

**REQUIREMENT FOR STANDARDIZATION OF 04 AXIS (3+1) CNC  
MACHINING CENTER**

1. Bangladesh Ordnance Factory (BOF) has taken up a step to evaluate the above mentioned item. In this regards, the specification for standardization of the items is forwarded herewith. You are requested to forward technical offer and other information's of subject item to this factories by 28 May 2021.
2. You are also requested to provided original brochure and catalogue to support the information supplied in the specifications for standardization. The serial number in technical specification to be marked and highlighted if original brochure/catalogue supplied. Please provide enlistment certificate of BOF along with the technical offer.

**SPECIFICATIONS FOR STANDARDIZATION OF 4 AXIS (3 +1) CNC MACHINING CENTER**

Annex-A

RESTRICTED

(Small Arms Factory)

Ser.	Parameters	BOF Requirement
(a)		(c)
1.	Name of Machine	To be mentioned
2.	Model No.	To be mentioned
3.	Purposes/uses of Machine	To be described (video will be provided if available)
4.	Country of Origin	To be mentioned
5.	Country of Manufacturer	To be mentioned
6.	Name of Manufacturer	To be mentioned
7.	Country of assembling	To be mentioned
8.	Name of the Principal	To be mentioned
9.	Name of the Local Agent	To be mentioned
10.	Country of Major Components (All Servo motors, Spindle Motor, Control system, including servo drives, Hydraulic Pump, Lead Screw, Main body, Tool Magazine, Pneumatic actuators, Vector drive if available and electronics PCB cards)	To be mentioned
11.	Percentage (%) of spares other than the machine manufacturing country with their list and country of origin	To be mentioned
12.	Port of Shipment	To be mentioned
	<b>Specifications:</b>	
	<b>a. Table Size:</b>	
	(1) Minimum Length (L) 1350 mm	To be mentioned
	(2) Minimum Wide (W) 600 mm	To be mentioned
	(3) Maximum Length (L) in mm	To be mentioned
	(4) Maximum Wide (W) in mm	To be mentioned
	<b>b. Table travel:</b>	
	(1) Minimum Longitudinal Travel (X axis) 1140 mm	To be mentioned
	(2) Minimum Transverse Travel (Y axis) 610 mm	To be mentioned
	(3) Minimum Vertical Travel (Z axis) 600 mm	To be mentioned
	(4) Maximum Longitudinal Travel (X axis) in mm	To be mentioned
	(5) Maximum Transverse Travel (Y axis) in mm	To be mentioned
	(6) Maximum Vertical Travel (Z axis) in mm	To be mentioned
	<b>c. C or 4th axis (Rotary type):</b>	
	(1) Travel of 4th axis in degree	To be mentioned
	(2) Size of rotary table in mm	To be mentioned
	(3) Spindle bore diameter in mm	To be mentioned
	d. Control axis (X, Y, Z & 4th Axis) (Available or not)	To be mentioned
	e. Type of spindle taper hole	To be mentioned
	f. Spindle speed in rpm	To be mentioned
	g. Spindle motor power in KW	To be mentioned
	h. Minimum distance from spindle nose to surface of table	To be mentioned
	i. Maximum distance from spindle nose to surface of table	To be mentioned

Ser.	Parameters	(a)	(b)	(c)
	j. Minimum cutting speed in mm/min	To be mentioned		
	k. Maximum cutting speed in mm/min	To be mentioned		
	l. Tool diameter (full magazine & empty magazine) in mm	To be mentioned		
	m. Maximum tool length in mm	To be mentioned		
	n. Minimum Rapid traverse in m/min	To be mentioned		
	<b>p. Display monitor:</b>			
	(1) Screen size	To be mentioned		
	(2) Adjustable operator panel (Available or not)	To be mentioned		
	(3) Adjustable angle (Available or not)	To be mentioned		
	(4) Adjustable position (Available or not)	To be mentioned		
	q. Minimum Memory capacity in Gigabyte (GB)	To be mentioned		
	r. Magazine Capacity (Automatic tool changing system) (Available or not)	To be mentioned		
	<b>s. Power Supply:</b>			
	(1) Voltage	To be mentioned		
	(2) No of Phase	To be mentioned		
	(3) Frequency	To be mentioned		
	t. Tool measuring probe (Automatic or manual)	To be mentioned		
	u. Automatic Voltage Regulator (Integral or Separate)	To be mentioned		
	v. On line diagnosis and troubleshooting option (Remote maintenance)	To be mentioned		
	<b>w. Items Inbuilt with the machine:</b>			
	(1) Tool Changing Arm (Available or not)	To be confirmed		
	(2) Draw Bar Collette (Available or not)	To be confirmed		
	(3) Water gun (Available or not)	To be confirmed		
	(4) 4th Axis Drive and wiring (Available or not)	To be confirmed		
	(5) Servo Rotary Table with update software version (Available or not)	To be mentioned		
	(6) Type of Pneumatic Tail Stock with live center	To be mentioned		
	(7) Top reversible 3 jaw chuck with size in mm	To be mentioned		
	(8) Pull studs as per spindle taper	To be mentioned		
	(9) Type of Multi auger Chip Conveyor System	To be mentioned		
	(10) Control Cabinet cooler (AC Unit for cooling) (Available or not)	To be confirmed		
	(11) Air Gun (Available or not)	To be confirmed		
	(12) CNC 4 Axis MPG pendant Hand wheel controller (Available or not)	To be confirmed		
13.	<b>Conditions:</b>			
	a. The Machine must be able to perform following operations: (1) Milling, (2) Drilling,	To be confirmed		
	(3) Reaming etc.	To be mentioned		
	b. List of accessories, attachments, tools, cutters etc required to perform the above	To be mentioned		
	c. Manual Work/Tool offset measuring device (Available or not).	To be confirmed		
	d. List of standard accessories including cooling, lighting, lubricating & control system.	To be mentioned		


BOF Requirement


Parameters


(a)


To be confirmed	e. All necessary software are needed to operate the Machine (Available or not)
To be confirmed	f. User/ programming manual in English (Hard & Soft copy)
To be confirmed	g. Available of Operation, Maintenance and Repair manual (Hard & Soft copy) with parts catalogue and circuit diagram of electrical devices in English. 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. h. Machine installation, commissioning & trial run is done by the supplier within one month (30 days) from the date of arrival of the machines at BOF.
To be confirmed	i. Local training facilities (Machine operation, maintenance, trouble shooting and repair training) with following topics: (1) Details operation of electrical, electronics, pneumatic system, hydraulic system and mechanical system with diagrams in details. (2) Control system: program loading and unloading, debugging, editing and servo drive and servo motors interconnecting and parameter setting in details. (3) 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.
To be provided	j. Safety procedures.
To be mentioned	k. Local training plan (Available or not)
To be confirmed	l. Available of foreign training at machine manufacturer site (operation and maintenance training).
	m. <b>Pre-shipment Inspection :</b>
To be mentioned	(1) Pre-shipment inspection (PSI) possible or not
To be mentioned	(2) Plan of PSI Modus Operandi
To be confirmed	n. Warranty for one year after acceptance.
To be confirmed	o. Assurance of Fast and slow moving spares with quoted price including yearly escalation minimum for 10 (ten) years
To be confirmed	p. Available of Service support for 10 (ten) years after installation of the machines.
To be submitted	q. Original brochure and catalogue
To be mentioned	r. Upgraded version of control system with manual guide-I equivalent.
To be confirmed	s. Basic axes X, Y & Z dedicated/ integral to the machines (no additional/ optional attachments/ items to be used as any of the basic axes)
To be mentioned	t. 4th Axis to be integral or additional/ optional attachments
To be mentioned	u. Machine's electrical cabinet equipped with Air condition system (Available or not)
To be mentioned	v. Air Dryer with Filter and Automatic Voltage Regulator (AVR) (Available or not)
To be confirmed	w. Tool Box and Chip Conveyor Trolley (Available or not)
To be confirmed	x. All motors and drives are of same control system.

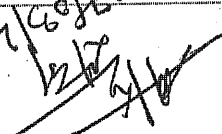
Ser.	Parameters	(b)	(c)	To be mentioned
14.	Any other information deemed necessary for your machine			To be mentioned
	Z. Price of the Machine with all standard accessories.			To be mentioned
(a)				
BOF Requirement				

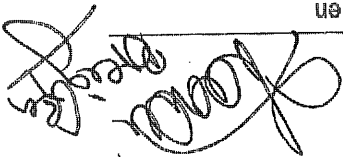
Member :   
 PI No 11170,  
 Md. Tanvir Ahmed  
 Technician

Member :   
 PI No 1845  
 Asadul Islam  
 Sub Asst. Engineer

Member :   
 BA 5467 Maj  
 Md Zahidul Islam  
 Manager SA-1

Member :   
 BA 6018 Lt Col  
 Mohammad Nurul Aziz, EME  
 Deputy Director Maintenance

Member :   
 BA 4282 Lt Col  
 Md Shahnoor Alam  
 Deputy Director Small Arms

President:   
 BA 4146 Brig Gen  
 Md Mahboob Karim, psc  
 Director Production