

**ANNEXURE A TO
TENDER NO. 23.27.0000.167.102.4112316.21.22
DATED 14 AUGUST 2021**

DETAILS OF THE MACHINE

Sl. No	Specification	A/U	Qty
(a)	(b)	(c)	(d)
	CNC Turning Center (Big Type) with all standard and additional accessories as per specification below :	No	01
1.	Model No :		To be mentioned
2.	Country of Origin :		Group-B
3.	Country of Manufacturer :		Group-B
4.	Country of Assembling :		Group-B
5.	Port of Shipment :		Group-B
6.	Country of Major Component : (All Servo motors, Spindle Motor, Control system including servo drives, Hydraulic Pump, Lead Screw, Main body, Tool Turret, Pneumatic actuators, Vector drive if available and electronics PCB cards)		Group-B
7.	Specification :		
	a. Swing Over Bed-Diameter (minimum) :		450 mm
	b. Distance between centers (minimum) :		1050 mm
	c. Turning length (minimum) :		850 mm
	d. Turning Diameter :		06-250 mm
	e. X-Axis Travel (minimum) :		300 mm
	f. Z-Axis Travel (minimum) :		850 mm
	g. 3-jaw chuck diameter (minimum) :		250 mm, self-centered with foot-paddle Switch, must be able to hold jobs of diameter 06-250 mm
	h. Spindle speed (RPM) :		2000-4500, speed must be adjustable from 60 RPM to maximum RPM
	j. Spindle Bore Diameter (minimum) :		60 mm
	k. Tail Stock (Hydraulic-Servo) :		
	(1) Quill diameter :		80 mm (minimum) must be compatible with MT4
	(2) Taper :		Tapper MT4/ or compatible with Quill/ Quill Diameter
	(3) Foot paddle :		Hydraulic
	(4) Quill travel :		Minimum 100 mm and Hydraulic
	(5) Stock assembly travel :		Servo-controlled
	l. Turret (Axial) :		
	(1) Type :		Axial (Face-Working)
	(2) Number of Tools Station (minimum) :		12 Nos.
	(3) Tools Location/holder :		VDI 50
	m. Tool pre-setter or Tool measurement probe :		Must be supplied with the Machine.
	n. Positioning Accuracy :		X/Z-Axis 0.002 mm or better
	p. Control System :		FANUC/Siemens/HAAS with manual Guide-i or equivalent
	q. Power supply :		380-400V, 3 ph, 50 HZ
	r. Following VDI 50 Tool Holder (12 Nos) must be supplied with the machine and price must be included with the Main Equipment price :		

Sl. No	Specification		A/U	Qty
(a)	(b)		(c)	(d)
	(1) VDI 50 Turning Holder B1-50x25x55	: 04 Nos.		
	(2) VDI 50 Boring Holder Dia 32 E2-50x32	: 02 Nos.		
	(3) VDI 50 Boring Holder Dia 20 E2-50x20	: 02 Nos.		
	(4) VDI 50 Boring Holder Dia 16 E2-50x16	: 02 Nos.		
	(5) VDI 50 Boring Holder Dia 25 E2-50x25	: 02 Nos.		
s.	Spares for the Machine & Price to be quoted separately :			
	(1) Lead Screw (X – Axis)	: 01 Pc		
	(2) Lead Screw (Z – Axis)	: 01 Pc		
	(3) Tail Stock	: 01 Set		
	(4) Revolving Center	: 01 Set		
8.	Conditions :			
	a. All axis must be integral to the machine, no attachment to be used as any axis.			
	b. Machine must be able to perform following operations: (1) Turning, (2) Drilling, (3) Boring, (4) Threading, (5) Reaming etc.			
	c. All accessories, attachments, tools, cutter, fixture etc required to perform the above mentioned job to be supplied and mentioned with price in offer.			
	d. Must have Automatic Chip Removing System.			
	e. Must have Programmable Automatic door opening and closing system.			
	f. Standard cooling, lighting, lubricating & control system (Software & Hardware) should be provided with machine.			
	g. 1 x operation/ programming manual in English (Hard & Soft copy) must be supplied with the machine.			
	h. 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:			
	(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.			
	(2) Maintenance and Repair Manual: Detail troubleshooting & repair procedure as well as maintenance and safety system.			
	j. The supplier should give service support with spares minimum for 10 (Ten) years after installation of machine.			
	k. Machine installation, commissioning & trial run must be completed by the supplier within One month (30 days) from the date of arrival of the machines at BOF.			
	l. Pre-shipment Inspection : Pre-shipment Inspection (PSI) will be carried out by BOF at the discretion of BOF authority. The team may be comprised of 02 (Two) BOF personnel for a period of 03 (Three) working days excluding journey period. All cost will be borne by BOF.			
	m. Local Training : Duration of training should be at least 06 (Six) working days.			
	Following information must be given as under :			
	Ser	Training	Details	Supplier's Opinion
	(1)	Local Training after machine installation	Trainer Type (Local/ Foreign) : To be mentioned	
			Number of Trainer : To be mentioned	
			Training a. Machine Operators Training : 03 working days. b. Machine maintenance, trouble shooting and repair training : 03 working days. Topics: (i) Details operation of electrical, electronics, pneumatic system, hydraulic system and mechanical system with diagrams in details.	

RESTRICTED

Sl. No	Specification			A/U	Qty
(a)	(b)			(c)	(d)
			(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. (v) Safety procedures.		
(2)	Supplier must submit Local training plan along with the offer.				
n.	Warranty for one year after acceptance.				
p.	Fast and slow moving spares with quoted price are to be given with the tender including yearly escalation minimum for ten years.				
q.	All necessary Software to handle & Maintain the machine must be supplied along with the machine.				
r.	All drives and Servo Motors must be of same Control System/Brand.				

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, otherwise administrative action will be taken against the principal and local agent
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.**