



RH SERIES AIR COOLED HEAT PUMP UNITS

SPECIFICATIONS Rated in Accordance with ARI Standard 210/240		RH084F			
PERFORMANCE		Rated with Optional Air Handler Model			VCH/HCH104
		Rated CFM			3,400
	COOLING	Total BTUH			90,500
		Sensible BTUH			69,800
		EER			9.0
	HEATING	Total BTUH			93,400
COP			3.3		
ELECTRICAL	SERVICE	Voltage-Phase-Hz	208/230-3-60	460-3-60	380/415-3-50
	COMPRESSOR	(Qty) Type — Nom. Tons	(1) Hermetic — 4 & (1) Hermetic — 3½		
		RLA	15.1/13.8	7.4/6.9	7.4/6.9
		LRA	84/82	42/41	42/41
		IPLV	9.2		
	Standard Capacity Reduction % Full load — (Optional)		100-53-0 — (NA)		
	CONDENSER FAN MOTOR(S)	Horse Power — (Qty)	½ — (1)		
		FLA	3.5	1.8	2.2
		Total CFM	4,000		
	UNIT	RLA	32.4	16.1	16.5
		Unit Minimum Circuit Ampacity	37	18	19
Max. Time Delay Fuse or HACR Breaker		50	25	25	
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) — 7/8		
		(Qty) — Liquid Line OD In.	(2) — 3/8		
	WEIGHTS	Unit (lbs)	610		
		Shipping Weight (lbs)	685		

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
VCH104 or HCH104	2600	TOTAL BTUH	83,500	89,800	96,000	84,700	90,000	96,500	88,800	91,000	96,800
		SENS BTUH	62,400	51,500	40,600	75,400	64,900	53,900	84,600	78,400	67,400
		WATTS INPUT	8,410	8,730	9,050	8,490	8,760	9,100	8,700	8,810	9,120
		LVG DB/WB	53.2/52.0	57.0/56.2	60.8/60.4	53.6/51.8	57.3/56.2	61.2/60.4	55.4/51.2	57.6/56.0	61.4/60.3
	3000	TOTAL BTUH	85,700	91,800	98,100	87,700	92,200	98,700	93,100	93,900	99,000
		SENS BTUH	67,300	54,700	42,300	81,800	70,200	57,500	88,600	84,200	73,000
		WATTS INPUT	8,520	8,840	9,160	8,640	8,870	9,200	8,920	8,970	9,240
		LVG DB/WB	54.6/53.3	58.4/57.6	62.2/61.8	55.2/53.8	58.7/57.5	62.6/61.7	58.2/52.4	59.5/57.3	62.9/61.7
	3400	TOTAL BTUH	87,600	93,500	99,800	90,800	94,200	100,400	96,600	96,800	100,900
		SENS BTUH	71,800	57,800	43,800	86,500	75,100	61,000	92,000	90,600	78,400
		WATTS INPUT	8,620	8,930	9,260	8,790	8,970	9,290	9,100	9,120	9,340
		LVG DB/WB	55.8/54.4	59.5/58.6	63.3/62.8	56.9/54.0	59.9/58.5	63.7/62.7	60.4/53.4	60.8/58.3	64.0/62.7

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.

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Heating Ratings

70°F Air on Coil of Indoor Air Handler Model VCH104 or HCH104

CFM	Capacity	Ambient Air on Outdoor Coil °F							
		10	17	20	30	40	47	50	60
3,400	BTUH	40,700	48,400	51,900	63,500	77,000	88,200	91,700	109,600
	Watts	5,340	5,610	5,730	6,190	6,730	7,190	7,350	8,190

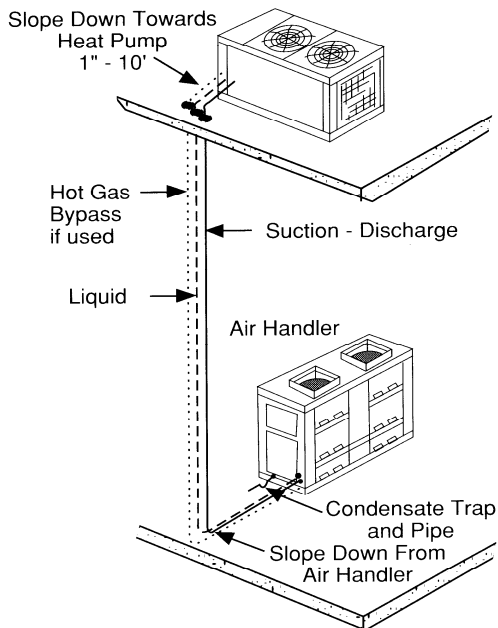
Note: Heating capacities are gross capacities. For net capacities, multiply blower BHP required times 2545 BTU per BHP and add to BTUH in table. Add blower BHP times 746 Watts per BHP to Watts for total power consumption. Refer to Air Handler specification for blower BHP.

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

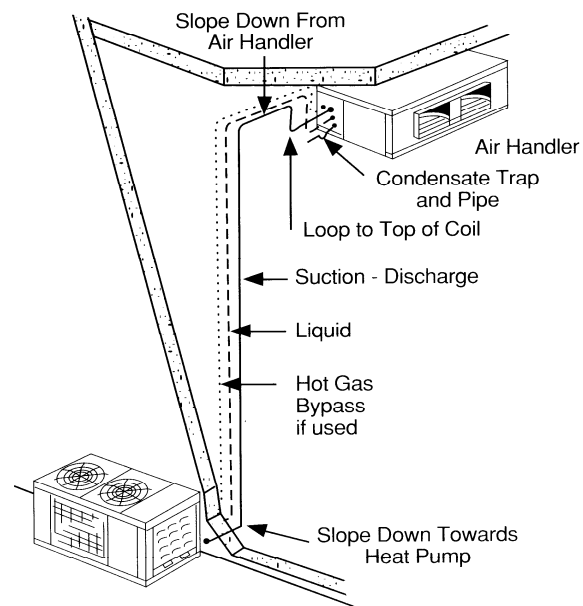
Recommended Refrigerant Line Sizes — Inches O.D.						
Equivalent Line Length — Feet						
0 to 25		26 to 50		51 to 75		
Suction	Liquid	Hot Gas Bypass		Suction	Liquid	Suction
7/8 7/8	3/8 3/8	1/2	NA	7/8 7/8	3/8 3/8	1 1/8 7/8
						1/2 1/2

- 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

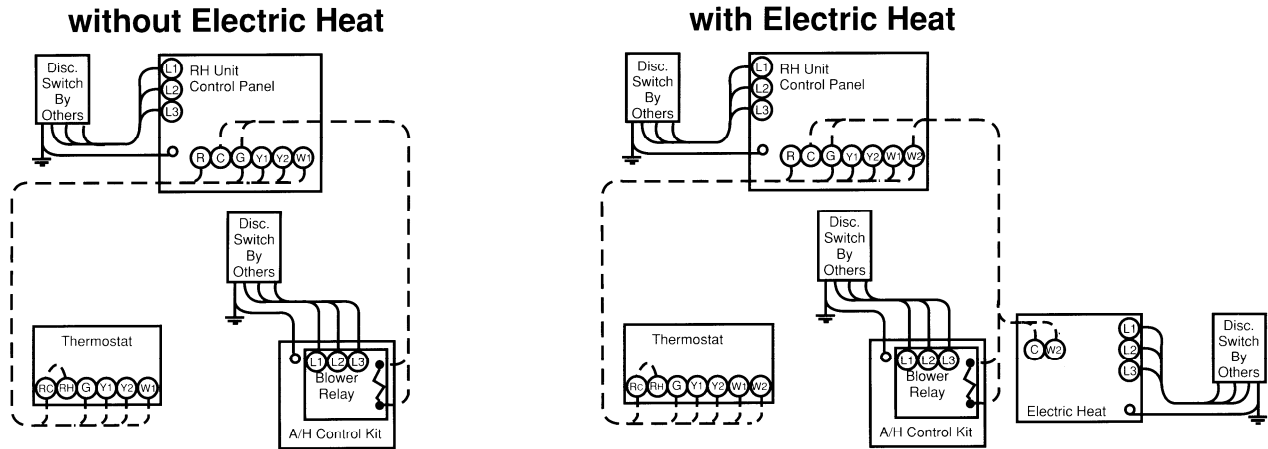


Heat Pump Below Air Handler



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 - - - - -

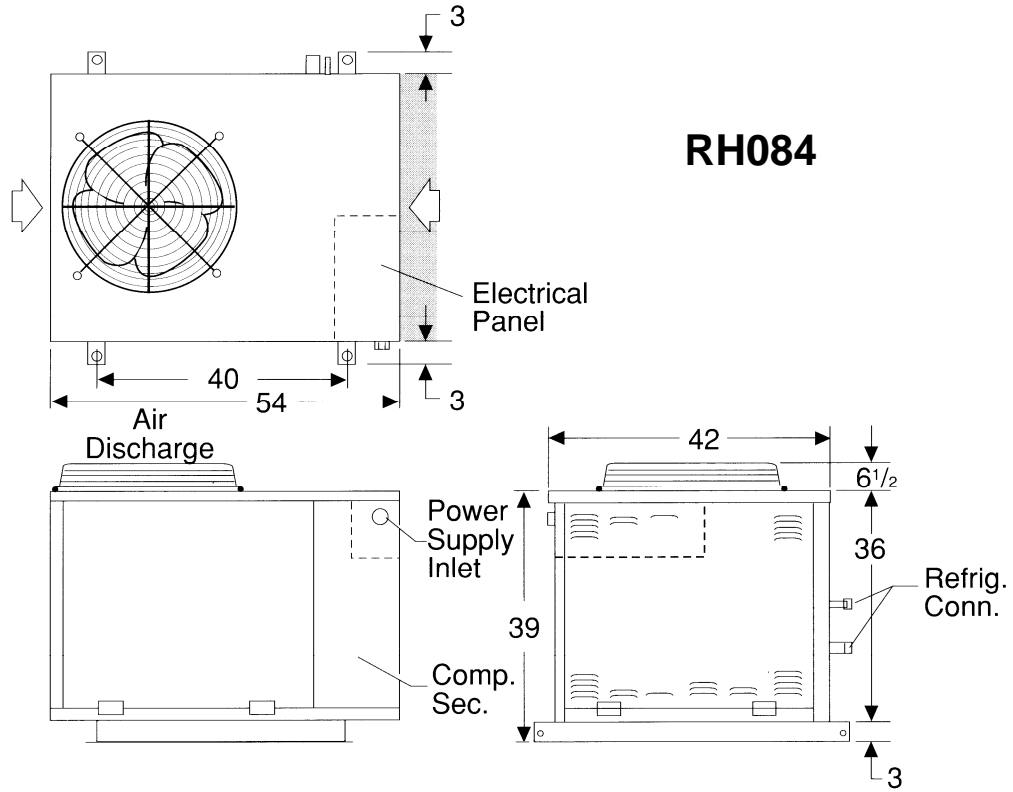
Field Wiring

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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