



Product

Fluid and Gear Couplings

Application

Sugar Processing Conveyor

Highlights

Wichita Clutch
Measur-fil Fluid Coupling

Allow motors to start unloaded and reach operating speed with smooth, controlled acceleration

Ameridrives
Amerigear Gear Couplings

Feature fully-crowned gear teeth and provide maximum load-carrying capacity with minimum size, maximum reliability and long life

A Louisiana sugar refinery needed to install a new intermediate inclined conveyor to provide an infeed flow of sugar into the initial affination (cleaning/purifying) process. The facility's team wanted to design a conveyor system that used less energy and created less wear on mechanical components (shafts, keyways, belt stretch) than their existing conveyors.

To meet the application requirements, a **Wichita Clutch** Measur-fil fluid coupling was incorporated into the new conveyor's drivetrain between the motor and gearbox. In a system without a fluid coupling, the torque from the motor directly impacts the mechanical drivetrain components. The use of a fluid coupling allows for a slow acceleration of the load, significantly reducing the strain on the components.

In this case, a Model HCM 12.4 Measur-fil coupling was installed along with **Ameridrives Gear Couplings** positioned on either side to complete the mounting package. The Measur-fil features an all-aluminum housing and impeller for low rotating inertia, input and output shafts, high temperature Viton seals, and a wide range of mounting options.

By utilizing the fluid coupling, the refinery was able to downsize to a 40HP, 1750 RPM drive motor since the coupling reduces the current draw and strain on the motor during acceleration. A motor alone, when directly coupled to the load, can draw up to six times the normal current at full load. The motor is most inefficient during start up, however the fluid coupling allows the motor to accelerate unloaded and therefore achieve a higher efficiency level while the load is brought up to speed more slowly.

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