

JetFlow® Balldrop Multi-Cycle Circulation Sub

Selective Circulation for Drilling, Completion, and P&A Operations

Applications

- Drilling, completion, and plug and abandonment (P&A) operations
- Spotting lost-circulation-material (LCM) pills in any drilling operation
- Spotting kill-weight fluid in vertical sections of extended-reach or horizontal wells prior to pulling out of hole
- Jetting blowout preventer (BOP) stacks
- Increasing annular velocity
- Wellbore cleaning

Features and Benefits

- Easy-to-control configurations and operational designs adapt to manage fluid circulations within rapidly changing wellbore environments.
- Streamlined balldrop activations are easily accomplished with no additional rigsite personnel required for system operations.
- Variable flow options provide reliable fluid control in complex well conditions.
- Multiple LCM cycle delivery addresses dynamic fluid-loss issues and enables applications of various LCM pills and cement squeezes.
- Enhanced operations add flexibility for fast adaptations to multiple onshore and offshore applications.
- Multiple balldrop selectivity provides normal and fast actuations between standard and heavy mud-weight applications.
- Full BHA compatibility ensures functionality in combination with numerous downhole tools and systems—without compromising performance.
- Subsea jetting functionality performs as a cleaning tool to ensure adequate flowrates during BOP, wellhead, and subsea riser washing.
- Increased annular-velocity capability allows for enhanced hole cleaning and cuttings removal within highly deviated and horizontal wellbores.
- Split-flow dart option enables the ability to pump portions of the flow to the bit and to the annulus for additional fluid control.
- Configurable flow selection with multiple nozzle-size options allows variable-flow splitting between the annulus and BHA.

Tool Description

The Weatherford JetFlow balldrop multi-cycle circulation sub optimizes drilling, completion, and plug and abandonment (P&A) operations to increase efficiency and reduce non-productive rigtime. Simple to operate, the system adapts to function across several applications including lost circulation-material (LCM) spotting, hole cleaning, fluid displacements and blowout-preventer (BOP) jetting. Robust, reliable, and flexible, JetFlow provides outstanding circulation control with multiple fluid-bypass options that add value, speed, and efficiency to many downhole operations in any well environment.



JetFlow helps maximize the efficiency of challenging drilling, completion, and P&A operations by allowing multiple open-and-close, circulation-flow cycles.



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Specifications

OD	6.75 in. (171.45 mm)	8.25 in. (209.55 mm)
ID	2.25 in. (57.15 mm)	2.75 in. (69.85 mm)
Ports	2 or 3	
Tool-end connections	NC50	6-5/8 in. Reg
Midbody connections	NC50	6-5/8 in. Reg
Max circulation rate open	1,200 gpm (4,542.49 lpm)	
Max circulation rate closed	850 gpm (3,217.60 lpm)	1,150 gpm (4,353.22 lpm)
Standard port diameter (configurable to 95 series nozzle)	1.0 in. (25.4 mm)	1.35 in. (34.29 mm)
Activation type	Ball and dart options	
Activation pressure	100 to 200 psi (6.89 to 13.78 bar)	
Max operating pressure	5,000 psi (344.73 bar)	
Max bottomhole temperature	400 °F (204 °C)	
Balls to activate	1	
Balls to deactivate	2 or 3	
Ball size to activate	2 in. (50.8 mm)	2.5 in. (63.5 mm)
Ball size to deactivate	1.25 in. (31.75 mm)	1.75 in. (44.45 mm)
Cycles	5 standard, 10 optional	
Cycles with darts	5	
TFA through tool	3 in. ² (19.35 cm ²)	4.91 in. ² (31.96 cm ²)
TFA thru ports (2 port/3 port)	1.57 in. ² (10.13 cm ²)/2.3 in. ² (14.84 cm ²)	2.86 in. ² (18.45 cm ²)/4.3 in. ² (27.74 cm ²)
Length	13 ft (3.96 m)	12.2 ft (3.72 m)
Weight	1,350 lbs (612.35 kg)	1,775 lbs (806.82 kg)
Main body tensile strength	2,520,000 lbs (1,143,052 kg)	3,000,000 lbs (1,363,363 kg)
Main body torsional strength	160,000 ft-lbs (216,930.87 N•m)	335,000 ft-lbs (243,083 N•m)
Connection tensile strength	1,519,242 lbs (689,116.58 kg)	2,092,629 lbs (951,195 kg)
Connection torsional strength	46,426 ft-lbs (62,945.20 N•m)	62,426 ft-lbs (84,638.30 N•m)

