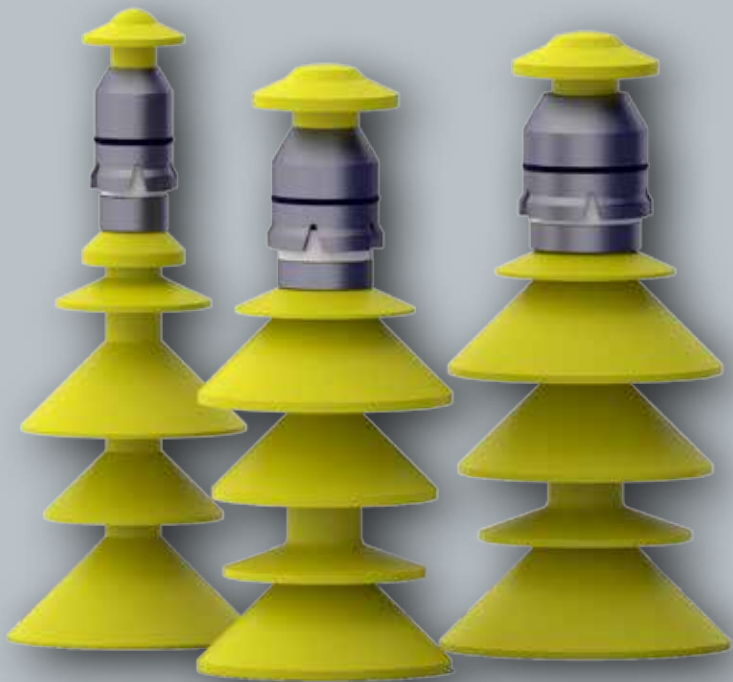


Darts



Inner-String Latch-In Stinger Dart



Weatherford's inner-string latch-in stinger dart is pumped behind cement and wipes the inside of drillpipe or tubing strings, providing a mechanical barrier between cement and spacer fluids or between mud and cement.

The stinger dart is designed for use with Weatherford's inner-string stab-in float equipment to cement large-diameter casing strings. The stinger dart is launched from Weatherford's cementing head, displacing fluids through the drillpipe or tubing string while preventing cement contamination. The stinger dart features a seal ring on the aluminum nose, enabling the device to withstand high differential pressures when latched into the float equipment by a corresponding snap ring.

Using the stinger dart with Weatherford's inner-string float equipment greatly reduces displacement time by enabling cement to be pumped until noted at surface, preventing large quantities of cement at the seabed, significantly reducing drillout times.

Applications

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

Features, Advantages and Benefits

- Composed entirely of PDC- (polycrystalline diamond composite) drillable materials, the stinger dart enables trouble-free drillout, conserving rig time.
- Seal ring provides a positive bidirectional seal when latched into float equipment with the corresponding aluminum snap ring, enabling the device to withstand exceptionally high backpressures.
- Dart acts as a mechanical barrier between displacement fluids to prevent cement contamination, resulting in a clean pipe ID.
- Angled, aluminum nose prevents the dart from hanging up in the drillpipe or tubing string, ensuring proper functionality of the device.
- Polyurethane fins offer superior abrasion resistance and excellent wiping action, resulting in a clean casing ID after passage.
- Fin design enables versatility, stability, and superior wiping action for drillpipe and tubing strings, providing operational flexibility.

Specifications

Drillpipe Plug Size (in./mm)	Minimum Pump-Through Drift (in./mm)	Minimum ID (in./mm)	Maximum ID (in./mm)	Maximum Bump Pressure ^a (psi/MPa)	Maximum Back Pressure ^a (psi/MPa)
4.500 to 5.000 114.3 to 127.0	2.414 61.3	3.00 76.0	4.47 113.5	7,000 48.26	5,000 34.47
5.000 to 5.500 127.0 to 139.7	2.414 61.3	3.48 88.4	4.95 125.7	7,000 48.26	5,000 34.47
5.875 149.2	2.414 61.3	3.48 88.4	5.09 129.3	7,000 48.26	5,000 34.47
6.625 168.3	2.414 61.3	4.95 125.7	5.85 148.6	7,000 48.26	5,000 34.47

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