

**Annexure:
Universal Milling Machine with std. Accessories.**

	BASIC MACHINE		Tech Offer
	Universal Milling Machine with std. Accessories. Manually operated, Heavy Duty, Std Color. Specifications:		Mention Numerical Value
	BASIC MACHINE		
1	Table Size (LxW) 2000x300mm or more	L= W=	
2	Table Clamping Area (LxW)1600x300 or more	L= W=	
3	Width of T Slots 16mm	Size=	
4	No of T slots 3 NOs	Nos=	
5	Centre Distance (CD)between T slots 63mm	CD =	
6	Table Transverse : Manual and Automatic	Manual= Automatic=	
7	Table Longitudinal Transverse 950 mm or more	Size=	
8	Cross Table Transverse 300 mm or more	Size=	
9	Vertical Transverse in mm:350mm or more	Size=	
10	Swivel Of Table to either side of Horizontal Plane : 45 degree	Degree=	
11	Max safe load on Table=400 kg min	Weight=	
12	No of spindle speeds 18 (Attach Speed Chart)	Speeds=	
13	Spindle Speed Range 35.5 -1800 RPM	Min RPM= Max RPM=	
14	Spindle Front Bearing Diameter : 95 +- 1mm	Dia=	
15	Type of Spindle : ISO 50	Type= Size=	
16	No of feeds: 24 (Attach Speed Chart)	No=	
17	Feed Range for Longitudinal: 4-800 mm/min (Attach Speed Chart)	Min= Max=	
18	Feed Range for Transverse : 4-800 mm/min (Attach Speed Chart)	Min= Max=	
19	Feed Range for Vertical : 1.6-320 mm/min (Attach Speed Chart)	Min= Max=	
20	Rapid Transverse Feed for longitudinal & cross: 2000 mm/min	Long.= Cross=	
21	Rapid Transverse Feed for Vertical: 800 mm/min	Feed=	
22	Spindle Torque 1800 Nm or more	Torque=	
23	Size of Milling Arbor : as per ISO 50 For Heavy Duty Milling Machine	Size=	
24	Spindle Motor : Power 7.5kW or more, RPM 1500	Power= RPM= Make of Motor=	
25	Power Supply :415V, 3Ph, 50 Hz	V=	
26	Feed Motor 3.7 kW, RPM 3000, or better	Power= RPM= Make of Motor=	

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27	Coolant Motor: 0.12 kW, 2800 RPM or better	Power= RPM= Make of Motor=	
28	Thermal Safety overload protection (eg. Relay etc.)	Type=	
29	Voltage Drop Protection required	Yes/No	
30	Single Ph. protection required	Yes/No	
31	Power operated feeds and Rapid traverse in all axis required	Yes/No	
32	Independent main drive and feed drive required	Yes/No	
33	Instantaneous breaking of spindle of all axis feed drive required	Yes/No	
34	Inch push button speed and feed drives required	Yes/No	
35	Feed and Rapid drive through electromagnetic clutch required	Yes/No	
36	Separate pump for, spindle and feed drive lubrication required	Yes/No	
37	Automatic lubrication to all slides required	Yes/No	
38	Machine ready to operate with all electrical with first fill of lubricants & gear oil etc	Yes/No	
39	Machine Dimensions	L= W= H= Weight=	
40	Machine Casting of column, knee, saddle , table Cast Iron grade: FG 260, Hardness:180-230 BHN	Casting Grade= Hardness BHN=	
41	Main spindle of Forged Steel Hardness 58-62 Hrc	Spindle Mat.= Hardness Hrc=	
42	Drive Gears of Alloy Steel 15Ni7Cr4Mo2, or better (Hardened and ground)	Material=	
43	Lead Screw : Ground profile	Yes/No	
<u>STANDARD ACCESSORIES:</u>			
44	Draw bolt with draw Nut	1	
45	Elevating crank Handle	1	
46	Two Arbor Support Bearing bracket	1set	
47	Over Arm Brace	1	
48	Machine lamp without bulb	1	
49	Service Tool Kit	1 set	
50	Operational and Maintenance Manuals.	Two sets	
51	Foundation Bolt and levelling plate	1 set	
52	Machine Vice with swivel base 200mm	1	
53	Self-centring Vice 10-80mm	1	

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54	Stub Milling Arbor dia 32,40 mm (as per machine)	1 each	
55	Conical Collet Holder with set of conical collets Size 5,6,8,10,12,20 mm (as per machine)	1 each	
56	End Mill Holder Dia 5,6,8,10,12,16,20,25 mm (as per machine)	1 each	
57	Reduction sleeve type B size ISO 50 -, MT2, MT3, MT4	1 each	
58	Milling Arbour dia 32x800, Dia 40x800mm (as per machine)	1 each	
59	Universal Dividing Head 180mm with Tail Stock, supporting block, 3 jaw self-centring chuck dia 195/200 mm and train of gears.	1 set	
60	Single lever hand operated vertical Indexing Head 24 Notches 3 jaw chuck, 160mm dia.	1 set	
61	Parking bracket (as per machine)	1	
62	Universal Milling Head	1	
63	Milling Kit consisting of 200 Dia Face Mill and index able inserts for machining steel, cast iron other non-ferrous metals with suitable arbor.	1 set	
64	Test Report from Central Govt./NABL/ILAC accredited lab (attach copy) Mandatory.	Date= Ref No.	
65	Catalogue of Machine offered and Model No:	Model No= Make=	

Installation and Commissioning of the machine

- Installation, commissioning & proving of the machine to its desired capacity and complete at CSIR-CMERI-CoEFM Ludhiana will be done by the OEM's engineer. Commissioning work including acceptance test/component trial will be carried out by the OEM's Expert.
- All on-site installation drawings to be given well in advance.
- The commissioning will be treated as complete when we issue the certificate of acceptance. Installation, commissioning & proving of the machine to its desired capacity and complete satisfaction
- Electrical requirements also to be clearly specified.
- Pre Dispatch Inspection at supplier's site.

Warranty and Service

The complete machine must have comprehensive onsite warranty from the date of successful commissioning for period: 12 months

Important Notes for Qualifying criterion in bidding

- Vendors should provide in the technical document compliance sheet against the specification of CSIR-CMERI.
- Comments like yes, agreed, will be given at the time of supply, confirmed and will be completed ARE NOT ACCEPTABLE where numerical values are required to be quoted.
- The machine model being offered must be a standard latest model.
- Only Original Equipment Manufacturer or authorized suppliers/dealers should only quote. Copy of valid authorization letter should be enclosed along with the offer.
- The OEM/ vendor should have supplied at least 5 (Five) numbers of offered Machines to any of the Govt. Agencies (Including R&D Institutes/ Educational Institutes of national repute) and which are working satisfactorily. **Documentary evidence to be provided.**
- The vendor has to provide the performance certificate from the Govt. Agencies to whom offered machines supplied by HIM (along with the contact person's name, address and phone number), broad specification of the supplied machine & year of supply.
- List of Service centers in India.

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