

Industry: Food & Beverage
Products Used: Compact PLC /// Inverter

Vegetable processing machine with a very green character

Today's consumer wants to eat well, but usually has little time for preparation. So ready-prepared and chopped vegetables in the supermarkets have been welcomed on the market. Feltracon supplies the machines that produce these high-quality end products, and specialises in the development of machines for processing fresh vegetables into a finished product. Recently Feltracon extended its range to include a complete line of machines for washing and drying vegetables. Important factors for Feltracon's clients are the short throughput time and the dryness level of the product.



During the drying process, the products are centrifuged; the dried product is automatically extracted from the centrifuge and then the centrifuge is loaded again with more freshly washed product. With the use of Mitsubishi Electric inverters, Feltracon machines help end users to expand their production capacity while minimising energy consumption – and all in a package that takes up minimum floor space.

The Mitsubishi Electric inverters bring the centrifuge to full power at optimum speed. Stopping the centrifuge quickly is not so easy. The mechanical brakes that are traditionally used require regular maintenance, and limit the availability of the machine. The alternative is to brake the centrifuge electrically. Braking the electric motor using the inverter means that the motor will function as an electric generator, creating surplus energy.

The conventional way of dealing with such surplus energy is to use electrical resistors to convert it into heat. This has various disadvantages: the most important being that this potential energy source is being wasted. Also it is difficult to find a suitable location for these electrical resistors, which can become hot. They must be able to dissipate their heat without posing any risk to the environment. The third disadvantage is that the extra heat is certainly not desirable in a cold production area where climate control equipment works hard to keep the temperature at around 7 to 8°C (the optimum temperature for vegetable freshness).

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Mitsubishi Electric controls are synonymous with ease of use and simplicity of programming. These qualities ensure that we can manage the machines very easily, and so can our customers' technical staff. This gives them complete control over their machines, and they're very pleased with this.

(Henk van der Wiel of Feltracon)

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By integrating a regenerative function, the Mitsubishi Electric inverter solves all these problems at a stroke. The inverter is designed to return the electricity released during braking to the network. The electrical energy can then be used by equipment connected to that network, or in the extreme case returned to the energy supplier. For this application, the most advanced inverter from Mitsubishi Electric for heavy duty applications is used, with a range between 5.5 kW and 55kW.

First published in December 2011 by Mitsubishi Electric based on information provided by Feltracon B.V., Rhenoy, The Netherlands