

## XP Turbine 2875 Series for Dual-Phase Flow

Neyfor turbodrilling systems—extra power; max 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 XP 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 XP turbine enhances ROP without the negative effects of excess torque.

### What it replaces

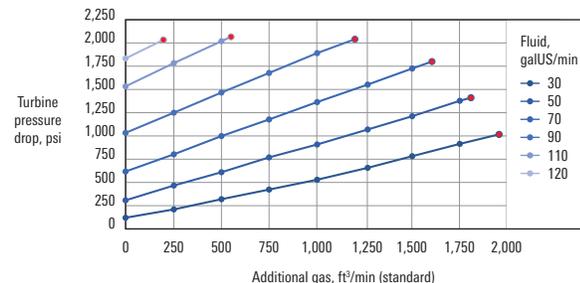
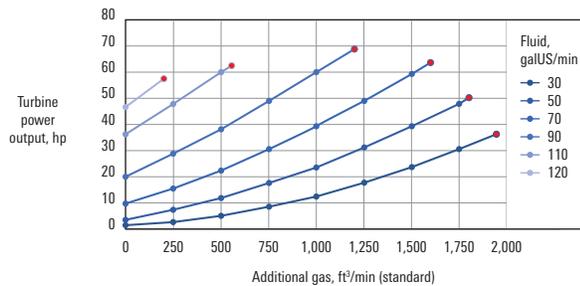
Conventional drive systems, which deliver a lower ROP.

### What else I should know

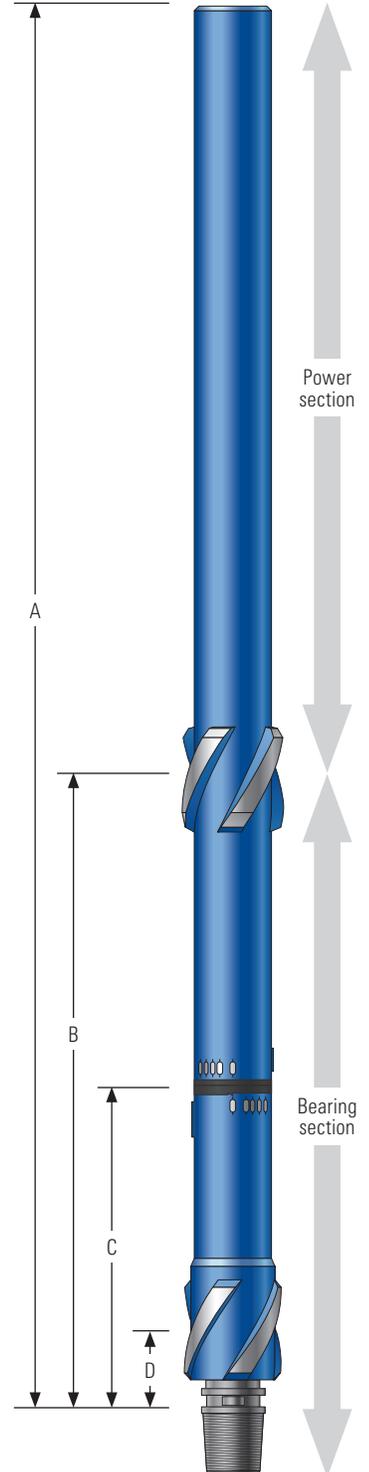
Optional all-metallic construction within the drivetrain and bearing section enables the turbine to withstand the extreme temperature and pressure encountered downhole while maintaining the optimal power output. The metallic construction also permits the use of exotic and chemically enhanced drilling 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<br>2 3/8-in API Reg pin |
| Total tool weight                 | 470 lbm [213 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 <sup>3</sup> ]     |
| Min. single-phase flow rate       | 30 galUS/min [114 L/min]                    |
| Max. single-phase flow rate       | 120 galUS/min [454 L/min]                   |
| Max. revolutions per minute       | 7,500 rpm                                   |
| Max. revolutions per gallon       | 22.3 rev/galUS                              |
| Max. pressure drop                | 2,050 psi [14.1 MPa]                        |
| Max. power output                 | 71 hp [53 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 XP turbine 2875 series for dual-phase flow.