



INDUSTRY CASE STUDY

FLY-WHEEL PRESSES

Fly-wheel Presses are common in industrial sectors such as automotive component manufacturing. They are used for stamping metal car parts such as hinges and casings. The motor powering the press runs continually and only comes under load at the point that the required component is stamped.

During operation, many industrial applications experience sustained periods of no load or motors left idling; e.g. at the end of production runs or by accident over weekends. Powerboss can automatically detect and switch off a motor left idling, producing a 100% saving in addition to the energy savings achieved during production.

Flywheel applications experience periods of no load, e.g. during tool setting or the loading of difficult components. Powerboss, with its stored energy utilisation feature, will switch the motor on and off in pulses. This saves energy whilst still maintaining momentum in the flywheel.

POWERBOSS IN ACTION

AUTOMOTIVE COMPONENT MANUFACTURING PLANT

Effective management of costs is vital in the highly competitive world of automotive component manufacturing. A leading North American components manufacturer supplying the likes of GM, the Ford Motor Co and Daimler Chrysler has recently trialled Powerboss. The company is acknowledged for its technology, product design, service and delivery. It is therefore evident that the benefits from Powerboss in reducing energy, maintenance costs and downtime are valuable as part of a wider energy and cost management program. Additionally, Powerboss helps meet the aims from the company's ISO environmental policy which states that they "will continuously improve and review our practices and processes in pollution prevention and waste reduction".

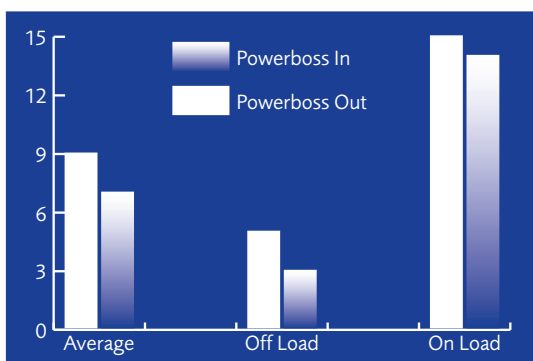
The company's facility features metal presses sized from 100 to 1600 ton capacity; producing hinges, glove box doors, exhaust manifolds and underbody parts. Powerboss was installed on a 30kW motor powering a metal press. In addition to reducing a previous starting current of approximately 400amps to a maximum peak of 130 amps, the energy savings were 30% when operating under its normal duty cycle. The readings taken showed that the 30kW motor only reached a usage of 15kW even under load. The savings generated equate to a payback of 20 months in energy savings alone, in addition to the peak demand and maintenance benefits from the controlled soft start.

The company has been using Powerboss technology on it's press lines for over 16 months. Powerboss units have been installed on press motors ranging from 22kW to 75kW. The installations to date display operational energy savings from 18% - 30% respectively. It should be noted that the Powerboss savings were validated by an independent power company. Furthermore, thermal image testing was performed on the motors whereby Powerboss reduced the operational temperature by over 15°C.

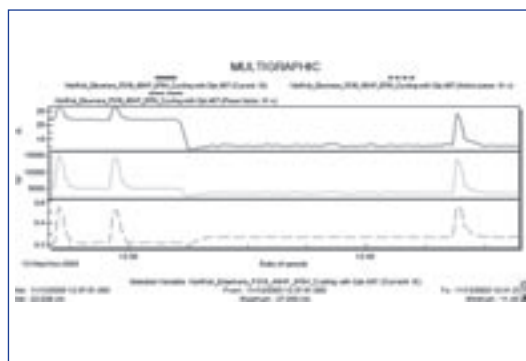
- Soft Starter
- Peak Demand Savings
- Energy Saving Optimisation
- No-load Timed Cut-off
- Reduced Maintenance Costs
- Reduced Downtime
- Quieter Machinery
- Stored Energy Feature

Case Study Savings

kWh Savings	30%
Starting Current Savings	43%
Annual Savings	\$927.00
Cost of Powerboss	\$1600.00
Return on Investment	20 Months



A simple illustration based on actual measurements of the effect of Powerboss in operation on a Fly Wheel press.



Graph taken from a Circuitor AR5 handheld unit.

S O M A R

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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