//Siem Helix 1

Advanced DP3 well intervention vessel capable of a wide range of subsea projects

Length:
158 m

Beam:
31 m

Accommodation:
150 people

Siem Helix 1 well intervention vessel.

What it is used for

The *Siem Helix 1* is a purpose-designed well intervention vessel capable of an extensive range of projects, including subsea well intervention or decommissioning, tophole drilling, subsea installation work, offshore crane and ROV operations, offshore construction work, and emergency response.

How it improves subsea activities

Combining exceptional operational capabilities with excellent performance and station-keeping, the vessel helps optimize through-tubing well interventions. It incorporates the latest technology in testing, handling, deploying, operating, and retrieving the intervention riser system and associated well services.

The *Siem Helix 1* can operate in up to 3,000 m of water, and with a transit speed in excess of 15 knots, it is capable of providing service quickly and efficiently where required. It provides a cost-effective, readily mobilized alternative to mobile offshore drilling units (MODUs) for intervention and abandonment.

The vessel is equipped with two 200-hp Triton XLX work-class ROVs (WROVs) and high-sea-state launch and recovery system controls.

***Siem Helix 1* Technical Specifications**	
Main characteristics	
Vessel name	*Siem Helix 1*
Owner	Siem Offshore
Chartered by	Helix Energy Solutions
Builder	Flensburger Schiffbau-Gesellschaft
Designer	Salt Ship Design
Year built	2016
IMO number	9733454
DNV class notation	Det Norske Veritas, 1A1, Ship-Shaped Well Intervention Unit 2, E0, DYNPOS AUTRO, COMF C(3), Clean Design, BIS, NAUT-OSV(A), ICE-C, DK(+), TMON, COMF V(2), HELDK-SH, CRANE
Flag	Bahamas

***Siem Helix 1* Technical Specifications (cont.)**	
Dimensions	
Length (overall)	158.65 m
Length (between perpendiculars)	147.70 m
Depth to first deck	13.00 m
Depth to second deck	8.80 m
Breadth (moulded)	31.0 m
Scantling draft	8.50 m
Ice-strengthening draft interval	6.5–8.5 m
Summer draft	8.50 m
Depth	13.0 m
Deadweight	12,500 metric tons
Accommodations	
Capacity	150 personnel
Cabins	50 × single-person cabins 50 × two-person cabins
Gangway	2 × hydraulically operated gangways leading to reception area
Vessel also features a galley and mess room, conference rooms and offices on various decks, helideck reception area, heli-lounge, lounges, gym, hospital, and sick bay.	

Siem Helix 1 Technical Specifications (cont.)

Helideck	
Rating	Sikorsky, S-92
Standards	CAA CAP 437/DNV
Diameter	22 m
Propulsion system and thrusters	
Installed power	25,360 kW
Bow tunnel thruster	2 × 2,200 kW
Bow retractable azimuth thrusters	2 × 2,200 kW
Stern tunnel thrusters	3 × 3,000 kW
Propulsion 4-blade CP propeller	2 × 2 × 3,000 kW
Thrusters and propulsion units interface with the Kongsberg K-Pos class III DP control system.	
Safety equipment	
Fast rescue craft (FRC)	
2 × 150-person Harding LBT1250 lifeboats	
According to SOLAS for the specified class and number of crew	
Stability according to IMO Res. MSC.266 (84) *Code of Safety for Special Purpose Ships, 2008*	
Cranage	
Main crane	1 × main offshore crane, knuckle boom crane, active heave-compensated 300 metric tons at 13 m and 60 metric tons at 42 m, 3,000-m single fall
Offshore crane	1 × knuckle boom deck crane, 60 metric tons at 18 m, single fall
Deck crane and pipe handling	20 metric tons at 20 m
Service crane	Nominal line pull: 6.0 metric tons, dynamic line pull: 8.0 metric tons, working stroke of rope: up to 4,600 m
Tanks and pumps	
Reserve mud tanks	3 × 100 m³
Active mud tanks	4 × 50 m³
Drillwater and industrial water	6,000 m³
Slug tanks	20 m³
Cement	2 × 500 ft³
Barite and bentonite	2 × 500 ft³
Mud pumps	2 × 5,000 psi
Well intervention pump	1 × 10,000 psi
Vessel capacities	
Marine diesel oil	3,000 m³
Potable water system	1,000 m³
Technical freshwater	1,500 m³
Water ballast and drillwater	8,800 m³
Lube oil	90 m³
Reserve mud tanks	3 × 100 m³
Active mud tanks	4 × 50 m³
Hydraulic oil	100 m³
Hydraulic oil for cranes	10 m³
Gross tonnage	21,000 GT

Siem Helix 1 Technical Specifications (cont.)

Iron roughneck	
Minimum pipe size capacity	3½ in (drillpipe)
Maximum pipe size capacity	9¾ in (drill collar)
Makeup torque (max.)	100,000 lbf.ft
Breakout torque (max.)	120,000 lbf.ft
Catwalk machine	
Min. pipe size capacity	3½ in
Max. pipe size capacity	20 in
Dynamic positioning system	
Primary station-keeping capability is provided by a Kongsberg K-Pos DP system that is compliant with the requirements of DNV DYNPOS AUTRO class notation.	
3 × Gill Wind Observer II wind sensors and 1 × mech type OMC-158	
4 × NAVIGAT X MK 1 gyro compasses	
1 × DPS4D and 1 × DPS5D differential global positioning system (DGPS)	
4 × Seatex motion reference units (MRUs) for DPC, but for total DP 6 MRUs	
2 × Kongsberg HiPAP 500 systems	
Spotbeam 4.1	
Moonpool	
Moonpool opening	8.0 m × 8.125 m
Moonpool hatch	8.0 m × 7.0 m
Moveable deck	
Retractable MOBO deck	150-metric-ton capacity
Maintenance tower	
Lift system and main hoist safe working load (SWL)	120 metric tons
Max. stack height (including lifting arrangement)	15.7 m
Max. hook height	17.2 m
Pallet skidding system	
Subsea equipment pallets	7 × 150 metric tons
Multipurpose tower	
Max. rated load steel structure (under crown)	800 metric tons
Overall height above moonpool hatch	57.2 m
Clear height (drill floor to underside of crown)	50.4 m
Number of falls	12, 8, 4
Heave compensation cylinder stroke	4 falls: 24 m
	8 falls: 12 m
	12 falls: 8 m
Nominal capacity	4 falls: 200 metric tons
	8 falls: 440 metric tons
	12 falls: 600 metric tons
Intervention tension frame	
Elevator bail clevis capacity	350 metric tons each
Total elevator bail clevis capacity	600 metric tons between the two bails
Well test	
Flare booms	Two

Siem Helix 1 Technical Specifications (cont.)

Fuel consumption	
Dock	5 m³/d
Mobilization	7 m³/d
Demobilization	7 m³/d
Normal transit	36–43 m³/d
Fast transit	55 m³/d
DP low-loading light environmental conditions	12 m³/d
DP medium-loading increased environmental conditions	19 m³/d
DP high-loading high environmental conditions but within operating limits	25 m³/d
Speed	
Max. speed at 6.0-m draft	Approximately 16.5 knots
ROVs	
WROVs	2 × 200-hp Triton XLX WROVs; high-sea-state launch and recovery system control systems built into the vessel; covered ROV workshops and maintenance areas

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