

VersaFlex® Expandable Liner Hanger System

FIELD-PROVEN, TOTAL SYSTEM APPROACH TO LINER INSTALLATIONS

OVERVIEW

The Halliburton VersaFlex® expandable liner hanger (ELH) system is the industry's first fully engineered ELH system designed for use in land, offshore and deepwater applications. Field proven with thousands of installations, Halliburton offers the VersaFlex ELH system as a single unit containing an integral upper tieback receptacle, an ELH and a setting/running sleeve. Simplistic and reliable characteristics are the design basis of the VersaFlex ELH system. "Set-and-forget" sealing capability is made possible by the multiple elastomeric bands, which are hydraulically energized to form a gas-tight seal to the parent casing at the liner top.

Its clean-form design allows a clear flow path for cementing integrity, unsurpassed by any system in its class. The VersaFlex ELH system offers bi-directional anchoring; an overpull test on the setting tool confirms complete anchoring. The system maintains compatibility with conventional liner tubulars and float equipment in cemented liner applications. In non-cemented applications, the VersaFlex ELH system outperforms conventional liner hangers and production packers to deploy liners to the bottom while providing a positive liner-top seal on setting, even in high-angle wellbores.

Regardless of the application, the VersaFlex ELH system offers a wide range of designs that help reduce risks associated with liner deployment, setting and sealing. In addition to the standard VersaFlex ELH system, which works in a variety of cemented and non-cemented applications, VersaFlex ELH technology can be found in these additional designs for special applications:

- » VersaFlex High-Torque ELH systems
- » VersaFlex Low Equivalent Circulating Density (ECD) ELH systems
- » VersaFlex Big Bore ELH systems
- » VersaFlex Breech Lock ELH systems

FEATURES

- » Liner hanger and liner-top isolation packers packaged as a single unit
- » Packer element design allows for high circulation rates
- » Clean-form design improves run-in-hole speeds and circulation rates
- » Improved fluid flow with the absence of external components, including slips, hydraulic cylinders, cages, etc.
- » Less induced stress and more even stress distribution in supporting casing for a given liner length
- » No physical damage to the supporting casing; no slip "wickers" to cut into the supporting casing



BENEFITS

- » Helps eliminate potential leak paths
- » Holds in tension and compression during the life of the well
- » Sets in deviated wellbores
- » Reduces operating steps

Set-and-Forget Sealing

In horizontal and highly-deviated wells, conventional systems can fail simply because of insufficient gravitational weight. This is not an issue for the VersaFlex ELH system; it sets and seals anywhere in the parent casing.

- » Running tools hydraulically expand multiple, elastomeric seals
- » Extremely strong, 360° seal between hanger body and previous casing
- » Unmatched, gas-tight seal reliability
- » Bi-directional anchoring
- » Cement not required for pressure integrity

Robust and Flexible

Our high-torque ratings reveal rugged engineering for everything from drill-in with liner applications, to rotation and reciprocation for better mud removal and increased circulation rates. Capabilities are ideal to handle the following, without pulling out of the hole:

- » Reaming the hanger to total depth
- » Unstable formations
- » Pressure differentials, ledges and key seats

Whether operations require drill-in with liner, the ability to withstand 200,000 pounds (90 718 kg) of compression to hit bottom or wash and ream in the same trip, VersaFlex ELH systems offer the necessary ruggedness that complex wellbores demand.

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Liner Casing (in.)	Casing Size (in.)	Casing Weight (lb/ft)
3 1/2	5 1/2	15.5; 17; 20; 23; 26
5	6 5/8	24
5; 5 1/2	7	20–35
5 1/2	7 5/8	26.4–39
7; 7 5/8	9 5/8	36–58.4
7 5/8	9 3/8	39
7 5/8	9 7/8	62.8
7 3/4	10 3/4	55.5–71.1
9 5/8	11 3/4	54–65
9 5/8	11 7/8	71.8
11 3/4; 11 7/8	13 3/8	61.0–72.0
11 7/8	13 5/8	88.2
11 7/8	13 3/4	98.58
11 7/8	14	112.80; 114.0; 115.53
13 3/8; 13 5/8; 14	16	84-96; 102.9–118
14	18 5/8	136
16	18	93.54
16	18 5/8	136
16	20	129.33; 133; 147; 169
18	22	224

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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