

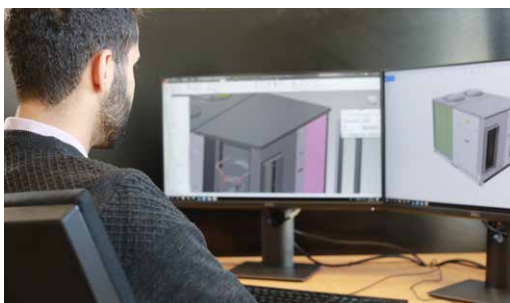
Air Cooled Packaged Units



Over 60 Years Industry Expertise

Temperzone is dedicated to pioneering innovative new technologies and creating market-leading, easy-to-use solutions that offer precision climate control. 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 application support.

Our core strengths in Australia & New Zealand



Research & Development

Our design engineers develop local products, that provide innovative solutions designed for Australian and New Zealand conditions.



Engineering

We aim to maximise performance by utilising our local team of engineers, who are able to provide the best solution for your applications.



Logistics

We work closely with customers to ensure adequate stock is available and delivered when it is needed.



Local Support

Our project engineers work with sales to make sure customers are getting the right product for the job.

A Flexible Solution For Multiple Spaces

Combine a large commercial floor space and constantly changing cooling or heating loads and you will have a climate control challenge that temperzone's air cooled package units are designed to handle even in the extremes of summer and winter. The OPA (Air cooled package systems) range in capacity from 11.6kW to 193.0kW and offer a wide range of flexibility to meet most applications.



SHOPPING CENTRES



INDUSTRIAL FACILITIES



SUPERMARKETS



LABORATORIES



FOOD PROCESSING OR MANUFACTURING PLANTS



MUSEUMS AND COMMUNITY HALLS



OFFICE BUILDINGS



PUBS & CLUBS



SCHOOLS AND UNIVERSITIES

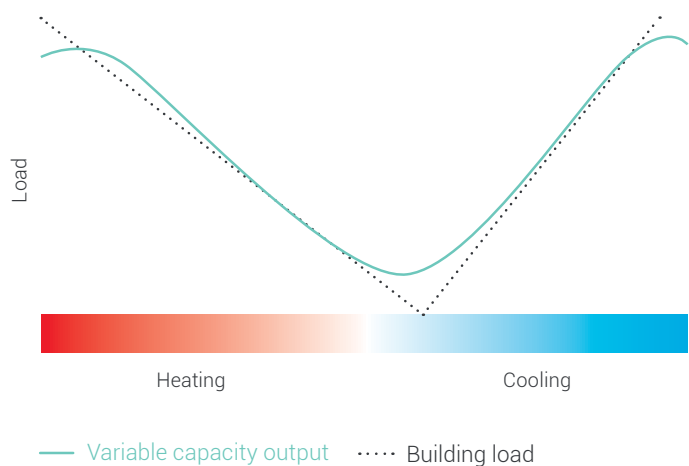


Air Cooled Packaged

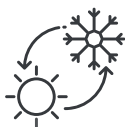
A responsive and adaptive solution, temperzone's ECO Air Cooled system can adjust its own cooling or heating capacity in accordance with changing loads.

Thanks to a high-tech, variable capacity compressor the temperzone ECO unit adapts to suit the requirements in the occupied space. It works hard only when needed, all the while offering the ability to provide optimum comfort. Featuring simple control technology, our systems are easy-to-use.

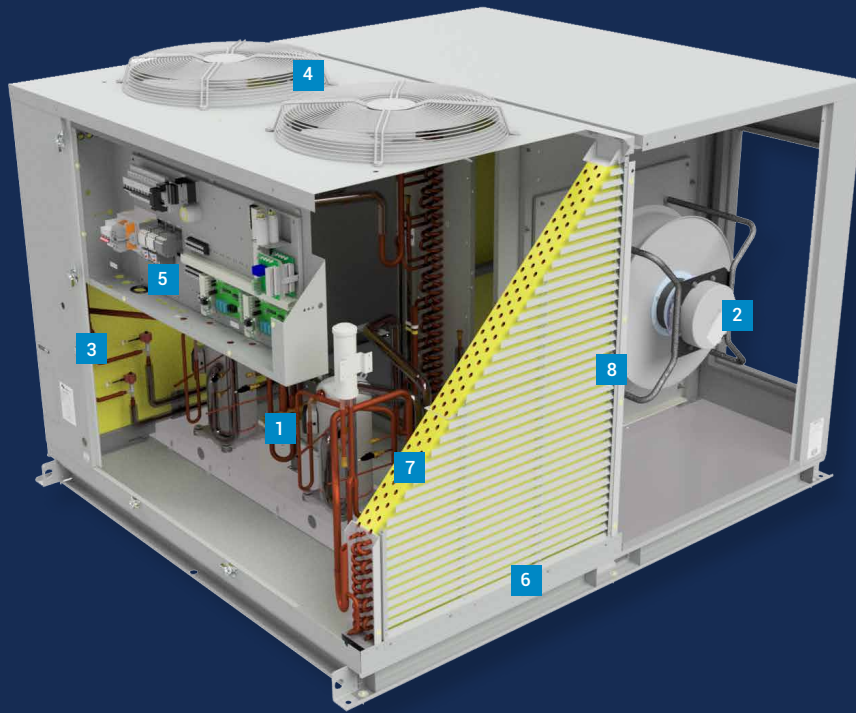
Variable Compressor Matches Supply and Demand



R410A REFRIGERANT



REVERSE CYCLE



Eco model only
(refer technical data)



1

DIGITAL COMPRESSOR

40-100% continuous modulation enables wide capacity range and provides better humidity control at low capacity.



2

EC PLUG FAN

High static plug fans that can be externally controlled via 0~10VDC or bms command.



3

DUAL EEV

Dual EEV offers optimum control of superheat for outstanding comfort and humidity control



4

VARIABLE SPEED

EC Condenser fans provide greater efficiency and control with soft starting and low air noise.



5

INTELLIGENT UNIT CONTROLLER

Ensures the unit runs at its optimum efficiency and provides system operation data.



6

ADVANCED POWDER COATING

Surpasses 1000hr salt spray test.



7

EPOXY COATED COILS

Standard on indoor and outdoor coils for added coil protection.



8

LOUVERED GUARDS

Aesthetic guards protect the coil from damage.



9

ECONOMY CYCLE

Optional return and outside air dampers. Outside air damper supplied with weather cowl. Inputs to control externally via 0~10VDC Units above 24kW cooling capacity.



10

3RD PARTY CONNECTIVITY

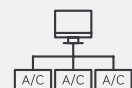
Simple terminals for compressor control on/off and modulation, fan speed and cycle modes.



11

FRESH AIR OPTION

Optional fresh air damper. Fresh air damper supplied with weather cowl. Inputs to control externally via 0~10VDC Units above 24kW cooling capacity.



12

BMS

BACnet™ or Modbus via TCP/IP or RS485.
*BACnet is optional accessory.

+ Intelligent defrost cycle + Filter rails standard + Easy maintenance access panels & doors + Inbuilt Service GPO + Foil face polyethylene insulation

Precision Load Response Technology

*Eco models only

Efficiency and Comfort

High levels of comfort and energy savings can be provided regardless of climatic conditions. The use of variable capacity compressors allow a precise load variation response. High response levels to current load conditions are further guaranteed using Electronic Expansion Valves and variable speed control of the indoor and outdoor fans.

1 Compressor

- Continuous modulation enables wide capacity range.
1 compressor 40-100%
2 compressors 20-100%
4 compressors 10-100%
- Modulating compressors have the ability to continue to operate at high ambient conditions without faulting.

[See figures 1-2](#)

2 EC Fans

- Variable speed EC fans giving optimum control of operational and standby air-flow. Constant airflow can be achieved, independent of return air and fresh air damper openings or filter resistance.
- Superior fan efficiencies with EC fans.
- Increased energy savings at part load conditions with variable 0-10VDC control

[See figure 3](#)

Fig 1

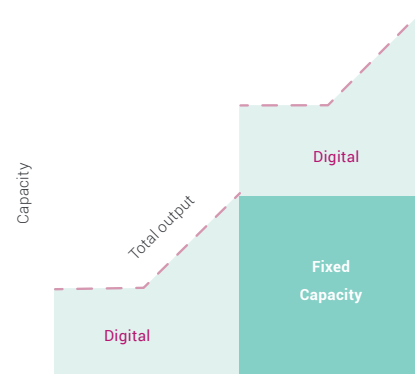


Fig 2

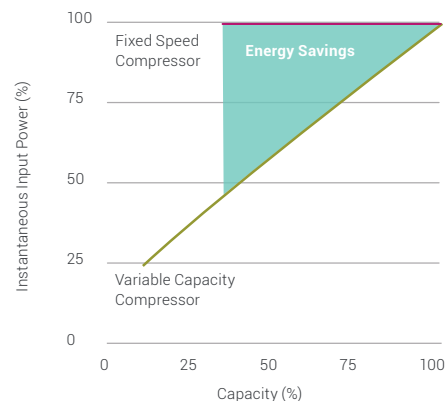
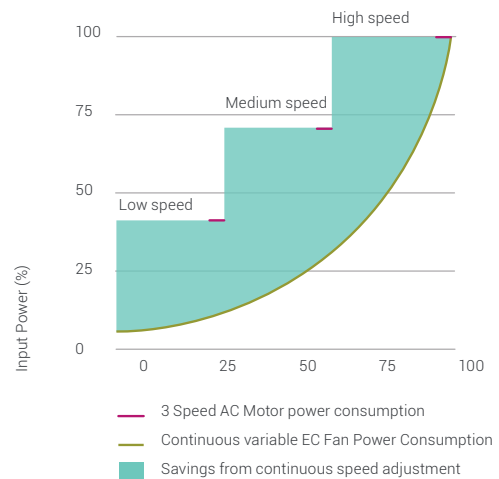


Fig 3

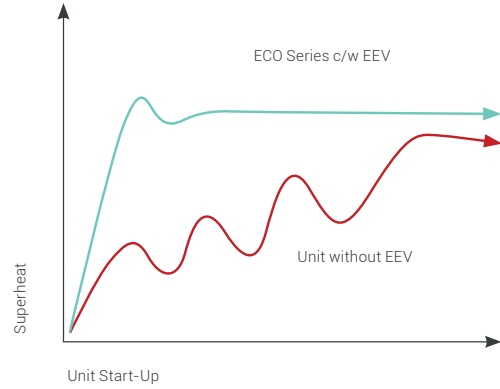


Applicable to OPA186

3 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 4](#)
- Dry Mode and Super Dry Mode can only be achieved by temperzone ECO units as they utilise optimised Dual Electronic Refrigeration Valve control (IP protected) to achieve exceptional dehumidification performance across the units full operation range.
[See figure 6](#)

Fig 4



4 Variable Outdoor Fans

- Extended system operating envelope with fully modulating head pressure control
[See figure 5](#)
- Increased energy savings at part-load conditions with integrated speed control
- High fan reliability with soft starting and low air noise
- Quiet Mode for noise sensitive applications

Fig 6

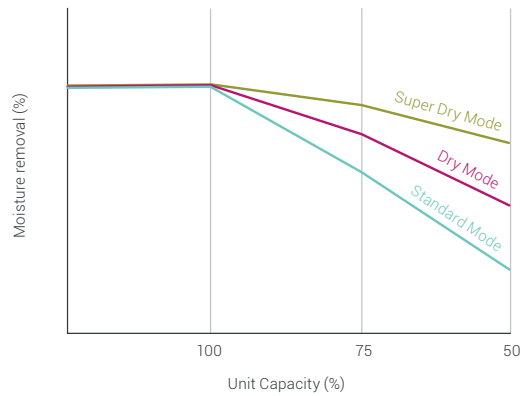
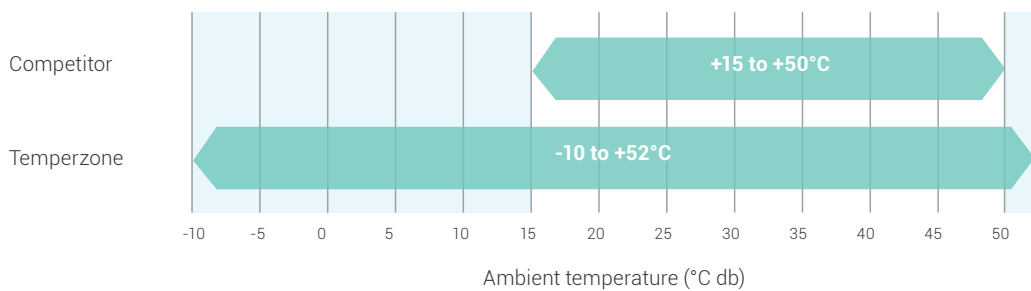


Fig 5



Energy Savings

With the right application and selection advice, Temperzone ECO Air Cooled technology can lead to substantial running cost savings.

Upgrading air conditioning infrastructure generally involves either:

1. Replacing old technology or
2. Making a choice between competing modern technologies (STD vs ECO)
With the right application and selection advice, energy modelling shows that temperzone Air Cooled technology can lead to substantial running cost savings.

Using ACADs Camel and ACADS Beaver software, annual energy consumption was modelled on a large office supply retailer in Sydney with a total heat load of 148kW.

Energy modelling was based on a system consisting of 3 x OPA 550 rooftop units or their R22 equivalents, with economy cycle dampers fitted. The objective was to examine the energy efficiency of three comparative technologies:

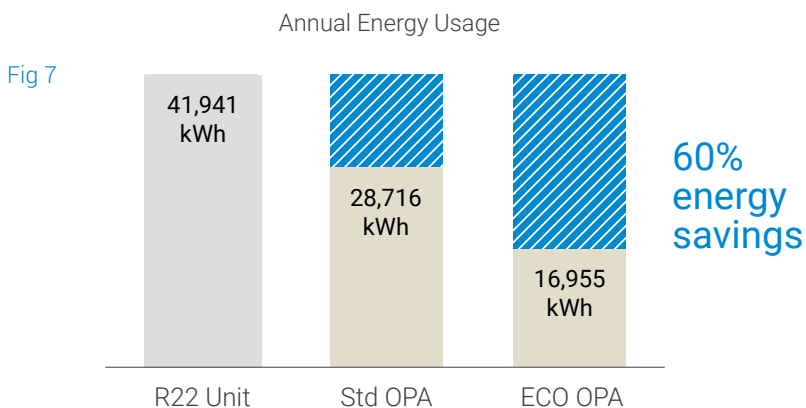
- R22 units with a scroll compressor
- Standard OPA units
- ECO OPA units*


Hours of operation 6am to 10pm, 7 days.

Up to 60% Savings Replacing Old Technology

The results revealed the R22 system consumed 125,824 kWh, the Standard OPA system 86,149 kWh, while the ECO system consumed only 50,866 kWh annually.

When we examine individual unit energy consumption we see a substantial 60% energy savings which the OPA 550 ECO achieves over the R22 unit.





**One of the most
energy-efficient
on the market.**

Reduced power usage and lifetime cost of ownership

The energy modelling study revealed the retailer would reduce carbon emissions by utilising energy efficient ECO units over older technology.

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 environmental considerations at stake, system design and equipment selection is critical when replacing equipment and planning new constructions.

Our energy study revealed that replacing R22 units with ECO units dramatically reduces power consumption.





Your business could make substantial savings by utilising Temperzone ECO technology across your network.

The cost savings generated in our single retail store over the 15 year product life expectancy of our air conditioning units was substantial.

The study revealed a major difference in lifetime cost of ownership** between R22 and ECO units. Significant savings can be attained by replacing old R22 units with ECO technology.

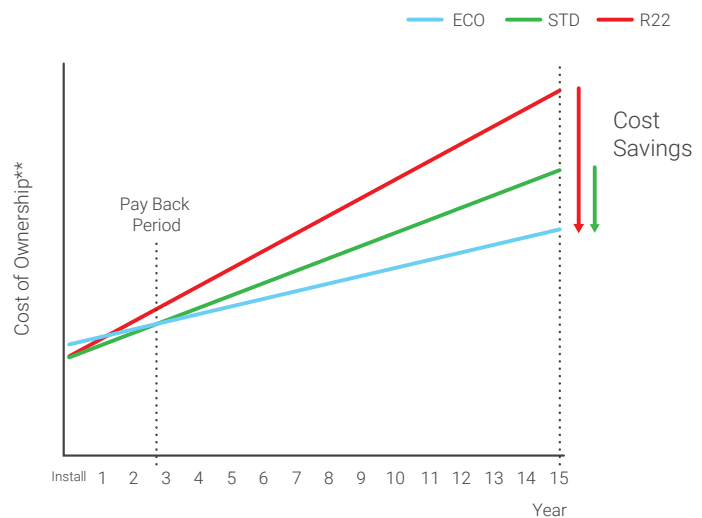
Cost of ownership** savings were also significant when choosing to install ECO units over Standard units. Lower running and maintenance costs meant recovering the extra capital and installation cost of fitting ECO units was just over two and a half years.

See figure 9

Our study revealed that replacing R22 units with ECO units provides significantly reduced cost of ownership over the lifetime of the system.

Fig 9

Retail store lifetime cost of ownership



** Includes mechanical systems cost (provide/install), yearly service/maintenance costs, and yearly running costs*.

OPA Range Options & Features

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

Model	OPA 116	OPA 161	OPA 186	OPA 201	OPA 242	OPA 294
Adjustable Indoor Fan	●	●	●	●	●	●
Var. speed Condenser Fans	●	●	●	●	●	●
BMS Connection	●	●	●	●	□	□
Epoxy Coated Coil						
Evaporator	●	●	●	●	●	●
Condenser	●	●	●	●	●	●
Economy Cycle Kit	N/A	N/A	N/A	N/A	□	□
Outside Air Kit	N/A	N/A	N/A	N/A	□	□
Variable Compressor	□	□	●	●	□	□
Fixed Compressor	●	●	●	●	●	●
EC Indoor Fan	●	●	●	●	●	□
Compressor Soft Starter	□	□	□	□	□	□
Optional Panel Filters						
50mm	N/A	N/A	N/A	N/A	□	□
100mm	N/A	N/A	N/A	N/A	N/A	N/A
Handing Options						
Supply Air	□	□	□	□	□	□
Return Air	N/A	N/A	N/A	N/A	□	□

- Option
- Standard

		ECO	ECO	ECO	ECO	ECO		
OPA 340	OPA 370	OPA 465	OPA 550	OPA 705	OPA 855	OPA 960	OPA 1370	OPA 2000
●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●
□	□	●	●	●	●	●	□	□
●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●
□	□	□	□	□	□	□	□	□
□	□	□	□	□	□	□	□	□
□	□	●	●	●	●	●	□	□
●	●	●	●	●	●	●	●	●
□	□	●	●	●	●	●	□	□
□	□	□	□	□	□	□	□	□
□	□	□	□	□	□	□	□	□
N/A	N/A	□	□	□	□	□	□	□
□	□	□	□	□	□	□	□	□
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OPA Range Technical Specifications

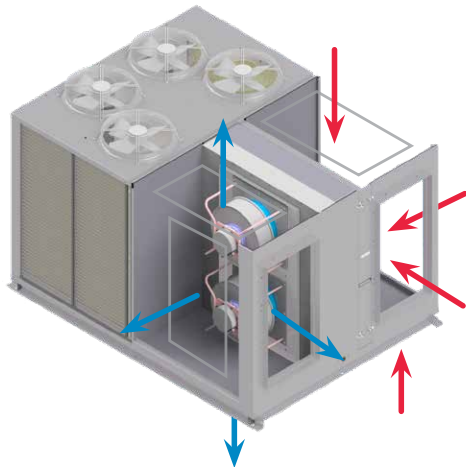
Model	OPA 116	OPA 161	OPA 186	OPA 201	OPA 242	OPA 294	OPA 340
Total (Gross) Capacity kW*							
Cooling	11.6	16.1	18.6	20.0	23.5	29.5	34.0
Nett (Rated) Capacity kW*							
Cooling / Heating	11.33 / 10.8	15.55 / 14.4	18.2 / 16.2	19.76 / 18.08	22.34 / 22.1	28.3 / 27.2	32.5 / 30.1
EER/COP*							
EER* Cooling	3.35	3.24	3.17	3.14	3.19	3.21	3.31
COP* Heating	3.58	3.23	3.44	3.33	3.39	3.58	3.59
Power Supply							
Power Supply	3 Phase - 342 - 436V 50 Hz						
Run Amps / Phase (A/ph.)							
	9 / 5 / 5	11 / 7 / 7	12 / 8 / 8	13 / 9 / 9	13 / 10 / 10	18 / 15 / 15	17 / 20 / 17
IP Rating							
	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
Compressor							
Number per Unit	1	1	1	1	2	2	2
Type	Hi Efficiency Scroll	Hi Efficiency Digital Scroll	Hi Efficiency Digital Scroll	Hi Efficiency Digital Scroll	2 x Hi Efficiency Scroll	2 x Hi Efficiency Scroll	2 x Hi Efficiency Scroll
No. of Refrigeration Circuits	1	1	1	1	2	2	2
Refrigerant	R 410A	R 410A	R 410A	R 410A	R 410A	R 410A	R 410A
Fans							
Indoor	Centrifugal / EC Direct Drive	Centrifugal / EC Direct Drive	Centrifugal / EC Direct Drive	Centrifugal / EC Direct Drive	Plug Fan	Forward Curved	Forward Curved
Outdoor	Vari Speed Propeller Type						
Airflow							
Nominal**	650	815	1000	1100	1400	1600	1800
Maximum	800	1000	1200	1225	1600	2100	2200
Noise Data***							
SPL @ 3 Metres	55	55	59	59	62	57	65
Overall Dimensions (mm)							
Length	1110	1160	1160	1230	1675	1780	2058
Width	1200	1200	1200	1200	1567	1490	1625
Height	915	1070	1070	1175	1375	1500	1500
Weight (kg)							
Nett	193	225	235	270	443	516	631
Shipping	229	266	276	325	513	595	740

NOTES: * To AS/NZS 3823 conditions *** Noise Data measured to BS 848.2: 2014 - Installation Type A - measured in decibels re 1 picowatt
 ** Supply Airflow at Nominal Conditions **** Units comply with MEPS & or the requirements on the NCC

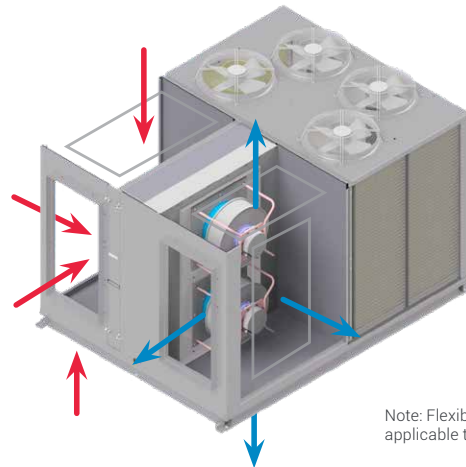
	ECO	ECO	ECO	ECO	ECO	ECO	ECO
OPA 370	OPA 465	OPA 550	OPA 705	OPA 855	OPA 960	OPA 1370	OPA 2000
39.1	44.9	54.6	69.7	85.1	96.0	137.0	193.0
36.9 / 35.6	43.9 / 41.1	52.9 / 53.4	67.9 / 67.5	79.4 / 78.0	87.9 / 90.0	130.0 / 135.0	184.0 / 213.0
3.23 3.48	3.22 3.62	2.93 3.35	3.30 3.75	3.10 3.28	2.99 3.40	3.16 4.02	2.81 3.55
3 Phase - 342 - 436V 50 Hz							
20 / 24 / 20	20 / 26 / 20	29 / 38 / 29	33 / 40 / 34	45 / 52 / 45	58 / 66 / 57	75 / 83 / 83	102 / 110 / 110
IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
2	2	2	2	2	2	4	4
2 x Hi Efficiency Scroll	1 x Hi Efficiency Digital Scroll / 1 x Hi Efficiency Scroll				2 x Hi Efficiency Digital Scroll	4 x 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	Forward Curved	Forward Curved
Vari Speed Propeller Type							
2100 2500	2400 3330	2800 3330	3700 5100	4200 5100	4750 5100	7500 8500	9500 10500
65	68	65	63	63	63	70	62
2080 1670 1550	2344 1949 1634	2344 1949 1737	2902 2149 1859	2902 2149 1859	2902 2149 1859	4668 2425 2377	6248 2430 2430
662 775	798 880	878 960	1105 1193	1133 1221	1129 1240	2297 2477	3070 3220

Flexible Handing Options

32 Flexible handing configurations available to suit the application.



Standard Handing



Opposite Handing

Note: Flexible handing options applicable to ECO units only.

		Return Air	
Std configuration		Front RH	Down RH
Supply Air	Front LH	•	
	Down LH		•

		Return Air	
Std configuration		Front LH	Down LH
Supply Air	Front RH	•	
	Down RH		•

Tables show factory handings. Please contact your Temperzone representative for tailored configurations to suit your project.

Additional Options



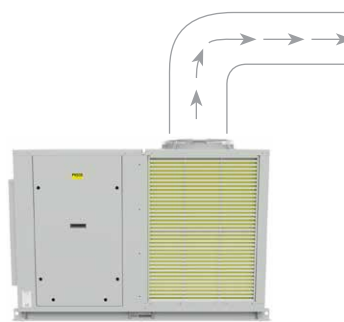
Economiser Cycle

The Economy Cycle presents significant energy savings. When the outside ambient air is below set point required, the compressor is cycled off, outside air dampers open, and the supply air fan continues to run, bringing cool air in from outside.



Fresh Air Damper

The Fresh Air Damper allows the introduction of fresh air into the air conditioned space, thereby increasing the amount of oxygen available to the building occupants.



EC Outdoor Fans

Optional high static outdoor fans allows up to 110pa allowing condenser air to be ducted in applications where the unit is positioned inside.



EC Plug Fans

Improved efficiency and comfort through the supply of exact airflow requirements with variable airflow technology. Up to 50% more efficient than belt driven fans. Standard in ECO units.

Control

Temperzone's UC control system makes it easy for an optional thermostat to control the unit and maintain the space at a prescribed temperature.

Controlled via an easy-to-use, wall-mounted controller with optional TZT-100 LCD display panel, the system can be upgraded with features including remote temperature sensors.

- 7-day programmable with 2 events per-day
- Night set back
- After-hours run timer
- Averaging temperature sensor
- Time clock or manual operation

Additional Unit Controller Features

- Remote On / Off
- Remote Common Fault Alarm
- HP/LP Safety
- Discharge line safety temperature thermostat

No matter how simple or complex the climate control requirements, temperzone can offer a unit that can be integrated into the building air conditioning infrastructure.





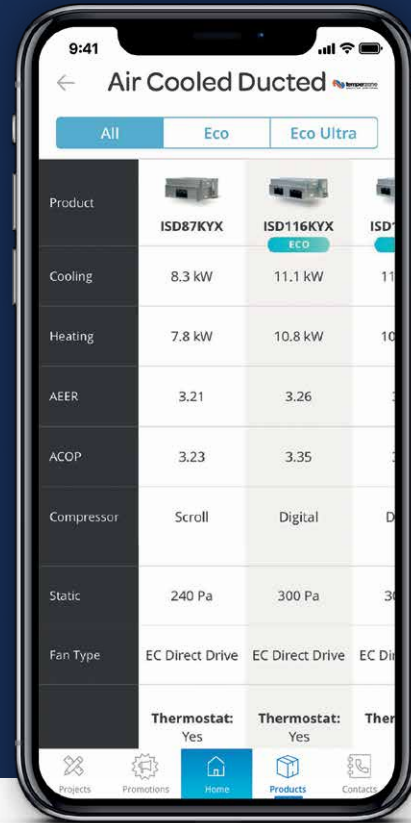
Temperzone Customer Care

Temperzone Customer Care is designed to deliver the highest level of support and accessibility to all our customers. This program provides factory trained technicians with the ability to resolve issues on-site, significantly reducing guesswork from commissioning.

With Temperzone products continually evolving to provide higher levels of efficiency, control and protection we want our customers to have the comfort of knowledge that Temperzone will be there right along-side them for the entire product life cycle.

Temperzone offers a wide range of training courses in application, service and commissioning.





WiFi Service Utility Tool

WiFi Service Utility (WSU) is a portable control interface that plugs directly into the UC6, UC7 & UC8 board on a Temperzone Air Conditioning Unit. It allows you to monitor a wide range of operational parameters, view fault logs and even take control of the unit. It has its own WiFi network built in and the control and diagnostics are done wirelessly from a smartphone, tablet or notebook PC.



Temperzone Access App

Designed with simple access to information in mind, our app allows you to browse temperzone product ranges and view product specs - giving you access to detailed information, wherever you are. Create personalised projects and add product information for efficient & effective project management. Search temperzone Access via the App store or Google Play to download today.



www.temperzoneaccess.com

Temperzone Australia Pty Ltd

ENQUIRIES

Australia: sales@temperzone.com.au
New Zealand: nzsales@temperzone.com
Singapore: sales@temperzone.com.sg

AUSTRALIA

Sydney: (02) 8822 5700
Adelaide: (08) 8115 2111
Brisbane: (07) 3308 8333
Melbourne: (03) 8769 7600

DISTRIBUTORS

Newcastle: (02) 4962 1155
Perth: (08) 6399 5900
Launceston: (03) 6331 4209

NEW ZEALAND

Auckland: (09) 279 5250
Wellington: (04) 569 3262
Christchurch: (03) 379 3216

ASIA

Singapore: (65) 6733 4292
Shanghai: (21) 5648 2078

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