

RESTRICTED
TENDER SPECIFICATION OF DENSITY PROBE

1. **Name of Equipment.** Density Probe.
2. **Purpose.** To monitor the nautical bottom in harbours and waterways.
3. **Outcome.** The equipment should be able to record its depth and inclination, as well as the density, frequency-dependent acoustic loss, speed of sound and temperature of the medium.
4. **Quantity.** 01 (One) set.
5. **Brand/Model.** To be mentioned.
6. **Country of Origin.** USA/ UK/ Canada/ EU Countries (name of the country to be mentioned).
7. **Country of Manufacture.** USA/ UK/ Canada/ EU Countries (name of the country to be mentioned).
8. **Name and Address of the Manufacturer.** To be mentioned (address, telephone, facsimile number, email address are to be mentioned).
9. **Year of manufacture.** 2025 or later.
10. **Qualification for Bidder.** Only genuine manufacturer or authorized dealer (Foreign principal) can submit quotation through authorized agents/dealer enlisted in the Directorate General of Defense Purchase (DGDP). For participation by agents/dealer, authenticity certificate is required.
11. **Scope of Supply.** 01 (One) of Density Probe to be supplied along with all accessories required for immediate operational deployment with the specifications mentioned in Para 11.
12. **Technical Specification:** The Density Probe should have following specifications:

Ser	Description	Requirement
a.	<u>Mechanical.</u>	
	Probe Housing Material	Stainless steel (V4A "1.4571", seawater- and acid-proof).
	Dimensions	To be mentioned.
	Weight	To be mentioned.
	Cable Length	At least 30 m.
	Absolute Maximum Depth	At least 30 m.
	Operating Temperature Range	-10°C to +40°C.
	Storage Temperature Range	10°C to +55°C.
	Probe Feature	Paddles easily removable, no moving/external parts, all sensors integrated and protected against mechanical stress.

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b.	<u>Electrical.</u>		
	Supply Voltage Range	+15V _{DC} to +28V _{DC} .	
	Network Interface	LAN-100 Base-TX (Standard RJ45-Connector).	
c.	<u>Sensor Technology.</u>		
	Analog-Digital-Converters	Ultrasound.	12 Bit, 40 MHz.
		Other Sensors.	24 Bit, 4 kHz.
	Internal Measurement Rate	4 kHz.	
	External Measurement Rate	1-50 Hz.	
	Density Resolution	0.001 g/cm ³ .	
	Density Accuracy	± 0.005 g/cm ³ .	
	Density Range	1-1.5 g/cm ³ .	
	Vertical Resolution	< 1cm.	
	Pressure Measurement Range	0 to 5 bar.	
	Pressure Resolution	0.001 bar	
	Pressure Accuracy	± 0.0015 bar.	
	Temperature Resolution	0.1°C	
	Temperature Accuracy	± 0.15 °C.	
d.	<u>Application Software.</u>		
	Operating System	Windows based operating system with Notebook/Laptop.	
	Language	English.	
	Display	Real-time.	
	Save to Disk Interval	Adjustable from real-time to 1 value per minute.	
	Operation	Manual mode and “hands-free” automatic mode.	

13. **Software.** Related data acquisition and processing software to be included. Software must be perpetual.

14. **Lifetime of the Density Probe.** Durability/Life time of the Density Probe should be at least 10 years.

16. **Condition of Density Probe while Supplying.** The offered system must be brand new and in operational condition.

17. **Catalogue/Brochure.** Original catalogue/brochure in English to be supplied with the offer.

18. **Quality Management System.** To assess the Quality Management System (QMS) of the manufacturer, ISO or equivalent certificate has to be provided with the offer.

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19. **Certificate/Document of Authentication.** The local supplier must provide following original certificate/document with the offer/quotation to ascertain the ingenuity of source and items in order to establish chain of links from the original source to supply items:

- a. One certificate/document by the manufacturer in favour of the supplier (In case of manufacturer as direct source).
- b. Two certificates/documents, one by the manufacturer to authorized agent and other by the authorized agent to supplier (In case of authorized agent as immediate source).

20. **Manuals/drawings.** Following manuals are to be supplied free of cost with the equipment at the time of delivery:

- a. Two sets of operating and technical manual in English.
- b. Parts catalogue.
- c. Installation diagram.

21. **Test and Trial.** Manufacturer representative will carry out test and trial of the equipment on board BNS ANUSHANDHAN/suitable platform, Chattogram. Initial test and trial will be done at Harbour. Final trial will be conducted at sea with manufacturer representative on board. Cost of test and trial to be quoted separately.

22. **Training.** 03 (Three) working days training for BN personnel on the operation and maintenance of the equipment. Its troubleshooting must be conducted by manufacturer's authorized engineer/ trainer at BNHOC, Chattogram (price to be quoted separately). Tentative training contents against each day should be mentioned in the offer. The outcome of the training should encompass following:

- a. Trainees should gain sufficient knowledge to use the equipment and related software efficiently and effectively to deploy and operate the equipment.
- b. Have general trouble shooting knowledge on equipment and software.

23. **Acceptance.** On completion of satisfactory test and trial final acceptance certificate will be signed jointly by the representative of manufacturer/ Supplier and the buyer.

24. **Warranty.** The following requirements should be completed:

- a. At least two years warranty after satisfactory acceptance by BN is to be provided.
- b. For warranty repair/replacement, the supplier will collect the defective item from NSD Chattogram and re-supply the same to collecting place after warranty repair or replacement within 90 days from the date of defect. Cost of the replaced unit/component including air freight is to be borne by the supplier.
- c. Warranty period will be extended for the duration of non-operational time for the equipment.

25. **Tools.** Tools required for maintenance are to be supplied with the Density Probe at the time of delivery. List of tools are to be provided with the offer.

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26. **Standard Accessories.** Standard accessories must include with the item and accessories, which are essential to install and operate the Density Probe, whether those are mentioned in the specification or not.
27. **Spares.** Following are to be given with the offer:
- a. Spares require for 05 years trouble free operation are to be quoted separately.
 - b. Supply of spares for minimum 10 years is to be ensured and in this regard a certificate is to be submitted in original pad of the manufacturing company.
 - c. List & price of consumable/spares are to be submitted separately.
 - d. If the item is of one time use/not reparable that is to be mentioned clearly.
28. **Documents.** Following documents are to be submitted with the offer:
- a. Original Catalogue.
 - b. List of Standard Accessories.
 - c. List of 10 years spares parts.
 - d. List of Tools.
 - e. User list.
 - f. Manufacturer's authenticity certificate.
 - g. Design/drawing of portable installation method and associated fittings (if not included in original catalogue).
29. **Record of Sale.** To be provided in the offer along with the name and address of the users.
30. **Validity of Offer.** Up to 30 June 2026.
31. **Shipments and Delivery.**
- a. The supplier will arrange shipment of all items by sea/air to Chattogram sea/airport, Bangladesh within 180 days from the date of contract signed.
 - b. All items are to be delivered in proper packing to ensure safe transit 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 supply the item at NSD Chattogram. While delivering, the supplier will carry the items from Chattogram sea/air port (as applicable) to NSD Chattogram at the cost and risk of supplier.
32. **Source of Supply.** The bidder is to mention the name, address and contact detail of original source from where the Density Probe will be imported.
33. **Port of Shipment.** Any port of the manufacturing country (to be mentioned).
34. **Consignee.** The Commanding Officer, Naval Store Depot, New Mooring, Chattogram, Bangladesh.
35. **Price without Import Duties.** Quoted price is to exclude all import duties as those will be consigned against BN.

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36. **Price and Other Cost.** Price of each item of the total offer is to be shown separately (e.g., price of the main items, consumables, additional and optional accessories, Installation, local training, warranty/ guarantee etc) and then grand total of the foreign currency to be shown on the original offer submitted by the bidder.

37. **Terms of Payment.** Necessary letter of credit will be opened for full purchase amount in favor of the principal with the following terms of payment.

a. 80% of CFR value will be paid on delivery of the items described under the scope of supply on production of necessary shipping document.

b. Remaining 20% CFR value and 100% cost of test/trial & training amount will be paid after satisfactory acceptance by BN.

38. **Condition for Acceptance of Quotation.** Quotation may not be considered if detailed information/specification, original maker's books and catalogue about the same model of the offered item, accessories, scope of supply etc are not provided.

39. **Compliance Statements.** A complete statement fulfilling all the requirements of the tender is to be submitted for evaluation as required:

a. Article wise compliance report must be given. An incomplete compliance statement may attribute to cancellation of the offer.

b. If any clause of this specification does not commensurate with offered item, the deviation has to be spelt out clearly.

