

# RipTide® Ball-Drop Drilling Reamer 9500

Enlarges boreholes below casing restrictions and simultaneously drills and enlarges wellbores

## Applications

- Drilling and enlarging simultaneously in a single trip
- Underreaming concentric boreholes below casing restrictions to facilitate running casing strings and to permit a larger intermediate casing diameter
- Expanding existing pilot holes in a wide range of formations
- Reducing annular fluid velocities to effectively manage equivalent circulation density (ECD) and minimize the risk of kicks
- Facilitating solid-expandable installations and openhole, gravel-pack, and oversized-liner completions
- Optimizing cement jobs

## Features and Benefits

- The reamer can operate with low flow rates, if necessary, to protect sensitive formations.
- Cutter blocks grip the reamer body at full actuation to reduce vibration, which extends cutter life.
- The retractable cutter blocks facilitate tool retrieval.
- The balanced, concentric design of the cutter blocks minimizes vibration while drilling.

## Tool Description

The Weatherford RipTide ball-drop drilling reamer 9500 is a concentric mass-balance underreamer capable of enlarging the borehole below casing restrictions. The versatile reamer can simultaneously drill and enlarge when used in conjunction with a rotary-steerable system (RSS), motor, or rotary bottomhole assembly. The RipTide reamer can also be used to underream existing boreholes and to open selective zones for solid-expandable installations.

The reamer is hydraulically activated using the proven Weatherford mechanical ball-drop system. After the ball is seated, pumps are turned on to increase standpipe pressure. Precise flow rates shear locking pins and permit the cutter blocks to extend fully from the reamer body. When pumps are turned off, the cutter blocks retract into the body.



The Weatherford RipTide ball-drop drilling reamer 9500 has retractable and concentric cutter blocks that minimize vibration while drilling and facilitate tool retrieval.



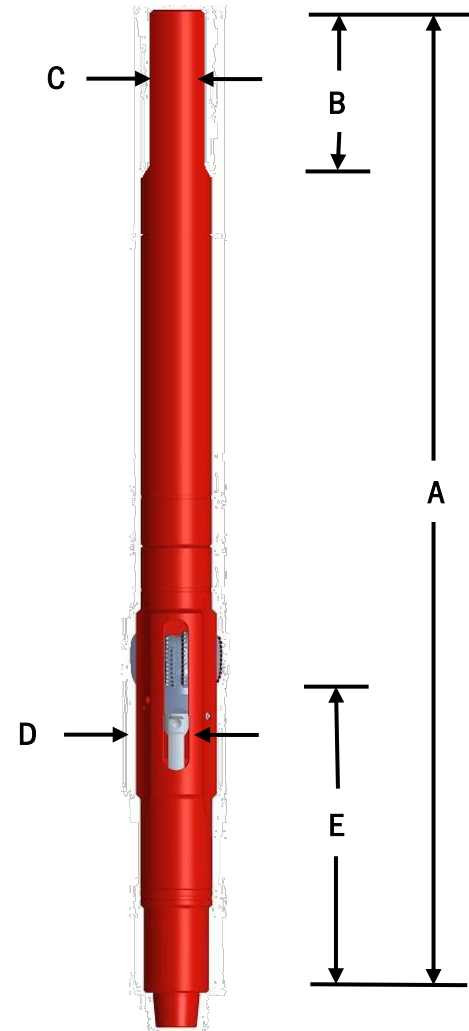
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## Specifications

Overall length/length with booster sub	A	12.63/15.96 ft
Fishing neck length	B	2.00 ft
Fishing neck OD	C	6.75 in.
Reamer body OD	D	9.25 in.
Distance from bottom sub pin to cutter blocks (open position)	E	4.81 ft

## Additional Specifications

Maximum flow rate	830 gal/min
Tensile yield	985,800 lb
Torsional yield	56,900 ft lb
Inside diameter	2.125 in.
Nozzle size in reamer	7 to 20 (1/32) in.
Max. flow rate thru each nozzle at 75 ft/sec	72 gal/min
Max. flow rate thru all nozzles at 75 ft/sec	216 gal/min
Top sub length	3.00 ft
Top sub box up connection	NC50
Ball-drop controller OD	7.625 in.
Ball-drop controller length	3.33 ft
Booster sub length (optional)	3.33 ft
Reamer body length	3.58 ft
Bottom sub OD	6.75 in.
Bottom sub length	2.75 ft
Bottom sub pin down connection	NC50
Reamer assembly weight, less cutter blocks	864 lb
Controller assembly with top sub	740 lb
Activation ball size	1.75 in.



## Available Cutter Block Sizes

Series	PDC	Pilot Hole	Opening Diameter
9500	13 × 13 mm	9.50 in	10.25 in.
			10.50 in.
			11.00 in.
			11.25 in.
			11.50 in.
			11.75 in.
			12.00 in.
			12.25 in.

## Recommended Drilling Parameters

Maximum rotation	150 rpm
Weight on reamer	20 klb
Torque	28 kft-lb
Dogleg severity	12°/ 100 ft
Lost-circulation material	55 lb/bbl
Maximum temperature	300°F (150°C)

