

EXPANDED



THE MAGAZINE OF BITZER AUSTRALIA

INDUSTRY IN FLUX:
A REVIEW OF MARKET
TRENDS AT ARBS 2018

**WHAT'S DRIVING
REFRIGERANT CHOICE?**
WHAT YOU NEED TO KNOW
ABOUT THE REFRIGERANT
QUOTA



ALSO IN THIS ISSUE

ALDI SÜD PLACES ITS TRUST IN BITZER: Aldi receives our 100,000th CO₂ transcritical compressor

ALFA LAVAL: BITZER acquires shell & tube brand

AN EXERCISE IN SPACE MANAGEMENT: How BITZER helped a Queensland pork processing plant expand

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AN INDUSTRY IN FLUX

ARBS IS ALWAYS A GREAT FORUM FOR NETWORKING, BUT IT ALSO PROVIDES A CLEAR SNAPSHOT OF WHERE THE INDUSTRY IS CURRENTLY SITTING. RENE LE MIERE REVIEWS THE MARKET TRENDS AT ARBS 2018.

Close to ten thousand people walked the halls of ARBS over the course of three days in May.

A collection of contractors, wholesalers, consultants, students, industry personalities, distributors, agents and manufacturers; this melting pot of the Australian HVAC&R scene descended on Darling Harbour to learn what was new and exciting in the industry.

WHAT'S HAPPENING IN THE MARKET?

With attendance up 10% on the previous Melbourne show, we as exhibitors experienced a good strong number of people arriving at the BITZER stand in the middle of the expo hall. But rather than an overwhelming amount of visitors, our team found that the gentle flow of people moving through our stand meant that we were able to have some lengthy and constructive conversations about our products and about the industry as a whole.

Our new equipment was naturally a point of interest, however some broader industry topics came up in conversation again and again. Likewise, trends we identified throughout the show told a similar story, giving an insight into where the market is heading in the short to medium term.

With a strong contingent of BITZER staff in town, our team seized the opportunity to assess and review what was happening in the market.

SMALL TWEAKS, BIG EFFICIENCY GAINS

Some of the key focus areas for BITZER globally include developing products for use with low GWP and natural refrigerants; products that are efficient at full and part load; and ensuring user-friendliness is always front and centre by integrating intelligent electronics.

Much of the industry is following suit with many big brands offering similar capabilities across their range: most systems now have variable capacity control for example.

Integration of systems and the fine tuning of working relationships between compressors, condensing units and controls is another key trend. Systems that 'talk to each other' seamlessly; products designed for a smooth holistic user experience are the ones that ultimately will do well as they are designed to provide the most benefit to the end user.

Another key theme we identified was that there was a great deal of equipment on show that was a re-work

"ITERATING IN SMALL STEPS IS A LOW-RISK APPROACH TO PRODUCT DEVELOPMENT - BUT ALSO CREATES AN ENVIRONMENT RIFE FOR DISRUPTION."

or adaptation of existing products, but with small advancements in technology.

Many manufacturers and suppliers have deduced that tried-and-true original technology can be reworked to provide incremental efficiency gains, with many products on show that had already built a reputation for success in the market.

Keeping the base technology as a starting point and iterating in small steps is a lower risk approach to product development, and a wise one whilst the industry is in a state of flux - however this also creates an environment ripe for disruption.





running on R404A are still being spruiked although their days are numbered.

It is important to take a two-pronged approach as a manufacturer and be actively developing new future-proof technology, whilst still maintaining systems and components that allow contractors and technicians to support their customer's equipment until the end of its usable life.

This sentiment is echoed by the Department of Environment & Energy:

"Equipment manufacturers & importers are expected to gradually change their equipment range to align with the bulk HFC phase-down. This will happen as consumers demand up-to-date technology and manufacturers will want to ensure their products can be serviced for the entire equipment life. This was the experience with Australia's successful phase-out of HCFCs and HCFC equipment."

"The overall pace of the phase-down is designed to match demand and equipment replacement at end of life."¹

THE KNOWLEDGE GAP

We see the reluctance of people to shift to new refrigerants being a direct result of lack of knowledge and training.

CONTINUED ON PAGE 6

THE ROLE OF THE MANUFACTURER

The government has now put legislation in place (HFC phase-down), and it is up to manufacturers to take the most ethical, responsible and best-informed path meeting the market with appropriate equipment.

From a manufacturers perspective, we need to walk a fine line of innovating for the future as well as providing (and

continuing to support) appropriate products for the short term.

Ultimately though, we need to draw a line in the sand to go forward in terms of what refrigerant suits a particular application. What will become the standard, 'go-to' refrigerants?

At ARBS there was a clear direction that CO₂ is a major player not only for supermarkets, but now also branching into smaller applications too, like heat pumps. Ammonia is still key for large industrial systems. And yet, systems

References: Australian Government Department of the Environment and Energy
1 <http://www.environment.gov.au/protection/ozone/hfc-phase-down/hfc-phase-down-faqs>



Much has been said in the media about this knowledge gap, particularly with CO₂ systems, flammable and toxic refrigerants; and this is another reason why BITZER is so active in meeting the market with appropriate training, focussing on practical, useful information.

We have been proud advocates of training for decades, and the Schaufler Academy in Rottenburg-Ergenzingen. The centre enables application-oriented training courses under realistic system conditions and, with its wide-ranging program of seminars, makes an important contribution to the training of specialists in the refrigeration and air conditioning sectors.

Closer to home, BITZER Australia's recently launched Green Point after-sales service arm provides local training either on-site or at our well-equipped Sydney facility.

Wherever there is a knowledge gap, Green Point training can fill in the blanks as well as providing honest, down to earth recommendations for getting the most out of existing equipment.

THE BRIGHT SIDE

It was great to see how many companies had got on board with CO₂ at ARBS. Once pigeon-holed as too technical, too

mysterious and inaccessible to all but the most wealthy of businesses, CO₂ has now definitely hit the mainstream.

Training is still a key factor but with so many suppliers now providing CO₂ options for a range of applications, product knowledge is already following suit, and uptake of more efficient products increasing.

New businesses entering the market are shaking up the status quo, meaning all key industry players will have to work harder to produce products that satisfy customer's needs. This healthy competition serves to benefit not just customers, but also agile, savvy manufacturers who are able to hone in on an ever-shifting market.

CROWD PLEASERS

In terms of our own equipment, the BITZER team received great feedback on the brand new ECOLITE condensing unit. Contractors were impressed by the simple plug & play concept with the user friendly BITZER controller. The adaptability of the ECOLITE for both low and medium temperature applications, combined with VARISTEP modulation, allow it to address plenty of commercial refrigeration applications.

Likewise, the operating ECOSTAR unit on display at ARBS offered visitors a peek

into its easy-access, human centered design. Operating with minimal noise, the ECOSTAR is compatible with many traditional and new natural refrigerants, making it a smart investment.

BITZER's future-proof products help our customers bridge the gap between short term financial decisions and investing for the future. If a customer isn't ready to make the switch to a low GWP refrigerant just yet, our latest products have that capacity already built in, so that the equipment remains usable for the long term should they decide to make the switch later down the track.

If you would like any advice or assistance with upgrading or retrofitting to enable better system efficiency gains, feel free to get in touch with our technical sales team (see opposite for our contact list).



BITZER CONTACTS

I NEED A
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EVAPORATOR

I NEED A
DELIVERY DATE
OR LEAD TIME

I NEED TO
RETURN
SOMETHING

I'M CHECKING
ON AN EXISTING
ORDER

I NEED A PRICE
ON AN EVO
UNIT

I NEED A
QUOTE ON A
BIG JOB

I NEED SOME
DETAILED INFO
ON A PRODUCT

I WANT
TO ASK A
TECHNICAL
QUESTION

I NEED A
REPLACEMENT
OR EQUIVALENT
PRODUCT

I WANT BITZER
TO VISIT ME

I WANT TO LEARN
MORE ABOUT A
PRODUCT

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HELP WITH
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HAVE I GOT THE
RIGHT PRODUCT
FOR THE JOB?

I NEED A
CUSTOMISED
PRODUCT

CALL CUSTOMER SERVICE ON 1300 BITZER

NSW, QLD, VIC, TAS & ACT

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Ravinder Kumar and Marian Peters
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*Team members in bold have
technical knowledge too!*

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WA

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SA & NT

Chris Georgeson 0417 489 386

NZ

Simon Hiebendaal 0273 040 157

CALL GREEN POINT

Shannon Egan 0408 630 070

Amir Shah 0436 031 344

John O'Reilly 0408 933 885

I NEED
TECHNICAL
SERVICE

TELL ME MORE ABOUT
RETROFITTING

CAN YOU HELP
ME COMMISSION
THIS?

I WANT SOMEONE
TO MONITOR MY
SYSTEM DATA

I WANT TO EXPAND
MY SKILLS WITH
TECHNICAL TRAINING

IT'S A **REALLY**
TECHNICAL
QUESTION!

I WANT TO
SAVE ENERGY & MAKE
MY SYSTEM MORE
EFFICIENT

THE REFRIGERANT QUOTA:

WHAT'S REALLY DRIVING THE MARKET'S REFRIGERANT CHOICES?

A series of market forces are at play when it comes to refrigerant and therefore equipment choices for the consumer. The mix of products on the market is guided by a series of overarching factors including availability of HFC and HCFC refrigerants, which is in turn influenced by the import quota allocated to Australian businesses.

PHASE-DOWN, QUOTA AND LICENSING

In order to comply with the HFC phase down regulations that came into force in January this year, the Australian Government's Department of Environment and Energy has introduced a reducing import quota system, stating that 'reduced imports will lead directly to reduced emissions'.

This quota system applies only to companies that import HFCs such as large wholesalers, gas retailers etc.

The intent is to recognise these established participants and support their existing business activities during

the phase-down transition period, as well as providing some limited opportunities for new participants to enter the HFC import market.

The quota is divided between a 'grandfathered' system and a 'non-grandfathered' system. Established market participants are eligible for grandfathered quota based on their past imports, and the quota system is heavily weighted towards these established players, with 90 - 95% of this quota being allocated to those that already have already imported HFCs under license during 2009 - 2014.

New participants account for only a fraction of the quota, effectively discouraging new import business.

In all cases, to import HFCs you must hold a controlled substances licence first, before applying for a quota.

The maximum amount of quota that can be allocated is determined by the annual HCFC industry limit and the individual use of quota in the first year of the previous licence period.

For an importer to retain their full quota proportion, licensees need to import their full allocation during the first year of the first quota allocation period (2018).

This means anyone who imports and supplies HFC refrigerants in Australia is subject to permissions allowing them access to a finite pool of HFC refrigerants.

TIPPING THE SCALES

Quota can be traded between importers under the supervision of the Department, but at the end of the day, a limitation on the type and amount of refrigerants available to individual stakeholders will inevitably influence commercial decisions.

A \$15,000 license fee for HFCs (plus another \$15,000 if you're importing HCFCs) plus half yearly reporting and levies sitting at around \$165 per metric tonne of imports, adds up to a series of overheads that importers naturally need to factor in to their gas sales margins.

References:

- 1 <https://refindustry.com/news/market-news/eus-hfc-prices-skyrocketing-since-start-of-f-gas-regulation/>
<http://www.environment.gov.au/protection/ozone/hfc-phase-down/hfc-import-quota>

The cost of refrigerants that are steadily becoming a diminishing commodity will naturally influence sell prices, with the local market already seeing some price variability across certain gases.

IT'S ALREADY HAPPENING IN EUROPE

A glimpse into future market forces that may well arise in Australia and New Zealand can currently be seen in the EU, with a recent study tracking prices of refrigerants against the EU F-Gas regulation. This study found that the most commonly used traditional refrigerants today jumped alarmingly in price from 2 Euro per tonne of CO₂ emissions, up to 23 Euro.

"The European Union's HFC prices increased from below 2€/tCO₂e to 23€/tCO₂e, or more than 1,050%, according to study by Öko-Recherche on behalf of European Commission.

Average purchase prices of R134a, R410A and R404A, were under 2€ (\$2.4)/tCO₂e (tonne of CO₂ equivalent)

in 2014, but jumped to between 7€ (\$8.3)/tCO₂e and 23€ (\$27.2)/tCO₂e in the first quarter of 2018, the study said."

Escalating HFC prices, along with allocated quotas and import levies are providing many opportunities for natural refrigerants to expand further into the market.

WHAT'S THE ALTERNATIVE?

Several alternatives with no or very low global warming potential (GWP) are available in Australia, which may be appropriate for use in the same applications as HFCs.

These gases are not regulated under the Ozone Protection and Synthetic Greenhouse Gas Management legislation unless they are in a blend containing a HFC. They include refrigerants such as ammonia, carbon dioxide and hydrocarbons (sometimes called 'natural refrigerants'), as well as hydrofluoroolefins (HFOs).

Being unregulated gases, these refrigerants are not subject to the restricted quotas, levies and reporting protocols as HFCs.

Natural refrigerants and HFOs may offer improved performance and energy efficiency in fit-for-purpose systems. In considering an alternative, it is important that it is used in appropriate equipment, not in equipment designed for a specific HFC. Use in inappropriate equipment could be hazardous as some alternatives can be flammable and some, such as ammonia, can be toxic.

In most cases these risks can be successfully managed with appropriate training, technical advice and support in retrofitting or transitioning to natural refrigerants.

BITZER CAN OFFER ADVICE AND TECHNICAL SUPPORT

Our global research and development teams along with experienced market analysts have in-depth knowledge of the refrigerant landscape, which helps to drive our product development, ensuring we innovate with products appropriate for both today and the future. If you need advice, we have a range of support materials including technical documentation, face-to-face training sessions, presentations and more to suit different learning styles. Please contact your local BITZER team to find out more.



BITZER EXPANDS SHELL & TUBE RANGE

AS OF THE BEGINNING OF MAY, BITZER BECAME THE LARGEST INDEPENDENT MANUFACTURER IN THE SHELL AND TUBE HEAT EXCHANGER MARKET WORLDWIDE.

The contract between BITZER Italia and Alfa Laval SpA was signed in Milan, and Chief Sales and Marketing Officer, Gianni Parlanti, expressed delight at the company's latest acquisition.

"I am delighted to be able to welcome Alfa Laval's shell and tube heat exchangers to the BITZER family."

The products taken over from Alfa Laval are designed for air-conditioning and refrigeration applications and will thus enlarge BITZER's product portfolio.

BITZER has been producing condensers for fresh and seawater applications since the 1950s.

"With this acquisition, we are expanding our portfolio, as the evaporator technology manufactured in Alonte complements our existing product range. With this operation, BITZER is becoming the largest independent manufacturer in the shell and tube heat exchanger market worldwide. Our aim

is to become the technology leader in this segment offering the market the latest solutions. To do this, we are building up a state-of-the-art laboratory with highly skilled personnel."

"This is an important step for BITZER in its efforts to develop its heat exchanger and pressure vessel segment effectively," emphasises Parlanti.

With the acquisition of Alfa Laval's shell and tube heat exchangers, BITZER is gaining more than 40 years of experience in the development of these components and, at the same time, is strategically complementing its own product lines. Alfa Laval's key strengths include decades of experience in dry expansion evaporators, flooded evaporators and condensers for fresh and seawater applications with a capacity of up to 2,000 kW.

With this acquisition, BITZER is able to offer its customers highly efficient, future-proof solutions.

THE RIGHT CHOICE FOR MECHANICAL SERVICES

The addition of a purpose-built shell and tube range to BITZER's product portfolio is good news for the mechanical services sector in Australia and New Zealand.

BITZER can now supply flooded shell and tube condensers from 2,000KW and below. Easy to maintain with a reputation for quality, the Alfa-Laval range is perfect for air conditioning - shell-and-tube heat exchangers can be combined into the system as liquid evaporators and/or condensers to help maintain optimal indoor climate conditions.

Shell and tube - think BITZER!

"[THIS] IS GOOD NEWS FOR THE MECHANICAL SERVICES SECTOR IN AUSTRALIA AND NEW ZEALAND."



"ALFA LAVAL'S KEY STRENGTHS INCLUDE DECADES OF EXPERIENCE IN DRY EXPANSION EVAPORATORS, FLOODED EVAPORATORS AND CONDENSERS FOR FRESH & SEAWATER APPLICATIONS."

PRE-WIRED ELECTRICAL SOLUTIONS FROM BITZER

CUSTOMERS CAN SIMPLIFY THEIR SYSTEM AND REDUCE ON-SITE COSTS AND LABOUR WITH A RANGE OF ELECTRICAL ADD-ONS.



HERE'S TWO WAYS THAT BITZER'S PRE-WIRED ELECTRICAL SERVICES CAN REDUCE LABOUR & ON-SITE COSTS. CONTACT OUR ENGINEERING TEAM FOR MORE DETAILED INFORMATION.

CUSTOM SWITCHBOARD DESIGN

Electrical panels to suit a full complement of products have routinely been fitted off by BITZER for a number of years, and in an economic climate where some companies are tightening the purse strings, BITZER sees value expanding its electrical offering to give customers the option of an all in one solution.

A swing towards turn-key products, and ultimately reduced labour costs, has been trending across the industry for some time.

With this increased push from customers wanting fully kitted out end-to-end systems, BITZER has responded by putting a focus on electrical engineering

staff in addition to the existing teams of electricians in its Sydney and Melbourne production facilities.

The company works with various partners to design and supply switchboards to meet virtually any specification, shape and design. Electrical panels are available to suit a full complement of BITZER and Buffalo Trident's rack systems, condensing units and heat exchange equipment.

Expanding our capabilities to include a full range of electrical engineering services enables the team at BITZER to assist customers seeking a complete package.

Fully wired equipment reduces commissioning time on site and therefore cost to the end user, a crucial requirement for all customers. National Engineering Manager Ian Suffield said



that listening to the market is a key benchmark for success within BITZER.

“At a global level, we have a number of acid tests in place that we plot our progress against – and one of the key definitions of success for the brand is its commitment to continuous improvement. Continually iterating based on market feedback is part of our culture; and this is part of what has driven us to boost our electrical capabilities. Our customers asked for it, and we aim to deliver.”

“Our intention is to provide our customers with a complete pre-wired solution for all BITZER and Buffalo Trident systems”, adds Ian.

“This harmonizes with recent industry movements that put user-friendliness at the top of the list. Taking care of that additional labour at our end results in

less on-site commissioning time, and therefore a win for our customers.”

QUICK CONNECT FOR CONDENSERS

BUFFALO TRIDENT and BITZER's capable electrical engineering team introduce the quick connect option for condenser electrical installations.

Traditionally, condensers with EC fans have circuit breakers installed in the rack switchboard supplying a pair of fans.

On a 10 fan condenser this equates to 5 x 3-phase circuit breakers fitted, taking 15 poles and occupying precious chassis and switchboard space.

Now, BUFFALO TRIDENT offers the

option of mounting these circuit breakers locally on the condenser.

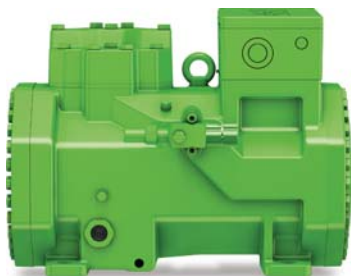
Glen Sullivan, BITZER's Electrical & Controls Engineer, explains that the quick connect allows one single point of connection compared to five at the switchboard and ten at the condenser isolators, vastly reducing expensive electrical labour hours.

“On an 8 fan condenser traditionally there would be 8 x 3-phase fan isolators, and in the rack panel 4 x 3-phase circuit breakers – a enormous 36 connections. This is now simplified to 1 x 3-phase circuit breaker and 1 x phase isolator – a quick 6 connections, saving hours of expensive labour costs.”

GREATLY REDUCED NUMBER OF CIRCUIT BREAKERS & ISOLATORS



ALDI SÜD PLACES ITS TRUST IN BITZER SUSTAINABILITY



FOOD RETAILER ALDI SÜD HAS LONG BELIEVED IN ENVIRONMENTAL PROTECTION AND SUSTAINABILITY, WHICH IS WHY THE COMPANY IS INSTALLING REFRIGERATION SYSTEMS FEATURING BITZER RECIPROCATING COMPRESSORS FOR TRANSCRITICAL CO₂ APPLICATIONS IN ITS STORES.

There's a good reason why CO₂ is the refrigerant of choice for supermarket applications: it's future-proof whilst offering high energy efficiency and low global warming potential. ALDI SÜD came to this conclusion back in 2006 and thus began consistently switching its refrigeration systems at its stores to the environmentally friendly refrigerant.

1,350 stores have since been equipped with reciprocating compressors for transcritical CO₂ applications.

Erik Bucher, Director of Refrigeration Sales at BITZER in Sindelfingen, was recently able to present the 100,000th CO₂ compressor produced by BITZER in Schkeuditz near Leipzig to ALDI SÜD.

'We've maintained a long-standing partnership based on trust with ALDI SÜD,' says Bucher. 'I can confidently call our customer a pioneer, as they are also partly responsible for the fact that installations with CO₂ as a refrigerant are now one of the most common standards in the EU.'

Jens Strassburg, Director Store Operations Management at ALDI SÜD, says: 'We're always on the lookout for solutions that will allow us to operate our display cabinets and refrigeration systems more efficiently, reduce greenhouse gas emissions by using the right refrigerant, and minimise our impact on the environment.'

ALDI SÜD's activities are shaped by long-term, sustainable thinking. 'We've dedicated ourselves to operating with a focus on the future,' Strassburg adds. 'Even if that means we have to invest more for a certain period of time. However, energy savings ultimately serve as proof of a short amortisation period and high investment security.'

The high energy efficiency of BITZER reciprocating compressors for transcritical CO₂ applications makes it possible. Designed for operation with frequency inverter, they offer flexible, efficient and stepless capacity control.

This is particularly important when it comes to the capacity characteristic of CO₂ systems: stepless capacity control can minimise suction pressure fluctuations and cycling rates, which in turn reduces energy costs and increases the life cycle. It can also boost the quality of the products requiring cooling and the cooling process.

'We're looking forward to continuing to work closely with ALDI SÜD in the years to come,' says Erik Bucher. And Jens Strassburg adds: 'We highly value BITZER as a partner – particularly in this day and age, when there are so many changes and so much is going on in refrigeration. We need a partner we can rely on with decades of experience, to ensure our operations are more sustainable in the future.'



Erik Bucher (Director Sales Refrigeration at BITZER) presenting the model of a reciprocating compressor and a certificate to Jens Strassburg (Director Store Operations Management at ALDI SÜD)

AT A GLANCE:

BITZER CO₂ TRANSCRITICAL COMPRESSORS

BITZER's CO₂ compressors have also been setting benchmarks in transcritical CO₂ applications for many years. The series was revised to increase its efficiency once again, and optimise the suction gas flow control and the valve plates.

The ECOLINE TE compressors also boast tailored motors for a wide range of applications with the natural refrigerant CO₂. But what hasn't changed is one tried-and-tested characteristic: its high reliability makes the ECOLINE TE series a natural addition to BITZER's selection of CO₂ compressors.

Special attributes:

- Expanded capacity range - new models with up to 38.2 m³/h
- Housing with pressure strength and no bottom plate. Maximum allowable pressures: High pressure side up to 160 bar, Low pressure side down to 100 bar
- Wear-resistant drive gear with advanced multi-layer bearings
- High energy efficiency
- Wide application range
- Two, four and six-cylinder configurations
- Low oil carry over thanks to centrifugal lubrication



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AN EXERCISE IN SPACE MANAGEMENT & EFFICIENCY

HOW BITZER HELPED A QUEENSLAND PORK PROCESSING BUSINESS EXPAND THEIR FACILITY WHILST RETAINING A COMPACT FOOTPRINT.

Wilpak Wholesale Meats is an independent pork processing facility located in Leichhardt, Queensland.

Progression of their operations called for expansion of the facility to include blast freezing capabilities, large scale low temperature storage and additional meat production areas.

After consulting with industry, Gregory Refrigeration & Air Conditioning Technologies were engaged to complete the extensions in mid 2016.

Within weeks of commissioning the Wilpak extensions, the local pork industry was devastated when fire burnt down a competing boning facility in Kingaroy. Concerned about the people of Kingaroy, Wilpak made their new facilities available to the Kingaroy based employer and commenced an urgent retrofit of their existing facility.

Under this arrangement the agile installation saw:

- boning floors tolerate 200% load increase
- freezers turned into chillers
- blast freezers turned into blast chillers

Gregory Refrigeration & Air Conditioning Technologies is a second generation, privately owned and operated company with 30+ years experience on the eastern seaboard.

Ross Angel from Airefrig liaised directly with Dan Gregory to formulate an offering that best meet varying loads and unique physical challenges posed by the site.

BITZER and BUFFALO TRIDENT was the supplier of choice for Gregory

Refrigeration & Air Conditioning Technologies as a result of exceptional reliability experienced on other technical projects.

The comprehensive application data produced by BITZER's international team, and engineering resources made available by BITZER Australia, were key to gaining maximum flexibility from the plant automation system without exceeding the plant's operating envelopes.

The design brief called for energy and space efficient equipment uniquely suited to small plantroom and condenser areas. To suit the application, the site proceeded with:

- a) A twin compressor screw rack with lead VSD & Economiser circuits with Carel E2V Smart valves



THE DESIGN BRIEF CALLED FOR ENERGY AND SPACE EFFICIENT EQUIPMENT, UNIQUELY SUITED TO SMALL PLANTROOM AND CONDENSER AREAS.

- b) 2 compressor reciprocating rack with lead VSD
- c) 2 x VB compact footprint condensers with EC fans, selected 810rpm
- d) WKK blast evaporator with high static fans
- e) PS evaporators with EVD-ice EEV
- f) 2 x 2 compressor reciprocating racks with lead VSD with LH and RH version (stage 2)
- g) PS evaporators with EVD-ice EEV (stage 2)
- h) 1 x VB compact footprint condenser with EC fans, selected 810rpm (stage 2)

The compact plant room layout demanded a space efficient rack design which could optimise installation but facilitate future maintenance. With minor modification BITZER's MaxiRack & HyperPac were up to the task.

Stage 1 installation and commissioning was completed by July 2016. Stage 2 needed to be manufactured within a very small time frame and was installed over the Christmas period into January 2017.

Gregory Refrigeration & Air Conditioning choose BITZER & BUFFALO for the impressive product reliability under all conditions.

With products engineered from inception to meet all the challenges of capacity & motor speed control, the installation seamlessly transitions through -2°C to 48°C ambient temperatures while matching significant variations in load.

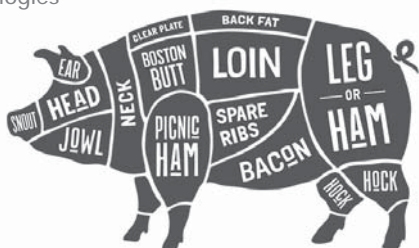
Wilpak is now operating at full capacity with the new production areas demonstrating a successful solution responding to smaller footprint areas.

Project Contacts:

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Open drive compressors on display in the St Marys factory, circa 1980's.

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- // INTRODUCING THE ECOLITE CONDENSING UNIT
- // COOLING AVOCADOS WITH THE HELP OF GREEN POINT & BITZER
- // WAYS TO INCREASE THE EFFICIENCY OF YOUR REFRIGERATION SYSTEM
- // PART 2 OF OUR REFRIGERANT QUOTA DISCUSSION
- // AND MUCH MORE!

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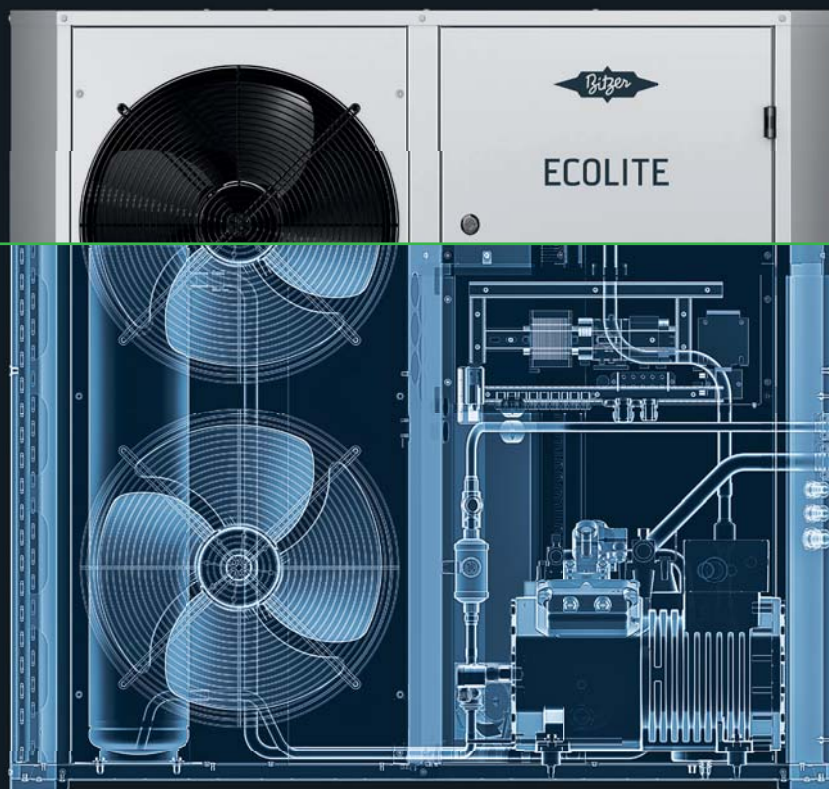
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