



VCH/HCH AIR HANDLER

SPECIFICATIONS – Performance per ARI Std. 210/240						Model 154				
PERFORMANCE	Applied with	EER	COP	CFM	Cooling Sensible BTUH	Cooling Total BTUH		Heating Total BTUH		
	RC114E	9.6		4,000	92,000	124,500		—		
	RC134E	9.0		4,500	101,300	135,400		—		
	RC144E	9.3		5,000	115,300	150,100		—		
	RC154E	9.8		5,500	122,600	165,000		—		
	RH144E	9.1	3.1	5,000	112,800	144,900		147,100		
	RH154E	9.4	3.2	5,500	120,200	158,000		161,400		
—	—	—	—	—	—		—			
ELECTRICAL DATA	SERVICE		Voltage-Phase-Hz			208/230-1-60	208/230-3-60	460-3-60	380/415-3-50	
	2 HP MOTOR		FLA			13.0	6.2	3.1	3.5	
			Unit Minimum Circuit Ampacity			17	8	4	5	
			Max. Time Delay Fuse or HACR Breaker			25	15	15	15	
	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	
	MECHANICAL DATA	EVAPORATOR BLOWER		DWDI, Dia." x Width" (Qty.)			15 x 15 (2)			
		DX Coil		Face Area – Sq. Ft.			11.0			
Rows Deep — Fins per Inch				4 — 12						
Hot Gas Reheat Coil		Face Area – Sq. Ft.			11.0					
		Rows Deep — Fins per Inch			1 / 10					
Liquid Sub Cooling Coil		Face Area – Sq. Ft.			11.0					
		Rows Deep — Fins per Inch			1 / 10					
Chill Water Coil		Face Area – Sq. Ft.			11.0					
		Rows Deep — Fins per Inch			4/12					
Hydronic Heat Coil		Face Area – Sq. Ft.			11.0					
		Rows Deep — Fins per Inch			1/8					
Steam Coil		Face Area – Sq. Ft.			10.3					
		Rows Deep — Fins per Inch			1/10					
Refrigerant Connections		Suction Line (Number) Size			(2) 1 1/8"					
		Liquid Line (Number) Size			(1) 1/2, (1) 3/8					
Condensate Drain		(Number) Size			(2) 1 1/4"					
Filters		(Number) Size			(6) 16 x 25 x 2					
WEIGHTS		Unit (lbs)			740					
		Shipping Weight(lbs)			800					

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
4000	690	1.2	760	1.4	830	1.7	890	2.0	960	2.2	1010	2.5	1050	2.7
4500	725	1.5	795	1.8	860	2.0	920	2.3	980	2.5	1030	2.8	1080	3.1
5000	760	1.8	830	2.1	890	2.3	950	2.6	1010	2.9	1060	3.2	1110	3.5
5500	790	2.1	860	2.4	920	2.7	970	3.0	1030	3.3	1080	3.7	1130	4.0
6000	830	2.5	890	2.8	950	3.1	990	3.4	1050	3.7	1100	4.1	1150	4.5

- 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.	°F Lvg. Air Temp.	Heating Capacity BTUH**	°F Lvg. Air Temp.	W.P.D. Ft. Head
4000	241,700	125.5	125.5	154,600	105.3	15.9
4500	256,680	122.4	122.4	164,900	103.5	17.0
5000	270,440	119.7	119.7	174,500	101.9	17.9
5500	283,200	117.3	117.3	183,500	100.5	18.9
6000	294,690	115.1	115.1	192,000	99.2	19.7

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

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Listed

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
4000	Total	90,400	115,900	168,100	104,600	130,100	171,800	127,400	144,900	177,800		
	Sensible	81,400	73,100	71,900	104,600	99,500	94,300	127,400	126,000	117,800		
	LAT	56.5/55.3	58.4/57.9	58.7/58.6	55.9/53.9	57.4/56.6	58.6/58.2	55.6/51.7	56.4/55.2	58.3/57.6		
	GPM	18.1	23.0	33.4	20.8	25.9	34.1	25.4	28.8	35.3		
	Δ P	1.8	2.8	5.6	2.3	3.4	5.8	3.3	4.2	6.2		
5000	Total	110,300	139,400	196,700	126,500	155,800	200,800	153,800	172,400	207,700		
	Sensible	99,400	88,600	84,600	126,500	120,400	112,000	153,800	152,100	140,500		
	LAT	57.0/55.5	58.9/58.3	59.7/59.5	56.7/54.3	58.2/57.1	59.7/59.2	56.6/52.1	57.4/55.9	59.5/58.6		
	GPM	21.9	27.7	39.0	25.2	31.0	39.9	30.6	34.2	41.3		
	Δ P	2.5	3.9	7.5	3.3	4.8	7.8	4.7	5.8	8.4		
6000	Total	127,600	160,300	218,600	147,000	179,000	223,900	178,300	198,700	232,300		
	Sensible	115,700	102,800	94,800	147,000	140,000	127,100	178,300	177,200	160,700		
	LAT	57.5/55.8	59.5/58.7	60.7/60.5	57.4/54.6	58.9/57.6	60.8/60.1	57.6/52.5	58.2/56.3	60.7/59.6		
	GPM	25.3	31.8	43.5	29.2	35.5	44.5	35.5	39.4	46.1		
	Δ P	3.3	5.1	9.2	4.3	6.3	9.6	6.3	7.6	10.3		

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
4000	Total	138,800	175,900	228,200	160,600	186,000	232,400	155,300	198,900	237,600		
	Sensible	105,600	98,600	95,700	137,400	124,900	119,500	155,300	152,600	143,800		
	LAT	51.0/50.7	52.6/52.5	53.3/53.2	48.8/48.4	51.7/51.4	52.9/52.8	49.2/48.9	50.4/50.1	52.4/52.2		
	GPM	27.6	35.0	45.3	31.9	37.0	46.3	30.9	39.6	47.3		
	Δ P	5.0	7.8	12.7	6.6	8.7	13.2	6.2	9.9	13.8		
5000	Total	167,700	208,100	267,500	192,700	220,500	273,100	189,800	235,800	280,000		
	Sensible	128,900	118,000	112,300	167,400	150,400	141,900	189,800	184,400	172,200		
	LAT	51.6/51.2	53.6/53.4	54.8/54.6	49.6/49.1	52.7/52.4	54.3/54.1	50.0/49.3	51.6/51.1	53.8/53.5		
	GPM	33.3	41.3	53.1	38.3	43.9	54.3	37.8	46.9	55.6		
	Δ P	7.1	10.7	17.1	9.3	12.0	17.9	9.0	13.6	18.7		
6000	Total	194,300	236,100	303,000	220,300	251,100	309,600	221,100	269,900	318,500		
	Sensible	150,900	135,600	127,500	194,800	174,200	162,700	221,100	214,700	198,800		
	LAT	52.2/51.6	54.5/54.2	55.7/55.6	50.5/49.9	53.7/53.2	55.4/55.2	51.0/49.7	52.5/51.9	54.9/54.6		
	GPM	38.7	46.9	60.3	43.8	50.0	61.6	44.0	53.7	63.2		
	Δ P	9.4	13.6	21.8	11.9	15.3	22.7	12.0	17.5	23.8		

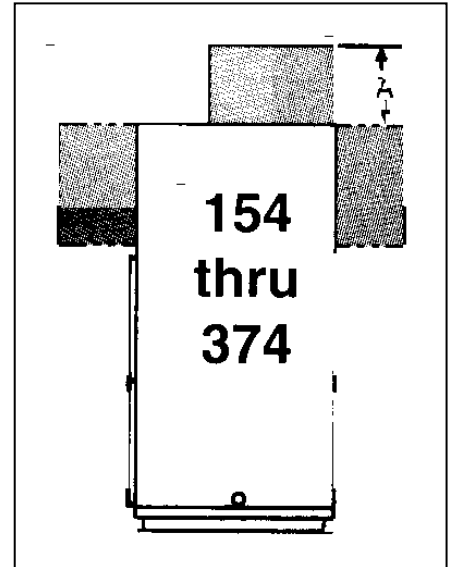
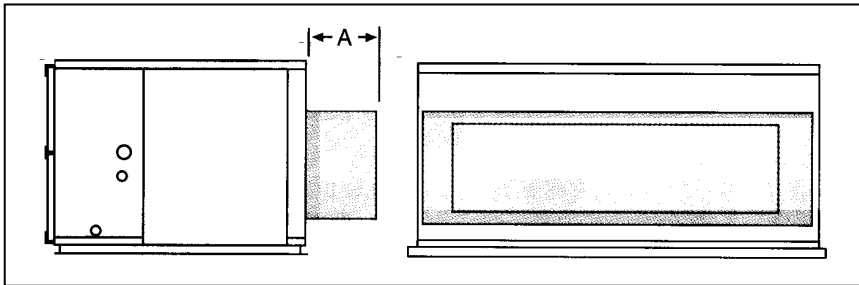
Optional Factory Installed Electric Heat

CFM	KW-->	25	30	35	40	45	50	55	60	65	70	75	80	85	90
	MBH	85.3	102.4	119.5	136.5	153.6	170.7	187.7	204.8	221.8	238.9	256.0	273.0	290.1	307.2
4000	Rise	19.7	23.6	27.5	31.5	35.4	39.3	43.3	47.2	51.1	55.0	59.0	62.9	66.8	70.8
4500		17.5	21.0	24.5	28.0	31.5	35.0	38.4	41.9	45.4	48.9	52.4	55.9	59.4	62.9
5000		15.7	18.9	22.0	25.2	28.3	31.5	34.6	37.7	40.9	44.0	47.2	50.3	53.5	56.6
5500		14.3	17.2	20.0	22.9	25.7	28.6	31.5	34.3	37.2	40.0	42.9	45.8	48.6	51.5
6000		13.1	15.7	18.3	21.0	23.6	26.2	28.8	31.5	34.1	36.7	39.3	41.9	44.6	47.2
208v 1phase	Amps	120.2	144.2	168.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
208v 3 phase		69.4	83.3	97.2	111.0	124.9	138.8	152.7	166.5	180.4	NA	NA	NA	NA	NA
240v 1 phase		104.2	125.0	145.8	166.7	187.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
240v 3 phase		60.1	72.2	84.2	96.2	108.3	120.3	132.3	144.3	156.4	168.4	180.4	NA	NA	NA
480v 3 phase		30.1	36.1	42.1	48.1	54.1	60.1	66.2	72.2	78.2	84.2	90.2	96.2	102.2	108.3

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
Two 1 1/8	1/2 3/8	5/8	5/8	3/8	Two 1 1/8	Two 1/2	5/8	5/8	3/8	Two 1 3/8	Two 1/2	5/8	5/8	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. 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 hot gas reheat normally not available for heat pump use.

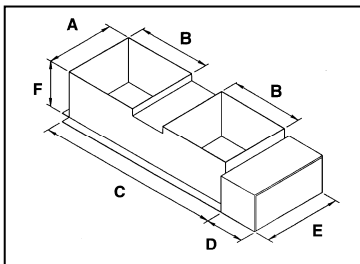


HCH and VCH Discharge electric Heaters
Standard Depth in Direction of Airflow

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

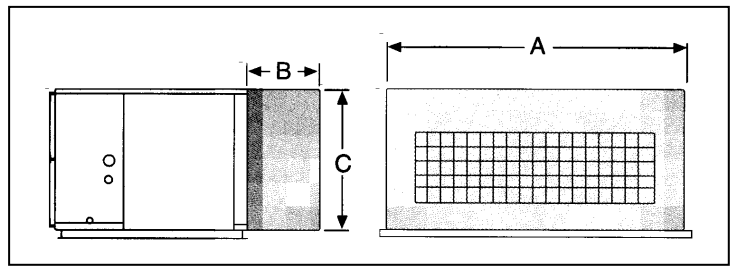
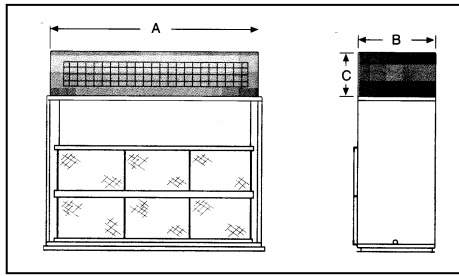
Note: Above values for Dim. A are for standard heaters, with or without air pressure switch, staging relay and non-fused disconnect. Addition of more options may require longer Dim. A. If space considerations are critical, contact factory for exact information.

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 3/8	22	56 5/8	12	22 5/8	12
	61 - 90	20 3/8	22	56 5/8	18	22 5/8	15

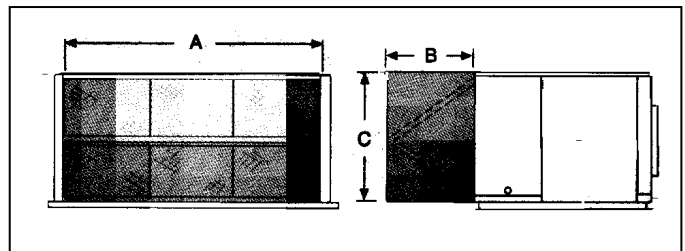
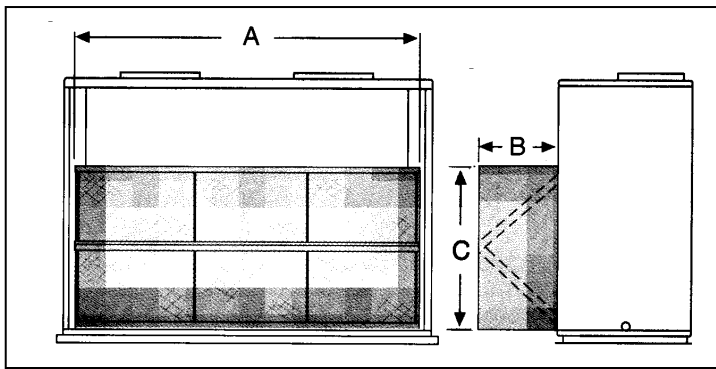
* These dimensions may vary with added heater options. Contact factory if space considerations are critical.



Discharge Plenum with 4 way Adjustable Grill

	A	B	C
HCH Model	78	24	32 3/4
VCH Model	82	30	30

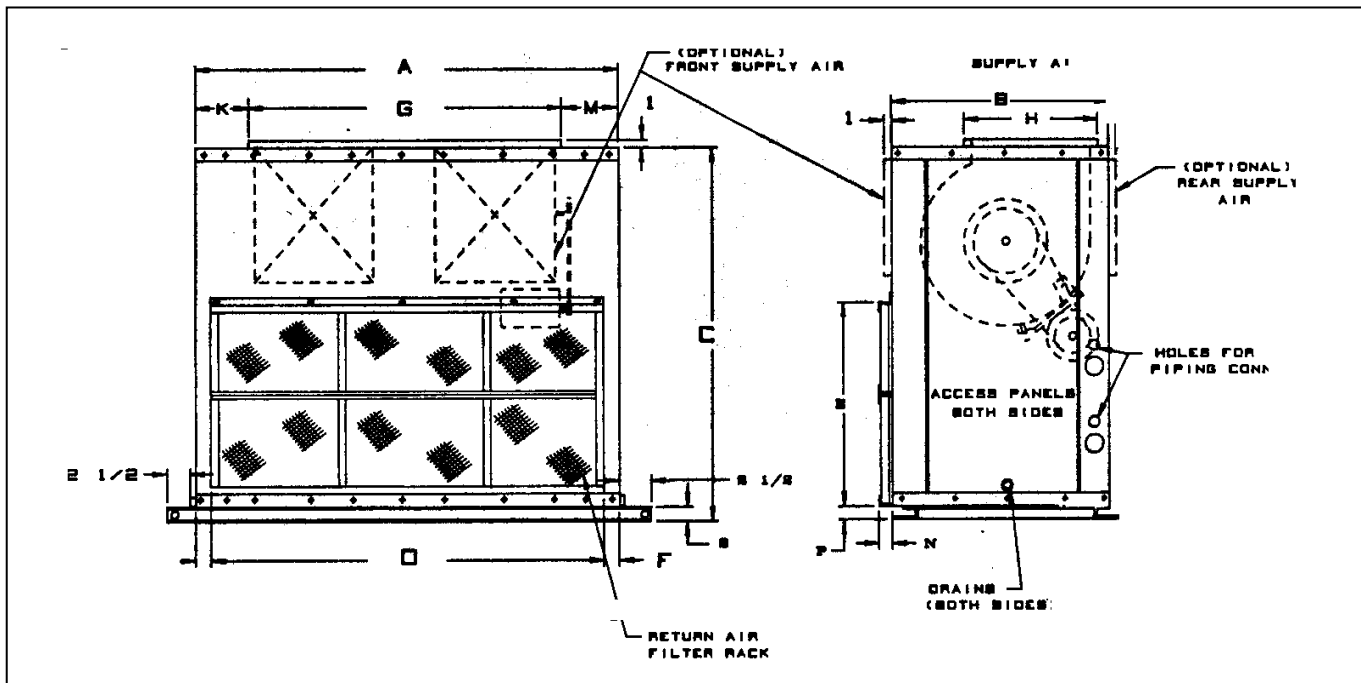
Plenums are fully insulated and shipped separate for field assembly to the air handler and can be installed 180 degrees from the view shown on the drawing.



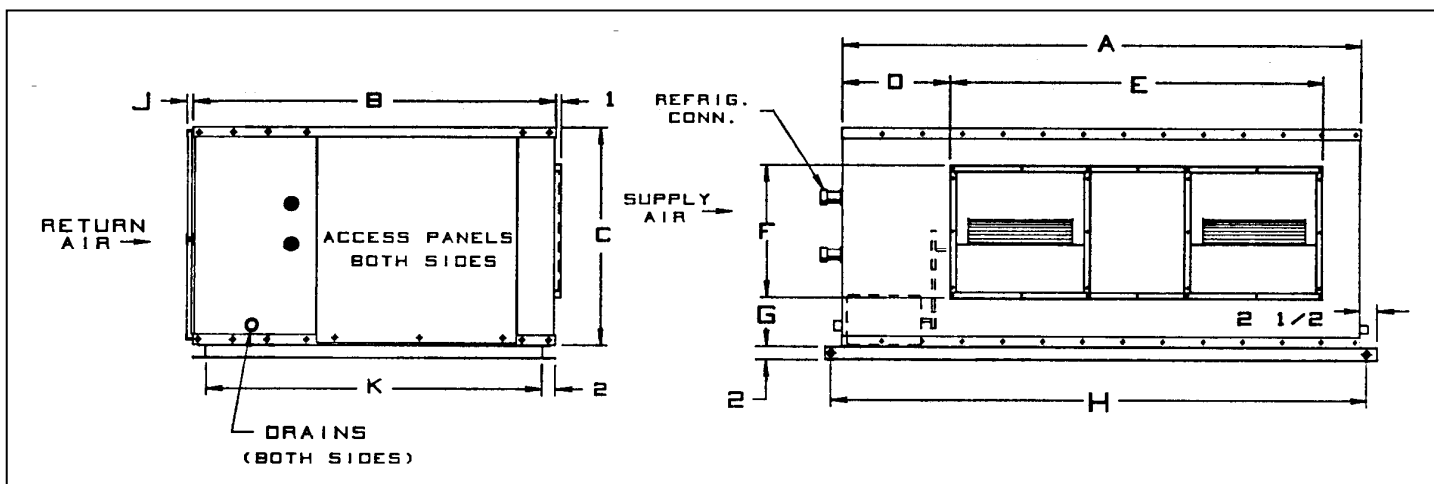
Angle Filter Section

	A	B	C	Filters, Qty. - Size
HCH	73	28	30 1/2	4 - 20 x 25 / 4 - 16 x 25
VCH	73	28	30 1/2	4 - 20 x 25 / 4 - 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	
154	82 1/8	30	62	75	32 1/2	3 1/2	54 1/2	17 7/8	3 1/8	8 1/4	19 3/8	3 3/8	3 3/4	



Model	Dimensions											Return Air	
	A	B	C	D	E	F	G	H	J	K	Width	Height	
154	78	54	32 3/4	16	56 1/8	17 7/8	8 1/8	80 1/2	3 3/8	50	75	32 3/4	

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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