RC SERIES AIR COOLED CONDENSING UNITS

SPECIFICATIONS Rated in Accordance with ARI Standard 210/240			RC414F		
	COOLING	Rated with Optional Air Handler Model	VCH/HCH374		
		Total BTUH	385,600		
		Sensible BTUH	300,400		
		EER	9.5		
ELECTRICAL	SERVICE	Voltage-Phase-Hz	208/230-3-60	460-3-60	380/415-3-50
	COMPRESSOR	Type (Qty)	Scroll (2) Tandem configured		
		RLA(ea)	28.9	14.8	14.8
		LRA(ea)	195	95	95
		IPLV	10.1		
		Capacity Reduction (Standard)	Standard 100-75-50-25-0		
	CONDENSER FAN MOTOR(S)	Horse Power — (Qty)	1 — (4)		
		FLA (ea)	6.2	3.1	2.2
		Total CFM	23,200		
	UNIT	RLA	140.4	71.6	68.0
		Unit Minimum Circuit Ampacity	147.6	75.3	71.7
		Max. Time Delay Fuse or HACR Breaker	175	90	80
PHYSICAL DATA	CONDENSER COIL Alum. Fins on Copper Tubes	Face Area (sq.ft.)	46.2		
		Rows Deep — Fins per Inch	4 — 12		
		Suction Line OD	1 5/8 and 1 5/8		
		Liquid Line OD	5/8 and 5/8		
	WEIGHTS	Unit (lbs)	2030		
		Shipping Weight (lbs)	2200		

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 374	10000	TOTAL BTUH	336,020	356,140	379,790	403,294	352,872	360,506	382,660	406,496
		SENS BTUH	304,204	261,692	218,758	174,248	352,872	313,734	268,998	227,018
		WATTS INPUT	32,928	33,668	34,616	35,462	33,564	33,848	34,720	35,578
		LVG DB/WB	47.4 | 46.0	51.3 | 50.4	55.2 | 54.7	59.2 | 59.2	48.0 | 45.2	51.5 | 50.1	55.6 | 54.7	59.4 | 59.0
	12000	TOTAL BTUH	350,006	366,670	390,294	413,668	373,090	374,520	393,344	417,174
		SENS BTUH	333,930	284,288	233,924	184,016	373,090	345,782	293,394	243,882
		WATTS INPUT	33,448	34,138	34,994	35,832	34,300	34,428	35,104	35,958
		LVG DB/WB	49.8 | 47.9	53.5 | 52.3	57.3 | 56.7	61.1 | 61.1	51.8 | 47.0	53.9 | 52.0	57.8 | 56.7	61.6 | 60.9
	14000	TOTAL BTUH	362,786	376,414	398,062	421,318	389,378	398,807	408,236	417,664
		SENS BTUH	360,004	306,814	248,244	191,330	389,378	376,010	317,730	259,916
		WATTS INPUT	33,918	34,494	35,272	36,106	34,948	35,378	35,808	36,238
		LVG DB/WB	51.7 | 49.2	55.1 | 53.7	58.9 | 58.1	62.6 | 62.5	54.8 | 48.4	55.6 | 53.4	59.4 | 58.1	63.2 | 62.3

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 374	10000	TOTAL BTUH	372,828	382,176	391,524	400,872	393,304	402,652	412,000	421,348
		SENS BTUH	372,828	364,860	322,792	278,672	393,304	393,548	374,120	331,590
		WATTS INPUT	34,294	34,748	35,202	35,656	35,096	35,333	35,569	35,806
		LVG DB/WB	51.2 | 44.2	51.9 | 49.7	55.7 | 54.4	59.7 | 58.9	54.3 | 43.3	54.3 | 48.6	56.1 | 54.0	59.9 | 58.7
	12000	TOTAL BTUH	394,804	395,048	398,568	419,498	416,594	416,858	417,160	425,294
		SENS BTUH	394,804	395,048	356,658	305,062	416,594	416,858	417,160	366,798
		WATTS INPUT	35,146	35,156	35,180	36,042	35,928	35,938	35,950	36,254
		LVG DB/WB	55.2 | 46.2	55.1 | 51.3	58.0 | 56.3	61.9 | 60.8	58.5 | 45.3	58.5 | 50.5	58.5 | 55.7	62.3 | 60.6
	14000	TOTAL BTUH	412,104	415,413	418,722	422,030	435,140	435,418	435,736	437,530
		SENS BTUH	412,104	412,360	387,358	331,524	435,140	435,418	435,736	400,682
		WATTS INPUT	35,764	35,977	36,189	36,402	36,590	36,600	36,610	36,690
		LVG DB/WB	58.3 | 47.6	58.3 | 52.6	59.9 | 57.7	63.5 | 62.2	61.8 | 46.9	61.8 | 51.9	61.8 | 57.0	64.0 | 61.9

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-0961 Rev. B (0408)
Supersedes Form # 0527S-0961 A (0701)

Correction Factor Multiplier for Other Ambients					
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

50 HZ Application and Performance Multipliers		
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.

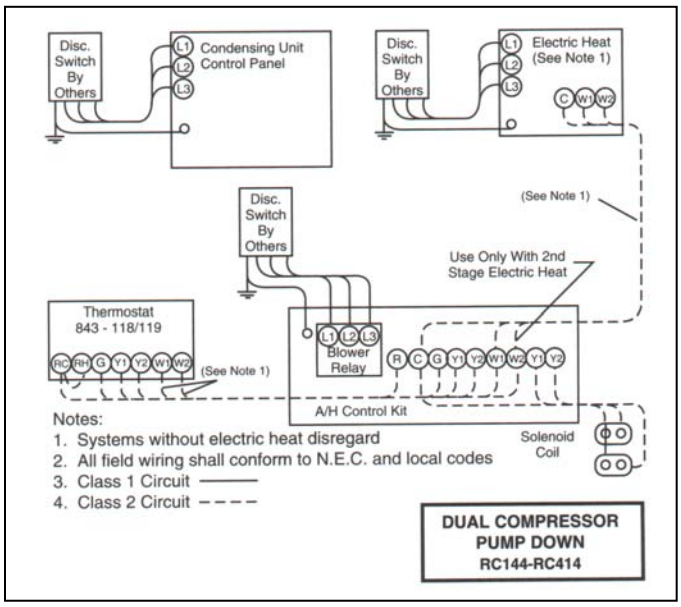
Dual Condensing Unit Performance at Varying Saturated Suction Temperatures															
Saturated Suction Temp. at Compressor		**85°F**		**90°F**		**95°F**		**100°F**		**105°F**		**110°F**		**115°F**	
		MBH	**KW**	**MBH**	**KW**	**MBH**	**KW**	**MBH**	**KW**	**MBH**	**KW**	**MBH**	**KW**	**MBH**	**KW**
36°F	Lead	188.5	15.4	182.9	16.0	177.2	16.5	171.7	17.0	166.0	17.6	160.3	18.1	154.9	18.6
	Lag	188.5	13.8	182.9	14.4	177.2	14.9	171.7	15.4	166.0	16.0	160.3	16.5	154.9	17.0
38°F	Lead	195.6	15.6	189.8	16.2	184.1	16.7	178.2	17.3	172.4	17.8	166.5	18.4	160.7	18.9
	Lag	195.6	14.0	189.8	14.6	184.1	15.1	178.2	15.7	172.4	16.2	166.5	16.8	160.7	17.3
40°F	Lead	202.9	15.8	196.9	16.4	190.9	17.0	184.9	17.6	178.9	18.1	172.8	18.7	166.7	19.3
	Lag	202.9	14.2	196.9	14.8	190.9	15.4	184.9	16.0	178.9	16.5	172.8	17.1	166.7	17.7
42°F	Lead	210.2	16.1	204.0	16.6	197.8	17.2	191.6	17.8	185.4	18.4	179.2	19.0	172.9	19.6
	Lag	210.2	14.5	204.0	15.0	197.8	15.6	191.6	16.2	185.4	16.8	179.2	17.4	172.9	18.0
44°F	Lead	217.6	16.3	211.3	16.9	204.9	17.5	198.3	18.1	192.0	18.7	185.5	19.3	179.2	19.9
	Lag	217.6	14.7	211.3	15.3	204.9	15.9	198.3	16.5	192.0	17.1	185.5	17.7	179.2	18.3
46°F	Lead	225.1	16.5	218.5	17.1	211.9	17.7	205.3	18.3	198.7	19.0	192.0	19.6	185.4	20.2
	Lag	225.1	14.9	218.5	15.5	211.9	16.1	205.3	16.7	198.7	17.4	192.0	18.0	185.4	18.6
48°F	Lead	232.7	16.7	226.0	17.3	219.1	18.0	212.3	18.6	205.5	19.2	200.8	19.9	193.8	20.5
	Lag	232.7	15.1	226.0	15.7	219.1	16.4	212.3	17.0	205.5	17.6	200.8	18.3	193.8	18.9
50°F	Lead	240.3	16.9	233.4	17.6	226.4	18.2	219.4	18.9	212.4	19.5	205.8	20.2	198.2	20.9
	Lag	240.3	15.3	233.4	16.0	226.4	16.6	219.4	17.3	212.4	17.9	205.8	18.6	198.2	19.3

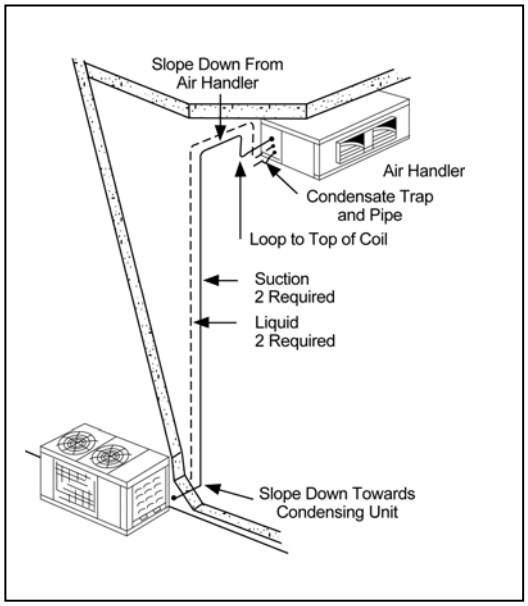
Notes: 1. Ratings are for 60 HZ. See above for 50 HZ multipliers.
2. Ratings assume 15°F subcooling and 12°F superheat at the compressor.

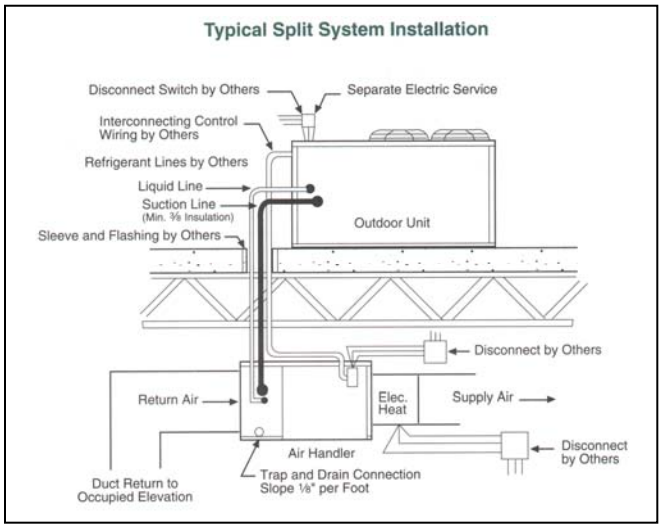
Recommended Refrigerant Line Sizes — O.D.															
Equivalent Line Length – Feet															
0 to 25					26 to 50					51 to 75					
			Hot Gas* Reheat					Hot Gas* Reheat					Hot Gas* Reheat		
Suction	Liquid	Hot Gas* Bypass	S	R	Suction	Liquid	Hot Gas* Bypass	S	R	Suction	Liquid	Hot Gas* Bypass	S	R
Two $1^{3}/_{8}$	Two $^{5}/_{8}$	¾	$^{5}/_{8}$	½	Two $1^{5}/_{8}$	Two $^{5}/_{8}$	¾	¾	½	Two $1^{5}/_{8}$	Two ¾	¾	$^{7}/_{8}$	½

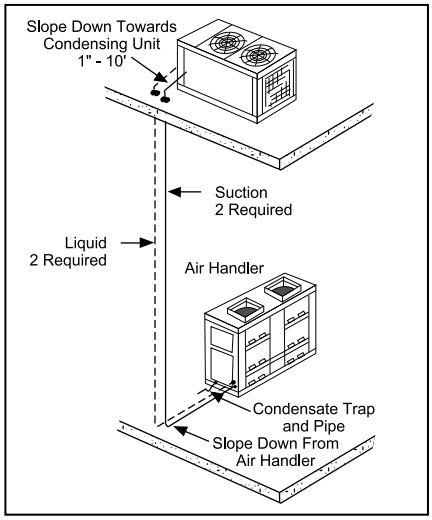
Notes:
1. Line lengths are equivalent, including all fittings. Use long radius ells only.
2. Line sizes are for both vertical and horizontal runs.
3. Over 75 equivalent feet, **consult factory** for sizing recommendations.
4. Liquid line sizes and hot gas reheat return line sizes are designed to minimize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

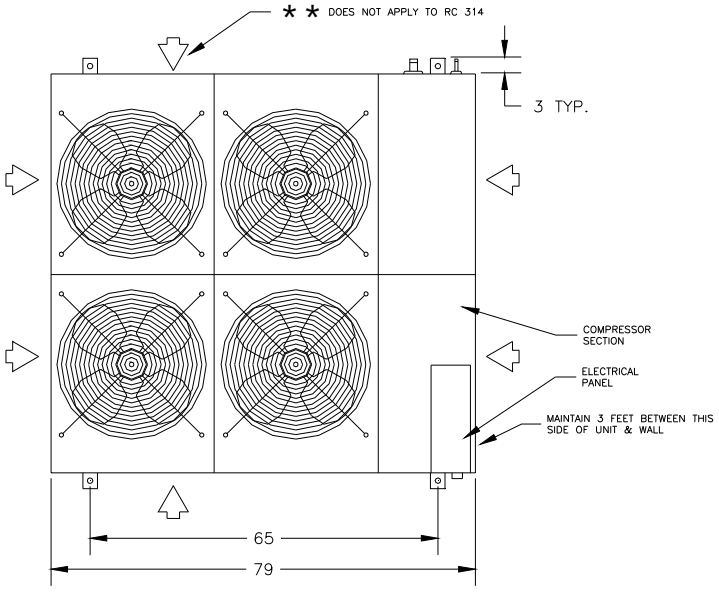
* Hot gas bypass and hot gas reheat only on lead circuit of dual circuit units.

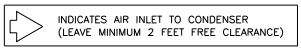












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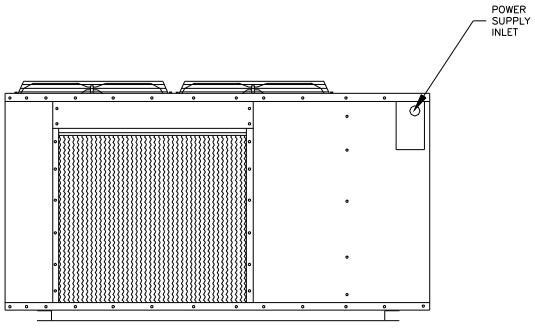

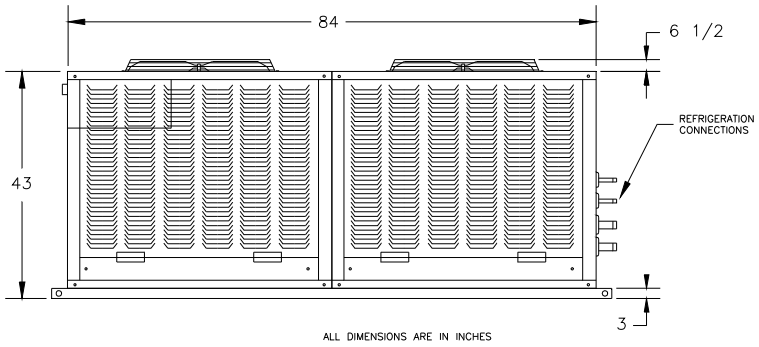

ALL DIMENSIONS ARE IN INCHES

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.

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