

Torsiflex™ Couplings are a “Fit & Forget” Solution for LNG Ship Compressor



PROBLEM

A leading global designer and builder of marine and offshore liquid gas plants needed a new cost-effective coupling solution for use on a reciprocating compressor onboard an LNG ship. Two couplings are used on the compressor drivetrain to connect the electric motor to the gearbox and the gearbox to the compressor. The previous couplings, which were costly and very heavy, had a spacer machined from solid steel.

SOLUTION

Bibby Turboflex provided custom Torsiflex disc couplings with fabricated plug-in spacers and taper lock bushings to meet the challenging customer specifications and tight delivery timeline. Torsiflex couplings are specifically designed for compressor, pump, fan and blower applications. The use of plug-in spacers ensures shaft alignment is always maintained. They are easy to install and remove when maintenance is required, particularly on the bulkhead seal.

The supplied Torsiflex couplings feature a fabricated welded steel spacer with a butt welded joint that significantly reduce the overall coupling weight and mass, which, in turn, increase bearing life and reduce forces exerted on the rotor and bulkhead seal. The couplings utilize Bibby's innovative AHX hub technology that allows for cost-effective right-size coupling selection, eliminating the need to choose the next larger size unit. The couplings also feature spark-free overload protection and an anti-flail design that protects surrounding equipment in the unlikely event of a blade failure.

The motor-to-gearbox coupling is 24.1 in. (614 mm) long. The gearbox-to-compressor coupling is 67.4 in. (1713 mm) long. Both couplings have a maximum torque rating of 9,662 lb.ft. (13,100 Nm) and a maximum of 6,500 RPM. If installed correctly, the Torsiflex couplings are a “fit & forget” solution that should outlast the driver and driven equipment they are connecting.

HIGHLIGHTS

- 9,662 lb.ft. (13,100 Nm) torque capacity
- 6,500 RPM maximum speed
- Fabricated welded steel spacer with a butt welded joint
- Innovative AHX hub technology
- Easy to install and remove
- API 671 compliant
- Spark-free overload protection
- Anti-flail design

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Contact us: +44 (0) 1924 460801

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