
Kalfresh

Pumped up carrots

Queensland company Kalfresh is one of Australia's biggest carrot suppliers producing more than 16,000 tonnes a year for export and domestic markets.

Its plant at Kalbar, just over an hour's drive south west of Brisbane, uses state-of-the-art equipment including Grundfos pumps.

The Situation

About 15 months ago Kalfresh installed a new pumping system in its bunkering and packing facility, where long water troughs called flumes rather than conveyor belts are used to transport the carrots. This is because carrots retain their freshness best when transported in chilled water.

The new system, which used pumps other than Grundfos, had trouble from the word go. The pumps were continually blocking with fibrous roots from the carrots, and this meant costly cleaning and maintenance, often at the end of each day.

The Grundfos Solution

After barely six months, Kalfresh management met with its local Grundfos dealer, Dovers & Sons, of Boonah (a 10-minute drive from Kalbar), to examine for solutions to the problem.

Dovers consultant Brian Surawski recommended replacing the almost new pumps with Grundfos SE and S wastewater pumps which, because of their channel impeller systems, would be able to accommodate the root fibres without blocking.

"We could have used vortex pumps," says Brian, "but the SE and S pumps had the benefit of being able to use Kalfresh's existing variable frequency drives without any need for change. This made

TOPIC:

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LOCATION:

Australia

COMPANY:

Kalfresh

them far more cost-effective and attractive, especially as they also use less electricity due to their smaller motors.

“I’ve been in the pumping business for about 40 years, and I’ve always had a high opinion of Grundfos products, so my recommendation was easy.”

Maintenance Manager for Kalfresh, Andrew Blaik, says that the advice offered by Dovers has been proven to be excellent.

“We purchased eight 4 inch SE1.80.100.4 wastewater pumps, and two 6 inch S1124HIA wastewater pumps and did the installation ourselves with help from Dovers. Everything went very well, and I can say with great sincerity that, since their installation some five months ago, the Grundfos products have been outstanding.

“We have experienced no problems with the pumps, all of which are doing their task very effectively.”

“The root fibres are no problem, and we never have to dismantle and clean the pumps at the end of each day.”

The pumps operate in the bunkering and grading, room and the adjoining packing area, where with the help of the pumps, the carrots make a journey of about 70 metres via water chilled to 4 degrees centigrade which flows through a series of flumes and tanks during which time they are washed, graded and packaged.

“It’s a simple procedure, but quite complex to explain,” says Andrew, Blaik.

Four of the 4 inch SE pumps operate in the bunker room and provide the chilled water flow to carry the carrots along separate flumes to a water-filled hopper where an elevated conveyor belt lifts them through to the packing area.

Here, they move along an inspection belt and again enter a series of flumes where the other four SE pumps provide the necessary water flow through to the end of the process where the carrots are packed, depending on their size, for various markets.

The eight 4” SE pumps have each a flow rate of 100,000 litres per hour. However, at various stages of the process the water gravity feeds through conveyor slots and is pumped into large holding tanks. At this point, the two Grundfos S 6 inch pumps operate to pump the chilled water – which by now has lifted slightly in temperature – back to the chilling procedure for re-use.

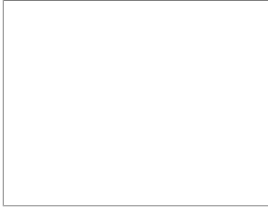
“The entire operation revolves around the movement of the chilled water through the flumes and various tanks,” says Andrew. “This movement and continual flow is essential, so the Grundfos pumps play an important and critical role.

'We have them dry-mounted, although they can also be used in a submersible situation. However, this could give us flexibility in future, so that's another bonus.

The Outcome

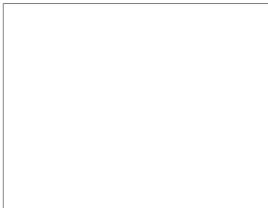
"To say I am happy with their performance is an understatement. They not only work effectively and efficiently, they provide peace of mind."

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