RH SERIES AIR COOLED HEAT PUMP UNITS

SPECIFICATIONS Rated in Accordance with ARI Standard 210/240			RH074F		
PERFORMANCE					
		Rated with Optional Air Handler Model	VCH/HCH074		
		Rated CFM	2,600		
	COOLING	Total BTUH	79,900		
		Sensible BTUH	57,800		
		EER	9.0		
	HEATING	Total BTUH	86,500		
		COP	3.3		
ELECTRICAL	SERVICE	Voltage-Phase-Hz	208/230-3-60	460-3-60	380/415-3-50
	COMPRESSOR	(Qty) Type — Nom. Tons	(2) Hermetic — 3½		
		RLA (ea)	13.8	6.9	6.9
		LRA (ea)	82	41	41
		IPLV	9.7		
	Standard Capacity Reduction % Full load — (Optional)		100-50-0 — (NA)		
	CONDENSER FAN MOTOR(S)	Horse Power — (Qty)	½ — (1)		
		FLA	3.5	1.8	2.2
		Total CFM	4,000		
	UNIT	RLA	31.1	15.6	16.0
		Unit Minimum Circuit Ampacity	35	18	18
		Max. Time Delay Fuse or HACR Breaker	45	20	20
PHYSICAL DATA	CONDENSER COIL Alum. Fins on Copper Tubes	Face Area (sq.ft.)	8.4		
		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)	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
VCH074 or HCH074	2400	TOTAL BTUH	76,900	82,500	88,100	78,900	83,100	88,900	84,200	84,600	89,600
		SENS BTUH	57,300	46,900	37,100	71,400	60,000	49,000	80,200	72,300	62,100
		WATTS INPUT	7,610	7,870	8,100	7,700	7,890	8,170	7,970	7,960	8,180
		LVG DB/WB	53.3/52.0	57.2/56.2	60.9/60.5	53.0/51.7	57.3/56.1	61.4/60.4	54.6/50.8	57.6/55.9	61.5/60.3
	2600	TOTAL BTUH	78,100	83,500	89,000	81,200	84,400	90,200	86,500	86,400	90,600
		SENS BTUH	59,500	48,300	37,500	77,400	62,400	51,000	82,400	74,900	64,600
		WATTS INPUT	7,670	7,920	8,160	7,810	7,940	8,200	8,070	8,040	8,250
		LVG DB/WB	54.2/52.8	58.1/57.0	61.9/61.3	52.9/52.3	58.2/56.9	62.2/61.1	56.2/51.6	58.8/56.6	62.4/61.1
	2800	TOTAL BTUH	79,500	84,700	89,900	83,200	85,400	91,000	88,600	88,100	91,900
		SENS BTUH	62,600	50,100	38,200	79,200	64,500	52,300	84,400	77,300	67,500
		WATTS INPUT	7,670	7,950	8,200	7,910	8,000	8,260	8,170	8,120	8,300
		LVG DB/WB	54.7/53.4	58.7/57.7	62.6/62.0	54.3/52.9	59.1/57.6	63.0/61.8	57.6/52.2	59.9/57.3	63.1/61.7

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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Listed

Heating Ratings

70°F Air on Coil of Indoor Air Handler Model VCH074 or HCH074

CFM	Capacity	Ambient Air on Outdoor Coil °F							
		10	17	20	30	40	47	50	60
2,600	BTUH	37,400	44,900	48,200	59,200	71,600	80,800	84,900	98,800
	Watts	4,890	5,160	5,280	5,740	6,270	6,700	6,870	7,570

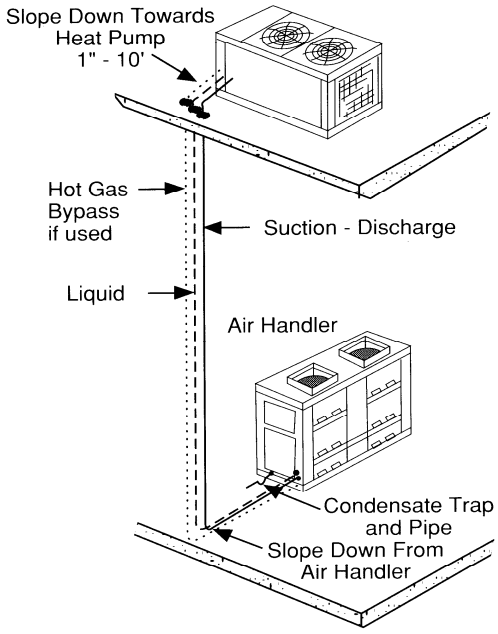
Note: Heating capacities are gross capacities. For net capacities, multiply blower BHP required times 2545 BTU per BHP and add to BTUH in table. Add blower BHP times 746 Watts per BHP to Watts for total power consumption. Refer to Air Handler specification for blower BHP.

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

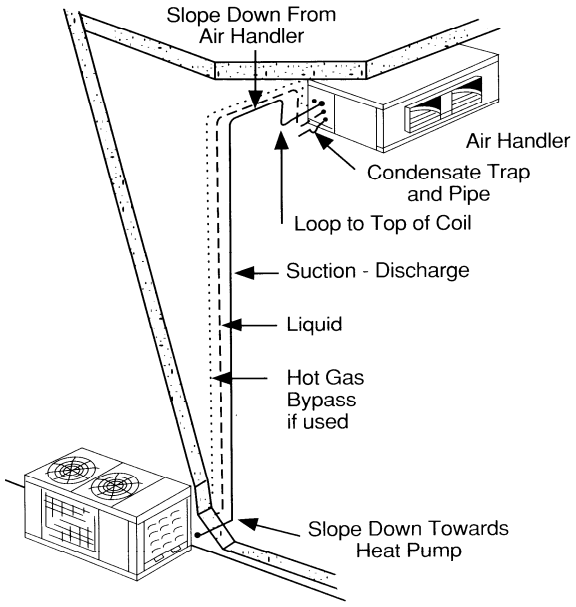
Recommended Refrigerant Line Sizes — Inches O.D.						
Equivalent Line Length – Feet						
0 to 25			26 to 50		51 to 75	
Suction	Liquid	Hot Gas Bypass	Suction	Liquid	Suction	Liquid
7/8 7/8	3/8 3/8	1/2 NA	7/8 7/8	3/8 3/8	7/8 7/8	3/8 3/8

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 are designed to minimize system refrigerant charge.
5. Hot gas bypass is typically used with the welded hermetic compressor only with an equivalent line length of 25 feet or less.
6. 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



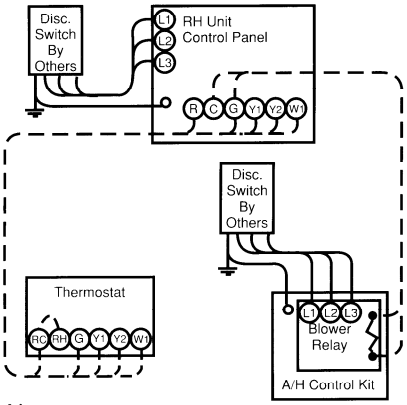
Heat Pump Below Air Handler



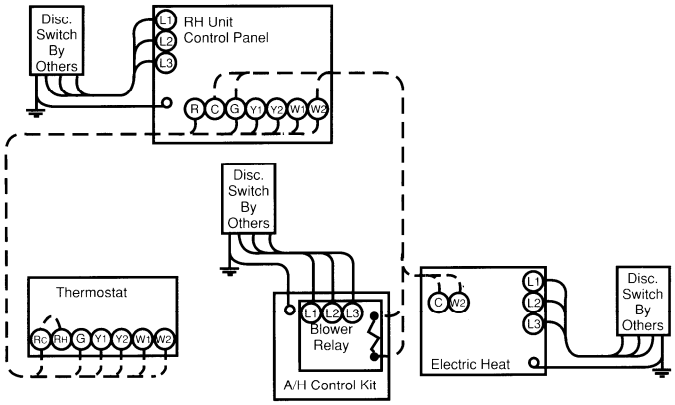
Field Piping: One of the most critical considerations in the installation of a split system heat pump is the proper sizing of piping so that oil will freely circulate with the refrigerant and not be trapped. In order to assure oil being carried upward in a vertical riser along with the refrigerant vapor, 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 ¾" minimum thickness closed cell foamed plastic insulation. Each line must be insulated separately.

Typical Field Wiring

without Electric Heat



with Electric Heat



Notes:

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

Line voltage power source ————————

24 volt control circuit – – – – – – –

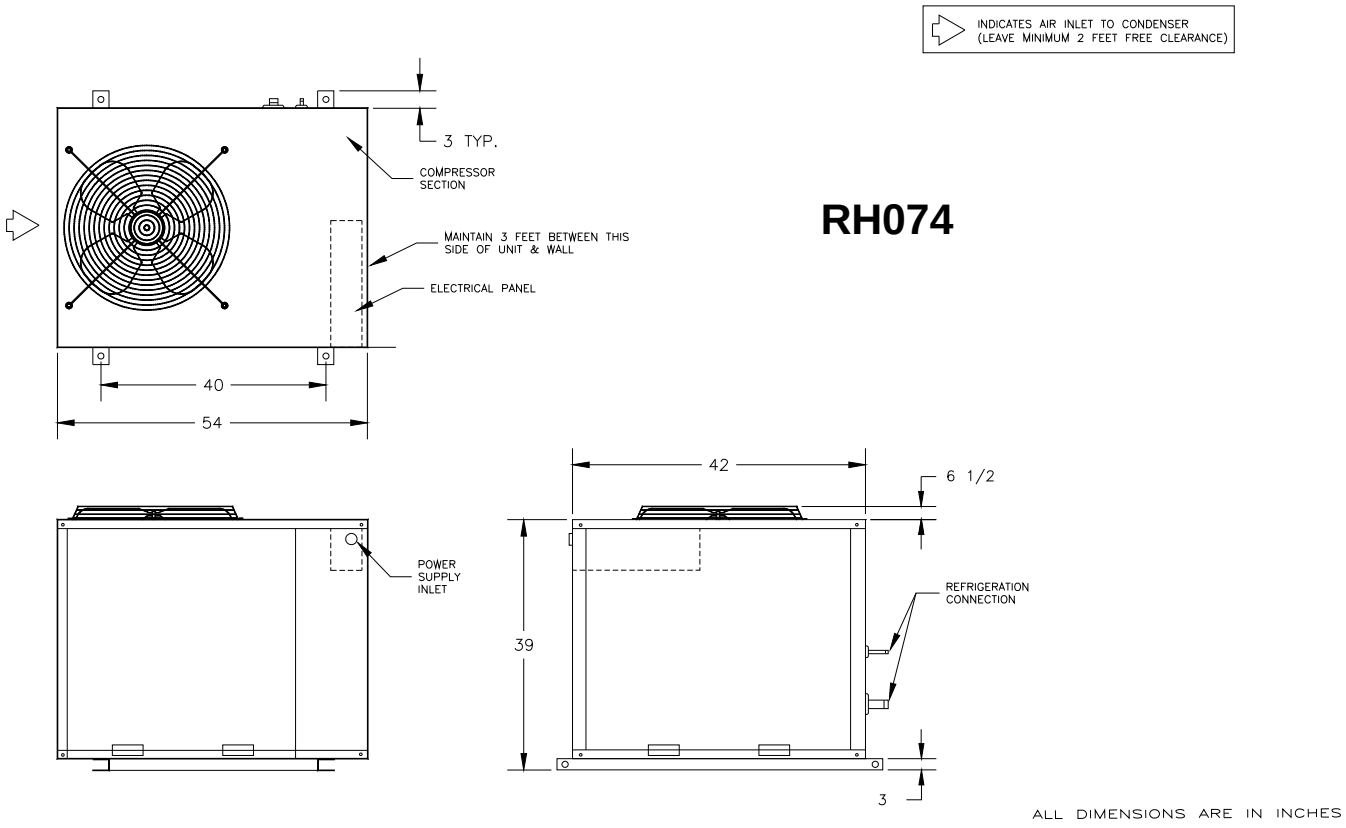
Field Wiring

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



Specifications subject to change without notice.

RH074 0203

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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