
CONTROL TECHNIQUES
SWEET SOLUTION PROVIDED
BRITISH SUGAR | FOOD & DRINK
DRIVE OBSESSED

DRIVES GIVE MORE THAN 180% CURRENT

British Sugar, Cantley chose Control Techniques drives for their new beet finisher drum, with associated high pressure spray water pump. Unidrive drives were selected for all the key motor control operations, an investment in excess of £1 million.

The Challenge

The upgraded 'Maguin' beet washing plant comprises a rotary drum driven by two variable speed electric motors, a high-pressure spray water pump, a new stone catcher and a sand screen.

The plant processes up to 10,000 tonnes of beet per day so control is very important as poor control lowers efficiency and reduces sugar yield. Graham Goodrum, Electrical Engineering Team Leader, explained "Beet slicers require precise speed control to ensure that beets are cut to exact chevron shapes, to give enough strength for pressing to give maximum yield."

The Solution

The beet finisher drum is driven by two 40kW AC motors and controlled by two 30kW Unidrive AC drives, configured to share the load equally – a 45kW Unidrive is also fitted to provide back-up.

The high pressure 150 PCH Warman water spray pump, powered by a 4-pole 250kW motor, is controlled by a Unidrive, the mini stone catcher is controlled by a 3kW Unidrive and the sand screen has a fixed speed 0.75kW motor. A new Control Techniques cubicle drive, rated at 160kW, was also fitted to provide control of a high pressure main condensate pump nearby.

Overview

- **Increased yield**
- **Safe torque off**
- **Direct communications**
- **Reduced maintenance**

The Benefit

"Control Techniques is our drive of choice for a number of reasons," Mr Goodrun said.

"They give us increased reliability, compared with other drive systems. We find the drives easy to use – we particularly like the SmartCards that cut parameter set-up times. They are ultra-reliable, reducing our maintenance costs and, very important for such a safety- conscious site, they include a safe torque off function. The applications modules allow direct communications with the rest of the plant and, on some applications, such as the beet finisher, there is a huge start-up torque and the drives give more than 180% start-up current to get it moving. The closed loop vector mode gives us positive, accurate feedback of machine speed, so that we can be confident that everything is operating within safety limits."