

Mayflower saves £98,000 with ABB energy survey

A massive saving in the running cost of paint plant motors is being achieved by a Coventry-based body panel manufacturer following the installation of variable speed drives from ABB.

- Over 85% energy savings
- Improved reliability
- Payback in less than 12 months



Over 85% saving in the running cost of paint plant motors is being achieved by Coventry-based vehicle body panel manufacturer, Mayflower Vehicle Systems, following the installation of ABB AC drives by ABB Drives Alliance Partner Sentrige Control

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Problem

Mayflower Vehicle Systems in Coventry manufactures body panels for, among others, Aston Martin and MG-F cars.

With the introduction of the Climate Change Levy (CCL), the cost of electrical energy has increased. Mayflower has also implemented the environmental management system standard, ISO 14001 and as such is driven towards meeting environmental targets, which includes a significant reduction in CO₂ emissions.

A concern was the 30 kW phosphate/alkali rinse pumps, used in Mayflower's nine-stage pre-treatment system for the panels, that were running for 10 hours per day. With the existing star-delta starter arrangement, the motors could not be turned on and off quickly to meet the rinse pump's duty cycle, without severely damaging the motors' windings and bearings.

Solution

A SEChange energy audit of the paint plant by ABB Drives Alliance Partner, Sentrige Control, revealed that the pumps needed the motors for just over two minutes of its eight-minute duty cycle.

With ABB's ACS 600 and Comp-AC variable speed drives, Mayflower has been able to change its control strategy and cut the running costs of the pumps by 87.9%.

Equipment:	ACS 600 and Comp-AC drives from 2.2 to 35 kW
Investment:	£30,000
Savings p.a.:	£98,000
Payback:	12 months

Benefits

The cost savings were immediate. In fact, such were the projected savings that the management of Mayflower committed £30,000, which had not been budgeted. The money was used for the purchase and installation of six drives for the phosphate and alkali rinse, chemical and soap pumps and a further 11 drives for other pumps and cooling tower applications ranging from 2.2 kW to 55 kW. The investment is expected to yield a return in less than 12 months.

Pat O'Sullivan, Facilities Manager for Mayflower Vehicle Systems, explained: "Sentridge had one compelling phrase: 'Do you want to save £98,000 off your electricity bill? Can you afford not to?'"

Other savings have resulted from reduced maintenance. For example, the 11 kW soap pump was throttled manually to achieve 3 bar, but the valve would regularly work loose. Using PID control on an AC drive, to control the pump, not only avoids the manual valve adjustment, but, provides a faster, more reliable control method.

Sentridge Control's SEChange energy audit is a systematic examination of key pump and fan applications that include the monitoring of energy consumed both before and after the change to AC drives. So confident were Sentridge about the results the audit would achieve that the company loaned an ABB drive to Mayflower to test its findings.

"The paint plant runs 58 hours per week, 46 weeks per year. Sentridge monitored the current in the



Ian Rennie, Division President, Automation Technology Products, ABB, UK, presents an energy saving award to Gordon Boyd, Managing Director, Mayflower Vehicle Systems. On the right, Paul Stafford, Sales Director, Sentridge Control

phosphate pump motor during two weeks of production. After seeing the energy being saved before my eyes, I was converted," said O'Sullivan.

"As a partner of Sentridge, we have been given access to their SEChange energy audit procedure and are able to undertake similar audits on other parts of the plant ourselves," commented Dave Yorke, Maintenance Supervisor. "They have also trained our maintenance and service engineers at the Sentridge Drives School, which has given us total autonomy. As part of the ABB Drives Alliance, Sentridge offers immediate technical support and a full stock of drives right on our doorstep."



To find out more about ABB Drives Alliance, visit: www.abbdrivesalliance.com

For further information on how an energy survey can save you money, call us FREE on **0800 783 7491**, or fax back the coupon below. Alternatively, you can send an email to **enquiries@gb.abb.com**

FAXBACK

- Please send me more information about how I can save energy at my plant
- I would like an ABB representative to contact me to discuss energy savings

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