



# ZoneSelect® Milling

Through extensive testing and field experience, Weatherford has developed recommended mill-selection requirements and milling practices for *ZoneSelect* milling success. The parameters listed below represent these recommendations and provide enhanced success when milling Weatherford's *ZoneSelect* Systems.

## Milling Recommendations

For optimal performance, Weatherford recommends all milling operations be supervised by our experienced service technicians in conjunction with our proprietary ClearCut™ *ZoneSelect* milling system.

## Mill Selection

Weatherford recommends a mill with the outside diameter (OD) and length characteristics listed below. In addition to these parameters, the mill should have a minimum of 5 blades dressed with crushed carbide rock (1/8-in. to 1/4-in.) and carbide inserts (3/8-in.). Watercourses should be sufficient to enable effective removal of cuttings from the mill face. The back face of the mill should be dressed with the same carbide as the face to provide back-reaming capability.

While weight-on-bit (WOB) and pump rate vary depending on the application, the mill must include the characteristics discussed in order to achieve efficient milling of the *ZoneSelect* System.

## Specifications

Casing Size (in./mm)	Casing Weight (lb/ft, kg/m)	Maximum Mill OD (in./mm)	Skirt Length (in./mm)	WOB* (lb/kg)	Pump Rate (bpm, m <sup>3</sup> /min)
4.50 114.30	11.60 to 13.50 17.20 to 20.10	3.75 95.20	12.00 304.80	1,000 to 2,500 453 to 1133	2.00 to 3.00 0.31 to 0.47
	15.10 22.40	3.65 92.70	12.00 304.80	1,000 to 2,500 453 to 1133	2.00 to 3.00 0.31 to 0.47
5.50 139.70	17.00 25.30	4.75 120.60	12.00 304.80	1,000 to 2,500 453 to 1133	2.00 to 3.00 0.31 to 0.47
	23.00 34.20	4.45 120.60	12.00 304.80	1,000 to 2,500 453 to 1133	2.00 to 3.00 0.31 to 0.47

\*Dependant on motor selection





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### Milling Procedure

