

Vessel Information Handbook



VESSEL NAME

Yard No. 962, VARD Norway

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* Subject to changes / #TBD: to be determined/defined.

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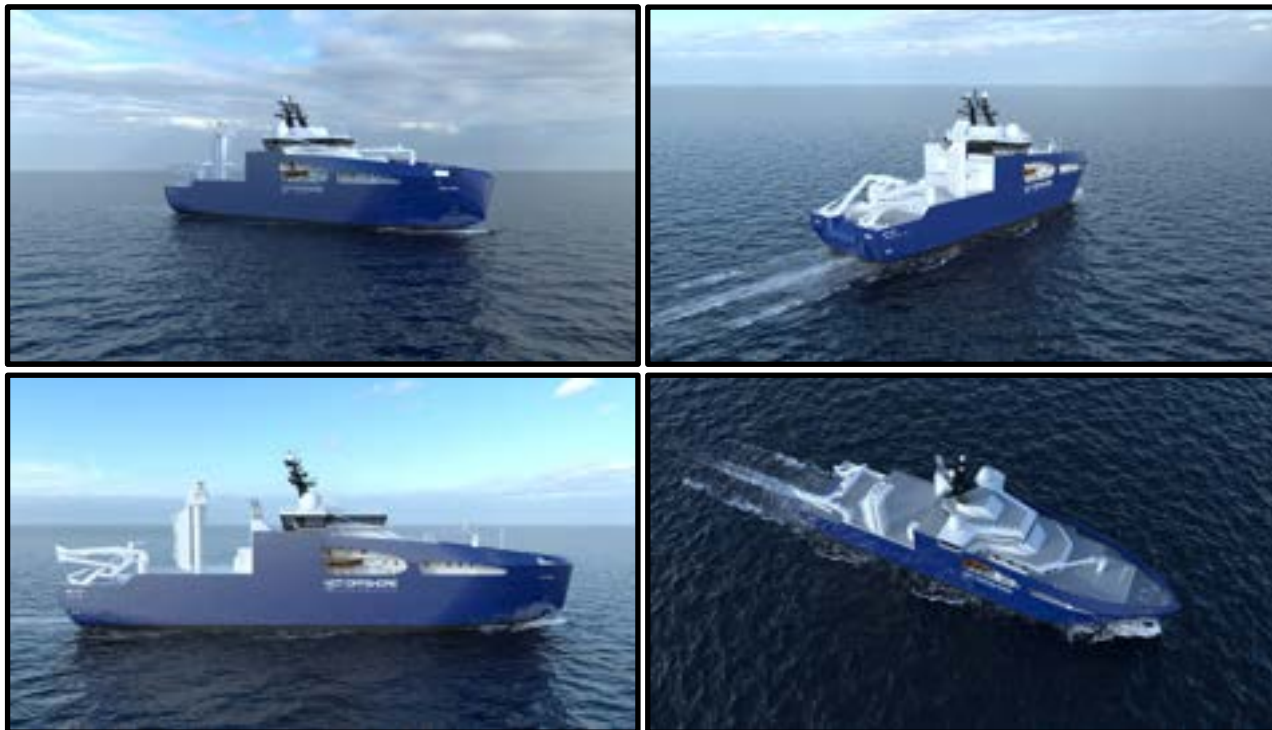
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1 General Information



Name	Freja
Design	Vard 9 01
Built	2024
IMO no.	1017505
Call sign	OUIT2
MMSI Number	#TBD
DNV identification number	45687
Flag State	Denmark
Port of Registration	Klintebe
Classification	✕1A Cable laying vessel BIS Battery(Power) BWM(T) Clean(Design) COMF(C-3, V-3) DYNPOS(AUTR) E0 LCS NAUT(AW) Recyclable SPS ER(SCR) *
Owner	NCT Offshore A/S Middelfartvej 228 5200 Odense V Denmark
Manager	NCT Offshore A/S Middelfartvej 228 5200 Odense V Denmark

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2 Main Particulars

2.1 Dimmensions

Length overall	95,3 m
LPP (ILLC 1969)	84,952 m
Rule Length	85,463 m
Breadth	21,5 m
Max Draught, summer water line	7,1 m
Min Ballast Draught	4,3 m
Frame Spacing	0,60 / 0,70 m

2.2 Tonnage

Gross Tonnage	#TBD
Net Tonnage	2613t
Lightship displacement	#TBD
Deadweight, dummer draught	#TBD

3 Power and Propulsion

3.1 Power

Main Generators	MAN 12V 175D-MEM
Engine speed	1800 rpm
Engine Power output (MCR)	1800 kW
Rated power	1728 kWe
Battery Pack	1492 kWh (Max 1790kW)
Power Plant Monitoring	SeaQ PMS
Emergency Generator motor	Scania type DI13 75M
Emergency Generator Alternator	Stamford type HCM534C2
Emergency GenSet output	3 x 690V / 60 Hz; 419 kVA - 335 kW at 1800 RPM
Shore Power Connection	2 v 300A
Electrical Power	690V/60Hz 3ph; 440V/60Hz 3ph; 230V/60Hz; 24V DC

3.2 Propulsion

Propulsion	Diesel/hybrid electric
Main Propulsion	Kongsberg Azimuth Thruster US 255P30 FP
Bow Tunnel Thrusters	2 x Kongsberg TT2650 DPN FP (power in 1200kW)
Swing-up azimuth thruster	1 x Kongsberg TCNS075-M-170 (power in 880 kW)

4 Dynamic Positioning

4.1 General Information

DP Classification	DYNPOS(AUTR)
Manufacturer	GE

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Type	DP with 3 operator stations and independent joystick
Capability plot	See Appendix

4.2 Reference System

DGNSS	1 x SAAB R6 NAV PRO 2 x Veripos LD 900
HiPAP	HiPAP 502 SSBL
Laser Reference	SceneScan

4.3 Sensors

Gyro	3 x Raytheon Anzhutz STD22NX (same for Navigation)
Wind Sensors	3 x Gill Instruments WindObserver 65
MRU	3 x InertialLabs MRU B2

5 Bridge Equipment

5.1 Navigation

Navigation GPS	2 x Furuno dGP170 & 1 x Seanav-320
Radar 10cm (X-band)	Furuno FAR-3210 - BB
Radar 3 cm (S-band)	Furuno FAR-3220-BB
ECDIS	2 x Furino FMD-3200 & 1 x Furuno FMD-3100
Navigational Echo Sounder	Skipper ENS 100
Gyro Compass	3 x Raytheon Anzhutz STD22NX
Speed Log	Skipper EML 224 Duel Axis
Current Indicator	Furuno CI-68 (5 level indication)
Auto Pilot	Anzhutz NP5400
AIS	Furuno FA-170
Voyage Data Recorder (VDR)	Furuno VR7000

5.2 Communication

GMDSS Equipment	SAILOR
Inmarsat C	SAILOR 6110 Mini-C
Iridium	Thrane LT-3100S
VSAT Communication	1 x Intellian v130NX KU-KA 1 x StarLink (Dural Marine) 1 x Wavehunter Multidirectional 5G

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MF/HF	SAILOR 6310
Navtex	SAILOR 6391
VHF (Fixed)	2 x SAILOR 7222 (DSC) & 2 x SAILOR 6210
VHF (Portable)	2 x SAILOR 6204
UHF Radio (Fixed)	4 x Motorola Type DM4400
Internal communication	ClearCom

5.3 Operation

CCTV	#TBD
Independent Joystick system	GE

6 Capacities

6.1 Freshwater Capacity and Production

Capacity	467,4 m ³
Reverse Osmosis	Norwater
Hydrophore system	Grundfos Hydro MPC-E 2 (6 m ³ /h – 6 bar)
Bunker station / connection	#TBD

6.2 Ballast Capacity and Pumps

Capacity	2537,0 m ³
Ballast pumps	1 x Centrifugal pump 150 m ³ 1 x Two-Spindel screw pump 150 m ³
Ballast treatment system	Alfa Laval PureBallast 3.2 170 Compact (170m ³)

6.3 Fuel Capacity and spec

Capacity	1069,4 m ³
Specification	MGO
Bunker station / connection	#TBD
Urea capacity	81,4 m ³

6.4 Cable Carousels

Both carousels are prepared for fiber-optics cable installation where kingpost can be removed.

Carousels are carried by a single closed bearing for optimised operation and long lifetime.

6.4.1 Carousel no. 1 (Fwd)

Diameter outer bullring (inside)	15600 mm
Diameter inner core (outside)	4510 mm
Segmentation diameter (centre)	11800 mm
Hight (stacking)	Up to 4700 mm
Weight capacity (design)	1750 T

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6.4.1 Carousel no. 2 (Aft)

Diameter outer bullring (inside)	17642 mm
Diameter inner core (outside)	4900 mm
Segmentation diameter (centre)	13000 mm
Hight (stacking)	Up to 4700 mm
Weight capacity (design)	2500 T

6.5 CPS Capacity

CPS Room Storage	3 x compartments of L:9,7m x W:6,0m x H:1,7m 1 x compartment of L:3,1m x W:6,0m x H:1,7m
CPS containers	8 container positions on B-Deck, subject to other equipment

7 Safety Equipment

Vessel is fully compliant with SOLAS and flag state requirements for safety equipment and is certified for a total of 60 persons on board.

Life rafts	4 x VIKING 35DKF+ / davit launched
Rescue Boat	Viking Norsafe / Mako-655 Waterjet
Immersion Suits	Viking
Liftjackets	Viking
Emergency Escape Breathing Devices	Ocenco M20.2
Emergency radios	3 x Jotron TR30 GMDSS
EPIRP	TRON-60SX
EPIRP (Free float)	#TBD
Radar Transponders (SART)	2 x TRON SART60, AIS
Fire Detection System	Consilium
Water Mist System	Ultra Fog – High-Pressure water mist fire protection
Firemens outfit	SCBA Sigma type 2, Scott Safety
Foam system	Viking foam inductor package
CO2 Fire Extinguishing System	#TBD
Wet chemical (Deep Fat Fryer)	#TBD
Hospital	Available

8 Deck Equipment

8.1 Main Deck

Length	71,7 m
Breadth	12,0 m in Hangar / 21,5 m on aft deck
Deck Area	Main deck Aft: 341m ² , Cable Hangar: 752m ² , B-deck: 200m ²
Deck Strength	#TBD
Chute	Width 9m, radius 5m
Hangar Length	Prox. 55 m

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8.2 Deck outlets

Fresh Water	FW outlets available on all decks.
Working Air	7 bar outlets, 3 pcs B, C and ROV hangar, 8pcs main deck
Power	10pcs utility stations with 690V,440V,230V outlets
High Pressure Water	18 HP water outlets distributed on all decks

8.3 Cranes

8.3.1 Main Crane

Manufacturer	Aukra
Type	ADK150
Working range	5T/24m – 10T/15m
Wire	80m Compact, non-rotating
Slewing Range	360
Personnel handling/Manriding	N/A
Active Heave Compensation	N/A

8.3.2 Traverse cranes (Hangar)

Manufacturer	Aukra
Type	2pcs, SWL 5000kg traverse crane with electric hoist

8.3.3 Mono beam cranes (CPS room)

Manufacturer	Aukra
Type	8pcs, SWL 1000kg mono beam cranes

8.3.4 Aux. Crane

Manufacturer	Aukra
Type	ADF50
Working range	2T/15m
Wire	40m Compact, non-rotating
Slewing Range	360
Personnel handling/Manriding	N/A

8.3.5 A-Frame

Manufacturer	NCT Offshore/SRC Nordic/Arcim
Type	SWL 30t, SWL 15t AHC winch installed.
Max Outreach	3,5m from chute
Max lifting height above deck	9,5m
Main winch wire	130m, 30mm wire, winch speed 0,9m/s
Active Heave Compensation	Yes

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8.3.6 Quadrant and Quadrant Handler

Manufacturer	NCT Offshore/SRC Nordic
Type	SWL 15t
Quadrant radius	3,5m for array setup
Quadrant Handler	SWL 15t, from horizontal to vertical position
Quadrant winch	150kN pull force, 120m 24mm wire, 12m/min

8.4 Track Tensioners

LCE 15T	2 x Arcim 150kN tensioner. Speed 25m/min
LCE 3 T	3 x Arcim 32kN tensioner. Speed 25m/min

8.5 PLGR winch system

PLGR system	ARCIM 2023010-01
Storage unit /winch	1 st layer pull/speed: 35kN / 20 m/min 5 th layer pull/speed: 30kN / 25 m/min
Wire Capacity	Ø34 mm / 350 m
Tensioner winch	Pull force 350 kN / speed: 20 m/min

8.6 Boat Landing

Dimensions	Length: 6900m, Width: 2m
Position	A-deck PS, platform 11800mm above base line

8.7 Anchor and Mooring winches

Maker Forward anchor and Mooring winch	Palfinger
Type combined anchor and Mooring winch	AW50-50K3-1CL-1MD-1WE (pull 12 tons first layer)
Type Aft Mooring winch	MW12-1MD-1WE (pull 12 tons first layer)
Mooring lines	Ø52mm synthetic / drum capacity 180 m

8.8 Walk to Work gangway

The gangway is 3D motion compensated.

For transportation of goods, the gangway is prepared for trolly operation.

Maker	Seaonics
Type	ECMC Gangway 22m
Maximum outreach	22 m
Trolly system	Trolly for transportation of goods.

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9 ROV equipment

9.1 TROV

General:	
Maker	NCT Offshore
Type	TROV109-1300
Power	956kW
Class	IV

TROV specifications:	
Operational depth	100m
Length	3,90m
Width	6,3m
Height	2,2m
Ground clearance	0,63m
Weight in air	8500kg*
Weight in water	2500kg*
Minimum soil bearing	10 kPa
Forward thrust	2150 kg/f
Lateral thrust	1400 kg/f
Vertical thrust	1400 kg/f
Tracks	2 each 3,8 x 0,6m soft rubber tracks
Operational Track speed	600 m/h
Roll and pitch capability	15°
Gradient capability	20°
Operational current	2 kn.
Trenching capability	Up to 180 kPa

LARS:	
Type	Arcim Electric A-frame 150kN
Dimensions (L/W/H)	10,70m / 6,0m / 7,0m *
Weight	40,2 Ton *
Umbilical capacity length	350m*
Umbilical weight in air	8,3 kg/m
Umbilical weight in water	6,2 kg/m
Minimum breaking strength	1030kN
Minimum bending radius	77,5 cm
Umbilical diameter	Ø 50mm

Jetting:	
Jetting power	350kW / 16 Bar max
Backwash power	350kW / 6 Bar max
Jetting flow	200 – 600 m3/h

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Backwash flow	800 – 1500 m3/h
Product diameter	Up to 630 mm
Trench depth	3,0 m

Surveillance / AUX equipment:	
Cameras	3x MacArtney Luxus compact PUR Camera
Light	6x MacArtney Luxus compact PUR LED
Pan & Tilt	2x Argus HD
Sonars	2x Kongsberg Mesotech 1171
	2x Blueprint Oculus
Cable tracking	TSS 440
	TSS 350
	Depth indicator on tool
FOG (Gyro)	iXblue Rovins nano
Depth/Alti	Valeport Va500
Acoustic positioning	Hipap , C-node MiniS
Doppler	Waterlinked Dvl A125

9.2 WROV

General:	
Maker	Argus
Type	Worker ultra compact
Power	67kW
Class	III

WROV specifications:	
Operational depth	300m
Length	2,21m
Width	1,53
Height	1,297
Weight in air	1500kg
Weight in water	Neutral
Forward thrust	500kg/f
Lateral thrust	500kg/f
Vertical thrust	330 kg/f
Payload	50kg
Forward speed	4,0+ kn
Operational current	2,5+ kn

LARS:	
Type	Arcim Electric A-frame 30kN

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Dimensions (L/W/H)	4,5m / 2,5m / 5,0m *
Weight	6,0 Ton *
Umbilical capacity length	300m *
Umbilical weight in air	0,5 kg/m
Umbilical weight in water	0,1 kg/m
Minimum breaking strength	150kN
Minimum bending radius	50 cm
Umbilical Diameter	Ø 24 mm

Surveillance / AUX equipment:	
Cameras	1x Argus HD camera 1x Latch camera
Light	6x 130W 11500 lumen
Pan & Tilt	2x Argus HD
Sonars	1x Imagenex 881A
	1x Blueprint Oculus
Cable tracking	TSS 440
	TSS 350
FOG	iXblue Rovins nano
Depth/Alti	Valeport Va500
Acoustic positioning	Hipap , C-node MiniS
Doppler	Waterlinked Dvl A125
Manipulator	1x Titanrob M701
	1x TitanrobG501

10 Accommodation

10.1 Public areas

Public areas:	
Mess room	Main-deck, 42 seats
Private dining	Main-deck, 10 seats
Laundry	Main-deck, 6 pcs washing machines, 6 pcs tumble dryers
Cinema	Main-deck, 15 seats (cinema seats)
Dayroom 2	Main-deck, 19 seats (sofas, recliners)
Duty mess	A-deck, 6 seats
Change Room	A-deck, 60 lockers, toilets, sinks
Dayroom 1	C-deck, 18 seats (sofas, recliners)

10.2 Cabins

Crew and Client cabins:	
Cabins	60pcs, single cabins with shower, toilet, daylight, TV, Phone, LAN network, Wifi

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10.3 Gymnasium

Gynasium:	
Large gym with modern equipment.	