



Product

Torsiflex Couplings with Torsi-Lock® Hubs

Application

Screw Compressor

Highlights

- Robust disc pack design for greater torque load in a smaller coupling, resulting in lower weight
- 221,275 in.lb. torque rating
- Custom-configured spacers (utilizing heat treated alloy steel) to reduce stiffness
- Torsi-Lock shaft locking hubs incorporated on the compressor side of couplings provide easy installation and removal for compressor seal maintenance

A series of special couplings were required by a major reciprocating and screw compressor OEM that designs packages for natural gas downstream, midstream and upstream processing. The couplings were needed for large, motor-driven screw compressors (2,675 kW @ 1,493 RPM) being built for use in a gas field in Australia.

The compressor project's 3rd party torsional analyst contacted Altra Couplings to inquire about the potential development of a modified Torsiflex disc coupling with reduced stiffness. The compressors also utilized a keyless shaft and the customer did not want to heat shrink a hub onto the shaft that could not be removed.

To meet the application duty requirements, Altra Couplings engineers reconfigured the Torsiflex coupling spacers (utilizing heat treated alloy steel) to reduce stiffness so the system would not operate at or near torsional resonance. Altra also incorporated a Torsi-Lock hub on the compressor side of the couplings, which can be easily installed and removed for routine compressor seal maintenance. Torsi-Lock hubs eliminate fretting of hub to shaft while combining the ease of a slip fit with the power of a shrink fit. The coupling's drop out center section also aids in fast disassembly.

Based on Altra Couplings willingness and ability to provide an customized coupling solution, the modified Torsiflex couplings were specified and ultimately ordered by the customer.

The Model TF12500 couplings supplied had a torque rating of 221,275 in.lb. All Torsiflex couplings feature a robust disc pack design which allows for greater torque load in a smaller coupling, resulting in lower weight. Large bolts are utilized for high clamp load, increased frictional torque load and reduced bolt bending stress.

US (Customer Service)
1-888-449-9439
 ameridrives.com

Europe
+44 (0) 1924 460801
 bibbytransmissions.co.uk

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