



INDUSTRY CASE STUDY

CONVEYORS

Conveyors have been identified as an ideal application for use with Powerboss. The AC Induction Motor driving the conveyor must be sized to handle a full load on the conveyor. Many conveyors however run with varying loads or continual partial loads; hence there is significant potential for energy savings.

It is also apparent that in many conveyor applications there are long periods without load; during which Powerboss can automatically switch off the motor using the "no-load shut-off" feature. This can generate significant savings both in terms of energy savings and maintenance or downtime costs. It has been clear however in certain scenarios that motors are not shut off during the day owing to peak demand problems. The soft start feature of Powerboss also allows for the controlled re-start of the conveyor without incurring Peak Demand costs.

POWERBOSS IN ACTION

CALCIFIED SEAWEED PROCESSING PLANT

The Cornwall Calcified Seaweed Company is an established family business processing commercially dredged seaweed to produce agricultural fertilizer for grazing land. Their prime consumption of electricity within the facility is through the use of conveyors, which transport the calcified seaweed from the quay into the main building, where it is dried and bagged for distribution. Prior to use with Powerboss, no soft start was in operation and associated maintenance issues were therefore apparent, in addition to the typical peak demand penalties.

A trial Powerboss installation was undertaken on two conveyors within the seaweed facility. The conveyors are hopper fed, which creates a continual but partial load. When the results were measured using a high quality 3-phase analyser, it was identified that kW savings obtained were 38%, which equated to a return on investment of just over 18 months. Powerboss has a special feature termed 'Broken Belt Protection'. In the event of a conveyor belt breaking, the unit will sense the change in load and shut off the motor. This not only has a maintenance benefit, but could also have Health and Safety benefits. Cornwall Calcified Seaweed have confirmed their satisfaction with both the product and its trouble-free operation. Although this is a relatively small processing facility, they are looking forward to installing Powerboss on their other conveyors.

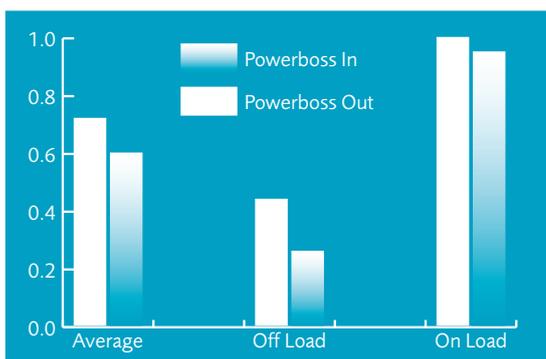
- Soft Starter
- Peak Demand
- Energy Saving Optimisation
- Reduced Maintenance Costs
- Broken Belt Protection
- Reduced Downtime
- Quieter Machinery

Case Study Savings

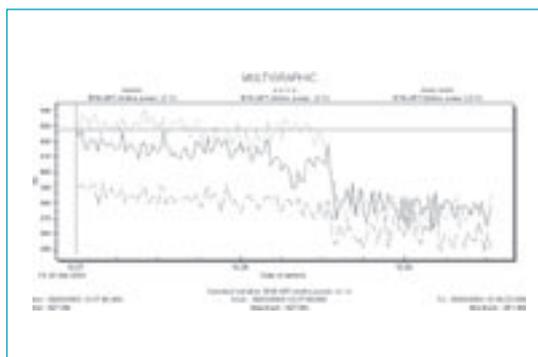
Annual Consumption	£475.00
% Savings	38%
Annual Savings	£178.00
Cost of Powerboss	£275.00
Return on Investment	18 Months

"We have successfully installed Powerboss units on all of our conveyor systems for over two years without any downtime in production due to machine repairs. We are also enjoying tremendous energy savings."

Managing Director, Cornwall Calcified Seaweed



A simple illustration based on actual measurements of the effect of Powerboss in operation on a conveyor system.



Graph taken from a Circuitor AR5 handheld unit.



Somar International Ltd., Somar House,
Truro Business Park, Threemilestone, Truro,
Cornwall, TR4 9NH. England
Tel: +44 (0)1872 223000 Fax: +44 (0)1872 264325
www.somar.co.uk

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