

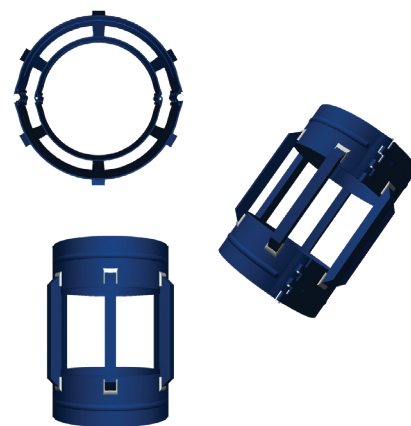
400 Series - Positive, Rigid, Welded Centralizers

Our positive, rigid, welded centralizers provide positive casing standoff for vertically deviated and horizontal wells. We offer them in numerous configurations, from hinged to slip-on and from straight-bladed to spiral design. Our rigid centralizers prevent differential sticking and increase hole cleaning through the enhanced flow created. Rigid bars are welded to the centralizer collars to provide lasting strength and stability.

- Favorable in cased hole situations
- Centralizers designed for specified casing and hole size combination. Any attempt to run through smaller restrictions will cause damage

400 - HINGED, WELDED, POSITIVE BAR CENTRALIZER

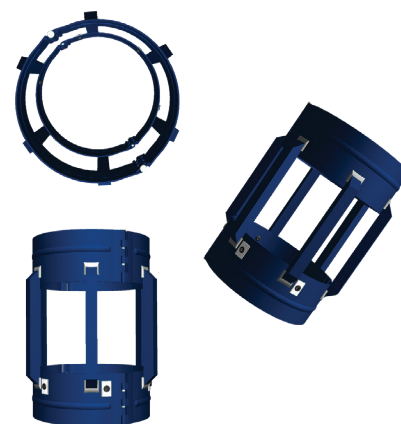
The 400 Series utilizes straight steel bars welded onto hinged end collars that secure it to the casing, usually between two stop collars. The hinged design provides easy installation for a fast, effective centralization solution. The 400 Series rotates freely on the pipe.



401 - HINGED, WELDED, POSITIVE BAR CENTRALIZER WITH SET SCREWS

The 401 Series retains the hinge pins and positive steel bars found on the design of the 400 Series. The 401 adds spaced integral set screws around the end collar to provide holding force and eliminate the need for stop collars.

- Recommended to run between two Antelope 202 series stop collars or one stop collar and casing coupling
- Hinged design with positive steel bars welded to hinged end collars
- Set screws recommended to be used on casing grades of P110 or below
- Install by evenly tightening set screws in a "star pattern" to prevent collar deformation, then torque set screws in the leading end collar to a maximum of 25ft. -lbs., or install centralizer between two stop collars
- Centralizers are manufactured with a positive O.D. of no less than 1/4" under hole size
- Manufactured to customer specification upon receipt of order
- Specify casing, hole and restriction sizes when ordering



Casing Sizes:	2-3/8" to 24"
Collar Material:	A565 / A1011
Bar Material:	A36

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490 - SLIP-ON, SOLID BODY, LINER BAND CENTRALIZER

This slip-on centralizer reduces friction when running casing due to smooth profiles of flutes that are embossed on a solid 5" body. The design is recommended for running between two stop collars to allow the centralizer to function as a bearing, as well as to reduce torque.

- Manufactured to customer specifications upon receipt of order
- Specify casing, hole and restriction sizes when ordering



Casing Sizes:	4-1/2" - 9-5/8"
Collar Material:	A565 / A1011
Maximum Flute Height:	1/2"