

DRILLING

Lighten Up

SIZE AND WEIGHT REDUCTIONS GIVE MUD PUMP DRIVE TECHNOLOGY AN EDGE

BY JACQUELINE LOUIE

IKONA INDUSTRIES HAS DESIGNED its new mud pump drive technology to be compact, light and efficient. For customers, the advantages to this technology include a smaller capital investment, lower operating costs and less maintenance. Drilling rig operators gain a competitive advantage in terms of performance, efficiency and cost-effectiveness, according to the Coquitlam, B.C.-based firm, a wholly-owned oil and gas subsidiary of Ikona Gear International, Inc.

An innovator of compact, lightweight oil and gas machinery and gearing technology, Ikona manufactures its products in Canada using components from suppliers based in North America. Most of its customers come from Canada and the U.S. — “but the equipment can end up on rigs that go worldwide,” says Ikona’s chief operating officer, George Stefan.

Ikona’s single- and two-speed mud pump drives were commercialized in early 2007, and the company is starting to see repeat orders. What makes this technology stand out, according to Stefan, is its integration of discrete components into a complete system with fewer parts and an approximately 40% higher power-to-weight ratio. “You get the same performance for a lighter piece of equipment.”

Operators can set the drilling rig mud pump’s precise speed and power level, allowing it to produce the flow and pressure required to power the drilling head and seal the well hole.

“The advantage is in size and weight,” says Stefan, noting that the mud pump drives enable oil and gas packagers to reduce the overall footprint of the mud

pump package by up to 40%, giving rig operators much more flexibility when moving and operating the equipment.

“If you put us together with our closest competitor, we are still about two feet shorter and 1,000 pounds lighter.” The mud pump drives’ compact footprint eases



COMPACT FOOTPRINT

Ikona’s single- and two-speed mud pump drives allow for the desired speed and power of the drilling rig mud pump and produce the required flow and pressure for powering the drilling head. Their use allows the overall footprint of the mud pump package to be reduced by up to 40%, the company says.

permitting requirements, makes the system easier to transport and for a lower cost, and minimizes rig downtime.

Because the equipment can drill faster, operators get more bang for their buck, according to Stefan, noting that the compact, modular equipment is easy to move from site to site, and helps trim rig-up and rig-down time. In addition, it requires reduced maintenance: it is designed for 50,000 hours of operation between major overhauls. Product availability is another strong

point, says Stefan: Ikona has a well-established supply chain and competitive delivery times.

The two-speed mud pump drive is particularly helpful for operators who want the flexibility to adjust the pressure and flow of their mud systems without having to change the mud pump liners.

Shifting is automated and can be done from the driller’s cabin. This saves operators money in terms of labour costs, notes Stefan, since the skill level required to operate the equipment is reduced.

Ikona’s products target two markets: oil and gas field machinery, and gearing and power transmission applications. Ikona provides a variety of mud pump gear drives, hoisting drawworks and speed increasers. Its patented gear technology allows engineers to design gear products with a higher power-to-weight ratio, increased gear movement control and precision, and high input-to-output speed ratios.

Ikona’s mud pump drives form part of Ikona’s line of oil and gas products, which also includes Ikona Drawworks, Hydraulic Clutch Power Takeoff and Speed Increasers.

“All of the Ikona products

have the best space-saving designs that include their superior gear technology,” says John Rouse, president of Southern Industrial & Truck Ltd., an Ikona oilfield products distributor based in Weyburn, Saskatchewan.

“The speed-reducing mud pump clutches are less than half the length of any competitors’, yet easier to work on. The two-speed clutch option has given contractors a wide range of displacements without changing pump liners, saving inventory and labour costs. The drawworks must be seen to be believed — [in terms of] its size, weight and simplicity. Ikona product advantages are reliability, size and weight — reducing operating and rig move costs.”

Ikona’s AC Two-Speed Planetary Drawworks (I-Line and U-Shape) features include a small footprint, lightweight compact design, high speed for drilling and tripping, low speed for casing and pulling on stuck pipe, and fewer maintenance requirements.

As rig operators face increased competition from newer, faster, more efficient drilling rigs, as well as the prospect of CO₂ emissions regulations, daily rig rates will see downward pressure and owners of older rigs will be forced to find ways to cut operating costs and become more competitive.

The company will be showcasing its mud pump drive and drawworks product line at three major oil and gas shows this year. “We think people will get a better understanding of the product and this will translate into sales,” says Stefan. [ntm](#)

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