

PRIME Compact Series

Part of the PRIME digital electro-hydraulic intervention technology platform

Applications

- Tractor deployment on websites having restricted rig up height
- Deployment optimization for long toolstring payloads
 - Long interval perforation operations

Features and Benefits

- PRIME instrumentation and multiple sensors providing tool and task parameter intelligence
- An open IOT architecture and high-speed telemetry supporting real-time communication for tool task management
- Dynamic, in-well optimization of speed, force, torque and power delivery across the tractor and application tools:
 - Downhole logic and tool control
 - Highly efficient motor controllers
 - Hydraulic steering
- Modular and scalable versatility for plug-and-play field configurability, enabling tool integration & combinability for single run/multifunction operations
- Tension/Compression subs can be added, both above and below the Tractor
- Integral field joint in top section for extreme rig-up conditions e.g. working in cellar decks
- Enabler for limited rig up height operations

PRIME Compact Tractor

The PRIME Compact Tractor brings PRIME capabilities to a 3-3/8" OD Tractor architecture. This while utilizing the high degree of instrumentation and advances that PRIME provides in regard to mechanical, hydraulic, and electronic componentry, as well as software, analytics and visualization. Real-time adjustment and control to optimize tool performance for the conditions encountered while in the well is fully maintained, with yet additional features and benefits available on a shorter, sturdier tool body dimension.

Higher power/speed tracting is delivered from this compact tractor, leveraging the increased tool OD to deliver a 4-wheel drive section configuration of 3-3/8" wheels. This provides a tractor length reduction of 33% when compared to a 2-1/2" PRIME Tractor of comparable drive section configuration. This enables access to deviated wells where rig up height is an issue hampering tool string deployment.



PRIME Compact Series

Part of the PRIME digital electro-hydraulic intervention technology

Applications

- Completion manipulation or stroker fishing services on wellsites with restricted rig up height
- Providing multi-function toolstring of minimal string length

Features and Benefits

- Pad anchors with progressive anchoring force proportional to the magnitude of stroker push/pull force
- Independent stroke and anchor control
- Real-time monitoring and control of applied stroke force and positioning
- Bi-directional 32.5k lbs stroke force capability
- Stroke position resolution of +/- 0.04 inches (1 mm)
- High degree of instrumentation and multiple sensors providing tool and task parameter intelligence
- Unlimited number of stroke cycles, with self-locking actuator
- Electrical feed through allowing powered tools and/or sensors to be run below
- Seamless and concurrent operation of Tractor arms and wheels, and Stroker linear actuator and anchor
- Integral field joint in top section for extreme rig-up conditions e.g. working in cellar decks
- Full Stroker/Tractor string designed for single lift during rig-up
- Enabler for mechanical intervention operations with limited rig up height
- Allows integration of precautionary fishing capability within operating toolstring
- Increased mechanical task efficiency, capability and certainty

PRIME Compact Stroker/ Tractor

The PRIME Compact Series 3-3/8" OD tool architecture provides benefits far beyond just a shorter tractor length. Integrated combinability and control of other key powered mechanical componentry is achieved, optimizing multi-function toolstring lengths.

In the case of the PRIME Compact Stroker/Tractor, this benefits intervention operations impacted by rig-up height constraints. Executing stroker operations in deviated wells, be that for completion manipulation work scope, or for planned or precautionary fishing purposes, can now be achieved by a toolstring of overall shorter length.



	Compact Tractor	Compact Stroker/ Tractor	Compact Stroker
Tool body OD		3.346 in. (85 mm)	
Wheel diameter		3.346 in. (85 mm)	-
Minimum restriction ID		3.471 in. (88.18 mm)	
Max tractoring ID		9 in. (228.6 mm)	-
Tractor pull force		500 lbs (227 kg) ¹ 1,000 lbs (454 kg) ² 1,500 lbs (680 kg) ³	-
Max speed		130 ft/min (40 m/min) ¹ 65 ft/min (20 m/min) ² 43 ft/min (13 m/min) ³	-
Length	10.79 ft (3.29 m) ¹ 13.55 ft (4.13 m) ² 16.31 ft (4.97 m) ³	21.03 ft (6.41 m) ¹ 23.78 ft (7.25 m) ² 26.54 ft (8.09 m) ³	18.28 ft (5.57 m)
Weight	253 lbs (115 kg) ¹ 319 lbs (145 kg) ² 385 lbs (175 kg) ²	412 lbs (187 kg) ¹ 378 lbs (217 kg) ² 545 lbs (247 kg) ³	346 lbs (157 kg)
Tractor pull force / length	46 lbs/ft (69 kg/m) ¹ 74 lbs/ft (110 kg/m) ² 92 lbs/ft (137 kg/m) ³	-	-
Anchor OD	-	3.346 in. (85 mm) 3.9 in. (99 mm) ⁵	
Min setting ID	-	3.471 in. (88.18 mm) 4.025 in. (102.18 mm) ⁵	
Max setting ID	-	5 in. (127 mm) 6.6 in. (167.64 mm) ⁵	
Max bi-directional force	-	35,200 lbs (16 T)	
Stroke length	-	10 in. (254 mm) ⁴	
Stroke position resolution	-	+/- 0.04 in (+/-1.0 mm)	
Electrical feed-through		Yes	
Pressure rating		15,000 psi (1,034 bar)	
Temperature rating		350°F (177°C)	

^{1,2,3} Number of drive section respectively, 1, 2 or 3

⁴ Optional 20 in (500 mm) stoke unit, tool length increases by 2.01 ft (0.64 m)

⁵ Optional 3.9 in Multi-Range Slips (MRS), tool length increases by 1.28 ft (0.39 m)