14-100 Hydraulic Power Tong

The Weatherford 14-100 hydraulic power tong provides 100,000 ft-lb (135,600 N•m) of torque capacity for running and pulling 7- to 14-in. casing. The tong has a unique gated rotary that completely encircles the casing to distribute gripping forces over a greater area and ensure a positive grip without damaging the casing. Features such as the Weatherford Diamond Grip™ system and free-floating hydraulic backup help to ensure proper connection makeup and long-term wellbore integrity. For added safety, the hydraulic door interlock prevents tong operation while the doors are open or unlatched.

The 14-100 tong is capable of fully mechanized remote operation or semimechanized operation. The tong is completely compatible with all Weatherford automated tong-positioning systems, including the patented[1] PowerFrame® system and the patented[2] PowerScope® system.

Applications

- Running and pulling 7- to 14-in. casing, depending on the gripping system used
- Making up high-torque connections
- Making up riser strings

Features, Advantages, and Benefits

- Compatibility with Weatherford JAMPro™ torque control systems enables real-time monitoring of torque, turns, and speed for increased efficiency.
- Optional Diamond Grip system causes minimal or no marking on the tubular surface, avoiding costly repairs associated with stress corrosion cracking or sulfide stress cracking.
- The patented safety interlock system prevents tong operation when the gate is ajar, thereby reducing the risk of injury.
- The patented free-floating 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.
- Optional positioning of tong jaws and integral backup jaws close to each other addresses riser makeup requirements for increased efficiency.
- The integrated thread-compensation system prevents thread damage, which saves on repair costs.

[1]U.S. Patent No. 7114235
[2]U.S. Patent No. 6412553