

V-Tech

♥ A Weatherford Company

Tubular Running Services

UniTong™ System

Weatherford offers the *UniTong* system, the all-in-one tong from V-Tech AS, designed to improve drill floor operational safety and drilling efficiency. The world's first field-proven, all-in-one tong concentrically parked around the drill string, covering the full range of tubular operations from 2 7/8 to 20 inch (6 cm to 51 cm) with a torque capability of 0 to 150,000 ft/lb (0 to 205,000 Nm). Three clamp housing models accommodate the gripping range and can be easily interchanged when required, or temporarily removed to allow passage of large string components up to 36 in. in diameter through the *UniTong* system.



The *UniTong* system improves the security of pipe-handling operations on the drill floor with fully automated makeup and breakout. No crew member is needed in the hazardous area around the well center. A single operator can monitor and control the operation from anywhere on the drill floor, including the driller's chair.

As the *UniTong* operation is similar for drill pipe, casing and tubing connections, the system requires less operator training to run the different types of tubulars. This feature allows for fewer personnel and equipment, decreasing the overall cost of tubular running services operations.

The clamp housing is the heart of this outstanding concept. It consists of a split housing with up to four double-acting hydraulic cylinders in each half. This design increases the radial stroke of the cylinders, permitting a range of diameters to be covered. A specially designed jib crane allows for simple and safe change out of clamp houses.

The *UniTong* system remains concentric to the drillstring during operations, unlike conventional tongs which must move backward and forward for each connection. The jaws form a closed ring when clamping on the pipe, unlike conventional tongs with gated rotaries and u-shaped jaws, so by design the *UniTong* system has fewer parts and a more robust construction, making it less likely to suffer from catastrophic fatigue.

Applications

- Onshore and offshore tubular, casing, and drillpipe running and pulling
- Makeup and breakout connections with high torque requirements
- Makeup and breakout of specialty tubulars, such as high-chrome content and wedge-thread connections.

UniTong™ System

Features, Advantages and Benefits

- This system allows all tubular connections to be performed by one machine (pipe range 2 3/8 to 20 in. [6 cm to 51 cm]). The gripping system reduces the chances of pipe deformations while promoting long-term performance integrity.
- This power tong's remote, automated makeup and breakout system improves safety since all monitoring and operations can be controlled from within the driller's cabin, eliminating the need for a crew member on the drill floor during operations.
- The multifunctional *UniTong* system provides additional health, safety and environmental (HSE) enhancements with:
 - No tugger line needed when handling power slips, slips segments, master bushing, and bottom hole assembly (BHA).
 - No change out of power tongs for different types of tubulars, fewer crane operations.
 - No machines moving backward and forward on rig floor to make/break connections, clean and dope threads, apply stab-in guide, or manipulate a mud bucket.
 - Concentric parking over rotary table during operation; No retraction between connections, no exposure to personnel from rotating and clamping devices, simple and fast disassembly of tongs, plus the system is easy to operate and maintain owing to the system's all-in-one design.
- The system includes automatic pipe doping, washing and mud bucket functions, providing safety and time savings.

Specifications

Maximum spinning speed (rpm)	50
Torque range (lb-ft/Nm)	0 to 150 000 0 to 205 000
Work diameter area (in./mm)	2-3/8 to 20 60.3 to 508.0
Hydraulic supply	3,046 psi and 63 gal/min. 210 bar and 240 l/min.
Control system	Electrical PLC with auto sequence and remote control
Approximate weight (lb/kg)	18,739 8,500
Lower park connection (in./mm)	23.62 600
Maximum connection height (in./mm)	120.08 3,050
Width (in./mm)	101.85 2,587
Length (in./mm)	122.05 3,100