Iron Roughnecks
Cost-effective, compact designs with user-intuitive control systems

APPLICATIONS
- Land and offshore drilling operations

ADVANTAGES
- Triple-grip torque wrench with high torque capability
- Smart clamp automatic torque settings and clamp force calculation
- Universal dies and spinners that do not require inserts or changeouts
- Precise and reliable motion
- Accommodation of a wide range of stickup heights
- Wireless or wired remote control capability
- Automatic makeup and breakout cycles
- No need for manual intervention in operations
- Easy-to-use and intuitive operator interface
- Priority-based alarm system
- Integrated interlocks and message system

The Cameron portfolio includes cost-effective, compact iron roughnecks that are efficient and easy-to-use systems with automated sequences for makeup and breakout of drillpipe and drill collars. Multiple models are available to suit a range of applications on land and offshore.

The roughnecks’ triple-grip torque wrench features a smart clamping system with automatic calculation of optimal clamp force for the selected tubular OD. This clamping system ensures efficient force distribution and long-lasting dies, resulting in less manual intervention and higher safety. The motion unit ensures precise movements from parked position to well center, and the elevation system handles a wide range of stickups with ease.

Operation is flexible and versatile. The roughnecks can be used with a wired or wireless remote control and can be seamlessly integrated with the OnTrack® integrated controls system. The cost-efficient and reliable design of Cameron iron roughnecks provides a sensible choice for today’s demanding drilling connections.

T-P iron roughneck
- Light weight
- Torque wrench in an articulated arm that enables travel of torque wrench and spinner assembly from parked position to well center
- Elevation system that ensures handling of a wide range of stickups with ease and precision

T-P-L iron roughneck
- Maximum reach of 16 ft [4.90 m] for enhanced drill floor flexibility
- Long-reach articulated arm and slewing system
- Torque wrench and spinner assembly that can travel from parked position to well center or other positions such as the mousehole
- Elevation system that enables streamlined and accurate handling of a wide range of stickups

M-R iron roughneck
- Modular, rail-mounted design that improves drill floor efficiency and tool changeout safety
- Efficient and precise movement from parked position to well center
- Backup torque arrestor functionality—81,000 ft.lbf [110,000 N.m] transmitted to the floor
- Backup torque readings
- Enhanced bit makeup and breakout functionality
- Optional Cameron casing tongs and casing backup tongs

Iron Roughnecks provide high torque and handle a wide range of stickup heights while maintaining a small footprint.
### Technical Specifications

<table>
<thead>
<tr>
<th>Product Model</th>
<th>T-P</th>
<th>T-P-L</th>
<th>M-R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iron roughneck type</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Modular</td>
</tr>
<tr>
<td><strong>Tong option</strong></td>
<td>—</td>
<td>—</td>
<td>Tongs for 10-in drillpipe Tongs for 10-in casing Tongs for 22-in casing</td>
</tr>
<tr>
<td><strong>Diameter range, in [mm]</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing and tubing</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Torque capacity, ft.lbf [N.m]</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makeup</td>
<td>103,000 [140,000]</td>
<td>140,000 [190,000]</td>
<td>140,137 [190,000]</td>
</tr>
<tr>
<td>Breakout</td>
<td>103,000 [140,000]</td>
<td>166,000 [225,000]</td>
<td>166,000 [225,000]</td>
</tr>
<tr>
<td>Backup</td>
<td>—</td>
<td>—</td>
<td>80,000 [109,000]</td>
</tr>
<tr>
<td>Bit breaking</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Spinner torque, ft.lbf [N.m]</strong></td>
<td>3,467 [4,700]</td>
<td>3,467 [4,700]</td>
<td>3,467 [4,700]</td>
</tr>
<tr>
<td>Travel (extended range), in [mm]</td>
<td>75.59 [1,920]</td>
<td>153 [3,900]</td>
<td>157 [4,000]</td>
</tr>
<tr>
<td>Parked size (L × W × H), ft [m]</td>
<td>4.62 × 4.43 × 8.50</td>
<td>7.41 × 5.12 × 8.96</td>
<td>7.61 × 5.12 × 8.86</td>
</tr>
<tr>
<td>Integrated mud bucket</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
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<tr>
<td>Weight of tool, tonUS [tonUK]</td>
<td>—</td>
<td>—</td>
<td>4 [3.65]</td>
</tr>
<tr>
<td><strong>Hazardous area classification</strong></td>
<td>IECEx 1 and ATEX 2 Zone 1</td>
<td>IECEx and ATEX Zone 1</td>
<td>IECEx and ATEX Zone 1</td>
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<tr>
<td><strong>Class</strong></td>
<td>ABS 3 and DNV 10 Class II</td>
<td>ABS and DNV Class II</td>
<td>ABS and DNV Class II</td>
</tr>
</tbody>
</table>

1 IEC system for certification to standards relating to equipment for use in explosive atmospheres (IECEx)
2 Atmosphères Explosibles (ATEX)
3 American Bureau of Shipping (ABS)
10 Det Norske Veritas (DNV)

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