



RH SERIES AIR COOLED HEAT PUMP UNITS

SPECIFICATIONS Rated in Accordance with ARI Standard 210/240		RH094F			
PERFORMANCE		Rated with Optional Air Handler Model			VCH/HCH094
		Rated CFM			3,000
	COOLING	Total BTUH			92,100
		Sensible BTUH			66,500
		EER			9.3
	HEATING	Total BTUH			97,500
COP			3.2		
ELECTRICAL	SERVICE	Voltage-Phase-Hz	208/230-3-60	460-3-60	380/415-3-50
	COMPRESSOR	Nom. Tons — Type (Qty)	7½ Ton — Hermetic (1)		
		RLA	27.1	14.2	14.2
		LRA	183	91	91
		IPLV	—		
	Standard Capacity Reduction % Full load — (Optional)		NA — (NA)		
	CONDENSER FAN MOTOR(S)	Horse Power — (Qty)	1 — (1)		
		FLA	6.2	3.1	2.2
		Total CFM	5,800		
	UNIT	RLA	33.3	17.3	16.4
		Unit Minimum Circuit Ampacity	41	21	20
Max. Time Delay Fuse or HACR Breaker		60	35	30	
PHYSICAL DATA	CONDENSER COIL Alum. Fins on Copper Tubes	Face Area (sq.ft.)	16.7		
		Rows Deep — Fins per Inch	4 — 12		
		Suction Line OD In.	1 1/8		
		Liquid Line OD In.	1/2		
	WEIGHTS	Unit (lbs)	570		
		Shipping Weight (lbs)	645		

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
VCH094 or HCH094	2600	TOTAL BTUH	86,500	92,800	99,300	87,400	93,200	99,800	91,400	94,000	100,100
		SENS BTUH	63,700	52,600	41,600	76,700	66,200	55,100	87,000	79,400	68,600
		WATTS INPUT	8,500	8,780	9,050	8,560	8,790	9,070	8,720	8,840	9,090
		LVG DB/WB	52.7/51.6	56.6/55.7	60.5/60.0	53.2/51.4	56.9/55.7	60.7/60.0	54.6/50.8	57.2/55.6	61.0/59.9
	3000	TOTAL BTUH	88,600	95,000	101,500	90,600	95,400	102,100	95,800	97,000	102,400
		SENS BTUH	68,500	55,800	43,300	82,900	71,400	58,700	91,200	86,600	74,200
		WATTS INPUT	8,600	8,870	9,150	8,690	8,880	9,160	8,900	8,950	9,180
		LVG DB/WB	54.2/53.0	58.1/57.2	61.9/61.4	54.9/52.7	58.4/57.1	62.2/61.3	57.4/52.1	58.8/56.9	62.5/61.3
	3400	TOTAL BTUH	90,600	96,800	103,200	93,600	97,400	103,800	99,500	99,700	104,400
		SENS BTUH	73,000	59,100	44,900	89,100	76,500	62,200	94,800	92,300	79,800
		WATTS INPUT	8,690	8,940	9,220	8,800	8,970	9,240	9,060	9,070	9,270
		LVG DB/WB	55.5/54.1	59.2/58.3	63.0/62.5	56.2/53.7	59.5/58.2	63.4/62.5	59.7/53.1	60.3/58.0	63.7/62.4

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 VCH094 or HCH094

CFM	Capacity	Ambient Air on Outdoor Coil °F							
		10	17	20	30	40	47	50	60
3,000	BTUH	43,200	52,000	55,700	69,000	82,800	92,800	96,800	113,300
	Watts	5,610	6,000	6,180	6,760	7,380	7,850	8,040	8,890

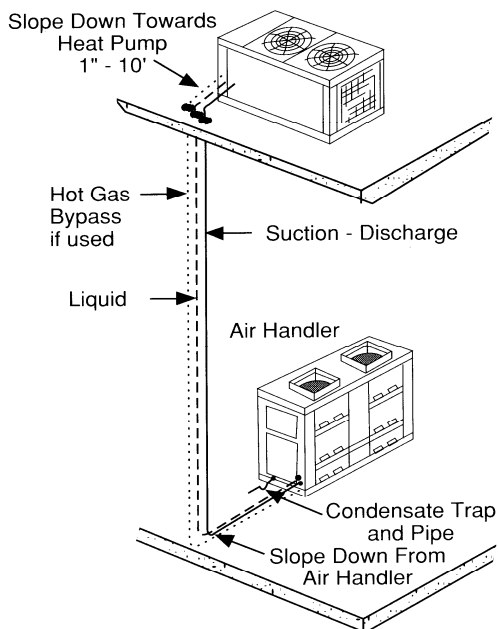
Note: Heating capacities are gross capacities. For net capacities, multiply blower BHP required times 2545 BTU per BHP and add to BTUH in table. Add blower BHP times 746 Watts per BHP to Watts for total power consumption. Refer to Air Handler specification for blower BHP.

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

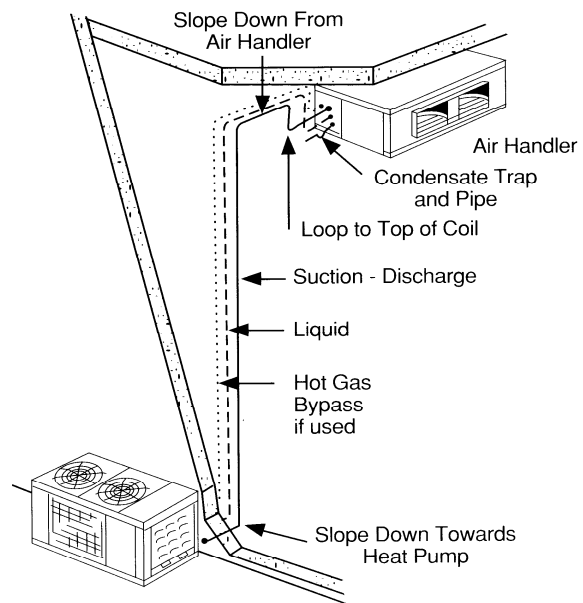
Recommended Refrigerant Line Sizes — Inches O.D.						
Equivalent Line Length — Feet						
0 to 25			26 to 50		51 to 75	
Suction	Liquid	Hot Gas Bypass	Suction	Liquid	Suction	Liquid
1 1/8	1/2	5/8	1 1/8	1/2	1 3/8	1/2

- 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 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

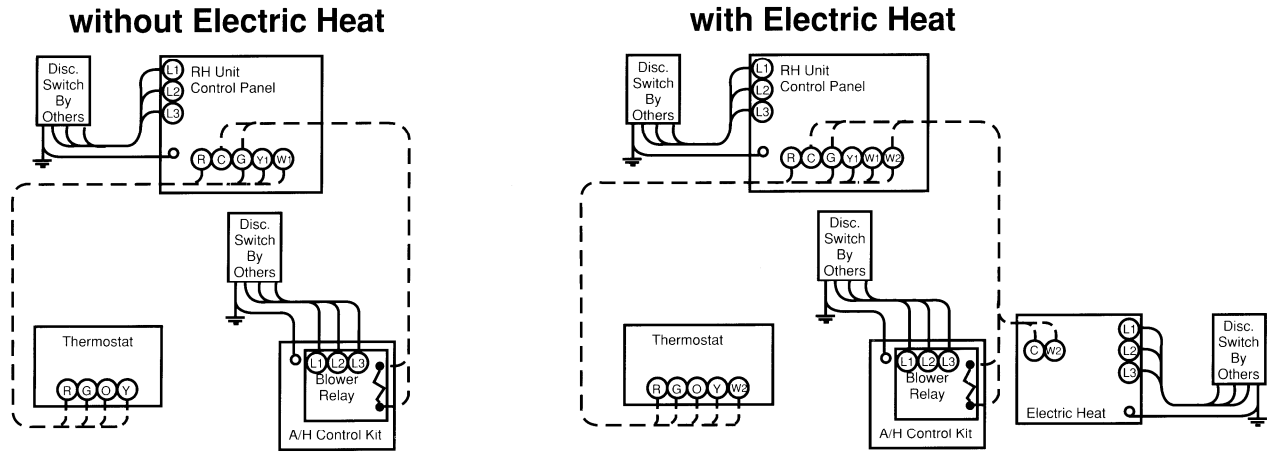


Heat Pump Below Air Handler



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

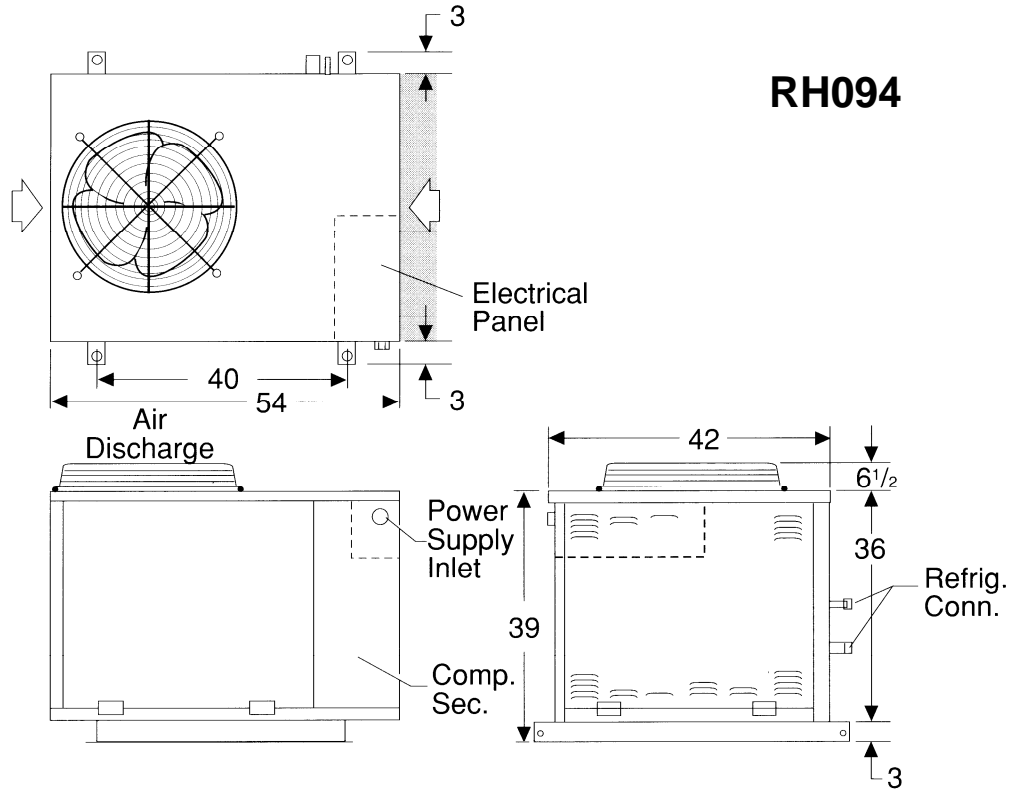
The power distribution system should be sized based on the minimum circuit ampacities in this specification sheet. The heat pumps and air handlers should be fused in accordance with the maximum fuse sizes.

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

RH094



↳ 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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