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Group of Companies
Pacific Crest Pte Ltd
Alstonia Offshore Pte Ltd
Strato Maritime Services Pte Ltd
Prime Offshore International Pte Ltd
Crest Subsea International Pte Ltd
Titan Offshore Equipment Pte Ltd
Radiance Catco Offshore Pte Ltd

Crest Hydra

70M/ 9056BHP ROV Vessel

Wartsila LLC Diesel Electric Design



OUTLINE SPECIFICATION

PRINCIPAL PARTICULARS		RADIO & NAVIGATION EQUIPMENT	
Year Built	2014	Gyro Compass	3 sets Anschütz/Germany (STD 22)
Tonnage (69)	3023	Magnetic Compasses	One (1) reflector type compass c/w Azimuth circle Lilley & Gilie / UK (MK2000S)
Class / Notation	BV - I *HULL *MACH, Supply Vessel, Special Service - Air Diving and ROV Support Vessel, Special Purpose Ship, Unrestricted Navigation, INWATERSURVEY, *DYNAPOS AM/AT R, *ALS	Auto Pilot	1 set Navitron / UK (NT888G)
Flag	Singapore	GPS	1 set Furuno/Japan (GP-150)
Official Number	399080	Echo Sounder	1 set Furuno/Japan (FE-700)
Call Sign	9V2486	Radar	1 set X-Band Radar Furuno/Japan (FAR-2117) 1 set Radar Furuno/Japan (FR-8062)
IMO Number	9712527	GMDSS Sea Area 3	1 set Furuno /Japan
DIMENSIONS		Speed log	1 set Furuno/Japan (DS-80)
Length Overall	70.00m	Navtex Receiver	1 set Furuno/Japan (NX-700B)
Length BP	62.40m	AIS	1 set Furuno/Japan (FA-150)
Breadth Moulded	16.60m	Inmarsat C with SSAS	1 set Furuno/Japan (Felcom 18)
Depth Moulded	7.20m	EPIRP	1 set McMurdo/UK (E5)
Draft (DESIGNED)	5.60m	SART	2 sets McMurdo/UK (S4)
Draft Scantling	5.90m	Public Addresser	1 sets Vingtor Talkback & PA system
Deadweight	Abt. 2800T	Telephone	1 sets Vingtor Integrated Telephone/Command System
PERFORMANCE		BNWAS	1 set Navitron / UK (NT991 BNWAS)
Maximum Speed (4 Engines)	Est 19.50 Tons/ day @ 11knots	VHF	2 sets Furuno/Japan (FM-8900S)
Maximum Speed (3 Engines)	Est 18.0 Tons/ day @ 11knots	TV System	1 set Naval/USA (PR-422)
Economical Speed (4 Engines)	Est 11.5 Tons/ day @ 9knots	ECDIS	1 set Furuno/Japan (FMD-3200)
Economical Speed (3 Engines)	Est 10.0 Tons/ day @ 9knots		
Fuel Consumption - In DP mode (4 Engines)	Est 7 Tons / day @ 0.3 knots max speed		
Fuel Consumption - In DP mode (2 Engines)	Est 5 Tons / day @ 0.3 knots max speed		
Fuel Consumption - In Anchorage	Est 1.8 Ton /day (Main generator)		
Fuel Consumption - In Port	Est 1.2 Ton /day (Harbour generator)		
	Figures stated are subject to seastate weather working conditions and working parameters		
CAPACITIES		DECK EQUIPMENT	
Deck Strength	7.5 t/m ²	Anchor Windlass	2 x Electro-Hydraulic c/w Hawser drum & Warping Head 10t x 9m/min
Clear Deck Area	Abt. 400 m ² @ 7.5t/m ²	Anchor & Chain	2 x HHP Anchor abt. 2,280 kg coupled to 550M x 42 mm (U3) Stud Link Chain
Mezzanine Deck	Abt. 120 m ² @ 5t/m ²	Windlass Mooring Drum	2 x 6t x 15m/min
Potable Water	650 m ³	Mooring Lines	4 x 170M length each of 22t breaking strength
Fuel Oil	1200 m ³	Tugger winch	2 x Hydraulic driven 10t x 15m/min
Drill Water / Water Ballast	800 m ³	Capstan	2 x Hydraulic driven Vertical mount 10t x 25m/min
		Subsea Crane	1 x SMST Offshore AHC Knuckle Boom Hydraulic 30T SWL @8m Radius 15T SWL @12m Radius 10T SWL @10m Radius at waterdepth of 300m 2T @ 22m Manriding
DISCHARGE RATES		Provision Crane	1 x TITAN 5t SWL @10m Radius Fixed Boom Hydraulic
Potable Water	1 x 100M ³ /hr at 90m head		
Fuel Oil	1 x 100M ³ /hr at 90m head		
Bilge / ballast/ Fire/ GS	2 x 100M ³ /hr at 80m head		
Bilge	2 x 52 M ³ /hr at 25m head		
FO Transfer	2 x 10 M ³ /hr at 20m head		
LO Transfer	1 x 8 M ³ /hr at 20m head		
Dirty Oil / Sludge	1 x 8 M ³ /hr at 30m head		
MACHINERY		FIRE-FIGHTING EQUIPMENT	
Main Generator	4 x Wartsila 9L20 - 1,665kW @900rpm	Firemain	Firelines with ND40 bronze hydrants
Alternator	4 x 1,784kVA, 690V/3Ph/60Hz @900rpm	Fireman Outfit	6 complete fireman's outfit to SOLAS requirement
Main Propulsion	2 x Wartsila FS250-S/WN 1900kW @900rpm	Portable Fire Extinguisher	As per SOLAS Requirement
Bow Thruster - Tunnel	2 x Wartsila FT175H-D 800kW Electric Drive	Fixed CO2 & Flexi-Fog Water	To be installed in Category A Machinery space
Harbour/Emergency Generator	1 x 400kW Cummins	Emergency Fire Pump	1 x 35m ³ /hr @ 60m Head
		OTHERS	
		Dynamic Positioning System	Kongsberg - K-Pos DP-21 with cJoy Independent Joystick System
		DP Sensors & Position Reference	3 x Gill Wind Sensors, 2 x MRU (MRU2 & 5), 1 x HIPAP 500, 2 x DGPS via Spotbeam & Inmarsat, 1 x Radius 1000Q, 1 x Tautwire 500, GPS/GLONASS 1 x Cyscan Laser Reference System
		Ballast Water Treatment System	Minimum 100m ³ /hr(capacity to suit one G.S. pump)
		Sewage Treatment Plant	1 x 60Men or equivalent
		Oily Water Separator	1 x 1m3/2 bar with 15ppm c/w Alarm or equivalent
		Water Maker	1 x 10T/day Seawater RO
		Fast Rescue Boat	6 Persons with Yanmar Inboard Diesel Engine with Water Jet
		ACCOMMODATION	
		Cabins	10 x 1-berth Cabin = 10 men 25 x 2-berth Cabin = 50 men Total 60 men
			Full A/C in all cabins, mess rooms, control rooms & offices
		Hospital	Conference room, recreation Room, Offices 1 berth hospital

Particulars are believed to be correct but not guaranteed. Owners reserve the right to amend the specifications without notification

SURFACE ORIENTATED DIVE SYSTEM (MODULAR)

Classification / Notation
Industry Standard Compliance
Depth Rating

ABS +A1 Diving System (P)
International Marine Contractors Association, IMCA
50 m.s.w.

CONTAINERIZED DECOMPRESSION CHAMBER

20 FT Offshore Container

20 FT Offshore Container	1
Personnel Sea-Door with Integrated Window	1
Emergency Exit Door	1
DP Status Panel	1
Gas Penetration Panel	1 (AISI 316L)
Electrical Socket	4
Electrical Distribution Panel	1 (440 V, 3 Ph., 60 Hz)
Fire Deluge System	1
Fire & Smoke Alarm System	1
Fire Extinguisher	2

DECOMPRESSION CHAMBER

Chamber (Dia.: 1600 mm)	1
Air Bank Cylinders (300 Bar, 50 L)	16
3 Diver Air & Oxygen Distribution Panel	1
Amcom II Double Lock Chamber Communication System	1
Sound Powered Phone	1
Camera Monitoring and Recording System	1

DIVE CONTROL ROOM

3 Diver Air Panel	1 (AISI 316L)
3 Diver Video Monitoring and Recording System	1
Amcom III Deluxe 3 Diver Radio c/w Backup Battery	1
Handheld Push To Talk (PTT) Microphone	1
Spiromatic 90U Self-Contained Breathing Apparatus Set	1
Peltor Headset	1
Chamber Data Recording System	1
Triple Timer / Stopwatch	2

TWIN LAUNCH AND RECOVERY SYSTEM (LARS)

Hydraulic 'A' Frame	2 (SWL: 950 KG [AISI 316L])
Clump Weight	2 (SWL: 200 KG [AISI 316L])
Dive Stage / Basket (2 Divers)	2 (SWL: 250 KG [AISI 316L])
Payload	500 KG
Man Rider Winch (Clump Weight)	2 (Dia.: 8 mm, Length:160 mtr)
Man Rider Winch (Dive Stage)	2 (Dia.:10 mm, Length: 80 mtr)
Hydraulic Power Pack (HPU)	2 (210 Bar [42 L/min])
Bridge System	2 (AISI 316L)
Flood Light	2 (500 Watt., 230 V)
Hydraulic Local Control Panel	2 (AISI 316L)
Remote Control & Height Limiting Kit	2
Air Cylinder c/w Regulator, Hose, Manometer & Mask	4 (300 Bar, 50 L)
Umbilical Length (D1, D2 & STDBY Diver)	3 (100 mtr)
Spiromatic 90U Self-Contained Breathing Apparatus Set	2
Peltor Headset	2

POWER

Knife Switch Panel	Terminal for Welding Cable (600 A)
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REMOTELY OPERATED VEHICLES (ROV) SYSTEM

POWER

ROV Power Supplied	440 V, 360 kW (2 NO.)
ROV 1 / ROV 2	440 V -- 110 V --20 kVA
110 V Panel	440 V -- 230 V --180 kVA
230 V Panel	440 V -- 200 kW
Emergency Panel	

STORAGE ROOM / COMPRESSOR ROOM

20 FT Offshore Container

20 FT Offshore Container	1
Personnel Sea-Door with Integrated Window	1
Gas Penetration Panel	1 (AISI 316L)
Fire & Smoke Alarm System	1
Closet	1 (AISI 316L)

UMBILICAL STORAGE

Light	1
Umbilical Storage Bracket	4
Fire Extinguisher	1

WORKSHOP / AIR STORAGE

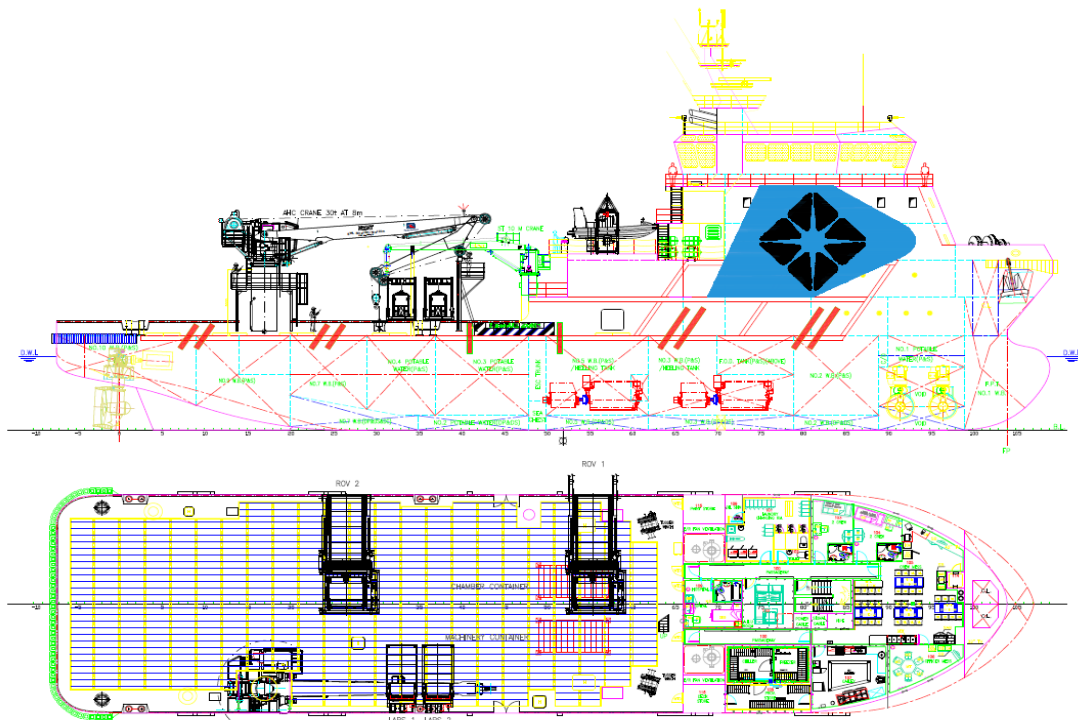
Main Electrical Cabinet	1
Light	2
Wooden Bench	1
HP Cylinder (50 L, 300 Bar)	12
LP Vessel (500 L, WP: 16 Bar)	1
Fire Extinguisher	1

COMPRESSOR ROOM

Light	1
HP Compressor	L & W320 ES
LP Compressor	SCK-30-8
LP Air Filter System	1
Electrical Socket	1
Fire Extinguisher	1

DIVING EQUIPMENT (OPTIONAL)

Superlite Helmet	3
Helmet Camera	3
Helmet Light (LED)	3
Hot Water Suit Set	3
Wetsuit (2-piece) Set	3
Bailout for Kirby Set	3
Peli Super Saberlite #2000B Lamp	3
Green River Knife c/w Sheave (Sharp pt.)	3
Leadweight with Vinlycoating (W: 1 KG)	18
Leadweight with Vinlycoating (W: 2 KG)	36



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Twin Launch and Recovery System (LARS)

20 FT High Cube Offshore Container	1
Hydraulic 'A' Frame	2 (SWL: 950 KG [AISI 316L])
Clump Weight	2 (SWL: 200 KG [AISI 316L])
Dive Stage / Basket (2 Divers)	2 (SWL: 250 KG [AISI 316L])
Payload	500 KG
Man Rider Winch (Clump Weight)	2 (Dia.: 8 mm, Length:160 mtr)
Man Rider Winch (Dive Stage)	2 (Dia.:10 mm, Length: 80 mtr)
Hydraulic Power Pack (HPU)	2 (210 Bar [42 L/min])
Bridge System	2 (AISI 316L)
Flood Light	2 (500 Watt., 230 V)
Hydraulic Local Control Panel	2 (AISI 316L)
Remote Control & Height Limiting Kit	2
Air Cylinder c/w Regulator, Hose, Manometer & Mask	4 (300 Bar, 50 L)
Umbilical Length (D1, D2 & STDBY Diver)	3 (100 mtr)
Spiromatic 90U Self-Contained Breathing Apparatus Set	2
Peltor Headset	2
Electric Hot Water Unit	1 (440 VAC, 3 Ph., 60 Hz, 94.5 kW, 130 A)
	Fluid Heating Range: 0 - 42 °C



CONTAINERIZED DECOMPRESSION CHAMBER

20 FT Offshore Container	
20 FT Offshore Container c/w Lifting Sing (WL: 10 Ton)	1
Personnel Sea-Door with Integrated Window	1
Emergency Exit Door	1
DP Status Panel	1
Gas Penetration Panel	1 (AISI 316L)
Electrical Socket	4
Electrical Distribution Panel (440 V, 3 Ph., 60 Hz)	1
Fire Deluge System	1
Fire & Smoke Alarm System	1
Fire Extinguisher	2

DECOMPRESSION CHAMBER

Chamber (Dia.: 1600 mm)	1
Air Bank Cylinders (300 Bar, 50 L)	16
3 Diver Air & Oxygen Distribution Panel	1
Amcom II Double Lock Chamber Communication System	1
Sound Powered Phone	1
Chamber Data Recording System	1
Camera Monitoring and Recording System	1

DIVE CONTROL ROOM

3 Diver Air Panel c/w emergency cross valve	1 (AISI 316L)
3 Diver Video Monitoring and Recording System	1
Amcom III Deluxe 3 Diver Radio c/w Backup Battery	1
Handheld Push To Talk (PTT) Microphone	1
Spiromatic 90U Self-Contained Breathing Apparatus Set	1
Peltor Headset	1



STORAGE ROOM / COMPRESSOR ROOM

20 FT Offshore Container	
20 FT Offshore Container c/w Lifting Sing (WL: 10 Ton)	1
Personnel Sea-Door with Integrated Window	1
Gas Penetration Panel	1 (AISI 316L)
Fire & Smoke Alarm System	1
Closet	1 (AISI 316L)

WORKSHOP / AIR STORAGE

Main Electrical Cabinet	1
Light	2
Wooden Bench	1
HP Cylinder (50 L, 300 Bar)	12
LP Vessel (500 L, WP: 16 Bar)	1
Fire Extinguisher	1



UMBILICAL STORAGE

Light	1
Umbilical Storage Bracket	4
Fire Extinguisher	1



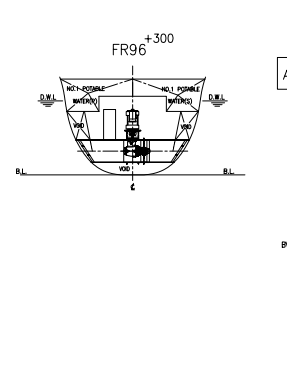
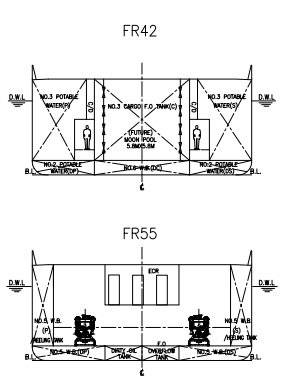
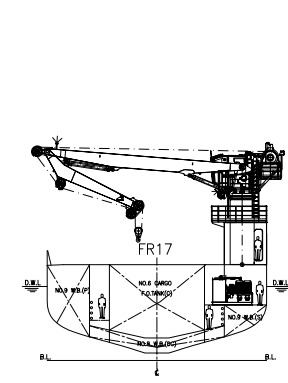
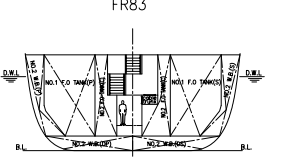
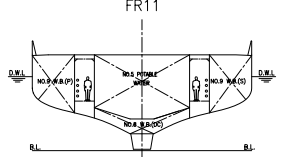
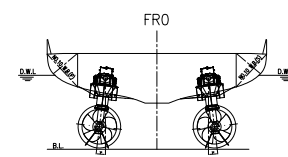
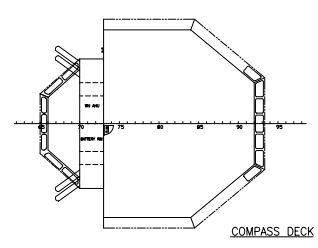
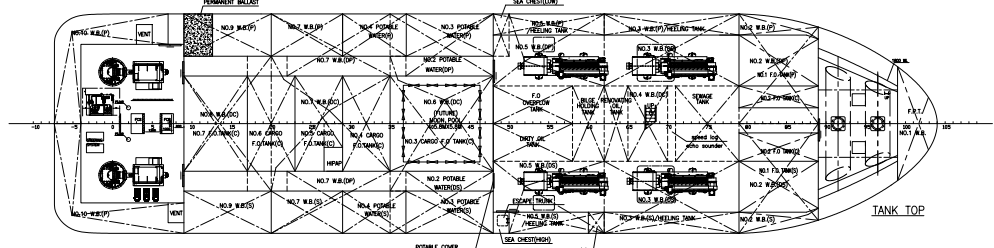
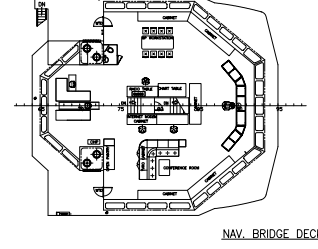
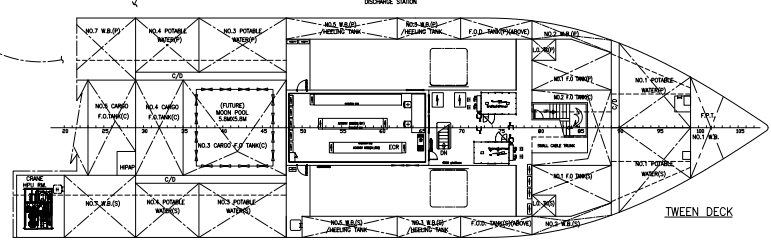
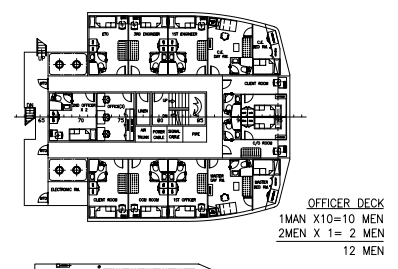
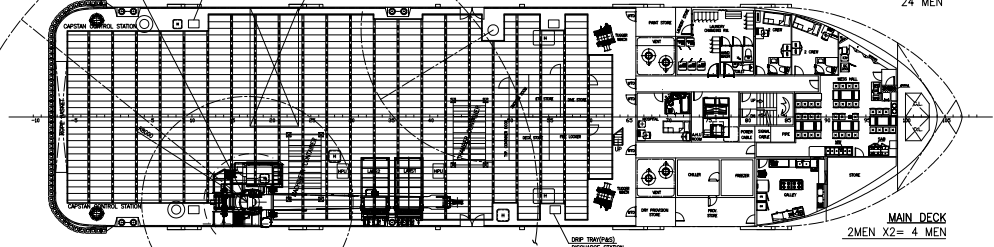
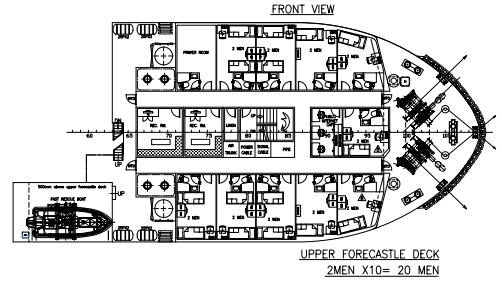
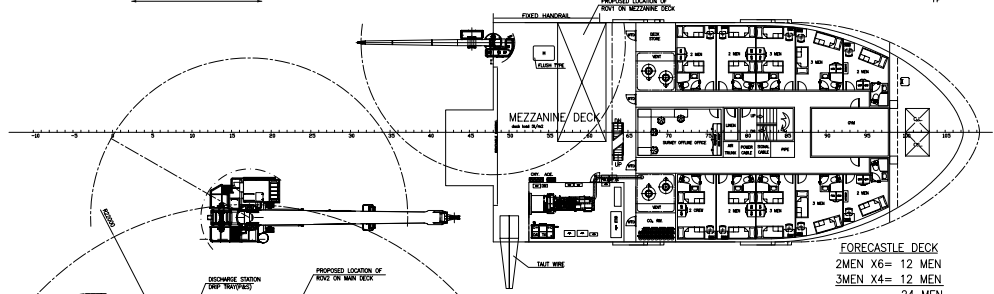
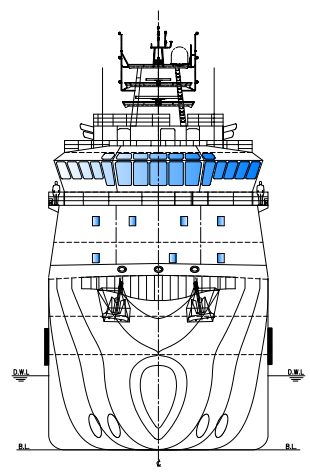
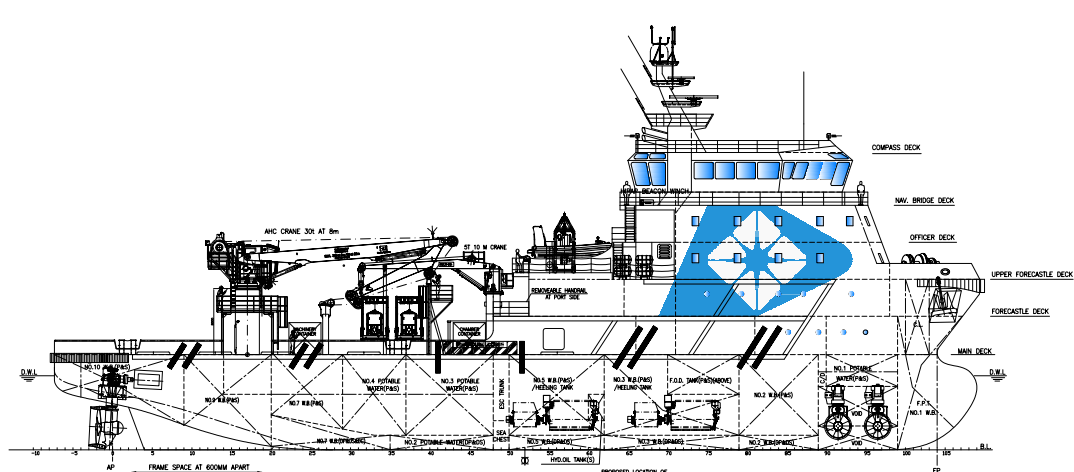
COMPRESSOR ROOM

Light	1
HP Compressor	L & W320 ES
LP Compressor	SCK-30-8
LP Air Filter System	1
Electrical Socket	TBA
Fire Extinguisher	1

DIVING EQUIPMENT

Superlite Helmet	3
Helmet Camera	3
Helmet Light (LED)	3
Hot Water Suit Set	3
Wetsuit (2-piece) Set	3
Bailout for Kirby Set	3
Peli Super Saberlite #2000B Lamp	3
Green River Knife c/w Sheave (Sharp pt.)	3
Leadweight with Vinlycoating (W: 1 KG)	18
Leadweight with Vinlycoating (W: 2 KG)	36





AS-BUILT ARRANGEMENT

PRINCIPAL PARTICULARS & CAPACITIES

LENGTH OA	70.00 M	F.O.	1,200 M ³
LENGTH BP	62.40 M	POTABLE WATER	650 M ³
BEAM MLD.	16.60 M	BALLAST WATER	800 M ³
DEPTH MLD.	7.20 M	WORKING SPACE MAIN DK	375 M ²
DRAFT DESIGNED	5.60 M	MEZZANINE DK	113 M ²
DRAFT SCANTLING	5.90 M	BELOW MEZZANINE DK	119 M ²
COMPLEMENT	60 MEN	DEADWEIGHT	ABT. 2,800 T
		GEN. SETS	1,427KW X 4
		SPEED	ABT. 12.5 KTS

3	UPDATED AS PER ONBOARD VERIFICATION	JJ	09-JULY-2015
2	UPDATED AS PER ONBOARD VERIFICATION	JJ	06-APRIL-2015
1	UPDATED AS PER COMMENTS AFTER INTERNAL REVIEW	JJ	14-MAR-2015
0	ISSUED FOR REVIEW	JJ	13-MAR-2015
REV NO.	REVISION DESCRIPTION	BY	DATE
<div> <p>Address: 15 Pandan Road, Singapore 609263 Telephone: +65 6238 8881 Facsimile: +65 6278 2759 Website: http://www.pacificradiance.com</p> </div>			
OWNER: PACIFIC CREST PTE. LTD.			
PROJECT:	70M DIESEL ELECTRIC ROV/DIVING SUPPORT VESSEL		CLASS: BV
TITLE:	GENERAL ARRANGEMENT		APPROVED ON:

BY: HULL & MACH
SUPPLY VESSEL-OL PRODUCT FP-607C,
SPECIAL SERVICE-AR DIVING & ROV SUPPORT VESSEL
SP46
UNRESTRICTED NAVIGATION
● ALM
● BMT
● OPSON
● DYNAPOS AM/AT R