

CABERO PRO: THE COMPLETE PACKAGE



Welcome to The Gauge. Actrol's industry update bringing you the latest news and products in HVAC-R. Enjoy!

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Welcome to the future of refrigerant reclaimers.

Helping the industry navigate low-GWP refrigerant transition.

Introducing the Inficon Dual Vortex® Refrigerant Recovery Unit – suitable for all common CFC, HCFC and HFC refrigerants. Designed for durability and longevity, the Dual Vortex® has been independently tested and is safe to use with A2L refrigerants including R32 and R1234yf, so you have the confidence that you'll be supported throughout the upcoming industry changes.

The Dual Vortex® offers a full 1 HP dual piston compressor, providing the fastest recovery speeds under real service conditions. It's also fitted with a unique micro-channel condenser combined with an oversize fan to help lower discharge pressures, meaning the speed can be sustained in even the hottest of ambient temperatures.

This unit is light, compact, well balanced and provides convenience and durability both now and into the future of refrigerants.



ADDITIONAL FEATURES:

- Simple two valve operation
- Full size protected gauges for suction and tank pressure
- Self-purges without the need to change hoses
- Filter and dryer included
- Noise absorbing blow molded case

Specifications:

- Weight: 13.5kg
- Dimensions: 42.4 x 23.3 x 36 cm
- High-pressure shut-off : 550 psi (37.92 bar)
- Power Source: 115V, 60 Hz, 15A or 230V, 50 Hz, 10A (depending on model)
- Compressor: 1 HP oil-less, dual valve, AC motor drive
- Power: 8.3 amps 240 Vac 50Hz

Introducing The Cabero Pro..

COMING
SOON

The Cabero PRO Series is the latest addition to the German quality engineered Cabero range – made with the same Cabero advantages but with the revolutionary Carel EVD Ice superheat control factory fitted.

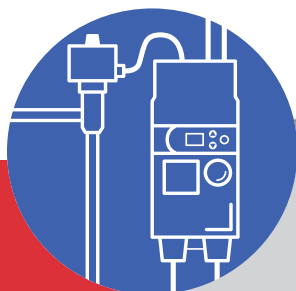
Efficiency, affordability and ease of installation are the defining benefits of the latest Cabero Pro Series. And this time, Ultracap is optional.

With all the same high-quality features of the Cabero CH and CH-E evaporator series', the Cabero becomes a PRO with the electronic expansion valve and controller pre-wired, while the Fast Clips provide quick and easy panel access. Ultracap, your option.

Not only is the total installed cost of a Cabero PRO reduced with a Carel EVD Ice fitted, but the PRO offers:

- More accurate superheat control
- Extremely fast commissioning
- Faster temperature pull down
- Increased refrigeration efficiency
- Ability to float head pressure to gain further efficiency

Not your standard offer, the Cabero Pro Series is the key component to an ultra-efficient refrigeration system.



Ultracap, your option.

Where power failures are expected to occur an Ultracap can be added as an accessory to drive the valve closed in the event of a power failure. The Ultracap is simply mounted with the controller and plugs into the existing IP65 rated plug.



“ All Cabero CH evaporators use Blue-Fin coating and 12mm smooth bore thick walled copper tubes to extend the efficiency and life of the evaporator. ”



The Cabero Pro difference goes further than the technical advantages of the Cabero make; it's centred around the optional Ultracap, giving you more flexibility on your system.

If your project doesn't require the entire package, simply opt for no Ultracap. Meeting specific needs, not standard needs.

KEY FEATURES

- Blue Fin protection
- Parallel tube pattern
- No soldering of valve required
- No complex configuration
- Factory fitted for ease
- Fast Clips providing easy access

UNIVERSAL FEATURES:

- Blue-Fin coating
- Fans and defrost heaters are fully wired to junction box/s (IP54) with cable glands
- High efficiency external rotor fan/s (IP54)
- Air bypass panel increases efficiency by eliminating air leakage around coil
- Separate fan compartments in all multi fan models
- Reduced dehumidification and ice formation is achieved through the inline tube configuration
- Unit casings are manufactured from high grade aluminium and powder coated white for greater corrosion and hygiene protection
- Fold down drip trays, painted internally for easy cleaning. Thermally decoupled and detachable from the heat exchanger casing for increased defrosting efficiency

CASE STUDY

KMART - ROWVILLE, VICTORIA



Kmart is one of Australia's largest retailers, with 192 stores throughout Australia and New Zealand. Kmart has more than 31,000 team members and 2.5 million customers on average are served by Kmart each week.

Kmart Rowville is located in the Stud Park Shopping Centre, which services the outer south-eastern suburbs of Melbourne.



16%
ENERGY
SAVINGS
PER ANNUM

\$36K
UPFRONT COST
SAVING

THE CHALLENGE

HCFC-22 is the world's most widely used refrigerant. The Montreal Protocol has set out a mandatory timetable for the phase out of ozone-depleting substances including almost all imports to Australia of hydrochlorofluorocarbons (HCFC), such as R22 by 2016.

There are many ageing PAC units with R22 Refrigerant which is in phase out and is increasing in cost and subject to increased regulation due to its high ODP.

The challenge was to find a cost effective solution for Kmart which avoided full replacement of existing R22 PAC units is cost prohibitive for many building owners.

CASE STUDY

KMART - ROWVILLE, VICTORIA



THE SOLUTION

Airmaster carried out a retrofit, called a PAC Revive, on one of the existing R22 PAC units at the Kmart store in Rowville, Victoria.

The solution involved the installation and replacement of the R22 refrigerant with R427A, new electronic TX valves, new Ecobee WiFi enabled controls and a full overhaul/ system check of the unit.

An Ecobee controller was also fitted to an existing R22 unit. This was done so in order to monitor various performance measures of each unit including energy consumption, return and discharge air temperatures, compressor run hours and ambient conditions. These were all logged at 5 minute intervals.

THE RESULTS

The challenge of finding a more cost effective solution that avoided a full replacement was successfully implemented by way of the PAC Revive.

This was achieved from both an investment and running cost perspective.

Cost Performance	New Unit (60kW)	PAC Revive Solution	Cost Saving
Investment	\$45,000	\$8,623	\$36,377

Running Costs	R22	R427A	Saving
Environmental Impact (Ton CO2 pa)	19.3	16.2	3.1
Energy Usage (kWh pa)	27,372	22,292	16%
Electrical/Refrigerant Costs (pa)	\$4,105	\$3,448	\$657

Figure 1 - Investment and Running Cost Savings

Shows the relative cost savings in investment into the PAC Revive Solution over a new unit, and the resultant running costs of R427A versus R22.

The implementation of the PAC Revive solution generated positive results in terms of Unit Performance.

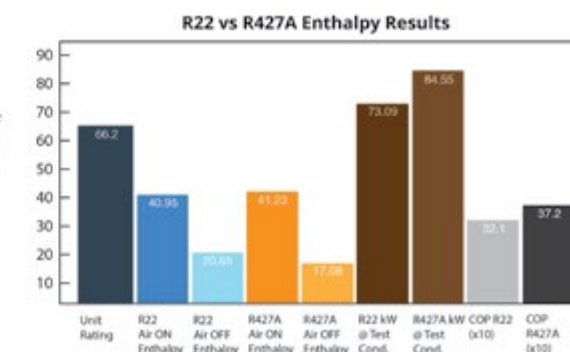


Figure 2 - R22 vs R427A Enthalpy Results

Shows that the R22 enthalpy results when compared to the R427A results are inferior.

Furthermore, the power output from the R427A unit was higher than that of the R22 unit. When these inputs are calculated to a COP value, we find that the R427A unit has a COP rating (3.72) which is 16% higher than the R22 unit.

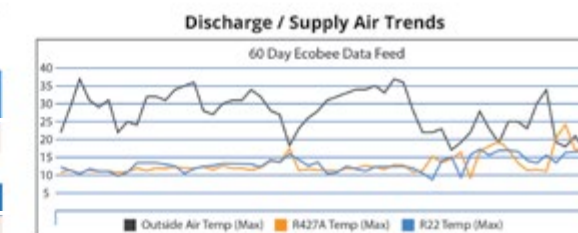


Figure 3 - Discharge / Supply Air Trends

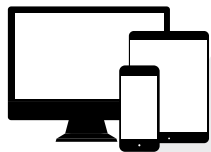
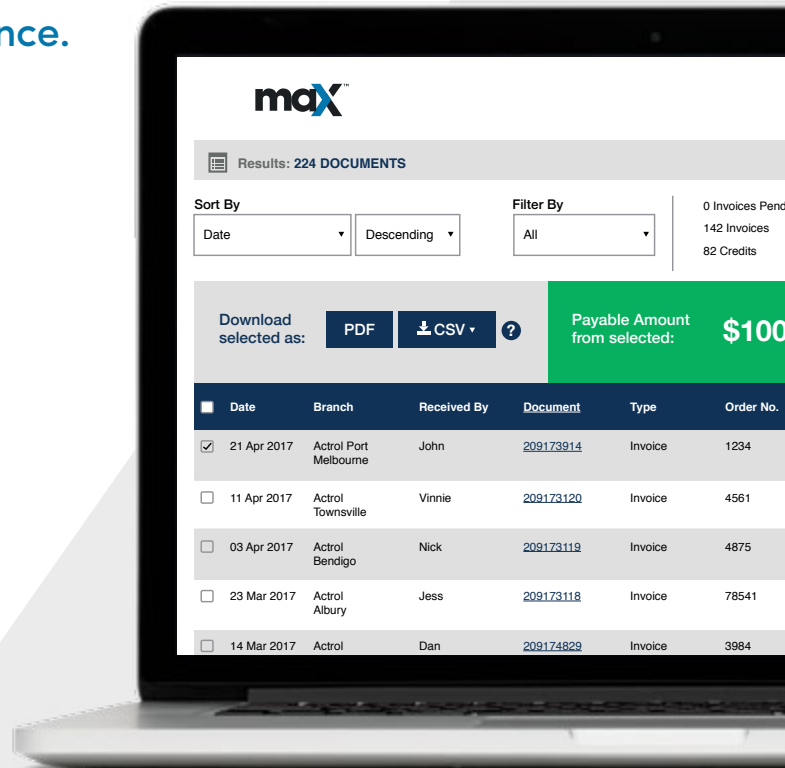
Shows that as the outside temperature increases, the revived unit responds by taking over the load from the R22 unit.

This was due to increased performance of the revived unit over the R22. When both units were running on full cooling the revived unit was achieving a lower supply air temperature by 1-1.5deg compared to the R22 unit.

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The Kaden Low Profile evaporative cooler has a stylish, sleek design that sits contoured on the roof. The low profile model uses advanced technologies to ensure quality and reliability, delivering volumes of cool air throughout the home without the large profile of traditional evaporative coolers.

The Kaden Classic evaporative cooler has been developed for large airflow requirements. Its stylish design is ideal for both new installations and replacement of older style coolers.



kaden®

Are your fridges set to self-destruct?

99.75% of refrigeration equipment is simply turned on and left to eventually fail because it has no monitoring!

There is a NEW WAY to look after your fridges:

A new system developed right here in Australia that will save your customer \$1000s of dollars in repair bills.

Frigbot® is the NEW WAY that fridge mechanics are servicing and maintaining refrigeration equipment. Frigbot® is a small cellular wireless device that plugs into the programming port found on most modern refrigerators and connects your equipment to the 'Internet of Fridges'.

Connected fridges can be monitored by you 24 hours a day, 7 days a week. Equipment issues are immediately reported to you in real time and most issues are detected about 2 days before they cause a breakdown.

BENEFITS:

- 01 FAST** response, because the issue is detected BEFORE you actually have a Breakdown!
- 02 FREE** repairs... (well, almost) with Frigbot® you can log in and change settings on your equipment. This enables you to resolve configuration issues without attending onsite.
- 03 FREE** reports and performance logs.
- 04 100% peace of mind.** You can monitor your refrigeration systems 24 hours a day, 7 days a week.

**ONLY \$10
per month
for the
connection**

Detecting issues before your equipment self destructs will save your customer \$1000s of dollars and ensures you will keep their business. Monitoring your equipment 24/7 will be the smartest business move you'll make this year.

Ask your local Actrol branch for more details.

Tecumseh – Why Evo?

Tecumseh EVO Hermetic Condensing Units

The Tecumseh EVO condensing units are perfect for most cooling and freezing applications including food preservation and storage. Available in Hermetic and Semi-Hermetic varieties to suit a number of needs, the EVO condensing units operate with the HTA “high temperature advantage” of large condensers to ensure reliable operation up to 43°C ambient temperature.

The Tecumseh EVO condensing unit range is an evolution of the HTA range, providing all the proven features of the HTA range with fully fitted units that are quicker and easier to install. The units offer contractors a cost-effective option for new and replacement projects, with numbered cables that make fault finding simple for future users.

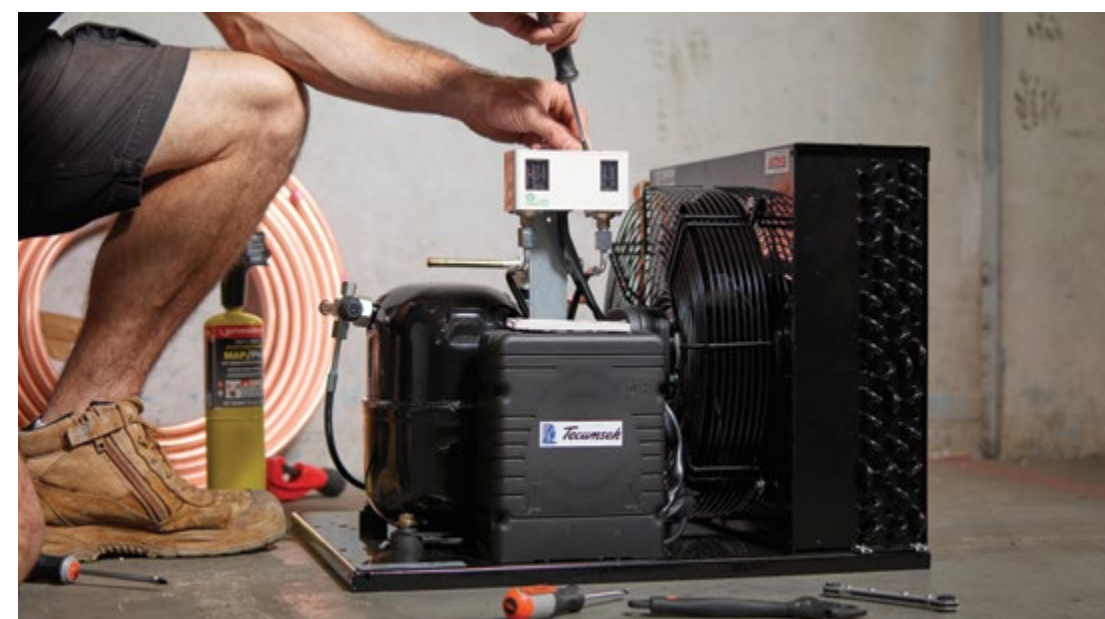
EVO is quick and easy to quote, install and commission as it is fully fitted and wired. Tecumseh's EVO series is stocked across Australia and matches perfectly with stocked evaporators, expansion valves and temperature controls.

Features:

- Powder coated zinc plated steel construction offers corrosion resistance.
- The aluminium fins are protected with blue-fin coating.
- The fins are straight to reduce fouling and improve long term efficiency.
- Zeihl Abegg 800mm and 900mm fans.
- Fans pre-wired to IP54 isolator switches.

Semi-Hermetic Condensing Units

- Available from 6 to 15 horsepower
- Suitable for medium and low temperature applications with R134a or R404A refrigerants
- Fully fitted including vibration eliminators on discharge and suction lines
- Includes Carel fan speed control for varying refrigeration loads and ambient temperatures



Adelaide Race Wrap Up

On the 9th of August, 621 players in the HVAC-R industry rushed through the doors of the Adelaide Convention Centre to learn about the future of the industry, mingle with their fellow fridgie's and win a swag of exciting prizes!

The Refrigeration and Air Conditioning Expo (RACE) is the best place to see the technology available now, what's in the pipeline, and to learn about the experience and service Actrol and the Reece Group network can provide.

RACE goes eased into the day, visiting over 50 brand stands, asking all the curly questions to our industry experts. From Conex to Tecumseh, our world class brands became a centrepiece of the show.

The WorldSkills competition threw a bit of healthy competition into the mix, with some of South Australia's best apprentices fighting it out for a spot in next year's national competition in Sydney. There's some real talent in the future of our industry!

The evening rounded out with three training seminars; Online tools, highlighting the features of our online business tool maX, Conex Banninger's revolutionary press system MaxiPro, and the Future of Refrigerant.

Without the constant support of South Australian locals and national suppliers, RACE Adelaide wouldn't have been as spectacular as it was. We'd like to thank every single person who came along and shared their excitement for this great industry.



"The WorldSkills competition showed off some real talent for the future of our industry."



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