



हुगली कोचीन शिपयार्ड लिमिटेड  
(भारत सरकार का उद्यम)  
**HOOGHLY COCHIN SHIPYARD LIMITED**  
(A Govt. of India Enterprise)



वसुधैव कुटुम्बकम्  
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**CORRIGENDUM NO: 1**

**Dtd. 30.11.2024**

**Ref. HCSL/PUR/TEN/2024/045, Dtd. 23.11.2024**

**Sub:** Amendment to tender for Supply of Hydrophore Tank with accessories for Hooghly Cochin Shipyard Limited, Nazirgunge Unit, Howrah.

The Amendments are given below:

SI No.	Description	As per tender	Amended as
1	Type of Hydrophore Tank	Diaphragm Type	Air over Water Type

Amended Annexure -2A , Section-B Technical specification clause 2(b) is attached and supersedes respective pages of published tender.

Note:

Self attested copy of corrigendum 1 to be submitted along with NIT including the latest Annexure-2A

All other terms and conditions of the tender remain unaltered.



*Om (Meh) 012  
Jhannu Gnanadhy*

**For Hooghly Cochin Shipyard Limited**



Rev. No.	Pages	Description	Date	Sign.
0	6	INITIAL ISSUE	19-11-2024	Sanil Peter
1	6	Classification req. removed from inspection scope.	19-11-2024	Rakesh Sagar
2	6	Diaphragm type tank is modified to Air over water type.	30-11-2024	Rakesh Sagar



**HOOGHLY COCHIN SHIPYARD LIMITED**

**HOWRAH – 711 109**

YARD NO	01124001,01224002 01324003,01424004	<b>PROJECT: 40 T BOLLARD PULL ASD TUG</b>											
OWNER	INDUSTRIAL HANDLING PRIVATE LIMITED	<b>PURCHASE TECHNICAL SPECIFICATIONS FOR HYDROPHORE TANKS</b>											
APPROVED	SANIL PETER												
CHECKED	RAKESH KR. SAGAR												
PREPARED	A.K. MISHRA												
DATE	19-11-2024	<b>Doc. No.: PTS-01124001-26</b>											
ISSUED TO	NO. DEP.												

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## **SECTION A – GENERAL SPECIFICATIONS**

### **1) Introduction**

This document indents for the supply of **Hydrophore Tanks** listed in the next section. All required accessories for the equipment also to be included in the scope of supply.

### **2) Name & Quantity:**

- a) Fresh Water Hydrophore Tank : 1 No. / vessel
- b) Sea Water Hydrophore Tank : 1 No. / vessel

The quantity of item indicated above is for only one (1) vessel. The total requirement is to be considered for four (4) vessels. The technical specifications of the equipment shall be as per Section-B of this document.

### **3) Class & Flag Rules:**

The vessels shall be built under the following flag and classifications:

- Flag : India
- Classification : Indian Register of Shipping.
- Class notation : +SUL +IY TUG  
INWATER SURVEY, AGNI 1 (2400 m<sup>3</sup>/hr)  
Type: "Indian Coastal Vessel"

### **4) Rules and Regulations**

The vessel shall be built in compliance with all relevant International Standards as applicable at the time of construction, including (but not limited to) the following. Exemptions on any requirements of these regulations, as deemed necessary considering the operational needs of the vessel are to be obtained from relevant Authorities/Class:

- a) COLREGS - International Regulations for Preventing Collisions at Sea
- b) Load Lines, 1966/1988 - International Convention on Load Lines, 1966, as Amended by the Protocol of 1988
- c) MARPOL - International Convention for the Prevention of Pollution from Ships
- d) Tonnage - International Convention on Tonnage Measurement of Ships, 1969
- e) 2008 IS Code – International Code on Intact Stability, 2008
- f) International Labour Conference – Maritime Labour Convention, 2006
- g) IMO regulations A 468 (Noise levels) and ILO Recommendation R141 as far as practicable for tugs.
- h) International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001

## 5) Certification, Testing and Inspection

- a) Each unit shall be inspected, tested and certified at manufacturer's test bed in accordance with the maker's standard
- b) Manufacturer's certificate and Relief Pressure Set Testing Certificate to be provided by the Vendor.
- c) After installation and commissioning, onboard tests / trials shall be carried out as per manufacturer's standard practice and to the satisfaction of Classification societies / other statutory requirements. Any faults found at this stage, shall be corrected to the satisfaction of all related parties before the delivery of the ship.

## 6) Guarantee

The equipment and accessories shall be guaranteed against defective design, material and workmanship and under performance till, for a period as mentioned in commercial terms and conditions. Guarantee of the equipment shall be as per commercial terms and conditions.

## 7) Design Conditions

The following ambient conditions shall be considered for the selection of the Vessel's equipment and machinery. Machinery shall be able to deliver its specified output and operate satisfactorily under tropical conditions as mentioned below:

Sea water temperature	:	max. 32° C min. 5° C
Air temperature outside	:	max. 40° C min. 10° C
Relative Humidity	:	max. 90% min. 50%
Engine Room temperature	:	50° C

List, rolling, trim and pitch according to limits as per Class

Above requirements to be considered as minimum, any other requirements which are necessary to meet class/IMO/flag rules/regulations shall be considered for design and operation of the equipment.

## 8) Supply of Documents

All documents shall be in English and in SI unit system and the following documents shall be submitted, where applicable.

### 8.1. Documents to be submitted along with offer

- a) Dimensional drawing of the equipment along with foot prints
- b) Material of construction, dry & wet weight and CG details
- c) List of instrumentation and accessories fitted on the tank and supplied as loose.
- d) List of spares / tools (if any)
- e) Deviation List

8.2. Documents to be submitted within 21 working days after placement of Order/LOI/As per final agreement

- a) Detailed Bill of Material.
- b) Dimensional drawing of the equipment showing maintenance space required around the equipment in Auto CAD/ .dxf format.
- c) Foundation drawing of the equipment and fasteners details
- d) Material of construction, dry & wet weight and CG details
- e) List of instrumentation and accessories fitted on the tank and supplied as loose.
- f) Compressed air/ other ship's system requirements for the operation of pumps if any.
- g) End connection details
- h) Details of shop tests and inspection for all items.
- i) List of spares / tools as agreed

8.3. Documents to be submitted along with delivery of Machinery and/or Equipment to the Yard (4 sets / vessel unless otherwise mentioned)

- a) Manufacturers Test certificate as applicable (3 copies/vessel with original)
- b) Test and inspection results
- c) Packing list (with reference to each item of Bill of Materials)

**9) General Remarks**

a) Name Plate (s)/Caution Plate (s) and Instrumentation

The name plate(s) and caution plate (s) shall be written in English indicated in SI unit. All equipment shall be provided with identification marking/ nameplates made as per manufactures standard and label plates indicating equipment type, capacity, electric rating etc. Instrumentation shall also be indicated in SI unit.

b) Liability

Manufacturer shall bear all responsibilities for the shop trials and the delivery of the machinery or equipment.

- c) All parts / components, instrumentation, valves and pipes/fittings necessary for hydraulic operation of the equipment (*except hydrophore pumps – pumps will be under yard's scope*) to be included in the scope of supply.

d) Piping Flange

Piping end connection shall be as per EN1092-1 Type 01 PN10/ PN16 Flat Face as applicable. Mating flanges shall be supplied for all pumps, if there is any deviation with the standard mentioned above.

e) Screw Thread

Screw thread if any, shall be in accordance with ISO standard.

f) Grease Nipple

Pin type grease nipple, where grease is supplied shall be used.

g) Painting

Painting schedule shall be as per manufacturer's standard and the painting scheme shall be specified.

h) Preservation

Recommended method of preservation and names of recommended preservatives shall be indicated. Maximum R.H. (Relative Humidity) at Malpe in Karnataka is around 80% and minimum R.H is at around 60%.

i) Special Tools

Special tools if any required for installation have to be supplied with the equipment.

**10) Compliance**

The vendor should comply all the points mentioned in this document. Deviations from the Technical specification shall be specifically indicated.

**11) Place of Delivery**

Hooghly cochin Shipyards Limited, Nazirganj, Howrah -7111109.

## SECTION B – TECHNICAL SPECIFICATIONS

### 1. General Requirements

- a) The function of hydrophore tanks is to provide sufficient pressure at all freshwater/ seawater outlets and to facilitate the operation of fresh water / seawater hydrophore pumps for service system respectively.
- b) The hydrophore tank supplied should be suitable for marine applications.
- c) The material of construction should be suitable for the fluid handled and should withstand air contamination through oil, salt and other contaminants associated with the marine environment.
- d) The complete assembly consisting of necessary equipment & auxiliaries should be preferably mounted on the tank. The hydrophore pumps will be under yard's scope.
- e) The technical offer should indicate the complete scope in a drawing listing the sub equipment and their specifications. In case all items are not mounted on hydrophore tank, the arrangement is to be clarified in technical offer.

### 2. Technical Requirements

- a) The following hydrophore tanks shall be supplied for the vessel.

Sl. No	Equipment	Medium	Water Capacity	Qty / vessel
1.	Fresh Water Hydrophore Tank	Fresh Water	200 Liters	1 Nos
2.	Sea Water Hydrophore Tank	Seawater	200 Liters	1 Nos

- b) Hydrophore tank to be vertically mounted to **Air over water type**, with mounting legs on the body for supporting the bottle to the deck. Mounting legs shall be strengthened according to manufacturer requirements.
- c) The inside coating of tank shall be pure epoxy suitable for the medium. The outside coating shall be as per manufacturer's standard.
- d) Pressure at the outlet of the fluid shall be **min. 3.5 bar** and relief valve set pressure to be **3.9 bar**.
- e) The outlet of the hydrophore tank shall be below the minimum water level available at the cut-in pressure to ensure no air shall escape through the line.
- f) Pressure Switches:
  - i. Two (2) Nos of Fresh Water Hydrophore Pump (One Working & One Standby) and Two (2) Nos of Sea Water Hydrophore Pump (One Working & One Standby) will be available onboard (yard's scope) for connecting with fresh water and seawater hydrophore tank respectively. The hydrophore tanks should have suitable number of pressure switches for Auto Cut-in and Auto-Cut off of respective pumps. The Differential setting of the Pressure Switch to be selected as per the capacity of Tank. The rating/ technical details of the pressure switch



to be mentioned in the offer. The Pressure switch to be installed on the pressure vessel with all required fittings.

- ii. No air shall be escaped from the tank through the pipelines. For that minimum water level above the outlet pipeline shall be ensured always. The cut in pressure setting for the auto operation of pump shall be decided accordingly.
  - iii. All pressure switches shall be fitted with 3 way - test valve.
  - iv. One (01) pressure switch, to be provided on the tank for alarm (Potential free contact, open to alarm) for low pressure of the tank, for giving connection to ship alarm and monitoring system.
- g) Each Hydrophore tank to be provided with Hand hole for maintenance.
- h) Hydrophore tank to be equipped with following instrumentation:
- i) Pressure gauges with gauge cock
  - ii) Pressure switches
  - iii) Relief valve
  - iv) Inlet & outlet valves for fluid
  - v) Inlet valve for compressed air connection
  - vi) Level gauge
  - vii) Drain valve