FluidHammer Performance Drilling Tool

Technical Summary

Efficiency, Pound for Pound.

The FluidHammer performance drilling tool uses a newly designed energy distribution system to increase drilling performance in areas where it's a challenge to maintain ROP. The FluidHammer combines the torque and rotational speed from a mud motor power section with a high-frequency axial oscillation directly in the BHA. The FluidHammer allows for application-specific setups and is compatible with both fixed cutter and roller cone bits.

This 100% mechanical system maintains contact with the formation and reduces weight stacking from friction on the BHA, all while amplifying the cutting interaction of the bit, enhancing its rock-failing properties.

Features and Benefits

- Increases ROP - Combines axial movement with rotational torque and speed to improve bit efficiency
- Reduces friction - High-frequency axial motion configured specifically for your application
- Improves weight transfer - Oscillates the BHA up to 12 times per second
- Prevents bit damage - Activated with weight on bit, and disengages when off bottom
- Innovative engineering - Oil-sealed design allows for 100% flow to the bit
- Application specific - Compatible with most common power section configurations

Configurations

Tool Size	Hole Sizes
5 in.	6 in. - 6 ⅞ in.
6 ¾ in.	8 ⅜ in. - 9 ⅞ in.
8 in.	9 ⅞ in. - 12 ¼ in.
9 ⅝ in.	12 ¼ in. - 14 ¾ in.
11 ¼ in.	14 ¾ in. - 26 in.

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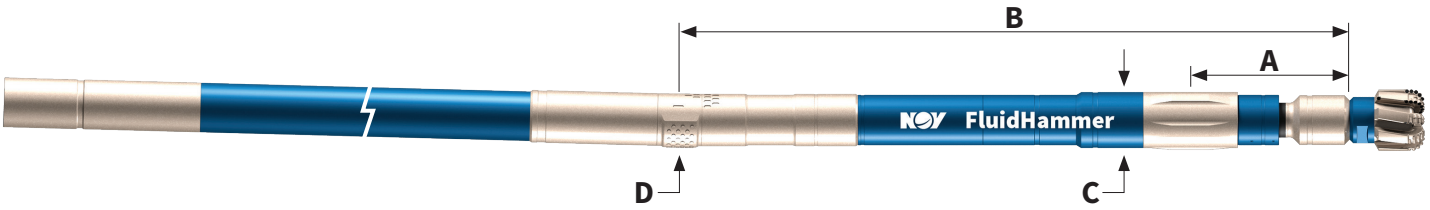
Technical Specifications



FluidHammer - Operating Specifications

	Dim.	5 in. Tool	6 ¾ in. Tool	8 in. Tool	9 ⅝ in. Tool	11 ¼ in. Tool
Bit to Center of Stabilizer Blade	A	20 in. (0.50 m)	22 in. (0.56 m)	36 in. (0.92 m)	43 in. (0.91 m)	35 in. (0.89 m)
Bit to Bend *(3.0° Adjustable Housing)*	B	77 in. (1.95 m)	92 in. (2.34 m)	103 in. (2.62 m)	112 in. (2.82 m)	123 in. (3.12 m)
Max OD of Motor at Upset for Stabilizer	C	5.56 in. (141 mm)	7.63 in. (194 mm)	9.00 in. (229 mm)	10.75 in. (270 mm)	12.25 in. (311 mm)
Radius @ Adjusting Ring	D	2.84 in. (72 mm)	3.75 in. (95 mm)	4.00 in. (102 mm)	5.13 in. (130 mm)	5.75 in. (146 mm)
Max Effective OD of Slick Assembly w/ Adjusting Ring @ 0°		5.68 in. (144 mm)	7.50 in. (191 mm)	8.00 in. (203 mm)	10.26 in. (261 mm)	12.25 in. (311 mm)
Max OD of Slick Assembly w/ Straight Housing		5.13 in. (130 mm)	7.13 in. (181 mm)	8.00 in. (203 mm)	10.75 in. (273 mm)	12.25 in. (311 mm)
Bit to Max Slick OD w/ Straight Housing		19.9 in. (503 mm)	22.34 in. (567 mm)	0.00 in. (0 mm)	43.10 in. (1,095 mm)	24.32 in. (617 mm)
Max WOB		30,000 lb (14,000 kg)	44,000 lb (20,000 kg)	55,000 lb (25,000 kg)	80,000 lb (36,000 kg)	100,000 lb (45,500 kg)
Estimated Total Weight *(Power Section Dependent)*		1,350 lb (610 kg)	2,400 lb (1,090 kg)	3,900 lb (1,770 kg)	6,900 lb (3,130 kg)	8,500 lb (3,860 kg)
Common Top Connection		3 ½ in. IF	4 ½ in. IF, 4 ½ in. XH	6 ⅝ in. REG	6 ⅝ in. REG, 7 ⅝ in. REG	7 ⅝ in. REG, 8 ⅝ in. REG
Common Bottom Connection		3 ½ in. REG	4 ½ in. REG	6 ⅝ in. REG	6 ⅝ in. REG, 7 ⅝ in. REG	7 ⅝ in. REG, 8 ⅝ in. REG
Hole Sizes		6 in. - 6 ⅞ in.	8 ⅜ in. - 9 ⅞ in.	9 ⅞ in. - 12 ¼ in.	12 ¼ in. - 16 in.	16 in. - 26 in.