



Case Study



Jaguar Inverter Drive

*Swimming Pool
Energy Saving Solution*



thistle

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IMO

Application: The application was the re-circulating pumps for the main pool and spa pool running at a fixed speed (50Hz). The recommended solution was fitting IMO Jaguar CUB Variable Speed Drives to slow the pump speed during daytime and night time running when the pumps are not required to operate at full capacity.

Equipment: Jaguar CUB AC Variable Speed Drive

Motor speed control offers industry the single largest opportunity for saving energy and money. Most motors run at a fixed speed, by adjusting the speed to more accurately match the requirements of the loads, which generally vary over time, you can enhance the efficiency of motor drive equipment. The potential benefits of speed variation include increased productivity and product quality, less wear and mechanical stress, along with energy savings of 50% or more for some types of applications. One of the most effective ways to save energy is to target pump and fan applications, firstly because there are so many of them and secondly because the potential energy savings are so great.

After reviewing and implementing all other ways to save energy and recognising that greater energy savings could be achieved through greater pump and fan control The Thistle Hotel – Brands Hatch, looked to find a partner who could help them achieve this in their Leisure and Spa facilities. The application was the re-circulating pumps for the main pool and spa pool running at a fixed speed (50Hz). The recommended solution was fitting IMO Jaguar CUB Variable Speed Drives to slow the pump speed during daytime and night time running when the pumps are not required to operate at full capacity. In order for the Swimming and Spa pool operator to understand the technology and what was being proposed, IMO Engineers visited the site and conducted a full energy reduction survey and thought it best to demonstrate the savings that could be made by fitting two Jaguar CUB Inverters, one to the main swimming pool pump and the other to the Spa pool pump and monitoring the power consumption of both over a period of time.

The findings were that monitoring of the main pump without the Jaguar CUB attached in fixed speed DOL operation showed that the estimated power consumption over a 24Hr period was 72.908KwH. Over the same 24Hr period the estimated Amps used during normal operation was 5.433 Amps in Fixed speed DOL operation. Monitoring of the main pump with the Jaguar CUB attached showed that the estimated power consumption over a 24Hr period was 46.564.KwH which is a 38% reduction in the power used, (figures based on a 40Hz running speed during daytime and 30Hz during the evening). Over the same 24Hr period the Amps used during normal operation was 2.7 Amps in Variable Speed Operation which is a 50% reduction in the current absorbed.

Monitoring of the Spa pump in fixed speed DOL operation showed that the estimated power consumption over a 24Hr period was 43.727KwH, and the average Amps used during the same period in normal operation was 2.62Amps in Fixed speed DOL operation. Monitoring of the Spa pump with the Jaguar CUB attached showed that the estimated power consumption over a 24Hr period was 26.14KwH, approximately 40% reduction in the power used. (Figures based upon a 40Hz running speed during daytime and 30Hz during the evening). Over the same 24Hr period the Amps used during normal operation was 1.54 Amps in Variable Speed Operation which is a 41% reduction in the power absorbed.

Once the results were presented, Kevin Filmer Site Property Maintenance Manager had no hesitation in recommending the IMO product and commented at how impressed he was at IMO's professionalism in providing a solution as well as being able to educate other members within the organisation to the savings that could be made with this technology. In addition to IMO being a well recognised name and the 5 year guarantee of the product.

Rob Robbins of IMO comments "business have exhausted all of the basic areas to save energy and lower costs and with the ever increasing cost of energy many are unaware of the significant savings they can make by using Variable Speed Drive technology. The focus has to be about educating and with saving of up to 50% and potential payback in some cases of less than 12 months business cannot afford not to learn.

Since the installation of the Jaguar Drives it has prompted the hotel to look at others areas of their infrastructure where they can be fitted to continue to make energy savings which include central fans and air conditioning, all of which is helping the Thistle Hotel achieve the Green Tourism Award.



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