ROOFTOP PACKAGED AIR CONDITIONERS







Rooftop Packaged Air Conditioners

Hitachi has long been a world leader in the design and manufacture of quality air conditioning systems. With models ranging from room air conditioners to large central plant air conditioning systems, Hitachi has a design to meet any requirement – from a small room to a complete city block.

Hitachi, through it's continued dedication to research and development, has delivered many leading technologies in the air conditioning industry, including the world's first scroll compressor and advances in the design and manufacture of heat exchangers.

Hitachi's rooftop package units are a proven design that has been used in thousands of applications across the globe and installed and operated in Australian buildings for over 20 years.



Features

ROBUST AND RUST RESISTANT

Hitachi air conditioning units are constructed from robust, heavy-duty galvanised sheet metal and coated in a synthetic resin for maximum durability. All external fixings are made using stainless steel, while the pre-coated aluminium fins ensure Hitachi air conditioners can withstand the Australian environment.

Should additional corrosion protection be required for harsher conditions, such as high salt and moisture environments, Hitachi units can be supplied with special anti-corrosion treatments on the heat exchangers to help extend the life of the units.

QUALITY COMPONENTS

One of the unique aspects of the unit is that many of the internal components are designed and manufactured by Hitachi companies. This ensures the highest levels of quality control and component compatibility for a smoother and consistently better air conditioning unit.

Most Hitachi RUA package units utilise Hitachi fan motors, Hitachi compressors and Hitachi electrical components.







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HIGH EFFICIENCY, LOW VIBRATION

Hitachi's scroll compressors have become renowned for their high levels of efficiency, low noise and low vibration.

The scroll compressors (models RUA-5HS to RUA-20HS) incorporate a number of unique features. These include compressor motors cooled by the discharge gases and the placement



of the oil reservoir on the high-pressure side, for improved efficiency and oil supply. This, combined with Hitachi's expertise in precision manufacturing, creates a compressor design with fewer moving parts, superior efficiencies, lower noise and minimal vibration.

COMPRESSOR PROTECTION

Crankcase heaters are fitted to all compressors to prevent liquid accumulation damaging compressors on start-up while the suction line accumulators prevent liquid refrigerant from entering the compressor and causing damage.

In addition, compressors are protected from low voltage, voltage fluctuation, phase imbalance, and failure of related components through the use of:

- mercury overcurrent relays
- a dual pressure switch
- a timer relay
- a reverse phase protection relay
- a discharge gas thermostat
- indoor and outdoor fan overcurrent relay
- compressor crankcase heaters



QUIET OPERATION

Hitachi units include a variety of additional features to assist in minimising noise.

These include:

- Efficient streamlined statically and dynamically balanced fans
- Anti-vibration mounts under each compressor
- Anti-vibration boxes to enclose the compressors

EASY INSTALLATION AND MAINTENANCE

To keep installation as hassle-free as possible, Hitachi units are fully factory assembled and tested. Only ductwork and external wiring connections are required to make the units completely operable ensuring rapid, low-cost installation.

For ease of commissioning and maintenance, Hitachi units include easy access to the electrical cabinet and major refrigeration components.



The components are separated from the condenser fan by a baffle plate to keep maintenance as safe and easy as possible.



The evaporator fan allows for easy adjustment of the fan speed through the use of variable speed pulleys and a simple robust mechanism for fast adjustment of the belt tension.

Hitachi's units have been designed to minimise footprint space, thereby reducing installation costs by saving making unit location more convenient and flexible. This means cost savings can be put to alternative use.

RUA-5HS footprint = $1.5m^2$ Competitor Model = $1.8m^2$ Hitachi is 20% smaller than competitor model

RUA-20HS footprint = 3.6m² Competitor Model = 4.4m² Hitachi is 22% smaller than competitor model

Optional items such as: thermostat, remote control switch filter box and filter, further enhance the units flexibility and ease of installation.





ROOFTOP PACKAGED AIR CONDITIONERS



Models



MARK NAME

- 1 Supply Air Connection
 - 2 Return Air Connection
- 3 Condensed Air Intake (Both Sides)
- 4 Condensed Air Discharge
- 5 Indoor Side Condensate Drain Connection (FPT3/4 Both Sides)
- 6 Service Panel for Magnetic Switch Box and Compressor
- 7 Service Panel for Indoor Fan Motor
- 8 Knockout Hole for Power Supply Wiring (ø52)
- 9 Knockout Hole for Operation Circuit Wiring (ø26.1)
- 10 Mounting Plate

		DIMENSIONS IN MM												
MODEL		А	В	С	D	Е	F	G	Н	1	J	K	L	М
RUA-13AT3S	Cooling Only	2110	1400	910	206	44	566	62	1250	75	637	637	60.5	2135
RUA-13HS	Heat Pump		Not Available											
RUA-15AT3S	Cooling Only	2110	1400	910	206	44	566	62	1250	75	637	637	60.5	2135
RUA-15HS	Heat Pump	2110	1400	980	206	44	636	62	1250	75	637	637	60.5	2135

Drawings are indicative only, actual quantity and positioning of items, such as condenser fans, may vary (refer Unit General Data). Should a detailed drawing be required please contact your local Hitachi sales office.

MODEL RANGE





MARK NAME

- 1 Supply Air Connection
- 2 Return Air Connection
- 3 Condensed Air Intake (Both Sides)
- 4 Condensed Air Discharge
- 5 Indoor Side Condensate Drain Connection (FPT1 Both Sides)
- 6 Service Panel for Magnetic Switch Box and Compressor
- 7 Service Panel for Indoor Fan Motor 8 Knockout Hole for Power Supply
- Wiring (ø52) Knockout Hole for Operation Circuit 9
- Wiring (ø32.5) Mounting Plate

		DIMENSIONS IN MM												
MODEL		А	В	С	D	Е	F	G	Н	I.	J	K	L	М
RUA-20AT3S	Cooling Only	1920	1900	1500	285	76	1021	85	1250	323.5	1958	N/A	N/A	1836
RUA-20HS	Heat Pump	1920	1900	1500	285	76	1021	85	1250	323.5	1958	N/A	N/A	1836
RUA-30AT3S	Cooling Only	2400	1900	1500	285	76	1021	85	1570	143.5	1958	N/A	N/A	2316
RUA-30HS	Heat Pump	2400	1900	1500	285	76	1021	85	1635	119.5	1958	N/A	N/A	2316

Drawings are indicative only, actual quantity and positioning of items, such as condenser fans, may vary (refer Unit General Data). Should a detailed drawing be required please contact your local Hitachi sales office.





MARK NAME

- 1 Supply Air Connection
- 2 Return Air Connection
- 3 Outdoor Coil Intake (Both Sides)
- 4 Outdoor Coil Discharge
- 5 Indoor Side Condensate Drain Connection (FPT3/4)
- 6 Service Panel for Magnetic Switch Box and Compressor
- 7 Service Panel for Indoor Fan Motor
- 8 Knockout Hole for Power Supply Wiring (ø52)
- 9 Knockout Hole for Operation Circuit Wiring (ø26.1)
- 10 Mounting Plate

		DIMENSIONS IN MM												
MODEL		А	В	С	D	Е	F	G	Н	1	J	K	L	М
RUA-5AT3S	Cooling Only	1435	1020	630	206	44	296	52	870	75.5	905	55	60	1460
RUA-5HS	Heat Pump	1435	1020	730	206	44	396	52	870	75	905	57.5	60	1460
RUA-8AT3S	Cooling Only	1635	1020	730	206	44	396	52	870	75.5	905	55	60	1660
RUA-8HS	Heat Pump	1635	1020	820	206	44	486	52	870	75	905	57.5	60	1660
RUA-10AT3S	Cooling Only	1635	1020	900	206	44	566	52	870	75.5	905	55	60	1660
RUA-10HS	Heat Pump	1720	1020	980	206	44	646	52	870	75	905	57.5	60	1745

Drawings are indicative only, actual quantity and positioning of items, such as condenser fans, may vary (refer Unit General Data). Should a detailed drawing be required please contact your local Hitachi sales office.

MODEL RANGE

Specifications

		AIR CONDITIONERS											
MODEL		RUA-5AT3S	RUA-8AT3S	RUA-10AT3S	RUA-13AT3S	RUA-15AT3S	RUA-20AT3S	RUA-30AT3S					
Nominal Cooling Capacity	/ kcal/h	12,100	17,900	25,200	30,000	37,200	50,400	74,400					
at 35°C Outdoor	W	14,100	20,800	29,300	34,900	43,300	58,600	86,500					
Temperature* 50 Hz	Btu/h	48,000	71,000	100,000	119,000	147,600	200,000	295,200					
Nominal Cooling Capacity	/ kcal/h	10,800	16,000	22,600	27,100	33,300	45,200	66,700					
at 46°C Outdoor	W	12,600	18,600	26,300	31,500	38,700	52,600	77,600					
Temperature** 50 Hz	Btu/h	42,900	63,500	89,700	107,500	132,100	179,400	264,700					
Capacity Control	%	100, 0	100, 0	100, 0	100, 60, 0	100, 50, 0	100, 50, 0	100, 50, 0					
Cabinet			Synthetic Kesin Painted On Galvanised Steel Plates										
Colour (IVIunsel Code)	a la la de la comuna	620	720	000	Beige (2.5 Y 8/2))	1 500	1 500					
Outer Dimensions H	eight mm	630	/30	900	910	910	1,500	1,500					
	viath mm	1,020	1,020	1,020	1,400	1,400	1,900	1,900					
L Not Moist	peptn mm	1,460	1,660	1,660	2,135	2,135	1,945	2,425					
Net Weight	кд	194	280	310	435	470	830	950					
		K-ZZ	K-ZZ	K-ZZ	K-ZZ	K-ZZ	K-ZZ	K-ZZ					
Flow Control													
		llormotic	l	l	Llormotic	Llormotic	Llormotic	Llormotic					
Compressor		Scroll	Scroll	Scroll	Scroll &	Reciprocating	Reciprocating	Reciprocating					
Madal		FOODU	75051	100051	Reciprocating		10015114 T						
IVIOdel		500DH	750EL	TOUGEL	500DH & 753FH3-T	/53FH3-1	1001FH4-1	CB-120					
Quantity		1	1	1	2	2	2	2					
Condenser				Multi-I	Pass Cross Finne	d Tube							
Fan	50 Hz				Propeller Fan								
Air Flow	l/s	2,000	2,250	2,667	4,250	4,500	5,333	8,000					
Motor	kW	0.3	0.45	0.4	0.3/0.4	0.4	0.3	0.3					
Quantity		1	1	1	2	2	2	3					
Evaporator				Multi-	Pass Cross Finne	d Tube							
Fan				Multi-	Blade Centrifug	ial Fan							
Nominal Air Flow	l/s	767	1,150	1,500	1,833	2,167	3,000	4,333					
	m³/s	0.77	1.15	1.5	1.83	2.17	3	4.33					
Motor	kW	0.55	0.75	1.5	2.2	2.2	3.7	5.5					
Quantity		1	1	1	1	1	1	1					
Connections Conder	nsate Drain			Femal	e Piping Thread	Screw							
Size	FPT	3/4	3/4	3/4	3/4	3/4	1	1					
Quantity		1	1	2	2	2	2	2					
Wiring Hole					Knockout Holes	;							
Main Power	mm	Ø52	Ø52	Ø52	Ø52	Ø52	Ø52	Ø52					
Control	mm	Ø26.1	Ø26.1	Ø26.1	Ø26.1	Ø26.1	Ø32.5	Ø32.5					
Shipping Weight	kg	205	310	345	550	585	990	1,140					
Approximate H	eight mm	785	885	1,055	1,075	1,075	1,680	1,680					
Packing List V	Vidth mm	1,080	1,080	1,080	1,525	1,525	2,100	2,100					
C	Depth mm	1,550	1,730	1,730	2,220	2,220	2,045	2,510					
Measurements	m³	1.31	1.65	1.96	3.64	3.64	7.2	8.86					
Working Range													
Outdoor HX Temperature													
Max	°C DB	52	52	52	52	52	52	52					
Min	°C DB	20	20	20	20	20	10	14					
Indoor HX Temperature													
Max	C DB / WB	35 / 21.5	35 / 21.5	35/21.5	35/21.5	35 / 21.5	35 / 21.5	35 / 21.5					
Min °	C DB / WB	19.5 / 14	19.5 / 14	19.5 / 14	19.5 / 14	19.5 / 14	19.5 / 14	19.5 / 14					

NOTES: 1 : The rated cooling capacity is the combined capacity of the HITACHI standard split system and is based on the JIS standard B8616. Cooling Operation Conditions: Indoor Air Inlet Temperature; 27°C DB (80°F DB). 19.0°C WB (66.2°F WB). Outdoor Air Inlet Temperature; 35°C DB (95°F DB). Heating Operation Conditions: Indoor Air Inlet Temperature; 20°C DB (68°F DB). Outdoor Air Inlet Temperature; 7°C DB (45°F DB). Heating Operation Conditions: Indoor Air Inlet Temperature; 20°C DB (68°F DB). Outdoor Air Inlet Temperature; 7°C DB (45°F DB). Heating Operation Conditions: RCI and RCD series: 1.5 Metres beneath the unit. RPI series: 1.5 Metres beneath the unit with discharge duct (2.0m)

ACCREDITATIONS: C-TICK (N155), CE, MANUFACTURING PLANT – ISO9001 CERTIFIED QUALITY MANAGEMENT SYSTEM SUBJECT TO CHANGE WITHOUT NOTICE.

		AIR CONDITIONERS											
MODEL		RUA-5HS	RUA-8HS	RUA-10HS	RUA-15HS	RUA-20HS	RUA-30HS						
Nominal Cooling	kcal/h	12,100	17,900	24.000	35.800	48,000	71.600						
Capacity 50 Hz	W	14,100	20,800	27,900	41,600	55,800	83,300						
	Btu/h	48,000	71,000	95,200	142,100	190,500	284,100						
Nominal Heating	kcal/h	12,100	17,900	24,000	35,800	48,000	71,600						
Capacity 50 Hz	W	14,100	20,800	27,900	41,600	55,800	83,300						
	Btu/h	48,000	/1,000	95,200	142,100	190,500	284,100						
	%	100, 0	100, 0	100, 0	100, 50, 0	100, 50, 0	100, 50, 0						
Outer Dimensions	Height mm	/30	820	980	980	1,500	1,500						
	Vviatn mm	1,020	1,020	1,020	1,400	1,900	1,900						
Not Maight	Deptn mm	1,460	1,000	1,745	2,135	1,945	2,425						
Net vveight Refrigerant	кд	220	300	340 D 22	543	940 p. 22	1,088						
Keingerant		K-ZZ	K-ZZ	K-ZZ	K-ZZ	K-ZZ	K-ZZ						
Flow Control	ite	Capillary Tube			Capillary Tube	Capillary Tube	Capillary Tube						
	ILS	I lormatic Ccrall	I Lormotic Ccroll	Llormotic Scroll	Llormotic Ccroll	Llormotic Ccroll	Llormotic Scroll						
Model													
Quantity		500DH	7 50EL	1000EL	750EL	TOUDEL	21 191015						
Motor		2 75	ы Б.Б.	75	 	7.5	۲ 11 ۲						
Outdoor Fan	K V V	5.75	5.5	7.5	J.J Propollor Fan	7.5	11.5						
	/c	2 000	2 250	2 667		5 222	8 667						
Motor	اری ا/ک	2,000	0.45	2,007	4,500	0.3	0,007						
Quantity	N V V	1	1	1	0.4	0.5	0.5						
Indoor Fan		-	Multi-Blade Centrifugal Fan										
	/c	767	1 150	1 500	2 167	3 000	/ 333						
External Static	Pa	98 to 235	98 to 255	79 to 255	39 to 196	1/7 to 3/3	1/17 to 3/13						
Motor	kW	0.55	1 5	15	2.2	3 7	5 5						
Quantity	1	1	1.5	1.5	1	1	1						
Connections				Female	e Piping Thread	Screw .							
Drain Pipe	FPT	3/4	3/4	3/4	3/4	1	1						
Wiring Hole					Knockout Holes								
Main Power	mm	Ø52	Ø52	Ø52	Ø52	Ø52	Ø52						
Control	mm	Ø26.1	Ø26.1	Ø26.1	Ø26.1	Ø32.5	Ø32.5						
Shipping Weight	kg	255	345	395	658	1,100	1,278						
Approximate	Height mm	875	965	1,125	1,145	1,680	1,680						
Packing List	Width mm	1,145	1,145	1,145	1,525	2,100	2,100						
J.	Depth mm	1,590	1,770	1,855	2,220	2,045	2,510						
Measurements	m³	1.59	1.96	2.39	3.88	7.2	8.86						
Working Range													
Outdoor HX Temperat	ure												
Heating Operation	on Max °C DB	18	18	18	18	18	18						
Heating Operation	on Min °C DB	-7	-7	-7	-7	-7	-7						
Outdoor HX Temperat	ure												
Cooling Operation	on Max °C DB	40	40	40	40	40	40						
Cooling Operation	on Min °C DB	10	10	10	10	10	10						
Indoor HX Temperatur	re												
Heating Operation Max °C DB		27	27	27	27	27	27						
Heating Operation	on Min °C DB	15	15	15	15	15	15						
Indoor HX Temperatur	re												
Cooling Operation	on Max °C DB	35	35	35	35	35	35						
	Max °C WB	21.5	21.5	21.5	21.5	21.5	21.5						
Cooling Operation	Min °C DB	19.5	19.5	19.5	19.5	19.5	19.5						

and return duct (1.0m). RPC series: 1 Metre beneath the unit and 1 Metre from discharge grill. Outdoor Units: 1 Metre from the unit service cover surface, and 1.5 metres from floor level. Voltage of the power source for the indoor fan motor is 220V. In case of the power source of 240V, the sound pressure level increases by about 1 or 2dB. (RCD, RPI and RPC series). The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field. Specifications are subject to change without notification.

SPECIFICATIONS

FOR FURTHER INFORMATION CONTACT: HITACHI AUSTRALIA LIMITED (ABN 34 075 381 332) WWW.HITACHI.COM.AU



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