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## Belton Park Golf Club finds the grass really is greener with ABB drives

Three variable speed drives from ABB are helping keep the land green and pleasant by controlling irrigation at Belton Park Golf Club in Grantham, Lincolnshire. The new drives, which were supplied by ABB Drives Alliance partner IDS (Inverter Drive Systems) in Nottingham, promise to deliver energy and maintenance savings compared with the previous control system, which failed catastrophically in July 2006.

The 27-hole, 250-acre course is irrigated from a 12 million-gallon reservoir. Three pumps feed up to 500 individual sprinklers on the fairway, greens and tees. "The pumps were OK but the control panel failed and couldn't be repaired, which left us trying to operate the system manually," explains course manager Garry Poole.

The system operates by maintaining a constant pressure of nine bar as the water exits the pump house. This ensures that there is sufficient pressure to feed however many sections of the course are being watered at any given time. Maintaining a constant pressure by hand was so difficult that staff had to fit a safety valve to release water into one of the course ponds in case the pressure rose too far.

"It took a few weeks to decide on a replacement system, but once we'd placed the order, IDS had people working at weekends to get the situation sorted out as quickly as possible," says Mr. Poole. "In fact, it took less than four weeks from order to installation of the new drives control panel."

Rather than using separate PLC controllers like the old system, the new system relies on the internal logic of the ABB standard drives, which can communicate with one another to vary the pump speeds as needed to maintain the required outlet pressure. "The system now is great," says Mr. Poole. "All the pumps can work at different speeds, whereas we could only vary the speed of one of the pumps with the old system. The other two were either off or running at full speed."

As well as delivering superior pressure control, this ability to vary the speed of all three pumps should help Belton Park make considerable energy savings, although these cannot be quantified until the system has been in place over an entire summer. "The electricity meter used to whiz round like a helicopter when all three pumps were running, so we're expecting to make substantial savings," says Mr. Poole.

Belton Park will also benefit from reduced wear and tear on the two pumps that previously had no speed control. "If these pumps aren't working at maximum speed all the time it should greatly enhance the pump life," says Mr. Poole.

So far the system has been working well, but Mr. Poole also has three good reasons to be confident that any faults that may crop up in future will not cause the kind of problems experienced last summer.

First, the ABB drives have built-in self-diagnostic capabilities. This combines with clear LCD display panels to make it quick and easy to locate and fix any fault. Second, each drive can work independently, so that if a drive problem prevents one pump from working, the other two can still function normally. "On the old system it was really difficult to locate faults, and if one pump was playing up, nothing worked," says Mr. Poole.

Finally, Nottingham-based IDS is offering comprehensive back-up for the new system. “They can be out here within a couple of hours,” he says. “All-in-all the new system makes us a lot more confident about next summer.”

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**Caption:** Three variable speed drives from ABB are controlling the irrigation pumps at Belton Park Golf Club in Grantham, Lincolnshire.

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**For more information please contact:**

**Layla Hewitt**  
**Marketing Communications**  
Phone: 01925 741517  
Email: [layla.hewitt@gb.abb.com](mailto:layla.hewitt@gb.abb.com)

**ABB Ltd.**  
Daresbury Park  
Daresbury  
Warrington WA4 4BT

**Emma Jenkinson**  
**Armitage Communications**  
Phone 020 8667 2218  
Email: [emma.jenkinson@armitage-comms.co.uk](mailto:emma.jenkinson@armitage-comms.co.uk)