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Improved control cuts injection moulding energy costs by over 30%

State-of-the-art controls based on a variable speed drive from ABB have cut the energy consumption by one third on an injection moulding machine at McKechnie Automotive and Engineered Plastics in Pickering. The new control panel was designed and supplied by ABB Drives Alliance Partner, Halcyon Drives.

McKechnie is one of Europe's leading manufacturers of engineered plastic assemblies. The company was looking to improve the efficiency of the injection moulding machine as part of a wider drive to save energy. "We carried out a Pareto analysis across the whole factory and found that this machine was particularly inefficient because of the way it was being operated," says senior process engineer, Rob Howlett. "We contacted Halcyon, who designed a control system that they said would save around 30%. We couldn't believe it would be that much so we arranged a three-month trial and found it actually saved 33%."

Apart from the very latest models, most injection moulding machines are hydraulically operated and often waste between 20 and 50% of the electrical power they consume. This is because the hydraulic systems typically pump a constant amount of oil around and dump any excess back to the sump. In contrast, a variable speed drive can control the speed of the pump motor to deliver the precise amount of oil needed for each sequence in the injection moulding cycle.

The panel delivered by Halcyon combines an ABB industrial drive with an interface from Powermiser, which provides a straightforward, cost-efficient link between the new drive and the existing injection moulding machine motor. The entire project, including full installation and commissioning, is set to deliver a payback of less than two years.

"It's been totally trouble-free since it was installed," says Mr. Howlett. "We're also really pleased with the quick and efficient service we've had from Halcyon. Most of our injection-moulding machines are being run more efficiently than this one, but we operate several sites and there are one or two machines where we may consider taking a similar approach."

Caption: State-of-the-art controls based on a variable speed drive from ABB have cut the energy consumption by one third on an injection moulding machine at McKechnie Automotive and Engineered Plastics.

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