

CORRIGENDUM 1

Corrections to the specifications for the purchase of **CNC Vertical Machining Center (5-axes)** based on pre-bid meeting on 31-7-2019

Tender Reference No.: NITK/CRF/CNC/04 dated 09/07/2019

Tender ID: **2019_NITK_455296_1**

Time: 3.30 PM at Board Room, Main Building, NITK, Surathkal.

CNC Vertical Machining Centre (5 – axis)**Clarification for DMG MORI India.**

Tendered Specification	Amendment requested	Our Remarks
Spindle power cont. / 40% S6 - 18.5 / 27 KW,	16/21KW	No Change
20 Station tool magazine/drum, auto tool changer,	25 Station tool magazine or more – drum/arm type	No Change
CNC System Siemens 840D SL with 10.4" Colour LCD	19" or more.....with built in apps which leads to a smart, paperless shop floor. Built in calculator for power and torque requirements for various operations. CAD-CAM viewer on the control panel. Operator panel mounted on swivel arrangement for easy access and viewing. Built in shopmill for interactive programming	No Change
Spindle speed of 120 - 12000 rpm (Direct drive),	20-15000	Corrected as 0 – 12,000 rpm
Chilling feature for spindle and 4th & 5th axes rotary table,	Chilling feature for spindle, linear axis and 4 th & 5 th axes rotary table.	No Change
50KVA Voltage stabilizer	Suitable Voltage stabilizer with Ultra Isolation Transformer.	Corrected as 50KVA Servo Stabilizer with isolation transformer
	Suitable air compressor with (multi dry filter for solid particles: removes 0.01µm, water droplets:Zero and oil mist.: removes 99.99%)	Amended to include suitable air compressor

Air gun and Coolant gun.	Coolant gun	No Change
	Machine bed made of Grey cast iron grade GG30/polymer casting & not fabricated structure. Machine should be capable of machining Titanium, titanium alloys, stainless steel and soft materials	Amended to include " All structural items to be Grey cast iron of Grade 25/30 or better"
5-Axis Machining software,	5-Axis machining software – CAM software with post processor & G code simulation	Corrected as 5-Axis Machining software with simulation
Regular/Mini Tower Desktop with 7th Gen i7-7700 Processor or higher with suitable Motherboard 8 GB RAM DDR4; 1TB HDD 7200RPM Windows 10Pro; 2/4 GB Graphics Card 24" HD Monitor; DVD Drive; Wireless Keyboard & Mouse	Xeon E3 -1205 V6 3.0 8M 4C, 8GB DDR4, 2400 nECC (1x8GB) RAM, 1TB, NVIDIA Quadro P400 2GB, 1st GFX, win 10 Pro 64 for workstation INDIA, DVDRw. HP 8GB (1x8GB) DDR4-2400 nECC SODIMM RAM HP EliteDisplay E243i 60.96 cm (24") Monitor, wireless key board & mouse	No Change

Sl. No.	Description	Unit	Specs (minimum)	Amendment requested	Our Remarks
1.1	TABLE TYPE		TILTING AND ROTARY TABLE (A&C AXIS)	TILTING AND ROTARY TABLE (A/B&C AXIS)	No Change
1.3	TILTING TABLE CONT./PEAK TORQUE	Nm	1700 (850X2) / 3060 (1530X2) @ 65rpm MAX	@ 30 rpm	No Change
1.4	ROTARY TABLE CONT./PEAK TORQUE	Nm	560/930 @ 90rpm MAX	@ 30rpm	No Change
1.5	TILTING & ROTARY TABLE CLAMPING		HYDRAULIC	Hyd/Servo	No Change
1.6	TILTING & ROTARY TABLE CLAMPING TORQUE @ 45 BAR pr (peak torque):	Nm	2200	2000/1000 min	No Change
1.9	TILTING TABLE SWIVELLING		±30° or higher	±60° or higher	No Change
2.1	X - AXIS TRAVEL	mm	600	600 or more	No Change

2.2	Y - AXIS TRAVEL	mm	700	500 or more	No Change
2.3	Z - AXIS TRAVEL	mm	500	450 or more	No Change
3.2	SPINDLE SPEED - DIRECT DRIVE	rpm	120 - 12000	20- 15000	Corrected as 0 – 12000 or more
Add	Spindle torque	Nm		100Nm or more@40% DC	No Change
4.2	CUTTING FEED	mm/min.	1 - 10000	1....40000	No Change
4.3	BALLSCREWDIAFORX, Y&Z AXES	mm	40 / 50 / 40	40/40/40	No Change
4.4	GUIDEWAYS FOR X, Y & Z AXES		LM GUIDEWAYS (ROLLER TYPE)	LM Guidways (Roller type) for X.Y&Z, Pre loaded roller bearing on B & C axis	No Change
5.1	NUMBER OF TOOLS	Nos.	20	25 or more	No Change
5.3	MAX. TOOL DIA. WITH ADJACENT POCKETS EMPTY	mm	100	120 or more	No Change
5.7	CHIP TO CHIP TIME	Sec.	9	6	No Change
6.1	POSITIONING ACCURACY FOR X, Y & Z AXIS	mm	0.01	0.008	No Change
6.2	REPEATABILITY FOR X, Y&Z AXIS	mm	±0.003		No Change
6.3	POSITIONACCURACYFORA&CAXIS	Arc Seconds	±7.5"	A/B & C±5"	No Change
6.4	REPEATABILITY FOR A & C AXIS	Arc Seconds	±5"	A/B & C	No Change
7.1	SPINDLE POWER CONT/40% S6 (SIEMENS)	Kw	18.5 /27	16/ 21	No Change
7.2	FEED MOTOR X, Y & Z AXES (SIEMENS)	Nm	27 / 27 / 36	10/10/15	No Change
			Earthing requirement to be indicated forNITK to provide		No Change
			3D data model of the machinein STEP format to be supplied along with the machine		No Change

List of tools : No change

Sl.No	Item Description	Qty
1	Precision Hydraulic Vise with jaw opening of 250 mm and clamping force 40 KN	1
2	Clamp set	1
3	HSK-A63 - ER 25 collet chuck	1
4	ER 25 collets Dia 3 to Dia 14 in steps of 1mm	1 No. each
5	HSK-A63 - ER 32 collet chuck	1
6	ER 32 collets Dia 15 to Dia 19 in steps of 1mm	1 No. each
7	HSK-A63 - ER 40 collet chuck	1
8	ER 40 collets Dia 20 to Dia 25 in steps of 1mm	1 No. each
9	ER 25 Tap collets with square drive for M8 and M10 taps	1 No. each
10	ER 32 Tap collet with square drive for M12 tap	1 No. each
11	HSK-A63 side lock adaptors Dia 16, 20, 25 & 32	1 No. each
12	HSK-A63 - Facemill arbor dia 16, 22, & 27	1 No. each
13	HSK-A63 - Keyless drill chuck 0-13mm	1 No.
14	Dia 80 insert type square shoulder face mill	1
15	Inserts for the above	20
16	Dia 63 insert type face mill	1
17	Inserts for the above	20
18	Dia 40 insert type face mill	1
19	Inserts for the above	20
20	Dia 6.8 solid carbide drill (L/D \geq 3)	3
21	M8 HSS Tap	3
22	Dia 8.5 solid carbide drill (L/D \geq 3)	3
23	M10 HSS Tap	3
24	Dia 10.2 solid carbide drill (L/D \geq 3)	3
25	M12 HSS Tap	3
26	Dia 25 Insert type drill	1
27	Inserts for the above	20
28	Dia 16 Insert type endmill	1

29	Inserts for the above	20
30	Dia 20 Insert type endmill	1
31	Inserts for the above	20
32	Dia 32 Insert type endmill	1
33	Inserts for the above	20
34	HSK-A63 Finish boring kit dia 10 to 40	01 set
35	HSK-A63Pullstuds	30

Clarification for Francis Klein & Co Pvt. Ltd. Bangalore

Clarification sought	Our Remarks
Spindle Motor & Axis Motor is specified SIEMENS.... To be clarified if equivalent FANUC direct drive can be also offered.	FANUC 31i or equivalent
We will offer the machine in foreign currency, USD. However EMD will be paid by Francis Klein & Co Pvt. Ltd by DD / BG in INR, with an authorization letter from principal.	Yes
Kindly confirm that the transportation / insurance charges within India could be offered in INR.	The offer should inclusive of all expenditures & need to clearly mentioned in price bid.

It is decided to extend the Bid submission date by four weeks after displaying corrigendum 1

Last date for Bid submission : 06/09/2019 on or before 5.00 p. m.
Bid opening date(tentative) : 12/09/2019 @ 3.30 p.m.

Sd/-
Buyer
(Dr. Shrikantha S Rao)

Sd/-
Chairman
Central Research Facility
NITK Surathkal