TANTRUM
NEGATIVE PRESSURE PULSE, FRICTION REDUCTION TOOL

ENERGY

The Tantrum is a downhole mechanical device that is used during drilling to reduce static friction and increase ROP. The axial vibration generated through a negative pressure pulse reduces drag and enables a more efficient transfer of weight onto bit.

KEY POINTS

- Increases sliding ROP

  Efficiently transfers WOB

- Compatible with any MWD/LWD vendor

- Reduces static friction

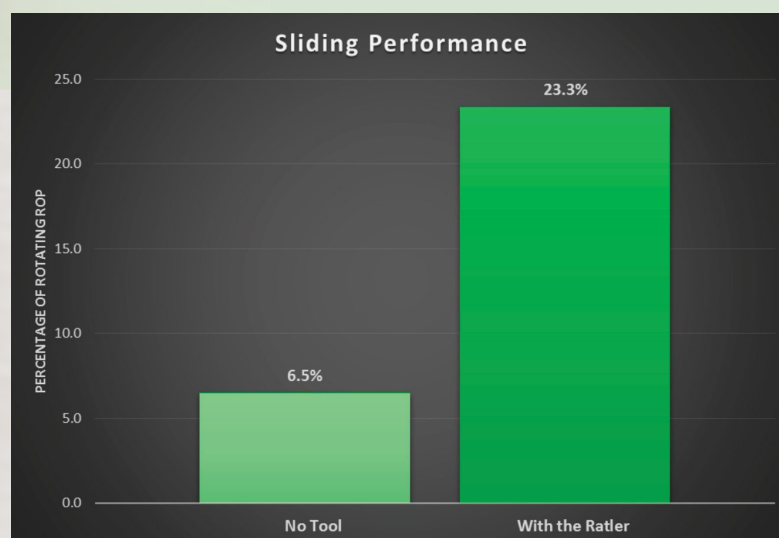- Negative pressure pulse requires less standpipe pressure

Fig. 1. Increased sliding ROP with integration of Tantrum.

HOW IT WORKS

As the pumping pressure acts to expand the shock sub, the localized compression at the tool (WOB transfer) acts to compress the tool. Once the stand pipe pressure is vented to the annulus, the shock sub spring energy and change in stand pipe pressure work together to contract the tool causing an axial force that effectively breaks static drill string friction.

TECHNICAL SPECIFICATIONS

Tool Size (OD) SRD-Shock Sub	5.00" (127 mm) 4.75" (121 mm)	6.75" (171 mm) 6.75" (171 mm)
Overall Length	227" (5.76 m)	250" (6.35 m)
Weight	800 lbs. (363 kg)	1,500 lbs. (680 kg)
Recommended Flow Rate		
Low Flow	100-250 gpm (0.38-0.95 m³/min)	300-450 gpm (1.14-1.7 m³/min)
Standard Flow	150-300 gpm (0.57-1.14 m³/min)	300-650 gpm (1.14-2.46 m³/min)
High Flow	300-650 gpm (1.14-2.46 m³/min)	600-900 gpm (2.28-3.41 m³/min)
Maximum Operating Temperature	300°F (150°C)	300°F (150°C)
Operating Frequency	3-4 Hz	3-4 Hz
Operational Pressure Drop Generated*	200-400 psi (1,375-2,750 kPa)	250-450 psi (1,720-3,100 kPa)
Max Pull	380,000 lbs. (1,690 kN)	693,000 lbs. (3,083 kN)
Torsional Load to Yield Body Connection	17,000 ft.lbs. (23,050 Nm)	48,000 ft. lbs. (65,080 Nm)
Connections**	31/2 IF & 4 FH	41/2 IF

*Tool can be tuned to perform with different mud weights and flow rates or if there is a pressure limitation; inquire with sales
**Other connections available upon request

ENERGY