

Halul-48 Well Stimulation Vessel

Providing Qatari-owned high-capacity services for the FlexSTIM system in the Middle East

Applications

- Large-volume, high-pressure stimulation operations
- Acid fracturing treatments
- Complex matrix stimulation treatments
- Conformance control treatments
- Miscellaneous pumping operations

Benefits

- Increases operational flexibility and job frequency with storage and blending capacities accommodating large acid operations or small stimulation treatments
- Minimizes NPT by delivering high-pressure stimulation operations even in challenging weather conditions
- Maximizes operational efficiency and accuracy with experienced vessel and stimulation crews, state-of-the-art data acquisition and automation systems, and fit-for-purpose pumping and blending equipment
- Delivers efficient and cost-effective stimulation

Features

- Installed horsepower: 14,000 hhp [10,297 kW]
- Maximum pumping rate: 100 bbl/min [15.9 m³/min]
- Noncorrosive fluid storage capacity: 528,345 galUS [2,000 m³]
- Corrosive fluid storage capacity: 160,000 galUS [605.6 m³]
- Liquid additive storage capacity: 18,000 galUS [68 m³]
- Corrosive fluid blending capacity: 14,700 galUS [55.5 m³]

A successful history of worldwide stimulation projects

The *Halul-48* is a supply vessel fitted with storage, mixing, and pumping equipment based on Schlumberger's FlexSTIM* modular offshore stimulation system. The establishment of the *Halul-48* offshore stimulation vessel leveraged the respective expertise of both Milaha, the leading maritime and logistics service provider in Qatar, and Schlumberger, the leading provider of digital solutions and innovative technologies for the global energy industry. In recent years, FlexSTIM system vessels have become more prevalent in bringing cost-effective solutions to most areas of the world using readily available skid-pumping equipment. Schlumberger has a long history of delivering successful FlexSTIM system projects in challenging global environments, including those found in the North Sea, the Americas, Africa, Asia, and the Middle East.



The Halul-48 well stimulation vessel equipped with second-generation FlexSTIM system.

Designed and built locally to optimize in-country value generation

At Schlumberger, we continue to look for ways to improve our contribution to the local oil and gas industries in every country where we operate. The *Halul-48* was designed and converted in the State of Qatar in record time with Milaha and other local partners under the highest service and environmental standards.

All phases of the stimulation treatment are handled remotely from a central control room. Continuous monitoring and control of critical parameters ensure the highest degree of quality control and assurance. Using these advanced new-technology fluid systems with on-the-fly mixing capabilities optimizes production returns.

The *Halul-48* was surveyed by the American Bureau of Shipping (ABS) to meet Well Stimulation (WS) classification, recognizing it as capable of delivering stimulation services worldwide.

Halul-48 Well Stimulation Vessel

Marine Data	
Class and registration	
Classification	ABS A1, OSV, AMS, FiFi-1 DPS-2, WS, AMS, ACCU, SPS, RW
Flag	Qatar
Call sign	A7JO
IMO number	9692595
Dimensions	
Overall length (LOA)	285.8 ft [87 m]
Breadth	18.8 ft [5.7 m]
Depth	20.0 ft [6.1 m]
Deadweight	5,681 US tons [5,154 metric tons]
Deck area	9,980 ft ² [927 m ²]
Main engines	
	Four 1,825-kW Cummins QSK60-D9M
Generators	
	Four 480-V, three-phase, 60 Hz
	One 350-kW emergency or harbor generator
Thrusters	
Bow	One 910-kW bow tunnel controllable pitch propeller (CPP)
	One 800-kW retractable thruster CPP
Stern	Two azimuth propulsion thrusters
	Two 2,000-kW, fixed-pitch propeller
Speed	
Max.	14.3 knots [26.5 km/h]
Economical	8 knots [14.8 km/h]
Fuel consumption (approx.)	
12 knots	3,963 galUS/d [15.0 m ³ /d]
10 knots	3,170 galUS/d [12.0 m ³ /d]
Standby	581 galUS/d [2.2 m ³ /d]
Accommodation	
Crew cabins	15 one-person, 10 two-person, 3 four-person cabins (47 beds total)
Schlumberger and guest cabins	6 one-person, 4 two-person, 2 four-person cabins (22 beds total)
Specialized equipment	
	Kongsberg K-Pos DP21 dynamic positioning system
	Two dynamic positioning reference systems: one CyScan®, one RadaScan®
Marine tankage	
Mud or brine	636,724 galUS [2,410 m ³]
Diesel fuel	237,780 galUS [900 m ³]
Potable water	528,401 galUS [2,000 m ³]

All specifications are subject to change without notice.

Stimulation Data	
Treatment pumps	
Horsepower	14,000 hhp [10,297 kW]
Max. treatment rate	100 bbl/min [15.9 m ³ /min] Up to 4,500 psi [31,026 kPa]; rate and pressures can be increased on request
Blending systems	
Blending tanks	Two 100-bbl [15.9-m ³] tanks at max. 80-bbl/min [12.7-m ³ /min]
	Two 75-bbl [11.9-m ³] tanks at max. 20-bbl/min [3.17-m ³ /min]
Viscoelastic-based system	Available
Emulsified acid-based system	Available
OpenPath Reach* extended-contact stimulation service	Available
MaxCO ₂ Acid* degradable diversion acid system	Available
Storage capabilities	
32% hydrochloric acid (HCl)	160,000 galUS [m ³]
Liquid chemical storage	18,000 galUS [68.1 m ³]
Laboratory	
	Mobile lab available for carbonate stimulation
Treating iron	
	2-in × 4-in Coflexip® hoses rated to 15,000 psi [103,421 kPa]
	2-in × 4-in 1502 treating iron
	Emergency quick disconnect available
Monitoring	
	FracCAT* 6.4 fracturing computer-aided treatment system
	Color monitors and visual display unit of all treatment parameters
	Real-time plots of selectable parameters
	InterACT* global connectivity, collaboration, and information service

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