



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



वसुधैव कुटुम्बकम्  
ONE EARTH • ONE FAMILY • ONE FUTURE

Date: 26.03.2025

**CORRIGENDUM NO: 1**

Ref. HCSSL/SB/TEN/2025/028 Dt. 24.03.2025

Sub: Enclosure for Purchase Technical Specification.

**TENDER FOR** "Procurement of 04 Nos of Breathing Air compressor for 40T BP ASD Tug at Hooghly Cochin Shipyard Limited, Nazirgunge Unit, Howrah."

The Amendments are given below:

- 1) For Purchase Technical Specification Refer Enclosure -1
- 2) All other term and conditions of the Tender shall remain unaltered.

For Hooghly Cochin Shipyard Limited



Registered Office: Administrative Building, HCSSL Premises, Satyen Bose Road,  
P.O. Danesh Shaikh Lane, Nazirgunge, Howrah, West Bengal - 711 109.  
☎ +91 (33)-2688 8282 ✉ contact@hooghlycsl.com 🌐 www.hooghlycsl.com

Shipyard: Nazirgunge Unit, Satyen Bose Road, P.O. Danesh SK Lane,  
P.S. Sankrail, Howrah, West Bengal - 711109  
☎ +91 (33)-2955 8283

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Rev. No.	Pages	Description	Date	Sign.
0	9	First Issue	18-02-2025	Rakesh Sagar
1	9	Sec. B, 1 ( C ) (i) Modified for breathing air compressor capacity requirements.	18-02-2025	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 BREATHING AIR COMPRESSOR</b>													
APPROVED	SANIL PETER														
CHECKED	ABHISHEK MISHRA														
PREPARED	RAKESH SAGAR														
DATE	18-02-2025	SCALE: - NA	Doc. No.: PTS-01124001-048												
ISSUED TO	NO. DEP.														
	NO.														

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## **SECTION-A: GENERAL SPECIFICATIONS**

### **1. Introduction**

The 40 T Bollard Pull Azimuth Stern Drive (ASD) tug vessel shall be designed by Robert Allan Ltd. and built by Hooghly Cochin Shipyards Ltd (HCSL)., a wholly owned subsidiary of Cochin Shipyard Ltd. The scope of this document is to offload purchase order for the supply of Breathing Air Compressor whose required technical specification listed in the next section. Air compressor shall be suitable for recharging the bottles used in the breathing apparatus of the fireman's outfits.

### **2. Name & Quantity**

This document indents to supply of Breathing Air Compressor listed in the next chapter. All required accessories for the equipment also to be included in the scope of supply.

Breathing Air Compressors : 1 Nos. / vessel

The quantity of equipment 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 Rule**

The vessel shall be built under the following flag and classification:

Flag : India  
Classification : Indian Register of Shipping.  
Class notation : +SUL+IY TUG  
INWAER SURVEY, AGNI 1(2400m<sup>3</sup>/hr)  
"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) The Equipment/item and the accessories (including the safety valves) shall be tested at manufacturer’s test bed in accordance with the maker’s standard and Classification Rules. All equipment/item shall class certified/ type approved & shall be suitable for marine application.
- b) Manufacturer’s shop tests and inspection shall be carried out in accordance with the Manufacturer’s Standard and the requirements of the Rules and Regulations and the test results and certificates shall be supplied.
- 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.
- d) All certificates as required by the class; rules& regulation shall be provided.

**6. 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 : 45° 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.

## **7. Electric Power Supply**

- a) The electric power supply available onboard is as follows.
  - i. 415VAC, 50 Hz, 3Φ, 3 Wire
  - ii. 230VAC, 50 Hz, 3Φ, 3 Wire / 1Φ, 2 Wire
  - iii. 24VDC
- b) Any other voltage other than the above should be derived by the firm by using necessary built-in arrangement. All type of power supplies requirements with number of feeders and power rating are to be listed out in the offer.
- c) Electrical fittings shall be suitable for tropical and marine environment at an ambient temperature of 50°C. Electrical fittings, wirings and controls shall comply with the classification requirement and shall meet relevant IEC standard.

## **8. Supply of Documents**

All documents shall be in English and in Metric system and the following documents shall be submitted, where applicable. The drawing approval wherever required by the Classification Society shall be carried out on the manufacturer's responsibility.

### 8.1 Documents with quotation (3 sets)

- a) Type Approval/EC MED certificate as applicable from any reputed classification society.
- b) List of items quoted.
- c) Documents/drawings with description, detailed dimensions, weight, arrangement diagrams of equipment/accessories.
- d) Mounting drawings.
- e) List of spares/tools, if required.
- f) List of items, if any, not covered in your scope of supply.
- g) Any other certificate required as per International Regulations in force.

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) General arrangement drawing of the compressors along with dimensions showing maintenance space required around the equipment in Auto CAD/Dxf format.
- c) Foundation drawing of the equipment and fasteners details
- d) Technical datasheet containing model no., type, capacity, electrical details (motor type, IP Rating), power required, motor details, material of construction etc.
- e) Lifting Arrangements
- f) Compressor discharge and drain hose details/ drawings
- g) Weight and CG details
- h) End connection details
- i) Final electrical wiring drawing / TCD
- j) Recommended types and sizes of cables for installation with yard & OEM responsibility
- k) Operation, Installation, Maintenance and Troubleshooting Manual
- l) FAT Reports
- m) Details of shop tests and inspection for all items.
- n) 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) Type Approval/EC MED certificate as applicable from any reputed classification society.
- b) Manufacturers Test certificate as applicable (3 copies/vessel with original)
- c) Test and inspection results
- d) Packing list (with reference to each item of Bill of Materials)
- e) Installation, Operation, Maintenance manuals (3 sets and one soft copy in CD)

## 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 major machinery, electrical and equipment shall be provided with identification nameplates made from stainless steel/brass plates as per manufactures standard and label plates indicating equipment type, capacity, electric rating etc. shall be fitted as per manufacturer's standard. 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, valves and pipes/fittings necessary for the operation of the compressors 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 Hooghly in West Bengal 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.

j) Instruments

A pressure, temperature gauges as required by Class rules/OEM recommendations (if any) has to be supplied.



## SECTION B – TECHNICAL SPECIFICATIONS

### **1. General Requirements**

- a) One (1) Breathing Air Compressor to be supplied per vessel. The offered air compressor shall be suitable for recharging the bottles used in the breathing apparatus of the fireman's outfits.
- b) Breathing Air compressor shall comply with SOLAS, FSS code and all other necessary international rule requirements as applicable for tugs.
- c) Capacity of Breathing Air compressor is to be estimated by the supplier meeting the rules & regulations requirement.
  - i. For Fire Fighting Ships, IRS Class rule specified capacity of Breathing Air compressor shall be capable of, fully recharging the Two (02) nos Breathing Air Cylinders in a time not exceeding 30 minutes. Capacity of each Air cylinder is 1200 litre of free air. The air Compressor of capacity at least **75 ltrs/min** is to be provided.
  - ii. Breathing Air Compressor supplier has to indicate the offered Breathing Air compressor capacity in the technical offer.
  - iii. Type of offered Breathing Air Compressor – such as fixed or portable, electric motor driven or internal combustion engine driven etc. meeting the rule requirement has to be indicated in technical offer.
  - iv. Working Pressure meeting to the rule requirement also to be indicated in technical offer.
  - v. Purity of air output to be meeting the requirements of breathing apparatus of the fireman's outfits. Purity level of offered breathing air compressor to be indicated in technical offer.
- d) Control Panel and other instrumentation required for the satisfactory working of the equipment to be included in the scope of supply of supplier. All sensors required for the safe operation of the compressor to be supplied.
- e) Control panel for compressor shall be supplied as skid mounted type. All components/sensors mounted on the compressor are to be pre wired to control panel.
- f) All necessary alarms and sensors (if required as per class rules) are to be included in the scope of supply. All components/sensors (if any) mounted on the compressor shall be pre wired to control panel. Cable glands for the control cabinet shall be included in the scope. Size of the cable (OD) will be provided by Yard based upon the cable details given by the firm.

## **2. Spare Parts, Inventories & Tools**

- a) Necessary items required for the fitment of Breathing Air compressor shall be included in the scope of supply.
- b) Hand tools including special tools, if any, for installation / commissioning / operation shall be included in the scope of supply as per standard delivery conditions.
- c) The spare parts, if any, shall be supplied in a box.
- d) All the equipment/accessories supplied should meet the rule requirements of class notations and other operational requirement for the vessel. Alternatively, any features/accessories/equipment required as per applicable class rules and other operational requirements should be included in the scope of supply.

***Note: Notwithstanding any omission in this specification, all items/features required as per class rules/statutory regulations, safe working and good shipbuilding practice shall be included in the offer by the bidder.***