



Product

Custom Drivetrain Assembly

Application

Aramid Fiber Polymer Mixer

Highlights

- Complete drivetrain designed, assembled and tested
- Standard Delroyd gearbox, with a vertical output shaft positioned on the top of the unit
- 59:1 gearbox ratio, providing 80 HP at 1150 RPM input and 19.32 RPM output
- Flame-hardened and ground alloy steel worm
- Cast iron housings and fabricated steel base for strength and durability

A global aramid fiber manufacturer needed a mixer drivetrain assembly for a new production facility. The stronger-than-steel aramid fiber is used in a wide range of products from firefighter gear, tactical body armor and gloves, to smart phones, rope, tires and sporting goods. The mixer blends a series of advanced plastic polymers which is then spun into fibers for commercial applications.

The OEM contacted Delroyd based on their previous history of successful gearbox design and performance. Delroyd engineers worked closely with the customer to finalize the drivetrain requirements as they changed from the original specifications. Delroyd generated final assembly drawings which were approved prior to manufacture.

A complete drivetrain assembly, including the gearbox, motor, motor-to-gearbox coupling, coupling guard, output coupling shaft and output coupling guard was designed and delivered. All components were mounted to a custom-fabricated steel base for ease of installation under the polymer mixing tanks.

A standard Delroyd gearbox, with a vertical output shaft positioned on the top of the unit, was required with a 59:1 ratio to provide 80 HP at 1150 RPM input and 19.32 RPM output. Extensive quality assurance requirements were met including certified material test reports, heat treatment certifications, gearing contact photos, no load testing, and finally, a customer witness test.

The customer was extremely pleased with the superior level of engineering and support provided by the Delroyd team as well as the reliable performance of the gearbox and drivetrain assembly.

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