

// *Siem Helix 2*

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



Length:
158 m



Beam:
31 m



Accommodation:
150 people

What it is used for

The *Siem Helix 2* 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 2* can operate in up to 3,000 m of water, and with transit speeds 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 2 well intervention vessel.

Siem Helix 2 Technical Specifications

| Main characteristics | |
|----------------------|--|
| Vessel name | <i>Siem Helix 2</i> |
| Owner | Siem Offshore |
| Chartered by | Helix Energy Solutions |
| Builder | Flensburger Schiffbau-Gesellschaft |
| Designer | Salt Ship Design |
| Year built | 2016 |
| IMO number | 9733466 |
| 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 2 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 2 Technical Specifications (cont.)

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| Helideck | |
| Rating | SIKORSKY® S-92 |
| Standards | CAA CAP 437/DNV |
| Diameter | 22 m |
| Propulsion system and thrusters | |
| Installed power | 25,360 kW |
| Bow tunnel thrusters | 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) <i>Code of Safety for Special Purpose Ships, 2008</i> | |
| Craneage | |
| 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 m ³ |
| Active mud tanks | 4 × 50 m ³ |
| Drillwater and industrial water | 6,000 m ³ |
| Slug tanks | 20 m ³ |
| Cement | 2 × 500 ft ³ |
| Barite and bentonite | 2 × 500 ft ³ |
| Mud pumps | 2 × 5,000 psi |
| Well intervention pump | 1 × 10,000 psi |
| Vessel capacities | |
| Marine diesel oil | 3,000 m ³ |
| Potable water system | 1,000 m ³ |
| Technical freshwater | 1,500 m ³ |
| Water ballast and drillwater | 8,800 m ³ |
| Lube oil | 90 m ³ |
| Reserve mud tanks | 3 × 100 m ³ |
| Active mud tanks | 4 × 50 m ³ |
| Hydraulic oil | 100 m ³ |
| Hydraulic oil for cranes | 10 m ³ |
| Gross tonnage | 21,000 GT |

Siem Helix 2 Technical Specifications (cont.)

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| Iron roughneck | |
| Min. pipe size capacity | 3½ in (drillpipe) |
| Max. 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 × DPS 4D and 1 × DPS 5D differential global positioning systems (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 2 Technical Specifications (cont.)

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| Fuel consumption | |
| Dock | 5 m ³ /d |
| Mobilization | 7 m ³ /d |
| Demobilization | 7 m ³ /d |
| Normal transit | 36–43 m ³ /d |
| Fast transit | 55 m ³ /d |
| DP low-loading light environmental conditions | 12 m ³ /d |
| DP medium-loading increased environmental conditions | 19 m ³ /d |
| DP high-loading high environmental conditions but within operating limits | 25 m ³ /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 controls built into the vessel; covered ROV workshops and maintenance areas |