

Cooling Capacity
18.6kW - 193.0kW

Heating Capacity
16.2kW - 213.0kW



Air-Cooled Packaged Air Conditioning

Giving you complete control





More than just another air conditioning company.

We're dedicated to pioneering innovative new technologies and creating market-leading, easy-to-use solutions that offer you complete control.

When spaces are wide and open, it's time to rely on Temperzone ECO air-cooled units

Combine a large commercial floor space and constantly changing heat loads, and you've got a climate control challenge that only Temperzone's ECO air-cooled technology can cope with.

Increasingly the go-to option for major supermarket and home improvement store chains across Australasia, our highly responsive ECO air-cooled system is a premium package design that can always be relied upon to keep customers comfortable.

Complete package units designed to hook up to duct networks, they range in capacity from 18.6kW to 193.0kW and offer a broad spectrum of air conditioning solutions. They can even be used for smaller commercial applications and multi-storey buildings with appropriate duct design.

Why those in the know are making the switch

While water chillers have traditionally been used to accommodate commercial spaces, developers are increasingly moving to our air-cooled alternative. That's because unlike complicated chiller or VRF units, air-cooled units can be installed quickly and easily, enabling big project cost savings.

Thanks to the use of a variable capacity scroll compressor, EC fan and EEV, our air-cooled package units are also far more economical and efficient than chillers for this type of commercial space. This means they can form an integral part of a sustainable energy strategy and help stores reduce their carbon footprints.

And because there's no water involved in the cooling process, often-troublesome water quality maintenance issues are non-existent.



A smart in-store operator

The most responsive and adaptive solution available, Temperzone's ECO air-cooled system can adjust its own cooling capacity depending on the amount of people occupying a space at any one time.

Thanks to a high-tech variable capacity compressor that senses peaks and troughs in customer traffic, it works hard only when you need it to, all the while offering the ability to achieve precise temperature and comfort control.

Featuring simple control technology, our system is also easy-to-use, with operators only requiring basic air conditioning knowledge.

Other benefits

- **The ability to operate within specific time periods**, as well as 24-hours-a-day.
- **Low outdoor noise levels**, making it ideal for buildings located near built-up residential areas.
- **Ease of servicing**.
- **Reliability** and simplicity of design.
- **BMS compatibility**.
- The ability to **remotely monitor performance parameters via BMS**.
- Condenser fans that can operate within a **wide ambient temperature range**.
- **The ability to use cool outside air to cool an indoor space** during favourable weather conditions, thus **eliminating the need to activate the compressor**.





HOT

Americano	2.50/3.25
Cafe Latte	3.25/3.75
Cafe Mocha	3.75/4.25
Espresso	2.50/3.25
Macchiato	2.75
Con Panna	2.75
Cappuccino	3.25
Press Coffee	4.00
Hot Chocolate	3.50/4.00
Chai Latte	3.75/4.25
Tea Latte	3.75
Loose Leaf Tea	2.75

Room Service	
Ice Latte	
Chai Latte	
Hot Chocolate	
Press Coffee	
Cappuccino	
Con Panna	
Macchiato	
Espresso	

COLD

Iced Americano	3.25
Iced Latte	4.25
Iced Chai Latte	4.75
Iced Tea	3.25
Juice	1.50
Mineral Water	2.50
Raspberry Rose	4.00
Lemonade	

Extra Shot	.75	Vanilla	.50
Breve	.50	Soy	.50
Misto	.50		

Why Temperzone?

As innovative market leaders in air conditioning technology development, Temperzone is ideally positioned to play a partnering role in your commercial projects and to ensure you select the right solutions for your needs.

Because our systems are all designed, manufactured and supported using home-grown expertise, you can always rely on the convenience of ready availability and easily accessible technical support.



HOME COOKED HAM + BEEF
A HUGE SELECTION OF
OLIVES AND CHEESE
FRESH PIES + SUNDRIES
AND MUCH, MUCH MORE

ECO Advanced Variable Technologies



Air Cooled Packaged Units

Best In-Class Efficiency and Comfort

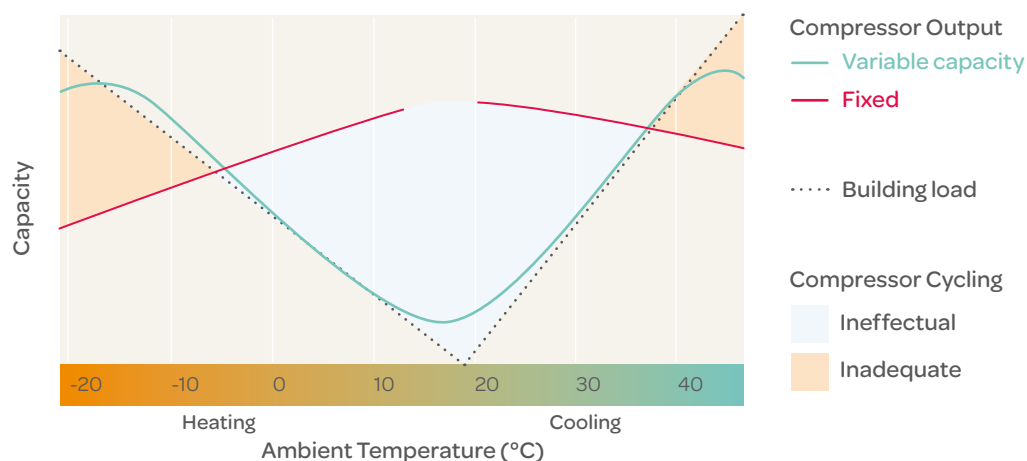
Precise room temperature control capability delivers energy savings and maximised comfort levels. Our system offers high precision levels regardless of climatic conditions, variable occupant loads, or critical operations such as dehumidification.

Intuitive Controls for Plug-In Comfort

The intuitive control solution with BMS connectivity and third-party control logics revolutionises rooftop unit design. Offering a viable alternative to chiller and VRF technology, it can be used for applications where heat load varies considerably, and where a high percentage of fresh air is required while maintaining comfort levels.

Perfect Load Response

The use of variable capacity scroll compressors allows a precise load variation response, thereby avoiding excess energy consumption during part-load operation. High response levels to current load conditions are further guaranteed by the use of an EEV and variable speed control of the indoor and outdoor fans.



* Contact Temperzone on % of fresh air

ECO Advanced Variable Technologies

Compressor

- Stepless 10-100% continuous modulation enables wide capacity range
- Exceptional seasonal energy efficiency
- Better humidity control at low capacity

See figures 1 - 2

Fig1

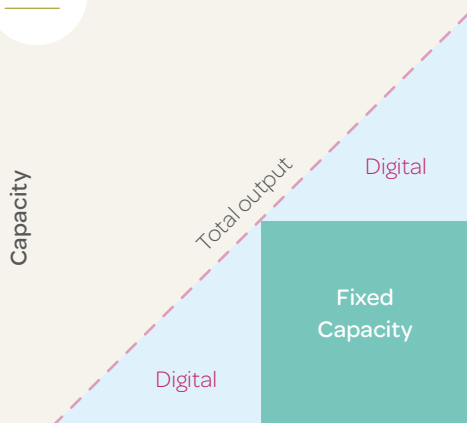
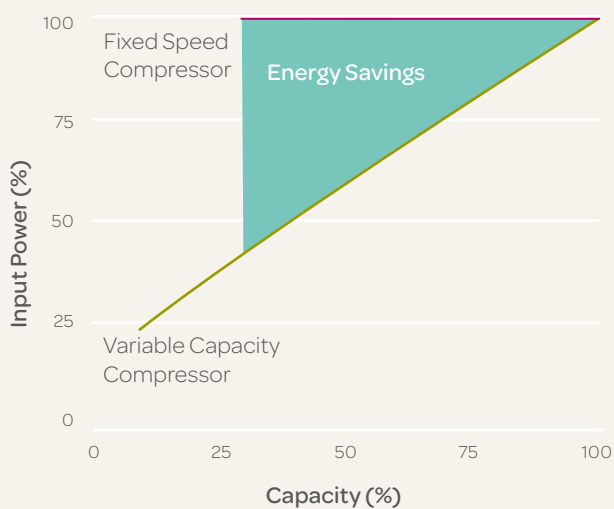


Fig2

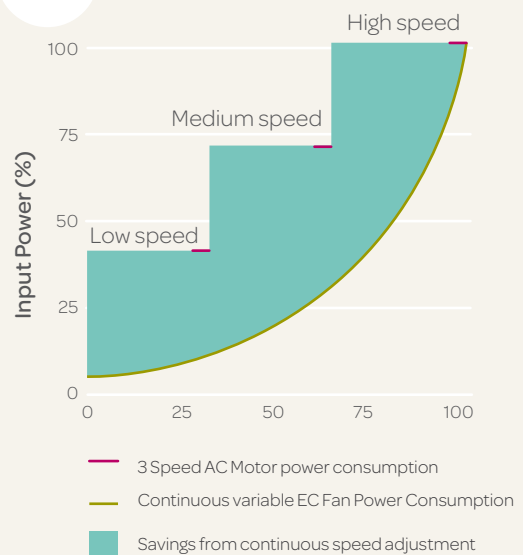


EC Fans

- Variable EC fan with variable system capacity
- Superior fan efficiencies with EC fans
- Increased energy savings at part load conditions with variable 0-10VDC control signal

See figure 3

Fig3





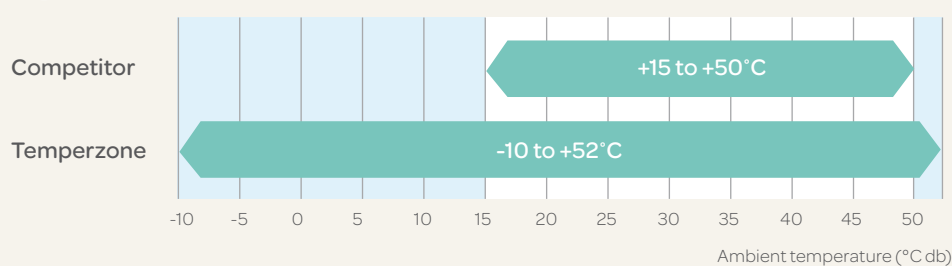
Air Cooled Packaged Units

Variable Condenser Fans

- Increased system reliability and efficiency with fully modulating head pressure control
- Increased energy savings at part-load conditions with integrated speed control
- High fan reliability with soft starting and low audible noise installation

See figure 4

Fig 4

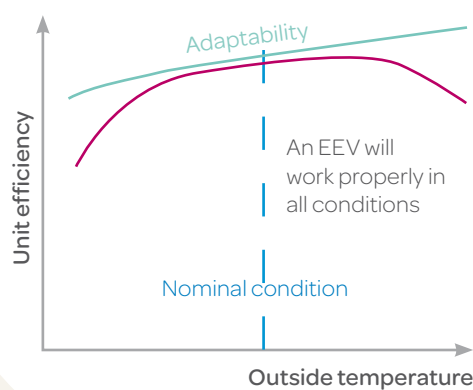


Electronic Expansion Valve

- Optimum control of superheat at varying load for outstanding comfort with indoor air temperature and humidity control
- Increased efficiencies by lowering head pressure and optimum feeding of heat exchanger coils.

See figure 5

Fig5



ECO Features

Efficiency

- Variable capacity system
- High efficiency indoor EC fans
- Variable speed condenser fans
- Intelligent economy cycle
- Electronic expansion valve
- Generously-sized epoxy-coated evaporator and condenser coils
- Advanced rifle bore copper tubes
- Foil face polyethylene insulation
- Intelligent Defrost Cycle



Control

- Intuitive UC controls
- Precise temperature control
- Humidity control - Dry and Super Dry Mode*
- BMS Connectivity with Modbus & BACnet
- Advanced electronic service and maintenance tools
- DRED enabled (AS4755)
- Third-Party control integration



* Contact Temperzone for Application



Air Cooled Packaged Units

Versatility

- Flexible hanging configurations
- Low noise condenser fans
- High ambient application 52°C
- Low ambient cooling down to -5°C
- Low ambient heating down to -10°C
- High outside fresh air applications
- Wide colour range cabinet*
- Louvered coil guards
- High static indoor up to 450Pa
- Powder coated panels to withstand 1000-hour salt spray test
- Filter cavity with inbuilt filter slides
- Smaller independent redundant compressor circuits
- Stainless steel fasteners
- AS1530.3 compliant insulation



Installation

- Ease of wiring
- Socket outlet
- Individual motor protection - circuit breaker and thermal overload
- Adjustable indoor airflow control
- Advanced service and maintenance control interface - diagnostic function
- Rigid base frame
- Simplistic maintenance with access panels
- Drain pan compliant to AS/NZS 3666

Control

Temperzone's individual UC intuitive control system makes it easy to maintain a unit at the prescribed temperature. It offers the flexibility to exert complete control on climate and comfort outcomes, or allow the control system to make the decisions for you.

Controlled via an easy-to-use, wall-mounted touch pad featuring LCD display panel, the system can be upgraded with features including remote temperature sensors.

- 7-day programmable with 2 events per-day
- 365-day programmable
- TZ room sensor or return air temperature sensor
- Lead lag of compressors
- Night set back
- After-hours run timer
- Non volatile memory
- HL/LP safety

- Discharge line temperature safety
- Variable condenser fan controls
- Variable economy cycle
- Variable dehumidification control
- Essential safety switch
- Smart service controls for fault diagnostics
- BMS compatible
- Dry contacts for remote on/off or external alarms

No matter how simple or complex your climate control requirements, we can design a solution that integrates your entire building air conditioning infrastructure while delivering maximum comfort when and where you need it.



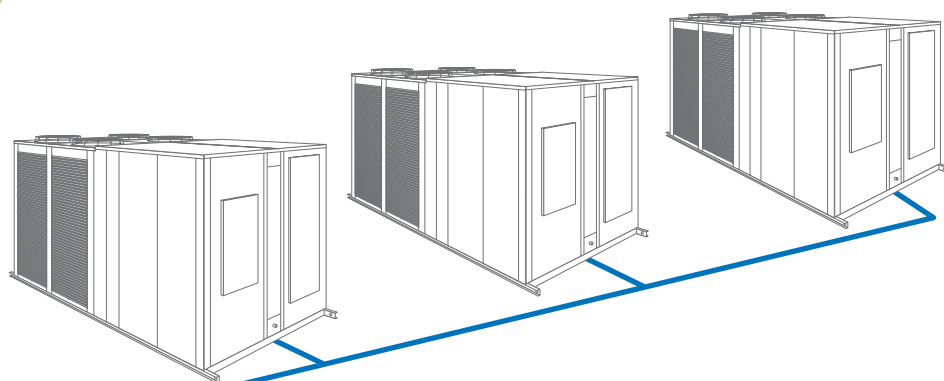
Plug and Play Installation
and Maintenance



Intuitive Controls



Air Cooled Packaged Units



BMS

Simplified BMS Integration with compatible
communication protocol - Modbus/BACnet.



Energy Savings

With the right application and selection advice, Temperzone air-cooled technology can lead to running cost savings of up to 50%.

Upgrading air conditioning infrastructure generally involves a process of either:

1. Replacing old technology or
2. Making a choice between competing modern technologies (STD vs. ECO).



Air Cooled Packaged Units

1. Replacing Old Technology

Because air conditioning can often consume **up to 45%** of a building's total energy usage Replacing older equipment raises a lot of important questions, such as:

- How old is it?
- Is it efficient and effective, or inefficient and ineffective?
- Is it failing?
- What are the total operating and maintenance costs?
- What type of refrigerant does it use?
- Does the system have an economy cycle?
- If I am going to replace it, do I require a standard unit, or an ECO unit?

When selecting replacement equipment you also need to consider standard system design parameters such as:

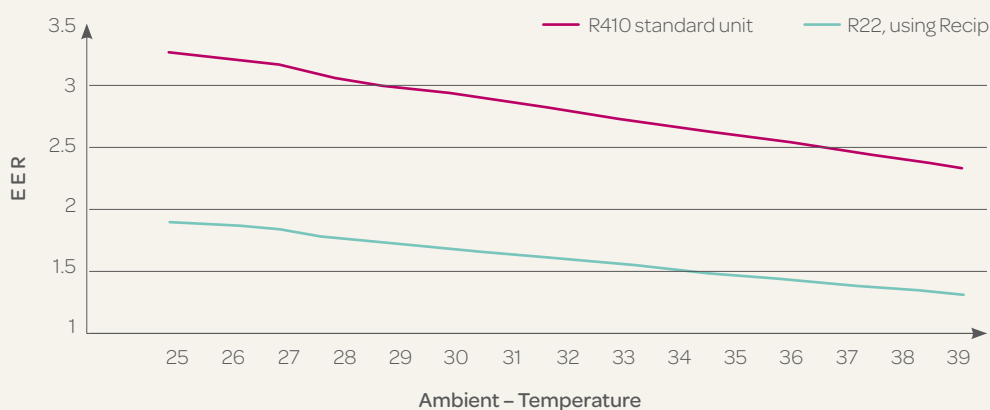
- peak loads
- level of required control
- physical restraints
- commissioning and maintenance
- budget

The graph below shows the difference in the Energy Efficiency Ratio (EER) at various outdoor temperatures between a current standard unit and a 20-year-old unit.

The higher the EER, the lower the energy input required for cooling capacity.

This relationship is made possible due to vast improvements in compressor and fan technology.

Simply changing to newer ECO technology will typically enable savings of around 25%. Further savings can be achieved by opting for an air conditioning system that features an economy cycle, and by employing energy-efficient lighting and building insulation.



2. Comparing Modern Technologies: STD Vs. ECO

While HVAC is essential for creating comfortable and safe working environments, in Australia it's also been estimated to account for **45% of energy usage** and **63% of greenhouse gas emissions**.

With such serious economic and environmental considerations at stake, system design and equipment selection is critical when planning new constructions. Because modern air conditioning systems offer a broad range of technology options, achieving a balance between capital and running costs can depend on:

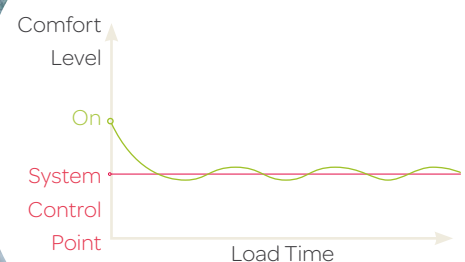
- **Budget**
 - **Owner-occupier**
 - **Who's paying the energy bills**
 - **Application**
 - **Location**
 - **Lifecycle expectancy**
- It's all about the control of modern technologies:
- Key components
 - i. EEV
 - ii. EC Indoor fan
 - iii. Controls
 - iv. Compressor technology and control

While Temperzone's air-cooled system has a base EER only slightly higher than standard and less expensive machines at nominal rated conditions, annual savings are delivered via the ECO energy-efficient features and their control capabilities.

The graph here (figure 6) illustrates that the use of advanced control technologies enables you to achieve comfort, control and energy savings.

- An optimised and well-controlled HVAC system increases not only comfort levels, but also productivity, leading to significant financial and environmental benefits.
- With the HVAC system typically accounting for 45% of energy costs, selecting the right technology for your application is critical.
- Every 1°C temperature rise from set point during winter can increase energy usage by 15%, so it's important not to forget about heating performance and efficiency.
- Every 1°C temperature decrease from set point during summer can increase energy usage by 10%, further highlighting the importance of system technology selection in relation to project lifecycle costs.

Fig 6





Air Cooled Packaged Units

Temperzone's ECO design is one of the most energy-efficient and controllable products on the market.

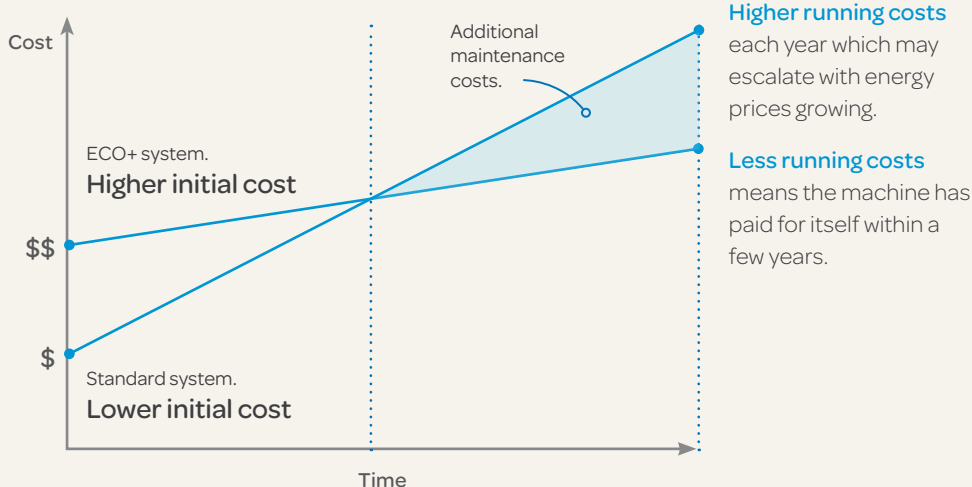
Incorporating variable capacity compressor technology, EEV, EC fan technologies, an economy cycle and an innovative Temperzone unit controller (UC), the system is optimised for both heating and cooling.

Good news for the environment

Our innovative heat exchanger and EC fan technology ensure that Temperzone air conditioning systems are one of the most sustainable forms of climate control available. By installing the unit best suited to your needs, you can dramatically reduce operating costs across the entire product lifespan.

Capital vs. Running Costs

Spending more on an energy efficient unit at the outset will save on running costs and ongoing maintenance well into the future.



Contact Temperzone to help determine your potential project cost savings.

ECO Range Options and Features

The range of available Temperzone options allows you to completely customise your unit, giving you flexibility and ultimate control.

Model	OPA 186	OPA 201	OPA 242	OPA 280^	OPA 294	OPA 340	OPA 370	OPA 465
Service Interface Tool	N/A	N/A	●	●	●	●	●	□
Adjustable Indoor Fan	□	□	□	□	□	□	□	□
Variable speed Condenser Fans	□	□	□	□	□	□	□	□
BMS Connection	□	□	□	□	□	□	□	□
Epoxy Coated Coil								
Evaporator	□	□	□	□	□	□	□	□
Condenser	□	□	□	□	□	□	□	□
Economy Cycle Kit	N/A	N/A	●	●	●	●	●	●
Outside Air Kit	N/A	N/A	●	●	●	●	●	●
Variable Compressor	□	□	□	□	□	□	□	□
Fixed Compressor	N/A	N/A	□	□	□	□	□	□
EC Indoor Fan	□	□	□	□	●	●	●	□
DRED	□	□	□	□	□	□	□	□
No Neutral Wiring	●	●	●	●	●	●	●	●
Compressor Soft Starter	●	●	●	●	●	●	●	●
Optional Panel Filters								
50mm	N/A	N/A	●	●	●	●	●	●
100mm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	●
Intuitive Control	----- UC -----							
Handing Options								
Supply Air	●	●	●	●	●	●	●	●
Return Air	N/A	N/A	●	●	●	●	●	●

NOTES:

* To AS/NZS 3823 conditions

** Supply Airflow at Nominal Conditions

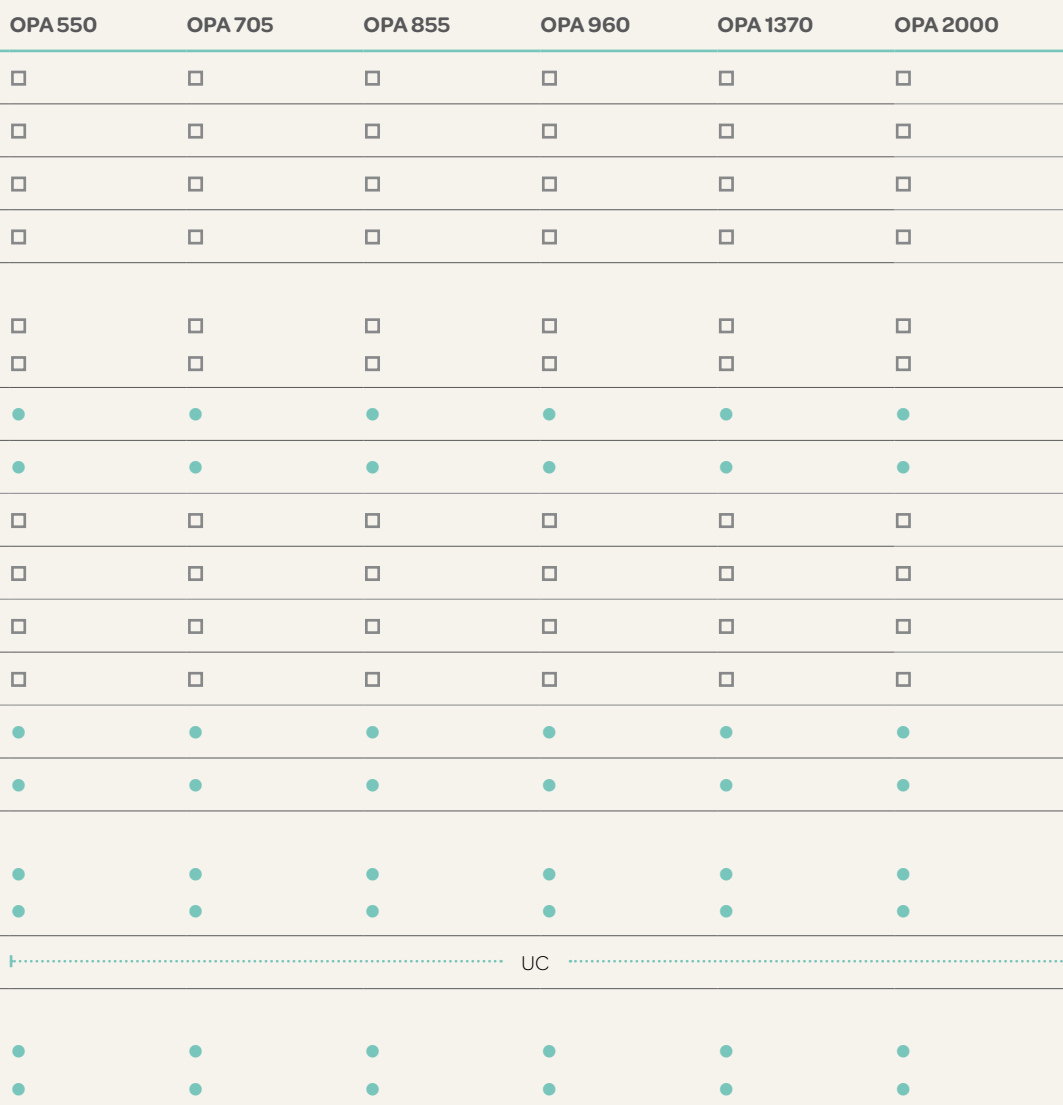
*** Noise Data measured to BS 848 PT21985 - Installation Type A - measured in decibels re 1 picowatt

**** Units comply with MEPS & or the requirements on the NCC

^{*} NZ only



Multiple handing options are available to suit most applications.



□ STANDARD

ECO Range Checklist Chart

Model	OPA 186	OPA 201	OPA 242	OPA 280	OPA 294	OPA 340
Total (Gross) Capacity kW*						
Cooling	18.6	20.0	23.5	27.1	29.5	34
Nett (Rated) Capacity kW*						
Cooling / Heating	18.16 /16.2	19.76 / 18.08	22.34 /22.2	26.57 / 25.76	28.3 /27.2	32.5 /30.1
EER/COP*						
EER* Cooling	3.17	3.14	3.19	3.28	3.21	3.31
COP* Heating	3.44	3.33	3.39	3.55	3.57	3.59
Power Supply						
Power Supply	3 Phase - 342 - 436V 50 Hz					
Run Amps / Phase (A/ph.)						
	12 / 8 / 8	13 / 9 / 9	14 /11/11	16 /16 /16	18 / 15 /15	17 / 20 /17
IP Rating						
	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
Compressor						
Number per Unit	1	1	2	1	2	2
Type	Hi Efficiency Scroll					
No of Refrigeration Circuits	1	1	2	1	2	2
Refrigerant	R 410A	R 410A	R 410A	R 410A	R 410A	R 410A
Fans						
Indoor	Forward Curved	Forward Curved	Plug Fan	Forward Curved	Forward Curved	Forward Curved
Outdoor	Propeller Type					
Airflow						
Maximum	1225	1250	1600	2400	2000	2175
Nominal**	1000	1100	1400	1500	1600	1800
Noise Data***						
SPL @ 3 Meters	59	59	62	57	57	65
Dimensions (mm)						
Length	1160	1230	1675	1780	1780	2058
Width	1200	1200	1545	1505	1490	1625
Height	1070	1175	1375	1520	1500	1500
Weight (kg)						
Shipping	276	325	513	585	595	740
Nett	235	270	443	500	516	631

NOTES:

* To AS/NZS 3823 conditions

** Supply Airflow at Nominal Conditions

*** Noise Data measured to BS 848 PT2 1985 - Installation Type A - measured in decibels re 1 picowatt

**** Units comply with MEPS & or the requirements on the NCC



Air Cooled Packaged Units

OPA 370	OPA 465	OPA 550	OPA 705	OPA 855	OPA 960	OPA 1370	OPA 2000
39.1	46.7	56.1	71.6	85.1	96	137	193
36.9 / 35.55	44.6 / 43.5	53.9 / 49.5	69.7 / 69.4	80.1 / 83.5	87.9 / 90	127.7 / 108	184 / 213
3.23	3.16	3.21	3.3	3.10	2.99	3.27	2.81
3.47	3.46	3.23	3.86	3.30	3.40	3.6	3.51
3 Phase - 342 - 436V 50 Hz							
24 / 20 / 20	26.5/31.1/26.4	29.5/37.7/28.5	40 / 40 / 40	43 / 50 / 43	56.6/65.6/56.6	72 / 77 / 77	125 / 125 / 125
IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
2	2	2	2	2	2	4	4
Hi Efficiency Scroll							
2	2	2	2	2	2	4	4
R 410A	R 410A	R 410A	R 410A	R 410A	R 410A	R 410A	R 410A
Forward Curved	Plug Fan	Plug Fan	Plug Fan	Plug Fan	Plug Fan	Plug Fan	Plug Fan
Propeller Type							
2500	3250	3250	4500	5000	5250	8500	10500
2100	2500	2800	3700	4200	5200	7500	9500
65	62	68	66	66	67	70	62
2080	2225	2225	2790	2790	2790	4668	6248
1685	1950	1950	2150	2150	2150	2425	2430
1555	1635	1750	1860	1860	1860	2330	2435
775	869	949	1241	1215	1240	2180	3220
662	774	840	1139	1113	1148	2000	3170

Sydney: (02) 8822 5700

Newcastle: (02) 4962 1155

Christchurch: (03) 379 3216

Townsville: (07) 4774 3506

Perth: (08) 6399 5900

Jakarta: (62) 21 2963 4983

Adelaide: (08) 8115 2111

Launceston: (03) 6331 4209

Singapore: (65) 6733 4292

Brisbane: (07) 3308 8333

Auckland: (09) 279 5250

Shanghai: (21) 5648 2078

Melbourne: (03) 8769 7600

Wellington: (04) 569 3262



www.temperzone.biz

■ Auckland
(Head Office and Manufacturing)

▲ Sydney
(Australian Head Office and Manufacturing)

● Branches
Wellington, Christchurch, Brisbane, Melbourne,
Adelaide, Singapore, Shanghai and Jakarta.

● Distributors
North Queensland, Perth, Launceston,
Newcastle, Singapore, Shanghai, Beijing,
Jakarta, Hong Kong, Sri Lanka, Mauritius,
Bangalore, Bangkok, Hanoi, Cambodia,
South Pacific Islands and Bangladesh.