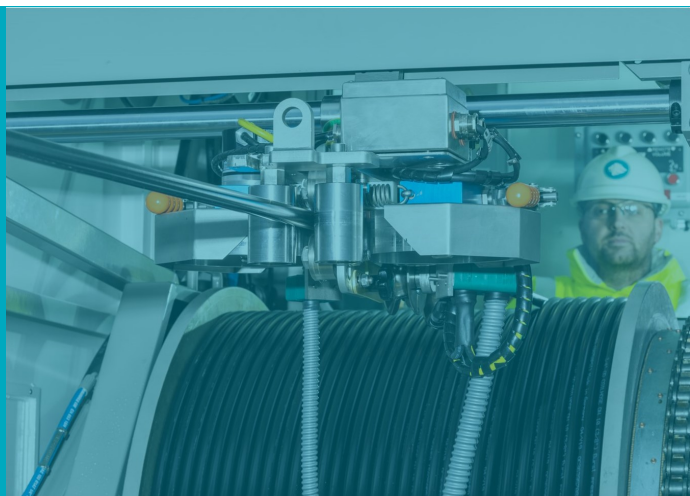


CoilHose™

Light Well Circulation System

Providing an operationally efficient and footprint optimized solution for thru-tubing chemical jetting and well unloading operations



The CoilHose Light Well Circulation System is a hybrid well intervention system that combines the operational efficiency of a wireline deployment with the capability to perform a range of nitrogen and fluid pumping applications.

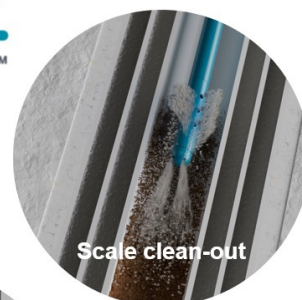
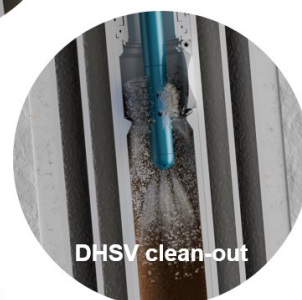
Through the deployment of a flexible high-pressure composite hose in the wellbore, the CoilHose system enables a hydraulic intervention to be carried out more efficiently compared to traditional competing interventions. This therefore enables the reduction of capital, operational and carbon footprint of the hydraulic well intervention.

Features and benefits

- Optimizes light well intervention activities, allowing for the redeployment of coiled tubing packages for heavy well intervention tasks
- Flexible High-Pressure Composite Hose delivers thru-tubing hydraulic interventions for a wide range of well applications.
- Efficient Off-critical-path rig-up and testing completed in just 3–4 hours, minimizing downtime.
- Multi-Purpose Deployment Unit supports a variety of intervention services through configurable drum setups, including Cased Hole and Mechanical Services.
- Multi-Skilled Crew capable of delivering a broad range of intervention services, enhancing operational flexibility. Cost-Effective Operations the blend of operational efficiency and reduced equipment requirements significantly lower overall well intervention costs.

Key applications

- Well unloading with Nitrogen
- High pressure chemical jetting
- Upper completion scale clean-out
- Well circulation
- DHSV and Wellhead clean-out
- Wax and asphaltene removal
- Hydrate remediation



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Technical specifications

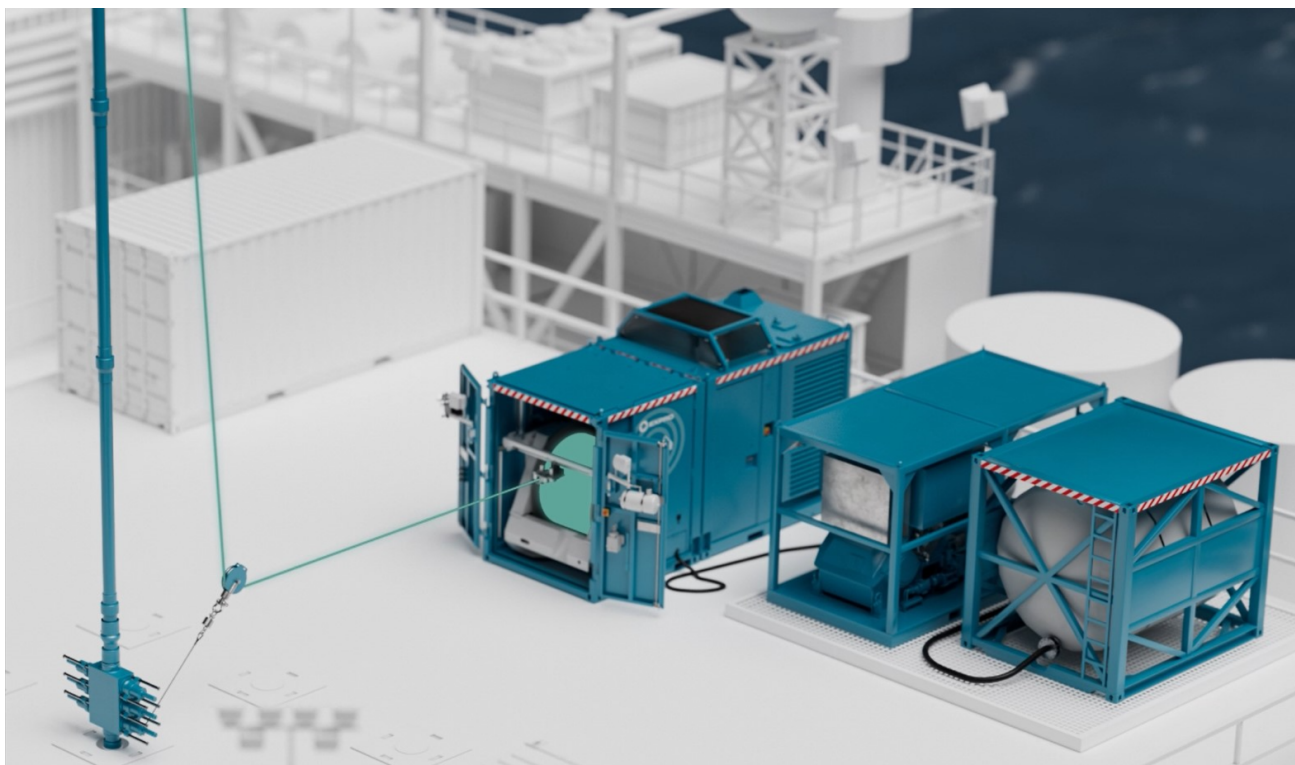
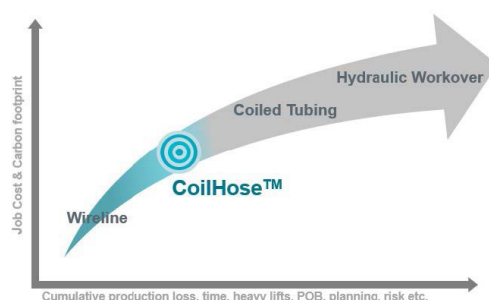
	MK IV CoilHose	MK VI CoilHose
Maximum depth (deviation dependent)	4,000 ft. ¹	10,000 ft. ¹
Temperature rating	-40° to 302°F	-40° to 302°F
Working pressure	12,500 psi	12,500 psi
Burst pressure limit	50,000 psi	31,250 psi
Differential collapse pressure	4,670 psi. ²	3,000 psi. ²
Breaking strength	14,330 lbf	15,500 lbf
Outer diameter	0.768"	0.925"
Inner diameter	0.386"	0.394"
Wall thickness	0.191"	0.266"
Weight in air	0.49 lb/ft	0.42 lb/ft
Guideline fluid pump rate	0.06 - 0.31 bbls/min	0.06 - 0.31 bbls/min
Guideline N2 pump rate	100 - 650 scf/min	100 - 650 scf/min

1. Winch drum configuration and well deviation dependent

2. Minimum 6,000 psi is maintained in the hose at all times during the operation via a Pressure Activated Circulation Sub in the CoilHose BHA

Operational envelope

- Nitrogen pumping and chemical jetting are key applications
- Up to 10,000 ft. well depth
- Greater than 60° well deviations require enhanced Cerberus modelling (similar to WL ops)
- Suitable for wellhead pressures up to 2,000 psi
- Max BHT 302 °F
- System is not suitable for pumping cement, lifting sand or mechanical services such as milling and setting / pulling plugs



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Frequently asked questions

How does the CoilHose system layout and footprint benefit operations?

For Nitrogen Pumping and Chemical Jetting applications, the modular design and compact footprint of the CoilHose system offers an attractive and operationally efficient alternative to traditional Coiled Tubing. Its setup reduces both operational complexity and deck space requirements, delivering operational efficiency.

How many crew members are required to deploy the service, and how does this support operational efficiency?

A typical CoilHose operation requires a crew of 3-4 members per shift, depending on the application. Crew members can be cross-trained to support multiple deployment applications, including CoilHose, Slickline, E-line, and DFOS. This versatility reduces overall crew size and lowers personnel on board / on site, further enhancing operational efficiency.

How quickly can the CoilHose system be rigged up and rigged down compared to traditional methods?

The CoilHose system can be efficiently rigged up and tested within a 4-6 hour window. Most of the rig-up and preparation can be performed off the critical path, further enhancing the system's operational efficiency.

How does CoilHose perform in deviated wells, and what are its operational limits in such conditions?

The CoilHose system, being gravity-fed into the well, operates similarly to Slickline and Wireline systems in deviated wells and can typically be deployed at inclinations of up to 70°. To ensure the system meets the application objectives, well parameters are gathered early in the planning phase, and simulations are performed to confirm that CoilHose can reach the desired depth.

How compatible is the CoilHose system with H₂S and CO₂ environments?

The CoilHose system is specifically designed to be compatible with H₂S and CO₂ environments. As part of the application screening process, Expro gathers detailed well parameters to assess H₂S and CO₂ partial pressures. This ensures that any potential risks are identified and mitigated prior to deployment.

Can the CoilHose system lift solids such as sand, scale, or proppant?

The CoilHose system has not been designed for lifting solids such as sand, scale, or proppant. This is due to the relationship between the system pump rates, the CoilHose outer diameter and the wellbore inner diameter which when combined means there is insufficient annular velocity to lift solids to surface.

Can the CoilHose system be used for the performance of mechanical services, i.e. jarring, milling etc.

The CoilHose system is not designed for mechanical services like jarring or milling. Stripper Bind Friction from the Dual Side Door Stripper (DSDS) prevents CoilHose from achieving the acceleration required for effective jarring, and hydraulic jars used in Coiled Tubing operations have not been tested with CoilHose.

Milling is impractical due to CoilHose's lack of torsional strength for withstanding the rotational forces required.

How does the CoilHose fatigue resistance compare to that of Coiled Tubing?

CoilHose delivers superior fatigue resistance compared to traditional Coiled Tubing thanks to its unique composite construction.

Qualification tests for CoilHose included a 30,000-cycle impulse test, confirming the system's durability with no signs of fatigue. Additionally, the Mk VI CoilHose underwent a controlled test where it was run over two sheave wheels with a 2,500 kg load attached to the Bottom Hole Assembly (BHA) and no internal pressure applied.

After completing 7,000 cycles over the sheaves, the hose was examined and pressure-tested to its full working pressure.

The results revealed no leaks or failures, further validating the CoilHose exceptional fatigue resistance.