Scope of Supply CNC Universal Milling Machine (5-Axis Simultaneous)

	Sr No	Description / Namumclature	Details / Spec	A/U	Qty	Unit Price	Total Price	Remarks
Main Machine Details	1	Model Number	To be filled by Supplier	Nó	2			Spinner, DMG, Daewoo or any other brand supported in Pakistan (European Brand)
	2	Make / Manufaturer / OEM	To be filled by Supplier					
	3	Country of Origin	To be filled by Supplier					
	4	X-Axis	750 ~ 1500 mm					
	5	Y-Axis.	600 mm					
	6	Z-Axis	520 mm					
	7	B-Axis	-10° ~ +95°					
	8	C-Axis	360°					
	9	Positioning Accuracy	±0.0005					
	10	Repeatability	0.0005					
	11	Fixed Table Clamping Area	1000 x 620 mm					
	12	Integrated Swiveling Rotary Table Clamping Area	650 ~ 1100 mm					
	13	ATC Tool Magezine	16					
	14	Spindle Taper	SK 40					
	15	Maximum Spindle Speed (RPM)	10000					
	16	Touch Probe	Renishaw					
	17	Controller	Siemens 840D Solutionline					
	18	Display	Compatiable					
	19	Data Interface	RS 232, USB 2.0, Ethernet					
	20	Power / Voltage	380 V, 50 Hz, 3 Phase					
Standard Accessories / Spare	1	Standard Accessories / Spares as per Company List	To be filled by Supplier					
	2		To be filled by Supplier					
	3		To be filled by Supplier					
	4		To be filled by Supplier					
	5		To be filled by Supplier					
	6		To be filled by Supplier					
	7		To be filled by Supplier					
	8		To be filled by Supplier					
	9		To be filled by Supplier					
Optional Accessories / Spares	1	Laser Measurement System	As per OEM's specifications	No	2			
	2	Chip Conveyor	As per OEM's specifications	No	2			
	3	Oil Mist Filter	As per OEM's specifications	No	2			
	4	Air Blast/Coolant Switch	As per OEM's specifications	No	2			
	5	Spray Gun	As per OEM's specifications	No	2			
	6	Simultanous 5-Axis Machining	As per OEM's specifications	No	2			
Documents	1	Operation and Maintenace Manual		Set	2			
	3	Electrical Operational Manual		Set	2			
	4	Certificate of Quality		Set	2			
	5	Electrical Wiring Diagrams and Manual (Including part list & drawings)		Set	2			
	6	PLC Ladder diagram, if applicable		Set	2			
	7	Part List of all systems of Machine		Set	2			
	8	Packing List		Set	2			
	9	CD/DVD of all Manuals (Soft Copy)		Set	2			
Services	1	Pre-Delivery Inspection withTraining						
		a. Operational Training						
		b. Training for Troubleshooting of control Hardware Faults and preventive Maintenance						
		c. Training for Geometrical accuracy Testing Calibration of Machine						
	2	Installation/Commionssioning by OEM Engineer Or Supplier Experts						
	3	Supplier will be bound to provide back up support for 10 years for spare parts / sub assemblies, repair, maintenance and up-gradation of Machine						
	4	Sea Worthy Packing						
					Grand Total:			

Note: Please fill and attach this form alongwith quotation of each and every machine to be offered by your firm.

ATP for 5-axes CNC Universal Milling Machine

Following tests will be performed after installation of the machine.

1. Geometrical Test

a. Straightness of X-axis Movement according to the positioning accuracy/repeatability

b. Straightness of Y-axis Movement according to the positioning accuracy/repeatability

c. Straightness of Z-axis Movement according to the positioning accuracy/repeatability

d. Straightness of the Floor tableaccording to the positioning accuracy/repeatability

e. Mutual squareness between axes according to the positioning accuracy/repeatability

f. Parallelism of X & Z-axis axial movement to the rotary table surface and run out of the rotary table

g. Squareness in indexing table movement to the edge locator datum Plane

h. Parallelism of Z-axis movement to the spindle center

i. Run out of the spindle Internal Taper

j. Perpendicularity of the rotational and linear axes all together

2. Positioning / Repeatability Accuracy Test

a. X-axis = ±0.01

b. Y-axis = ±0.01

c. Z-axis = ±0.01

d. B-axis = ±0.001°

e. C-axis = ±0.001°

f. 5-axes simultaneous movement with different axes combinations

3. Practical Cutting Test at different Angles of Spindle Head

a. Face Milling Accuracy (Flatness & Step)

b. 4-Plane Cutting Accuracy by face Milling (Squareness, Parallelism)

c. Positioning Accuracy by Boring/Milling (Pitch error,Hole Diameter difference)

d. Side End-Milling Accuracy (Straightness, Parallelism, Distance Difference,Squareness)

e. Linear Interpolation End Milling Accuracy (Roundness)

Note: Following type of materials are planned to be machined:-

a. Al Alloys

b. High Carbon

c. Steel Alloys

d. Hard Materials etc