

## OPA SERIES - DUCTED PACKAGED ROOF TOP AIR CONDITIONERS

### GENERAL

The OPA Series Roof Top air conditioners have been conceived from the start as reverse cycle (heat pump) packaged systems – designed to be efficient both when heating and cooling.

### TEMPERZONE LIMITED

**temperzone** is one of Australasia's largest manufacturers of reverse cycle packaged air conditioners. The company has been supplying units to the commercial and industrial markets for over 30 years. Manufacturing facilities are located in New Zealand and Australia.

**temperzone**'s mission is to provide the most competitively priced, reliable and efficient air conditioning equipment available to the international market.

### APPLICATIONS

Ducted packaged systems are unobtrusive, quiet, and designed to provide year round comfort – warming in Winter and cooling in Summer. **temperzone**'s wide product range offers a unit of performance capacity to suit small to large packaged air conditioner applications, e.g. offices, shops, motels, fast food outlets, restaurants, petrol stations, open plan office and work spaces, supermarkets, shopping malls and auditoriums.

**temperzone** ducted systems are particularly suitable for rooms with suspended tile ceilings. Not only is valuable wall space preserved, but also the conditioned air can be ducted to the parts of the room where it is most needed.

OPA units are suited to high static pressure applications where large volume spaces are to be air conditioned. Long pipe and duct runs are possible enabling greater installation flexibility.

OPA units are available in Cooling Only, as well as Reverse Cycle (Heat Pump) versions.

This range of units have been developed to meet the needs of typical applications. Should you have special requirements, such as higher air flows or greater sensible duty units contact your nearest **temperzone** representative. **temperzone** engineers have extensive experience in designing air conditioning equipment for specific applications.

### FEATURES

**Efficient.** These reverse cycle (heat pump) air conditioners provide one of the most efficient forms of heating you can invest in. For every 1 kW of power consumed, up to 3 kW of heat is generated. Each outdoor unit incorporates high efficiency scroll or rotary compressor/s. Heat exchange coils use inner grooved (rifled) tube for better heat transfer.

**Performance.** These systems have been designed and tested to perform in ambient conditions as low as -4°C and as high as 46°C. Belt drive fan motors are used to match the supply air requirements. The smaller units have multi-speed direct drive fans for adjusting air flows.

**Durable.** **temperzone** packaged systems are built tough to withstand all weathers. Their durable construction ensures a long life and excellent return on your investment. The outdoor air coils' aluminium fins are epoxy coated for extra protection in corrosive environments, e.g. salt laden sea air. Cabinets are constructed from high grade galvanised steel - polyester powder coated (tan) for all weather protection. External fasteners are stainless steel. Corrosion resistant drain trays are also included.

**Insulation.** Indoor air sections are generously insulated to reduce condensation and contain noise.

**Safety.** The refrigeration systems includes a number of protection facilities, including: HP and LP switches, anti rapid cycle timers, circuit breaker control circuits, electronic de-ice switch and 24 V control (larger systems)

**Configurations.** Three versions are available for models OPA 210 – OPA 920 :

1. Horizontal supply/return air with mounting rails.
2. Downward supply air with mounting rails.
3. Downward supply air with plinth mount.

Models OPA 101–180 are all type 1 configuration.

**Economy.** Some models (refer table) feature the flexibility and economy of two stage operation. Compressors are progressively switched on only as they are needed. This has the added advantage of lowering start-up current.

**Economiser Option.** If the outdoor air temperature or enthalpy is below that of the return air, the compressor stops, a fresh air damper opens and the return air damper closes. Operating costs are reduced as free cooling is obtained. Fresh air dampers close to a minimum setting and return air dampers open before normal compressor operation resumes.

**Fresh Air Introduction.** An optional fresh air damper is available for most models (refer table). For applications using high proportions of fresh air (50%+) a hot gas bypass and HP fan speed controller are recommended and are available as options.

**Peace of Mind.** The manufacturer operates a quality management system that conforms to AS/NZS ISO 9001: 2000. **temperzone** products have been chosen, against worldwide competition, for use in some of the most exclusive projects — chosen because of their proven efficiency, durability, performance, reliability and value.

### REFRIGERANT

**temperzone** packaged systems use HCFC-22 (R22) refrigerant.

## DUCTED PACKAGED ROOF TOP SYSTEMS

### Specifications Overview

Model	OPA 101	OPA 150	OPA 180	OPA 210	OPA 250	OPA 260 A	OPA 290 A
Cooling Capacity * <sup>1</sup> kW	10.0	15.0	18.5	21.5	26.5	26.0	29.0
E.E.R. (cooling)	2.55	2.68	2.83	2.81	2.83	2.65	2.67
Heating Capacity * <sup>2</sup> (Rev. Cycle versions) kW	10.1	15.5	18.8	21.4	26.1	27.7	28.0
Supply Air Flow (nominal) l/s	625	900	1100	1260	1500	1500	1800
Sound Pressure Level (SPL) * <sup>3</sup> dB(A)	52	54	61	57	58	58	65
Sound Power Level (SWL) * <sup>4</sup> dB(A)	73	73	77	79	81	81	84
Power Supply * <sup>5</sup>	4 0 0 — 4 1 5 V a . c . 5 0 H z						
Running Amps (Total System) A	8.6 / 5.7 / 5.5	12 / 8 / 8	14 / 8 / 9	14 / 13 / 13	17 / 17 / 16	15 / 15 / 17	21 / 17 / 17
Recommended External Fuse A/ph.	25	25	25	25	32	32	40
Dimensions :	Width mm	1115	1115	1115	1580	1580	1680
	Depth mm	930	1200	1200	1475	1475	1475
	Height mm	755	810	1020	980	980	1330
Weight kg	150	186	215	309	388	401	460
Features * <sup>6</sup>	D	D	D	B, C, E, V	B, C, E, V	B,C,E,H,T,V	B,C,E,H,T,V

Model	OPA 300	OPA 390	OPA 410 A	OPA 500 B	OPA 600 B	OPA 780 B	OPA 920 B
Cooling Capacity * <sup>1</sup> kW	28.8	39.1	41.0	53	63	78	92
E.E.R. (cooling)	2.74	2.64	2.66	2.72	2.62	2.50	2.61
Heating Capacity * <sup>2</sup> (Rev. Cycle versions) kW	28.6	39.4	41.0	52	60	78	92
Supply Air Flow (nominal) l/s	1800	2340	2340	3000	3600	4750	5400
Sound Pressure Level (SPL) * <sup>3</sup> dB(A)	65	67	66	66	66	68	69
Sound Power Level (SWL) * <sup>4</sup> dB(A)	84	85	85	85	89	90	92
Power Supply * <sup>5</sup>	4 0 0 — 4 1 5 V a . c . 5 0 H z						
Running Amps (Total System) A	22 / 18 / 18	28 / 25 / 24	29 / 26 / 25	33 / 33 / 37	40 / 40 / 40	57 / 48 / 48	54 / 54 / 64
Recommended External Fuse A/ph.	40	50	50	60	80	120	120
Dimensions :	Width mm	1680	1680	1680	2230	2230	2800
	Depth mm	1475	1475	1475	1940	1940	2140
	Height mm	1330	1330	1330	1500	1500	1750
Weight kg	448	479	473	832	885	1170	1300
Features * <sup>6</sup>	B, C, E, V	B, C, E, V	B,C,E,H,T,V	B,C,E,F,Tw,V	B,C,E,F,Tw,V	B,C,E,F,Tw,V	B,C,E,F,Tw,V

**Note:**

Filters are optional. Refer to separate Technical Data pamphlets for performance data under a range of conditions.

\*<sup>1</sup> Nominal Cooling Capacity at AS/NZS 3823 conditions: Indoor Entering Air Temperature 27°C D.B., 19°C W.B.;  
Outdoor Entering Air Temperature 35°C D.B.

\*<sup>2</sup> Nominal Heating Capacity at AS/NZS 3823 conditions: Indoor Entering Air Temperature 21°C D.B.;  
Outdoor Entering Air Temperature 7°C D.B., 6°C W.B.

\*<sup>3</sup> Radiated SPL at 3 m and at nominal air flow.

\*<sup>4</sup> Supply air outlet at nominal air flow.

\*<sup>5</sup> Voltage fluctuation limits: 342 – 436 V.

\*<sup>6</sup> Key to Features:

- B – Belt drive supply air fan
- C – 24 volt control
- D – Direct drive supply air fan
- E – Economiser option
- F – Fresh air damper option
- H – HP Fan Speed Controller supplied
- T – Tandem compressor system (single circuit) - enables staging and low start-up current.
- Tw – Twin compressor system (twin circuit) - enables staging and low start-up current.
- V – Vertical supply/return air option with plinth or mounting rail option

Materials and specifications subject to change without notice due to the manufacturer's ongoing research and development programme.