



KHULNA SHIPYARD LIMITED **BANGLADESH NAVY, KHULNA**

PHONE NO: PABX 02-47772003

E-mail: oiocomf.ksy@gmail.com, Web: www.khulnashipyard.gov.bd

BABE (F) – 337/PPGHMB/2024-2025/07

DATE: 27 April 2025

INTERNATIONAL TENDER NOTICE

01	Procuring Entity Name	Khulna Shipyard Limited, Bangladesh Navy, Khulna
02	Invitation For	Pipe & Fittings, Bottom Plug, Zinc Anode, A-Bollard, Rope, Galley Items, Hatch, Manhole, Lighting Arrangement & Fire Alarm
03	Invitation Reference No.	BABE (F) – 337/PPGHMB/2024-2025 DATE: 27/04/2025
04	Procuring Method	Open Tender (Two Envelop System)
05	Budget & Source of Funds	Khulna Shipyard Limited Fund
06	Tender Last Selling Date	27 May 2025
07	Tender Closing Date & Time	Date: 28 May 2025 Time:1115am
08	Tender Opening Date & Time	Date: 28 May 2025 Time:1130am
09	Name & Address of the Office for Selling of Tender Documents:-	
	(i) Cash Section, Khulna Shipyard Ltd. Bangladesh Navy, Khulna.	
	(ii) Naval Store Sub Depot, Khilkhet Nama Para, Khilkhet, Dhaka.	
	Receiving & Opening Tender	Khulna Shipyard Ltd, Bangladesh Navy, Khulna
	(Tenderer's and their Authorized Representatives are allowed to attend)	
10	Price of Tender Document	Per set 3,000.00 (Tk. Three Thousand) Non-refundable.
11	Contact Details of Official	Mob: +8801674950715 Email: oiocomf.ksy@gmail.com
12	Special Instructions	The Procuring Entity reserves the right to reject all or any Tenders prior to acceptance without showing any reason.

Manager Admin



KHULNA SHIPYARD LIMITED

BANGLADESH NAVY, KHULNA

PHONE NO: PABX 02-477720003

E-mail: oiocomf.ksy@gmail.com , Web: www.khulnashipyard.gov.bd

IMPORTANT POINT

1. **TENDER NO: BABE (F) - 337/PPGHMB/2024-2025 DATE: 27 April 2025**
2. **DUE FOR OPENING ON: 28 May 2025.**
3. **PRICE OF TENDER DOCUMENT: Tk. 3,000.00 (Tk. Three Thousand) Non-refundable.**
4. **NAME OF THE COMMODITY: Pipe & Fittings, Bottom Plug, Zinc Anode, A-Bollard, Rope, Galley Items, Hatch, Manhole, Lighting Arrangement & Fire Alarm. As per Annex- B-G.**
5. **SOURCE OF FINANCE: Khulna Shipyard Ltd Fund.**
6. **TERMS OF SUPPLY:**
 - i) CFR Chattogram Sea Port.
 - ii) The supplier will arrange transportation of all supplied items from Chattogram Sea Port to the buyer's premises Khulna Shipyard Ltd, Khulna (by sea/ road). This transportation cost will be added with sea freight (mentioned at Bill of Lading) that define as total freight charge.
 - iii) Khulna Shipyard will process all customs formalities with C&F cost related duties and taxes.
7. **PRICE:**
 - i) FOB and Ocean freight should be shown separately.
 - ii) Freight should be shown/endorsed on Bill of Lading.
 - iii) Freight will be paid at actual against Bill of Lading but not exceeding the amount shown in quotation/offer.
 - iv) Khulna Shipyard will process all customs formalities with related duties and taxes.
8. **DELIVERY/SHIPMENT: 60 Days from the date of letter of credit (LC).**
9. **TENDER SHOULD REMAIN VALID: 60 Days from the date of Tender on opening date.**
10. **THE TENDER DOCUMENTS MUST BE REQUIRED WITH SEAL AND SIGN THEREOF ON EACH PAGE:**

The Khulna Shipyard Ltd., Khulna invites quotation by **two envelop system** (one technical and another one financial offer) in duplicate (marked as "Original" and "Duplicate") from Manufacturers / Principal Suppliers for supply of the item(s) described in the attached sheet schedule (Annex-A) on KSY site basis, Quotations will be received by this office up to **11-15 A.M.** and will be opened 11-30 A.M. in public on the date specified above. The financial offer will be opened after evaluation of technical offer and shall be intimated of the bidders in time.
11. **AMENDMENTS TO TENDER DOCUMENTS:**
 - a. At any time prior to deadline for submission of bids the purchaser may, for any reason, whether of its own initiative or in response to a clarification requested by a prospective bidder, modify the Tender documents by the amendment(s).
 - b. The amendment(s) will be notified in writing by letter / email / KSY website or by cable to all prospective bidders who have received Tender documents and the same will be binding on them.

- c. In order to allow the prospective bidders reasonable time to take the amendment into account in preparing their bids, the purchaser may at its sole discretion extend the deadline for submission of bids.

PREPARATION AND SUBMISSION OF TENDER

12. GENERAL:

- a. Tenders are to be dropped in the tender box provided for the purpose at the office of Khulna Shipyard Ltd., Khulna.
- b. Tender number and opening date as above should be written on the envelope. The envelope containing quotation should be sealed and addressed as follows:-
- i. CONSIGNEE: **THE MANAGING DIRECTOR
KHULNA SHIPYARD LIMITED
BANGLADESH NAVY, KHULNA- 9201, BANGLADESH
BIN: 000400834-0801**

Tender number and opening date as above should be written on the envelope.

- c. Tender may be put into the Tender Box kept for this purpose at the above address, but care must be taken to ensure that it reaches this office on the date and time fixed. Late Tenders will not be considered. Suppliers may also post the tenders to the **MANAGING DIRECTOR, KHULNA SHIPYARD LIMITED, BANGLADESH NAVY, KHULNA-9201, BANGLADESH**, so, as to reach him on due date and time. No responsibility will be accepted by buyer for late receipt.
- d. The Manufacturers / Principal Suppliers may quote in their own letter head, but it is essential that the tender schedule is also completed and returned, along with original money receipt to the buyer. If the schedule is not accordingly returned the quotation may not be considered
- e. Tenderers may quote price Bangladesh Taka/ US Dollar / in any International trading currency.
- f. **Tenderers should be confirmed their credit report issued from Tenderers banks and this credit report should be enclosed in the original Tender / quotation otherwise LC opening bank should be arranged to collect this credit report and necessary cost in this respect will be realized from the supplier during LC opening.**
- g. Tenders should enclose with the quotation the Original Proforma Invoice of their Principal and the Proforma should be based on CFR.
- h. Quotation should be strictly in accordance with the following:
- (1) Accounting unit prescribed in the Tender enquiry.
 - (2) Terms of delivery and place of delivery as specified in the Tender enquiry.
- i. The name of the manufacturers, principal suppliers and country/countries of origin with port of shipment proposed should invariably be indicated.
- j. Tenderers must submit with the quotation the Original Proforma Invoice of their Principals and the Proforma Invoice shall clearly indicate detail technical specification, the percentage of commission, if any, included in Material Price for the local agent. Commission payable to the local agent by the foreign supplier will be deducted and paid to local agent in equivalent Local currency at the average exchange rate on the LC payment date (Be buyer's rate).
- k. No claims on the ground of typographical errors in calculating prices would be entertained later and the Tendering firms would be asked under points of penalty and disciplinary action to supply at price they have originally quoted.
- l. Supplier must quote the offer as per schedule given in Annex A's list/ table as package wise to this document and incomplete or partial offer of any package will be treated as non-complied/ non-responsive.
- m. **KS Y reserve the right to purchase partially or full quantity of the quoted goods.**
- n. Local Agent/ supplier should also submit along with the tender valid Indenting agent registration certificate issued by the Bangladesh Indenting Agent Association

(BIAA), Trade license, and TIN certificate. In absence of original certificate attested Photostat copy by first class officer may serve.

13. **CONTRACT.** The terms and conditions of the Tender document shall form an integral part of the contract/purchase order document. The Tenderer is requested to check this set of Tender documents in order to ensure proper compliance and the "Form of Acknowledgement" along with the "Certificate as to **Corporate Principal**", where applicable, duly filled in be returned along with the **Tender**.
14. **BID LANGUAGE.** The bid's, all correspondences and documents relating thereto exchanged between the bidders and the purchaser shall be written in English Language.
15. **TERMS OF PAYMENT:**
- i. LC for full purchase amount will be opened by Khulna Shipyard Limited in favour of the principal supplier under the following payment terms where the **LC commission charge 0.30% of the total LC Value equivalent of BDT taka** including related VAT & others will be borne by foreign principal/ local agent (supplier) at LC opening that will be included in quotation.
- a. 80% of total CFR value will be paid on delivery of the items described under the scope of supply and on production of following shipping documents:
- (1) Complete set of original 'Clean on Board' Bill of Lading / mentioning the amount of freight on Bill of Lading,
 - (2) Supplier's invoice signed in ink,
 - (3) Buyer's authorized satisfactory inspection agent's certificate,
 - (4) Certificate of standard test,
 - (5) Fax/E-mail/Swift advice for insurance cover,
 - (6) Certificate of origin,
 - (7) Authorization certificate,
 - (8) Certificate showing that the material has been shipped in a non-Israel vessel,
 - (9) Undertaking regarding supply/ re-placement of short supplied and defective materials on free of cost demanded by the buyer.
- N.B:- Non-negotiable copies of shipping documents will be sent in advance by email (oiocomf.ksy@gmail.com) before getting original and original shipping documents will be delivered in the LC opening Bank before 07 days arrival of ship at port. In the event of any delay in dispatch of the shipping documents or above state or their incorrect preparation, the supplier shall be responsible for any demurrage, extra handling charges or any other expense arising there from.
- b. Remaining 20% of LC amount will be paid after receiving the material at KSY site with satisfactory acceptance that will be generated by user end & supplier representative or satisfactory Material Quality Inspection note that will be generated by KSY.
- ii. Bank charges in Bangladesh for opening of LC shall be borne by the supplier. Any Bank charges for revalidation or amendment of the LC on the request of the supplier shall be exclusively borne by the beneficiaries and not by the Khulna Shipyard Ltd. Confirmation of letter of credit by foreign bank will not be entertained or if applicable that will be borne by the supplier.
- iii. Bank charges for withdrawal against LC established by buyer will be borne by the beneficiary/ Supplier.
- iv. The beneficiary/ Supplier will have to borne the following foreign bank charges: -
- (1) Negotiation commission.
 - (2) Payment commission.
 - (3) Postage & Cable charges.
 - (4) LC confirmation charges / additional (ADD) confirmation charges.
 - (5) LC amendment commission/ LC extension commission.

- (6) LC cancellation charges.
- (7) LC confirmation charges (if any).

16. **PACKING AND MARKING:**

- a. The seller shall be responsible for proper packing and marking the goods for shipment by rail, road and sea. Goods shall be assembled to the maximum extent practical prior to shipment. Goods shall be packed so as to withstand usually rough handling and ensure delivery without loss or damage.
- b. Each packet/ Bundle must have the following information printed in BOLD LETTERS on the outside
 - (1) Name of the consignee and Destination,
 - (2) Letter of credit number,
 - (3) Gross and net weight,
 - (4) Serial number of Bundle and,
 - (5) Name and address of the seller

N.B:- If you fail to adhere to the above instructions regarding marking of non-negotiable copies of shipping documents in advance by email (oiccomf.ksy@gmail.com), resulting in any delay in clearance of goods, responsibility and consequences thereof will be entirely of sellers.

17. **QUANTITY:**

- a. Check of quality, quantity and condition of goods at the discharging port/ place i.e. chattogram will be carried out by the buyer if required, it will be at their cost.
- b. The quotation must be based on firm prices for individual items as per Annex-A. Average prices should not be quoted.
- c. The approximate weight of each Packet/ Bundle should be shown separately on quotation.
- d. The Khulna Shipyard Ltd., reserves the right of awarding contracts for individual technically acceptable items on the lowest acceptable prices. Firms quoting on an average basis for joint items do so at their own risk. The Khulna Shipyard Ltd., will not make any allowances for this action of the Tendering firms when awarding contracts for individual items which if and when refused by Tendering firms any lead to disciplinary action.

SPECIAL CLAUSES

18. **SHIPMENT INSPECTION**

- a. **PRE SHIPMENT INSPECTION (PSI):** Comprehensive inspection of the stores for pipe & fittings (ANNEX-B) regarding quality, specifications, quantity and supervision of the ship/loading port will be carried out prior to shipment by our nominated inspection company or their accredited agent who will issue an inspection certificate in token of their having carried out the inspection. Suppliers/manufacturers name and full address with the name and address of the supplier, if any should be intimated to the inspection agent. Supplier will be liable to pay the expenses for rejected stores and also for such inspection, which will become payable to the inspection due to multiple intervention/visits and/ or fruitless visits the call of and to suit the convenience of the supplier. The inspector should be provided with all facilities to carry out their job smoothly and without interface. The provisions laid down above do not restrain the buyer from a detailed inspection of quality and quantity of the cargo on arrival of the same at the port of discharge. Charge to be borne by the buyer. Furthermore, if any defective or 2nd hand item is found during the joint mustering of KSY & supplier at KSY premises the defective or 2nd hand item will not be acceptable. Supplier shall undertake the full responsibility to supply and replace the defective or 2nd hand item by new one.

b. **JOINT INSPECTION:** The Materials/items (Bottom Plug, Zinc Anode, A-Bollard, Rope, Galley Items, Hatch, Manhole, Lighting Arrangement & Fire Alarm :ANNEX C-G) will be checked (quality, quantity, condition of goods) and mustered by supplier representative and KSY representative after arrival the items at KSY. If any defective or 2nd hand item is found during the joint mustering at KSY, the defective or 2nd hand item will not be acceptable. Supplier shall undertake the full responsibility to supply and replace the defective or 2nd hand item by new one.

19. **LATE SHIPMENT/DELIVERY AND LIQUIDATED DAMAGES:** Late shipment/ delivery will not be accepted. However with reasonable cause, if KSY agrees for late Shipment/ Delivery, in that case followings will be imposed:

a. On genuine reasons / grounds beyond the control of the suppliers / contractor, extension of delivery period may, however, be granted by the Purchase Approving Authority (KSY) without realization of any liquidated damage provided validity of their performance guarantee covers such extension.

b. Liquidity damage equivalent to half percent per week or part thereof on the value of the undelivered goods will be realized from the supplier/contractor.

c. In specific cases, where delay in shipment is likely to cause dislocation of work or financial loss, or related to the delivery of ships/ handed over of construction work, a higher rate of liquidity damage from 5% to 10% (as decided by KSY) per week or part thereof on the value of the undelivered goods will be charged.

d. In case of delay in shipment beyond approved timeframe as stated in Clause no. 7, this schedule will be treated as cancelled and the full Performance Guarantee shall also be forfeited as a consequential effect.

e. Minimum 14 days free time for container shipment at destination port must allow for each shipment.

20. **TERMINATION OF CONTRACT:**

a. At any time during the period of this contract, the Purchaser shall have the right to cancel contract under following reasons:

(1) If the supplier fails to supply the contracted item as per specification given in the purchase order/contract of the contracted item being rejected by the competent technical authority.

(2) If the supplier fails to deliver the contracted item within the date specified in the purchase order/contract or any extensions thereof.

(3) In the event of breach of any contractual obligations given in the terms and conditions of the purchase order/contract.

b. Moreover, in case of termination of contract as under this clause the Purchaser shall have the right to decide taking appropriate punitive action against the supplier as deemed suitable by the KSY authority.

c. Should the suppliers be adjudged insolvent, the buyer shall have the power to terminate the contract.

d. Decisions under this clause SHALL not be subject to arbitration.

21. **INSURANCE.** After shipment to the destination upto buyers premises (Khulna Shipyard Ltd.), marine insurance of the consignment will be arranged by buyer but considering **insurance charge 0.30% of the total LC Value equivalent of BDT** including VAT, Stamp & all related charge will be paid by foreign principal/ local agent (supplier) at LC opening. Quotation should, therefore, be included with the insurance charges.

22. **EARNEST MONEY.** All bidders must submit earnest money BDT 5,00,000.00 (Five Lac) or equivalent US Dollar / in any International trading currency favoring Khulna Shipyard Ltd.(KSY). Khulna, in the form of Bank Draft / Pay Order / Bank Guarantee

which will be issued by any scheduled bank of Bangladesh and it will be included with technical offer. In case bank guarantee is submitted, the same should remain valid for 90 days from the date of opening of the Tender. Neither any inland cheque for a cheque /guarantee issue by Bank of foreign countries will be entertained. Earnest money is liable to forfeiture if the bidder for any reason whatsoever withdraws or modifies its Tender; or violates the terms after opening of the Tender and before expiry of the validity of the Tender; or fails to furnish the required performance bond within the stipulated time after issuance of letter of intent. Bid bond/earnest money of unsuccessful Tenderer would be returned once a decision of the Tender is made. A Tender not accompanied by earnest money/bid bond would be rejected as non-responsive. Bid bond of the successful bidder shall be returned after furnishing performance bond. A specimen copy of bid bond is enclosed herewith as Annex-H.

23. **PERFORMANCE BOND.** The successful Tenderer will be required to furnish performance bond (as a pay order) to the extent 05% of the total CFR value either in the form of pay order or bank guarantee from any scheduled bank of Bangladesh for the satisfactory execution of the order. The submitted bank guarantee must remain valid 06 (Six) months beyond the day of shipment. Performance bond must be furnished within 10 (Ten) day's from the date of letter of intent. It will be liable for forfeiture if the supplier fails to supply the goods within the specified time or commits any breach of contract. The Performance Guarantee will be released after satisfactory inspection (quantity, quality and weight) by Khulna Shipyard Limited Quality Control committee and in presence of supplier's representative at Khulna Shipyard Premises. The buyer shall have the right to forfeit the performance guarantee for failure of the supplier in fulfilling the terms and conditions of this contract partially or wholly, besides taking any other action against the supplier that may be warranted.
24. **WARRANTY.** Supplier shall undertake the full responsibility to rectify any defect of supplied items free of charges under warranty period. To rectify/ replace any such defective item, provided that the defects are appeared / discovered during the period of 12 months after acceptance and delivery of each vessel by BN. Warranty repair/ replacement shall be accomplished within 03 months of notification of the relevant defect. Otherwise warranty will be extended by non-operational period of the item.
25. **GUARANTEE FOR WARRANTY.** Supplier shall furnish to KSY a guarantee for warranty (as a pay order) for an amount equivalent to 05% (five percent) of the total contract price from any scheduled bank situated in Bangladesh. The buyer shall have the right to forfeit the performance guarantee for failure of the supplier in fulfilling the terms and conditions of this contract partially or wholly, besides taking any other action against the supplier that may be warranted. It will be released after completion of warranty period.
26. **INDEMNITY.** The supplier has to indemnify the buyer against all claims which may be made in respect of the stores for infringement of any right protected by patent, registration of design etc and shall take all risk of accidents or damage which may cause or failure of the supply from whatever cause arising and take entire responsibility for the sufficiency of the means used by the supplier for the fulfillment of the contract.
27. **INCREASE OR DECREASE IN QUANTITY OF CONTRACT:** The buyer reserves the right at the time of award of contract, with no adjustment in unit price (bid), to increase or decrease the quantity Tendered. The buyer also reserves the right to accept or reject any or all the Tenders or to waive any informality, minor deviation or omission.

Award would be made to the bidder whose responsive bid determined to be the lowest evaluated bid and who meets the specification and other terms and conditions of the Tender document.

28. **COMPLIANCE STATEMENT.** A compliance statement considering all clauses of Technical and Financial (as per ANNEX-A including relevant information a tabular format) fulfilling all the given requirement of the specifications is to be submitted for evaluation of the Tenders. Stating mere 'Yes', 'No' "Complied" will not suffice and detailed description/ information as required is to be given. An incomplete compliance statement may attribute to cancellation of the Tender. If any clause of this specification does not commensurate with tender, the deviation has to be spelt out clearly and reasonably. **Information/ document/ certificate/ data shared by the bidder must be genuine which can be cross-checked through authentic website information.** Before giving purchase order, KSY may ask any type of technical, financial, administrative queries to the tender. Tender will provide all information/ document/ data to comply KSY's requirement immediately.
29. **DISQUALIFICATION OF TENDER:**
- a. Any addition or alteration to the specification or rate quoted by a firm in the Tender after not only be ignored but should also render the firms liable to disqualification.
 - b. Any Tender received late and not strictly confirming to the terms and conditions prescribed in this Tender documents not accompanied with the requisite earnest money and the money receipt of Tender price and registration certificate may be liable for rejection.
30. **TAXES, DUTIES AND DELAY DOCUMENTS:**
- a) All Customs duties, taxes and other charges (C&F charge, port charge etc. except dumping charge (Cargo/ Barge/ Truck/ Trailer loaded from mother vessel)) levied on the goods by authorities in buyer's country shall be borne by the buyer and shall not be included in the bid price.
 - b) Charges of such nature in seller's country or in any country other than the buyer's country shall be borne by the sellers.
 - c) In the event of any delay in dispatch of the shipping documents or their incorrect preparation, the supplier shall be responsible for any demurrage, extra handling charges or any other expense arising there from.
31. **BREACH OF CONTRACT.** On any breach of contract by the seller, the buyer may recover the actual loss suffered and the amount may be realized by encashing the performance guarantee.
32. **APPLICABLE LAW.** The purchase order shall be interpreted in accordance with the law of the buyer's country.
33. **FORCE MAJEURE.** Should any circumstance arise preventing either contracting party from wholly or partly carrying its obligations under the present contract, namely Natural Calamity, Strike, Riots, firm acts and elements of War, Military Operation of any, Nature, Block ads and any unforeseen event which is beyond human control the period stipulated for the performance of this contract shall be extended or as long as the circumstances prevail. Provided that in the event of these circumstances continuing for more than thirty days, either party shall have to refuse to fulfill its obligations under this contract and in such case neither party shall be entitled to indemnification of any losses it may sustain.
- The party unable to carry out its obligation under this contract shall immediately advise the other party of the commencement and the termination of circumstances preventing the performance of the contract. A certificate issued by the Chamber of Commerce of the

sellers of the buyers' country shall be sufficient proof of the existence and duration of such circumstances.

34. **ARBITRATION.** In the event of any dispute or difference arising out of the terms and conditions as specified above, the same shall be referred to the award of a sole Arbitrator appointed by the parties on mutual agreement, failing which it shall be referred to the award of the two Arbitrators, from each side (buyer and seller), or in the case of disagreement between the two arbitrators to the award of an umpire to be appointed by the two arbitrator in writing before proceeded on the reference of the decision of the sole arbitrator or of the two arbitrator in the writing before proceeded on the reference of the decision of the sole arbitrator or of the two Arbitrators or the umpire as the case may be shall be final, conclusive and binding upon the parties. The provisions of the arbitration Act 2001 and rules there under and any statutory modification there of shall deem to apply to the said arbitration. The place of arbitration shall be Dhaka, Bangladesh any statutory modification enactment thereof for the time being in force in Bangladesh shall apply to the arbitration proceeding.

The above terms and conditions are not absolute, the Khulna Shipyard Ltd., Bangladesh Navy, reserves the right to incorporate additional terms and conditions, if necessary. The Khulna Shipyard Ltd., BN also is not bound to accept the lowest Tender and reserves the right to reject any or all Tenders without assigning any reason whatsoever.

Yours faithfully

SK. SHAH MOSIUR RAHOMAN
OIC (Commercial Foreign)
For Managing Director

Enclosure:

- | | | |
|----|---|------------|
| A. | Format of Price Schedule (Annex - A) | - 01 Page |
| B. | Format of Technical Specification of Pipe and fittings (Annex-B) | - 26 Pages |
| C. | Format of Technical Specification of Lighting Arrangement (Annex-C) | - 08 Pages |
| D. | Format of Technical Specification of Hatches, Manholes, Bottom Plug and Zinc Anode) (Annex-D) | - 01 Page |
| E. | Format of Technical Specification of Galley Items (Annex-E) | - 05 Pages |
| F. | Format of Technical Specification of A Bollard (Annex-F) | - 01 Page |
| G. | Format of Technical Specification of Various Ropes (Annex-G) | - 01 Page |
| H. | Format of Bank Guarantee in Lieu of Earnest Money (Annex - H) | - 01 Page |

**KHULNA SHIPYARD LTD.****BANGLADESH NAVY, KHULNA****PHONE NO: PABX 02-477720003**E-mail: oiocomf.ksy@gmail.com, Web: www.khulnashipyard.com

ANNEX-A

SCHEDULE TO TENDER ENQUIRY NO: BABE (F) - 337/PPGHMB/2024-2025 DATED: 27 April 2025**TENDER OPENING DATE: 28 May 2025 AT 1130 AM HOURS****The package material items for 2x70 ton BP Tugboat:**

Sr No	DESCRIPTION OF PACKAGE ITEM (As per Annex)	Quantity	Material Price (Itemize)	Freight	Itemize Total CFR Price
1	Pipe and Fittings package items (As per Annex- B)	Itemize			
2	Lighting Arrangement and Fire Alarm System package items (As per Annex- C)	Itemize			
3	Hatches, Manholes, Bottom Plug and Zinc Anode package items (As per Annex- D)	Itemize			
4	Galley Item's package (As per Annex- E)	Itemize			
5	A Bollard package items (As per Annex- F)	Itemize			
6	Various Rope package items (As per Annex- G)	Itemize			

N.B:

- Supplier must quote the offer according to the above list/ table as package wise and incomplete or partial offer of any package will be treated as non-complied/ non-responsive.
- Supplier must follow commercial & Financial Terms that are integrated at schedule.

Yours quotation No.

Signature, Name and address of the tenderer:

Date:

Terms of delivery:

Telephone No:

**Technical Specification of Marine Grade Pipe and fittings item for
2x70 Ton BP Tug Boat Project:**

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
1.	DN500 PIPE 508 OD x 20.62 mm Wall (BW), SCH60, CS, BLACK., 106 GR.B (SMLS), Certificate: BV	5.8	Meter
2.	DN450 PIPE 457.2 OD x 6.35 mm Wall (BW), SCH10, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	27	Meter
3.	DN350 PIPE 355.6 OD x 11.13 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	49	Meter
4.	DN250 PIPE 273.05 OD x 15.09 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: BV	11.6	Meter
5.	DN250 PIPE 273.1 OD x 9.27 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	5.8	Meter
6.	DN200 PIPE 219.1 OD x 18.26 mm Wall (BW), SCH120, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	5.8	Meter
7.	DN200 PIPE 219.1 OD x 18.26 mm Wall (BW), SCH120, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC		
8.	DN200 PIPE 219.1 OD x 8.18 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	15	Meter
9.	DN150 PIPE 168.3 OD x 10.97 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	11	Meter
10.	DN150 PIPE 168.3 OD x 10.97 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	5.8	Meter
11.	DN150 PIPE 168.3 OD x 10.97 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC		
12.	DN150 PIPE 168.3 OD x 7.11 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	48	Meter
13.	DN150 PIPE 168.3 OD x 7.11 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	14	Meter
14.	DN125 PIPE 141.3 OD x 9.53 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	31	Meter
15.	DN125 PIPE 141.3 OD x 9.53 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	41	Meter
16.	DN125 PIPE 141.3 OD x 6.55 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	14	Meter
17.	DN125 PIPE 141.3 OD x 6.55 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	38	Meter
18.	DN100 PIPE 114.30 OD x 8.56 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	216	Meter
19.	DN100 PIPE 114.30 OD x 8.56 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: BV	11.6	Meter
20.	DN100 PIPE 114.30 OD x 8.56 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS), Certificate: MTC	182	Meter

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
21.	DN100 PIPE 114.3 OD x 6.02 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	73	Meter
22.	DN100 PIPE 114.3 OD x 6.02 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	19	Meter
23.	DN80 PIPE 88.9 OD x 7.62 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	374	Meter
24.	DN80 PIPE 88.9 OD x 7.62 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	94	Meter
25.	DN80 PIPE 88.9 OD x 7.62 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC		
26.	DN80 PIPE 88.9 OD x 5.49 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	453	Meter
27.	DN80 PIPE 88.9 OD x 5.49 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	19	Meter
28.	DN65 PIPE 73 OD x 7.01 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	261	Meter
29.	DN65 PIPE 73 OD x 7.01 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	522	Meter
30.	DN65 PIPE 73 OD x 7.01 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC		
31.	DN65 PIPE 73 OD x 5.16 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	308	Meter
32.	DN65 PIPE 73 OD x 5.16 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	60	Meter
33.	DN50 PIPE 60.30 OD x 5.54 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	155	Meter
34.	DN50 PIPE 60.30 OD x 5.54 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	135	Meter
35.	DN50 PIPE 60.30 OD x 3.91 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	132	Meter
36.	DN50 PIPE 60.30 OD x 3.91 mm Wall (BW), SCH40, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	93	Meter
37.	DN40 PIPE 48.3 OD x 5.08 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	7	Meter
38.	DN40 PIPE 48.3 OD x 5.08 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC		
39.	DN32 PIPE 42.2 OD x 4.85 mm Wall (BW), SCH80, CS, BLACK., 106 GR.B (SMLS) , Certificate: MTC	9	Meter
40.	Air Vent, Sounding & Filling System, DN-40 Pipe, SCHD 40; Seamless, PN10, OD 48.3* thk.3.68 mm, Black, ASTM GRADE-106 B, Certificate: MTC	204	MTR
41.	Air Vent, Sounding & Filling System, DN-40 Pipe, SCHD 40; Seamless, PN10, OD48.3 * thk.3.68 mm, Black, ASTM GRADE-106 B, , Certificate: MTC	144	MTR
42.	Air Vent, Sounding & Filling System, DN-40 Pipe, SCHD 80; Seamless, PN10, OD48.3*thk.5.08 mm, Black, ASTM GRADE-106 B, Certificate: MTC	12	MTR

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
43.	Air Vent, Sounding & Filling System, DN-40 Pipe, SCHD 80; Seamless, PN10, OD48.3*thk.5.08 mm, Black, ASTM GRADE-106 B, Certificate: MTC	12	MTR
44.	Bilge, Ballast & Fire Main, DN-40 Pipe, SCHD- 80; Seamless, PN10, OD48.3*thk.5.08mm, Black, ASTM GRADE-106 B, Certificate: MTC	60	MTR
45.	Oily Bilge System, DN-40 Pipe, SCHD- 40; Seamless, PN10, OD48.3*thk.3.68 mm, Black, ASTM GRADE-106 B, Certificate: MTC	132	MTR
46.	Oily Bilge System, DN-32 Pipe, SCHD- 40; Seamless, PN10, OD42.2*thk.3.56mm, Black, ASTM GRADE-106 B, Certificate: MTC	60	MTR
47.	Oily Bilge System, DN-25 Pipe, SCHD- 40; Seamless, PN10, OD33.4*thk.3.38mm, Black, ASTM GRADE-106 B, Certificate: MTC	48	MTR
48.	Oily Bilge System, DN-20 Pipe, SCHD- 40; Seamless, PN10, OD26.7*thk.2.87mm, Black, ASTM GRADE-106 B, Certificate: MTC	12	MTR
49.	Oily Bilge System, DN-15 Pipe, SCHD- 40; Seamless, PN10, OD21.3*thk.2.77mm, Black, ASTM GRADE-106 B, Certificate: MTC	72	MTR
50.	Lub Oil System, DN-40 Pipe, SCHD- 80; Seamless, PN10, OD48.3 *thk. 5.08 mm, Black, ASTM GRADE-106 B, Certificate: MTC	156	MTR
51.	Lub Oil System, DN-32 Pipe, SCHD- 80; Seamless, PN10, OD42.2*thk. 4.85mm, Black, ASTM GRADE-106 B, Certificate: MTC	24	MTR
52.	Lub Oil System, DN-15 Pipe, SCHD- 80; Seamless,PN10, OD21.3*thk. 3.73mm, Black, ASTM GRADE-106 B, Certificate: MTC	49	MTR
53.	FO Service & OF System, DN-40 Pipe, SCHD- 80; Seamless, PN10, OD48.3*thk.5.08mm, Black, ASTM GRADE-106 B, Certificate: MTC	12	MTR
54.	FO Service & OF System, DN-32 Pipe, SCHD- 80; Seamless, PN10, OD42.2*thk.4.85mm, Black, ASTM GRADE-106 B, Certificate: MTC	36	MTR
55.	FO Service & OF System, DN-25 Pipe, SCHD- 80, Seamless, PN10, OD33.4*thk. 4.55mm, Black, ASTM GRADE-106 B, Certificate: MTC	96	MTR
56.	FO Service & OF System, DN-20 Pipe, SCHD- 80; Seamless, PN10, OD26.7*thk.3.91mm, Black, ASTM GRADE-106 B, Certificate: MTC	84	MTR

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
57.	FO Service & OF System, DN-15 Pipe, SCHD- 80; Seamless, PN10, OD21.3*thk.3.73mm, Black, ASTM GRADE-106 B, Certificate: MTC	84	MTR
58.	FO Transfer System, DN-25 Pipe, SCHD- 80; Seamless, PN10, OD33.4*thk.4.55mm, Black, ASTM GRADE-106 B, Certificate: MTC	24	MTR
59.	FO Transfer System, DN-15 Pipe, SCHD- 80; Seamless, PN10, OD21.3*thk.3.73mm, Black, ASTM GRADE-106 B, Certificate: MTC	120	MTR
60.	Domestic FW/HW/SW System, DN-32 Pipe, SCHD- 80; Seamless, PN10, OD42.2*thk.4.85mm, Black, ASTM GRADE-106 B, Certificate: MTC	228	MTR
61.	Domestic FW/HW/SW System, DN-25 Pipe, SCHD- 80; Seamless, PN10, OD33.4*thk.4.55mm, Black, ASTM GRADE-106 B, Certificate: MTC	240	MTR
62.	Domestic FW/HW/SW System, DN-15 Pipe, SCHD- 80; Seamless, PN10, OD21.3*thk.3.73mm, Black, ASTM GRADE-106 B, Certificate: MTC	36	MTR
63.	Domestic FW/HW/SW System, Ø12mm Pipe, SCHD- 80; Seamless, PN10, OD12*thk.2.5mm, Black, ASTM GRADE-106 B, Certificate: MTC	144	MTR
64.	Domestic FW/HW/SW System, Ø8mm Pipe, SCHD- 80; Seamless, PN10, OD8*thk.2mm, Black, ASTM GRADE- 106 B, Certificate: MTC	48	MTR
65.	Domestic Black/Grey water System, DN-40 Pipe, SCHD- 80; Seamless, PN10, OD48.3*thk.5.08mm, Black, ASTM GRADE-106 B, Certificate: MTC	180	MTR
66.	Domestic Black/Grey water System, DN-32 Pipe, SCHD- 80; Seamless, PN10, OD42.2*thk.4.85mm, Black, ASTM GRADE-106 B, Certificate: MTC	192	MTR
67.	Compressed Air System, DN-40 Pipe, SCHD- 40; Seamless, PN10, OD48.3*thk.3.68mm, Black, ASTM GRADE-106 B, Certificate: MTC	96	MTR
68.	Compressed Air System, DN-25 Pipe, SCHD- 40, Certificate: MTC, Seamless, PN10, OD33.4*thk.3.38mm, Black, ASTM GRADE-106 B	156	MTR
69.	Compressed Air System, DN-15 Pipe, SCHD- 40; Seamless, PN10, OD21.3*thk.2.77mm, Black, ASTM GRADE-106 B, Certificate: MTC	180	MTR
70.	M/E Central Cooling, DN-40 Pipe, SCHD- 40; Seamless, PN10, OD48.3*thk.3.68mm, Black, ASTM GRADE-106 B, Certificate: MTC	48	MTR
71.	M/E Central Cooling, DN-32 Pipe SCHD- 80; Seamless, PN10, OD42.2*thk.4.85mm, Black, ASTM GRADE-106 B, Certificate: MTC	24	MTR

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
72.	M/E Central Cooling, DN-20 Pipe, SCHD- 40; Seamless, PN10, OD26.7*thk.2.87mm, Black, ASTM GRADE-106 B, Certificate: MTC	48	MTR
73.	M/E Central Cooling, DN-15 Pipe, SCHD- 40; Seamless, PN10, OD21.3*thk.2.77mm, Black, ASTM GRADE-106 B, Certificate: MTC	36	MTR
74.	Auxiliary Central Cooling, DN-40 Pipe, SCHD- 80; Seamless, PN10, OD48.3*thk.5.08mm, Black, ASTM GRADE-106 B, Certificate: MTC	60	MTR
75.	Pipe, ASTM A106 Gr.B OD33.4*thk.3.38 mm, black, Certificate: MTC	127	Meter
76.	PIPE OD60.3*thk.5.54mm, ASTM A106 Gr.B, CS, Certificate: MTC	7	Meter
77.	PIPE OD60.3*thk.5.54mm, ASTM A106 Gr.B, CS, Certificate: MTC		
78.	PIPE OD60.3*thk.5.54mm, ASTM A106 Gr.B, CS, Certificate: MTC		
79.	PIPE OD73*thk.5.16mm, ASTM A106 Gr.B, CS, Certificate: MTC	53	Meter
80.	PIPE OD73*thk.5.16mm, ASTM A106 Gr.B, CS, Certificate: MTC		
81.	PIPE OD73*thk.5.16mm, ASTM A106 Gr.B, CS, Certificate: MTC		
82.	PIPE OD73*thk.5.16mm, ASTM A106 Gr.B, CS, Certificate: MTC		
83.	PIPE OD73*thk.5.16mm, ASTM A106 Gr.B, CS, Certificate: MTC		
84.	PIPE OD114.3*thk.8.56mm, ASTM A106 Gr.B, CS, Certificate: MTC	20	Meter
85.	PIPE OD114.3*thk.8.56mm, ASTM A106 Gr.B, CS, Certificate: MTC		
86.	PIPE OD219.1*thk.12.7mm, ASTM A106 Gr.B, CS, Certificate: MTC	17	Meter
87.	PIPE OD273.1*thk.15.09mm, ASTM A106 Gr.B, CS, Certificate: MTC	8	Meter
88.	CABLE PIPE 100 A, SCH40, OD114.3*thk.6.02mm, ASTM A106 Gr.B, CS, Certificate: MTC	24	Meter
89.	Handrail pipe, ASTM A106 Gr.B, OD42.2*4.85mm, black, Certificate: MTC	187	Meter
90.	Handrail pipe, ASTM A106 Gr.B, OD89*7.62mm, black, Certificate: MTC	7	Meter
91.	Handrail pipe, ASTM A106 Gr.B, OD114.3*8.56mm, black, Certificate: MTC	21	Meter
92.	DN125, PIPE 141.29 OD X 9.5 MM WALL (BW), SCH80, CuNi 90/10, Certificate: MTC	0.3	Meter

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
93.	DN80, PIPE 88.9 OD x 5.5 mm Wall (BW), SCH40, CuNi 90/10, Certificate: MTC	120	Meter
94.	DN65, PIPE 73 OD x 5.2 mm Wall (BW), SCH40, CuNi 90/10, Certificate: MTC	41	Meter
95.	DN50, PIPE 60.3 OD x 3.9 mm Wall (BW), SCH40, CuNi 90/10, Certificate: MTC	31	Meter
96.	DN40, PIPE 48.3 OD x 3.7 mm Wall (BW), SCH40, CuNi 90/10, Certificate: MTC	0.3	Meter
97.	DN250 GATE VALVE FLG, JIS 5K, CAST STEEL, Certificate: BV	4	PCS
98.	DN150 GATE VALVE (FLG), JIS 16K, CI, Certificate: MTC	2	PCS
99.	DN125 GATE VALVE FLG, JIS 5K, CI, Certificate: MTC	4	PCS
100.	DN100 GATE VALVE FLG, JIS 5K, CI, Certificate: MTC	28	PCS
101.	DN100 GATE VALVE FLG, JIS 10K, CI, Certificate: MTC	4	PCS
102.	DN80 GATE VALVE (FLG), JIS 16K, CI, Certificate: MTC	2	PCS
103.	DN80 GATE VALVE FLG, JIS 5K, CI , Certificate: MTC	84	PCS
104.	DN80 GATE VALVE FLG, JIS 5K, CAST STEEL, Certificate: BV	2	PCS
105.	DN65 GATE VALVE FLG, JIS 5K, CI, Certificate: MTC	46	PCS
106.	DN 65 GATE VALVE FLG., JIS 5K, CAST STEEL, Certificate: BV	8	PCS
107.	DN50 GATE VALVE FLG, JIS 5K, CI, Certificate: MTC	28	PCS
108.	DN100 SWING CHECK VALVE FLG, JIS 5K, CI, Certificate: MTC	10	PCS
109.	DN80 SWING CHECK VALVE FLG, JIS 5K, CI, Certificate: MTC	12	PCS
110.	DN65 SWING CHECK VALVE FLG, JIS 5K, CI, Certificate: MTC	8	PCS
111.	DN50 SWING CHECK VALVE FLG, JIS 5K, CI, Certificate: MTC	6	PCS
112.	DN100 SDNR VALVE FLG, JIS 5K, CI, Certificate: MTC	12	PCS
113.	DN100 SDNR VALVE FLG, JIS 10K, CI, Certificate: MTC	4	PCS
114.	DN80 SDNR VALVE FLG, JIS 5K, CI, Certificate: MTC	34	PCS
115.	DN80 SDNR VALVE FLG, JIS 5K, CAST STEEL, Certificate: BV	12	PCS
116.	DN65 SDNR VALVE FLG, JIS 5K, CI, Certificate: MTC	44	PCS
117.	DN65 SDNR VALVE FLG, JIS 5K, CAST STEEL, Certificate: BV	6	PCS
118.	DN50 SDNR VALVE FLG, JIS 5K, CI, Certificate: MTC	6	PCS
119.	DN65 SDNR GLOBE VALVE FLG, JIS 5K, CI, Certificate: MTC	8	PCS
120.	DN100 ANGLE SDNR FLG, JIS 5K, CAST STEEL, Certificate: BV	4	PCS
121.	DN80 ANGLE SDNR FLG, JIS 5K, CAST STEEL, Certificate: BV	4	PCS
122.	DN250 BUTTERFLY VALVE WAFER, JIS 5K, CI, Certificate: MTC	4	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
123.	DN150 BUTTERFLY VALVE (WAFER), DIN PN16, CI, Certificate: MTC	4	PCS
124.	DN125 BUTTERFLY VALVE (WAFER), DIN PN16, CI, Certificate: MTC	4	PCS
125.	DN100 BUTTERFLY VALVE WAFER, JIS 5K, CI, Certificate: MTC	20	PCS
126.	DN80 BUTTERFLY VALVE WAFER, JIS 5K, CI, Certificate: MTC	4	PCS
127.	DN80 BUTTERFLY VALVE (WAFER), DIN PN16, CI, Certificate: MTC	8	PCS
128.	DN50 BUTTERFLY VALVE (WAFER), DIN PN16, CI, Certificate: MTC	4	PCS
129.	DN150 BUTTERFLY VALVE LUG, JIS 5K, CAST STEEL, Certificate: BV	4	PCS
130.	DN100 BUTTERFLY VALVE FLG, JIS 5K, CI, Certificate: MTC	2	PCS
131.	DN65 BUTTERFLY VALVE (LUG), DIN PN16, CAST STEEL, Certificate: BV	4	PCS
132.	DN125 CHECK VALVE, JIS 16K, CI, Certificate: MTC	4	PCS
133.	DN100 GLOBE VALVE FLG, JIS 10K, CI, Certificate: MTC	4	PCS
134.	DN 65 ANGLE HOSE VALVE FLG, JIS 5K, BRONZE, Certificate: MTC	16	PCS
135.	DN80 ANGLE STORM VALVE FLG, JIS 5K, CAST STEEL, Certificate: BV	2	PCS
136.	DN50 PRESSURE RELIEF VALVE, JIS 5K, CI, Certificate: MTC	2	PCS
137.	DN40 QUICK-CLOSING VALVE FLG, JIS 5K, CAST STEEL, WIRE PULL, Certificate: BV	10	PCS
138.	DN65 QUICK-CLOSING VALVE FLG, JIS 5K, CAST STEEL, WIRE PULL, Certificate: BV	20	PCS
139.	DN100 ANGLE STORM VALVE FLG, JIS 5K, CAST STEEL, Certificate: BV	2	PCS
140.	DN450 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	18	PCS
141.	DN350 FLANGE FL FF SO (BW), DIN PN16; carbon steel, Certificate: MTC	36	PCS
142.	DN350 FLANGE FL FF SO (BW), DIN PN10; carbon steel, Certificate: MTC	8	PCS
143.	DN250 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: BV	8	PCS
144.	DN250 FLANGE FL FF SO (BW), DIN PN25; carbon steel, Certificate: MTC	4	PCS
145.	DN250 FLANGE FL FF SO (BW), DIN PN16; carbon steel, Certificate: MTC	8	PCS
146.	DN150 FLANGE FL FF SO (BW), JIS 16K; carbon steel, Certificate: MTC	4	PCS
147.	DN150 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	68	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
148.	DN150 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: BV	4	PCS
149.	DN150 FLANGE FL FF SO (BW), DIN PN20; carbon steel, Certificate: MTC	8	PCS
150.	DN150 FLANGE FL FF SO (BW), DIN PN16; carbon steel, Certificate: MTC	16	PCS
151.	DN150 FLANGE, FL FF SO (BW), DIN PN10; carbon steel, Certificate: MTC	8	PCS
152.	DN150 FLANGE FL FF SO (BW), DIN PN6; carbon steel, Certificate: MTC	8	PCS
153.	DN125 FLANGE, FL FF SO (BW), JIS 16K; carbon steel, Certificate: MTC	8	PCS
154.	DN125 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	128	PCS
155.	DN125 FLANGE, FL FF SO (BW), DIN PN16; carbon steel, Certificate: MTC	8	PCS
156.	DN125 FLANGE, FL FF SO (BW), DIN PN10; carbon steel, Certificate: MTC	2	PCS
157.	DN125 FLANGE, FL FF SO (BW), DIN PN6; carbon steel, Certificate: MTC	4	PCS
158.	DN100 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	460	PCS
159.	DN100 FLANGE, FL FF SO (BW), JIS 10K; carbon steel, Certificate: MTC	128	PCS
160.	DN100 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: BV	6	PCS
161.	DN100 FLANGE, FL FF SO (BW), DIN PN16; carbon steel, Certificate: MTC	4	PCS
162.	DN100 FLANGE, FL FF SO (BW), DIN PN6; carbon steel, Certificate: MTC	20	PCS
163.	DN100 FLANGE, FL FF SO (BW), ANSI 150; carbon steel , Certificate: MTC	12	PCS
164.	DN80 FLANGE, FL FF SO (BW), JIS 16K; carbon steel, Certificate: MTC	4	PCS
165.	DN80 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	986	PCS
166.	DN80 FLANGE, FL FF SO (BW), JIS 10K; carbon steel, Certificate: MTC	66	PCS
167.	DN80 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: BV	24	PCS
168.	DN80 FLANGE, FL FF SO (BW), DIN PN16; carbon steel, Certificate: MTC	66	PCS
169.	DN80 FLANGE, FL FF SO (BW), DIN PN6; carbon steel, Certificate: MTC	28	PCS
170.	DN80 FLANGE, FL FF SO (BW), ANSI 150; carbon steel, Certificate: MTC	6	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
171.	DN65 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	1686	PCS
172.	DN65 FLANGE, FL FF SO (BW), JIS 10K; carbon steel, Certificate: MTC	52	PCS
173.	DN65 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: BV	12	PCS
174.	DN65 FLANGE, FL FF SO (BW), DIN PN16; carbon steel, Certificate: MTC	20	PCS
175.	DN65 FLANGE, FL FF SO (BW), DIN PN16; carbon steel, Certificate: BV	12	PCS
176.	DN65 FLANGE, FL FF SO (BW), DIN PN10; carbon steel, Certificate: MTC	2	PCS
177.	DN65 FLANGE, FL FF SO (BW), DIN PN6; carbon steel, Certificate: MTC	4	PCS
178.	DN50 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	688	PCS
179.	DN50 FLANGE, FL FF SO (BW), DIN PN16; carbon steel , Certificate: MTC	16	PCS
180.	DN50 FLANGE, FL FF SO (BW), DIN PN10; carbon steel, Certificate: MTC	2	PCS
181.	DN50 FLANGE, FL FF SO (BW), DIN PN6; carbon steel, Certificate: MTC	68	PCS
182.	DN40 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	44	PCS
183.	DN32 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	36	PCS
184.	DN32 FLANGE, FL FF SO (BW), DIN PN6; carbon steel, Certificate: MTC	2	PCS
185.	DN15 FLANGE, FL FF SO (BW), JIS 5K; carbon steel, Certificate: MTC	2	PCS
186.	DN125 FLANGE BLD FF (BW), JIS 5K; carbon steel, Certificate: MTC	2	PCS
187.	DN100 FLANGE BLD FF (BW), JIS 5K; carbon steel, Certificate: MTC	26	PCS
188.	DN80 FLANGE BLD FF (BW), JIS 5K; carbon steel, Certificate: MTC	34	PCS
189.	DN65 FLANGE BLD FF (BW), JIS 5K; carbon steel, Certificate: MTC	8	PCS
190.	DN50 FLANGE BLD FF (BW), JIS 5K; carbon steel, Certificate: MTC	2	PCS
191.	DN250 STUD RING, M.S; Flange Size OD400 * ID274.5 * thk.32mm), black, with washer and M20*70mm bolts and nuts. Certificate: MTC	4	PCS
192.	DN 80 FIRE I.S.C, Certificate: MTC	2	PCS
193.	DN50 SEWAGE I.S.C, Certificate: MTC	2	PCS
194.	Bilge, Ballast & Fire Main, DN-40 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	40	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
195.	Oily Bilge System, DN-40 Flange, Black, ASTM GRADE 106 B, JIS/DIN, PN10, Certificate: MTC	80	PCS
196.	Oily Bilge System, DN-32 Flange, Black, ASTM GRADE 106 B, JIS/DIN, PN10, Certificate: MTC	56	PCS
197.	Lub Oil System, DN-15 Flange, Black, ASTM GRADE- 106 B, JIS/DIN, PN10, Certificate: MTC	40	PCS
198.	DN450 90 DEG ELBOW (BW), SCH10, CS, BLACK. , Certificate: MTC	4	PCS
199.	DN350 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	16	PCS
200.	DN250 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: BV	2	PCS
201.	DN250 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	2	PCS
202.	DN200 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	8	PCS
203.	DN150 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	8	PCS
204.	DN150 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: BV	8	PCS
205.	DN150 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	4	PCS
206.	DN150 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	24	PCS
207.	DN150 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	10	PCS
208.	DN125 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	10	PCS
209.	DN125 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	16	PCS
210.	DN125 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
211.	DN125 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	8	PCS
212.	DN100 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	108	PCS
213.	DN100 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: BV	20	PCS
214.	DN100 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	122	PCS
215.	DN100 90 DEG ELBOW (BW), SCH40, CS, BLACK. , Certificate: MTC	24	PCS
216.	DN100 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
217.	DN80 90 DEG ELBOW (BW), SCH160, CS, BLACK, Certificate: BV	2	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
218.	DN80 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	158	PCS
219.	DN80 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	48	PCS
220.	DN80 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	272	PCS
221.	DN80 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	2	PCS
222.	DN65 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	236	PCS
223.	DN65 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: BV	8	PCS
224.	DN65 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	464	PCS
225.	DN65 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	124	PCS
226.	DN65 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	56	PCS
227.	DN50 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	128	PCS
228.	DN50 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	138	PCS
229.	DN50 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	86	PCS
230.	DN50 90 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	40	PCS
231.	DN40 90 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	2	PCS
232.	DN450 90 DEG ELBOW SR (BW), SCH10, CS, BLACK, Certificate: MTC	2	PCS
233.	DN350 90 DEG ELBOW SR (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
234.	DN150 90 DEG ELBOW SR (BW), SCH80, CS, BLACK, Certificate: MTC	4	PCS
235.	DN125 90 DEG ELBOW SR (BW), SCH80, CS, BLACK, Certificate: MTC	4	PCS
236.	DN80 90 DEG ELBOW SR (BW), SCH40, CS, BLACK, Certificate: MTC	2	PCS
237.	DN65 90 DEG ELBOW SR (BW), SCH80, CS, BLACK, Certificate: MTC	14	PCS
238.	DN65 90 DEG ELBOW SR (BW), SCH80, CS, BLACK, Certificate: MTC	14	PCS
239.	DN65 90 DEG ELBOW SR (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
240.	DN50 90 DEG ELBOW SR (BW), SCH80, CS, BLACK, Certificate: MTC	4	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
241.	DN450 45 DEG ELBOW (BW), SCH10, CS, BLACK, Certificate: MTC	8	PCS
242.	DN350 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	8	PCS
243.	DN150 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	10	PCS
244.	DN150 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
245.	DN125 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	6	PCS
246.	DN125 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	6	PCS
247.	DN125 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
248.	DN125 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	12	PCS
249.	DN100 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	74	PCS
250.	DN100 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	52	PCS
251.	DN100 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	6	PCS
252.	DN100 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	10	PCS
253.	DN80 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	76	PCS
254.	DN80 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	8	PCS
255.	DN80 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	102	PCS
256.	DN80 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	6	PCS
257.	DN65 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	38	PCS
258.	DN65 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	170	PCS
259.	DN65 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	84	PCS
260.	DN65 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	12	PCS
261.	DN50 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	24	PCS
262.	DN50 45 DEG ELBOW (BW), SCH80, CS, BLACK, Certificate: MTC	24	PCS
263.	DN50 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	26	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
264.	DN50 45 DEG ELBOW (BW), SCH40, CS, BLACK, Certificate: MTC	14	PCS
265.	Bilge, Ballast & Fire Main, DN-40 Elbow, 90° Long Radius, PN10; 48.3 X 5, Black, ASTM GRADE-106 B, Certificate: MTC	24	PCS
266.	Oily Bilge System, DN-40 Elbow, 90° Long Radius, PN10; 48.3 X 3.7, Black, ASTM GRADE-106 B, Certificate: MTC	70	PCS
267.	Oily Bilge System, DN-32 Elbow, 90° Long Radius, PN10; 42.2 X 3.5, Black, ASTM GRADE-106 B, Certificate: MTC	40	PCS
268.	Oily Bilge System, DN-25 Elbow, 90° Long Radius, PN10; 33.4 X 3.3, Black, ASTM GRADE-106 B, Certificate: MTC	30	PCS
269.	Oily Bilge System, DN-20 Elbow, 90° Long Radius, PN10; 26.7 X 2.8, Black, ASTM GRADE-106 B, Certificate: MTC	10	PCS
270.	Lub Oil System, DN-40 Elbow, 90° Long Radius, PN10, 48.3 X 5, Black, ASTM GRADE-106 B, Certificate: MTC	80	PCS
271.	Lub Oil System, DN-32 Elbow, 90° Long Radius, PN10, 42.2 X 4.8, Black, ASTM GRADE-106 B, Certificate: MTC	12	PCS
272.	Lub Oil System, DN-15 Elbow, 90° Long Radius, PN10, 21.3 X 3.7, Black, ASTM GRADE-106 B, Certificate: MTC	32	PCS
273.	FO Service & OF System, DN-40 Elbow, 90° Long, Radius, PN10; 48.3 X 5, Black, ASTM GRADE-106 B, Certificate: MTC	4	PCS
274.	FO Service & OF System, DN-32 Elbow, 90° Long, Radius, PN10; 42.2 X 4.8, Black, ASTM GRADE-106 B, Certificate: MTC	20	PCS
275.	FO Service & OF System, DN-25 Elbow, 90° Long, Radius, PN10; 33.4 X 4.5, Black, ASTM GRADE-106 B, Certificate: MTC	48	PCS
276.	FO Service & OF System, DN-20 Elbow, 90° Long, Radius, PN10; 26.7 X 3.9, Black, ASTM GRADE-106 B, Certificate: MTC	30	PCS
277.	FO Service & OF System, DN-15 Elbow, 90° Long, Radius, PN10; 21.3 X 3.7, Black, ASTM GRADE-106 B, Certificate: MTC	40	PCS
278.	FO Transfer System, DN-25 Elbow, 90° Long Radius, PN10; 33.4 X 4.5, Black, ASTM GRADE-106 B, Certificate: MTC	12	PCS
279.	FO Transfer System, DN-15 Elbow, 90° Long Radius, PN10; 21.3 X 3.7, Black, ASTM GRADE-106 B, Certificate: MTC	80	PCS
280.	Domestic FW/HW/SW System, DN-32 Elbow, 90° Long Radius, PN10; 42.2 X 4.8, Black, ASTM GRADE-106 B, Certificate: MTC	120	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
281.	Domestic FW/HW/SW System, DN-25 Elbow, 90° Long Radius, PN10, 33.4 X 4.5, Black, ASTM GRADE-106 B, Certificate: MTC	120	PCS
282.	Domestic FW/HW/SW System, DN-15 Elbow, 90° Long Radius, PN10; 21.3 X 3.7, Black, ASTM GRADE-106 B, Certificate: MTC	20	PCS
283.	Domestic Black/Grey water System, DN-40 Elbow, 90° Long Radius, PN10; 48.3 X 5, Black, ASTM GRADE- 106 B, Certificate: MTC	120	PCS
284.	Domestic Black/Grey water System, DN-32 Elbow, 90° Long Radius, PN10; 42.2 X 4.8, Black, ASTM GRADE- 106 B, Certificate: MTC	130	PCS
285.	Compressed Air System, DN-40 Elbow, 90° Long Radius, PN10; 48.3 X 3.68, Black, ASTM GRADE-106 B, Certificate: MTC	40	PCS
286.	Compressed Air System, DN-25 Elbow, 90° Long Radius, PN10; 33.4 X 3.38, Black, ASTM GRADE-106 B, Certificate: MTC	80	PCS
287.	Compressed Air System, DN-15 Elbow, 90° Long Radius, PN10; 21.3 X 3.7, Black, ASTM GRADE-106 B, Certificate: MTC	80	PCS
288.	M/E Central Cooling, DN-40 Elbow, 90° Long Radius, PN10; 48.3 X 3.68, Black, ASTM GRADE-106 B, Certificate: MTC	20	PCS
289.	M/E Central Cooling, DN-32 Elbow, 90° Long Radius, PN10; 42.2 X 4.8, Black, ASTM GRADE-106 B, Certificate: MTC	24	PCS
290.	M/E Central Cooling, DN-20 Elbow, 90° Long Radius, PN10; 26.7 X 2.8, Black, ASTM GRADE-106 B, Certificate: MTC	20	PCS
291.	M/E Central Cooling, DN-15 Elbow, 90° Long Radius, PN10; 21.3 X 2.7, Black, ASTM GRADE-106 B, Certificate: MTC	20	PCS
292.	Auxiliary Central Cooling, DN-40 Elbow, 90° Long Radius, PN10; 48.3 X 5, Black, ASTM GRADE-106 B, Certificate: MTC	20	PCS
293.	500-350 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: BV	4	PCS
294.	350-250 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
295.	350-200 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
296.	250-150 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
297.	150-125 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	8	PCS
298.	150-100 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: BV	12	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
299.	150-100 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	2	PCS
300.	125-100 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	2	PCS
301.	125-100 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	12	PCS
302.	125-80 CONC. REDUCER (BW), SCH160, CS, BLACK, Certificate: BV	2	PCS
303.	125-80 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	6	PCS
304.	125-80 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	16	PCS
305.	100-80 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	10	PCS
306.	100-80 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	4	PCS
307.	100-80 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	10	PCS
308.	100-80 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	6	PCS
309.	100-65 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	8	PCS
310.	100-65 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	22	PCS
311.	100-50 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	4	PCS
312.	100-50 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
313.	80-65 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	8	PCS
314.	80-65 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	10	PCS
315.	80-50 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	20	PCS
316.	80-50 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	6	PCS
317.	80-40 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	10	PCS
318.	65-50 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	4	PCS
319.	65-50 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	4	PCS
320.	65-25 CONC. REDUCER (BW), SCH40, CS, BLACK, Certificate: MTC	12	PCS
321.	50-40 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	6	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
322.	50-32 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	12	PCS
323.	50-32 CONC. REDUCER (BW), SCH80, CS, BLACK, Certificate: MTC	4	PCS
324.	Oily Bilge System, DN 50 X DN 40 Reducer, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
325.	Oily Bilge System, DN 50 X DN 32 Reducer, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
326.	Oily Bilge System, DN 40 X DN 32 Reducer, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
327.	Oily Bilge System, DN 40 X DN 25 Reducer, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
328.	Lub Oil System, DN 50 X DN 40 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
329.	Lub Oil System, DN 40 X DN 32 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
330.	FO Service & OF System, DN 50 X DN 32 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
331.	FO Service & OF System, DN 40 X DN 32 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
332.	FO Service & OF System, DN 32 X DN 25 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
333.	FO Service & OF System, DN 20 X DN 15 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	10	PCS
334.	FO Service & OF System, DN 15 X DN 10 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	10	PCS
335.	FO Transfer System, DN 25 X DN 15 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
336.	Domestic FW/HW/SW System, DN 50 X DN 32 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	8	PCS
337.	Domestic FW/HW/SW System, DN 32 X DN 25 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	6	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
338.	Domestic FW/HW/SW System, DN 25 X DN 15 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
339.	Domestic Black/Grey water System, DN 40 X DN 32, Reducer, SCHD- 80; Seamless, Black, ASTM GRADE- 106 B, PN10, Certificate: MTC	2	PCS
340.	Compressed Air System, DN 40 X DN 25 Reducer, SCHD-40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	10	PCS
341.	Compressed Air System, DN 40 X DN 15 Reducer, SCHD-40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
342.	Compressed Air System, DN 25 X DN 15 Reducer, SCHD-40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	10	PCS
343.	Compressed Air System, DN 20 X DN 15 Reducer, SCHD-40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	10	PCS
344.	Compressed Air System, DN 15 X DN 10 Reducer, SCHD-40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
345.	M/E Central Cooling, DN 32 X DN 25 Reducer, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	8	PCS
346.	Auxiliary Central Cooling, DN 40 X DN 32 Reducer, SCHD-80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
347.	DN250-DN200 REDUCER, CS, sch80, Certificate: MTC	2	NOS
348.	Socket, 1/2", Inner thread, 3000# carbon steel, Certificate: MTC	24	PCS
349.	Socket, 1/4", Inner thread, 3000# carbon steel, Certificate: MTC	12	PCS
350.	Socket, 1/2", Inner thread, 3000# carbon steel, Certificate: MTC	16	PCS
351.	Socket, 1/4", Inner thread, 3000# carbon steel, Certificate: MTC	12	PCS
352.	H-Nipple/Pipe Nipple, 1 1/4", carbon steel, Outer thread, Certificate: MTC	4	PCS
353.	H-Nipple/Pipe Nipple, 1", carbon steel, Outer thread, Certificate: MTC	60	PCS
354.	H-Nipple/Pipe Nipple, 1/2", carbon steel, Outer thread, Certificate: MTC	12	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
355.	Oily Bilge System, DN 25 X DN 25 X DN 25 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
356.	Oily Bilge System, DN 32 X DN 32 X DN 32 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
357.	Lub Oil System, DN 65 X DN 40 X DN 65 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
358.	Lub Oil System, DN 40 X DN 40 X DN 40 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	6	PCS
359.	Lub Oil System, DN 15 X DN 15 X DN 15 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	6	PCS
360.	FO Service & OF System, DN 50 X DN 32 X DN 50 Tee, SCHD- 80, Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
361.	FO Service & OF System, DN 50 X DN 20 X DN 50 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
362.	FO Service & OF System, DN 25 X DN 20 X DN 25 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
363.	FO Service & OF System, DN 25 X DN 15 X DN 25 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
364.	FO Service & OF System, DN 25 X DN 25 X DN 25 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	12	PCS
365.	FO Service & OF System, DN 20 X DN 20 X DN 20 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
366.	FO Service & OF System, DN 20 X DN 15 X DN 20 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
367.	FO Service & OF System, DN 15 X DN 15 X DN 15 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
368.	FO Transfer System, DN 25 X DN 15 X DN 25 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
369.	FO Transfer System, DN 15 X DN 15 X DN 15 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	10	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
370.	Domestic FW/HW/SW System, DN 32 X DN 32 X DN 32 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
371.	Domestic FW/HW/SW System, DN 32 X DN 25 X DN 32 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
372.	Domestic FW/HW/SW System, DN 25 X DN 15 X DN 25 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
373.	Domestic FW/HW/SW System, DN 15 X DN 15 X DN 15 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
374.	Domestic Black/Grey water System, DN 50 X DN 40 X DN 50 Tee, SCHD- 80; Seamless, Black, ASTM GRADE- 106 B, PN10, Certificate: MTC	2	PCS
375.	Domestic Black/Grey water System, DN 40 X DN 40 X DN 40 Tee, SCHD- 80; Seamless, Black, ASTM GRADE- 106 B, PN10, Certificate: MTC	2	PCS
376.	Compressed Air System, DN 40 X DN 40 X DN 40 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	6	PCS
377.	Compressed Air System, DN 40 X DN 25 X DN 40 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	6	PCS
378.	Compressed Air System, DN 40 X DN 15 X DN 40 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	8	PCS
379.	Compressed Air System, DN 25 X DN 15 X DN 25 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	8	PCS
380.	Compressed Air System, DN 25 X DN 25 X DN 25 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	2	PCS
381.	M/E Central Cooling, DN 80 X DN 40 X DN 80 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
382.	M/E Central Cooling, DN 80 X DN 32 X DN 80 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
383.	M/E Central Cooling, DN 50 X DN 32 X DN 50 Tee, SCHD- 80; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
384.	M/E Central Cooling, DN 15 X DN 15 X DN 15 Tee, SCHD- 40; Seamless, Black, ASTM GRADE-106 B, PN10, Certificate: MTC	4	PCS
385.	DN 150 OIL SPILL BOX FLG, STEEL; steel plate thickness 10mm, Certificate: MTC	2	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
386.	DN 125 OIL SPILL BOX FLG, STEEL; steel plate thickness 10mm, Certificate: MTC	2	PCS
387.	DN100 OIL SPILL BOX FLG, STEEL; steel plate thickness 10mm, Certificate: MTC	2	PCS
388.	DN 80 OIL SPILL BOX FLG, STEEL; steel plate thickness 10mm, Certificate: MTC	2	PCS
389.	DN 65 OIL SPILL BOX FLG, STEEL; steel plate thickness 10mm, Certificate: MTC	10	PCS
390.	DN100 EXPANSION JOINT, ANSI 150; carbon steel flange, SS304 Bellow, Certificate: MTC	4	PCS
391.	DN80 EXPANSION JOINT, ANSI 150; carbon steel flange, SS304 Bellow, Certificate: MTC	2	PCS
392.	DN350 FLEXIBLE JOINT, DIN PN16; L=265mm, material carbon steel + EPDM rubber, Certificate: MTC	4	PCS
393.	DN 65 GOOSENECK COVER, CS, Certificate: MTC	12	PCS
394.	DN 50 GOOSENECK COVER, CS, Certificate: MTC	14	PCS
395.	DN50 INTERNAL DRAIN SCUPPER, MS, Certificate: MTC	8	PCS
396.	DN450 RAINSHIELD, CS, Certificate: MTC	4	PCS
397.	DN125 RAINSHIELD, CS, Certificate: MTC	4	PCS
398.	DN100 RAINSHIELD, CS, Certificate: MTC	2	PCS
399.	DN80 SCUPPER_GRATING_EXT., MS, Certificate: MTC	6	PCS
400.	DN 125 OVERFLOW CYLINDER TANK, 10mm thickness steel, Certificate: MTC	2	PCS
401.	DN 65 OVERFLOW CYLINDER TANK, 10mm thickness steel, Certificate: MTC	8	PCS
402.	Dia.20mm round bar, carbon steel, 6m/piece, Certificate: MTC	126	meter
403.	Dia.20mm round bar, carbon steel, 6m/piece, Certificate: MTC	228	meter
404.	DN80, 90 DEG ELBOW (BW), SCH40, CuNi 90/10, Certificate: MTC	42	PCS
405.	DN65, 90 DEG ELBOW (BW), SCH40, CuNi 90/10, Certificate: MTC	30	PCS
406.	DN50, 90 DEG ELBOW (BW), SCH40, CuNi 90/10, Certificate: MTC	8	PCS
407.	DN80, 90 DEG ELBOW SR (BW), SCH40, CuNi 90/10, Certificate: MTC	2	PCS
408.	DN80, 45 DEG ELBOW (BW), SCH40, CuNi 90/10, Certificate: MTC	20	PCS
409.	DN65, 45 DEG ELBOW (BW), SCH40, CuNi 90/10, Certificate: MTC	14	PCS
410.	DN50, 45 DEG ELBOW (BW), SCH40, CuNi 90/10, Certificate: MTC	2	PCS
411.	80-65, CONC. REDUCER (BW), SCH40, CuNi 90/10, Certificate: MTC	14	PCS
412.	80-50, CONC. REDUCER (BW), SCH40, CuNi 90/10, Certificate: MTC	2	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
413.	80-40, CONC. REDUCER (BW), SCH40, CuNi 90/10, Certificate: MTC	2	PCS
414.	65-50, CONC. REDUCER (BW), SCH40, CuNi 90/10, Certificate: MTC	4	PCS
415.	DN80, FLANGE, FL FF SO (BW), JIS 5K, CuNi 90/10, Certificate: MTC	146	PCS
416.	DN65, FLANGE, FL FF SO (BW), JIS 5K, CuNi 90/10, Certificate: MTC	36	PCS
417.	DN50, FLANGE, FL FF SO (BW), JIS 5K, CuNi 90/10, Certificate: MTC	26	PCS
418.	DN40, FLANGE, FL FF SO (BW), JIS 5K, CuNi 90/10, Certificate: MTC	4	PCS
419.	DN250 STRAINER 250A, JIS 5K, CI, Certificate: MTC	4	PCS
420.	DN80 STRAINER FLG, JIS 5K, CI, Certificate: MTC	2	PCS
421.	DN65 STRAINER FLG, JIS 5K, CAST STEEL , Certificate: MTC	4	PCS
422.	DN80 JIS WATER STRAINER, JIS 5K, CI, Certificate: MTC	6	PCS
423.	DN65 SIMPLEX OIL STRAINER, JIS 5K, CI, Certificate: MTC	4	PCS
424.	DN80 EDUCTOR, Inlet-DN50, Suction/Discharge- DN80, JIS 5K, BRONZE, Certificate: MTC	2	PCS
425.	DN100 SIGHT GLASS, JIS 5K, CI, Certificate: MTC	2	PCS
426.	DN100 FLOW METER, JIS 5K; Oval geared flowmeter LC-A100JIS5K.2/BELZ, DN100mm, DC24V, output 4- 20mA, with RS485 communication, LCD display of instantaneous flow rate and cumulative total amount; Material: cast iron, flange connection; Flow range: 15- 100m3/h, accuracy: 0.5%, temperature resistance -20~60 °C, pressure resistance: 1.6Mpa, JIS 5K standard flange, Certificate: MTC	2	PCS
427.	DN50 FLOW METER, JIS 5K; Oval geared flowmeter LC-A50JIS5K.2/BELZ, DN50mm, DC24V, output 4- 20mA, with RS485 communication, LCD display of instantaneous flow rate and cumulative total amount; Material: cast iron, flange connection; Flow range: 4- 24m3/h, accuracy: 0.5%, temperature resistance -20~60 °C, pressure resistance: 1.6Mpa, JIS 5K standard flange, Certificate: MTC	2	PCS
428.	DN80 FW. AIR SEPARATOR, CS, Certificate: MTC	4	PCS
429.	DN80 MUD BOX (L TYPE), JIS 5K, CI, Certificate: MTC	2	PCS
430.	DN65 MUD BOX (L TYPE), JIS 5K, CI, Certificate: MTC	10	PCS
431.	DN65 ROSE BOX, JIS, carbon steel, Certificate: MTC	4	PCS
432.	DN 150 AIR VENT HEAD, JIS 5K, CI, FLAME SCR, Certificate: MTC	2	PCS
433.	DN 125 AIR VENT HEAD, JIS 5K, CI, FLAME SCR, Certificate: MTC	2	PCS
434.	DN 100 AIR VENT HEAD, JIS 5K, CI, INSECT SCR, Certificate: MTC	16	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
435.	DN 80 AIR VENT HEAD, JIS 5K, CI, FLAME SCR, Certificate: MTC	2	PCS
436.	DN 65 AIR VENT HEAD, JIS 5K, CI, FLAME SCR, Certificate: MTC	14	PCS
437.	DN 50 AIR VENT HEAD, JIS 5K, CI, INSECT SCR, Certificate: MTC	10	PCS
438.	Gauge Cock, 1/4" DN6, Male-Female, Certificate: MTC	12	PCS
439.	Gauge Cock, 1/2" DN15, Male-Female, Certificate: MTC	44	PCS
440.	Pipe 38 X 5, HP, material E355(St. 52.4), EN10305-4(DIN2445/2), 338 bar , Certificate: MTC	156	MTR
441.	Pipe 30 X 4, HP, material E355(St. 52.4), EN10305-4(DIN2445/2), 342 bar, Certificate: MTC	48	MTR
442.	Pipe 25 X 3, HP, material E355(St. 52.4), EN10305-4(DIN2445/2), 308 bar, Certificate: MTC	72	MTR
443.	Pipe 12 X 2, HP, material E355(St. 52.4), EN10305-4(DIN2445/2), 428 bar, Certificate: MTC	216	MTR
444.	Pipe 35 X 3, LP, material E235(St. 37.4), EN10305-4(DIN2445/2), 220 bar, Certificate: MTC	12	MTR
445.	Pipe 28 X 2, LP, material E235(St. 37.4), EN10305-4(DIN2445/2), 183 bar, Certificate: MTC	108	MTR
446.	Pipe 22 X 2, LP, material E235(St. 37.4), EN10305-4(DIN2445/2), 233 bar, Certificate: MTC	24	MTR
447.	Pipe 15 X 1.5, LP, material E235(St. 37.4), EN10305-4(DIN2445/2), 257 bar, Certificate: MTC	48	MTR
448.	Pipe 12 X 1.5, LP, material E235(St. 37.4), EN10305-4(DIN2445/2), 321 bar, Certificate: MTC	48	MTR
449.	Union Connector 38 mm, HP, 338 bar; 316L, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	50	PCS
450.	Union Connector 30 mm, HP, 342 bar; 316L, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	10	PCS
451.	Union Connector 25 mm, HP, 308 bar; 316L, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	24	PCS
452.	Union Connector 12 mm, HP, 428 bar; 316L, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	80	PCS
453.	Union Connector 35 mm, LP, 220 bar; 45# carbon steel, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	6	PCS
454.	Union Connector 28 mm, LP, 183 bar; 45# carbon steel, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	40	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
455.	Union Connector 22 mm, LP, 233 bar; 45# carbon steel, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	10	PCS
456.	Union Connector 15 mm, LP, 257 bar; 45# carbon steel, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	20	PCS
457.	Union Connector 12 mm, LP, 321 bar; 45# carbon steel, sleeve type union (including screw cap sleeves at both ends) , Certificate: MTC	20	PCS
458.	Male Connector 38 mm X 1.5", HP, 338 bar; 316L, terminal type union (including screw cap sleeves at one end) , Certificate: MTC	8	PCS
459.	Male Connector 30 mm X 1.25", HP, 342 bar; 316L, terminal type union (including screw cap sleeves at one end) , Certificate: MTC	8	PCS
460.	Male Connector 25 mm X 1", HP, 308 bar; 316L, terminal type union (including screw cap sleeves at one end) , Certificate: MTC	8	PCS
461.	Male Connector 12 mm X 3/8", HP, 428 bar; 316L, terminal type union (including screw cap sleeves at one end) , Certificate: MTC	16	PCS
462.	Male Connector 22 mm X 3/4", LP, 233 bar; 45# carbon steel, terminal type union (including screw cap sleeves at one end); Thread type, Certificate: MTC	8	PCS
463.	Reducing Connector 28 mm X 22 mm, LP, 183 bar; 45# carbon steel, sleeve type reducing union (including screw cap sleeves at both ends) , Certificate: MTC	2	PCS
464.	Reducing Connector 35 mm X 28 mm, LP, 220 bar; 45# carbon steel, sleeve type reducing union (including screw cap sleeves at both ends) , Certificate: MTC	20	PCS
465.	Tee Connector 28 mm X 12mm X 28mm, LP, 183 bar; 45# carbon steel, sleeve type union tee (including screw cap sleeves at three ends) , Certificate: MTC	6	PCS
466.	Tee Connector 28 mm X 22mm X 28mm, LP, 183 bar; 45# carbon steel, sleeve type union tee (including screw cap sleeves at three ends) , Certificate: MTC	2	PCS
467.	Tee Connector 28 mm X 15mm X 28mm, LP, 233 bar; 45# carbon steel, sleeve type union tee (including screw cap sleeves at three ends) , Certificate: MTC	4	PCS
468.	Oily Bilge System, DN-25 Flange, Black, ASTM GRADE 106 B, JIS/DIN, PN10, Certificate: MTC	60	PCS
469.	Oily Bilge System, DN-20 Flange, Black, ASTM GRADE 106 B, JIS/DIN, PN10, Certificate: MTC	12	PCS
470.	Lub Oil System, DN-40 Flange, Black, ASTM GRADE- 106 B, JIS/DIN, PN10, Certificate: MTC	76	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
471.	Lub Oil System, DN-32 Flange, Black, ASTM GRADE- 106 B, JIS/DIN, PN10, Certificate: MTC	20	PCS
472.	FO Service & OF System, DN-40 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	8	PCS
473.	FO Service & OF System, DN-32 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	16	PCS
474.	FO Service & OF System, DN-25 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	60	PCS
475.	FO Service & OF System, DN-20 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	48	PCS
476.	FO Service & OF System, DN-15 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	60	PCS
477.	FO Transfer System, DN-25 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	16	PCS
478.	FO Transfer System, DN-15 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	40	PCS
479.	Domestic FW/HW/SW System, DN-32 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	100	PCS
480.	Domestic FW/HW/SW System, DN-25 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	120	PCS
481.	Domestic FW/HW/SW System, DN-15 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	20	PCS
482.	Domestic Black/Grey water System, DN-40 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	60	PCS
483.	Domestic Black/Grey water System, DN-32 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	24	PCS
484.	Compressed Air System, DN-40 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	60	PCS
485.	Compressed Air System, DN-25 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	100	PCS
486.	Compressed Air System, DN-15 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	124	PCS
487.	M/E Central Cooling, DN-40 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	24	PCS
488.	M/E Central Cooling, DN-32 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	24	PCS
489.	M/E Central Cooling, DN-20 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	24	PCS
490.	M/E Central Cooling, DN-15 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	24	PCS
491.	Auxiliary Central Cooling, DN-40 Flange, Black, ASTM GRADE-106 B, JIS/DIN, PN10, Certificate: MTC	72	PCS
492.	Hose Pipe, HP, 38mm/1.5 inch, 338 bar, 1meters per piece, Certificate: MTC	4	PCS
493.	Hose Pipe, HP, 30mm/1.25 inch, 342 bar, 1meters per piece, Certificate: MTC	4	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
494.	Hose Pipe, HP, 25mm/1 inch, 308 bar, 1meters per piece, Certificate: MTC	4	PCS
495.	Hose Pipe, HP, 12mm/ 3/8 inch, 428 bar, 1meters per piece, Certificate: MTC	8	PCS
496.	Hose Pipe, LP, 22mm/ 3/4inch, 220 bar, Certificate: MTC	4	PCS
497.	Hose Pipe, LP, 12mm/ 3/8 inch, 183 bar, Certificate: MTC	4	PCS
498.	Hydraulic Pipe Clamp, SS, 38 mm, material: Polypropylene + SS304, Certificate: MTC	70	PCS
499.	Hydraulic Pipe Clamp, SS, 35 mm, material: Polypropylene + SS304, Certificate: MTC	8	PCS
500.	Hydraulic Pipe Clamp, SS, 30 mm, material: Polypropylene + SS304, Certificate: MTC	12	PCS
501.	Hydraulic Pipe Clamp, SS, 28 mm, material: Polypropylene + SS304, Certificate: MTC	50	PCS
502.	Hydraulic Pipe Clamp, SS, 25 mm, material: Polypropylene + SS304, Certificate: MTC	36	PCS
503.	Hydraulic Pipe Clamp, SS, 22 mm, material: Polypropylene + SS304, Certificate: MTC	12	PCS
504.	Hydraulic Pipe Clamp, SS, 15 mm, material: Polypropylene + SS304, Certificate: MTC	24	PCS
505.	Hydraulic Pipe Clamp, SS, 12 mm, material: Polypropylene + SS304, Certificate: MTC	140	PCS
506.	BOLTS M30 X 100 C/W NUT, Certificate: MTC	48	PCS
507.	BOLTS M26 X 160 C/W NUT, Certificate: MTC	48	PCS
508.	BOLTS M26 X 110 C/W NUT, Certificate: MTC	64	PCS
509.	BOLTS M24 X 95 C/W NUT, Certificate: MTC	192	PCS
510.	BOLTS M22 X 220 C/W NUT, Certificate: MTC	32	PCS
511.	BOLTS M22 X 130 C/W NUT, Certificate: MTC	32	PCS
512.	BOLTS M22 X 125 C/W NUT, Certificate: MTC	32	PCS
513.	BOLTS M22 X 75 C/W NUT, Certificate: MTC	64	PCS
514.	BOLTS M20 X 155 C/W NUT, Certificate: MTC	64	PCS
515.	BOLTS M20 X 140 C/W NUT, Certificate: MTC	48	PCS
516.	BOLTS M20 X 85 C/W NUT, Certificate: MTC	48	PCS
517.	BOLTS M20 X 80 C/W NUT, Certificate: MTC	144	PCS
518.	BOLTS M20 X 75 C/W NUT, Certificate: MTC	64	PCS
519.	BOLTS M20 X 70 C/W NUT, Certificate: MTC	224	PCS
520.	BOLTS M16 X 125 C/W NUT, Certificate: MTC	32	PCS
521.	BOLTS M16 X 110 C/W NUT, Certificate: MTC	144	PCS
522.	BOLTS M16 X 105 C/W NUT, Certificate: MTC	80	PCS
523.	BOLTS M16 X 100 C/W NUT, Certificate: MTC	16	PCS
524.	BOLTS M16 X 90 C/W NUT, Certificate: MTC	64	PCS
525.	BOLTS M16 X 75 C/W NUT, Certificate: MTC	352	PCS
526.	BOLTS M16 X 65 C/W NUT, Certificate: MTC	32	PCS
527.	BOLTS M16 X 60 C/W NUT, Certificate: MTC	1752	PCS
528.	BOLTS M16 X 55 C/W NUT, Certificate: MTC	3068	PCS
529.	BOLTS M16 X 45 C/W NUT, Certificate: MTC	2944	PCS

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
530.	BOLTS M12 X 60 C/W NUT, Certificate: MTC	8	PCS
531.	BOLTS M12 X 50 C/W NUT, Certificate: MTC	168	PCS
532.	BOLTS M12 X 45 C/W NUT, Certificate: MTC	6120	PCS
533.	Nut Bolt, MS, M16 X 65mm, with double washer, Certificate: MTC	1100	PCS
534.	Nut Bolt, Black, M16 X 65mm, with double washer, Certificate: MTC	700	PCS
535.	Nut Bolt, Black, M12 X 55mm, with double washer, Certificate: MTC	1400	PCS
536.	Nut Bolt, MS, M12 X 55mm, with double washer, Certificate: MTC	2700	PCS

Terms and conditions:

1. Country of origin of all items to be mentioned in the offer.
2. Factory/ Manufacturer detail Address with email & contact number to be provided with the offer.
3. Factory/ Manufacturer Company Brochure Catalogue to be provided with the offer.
4. Previous supply record from any class approved Marine pipes, valves & fittings etc. to be provided with the offer.
5. Manufacturer Authorization latter to be provided with the offer.
6. Country of Origin & Manufacturer Certificate/ declaration to be provided with the offer.
7. Offered items/ product's picture/ brochure / drawing etc. to be provided with the offer.
8. Company / Factory/ Manufacturer BV class certificate/ approval or standardization certificate from competent Authority to be provided with the offer.
9. PSI should be done by BV/ TUV Austria/ SUV.
10. Factory Product MTC (Mill Test Certificate) & BV Class approved product MTC should be given before shipment.

**Technical Specification of Lighting Arrangement and Fire Detection System for 2x70
Ton BP Tug Boat Project:**

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
1.	Machinery Space Light AC (LED)	22	Pcs
	a. Rated voltage: AC 220, 50 Hz		
	b. Power: 2x20 W		
	c. Illuminant: LED Tube Light		
	d. Light length: 2 feet (minimum)		
	e. Illuminous Flux: 1500 lm (minimum)		
	f. Color Temperature: 6500 k (natural day light)		
	g. Protection Glass: IP56		
	h. Installation Method: Ceiling Mounted Type		
	i. Material Details: To be mentioned		
	j. Manufacturing Country: China		
2.	Machinery space light AC+DC (LED)	28	Pcs
	a. Rated AC voltage: 100-220, AC, 50 Hz		
	b. Rated DC voltage: 24 VDC		
	c. Power: 2x20 W (AC) & 1x15W (DC)		
	d. Illuminant: LED Tube		
	e. Light length: 2 feet (minimum)		
	f. Illuminous Flux: 1500 lm (minimum)		
	g. Color Temperature: 6500 k (natural day light)		
	h. Protection Glass: IP56		
	i. Installation Method: Ceiling Mounted Type		
	j. Material Details: To be mentioned		
	k. Manufacturing Country: China		
3.	Cabin light AC (LED)	32	Pcs
	a. Rated voltage: 100-240, AC, 50 Hz		
	b. Power: 2x20 W		
	c. Illuminant: LED Tube		
	d. Illuminous Flux: 1300 lm (minimum)		
	e. Color Temperature: 6500 k		
	f. Protection Glass: IP44		
	g. Installation Method: Recessed Type		
	h. Material Details: To be mentioned		
	i. Manufacturing Country: China		
4.	Cabin light AC+DC (LED)	48	Pcs
	a. Rated AC voltage: 100-240, AC, 50 Hz		
	b. Rated DC voltage: 24 VDC		
	c. Power: 2x10 W (AC) & 1x3W (DC)		
	d. Illuminant: LED Tube		
	e. Illuminous Flux: 1300 lm		
	f. Color Temperature: 6500 k		
	g. Protection Glass: IP44		
	j. Material Details: To be mentioned		
	k. Manufacturing Country: China		
5.	Dimmer for cabin lights	80	Pcs
	a. Rated Voltage: 250 V		
	b. Rated Current: 10A		
	c. Brand: To be mentioned		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	d. Model: To be mentioned e. Manufacturing Country: China		
6.	Outside light pendant, 220VAC (LED) a. Rated voltage: AC 220, 50 Hz b. Power: 8-12 W minimum c. Illuminant: LED Lamp d. Illuminous Flux: 420 lm e. Protection Class: IP56 f. Material Details: To be mentioned g. Manufacturing Country: China	60	Pcs
7.	Bed light (LED) with 2 pin socket a. Rated voltage: AC 220, 50 Hz b. Power: 8 W c. Illuminant: Fluorescent Lamp d. Illuminous Flux: 130 lm e. Protection Class: IP20 f. Material Details: To be mentioned g. Manufacturing Country: China	30	Pcs
8.	Bull eye lamp 220VAC (LED) a. Rated voltage: AC 220, 50 Hz b. Power: 8-12 W minimum c. Illuminant: LED Lamp d. Illuminous Flux: 300 lm e. Protection Class: IP56 h. Material Details: To be mentioned i. Manufacturing Country: China	18	Pcs
9.	Flood light 200W, 220VAC (LED) a. Rated voltage: AC 220, 50 Hz b. High performance and efficiency c. Body Material: Die-Cast aluminum d. IP: 66 e. Manufacturing Country: China	12	Pcs
10.	Portable light 100W (WT) with 15m cord & plug a. Light weight portable lamp with globe and guard for illumination purpose b. Material: Plastic c. Voltage Ratings: AC 230, 50 Hz d. Power Ratings: 100W e. IP: 56 f. Light Fixture Standard : Marine g. Country of Origin : Malaysia/Singapore/China	04	Pcs
11.	Portable light 100W (non-WT) with 15m cord & plug a. Light weight portable lamp with globe and guard for illumination purpose b. Material: Plastic c. Voltage Ratings: AC 230, 50 Hz d. Power Ratings: 100W e. IP: 56 f. Light Fixture Standard : Marine g. Country of Origin : Malaysia/Singapore/ China	04	Pcs
12.	Portable light 60W	10	Pcs

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	with 15m cord & plug, with one side cover		
	a. Light weight portable lamp with globe and guard for illumination purpose		
	b. Material: Plastic		
	c. Voltage Ratings: AC 230, 50 Hz		
	d. Power Ratings: 60W		
	e. IP: 56		
	f. Light Fixture Standard : Marine		
	g. Country of Origin : Malaysia/Singapore/China		
13.	Portable incandescent flood light 300W	08	Pcs
	a. Rated voltage: AC 220, 50 Hz		
	b. Power: 300 W		
	c. Illuminant: Halogen Lamp		
	d. Illuminous Flux: 4800 lm		
	e. Protection Class: IP56		
	f. Material Details: To be mentioned		
	g. Manufacturing Country: China		
14.	Ex-proof light 220VAC (LED)	4	Pcs
	a. Explosion Proof Mark: Exd II CT4		
	b. Rated voltage: AC 220, 50 Hz		
	c. Rated Power: 2x20 W		
	d. Light Source: Fluorescent		
	h. Material Details: To be mentioned		
	i. Manufacturing Country: China		
	e. Protection Class: IP56		
	f. Certification: Ex-proof certificate		
15.	Chart table light with dimmer, 220VAC (LED)	02	Pcs
	a. Rated voltage: AC 220, 50 Hz		
	b. Rated Power: 8.5 W LED or 60-100W incandescent lamp		
	c. Illuminant: LED dimming bulb or incandescent lamp		
	d. Material Details: To be mentioned		
	e. Protection Class: IP22		
	f. Manufacturing Country: China		
16.	Morse signal light 220VAC+ Morse key	02	Pcs
	a. Rated voltage: AC 220, 50 Hz		
	b. Rated Power: To be mentioned		
	c. Illuminant: Incandescent lamp		
	d. Color: White		
	e. Lamp Holder: To be mentioned		
	f. Horizontal Arc: 360°		
	g. Visible Distance: 5 n.m		
	h. Protection Class: IP56		
	i. Material Details: To be mentioned		
	j. Manufacturing Country: China		
17.	Signal search light 1000W (remote controlled)	4	Pcs
	a. Rated voltage: AC 220, 50 Hz		
	b. Rated Power: 1000 W		
	c. Lamp Holder: To be mentioned		
	d. Illuminant: Incandescent Bulb		
	e. Material: To be mentioned		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	f. Illuminous Flux: 17000 lm		
	g. Protection Class: IP56 (Full Water Proof)		
	h. Console Table Mounting: Control panel with joystick and on-off switch for each unit		
	i. Manufacturing Country: China		
18.	Fire alarm main control panel	02	Pcs
	a. 8 zones		
	b. Network up to 8 control panels		
	c. Activate controls via key switch or code entry		
	d. Compatible with Apollo Orbits Marine detectors		
	e. Integral detector removal monitoring		
	f. Earth fault monitoring		
	g. 3 Amp switch mode power supply Nom 27V DC		
	h. 4 monitored sounder outputs		
	i. 2 Aux C/O relays (1 x Fire) (1 x Fault). voltage free		
	j. Class change I/P		
	k. Alert I/P		
	l. Fire & fault switched -ve outputs		
	m. Program delays to outputs		
	n. False alarm modes A, B & C		
	o. Master alarm		
	p. Test mode, with or without sounders		
	q. Disable zones, sounder O/Ps, aux O/Ps & delays		
	r. Alarm load, 2.4A shared between all sounder outputs		
	s. All sounder circuits are fused @ 500mA with resettable fuses		
	t. Fire detection should be marine type approved		
	u. Brand: Haes Technologies, UK		
	v. Model: To be mentioned		
	w. Country of origin: UK		
	x. Other technical feature and supply should be mentioned in details (If any)		
19.	Fire alarm repeater panel	02	Pcs
	a. Same easy-to-use controls and indications as panel		
	b. Can be fully functional or passive		
	c. 12 zonal fire & fault indications		
	d. Integral 1.25 Amp PSU		
	e. Class change & alert inputs		
	f. Test mode and disablement functions		
	g. 6 programmable switch -ve outputs		
	h. Fault tolerant loop or legacy radial wiring options		
	i. Fire detection should be marine type approved		
	j. Brand: Haes Technologies, UK		
	k. Model: To be mentioned		
	l. Country of origin: UK		
	m. Other technical feature and supply should be mentioned in details (If any)		
20.	Battery for Fire alarm main control panel	04	Pcs
	(As per manufacturer standard)		
	Fire detection should be marine type approved		
	Brand: Haes Technologies, UK		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	Model: To be mentioned		
	Country of origin: UK		
	Other technical feature and supply should be mentioned in details (If any)		
21.	Battery for Fire alarm repeater panel	04	Pcs
	(As per manufacturer standard)		
	Fire detection should be marine type approved		
	Brand: Haes Technologies, UK		
	Model: To be mentioned		
	Country of origin: UK		
	Other technical feature and supply should be mentioned in details (If any)		
22.	Smoke detector	60	Pcs
	a. All data is supplied subject to change without notice. Specifications are typical at 24V, 23°C and 50% RH unless otherwise stated.		
	b. Photo-electric detection of light scattered by smoke particles over a wide range of angles. The optical arrangement is made up of an infrared emitter with a prism and photo-diode at 90° to the light beam with a wide field of view		
	c. Sampling Frequency: Once every four second		
	d. Operating Voltage: 8.5 VDC to 33 VDC		
	e. Supply wiring: Two wire supply, polarity sensitive		
	f. Maximum Polarity Reversal: 200 ms		
	g. Power up time: < 20 seconds		
	h. Minimum Detector active voltage: 6 V		
	i. Power up surge current at 24 volts: 95µA		
	j. Average quiescent current at 24 volts: 95µA		
	k. Alarm Current: 12V(20mA), 24V (40mA)		
	l. Alarm Load: 600 ohm		
	m. Holding Voltage: 5V-33V		
	n. Minimum Holding Current: 8mA		
	o. Minimum Voltage to light alarm LED: 5V		
	p. Alarm reset voltage: < 1V		
	q. Alarm reset time: one second		
	r. Alarm indicator: Integral indicator with 360° visibility		
	s. Remote output LED (-) characteristics: 1.2 Kohm connected to negative supply		
	t. Operating and Storage Temperature: - 40°C to 70°C		
	u. Humidity: 0 – 98% RH		
	v. Protection Class: IP23D		
	w. Standard and Approval: BV Marine		
	x. Brand: Haes Technologies, UK		
	y. Model: To be mentioned		
	z. Country of origin: UK		
	aa. Other technical feature and supply should be mentioned in details (If any)		
23.	Smoke detector (Ex. proof)	4	Pcs
	a. Operating Voltage: 14 VDC to 28 VDC		
	b. Quiescent current: 85µA at 24 volts		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	c. Dimensions: 100mm Dia x 50mm H inc base d. Operating Temperature: - 40°C to 70°C e. Relative Humidity: 0 – 98% RH f. Protection Class: IP23D g. Weight: 75 grams h. Approvals: EN54-7/ Marine type approved i. Brand: Haes Technologies, UK j. Model: To be mentioned k. Country of origin: UK l. Certification: Ex-proof certificate m. Other technical feature and supply should be mentioned in details (If any)		
24.	Heat detector a. All data is supplied subject to change without notice. Specifications are typical at 24V, 23°C and 50% RH unless otherwise stated. b. Measurement of heat by means of a thermistor c. Sampling Frequency: Once every four second d. Operating Voltage: 8.5 VDC to 33 VDC e. Supply wiring: Two wire supply, polarity sensitive f. Maximum Polarity Reversal: 200 ms g. Power up time: < 20 seconds h. Minimum Detector active voltage: 6 V i. Power up surge current at 24 volts: 95µA j. Average quiescent current at 24 volts: 95µA k. Alarm Current: 12V(20mA), 24V (40mA) l. Alarm Load: 600 ohm m. Holding Voltage: 5V-33V n. Minimum Holding Current: 8mA o. Minimum Voltage to light alarm LED: 5V p. Alarm reset voltage: < 1V q. Alarm reset time: one second r. Alarm indicator: Integral indicator with 360° visibility s. Remote output LED (-) characteristics: 1.2 Kohm connected to negative supply t. Operating and Storage Temperature: - 40°C to 70°C u. Humidity: 0 – 98% RH v. Protection Class: IP23D w. Standard and Approval: BV Marine x. Brand: Haes Technologies, UK y. Model: To be mentioned z. Country of origin: UK aa. Other technical feature and supply should be mentioned in details (If any)	4	Pcs
25.	Manual call point a. Cable Termination: 0.5 – 2.5 mm ² b. Maximum Voltage: 30 VDC c. Current Ratings (Switch only): 2 Amps d. Material: PC/ABS e. Weight: 130g Flush & 180g Surface f. Humidity: 93±3% non condensing	32	Pcs

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	g. Operating Temperature: - 10°C to 55°C		
	h. Protection Class: IP24D		
	i. Fire detection should be marine type approved		
	j. Brand: Haes Technologies, UK		
	k. Model: To be mentioned		
	l. Country of origin: UK		
	m. Other technical feature and supply should be mentioned in details (If any)		
26.	Manual call point (Ex. proof)	04	Pcs
	a. Ambient: - 40°C to 70°C		
	b. Relative Humidity: R.H 95% @20°		
	c. Switch: Sealed-IP67		
	d. Ingress Protection: IP 66/67		
	e. Enclosure material: Marine grade copper free LM6 aluminum		
	f. Enclosure finish: Chromated & powder coated finish (anti corrosive)		
	g. Color: RAL 3000 Red or others		
	h. Fire detection should be marine type approved		
	i. Brand: Haes Technologies, UK		
	j. Model: To be mentioned		
	k. Country of origin: UK		
	l. Certification: Ex-proof certificate		
	m. Other technical feature and supply should be mentioned in details (If any)		
27.	Alarm bell with flash, 24VDC shallow	10	Pcs
	a. Voltage Range: 21.6 to 28 VDC		
	b. Number of tones: 32		
	c. Operating Frequency: 440 to 2900 Hz		
	d. Operating Temperature: - 20°C to 70°C		
	e. Monitoring: Reverse Polarity		
	f. Protection Rating: IP21C (Shallow), IP33C (Deep)		
	g. Boxed weight: 0.22 to 0.25 kg		
	h. Body color: Red or white		
	i. Brand: Haes Technologies, UK		
	j. Model: To be mentioned		
	k. Country of origin: UK		
	l. Other technical feature and supply should be mentioned in details (If any)		
28.	Alarm bell with flash, 24VDC deep	04	Pcs
	a. Voltage Range: 21.6 to 28 VDC		
	b. Number of tones: 32		
	c. Operating Frequency: 440 to 2900 Hz		
	d. Operating Temperature: - 20°C to 70°C		
	e. Monitoring: Reverse Polarity		
	f. Protection Rating: IP21C (Shallow), IP33C (Deep)		
	g. Boxed weight: 0.22 to 0.25 kg		
	h. Body color: Red or white		
	i. Brand: Haes Technologies, UK		
	j. Model: To be mentioned		
	k. Country of origin: UK		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	1. Other technical feature and supply should be mentioned in details (If any)		
29.	Detector base (As per manufacturer standard) a. Fire detection should be marine type approved b. Brand: Haes Technologies, UK c. Model: To be mentioned d. Country of origin: UK e. Other technical feature and supply should be mentioned in details (If any)	62	Pcs
30.	Detector base (Ex proof) (As per manufacturer standard) a. Fire detection should be marine type approved b. Brand: Haes Technologies, UK c. Model: To be mentioned d. Country of origin: UK e. Other technical feature and supply should be mentioned in details (If any) f. Certification: Ex-proof certificate	4	Pcs
31.	Zener barrier 2 channel a. Number of channels: 02 b. Module Type: Fire and Smoke Detector Interface c. Barrier Type: Galvanic Barrier d. Maximum Voltage: 28V e. Hazardous Area Certification: ATEX f. Maximum Current: 42 mA g. Supply Voltage: 6 – 30 VDC h. Operating Temperature: - 20°C to 60°C i. Safety Current Maximum: 28V j. Series: MTLx561 k. Fire detection should be marine type approved l. Brand: Haes Technologies, UK m. Model: To be mentioned n. Country of origin: UK o. Other technical feature and supply should be mentioned in details (If any)	2	Pcs

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4. Manufacturer Authorization latter to be provided with the offer.
5. Installation/ Commissioning, Test-Trial Conformity certificate from manufacturer to be provided with the offer.
6. Country of Origin & Manufacturer Certificate/ declaration to be provided with the offer.
7. Offered items/ product's picture/ brochure / drawing etc. to be provided with the offer.
8. Company / Factory/ Manufacturer standardization certificate from competent Authority to be provided with the offer.
9. Installation and operation manuals with system drawing of each item/ equipment/ system should be given during shipment.

**Technical Specification of Hatches, Manholes, Bottom Plug and Zinc Anode for
2x70 Ton BP Tug Boat Project:**

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
1.	Various Manholes with standard fittings (as per attached drawing)	132	Pcs
2.	Various Hatches with standard fittings (as per attached drawing) Certification Class: BV	10	Pcs
3.	Various Bottom Plugs with standard accessories (as per attached drawing)	62	Pcs
4.	Zinc Anode with standard accessories Size: 300x150x40 mm Gross Weight: 11.4 kg with 2 sets studs, nuts & 1 rubber plate	172	Pcs

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Technical Specification of Galley Items for 2x70 Ton BP Tug Boat Project:

SI No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
1.	Garbage Compactor with Standard Accessories	2	SET
	a. Brand: To be Mentioned		
	b. Model: To Be Mentioned		
	c. All necessary items/ fittings/ accessories needed for Installation		
	d. 01 year mandatory Spare Parts should be provided		
	e. Country of Origin: Denmark/ Korea/ Italy		
	f. Instruction/ Operation manual (English version) be Provided		
	g. Commissioning and test-trial should be provided		
2.	Battery Chargers	2	SET
	a. Brand: To be Mentioned		
	b. Model: To Be Mentioned		
	c. Input Voltage: 230 Volt AC		
	d. Output Charge Voltage: 28.5 V DC (Absorption) 26.5 V DC (Float) Output Charge Current: 50 Amp		
	e. Battery Capacity: 400 AH (Minimum)		
	f. Dimension: Compact size will be preferable to be mentioned		
	g. Weight: To be mentioned		
	h. Safety Standard: EN 60335-1, EN 60335-2-29, IEC 60945 or to be mentioned		
	i. Ingress Protection: IP 21 Protection Features:		
	1) Output Short Circuit		
	2) Battery Reverse Polarity Detection		
	3) Overvoltage Protection & Over temperature Protection		
	4) Battery full charge auto cut.		
	j. Country of Origin: EU Country		
	k. Country of Manufacture: EU Country		
3.	Battery Charger	2	SET
	a. Brand: To be Mentioned		
	b. Model: To Be Mentioned		
	c. Input Voltage: 230 Volt AC		
	d. Output Charge Voltage: 28.5 V DC (Absorption) 26.5 V DC (Float) Output Charge Current: 30 Amp		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	e. Battery Capacity: 150 AH (Minimum)		
	f. Dimension: Compact size will be preferable to be mentioned		
	g. Weight: To be mentioned		
	h. Safety Standard: EN 60335-1, EN 60335-2-29, IEC 60945 or to be mentioned		
	i. Ingress Protection: IP 21 Protection Features:		
	1) Output Short Circuit		
	2) Battery Reverse Polarity Detection		
	3) Overvoltage Protection & Over temperature Protection		
	4) Battery full charge auto cut.		
	j. Country of Origin: EU Country		
	k. Country of Manufacture: EU Country		
4.	Battery Charger	2	SET
	a. Brand: To be Mentioned		
	b. Model: To Be Mentioned		
	c. Input Voltage: 230 Volt AC		
	d. Output Charge Voltage: 28.5 V DC (Absorption) 26.5 V DC (Float) Output Charge Current: 100 Amp		
	e. Battery Capacity: 800 AH (Minimum)		
	f. Dimension: Compact size will be preferable to be mentioned		
	g. Weight: To be mentioned		
	h. Safety Standard: EN 60335-1, EN 60335-2-29, IEC 60945 or to be mentioned		
	i. Ingress Protection: IP 21 Protection Features:		
	1) Output Short Circuit		
	2) Battery Reverse Polarity Detection		
	3) Overvoltage Protection		
	4) Over temperature Protection		
	5) Battery full charge auto cut.		
	j. Country of Origin: EU Country		
	k. Country of Manufacture: EU Country		
5.	Aluminum Gangway with Removable Stanchions and Safety Net	2	SET
	a. Type: Portable		
	b. Length: 5 Meter		
	c. Material: Marine Standard		
	d. Manufacture/ Brand: To be mentioned		
	e. With BV/CSS or any other Class Type Approval		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	f. Country of Manufacturing: Bangladesh/ China		
6.	Marine Flat Type Glass Level Gauge	4	SET
	a. Range: 0-2000 mm (L)		
	b. Fluid: Fuel Oil		
	c. Material: Marine Standard		
	d. Max. Operating Pressure: 3 bar		
	e. Max. Operating Temperature: 60° C		
	f. Density: 890 ~ 900 kg/m3		
	g. Brand: To be mentioned		
	h. Model: To be mentioned		
	i. With BV Type Approval		
	j. Country of Origin: China		
7.	Marine Flat Type Glass Level Gauge	4	SET
	a. Range: 0-2100mm(L)		
	b. Fluid: Fuel Oil		
	c. Material: Marine Standard		
	d. Max. Operating Pressure: 3 bar		
	e. Max. Operating Temperature: 60° C		
	f. Density: 890 ~ 900 kg/m3		
	g. Brand: To be mentioned		
	h. Model: To be mentioned		
	i. With BV Type Approval		
	j. Country of Origin: China		
8.	Marine Flat Type Glass Level Gauge	4	SET
	a. Range: 0 - 2640mm (L)		
	b. Fluid: Lube Oil		
	c. Material: Marine Standard		
	d. Max. Operating Pressure: 3 bar		
	e. Max. Operating Temperature: 60° C		
	f. Density: 880 ~ 890 kg/m3		
	g. Brand: To be mentioned		
	h. Model: To be mentioned		
	i. With BV Type Approval		
	j. Country of Origin: China		
9.	Marine Flat Type Glass Level Gauge	4	SET
	a. Range: 0 - 600mm (L)		
	b. Fluid: Fresh Water		
	c. Material: Marine Standard		
	d. Max. Operating Pressure: 3 bar		
	e. Max. Operating Temperature: 78° C		
	f. Density: 1000 kg/m3		
	g. Brand: To be mentioned		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	h. Model: To be mentioned		
	i. With BV Type Approval		
	j. Country of Origin: China		
10.	Stainless Steel Combined Refrigerator and Freezer	2	SET
	a. Capacity: 700 Liter		
	b. Top Temperature Range: -2 + 8		
	c. Bottom Temperature Range: -18 + 22		
	d. Power Consumption: 0.72kW		
	e. Dimensions: To be mentioned		
	f. Brand: To be mentioned		
	g. Model: To be mentioned		
	h. Country of Manufacturing: Bangladesh/ China/ Korea		
11.	Electric Cooking Range with Four (04) Hot Plates	2	SET
	(Total 16KW and One (01) Oven of Auto-Thermal Control Type with Built-in Switch)		
	a. Hotplate Dimensions: To be mentioned		
	b. Temperature Range: To be mentioned		
	c. Power Consumption: To be mentioned		
	d. Dimensions: To be mentioned		
	e. Brand: To be mentioned		
	f. Model: To be mentioned		
	g. Country of Origin: Italy/ Korea		
12.	Electric Mixer with Necessary Attachments	2	SET
	a. Type: Wet Grinder		
	b. Capacity: 20 Liters		
	c. Dimensions: To be mentioned		
	d. Brand: To be mentioned		
	e. Model: To be mentioned		
	f. Country of Origin: Malaysia/ Italy/ Korea		
13.	Electric Water Boiler of Stainless Steel	2	SET
	a. Power: To be mentioned		
	b. Capacity: Minimum 20 Liters		
	c. Dimensions: To be mentioned		
	d. Brand: To be mentioned		
	e. Model: To be mentioned		
	f. Country of Origin: Netherland/ Italy/ Korea		
14.	Electric Toaster	4	SET
	a. Capacity: 4 Slots		
	b. Dimensions: To be mentioned		
	c. Brand: To be mentioned		
	d. Model: To be mentioned		

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
	e. Country of Origin: Malaysia/ Italy/ Korea		

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Technical Specification of A Bollard for 2x70 Ton BP Tug Boat Project:

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
1.	A Bollard	04	Pcs
	The A Bollard/ towing posts of welded pipe construction shall be fitted on main deck for aft towing winch and forward windlass/ towing winch. A Bollard and Deck shall be adequately stiffened. It will be consists of following:		
	a. FWD Towing Post - 02 Pcs (as per attached drawing)		
	b. AFT Towing Post – 02 Pcs (as per attached drawing)		
	Certification: BV Class		

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6. Country of Origin & Manufacturer Certificate/ declaration to be provided with the offer.

Technical Specification of Various Ropes for 2x70 Ton BP Tug Boat Project:

Sl No.	KSY Requirements		
	Description	QUANTITY (FOR 2 BOATS)	Unit
1.	a. Steel wire rope sling (Inner end is plain, the outer end with hard eye formed by a heavy duty thimble and pressed by steel ferrule, wll 42 tons, mbl 210 tones 8xk36ws-pwrc(k), 1960 mpa, galvanized diameter 50 mmx sling length 500 meters)	02	Pcs
	b. Certification: BV Class		
2.	a. High strength (ultra-high molecular weight) polyethylene rope (mbl 132 tones soft eyes on both ends 12-strand structure diameter 60mm x sling length 200 meters)	02	Pcs
	b. Certification: BV Class		

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4. Previous supply record for any class approved similar products/ items to be provided with the offer.
5. Manufacturer Authorization latter to be provided with the offer.
6. Country of Origin & Manufacturer Certificate/ declaration to be provided with the offer.

BANK GUARANTEE IN LIEU OF EARNEST MONEY

No.....

.....

Guarantee

Dated:

For (mention amount).

Dear Sir,

Whereas (Name of tender floating organization) under tender No. dated inviting tenders for supplies of (described supplies) has agreed to waive the requirement of Cash deposit / Call deposit of US\$ / £ / Tk..... being 02% (Two percent) of the value of supplies as earnest money by the tenderer for making the supplies in accordance with the terms and conditions of the tenderer and the tenderer shall provide a bank guarantee for payment for the said amount.

And whereas the tenderer M/S.ofhas requested us (name of bank) of to issue as guarantee for payment of the amount of US\$/£/Tk when called upon.

In consideration of the aforesaid, we (name of bank) of hereby undertake and guarantee due performance of the tender by the tenderer M/S. of and unconditionally and absolutely bind ourselves:

1. To make payment without any question whatsoever of US\$/£/Tk to.....(Name of organization) or as directed by the organization immediately on receipt of demand from the said, organization in writing, in the event the tenderer fail to perform the tender. It is expressly understood that the organization shall be the sole judge for-deciding whether the tenderer has performed the tender and fulfilled the terms and conditions of the tender.

2. It is specially stipulated and understood by the bank that any grant of time or indulgence to the tenderer without reference to the bank shall not in any manner tent to absolve the bank from its liability to make the payment stipulated above under this guarantee.

3. The Bank's commitment under this guarantee is limited to an amount of US\$/£/Taka(.....) only.

4. The guarantee will remain valid upto

Yours faithfully

..... Bank

(Seal of the Bank)