



ANNEX «A» to TimeCharterParty

M/V SANCO STAR

YOUR PARTNER IN MARINE SEISMIC OPERATIONS



SHIP DESIGN	MM 80 Seismic, Source / 2-D Seismic Survey Vessel
CLASSIFICATION	DNV-GL
BUILDER	Vaagland Båtbyggeri AS, Norway , build no. 140,
BUILT	Year 2008
PORT OF REGISTRY	Gibraltar
FLAG	Gibraltar
IMO NUMBER	9410313
CALL SIGN	ZDIT 8

OWNER:	Sanco Holding AS Moljevegen 32 N-6083 Gjerdsvika NORWAY	MANAGER:	Sanco Shipping AS Moljevegen 32 N-6083 Gjerdsvika NORWAY
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MAIN DIMENSIONS		CLASS NOTATIONS	
Length O.A	80,5 m	BV: + HULL, + MACH, + AVM-DPS, + AUT-UMS, ICE, + DYNAPOS AM/AT R, SPS IMO A.534(13) HELDK-SH. Unrestricted navigation BV ID Number: 34704 Y	
Length P.P	76,95 m		
Breadth	16,0 m		
Draft	5,80 m		
Gross Tonnage	3953		

Updated: October 2021

All specification given without guarantee, and subject to changes

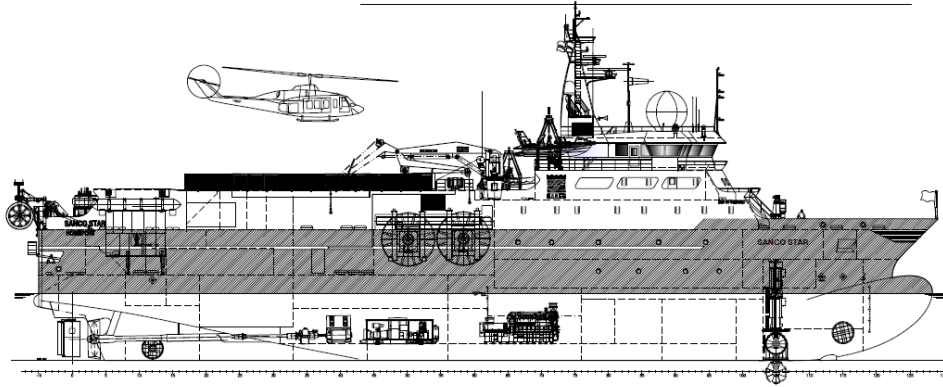
OUTLINE SPECIFICATION M/V SANCO STAR

MACHINERY AND PROPELLER PLANTS	
Main propulsion:	STADT Stascho, 2 x 2500 kW, 690 V
Main engines:	3 x 1593 kW, ABC Diesel, 8 DZC, 900rpm
Main gear:	2 x Finnøy
Generators:	3 x AVK, 1612 kW each
Propeller:	2 x 4 bladed Finnøy, Ø=3100, 150/190 rpm
Emergency Aux.	1 x Scania, 352 kW
Bow thruster 1:	1 x Brunvoll tunnel, 700 kW
Bow thruster 2:	1 x Brunvoll, Azimuth, 700 kW
Stern thruster 1:	1 x Brunvoll tunnel, 700 kW
Rudder:	1 x RR Hince Flap rudder
Steering Gear:	2 x RR Tenford
Working air Compressors:	2 x Sperre . + 1 Atlas Copco
ELECTRIC POWER	
690 V, 440 V, 230 V all 60Hz	
DECK MACHINERY	
Crane, 02-deck:	1 x Triplex folded jib, SWL 5 T at 15 m
Crane, provision, 01 deck:	2 x Triplex crane, SWL 1,5 T at 6 m
Crane, 01 deck (streamer deck):	1 x MB Hydraulic, SWL 5 T at 8,6 m
Seismic Cable winches:	4 x 9000 m each, 60 mm diameter
Seismic Gun winches:	7 x 330 m each, 67 mm diameter
Auxiliary winches:	17 pcs on gun & streamer deck
Hydraulic power pack:	2 x 350 bar
NAVIGATION EQUIPMENT	
Auto Pilot:	Anschutz PilotStar D
GPS:	2 x Furuno GP-150
Radar 1:	1 x 3 cm Furuno FR 2117, Arpa
Radar 2:	1 x 10 cm Furuno FR 2137, Arpa
Night camera:	Night Navigator Camera – Navigator 3
Gyro 1 & 2:	2 x Simrad GC 80
Gyro 3:	Furuno SC-50
Electronic Chart navigation:	2 x Furuno TECDIS, Telco
DP system:	Kongsberg SDP 21
C-Joy with track steering:	Kongsberg with dedicated software
Echo sounder:	Furuno FE 700
Survey Echo sounder:	Kongsberg EA-640, 18, 38 & 200 kHz
Speed log / Current meter:	Furuno DA-80
Voyage Data Recorder:	Furuno VR-3000
AIS:	Furuno FA-150 AIS
EPIRB:	1 x Sailor SE-406 II
SEISMIC	
On-line Nav. system:	ION Gator II
Primary Navigation:	Fugro Starfix. XP2/G4
GPS receiver:	Fugro StarPack and Starfix 9205
Gun array tracking:	Seamap BuoyLink 4DX, 2 pods pr Array
Acoustic / Transducer:	Finnøy HPR, USBL Sonardyne
Gyro:	Teledyne TSS Meridian, Seapath 300
ENERGY SOURCE	
Type:	Bolt 1900 LLXT Gun dual source
Number of Sub. Arrays:	6 pcs sub. arrays in use, 7 position each array and 2,5 meter between guns
Configuration:	Single / Dual source, 100 m separation
Tow width:	Dual source, 100 m max COS
Firing control:	Gun Link 2000
QC:	Gun Link
NFH:	All position
PT:	Pressure Transducer Last Position
Depth transducer:	3 per sub-array
Deflectors:	Baro DT 500-2000 Seismec Midi 140% door Baro C680-2000
Tow system:	Baro Flex. 18' float syst. with diverters
Seismic compressors:	2 x Neuman & Esser, SAPS 62
Compressor capacity:	2 x 2200 cfm = 4400 cfm in total 2000 PSI
Power control:	Freq. drives with auto RPM control

SPEED AND FUEL CONSUMPTION	
Max. speed:	14 knots – 27 m3/day
Service speed:	13 knots – 19 m3/day
Economic speed:	10 knots – 10 m3/day
Seismic shooting:	4,5 knots – 11 m3/day
Bollard pull:	40 tons
Endurance shooting:	90 days
Endurance economic speed:	100 days
IN LINE BUNKERING CAPABILITY	
The vessel can be arranged with in line bunkering over the bow	
CAPACITIES	
Fuel:	1100 m3 (MDO)
Drinking water:	117 m3
Lube oil:	17 m3
Sewage:	50 m3
Grey water:	48 m3
Dirty oil / Sludge oil:	10 m3 + 4 m3
Fresh water generator:	ENWA Osmosis Plant, 21 m3/day
Sewage treatment plant:	DVZ-SKA-40 "BIOMASTER"
Ballast treatment plant:	MMC Green Technology 100 m3
Waste compactor:	Delitek, type DT-500 Mk II
Incinerator:	Teamtec Golar OG 400
Black water:	Jets Vacuum DVZ
Helideck, Dayligh:	D-value 19,5 meter, 11 tonnes
LIFE SAVING EQUIPMENT	
Safety manning level:	10 persons
Rescue / FRC / MOB:	Norsafe 750 M, water jet
Workboat:	Weedo 700 FRB, Seismic work
Inflatable life rafts:	6 x 25 persons Viking DK 25
Life Jackets:	99 pcs + 4 kids
Life buoy:	11 pcs
Survival suits:	54 pcs
Emergency radios:	3 x Sailor SP 3520
Radar transponders:	2 x Sailor Sart II
Fire detection system:	Autronica Minerva T200 CV
Fire pumps:	2 x Allweiler 36 m3/h + 1 x 31 m3/h
Co2 system:	Autronica
Lifesaving capacity max.:	49 persons
COMMUNICATION	
Fixed satellite line:	+870 764885372 / 3
VSAT number:	+47 23678500 / 1
Inmarsat C:	423644810 / 1
M/F & H/F:	Sailor 4000
VHF Stationary:	2 x Sailor 6222 + 1 x Sailor RT 2058
Handheld VHF radios:	3 x Sailor SP 3300
UHF stationary:	5 x Motorola GN 380
UHF portable:	4 x Motorola UHF GP 340
Internal communication:	Vingtor VMP-430
Satellite – Inmarsat Type C:	2 x Sailor H2095C
Nav. Tex.:	Furuno NX-700
Satellite com. Equipment:	Iridium
Vessel E-mail:	bridge.star@sanco.no captain.star@sanco.no
ACCOMMODATION	
Instrument room:	1 pcs sep. aircon. with redundancy
Gun Shack:	1 pcs with air-condition
Work Shop:	2 pcs with air-condition
Seismic store:	2 pcs
Mess room:	Seating for 34 persons 3 x dayrooms 1 conference room 1 internet café
Day rooms:	3 x dayrooms 1 conference room 1 internet café
Gymnasium:	Yes
Air condition:	Techno Term HVAC system
Cabins:	13 x 1 bed with bathroom 15 x 2 bed with bathroom 2 x 3 bed with bathroom Hospital with bathroom

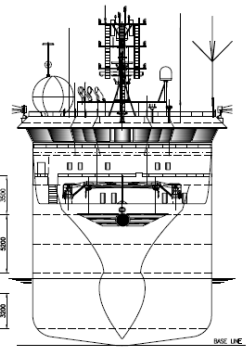


DESIGN MM 80 SEISMIC

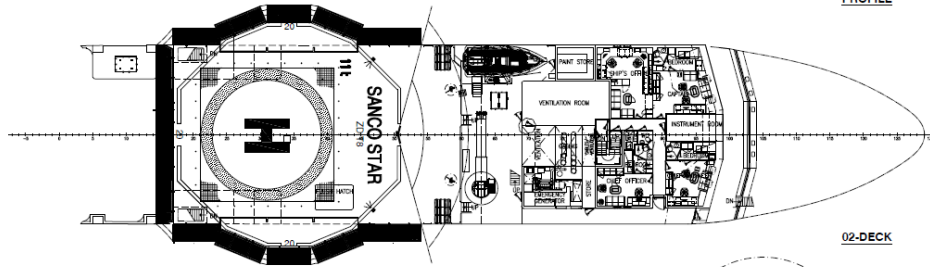


PROFILE

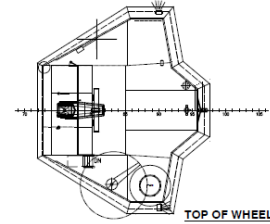
TOP OF WH. HOUSE 16900 AB. BL.
BRIDGE DECK 17000 AB. BL.
02-DECK 14600 / 15200 AB. BL.
01-DECK 11700 AB. BL.
A-DECK 8500/9100 AB. BL.
B-DECK 6500 AB. BL.
C-DECK 4700 AB. BL.
TANK TOP 1500/2000 AB. BL.
BASE LINE



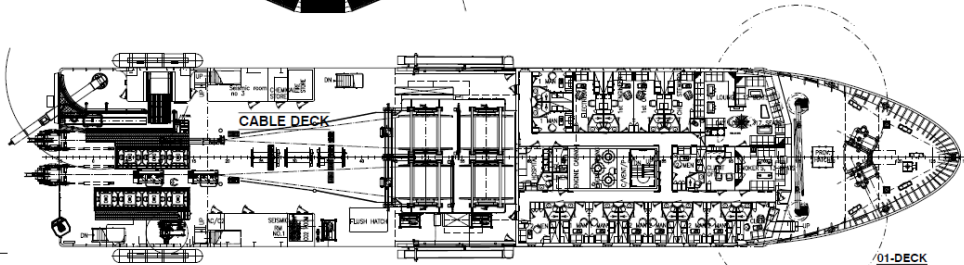
FRONT VIEW



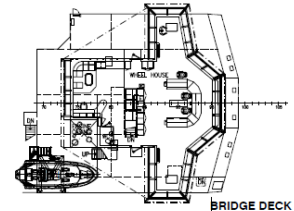
02-DECK



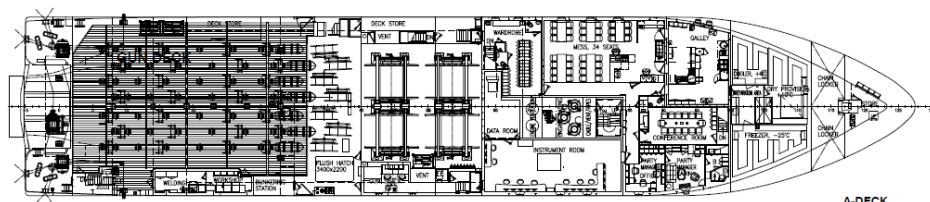
TOP OF WHEELHOUSE



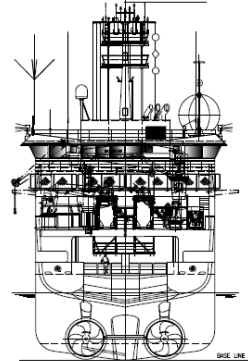
01-DECK



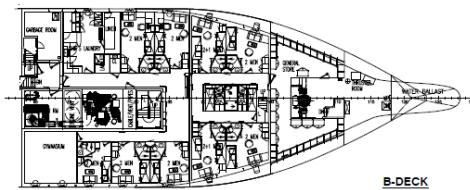
BRIDGE DECK



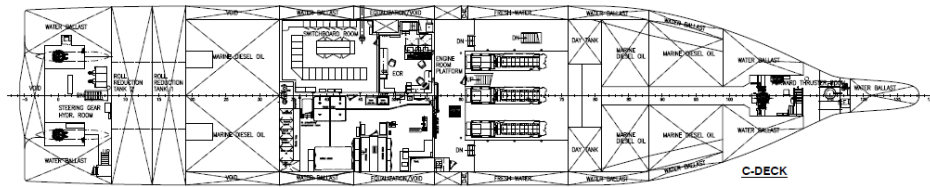
A-DECK



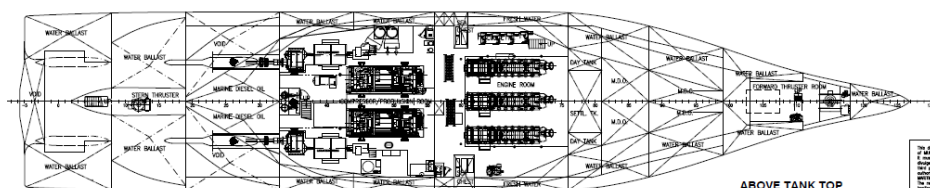
STERN VIEW



B-DECK



C-DECK



ABOVE TANK TOP

MM 80 SEISMIC

MAIN DIMENSIONS:

LENGTH OVER ALL	~80.00 m
LENGTH BETWEEN LPP	~76.90 m
BREADTH MOULDED	16.00 m
DEPTH MOULDED	6.50/7.00 m
SCANTLING WATER LINE	6.10 m
DESIGN WATER LINE	5.75 m
SINGLE CABINS	13
DOUBLE CABINS	15
TRIPLE CABINS	2
RESCUE EQUIPMENT FOR	49 PERSONS

CLASS:

DNV = 1A1, ICS-C, 50, RP, DYNPOS-AUT, HELIX-SH

IMO number: 9410313

REV. NO.	DESCRIPTION	DATE	APP. BY
01	ISSUED TO DNV	02.05.2011	APR
02	GENERAL UPDATES	17.11.11	SEJ
03	GENERAL UPDATES	18.09.11	SEJ
04	GENERAL UPDATES, REV COMMENTS	03.10.11	SEJ
05	GENERAL UPDATES, REV COMMENTS	20.04.12	SEJ
06	UPDATES	18.01.12	SEJ
07	UPDATES	20.11.08	SEJ
08	ISSUED TO DNV	18.10.08	SEJ

DESIGNER	VAAGLAND	SCALE	1:150
CHECKER		PROJECT NO.	253/5
APPROVER		DRW. NO.	102
		DATE	14.01.11
		PROJECT NO.	140101101-H



We have the following Bolt guns & chambers onboard:

1900 LLXT Bolt guns – 75 pcs which can be configured as clusters / singles as required

1900 LLXT and LLX chambers as per below table:

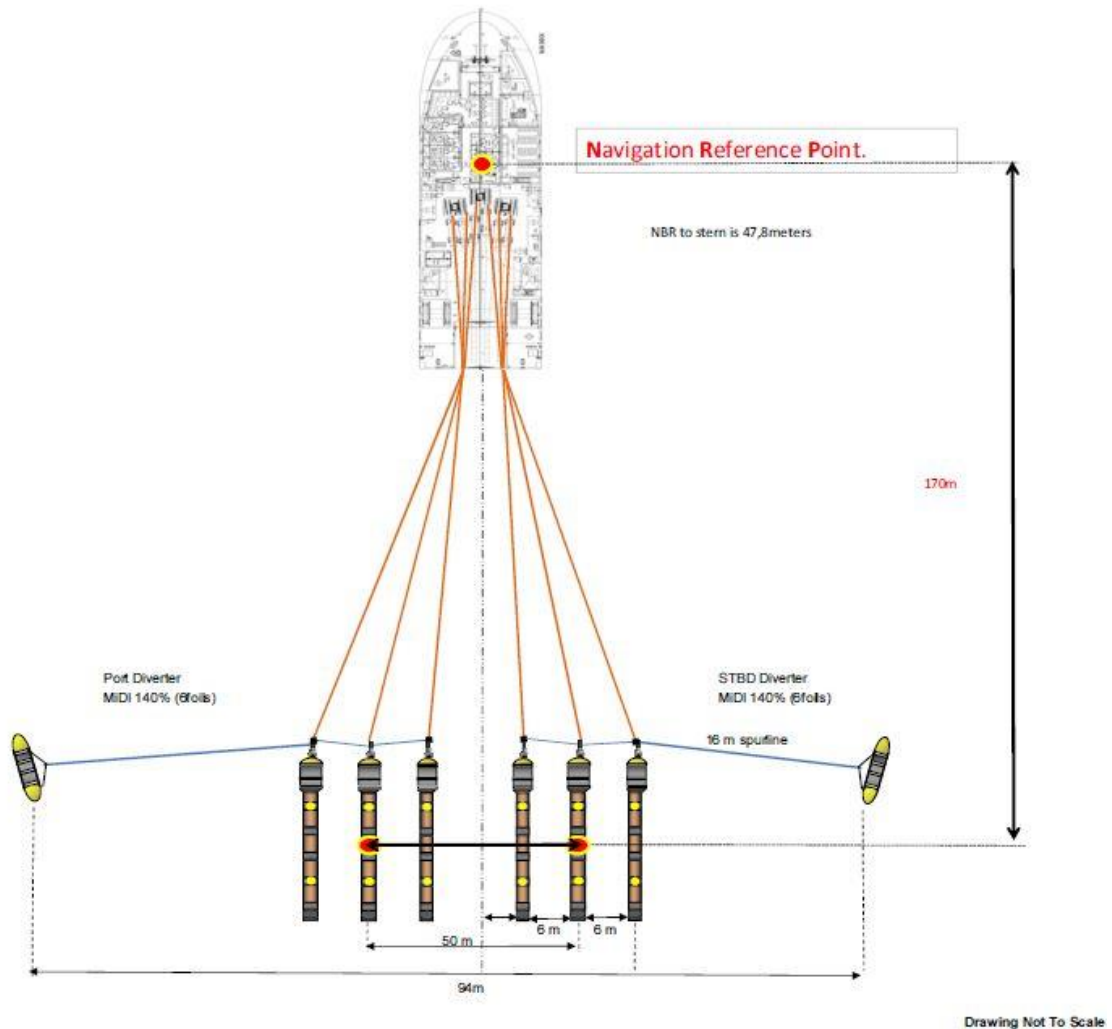
Volumes / Quantity on board

	Cuin	40	70	80	90	100	120	130	155	200	250
Chamber type	LLX	1	2	2	4	12	4	2	12	12	4
	LLXT	0	0	17	0	12	15	0	7	12	0

Spreader bars

1000 mm bar (can be used both upper & lower) = 128 pcs / 32 sets

Sanco Star towing example (Midi Deflectors)



Sanco Star towing example (Baro C 680-2000 Deflectors)

