

Rittal-CSM Achieves Payback in only a few months on a £17k WEG VSD Retrofit Undertaken by Carbon Reduction Specialist Drew & Co.

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Rittal-CSM of Plymouth has completed the latest stage of its energy saving carbon reduction programme; working with specialist installer Drew & Company to install a more efficient system for pump control at its paint plant. The value of the project speaks for itself, achieving payback calculated at just a few months for the £17,000 package of WEG CFW-11 inverter drives.

Rittal-CSM is a manufacturing subsidiary of the Rittal Group, itself part of the Friedhelm Loh Group. Rittal is the largest manufacturer of industrial and data communication enclosures worldwide, offering over 8,000 products from standardised large enclosures to customised individual solutions. The company is committed to carbon reduction in its manufacturing activities and has undertaken a number of projects at its Plymouth manufacturing facility to reduce energy usage and emissions of greenhouse gases.

As part of this ongoing programme, the company identified a possible area of inefficient energy use with its paint plant circulating and paint spray pump sets. Each pump set ran at a fixed speed using conventional control gear. Both the flow rates and spray head volumes were controlled using manual valves. An energy audit was performed across the pump motors and their fixed speed operation was found to be inefficient.

Nigel Brewer, who is part of the Maintenance Team at Rittal-CSM, takes up the story. *"After we had conducted the energy audit we realised that variable speed control was required on the pump motor. We approached an inverter supplier and concluded a deal for a single VSD, a WEG CFW-11 unit to be installed on one of the motors as a trial. The trial ran for a number of months and proved very successful; but when we came to retrofit the remainder of the pump motors, we ran into problems. It was at this point we contacted Drew and Co, as we have worked together on many occasions and some of their engineers know our plant well.*

"We have vast experience in working with manufacturing, process control and instrumentation sectors, helping companies to reduce their carbon footprints and increase efficiency, so we were delighted to be called in by Rittal CSM to help on just such a project," said Andrew Botterill of Drew and Co. *"After consultation with the client, it was decided to install 10 WEG CFW-11 variable speed drives, ranging from 3KW to*

45KW, on the pump motors. Each variable speed drive was positioned, in an IP65 Rittal enclosure with forced ventilation and filtering, adjacent to its respective pump."

Drew and Co carried out all of the control panel modifications and onsite installation works during a single plant shutdown over a weekend. The paint plant started back into full production on the following Monday morning.

The installation of the new system meant that all the manual valves, which were used previously for pump output control, were opened fully and control was taken over by the WEG VSD. Each WEG drive is set up with a simple local speed control, enabling the plant operators to set the optimum flow and volume for its particular application. With the drives installed, substantial reductions in energy consumption have been achieved.

The total energy consumption of the paint plant is logged through an intelligent metering system and data capture software. The paint plant energy consumption was recorded over a number of months prior to and after the fitting of the WEG VSDs.

The effectiveness of the project can be judged from the fact that the expected payback of the initial outlay figure in a few months. Thereafter all energy savings from the installation are a direct contribution to reducing the cost of the operation.

About WEG

WEG - one of the world's largest and most successful manufacturers of electric motors and related control equipment. Specialising in both high efficiency motors and units developed for specific industry applications.

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