



21-300 Riser Tong

The Weatherford 21-300 riser tong represents a quantum leap in tong technology because today's production riser connectors require makeup torques that exceed the capability of conventional tongs. More importantly, the makeup procedure calls for continuous rotation throughout the makeup cycle. The Weatherford 21-300 riser tong is the only tong capable of producing 300,000 ft-lb (406,746 N•m) of continuous rotational torque in both makeup and breakout mode. This unsurpassed power is achieved in a compact size, comparable to a conventional 24-in. casing tong, which enables rig up of the 21-300 riser tong using conventional procedures without modifications to the rig.

The tong is capable of fully mechanized remote operation or semimechanized operation and is compatible with the patented* Weatherford PowerFrame® and PowerScope® tong-positioning systems.



Applications

- All production riser installations up to a 21-in. OD
- Combined riser/casing installations in open hole
- Riser make/break testing and qualification programs

Features, Advantages, and Benefits

- Full rotation at maximum torque in both makeup and breakout modes increases operational efficiency.
- Compatibility with the Weatherford JAMCompact™ system enables automatic control of delta turns and delta torque for increased efficiency.
- One-man tong operation enhances safety.
- The unique three-motor design distributes forces evenly around the gear ring. This reduces the required size and weight of the tong and improves gripping effectiveness to decrease the risk of damage and lower repair costs.
- The hydraulic three-jaw gripping system provides extremely high torque capability and distributes gripping forces over a much larger area. This reduces the potential for connection damage and the associated repair costs.
- The patented free-floating integral backup design virtually eliminates shearing and bending when making up or breaking out connections. That reduces casing deformation which can affect long-term wellbore integrity. Integral backup can also adjust to the extremely short gripping areas of some riser connections, increasing the versatility of the tong.

Additional Information

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*U.S. Patents

PowerFrame system	7114235
PowerScope system	6412553