Helix
ENERGY SOLUTIONS

Siem Helix 2

DP3 well intervention vessel

helixesg.com

The Siem Helix 2 is an advanced well intervention vessel capable of completing a wide range of subsea projects.

The *Siem Helix 2* is a purpose designed well intervention vessel capable of completing a wide range of subsea projects, including well intervention; well decommissioning; top hole drilling; subsea installation work; offshore crane and ROV operations; offshore construction work; and emergency response capabilities.

The *Siem Helix 2* has a length of 158 meters, a beam of 31 meters and an accommodation capacity for 150 people combining exceptional operational capabilities with excellent performance and station keeping. Helix well operations has incorporated the latest technology in testing, handling, deploying, operating and retrieving the intervention riser system and associated well services, providing optimum capability and efficiency for conducting through tubing well intervention.

The *Siem Helix 2* is classed as a Well Intervention Vessel (WIV) and can operate in up to 3,000 m of water with transit speed in excess of 15 kn, capable of providing service quickly and efficiently where needed.

Experience

Since performing the World's first rigless wireline intervention at the BP Magnus field in 1987, Helix has now worked on over 1000 subsea wells including capping and flowing the Macondo well.

Innovation

Helix has led the development of simple, efficient and low-cost well access equipment, as well as customised vessels that optimise subsea wells work.

Value

Helix's cost effective alternative to intervention and abandonment from MODUs has realised tangible cost savings that have led many of the World's largest subsea operators to retain our services.

TECHNICAL SPECIFICATIONS

Main characteristics

Vessel Name(s)	Siem Helix 2
Owner	Siem Offshore
Charterer	Helix Energy Solutions
Builder	Flensburger Schiffbau-Gesellschaft
Design	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 [BS]

Vessel dimensions

Length Overall	158.65 m
Length Between Perpendiculars	147.70 m
Depth To 1st Deck	13.00 m
Depth To 2nd Deck	8.80 m
Breadth Moulded	31.0 m
Scantling Draft	8.50 m
Ice Strengthening Draught Interval	6.5 m - 8.5 m
Summer Draught	8.50 m
Depth	13.0 m
Deadweight	12,500 tonnes

Accommodations

Accommodations	150
Cabins	50 x single person cabins 50 x two-person cabins
Gangway	2 x hydraulic operated gang-ways 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

Helideck

Rating	Sikorsky, S-92
Rules	CAA CAP437 / DnV
Diameter	22 m

Propulsion system & thrusters

Installed Power	25,360 kW
Bow Tunnel Thruster	2 x 2,200 kW
Bow Retractable Azimuth Thrusters	2 x 2,200 kW
Stern Tunnel Thrusters	3 x 3,000 kW
Propulsion 4 Blade CP Propeller	2 x 2 x 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 x 150 men 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 x main offshore crane, knuckle boom crane, active heave compensated 300 Te @ 13 m / 60 Te at 42 m, 3,000 m single fall
Offshore Crane	1 x knuckle boom deck crane 60 Te @ 18 m single fall
Deck Crane / Pipe Handling	20 Te @ 20 m
Service Crane	Nominal Line pull 6.0 Te Dynamic Line pull 8.0 Te Working Stroke of rope - up to 4600 m

Tanks & pumps

Reserve Mud Tanks	3 x 100 m^3
Active Mud Tanks	4 x 50 m^3
Drillwater / Industrial Water	6,000 m^3
Slug Tanks	20 m^3
Cement	2 x 500 ft^3
Barite/Bentonite	2 x 500 ft^3
Mud Pumps	2 x 5000 psi
Well Intervention Pump	1 x 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/Drill Water	8,800 m^3
Lube Oil	90 m^3
Reserve Mud Tanks	3 x 100 m^3
Active Mud Tanks	4 x 50 m^3
Hydraulic Oil	100 m^3
Hydraulic Oil for Cranes	10 m^3
Gross Tonnage	21,000 GT

Iron roughneck

Minimum Pipe Size Capacity	3-1/2 inches (drill pipe)
Maximum Pipe Size Capacity	9-3/4 inches (drill collar)
Makeup Torque (Maximum)	100,000 ft-lbs
Breakout Torque (Maximum)	120,000 ft-lbs

Catwalk machine

Min. Pipe Size Capacity	3-1/2 inch
Max Pipe Size Capacity	20 inch

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 x Gill Wind Observer II wind sensors and 1 x Mech type OMC-158

4 x Navigat X MK1 Gyro Compasses

1 x DPS4D and 1 x DPS5D Differential Global Positioning System (DGPS)

4 x Seatex Motion Reference Units (For DPC yes, but for total DP 6 MRUs)

2 x Kongsberg HiPAP 500 Systems

Spotbeam 4.1

Moon pool

Moon Pool Opening	8.0 m x 8.125 m
Moon Pool Hatch	8.0 m x 7.0 m

Mobo deck

Retractable MOBO deck	150t capacity

Maintenance tower

Lift System/Main Hoist SWL	120 t
Max Stack Height (including Lifting Arrangement)	15.7 m
Max Hook Height	17.2 m

Pallet skidding system

Subsea Equipment Pallets	7 x 150t

Multi-purpose tower

Max Rated Load Steel Structure (Under Crown)	800 t
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 with 12 Falls	600 t
Nominal Capacity with 8 Falls	440 t
Nominal Capacity With 4 Falls	200 t

Intervention tension frame

Elevator Bail Clevis Capacity	350 t each
Total Elevator Bail Clevis Capacity	600 t between the two bails

Well test

Flarebooms	2 x
Well test plant space ennelope	N/A

Fuel consumption

Dock	5 m^3 / day
Mobilization	7 m^3 / day
Demobilzation	7 m^3 / day
Normal Transit	36-43 m^3 / day
Fast Transit	55 m^3 / day
DP Low Loading Light Environmental Conditions	12 m^3 / day
DP Med Loading Increased Environmental Conditions	19 m^3 / day
DP High Loading High Environmental Conditions but within Operating Limits	25 m^3 / day

Speed

Maximum speed at 6.0 m draft approximately 16.5 kn

Remotely operated vehicles (ROVs)

WROVS	2 x 200Hp Triton XLX WROVS; High sea state Launch and Recovery System Control systems built into the vessel; Undercover ROV workshops and maintenance areas

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