

# EXPAND-O-LIZER<sup>®</sup> ES

Extreme Service Bow Spring Centralizer



## Product

Varel Energy Solutions Expand-O-Lizer 'Extreme Service' is the patented engineered solution for a complete under-reamed casing operating, ensuring the best possible conditions for cement placement. A one-piece spring steel unit eliminated welded bows, the ES combines extremely robust manufacture with a proven drag reduction method of deployment.

## Features

- The engineered solution for under-reamed hole applications where annual clearance is greater than 1-1/4".
- Non-welded blades, robust design.
- Unique design significantly reduces running forces in cased hole sections.
- Integral bi-directional drive collar c/w engineered high holding force set screws.
- Providing excellent standoff in the open hole sections.
- Testing criteria exceeds industry standards.
- Offering the best possible conditions for cement.

## Options

- Centralizer placement / T&D analysis available.
- Dedicated engineering support team.
- Size range from 4-1/2" – 28".