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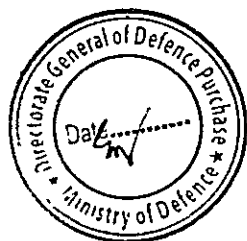
TENDER SPECIFICATION OF UNIVERSAL KNEE TYPE MILLING MACHINE

1. **Name of the Equipment.** Universal Knee Type Milling Machine.
2. **Purpose.** The Universal Knee Type Milling Machine shall be used in Bangladesh Navy Dockyard for precision milling, drilling, slotting, boring, and machining operations on ferrous and non-ferrous materials. The machine shall be able to cut various types of gear, groove, key, keyway, hexagonal, square etc. It shall be used for manufacturing, repairing, and refurbishing mechanical components. The machine shall ensure high machining accuracy, operational flexibility, and reliable performance for production and maintenance activities. The machine shall be suitable for continuous industrial-duty operation and comply with internationally accepted engineering standards.
3. **Quantity.** 01 (one) in number.
4. **Manufacturer, Principal Supplier & Local Agent.** Names and full addresses are to be mentioned in the following table.

Ser	Description	Remarks
a.	Brand/ Manufacture	To be mentioned
b.	Principal Supplier	To be mentioned
c.	Local Agent	To be mentioned

5. **Year of Manufacture.** 2026 or later. The item should be unused, brand new and original.
6. **Country of Origin (Including all components).** USA, UK, EU Countries, Japan, Canada and Australia.
7. **Manufacturing Country (Including all components).** USA, UK, EU Countries, Japan, Canada and Australia.
8. **Certificate/Document of Authentication.** Following certificate(s)/ document(s) must be provided with the offer/quotation:
 - a. One certificate/document by the manufacturer in favour of the Local agent (in case of manufacturer is the principal Supplier).
 - b. Two certificates/documents, one by the manufacturer to Principal Supplier and another by the Principal Supplier to Local agent (in case of Principal Supplier is not the manufacturer).
 - c. Three certificates/documents, first one by the manufacturer to authorized distributor/agent, second one by authorized distributor/agent to Principal Supplier and third one by Principal Supplier to Local agent (in case of principal supplier supplies the item from manufacturer's authorized distributor/agent).
9. **Standard.** The offered equipment shall be designed, manufactured, tested, and certified in accordance with the applicable international standards of the country of manufacture (EN/CE, ANSI/ASME, BS/BS EN/UKCA, JIS, CSA, or AS/NZS or equivalent as applicable). The bidder shall submit valid documentary evidence of the standard to which the quoted caterpillar engine analyzer complies with.
10. **Operating Environment of Machine.** The operating environment of the machine is as follows:

1.	Air temperature	+05°C to +45°C.
2.	Relative humidity	Up to 95% (non-condensing)
3.	Location	Close to the sea



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11. Scope of Supply. The scope of supply is to include the following:

- Main item (01 x Universal Knee Type Milling Machine) completes with all items necessary for immediate operation without the requirement of any other items (attachments, accessories, consumables, etc) (as per paragraph 12 to 14).
- Cutting Tools (as per paragraph 15).
- Spare Parts & Special tools (as per paragraph 16 & 17).
- Optional items (as per paragraph 18) (as selected by BN).
- Document and certificates (as per paragraphs 19 and 20).
- Installation, Test/ trial & acceptance and Training (as per paragraph 21, 22 and 23).
- FAT and PSI (as per paragraph 24)
- Warranty (as per paragraph 25).
- Any other issue relevant (if any).

12. Technical Specification.

a. General Data.

(1)	Type	Universal Knee Type Milling Machine
(2)	Brand	To be mentioned
(3)	Model	To be mentioned
(4)	Table Size (LxB)	Length: 2000-2200 mm (approx) Breadth: 500-700 mm (approx)
(6)	X-Longitudinal Travel	1400 mm – 1500 mm (approx)
(7)	Y-Cross Travel	700 mm – 850 mm (approx)
(8)	Z- Vertical Travers	500mm – 700 mm (approx)
(9)	T-slot	To be mentioned

b. Spindle Specification.

(1)	Spindle taper	To be mentioned
(2)	Spindle speed range	30-2050 RPM (variable or step) (approx)
(3)	No. of Speed steps (RPM)	To be mentioned
(4)	Swivel angle of spindle head Deg +/-	360 Degree

c. Feed and Rapid Traverse.

(1)	Feed rate	To be mentioned
(2)	Rapid traverse speed	To be mentioned
(3)	Automatic feed	Available in longitudinal, cross and vertical directions
(4)	Feed motor	3-5 HP (approx) (Shall fulfil the purpose)



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d. Other Features.

(1)	Overarm	Adjustable (for horizontal milling)
(2)	Arbor Diameter	25 mm to 40 mm
(3)	Table load capacity	Minimum 1800 kg
(4)	Coolant System	To be mentioned
(5)	Coolant Motor	To be mentioned
(6)	Spindle Motor	To be mentioned
(7)	Feed Servo Motor (X,Y,Z)	To be mentioned
(8)	Hydraulic Pump	To be mentioned
(9)	Electrical Power Source	370V-415V AC 50Hz, 3 phases (Voltage fluctuation is common in Bangladesh. Therefore machine should be capable to function in a wide range (370V to 415V)

e. Dimensions.

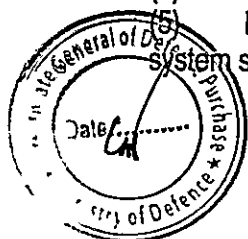
(1)	Overall length (mm)	Max. 2900 (Approx)
(2)	Overall height (mm)	Max. 2200 (Approx)
(3)	Overall breadth (mm)	Max. 2300 (Approx)
(4)	Total weight of the machine with standard accessories (kg)	To be mentioned.

f. Working Area.

(1)	Length (mm)	To be mentioned.
(2)	Height (mm)	To be mentioned.
(3)	Breadth (mm)	To be mentioned.

13. **Safety Devices.** All required safety devices as per standard Classification Society including (but not limited to) following should be incorporated with the machine:

- (1) Overload safety device.
- (2) Short circuit protection.
- (3) Chips guard.
- (4) Low lubrication oil pressure cut out.
- (5) During operation of the machine if any of the gears is not properly engaged, the automatic system shall prevent motion.



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14. **Standard Accessories.** Standard accessories must include all items and accessories which are essential to operate the Machine, whether those are mentioned in the specification or not. The price of standard accessories is to be **included in the FOB value**. However, an itemized price list of standard accessories is to be provided with the offer for reference value only. The list should include (but not limited to) the following:

Ser	Name of Items
a.	Digital Read Out System (DRO)
b.	Coolant system with electric coolant pump
c.	Working LED lamp
d.	Tool and toolbox
e.	Foundation bolt kit
f.	Central auto lubrication system
g.	Chips tray
h.	Circuit breaker (necessary range) for connection with machine's cable
i.	Voltage converter (If required)
j.	Milling arbor with collet chuck set for end mills

15. **Cutting Tools.** The price of cutting tools is to be included in the FOB value. However, an itemized price list of cutting tools is to be provided with the offer for reference value only. Following cutting tools are to be provided with the machine:

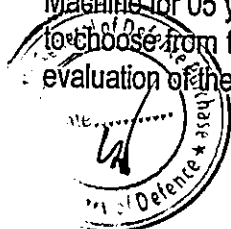
a. **End Mill Cutter.**

Ser	Cutting edge outer diameter	Qty (Pcs)
1.	5.5 mm	10
2.	6.5 mm	10
3.	7.5 mm	10
4.	8.0 mm	06
5.	10 mm	06
6.	12 mm	06
7.	20 mm	04
8.	25 mm	06
9.	30 mm	04

b. **Milling Collet Chuck.**

Ser	Inner Diameter	Qty (Pcs)
1.	03 mm to 16 mm	14
2.	18 mm	02
3.	20mm	02
4.	25mm	02

16. **Spare Parts.** A recommended list of spare parts required for the Horizontal Boring and Milling Machine for 05 years running is to be provided with the quotation indicating itemised price. BN shall have option to choose from the list of spares partially or completely. However, these prices will not be included for financial evaluation of the offer.



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17. **Special Tools.** Special tools (if required) for carrying out maintenance of the Universal Knee Type Milling Machine are to be provided without additional cost. Details of the tools are to be mentioned in the quotation.

18. **Optional Items.** The quotation should include a list of optional items (if any) required to operate the Universal Knee Type Milling Machine. BN shall have option to choose from the list of optional items partially or completely. However, these prices will not be included for financial evaluation of the offer.

19. **Documents.** 03 (three) sets of following documents in English language are to be supplied with the machine:

- a. The instruction manual includes technical specifications, installation, operation, and maintenance.
- b. Spare parts catalog and its components.
- c. Factory test certificate/performance certificate.

20. **Quality Assurance Certificate.** Quality assurance certificate in respect of the associated equipment regarding its manufacturing and performance is to be provided at the time of delivery of the items.

21. **Installation.** The item will be installed at BN Dockyard, Chattogram by the supplier in presence of the representative of the buyer. All necessary installation materials are to be supplied with the complete set without additional cost.

22. **Test/ Trial and Acceptance.** The supplier will carry out test and trial of the Universal Knee Type Milling Machine in presence of buyer's representative. After satisfactory test, trial and necessary training programme, an acceptance certificate will be signed jointly by the supplier's representative and the representative of buyer.

23. **Training.**

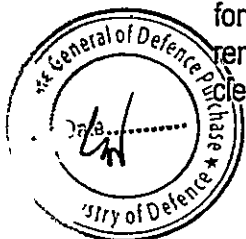
a. A training session of minimum 05 (five) working days shall have to be provided after the tests/trials and commissioning of the Machine. The training will have to be conducted by a sufficiently qualified and experienced OEM authorized technician. Costs incurred for the trainer will be borne by the Supplier.

b. Training must include operation, watch keeping, periodic inspections, routine maintenance and repairs including replacement and calibrations/tuning/setting to work (STW) of the Equipment.

24. **Factory Acceptance Test (FAT) and Pre-Shipment Inspection (PSI).**

a. Factory Acceptance Test (FAT) and Pre-shipment Inspection (PSI) will be carried out by 02 (Two) BN officers for 04(Four) days, excluding the journey period, at the buyer's expense. The supplier should inform the buyer about the date and schedule of FAT and PSI at least 8 (eight) weeks before the commencement of the said FAT and PSI. During FAT, machine should be operated to show maximum capacity. All arrangement in regard shall be done by supplier at their cost. After inspection, a joint inspection report will be prepared and signed by both the seller and buyer's representatives.

b. On completion of the inspection, FAT and PSI team will submit a report to DNE. DNE will forward the final decision along with the FAT and PSI report to DGDP, based on which DGDP will tender clearance for the shipment of stores. The supplier will not ship any item of the contract without clearance from DGDP.



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c. All types of movement/ transportation (air, sea, road, rail) of the FAT and PSI team within the manufacturer/ supplier's country, reception and arrangement for entry into the country/ concerned area for the FAT and PSI are to be borne by the supplier.

25. **Warranty.** Warranty for trouble free operation is to be given by the supplier/ manufacturer for all the supplied items for a period of 12 months from the date of acceptance by the buyer. During the warranty period, if the Universal Knee Type Milling Machine remains non-operational for any action pending by the supplier, the warranty period will be extended for the same period. The warranty covers all parts and labour (including service engineer's cost) throughout the warranty period.

26. **Guarantee.** The manufacturer will guarantee to supply the spares for at least 10 years at reasonable price. Yearly increase of price of spares should not be more than 5% of the price provided in the quotation.

27. **Shipment.** The following information is to be provided (if applicable):

- a. The supplier will arrange shipment of all items by sea/ airport to Chattogram, Bangladesh.
- b. All items are to be delivered in sea/air-worthy packaging to ensure safe transportation by sea/ air.
- c. All packages are to have packing notes showing their contents in detail and all packages shall be marked with the name and address of the consignee and gross weight.
- d. The supplier will arrange transportation of all supplied items from sea/ airport to the NSD Chattogram.
- e. **Port of Shipment.** Any port of manufacturing country.

28. **Delivery.**

a. The items are to be delivered within **09 (Nine)** months from the date of signing the contract to the following consignee:

The Commanding Officer, Naval Stores Depot Chattogram, New Mooring Chattogram, Bangladesh

b. **Place of Delivery.** NSD Chattogram.

29. **Validity of Offer.** The offer should remain valid till **30 June 2027** from the date of tender opening.

30. **Currency.** Foreign Currency.

31. **Terms of Payment.** L/C for the full purchase amount will be opened in favour of the principal supplier under the following payment terms:

a. 80% of the total LC value will be paid on delivery of the items described under the scope of supply and on production of necessary shipping documents.

b. The remaining 20% of the LC value will be paid upon producing an 'Acceptance Certificate' after satisfactory test and trial jointly carried out by the buyer's and supplier's representatives.



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32. **Condition for Acceptance of Quotation.** Quotation should have supporting documents (booklets, leaflet, catalogue, brochure etc) having detailed particulars of the Machine offered. If detailed information including spare parts, accessories, scope of supply, etc are not provided, the quotation will not be accepted.

33. **Compliance Statement.** A compliance statement fulfilling all the requirements of the tender is to be submitted for evaluation of the quotations. Stating mere 'Yes' or 'No' will not suffice. An incomplete compliance statement may lead to the cancellation of the offer. If any clause of this specification does not commensurate with offered Machine, the deviation must be spelled out clearly.

Enclosure:

1. Figure of Universal Knee Type Milling Machine - 01 (One) page.



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Enclosure - 1

SAMPLE UNIVERSAL KNEE TYPE MILLING MACHINE

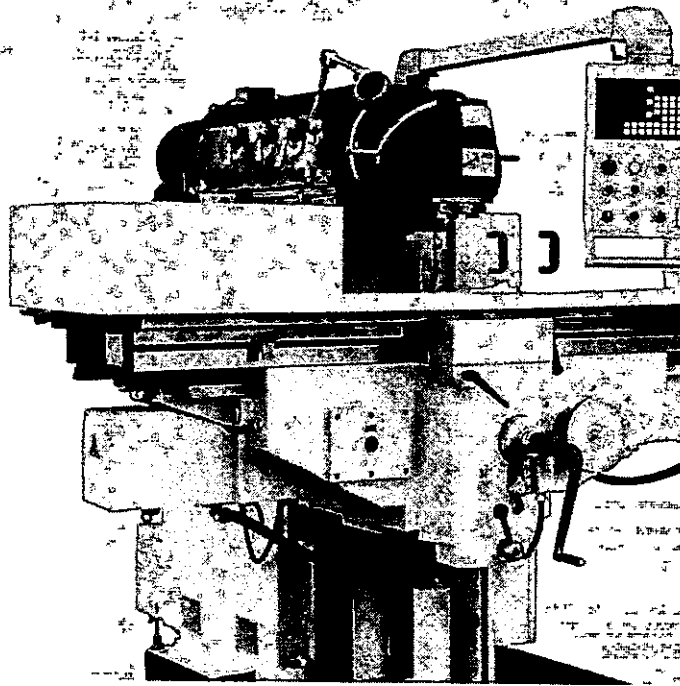


Fig: Universal Knee Type Milling Machine
(Not as reference, for general idea only)

