

Island Centurion and Island Captain

DeepSTIM stimulation vessels

APPLICATIONS

- Acid fracturing and pressure pumping services in the North Sea

BENEFITS

- Provides back-to-back, constant field availability with two identical vessels
- Enables DP2 dynamic positioning
- Lowers operating costs with efficient hull designs and Z drive propulsion
- Improves modern operational capabilities and endurance through innovative design and compact hulls
- Provides flexibility through accommodation of large acid fracturing to small-scale squeeze treatments
- Enhances precision using low-emission diesel and electrical pumps
- Extends pumping capacities with on-the-fly seawater filtration up to 10 microns

FEATURES

- Improved capacity enables each vessel 33% more acid, hydraulic horsepower (HHP), and additives than any other existing acid stimulation vessel
- Enhanced on-the-fly fluid and acid capabilities
- Exceptional nitrogen capability increases stimulation efficiency
- Integrated control room in main accommodations with InterACT* global connectivity, collaboration, and information service
- Streamlined design per DNV[†] class notation with latest nitrogen-oxide (NO_x) and engine management
- Unique “no drop” hose recovery system rated to 15,000 psi [103 MPa]
- Highest DNV Environmental Regularity Number (ERN 99.99.99.99) rating of any stimulation vessel



Island Centurion and Island Captain DeepSTIM vessels.

Built to maximize the future productivity of a major North Sea operator’s Norwegian production plans, the DeepSTIM* stimulation vessels—*Island Centurion* and *Island Captain*—are identical in specifications. The fully-enclosed vessels combine more than 30 years of customer and Schlumberger experience in the North Sea and are supported by the most experienced crews worldwide.

Holding DNV stimulation class notation, the vessels incorporate environmentally clean design hulls with the latest fuel and emission technologies. High levels of redundancy for power generation, power distribution, and process delivery are included for consistent service quality. For crew safety and comfort, rigorous comfort class requirements are met, and features an enhanced off-duty crew rest environment.

High-pressure pumps deliver a combined 20,000 HHP and are currently optimized for high rates at 10,000 psi. Main treating lines and twin 4-in Coflexip hoses are rated to 15,000 psi if required. A blend of electric and diesel power sources allows the vessels to smoothly and continuously pump any desired rate from 0.1 to 80 bbl/min.

The treatment control room located within the main accommodation incorporates the InterACT service using Schlumberger V-Sat technology with dual-redundancy high-speed links, enabling onshore and offshore teams to collaborate in real time, no matter where members are located.

Island Centurion and Island Captain

Island Centurion Stimulation Equipment and Vessel Capacities

| Equipment | Specification | Quantity | Total Capacity |
|---|--|----------|--|
| Schlumberger cargo | Fluid carrying capacity | | 3,012 t |
| FracCAT* fracturing computer-aided treatment system | Treatment control room and client office | 1 | 10 people |
| 36% HCl acid storage | 4 tanks below deck, 3 tanks above deck | 7 | 270,000 galUS [1,022 m ³] |
| HHP | Pumps of 2,000 HHP each (8 diesel pumps and 2 electric pumps) | 10 | 20,000 HHP |
| Acid service rate | 0.1 to 80 bbl/min, up to 36% acid | | 80 bbl/min [12.72 m ³ /min] |
| Pump rate | 0.1 to 80 bbl/min | | 80 bbl/min [12.72 m ³ /min] |
| Max. pressure | 15,000 psi (current setup limited to 10,000 psi due to 5.5-in IOPI fluid ends) | | 15,000 psi [103.4 MPa] |
| Nitrogen storage | 5,500 galUS | 8 | 44,000 galUS [166 m ³] |
| Nitrogen service rate | 3 electric nitrogen pumps | 3 | 24,000 ft ³ /min at 7,500 psi |
| Freshwater storage | Marine tanks | | 12,500 bbl [2,017 m ³] |
| Seawater filtering system | Continuous seawater filtering (10 um under offshore conditions) | | 80 bbl/min [12.72 m ³ /min] |
| PCM liquid gel tanks | Continuous mixing tank | 1 | 31,000 galUS [117 m ³] |
| Continuous gel mixing system | Up to 80 bbl/min | 1 | 80 bbl/min [12.72 m ³ /min] |
| Liquid gel concentrate tank | Slurry guar tank | 1 | 5,000 galUS [18.9 m ³] |
| Vessel scale inhibitor tanks | Scale inhibitor stored in marine tanks | 2 | 54,000 galUS [204.4 m ³] |
| Scale inhibitor additive rate | Concentration range from 1% to 30% at 80 bbl/min | 2 | 1,000 galUS/min [3.79 m ³ /min] |
| Liquid additive system | 1,500 galUS (8 systems) and 1,200 galUS (2 systems) | 10 | 14,400 galUS [54.5 m ³] |
| Liquid additive system rates | 0.25 to 15 gal/1,000 ft ² from 0 to 80 bbl/min | 10 | 0–50 galUS/min [0–0.19 m ³ /min] |
| Ball injectors | Remote-operated ball injectors (5/8- or 7/8-in balls) | 3 | Up to 180 balls/min |
| Coflexip hose, 4 in | 15,000 psi rated | 2 | 80 bbl/min [12.72 m ³ /min] 15,000 psi [103.4 MPa] |
| Emergency quick disconnect (EQD) | 4-in remotely hydraulically operated EQD | 2 | |
| Gas-operated pressure relief valve | 3-in fullbore release | 2 | |
| C pumps | 5 acid C pumps up to 60 bbl/min and 3 brine/water C pumps up to 100 bbl/min | 8 | |
| Stimulation process independent power generation | 2,250 kW each | 3 | 6,750 kW |
| Acid blender | 108-bbl mix tank with dual fiber feeders | 1 | 80 bbl/min [12.72 m ³ /min] |

*Mark of Schlumberger

† Det Norske Veritas

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