Q5000
DP3 WELL INTERVENTION VESSEL

www.helixesg.com
The Helix **Q5000** DP Class 3 semi-submersible is an advanced, harsh environment Well Intervention Unit.

The Helix **Q5000** DP3 Well Intervention Vessel is a second-generation design based on the successful Q4000 MODU. This multi-service vessel provides a stable platform for a wide variety of tasks, including subsea well intervention, field and well decommissioning, installation and recovery of subsea equipment, well testing as well as subsea construction activities.

The **Q5000** features a 750 (ST) tower capable of fulfilling all traditional derrick roles, plus a deepwater crane with lifting capacity to 440 ST and a work crane rated to 176 ST. The **Q5000** includes a 81-ft x 26-ft moon pool and 23-ft x 22-ft mechanized fully opening rig floor door, a 7-3/8 in intervention riser system, two 10,000 ft heavy-weather ROV systems and an overall VDL of 4,000 mT. The open deck space allows for quick and efficient loading and offloading of project supplies and equipment in a single lift.

The larger moon pool will allow the **Q5000** to keep its intervention riser system (IRS) in the water at well depth while moving aside to let drill pipe or other equipment be lowered to the same well for another task. This ability to keep the IRS in the water while performing separate operations on the same location will save hours and enhance the vessel’s overall efficiency.

**EXPERIENCE**
Developed upon the hugely successful sister vessel **Q4000**, the **Q5000** extends this capability with increased power, deck space and lifting capacity to set the reference for deepwater rigless intervention.

**INNOVATION**
Upgraded and updated tower specifications combined with subsea hangoff; the **Q5000** continues Helix’s tradition of design innovation.

**VALUE**
Retained for most of the year by a super-major client, **Q5000** is available to deliver similar value operations to the market during its off-contract windows.
**MAIN CHARACTERISTICS**

- **Vessel Name**: Q5000
- **Owner**: Helix Energy Solutions Group, Inc.
- **Builder**: Jurong Shipyard, Singapore
- **Design**: Helix / Bassoe Tech / JSPL
- **Year Built**: 2015
- **DNV Class Notation**: ABS A1 Column Stabilized MODU, + AMS, ACCU, DPS-3, CDS, CRC, E, WT-READY, WI-READY
- **Flag**: Bahamas [BS]
- **Helideck**: CAP 437 v. 7 for S-92 and S-61N
- **Accommodations**: 140 Persons

**DIMENSIONS**

- **Length Overall**: 109 m (358 ft)
- **Beam, Lower Hull**: 70.0 m (230 ft)
- **Depth of Pontoon**: 8.45 m (27.72 ft)
- **Depth of Deck Box**: 7.9 m (26 ft)
- **Column Height**: 28.0 m (92 ft)
- **Operational Deck Area**: 28,589 ft²

**Q5000 CAPABILITIES**

- Riser-based or riserless through-tubing well intervention
- Surface top hole drilling and casing installation
- Extended top hole and riserless return system
- Subsea and surface equipment installation / recovery
- Well testing and production flow-back services
- Slickline / electric line / coiled tubing service deployment
- Cementing, pumping, well stimulation
- Riser-based or riserless well and field decommissioning
- Casing cutting and wellhead recovery
- Tree recovery and replacement
- Emergency well control support

**PROPULSION & POWER**

- **Thrusters Fixed**: 8 x 2.8 MW LIPS
- **Main Engines**: 8 x 3.9 MW Wartsila
- **Power Distribution**: 11kV, 690V and 480V switchboards
- **Emergency Power**: Generators 1 and 8 for blackout recovery
- **Dynamic Positioning**: PD3-rated triple redundant, Kongsberg K-POS DP-32 & DP-12

**CAPACITIES**

- **Variable Deck Load**: 4,000 mT operation
- **Total Payload**: 6,955 mT
- **Liquid Mud**: 5,250 bbls
- **Bulk Mud**: 9,619 ft ³
- **Bulk Cement**: 3,200 ft ³
- **Sacks**: 4,000 sacks
- **Drill Water**: 5,185 bbls
- **Potable Water**: 2,340 bbls
- **Brine**: 1,900 bbls
- **Fuel Oil**: 13,670 bbls
- **Lube Oil**: Tote tanks

**MOON POOL**

- **Dual Activity Moon Pool**: 81 ft x 26 ft with 23 ft x 22 ft mechanized fully opening rig floor door
- **Maximum Load**: 750 ST @ rotary table
- **Rotary Table Size**: 49.5 in false rotary
- **Moon Pool Trolley Capacity**: 500 ST

**MULTI-PURPOSE TOWER**

- **Lifting Capacity**: 750 ST
- **Free Lift Height**: 136 ft
- **Pipe Handling System**: Horizontal and vertical BHA pipe handling systems, 25 mT pipe handling, knuckle boom crane
- **Passive Heave Compensation**: 750 ST, 25 ft stroke
- **Active Heave Compensation**: +/- 90 mT active, vertically-installed cylinder hoisting system, with 2:1 mechanical hoisting advantage
- **Max Pipe Tripping Speed**: 5.5 ft / sec at 372 ST

**INTERVENTION RISER SYSTEM (IRS)**

- **Product Bore**: 7 3/8 in ID
- **Annulus**: 2 in ID
- **Working Pressure**: 10,000 psi
- **Depth Rating**: 10,000 fsw
- **Well Barrier Type**: 1 x 7 3/8 in “fail close” hydraulic cutting gate valve (LCV), 2 x 7 3/8 in fail safe closed gate valves (UCV and RTV), 3 x annular 2 1/16 in fail safe closed gate valves, flowhead with swivel

**IRS CONTROL SYSTEM**

- **Subsea MUX control system
- **IRS MUX HPU**: 5,000 psi mp / 10,000 psi hp
- **IRS MUX Control Van**: Two (2) Remote Touch Screen Stations for Operating IRS / Flowhead Control System
- **2 IRS Hose Reels**: 10,000 fsw max supply / test
- **IRS MUX Cable Reel**: 10,000 fsw
- **Secondary Disconnect E-line Reeler**: 10,000 ft
- **Riser Clamps**: As required for 6 5/8 in riser pipe, 2 3/8 in annulus and associated umbilical control lines

**TOP DRIVE**

- **NOV HPS**: 750 ST
- **Maximum Lift**: 750 ST hoisting, 584 ST rotating
- **Pipe Handling Torque**: 115,000 lb – ft
- **Drilling Power**: 2 x 1,150 hp
- **Drilling Torque**: 78,181 lb – ft
- **Drilling Speed**: 0 to 280 rpm
- **Water Course**: 7,500 psi

**SHALE SHAKERS AND SOLIDS PROCESSING**

- Mission-specific portable equipment to be installed on upper deck

**AIR SUPPLY**

- **Compressors**
  - 3 x medium pressure rig air
  - Rated Capacity: 25.6 m³ / min
- **Working Pressure**: 8.6 bar
- **Prime Mover**: Electric Motor
- **Continuous Power**: 160 kW each

**MUD PUMPS**

- **NOV Model**: 2 x 14P – 220
- **Maximum Output per Pump**: 1,215 gpm
- **Maximum Pressure**: 7,500 psi
- **Maximum Liner Size**: 9 in

**CRANEAGE**

- **Huisman 440 ST with 10,000 ft capacity traction winch
- **Huisman 176 ST crane**: main hoist single line to 1,197 ft, 55 ST; whip hoist single line to 689 ft, 65.6 ST

**REMOOTELY OPERATED VEHICLES (ROVs)**

- **2 x Triton XLS 150 hp deck-launched ROV’s**