



# INDUSTRY CASE STUDY

## PLASTIC INJECTION MOULDING

Cyclic loads such as Injection Moulding machines are perfect applications for Powerboss. The hydraulic pump motor within the machine is only on load for a relatively short period of the total machine cycle; the period when the material is injected into the moulding tool. During the rest of the cycle the motor typically runs off-load.

As the motor is commonly left idling off-load during certain times; e.g. during tool changes, Powerboss' no-load timed shut-off feature can provide significant safety and cost saving benefits.

Although Powerboss automatically adjusts supply to an application in proportion to the torque required at a given point in the duty cycle, it is evident that during the cooling phase of an injection moulding machine additional savings can be generated by use of Powerboss' Signal Optimisation feature. A fixed reduced voltage is maintained whilst the mould is cooling; however, Powerboss reverts to the standard optimisation on receipt of the signal that the cycle is commencing once again.

# POWERBOSS IN ACTION

## MANUFACTURER OF PHOTOGRAPHIC OFFICE EQUIPMENT

One of the world's leading suppliers of office automation, electronic devices and photographic equipment has been evaluating Powerboss for the last 18 months with excellent results. Worldwide, the company employs in excess of 75,000 people. The group environmental vision "aims at pursuing sustainable management and continues environmental conservation practises" and Powerboss is seen as an important tool in reducing both energy costs and CO2 emissions.

In its manufacturing process, it employs many applications that are particularly well suited to Powerboss including plastic injection moulding and vacuum compressors to name just two.

Seven 22kW Powerboss units were fitted to plastic injection moulding machines producing paper trays and other associated components for photocopiers. The load cycle (time on-load versus time off-load) varies depending on the component being produced, but the three phase analyser showed that 40% on-load/60% off-load is typical. All seven injection moulding machines operate 24 hours per day 6 days per week. It was identified that 24% kW savings were translated into a return of investment of less than two years with significant and quantifiable CO2 savings. The units have also given trouble-free operation in continuous service over an 18 month period.

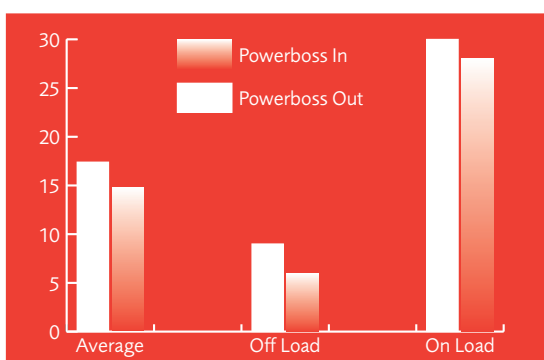
- Soft Starter
- Peak Demand Savings
- Energy Saving Optimisation
- Enhanced Signal optimisation
- Reduced Maintenance Costs
- Reduced Downtime
- No-load Timed Shut-Off
- Quieter Machinery

### Case Study Savings

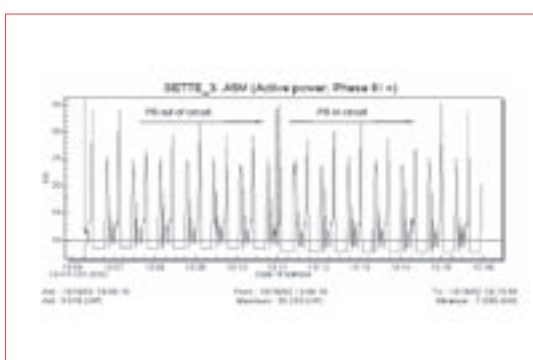
Annual Consumption	£1770.00
% Savings	24%
Annual Savings	£425.00
Cost of Powerboss	£832.00
Return on Investment	24 Months

"Clearly new technology, such as Powerboss, that can reduce both electrical energy costs and environmental emissions, offers excellent synergy with our corporate business and environmental objectives."

President & Chief Operating Officer



A simple illustration based on actual measurements of the effect of Powerboss in operation on an injection moulding machine.



Brief description of the graphs and illustrations

**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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