



RC SERIES AIR COOLED CONDENSING UNITS

SPECIFICATIONS Rated in Accordance with ARI Standard 210/240		RC254F			
COOLING	Rated with Optional Air Handler Model	VCH/HCH254			
	Total BTUH	233,500			
	Sensible BTUH	174,700			
	EER	9.0			
ELECTRICAL	SERVICE	Voltage-Phase-Hz	208/230-3-60	460-3-60	380/415-3-50
	COMPRESSOR	Type (Qty) HP	Scroll (2) 10.0		
		RLA	42.0/42.0	19.2/19.2	19.2/19.2
		LRA	239/239	125/125	110/110
		IPLV	9.7		
	Capacity Reduction (Standard) — (Optional)	Standard 50% — Optional 50% - 30%			
	CONDENSER FAN MOTOR(S)	Horse Power — (Qty)	1 — (2)		
		FLA (ea)	6.2	3.1	2.2
		Total CFM	11,600		
	UNIT	RLA	96.4	44.6	42.8
Unit Minimum Circuit Ampacity		106.9	49.4	44.4	
Max. Time Delay Fuse or HACR Breaker		125	60	60	
PHYSICAL DATA	CONDENSER COIL Alum. Fins on Copper Tubes	Face Area (sq.ft.)	30.8		
		Rows Deep — Fins per Inch	4 — 12		
		Suction Line OD	1 3/8 and 1 3/8		
		Liquid Line OD	1/2 and 1/2		
	WEIGHTS	Unit (lbs)	1175		
		Shipping Weight (lbs)	1295		

Rated With Air Handler Model	CFM		ENTERING TEMPERATURE							
			75°F DB				80°F DB			
			59°F WB	63°F WB	67°F WB	71°F WB	59°F WB	63°F WB	67°F WB	71°F WB
VCH/HCH 254	6000	TOTAL BTUH	207,254	218,954	231,942	244,736	217,754	221,304	233,888	246,978
		SENS BTUH	183,592	158,106	132,330	105,482	217,754	189,264	161,968	136,560
		WATTS INPUT	22,086	22,400	22,784	23,172	22,376	22,464	22,840	23,238
		LVG DB/WB	47.2 45.6	51.1 50.0	55.0 54.5	59.0 59.0	47.1 44.7	51.4 49.8	55.5 54.4	59.4 58.8
	7000	TOTAL BTUH	214,090	224,298	237,228	249,882	227,784	234,918	242,051	249,185
		SENS BTUH	198,740	169,036	139,440	110,276	227,784	204,412	173,562	144,470
		WATTS INPUT	22,280	22,552	22,940	23,328	22,666	22,911	23,157	23,402
		LVG DB/WB	49.2 47.3	53.1 51.8	56.9 56.2	60.7 60.7	50.5 46.4	53.5 51.5	57.5 56.2	61.3 60.5
	8000	TOTAL BTUH	219,484	228,456	241,316	253,842	235,996	241,066	246,136	251,206
		SENS BTUH	211,404	179,500	146,158	113,708	235,996	218,794	184,680	151,998
		WATTS INPUT	22,428	22,666	23,062	23,450	22,910	23,116	23,322	23,528
		LVG DB/WB	51.0 48.6	54.6 53.1	58.4 57.5	62.1 62.0	53.2 47.7	55.2 52.8	59.1 57.5	62.8 61.8

Rated With Air Handler Model	CFM		ENTERING TEMPERATURE							
			85°F DB				90°F DB			
			59°F WB	63°F WB	67°F WB	71°F WB	59°F WB	63°F WB	67°F WB	71°F WB
VCH/HCH 254	6000	TOTAL BTUH	229,048	233,560	238,072	242,584	240,490	245,002	249,514	254,026
		SENS BTUH	229,048	218,906	194,068	167,072	240,490	240,620	224,518	198,480
		WATTS INPUT	22,706	22,899	23,091	23,284	23,050	23,152	23,254	23,356
		LVG DB/WB	50.4 43.8	51.9 49.4	55.7 54.1	59.7 58.7	53.6 42.9	53.6 48.3	56.1 53.8	60.0 58.5
	7000	TOTAL BTUH	239,770	239,996	241,920	253,970	251,840	255,155	258,470	261,786
		SENS BTUH	239,770	239,996	210,014	179,626	251,840	251,980	244,858	215,266
		WATTS INPUT	23,026	23,167	23,309	23,450	23,422	23,465	23,509	23,552
		LVG DB/WB	53.9 45.6	53.9 50.8	57.8 55.8	61.7 60.4	57.4 44.8	57.3 50.0	58.3 55.4	62.1 60.2
	8000	TOTAL BTUH	248,474	250,312	252,149	253,987	261,180	261,326	261,492	261,850
		SENS BTUH	248,474	248,606	226,166	191,712	261,180	261,326	261,492	231,660
		WATTS INPUT	23,316	23,404	23,492	23,580	23,716	23,710	23,704	23,698
		LVG DB/WB	56.8 46.9	56.8 52.0	59.4 57.1	63.3 61.7	60.4 46.2	60.4 51.3	60.4 56.4	63.7 61.4

Note: Above performance data gives gross evaporator capacity with 25' refrigerant lines and full condenser operation at 60 HZ.

Applied Research Laboratories, Inc.



Listed

Rated With Air Handler Model	CFM	ENTERING TEMPERATURE																
		75°F DB						80°F DB										
		59°F WB		63°F WB		67°F WB		71°F WB		59°F WB		63°F WB		67°F WB		71°F WB		
VCH/HCH 314	8000	TOTAL BTUH	227,876		235,843		248,792		262,000		240,896		241,733		251,324		26,4207	
		SENS BTUH	217,532		185,846		151,787		117,480		240,896		227,133		191,697		157,915	
		WATTS INPUT	22,725		22,961		23,342		23,759		23,108		23,141		23,421		23,828	
		LVG DB/WB	50.0	47.9	53.6	52.4	57.5	56.8	61.4	61.3	52.0	47.0	54.0	52.1	57.9	56.8	61.8	61.2
	9000	TOTAL BTUH	233,820		239,511		252,239		265,337		248,108		253,293		258,478		263,663	
		SENS BTUH	226,884		196,372		158,849		121,466		248,108		236,801		203,092		165,857	
		WATTS INPUT	22,895		23,073		23,448		23,865		23,327		23,531		23,734		23,938	
		LVG DB/WB	51.7	48.9	54.9	53.5	58.7	57.9	62.5	62.4	54.3	48.2	55.8	53.2	59.2	57.9	63.0	62.2
	10000	TOTAL BTUH	238,614		243,034		255,049		268,052		254,220		258,053		261,886		265,718	
		SENS BTUH	234,611		206,771		165,677		124,767		254,220		245,563		214,161		173,659	
		WATTS INPUT	23,037		23,183		23,534		23,951		23,517		23,674		23,832		23,989	
		LVG DB/WB	53.3	49.8	56.0	54.5	59.7	58.8	63.4	63.2	56.3	49.1	57.3	54.0	60.3	58.8	64.0	63.1

Rated With Air Handler Model	CFM	ENTERING TEMPERATURE																
		85°F DB						90°F DB										
		59°F WB		63°F WB		67°F WB		71°F WB		59°F WB		63°F WB		67°F WB		71°F WB		
VCH/HCH 314	8000	TOTAL BTUH	253,580		256,102		258,623		261,145		266,378		268,900		271,421		273,943	
		SENS BTUH	253,580		250,059		233,001		199,020		266,378		266,517		259,765		239,441	
		WATTS INPUT	23,502		23,634		23,767		23,899		23,925		23,958		23,991		24,024	
		LVG DB/WB	55.5	46.3	56.0	51.6	58.3	56.5	62.2	61.0	59.0	45.5	59.0	50.7	60.0	56.0	62.5	60.8
	9000	TOTAL BTUH	261,245		261,378		261,956		270,161		274,508		274,652		274,903		276,794	
		SENS BTUH	261,245		261,378		246,780		211,498		274,508		274,652		274,903		256,961	
		WATTS INPUT	23,755		23,759		23,767		23,981		24,151		24,157		24,196		24,250	
		LVG DB/WB	58.0	47.5	58.0	52.5	59.8	57.5	63.4	62.1	61.6	46.8	61.6	51.8	61.6	56.9	63.8	61.8
	10000	TOTAL BTUH	267,771		268,900		270,029		271,158		281,456		281,602		281,769		281,992	
		SENS BTUH	267,771		267,906		256,657		223,660		281,456		281,602		281,769		266,777	
		WATTS INPUT	23,964		24,013		24,062		24,111		24,383		24,382		24,381		24,380	
		LVG DB/WB	60.0	48.4	60.0	53.4	61.3	58.3	64.5	62.9	63.8	47.8	63.8	52.8	63.8	57.8	65.5	62.6

Note: Above performance data gives gross evaporator capacity with 25' refrigerant lines and full condenser operation at 60 HZ.

Temperature	95°F	100°F	105°F	110°F	115°F
Total Capacity	1.00	.98	.95	.91	.87
Sensible Capacity	1.00	.99	.97	.95	.93
Watts	1.00	1.03	1.05	1.08	1.11
Gross EER	1.00	.95	.90	.84	.78

Capacity	At 60 HZ Evaporator CFM	At 50HZ Evaporator CFM
Total	0.91	0.88
Sensible	0.95	.086
Watts	0.85	.083

Notes: 50HZ evaporator CFM is 0.83 times full rated CFM shown above.

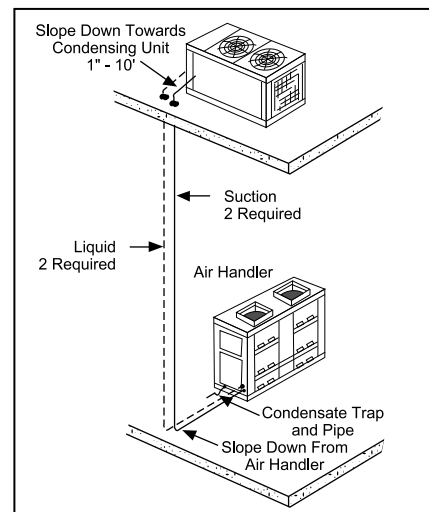
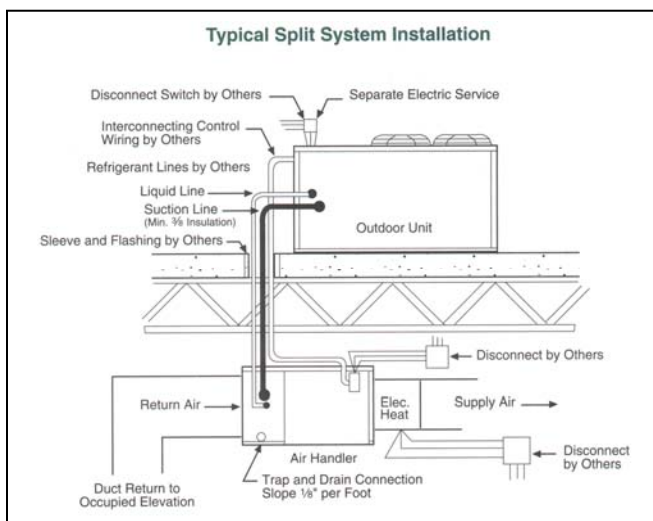
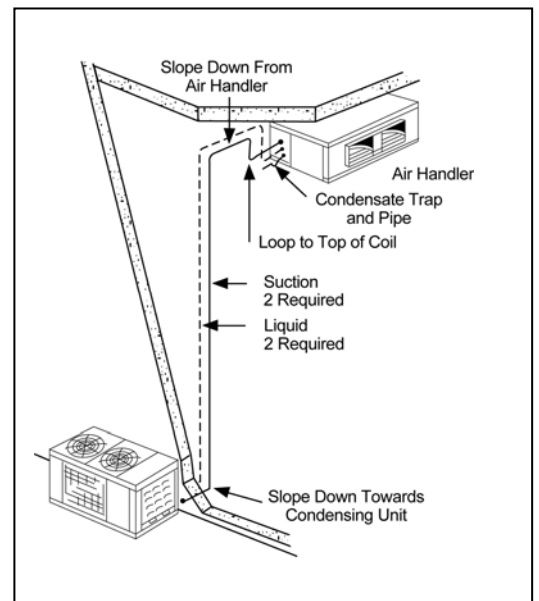
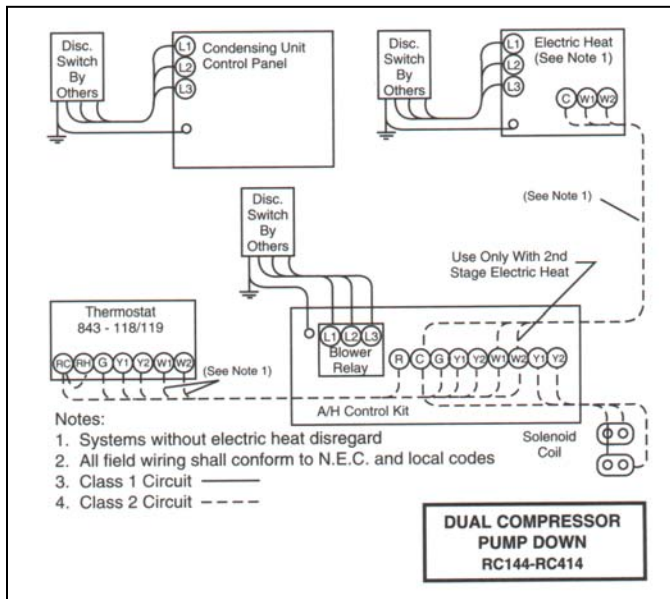
Saturated Suction Temp. at Compressor	85°F		90°F		95°F		100°F		105°F		110°F		115°F		
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	
36°F	Lead	114.4	10.16	111.4	10.60	108.5	11.07	105.5	11.57	102.5	12.10	99.5	12.67	96.4	13.26
	Lag	114.4	9.38	111.4	9.83	108.5	10.30	105.5	10.81	102.5	11.34	99.5	11.91	96.4	12.50
38°F	Lead	118.1	10.26	115.1	10.70	112.0	11.17	109.0	11.67	105.9	12.21	102.8	12.77	99.8	13.36
	Lag	118.1	9.48	115.1	9.93	112.0	10.41	109.0	10.91	105.9	11.44	102.8	12.01	99.8	12.61
40°F	Lead	121.8	10.36	118.7	10.80	115.6	11.28	112.5	11.78	109.4	12.31	106.2	12.88	103.1	13.47
	Lag	121.8	9.58	118.7	10.03	115.6	10.51	112.5	11.01	109.4	11.55	106.2	12.12	103.1	12.71
42°F	Lead	125.6	10.46	122.5	10.90	119.3	11.38	116.1	11.89	112.9	12.42	109.7	13.00	106.5	13.58
	Lag	125.6	9.69	122.5	10.14	119.3	10.61	116.1	11.12	112.9	11.66	109.7	12.22	106.5	12.82
44°F	Lead	129.5	10.57	126.2	11.01	123.0	11.50	119.7	12.00	116.4	12.53	113.2	13.10	109.9	13.69
	Lag	129.5	9.80	126.2	10.25	123.0	10.72	119.7	11.23	116.4	11.77	113.2	12.33	109.9	12.93
46°F	Lead	133.3	10.68	130.0	11.13	126.7	11.60	123.4	12.11	120.0	12.64	116.7	13.20	113.3	13.81
	Lag	133.3	9.91	130.0	10.46	126.7	10.84	123.4	11.34	120.0	11.88	116.7	12.45	113.3	13.05
48°F	Lead	137.2	10.80	133.8	11.24	130.5	11.72	127.1	12.23	123.7	12.76	120.2	13.33	116.8	13.92
	Lag	137.2	10.00	133.8	10.47	130.5	10.95	127.1	11.46	123.7	11.99	120.2	12.56	116.8	13.16
50°F	Lead	141.2	10.91	137.7	11.36	134.3	11.84	130.8	12.34	127.3	12.88	123.8	13.44	120.3	14.04
	Lag	141.2	10.14	137.7	10.59	134.3	11.07	130.8	11.58	127.3	12.12	123.8	12.68	120.3	13.28

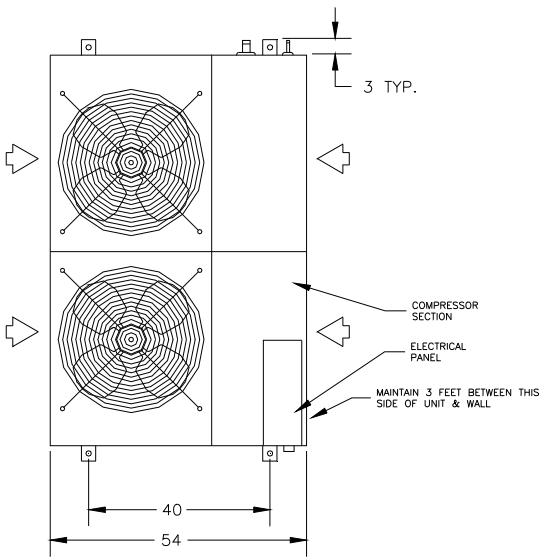
1. Ratings are for 60 HZ. See above for 50 HZ multipliers.
2. Ratings assume 15°F subcooling and 12°F superheat at the compressor.

Recommended Refrigerant Line Sizes — O.D.														
Equivalent Line Length — Feet														
0 to 25					26 to 50					51 to 75				
					Hot Gas* Reheat									
					Hot Gas* Reheat									
Suction	Liquid	Hot Gas* Bypass	S	R	Suction	Liquid	Hot Gas* Bypass	S	R	Suction	Liquid	Hot Gas* Bypass	S	R
Two 1 ³ / ₈	Two 1/2	3/4	5/8	1/2	Two 1 ³ / ₈	Two 5/8	3/4	5/8	1/2	Two 1 ³ / ₈	Two 5/8	3/4	5/8	1/2

- Notes:
- Line lengths are equivalent, including all fittings. Use long radius ells only.
 - Line sizes are for both vertical and horizontal runs.
 - Over 75 equivalent feet, **consult factory** for sizing recommendations.
 - Liquid line sizes and hot gas reheat return line sizes are designed to minimize system refrigerant charge.
 - Over 75 total feet, a special hot gas bypass system must be installed in the condensing unit with an oil separator. Contact Factory.
 - "S" = Hot gas supply line from RC to VC/HC; "R" = Hot gas return line from VC/HC to RC unit.
 - When condensing unit is above air handler, trap suction line at base and every 20 feet of vertical rise. Consult ASHRAE Refrigeration Handbook.

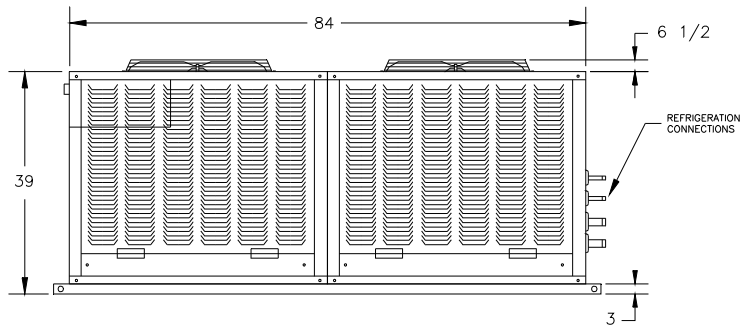
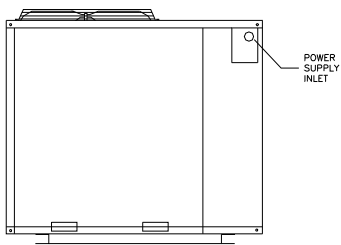
* Hot gas bypass and hot gas reheat only on lead circuit of dual circuit units.





INDICATES AIR INLET TO CONDENSER
(LEAVE MINIMUM 2 FEET FREE CLEARANCE)

RC254



ALL DIMENSIONS ARE IN INCHES

3 ft. clearance must be left for access to compressor and electrical panel

Installation Code and Annual Inspections:

All installations and service of ADDISON equipment must be performed by a contractor qualified in the installation and service of equipment sold and supplied by Addison and conform to all requirements set forth in the ADDISON manuals and all applicable governmental authorities pertaining to the installation, service and operation of the equipment. To help facilitate optimum performance and safety, Addison recommends that a qualified contractor annually inspect your ADDISON equipment and perform service where necessary, using only replacement parts sold and supplied by ADDISON.

Further Information: Applications, engineering and detailed guidance on systems design, installation and equipment performance is available through ADDISON representatives. Please contact us for any further information you may require, including the Installation, Operation and Service Manual.

These products are not for residential use.

This document is intended to assist licensed professionals in the exercise of their professional judgment.



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