

# Seatrax Drilling Duty vs. Typical Production Duty Cranes

Seatrax has primarily built deepwater drilling cranes for many years. In the deepwater drilling environment, the cranes typically run 24/7 under extreme dynamic conditions.

Drilling crane owners and operators are most concerned with costly crane maintenance and safety. The primary reason for these concerns are the shortcomings of the typical platform crane, being modified and adapted for the drilling environment. These shortcomings include **rotation bearing** and **mounting bolt** maintenance and failures, very small **winches** requiring periodic replacement or tear-down for inspection, inadequate **winch** braking, **anti-two blocking**, wire rope maintenance, and the overall corrosion resistance of the structure and equipment.

Seatrax has addressed each of these concerns with its drilling duty crane in further detail below.

Typical Crane	Problems	Seatrax Drilling Crane	Solutions
Rotation ball bearing and mounting bolts	<ul style="list-style-type: none"> <li>Bearing and bearing bolt failure may cause crane to fall off the rig</li> <li>Replacement requires costly crane removal</li> <li>Pedestal requires tight flatness and true position tolerances</li> </ul>	Uses a kingpost in lieu of a rotation ball bearing	<ul style="list-style-type: none"> <li>No rotation ball bearing or ball bearing mounting bolts makes it inherently impossible for crane to fall off kingpost</li> <li>Kingpost bearings are replaced easily at a low cost with crane in place</li> <li>Kingpost welds directly to host structure and requires no machining for ball ring or bolt holes</li> </ul>



Typical Crane	Problems	Seatrax Drilling Crane	Solutions
“Braden”-type, “works in the drum” winches	<ul style="list-style-type: none"> <li>• Small load hoists (usually in the 450 to 500 lbs. weight range) using a minimum of four or six parts of line required to lift rated loads</li> <li>• Heavy lifts made at very slow speeds</li> <li>• Lack band brakes, so periodic internal inspections or replacement required</li> <li>• Gears and brakes in drum, difficult to service</li> <li>• Gear failure can result in loss of load</li> </ul>	Seatrax drilling duty, spring-applied, contracting band brake hoists	<ul style="list-style-type: none"> <li>• Heavy duty load hoists (usually in the 4500-6000 lbs. weight range) with single or two-part heavy lift capacities</li> <li>• Heavy lifts made at safer, quicker speeds</li> <li>• No periodic internal inspections or replacement required</li> <li>• Serviceable with wire rope in place. Gears, brakes and hydraulics located external to the drum</li> <li>• Band brake functional in the event of gear failure</li> </ul>

Typical Crane	Problems	Seatrax Drilling Crane	Solutions
Fixed displacement hydraulic systems	<ul style="list-style-type: none"> <li>• Inadequate for dynamic conditions on floaters</li> <li>• Slow operational speeds</li> <li>• Low reliability</li> <li>• High downstream costs</li> <li>• Carbon steel tanks</li> </ul>	Variable displacement hydraulic system	<ul style="list-style-type: none"> <li>• Recommended for dynamic conditions on floaters</li> <li>• High reliability</li> <li>• Low downstream costs</li> <li>• 316 SS tanks</li> </ul>

Typical Crane	Problems	Seatrax Drilling Crane	Solutions
Small and single unit swing drives	<ul style="list-style-type: none"> <li>Inadequate for dynamic conditions on floaters</li> <li>No backup or redundancy</li> </ul>	Large and multiple unit swing drives	<ul style="list-style-type: none"> <li>Swinging problems associated with cranes on floaters eliminated</li> <li>Redundancy in units</li> <li>Eliminates downtime</li> </ul>

Typical Crane	Problems	Seatrax Drilling Crane	Solutions
Small diameter and long lengths of wire rope	<ul style="list-style-type: none"> <li>The small winches found on typical cranes usually require long length, small wire rope diameters for many parts of line</li> <li>Non-galvanized wire rope is often used</li> </ul>	Large diameter and short lengths of wire rope	<ul style="list-style-type: none"> <li>Big hoists, shorter lengths of larger, stronger cable</li> <li>Fewer parts of line allowing longer hook drops and faster speeds</li> </ul>

Typical Crane	Problems	Seatrax Drilling Crane	Solutions
Anti-two-blocking gadgets	<ul style="list-style-type: none"> <li>Load hoists located in the upperworks of the crane</li> <li>Valves and/or switches or gadgets required to prevent two-blocking</li> <li>Valve or switch failure may lead to loss of load</li> </ul>	Mechanical anti-two-blocking	<ul style="list-style-type: none"> <li>Load hoist located on the boom, luffing cannot cause two-blocking</li> <li>No valves, switches or gadgets</li> <li>Boom tip can mechanically withstand full line pull capacity of the load hoist</li> </ul>