

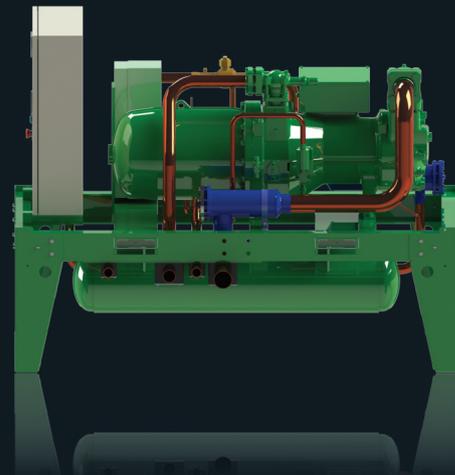
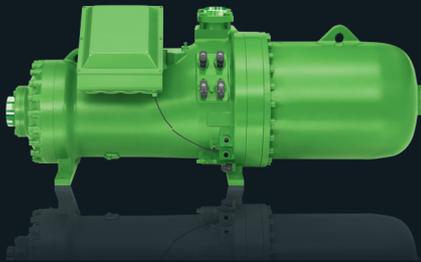


THE HEART OF FRESHNESS

USER REPORT // LINDSAY FRESH LOGISTICS

# BRISBANE MARKETS PROJECT

IN PARTNERSHIP WITH COOL DYNAMICS QLD



## EFFICIENT SOLUTIONS FOR FRESH PRODUCE COOLING

When Lindsay Fresh Logistics (a division of Lindsay Australia) Chief Executive Glen Lindsay approached Bruce Townsend, a Director of Cool Dynamics (QLD), about updating their primary distribution warehouse at the Brisbane Markets, Bruce immediately got BITZER involved as he held confidence they would be able to assist by providing him with the best advice and the right solution for Lindsay Fresh Logistics.

Lindsay Fresh Logistics needed to update their refrigeration at the Brisbane Markets to handle increased product throughput, different operating conditions and deliver improved operating efficiency.

The Brisbane Markets site had performed reliably over the last twenty years using BITZER open drive screw racks, BUFFALO TRIDENT LDV condensers and Thermfresh air handlers, however this system no longer suited the proposed operating requirements. It also utilised an operating charge in excess of 2,000 Kilograms of R22, contained in just three systems, and was going to become dramatically more expensive to keep operational in the future.

As the site needed to keep operating while the plant was upgraded, swapping the open drive screw racks with semi hermetic screw racks central plant operating on R134a was eventually dismissed.

Thinking outside of the box and following on-site discussions between Lindsay Fresh Logistics, Cool Dynamics (QLD) and BITZER, it was decided that each room would have its own dedicated small charge system which would allow for the other rooms to continue operating on the existing plant as each new system was installed and commissioned.

For efficiency the site went with:

- A) Four BITZER Commech screw sets,
- B) Two semi hermetic racks with Varispeed lead compressors,
- C) Two Varispeed basic units and
- D) One semi-hermetic basic unit.

All were selected to operate on R134a and combined with Buffalo FMC condensers featuring EC fans. These were mounted remotely on a condenser platform engineered and installed by SBP Australia



Old condensers and plant area



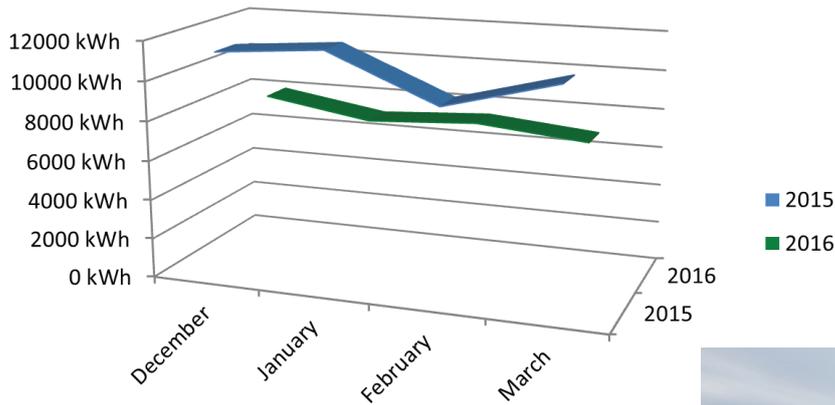
Old screws

on the warehouse roof and designed to ensure optimal condensing temperatures could be easily maintained regardless of ambient temperature.

Evaporators to replace the existing Thermfresh air handlers were the new Buffalo BBM series designed for optimal humidity and air flow. All of the BITZER compressor sets were supplied pre-wired with Carel control systems which were then connected via BACnet to a custom Innotech BMS system to allow for remote communication.

The project was completed over six months with the majority of the work, including the infilled cool room panel by SBP Australia, completed in November, and Lindsay Fresh Logistics were pleased to share with Cool Dynamics (QLD) their first power bill for December that reflected a 29% power saving compared to the previous December period.

As the last of the new equipment was commissioned and the old plant decommissioned the power savings continued to improve, with March showing a 37% decrease from the previous period even with building additions of three fumigation Rooms, 1 DAF (Department of Agriculture & Fisheries) Conditioned facility and 3 Fast Cooler Rooms.



"POWER SAVINGS CONTINUED TO IMPROVE WITH MARCH SHOWING A 37% DECREASE FROM THE PREVIOUS PERIOD - EVEN WITH THE ADDITION OF SEVEN NEW ROOMS."



BITZER's efficient solution: VSD reciprocating racks and Comtech screw compressor packages combined with Buffalo Trident evaporators and condensers.

In February we encountered a slight anomaly with temperatures an average of 3 degrees warmer during this month than in February 2015, so the power saving dropped from 37% to 22%, however the new equipment cruised through the heat providing optimal COP efficiency.

Bob McMillan, General Manager of Rocklea Markets site quoted, "The equipment changeover took place with minimal disruption to our operation due to the great communication from Cool Dynamics (QLD) during all stages of this project. This allowed us to plan for the shutdown of rooms based on product flow so that Cool Dynamics (QLD) could ensure that they had the rooms we needed operating when we required them. We have since noticed a considerable drop off in power consumption even though we

have added rooms, plus our water consumption would have also decreased with the removal of the Thermfresh units."

Lindsay Transport Adelaide refrigeration upgrade was also very successful and 2016 is looking to be a great year for Lindsay Fresh Logistics, in the Brisbane Markets, with the additional cold storage to handle their export market growth, plus an estimated average 32% power saving and continued to be fully supported by Cool Dynamics (QLD) and BITZER Australia.

Project Contacts:  
 Glen Stubberfield, BITZER Queensland  
 Bruce Townsend, Cool Dynamics (QLD)  
 Max Burns, SBP Australia

**BITZER Australia Pty Limited**

134 Dunheved Circuit,  
St Marys, NSW 2760  
Australia  
tel +61 (2) 8801 9300  
fax +61 (2) 9673 4698  
info@bitzer.com.au

**Victoria**

tel +61 (3) 8326 8200  
fax +61 (3) 9310 2520

**Queensland**

tel +61 (7) 3725 1360  
fax +61 (7) 3274 3621

**South Australia**

tel +61 (8) 8345 6110  
fax +61 (8) 8268 4555

**Western Australia**

tel +61 (8) 6350 6297  
fax +61 (8) 9359 2077

**BITZER New Zealand**

**BITZER Australia Pty Ltd**

9a Douglas Alexander Parade  
Rosedale 0632  
Auckland  
New Zealand  
tel +64 9 415 2030

[www.bitzer.com.au](http://www.bitzer.com.au)



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