



RC SERIES AIR COOLED CONDENSING UNITS

SPECIFICATIONS Rated in Accordance with ARI Standard 210/240		RC104F					
COOLING	Rated with Optional Air Handler Model		VCH/HCH104				
	Total BTUH		91,200				
	Sensible BTUH		70,300				
	EER		9.4				
ELECTRICAL	SERVICE	Voltage-Phase-Hz		208/230-3-60	460-3-60	380/415-3-50	
	COMPRESSOR	Type (Qty) HP		Scroll (2) 4.0			
		RLA		15.0/15.0	7.5/7.5	7.5/7.5	
		LRA		108/108	47.5/47.5		47.5/47.5
		IPLV		10.2			
		Capacity Reduction (Standard) — (Optional)		Standard 50% — 50% - 30%			
	CONDENSER FAN MOTOR(S)	Horse Power — (Qty)		1 (1)			
		FLA (ea)		6.2	3.1	2.2	
		Total CFM		5,800			
	UNIT	RLA		36.2	18.1	17.2	
Unit Minimum Circuit Ampacity		40.0	20.0	19.1			
Max. Time Delay Fuse or HACR Breaker		50	25	25			
PHYSICAL DATA	CONDENSER COIL Alum. Fins on Copper Tubes	Face Area (sq.ft.)		15.4			
		Rows Deep — Fins per Inch		4 — 12			
		Suction Line OD		7/8 and 7/8			
		Liquid Line OD		3/8 and 3/8			
	WEIGHTS	Unit (lbs)		570			
		Shipping Weight (lbs)		645			

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 104	3000	TOTAL BTUH	84,036	87,808	93,276	98,684	89,354	92,320	95,286	98,252
		SENS BTUH	80,600	68,194	56,000	43,990	89,354	82,868	70,306	58,324
		WATTS INPUT	7,946	8,058	8,204	8,362	8,098	8,100	8,226	8,388
		LVG DB/WB	50.6 48.3	54.4 52.8	58.1 57.2	61.7 61.6	53.0 47.5	54.9 52.6	58.7 57.2	62.4 61.4
	3400	TOTAL BTUH	86,160	89,266	94,740	100,128	92,318	94,597	96,876	99,156
		SENS BTUH	84,998	72,256	58,666	45,328	92,318	88,574	74,652	61,308
		WATTS INPUT	8,018	8,096	8,246	8,406	8,178	8,263	8,349	8,434
		LVG DB/WB	52.3 49.4	55.7 54.0	59.3 58.3	62.9 62.7	55.4 48.6	56.4 53.6	60.1 58.3	63.6 62.5
	3800	TOTAL BTUH	89,476	90,998	95,926	101,296	94,824	96,551	98,278	100,006
		SENS BTUH	89,476	76,608	61,222	46,594	94,824	92,916	79,446	64,184
		WATTS INPUT	8,100	8,142	8,280	8,442	8,248	8,323	8,397	8,472
		LVG DB/WB	53.6 50.2	56.7 54.8	60.4 59.2	63.9 63.5	57.4 49.5	57.8 54.5	61.0 59.1	64.7 63.4

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 104	3000	TOTAL BTUH	94,380	94,436	95,336	100,108	99,480	99,540	99,610	101,496
		SENS BTUH	94,380	94,436	85,512	73,048	99,480	99,540	99,610	88,042
		WATTS INPUT	8,236	8,238	8,264	8,406	8,388	8,390	8,392	8,426
		LVG DB/WB	56.5 46.8	56.4 51.9	59.1 56.8	62.9 61.3	59.9 46.0	59.9 51.1	59.9 56.2	63.4 61.1
	3400	TOTAL BTUH	97,564	98,292	99,021	99,749	102,892	102,956	103,028	103,376
		SENS BTUH	97,564	97,624	91,110	77,768	102,892	102,956	103,028	94,140
		WATTS INPUT	8,328	8,370	8,412	8,454	8,496	8,493	8,489	8,486
		LVG DB/WB	59.0 47.9	59.0 52.9	60.7 57.9	64.3 62.4	62.6 47.2	62.5 52.3	62.5 57.3	64.9 62.2
	3800	TOTAL BTUH	100,262	100,648	101,035	101,421	105,784	106,170	106,557	106,943
		SENS BTUH	100,262	100,322	96,758	82,318	105,784	105,850	105,924	100,576
		WATTS INPUT	8,410	8,427	8,443	8,460	8,592	8,591	8,591	8,590
		LVG DB/WB	61.1 48.9	61.1 53.8	61.9 58.7	65.4 63.3	64.7 48.2	64.7 53.2	64.7 58.1	66.0 63.0

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

Applied Research Laboratories, Inc.



Listed

Form # 0527S-0952 Rev. C (0408)
Supersedes Form # 0527S-0952 Rev. B (0401)

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 134	3500	TOTAL BTUH	91,530	93,984	99,104	104,730	96,958	99,317	101,676	104,034		
		SENS BTUH	91,530	77,508	62,566	47,928	96,958	94,868	80,190	65,610		
		WATTS INPUT	8,154	8,208	8,358	8,538	8,308	8,393	8,479	8,564		
		LVG DB/WB	51.3 49.1	54.9 53.7	58.8 58.1	62.6 62.5	54.9 48.4	55.4 53.4	59.2 58.1	63.0 62.4		
	4000	TOTAL BTUH	94,398	95,578	100,492	106,054	100,098	100,156	102,046	106,994		
		SENS BTUH	94,398	82,798	66,156	49,694	100,098	100,156	85,884	69,664		
		WATTS INPUT	8,218	8,252	8,402	8,582	8,404	8,406	8,452	8,612		
		LVG DB/WB	53.6 50.1	56.2 54.8	60.0 59.2	63.7 63.6	57.3 49.5	57.3 54.4	60.5 59.2	64.2 63.4		
	4500	TOTAL BTUH	96,800	97,324	101,590	107,170	102,658	102,718	103,770	108,104		
		SENS BTUH	96,800	88,090	69,636	51,408	102,658	102,718	91,752	73,604		
		WATTS INPUT	8,286	8,304	8,436	8,624	8,468	8,470	8,506	8,652		
		LVG DB/WB	55.5 51.0	57.2 55.7	61.0 60.1	64.6 64.4	59.3 50.4	59.3 55.2	61.5 60.0	65.2 64.2		

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 134	3500	TOTAL BTUH	102,474	103,326	104,177	105,029	108,068	108,134	108,210	108,816		
		SENS BTUH	102,474	102,536	98,150	83,634	108,068	108,134	108,210	101,426		
		WATTS INPUT	8,480	8,523	8,567	8,610	8,670	8,672	8,674	8,696		
		LVG DB/WB	58.4 47.7	58.4 52.7	59.6 57.7	63.3 62.2	62.0 47.0	62.0 52.0	62.0 57.1	63.7 62.0		
	4000	TOTAL BTUH	105,854	105,918	105,990	108,438	111,634	112,191	112,748	113,304		
		SENS BTUH	105,854	105,918	105,990	89,948	111,634	111,704	111,782	109,072		
		WATTS INPUT	8,592	8,594	8,596	8,666	8,782	8,781	8,779	8,778		
		LVG DB/WB	61.0 48.9	61.0 53.8	61.0 58.6	64.6 63.3	64.7 48.2	64.7 53.2	64.7 58.1	65.3 63.0		
	4500	TOTAL BTUH	108,594	108,658	108,788	110,184	114,640	114,710	114,790	114,888		
		SENS BTUH	108,594	108,658	108,788	96,382	114,640	114,710	114,790	114,888		
		WATTS INPUT	8,670	8,672	8,694	8,728	8,896	8,900	8,902	8,906		
		LVG DB/WB	63.1 49.8	63.1 54.6	63.1 59.4	65.6 64.1	66.9 49.2	66.9 54.1	66.9 58.9	66.8 63.7		

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	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.

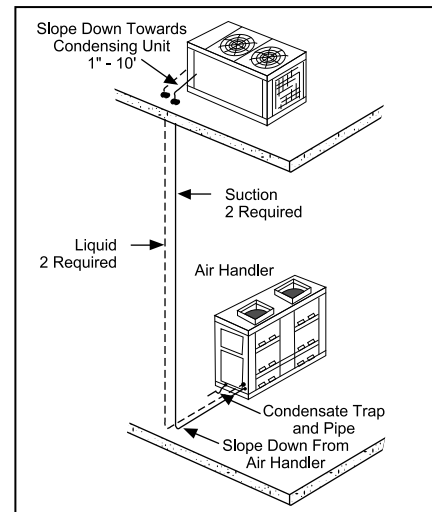
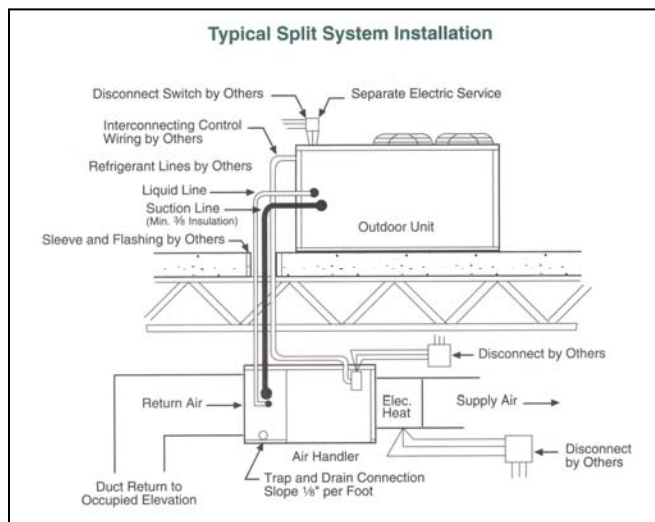
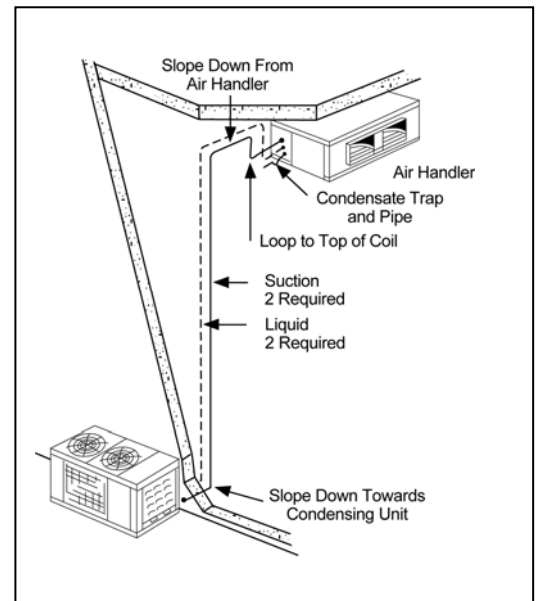
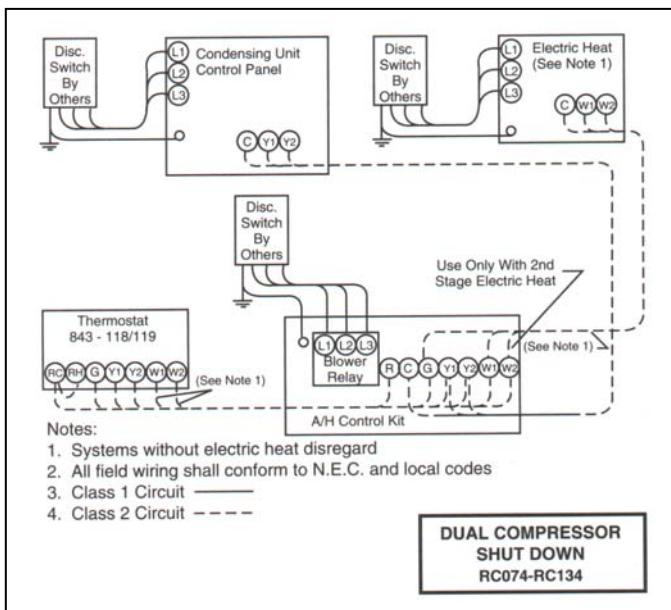
Saturated Suction Temp. at Compressor	85°F		90°F		95°F		100°F		105°F		110°F		115°F		
	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	
36°F	Lead	43.1	3.59	41.9	3.75	40.7	3.93	39.5	4.11	38.3	4.31	37.0	4.51	35.8	4.73
	Lag	43.1	3.20	41.9	3.36	40.7	3.54	39.5	3.73	38.3	3.92	37.0	4.13	35.8	4.35
38°F	Lead	44.6	3.62	43.4	3.79	42.2	3.96	40.9	4.15	39.7	4.34	38.5	4.56	37.2	4.77
	Lag	44.6	3.23	43.4	3.40	42.2	3.57	40.9	3.76	39.7	3.96	38.5	4.17	37.2	4.39
40°F	Lead	46.1	3.65	44.9	3.82	43.7	4.00	42.4	4.19	41.2	4.39	39.9	4.60	38.7	4.82
	Lag	46.1	3.27	44.9	3.43	43.7	3.61	42.4	3.80	41.2	4.00	39.9	4.21	38.7	4.43
42°F	Lead	47.7	3.69	46.5	3.86	45.2	4.04	43.9	4.23	42.7	4.43	41.4	4.64	40.1	4.86
	Lag	47.7	3.30	46.5	3.47	45.2	3.65	43.9	3.84	42.7	4.04	41.4	4.26	40.1	4.48
44°F	Lead	49.3	3.73	48.0	3.90	46.8	4.08	45.5	4.27	44.2	4.47	42.9	4.69	41.6	4.91
	Lag	49.3	3.34	48.0	3.51	46.8	3.69	45.5	3.89	44.2	4.09	42.9	4.31	41.6	4.53
46°F	Lead	50.9	3.77	49.6	3.94	48.3	4.12	47.0	4.32	45.7	4.52	44.4	4.74	43.1	4.97
	Lag	50.9	3.38	49.6	3.56	48.3	3.74	47.0	3.93	45.7	4.14	44.4	4.35	43.1	4.58
48°F	Lead	52.6	3.82	51.3	3.99	49.9	4.17	48.6	4.37	47.3	4.57	45.9	4.79	44.6	5.02
	Lag	52.6	3.43	51.3	3.60	49.9	3.79	48.6	3.98	47.3	4.19	45.9	4.41	44.6	4.64
50°F	Lead	54.3	3.87	52.9	4.04	51.6	4.22	50.2	4.42	48.8	4.63	47.5	4.85	46.1	5.08
	Lag	54.3	3.48	52.9	3.65	51.6	3.84	50.2	4.03	48.8	4.24	47.5	4.46	46.1	4.70

Notes: 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.

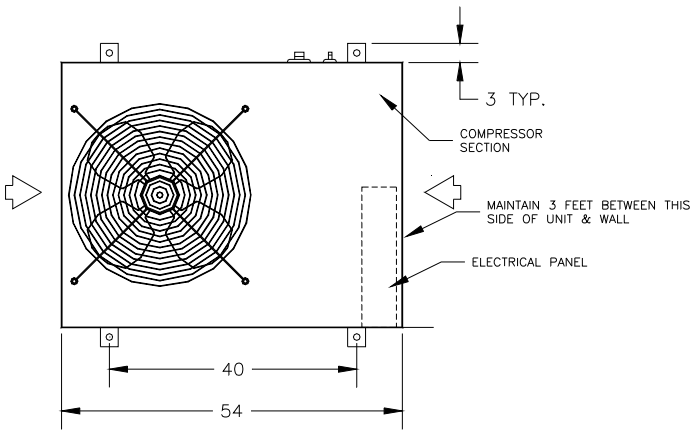
Recommended Refrigerant Line Sizes — O.D.														
Equivalent Line Length — Feet														
0 to 25					26 to 50					51 to 75				
			Hot Gas* Reheat					Hot Gas* Reheat					Hot Gas* Reheat	
Suction	Liquid	Hot Gas* Bypass	S	R	Suction	Liquid	Hot Gas* Bypass	S	R	Suction	Liquid	Hot Gas* Bypass	S	R
Two ⁷ / ₈	Two ³ / ₈	½	³ / ₈	³ / ₈	Two ⁷ / ₈	Two ³ / ₈	½	³ / ₈	³ / ₈	Two ⁷ / ₈	Two ³ / ₈	½	½	³ / ₈

- 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.

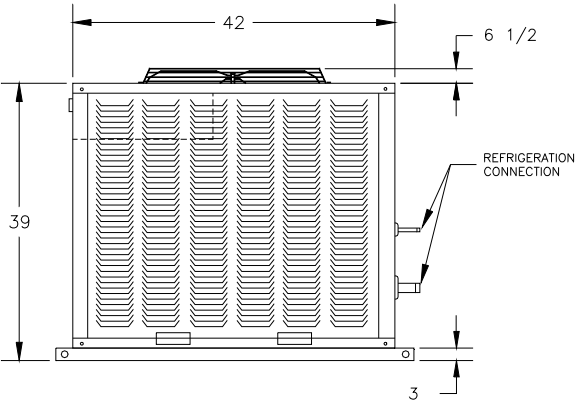
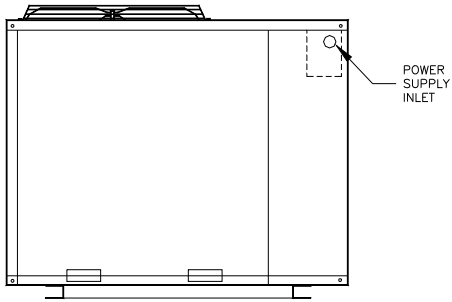
* Hot gas bypass and hot gas reheat only on lead circuit of dual circuit units.



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



RC104



ALL DIMENSIONS ARE IN INCHES

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

Specifications subject to change without notice.

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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