



Product

Custom Turboflex HS Couplings

Application

Biomass-Fired Steam Turbines

Highlights

- Multiple large custom couplings supplied with lengths to 1428 mm (56 in.) and diameters to 680 mm (26.7 in.)
- Max speed ratings to 8754 RPM
- Max torque capacities to 822,000 Nm (606,276 lb.ft.)
- Max fault torque rating of 1,800,000 Nm (1,327,611 lb.ft.)
- All couplings are API 671 compliant

A leading global provider of power generation technologies required coupling solutions for use on three steam turbines at a series of new biomass power plants located in the UK. The three geared reaction steam turbines include a 23 MW unit and a 45 MW unit that will be fired by waste wood, while a 50 MW turbine will burn energy crops including straw and cereals. All three facilities combined will generate enough clean energy to power more than 180,000 homes.

The required couplings pushed the boundaries of disk coupling design. They had size constraints, huge peak torque requirements from the generators, and a large amount of axial growth from the steam turbines.

The OEM chose to work with Bibby on these projects over its previous coupling supplier since the Turboflex design provides a massive level of torque density that could handle the required torque capacity within the space limitations imposed by the turbine design. Bibby engineers spent many hours working in conjunction with the OEM engineering team, including meetings at the customer's office, to develop custom coupling solutions that met the application specifications and ensured the drivetrain characteristics were suitable.

To connect the steam turbines to the drivetrain gearboxes, Bibby supplied 1000 mm (39 in.) and 1428 mm (56 in.) long Turboflex couplings with diameters over 600 mm (23.6 in.). These units had max speed ratings of 5510 RPM and 8754 RPM respectively.

Bibby also supplied Turboflex couplings with a torque capacity of 822,000 Nm (606,276 lb.ft.) and a fault torque rating of 1,800,000 Nm (1,327,611 lb.ft.) to connect the drivetrain gearboxes to the generators. These 800 mm (31.5 in.) long, 680 mm (26.7 in.) diameter couplings had max speed ratings of 2600 RPM and 4400 RPM respectively.

Europe

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

Asia Pacific

For a list of our AP sales offices:
altramotion.com/contactus