

SondeTrax wireline deployment tractor

Tractor reliably at precise depths with exceptional surface feedback and control

The **SondeTrax™ wireline deployment tractor** has brought new convenience for tractor cased-hole services, reducing both cost and reliability issues. The SondeTrax tractor is built, operated, and maintained by Sondex, so customers are assured of reliability and safety with no compromise to data quality or service delivery.

The SondeTrax tractor has been designed as an intelligent part of an intervention system. The 2.5 in. OD tool deploys logging tools or mechanical pipe cutter into challenging well profiles and retrieves them safely back to the surface. It uses DC power to drive both up and downhole in pipe sizes ranging from 2.75 in. ID up to 9.2 in. ID.

SondeTrax achieves its maximum continuous tractor force of 750 lb. (maximum 1,000 lb.) from its precision-controlled bi-directional, electro-mechanical drive train. A robust telemetry system sends data from the downhole tractor sensors to the surface system. The data display helps the operator understand the tool progression throughout the tractor operation and shows the surface cable data, speed, and tension to provide a full operational picture on one screen.

The downhole data sent from the tractor consists of

- Casing collar locator (CCL)
- Head tension
- Toolstring speed/depth
- Tractor load
- Drive arm diameter
- Tool temperature

The downhole master processor receives and acts on commands sent by the operator in real time for full control of the toolstring's speed, drive arm diameter, and traction. A surface-controlled switch (within the electronics cartridge) isolates the tractor from its passenger tools and an over-voltage protection system adds additional toolstring safety during the tractor operation.

The drive section of the tractor consists of two pairs of drive arms and wheels and is designed to provide the maximum force to drive the tractor and passenger toolstring along the well. The drive arm diameter and deployment force (traction) are monitored by the operator and can be adjusted in real time. The wheels are driven by a highly efficient electric motor, resulting in a low-power deployment system

Applications

- Wells with deviated or horizontal well trajectories
- Casing sizes from 2.75 in. to 9.2 in. ID
- Wells with restrictions preventing a larger OD tractor or where reaching the required depth is difficult

Benefits

- Improves drive train efficiency
- Minimizes deployment risk through exceptional surface feedback
- Maintains precise control with a bi-directional, electro-mechanical drive train
- Negotiates complex well geometries using tandem tracting
- Eliminates need for additional third-party personnel at the wellsite

(typically 600V, 1A). A mechanical fail-safe mechanism ensures the drive arms will close automatically, enabling the toolstring to be retrieved from the well at any time. The tractor supports a wide range of passenger toolstring configurations and requirements.

SondeTrax has been developed with logging while tracting (LWT) capability on multi conductor cables (including 3-core). This proven service improves log data and saves intervention time. A Sondex Deployment Risk Management process (DRM) is used during job planning and execution to mitigate operational risks when using a wireline tractor to convey tool strings into a horizontal wellbore. Custom well intervention modeling software is used to predict downhole forces and identify operational considerations, such as optimum tractor configuration and the depth at which the tractor should be activated.

Contact your Sondex representative to learn how SondeTrax can help improve tracting in your wireline operations.

Specifications

Model	SondeTrax
Temperature rating	302°F (150°C)
Pressure rating	15,000 psi (103.4 MPa)
Tool diameter	2.5 in. (64 mm)
Tool length	25.2 ft (7.672 m)
Tool weight	206 lb (93 kg)
Supply voltage	600V DC
Avg. operating current	1A
Max. operating current	2A
Max. tractor speed	39 ft/min (11.9 m.min)
Tractor force – continuous load	750 lb continuous (340 kg) (1,000 lb max)
Min. operating diameter*	2.75 in. (70 mm) ID
Max. operating diameter	9.2 in. (233 mm) ID
Reversible drive direction	Yes
Electrical feedthrough	1
Top connection	Sondex™, female
Bottom connection	Sondex, male
Logging while tracting	Yes (requires multi-conductor cable)

* Tracting in diameters less than 4.5 in will limit the available max. tractor load

