

SCM-022

REQUEST FOR APPROVAL – RFQ / RFP / BID

0
R1 000 000 – And above
by BFC Br C approval by : Acting Officer

SOURCING OF SERVICE PROVIDER FOR CNC MACHINE

Procurement method: Estimated delivery date: 25 January 2025

Shorter Bidding

1. BACKGROUND

The ETDP SETA and Eastcape Midlands TVET College (EMC) signed a Memorandum of Understanding (MOU) on March 11, 2024 to establish a 4IR Centre of Excellence. Eastcape Midlands TVET College (EMCOL - COE) to support the institutional strategic goal of teaching unemployed youth, semi-skilled and skilled employees in technologies connected to the Fourth Industrial Revolution

2. PURPOSE

To source a service provider for a computer numerically controlled machining system which includes physical infrastructure, controlling software, mechanical and electrical diagrams supply, training, installation, maintenance, support and curriculum for technologies.

3. SPECIFICATION(S)

Detailed specifications and conditions attached for:

- CNC Machine
- CNC Simulator

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Details Specifications

A. CNC MACHINE

EXAMPLE	QUANTITY REQUIRED
	1 x 5 - AXIS SIMULTANEOUS CNC MACHINE 5-Axis machining with up to 20000 RPM Specifications: <ul style="list-style-type: none">• Speed master 15000 RPM with 28.2Hp and 8.9 ft in basic version.• Speed master 15000 EPM with 61.7 and 147.5 ft optional available.• Speed master 20 000 RPM with 46.9Hp and 95.9 ft optional available. Swivel rotary table for 5 - axis simultaneous machining. <ul style="list-style-type: none">• Table load up to 661.4 LB.• Swivel area of the base-axis- 35 H/110° for highest flexibility.• Cooled table bearing for precision. 5 Axis cnc machine Specifications: <ul style="list-style-type: none">• X – Axis – 762 mm• Y –axis – 406 mm• Z – axis – 508 mm• Spindle nose to platter (max) – 371 mm• Spindle nose (min) – 137 mm• Spindle nose to table (max) – 610 mm• Spindle nose to table (min) – 102



Table

- Length – 914 mm
- Width – 356 mm
- T- slot width – 16 mm
- T –slot center distance – 125.0 mm
- Number of STD T – slots – 3

Spindle

- Max rating – 2.2 Kw
- Max speed – 8100 RPM
- Max Torque – 122 Nm @ 2000 RPM
- Drive system – Inline – direct drive
- Max Torque w/opt gearbox – 339 Nm @ 450 RPM
- Taper – BT / CT 40
- Bearing lubrication – air / injection
- Cooling – liquid cooled

Feed rates

- Rapids on X – 25.4 m/min
- Rapids on Y – 25.4 m/min
- Rapids on Z – 25.4 m/min
- Max cutting – 16.5 m/min

Trunnion

- Platter diameter – 160 mm
- Max weight on platter – 36.3 Kg
- Max part swing (reduced at tilt angles $>\pm 90^\circ$ - 445 mm
- T – slot width – 15.88 mm
- Number of STD T –slots – 6
- Pilot bore diameter – 38.10 ($\pm 0.013 - 0.0$)
- Pilot bore depth – 11.76 mm
- Rapids on A - 4800°/ min
- Rapids on B - 4800°/ min
- Max cutting A - 2000 ° / min
- Max cutting B - 2000 ° / min



Axis Motor

- Max thrust X -11343 N
- Max thrust Y - 11343 N
- Max thrust Z – 18683 N

Tool changer

- Type – SMTC
- Capacity – 24 +1
- Max tool diameter (adjacent empty) – 127 mm
- Max tool diameter (full) – 76 mm
- Max tool length (from gage line) -279 mm
- Max tool weight – 5.4 Kg
- Tool- to – tool (avg.) – 2.8 sec
- Chip – to – chip (avg.) – 3.6 sec

General

- Air required – 113 L/min 6.9 Bar
- Coolant capacity – 208 L

CNC lathe machine specifications:

- Chuck size 6.5" – 165 mm
- Bar capacity 1.75' = 44.45 mm
- RPM 6.K
- Motor power 15 HP
- Max cutting diameter (with bot turret) 12' = 304.8 mm
- Max cutting diameter (with BMT 45 turret) 11' = 279.4 mm
- Max cutting diameter (with YDI turret) 6.8' = 173 mm
- X-Axis 7.88' = 200 mm
- Z-Axis 16' = 406 mm

Spindle

- Max rating 11.2 KW
- Max speed 6000 RPM
- Max torque 102 Nm @ 1300 RPM
- Spindle bore diameter 58.7 mm



Lathe cutting tools

- Threading tools – HETHR 500-16-1/2" square steel shank external (OD) R/H.
- Threading inserts ER11 – A60 carbide threading grade HTU20P.
- Boring bar – A205 – MCLNR4 1- 1/4 " diameter steel shank (id) R/H.
- External (O/D) turning tool –MCLNR16-4 D 1" Square steel shank (O/D).
- Grooving & cut-off tool HGER08-1/2 " square steel shank external (O/D) R/H
- CBN turning inserts C- style-80 RHOMBIE.
- HGMN- deep groove turning inserts.
- HSTG.433-.500-4.3-.4C 1/2 diameter carbide shank small internal (I/D) grooving threading bar insert 4 through tool coolant.
- CNC turning machine specifications
- KLR 2- axis horizontal turning series
- Max turning diameter 11.4"
- Max turning length 21.65"-38.58"
- Spindle noise A2 – 6
- Chuck diameter 8 "
- Spindle speed 4000 RPM
- Bar capacity 2"
- Spindle motor up to 20 HP
- Turret tool stations 12 (8/10)
- Tailstock travel 21.5"
- Quill travel 3.1"
- Quill diameter 3.0"

All equipment to be supplied with practical manuals and documentation.

The product is to be supplied with a specified warranty by the supplier.



Annexure A: Mandatory Requirements

Description of Appendix	Requirement	Circle yes if submitted	
		Yes	No
RFQ Document	Submission of a detailed and signed quotation	Yes	No
Technical specifications and pricing	Pricing according to the technical specification	Yes	No
Proof of Bank Account	Signed letter from the Bank (not older than 3 Months)	Yes	No
Company registration documents	Supply Company registration documents	Yes	No
Tax PIN	PIN Status certificate	Yes	No
BBBEE certification	A valid BBBEE certificate / An original Sworn-In Affidavit	Yes	No
Declaration of Interest	SBD 4 SBD 6.1 SBD 6.2 SBD 8 SBD 9	Yes	No
CSD	Supply proof of registration with the National Treasury	Yes	No
ID Copy of Company's director(s)	Supply with certified copy of IDs	Yes	No
Complete and sign the official document	Request for proposal form to be completed, signed and email back	Yes	No



Annexure B: Functional criteria

CNC MACHINE

Functional/Technical criteria	Weighting	0	5	10
<p><u>Specifications</u></p> <ul style="list-style-type: none"> Speed master 15000 RPM with 28.2Hp and 8.9 ft in basic version. Speed master 15000 EPM with 61.7 and 147.5 ft optional available. Speed master 20 000 RPM with 46.9Hp and 95.9 ft optional available. <p>Swivel rotary table for 5 - axis simultaneous machining.</p> <ul style="list-style-type: none"> Table load up to 661.4 LB. Swivel area of the base-axis- 35 H/110° for highest flexibility. Cooled table bearing for precision. <p>5 Axis cnc machine</p> <p>Specifications:</p> <ul style="list-style-type: none"> X – Axis – 762 mm Y –axis – 406 mm Z – axis – 508 mm 	80%	Meeting no machine specifications	Meets only some of the machine specifications	Meets all of the machine specifications



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Local service and support capability	20%	Sales only	Limited local technical support.	Full capable local team with a track record