Press Release

Voith Turbo GmbH & Co. KG
Alexanderstraße 2
89522 Heidenheim, Germany
Tel. +49 7321 37-2802
Fax +49 7321 37-7110
www.voith.com

2015-12-14

Gas pipeline operators rely on Voith coupling technologies

Paving the way for an even more economical operation of installed systems is one of Voith's main goals in the oil and gas industry, according to **Derain Pillay**, Vice President of Power, Oil & Gas at Voith. The company demonstrated this once again when it equipped in excess of 35 compressor systems throughout the USA. Here highly flexible K couplings and Hy-Grip connection couplings ensure that the process gas equipment that generates gas pipeline pressure for transportation or underground storage continues to remain operational throughout the year and throughout changing power conditions.

"Gas compression equipment maintains pipeline pressure in the most cost-effective way possible, ensuring maximum revenue returns," Pillay explains. Dual-drive gas compression sets have proven themselves in the market to be a cost-effective means to ensuring this even when power conditions at site are not favourable to maintain process operations.

While single-drive systems customary in the USA use either a gas engine or an electric motor drive, dual-drive compressors combine both alternatives. This allows the package to run on more cost-efficient electricity by default. However, should the motor become unavailable, or the grid demand rises and thus increases the price of electricity, the prime mover can be switched over to the gas engine on the fly due to the incorporation of a SSS clutch between the gas engine and electric motor.

Voith Turbo GmbH & Co. KG
Alexanderstraße 2
89522 Heidenheim, Germany
Tel. +49 7321 37-2802
Fax +49 7321 37-7110
www.voith.com

A dual-drive package from the Standard Equipment Company (SEC) in Houston, Texas makes this technically feasible. In this package, a highly-flexible Voith coupling type K is installed between the gas engine and the electric motor, thus protecting the driveline from the damaging torsional vibrations emanating from the reciprocating motion of the gas engine when in operation. Another Voith coupling is installed between the electric motor and the compressor. This isolates the electrical motor from the damaging torsional vibrations emitted by the reciprocating compressor, when running on purely electrical motor operation. The HyGrip connection couplings are installed on either side of the electrical motor to aid in removal and refit.

SEC has ordered in excess of 35 packages to date from Voith for its BR 210 and BR 260 series K couplings (size 90) with a rated torque of 82 kNm, as well as another ten K couplings of the same series (size 75) with a rated torque of 28 kNm as compressor sets. The most important advantage of these highly-flexible couplings for the operating company is that they dampen critical torsional vibrations and shift resonance frequencies to below the idle speed. This extends the lifespan of all the connected drive components.

On new sites in the US, it can take up to 18 months to receive approval and installation of three-phase power. Another major advantage in that particular situation is that the dual-drive package allows the site to operate solely on the gas engine during this period. After three-phase power is linked, the package can simply be switched over to the more cost-effective electric motor driven prime mover.

“Machine uptime is critical in the gas compression market,” Pillay notes. When driving packages by either gas engine or electric motor, the package becomes redundant as soon as the prime mover requires overhaul or repair. With the dual-drive package from SEC, this issue becomes a thing of the past, because they always have an alternate prime mover they can switch to. If it is the gas engine that is out of service, the engine is simply

disconnected from the driveline to allow work to proceed. If it is the electric motor that requires overhaul or repair, the installed HyGrip couplings can simply be removed from the motor shaft and reinstalled onto a dummy motor shaft. The dummy is temporarily installed in the driveline and replicates the mass inertia of the motor once it is removed. “The whole process takes only a few hours of downtime, ensuring the package has the maximum uptime for gas compression,” Pillay concludes.

Voith Turbo GmbH & Co. KG
Alexanderstraße 2
89522 Heidenheim, Germany
Tel. +49 7321 37-2802
Fax +49 7321 37-7110
www.voith.com

Voith Turbo, a Group Division of Voith GmbH, is a specialist in intelligent drive solutions and systems. Customers from highly diverse industries such as oil and gas, energy, mining and metal processing, mechanical engineering, ship technology, rail and commercial vehicles rely on advanced technologies from Voith Turbo.

Voith sets standards in the markets energy, oil and gas, paper, raw materials and transportation & automotive. Founded in 1867, Voith employs almost 39 000 people, generates €5.3 billion in sales, operates in about 50 countries around the world and is today one of the largest family-owned companies in Europe.

Further information is available on the Voith website at www.voith.com.
Voith is also on Twitter and YouTube.

Voith sets standards in the markets of energy, oil and gas, paper, raw materials and transportation and automotive. Founded in 1867, Voith employs over 39 000 people, generates €5.3 billion in sales and operates in more than 50 countries, making it one of the largest family-owned companies in Europe.

Contact:
Terry-Lynn McIntosh
Marketing Coordinator
Telephone: +27 11 418 4000
Terry.Mcintosh@voith.com