

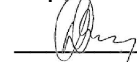
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Supported by:


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