

# Well Construction

## Frank's Tubular Running Service (TRS) - Casing Technologies

### FA-1® 14-inch - Top Drive Casing Running Tool

#### Features and Benefits

- Fills, rotates, circulates and reciprocates the casing string simultaneously, thus improving the ease with which casing strings are run to desired target depth, even with troublesome or difficult hole conditions
- Patented thread compensator assists with thread / make-up integrity. Reduces potential for thread damage during make-up
- Equipped with PRAYING MANTIS® pipe pick-up arms and automated HORSESHOE® single-joint pick-up elevator
- Designed to meet or exceed API 8C requirements
- Control panel operates patented FA-1®, PRAYING MANTIS® pipe pick-up arms, HORSESHOE® single-joint pick-up elevator and spider
- Patented interlock functionality ensures that either the spider or FA-1® slips are directed to the set position at all times, reducing the risk of dropped pipe
- Display for advanced functionality; displays slip position, pipe end position and fault detection
  - o Separate displays for both operator and driller
  - o Electronic packages meet Atex Zone 1 and 2, or UL div 2



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#### Specifications

Casing size range	9 5/8 in - 14 in, 18 5/8 in, 20 in (244 mm - 356 mm, 473 mm, 508 mm)
Hoisting Capacity (API 8C) (May be limited by top drive crossover sub.)	500 tons (454 tonnes)
Push down force capacity	86,000 pounds (39,000 kilograms)
Torque capacity	65,000 ft-lbs (88,128 N-m)
RPM, continuous	85
RPM, maximum	100
Thread compensation	9 inches (229 millimeters)
Overall length (Short arms-retracted)	13 feet - 1 5/8 inches (4.0 meters)
Overall length (UK, pick-up arms - retracted)	19 feet - 6 3/4 inches (6.0 meters)
Weight	8,800 pounds (3,992 kilograms)
Through bore	2 in (51 mm)
Pressure rating (may be limited by packer cup)	5,000 psi (345 bar)
PRAYING MANTIS® Pick-up arm capacity	5 tons (4.54 tonnes)
PRAYING MANTIS® Pick-up arm length	See diagram below
Top connection	6 5/8 inches REG
Max. circulation rate (BBL/min) (with valve removed)	20

