

CASE STUDY

Diaphragm Couplings Help Polymer Resin Pumps



As seen in
Design World
April, 2016

As seen on
CouplingTips.com
February, 2016



- Warner Electric
- Boston Gear
- TB Wood's
- Formsprag Clutch
- Wichita Clutch
- Marland Clutch
- Industrial Clutch
- Bauer Gear Motor
- Svendborg Brakes
- Nuttall Gear
- Warner Linear
- Delroyd Worm Gear
- Stieber Clutch
- Ameridrives Couplings
- Inertia Dynamics
- Matrix International
- Huco Dynatork
- Bibby Turboflex
- Twiflex Limited
- Lamiflex Couplings
- Kilian Manufacturing
- Guardian Couplings
- Ameridrives Power Transmission

Custom Ameriflex Couplings for Polymer Resin Pumps



A major global petrochemical company experienced a coupling failure on a polymer pump in one of its larger resin processing facilities. The coupling problem caused expensive, time-consuming production line shutdowns.

Ameridrives was contacted to provide a solution. Gear couplings were initially installed on all the polymer pumps between the pumps and gearboxes for this high-torque, low-speed (50 RPM) application. However, while plant maintenance crews did their best, keeping all the expensive gear couplings properly lubricated throughout their plants around the world proved to be a tough challenge.

After careful review of the situation, Ameridrives engineers recommended replacing the gear couplings with Ameriflex diaphragm couplings, which can run continuously and require no lubrication or maintenance (unlike gear couplings which require maintenance at six-month intervals).

Ameriflex couplings are typically used on high-performance, high-speed applications. However, the Ameridrives team collaborated with industry-leading experts to provide custom-designed diaphragm couplings to meet the resin pump requirements. Many custom Ameriflex couplings were delivered in a variety of sizes and configurations with torque ranges up to 1,100,000 Nm (10,000,000 in.lbs.). One example is a 10' long, 23" diameter coupling that features specific split retaining rings on both the pump and gearbox end hubs, multiple convoluted diaphragm pack flex elements at each end, and a special spacer configuration for added stiffness in this dual output application. An integral indexing/timing device aligns the coupling with the mixing blades of the polymer pump.



An Altra Industrial Motion Company

US (Customer Service)

1-814-480-5000

ameridrives.com

Asia Pacific

For a list of our AP sales offices:

www.AltraMotion.com/ContactUs