

**ANNEXURE A TO
TENDER NO. 23.27.0000.167.57(iii).4112316.20.21
DATED 25 APRIL 2021**

DETAILS OF THE MACHINE

Sl. No (a)	Specification (b)	A/U (c)	Qty (d)																																																				
	Universal CNC Tools/Cutters Grinding/Sharpening/Manufacturing Machine with all standard and additional accessories as per specification below :	No	01																																																				
1.	<p><u>Specification :</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">a.</td> <td style="width: 40%;">Work piece Length</td> <td style="width: 5%;">:</td> <td style="width: 50%;">400 mm (max)</td> </tr> <tr> <td>b.</td> <td>Work piece Diameter</td> <td>:</td> <td>200 mm (max)</td> </tr> <tr> <td>c.</td> <td>Materials of Cutters</td> <td>:</td> <td>HSS, Carbide, Ceramic etc</td> </tr> <tr> <td>d.</td> <td>Grinding Wheel Speed</td> <td>:</td> <td>10,000 rpm (min)</td> </tr> <tr> <td>e.</td> <td>Grinding Wheel Diameter</td> <td>:</td> <td>To be mentioned</td> </tr> <tr> <td>f.</td> <td>Number of Grinding Spindles</td> <td>:</td> <td>To be mentioned</td> </tr> <tr> <td>g.</td> <td>Number of Control Axis (minimum)</td> <td>:</td> <td>05 (Five)</td> </tr> <tr> <td>h.</td> <td>Control axis</td> <td>:</td> <td>X, Y, Z, 4th and 5th Axis</td> </tr> <tr> <td>j.</td> <td colspan="3"><u>Accuracy :</u></td> </tr> <tr> <td></td> <td>(a) Linear Axis</td> <td>:</td> <td>0.001 mm (min)</td> </tr> <tr> <td></td> <td>(b) Rotational Axis</td> <td>:</td> <td>0.001 degrees (min)</td> </tr> <tr> <td>k.</td> <td>Probe System Accuracy</td> <td>:</td> <td>0.001 mm (min)</td> </tr> <tr> <td>l.</td> <td>Control System</td> <td>:</td> <td>To be mentioned</td> </tr> </table>	a.	Work piece Length	:	400 mm (max)	b.	Work piece Diameter	:	200 mm (max)	c.	Materials of Cutters	:	HSS, Carbide, Ceramic etc	d.	Grinding Wheel Speed	:	10,000 rpm (min)	e.	Grinding Wheel Diameter	:	To be mentioned	f.	Number of Grinding Spindles	:	To be mentioned	g.	Number of Control Axis (minimum)	:	05 (Five)	h.	Control axis	:	X, Y, Z, 4 th and 5 th Axis	j.	<u>Accuracy :</u>				(a) Linear Axis	:	0.001 mm (min)		(b) Rotational Axis	:	0.001 degrees (min)	k.	Probe System Accuracy	:	0.001 mm (min)	l.	Control System	:	To be mentioned		
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2.	Country of manufacture of Main/major components : Group B (Spindle Motor, Servo Motor, Servo Control Unit, Lead Screw, Control circuit and fabrication)																																																						
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7.	<p><u>Conditions :</u></p> <p>a. Operational Requirement: Manufacturing/Grinding/Sharpening different types of HSS, Carbide, Ceramic and other hard Tools and cutters. The cutters/tools are Cylindrical Form Tools, Twist Drill, Flute ISO Porting Tools, End Mill Cutters etc.</p> <p>b. The machine must be capable of automatic gauging, calibration and offsetting.</p> <p>c. The machine must have automatic clamping of rotationally symmetrical tools/cutters and indexable inserts.</p> <p>d. All standard, additional, optional and special accessories/items /attachment must be supplied along with the machines and the list of the same must be submitted with the quotation. The price of all standard, additional, optional and special items must be quoted separately.</p> <p>e. List of spare parts with price required for five (05) years operation to be submitted with the financial offer.</p> <p>f. <u>Pre-Shipment Inspection (PSI) :</u></p> <p>i. PSI of the machine will be carried out by 02 (Two) 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 the supplier.</p> <p>ii. Supplier must submit detail plan of PSI (Modus Operandi).</p> <p>iii. Supplier must also mention PSI cost to be borne by them at their end.</p> <p>g. <u>Foreign Training :</u> 03 (Three) BOF personnel for 05 (Five) working days at the machine manufacturers site. All expenditures related to training to be borne by the supplier (including food, accommodation and internal transport etc). The pocket money & air ticket will be borne by BOF. Supplier must submit foreign training plan along with the offer.</p>																																																						

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	<p>h. 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. Supplier must submit local training plan along with the offer. Following information must be given as under:</p> <table border="1"> <thead> <tr> <th>Ser</th> <th>Training</th> <th>Details</th> <th>Supplier's Opinion</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td rowspan="3">Local Training after machine installation</td> <td>Trainer Type (Local/ Foreign)</td> <td></td> </tr> <tr> <td></td> <td>Number of Trainer</td> <td></td> </tr> <tr> <td></td> <td> <p>Training</p> <p>a. Machine Operators Training : 08 Working Days b. Machine maintenance, trouble shooting and repair training : 07 working days</p> <p>Topics:</p> <p>(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. (iv) 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. Safety procedures.</p> </td> <td></td> </tr> </tbody> </table>			Ser	Training	Details	Supplier's Opinion	(1)	Local Training after machine installation	Trainer Type (Local/ Foreign)			Number of Trainer			<p>Training</p> <p>a. Machine Operators Training : 08 Working Days b. Machine maintenance, trouble shooting and repair training : 07 working days</p> <p>Topics:</p> <p>(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. (iv) 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. Safety procedures.</p>			
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	<p>j. 1 x User/ programming manual in English (Hard & Soft copy) must be supplied with the machine.</p>																		
	<p>k. 1 x 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>																		
	<p>l. All necessary software required for full-operational requirement of the machine must be supplied with the machine.</p>																		
	<p>m. 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.</p>																		
	<p>n. The year of manufacture of the machine must be the current (contracted year) year.</p>																		
	<p>p. Automatic Chip conveyer/sludge removing system with all accessories must be provided with the machine.</p>																		
	<p>q. Standard cooling, lighting, lubricating & control system (Software & Hardware) must be provided with the machine.</p>																		
	<p>r. 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.</p>																		
	<p>s. 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 this facilities.</p>																		
	<p>t. The supplier should provide Technical Data Sheet of each major parts/components with the machine</p>																		
	<p>u. Warranty for 01(one) year after acceptance must be provided by the manufacturer.</p>																		

RESTRICTED

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	v. The supplier must mention the availability of Electronic Machine Tool Probes with the price quoted separately.		
	w. Bidder should submit original Leaflet/ Brochure with the offer.		
	x. The supplier should give 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.**