

Name of Machine	Specification	A/U	Qty
(a)	(c)	(d)	(e)
CNC Universal Turning Center with Counter Spindle, Driven Tools & Y AXIS	<p>CNC Universal Turning Center with Counter Spindle, Driven Tools & Y AXIS with all standard and additional accessories as per specification below :</p> <p>1. Specification:</p> <p>a. Work area:</p> <p>(1) Maximum Turning Diameter : ≥ 400 mm (2) Max. Part length : ≥ 750 mm (3) Swing Over Bed : To be mentioned (4) Swing over cross slide : To be mentioned (5) Distance between Spindle Noses : To be mentioned</p> <p>b. Travel:</p> <p>(1) Traverse Path, X- Axis : To be mentioned (2) Traverse Path, Z1/Z2 (Counter Spindle Traverse) Axis: To be mentioned (3) Traverse Path, Y Axis : To be mentioned</p> <p>c. Main Spindle (C1 Axis) with indexing facilities:</p> <p>(1) Spindle Speed : ≥ 3000 rpm (2) Minimum indexing in degree : To be mentioned (3) Axis for indexing facilities : To be mentioned (4) Spindle nose : A2 - 6 or to be mentioned. (5) Spindle Bore : Minimum 85 mm or to be mentioned (6) Maximum Torque : To be mentioned (7) Resolution ($^{\circ}$)/Increment($^{\circ}$) : 0.001° (minimum)</p> <p>d. Counter Spindle (C2 Axis) with indexing facilities:</p> <p>(1) Speed : ≥ 3000 RPM with infinite adjustable speed. (2) Minimum indexing in degree : To be mentioned. (3) Axis for indexing facilities : To be mentioned. (4) Spindle nose : A2 - 6 or to be mentioned. (5) Maximum Torque : To be mentioned (6) Resolution ($^{\circ}$)/Increment($^{\circ}$) : 0.001° (minimum)</p> <p>f. BMT55/BMT65 Radial Tool Turret</p> <p>(1) Number of tools station (minimum) : 12 (2) Tool cross - section for square - Shank tools : Both 20 x 20 mm and 25 x 25 mm (3) Shank diameter for boring bars : To be mentioned.</p> <p>g. Driven tools:</p> <p>(1) Speed : ≥ 2500 Infinite speed adjustable (2) Driven tools (Minimum) : 12 (1) Maximum Torque : To be mentioned</p> <p>h. Feed Drives:</p> <p>(1) Rapid Speed, X-Axis : To be mentioned (2) Rapid Speed, Z1/Z2 Axis : To be mentioned (3) Rapid Speed, Y Axis : To be mentioned</p> <p>j. Bar feeder : Bar diameter ≥ 85 mm and Bar length ≥ 1500 mm or to be mentioned. k. Steady Rest : Optional. Price to be quoted separately</p>	Nos	02

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	<p>I. The following Holders/Cutters/Items (if not included in the standard/additional/optional/special items list- serial 9.a below) to be supplied with the machine and their prices must be quoted separately :</p> <table border="1"> <tr><td>(1)</td><td>1 x face and O.D. turning holder</td></tr> <tr><td>(2)</td><td>2 x Doppel Plan</td></tr> <tr><td>(3)</td><td>1 x Four-fold O.D. turning tool holder</td></tr> <tr><td>(4)</td><td>1 x Facing and I.D. turning holder</td></tr> <tr><td>(5)</td><td>2 x I.D. turning tool holder Ø32 mm</td></tr> <tr><td>(6)</td><td>1 x Reduction bushing Ø20 mm</td></tr> <tr><td>(7)</td><td>1 x Reduction bushing Ø25 mm</td></tr> <tr><td>(8)</td><td>1 x Cut-off holder</td></tr> <tr><td>(9)</td><td>2 x Drilling/milling holder</td></tr> <tr><td>(10)</td><td>2 x Angular milling holder</td></tr> <tr><td>(11)</td><td>1 x PRECIFLEX® - starter set ER25/equivalent</td></tr> <tr><td>(12)</td><td>Center Drill : Ø3×8,qty 10</td></tr> <tr><td>(13)</td><td>Center Drill : Ø6×16,qty 10</td></tr> <tr><td>(14)</td><td>Carbide End mill Cutter : Ø 10×80×4T,qty 10</td></tr> <tr><td>(15)</td><td>Carbide End mill Cutter : Ø 12×100×4T,qty 06</td></tr> <tr><td>(16)</td><td>Carbide End mill Cutter : Ø 16×100×4T,qty 10</td></tr> <tr><td>(17)</td><td>Spring Collette : ER25 Qty:01 set</td></tr> </table> <p>m. The following Items (if not included in the standard/additional/optional/special items list-serial 9.a below) to be supplied with the machine and their prices must be quoted separately :</p> <table border="1"> <tr><td>(1)</td><td>3 Jaw Chuck dia 200 mm hard and soft Jaw</td><td>: 01 Set</td></tr> <tr><td>(2)</td><td>Jaw Chuck dia 175 mm with hard and soft Jaw</td><td>: 01 Set</td></tr> <tr><td>(3)</td><td>Chip Conveyor System</td><td>: 01 Set</td></tr> <tr><td>(4)</td><td>Bar Feeder LM 1200 or equivalent</td><td>: 01 Set</td></tr> <tr><td>(5)</td><td>Finished Parts Catcher and Conveyor</td><td>: 01 Set</td></tr> <tr><td>(6)</td><td>Automatic Tool Pre-setter</td><td>: 01 Set</td></tr> <tr><td>(7)</td><td>Tool Load monitoring System</td><td>: 01 Set</td></tr> <tr><td>(8)</td><td>Alignment tool Holder to check turret alignment-BMT55P or equivalent</td><td>: 01 Set</td></tr> <tr><td>(9)</td><td>Electronic Hand wheel</td><td>: 01 Set</td></tr> <tr><td>(10)</td><td>Air Condition unit for electrical cabinet</td><td>: 01 Set</td></tr> <tr><td>(11)</td><td>Machine Status Lamp</td><td>: 01 Set</td></tr> </table> <p>2. Control System : Updated FANUC / SIEMENS /HAAS with manual Guide-i/ Equivalent.</p> <p>3. Country of Origin : Group A</p> <p>4. Country of Manufacture of Main/major : Group A components (Spindle Motor, Servo Motor, Servo Control Unit, Lead Screw, Control circuit and fabrication)</p> <p>5. Country of Manufacture : Group A</p> <p>6. Country of Assemble : Group A</p> <p>7. Country of Shipment : Group A</p> <p>8. Terms and Conditions:</p> <p>a. All standard, additional, optional and special accessories/items/attachments must be supplied along with the machine and the list of the same must be submitted with the quotation. The price of all additional, optional and special items must be quoted separately.</p> <p>b. List of spare parts with price required for five (05) years operation of the machine must be submitted with the financial offer.</p> <p>c. Pre-Shipment Inspection (PSI) :</p> <p>(i) PSI of the machine will be carried out by 04 (Four) BOF personnel for 03 (Three) working days excluding journey periods. All cost of the PSI to be borne by BOF except internal transportation cost which is to be borne by supplier.</p> <p>(ii) Supplier must submit details plan of PSI (Modus Operandi).</p> <p>(iii) Supplier must also mention PSI cost to be borne by them at their end.</p> <p>d. Foreign Training : 04 (Four) BOF personnel for 05 (Five) working days at the machine manufacturer site. All expenditures related to training to be borne by the supplier (including food, accommodation, internal travel, medical if needed etc.). The Pocket money & air ticket will be borne by BOF. Supplier must submit foreign training plan along with the offer.</p>	(1)	1 x face and O.D. turning holder	(2)	2 x Doppel Plan	(3)	1 x Four-fold O.D. turning tool holder	(4)	1 x Facing and I.D. turning holder	(5)	2 x I.D. turning tool holder Ø32 mm	(6)	1 x Reduction bushing Ø20 mm	(7)	1 x Reduction bushing Ø25 mm	(8)	1 x Cut-off holder	(9)	2 x Drilling/milling holder	(10)	2 x Angular milling holder	(11)	1 x PRECIFLEX® - starter set ER25/equivalent	(12)	Center Drill : Ø3×8,qty 10	(13)	Center Drill : Ø6×16,qty 10	(14)	Carbide End mill Cutter : Ø 10×80×4T,qty 10	(15)	Carbide End mill Cutter : Ø 12×100×4T,qty 06	(16)	Carbide End mill Cutter : Ø 16×100×4T,qty 10	(17)	Spring Collette : ER25 Qty:01 set	(1)	3 Jaw Chuck dia 200 mm hard and soft Jaw	: 01 Set	(2)	Jaw Chuck dia 175 mm with hard and soft Jaw	: 01 Set	(3)	Chip Conveyor System	: 01 Set	(4)	Bar Feeder LM 1200 or equivalent	: 01 Set	(5)	Finished Parts Catcher and Conveyor	: 01 Set	(6)	Automatic Tool Pre-setter	: 01 Set	(7)	Tool Load monitoring System	: 01 Set	(8)	Alignment tool Holder to check turret alignment-BMT55P or equivalent	: 01 Set	(9)	Electronic Hand wheel	: 01 Set	(10)	Air Condition unit for electrical cabinet	: 01 Set	(11)	Machine Status Lamp	: 01 Set		
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	<p>e. Machine installation, commissioning & trial run must be done by the supplier within 30 days from the date of arrival of the machines at BOF. Operation, Repair & Maintenance training (Local Training) of BOF personnel for at least 15 working days. Following information must be given as under:</p> <table border="1" data-bbox="320 293 1353 846"> <thead> <tr> <th data-bbox="320 293 381 353">Ser.</th> <th data-bbox="381 293 515 353">Training</th> <th data-bbox="515 293 1235 353">Details</th> <th data-bbox="1235 293 1353 353">Supplier's Opinion</th> </tr> </thead> <tbody> <tr> <td data-bbox="320 353 381 846">a.</td> <td data-bbox="381 353 515 846">Local Training after machine installation</td> <td data-bbox="515 353 1235 846"> Trainer Type (Local/ Foreign) Number of Trainer Training a. Machine Operators Training: 08 Working Days b. Machine maintenance, trouble shooting and repair training : 07 working days Topics: (i) Details operation of electrical, electronics, pneumatic system, hydraulic system and mechanical system with diagrams in details. (ii) Control system: program loading and unloading, debugging, editing and servo drive and servo motors interconnection and parameter setting in details. (iii) Troubleshooting: Artificial problems to be created by removing sensors and changing the parameters of servo drive and servo motors then faults diagnosis and repair procedures. (iv) Safety procedures. </td> <td data-bbox="1235 353 1353 846"></td> </tr> </tbody> </table>		Ser.	Training	Details	Supplier's Opinion	a.	Local Training after machine installation	Trainer Type (Local/ Foreign) Number of Trainer Training a. Machine Operators Training: 08 Working Days b. Machine maintenance, trouble shooting and repair training : 07 working days Topics: (i) Details operation of electrical, electronics, pneumatic system, hydraulic system and mechanical system with diagrams in details. (ii) Control system: program loading and unloading, debugging, editing and servo drive and servo motors interconnection and parameter setting in details. (iii) Troubleshooting: Artificial problems to be created by removing sensors and changing the parameters of servo drive and servo motors then faults diagnosis and repair procedures. (iv) Safety procedures.			
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f. Supplier must submit Local training plan along with the offer.												
g. 1 × User/ programming manual in English (Hard & Soft copy) must be supplied with the machine.												
<p>h. 1 × Operation, 1 x Maintenance and Repair manual (Hard & Soft copy) with parts catalogue and circuit diagram of electrical devices in English to be supplied with the machine. These books must contain the following topics/items:</p> <p>(1) Operation manual: Hydraulic, Pneumatic, Electrical, Electronic and Mechanical operational circuit and component diagrams with their detail working principles & description. Simulation/Animation of major items working/operation to be included in the soft copy.</p> <p>(2) Maintenance and Repair Manual: Detail troubleshooting & repair procedure as well as maintenance and safety system.</p>												
j. All necessary software required to handle & maintain the machine must be supplied along with the machine.												
k. If any component/part of the machine is from the country other than the machine manufacturing country, then the name of the country must be mentioned with the name of the parts/component/part.												
l. The year of manufacture of the machine must be the current year (contracted year).												
m. Automatic Chip Reaming System with conveyer (belt/screw type) must be provided with each machine (Price of conveyer should be quoted separately).												
n. Standard cooling, lighting, lubricating & control system (Software & Hardware) must be integrated with the machine.												
p. The machine must have the capability of re-starting the ongoing operation/machining process from the point where it was stopped due to power failure.												
q. The supplier must mention whether they have the facilities of providing distance/on line trouble-shooting facilities for the supplied machines or not and If available then the supplier must quote the additional items (if needed) with their prices for availing this facilities.												
r. The supplier should provide Technical Data Sheet of each major parts/components (Servo Control Unit, Motor, PLC, Display Unit, Spindle Motor etc.) with the machine												
s. Warranty for 01(one) year after acceptance must be provided by the manufacturer.												
t. The supplier must mention the availability of Electronic (Laser) Machine Tool Probes with the price quoted separately.												
u. Bidder should submit original Leaflet/ Brochure with the offer.												
v. The supplier must provide Service support for 10 (ten) years after acceptance of the machine.												

Terms & Conditions

Supplier must mention their compliance on the following mentioned points :

1. A principal/manufacture can submit **only one offer through one local agent** for any individual item. Offers through multiple local agents by same principle/manufacture will be **treated as rejected**.
2. To ensure unhindered LC handling the principal must provide a certificate to confirm that their LC operating bank has RMA (Relationship Management Agreement) with the local Banks of Bangladesh.
3. Supplier must **clearly mention** (in the technical offer) that as principal/manufacture they poses necessary **export permit** from the concern ministry or any other authority of their country. They must also submit a certificate in this regards as per the attached specimen format at Annex F.
4. Before signing the contract, Performance Guarantee @ 10% of total LC value is to be submitted by the Principal in favour of Commandant, Bangladesh Ordnance Factories, Gazipur Cantonment, Gazipur through any scheduled Bank located in Bangladesh (As per the format at Annex D).
5. A separate **certificate should be provided** by the principal **originally signed** (Computerized or digitally edited signature will not be accepted) stating that they are aware of the requirement of the PG and if the contract is awarded they will be bound to provide the PG as per the format at Annex E.
6. The stores should be supplied to BOF at **supplier's cost**.
7. On arrival of the stores at BOF, the supplier must complete installation, commissioning, trial run & trial production within 01(one) month (from the date of entry at BOF). Otherwise, penalty will be imposed at the rate of 2% but not less than 1% and will not exceed 10% of the total CFR/LC vale (As applicable).
8. If the supplier fails to deliver the stores within the stipulated period, the followings will be applicable:
 - a. Cancel the contract and/or,
 - b. Decision at the discretion of BOF.
9. Inspectorate is the authority in all matters pertaining to Inspection. Any verdict by the inspectors regarding rejection, acceptance, and /or deviation of machine involving price reduction will be treated as final and will not be subject to arbitration.
10. The Supplier must submit the following **attested documents** with the schedule :
 - a. **Trade License**
 - b. **Tin Certificate**
 - c. **Up to date VAT Registration certificate.**