

NEW



PRODUCT OVERVIEW

S2 FUSION

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Centek's S2 Fusion centralizer has been developed to address drag and deformation often encountered in wells with high lateral loading. The design represents a step-change in how bow-spring centralizers interact with both the casing and the borehole, combining practical improvements in run-in performance with predictable standoff for improved cementation.

PRODUCT CONCEPT

The S2 Fusion is designed to be pulled through the wellbore or casing. Pull-in deployment reduces the risk of permanent bow deformation, ensuring a consistent restoring force and maintaining intended standoff once positioned in the well.

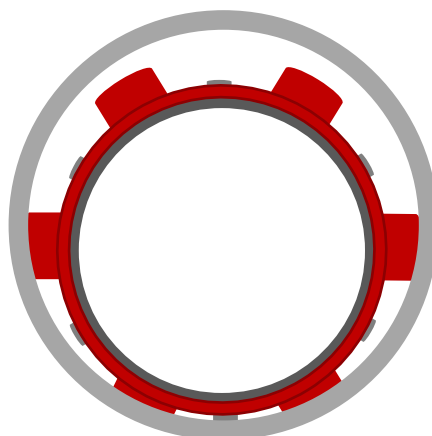
Protrusions around the end band allow for an internally positioned single stop collar within the centralizer. This configuration removes the potential for interference between stop collar screws and the borehole wall under high lateral deflection.

With this design, the risk of the collar becoming wedged under the bows during RIH is eliminated and the collar can rotate freely without colliding with the bows under high deflection. The result is a smooth, guided passage through tight spots, maintaining annular integrity and reducing the likelihood of casing damage.

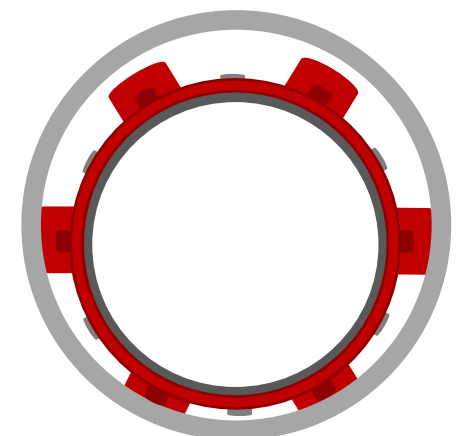
KEY PRODUCT BENEFITS

- Casing can be rotated
- Pull-in / Pull-out configuration
- Eliminates mechanical drag with set screws
- Guaranteed minimum cement sheath
- Faster installation (single collar)
- Assisted passage through tight spots and milled windows
- Single-piece construction
- Improved standoff
- Minimized deformation

Maximum deflection (Conventional Design)
Contact between borehole wall and stop collar increases drag.



Maximum deflection (S2 Fusion)
Borehole contact occurs only at formed protrusions; stop collar fixings remain clear of the wall.



KEY FEATURES

Reduced Drag under High Lateral Load

High-deviation or dog-legged sections of the well often impose significant side forces on the casing string. In conventional assemblies, these forces can flatten bow springs and cause unwanted frictional contact between external fixings (e.g. stop collar screws) and the borehole wall.

S2 Fusion mitigates this by incorporating load-bearing protrusions formed into the centralizer end bands. These features become the contact interface at high deflection, allowing the casing to move smoothly through the borehole or through restrictions such as milled windows. As a result, recorded frictional drag during run-in is composed only of genuine side-wall contact, not mechanical interference.

Controlled Bow Deflection and Improved Standoff

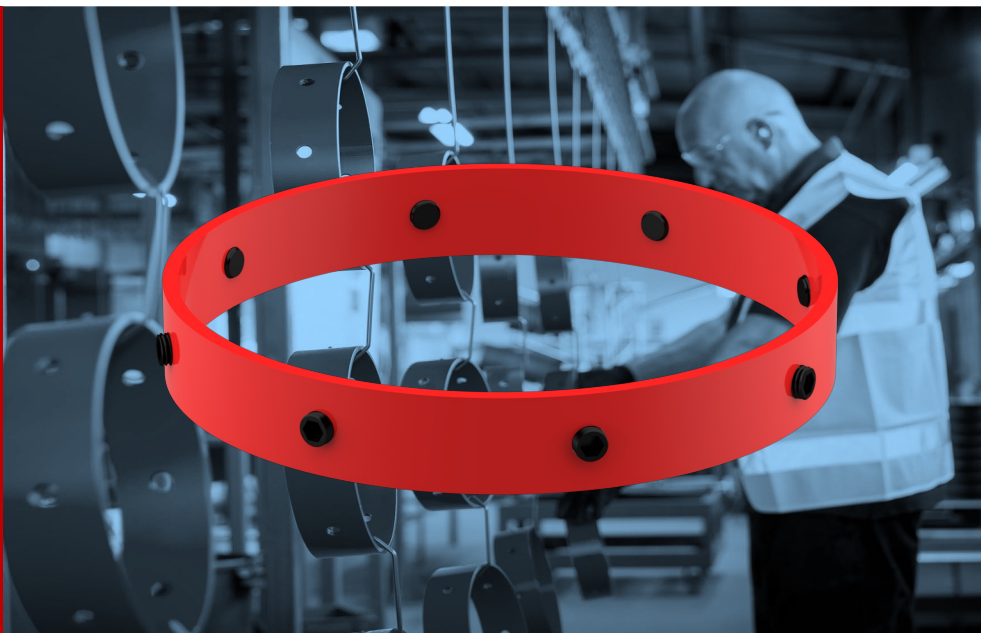
The geometry of the S2 Fusion bows enables controlled flexing under load. Even at maximum deflection, contact between the end-band protrusions and the borehole wall ensures the bow's spring force remains active without over-flattening. This behaviour delivers the dual advantage of a flexible bow spring (for ease of passage and reduced friction) with a guaranteed minimum standoff for more uniform cement placement.

This design also ensures that the tubular can be rotated or reciprocated freely at all times, a key requirement for effective mud displacement and cement bonding.

STRUCTURAL INTEGRITY AND COMPLIANCE

The protrusions are engineered to withstand significant lateral forces, ensuring deformation control without compromising bow elasticity. All testing has been conducted in accordance with API 10D 7th Edition, with results shown to exceed specification thresholds for restoring force, standoff, and insertion force

The design inherently guarantees a minimum cement sheath, providing a controlled flex point and measurable minimum standoff. Protrusion heights above the set-screw dimension remove the potential for screw contact or gouging which would increase drag.



SIMPLIFIED INSTALLATION

An internally positioned single stop collar reduces installation time and overall component cost. Castellations on the end band secure the stop collar in place, preventing any interference with bow function.

TARGET APPLICATIONS

- Tight spots
- Well sections with high lateral loading
- Onshore and offshore wells
- Unconsolidated wells
- Extended reach wells
- Horizontal and highly deviated wells
- J-type and S-type

SIZING

The S2 Fusion will be available from 5 1/2" x 8 1/2" through to 13 3/8" x 17 1/2"

The S2 Fusion centralizer offers a practical solution to the known limitations in traditional bow-spring centralizers. By combining a pull-in configuration, controlled bow deformation, and a single internal stop collar system, it reduces drag, eliminates mechanical interference, and preserves minimum standoff for improved cementation outcomes — without compromising on mechanical robustness.

