Gypsum Manufacturer Case Study

Condition Monitoring for Gypsum Mixers: Viscosity Control and Equipment Protection

The Client

Datum Electronics was approached by a gypsum manufacturer seeking a solution to monitor the viscosity of gypsum slurry in their mixing tanks during production.

The company had been experiencing severe motor damage caused by the high pressure exerted on the rotors as the gypsum thickened. This process occurs extremely quickly because gypsum begins to set almost immediately after water is added.

These breakdowns were proving highly costly, not only in terms of motor repairs but also due to the significant downtime of the mixers.

The Challenge

With a torque transducer, the client aimed to monitor the torque applied to the motors, enabling them to infer the viscosity of the gypsum slurry.

However, this required a highly specialised sensor. In addition to measuring RPM and torque, the mixing shaft operated in an extremely harsh environment, exposed to fine dust and liquid splashes.

The customer therefore needed a transducer capable of withstanding these conditions and integrating seamlessly as an extension of their existing motor and mixer shaft.

The Solution

Our solution to this challenge was to design a bespoke variant of the RS425 Torque Transducer, with a TDX shaft matching the customer's own driveline.

This torque sensor enabled the customer to connect directly into their existing drive line, without the need for additional couplings, saving both time and money from an unnecessary production stoppage.

Installing the Datum RS425 not only safeguarded the mixers' motors from costly damage but also enabled the customer to achieve consistent batch quality by maintaining precise viscosity across every consignment.

Discover the Datum RS425 and other precision sensors at datum-electronics.com.