

TuffTRAC OH

Openhole evaluation wireline tractor



Delivers high-force extended-reach tractor conveyance

Applications

- Openhole formation evaluation
- Openhole formation testing
- Borehole imaging services
- Cement and corrosion evaluation
- Perforating

How it improves logging-while-tractoring operations

- Eliminates the need for cost-prohibitive drillpipe or coiled tubing conveyance and the inherent risk of equipment damage
- Reduces fishing risk with reverse tractoring capability
- Minimizes slippage by applying active traction control
- Reliably conveys tools in challenging borehole environments, including washed-out openhole intervals and debris-filled cased holes, and across multiple borehole diameters in a single descent
- Increases the efficiency of rig-up and rig-down
 - Modular design adapted for short rig-up heights
 - Built-in critical systems
 - Combinability with most wireline openhole and cased hole services
- Saves time with logging while tractoring by acquiring data in both up and down passes
- Occupies smaller footprint with more efficient operations, resulting in net CO₂ emissions savings

Features

- Reverse tractoring for operational risk reduction
- Active traction control for improved maneuverability and reduced slippage
- Dynamic suspension and innovative wheel design for complex wellbore geometries and conditions
- Tandem configuration for extending accessibility and navigating restrictions and formation washouts
- Modular design with up to eight drive sections
- Low sensitivity to wellbore conditions
- Versatility to run on any wireline cable
- Simple and robust, with API-certified integrated safety features for explosives service and shock qualified for perforating operations
- Significantly reduced power requirements compared with conventional systems
- Fast deployment and reduced surface equipment footprint



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High-force extended-reach tractor conveyance

Delivering the farthest reach in the industry, modular TuffTRAC OH™ openhole evaluation wireline tractor service provides the highest tractor force available in combination with reverse tractoring, dynamic suspension, and traction control.

Although specifically engineered for openhole operations, the TuffTRAC OH tractor performs with the same reliability in cased hole environments, making it the ideal tractor for conveying most wireline openhole and cased hole services, especially in extended-reach wells and for heavy payloads.

Deployment versatility

Engineered to withstand the impact of perforating gun detonation as well as the vibration generated in rugose boreholes, TuffTRAC OH tractors have low sensitivity to well conditions. This makes the highly compatible TuffTRAC OH tractors ideal for deploying SLB openhole and cased hole services.

Because the TuffTRAC OH tractor is a fully integrated system, only a single crew is necessary for both tractor operation and the conveyed services. Real-time telemetry and data acquisition enable the operator to visualize the downhole well environment and intervene as needed to adjust conveyance and the parameters for the deployed services.

Unique design for environment-specific access

The modular TuffTRAC OH tractor system provides previously unavailable adaptability for the operating environment and job objectives. The TuffTRAC OH tractor design goal of optimal performance across all terrains is realized by specifying the number and configuration of the drive sections. A tandem sub can be added to increase functionality by enabling independent surface control of the drives above the tandem sub from those below. Up to eight TuffTRAC OH tractor drive sections can be run to pull long cables and push heavy loads in extended-reach wells.

For conveyance in enlarged open holes and big casing sizes, the arms of the TuffTRAC OH tractor drive section extend to multiple positions and independently to cover hole diameters up to 15 in [38 cm]. This large opening range optimizes the negotiation of anomalies in the wellbore geometry.

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TuffTRAC OH tractor drive sections can be fitted with multiple wheel diameters and proprietary designs optimized for the well geometry and borehole conditions. Wheel diameter is selected to account for the expected formation rock or tubing properties.

Terrain-specific wheel profiles decrease the occurrence of slippage. One of the proprietary wheel designs optimized for well geometries and borehole conditions is a debris-evacuation wheel profile that helps the tractor advance in intervals where sand or proppant particles, cuttings, or mud solids have accumulated.

Compatible with all multiconductor cables, the TuffTRAC OH tractor does not require specialized cable for deployment.

Integrated systems reliability

The short, modular TuffTRAC OH tractor configuration incorporates multiple peripheral systems into the tractor architecture for electrical release, head tension, shock absorption, casing collar log (CCL), and addressable tractor perforating safety switch. The resulting system integration not only makes the short tractor length possible but also increases the safety and reliability of tractor operation.

The tension load cell located in the TuffTRAC OH tractor upper head provides valuable real-time information about tool motion, slippage, and additional loading caused by the winch. An addressable cable-release device prevents unintentional pull-off when gun firing causes the toolstring to jump. It also enables reliable cable release if the tool is stuck in an extended-reach horizontal well and the tension force available at the head by pulling on the cable is insufficient to break the weakpoint.

The TuffTRAC OH tractor is also compatible with SLB inline release devices to reliably disconnect from tools or perforating guns that are run below the tractor and activated via surface command or a battery-operated timer. The perforation safety components prevent accidental application of the high voltage used for the drive motors to the perforating guns. Other safety features are the multiple-use shock absorber and fail-safe opening system, which automatically closes the arms if power is lost.

TuffTRAC OH Openhole Evaluation Wireline Tractor Specifications†

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| Output | Tractoring speed |
| | Arm force |
| | Head tension |
| Drive section operation | Up and down directions |
| | Independent opening and closing of the four upper or four lower drive sections (pairs of wheels) |
| | Reliable tractoring through casing shoe and washouts |
| | Automated arm force regulation |
| Max. speed | 3,200 ft/h [975 m/h] |
| Max. pull per drive section | 350 lbf [1,780 N] |
| Max. force | 2,800 lbf [14,230 N] |
| Max. hole size | 15 in [381 mm] |
| Mud type and weight | All |
| Pressure rating | 20,000 psi [138 MPa] |
| Temperature rating | 350 degF [177 degC] |
| Outside diameter | 4.38 in [111.25 mm] |
| Min. formation unconfined compressive strength at tractoring depth | 2,500 psi [12 MPa] |
| Tension | 60,000 lbf |
| Power, cable requirements | AC, heptacable |
| Special applications | Openhole and completion tractoring |
| | API RP 67 compliant for explosives operations |
| | CE certified to meet the low voltage, machinery, and pressure equipment directives of the EU |
| | Fishing capability: Built-in SureLOC™ electronically controlled cable release device at the logging head |
| | Optional 3/8-in [79.38-mm] WIReD™ wireline inline release devices above and below tractors |

All specifications are subject to change without notice.

† Values depend on configuration and pipe size and weight to be cut. Applications outside the defined operating envelope should be shared with SLB representative for risk assessment.