ZF TraXon: The New Modular Transmission System - A Success Story Continues

- TraXon now also available for stationary pumping stations for oil and gas production
- Higher torque and gear spread, best efficiency

The TraXon transmission system usually keeps heavy trucks, coaches or mobile cranes in an economical speed range. However, the benefits of the transmission system can also be useful in off-road applications. It can now also be used in pumping stations for oil and gas production.

With a completely new basic transmission and a modular concept, TraXon meets the demand of the market for a versatile solution covering a broad range of applications. The innovative transmission offers higher torques without compromising the power-to-weight ratio and, depending on the application, it can be driven by a dry clutch but also by a torque converter clutch, or it can be combined with an engine-dependent PTO. The high gear spread enables the individual application in pumping stations. Like this, high volumetric flows but also high pressures can be achieved.

With the TraXon and a vast number of innovations at the transmission hardware and the control software, ZF sets new standards and enables an enormous functional diversity in the transmission system.

Efficient basic transmission
At the core of the innovation, you will find a basic transmission featuring very compact dimensions with a splitter group, main group and range change group, as well as two countershafts and one main shaft. It is this space-saving design in combination with the newly designed gearsets that turns TraXon into a benchmark in terms of the power-to-weight ratio: The new ZF transmission can transmit torques considerably above 3,000 newton meters. Engines
with an input power of at least 850 hp are applied here. TraXon can be obtained with 12 or 16 speeds – both are available as Direct Drive or Overdrive versions; the latter features a particularly long ratio of the highest gear.

In terms of efficiency, the TraXon basic transmission with a transmission efficiency of about 99.7 percent (Direct Drive) is extremely well positioned compared to the competitors. The new concentric clutch release unit, ConAct, represents a fundamentally re-engineered clutch release mechanism. It has a push-type clutch design, protected inside the bell housing.

The new TraXon transmission from ZF provides maximum flexibility thanks to a number of available variants and additional modules for special applications. The remarkable features of the transmission are its low operating costs and reduced fuel consumption.

**Modular concept with optional units and extension modules**
One essential advantage of TraXon is its modular transmission design. This enables the basic transmission to be combined with three starting or shift modules, respectively, which make the transmission more economical in practice, giving manufacturers and operators the best possible flexibility for every application as well as increasing the comfort for the driver.

The dry single-disk or – for particularly high-torque applications – double-disk clutch is robust and has proven worthwhile millions of times over. It is the ideal starting module for daily challenges. Effective transmission of power and a long service life make it the perfect choice.

It is also possible to combine the TraXon basic transmission with a torque converter clutch. Also at high input torques, “TraXon Torque” can be operated with zero wear and high power.
Another module is the engine-dependent PTO. It is installed between the transmission and vehicle engine following the sandwich principle and is especially attractive for applications where the auxiliaries require very high torques.

Furthermore, the tried and tested clutch- and drive-dependent power take-off (PTO) range from ZF is still available.

Caption:
Added value for stationary pumping stations for oil and gas production: With the modularly designed TraXon transmission system, their operation becomes even more economical.

Photo: ZF

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ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company acquired TRW Automotive on May 15, 2015, which was then integrated within the organizational structure as the Active & Passive Safety Technology Division. The combined company reported sales of €29.2 billion in 2015 and now has a global workforce of around 135,000 with approximately 230 locations in some 40 countries. ZF annually invests approximately five percent of its sales in Research & Development (€1.4 billion in 2015) ensuring continued success through the design and engineering of innovative technologies. ZF is one of the largest automotive suppliers worldwide.

In the Industrial Technology Division, ZF pools its activities for off-road applications. These comprise the development and production of transmissions and axles for agricultural and construction machinery as well as driveline technology for forklift trucks, rail and special vehicles. The division is also
responsible for the worldwide business of marine propulsion systems, aviation technology as well as the development and production of gearboxes for wind turbines and industrial applications. Test systems for all kinds of applications in driveline and chassis technology are also included in the division’s portfolio.

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