

Dual-Phase Turbine 2875 Series

Neyfor turbodrilling systems—maximum drilling efficiency

Temperature:
Up to 500 degF [260 degC]

Run time:
Up to 800 hours

Where it is used

- Hard, abrasive formations, such as basement rock
- Harsh HPHT wells

How it improves wells

The high bit rotary speed produces a consistently smooth wellbore in demanding environments, and the concentric design minimizes hole spiraling and microdoglegs.

How it works

The dual-phase turbine efficiently converts hydraulic energy from the mud column into mechanical energy at the bit to deliver significantly greater downhole mechanical drilling power compared with any other drive system. By rotating the drive shaft at a higher speed while remaining dynamically stable, the dual-phase turbine enhances ROP without the negative effects of excess torque.

What it replaces

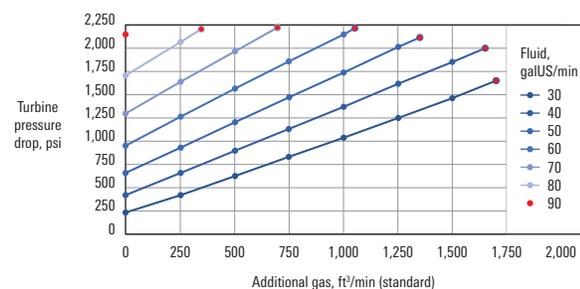
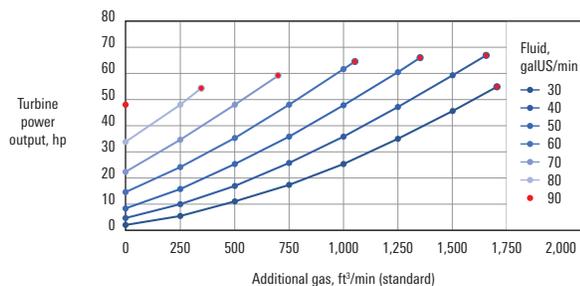
Conventional drive systems, which deliver a lower ROP.

What else I should know

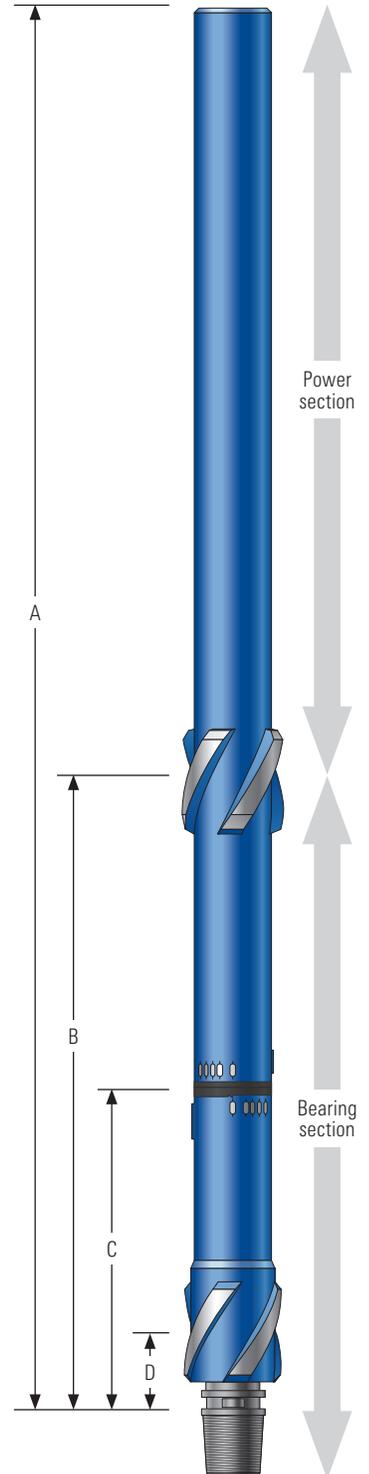
Optional all-metallic construction within the drivetrain and bearing section enables the turbine to withstand the extreme temperature and pressure encountered downhole while maintaining the optimal power output. The metallic construction also permits the use of exotic and chemically enhanced drilling fluid systems without any deterioration in output mechanical power, reliability, or performance.

Tool Specifications	
Turbine section diameter	2 7/8 in [73 mm]
(A) Overall length	24.2 ft [7.4 m]
(B) Bit to center of stabilizer B	13.4 ft [4.1 m]
(C) Bit to bend	3.2 ft [1.0 m]
(D) Bit to center of stabilizer D	0.6 ft [0.2 m]
Top connection	2 3/8-in API Reg box
Bit connection	2 3/8-in PAC pin or 2 3/8-in API Reg pin
Total tool weight	453 lbm [205 kg]
Bend settings	0° to 2.8°
Recommended bit sizes	3 1/4 to 4 3/4 in
Operational data	
Max. fluid weight	8.33 lbm/galUS [998 kg/m ³]
Max. fluid particle size	0.059 in [1.5 mm]
Min. single-phase flow rate	30 galUS/min [114 L/min]
Max. single-phase flow rate	90 galUS/min [341 L/min]
Max. revolutions per minute	7,500 rpm
Max. revolutions per gallon	27.6 rev/galUS
Max. pressure drop	2,250 psi [15.5 MPa]
Max. power output	69 hp [52 kW]

All specifications are subject to change without notice.



Values based on a reservoir pressure of 1,900 psi and temperature of 270 degF. The end of each curve represents the maximum additional gas for a given fluid flow rate.



The dual-phase turbine 2875 series.