

Name of Machine	Specification	A/U	Qty
(a)	(b)	(c)	(d)
CNC Turning Center with counter spindle, Driven Tools & Y Axis	CNC Turning Center with counter spindle, Driven Tools & Y Axis with all standard and additional accessories as per specification below :	Nos	02
	1. Machine Model : To be mentioned		
	2. Country of Origin : Group A		
	3. Country of Manufacture : Group A		
	4. Country of assemble : Group A		
	5. Country of Shipment : Group A		
	6. Country of Main/Major components : Group A (Spindle Motor, Servo Motor, Servo Control Unit, Lead Screw, Control Circuit and fabrication)		
	7. Specification:		
	a. Work area :		
	(1) Maximum Turning Diameter	: ≥ 500 mm	
	(2) Max. Part length	: ≥ 1000 mm	
	(3) Swing Over Bed	: To be mentioned	
	(4) Swing over cross slide	: To be mentioned	
	(5) Distance between Spindle Noses	: To be mentioned	
	b. Travel :		
	(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	
	c. Main Spindle (C1 Axis) with indexing facilities		
	(1) Spindle Speed	: ≥ 4000 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	
	(6) Maximum Torque	: To be mentioned	
	(7) Resolution(°)/ Increment(°)	: 0.001° (minimum)	
	d. Counter Spindle (C2 Axis) with indexing facilities		
	(1) Speed	: ≥ 4000 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) Maximum Torque	: To be mentioned		
(6) Resolution(°)/ Increment(°)	: 0.001° (minimum)		
e. C Axis:			
(1) Traverse	: To be mentioned		
(2) Speed	: To be mentioned		
f. BMT55/ BMT65 Radial Tool Turret:			
(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.		
g. Driven tools:			
(1) Speed	: ≥ 2500		
(2) Driven tools (Minimum)	: 12		
(3) Maximum Torque	: To be mentioned		

(a)	(b)	(c)	(d)
	<p>h. Rapid Speed:</p> <p>(1) X-Axis : To be mentioned</p> <p>(2) Z1/Z2 Axis : To be mentioned</p> <p>(3) Y Axis : To be mentioned</p> <p>j. Bar feeder:</p> <p>(1) Bar diameter : ≥ 85 mm</p> <p>(2) Bar length : ≥ 1200 mm or to be mentioned</p> <p>k. Steady rest (Optional) : If available must be quoted separately.</p> <p>l. Control system: Upgraded version of HAAS/SIEMENS/FANUC control system with manual guide-i/equivalent</p> <p>m. Tool measuring Probe (Automatic/ Manual) : To be mentioned</p> <p>n. The following Holders/Cutters/Items (if not included in the standard/ additional/ optional/ special items list-serial 8.a below) must be supplied with the machine and price to be quoted separately:</p> <p>(1) 1 x face and O.D turning holder</p> <p>(2) 1 Set x ER25 Spring collate</p> <p>(3) 1 x Four-fold O.D. turning tool holder</p> <p>(4) 1 x Facing and I.D. turning holder</p> <p>(5) 2 x I.D. turning tool holder Ø32 mm</p> <p>(6) 1 x Reduction bushing Ø20 mm</p> <p>(7) 1 x Reduction bushing Ø25 mm</p> <p>(8) 1 x Cut-off holder</p> <p>(9) 2 x Drilling/milling holder</p> <p>(10) 2 x Angular milling holder</p> <p>p. Following Items must be supplied with the machine and price to be quoted separately:</p> <p>(1) 3 Jaw Chuck dia 200 mm hard and soft Jaw : 01 Set</p> <p>(2) Jaw Chuck dia 175 mm with hard and soft Jaw : 01 Set</p> <p>(3) Chip Conveyor System : 01 Set</p> <p>(4) Bar Feeder LM 1200 or equivalent : 01 Set</p> <p>(5) Finished Parts Catcher and Conveyor : 01 Set</p> <p>(6) Automatic Tool Presetter : 01 Set</p> <p>(7) Tool Load monitoring System : 01 Set</p> <p>(8) Alignment tool Holder to check turret alignment-BMT55P or equivalent: 01 Set</p> <p>(9) Electronic Hand wheel : 01 Set</p> <p>(10) Air Condition unit for electrical cabinet : 01 Set</p> <p>(11) Machine Status Lamp : 01 Set</p> <p>8. Terms and Conditions:</p> <p>a. All standard and additional accessories/items/attachments must be supplied along with the machine and the list of the same must be submitted with quoted price separately.</p> <p>b. List of all optional items must be submitted with quoted price separately.</p> <p>c. Pre-Shipment Inspection:</p> <p>(1) Pre-shipment Inspection (PSI) will be carried out by BOF at the discretion of BOF authority and all cost will be borne by BOF. The team may be comprised of 03 (Three) BOF personnel for a period of 04 (four) working days excluding journey period.</p> <p>(2) Supplier must submit details plan of PSI (Modus Operandi).</p> <p>d. Foreign training proposal: A 03 (three) Members BOF Team would go for operation and maintenance training to the supplier's factory for a duration of 05 (five) working days. Air Ticket, Pocket money, food, accommodation & medical costs (if needed) will be borne by BOF.</p> <p>e. Local Training: Duration of training should be at least 08 working days. Following information must be given as under:</p> <p>(1) Details (Local Training after installation of Machine):</p> <p>(a) Trainer Type (Local/Foreign) : To be mentioned</p> <p>(b) Number of Trainer : To be mentioned</p> <p>(2) Training:</p> <p>(a) Machine operation training : 04 working days.</p> <p>(b) Machine Maintenance, trouble shooting and repair training : 04 working days.</p> <p>(3) Topic:</p> <p>(a) Details operation of electrical, electronics, pneumatic system, hydraulic system and mechanical system with diagrams in details.</p> <p>(b) Control system: program loading and unloading, debugging, editing and servo drive and servo motors interconnecting and parameter setting in details.</p>		

RESTRICTED

(a)	(b)	(c)	(d)
	<p>(c) Troubleshooting artificial problems to be created by removing sensors and changing the parameters of servo drives and servo motors then faults diagnosis and repair procedures.</p> <p>(d) Safety procedures.</p> <p>f. 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.</p> <p>g. 1 x operation/ programming manual in English (Hard & Soft copy) must be supplied with the machine.</p> <p>h. 1 x maintenance/ repair manual (Hard & Soft copy) with parts catalogue and circuit diagram of electrical devices in English to be supplied with the machine.</p> <p>j. All necessary software required to handle & maintain the machine must be supplied along with the machine.</p> <p>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.</p> <p>l. The year of manufacture of the machine must be the current year (contracted year).</p> <p>m. Automatic Chip Reaming System with conveyer (belt/screw type) must be provided with each machine (Price of conveyer should be quoted separately).</p> <p>n. Standard cooling, lighting, lubricating & control system (Software & Hardware) must be integrated with the machine.</p> <p>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.</p> <p>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 be mentioned in details with duration of service support and cost (Hourly basis).</p> <p>r. The supplier must provide service support for ten years after acceptance of the machine.</p> <p>s. Warranty for one year after acceptance.</p> <p>t. The supplier must mention the availability of Electronic (Laser) Machine Tool Probes with the price quoted separately.</p> <p>u. Bidder should submit original Leaflet/ Brochure with the offer.</p>		