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1328 RACINE ST., RACINE, WI 53403

FREE-STANDING FRACTURING RIG SOLVES COMMON PROBLEMS

The current generation of hydraulic fracturing rigs pose two common problems: excessive vibration and mobility. Guanghan, China-based Sichuan BOMCO Special Vehicle Manufacturing Co has overcome these issues with a free-standing, 3,000 hhp skid configuration that relies on powerful, state-of-the-art Twin Disc components. The unit will be on display at the China International Petroleum & Petrochemical Technology and Equipment Exhibition (CIPPE) in Beijing, March 29–31, booth E1300.

The ground-breaking rig is powered by either a CAT 3516 or MTU 16V4000 engine, paired with a high-performance Twin Disc TA90-8703 coaxial, nine-speed Power-Shift transmission. Coupled to Twin Disc's 8FLW-2306-0 Torque Converter, the unit boasts an impressive power rating of 2,460 kW/3,300 hp at 1,900 rpm.

With the use of an engine rated at 3,300 hp, the rig provides a 10% increase in power over anything that has been built before it. This translates into greater productivity and more profit.

Complete command over this power is crucial. Sichuan BOMCO chose Twin Disc's innovative TDEC-500 electronic control system. It allows the transmission to meet the desired demands for the application efficiently and consistently.

The power plant runs a 3,500 bhp (2,609 kW) Bomco QPI3500 pump. The five-cylinder unit has a 7.091:1 gear ratio and the ability to achieve a

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maximum working pressure of 145 Mpa.

The use of Twin Disc's heavy duty TA90-8703 transmission system, with field-proven durability and long life between overhauls, significantly reduces maintenance downtime and costs. Simple and safe to operate, the configuration is built for a wide range of fracturing and acidizing operations.

The cutting-edge TDEC-500 control system drastically reduces harmful torque spikes in the system caused by torsional vibrations and shock loads. It does this through an intelligent control of the torque converter's lockup clutch. This patent pending technology extends the service life of the equipment and eliminates the need for an expensive but less effective flexible coupling. It also addresses the health and safety concerns of both workers, and nearby residents.

Sichuan BOMCO's rig increases the mobility of the fracturing system. Narrow roads and low bridges present significant challenges to both trailer and chassis-mounted configurations. With an engine on one skid and the other components on a second, one or two trucks are able to bring the fracturing rig to the most remote drill site. Combined, the unit is 43' L x 7.8' W x 9' H and weighs 82,353 lbs.

For nearly 100 years, global leader Twin Disc has made tough jobs easier. The company manufactures Power-Shift transmissions, PTOs, gearboxes, torque converters, mechanical, hydraulic and modulating clutches, electronic controls and other severe duty products. Designed for use in the most demanding environments, its products are known for their reliability and long service life.

Contact Twin Disc, Inc., 1328 Racine St., Racine, WI 53403.
sales@twindisc.com; www.twindisc.com.