Astro Offshore
An Adani Group Company



ASTRO ACHERNAR

88M DIESEL ELECTRIC MULTIPURPOSE SUPPORT VESSEL

GENERAL

Flag:	Tuvalu
Official No.:	4448
Call Sign:	T2HH6
Builders:	PaxOcean Engineering Zhuhai Co., Ltd.
Year Built:	2014
Classification:	✠ A1, Offshore Support Vessel (FFV 2, SPS), ©, ✠ AMS, ✠ ACCU, ✠ DPS-2, BWT, CRC, RW

PRINCIPAL PARTICULARS

Length OA:	88.00m
Length BP:	78.60m
Breadth Moulded:	20.00m
Depth Moulded:	8.00m
Draft (Minimum):	4.60m
Draft (Design):	6.00m
Gross Tonnage	5,552T
Net Tonnage:	1,665T
Deadweight:	3,200T
Dynamic Positioning:	DP2 | KPOS DP – 21 | 2 x DGPS Fugro OCS GNSS | 1 x CyScan, 1 x RADius, 1 x Taut wire (LTW) SMT, Sonardyne USBL Ranger 2 system.

MACHINERY

Main Engines:	2 x Azimuth Propellers, 1,850kW each
Bow Thruster & VFD starter:	2 x Transverse tunnel bow thrusters each 1,000kW
Main Generators:	2 x 1,980kW, 2 x 1,540kW
Emergency Generator:	1 x 300kW Emergency

PERFORMANCE

Eco Speed:	8 Knots
Max Speed:	13 Knots

ACCOMMODATION

One Man Cabins:	8
Two Man Cabins:	13
Four Man Cabins:	47
Total POB:	222

RESCUE EQUIPMENT

Rescue Boat & Davits:	2 x 6 POB, SOLAS Certified
Lifeboats & Davits:	2 x 120 POB, SOLAS Certified
Life Rafts:	8 x 32 POB

DECK EQUIPMENT

Main Crane:	KENZ (Elect-hydraulic lattice boom - AHC) Main Hoist 100T @ 14m, Aux Hoist 15T
Auxiliary Crane:	Sekwang (Knuckle boom deck crane) 1 x 10T @ 15m
Spread Mooring Winch (c/w Length / Tension Meters):	4 Sets, 1,200m x 44mm each Drum Pull (1st Layer): 40MT @ 10m / min | 10MT @ 30m / min Brake Holding (1st Layer): 80T
Deck Cargo:	10T / m^2
Deck Space:	760m^2 (Main Deck) | 40m^2 (Mezzanine Deck)
Moonpool:	4m x 4m Reserved Space
Anchors:	2 x 3,150kg Model: HY-14 SB
Helideck:	Cap 437 / Suitable for Sikorsky S-92
Capstan:	2 x 10T @ 0 - 15m / min
Reefer Points:	4 x 440V, 32Amp (3 phase) 4 x 230V, 16Amp (3 phase)

CRANE EQUIPMENT

Subsea Lifting Crane:	1 x 100T @ 14m (in air) | 41.7T @ 14.5m (Subsea)
Model:	Kenz Electric-Hydraulic Lattice Boom Offshore Pedestal crane Active Heave Compensated
Outreach:	Max = 46m
Class:	ABS

CAPACITIES

Fuel Oil:	1,573.6m^3
Drill Water / Ballast Water:	2,309.2m^3
Potable Water:	1,172.4m^3
Sewage Holding:	57.5m^3
Dirty Oil / Bilge:	21.8m^3 / 32.6m^3
Foam:	15m^3
Anti-Heel:	2 x 350m^3
Water Maker:	2 x 55m^3 / day

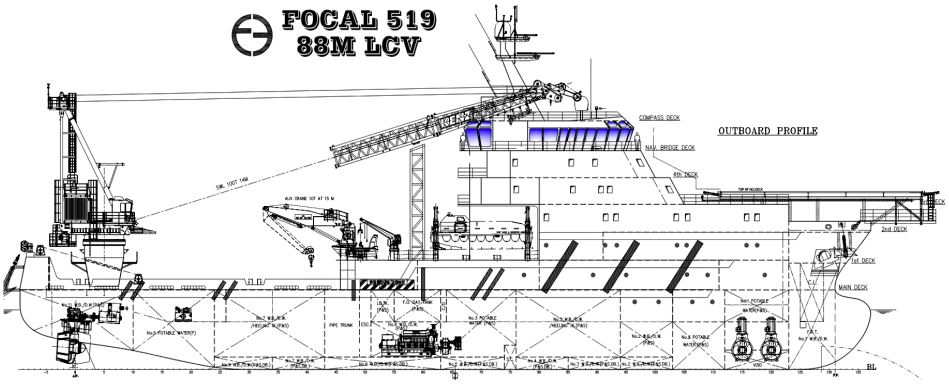
DISCHARGE RATES

Fuel Oil:	1 x 60m^3 / hr @ 90m head
Drill Water / Ballast Water:	1 x 100m^3 / hr @ 85m head
Dirty Oil / Bilge:	1 x 5m^3 / hr @45m head
Fresh Water Pump:	1 x 100m^3 / hr @ 90m head
Sewage Treatment Unit:	1 x 240 persons / H/Loading L/Day 17,500
Fire Pump:	2 x 3,700m^3 / hr @ 140m head

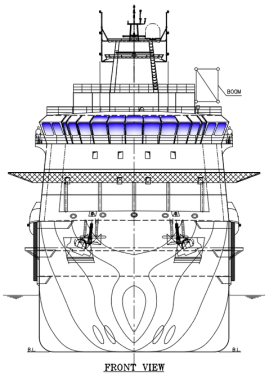
SAFETY EQUIPMENT

Fire Fighting:	FiFi Class 2
Fire Pump:	4 x Remote Operated Monitor, capacity 1,800m^3 / h

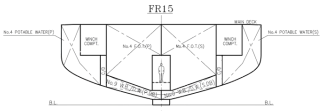
FOCAL 519
88M LCV

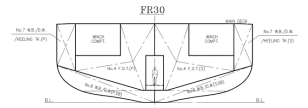


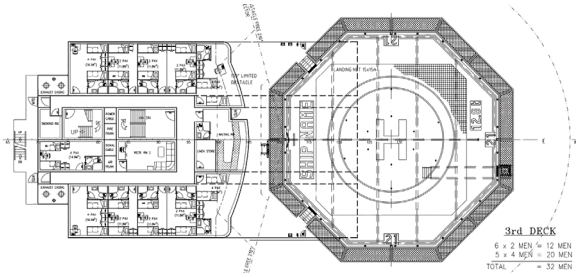
OUTBOARD PROFILE

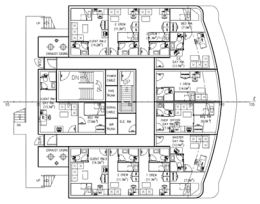


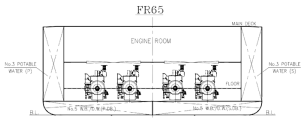
FRONT VIEW

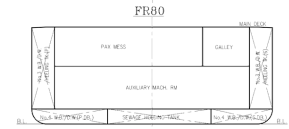


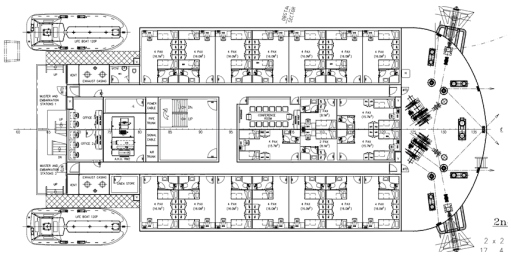


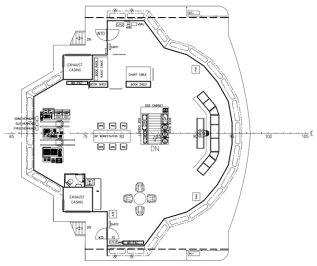


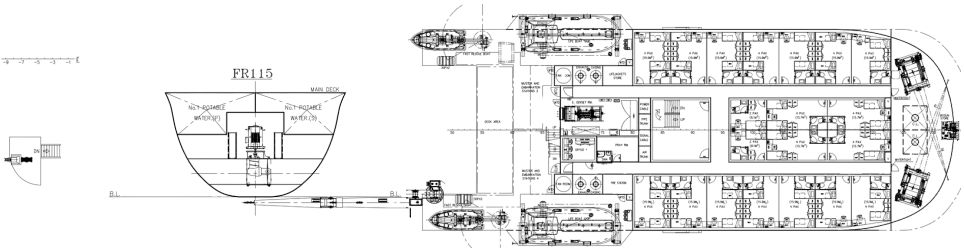


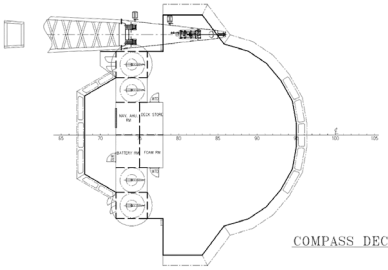




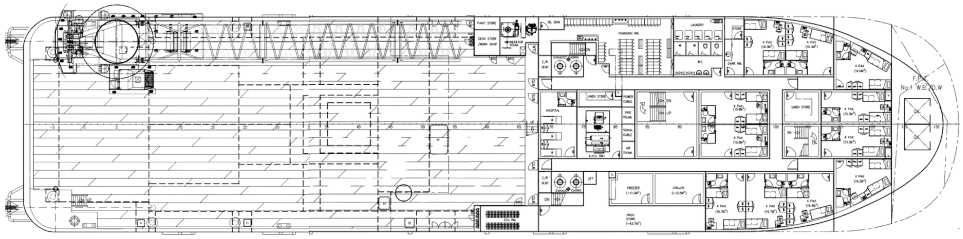


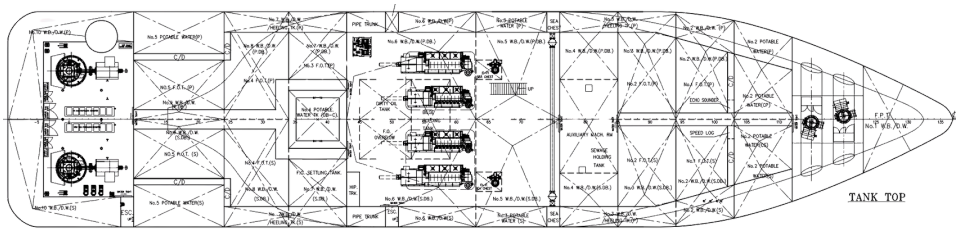




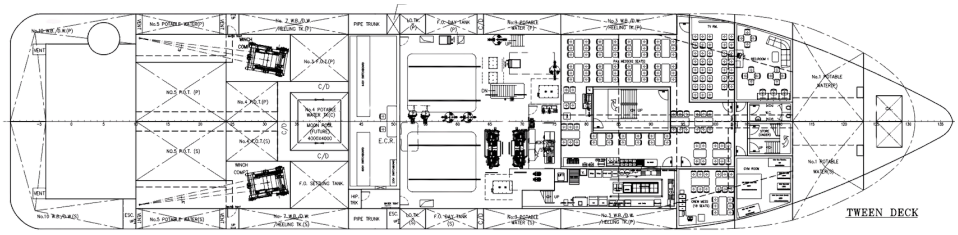


COMPASS DECK





TANK TOP



TWEEN DECK

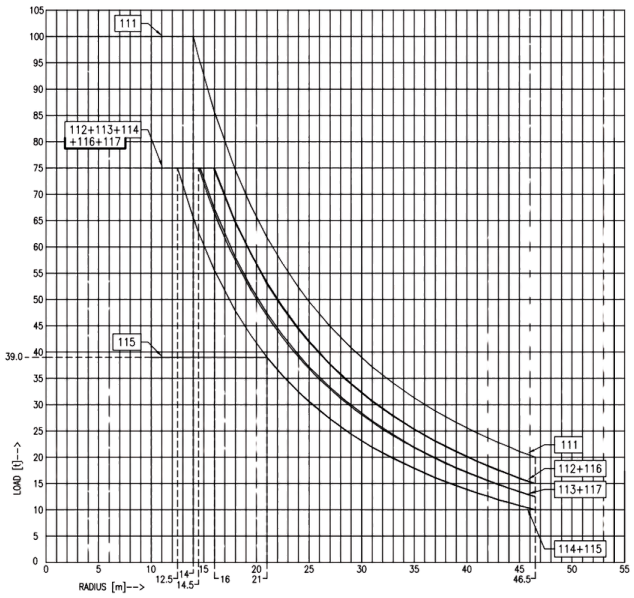
PRINCIPAL PARTICULARS

LENGTH OA	88.00 M
LENGTH BP	78.60 M
BEAM MLD.	20.00 M
DEPTH MLD.	8.00 M
DRAFT DESIGNED	6.00 M
COMPLEMENT	238 MEN
F.O.	1,300 M³
POTABLE WATER	1,100 M³
W.B.	2,000 M³
D.W.	2,000 M³
WORKING DK SPACE	ABT. 760 M² ON MAIN DECK
	ABT. 40 M² ON 1ST DECK
AZIMUTH PROPULSION	1,850 KW X 2
MAIN GENSETS	1,880 KW X 2
	1,460 KW X 2
TRIAL SPEED	10.5 KTS

CLASS: ABS ✸A1 Ⓔ OFFSHORE SUPPORT VESSEL, (FFV 2) SPS,RM,CRC
✸ ACCU
✸ AMS
✸ DPS-2

All particulars are believed to be correct but without guarantee

LOAD CHART



Radius [m]	Main Hoist SWL [t]						
	Deck Lifts	Supply Boat Lifts					
	4-falls	4-falls	4-falls	3-falls	3-falls	3-falls	2-falls
	–	SWH=0.5m	SWH=1m	SWH=0.5m	SWH=1m	SWH=2m	SWH=2m
10.0	100.0	75.0	75.0	75.0	75.0	75.0	39.0
11.5	100.0	75.0	75.0	75.0	75.0	75.0	39.0
12.5	100.0	75.0	75.0	75.0	75.0	75.0	39.0
14.0	100.0	75.0	75.0	75.0	75.0	65.5	39.0
14.5	96.1	75.0	75.0	75.0	75.0	62.7	39.0
16.0	85.7	74.6	67.3	75.0	66.5	55.6	39.0
18.0	74.6	64.5	58.0	64.8	57.3	47.8	39.0
19.5	67.7	58.3	52.3	58.6	51.7	43.1	39.0
21.0	61.8	52.9	47.4	53.2	46.9	39.0	39.0
22.5	56.8	48.3	43.2	48.6	42.7	35.5	35.5
24.0	52.3	44.3	39.5	44.5	39.1	32.4	32.4
25.0	49.6	41.9	37.2	42.1	36.9	30.6	30.5
27.0	44.9	37.6	33.3	37.7	33.0	27.3	27.2
29.0	40.8	33.9	29.8	34.0	29.6	24.4	24.4
31.0	37.2	30.6	26.9	30.7	26.7	21.9	21.9
33.0	34.1	27.8	24.3	27.9	24.1	19.8	19.8
35.0	31.3	25.3	21.9	25.3	21.8	17.9	17.8
37.0	28.8	23.0	19.9	23.1	19.8	16.1	16.1
39.0	26.6	21.0	18.0	21.1	17.9	14.6	14.6
41.0	24.6	19.2	16.4	19.2	16.3	13.2	13.2
42.0	23.7	18.3	15.6	18.4	15.5	12.6	12.6
43.0	22.8	17.5	14.8	17.6	14.8	11.9	11.9
44.0	22.0	16.8	14.1	16.8	14.1	11.4	11.4
45.0	21.1	16.0	13.5	16.0	13.4	10.8	10.8
46.0	20.4	15.3	12.8	15.3	12.8	10.3	10.3
46.5	20.0	15.0	12.5	15.0	12.5	10.0	10.0
Curve	111	116	117	112	113	114	115

	V_{min} [m/min]
Up to SWH=0.5m	3.5
Up to SWH=1.0m	6.5
Up to SWH=2.0m	12.1

For the rope plan of each reeving situation see operation manual, drawing number:

	Drawing No.
Main Hoist	2131_021
Auxiliary Hoist	2132_021
Boom Hoist	2121_021

SWL : Safe Working Load [t]
SWH: Significant Wave Height [m]

Environmental conditions

Relative humidity : 100%
Max. operational windspeed : 25 m/s
Structural design temp. : -10°C
Ambient temperature : -10° to +40°C

TYPE : EHC 100/4000 O.S.
YEAR : 2014
ORDER : P318N001
CRANE NO. : 14-318
VESSEL : PX1020
DRAWING NO. : 8003_004 Rev. B

With crane base angle of 0°

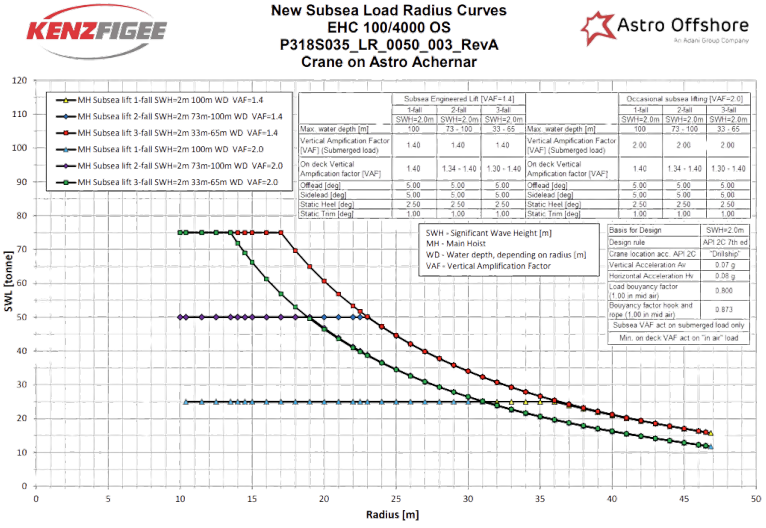
	Deck Lift*	Supply Boat Lift**					
	4-falls	4-falls	4-falls	3-falls	3-falls	3-falls	2-falls
	–	SWH=0.5m	SWH=1m	SWH=0.5m	SWH=1m	SWH=2m	SWH=2m
Hoisting factor	1.18-1.33	1.25-1.40	1.38-1.61	1.30-1.41	1.38-1.65	1.75-2.21	1.86-2.23
Offlead	0.08°	1.85°-9.14°	2.22°-11.20°	1.91°-9.14°	2.28°-11.20°	4.64°-15.59°	4.90°-15.59°
Sidelead	1.15°	1.15°-4.52°	1.15°-5.56°	1.15°-4.52°	1.15°-5.56°	1.15°-7.62°	1.15°-7.62°
Static heel	5.00°	2.50°	2.50°	2.50°	2.50°	2.50°	2.50°
Static trim	3.00°	1.00°	1.00°	1.00°	1.00°	1.00°	1.00°

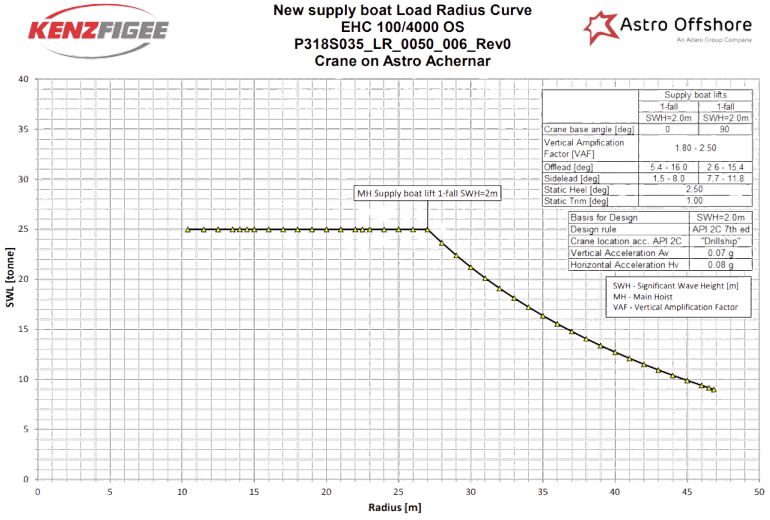
With crane base angle of 90°

	Deck Lift*	Supply Boat Lift**					
	4-falls	4-falls	4-falls	3-falls	3-falls	3-falls	2-falls
	–	SWH=0.5m	SWH=1m	SWH=0.5m	SWH=1m	SWH=2m	SWH=2m
Hoisting factor	1.18-1.33	1.25-1.40	1.38-1.61	1.30-1.41	1.38-1.65	1.75-2.21	1.86-2.23
Offlead	0.00°	0.63°-8.98°	0.66°-11.01°	0.83°-8.98°	0.85°-11.01°	1.01°-14.98°	1.88°-14.98°
Sidelead	0.00°	1.75°-4.83°	2.14°-5.94°	1.76°-4.79°	2.15°-5.90°	4.52°-8.75°	4.60°-8.75°
Static heel	5.00°	2.50°	2.50°	2.50°	2.50°	2.50°	2.50°
Static trim	3.00°	1.00°	1.00°	1.00°	1.00°	1.00°	1.00°

*Calculated according the General Method as a "Ship and barge in calm water".
**Calculated according the General Method as a "Drill ship".

rev.	partslist revised	description		name	re-issue date
B	N	Base 0° Off-/Sidelead 3-/2-fall & base 90° hoist. fac. 2-fall modified	checked	MVDB	050417
			status	name	date
			drawn	BK	010713
Item no.: – –		P.O. no: POSH/12024	checked	JNO	161213
job: EHC 100/4000 O.S.			approved		161213
			as built		
description: Load Radius Plate MH			source		
			Partlist Included: See Drawing no.:		Yes
projection	welding symbols acc. ISO 2553	surface roughness acc. DIN 4768(um)	Do not scale	scale	format
Drawing General principles ISO 128	form and position tolerances acc. ISO 1101	General tolerances: Single parts acc. ISO 2768-cL	If in doubt ask	1:1	A2
© copyright KENZ-FIGEE BV		Assembled parts acc. DIN 8570-CG	order no.: P318N001		
			drawing no.: 8003_004		
KENZFIGEE PO BOX 235, 1500 EE ZAANDAM, ZUIDDIJK 400, 1505 HE ZAANDAM THE NETHERANDS T + 31 (0)75 6810410, WWW.KENZFIGEECOM			Sheet 1 of 1		rev. B





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