

# IntegraLine™ S Liner Hanger

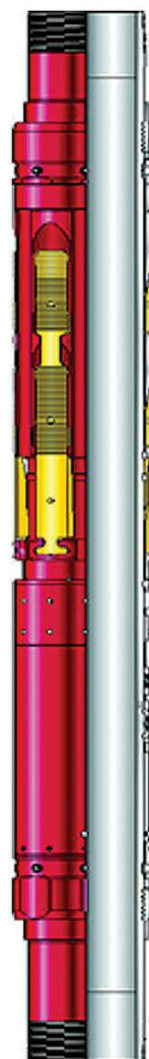
Supports liners in challenging well environments

## Applications

- Gas-tight applications
- Deep and highly deviated wells with high pressures, high temperatures, or both
- Liners set at any depth
- Drill-down and ream-down liners

## Features and Benefits

- Proprietary high-performance seals in the hydraulic cylinder eliminate potential leak paths for a positive, gas-tight barrier.
- The stroke limiter prevents the slips and hydraulic cylinder from overtraveling because of worn or oversized well casing and, in turn, enables the IntegraLine S hanger to maintain a gas-tight seal.
- Hydraulic activation eliminates the need for drillstring manipulation, which is required to set mechanical hangers, and enables setting the IntegraLine S liner hanger in deep and highly-deviated wells.
- The large slip-contact area minimizes stress in the host casing, which enables the IntegraLine S liner hanger to support extreme loads.
- The IntegraLine R liner hanger can be set inside multiple weights of the host casing.
- The high-torque, one-piece mandrel is equipped with premium connections.
- A heavy-duty bearing enables rotation of the liner after the hanger has been set and during cementing operations to improve the quality of the cement bond.
- The mechanical-locking mechanism minimizes the risk of prematurely setting the liner hanger before hydraulic activation.
- The hydraulic cylinder is rotationally locked to the mandrel, which prevents seal damage during liner rotation and reduces the risk of seal degradation.
- Aflas® elastomers provide reliability in high-temperature and corrosive environments.
- Hardened slips ensure that the liner hanger can be set in high-yield grades of host casing.
- Bypass channels enhance the circulation area, which permits high-rate circulation past the hanger assembly to aid in the removal of debris during well cleaning and improve the quality of cement displacement.
- Premium, steel shear screws support predetermined pressure settings, even in high temperatures.



*A spacer ring in the IntegraLine S liner hanger prevents rotation after setting.*

*Aflas is a registered trademark of the Asahi Glass Co., Ltd.*



# IntegraLine™ S Liner Hanger

## Tool Description

The Weatherford IntegraLine S liner hanger is a premium hydraulic-set, static liner hanger well suited for deep, highly deviated wells, which commonly have high-pressures and high-temperatures. The IntegraLine S liner hanger is engineered for full compatibility with high-performance liner packers that meet the strictest pressure-integrity requirements specified by International Organization of Standardization (ISO) 14310 grade V0 and American Petroleum Institute (API) 11D1 test criteria. The IntegraLine S liner hanger is rated for downhole environments up to 15,000 psi (103.4 MPa) at 400°F (204°C). A proprietary Aflas seal in the hydraulic cylinder enables the liner hanger to withstand high temperatures and corrosive environments.

The IntegraLine S liner hanger has a cone-and-slips section designed to protect the slips and optimize bypass, which makes the liner hanger well suited for drill-down and ream-down liner applications. The liner hanger also has a stroke limiter that prevents the slips from overstroking when set in worn and oversized well casings and keeps the cylinder from overtraveling to maintain pressure integrity.

Differential hydraulic pressure across the hydraulic cylinder activates the IntegraLine S liner hanger. Transferring weight to the liner hanger slips forces the slips to bite into the host casing. A spacer ring on the IntegraLine S hanger keeps the hanger static after it is set.

## Options

- The standard IntegraLine S liner hanger can be converted to an IntegraLine R liner hanger by replacing the spacer ring with a bearing package.
- Standard metallurgies in most sizes are L-80 and P-110 (125 ksi). Other metallurgies are available on request.
- The standard connection is VAM® TOP HT™ in most sizes. Other connections are available on request.

## Specifications

Size		Weight		Bottom Connection <sup>a</sup>	Standard Metallurgy <sup>a</sup>
Liner	Casing	Liner	Casing		
4-1/2 in. (114 mm)	7 in. (178 mm)	12.60 lb/ft (18.75 kg/m)	32 to 38 lb/ft (47.62 to 56.55 kg/m)	VAM TOP HT	P-110 125 ksi
7 in. (178 mm)	9-5/8 in. (244 mm)	29 to 38 lb/ft (43.15 to 56.55 kg/m)	40 to 53.5 lb/ft (59.52 to 79.61 kg/m)	VAM TOP HT	P-110 125 ksi
9-5/8 in. (244 mm)	13-3/8 in. (340 mm)	43.5 to 58.4 lb/ft (64.73 to 86.90 kg/m)	48 to 77 lb/ft (71.43 to 114.58 kg/m)	VAM TOP HT	P-110 125 ksi

<sup>a</sup> Other metallurgies and connections are available upon request.

VAM and HT are trademarks of Vallourec Mannesmann Oil & Gas France Corporation.

