

## Light Well Intervention Packages in Operation - Riser based & Riserless by Grant Pierce



TFMC RLWI Stack 4 in the moonpool Island Performer 2015

As I wrote about recently the makeup of a LWI vessel or Intervention unit, the key piece of equipment to enable these vessels or units to operate is the Well Intervention package.

Previously I just listed the companies involved, but in this short article I will list the specific packages themselves in operation by each company.

The following companies maintain their own Intervention packages:

AKOFS Offshore - 7 3/8" Intervention Riser System. 10k psi rating

Baker - 3 1/16" Riserless (3.0), 3 1/16" Riserless Lite (3.1), 4 1/16" Riser based system (4.1), 7 1/16" Riserless (7.0), 7 3/8" Subsea Riserless Intervention System (7.1 & 7.2) - Both Riser and Riserless options available for the SRIS. 10k psi ratings

Expro Group - 7 3/8" Intervention Riser System (IRS), 7 3/8" Riserless Well Intervention System (RWIS). 10k psi ratings

Helix Energy Solutions - 7 3/8" Intervention Riser System (IRS), 5 1/8", 7 1/16", & 7 3/8" Subsea Intervention Lubricator (SIL). 10k psi ratings & 15k psi ratings (IRS)

Oceaneering - 7 1/16" Interchangeable Riserless Intervention System (IRIS), 7 1/16" Blue Ocean Riserless Intervention System (BORIS). 10k psi ratings

Sapura Energy Well Services - 7 3/8" Subsea Intervention Device (SID), Riserless system. 10k psi ratings

TechnipFMC - 5 1/8" - 7 1/16" Completion & Workover Riser (CWOR), 7 1/16" Riserless Light Well Intervention (RLWI). 10k psi rating for 7 1/16" stacks with 5 1/8" riser package having 15k psi rating

Trendsetter Engineering - 6 3/8" Light Riser Intervention System (LRIS) - Current riser based functionality only, but upgrade capability of HPHT Riserless in near future. 15k psi rating

Worldwide Oilfield Machine (WOM) - 6 3/8" & 7 3/8" Deepwater Riser System (DRS), 7 3/8" Riser-less Light Well Intervention (RLWI). 10k psi rating for 7 3/8" and 15k psi rating for 6 3/8"

The differences in the packages as you can see are nominal bore ID's and pressure ratings. There are also differences in depth ratings per package.

Helix, Trendsetter, TechnipFMC, & WOM have the only 15k psi rated riser based packages to date and the rest are 10k psi rated packages; TFMF CWOR 5 1/8" system has a 20k psi rated package in development. Baker has the largest range of availability as to sizes of Intervention packages from 3 1/16" ID up to 7 3/8" ID.

In the earlier days of LWI equipment manufacture, 7 1/6" ID equipment was the 'standard' though the latest packages are mainly built with 7 3/8" ID. The reasoning behind this could be that the market didn't then see a high number of larger ID XT's (= larger OD plugs) in the past whereas there do exist now some larger bore XT's c/w 7" OD plugs which have a difficulty drifting 7 1/16" ID, hence a 7 3/8" Intervention package would need to be chosen.

In addition to these main packages, there are also other modules made for specific operations such as Baker's 10k Fluid Intervention System, Caltex Oil Tool Rigless Stimulation Tool (RST) which allows subsea hydraulic intervention, Enpro Subsea Flow Intervention Service (FIS) which allows for subsea hydraulic intervention, Helix Riserless Open Water Abandonment Module (ROAM) that allows retrieval of tubing in open water while maintaining dual barriers, Oceaneering Well Stimulation Tool (WST) & Rapid Access

Tool (RAT) which allow for subsea hydraulic intervention, & Trendsetters Subsea Tree Injection Module (STIM) which allows subsea hydraulic intervention.