

Energy Saving Irrigation

Tufts & Whitton have been designing and installing irrigation control systems for nearly 40 years and have always been at the forefront of their field. Over the past 40 years, control system technologies have undergone many changes. In the 1980's

Irrigation Installation



Tufts & Whitton were one of the first to move from electromechanical relays to programmable electronic controllers (PLC's) for controlling complex systems. The 1990's saw colour displays and touch screens being added to control panels. Since the introduction of the Climate Change Act in 2000's the requirement to save energy has seen Tufts & Whitton design a fully automated variable speed irrigation system. This system varies the speed of the pump to meet water demand and pressure, using less energy when fewer irrigation reels are running. This system comes with a touch screen control as standard, giving the operator access to operational data & parameters such as line pressure, pump RPM, cubic meters per hour and a comprehensive fault logging system. All our systems are also available with GSM Mobile remote control.

Enhanced Capital Allowances (ECA)

Enhanced Capital Allowances (ECAs) are a straightforward way for a business to improve its cash flow through accelerated tax relief. The ECA scheme for energy-saving technologies encourages businesses to invest in energy-saving plant or machinery. So if your business pays corporation tax at 28%, every £1,000 spent on qualifying equipment would reduce its tax bill in the year of purchase by £280. In contrast, for every £1,000 spent, the generally available capital allowance for spending on plant and machinery would reduce your business' tax bill in the year of purchase by £56. In other words, an ECA can provide a cash flow boost of £224 for every £1,000 it spends in the year of purchase.

Energy Saving = Money Saving!

Using the baseline scenario below, the potential financial (£), energy (kWh) and carbon savings (tonnes CO2) have been calculated for installing ETL-specified inverter equipment

Baseline scenario:

- 1) A new 22kW 4-pole motor which has an efficiency of 93%. This is replacing a 22kW 4-pole motor which has previously been rewound and has an efficiency of 81%.
- 2) The loading of the motor is assumed to be 85% and is running continuously for 20 hours per day, 110 days per year.
- 3) Electricity unit price is 7.9 p/kWh.
- 4) The 22kW motor drives a centrifugal pump
- 6) The speed of the pump can be reduced by around 20%

By installing an inverter onto this 22kW pump, the potential annual savings are calculated as*:

£1682

21513kWh

9.4 tonnes CO2

Further Reading:-

<http://www.tuftsandwhitton.co.uk>

<http://www.eca.gov.uk>

<http://www.carbontrust.co.uk>

* From the Carbon Trust.

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118

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Tufts & Whitton (Controls) Limited
Electrical Engineers, Starter & Control
Panel Manufacturers.

Energy Saving Irrigation Systems



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