

Booster System



TOE TAPPER BOOSTER SYSTEM

CT Energy's Toe Tapper is a proven coiled tubing friction reduction tool that provides extended reach during well intervention operations such as milling and stimulation. By generating pressure pulses, the Toe Tapper reduces friction on the coiled tubing and prevents helical buckling. This effect can be amplified using an axial oscillation, or booster system. The Booster System maximizes the friction reducing effects by amplifying the pressure pulse without additional pressure drop. The hydraulic forces generated by the Booster System have been shown to improve milling and all other coiled tubing operations.

As the industry moves towards longer laterals, there is a need to continually enhance the performance of our extended reach tools. The Booster System keeps the Toe Tapper on the cutting edge of friction reduction technology.

Features

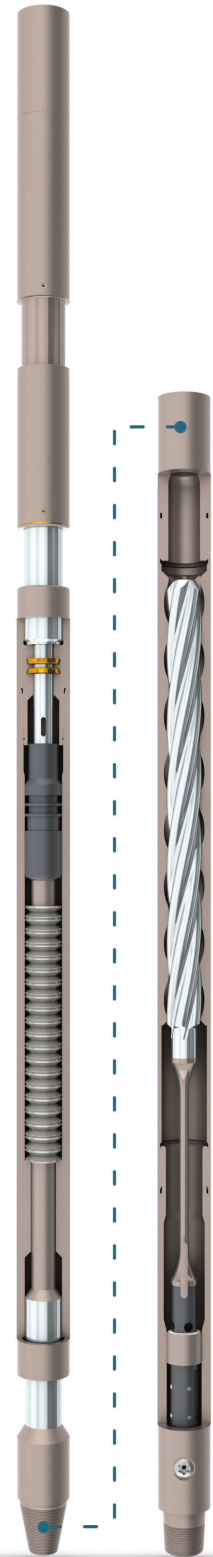
- Amplifies pressure pulses for improved friction reduction and mill times.
- Negligible increase in pressure drop across the BHA.
- Power section can be tuned to change pressure pulse frequency.
- Valving system can be tuned to increase/decrease pressure pulse magnitude.
- Can be used with a variety of fluids including N_2 .

Benefits

- Booster System nearly doubles the friction reducing effects of the Toe Tapper.
- Fluid hammer effect produces hydraulic pull, improving weight transfer.
- Low frequency enables the high amplitude pressure pulse to act on the coiled tubing effectively.
- Reduces friction caused by helical buckling.
- Improved milling times.
- Extended reach in long horizontal well sections.
- Improved debris cleaning.

Applications

- Extended reach well stimulation operations.
- Extended reach well intervention procedures.
- Extended reach composite bridge plug milling.
- Extended reach fracture hardware milling.
- Extended reach toe preparation.
- Extended reach sand cleanout.
- Extended reach production logging.
- Extended reach abrasive perforating.

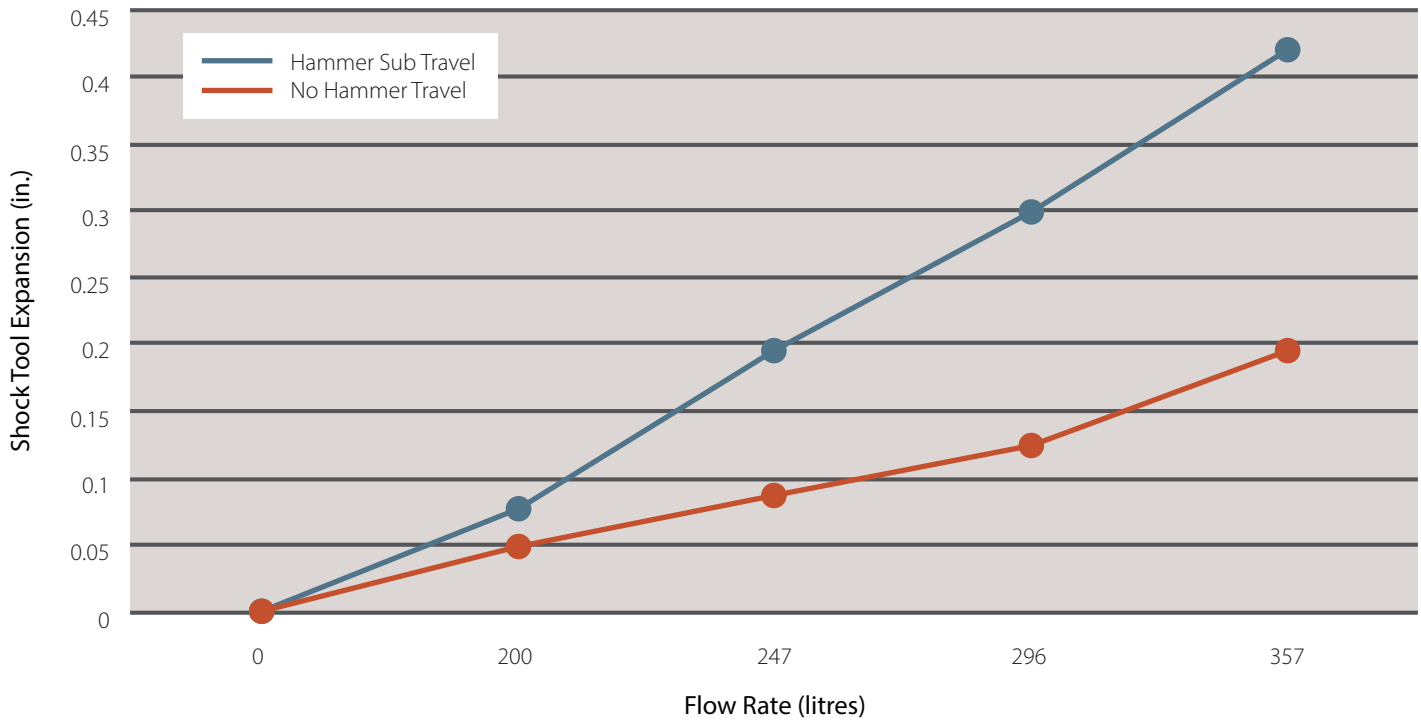


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Shock Tool Expansion With and Without Amplification



Technical Data

Tool Size	MUL	Weight	Flow Rate ¹	Temperature	Operating Frequency	Differential Pressure	Tensile Strength	Torsional Strength	Threads
mm (in.)	m (in.)	kg (lb)	m ³ /min (bpm)	°C (°F)	Hz	kPa (psi)	kN (lbf)	Nm (lbf)	
73 (2.875)	1.96 (77)	55 (121)	0.19 – 0.63 (1.2 – 4.0)	175 (350)	5-8	345 (50)	347 (78,000)	4,745 (3,500)	60.3 PAC (2.375 PAC)

¹ High flow tool available

