Well Enhancer
DP3 well intervention vessel and DSV
The Well Enhancer is the world’s only LWIV vessel capable of conducting coiled-tubing intervention.

The UK registered Well Enhancer is a 132 m long custom designed, dynamically positioned well intervention and saturation diving vessel. Key features include a 150 Te multi-purpose tower (MPT) utilized for subsea/well operations and customized coiled-tubing spread located within a generous deck space area. The vessel also features kill pumps and a 100 Te main crane.

The Well Enhancer has been designed to minimize production downtime and provides cost effective well maintenance, production enhancement and well abandonment solutions. With 1,100 m² of main deck space, the vessel can also perform a range of well testing and production flow-back services.

The Well Enhancer is custom designed to dynamically positioned class 3 (DP3) specification. It features a purpose built Huisman Tower over a 7 m x 7 m moonpool and has a traveling block rated to 150 Te capacity in passive mode.

The Well Enhancer’s 18 man saturation diving spread is rated to 300 m and combined with the vessel’s 1x workclass and 1x observation class ROVs, provides for full IRM and light construction services.

Experience
10 years of continuous North Sea and Africa operations in diver supported riserless intervention.

Innovation
The Well Enhancer is capable and experienced in deploying coiled tubing from a monohull.

Value
Unique capability to perform simultaneous DSV and LWI activities from a single asset.
TECHNICAL SPECIFICATIONS

Main characteristics

Vessel Name: Well Enhancer
Owner: Helix Energy Solutions Group
Charterer: Helix Energy Solutions Group
Builder: IHC Merwede
Design: IHC Type-22 design
Year Built: 2009
IMO Number: 9421996
DNV Class Notation: DNV, 1A1, Well Intervention Unit, SF-CONF-C (3); HELI-DH; CRANE, DSV-SAT, EO, DYNPOS-AUTRO, DK(+)
Flag: United Kingdom [GB]

Dimensions

Length Overall: 132 m (433 ft)
Length between perpendiculars: 117.7m
Breadth Moulded: 22 m (72 ft)
Depth Moulded: 11 m (36 ft)
Design Draft: 6.25 m
Scantling Draft: 6.75 m
Displacement: 13,885 Te
Gross Tonnage: 9,383 Te
Deadweight: 7,950 tonnes

Accommodations

Accommodations: 122
Cabins: 18 x single person cabins
35 x two-person cabins
5 x Captain cabins
7 x Officer cabins
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

Craneage

Main Crane: 100 Te
Operating Depth: 600 m (1,969 ft)
Auxiliary Cranes: 2 x 5 Te SWL
Effer Crane: 15 Te SWL

Helideck

Rating: Sikorsky S-91, S-92
Rules: Super Puma AS332L2
Compliant with CAP 437
Diameter: 22.0m

HP pumps

2 x SPM 600 s

Moonpool

Dimensions: nominal 7m x 7m

Multi-purpose tower (MPT)

Lifting Capacity: 150 Te
Active Heave Compensated: 150 Te (nominal 100 Te)
Subsea Lubricator Winch: 150 Te (nominal 100 Te)
4 guide line tensioners
2 pod line tensioners

Diving system

Depth Rating: 300 m (984 ft)
Divers in Saturation: up to 18
Diving Bell: 5.4 m³ (191 ft³)

Power & thrusters

Installed Power: 4 x 3,000 kW, 2 x 1,500 kW
Fixed Propulsion: 2 x 3,000 kW
Bow Tunnel Thruster: 2 x 1,720 kW
Bow Thruster / Retractable: 1 x 1,200 kW

Dynamic positioning system (DP)

Kongsberg SDP21 System interfaced to:
2 x Kongsberg K-POS- DP-21
1 x Kongsberg K-POS-CRH- DP-11 (back-up system)

IMO DP Class 3 & DYNPOS AUTRO

Deck

Deck Load: up to 10 Te per m² (1 ton per ft²)
Above Main Deck: 1,100 m² (11,840 ft²)

Bulk tanks

4 x 34.5m³ bulk tanks suitable for various fluids including MEG, Base Oil, Brine, Hydrocarbon Returns, Fresh/Sea Water & Chemicals (caveat that chemicals must be checked for paint compatibility)

Under deck tank

9 – 202m² suitable for Brine, MEG, Fresh & Sea water

Stock tank

100bbl stock tank for hydrocarbon returns c/w degasser

Ability to pump diesel from vessel bunkers for use in well interventions.

Subsea intervention lubricator (SIL)

The 7-3/8” Subsea Intervention Lubricator (SIL) deployed from the Well Enhancer enables efficient and cost effective riser and riserless intervention or abandonment solutions for all subsea wells. Well Ops 7-3/8” SIL is the next generation in the family of intervention systems.

More adaptable than the 5-1/8” and 7-1/16”, the 7-3/8” SIL also interfaces to riser packages and in doing so, sets the standard for monohull based coiled-tubing well intervention solutions. Well Ops has unrivalled experience in the development of subsea intervention systems and the SIL’s are designed with both ease of handling and operational efficiency in mind.

The 7-3/8” SIL is a single trip deployment system that gives access to both conventional and horizontal (large bore) trees, with the ability to perform safe and efficient riserless wireline and riser-based coiled-tubing operations from a monohull vessel. The 7-3/8” SIL features an electro-hydraulic control system which provides a high level of redundancy and excellent reliability. The control system is fully integrated and includes grease, HPU and the fluids for subsea tree controls. Access to the master control status mimic will be available from onshore.

7-3/8” in through bore at 10,000 psi WP
Diverless system with wireline and coiled tubing capability
Safety head details: 7-3/8” in Norsok D002 qualified 10 ksi single action with shear capability shearing 4.5 in perforating guns and tool string. (With proximity feed-back to master control station)
Upper test valve and lower test valve: 7-3/8” in Norsok D002 10 ksi shearing gate valves fail safe hydraulic actuated. (With proximity feedback to master control station)
Wire cutting ball valve integrated with latch (upper section). latch mandrel integrated with wire cutting ball valve 7-3/8” in 10 ksi Norsok D002.
Supports up to 22m toolstring capability in wireline mode at 600m
ROV manual override contingency for all wellbore functions
High angle emergency disconnect package for riser operations
DHSV closure delay system
Twin kill / deco line capability
Built in redundancy