

Ultra Circulation Sub

Introducing the Ultra Circulation Sub: optimizing drilling operations with unparalleled efficiency and precision. Engineered with cutting-edge dart-activated technology, this innovative tool sets a new standard for downhole fluid circulation management, enhancing productivity and minimizing downtime. Designed to divert mud flow either through the drill bit and into the annulus (normal drilling operation) or bypassing most of the flow to the bit (for activities like wellbore cleaning, LCM spotting, BOP jetting, or surge reduction).

The system uses both an Activation Dart & Clearing Dart. When the Activation Dart is pumped, the tool engages, bypassing a large majority of the drilling fluid into the annulus. Once the bypass has completed, the Clearing Dart is pumped allowing for both darts to completely pass through into a catch sub where the darts remain for the duration of the run.

Features and Benefits

- **Dart-Activated Operation:** The Circulation Sub is activated by a dart, providing precise control over fluid circulation and optimizing drilling efficiency.
- **Enhanced Circulation Rates:** Boosts circulation rates to optimize hole cleaning, minimizing torque and drag, consequently augmenting ROP (Rate of Penetration).
- **Reduced Flow Restriction:** After dart seating, the design offers better fluid flow when compared to traditional ball-seated tools.
- **High Angle Applications:** Positive retention of the dart after seating ensures successful operation in any wellbore inclination.
- **Optimized Fluid Management:** Allows for seamless redirection of fluid flow, reducing turbulence and enhancing wellbore stability.
- **Improved Hole Cleaning:** Facilitates efficient removal of cuttings and debris from the wellbore, ensuring uninterrupted drilling operations.
- **Minimized Fluid Loss:** Prevents unnecessary fluid loss during tripping and circulation, maximizing resource utilization and cost-effectiveness.
- **Universal Fluid Delivery:** From aggressive pills to high density LCM to cement squeezes, the system effortlessly handles all types of fluid placement, ensuring efficient wellbore maintenance.
- **Multiple Cycling:** Capable of numerous bypass cycles within a single trip, maximizing operational efficiency.
- **Improved Annular Velocity:** Ideal for highly deviated and horizontal well bores, it enhances annular velocity, addressing challenges associated with cutting bed removal and hole cleaning.
- **Increased Safety:** Dart activation mechanism enhances safety by eliminating the need for manual intervention, reducing the risk of human error by pumping the incorrect ball.
- **Proven Reliability:** Built to withstand the rigors of drilling environments, the Circulation Sub delivers reliable performance even in the most challenging conditions.
- **Cost-Efficient Solution:** By optimizing fluid management and reducing downtime, the Circulation Sub helps operators minimize operational costs and achieve greater profitability.

Specifications

OD (in.)	6.750	
Length (ft)	14.42	
ID (in.)	2.010	
Weight (lbs)	1,335	
Open Port Pressure (psi)	250-300	
Snap Through Pressure to Close Ports (psi)	1,500-2,500	
Connections	4 ½ IF	
Max. Flow (gpm)	800	
Max Temp (°F/ °C)	350/ 175	
Tensile Yield (lbs)	1,452,900	
Torsional Yield (ft-lbs)	74,340	
Max. Torque (ft-lbs)	45,700	
Total Flow Area (in. ²)	Bypass	1.570
	Non-Bypass	3.214
Max. Differential Pressure (psi) ¹	15,000	

¹ no dart installed





LOCATIONS



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