



Häggglunds hydraulic drive solutions keep

WARRIOR TOP DRIVES ON THE FRONT LINE

Warrior Manufacturing Services Ltd. is a Canadian producer of drilling equipment based in Calgary, Alberta. Since its start in 2005, the company has seen and undergone significant changes. But one thing that remains in 2014 is Warrior's trust in Häggglunds direct drives from Bosch Rexroth.

Evolving with Häggglunds

"We've seen the oil business come and go," says Sales & Marketing Representative Stephen McGrath of Warrior's nearly 10 years in the industry. "That's the way it works – big booms, big depressions. We're maybe not seeing as big a boom after 2008 as before, but we seem to be on the upswing again."

When Warrior started out, it was as a producer of portable drilling rigs, focused on shallow gas and coal bed methane (CBM). At the time, the company used Häggglunds hydraulic direct drives to power its drawworks and mud pumps. Today Warrior does business in Alberta and beyond, but as a different type of manufacturer.

"We're serving customers on the oil and gas exploration side of things," says

McGrath of today's Warrior. "We've switched focus from doing complete rigs to specific components for drilling, like pipe-handling equipment and top drives." Though drawworks are still part of the offering, hydraulic top drives are where Häggglunds solutions are vital today.

Compact torque is essential

Jeff Blacklock, Warrior's Vice President of Engineering & Technical Services, relates that while there is still CBM work in Alberta, the push in recent years has been toward large horizontal wells and well stimulation. "With that, the torque requirements of the top drives are only increasing, and there we see a real advantage with Häggglunds," he says. "The Häggglunds CA motor has definitely helped us to compete."

Tough application

Application with high requirements on reliability, uptime, and torque.

Ingenious solution

A highly reliable direct drive solution packing a lot of torque into a very small footprint.



Exactly

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/Jeff Blacklock, Warrior.

The reason, he says, is the ability to pack a lot of horsepower into a very small footprint. At a supply pressure of 5000 psi, Warrior can get well over 30,000 ft-lbs of torque to the quill. This would require a larger installation with an AC drive, and the difference can be of critical importance.

“When retrofitting older rigs, a lot of times the masts simply aren’t designed for top drives,” Blacklock says. “They can be very skinny at the top, which can make a top drive difficult to install. A small drive footprint can actually make the difference between a top drive working or not working.”

Straight from motor to quill

Contributing to the small footprint of the Hägglunds concept is the direct drive concept, which has yet another advantage for Warrior’s hydraulic top drives. When the torque is transferred directly to the drill string, a vulnerability is removed. “The Hägglunds design is coupled directly to the quill via the splines inside the

motor,” Blacklock explains. This creates a very high level of reliability and maximizes uptime and minimizes the risk of costly failures.”

Flexibility and the future

For customers, the power and security of Warrior’s hydraulic top drives is complemented by their fully variable speed, and by the two-speed shifting enabled by a Hägglunds motor with a two-speed manifold. The latter, says Blacklock, “gives you options without getting into the plumbing and working with multiple motors – it’s simply integrated into the product.”

In the field, that product can now be found in roughly 120 hydraulic top drives from Warrior. Blacklock and McGrath agree that there is a real difference in the Hägglunds capabilities, and that customers are pleased with the torque and power characteristics.

For Warrior, there is thus little question that Bosch Rexroth and Hägglunds direct drives will remain a part of the future.

