

NZ food industry benefits from leading-edge portable drying technology

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Drying Solutions Ltd founder Robert and wife Paulette Barnes with their Rexmoi dryer, a unit that services the food and pet-food industry.

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Robert, an electrician and refrigeration engineer by trade, set up his own refrigeration and air-conditioning company in 1989, attracting Port of Tauranga as one of his clients. Since 1995 he has also been using his skills to develop highly innovative Rexmoi Dryers. He sold the refrigeration and air conditioning business five years ago to focus solely on Drying Solutions Ltd.

Now Robert is gearing up to exhibit a Rexmoi dryer, at his fourth Foodtech Packtech show next month.

Robert says he is proud that his dryers enable people to turn ordinary products, in some cases waste material, into high-quality, high-value finished goods for the ultimate benefit of New Zealand.

Rexmoi dryers use a refrigeration system, rather like a heat pump, to create a warm, dry enclosure where the products are dried. Warm, dry, filtered air flows over the product to remove the moisture which is then condensed and drained out through a small pipe.

The product is laid out on stainless steel trays mounted on trolleys for easy handling. Several different types of tray are available to suit the various products such as wet slices, nuts, raisins, pet-food and bushy material.

The dryers use much less energy than other drying systems and are totally enclosed so no smells or gases are emitted into the atmosphere. They are covered by several patents and trademarks.

The drying process is controlled by a programmable controller which Robert sets in conjunction with the client to provide an optimum drying ‘recipe’ for each product. This sets a specific temperature, humidity and airflow in the chamber at each stage of drying, to maximize the quality of the finished product.

The dryer can even be used for cooking products at low temperatures.

While business is going well for this Tauranga resident, he says there’s always room for improvement, so he is constantly thinking of features to give more sustainable drying options for the food industry. He is currently investigating whether the energy released from the dryer during the final cooling stage can be economically recovered to heat water for factory cleaning.

With the support of his wife Paulette, who looks after all the paperwork and accounts for the business, Robert focuses on what he does best – designing, innovating, manufacturing and commissioning the Rexmoi Dryers.

Robert says trials of his dryers have been carried out on many products including tomatoes, fruit slices, herbs, mussels, fish, blueberries, leaves and nuts. They have even been used to bake meringues. “People hire our units if they are starting out on their drying business journey, to help them in a drying business or to trial drying. Once they have tested out the dryer, we can modify the unit to suit the client and then build a unit for that client,” says Robert.

“I’m really excited for the next steps in this business. For example, I’d love to see our dryers used in the Pacific Island nations for drying natural resources such as coconut, kava, leaf and sea slugs. We get a lot of enquiries from that region for those products, and it would be a great opportunity to create and support micro economies there. Once the product is dried it’s much easier to preserve it and transport overseas.”