



## Product

## Series II Gear Coupling

## Application

## Nuclear Waste Handling Crane

## Highlights

- Stainless steel construction
- 41.8 kNm (30,830 lb.ft.) torque rating
- Double engagement design to accommodate high parallel and angular misalignment
- 3200 rpm maximum speed
- Fully-ground gear teeth
- High torque-to-weight ratio
- Positive O-ring seals

A reliable coupling solution was needed for a crane used at a European nuclear waste reprocessing plant. The nuclear waste is transported around the facility in large, self-contained and shielded packages (flasks). A special overhead crane is used to raise and lower the heavy flasks at various reprocessing stations throughout the plant. The crane is powered by an electric motor and gearbox drivetrain. The coupling is mounted on the output shaft of the gearbox and connects to the shaft of the hoist's cable winding drum.

Since full nuclear documentation was required, Bibby was selected to provide the needed coupling based on their proven capability in nuclear environments. Bibby supplied a stainless steel Series II size 45 gear coupling to meet the critical nuclear application requirements. The 346 mm (13.6 in.) dia. coupling has a torque rating of 41.8 kNm (30,830 lb.ft.) and a maximum speed of 3200 rpm. The customer was familiar with the Bibby gear coupling since it had been used in a similar duty application elsewhere in the plant.

The Series II double engagement coupling is designed to accommodate the parallel and angular misalignment between the gearbox and cable drum shafts while transmitting the required torque for the bidirectional drive. The coupling's fully-ground gear teeth provide maximum contact at the strongest part of the tooth. Units have a high torque-to-weight ratio and feature accurately machined medium carbon steel hubs and sleeves. Other features include positive O-ring seals to keep lubricant in and contaminants out.

Europe

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

Asia Pacific

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altramotion.com/contactus