

**Specification of**  
**DERRICK LAY BARGE**  
**DLB 1600**



***Valentine Maritime (Gulf) LLC***



**DERRICK LAY BARGE**  
**DLB 1600**

1. **NAME OF VESSEL** : DLB 1600
2. **OWNERS** : Valentine Maritime Ltd.
3. **YEAR BUILT** : 2013
4. **BUILDERS** : Nanjing Tianshun Shipbuilding Co. Ltd., PRC
5. **FLAG** : PANAMANIAN
6. **PORT OF REGISTRY** : PANAMA
7. **GT** : 20,046
8. **NT** : 6,014
9. **DECK STRENGTH** : 20 MT / M<sup>2</sup>
10. **DEADWEIGHT / DISPLACEMENT**
  - Light Ship Weight : 14,512.66 MT
  - Deadweight : 13,268.31 MT
  - Displacement : 27,780.97 MT
11. **HULL**
  - a. Type of Vessel : Derrick Pipelay / Construction / Accommodation Barge.  
Box type floating Pontoon, made of steel, all welded construction, with wooden deck & pipelay ramp.
  - b. Classification : ABS, A1 Barge
  - c. Dimensions : Length O.A. 120.00 mtr (393.70 feet)  
Length 115.20 mtr (377.95 feet)  
Breadth 40.30 mtr (132.21 feet)  
Depth 9.00 mtr (29.50 feet)  
Draft 6.00 mtr (19.68 feet)  
Air Draft 51.00 mtr (167.32 feet)
  - d. Fenders : Heavy duty wooden fenders and heavy duty rubber tyres at regular intervals.
  - e. Mooring / Towing Fittings: Equipped with necessary Bollards Bits, Fair leads, Main & Emergency Tow Bridles.

## 12. CRANES

### a) **Derrick Crane**

- 1 No. x 1600 MT Electrically Operated Fully revolving, pedestal mounted ZPMC Crane

#### **Capacities:**

- Main Hook (Fixed mode) : 1600 MT @ 25 to 32 mtr Radius
  - Max. Heel 1.5°
  - Max. Trim 1.5°
  - Total dynamic factor on dead and live load : 1.10.
- Main Hook (Revolving) : 1200 MT @ 25 to 32 mtr Radius
  - Max. Heel 3.5°
  - Max. Trim 3.0°
  - Total dynamic factor on dead and live load : 1.10.
- Auxilliary Hook(\*) : 300 MT @ 28.5 to 80 mtr Radius
  - Max. Heel 3.50°
  - Max. Trim 3.5°
  - Total dynamic factor on dead and live load : 1.10.

(\*) Auxilliary Hook is designed for lowering under water upto a water depth of 150 mtr.

- Whip Line : 50 MT @ 32 to 90 mtr Radius
  - Max. Heel 5.0°
  - Max. Trim 3.5°
  - Total dynamic factor on dead and live load : 1.10.

#### **Boom Length:**

- Main Hook : 70.00 mtr (230 feet)
- Auxilliary Hook : 76.90 mtr (252 feet)
- Whip line : 85.48 mtr (280 feet)

- Auxiliary Equipment** : 2 Nos. x 10 MT Sling Handling Set  
 2 Nos. x 25 MT Load Line Tugger Winches  
 1 No. x 15 MT Main Block Tugger Winch



## CRANE LIFTING CAPACITIES

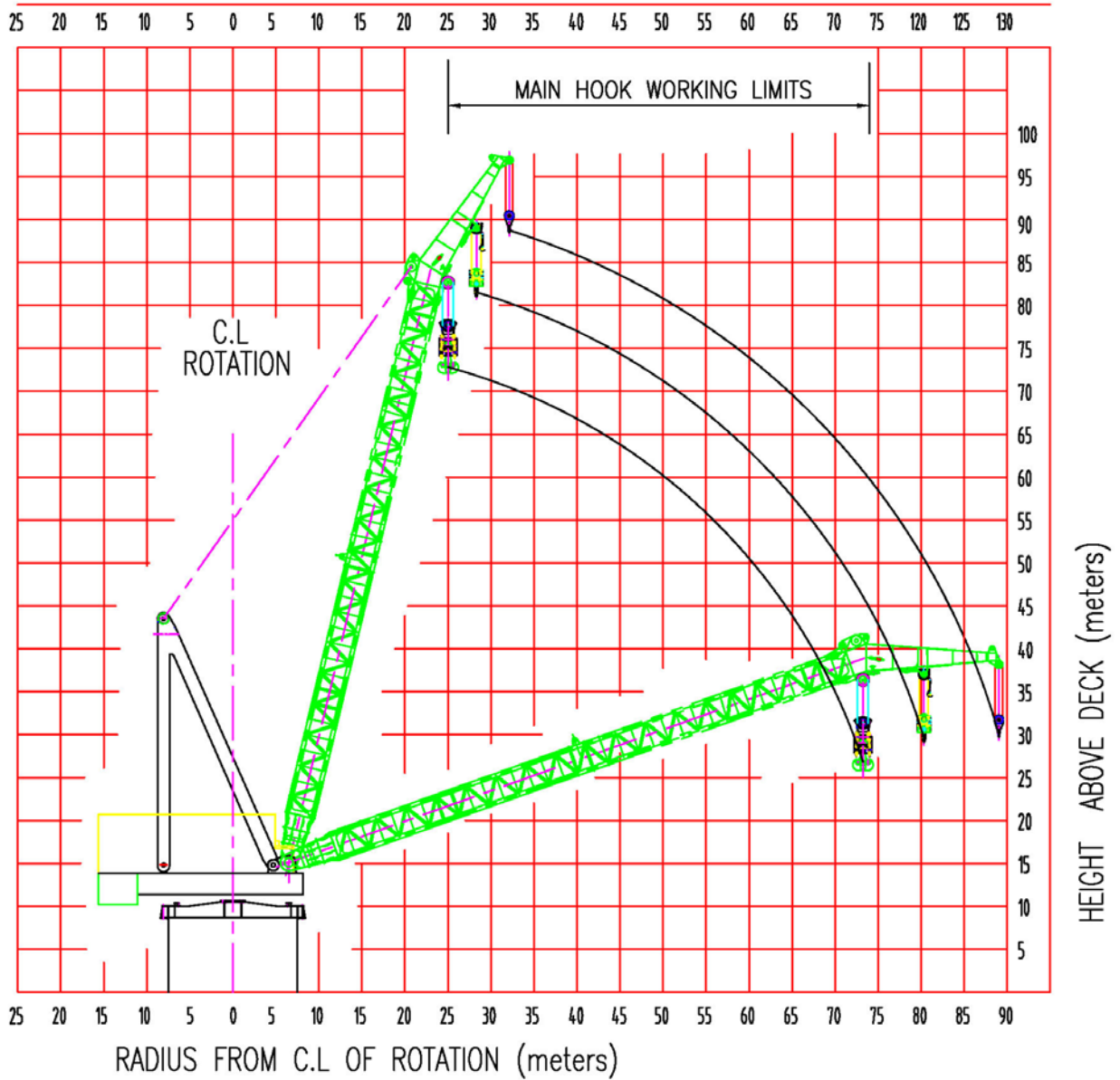
Working Radius (Mtr)	Main Hook			Auxiliary Hook		Whip Line	
	Capacity (MT)		Height (Mtr) *	Capacity (MT)	Height (Mtr) *	Capacity (MT)	Height (Mtr) *
	Over Stern	Revolv. 360°					
25	1600	1200	72.00	-	-	-	-
28.5	1600	1200	71.70	300	82.00	-	-
30	1600	1200	71.14	300	80.91	-	-
32	1600	1200	70.43	300	80.15	50	89.00
35	1400	1050	69.13	300	79.13	50	87.66
40	1140	850	66.73	300	76.86	50	85.79
45	920	695	63.72	300	74.28	50	83.38
50	750	560	60.06	300	71.13	50	80.80
55	600	450	55.68	300	67.32	50	77.50
60	500	380	50.36	300	62.89	50	73.75
65	400	300	43.68	300	57.61	50	69.54
70	300	230	34.88	300	51.10	50	64.38
75	200	150	26.20	300	47.21	50	58.25
80	-	-	-	300	37.10	50	50.80
85	-	-	-	-	-	50	41.07
Speed (Load)	0~8 mtr/min.			0~20 mtr/min.		0~50 mtr/min.	
Wire dia.	56 mm diameter			46 mm diameter		30 mm diameter	

(\* ) Height in mtr above Main Deck Level.

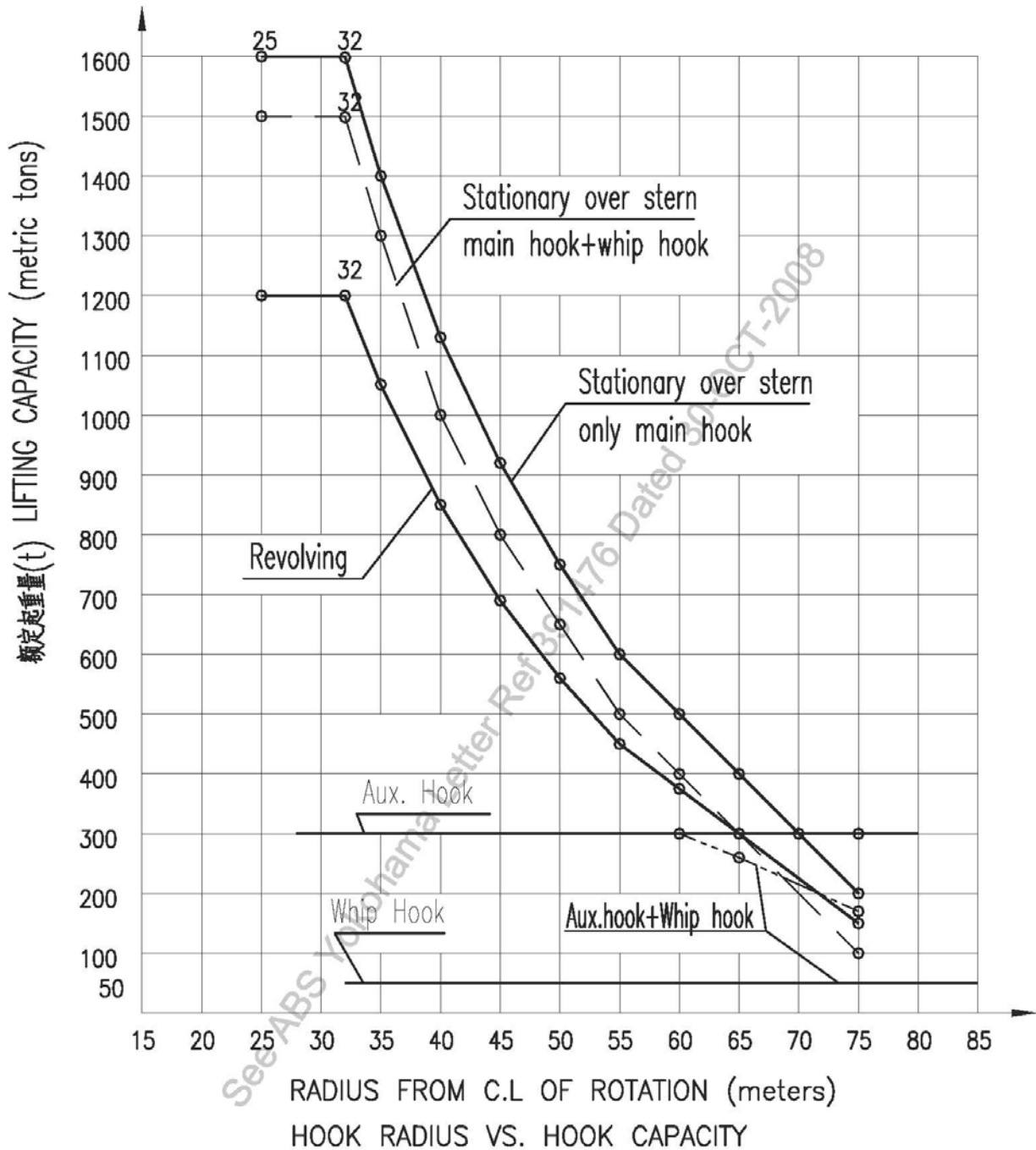
### Notes :

- Distance from c.l. of Crane to : -
  - Edge of STERN longitudinal direction : 10.98 mtr
  - Edge of STBD & PORT direction : 20.15 mtr
- Tie Down System : Cradle on Deck for Blocks.
- Crane is equipped with, load & radius indicators, Sailor RT 2048 VHF Radio and CCTV monitoring system between crane operator cabin & crane engine room.
- Crane is provided with Wind Speed and Direction Indicator.
- Crane is provided with a CCTV system for monitoring the wire rope drums.

## CRANE HOOK RADIUS VS. HOOK HEIGHT



### CRANE HOOK RADIUS VS. HOOK CAPACITY



### 13. PIPE LAY GEAR

Barge is equipped with Pipe Lay Gears suitable to lay 4" – 60" OD Pipelines.

**a) Tensioner**

- 2 Nos. x 100 MT, Electro-Hydraulically Operated Tensioners  
Make : PH Hydraulics

**b) A & R Winch**

- 1 No. x 200 MT Electro-Hydraulically Operated A & R Winch  
Make : PH Hydraulics  
Wire Rope : 930 mtr long x 80 mm diameter.

**c) Pipe Handling System**

- 15 Nos. x 35 MT each PHH longitudinal end roller system.  
Conveying speed 15 mtr / min.
- 1 No. x PHH transverse chain conveyor system with transfer vehicles.  
Rated for 6 Nos. x 35 MT / pipe. Conveying speed of 7.62 mtr/min.
- 2 Nos. x 35 MT PHH Lineup Modules. Rated speed 30 mtr/min.
- 1 No. x 35 MT bead stall support roller.
- 4 Nos. x 45 MT pipe support rollers.
- 1 No. x 90 MT Adjustable track roller.
- 1 No. x 120 MT Adjustable Stern track roller.

**d) Pipe Facing Machine**

3 Nos. x Darby Hydraulic Pipe Facing Machines to suit pipe sizes.

**e) Internal Lineup Clamp**

- 2 Nos. x Pneumatic Lineup Clamps to suit pipe sizes.
- 2 Nos. x Quincy 325 HP, 18 cfm, 10 Bar Compressors to operate  
Internal Lineup Clamps.

**f) Field Joint Coating System**

2 Nos. x 128 Ltrs Capacity each Air Driven Foam fill unit.  
Make : GRACO, Model : 952802

**g) Stinger**

- Short rigid stinger for shallow waters
- Floating stinger either one section of 37 mtr or two sections of  
68 mtr (37 mtr & 31 mtr) for deep water.

**h) Davits**

4 - 5 Nos. x 40 - 50 MT Capacity each (mobilized if required during  
Project stage).

**i) Ramp**

- Pipe Lay Ramp 6.5 mtr wide x 56 mtr long, located at inboard of  
STBD side.
- Stinger hitch provided for connecting rigid or floating stinger with  
the Barge.



#### 14. MOORING SYSTEM

- 10 Point Mooring System
- 10 Nos. × 150 MT Single Drum, Electric driven MacGregor PLIMSOLL Winches, Model: PC-EMW/SD-150/225-PL.
- 10 Nos. self adjusting Fair Leads with 12 MT Delta Flipper Anchors.
- Anchor Lines are 1500 mtr long x 52 or 63 mm diameter wire ropes.
- All Mooring Winches are controlled from the Barge Tower.
- All anchor lines are fitted with sensing devices for measuring tension, wire rope pay in/out length & speed. Winch Drums are monitored by CCTV from the tower.

#### 15. SERVICE TANKS

- 2 Nos. Fresh Water Tanks : 1,800 Cu.M.
- 6 Nos. Fuel Tanks : 1,695 Cu.M.
- 21 Nos. Ballast Tanks : 9,000 Cu.M.
- 4 Nos. Anti Heeling Tanks : 3,100 Cu.M.
- 4 Nos. Cooling Water Tanks : 300 Cu.M.

#### 16. ACCOMMODATION

The Barge is equipped with air conditioned quarters for 300 personnel with galley, recreation rooms, hospital and offices.

- Single Berth Cabin : 08 Nos.
- Twin Berth Cabin : 14 Nos.
- Four Berth Cabin : 66 Nos.

Each cabin has its own shower and toilet facilities with running cold and hot water.

#### 17. HOSPITAL

Located at Main Deck. Hospital is equipped with Medical Equipment & Beds for the observation of the patients.

#### 18. HELIDECK

The Helideck (26.80 mtr × 23.30 mtr) is located at the BOW of the Barge and suitable for the landing of "SIKORSKY S92 / S61N" or equivalent type of the Helicopters. Helideck 'D' value is 22.20 mtr.

#### 19. HEAT, VENTILATION & AIR CONDITIONING SYSTEM

- HVAC is provided by 2 Nos. with air handlers throughout Accommodation and Offices.
- HVAC ducts for cold / hot air are provided with adjustable diffusers.



## 20. BARGE POWER

- 10 Nos. × 1050 kW Generators powered by CUMMINS Diesel Engine (415 V, 50 Hz, 3 PH, without neutral)  
(Main Generators are paralleled and synchronized).
- 1 No. × 500 kW Generator powered by CAT 3412 TA Diesel Engine (415 V, 50 Hz, 3 PH, without neutral)  
(Emergency Generator starts automatically within 45 seconds in case of Main Generators failure).

## 21. WATER MAKER

- 2 Nos. × 75 MT each AQUA-TECH Reverse Osmosis Water Makers.

## 22. OILY WATER SEPARATOR

- 1 No. × 3 m<sup>3</sup> / hr WUHAN ZHONGHOU Oily Water Separator.

## 23. SEWAGE TREATMENT PLANT

- 2 Nos. × 300 men WUHAN ZHONGHOU, Model : WCB 150, Sewage Treatment Plants.

## 24. AIR COMPRESSORS

- 2 Nos. × 600 cfm, 10 Bar, Atlas Copco, Model : GA160W, Electrically Driven Compressors.
- 2 Nos. × 850 cfm, 10 Bar, Ingersoll Rand / Doosan, Model : 9/235, Diesel Driven Air Compressor.

## 25. MAIN WORKING DECK

The working area of deck is covered with double layer crossed, heavy-duty timber. Clear deck area is 1700 M<sup>2</sup>.

## 26. WORKSHOP

Barge is equipped with a workshop in the Main Deck level with following equipment.

- |   |       |
|---|-------|
| • Combined Lathe, Milling & Shaping Machine | 1 No. |
| • Radial Drilling Machine                   | 1 No. |
| • Bench Grinder                             | 1 No. |
| • Electric Hacksaw                          | 1 No. |

## 27. STORES

Barge is equipped with stores to keep equipment spares, welding accessories, rigging gears, consumables, paints etc.

## 28. WELDING SYSTEM

- |   |              |
|---|--------------|
| • Vermaat Dual Torch Auto-weld System   | 8 – 10 Units |
| • Miller XMT 456 Inverters  | 16 - 20 Nos. |
| • Miller Big Blue 600 DX Diesel Engine driven multi-process Welding Generator | 1 No.        |

## 29. COMMUNICATION / NAVIGATION EQUIPMENT

- GMDSS Equipment for Area A1+A2+A3
- DSC VHF, 25/1 Watt  
Make : FURUNO, Model : FM8800S 2 Units
- Marine VHF (THRANE & THRANE)  
Make : SAILOR, Model : 6248 7 Units
- MF/HF DSC, Make : FURUNO, Model : TYPE-FS2571C 1 Unit
- INMARSAT C, Make : FURUNO, Model : Felcom 15 1 Unit
- NBDP, Make : FURUNO, Model : 1B583 1 Unit
- SSAS, Make : FURUNO, Model : FELCOM 15 1 Unit
- Inmarsat FBB 250  
Make : SAILOR, Model : TT-3738A 1 Unit
- GMDSS Hand Held Radio  
Make : ENTEL, Model : HT649 4 Units
- NAVTEX, Make : FURUNO, Type : NX/700 B 1 Unit
- GPS, Make : FURUNO, Model : GP/150 1 Unit
- GYROCOMPASS  
Make : ANSCHUTZ, Model : Digital Gyro STD 22 1 Unit
- AIR HORN  
Make : Zhong Ocean Machinery, Model : WD -2 1 Unit
- RADAR, Make : FURUNO, Type : MU -201 CR 2 Units
- FOG HORN  
Make : Henan Guangcai Electronic, Model : YH025-1 1 Unit
- MAGNETIC COMPASS  
Make : Lillie & Gillie, Model : MK2000 Binnacle 1 Unit
- ECHOSOUNDER, Make : FURUNO, Model : FE 700 1 Unit
- Wind Speed and Direction Indicator (ANEMOMETER)  
Make : RMYOUNG, Model : 06206 1 Unit
- EPIRB, Make : McMurdo, Model : E5 1 Unit
- EPIRB, Make : JORTON, Model : TRON605 1 Unit
- SART / AIS SART  
Make : JORTON, Model TRONSART 20 2 Units  
Make : JORTON, Model : TRONAISSART 1 Unit  
Make : McMurdo, Model : S4 Rescue SART 1 Unit
- VSAT System (C Band)  
Make : Intellian, Model : V240C  
(Equipped with Telephone, Fax, Internet & E-mail Facilities) 1 Unit



- VSAT System (Ku Band)  
Make : SAILOR, Model : SAILOR 900  
(Equipped with Telephone, Fax, Internet & E-mail Facilities) 1 Unit
- SAILOR Fleet Broadband 250 1 Unit
- ICOM IC –A110 VHF Air Band Transceiver / ICOM IC-A24 VHF  
Portable Air Band Transceiver, headset with mic. 3 Units
- AIS, Make : FURUNO, Type : FA/1502 1 Unit
- Intercom System 1 Unit
- Helideck Pitch & Roll Monitoring System, Make : IPC-7220 1 Unit

### 30. **BALLAST / BILGE PUMPS**

Barge is equipped with Ballast and Bilge pumps as detailed below:

#### **Ballast Pump**

- 3 Nos. × 500 m<sup>3</sup>/hr @ 25 mtr head Desmi Ballast Pumps

#### **Bilge Pump**

- 2 Nos. × 130 m<sup>3</sup>/hr @ 80 mtr head Desmi Main Bilge Pumps
- 2 Nos. × 130 m<sup>3</sup>/hr @ 80 mtr head Desmi Bilge / General Service Pumps

### 31. **FIRE FIGHTING EQUIPMENT / FACILITIES**

#### **Fire Pumps**

- 1 No. × 130 m<sup>3</sup>/hr @ 80 mtr head Desmi Main Fire Water Pump
- 2 Nos. × 130 m<sup>3</sup>/hr @ 80 mtr head Desmi General Service / Fire Water Pumps
- 1 No. × 60 m<sup>3</sup>/hr @ 60 mtr head Desmi Emergency Fire Water Pump

#### **Fire Fighting System / Extinguishers**

- CO<sub>2</sub> System for Engine Room / Paint Locker
- Wet Chemical System for Galley
- 'Mist' Fire Extinguishing System for the Accommodation / Office spaces
- Fire Extinguishers : - As per SOLAS / Class Requirement

### 32. **HEAT AND SMOKE DETECTION**

Heat and Smoke Sensors, installed with audible & visual alarms in all quarters, stores and deck.

### 33. **H<sub>2</sub>S AND LEL GAS DETECTION**

H<sub>2</sub>S and LEL Gas Detectors installed in Main Deck with audible & visual alarms in Accommodation & Radio Room (Only installed when needed for a Project)



### 34. LIFE SAVING APPLIANCES

- **Life Boats**  
2 x 115 Persons, JAINGYIN NEPTUNE totally enclosed Life Boat.
- **Davit Launchable Life Rafts**  
4 x 25 Persons, ZHENJIANG Davit Launchable Life Rafts,  
Model : MSD23A.
- **Life Rafts / Life Jackets**  
As required by Flag / Class Society
- **Life Buoys & MOB**  
As required by Flag / Class Society
- **Pyrotechnics**  
As required by Flag / Class Society
- **Fast Rescue Boat**  
2 x 6 Persons, JAINGYIN NEPTUNE, Type : NPT45RB / NPT60RB

### GENERAL ARRANGEMENT PLAN - DLB 1600

