Greek flower power – the Invertek Drives way

Case Study

Greece

Company / Project

HATZIMINAS FLOWERS

Applications

Horticulture
Industrial Burners

Optidrive E2 provides priceless peace of mind for grower

The world of commercial horticulture and floriculture is a competitive one where maintaining growing temperatures between strictly controlled limits is essential for the longevity and quality of produce.

Many growers install industrial burners to give a controllable heat source, but in practice traditional mechanical controllers have had their performance and cost problems.

This was one of the challenges facing Hatziminas Flowers in Greece which was successfully addressed by local Invertek sales partner Automation Experts. How? With three high-efficiency Optidrive E2 variable frequency drives (VFDs) **from Invertek Drives**.

Automation Experts' client, Sivvas Diamantopoulos sums up the challenge: "It's essential that we keep the temperature between specific limits to enable the flowers and vegetables to grow to the best of their ability. Maintaining a consistent correct temperature can also double their lifetime without the need for refrigeration during distribution."

For Hatziminas Flowers, the recommended Invertek solution consisted of robust, easy-to-use Optidrive **E2 variable frequency drives**. Specifically, three inverters on Modbus serial communication with PLC-HMI.

The high-efficiency E2 drives gave the perfect control this application required. Ready to use straight from the box, with only 14 setup parameters for adjustment, commissioning was simple so the new drives could get to work quickly.

Other benefits include the E2 drive's robust, unobtrusive mechanical envelope. This is perfect for constrained, dirty working environments like that at Hatziminas Flowers. The drives also have high ambient-temperature ratings. This avoids having to calculate temperature correction factors and derate equipment - ideal in demanding 'hot and tough' horticultural environments that are notoriously tough on motors, drives and controllers.

Theodore Amiridis, Automation Experts' Technical Director and Business Development Manager for North Greece says: "Our equipment recommendation followed careful consideration of the operating environment and customer's requirements. The high-technology control through PLC-HMI and high-efficiency Invertek Optidrive E2 AC drives gives the end-user an economical solution with reduced energy consumption. And priceless peace of mind so they can get on with business while Invertek's proven technology works in the background."

As well as providing a highly controllable heat source, accurate control of burners using correctly-specified **variable speed drives** minimises fuel consumption. It also avoids other limitations of mechanical fuel:air control. Because these lack the precision of electronic controls, capturing trending data for operational decision-making is harder and less accurate. Greater management oversight is also required during operation of the burner and its controls – with corresponding manpower implications.

Electronic control also addresses the traditional challenges of commissioning mechanical controls. With mechanical systems, commissioning engineers must allow for the inherent inaccuracies due to mechanical backlash.

At the same time, engineers are always aiming for optimal balance between safe oxygen levels and wasted heat from excess air in the air-fuel mixture. Furthermore, if controls have to be re-set later in the equipment's service life, the burner is more likely to require complete recommissioning with mechanical controls.

Compare this to electronic systems where digitally-stored commissioning values can simply be reloaded into the Optidrive.

There are safety implications too, not least the central ability of Optidrive VFDs to ensure that the burner always functions within the

Global sales, service & application support network in over 80 countries

Invertek Drives Ltd
Offa's Dyke Business Park
Welshpool
SY21 8JF
United Kingdom

Tel: +44 (0)1938 556868
Fax: +44 (0)1938 556869
Email: sales@invertekdrives.com

www.invertekdrives.com

manufacturer's safe operating parameters. Traditionally, oxygen levels are set high for mechanical controls to ensure suitable safety margins.

Electronic control with Optidrive makes it much easier to maintain burner set points and keep burner performance within the strict limits required for safe flue-gas oxygen levels. Another benefit is the reduction of unburned fuel in emissions and minimisation of harmful CO2 creation.

Traditional systems also suffer from degraded performance as mechanical components wear. The resulting incorrect air-fuel ratios can waste energy and increase operating costs. And of course, with energy so expensive, avoiding wastage is vital for profitable vegetable and flower production in competitive markets.

With another crop ready for harvesting and distribution, the last word goes to Sivvas Diamantopoulos: "It's critical for our business that the equipment works reliably and economically in the demanding temperature regime of this operation.

"We're happy and absolutely satisfied with the final result and the service from Automation Experts and Invertek Drives. The new Optidrives will help make sure our customers are equally happy and satisfied when they get their produce or blooms. It's a vital contribution to the continued success of our business."

Global sales, service & application support network in over 80 countries

Invertek Drives Ltd
Offa's Dyke Business Park
Welshpool
SY21 8JF
United Kingdom

Tel: +44 (0)1938 556868
Fax: +44 (0)1938 556869
Email: sales@invertekdrives.com

www.invertekdrives.com