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TENDER SPECIFICATION OF HORIZONTAL BORING AND MILLING MACHINE

1. **Name of the Equipment.** Horizontal Boring and Milling Machine.
2. **Purpose.** The Horizontal Boring and Milling Machine shall be used in Naval Dockyards for precision boring, milling, drilling, reaming, and machining of large and heavy engineering components used in Bangladesh Navy ships, submarines, and dockyard equipment. The machine shall support repair, refurbishment, and manufacturing of critical mechanical parts with high dimensional accuracy and surface finish. The machine shall be suitable for continuous industrial-duty operation and comply with internationally accepted engineering standards
3. **Quantity.** 02 (Two) 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

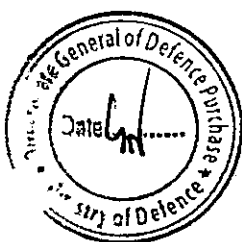
5. **Year of Manufacture.** 2026 or later. The item should be brand new and original.
6. **Country of Origin (Including all components).** USA, UK, EU Countries, Japan, Canada and Australia.
7. **Manufacturing Country (Including all components).** USA, UK, EU Countries, Japan, Canada and Australia.
8. **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:

a.	Air temperature	+05°C to +45°C
b.	Relative humidity	Up to 95% (non-condensing)
c.	Location	Close to the sea



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

- a. Main items (02 x Horizontal Boring and Milling Machine) complete all items necessary for immediate operation without the requirement of any other items (attachments, accessories, consumables, etc) (as per paragraphs 12 to 14).
- b. Spare Parts (as per paragraph 15).
- c. Cutting Tools & Special tools (as per paragraphs 16 and 17).
- d. Optional items (as per paragraph 18) (as selected by BN).
- e. Document and certificates (as per paragraphs 19 and 20).
- f. Installation, Test/ trial & acceptance and Training (as per paragraphs 21, 22 and 23).
- g. FAT and PSI (as per paragraph 24).
- h. Warranty and Guarantee (as per paragraphs 25 and 26).
- j. Any other issue relevant (if any).

12. **Technical Specification.**

a. **General Data.**

(1)	Type	Horizontal Boring and Milling Machine
(2)	Brand	To be mentioned
(3)	Model	To be mentioned
(4)	Table Size (LxB)	Length: 1400-1500 mm Breadth: 1200-1300 mm
(5)	Table Swivel Deg +/-	360 Degree
(6)	Table travel (X-axis)	1800-2000 mm
(7)	Head travel (Y-axis)	1400-1600 mm
(8)	Table travel (W-axis /Longitudinal)	1400-1500 mm
(9)	Spindle Axial Travel (Z-axis)	550-600 mm
(10)	Spindle Center to Tabletop	0-1400 mm
(11)	Spindle End to Table Center	570-1970 mm
(12)	T-slot (Width X No X Pitch)	To be mentioned

b. **Spindle Specification.**

(1)	Spindle taper	To be mentioned
(2)	Spindle speed range	20-1500 RPM (variable or step)
(3)	No. of Speed steps (RPM)	8 to 18 (depending on model)
(4)	Spindle motor (Country of origin, Country of manufacture, Brand, Model)	To be mentioned
(5)	Spindle Diameter	110-150 mm



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c. Feed and Rapid Traverse.

(1)	X, Y, W Rapid	2800-3000 mm
(2)	Z rapid	1200 -1500 mm
(3)	X, Y, W Auto Feed	3-950 mm
(4)	Z Feed	3-400 mm
(5)	Feed Variation	Infinity Variable

d. Other Features.

(1)	Over arm	Adjustable
(2)	Arbor Diameter	To be mentioned
(3)	Table load capacity	Minimum 3000 kg
(4)	Coolant System	To be mentioned
(5)	Coolant Motor	To be mentioned
(6)	Hydraulic Pump	To be mentioned
(7)	Electrical Power Source	415 V AC, 50Hz, 3 phases

e. Dimensions.

(1)	Overall length (mm)	Max. 5000 (Approx)
(2)	Overall height (mm)	Max. 3000 (Approx)
(3)	Overall breadth (mm)	Max. 4000 (Approx)
(4)	Total weight of the machine with standard accessories (kg)	Max. 15000 Kg (Approx)

f. Working Area.

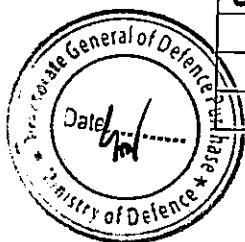
(1)	Length (mm)	To be mentioned
(2)	Height (mm)	To be mentioned
(3)	Breadth (mm)	To be mentioned

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

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

14. **Standard Accessories.** Standard accessories must include all items and accessories which are essential to operate each Horizontal Boring and Milling 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 for each of the machines:

Ser	Name of Items
a.	Digital Read Out System (DRO) for X, Y, Z, W Axes
b.	Coolant system with High Pressure electric coolant pump
c.	Working LED Machine lamp



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d.	Complete Tool and toolbox
e.	Foundation bolt kit
f.	Central automatic lubrication system
g.	Chips tray
h.	Circuit breaker (necessary range) for connection with machine's cable
j.	Voltage converter (If required)
k.	Universal dividing head (1 set)
l.	01 x Universal vice (Swivel & tilting included)
m.	01 x Rotary table (Size:12 inch)
n.	Indexing Plates (Standard size)
p.	Compressor (If required)

15. **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 offer.

16. **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 for each of the machines:

a. **End Mill Cutter.**

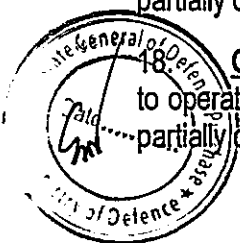
Ser	Cutting edge outer diameter	Qty (Pcs)
1.	10 mm	06
2.	12 mm	06
3.	14 mm	06
4.	16 mm	06
5.	18 mm	04
6.	20 mm	04
7.	25 mm	06
8.	30 mm	04
9.	32 mm	04
10.	36 mm	04
Total=		50 pcs

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
Total=		20 Pcs

17. **Special Tools.** A recommended list of special tools for module gear cutter and end mill cutter is to be submitted with the quotation indicating the 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 offer.

18. **Optional Items.** The quotation should include an itemized price list of optional items (if any) required to operate each Horizontal Boring and Milling Machine. 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 offer.



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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 of the associated equipment in regard to 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 and BN Dockyard Mongla 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 tests and trial of both Horizontal Boring and Milling Machine in presence of buyer's representative. After satisfactory test, trial and necessary training, an acceptance certificate will be signed jointly by the supplier's representative and the representative of buyer for each of the machines.

23. **Training.**

a. A training session of minimum 05 (five) working days shall have to be provided after the tests/trials and commissioning of each Horizontal Boring and Milling Machine. The training will have to be conducted by a sufficiently qualified and experienced OEM authorized technician both in Chattogram and Mongla. 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.

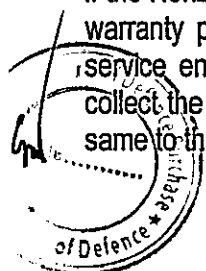
24. **Factory Acceptance Test (FAT) and Pre-Shipment Inspection (PSI).**

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 render clearance for the shipment of stores. The supplier will not ship any item of the contract without clearance from DGDP.

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 Horizontal Boring and 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. For warranty repair/ replacement, the supplier will collect the defective item from NSD Chattogram/ NSD Khulna/ NSSD Dhaka (as applicable) and re-supply the same to the collecting place after warranty repair / replacement.



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collect the defective item from NSD Chattogram/ NSD Khulna/ NSSD Dhaka (as applicable) and re-supply the same to the collecting place after warranty repair / replacement.

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. On completion of CINS inspection, Supplier will arrange transportation of one of set items to BN Dockyard Mongla at his own cost and risk.

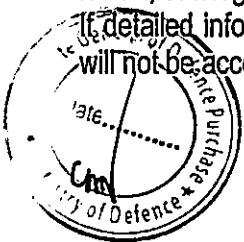
29. **Validity of Offer.** The offer should remain valid till **30 June 2027**.

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.

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

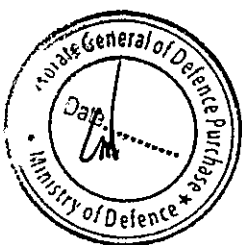


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33. **Compliance Statement.** A compliance statement fulfilling all the requirements of the tender is to be submitted for evaluation of the quotations. Stating mere 'Yes' or 'No' will not suffice and detailed description/information as required is to be given. An incomplete compliance statement may lead to the cancellation of the offer. If any clause of this specification does not commensurate with offered Horizontal Boring and Milling Machine, the deviation must be spelt out clearly.

Enclosure: 1

1. Figure of Horizontal Boring and Milling Machine - 01 (One) page.



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Enclosure - 1

SAMPLE HORIZONTAL BORING AND MILLING MACHINE

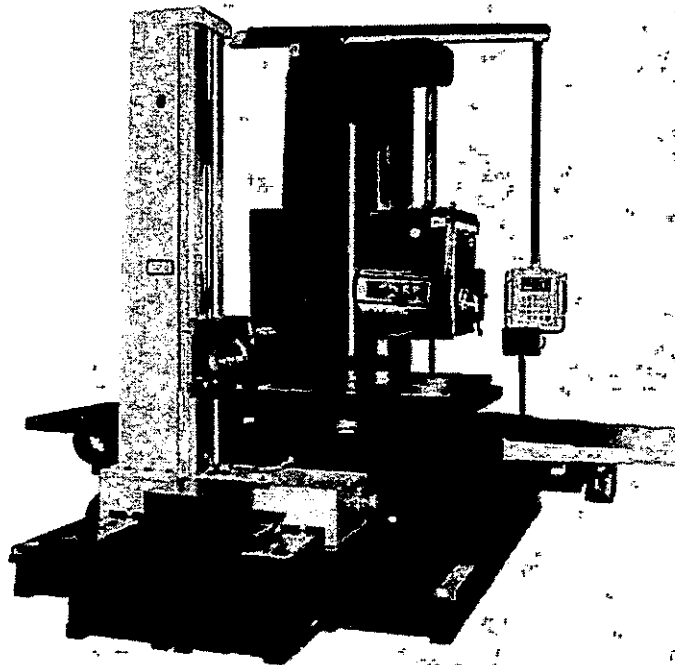


Fig: Horizontal Boring and Milling Machine
(Not as reference, for general idea only)

