



## VCH/HCH AIR HANDLER

SPECIFICATIONS – Performance per ARI Std. 210/240						Model 194			
PERFORMANCE	Applied with	EER	COP	CFM	Cooling Sensible BTUH	Cooling Total BTUH		Heating Total BTUH	
	RC144E	9.4		5,500	122,900	155,200		—	
	RC154E	9.8		6,000	130,800	170,300		—	
	RC194E	9.6		6,000	141,200	197,400		—	
	—	—	—	—	—	—		—	
	RC194E	9.5	3.3	6,000	138,700	190,300		197,900	
	—	—	—	—	—	—		—	
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
			FLA			—	—	—	—
			Unit Minimum Circuit Ampacity			—	—	—	—
			Max. Time Delay Fuse or HACR Breaker			—	—	—	—
MECHANICAL DATA	EVAPORATOR BLOWER		DWDI, Dia." x Width" (Qty.)			15 x 15 (2)			
	DX Coil		Face Area – Sq. Ft.			14.6			
			Rows Deep — Fins per Inch			4 — 13			
	Hot Gas Reheat Coil		Face Area – Sq. Ft.			14.6			
			Rows Deep — Fins per Inch			1 / 10			
	Liquid Sub Cooling Coil		Face Area – Sq. Ft.			14.6			
			Rows Deep — Fins per Inch			1 / 10			
	Chill Water Coil		Face Area – Sq. Ft.			14.2			
			Rows Deep — Fins per Inch			4/12			
	Hydronic Heat Coil		Face Area – Sq. Ft.			14.2			
			Rows Deep — Fins per Inch			1/6			
	Steam Coil		Face Area – Sq. Ft.			14.2			
			Rows Deep — Fins per Inch			1/8			
	Refrigerant Connections		Suction Line (Number) Size			(2) 1 1/8"			
Liquid Line (Number) Size			(2) 1/2"						
Condensate Drain		(Number) Size			(2) 1 1/4"				
Filters		(Number) Size			(6) 16 x 25 x 2				
WEIGHTS		Unit (lbs)			790				
		Shipping Weight(lbs)			850				

### Blower Performance

External Static Pressure - Inches H <sub>2</sub> 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
5000	710	1.6	770	1.9	830	2.2	900	2.5	960	2.7	1010	3.0	1060	3.4
5500	720	1.8	780	2.0	840	2.3	905	2.7	965	3.0	1020	3.3	1065	3.7
6000	730	1.9	790	2.1	850	2.5	910	2.8	970	3.2	1030	3.6	1070	4.0
6500	750	2.2	810	2.4	865	2.8	925	3.2	980	3.6	1040	3.9	1080	4.4
7000	770	2.5	825	2.8	880	3.2	940	3.5	990	3.9	1050	4.3	1090	4.8

- 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
5000	297,960	124.7	153,700	98.1	15.8	1.1
5500	314,640	122.5	162,000	96.9	16.6	1.2
6000	330,370	120.6	169,800	95.9	17.4	1.3
6500	345,260	118.8	177,300	94.9	18.2	1.4
7000	259,410	117.2	184,500	94.1	19.0	1.6

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
5000	Total	151,500	192,000	249,100	168,700	199,300	252,400	176,500	210,900	256,100		
	Sensible	120,100	110,700	105,000	153,100	140,100	133,000	176,500	171,200	161,100		
	LAT	53.2/52.4	54.9/54.6	55.9/55.7	52.2/51.0	54.6/54.0	55.9/55.6	52.5/50.4	53.9/53.0	55.8/55.2		
	GPM	30.1	38.2	49.5	33.6	39.6	50.2	35.0	42.0	50.9		
	Δ P	15.0	23.2	37.5	18.4	24.8	38.5	19.8	27.7	39.4		
6000	Total	172,700	216,700	280,500	192,500	226,100	284,800	204,300	240,200	289,800		
	Sensible	139,000	126,600	118,600	177,400	161,600	151,800	204,300	198,400	185,300		
	LAT	54.0/53.0	55.9/55.4	57.1/57.0	53.2/51.7	55.6/54.8	57.0/56.7	53.6/50.9	55.0/53.8	57.0/56.3		
	GPM	34.3	43.1	55.7	38.3	44.9	56.7	40.7	47.8	57.5		
	Δ P	19.1	29.0	46.6	23.4	31.3	48.1	26.1	35.1	49.4		
7000	Total	192,300	239,100	308,600	214,100	250,500	314,100	230,200	267,700	320,300		
	Sensible	156,900	141,500	131,000	200,100	181,900	169,300	260,200	224,400	208,000		
	LAT	54.7/53.5	56.7/56.1	58.0/57.9	54.1/52.3	56.4/55.5	58.1/57.6	54.7/51.3	55.9/54.5	58.0/57.2		
	GPM	38.2	47.5	61.3	42.6	49.8	62.5	45.8	53.3	63.6		
	Δ P	23.2	34.7	55.5	28.4	37.8	57.6	32.5	42.9	59.5		

**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
5000	Total	131,100	171,600	251,900	161,300	190,200	255,400	178,400	211,600	262,800		
	Sensible	113,400	103,700	106,300	152,700	138,500	135,300	178,400	174,700	165,900		
	LAT	54.4/54.0	56.2/56.0	55.8/55.7	52.3/51.6	54.9/54.6	55.4/55.2	52.1/50.2	53.3/53.0	54.9/54.7		
	GPM	26.0	34.1	50.0	32.1	37.8	50.7	35.5	42.1	52.2		
	Δ P	0.8	1.4	2.7	1.2	1.6	2.8	1.5	2.0	3.0		
6000	Total	156,100	202,700	293,200	189,200	223,500	297,600	210,900	248,100	306,500		
	Sensible	135,000	122,900	124,000	180,400	163,800	158,600	210,900	206,600	195,100		
	LAT	54.6/54.1	56.4/56.2	56.3/56.2	52.7/51.9	55.2/54.9	56.0/55.9	52.6/50.4	53.8/53.3	55.5/55.3		
	GPM	31.0	40.3	58.2	37.6	44.4	59.0	41.9	49.4	61.0		
	Δ P	1.1	1.9	3.6	1.6	2.2	3.7	2.0	2.7	4.0		
7000	Total	179,900	232,000	331,700	216,600	254,900	336,800	242,300	283,200	346,200		
	Sensible	155,900	141,300	140,500	207,500	188,200	180,800	242,300	237,600	222,700		
	LAT	54.8/54.2	56.7/56.5	56.8/56.7	53.1/52.1	55.6/55.2	56.5/56.4	53.1/50.6	54.2/53.7	56.1/55.9		
	GPM	35.7	46.1	65.8	43.1	50.6	66.8	48.2	56.3	68.7		
	Δ P	1.5	2.4	4.6	2.1	2.8	4.7	2.6	3.4	4.9		

**Optional Factory Installed Electric Heat**

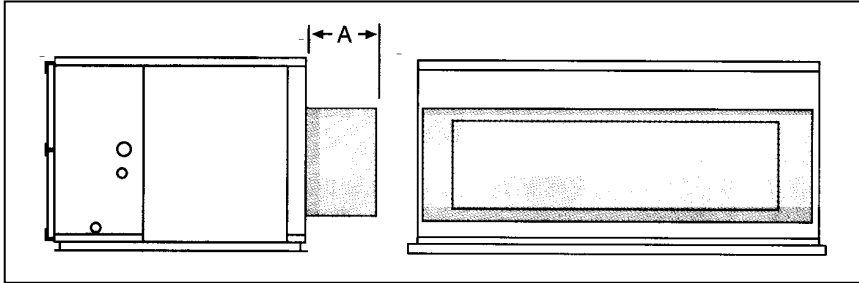
CFM	KW-->	25	30	35	40	45	50	55	60	65	70	75	80	85	90
	MBH	85.3	102.4	119.5	136.5	153.6	170.7	187.7	204.8	221.8	238.9	256.0	273.0	290.1	307.2
5000	Rise	15.7	18.9	22.0	25.2	28.3	31.5	34.6	37.7	40.9	44.0	47.2	50.3	53.5	56.6
5500		14.3	17.2	20.0	22.9	25.7	28.6	31.5	34.3	37.2	40.0	42.9	45.8	48.6	51.5
6000		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
6500		12.1	14.5	16.9	19.4	21.8	24.2	26.6	29.0	31.5	33.9	36.3	38.7	41.1	43.6
7000		11.2	13.5	15.7	18.0	20.2	22.5	24.7	27.0	29.2	31.5	33.7	35.9	38.2	40.4
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	Two 1/2	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

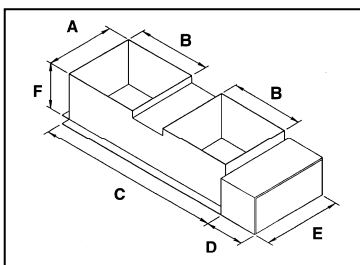
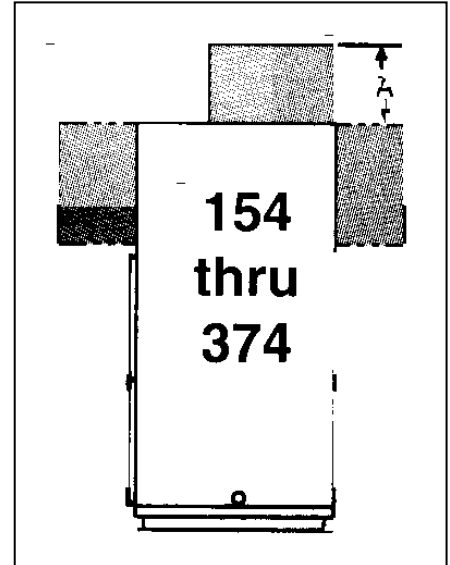
- Notes:
1. Line lengths are equivalent, including all fittings. Use long radius ells only.
  2. Line sizes are for both vertical and horizontal runs.
  3. Liquid line sizes and hot gas reheat return line sizes are designed to minimize system refrigerant charge.
  4. Over 75 equivalent feet, consult 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

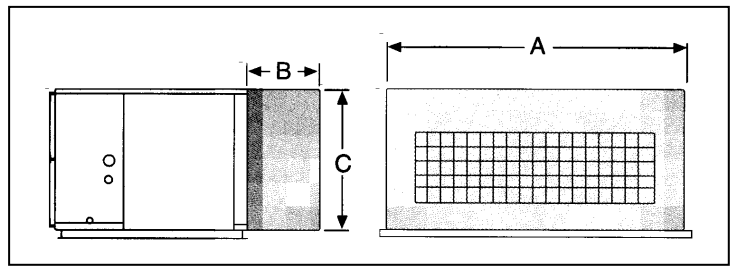
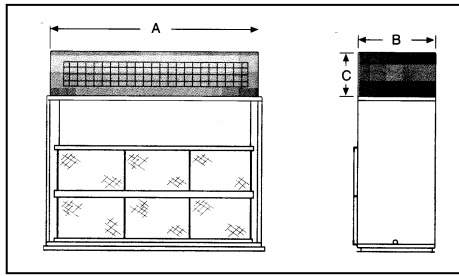
KW Range	Dim. A (In.)
1 - 60	12
61 - 120	15

**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

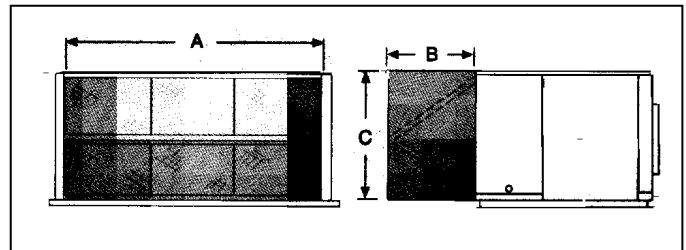
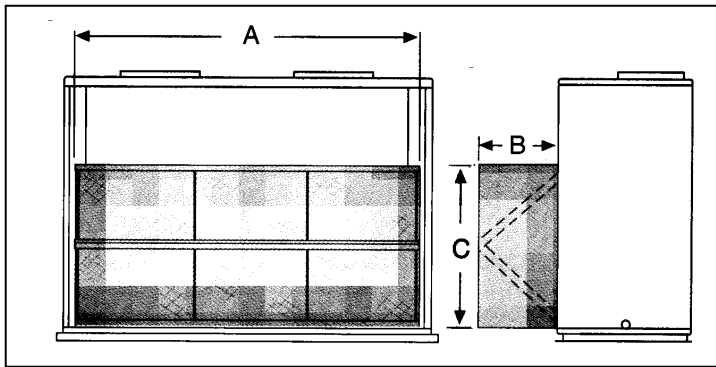
\* These dimensions may vary with added heater options. Contact factory if space considerations are critical.



**Discharge Plenum with 4 way Adjustable Grill**

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

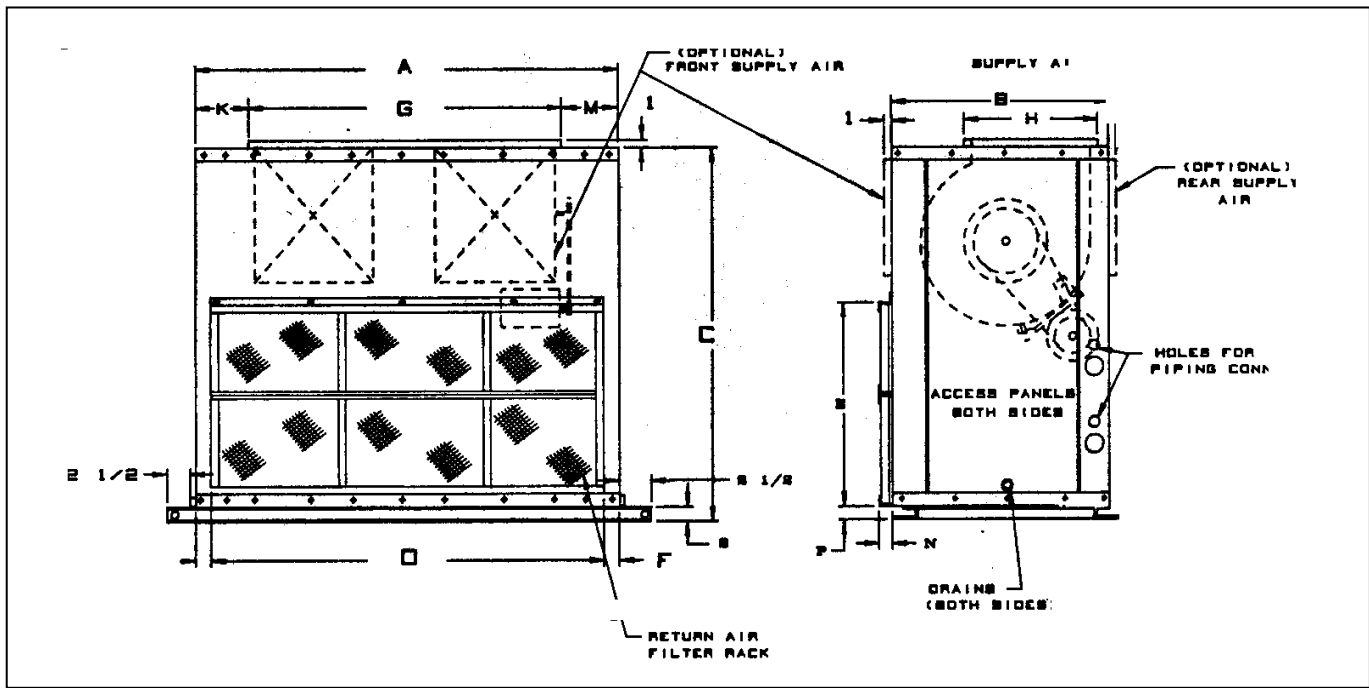
Plenums are fully insulated and shipped separate for field assembly to the air handler and can be installed 180 degrees from the view shown on the drawing.



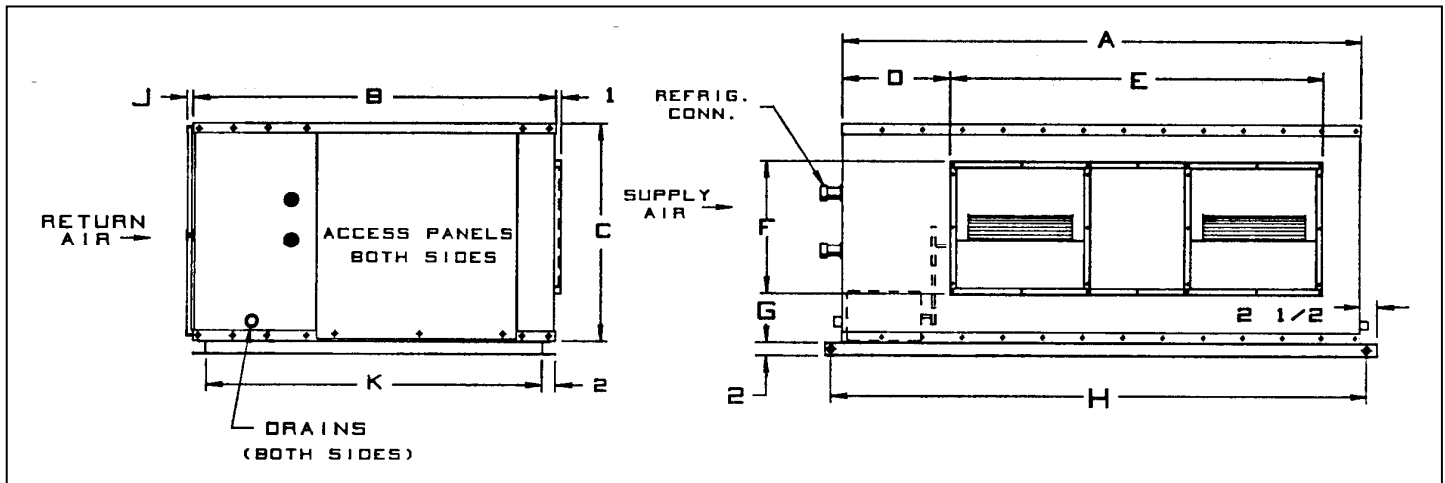
**Angle Filter Section**

	A	B	C	Filters, Qty. - Size
<b>HCH</b>	73	28	30 1/2	4 - 20 x 25 / 4 - 16 x 25
<b>VCH</b>	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
194	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



		Dimensions										Return Air	
Model	A	B	C	D	E	F	G	H	J	K	Width	Height	
194	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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