



RH SERIES AIR COOLED HEAT PUMP UNITS

SPECIFICATIONS Rated in Accordance with ARI Standard 210/240			RH134F		
PERFORMANCE	COOLING	Rated with Optional Air Handler Model	VCH/HCH134		
		Rated CFM	4,000		
		Total BTUH	124,300		
	HEATING	Sensible BTUH	90,800		
		EER	8.9		
		Total BTUH	122,600		
ELECTRICAL	SERVICE	Voltage-Phase-Hz	208/230-3-60	460-3-60	380/415-3-50
	COMPRESSOR	(Qty) Type — Nom. Tons	(2) Hermetic — 5		
		RLA (ea)	19.3	8.7	8.7
		LRA (ea)	130	65	65
		IPLV	9.0		
	Standard Capacity Reduction % Full load — (Optional)		100-50-0 — (NA)		
	CONDENSER FAN MOTOR(S)	Horse Power — (Qty)	1 — (1)		
		FLA	6.2	3.1	2.2
		Total CFM	5,800		
	UNIT	RLA	44.8	20.5	19.6
		Unit Minimum Circuit Ampacity	50	23	22
		Max. Time Delay Fuse or HACR Breaker	60	30	30
PHYSICAL DATA	CONDENSER COIL Alum. Fins on Copper Tubes	Face Area (sq.ft.)	16.7		
		Rows Deep — Fins per Inch	4 — 12		
		(Qty) — Suction Line OD In.	(2) — 1 1/8		
		(Qty) — Liquid Line OD In.	(2) — 3/8		
	WEIGHTS	Unit (lbs)	680		
		Shipping Weight (lbs)	755		

Cooling Rating 95°F Air on Outdoor Coil

Rated With Air Handler Model	CFM		Entering Air to Indoor Coil								
			75°F DB			80°F DB			85°F DB		
			63°F WB	67°F WB	71°F WB	63°F WB	67°F WB	71°F WB	63°F WB	67°F WB	71°F WB
VCH134 or HCH134	3500	TOTAL BTUH	116,400	125,100	134,100	118,400	125,600	134,800	124,200	127,400	135,200
		SENS BTUH	87,000	71,900	56,700	105,000	90,700	75,300	118,300	109,000	94,300
		WATTS INPUT	12,360	12,840	13,340	12,480	12,880	13,390	12,810	12,990	13,430
		LVG DB/WB	52.4/51.6	56.3/55.7	60.3/60.0	52.7/51.3	56.4/55.7	60.4/59.9	54.3/50.7	56.7/55.5	60.5/59.9
	4000	TOTAL BTUH	119,400	127,800	136,800	122,500	128,700	137,600	129,900	131,300	138,400
		SENS BTUH	93,300	76,100	58,900	113,600	97,400	80,000	123,700	118,600	101,500
		WATTS INPUT	12,520	12,990	13,490	12,690	13,060	13,550	13,110	13,210	13,610
		LVG DB/WB	53.8/52.9	57.7/57.1	61.6/61.3	54.2/52.6	57.9/57.0	61.8/61.2	56.9/51.9	58.0/56.8	61.9/61.2
	4500	TOTAL BTUH	121,800	130,000	139,000	126,500	131,300	139,800	134,800	135,200	141,200
		SENS BTUH	99,800	80,200	60,900	120,400	103,900	84,600	128,400	126,000	108,700
		WATTS INPUT	12,630	13,110	13,620	12,900	13,200	13,680	13,380	13,400	13,740
		LVG DB/WB	54.8/53.9	58.8/58.1	62.7/62.3	55.7/53.5	59.0/58.0	62.9/62.3	59.1/52.8	59.5/57.7	63.0/62.2

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

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.

Applied Research Laboratories, Inc.



Listed

Heating Ratings

70°F Air on Coil of Indoor Air Handler Model VCH134 or HCH134

CFM	Capacity	Ambient Air on Outdoor Coil °F							
		10	17	20	30	40	47	50	60
4,000	BTUH	54,900	64,900	69,700	86,000	103,500	116,800	123,500	145,600
	Watts	7,560	7,970	8,150	8,820	9,590	10,240	10,570	11,700

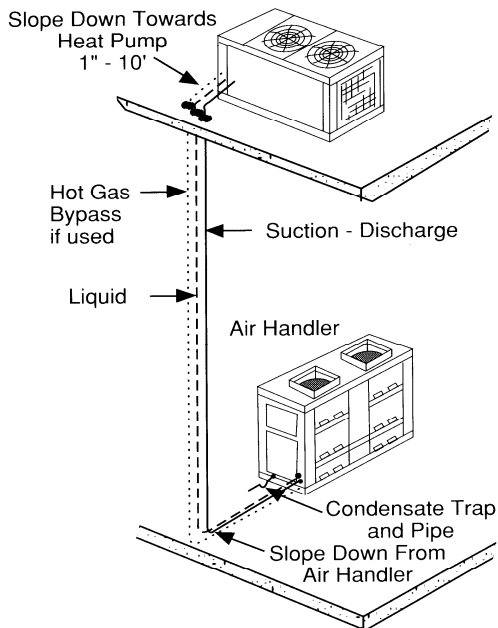
Note: Heating capacities are gross capacities. For net capacities, multiply blower BHP required times 2545 BTU per BHP and add to BTUH in table. Add blower BHP times 746 Watts per BHP to Watts for total power consumption. Refer to Air Handler specification for blower BHP.

Heating Capacity Correction Multiplier To be applied to rated heating capacity to determine capacity at other than rated CFM.	CFM	Multiplier
	- 10%	0.985
	Rated	1.00
	+ 10%	1.015

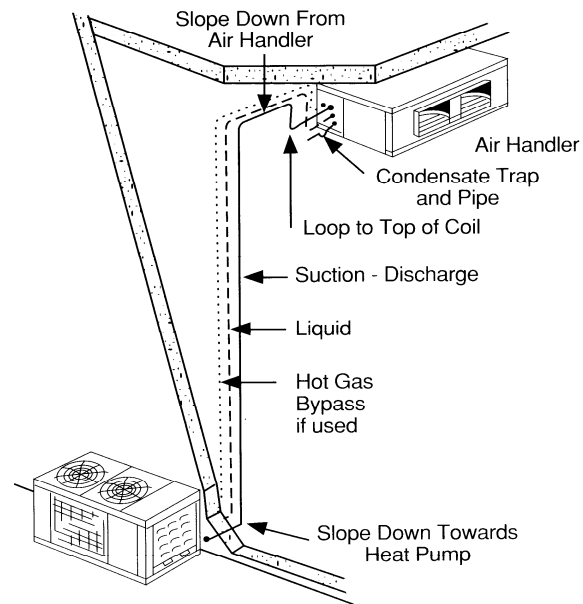
Recommended Refrigerant Line Sizes — Inches O.D.						
Equivalent Line Length — Feet						
0 to 25			26 to 50		51 to 75	
Suction	Liquid	Hot Gas Bypass	Suction	Liquid	Suction	Liquid
1 1/8 1 1/8	3/8 3/8	1/2 NA	1 1/8 1 1/8	1/2 1/2	1 1/8 1 1/8	1/2 1/2

- 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 are designed to minimize system refrigerant charge.
 - Hot gas bypass is typically used with the welded hermetic compressor only with an equivalent line length of 25 feet or less.
 - When condensing unit is above air handler, trap suction line at base and every 20 feet of vertical rise. Consult ASHRAE Refrigeration Handbook.

Heat Pump Above Air Handler

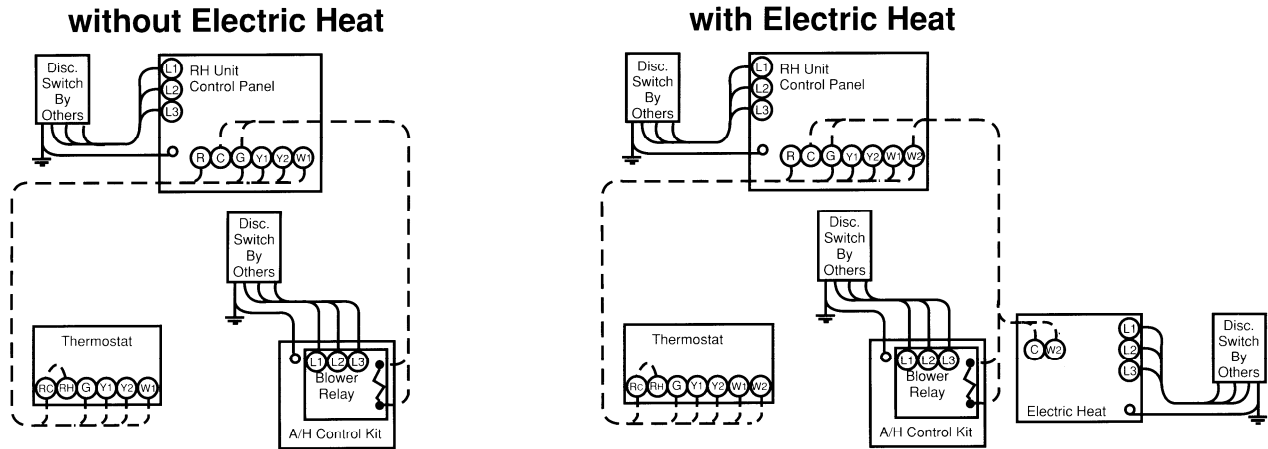


Heat Pump Below Air Handler



Field Piping: One of the most critical considerations in the installation of a split system heat pump is the proper sizing of piping so that oil will freely circulate with the refrigerant and not be trapped. In order to assure oil being carried upward in a vertical riser along with the refrigerant vapor, a velocity of 1,000 FPM must be maintained. Proper sizing is particularly important in a heat pump system because the discharge pipe on the heating cycle becomes the suction pipe in cooling and line velocities will be different in each cycle. Experience indicated 75 **equivalent** feet of pipe as the maximum practical length on heat pump installations. Pump down solenoids can not be used with heat pumps. When the air handler is installed above the compressor the vertical line must be properly sized to carry oil. The above tabulation indicates proper sizing. Each refrigerant line run underground in a chase should be insulated with 3/4" minimum thickness closed cell foamed plastic insulation. Each line must be insulated separately.

Typical Field Wiring



Notes:

All field wiring shall conform to N.E.C. and local codes

Line voltage power source _____

24 volt control circuit - - - - -

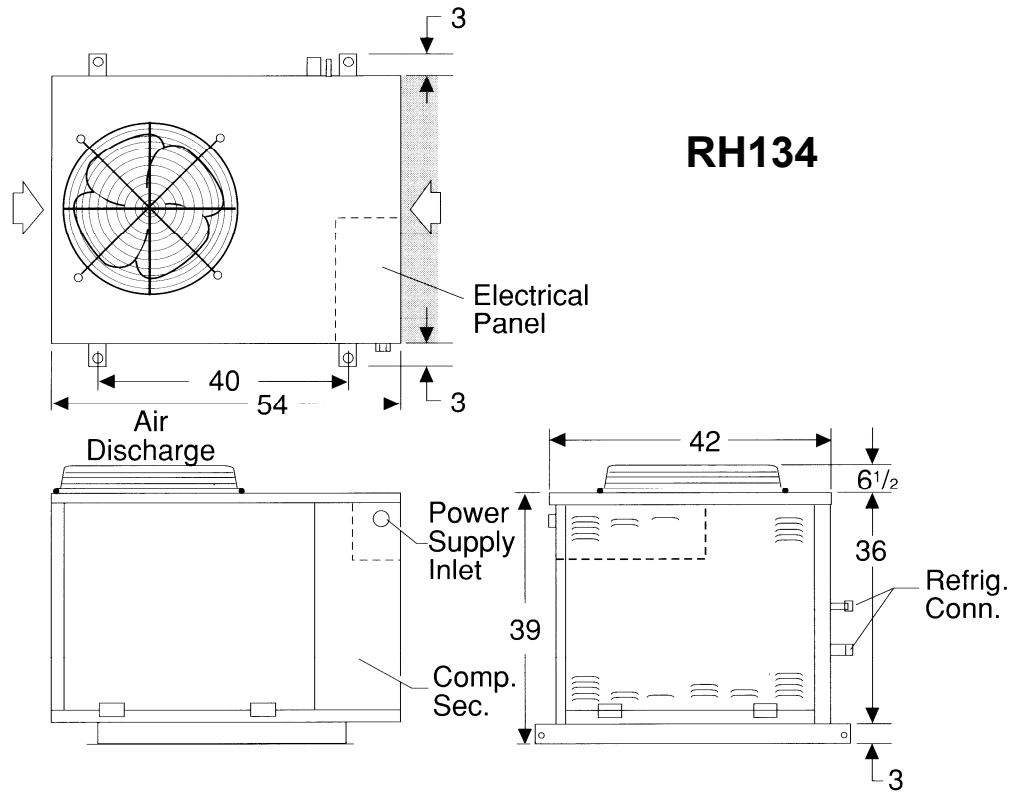
Field Wiring

The power distribution system should be sized based on the minimum circuit ampacities in this specification sheet. The heat pumps and air handlers should be fused in accordance with the maximum fuse sizes.

Disconnects may be optionally mounted by the factory or may be furnished and installed by the contractor. Time delay fuses should be used.

All field installed control wiring must be adequate to assure 24 volts to all controls.

Dimensions



↗ Indicates air inlet to condenser (leave minimum 2' free clearance).

■ Shaded area indicates 3" 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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