

FRAM PRINCE - Anchor Handling Tug Supply

General		
Design	MOSS 919 AHTS	
Built	Tersan Shipyard, Turkey	
Delivered	2021	
IMO	9709049	
Call sign	LAZQ8	
Flag	Norwegian - NIS	
Port of reg.	Kristiansand	
ERN	99,99,99	

Class
BV, I, ✘ HULL, ✘ MACH, Offshore Support Vessel, Anchor handling, Oil Recovery, Fire-fighting, SP 59, Unrestricted navigation, COMF-VIB 3, ✘ AUT-UMS, ✘ SYS-NEQ-OSV, GREEN PASSPORT, CLEANSHIP SUPER, ICE, ✘ DYNAPOS AM/AT R, SDS.

Main dimensions		Deck capacities	
Length overall:	84,00m	Cargo deck (max):	640m ² (40m x 16m)
LPP:	73,20m	Cargo deck	562m ² (34,7m x 16,2m)
Breadth moulded:	19,40m	(usable):	1.300mt (VCG 1m)
Depth moulded:	9,00m	Deck capacity:	15mt/m ² /10mt/m ²
Operation draught:	6,50m (6,35 min)	Deck strength:	3m above deck
Maximum draught:	7,625m	Cargo rail:	440VAC, 32A, 60 Hz
DWT at max draught:	3.427t	Reefer outlet:	4 sockets
Lightship weight:	5.097t		
GRT:	4.984t		
NRT:	1.496t		

Main engines		Thrusters	
4 MAK x 4.000 kW		2 x Tunnel thrusters fwd	2 x 1.360 BHP
Bollard Pull:	240t / 247,3t	1 x Azimuth thruster fwd	1 x 1.630 BHP
2 x Aux generators (IP44)	2 x 1.240 BHP	2 x Tunnel thrusters aft	2 x 1.360 BHP
2 x Shaft generators	2 x 4.020 BHP		
1 x Emergency generator	1 x 320 BHP	2 x CPP in fixed nozzles	
Total installed power 21.760 BHP		2 x High lift flap rudders	
SCR & Urea installed for all ME and DG, Emission limits according to IMO TIER III			

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Anchor handling equipment	
4 chain lockers, each of 137m ³ , total 548m ³ Chain inlet close to the locker centre.	Capacities: Approx. 4 x 1.200m length of 76mm Approx. 4 x 1.000m length of 84mm Approx. 4 x 500m length of 120mm
Cable Lifters: 2 x 76mm, 2 x 84mm, 2 x 105mm, 2x 114mm, 2 x 120mm	
Duty of 76 mm cable lifters - double drive: 1 st Step 500 t @ 14 m/min (at max 55 bar) 2 nd Step 312 t @ 21 m/min (at max 57 bar) 3 rd Step 130 t @ 42 m/min (at max 57 bar)	Dynamic braking: 500 tonnes @ 63m/min 412 tonnes @ 100m/min 172 tonnes @ 137m/min
Split stern roller: L = 2 x 3m, dia = 3,5 m, SWL 600t Towing pins: 4 x 400mt / 280kN downforce Shark jaws: 2 x 600mt / 240mt emergency release Tugger winch: 2 x 24mt pull / 100m wire Capstans: 2 x 15mt pull / 60m storage	

BRATTVAAG towing / anchor handling winch BSL400W/2SL400W of waterfall type	
Towing drum – starboard: Drum dia: 1,5m x length: 2,20m x flange dia 3,2m + 0,9m compartment Wire capacity 2.325 m of 86 mm wire + comp Wire capacity 2.800 m of 76 mm wire + comp Alt. 380m of 203 mm + comp	Working drum - port: Drum dia: 1,5m x length: 1,38m x flange dia 3,2m Wire capacity 1.431 m of 83 mm wire. Wire capacity 1.738 m of 73 mm wire. Alt. 230 m of 203mm
Anchor handling drum: Drum dia: 1,5m x length: 4,87m x flange dia 3,2m + 0,9m compartment Wire capacity 5.188m of 83mm wire Wire capacity 6.181m of 76mm wire 877m of 208mm in main compartment + 123m of 208mm in socket compartment.	Currently installed: Towing drum starboard: 1.500m 83mm Working drum port: 1.250m 83mm 1x 250m 83mm CR529 CR sockets
Duty on towing drum/working drum/AH drum 1st layer - double drive:	
1st step 400 tonnes @ 0 - 19m/min Mid 289 tonnes @ 0 - 26m/min Outer 214 tonnes @ 0 - 35m/min Dynamic braking: 1st 74 to 528 tonnes @ 0 - 86m/min	Lowering: 1st 0 - 65m/min Mid 0 - 89m/min Outer 0 - 121m/min Static brake: 1st 525 tonnes Mid 379 tonnes Outer 281 tonnes

Two off BRATTVAAG secondary winch type ALM63138U

Drum dia 1,5m x 4,5m length + 0,9m length special compartment / flange dia 4,5m
 1.600m 203 mm + 250m in socket compartment, total 1850m.
 5.345m 76 mm wire, max weight 150 tonnes on drum.
 4.275m 86 mm wire, max weight 150 tonnes on drum.

When driven at 60 bar powered by 2 pumps 1st 140 tonnes @ 0 - 28m/min Mid 77 tonnes @ 0 - 52m/min Outer 53 tonnes @ 0 - 75m/min	Dynamic braking: 1st 23 to 175 tonnes @ 0 - 72m/min Mid 13 to 96 tonnes @ 0 - 131m/min Outer 9 to 66 tonnes @ 0 - 190m/min
Static braking: 1st 170 tonnes Outer 64 tonnes	Emergency Release Couplings (ERC) installed on all winches to disengage the drums within 3 seconds from the drive units. Max 23t side force on spooling device.

Deck equipment

1 knuckle boom crane TTS GPK260-6-20 Lifting capacity: SWL 6t Working radius telescope out: 20m Hoisting speed: 40m/min. Dynamic Factor: 15% 1 x Pennant Winder 2 x Chain Roller & Guide 70mm-165mm	2 Rolls Royce anchor handling / cargo rail cranes w/manipulators 3t 10m-14,3m 5t 3,2-10m 2 x Tugger 24t 100m - 40mm/220m@30mm 1 x Capstan 9,7t 60m - 24mm 2 x Centering device 2 x Stop Pins
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Cargo - tank capacities / pumps

Tank	(100%)	Pump	
Ballast water/drill water	2.191m ³	1 x centrifugal	200m ³ /hr 90mlc/20mlc
Fresh water (potable)	1.298m ³	2 x two speed	200m ³ /hr 90mlc/20mlc
Dry bulk (4 Tanks - SG 2,6)	259m ³	1x duplex	2x25,6m ³ /min 5,6 bar
Base oil (combo)	313m ³	1 x spindle screw	159m ³ /hr 90mlc
Fuel Oil (Dedicated 1.016m ³) 1.670 m ³ @98%		2 x rot displacement	200 m ³ /hr 90mlc
Liquid mud - SG 2,8 (Combo)	619 m ³	2 x eccentric screw	75m ³ /hr 90mlc
Brine, B&C -SG 2,5 (Combo)	619 m ³	1 x spindle screw	159m ³ /hr 90mlc
ORO	1.116 m ³	2 x eccentric screw	75m ³ /hr 90mlc
Portable tank cleaning system for all tanks.			
All tanks are designed for liquids with flashpoint above 60°C.			
The piping is arranged as two systems capable of discharging two types of bulks simultaneously through two separate discharge lines. Mucking ejectors for each tanks are fitted.			

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FIFI II equipment

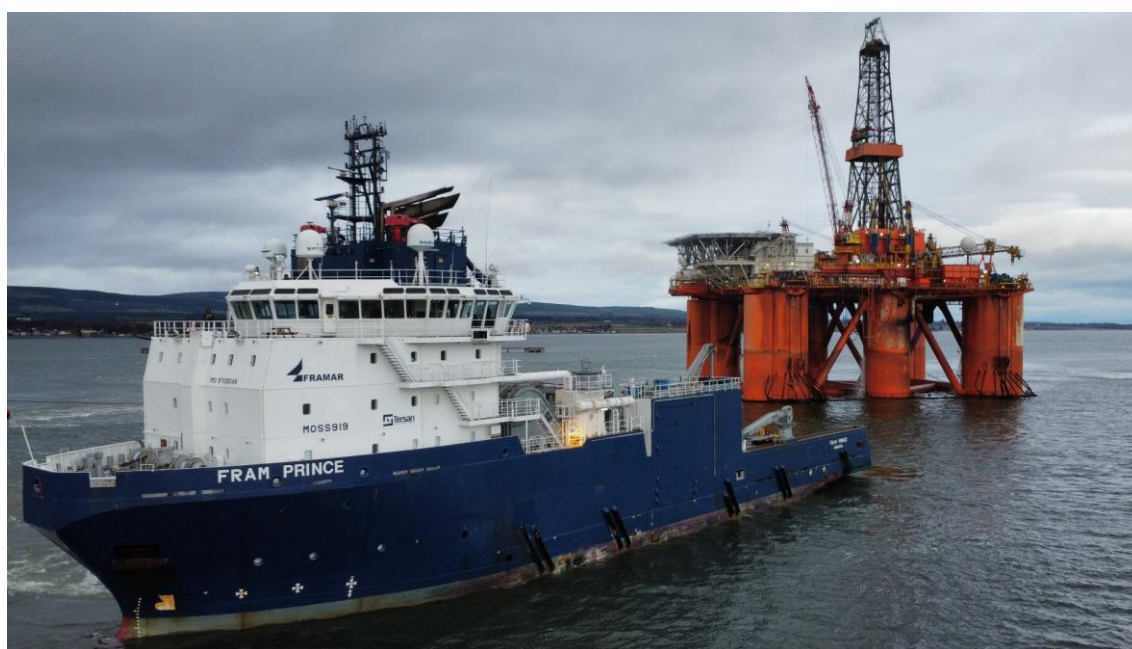
2 remote operated water monitors FFS 3600 with spray deflector in accordance to FI-FI II class requirements. Rotation +/- 180 degrees Elevation: -20 to +80 degrees Capacity Water/ Foam: 3.600m³/h Throw length/height: 180 / 110 meters Monitor inlet pressure: approx. 12 bar	Front power taken from outer engines for running FiFi II Pumps with means of two step-up gear.
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DP interfaces & position reference systems

3 x Gyrocompass 3 x MRU 3 x Wind Sensor 2 x DGPS (DPS232, DPS132) 1 x CyScan MK4 with Multi-Tracking Option	Prepared for Kongsberg Simrad HIPAP 500 system (compartment for the HPR unit forward stb. in engine room) 1 HPR-interface.
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Various

Distilled and make-up water systems capacity min. 12t/day with heating
FRC, water jet with inboard diesel engine of 144 Hp
Fittings for the rescue net to be placed on the cargo rail Starboard.
Passive anti rolling system. The anti-rolling passive stabilizing system consists of tanks 28 & 29 (DW/ORO) in aft body of the vessel extending from ship's side to ship's side. The tanks are provided with flow-reducing structural elements/arrangements.
Fully integrated ROV hangar, with Kongsberg Evotec L-Frame LARS.
Accommodation for 59 persons (SPS 59) (31 x 1-man, 10 x 2-man, 2 x 4-man cabins)



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