HITACHI SELF-CONTAINED AIR CONDITIONERS

HITACHI

Nominal Cooling Capacity

10,100	kcal/h	to	78,100	kcal/h
11,700	W	to	90,800	W
40,100	Btu/h	to	310,100	Btu/h

Technical Catalog Ⅰ (50Hz)

—Design Information—

Models : RUA-4AT3S
RUA-5AT3S
RUA-6AT3S
RUA-8AT3S
RUA-9AT3S
RUA-10AT3S
RUA-13AT3S
RUA-15AT3S
RUA-20AT3S
RUA-25AT3S
RUA-30AT3S

These HITACHI self-contained air conditioners are composed of compressors, air-cooled condensers, and an evaporator fan, condenser fans and control equipment, completely packaged in a weather proof cabinet, and are completely assembled, wired and tested at the factory.

These RUA units are provided with excellent performances that can be operated up to 52°C (125°F) of maximum ambient temperature, and the light weight, compact, weather proof design techniques make these air conditioners ideal for either on-the-ground or rooftop installation.

FEATURES

EFFICIENT, RELIABLE AND DURABLE NEW SERIES • • •

★ Baked Paint Galvanized Steel Panels

Corrosion Resistant Cabinet — The weather proof characteristics of the panels have been significantly reinforced by the adoption of galvanized steel panel which have been coated with synthetic resin paint through our unique baking process. The resistant panels ensure long-lasting fine appearance, and maintenance work has been minimized.

★ Reliable Protection System

Compressor Protection — Each compressor is protected with the following components: reverse phase protection, overcurrent protector, internal thermostat, high pressure switch, delay timer. This wide variety of protection devices provides perfect compressor guarding functions, assuring fewer service calls from customers.

Fan Motor — The evaporator fan motors are protected with thermal overcurrent relay, internal thermostat (RUA-4AT3S, RUA-5AT3S only) and the condenser fan motors are protected with an internal thermostat.

★ Energy-Saving Design

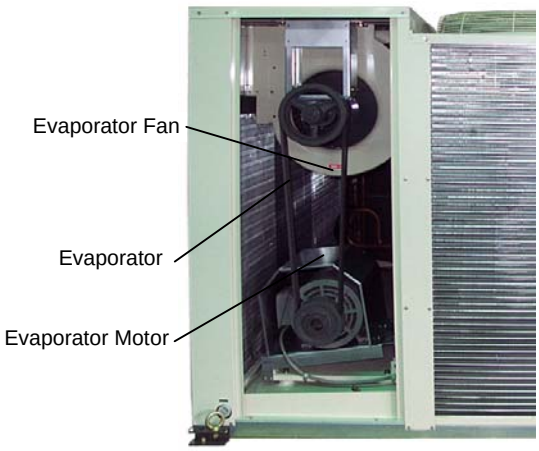
Highly-Efficient Compressor — Low power input is achieved by specially developed compressors and heat exchanger and their suitable combinations.

Condenser — The adoption of a highly efficient super-slit fin heat exchanger provides low operation cost.

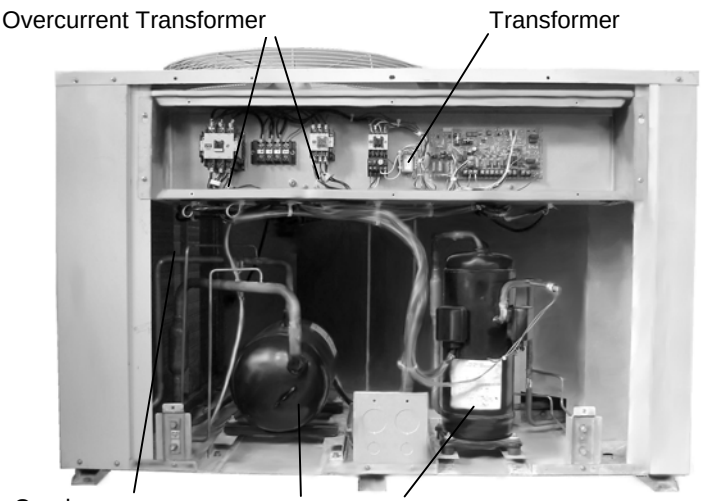
Evaporator — Highly efficient super-slit fin coils and inner grooved tube have been applied, to provide a large cooling capacity with low noise.

Insulated Indoor Compartment — This insulation compartment effectively eliminates heat loss.

Capacity Control (Dual circuit units) — Each unit is equipped with two or three compressors and two or three independent refrigeration cycles so that one compressor operation can reduce the operation cost against a half load of one large compressor (60% load operation is available for RUA-13AT3S and RUA-15AT3S, 66% load operation is available for RUA-30AT3S)



Model RUA-30AT3S



Model RUA-15AT3S

EFFECTIVELY MATCHED SELECTION FOR INDIVIDUAL APPLICATIONS • • •

★ Optimum Matched Choice

High Temperature Operation — Designed for high outdoor temperatures, these units guarantee reliable operation even under condition up to an ambient temperature of 52°C(125°F).

Attractive Fan Performance — Adequate external static pressure by the evaporator fan can be obtained for individual ducting applications.

★ Minimum Installation Arrangement

Easy Installation — This easy-to-install and ready-to-operate unit ensure rapid and low cost installation work.

Pre-Drilled Duct Flange — Flanges are prepared at the supply and return duct connections so that they can reduce duct connection work at the site.

Factory-Completed — Only system connection work is required, excluding the installation work for auxiliary equipment.

★ Quiet Operation

Compressor — Noise and vibration have been effectively reduced by the adoption of new hermetic compressor.

Condenser Fan — This direct driven propeller fan is dynamically balanced to ensure smooth airflow.

Evaporator Fan — The centrifugal fan and fan casing are optimum shaped for efficient and low noise operation.

★ Reduced Maintenance Work

Easy Maintenance — Large service spaces and rapidly removable service panels have been provided for easy maintenance work.

Unit General Data

Models			RUA-4AT3S	RUA-5AT3S	RUA-6AT3S	RUA-8AT3S	RUA-9AT3S	RUA-10AT3S
Nominal Cooling Capacity at 35°C outdoor temperature*		kcal/h	10,100	12,500	15,500	18,600	23,200	26,300
		W	11,700	14,600	18,000	21,700	27,000	30,600
		Btu/h	40,100	49,700	61,500	73,900	92,300	104,500
Nominal Cooling Capacity at 46°C outdoor temperature**		kcal/h	8,900	11,300	14,000	16,700	20,900	23,700
		W	10,400	13,200	16,300	19,400	24,300	27,600
		Btu/h	35,300	44,900	55,600	66,300	83,000	94,100
Capacity Control		%	100,0	100,0	100,0	100,0	100,0	100,0
Cabinet			Synthetic Resin Paint Baked on Galvanized Steel Plates					
Color (MUNSELL CODE)			Beige (2.5Y 8/2)					
Outer Dimensions	Height	mm	673	673	773	773	983	983
		(in.)	(26-1/2)	(26-1/2)	(30-7/16)	(30-7/16)	(38-11/16)	(38-11/16)
	Width	mm	1,020	1,020	1,020	1,020	1,020	1,020
		(in.)	(40-3/16)	(40-3/16)	(40-3/16)	(40-3/16)	(40-3/16)	(40-3/16)
	Depth	mm	1,460	1,460	1,460	1,660	1,660	1,660
		(in.)	(57-1/2)	(57-1/2)	(57-1/2)	(65-3/8)	(65-3/8)	(65-3/8)
Net Weight		kg	195	195	220	275	290	305
		(lbs.)	(430)	(430)	(485)	(606)	(638)	(672)
Refrigerant			R-22					
Flow Control			Capillary Tube					
Number of Circuits			1					
Compressor			Hermetic Scroll					
Model			400DH	500DH	600DH	750EL	900EL	1000EL
Motor		kW	3.0	3.75	4.4	5.5	6.8	7.5
		(hp)	(4)	(5)	(6)	(7.5)	(9.0)	(10)
Quantity			1	1	1	1	1	1
Condenser			Multi-Pass Cross-Finned Tube					
Fan			Propeller Fan					
Air Flow		m^3/min	120	120	135	135	160	160
Motor		kW	0.3	0.3	0.45	0.45	0.4	0.4
		(hp)	(2/5)	(2/5)	(3/5)	(3/5)	(1/2)	(1/2)
Quantity			1	1	1	1	1	1
Evaporator			Multi-Pass Cross-Finned Tube					
Fan			Multi-Blade Centrifugal Fan (Double Suction)					
Nominal Air Flow		m^3/min	37	46	65	69	82	90
		m^3/s	0.62	0.77	1.08	1.15	1.37	1.5
		L/s	620	770	1,080	1,150	1,370	1,500
Motor		kW	0.35	0.55	0.75	0.75	1.5	1.5
		(hp)	(1/2)	(3/4)	(1)	(1)	(2)	(2)
Quantity			1	1	1	1	1	1
Connections								
Condensate Drain			Female Piping Thread Screw					
Size		FTP	3/4	3/4	3/4	3/4	3/4	3/4
Quantity			1	1	1	1	1	1
Wiring Hole			Knockout Hole					
Main		mm	Ø52	Ø52	Ø52	Ø52	Ø52	Ø52
		(in.)	(2-1/16)	(2-1/16)	(2-1/16)	(2-1/16)	(2-1/16)	(2-1/16)
Control		mm	Ø26.1	Ø26.1	Ø26.1	Ø26.1	Ø26.1	Ø26.1
		(in.)	(1-1/32)	(1-1/32)	(1-1/32)	(1-1/32)	(1-1/32)	(1-1/32)
Shipping Weight		kg	215	215	250	305	320	335
		(lbs.)	(473)	(473)	(551)	(672)	(704)	(738)
Approximate Packing List	Height	mm	805	805	925	925	1,135	1,135
		(in.)	(31-11/16)	(31-11/16)	(36-7/16)	(36-7/16)	(44-11/16)	(44-11/16)
	Width	mm	1,100	1,100	1,080	1,080	1,080	1,080
		(in.)	(43-5/16)	(43-5/16)	(42-1/2)	(42-1/2)	(42-1/2)	(42-1/2)
	Depth	mm	1,550	1,550	1,550	1,730	1,730	1,730
		(in.)	(61-1/16)	(61-1/16)	(61-1/16)	(68-1/8)	(68-1/8)	(68-1/8)
Measurements		m^3	1.37	1.37	1.55	1.73	2.12	2.12

Unit General Data (Continued)

Models			RUA-13AT3S	RUA-15AT3S	RUA-20AT3S	RUA-25AT3S	RUA-30AT3S
Nominal Cooling Capacity at 35°C outdoor temperature*		kcal/h W Btu/h	31,300 36,400 124,300	38,800 45,100 154,100	52,700 61,300 209,300	61,000 70,930 242,050	78,100 90,800 310,100
Nominal Cooling Capacity at 46°C outdoor temperature**		kcal/h W Btu/h	28,300 32,900 112,300	35,000 40,700 139,000	47,500 55,200 188,600	53,800 62,560 213,480	70,400 81,900 279,500
Capacity Control		%	100,60,0	100,60,0	100,50,0	100,50,0	100,66,0
Cabinet Color (MUNSELL CODE)			Synthetic Resin Paint Baked on Galvanized Steel Plates Beige (2.5Y 8/2)				
Outer Dimensions	Height	mm (in.)	980 (38-19/32)	980 (38-19/32)	1,500 (59-1/16)	1,500 (59-1/16)	1,500 (59-1/16)
	Width	mm (in.)	1,400 (55-1/8)	1,400 (55-1/8)	1,900 (74-13/16)	1,900 (74-13/16)	1,900 (74-13/16)
	Depth	mm (in.)	2,135 (84)	2,135 (84)	1,945 (76-9/16)	2,425 (95-1/2)	2,425 (95-1/2)
Net Weight		kg (lbs.)	495 (1,089)	520 (1,146)	785 (1,730)	935 (2,061)	1,000 (2,205)
Refrigerant Flow Control Number of Circuits			R-22 Capillary Tube 2				R-22 Capillary Tube 3
Compressor			Hermetic Scroll				
Model Motor Quantity		 kW (hp) 	750EL / 500DH 5.5 / 3.75 (7.5) / (5) 1 / 1	1000EL / 600DH 7.5 / 4.4 (10) / (6) 1 / 1	1000EL 7.5 (10) 2	1200EL 9.0 (12) 2	1000EL 7.5 (10) 3
Condenser			Multi-Pass Cross-Finned Tube				
Fan Air Flow Motor Quantity		 m^3/min kW (hp) 	Direct Driven Propeller Fan 255 0.4/0.3 (1/2) / (2/5) 1/1	 270 0.3 (2/5) 2	 320 0.3 (2/5) 2	 480 0.3 (2/5) 3	 480 0.3 (2/5) 3
Evaporator			Multi-Pass Cross-Finned Tube				
Fan Nominal Air Flow Motor Quantity		 m^3/min m^3/s L/s kW (hp) 	Multi-Blade Centrifugal Fan (Double Suction) 110 1.83 1,830 2.2 (3) 1	 130 2.17 2,170 2.2 (3) 1	 180 3.0 3,000 3.7 (5) 1	 234 3.9 3,900 5.5 (7.5) 1	 260 4.33 4,330 5.5 (7.5) 1
Connections Condensate Drain Size Quantity		 FTP 	 Female Piping Thread Screw 3/4 2	 3/4 2	 1 2	 1 2	 1 2
Wiring Hole Main Control		 mm (in.) mm (in.)	Knockout Hole Ø52 (2-1/16) Ø26.1 (1-1/32)	 Ø52 (2-1/16) Ø26.1 (1-1/32)	 Ø52 (2-1/16) Ø32.5 (1-1/4)	 Ø52 (2-1/16) Ø32.5 (1-1/4)	 Ø52 (2-1/16) Ø32.5 (1-1/4)
Shipping Weight		kg (lbs.)	550 (1,211)	570 (1,256)	945 (2,083)	1,125 (2,480)	1,180 (2,601)
Approximate Packing List	Height	mm (in.)	1,150 (45-5/16)	1,150 (45-5/16)	1,680 (66-1/8)	1,680 (66-1/8)	1,680 (66-1/8)
	Width	mm (in.)	1,460 (57-1/2)	1,460 (57-1/2)	2,100 (82-11/16)	2,100 (82-11/16)	2,100 (82-11/16)
	Depth	mm (in.)	2,220 (87-3/8)	2,220 (87-3/8)	2,045 (80-1/2)	2,525 (99-7/16)	2,525 (99-7/16)
Measurements		m^3	3.73	3.73	7.21	8.91	8.91

Notes：

1.The capacities are gross capacities, which include the effect of evaporator fan motor heat.

2. The nominal cooling capacity is according to JIS standard B8616–1999, and based on the following conditions.

Evaporator Air Inlet Temperature
27°C DB (80°F DB)
19°C WB (66°F WB)

Condenser Air Inlet Temperature:
*35°C DB (95°F DB)
**46°C DB (115°F DB)