



Inner-String Latch-In Stinger Dart

The Weatherford inner-string latch-in stinger dart is pumped behind cement and wipes the inside of drillpipe or tubing strings to provide a mechanical barrier between cement and spacer fluids or between mud and cement. The stinger dart is designed for use with the Weatherford inner-string, stab-in float equipment to cement large-diameter casing strings.

Launched from a Weatherford cement head, the stinger dart displaces fluids through the drill pipe or tubing string while preventing cement contamination. A seal ring on the aluminum nose of the stinger dart enables the device to withstand high differential pressures when it is latched into the float equipment by a corresponding snap ring.

Using the stinger dart with the Weatherford inner-string float equipment significantly reduces displacement and drill-out times: Cement can be pumped until noted at surface, which prevents large quantities of cement at the sea bed that must be drilled out.



Applications

- Wiping drillpipe or tubing in conjunction with Weatherford inner-string float equipment
- Large-diameter casing strings requiring inner-string cementing

Features, Advantages, and Benefits

- Composed entirely of PDC-drillable materials, the stinger dart enables trouble-free drillout, which conserves rig time.
- Seal ring provides a positive bidirectional seal when latched into float equipment with the corresponding aluminum snap ring, which enables the device to withstand exceptionally high back pressures.
- Dart acts as a mechanical barrier between displacement fluids to prevent cement contamination and provide a clean pipe ID.



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Features, Advantages, and Benefits (continued)

- Angled, aluminum nose prevents the dart from hanging up in the drillpipe or tubing string.
- Polyurethane fins offer superior abrasion resistance and excellent wiping action to leave a clean casing ID.
- Fin design enables versatility, stability, and superior wiping action for drillpipe and tubing strings.

Specifications

| Drillpipe Plug Size (in./mm) | Minimum ID (in./mm) | Maximum ID (in./mm) | Maximum Bump Pressure* (psi/MPa) | Maximum Back Pressure* (psi/MPa) |
|---|--------------------------------|--------------------------------|---|---|
| 4.500 to 5.875 114.3 to 149.2 | 2.41 61.2 | 5.09 129.3 | 8,000 55.16 | 5,000 34.7 |
| 5.875 to 6.625 149.2 to 168.3 | 2.41 61.2 | 5.85 148.6 | 8,000 55.16 | 5,000 34.7 |

* Ratings are only valid for the dart. When float equipment rating is lower, the float equipment performance is the limitation. When float equipment rating is higher, the dart performance is the limitation.