

Flowline Remediation System (FRS)

Subsea flowline interface



The FRS is designed to interface with a number of subsea assets, but most notably provides a subsea interface for flowlines. The FRS handles large fluid volumes at increased flow rates and sits on the seafloor after being deployed from a vessel.

The FRS consists of four main components.

- » Gas/liquid separator
- » ROV panels to control and direct flow
- » Chemical injection interface
- » Emergency Quick Disconnect (EQD) system for vessel emergencies

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The FRS is used in applications where injection, suction, or discharge is needed. The system supports hydrate remediation, the removal of asphaltene or paraffin blockages, and the flushing, commissioning, or decommissioning of a flowline.

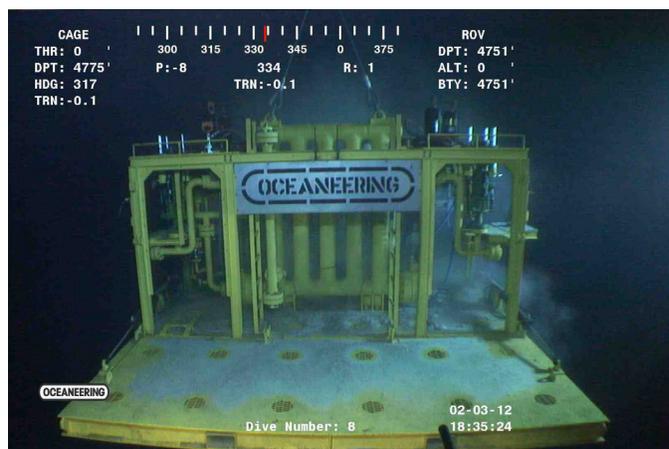
To complete hydrate remediation, the FRS is used in conjunction with the subsea hydraulic power unit (SHPU). The SHPU pulls fluid from the flowline and pumps it into the FRS separator, separating the gas from the fluid, and sends both up individual coiled tubing reels.

In the event of an emergency, the FRS is equipped with an electrically-activated EQD system. This system disconnects the subsea equipment from the vessel and isolates the flowline and subsea equipment. In addition to the electrical system, a deadman override is installed with the coiled connection.

The FRS is outfitted with sensors that feed real-time data when the ROV is plugged in via a wet mateable connector.

Technical Data

Connections type(s)	Project specific
Power supply	SHPU
Flow capability	Up to 40 gal/min / 151 L/min
Operating depth	10,000 ft / 3,000 m
Operating pressure	5,000 psi / 345 bar
Methanol panel	8 gal/min / 30 L/min
Length	236 in / 600 cm
Width	96 in / 244 cm
Height	114 in / 290 cm
Deck space	20 x 15 ft / 610 x 460 cm
Weight in air	11.8 ton / 10.7 tonnes



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