

TENDER SPECIFICATION FOR AIR COMPRESSOR – BNS SURMA, APARAJEYA AND ADOMYA

1. **Name of the Equipment.** Air Compressor (Capacity: 30 Bar).
2. **Purpose.** Existing Air Compressor of BN ships will be replaced by new Air Compressor. These Air Compressors will be used for ships horn, safety control and stern tube inflatable emergency seal.
3. **Quantity.** 03 (Three) in number complete set.
4. **Manufacturer, Principal Supplier & Local Supplier.** Name and full address to be mentioned in the quotation.

1.	Manufacturer/ Brands	To be mentioned
2.	Principal Supplier	To be mentioned
3.	Local Supplier	To be mentioned

5. **Country of Origin.** USA, UK, EU Countries, Norway, Switzerland and Turkiye (Turkey).
6. **Manufacturing Country.** USA, UK, EU Countries, Norway, Switzerland, Turkiye (Turkey), Singapore and China.

7. **Year of Manufacture.** 2024 or later.

8. **Certificate/ Document of Authentication.** The local supplier must provide following certificate(s)/ document(s) with the offer/quotation of item(s) as regard to the genuineness of source and item(s) in order to establish chain of links from the original source to supply:

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).

c. Three certificate/ documents, first one by the manufacturer to authorized agent, second one by authorized agent to sub-agent and third one by sub-agent to supplier (in case sub-agent as immediate source). If the supplier is unable to obtain the first certificate (by manufacturer to authorized agent), then it has to produce relevant document to prove agency-ship of its claimed agent of the recognized manufacturer.

9. **Standard.** The Air Compressor is to be designed and constructed fulfilling the requirement of international standards (ISO 8573 for compressed air quality or Similar).

10. **Operating Environment of Compressor.** The environment under which the compressor will be operated and their performances will be measured is as under:

- a. **Ambient Condition.**

1.	Air temperature	05°C to 50°C.
2.	Relative humidity	Up to 95% (non-condensing)
3.	Location	At sea



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b. **Inlet Air.** The compressor will take inlet air from the machinery compartment, with conditions including high temperatures, limited ventilation, and potential dust contamination.

11. **Scope of Supply.** The scope of supply includes the followings:

- a. Main items (01 x Air Compressor) complete with all items necessary for immediate operation without the requirement of any other items (attachments, accessories, consumables, etc) (as per paragraph 13 to 15).
- b. Optional items (as per paragraph 16).
- c. Special Tools (as per paragraph 17).
- d. Documents and certificates (as per paragraph 18 and 19).
- e. Installation, test/trial and acceptance (as per paragraph 20).
- f. Training (as per paragraph 21).
- g. Warranty and Guarantee (as per paragraph 22 and 23).
- h. Any other issue relevant (if any).

12. **Exiting Compressor Technical Specification.**

Existing Compressor	Description
1. Type	Vertical Air-Cooled 2 Stage Compressor
2. Model	LSHC-20B
3. Maker	Taizhou Haiguang Machinery Manufacture Industry Co., Ltd., China.
4. Delivery Pressure	30 bar
5. Free Air Delivery	5 m ³ /hr
6. Pressure Rating	3MPa (30 Bar)
7. No of Stage	Two
8. No of Cylinder (Two)	Two
9. Type of Un-loader	Magnetic Un-loader Valve
10. Lubricating System (Splash Lubrication)	Splash Lubrication
11. Compressor Cooling Type	Air Cooled
12. Coupling Type	Direct coupling
13. Drive (Electric motor driven)	Electric motor driven
14. Power supply	380 V, 50 Hz, 3 Phase
15. Power in kW	2.2 kW
16. RPM	960 RPM
17. Motor Cooling	Air Cooled
18. Overall Dimension	600 mm x 450 mm x 670 mm
19. Weight	130 Kg



13. Technical Specification.a. Air Compressor.

1.	Type	Vertical Air-Cooled 2 Stage Compressor
2.	Model	To be mentioned.
3.	Maker	To be mentioned.
4.	Delivery Pressure	30 bar
5.	Free Air Delivery	5 m ³ /hr
6.	Pressure Rating	3MPa (30 Bar)
7.	No of Stage	Two
8.	No of Cylinder	To be mentioned
9.	Type of Un-loader	Magnetic Un-loader Valve
10.	Lubricating System	Splash Lubrication
11.	Lubricating Oil Grade	To be mentioned
12.	Cooling Type	Air Cooled
13.	Coupling Type	Direct coupling
14.	Drive	Electric motor driven
15.	Noise level	To be mentioned

b. Motor

1.	Type	To be mentioned
2.	Brand/Model	To be mentioned
3.	Maker	To be mentioned
4.	Power supply	380 V, 50 Hz, 3 Phase. The motor should have the tolerance of $\pm 5\%$ voltage fluctuation and $\pm 2\%$ frequency fluctuation.
5.	Power in kW	To be mentioned
6.	RPM	To be mentioned.
7.	Motor Cooling	Air cooled
8.	Insulation class	F
9.	Power Factor	To be mentioned
10.	Rating	Continuous
11.	Ingress protection	IP-54 or better
12.	Motor protection	Detail to be specified

c. Starter.

1.	Type	(a) For motor with power rating of 2.5 kW or more, a star-delta starter may be provided (b) For motor with less than 2.5 kW power rating, a DOL starter may be provided
2.	Indicating light	To be mentioned
3.	Reset	To be mentioned

d. Overall Dimension. Approximately 600 mm x 450 mm x 670 mm, with slight deviations (up to $\pm 10\%$).

Overall Weight. 130 Kg (Approx).



f. **Mounting.** The compressor with all skid mounting accessories is to be mounted on a steel base frame with built in anti-vibration and shock mounting.

g. **Control Panel/Devices.** Automatic control devices for the compressor with additional manual arrangement (On/Off) is to be supplied.

14. **Cable.** Necessary marine grade electric cable has to be provided with the item for installation.

15. **Standard Accessories.** Standard accessories must include all items and accessories, which are essential to operate the Air Compressor, whether those are mentioned in this specification or not. A list of such items/accessories to be mentioned with the quotation. The accessories should be supplied free of cost. The list should include the following:

- a. Mountings.
- b. Connectors.
- c. Pressure gauge.
- d. Safety Devices.
 - (1) Low lubricating oil pressure shut off.
 - (2) High air pressure shut off.
 - (3) Safety valves at all stages.
- e. Pressure switch for auto cut off.
- f. Delivery air pressure gauge.
- g. Air inlet filter and silencer.
- h. Required air pipe line and stop valves.

16. **Optional Items.** A list of optional items which may be required for the compressor is to be provided. The price will not be added to the total price while evaluating the comparative price of the bidders.

17. **Special Tools.** 01 (One) set of special tools (if required) for carrying out maintenance of the compressor is to be supplied free of additional cost.

18. **Documents.** 02 (Two) sets of following documents in English language are to be supplied free of cost with the compressor:

- a. Instruction Manual Including Technical Specification, Installation, Operation and Maintenance.
- b. Workshop level repair manual.
- c. All drawings including general arrangement drawing.
- d. Electrical diagram, fault finding flow chart etc.
- e. Spare Parts Catalogue and its components.
- f. Factory test certificate/performance certificate.

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



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20. **Installation, Test, Trial and Acceptance.** Installation, test and trial for the Air Compressor's will be carried out by the supplier's in presence of the **buyer's** representative on board BNS SURMA, APARAJEYA & ADOMYA. After satisfactory test and trial, an **acceptance** certificate will be signed jointly by the supplier's representative and the representative of buyer.

21. **Training.** At least Two (02) days **operation** and maintenance training is to be provided to the BN personnel by the supplier at the installation site. **Cost of training** is to be borne by the supplier.

22. **Warranty.** Warranty for trouble free operation is to be given by the manufactures for a period of at least 01 (One) year from the date of acceptance by the **buyer**. During the warranty period, if the Air Compressor 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 OEM or authorized service engineer's cost) throughout the warranty period.

23. **Guarantee.** The manufacturer will **guarantee** to supply the spares for at least 05 years with reasonable price. Yearly increase of price of spares should not be more than 5% of the price list for spares to be supplied with the quotation.

24. **Shipment.**

a. The supplier will arrange shipment of all items to any sea/ air port of Bangladesh.

b. All items are to be delivered in sea-worthy packing 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 respective sea/airport to NSD, Chattogram.

e. **Port of Shipment.** Any port of manufacturing country. In case of shipment through any port of manufacturer's authorized dealer, relevant manufacturer's certificate (manufacturer's certificate, letter of authorization) is to be provided as a proof of genuineness of the offered item.

25. **Delivery.** The item is to be delivered within **180 Days** of signing of the contract to the following address:

The Officer-in-Charge
Naval Stores Depot Khulna
Khalishpur, Khulna, Bangladesh

26. **Validity of Offer.** The offer should remain valid till **180 Days** from the date of tender opening.

27. **Price.** Price is to be quoted without import duties.

28. **Terms of Payment.** 100% of Total Contract Price (TCP) will be paid in local currency as per existing rules after satisfactory test/ trial and acceptance by BN.

29. **Condition for Acceptance of Quotation.** Quotation has to have supporting documents (booklets, leaflet, catalogue, brochure etc) having detail particulars of the offered Air Compressor. If detail information regarding specifications, maker's books and catalogues, spare parts, accessories, scope of supply, authentication certificate etc are not provided, the quotation will not be accepted.



30. **Compliance Statement.** A compliance statement fulfilling all the requirement of the tender is to be submitted for evaluation of the quotations. Merely stating 'Yes' or 'No' will not suffice, rather detail description/information as required is to be provided. An incomplete compliance statement may attribute to cancellation of the offer. If any clause of this specification does not commensurate with offered Air Compressor, the deviation has to be spelt out clearly.

