

# Neyrfor TTT

## Thru-tubing turbodrill for improved ROP

### APPLICATIONS

- Coiled tubing, completion, and production operations
- Milling operations in scale, cement, barium, and sand
- Underbalanced milling in N<sub>2</sub>, CO<sub>2</sub>, and air environments
- Acidizing and harsh-environment operations

### BENEFITS

- Improves ROP and footage
- Extends operating life in harsh environments
- Enhances hole cleaning with more efficient cuttings removal

### FEATURES

- High-speed, low-torque power output
- Consistent power output due to all-metallic design
- Adaptive to pressure fluctuations and stalls without tool damage
- Lower reactive milling torque and vibrations
- Durable design for acids and temperatures up to 500 degF [260 degC]
- Ability to adapt to pressure fluctuations and stalls without damaging the tool
- Small cuttings as a result of high speed and shallow depth of cut
- Fast ROP resulting from efficient blade design
- High reliability to facilitate multiple runs
- Ability to work with two-phase fluids

The 2½-in-OD Neyrfor TTT\* thru-tubing turbodrill provides the highest downhole mechanical power output by efficiently converting hydraulic energy into mechanical energy. Power can be tailored for the most demanding through-tubing applications, delivering higher speed and lower torque.

Constructed completely of metal, the Neyrfor TTT turbodrill operates reliably in high temperatures where conventional motor life is shortened and elastomer stators may be unusable. Frequent tripouts to change motors are avoided because the turbine can stay in hole for extended periods in high-temperature and pressure-sensitive environments.

With its efficient blade stages and thrust-bearing design, the small-size turbodrill produces less reactive milling torque compared with conventional positive displacement motors, protecting downhole tools and coiled tubing from extended torsional stress. The concentric design ensures significantly less destructive vibration for the tool and the BHA.

### Specifications

Max. OD, in [mm]	2.125 [54]
Overall length, ft [m]	12.12 [3.69]
Max. downhole temperature, degF [degC]	500 [260]
Flow rate, galUS/min [m <sup>3</sup> /min]	40–65 [0.15–0.24]
Stall torque, ft.lbf [N.m]	107 [145]
Operating speed, rpm	2,880–4,680
Runaway speed (water), rpm	5,660–8,910
Speed per flow rate, rpm/galUS	72
Overpull capacity, <sup>†</sup> lbf [N]	41,200 [183,267]
Shipping weight, lbm [kg]	233 [106]
Connections	
Top	1½ Reg box
Bottom	1½ Reg pin
Max. mud weight, lbm/galUS [kg/m <sup>3</sup> ]	10 [1,198]

<sup>†</sup> Subsequent service in shop recommended for excess of 30,000 lbf applied to string.



*Neyrfor TTT thru-tubing turbodrill.*