

Stage Cementing Collar: 2-Stage Mechanical



Stage Cementing Collars allow operators the flexibility they need to cement casing strings in two or three stages. With our 500 Mechanical Stage Collar, we're ready with the tool to match any needed application.

500 - MECHANICAL STAGE COLLAR

This mechanical stage collar allows for cementing to be completed in long casing strings, where low cement displacement pressure is required due to weak formations. The robust double snap ring locking mechanism ensures the tool does not open after it is closed, and is able to withstand an upward force of 100,000 lb. minimum. Antelope's 500 Series, has minimal moving parts, which reduces the chance of failure.

- Large pump through diameters allows for balls dropped and wiper plugs to pass through without affecting ongoing tool operation
- Anti-rotation system for the inner-sleeve does not require holes through the tool body, and the unique anti-rotation system for the drillable seats enhances drill-out with PDC and roller cone bits
- Single inner-sleeve design eliminates pressure traps and increases reliability
- API box threads are integrated into the body of the stage tool
- Short close tolerance seal length allows operations within well curvatures with dog leg severity (DLS) up to 12° per 100 ft.
- The high density and length of the composite opening cone assures quick descent, even in high density drilling fluids
- Available in 3-stage configuration
- High temperature seals are available for temperatures above 300°F
- Pump-down opening plug systems are available for highly inclined wells
- Shut-off plug systems are available for setting casing packers and testing casing to high pressures
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- Stage Collar - Patent Pending



Box and Pin threads match casing threads. Opening seat and inner sleeve seals provide pressure integrity across the circulation ports.



After landing opening cone, pressure applied from the surface shears the opening seat shear screws. The opening seat shifts down, landing on the anti-rotation taper angles and exposing the circulation ports. Circulation can now be established through the stage collar ports.



After the closing plug has landed, pressure applied from the surface shears the closing seat shear screws. The closing seat lands on anti-rotation taper angles, allowing the lugs to cam into the grooves in the closing seat. The inner sleeve then shifts down engaging dual high pressure seals above and below the body ports to provide pressure integrity. Dual snap-rings engage to ensure the inner sleeve remains retained in the closed position. Anti-rotation tabs prevent rotation of the inner sleeve during drill-out.

