



VCH/HCH AIR HANDLER

SPECIFICATIONS – Performance per ARI Std. 210/240						Model 314				
PERFORMANCE	Applied with	EER	COP	CFM	Cooling Sensible BTUH	Cooling Total BTUH		Heating Total BTUH		
	RC192E	9.5	—	8,000	167,000	208,500		—		
	RC254E	9.2	—	9,000	190,200	243,600		—		
	RC314E	10.2	—	9,000	205,000	283,300		—		
	—	—	—	—	—	—		—		
	RH314E	9.8	3.3	9,000	201,000	272,500		278,000		
	—	—	—	—	—	—		—		
ELECTRICAL DATA	SERVICE		Voltage-Phase-Hz			208/230-1-60	208/230-3-60	460-3-60	380/415-3-50	
	3 HP MOTOR		FLA			—	8.0	4.0	4.7	
			Unit Minimum Circuit Ampacity			—	10	5	6	
			Max. Time Delay Fuse or HACR Breaker			—	15	15	15	
	5 HP MOTOR		FLA			—	13.4	6.7	7.8	
			Unit Minimum Circuit Ampacity			—	17	9	10	
			Max. Time Delay Fuse or HACR Breaker			—	30	15	15	
	7 1/2 HP MOTOR		Voltage-Phase-Hz			208-3-60	230-3-60	460-3-60	380/415-3-50	
			FLA			24.8	20.0	10.0	11.0	
			Unit Minimum Circuit Ampacity			33	25	13	14	
			Max. Time Delay Fuse or HACR Breaker			50	45	20	20	
	MECHANICAL DATA	EVAPORATOR BLOWER	DWDI, Dia." x Width" (Qty.)				15 x 15 (2)			
DX Coil		Face Area – Sq. Ft.				19.5				
		Rows Deep — Fins per Inch				4 — 13				
Hot Gas Reheat Coil		Face Area – Sq. Ft.				19.5				
		Rows Deep — Fins per Inch				1 / 10				
Liquid Sub Cooling Coil		Face Area – Sq. Ft.				19.5				
		Rows Deep — Fins per Inch				1 / 10				
Chill Water Coil		Face Area – Sq. Ft.				—				
		Rows Deep — Fins per Inch				—				
Hydronic Heat Coil		Face Area – Sq. Ft.				18.5				
		Rows Deep — Fins per Inch				1/8				
Steam Coil		Face Area – Sq. Ft.				18.5				
		Rows Deep — Fins per Inch				1/6				
Refrigerant Connections	Suction Line (Number) Size				(1) 1 5/8", (1) 1 3/8"					
	Liquid Line (Number) Size				(1) 5/8", (1) 1/2"					
Condensate Drain	(Number) Size				(2) 1 1/4"					
Filters	(Number) Size				(4) 20 x 24 x 2 — (2) 30 x 30 x 2					
WEIGHTS	Unit (lbs)				935					
	Shipping Weight(lbs)				995					

Blower Performance

	External Static Pressure - Inches H ₂ O													
	0.4		0.6		0.8		1.0		1.2		1.4		1.6	
CFM	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6000	650	1.6	700	1.9	760	2.2	820	2.4	870	2.7	920	3.0	980	3.4
7000	680	2.0	740	2.3	800	2.6	860	3.0	910	3.5	960	3.9	1000	4.4
8000	730	2.7	780	3.0	840	3.4	895	3.7	935	4.2	980	4.7	1020	5.2
9000	770	3.4	825	3.8	875	4.2	925	4.6	960	5.2	1000	5.6	1040	6.0
10000	820	4.3	865	4.7	915	5.1	960	5.6	1000	6.2	1040	6.6	1080	7.0

- Notes: 1. For units with electric heat, add 0.20 inches External Static Pressure prior to making R.P.M and B.H.P. selection.
 2. For units with discharge plenum, add 0.02 inches to External Static Pressure prior to making R.P.M and B.H.P. selection.
 2. Tables can be interpolated but not extrapolated.

Heating Coil Capacities

CFM	Steam Coil		Hot Water Coil			
	Heating Capacity BTUH*	°F Lvg. Air Temp.	Heating Capacity BTUH**	°F Lvg. Air Temp.	GPM	W.P.D. Ft. Head
6000	294,160	115.0	245,800	107.4	25.3	1.9
7000	321,790	112.2	267,700	104.9	27.5	2.2
8000	347,140	109.8	287,800	102.8	29.6	2.5
9000	370,590	107.8	306,400	101.1	31.5	2.9
10000	392,420	106.0	323,700	99.6	33.3	3.2

Note: Leaving air temperatures are based on 70°F entering air

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Steam Coil Correction Factors

Steam Pressure		2 PSIG	5 PSIG
Entering Air Temp. °F	40°	1.12	1.25
	50°	1.13	1.18
	60°	1.06	1.11
	70°	1.00	1.05

Hot Water Coil Correction Factors

Entering Water		Entering Air Temp.			
Temp. °F		40°	50°	60°	70°
160°		0.96	0.90	0.82	0.74
180°		1.08	1.02	0.95	0.87
200°		1.23	1.16	1.08	1.00

4 Row Chilled Water Coil Performance with 45° entering water

CFM	Capacity	Entering Air to 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
6000	Total	178,700	227,200	297,100	201,700	237,200	300,800	212,000	252,000	305,700
	Sensible	143,000	131,700	125,300	183,800	167,500	158,900	212,000	205,400	193,000
	LAT	53.4/52.6	55.1/54.8	56.2/56.0	52.2/51.1	54.7/54.1	56.0/55.7	52.4/50.3	53.9/53.1	55.8/55.3
	GPM	35.6	45.2	59.1	40.0	47.2	59.8	42.2	50.1	60.9
	Δ P	6.5	10.2	16.6	8.1	11.0	17.0	8.9	12.3	17.6
8000	Total	220,700	274,700	358,000	247,500	288,800	363,700	266,600	308,800	371,700
	Sensible	180,700	162,900	151,900	231,400	209,900	195,900	266,600	259,100	240,900
	LAT	54.5/53.5	56.5/56.0	57.8/57.7	53.8/52.1	56.2/55.3	57.8/57.4	54.3/51.1	55.6/54.4	57.7/56.9
	GPM	43.8	54.7	71.2	4.3	57.5	72.2	53.0	61.4	74.0
	Δ P	9.6	14.4	23.5	11.9	15.8	24.1	13.6	17.9	25.5
10000	Total	257,000	316,400	409,500	286,800	334,800	417,300	316,000	360,000	428,500
	Sensible	214,800	191,300	175,000	274,200	249,000	229,000	316,000	309,000	284,500
	LAT	55.5/54.2	57.7/57.0	59.1/59.0	55.1/53.0	57.4/56.3	59.2/58.6	55.9/51.8	57.0/55.3	59.2/58.2
	GPM	51.1	63.0	81.4	57.1	66.6	82.9	62.8	71.5	85.3
	Δ P	12.7	18.7	30.1	15.6	20.7	31.0	18.6	23.6	32.7

6 Row Chilled Water Coil Performance with 45° entering water

CFM	Capacity	Entering Air to 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
6000	Total	219,000	278,200	357,700	250,600	291,900	363,500	287,700	309,300	370,700
	Sensible	163,500	154,200	150,000	211,000	193,200	185,700	262,000	234,100	222,000
	LAT	50.3/50.0	51.7/51.5	52.3/52.3	48.1/47.8	50.8/50.6	51.9/51.8	45.4/45.1	49.6/49.3	51.4/51.2
	GPM	43.5	55.3	71.2	49.9	58.1	72.3	57.4	61.6	73.6
	Δ P	4.7	7.3	11.6	6.0	8.0	12.0	7.8	8.9	12.4
8000	Total	280,200	344,400	441,500	316,900	361,700	449,600	308,000	386,400	460,400
	Sensible	211,800	193,700	185,200	272,000	244,800	232,400	308,000	299,300	280,800
	LAT	51.0/50.6	53.0/52.8	54.0/53.9	49.2/48.7	52.3/51.9	53.6/53.5	49.5/49.1	51.1/50.6	53.2/52.9
	GPM	55.8	68.6	87.9	63.0	71.8	89.4	61.4	76.9	91.8
	Δ P	7.4	10.8	17.1	9.3	11.8	17.7	8.8	13.4	18.6
10000	Total	330,300	401,600	514,600	373,000	426,200	525,400	371,700	456,700	540,300
	Sensible	254,500	229,300	216,300	327,500	293,600	274,900	371,700	360,900	335,300
	LAT	51.9/51.4	54.2/53.9	55.4/55.3	50.3/49.6	53.4/52.9	55.1/54.8	50.7/49.6	52.3/51.7	54.6/54.2
	GPM	65.7	79.7	102.4	74.1	84.9	104.5	74.0	90.9	107.6
	Δ P	10.0	14.3	22.8	12.5	16.1	23.6	12.5	18.2	25.0

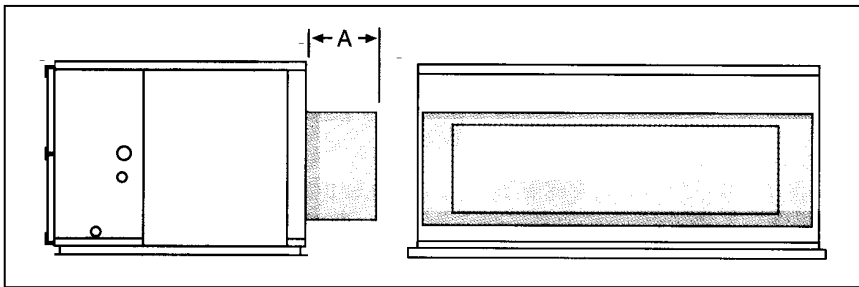
Optional Factory Installed Electric Heat

CFM	KW-->	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120
	MBH	119.5	136.5	153.6	170.7	187.7	204.8	221.8	238.9	256.0	273.0	290.1	307.2	324.2	341.3	358.4	375.4	392.5	409.6
6000	Rise	18.3	21.0	23.6	26.2	28.8	31.5	34.1	36.7	39.3	41.9	44.6	47.2	49.8	52.4	55.0	57.7	60.3	62.9
7000		15.7	18.0	20.2	22.5	24.7	27.0	29.2	31.5	33.7	35.9	38.2	40.4	42.7	44.9	47.2	49.4	51.7	53.9
8000		13.8	15.7	17.7	19.7	21.6	23.6	25.6	27.5	29.5	31.5	33.4	35.4	37.4	39.3	41.3	43.3	45.2	47.2
9000		12.2	14.0	15.7	17.5	19.2	21.0	22.7	24.5	26.2	28.0	29.7	31.5	33.2	35.0	36.7	38.4	40.2	41.9
10000		11.0	12.6	14.2	15.7	17.3	18.9	20.4	22.0	23.6	25.2	26.7	28.3	29.9	31.5	33.0	34.6	36.2	37.7
208v 1phase	Amps	168.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
208v 3 phase		97.2	111.0	124.9	138.8	152.7	166.5	180.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
240v 1 phase		145.8	166.7	187.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
240v 3 phase		84.2	96.2	108.3	120.3	132.3	144.3	156.4	168.4	180.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
480v 3 phase		42.1	48.1	54.1	60.1	66.2	72.2	78.2	84.2	90.2	96.2	102.2	108.3	114.3	120.3	126.3	132.3	138.3	144.3

Recommended Refrigerant Line Sizes – O.D.

Equivalent Line Length — Feet														
0 to 25					26 to 50					51 to 75				
Suction	Liquid	Hot Gas Bypass	Hot Gas Reheat		Suction	Liquid	Hot Gas Bypass	Hot Gas Reheat		Suction	Liquid	Hot Gas Bypass	Hot Gas Reheat	
			S	R				S	R				S	R
1 5/8, 1 3/8	5/8, 1/2	3/4	5/8	1/2	1 5/8, 1 3/8	(2) 5/8	3/4	3/4	1/2	(2) 1 1/8	(2) 3/4	3/4	7/8	1/2

- 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. Liquid line sizes and hot gas reheat return line sizes are designed to minimize system refrigerant charge.
 4. Over 75 equivalent feet, consult factory for sizing recommendations.
 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. *Hot gas bypass and hot gas reheat only on lead circuit of dual circuit units. Hot gas bypass and hog gas reheat normally not available for heat pump use.

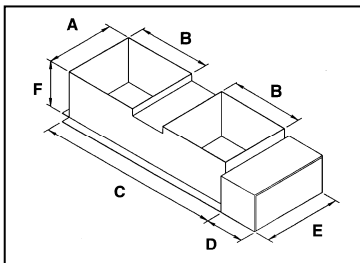
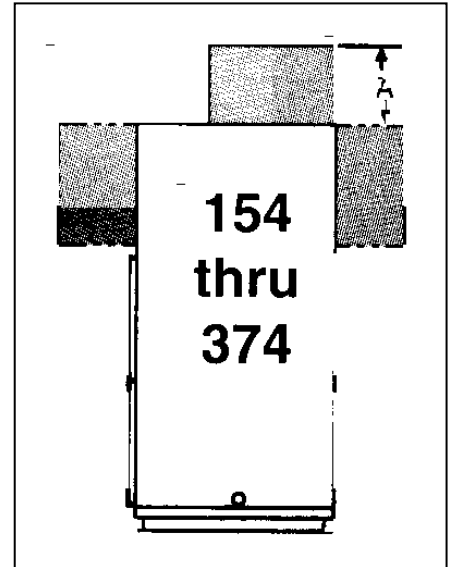


HCH and VCH Discharge electric Heaters
Standard Depth in Direction of Airflow

KW Range	Dim. A (In.)
1 – 60	12
61 - 120	15

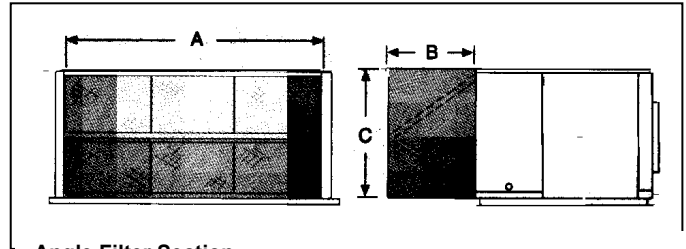
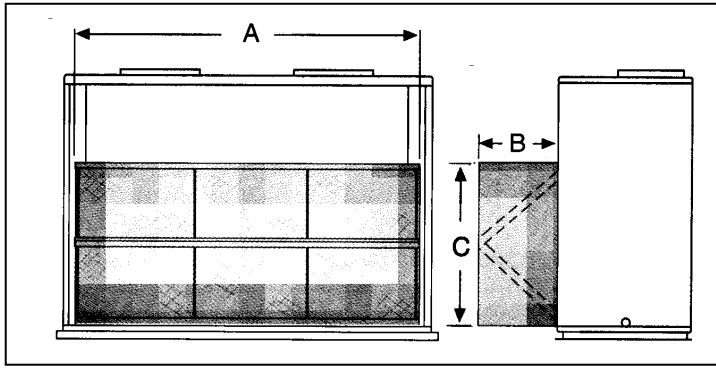
Note: Above values for Dim. A are for standard heaters, with or without air pressure switch, staging relay and non-fused disconnect. Addition of more options may require longer Dim. A. If space considerations are critical, contact factory for exact information.

Note: electric heat sections are designed for mounting directly to air handler cabinet. Electrical box is on the same end as air handler fan motor. Sub-circuit fusing is included when required. Disconnect to be furnished and filed installed by contractor.



	Electric Heaters						
	kW Range	A	B	C*	D*	E	F
VCH	1 – 60	16 1/8	18 7/8	52 5/8	12	18 1/8	12
	61 - 90	16 1/8	18 7/8	52 5/8	18	18 1/8	15
HCH	1 – 60	20 1/2	20 7/8	60 5/8	12	22 1/2	12
	61 - 90	20 1/2	20 7/8	60 5/8	18	22 1/2	15

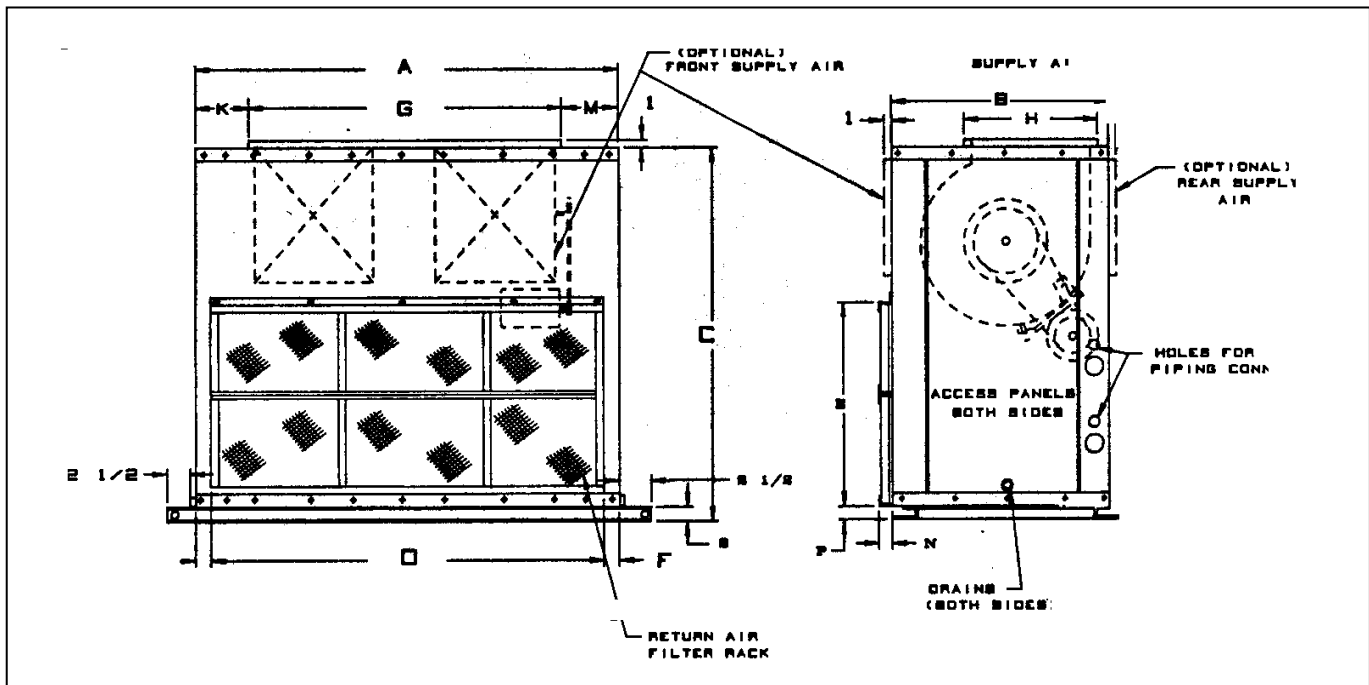
* These dimensions may vary with added heater options. Contact factory if space considerations are critical.



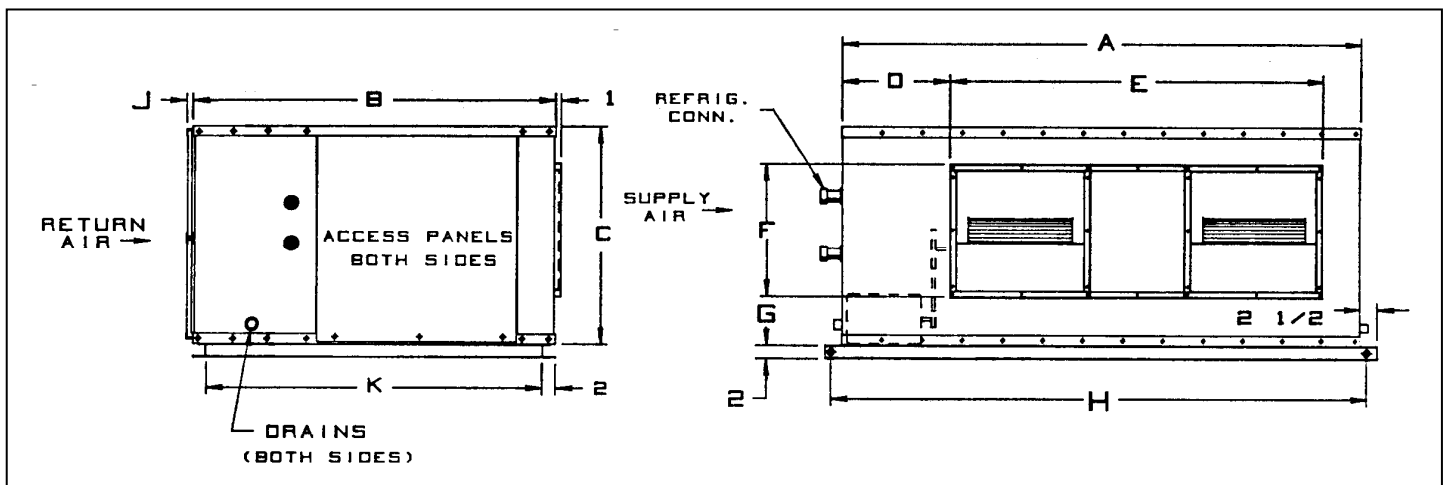
Angle Filter Section

	A	B	C	Filters, Qty. - Size
HCH	79	24	40 1/2	9 - 20 x 20 / 3 - 16 x 20
VCH	79	24	40 1/2	9 - 25 x 25 / 3 - 16 x 25

Filter sections are fully insulated and shipped separate for field assembly to the air handler. 2-inch glass fiber media filters standard.



Dimensions													
Model	A	B	C	D	E	F	G	H	J	K	M	N	P
314	85	30	66	80	40 1/2	2 1/2	58 1/4	17 7/8	1	13 3/8	13 3/8	1 1/4	3 1/2



Model	Dimensions											Return Air	
	A	B	C	D	E	F	G	H	J	K	Width	Height	
314	85	54	41 1/2	12 1/2	60	17 7/8	8 1/8	87 1/2	1 1/4	50	80	40	

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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