

// Q5000

DP3 advanced semisubmersible that streamlines subsea well intervention in harsh environments



Length:
358 ft



Accommodation:
140 people

What it is used for

The Q5000 is a multiservice vessel that provides a stable platform for a wide range of tasks, including subsea well intervention, field and well decommissioning, surface and subsea equipment installation and recovery, well testing, and subsea construction activities.

Salient features that enhance operations

The vessel features

- > 750-US-ton tower capable of fulfilling all traditional derrick roles
- > deepwater crane with lifting capacity to 440 US tons
- > work crane rated to 176 US tons
- > 81-ft × 26-ft moonpool
- > 23-ft × 22-ft mechanized, fully opening rig floor door
- > 7³/₈-in intervention riser system
- > two 10,000-ft heavy-weather ROV systems
- > overall variable deck load of 4,000 metric tons.

The open deck space supports quick and efficient loading and offloading of project supplies and equipment in a single lift.

The large moonpool enables the Q5000 to keep its intervention riser system in the water at well depth while drillpipe or other equipment is lowered to the well.



Q5000 semisubmersible well intervention unit.

This ability to keep the intervention riser system in the water while performing separate operations at the same location saves hours and enhances the vessel's overall efficiency.

A helideck that complies with the CAP 437 version 7 standard accommodates SIKORSKY® S-92 and S-61N helicopters.

Q5000 Technical Specifications

Main characteristics

Vessel name	Q5000
Owner	Helix Energy Solutions Group
Builder	Jurong Shipyard, Singapore
Designer	Helix Energy Solutions Group, Bassoe Technology, and Jindal Steel & Power
Year built	2015
DNV class notation	ABS A1 column-stabilized MODU, + AMS, ACCU, DPS-3, CDS, CRC, E, WT-READY, WI-READY

Q5000 Technical Specifications (cont.)

Main characteristics (cont.)

Flag	Bahamas
Helideck	CAP 437 v.7 for S-92 and S-61N

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]
Operating draft	18.5 m [60.7 ft]
Column height	28.0 m [92 ft]
Operational deck area	28,589 ft ²

Propulsion and power

Thrusters fixed-pitch, azimuth	8 × 2.8 MW LIPS
Main engines	8 × 3.9 MW Wärtsilä
Power distribution	11-kV, 690-V, and 480-V switchboards
Emergency power	Generators 1 and 8 for blackout recovery
Dynamic positioning	DP3-rated triple redundant, Kongsberg K-Pos DP-32 and DP-12

Q5000 Technical Specifications (cont.)

Capacities	
Variable deck load	4,000 metric tons operation
Total payload	6,955 metric tons
Liquid mud	5,250 bbl
Bulk mud	9,619 ft ³
Bulk cement	3,200 ft ³
Sacks	4,000 sacks
Drillwater	5,185 bbl
Potable water	2,340 bbl
Brine	1,900 bbl
Fuel oil	13,670 bbl
Lube oil	Tote tanks
Mud pumps	
NOV model	2 × 14-P-220
Max. output per pump	1,215 galUS/min
Max. pressure	7,500 psi
Max. liner size	9 in
Moonpool	
Dual-activity moonpool	81 ft × 26 ft with 23-ft × 22-ft mechanized, fully opening rig floor door
Max. load	750 US tons at rotary table
Rotary table size	49.5-in false rotary
Moonpool trolley capacity	500 US tons
Multipurpose tower	
Lifting capacity	750 US tons
Free lift height	136 ft
Traveling system	Dolly with 4-fall spreader
Pipe handling system	Horizontal and vertical BHA pipe racking systems, 25-metric-ton pipe handling, knuckle boom crane
Passive heave compensation DLC	750 US tons, 25-ft stroke
Active heave compensation	±90-metric-ton active, vertically installed cylinder hoisting system, with 2:1 mechanical hoisting advantage
Max. pipe tripping speed	5.5 ft/s at 372 US tons

Q5000 Technical Specifications (cont.)

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 × 7 ³ / ₈ -in fail-close hydraulic cutting gate valve (LCV) 2 × 7 ³ / ₈ -in fail-safe-closed gate valves (UCV and RTV) 3 × 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 and 10,000-psi hp
IRS MUX control van, two remote touchscreen stations for operating IRS and flowhead control system	
2 IRS hose reels	10,000 fsw max. supply and 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
Iron roughneck	
Makeup torque	0–103,259 lbf.ft
Breakout torque	0–147,312 lbf.ft
Pipe range	3 ¹ / ₂ –9 ³ / ₄ in
Casing range	2 ³ / ₈ –8 ⁵ / ₈ in
Top drive system	
NOV HPS	750 US tons
Maximum lift	750 US tons, hoisting 584 US tons, rotating
Pipe handling torque	115,000 lbf.ft
Drilling power	2 × 1,150 hp
Drilling torque	78,181 lbf.ft
Drilling speed	0 to 280 rpm
Water course	7,500 psi

Q5000 Technical Specifications (cont.)

Air supply	
Compressors	3 × medium-pressure rig air
Make	Ingersol Rand R-160L-W-125
Rated capacity	25.6 m ³ /min
Working pressure	8.6 bar
Prime mover	Electric motor
Continuous power	160 kW each
Shale shakers and solids processing	
Mission-specific portable equipment to be installed on upper deck	
Craneage	
Huisman 440 US tons with 10,000-ft capacity traction winch	
Huisman 176-US-ton crane; main hoist single line to 1,197 ft, 55 US tons; whip hoist single line to 689 ft, 65.6 US tons	
ROVs	
2 × Triton XLS, 150-hp, deck-launched ROVs	
Service capabilities	
Riser-based or riserless through-tubing well intervention	
Surface tophole drilling and casing installation	
Extended tophole and riserless return system	
Subsea and surface equipment installation and recovery	
Well testing and production flowback services	
Slickline, electric line, and coiled tubing service deployment	
Cementing, pumping, and well stimulation	
Riser-based or riserless well and field decommissioning	
Casing cutting and wellhead recovery	
Tree recovery and replacement	
Emergency well control support	