

case study



Food manufacturer saves energy

Compressed air system optimised

Mars Petcare Australia has implemented a customised compressed-air system from Champion Compressors, optimising production, reliability and energy efficiency.

Like most industrial businesses, manufacturers of food - whether for humans or pets - are under pressure to optimise production while simultaneously enhancing environmental performance. When Mars Petcare Australia embarked on an upgrade of its compressed-air system at its Wodonga site, the company engaged local automation and process-control specialist, Remtron Automation, to develop a customised solution designed to reduce power consumption and environmental footprint.

At Mars Petcare's cannery and tray plants, raw meat and other inclusions, such as vegetables, are size reduced and mixed with gravy. The final product is then dispensed into the cans or trays, sealed, cooked in the receptacle, labelled and packed.

According to Paul Timmermans, Site Engineer Mars Petcare Australia - Wodonga, compressed air is critical to the production process. "Without compressed air, production stops, so it has to work every time," he says. "If we lose compressed air during the cooking process, the product has to be destroyed. This potential loss of production and product is unacceptable."

It recently became clear to the team at Mars Petcare Australia that the existing compressed-air systems at both facilities were not performing efficiently and were in need of upgrading. As a result, the team decided to seek out a reliable compressed-air system that could meet the plant's demand for compressed air, while improving the quality of air, reducing energy consumption and delivering ongoing reliability.

At the cannery, the compressed-air solution comprises two Champion 90 kW VOC90 Series II variable output

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compressors (VOC), and is complemented by two refrigerated air dryers and two filtering systems that ensure the process air is of instrument quality.

Similarly, the tray plant's compressed-air system comprises a single VOC90 Series II compressor, along with a comprehensive air drying and filtering system, and air receiver. Incorporated into the customised compressed-air system design, is a purpose-built heat-recovery system. Here, waste heat in the compressor lubricant is captured and used to help preheat water for the tray plant's hot water supply, while at the same time alleviating the load on the compressor's internal cooling system.

"Recognising the emphasis that Mars Petcare Australia places on sustainable

energy formed the foundation for our design," says Daniel Castley, Remtron Automation account manager.

As a result of the compressed-air system upgrade at the cannery and tray plant, Mars Petcare Australia has been able to achieve significant electrical power savings. "Power savings in the cannery came to approximately \$120,000 per year, while savings in the tray plant were around \$25,000 per year," says Timmermans.

The heat-recovery system integrated into the new tray plant compressor has yielded similar results, with an estimated saving in natural gas equating to approximately \$20,000 per year.

Champion Compressors Ltd

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