

Riserless Well Intervention System (RWIS)

Deployed from a dynamically positioned monohull vessel, RWIS provides a reliable solution for carrying out cost-effective intervention and abandonment operations on all types of subsea wells.

The RWIS is modular in design, allowing the system to be tailored to specific job requirements. A range of equipment options are available including a well re-entry module where production barriers can be placed in the event of tree valve failures or a bore selector to eliminate the cost associated with multiple runs to enable access to the annulus bore.

It features a unique, field-proven cut and seal valve design with a shear seal gate valve included to cut and seal against tool strings and sinker bars. This requires significantly less control fluid to operate than conventional systems, resulting in fewer subsea accumulators which reduces the overall weight significantly.

An electro-hydraulic control system for medium to deepwater applications, based on Expro's award winning landing string control systems philosophy, is included to provide a high level of reliability and integrity.

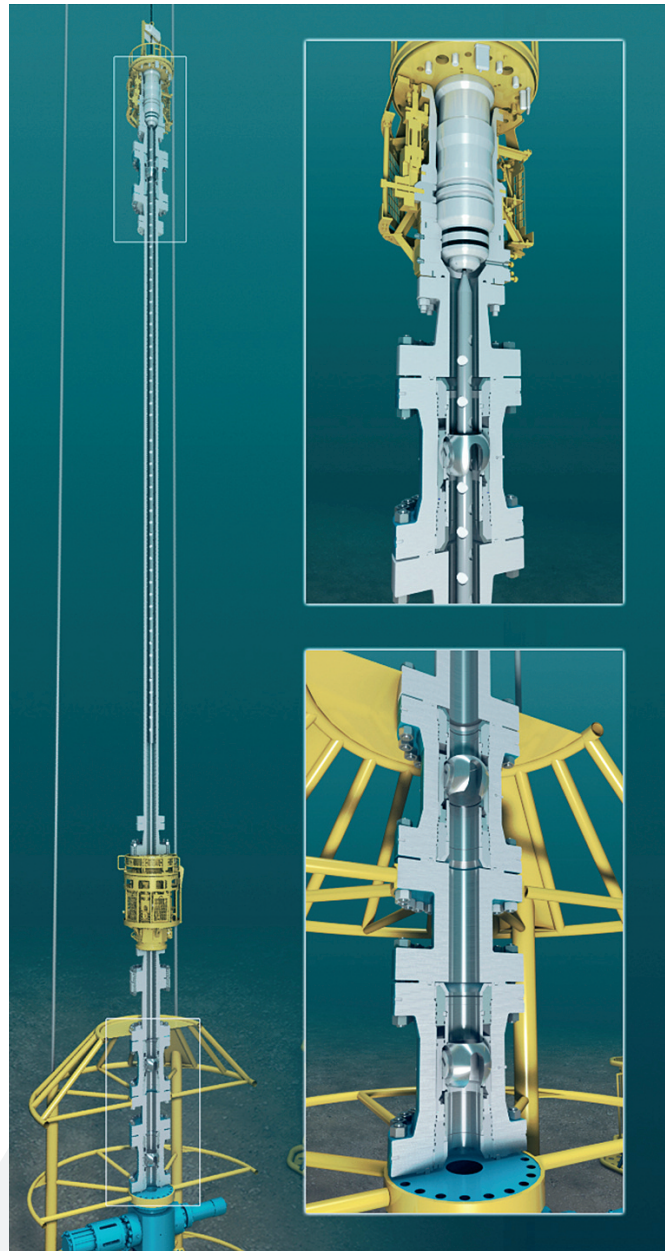
A separate subsea service module (SSM) containing accumulators, a grease system and control modules is connected to the main RWIS by ROV deployed flying leads, further reducing the overall stack weight.

Features:

- 7³/₈" bore and 10k psi maximum working pressure rated system
- Provides access to conventional or horizontal xmas tees
- Can be used in water depths up to 2000m (depth limited by umbilical length only)
- Well access for the deployment of wireline or slickline tool strings up to 22m
- Bore selector option for slickline access to 2" annulus on vertical xmas trees
- Shear seal gate valve cuts up to 2" sinker bar and tool strings
- Modular lubricator riser to support up to 22m long wireline tool strings

Benefits:

- Lighter than conventional Light Well intervention (LWI) stacks allowing access to aging subsea trees that may not support conventional, heavier intervention equipment.
- Allows access to aging subsea trees that may not support conventional, heavier intervention equipment
- Can be used for temporary suspension or abandonment of wells
- Modular design offers greater operational flexibility
- Allowing wireline well maintenance to increase well recovery rates



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Technical specifications:	
Specification	ISO 13628-7 and API 17G industry standards (as applicable)
Service	H ₂ S NACE MR 0175 + CO ₂
Maximum working pressure	10,000 psi (690 bar)
Test pressure	15,000 psi (1,034 bar)
Design temperature	-18°C to 121°C (0°F to +250°F)
Working pressure control port (max)	10,000psi (690 bar)
Tool string length	Up to 22m tool strings
Internal diameter production bore (min)	7.375" (187.33mm)
Internal diameter annulus bore (min)	2.060" (52.3mm)
Estimated weight (main stack)	42 tonnes
Service	H ₂ S NACE MR 0175 + CO ₂
Maximum working pressure	10,000 psi (690 bar)

Surface equipment

- Control unit housing control system surface modules and HMI
- Hydraulic power unit containing pumps, reservoirs, accumulator and necessary control system valves and instrumentation to control the RWIS
- Electro hydraulic control umbilical deployed from the control umbilical reeler
- 2" annulus / circulation / kill hose deployed from the annulus hose reeler
- Chemical injection unit and storage tanks
- Flushing pump skid
- Flushing manifold
- Spares and maintenance/workshop containers
- Deployment system including:
 - Cursor deployment through air/water interface
 - Active heave compensated (AHC) deployment wire/winch for stack and SSM land out
 - AHC/CT pod wires for umbilical and annulus line deployment
 - Wireline AHC sheave
 - Deck skidding over moonpool/overside deployment position