



# ANNEX «A» to Time CharterParty

## M/V SANCO SWORD

YOUR PARTNER IN MARINE SEISMIC OPERATIONS



<b>SHIP DESIGN</b>	ST 324, Seismic survey vessel with 3-D / 2-D & Source capability
<b>CLASSIFICATION</b>	BV
<b>BUILDER</b>	Kleven Myklebust Verft AS, Norway , build no. 358,
<b>BUILT</b>	Year 2014
<b>PORT OF REGISTRY</b>	Gibraltar
<b>FLAG</b>	Gibraltar
<b>IMO NUMBER</b>	9662100
<b>CALL SIGN</b>	ZDNE 7

<b>OWNER:</b>	<b>Sanco Holding AS</b>	<b>Technical &amp; Seismic Manager:</b>	<b>Sanco Shipping AS</b>
	Moljevegen 32, N-6083 Gjerdsvika, NORWAY		Moljevegen 32, N-6083 Gjerdsvika, NORWAY

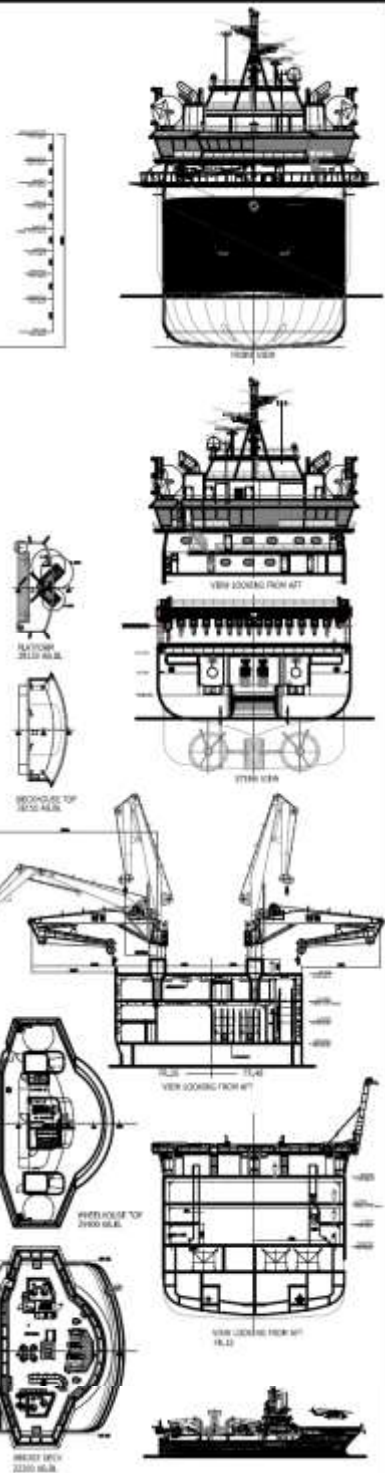
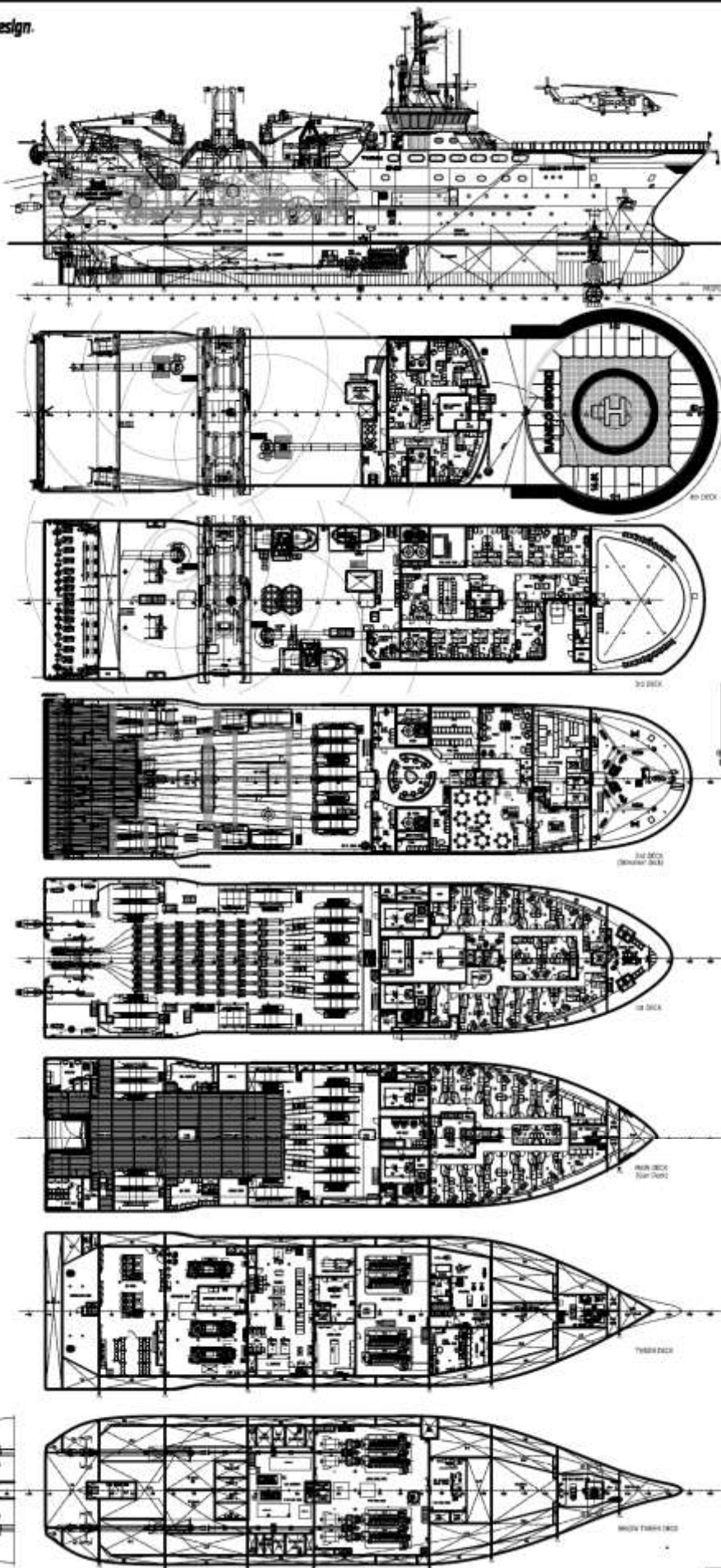
<b>MAIN DIMENSIONS</b>		<b>CLASS NOTATIONS</b>
Length O.A	96,15 m	BV: I +HULL, ICE CLASS 1B, AUT-UMS, SDS, COMF-VIB(3)-NOICE(3), AVM-DPS, CLEANSHIP Super, SYSNEQ-1, MON-SHAFT, SPS, HELDK-SH.  Unrestricted navigation BV ID Number: 34702 W
Length P.P	84,60 m	
Breadth	23.0 m	
Draft, loaded	7,00 m	
Gross Tonnage	8772	

Updated: June 2020  
All specification given without guarantee, and subject to changes

# OUTLINE SPECIFICATION M/V SANCO SWORD

<b>MACHINERY AND PROPELLER PLANTS</b>		<b>SPEED AND FUEL CONSUMPTION</b>	
Main propulsion:	2 x Scana Volda, 2 x 5500 kW, Nozzle	Max. speed:	17 knots – 65 m3/day
Main engines:	4 x 4000 kW, MAN 32/40 Diesel, 600 rpm	Service speed:	12 knots – 30 m3/day
Main gear:	2 x Scana Volda, twin in, single out	Economic speed:	10 knots – 23 m3/day
Generators:	4 x 2600 kW each	Seismic shooting:	4,5 knots – 18 m3/day
Propeller:	2 x 4 bladed Scana, Ø=3900, 139 rpm	Bollard pull:	216 tons
Emergency Aux.	1 x 900 kW + 1 x 300 kW	Endurance shooting:	140 days
Bow thruster:	1 x Brunvoll Retract./Tunnel, 1000 kW	Endurance economic speed:	94 days
Stern thruster:	1 x Brunvoll, tunnel, 800 kW		
Starting/Working air Comp:	2 x Sperre . + 1 Atlas Copco		
<b>ELECTRIC POWER</b>		<b>IN LINE BUNKERING CAPABILITY</b>	
690 V, 440 V, 230 V all 60Hz		The vessel is arranged with in line bunkering over the bow	
<b>DECK MACHINERY</b>		<b>CAPACITY</b>	
Deck Crane:	2 x 16T / 13,5M -5T / 22M	Fuel oil, HFO:	1758 m3
Provision crane:	2 x 1,5T / 13M	Diesel oil, MGO:	406 m3
Hydraulic power pack:	2 x 280 bar	Lube oil:	112 m3
Seismic Cable winches:	12 x 12000 m each, + 4 spare winches	Sewage:	16,5 m3
Seismic Gun winches:	8 x 1000 m each,	Grey water:	20,6 m3
Tow points:	16 pcs.	Dirty oil / Sludge oil:	95,1 m3
Auxiliary winches:	18 pcs on gun & streamer deck	Fresh water generator:	2 x Alfa Laval ( 2 x 20m3/day)
		Sewage treatment plant:	Gertsen & Olufsen BR-011100 BVG
		Ballast treatment plant:	MMC Green Technology 150 m3
		Waste compactor:	Delitek, Type DT- 500 MC
		Incinerator:	Team Tec GS 500 CS
		Black water:	JETS FD/VP-V
		Helideck, Sikorsky S-92, Daylight:	D-value 21,0 meter, 14,6 tones
<b>NAVIGATION EQUIPMENT</b>		<b>LIFE SAVING EQUIPMENT</b>	
Auto Pilot:	Anschutz Nautopilot 2025	Safety manning level:	10 persons
GPS:	2 x Furuno GP-150	Rescue / FRC / MOB:	Wedo 700, water jet
Radar 1:	1 x 3 cm Furuno FCR 2117, Arpa	Workboat:	Westplast 950 Seisworker
Radar 2:	1 x 10 cm Furuno FCR 2137 S, Arpa	Inflatable life rafts:	6 x 35 persons Viking DK 35
Electronic Chart navigation:	2 x Furuno TECDIS AW, type Telco	Life Jackets:	64 pcs + 6 kids
Gyro 1 & 2:	2 x Navigate X Mk1ad GC 80	Life buoy:	21 pcs
GPS compass:	Furuno SC-50	Survival suits:	64 pcs
EPIRB:	1 x Jotron Tron 40 S	Emergency radios:	3 x Sailor SP 3530
AIS:	Furuno FA-150 AIS	Radar transponders:	2 x Jotron Tron
C-Joy with track steering:	Kongsberg tracksteering with dedicated software	Fire detection system:	Tyco Marine Services Minerva Marine T2000CV
Echo sounder bridge:	Furuno FE 700	Fire pumps:	3 x Allweiler 1 x 247,4 m3/h + 1 x 125m3/h + 1 x 50 m3/h
Echo sounder, dual frequency:	Simrad EA- 600 with 12, 38 & 200 kHz	Co2 system:	Heien Larssen
Voyage Data Recorder:	Furuno VR-3000 6G	Lifesaving capacity max.:	60 persons
Water speed Log:	Nortek VMCP		
Acoustic Current Profiler:	Nortek VMCP		
		<b>COMMUNICATION</b>	
		Fixed satellite line, Iridium:	
		Marlink VSAT KU band:	
		Inmarsat C:	Sailor 6100
		M/F & H/F:	2 x SSB, Sailor 6300, 150W
		VHF Stationary:	3 x Sailor
		Handheld VHF radios:	3 x Sailor SP 3530
		UHF stationary:	5 x Motorola GM 360
		UHF portable:	8 x Motorola GP 380
		Internal communication:	Alcatel - Lucent
		Satellite – Inmarsat Type C:	2 x Sailor TT 6300
		Nav. Tex.:	Furuno NX-700
		Satellite com. Equipment:	Sailor 500
<b>SEISMIC</b>		<b>ACCOMMODATION</b>	
On-line Nav. system:	ION Gator II	Instrument room:	1 x sep. aircon. with 100% redundancy
Primary Navigation:	Fugro Starfix XP2/G4	Gun Shack:	1 pcs with air-condition
GPS receiver:	Fugro StarPack	Work Shop:	2 pcs with air-condition
Gun array tracking:	Fugro StarTrack RGNSS, 2 per subarray	Seismic store:	3 pcs
Acoustic / Transducer:	1 x 350 mm bottom valve installed	Mess room:	Seating for 42 persons
Nav Post Processing	FGPS SeisPos	Day rooms:	3 x dayrooms 1 conference room 1 internet café
		Gymnasium:	One, + Solarium and Sauna
		Air condition:	Teknotherm Marine AS / Aeron
		Cabins:	46 x 1 bed with bathroom 7 x 2 bed with bathroom Hospital with bathroom
		Swimming pool:	Outdoor, heated
<b>ENERGY SOURCE</b>			
Type, Bolt:	1900 LLXT & 1500 LL dual source		
Number of Sub. Arrays:	6 pcs sub. arrays in use,6 position each array and 3 meter between guns		
Configuration:	Single / Dual / Triple source		
Tow width:	Dual source, 100 m max COS		
Firing control:	Gunlink 4000		
QC:	Gunlink		
NFH:	All position		
PT:	Pressure Transducer on each gunplate		
DT:	Depth Transducer on each gunplate		
Tow system:	Partner plast Flex. 18' float syst. with 6 diverters		
Deflectors:	Seismec 140 % mini deflectors		
Seismic compressors:	3 x Neuman & Esser, SAPS 62		
Compressor capacity:	3 x 2200 cfm = 6600 cfm in total		
Working pressure:	2000 Psi		
Power control:	Freq. drives with auto RPM control		





**MAIN DIMENSIONS:**

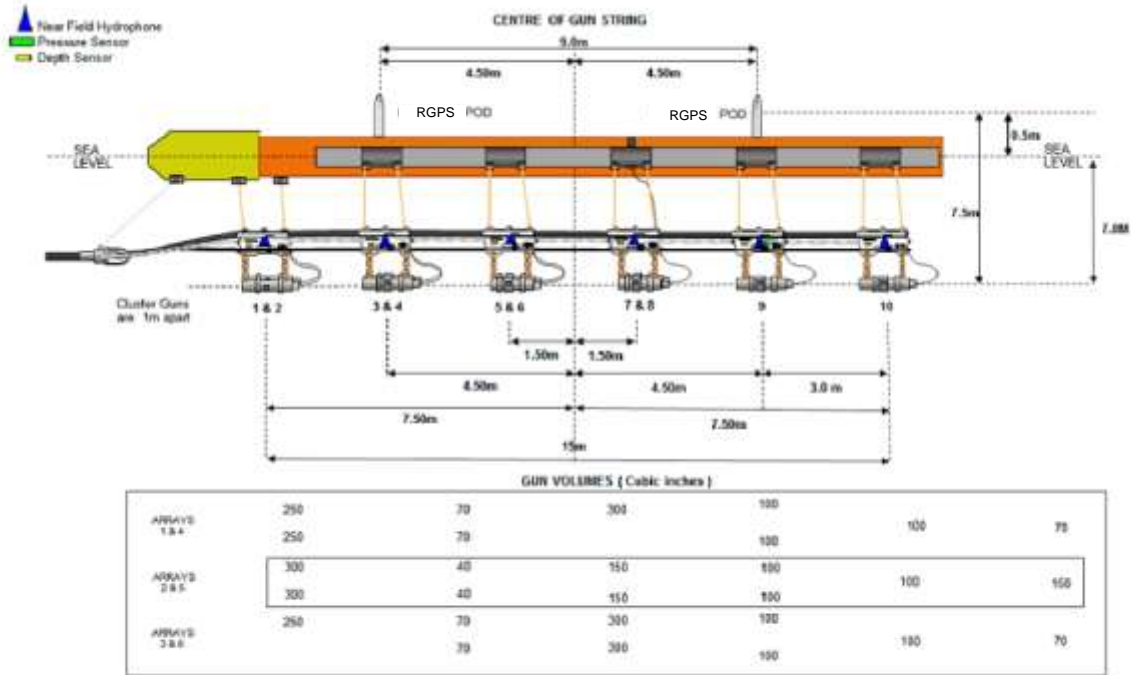
- LENGTH LLA 84,25 m
  - LENGTH LPA 84,00 m
  - BEAM (part 000) 17,00 m
  - BEAM (at transom) 17,00 m
  - DEPTH TO WIND DECK 5,20 m
  - DEPTH TO MAIN DECK 6,80 m
  - DEPTH TO 1st DECK 11,45 m
  - DEPTH TO 2nd DECK 13,80/14,10 m
  - FRAME SPACING 600 mm
- ACCOMMODATION: 60 PERSONS + HOSPITAL (46 BERTHS + 7 DOUBLE CABINS)
- CLASS: (DNL) (1A), PD, SP, CLEAN PERSIST, COMP C2-01, HULL-01, 1001-04, 100-18, 05, TROCK 040
- COMPLIANT WITH IMO Reg. MSC 280/04 Code of Safety for Special Purpose Ships 2009
- Reference for Skanska S-02



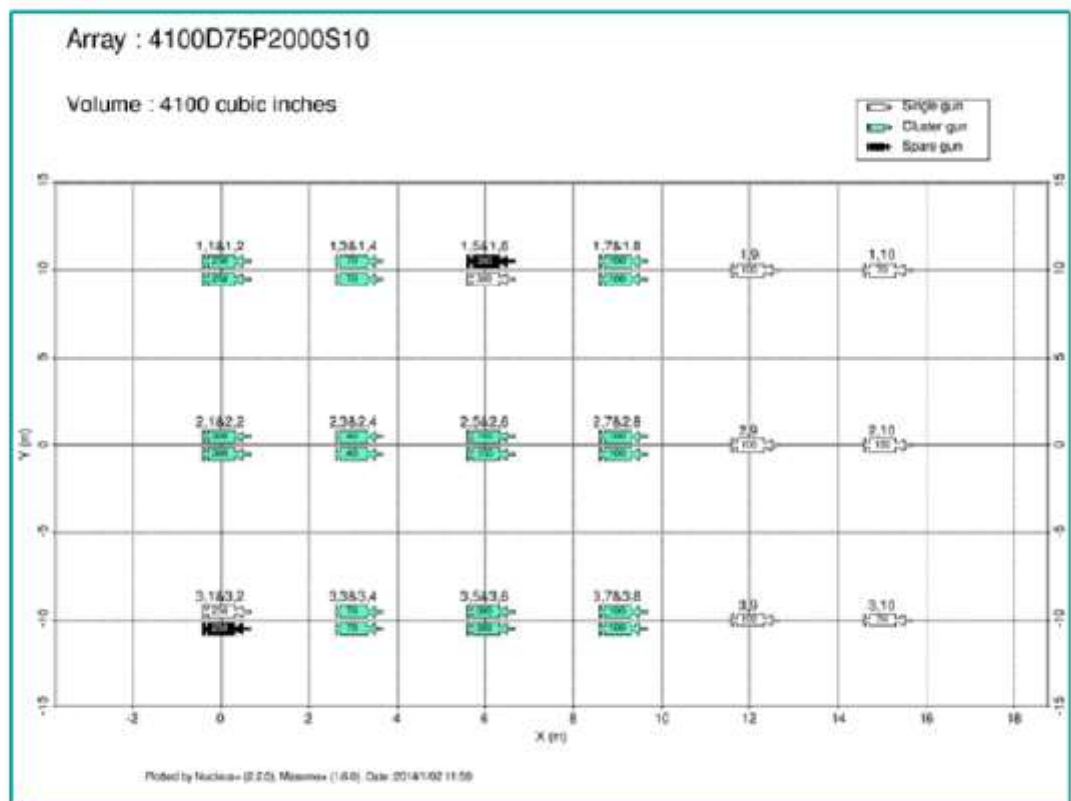
GENERAL ARRANGEMENT		358
KLEVEN MARITIME		2011/02
Skipsteknisk		759-101-001-6739P

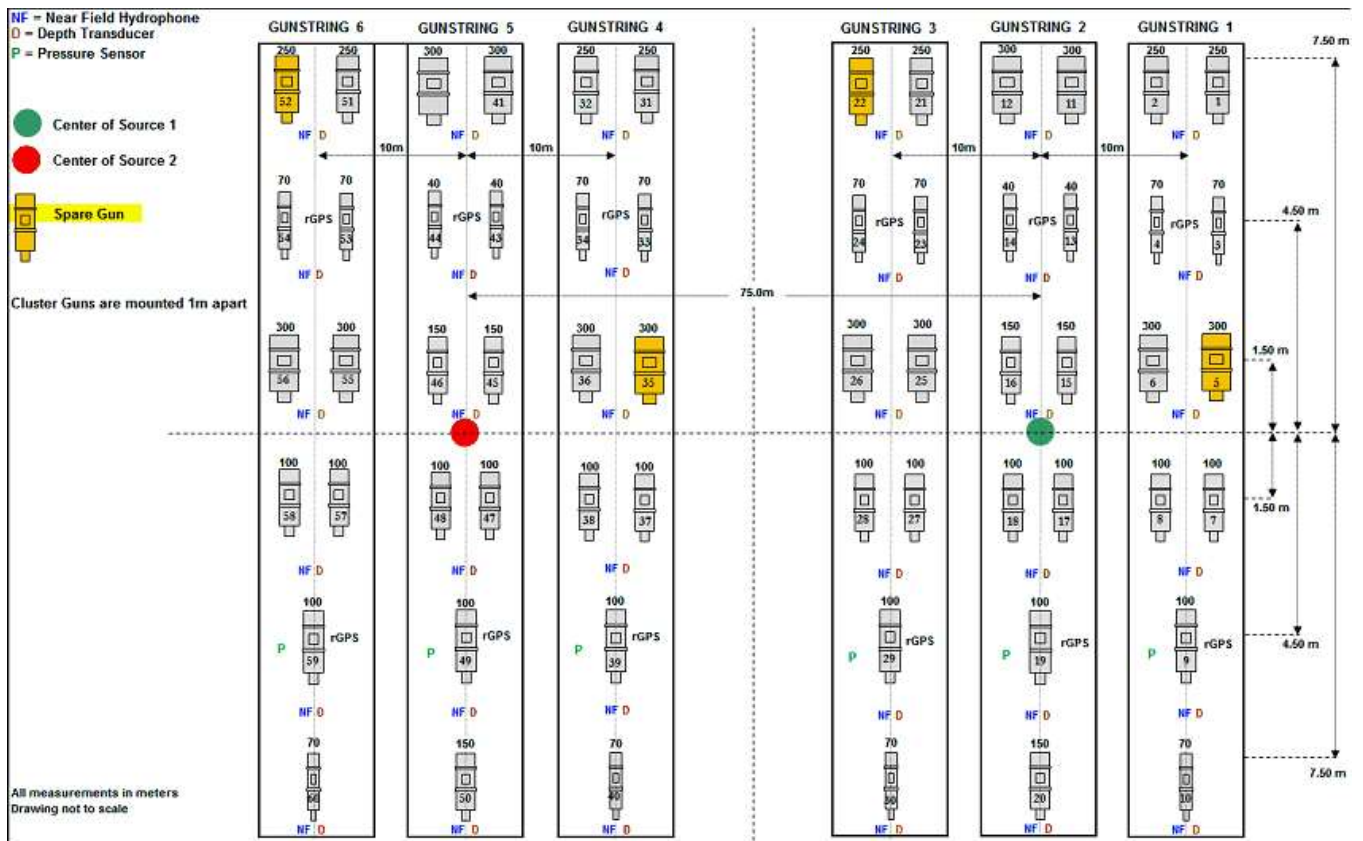


# Sanco Sword Gun String Offsets



## Array Diagram





**Sanco Sword have the following Bolt guns & chamber onboard:**

**Cluster 1500 LL**

- 250 cuin: Bolt 1500 LL 10 pcs x 250 (Included 2 spare)
- 300 cuin: Bolt 1500 LL 14 pcs x 300 (Included 2 spare)

**Cluster 1900 LLXT**

- 40 cuin: Bolt 1900 LLXT 6 pcs x 40 (Included 2 spare)
- 70 cuin: Bolt 1900 LLXT 10 pcs x 70 (Included 2 spare)
- 100 cuin: Bolt 1900 LLXT 14 pcs x 100 (Included 2 spare)
- 150 cuin: Bolt 1900 LLXT 6 pcs x 150 (Included 2 spare)

**Single 1900 LLXT**

- 70 cuin: Bolt 1900 LLXT 5 pcs x 70 (Included 1 spare)
- 100 cuin: Bolt 1900 LLXT 7 pcs x 100 (Included 1 spare)
- 150 cuin: Bolt 1900 LLXT 3 pcs x 150 (Included 1 spare)

**Spreader bars**

- 1000 mm = 96 pcs on Arrays, 8 pcs 44,5 mm, 14 pcs 32 mm (for small guns)
- 900 mm = 0 pcs
- 800 mm = 0 pcs



# Sanco Sword Towing

