AutoTrak G3 Integrated Rotary Steerable Drilling System

Maintain well trajectory on deep HP/HT wells to optimize drilling and completion

The Baker Hughes AutoTrak™ G3 rotary steerable drilling system is fully integrated with an evaluation system and incorporates the highly advanced Baker Hughes OnTrak™ measurement-while-drilling (MWD) and logging-while-drilling (LWD) technology with two-way communications and power.

The AutoTrak system provides reliable and precise steering response in a wide range of formation types, drilling conditions, and well profiles. Around the globe, operators working in both off- and onshore environments rely on AutoTrak systems to steer in weak sediments as well as in hard rock formations for efficient, reliable target intersection to optimum production.

The AutoTrak closed loop system drills complex 3D wells with industry-leading steering capabilities, providing accurate wellbore placement. The steering principle applied in the AutoTrak system eliminates the need to control and adjust bottomhole assembly (BHA) angles, because the steering unit constantly gently bends the BHA into the desired direction. The system maintains the desired well trajectory on deep high-pressure/high-temperature (HP/HT) wells to optimize drilling and completion operations, and produces superior hole quality to improve completions. By extending the length of your horizontal reservoir sections, the AutoTrak system maximizes your production.

HP/HT rated
Our AutoTrak and OnTrak services are rated for the most extreme HP/HT environments, and can withstand temperatures up to 350°F (175°C) and pressures up to 30,000 psi (2068 bar).

Integrated MWD/LWD
In the AutoTrak G3 BHA, the OnTrak sensor sub is placed directly above the steering unit, delivering accurate, near-bit measurements (azimuthal gamma ray, multiple propagation resistivity, directional, borehole pressure, and vibration/dynamics) for greater efficiency and more precise navigation. Using this integrated system, challenging wells are steered to the most productive reservoir targets—simultaneously delivering excellent wellbore quality along with low tortuosity.

Two-way communications
The system’s bidirectional communication and power module (BCPM) provide power to the downhole MWD and LWD tools as well as fast, two-way communications between the tool and surface using mud pulse telemetry. This permits wellpath changes on the fly without interrupting the drilling process. The BCPM supplies communications and power for our other LWD tools as well. Because our numerous MWD and LWD systems can communicate with the surface through a single downhole sub, tool length and sub placement are optimized. This enables closer sensor-to-bit measurements and simplifies BHA design.

Applications
- HP/HT environments
- Real-time reservoir navigation applications, integrating multiple MWD/LWD measurements
- Complex 3D designer wells
- Multilateral wells
- Extended reach wells

Features and Benefits
- HP/HT capability
  - Reaches reservoir targets with minimal risk in high-temperature environments
- Steering with continuous drillstring rotation for improved rates of penetration and hole cleaning
  - Maximizes drilling performance
- Change directional targets without interrupting the drilling process for efficient reservoir navigation with maximum drilling performance
  - Accesses difficult targets for maximum reservoir contact
- Combination of advanced MWD/LWD and drilling optimization into an integrated BHA
  - Extends lateral reach
- Fully modular system, with the ability to add further LWD measurements as required
  - Provides reliable performance in all environments
Industry-leading performance
The AutoTrak G3 RSS is recognized as the industry standard in rotary steerable performance and precision, reliably steering through the reservoir. With our AutoTrak system, you get accurate well placement and a smoother wellbore, which optimizes completions and reduces the risk of wellbore instability.

For more information
To learn more about how you can use our AutoTrak G3 integrated system to maintain well trajectory on deep HP/HT wells, contact your Baker Hughes representative today or visit bakerhughes.com.

Properties/Specifications

<table>
<thead>
<tr>
<th>Size</th>
<th>Availability</th>
<th>Temp °F</th>
<th>Temp °C</th>
<th>Pressure psi</th>
<th>Pressure bar</th>
<th>Max hole inches</th>
<th>Min hole inches</th>
<th>Flow rate GPM</th>
</tr>
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<tbody>
<tr>
<td>9½ in.</td>
<td>Now</td>
<td>350</td>
<td>175</td>
<td>25,000</td>
<td>1730</td>
<td>28</td>
<td>12</td>
<td>1600-300</td>
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<tr>
<td>8¼ in.</td>
<td>Now</td>
<td>302</td>
<td>150</td>
<td>30,000</td>
<td>2070</td>
<td>10 1/8</td>
<td>10 1/8</td>
<td>1290-300</td>
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<tr>
<td>6¼ in.</td>
<td>Now</td>
<td>350</td>
<td>175</td>
<td>30,000</td>
<td>2070</td>
<td>8 1/8</td>
<td>10 1/8</td>
<td>900-200</td>
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<tr>
<td>4¼ in.</td>
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<td>302</td>
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<td>25,000</td>
<td>1730</td>
<td>6 1/8</td>
<td>5 1/8</td>
<td>350-125</td>
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</tbody>
</table>

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