



KHULNA SHIPYARD LIMITED

BANGLADESH NAVY, KHULNA

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BABE (F) – 339/2021-2022/

10 May 2022

Dear Sir

INVITATION FOR QUOTATION FOR SUPPLY OF WATER JET BLASTING MACHINE

1. Khulna Shipyard Ltd (KSY) will procure 01 in number water jet blasting machine as per the attached specification (04 Pages).
2. Please send your offer on CFR Chattogram Sea Port basis within 19/05/2022 (1500 Hours) by e-mail (oiocomf.ksy@gmail.com) or close envelop.
3. Insurance will be covered by this organization.
4. Payment will be made through L/C. 80% of the total contract value will be paid against shipping documents and rest 20% will be paid after satisfactory reception of the consignment at KSY.
5. Shipment: 60 days from the opening date of L/C.
6. **1%** (one) Bid Bond/Earnest Money with validity 60 days of the total quoted CFR value must be submitted with the offer. Bid Bond may be Pay Order / Bank Guarantee in favour of Khulna Shipyard Limited, Bangladesh Navy, Khulna.
7. 10% Performance Guarantee (PG) with 180 days validity is to be submitted before issuance of PO.
8. Offer Validity: 90 Days from Tender Opening Date.

Yours sincerely

SK. SHAH MOSHIUR RAHMAN
Manager Commercial
For Managing Director

TENDER SPECIFICATION FOR WATER JET BLASTING MACHINE

1. **Name of the Equipment.** Water Jet Blasting Machine.
2. **Purpose.** Water Jet Blasting Machine is required for environment friendly high quality surface cleaning (removal of paint, rust, mill scale etc.) for repaint and surface preparation (HB 2.5 comparable to Sa 2.5 or better standard) for new built aluminum/ mild steel ship hull in open spaces and workshop of Khulna shipyard premises.
3. **Quantity.** 01 (One) complete set.
4. **Manufacturer.** Name and full address to be mentioned.
5. **Year of Manufacture.** 2021 or later.
6. **Country of Origin.** To be mentioned.
7. **Manufacturing Country.** To be mentioned.
8. **Certificate/ Document of Authentication.** The local supplier must provide following original certificate(s)/ document(s) with the offer/ quotation of items as regard to the genuinity of source and item(s) in order to establish chain of links from the original source to supply items:
 - a. One certificate/ document by the manufacturer in favor 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).
9. **Standard.** The Water Jet Blasting Machine is to be designed and constructed fulfilling the requirement of International standards. The Standard to which Water Jet Blasting Machine complies with is to be specified. Standard is to be mentioned.
10. **Operating Environment.** The environment under which the Water Jet Blasting Machine will be operated and their performance will be measured is as under:

Ambient Conditions.

(1)	Air temperature	05°C ~ 45°C or better.
(2)	Relative humidity	20% ~ 90% or better.
(3)	Location	Sea side & Warehouse

11. **Scope of Supply.** The scope of supply is to include the followings:
 - a. Main items (Power Source, electric motor, high pressure pump and accessories such as water filters, Booster pump, Pressure regulating valves, safety valves, pressure hose, rotating nozzles, high pressure gun and consumables) (As per paragraph 12 to 13).
 - b. Tools (As per paragraph 16)
 - c. Spare parts (As per paragraph 15)
 - d. Documents (Catalogue, operation/service and maintenance manual, parts catalogue etc. as applicable) (as per paragraph 17).
 - e. Installation & Test and trial (as per paragraph 18).
 - f. Warranty and guarantee (as per paragraph 20 to 21).
 - g. Training at KSY (as per paragraph 19)
 - h. Any other issue relevant (if any).

12. **Technical Specification**

a. **General:**

(1)	Brand	To be mentioned.
(2)	Model	To be mentioned.
(3)	Portability	Trolley mounted with lifting arrangement and wheel.
(4)	Working Pressure (Sufficient pressure for surface preparation of HB2.5 comparable to Sa 2.5 standard or better) Preferable: around 2500 bar	To be mentioned
(5)	Water flow rate	To be mentioned
(6)	Water supply Preferable: Regular water can be used from pipeline & Regular water quality: pH- 7.05 Hardness- 42 mg/l Turbidity- 24 NTU Chloride ion- 148 mg/l Total iron(Fe)- 3.26 mg/l Total Dissolved Solids (TDS)-580 mg/l	To be mentioned
(7)	Must include wet blasting (water jet with the mixed sand) arrangement	Wet blasting components To be mentioned
(8)	Thickness of Paint, rust and mill scale to be removed (100 - 2000 microns)	To be mentioned
(9)	Paint, rust and mill scale removal rate (sq. meter per minute)	To be mentioned.
(10)	Surface preparation rate (sq. meter per minute)	To be mentioned.
(11)	Prepared surface standard	HB2.5 comparable to Sa 2.5 standard or better described in ISO 8501-1:1988 surface preparation standard
(12)	Paint standard after water blasting	To be mentioned
(13)	Power source	AC, 380 V ($\pm 10\%$), 3Phase , 50 Hz.
(14)	Control panel	Control panel must be mounted on the machine.
(15)	Hose length Preferable: 50 meter with coupling arrangement	To be mentioned;
(16)	Total Dimension	To be mentioned

b. **Electric motor**

(1)	Brand & Model	To be mentioned
(2)	Country of origin (Germany/EU/US/UK)	To be mentioned
(3)	Power [Compatible with the high pressure pump as per paragraph 12(c)]	To be mentioned
(4)	Cooling system	Forced water cooling
(5)	Compatibility	Must be compatible with the power sources per paragraph 12 (a) (13)

c. **High pressure pump**

(1)	Brand & Model	To be mentioned
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(2)	Country of origin	To be mentioned
(3)	Flow rate (Compatible with working pressure and flow rates as per paragraph 12(a))	To be mentioned
(4)	Plunger details	Plunger material, Diameter & stroke need to be mentioned.
(5)	Check valves material	To be mentioned
(6)	Coupling to power source (must be compatible with the electric motor as per paragraph 12(b))	To be mentioned
(7)	Sealing system	To be mentioned

d. **Fittings/ Attachment:**

All necessary fittings compatible with the system are to be supplied and details to be specified including following items:

- i. Pressure gauge
- ii. Pressure regulating valve
- iii. Water filters
- iv. Booster pump
- v. High pressure hose
- vi. High Pressure Gun
- vii. High pressure nozzle
- viii. Holes rotating nozzle
- ix. Sandblaster nozzle
- x. Sand inlet hose
- xi. Sand bucket
- xii. Air blower

e. **Safety measures:**

- i. A list of safety equipment such as Hard hat, safety glasses with side shields, face shields, metatarsal foot protection (blast boots), Ear plugs, gloves, rain suits and other international standard safety material compatible with the system to be mentioned for 8 persons with item wise price. (Price not included in total price)
- ii. Hand control valve and other important safety devices compatible with the system to be supplied. (Details need to be mentioned)

13. **Standard Accessories.** All necessary fittings and standard accessories which are required for standard operation of high pressure water jet blasting machine, but not mentioned in this specification are to be provided with the set at the time of delivery. The list includes, but not limited to the mentioned fittings/attachment as per paragraph 12(d) (Price included in the total price)

14. **Safety Device.** All standard safety devices must be included. List of safety devices must be mentioned with the offer (Price included in the total price)

15. **Spare parts.** A list of spare parts for 01 (One) year service with item wise price are to be mentioned considering the water supply quality and environment of KSY as per paragraph 10 & 12(a)(6) (Price is not included in the total price)

16. **Tools.** 01 (one) set of standard tools for maintenance of high pressure water jet blasting machine is to be provided. Quantity and size of the essential tools are to be mentioned in details in the quotation (Price included in the total price)

17. **Documents.**

02 (Two) sets of following documents in English language are to be supplied with the equipment (one set to be supplied with the offer):

- i. Operation/Service& Maintenance Manual
- ii. Parts Catalogue
- iii. Technical catalogue
- iv. Performance/ standard test certificates

18. **Test, Trial, Commissioning and Acceptance.** Installation & test and trial will be carried out by the supplier at KSY premises. All expenses will be borne by the supplier. After satisfactory test & trial, acceptance certificate will be signed jointly by the representative of supplier and the representative of buyer.

19. **Training.** The supplier must provide necessary operation and maintenance training (Mechanical & Electrical) in Bangladesh to 08 persons(maintainer and operator) for 01 (One) week with the satisfaction of the buyer. The cost of the training must be borne by the supplier.

20. **Warranty.** Warranty for trouble free operation is to be issued by the manufacturer for a period at least 01 (One) year from the date of acceptance by the buyer. During the warranty period, if the high pressure water blasting machine remains non-operational for any trouble, the warranty will be extended for the same period. The warranty covers all parts, Accessories, tools of the high pressure water blasting machine and labor (including OEM or authorized service engineer's cost) throughout the warranty period.

21. **Guarantee.** The manufacturer shall guarantee to supply necessary genuine (OEM) spare parts and emergency repair service for at least 10 (Ten) years with reasonable price.

22. **Shipment.** The following information is to be provided:

- a. The supplier will arrange shipment at KSY.
- b. All items will be delivered in sea-worthy/ air worthy packing to ensure safe transportation by sea/air.
- c. All packages are to have packing notes showing their contents in details and all packages shall be marked with the name and address of the consignee and gross weight.

23. **Delivery.** Items are to be delivered within 03 (three) months from the date of signing the contract or purchase order.

24. **Validity of Offer.** The offer will remain valid for 03 (three) months from the date of opening of tender.

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

- a. 80% of total CFR value will be paid on delivery of the items described under the scope of supply and on production of necessary shipping documents.
- b. Remaining 20% of CFR value will be paid on producing 'Acceptance Certificate' after satisfactory test and trial jointly carried out by the buyer's and supplier's representatives.

26. **Compliance Statement.** One set of Compliance Statement is to be submitted along with the offer by the bidder.