

Installation Instructions

AAHC Series

Electric Heat Accessory for Air-Handling Units 6 to 20 Tons

5 to 50 kW

208, 240, 400, 480 & 575 volts, 3 phase

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IMPORTANT: Read these instructions completely before attempting to install the electric heat accessory.

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform the basic maintenance functions. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury and/or death.

Open and tag all disconnects before installing this equipment.

CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

Units equipped with the electric heat accessory may NOT use the discharge plenum accessory.

GENERAL

The electric heater accessories are available for 6 to 30 ton packaged air handlers and have nominal ratings of 5 to 50 kW. The heaters have a multi-stage, open-wire design and are mounted in a rigid frame. Safety cutouts for high temperature conditions are standard. Contactors and pilot duty switches are factory-installed with the capability to wire indoor-fan motors for single-point electrical connections. See Table 1 for electrical data and unit application.

Table 1 – Electric Heater Data

HEATER PART NO.	UNIT	V-Ph-Hz	FAN MOTOR			ELECTRIC HEATER(S)					MCA*	MOCP*		
						Nominal Capacity (kW)	Actual Capacity (kW)			FLA				
			Hp	kW	FLA		Stage 1	Stage 2	Total					
AAHC05AHA	6 to 10 Tons	208-3-60	1.3†	0.97	7.6	5	3.8	—	3.8	10.4	22.5	25		
			2.4†	1.79	11.0	5	3.8	—	3.8	10.4	26.8	35		
			2.4	1.79	5.2	5	3.8	—	3.8	10.4	19.5	20		
			2.9	2.16	7.5	5	3.8	—	3.8	10.4	22.4	25		
			3.7	2.76	10.2	5	3.8	—	3.8	10.4	25.8	30		
		240-3-60	1.3†	0.97	7.6	5	5.0	—	5.0	12.0	24.5	25		
			2.4†	1.79	11.0	5	5.0	—	5.0	12.0	28.8	35		
			2.4	1.79	5.2	5	5.0	—	5.0	12.0	21.5	25		
			2.9	2.16	7.5	5	5.0	—	5.0	12.0	24.4	25		
			3.7	2.76	10.2	5	5.0	—	5.0	12.0	27.8	30		
		240-3-50	2.4	1.79	5.2	5	5.0	—	5.0	12.0	21.5	25		
			2.9	2.16	7.5	5	5.0	—	5.0	12.0	24.4	25		
			5.0	3.73	15.2	5	5.0	—	5.0	12.0	34.0	40		
			480-3-60	2.4	1.79	2.6	5	5.0	—	5.0	6.00	10.8	15	
				2.9	2.16	3.4	5	5.0	—	5.0	6.00	11.8	15	
3.7		2.76		4.8	5	5.0	—	5.0	6.00	13.5	15			
400-3-50		2.4	1.79	2.6	5	3.5	—	3.5	5.00	9.5	15			
		2.9	2.16	3.4	5	3.5	—	3.5	5.00	10.5	15			
		5.0	3.73	7.6	5	3.5	—	3.5	5.00	15.8	20			
AAHC05ASA		575-3-60	1.0	0.75	1.4	5	5.0	—	5.0	5.00	8.0	15		
			2.0	1.49	2.3	5	5.0	—	5.0	5.00	9.2	15		
			3.0	2.24	3.8	5	5.0	—	5.0	5.00	11.0	15		
AAHC10AHA		6 to 10 Tons	208-3-60	1.3†	0.97	7.6	10	7.5	—	7.5	20.8	35.6	40	
				2.4†	1.79	11.0	10	7.5	—	7.5	20.8	39.8	40	
				2.4	1.79	5.2	10	7.5	—	7.5	20.8	32.6	35	
				2.9	2.16	7.5	10	7.5	—	7.5	20.8	35.4	40	
				3.7	2.76	10.2	10	7.5	—	7.5	20.8	38.8	40	
			240-3-60	1.3†	0.97	7.6	10	10.0	—	10.0	24.1	39.6	40	
				2.4†	1.79	11.0	10	10.0	—	10.0	24.1	43.8	50	
				2.4	1.79	5.2	10	10.0	—	10.0	24.1	36.6	40	
				2.9	2.16	7.5	10	10.0	—	10.0	24.1	39.4	40	
				3.7	2.76	10.2	10	10.0	—	10.0	24.1	42.8	50	
			240-3-50	2.4	1.79	5.2	10	10.0	—	10.0	24.1	36.6	40	
				2.9	2.16	7.5	10	10.0	—	10.0	24.1	39.4	40	
				5.0	3.73	15.2	10	10.0	—	10.0	24.1	49.1	50	
				480-3-60	2.4	1.79	2.6	10	10.0	—	10.0	12.0	18.3	20
					2.9	2.16	3.4	10	10.0	—	10.0	12.0	19.3	20
3.7		2.76	4.8		10	10.0	—	10.0	12.0	21.0	25			
400-3-50		2.4	1.79	2.6	10	6.9	—	6.9	10.0	15.8	20			
		2.9	2.16	3.4	10	6.9	—	6.9	10.0	16.8	20			
		5.0	3.73	7.6	10	6.9	—	6.9	10.0	22.0	25			
AAHC10ASA		575-3-60	1.0	0.75	1.4	10	10.0	—	10.0	10.0	14.3	15		
			2.0	1.49	2.3	10	10.0	—	10.0	10.0	15.4	20		
			3.0	2.24	3.8	10	10.0	—	10.0	10.0	17.3	20		
AAHC15AHA		6 to 10 Tons	208-3-60	1.3†	0.97	7.6	15	11.3	—	11.3	31.3	48.6	50	
				2.4†	1.79	11.0	15	11.3	—	11.3	31.3	52.9	60	
				2.4	1.79	5.2	15	11.3	—	11.3	31.3	45.6	50	
				2.9	2.16	7.5	15	11.3	—	11.3	31.3	48.5	50	
				3.7	2.76	10.2	15	11.3	—	11.3	31.3	51.9	60	
			240-3-60	1.3†	0.97	7.6	15	15.0	—	15.0	36.1	54.6	60	
				2.4†	1.79	11.0	15	15.0	—	15.0	36.1	58.9	60	
				2.4	1.79	5.2	15	15.0	—	15.0	36.1	51.6	60	
				2.9	2.16	7.5	15	15.0	—	15.0	36.1	54.5	60	
				3.7	2.76	10.2	15	15.0	—	15.0	36.1	57.9	60	
			240-3-50	2.4	1.79	5.2	15	15.0	—	15.0	36.1	51.6	60	
				2.9	2.16	7.5	15	15.0	—	15.0	36.1	54.5	60	
				5.0	3.73	15.2	15	15.0	—	15.0	36.1	64.1	70	
				480-3-60	2.4	1.79	2.6	15	15.0	—	15.0	18.0	25.8	30
					2.9	2.16	3.4	15	15.0	—	15.0	18.0	26.8	30
3.7		2.76	4.8		15	15.0	—	15.0	18.0	28.6	30			
400-3-50		2.4	1.79	2.6	15	10.4	—	10.4	15.0	22.0	25			
		2.9	2.16	3.4	15	10.4	—	10.4	15.0	23.0	25			
		5.0	3.73	7.6	15	10.4	—	10.4	15.0	28.3	30			
AAHC15ASA		575-3-60	1.0	0.75	1.4	15	15.0	—	15.0	15.1	20.6	25		
			2.0	1.49	2.3	15	15.0	—	15.0	15.1	21.7	25		
			3.0	2.24	3.8	15	15.0	—	15.0	15.1	23.6	25		

* See Legend and Notes

Table 1 – Electric Heater Data (cont)

HEATER PART NO.	UNIT	V-Ph-Hz	FAN MOTOR			ELECTRIC HEATER(S)					MCA*	MOCP*	
			Hp	kW	FLA	Nominal Capacity (kW)	Actual Capacity (kW)			FLA			
							Stage 1	Stage 2	Total				
AAHC25AHA	6 to 10 Tons	208-3-60	1.3†	0.97	7.6	25	11.3	7.5	18.8	52.1	74.7	80	
			2.4†	1.79	11.0	25	11.3	7.5	18.8	52.1	78.9	80	
			2.4	1.79	5.2	25	11.3	7.5	18.8	52.1	71.7	80	
			2.9	2.16	7.5	25	11.3	7.5	18.8	52.1	74.5	80	
			3.7	2.76	10.2	25	11.3	7.5	18.8	52.1	77.9	80	
		240-3-60	1.3†	0.97	7.6	25	15.0	10.0	25.0	60.1	84.7	90	
			2.4†	1.79	11.0	25	15.0	10.0	25.0	60.1	88.9	90	
			2.4	1.79	5.2	25	15.0	10.0	25.0	60.1	81.7	90	
			2.9	2.16	7.5	25	15.0	10.0	25.0	60.1	84.6	90	
			3.7	2.76	10.2	25	15.0	10.0	25.0	60.1	87.9	90	
		240-3-50	2.4	1.79	5.2	25	15.0	10.0	25.0	60.1	81.7	90	
			2.9	2.16	7.5	25	15.0	10.0	25.0	60.1	84.6	90	
			5.0	3.73	15.2	25	15.0	10.0	25.0	60.1	94.2	100	
			2.4	1.79	2.6	25	15.0	10.0	25.0	30.1	40.8	50	
			2.9	2.16	3.4	25	15.0	10.0	25.0	30.1	41.8	50	
		480-3-60	3.7	2.76	4.8	25	15.0	10.0	25.0	30.1	43.6	50	
2.4			1.79	2.6	25	10.4	6.9	17.4	25.1	34.6	25		
2.9			2.16	3.4	25	10.4	6.9	17.4	25.1	35.6	40		
5.0			3.73	7.6	25	10.4	6.9	17.4	25.1	40.8	50		
400-3-50		1.0	0.75	1.4	25	15.0	10.0	25.0	25.1	33.1	35		
		2.0	1.49	2.3	25	15.0	10.0	25.0	25.1	34.3	35		
		3.0	2.24	3.8	25	15.0	10.0	25.0	25.1	36.1	40		
		2.4†	1.79	11.0	35	15.0	11.3	26.3	73.0	105.0	110		
AAHC35CHA		7½ to 10 Tons	208-3-60	2.4	1.79	5.2	35	15.0	11.3	26.3	73.0	97.7	100
	2.9			2.16	7.5	35	15.0	11.3	26.3	73.0	100.6	110	
	3.7			2.76	10.2	35	15.0	11.3	26.3	73.0	104.0	110	
	2.4†			1.79	11.0	35	20.0	15.0	35.0	84.2	119.0	125	
	240-3-60		2.4	1.79	5.2	35	20.0	15.0	35.0	84.2	111.7	125	
			2.9	2.16	7.5	35	20.0	15.0	35.0	84.2	114.6	125	
			3.7	2.76	10.2	35	20.0	15.0	35.0	84.2	118.0	125	
			2.4	1.79	5.2	35	20.0	15.0	35.0	84.2	111.7	125	
			2.9	2.16	7.5	35	20.0	15.0	35.0	84.2	114.6	125	
	240-3-50		5.0	3.73	15.2	35	20.0	15.0	35.0	84.2	124.2	125	
			2.4	1.79	2.6	35	20.0	15.0	35.0	42.1	55.9	60	
			2.9	2.16	3.4	35	20.0	15.0	35.0	42.1	56.9	60	
			3.7	2.76	4.8	35	20.0	15.0	35.0	42.1	58.6	60	
			2.4	1.79	2.6	35	13.9	10.4	24.3	35.1	47.1	50	
	400-3-50		2.9	2.16	3.4	35	13.9	10.4	24.3	35.1	48.1	50	
			5.0	3.73	7.6	35	13.9	10.4	24.3	35.1	53.4	60	
2.0			1.49	2.3	35	20.0	15.0	35.0	35.1	46.8	50		
575-3-60	3.0		2.24	3.8	35	20.0	15.0	35.0	35.1	48.7	50		
	2.9		2.16	7.5	10	7.5	—	7.5	20.8	35.4	40		
	3.7		2.76	10.2	10	7.5	—	7.5	20.8	38.8	40		
AAHC10BHA	12½ to 20 Tons		208-3-60	5.0	3.73	14.6	10	7.5	—	7.5	20.8	41.3	50
				7.5	5.59	21.5	10	7.5	—	7.5	20.8	52.9	60
				2.9	2.16	7.5	10	10.0	—	10.0	24.1	39.4	40
				3.7	2.76	10.2	10	10.0	—	10.0	24.1	42.8	50
		240-3-60	5.0	3.73	12.8	10	10.0	—	10.0	24.1	46.1	50	
			7.5	5.59	19.4	10	10.0	—	10.0	24.1	54.4	70	
			2.9	2.16	7.5	10	10.0	—	10.0	24.1	39.4	40	
			5.0	3.73	13.2	10	10.0	—	10.0	24.1	46.6	50	
			7.5	5.59	19.8	10	10.0	—	10.0	24.1	54.8	60	
		240-3-50	2.9	2.16	3.4	10	10.0	—	10.0	12.0	19.3	20	
			3.7	2.76	4.8	10	10.0	—	10.0	12.0	21.0	25	
			5.0	3.73	6.4	10	10.0	—	10.0	12.0	23.0	25	
			7.5	5.59	9.7	10	10.0	—	10.0	12.0	27.2	30	
			2.9	2.16	3.4	10	6.9	—	6.9	10.0	16.8	20	
		480-3-60	5.0	3.73	7.6	10	6.9	—	6.9	10.0	22.0	25	
			7.5	5.59	11.4	10	6.9	—	6.9	10.0	26.8	35	
3.0			2.24	3.8	10	10.0	—	10.0	10.0	17.3	20		
575-3-60		5.0	3.73	5.1	10	10.0	—	10.0	10.0	19.6	20		
		7.5	5.59	7.8	10	10.0	—	10.0	10.0	22.1	25		

* See Legend and Notes

Table 1 – Electric Heater Data (cont)

HEATER PART NO.	UNIT	V-Ph-Hz	FAN MOTOR		ELECTRIC HEATER(S)						MCA*	MOCP*	
					Nominal Capacity (kW)	Actual Capacity (kW)			FLA				
			Hp	kW		FLA	Capacity (kW)	Stage 1		Stage 2			Total
AAHC20BHA	12 ¹ / ₂ to 20 Tons	208-3-60	2.9	2.16	7.5	20	14.9	—	14.9	41.5	61.2	70	
			3.7	2.76	10.2	20	14.9	—	14.9	41.5	64.6	70	
			5.0	3.73	14.6	20	14.9	—	14.9	41.5	70.1	80	
			7.5	5.59	21.5	20	14.9	—	14.9	41.5	78.7	80	
		240-3-60	2.9	2.16	7.5	20	19.9	—	19.9	47.9	69.2	70	
			3.7	2.76	10.2	20	19.9	—	19.9	47.9	72.6	80	
			5.0	3.73	12.8	20	19.9	—	19.9	47.9	75.8	80	
			7.5	5.59	19.4	20	19.9	—	19.9	47.9	84.1	90	
		240-3-50	2.9	2.16	7.5	20	19.9	—	19.9	47.9	69.2	70	
			5.0	3.73	13.2	20	19.9	—	19.9	47.9	76.3	80	
			7.5	5.59	19.8	20	19.9	—	19.9	47.9	84.6	80	
			480-3-60	2.9	2.16	3.4	20	20.0	—	20.0	24.1	34.3	35
3.7		2.76		4.8	20	20.0	—	20.0	24.1	36.1	40		
5.0		3.73		6.4	20	20.0	—	20.0	24.1	39.1	40		
7.5		5.59		9.7	20	20.0	—	20.0	24.1	43.2	50		
400-3-50		2.9	2.16	3.4	20	13.9	—	13.9	20.0	29.3	30		
		5.0	3.73	7.6	20	13.9	—	13.9	20.0	45.1	50		
		7.5	5.59	11.4	20	13.9	—	13.9	20.0	49.2	50		
		575-3-60	3.0	2.24	3.8	20	20.0	—	20.0	20.1	29.9	30	
5.0			3.73	5.1	20	20.0	—	20.0	20.1	31.5	35		
7.5			5.59	7.8	20	20.0	—	20.0	20.1	34.9	35		
208-3-60			2.9	2.16	7.5	30	15.0	7.5	22.5	62.5	87.5	90	
		3.7	2.76	10.2	30	15.0	7.5	22.5	62.5	90.9	100		
		5.0	3.73	14.6	30	15.0	7.5	22.5	62.5	96.4	100		
		7.5	5.59	21.5	30	15.0	7.5	22.5	62.5	105.0	110		
240-3-60		2.9	2.16	7.5	30	20.0	10.0	30.0	72.2	99.6	100		
		3.7	2.76	10.2	30	20.0	10.0	30.0	72.2	103.0	110		
		5.0	3.73	12.8	30	20.0	10.0	30.0	72.2	106.2	110		
		7.5	5.59	19.4	30	20.0	10.0	30.0	72.2	114.5	125		
240-3-50		2.9	2.16	7.5	30	20.0	10.0	30.0	72.2	99.6	100		
		5.0	3.73	13.2	30	20.0	10.0	30.0	72.2	106.7	110		
		7.5	5.59	19.8	30	20.0	10.0	30.0	72.2	115.0	125		
		480-3-60	2.9	2.16	3.4	30	20.0	10.0	30.0	36.1	49.4	50	
3.7			2.76	4.8	30	20.0	10.0	30.0	36.1	51.1	60		
5.0			3.73	6.4	30	20.0	10.0	30.0	36.1	53.1	60		
7.5			5.59	9.7	30	20.0	10.0	30.0	36.1	57.2	60		
400-3-50		2.9	2.16	3.4	30	13.9	6.9	20.8	30.1	41.8	50		
		5.0	3.73	7.6	30	13.9	7.9	20.8	30.1	47.1	50		
		7.5	5.59	11.4	30	13.9	7.9	20.8	30.1	51.8	60		
		575-3-60	3.0	2.24	3.8	30	20.0	10.0	30.0	30.1	42.4	50	
5.0			3.73	5.1	30	20.0	10.0	30.0	30.1	44.0	50		
7.5			5.59	7.8	30	20.0	10.0	30.0	30.1	47.4	50		
AAHC50DHA			15 and 20 Tons	208-3-60	3.7	2.76	10.2	50	22.6	15.0	37.6	104.3	143.1
		5.0			3.73	14.6	50	22.6	15.0	37.6	104.3	148.6	150
		7.5			5.59	21.5	50	22.6	15.0	37.6	104.3	157.2	175
		240-3-60		3.7	2.76	10.2	50	30.0	20.0	50.0	120.3	163.1	175
				5.0	3.73	12.8	50	30.0	20.0	50.0	120.3	166.4	175
				7.5	5.59	19.4	50	30.0	20.0	50.0	120.3	174.6	200
	240-3-50	2.9		2.16	7.5	50	30.0	20.0	50.0	120.3	159.7	175	
		5.0		3.73	13.2	50	30.0	20.0	50.0	120.3	166.9	175	
		7.5		5.59	19.8	50	30.0	20.0	50.0	120.3	175.1	200	
	480-3-60	3.7		2.76	4.8	50	30.0	20.0	50.0	60.1	81.2	90	
		5.0		3.73	6.4	50	30.0	20.0	50.0	60.1	83.2	90	
		7.5		5.59	9.7	50	30.0	20.0	50.0	60.1	87.3	90	
400-3-50	2.9	2.16		3.4	50	20.8	13.9	34.7	50.1	66.9	70		
	5.0	3.73		7.6	50	20.8	13.9	34.7	50.1	72.1	80		
	7.5	5.59		11.4	50	20.8	13.9	34.7	50.1	76.9	80		
575-3-60	3.0	2.24		3.8	50	30.0	20.0	50.0	50.2	67.5	70		
	5.0	3.73		5.1	50	30.0	20.0	50.0	50.2	69.1	70		
	7.5	5.59		7.8	50	30.0	20.0	50.0	50.2	72.5	80		

LEGEND

FLA	–	Full Load Amps
Hp	–	Horsepower
MCA	–	Minimum Circuit Amps
MOCP	–	Maximum Overcurrent Protection (Amps)

* Values shown are for single-point connection of electric heat accessory and air handler.

† Single-phase motors. All other motors are 3-phase.

NOTES:

- Electrical resistance heaters are rated at 240 v, 480 v, 575 v. To determine heater capacity (kW) at unit nameplate multiply the 240-v, 480-v, or 575-v capacity (kW) by the factor shown in the table below for the unit voltage.
- The following equation converts kW of heat energy to Btuh:
kW x 3,412 = Btuh.
- Heater contactor coils are 24 v and require 8 va holding current.
- Electric heaters are tested and ETL approved at maximum total external static pressure of 1.9 in. wg.
- MCA and MOCP values apply to both standard and alternate factory supplied motors.

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE AT SITE										
	200	208	230	240	400	440	460	480	550	575	600
240	0.694	0.751	0.918	1	—	—	—	—	—	—	—
480	—	—	—	—	0.694	0.84	0.918	1	—	—	—
575	—	—	—	—	—	—	—	—	0.915	1	1.089

The electric heat accessory can be used in vertical applications or horizontally suspended applications. For all applications, the installer must allow adequate clearance for access to the heater control box.

PRE-INSTALLATION

Uncrate and Inspect Shipment

Remove unit packaging and inspect shipment for damage. File claim with shipping company if unit is damaged or incomplete.

Consider System Requirements

Consult local building and electrical codes and the NEC (National Electrical Code, U.S.A.) for special installation requirements.

Allow sufficient clearance around the heater for airflow, wiring, and service after mounting on the base unit. Use the minimum clearances shown in Figure 1. Note that the rear clearance for base units with heaters must be increased from that of base units without heaters to allow access to the heater limit switches.

IMPORTANT: When the electric heater accessory is used on air-handling units in heat pump systems, the minimum airflow requirement through the heater is 400 cfm per ton (54 L/s per kW).

INSTALLATION

Mount Heater

The heaters must be mounted on the supply duct(s) of the air handler for blow-thru operation, as shown in Figure 1. Do not install the duct flanges shipped with the unit. Mount the heater as follows:

- 1. Remove screws from fan deck surrounding the blower outlets (supply ducts). Retain screws.
- 2. Place heater on top of unit with heater control box facing front.
- 3. Reinstall screws through the heater frame's inner flanges and into the fan deck. Tighten screws.

NOTE: Figure 1 shows vertical installations. For horizontal unit installations, the procedure for mounting the electric heat accessory is similar to the preceding steps; ensure that the heater control box faces down after the heater is installed on the unit.

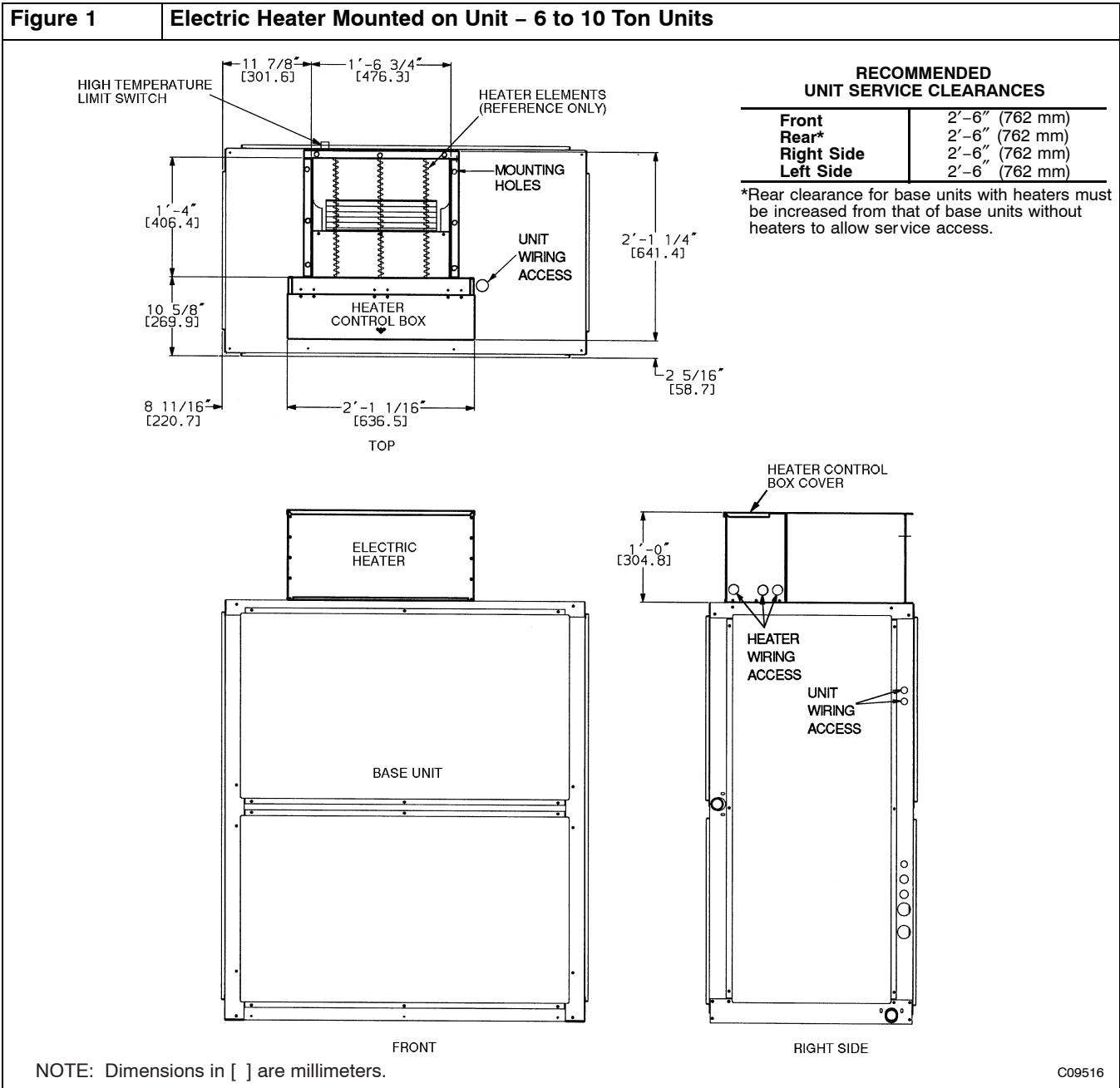
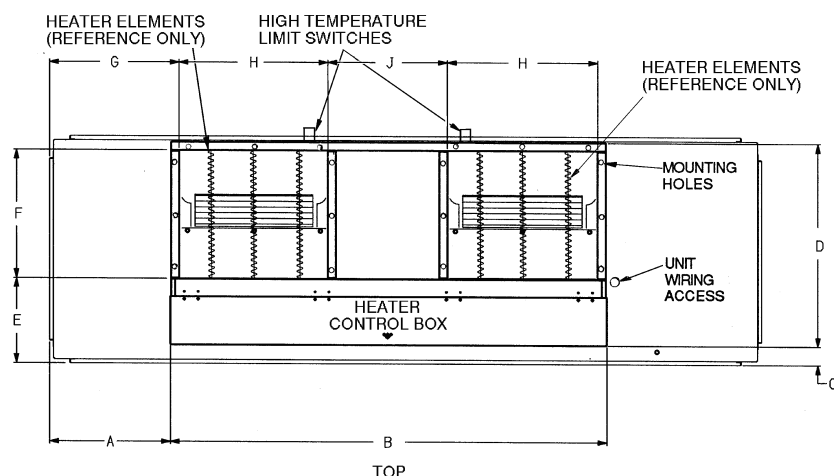


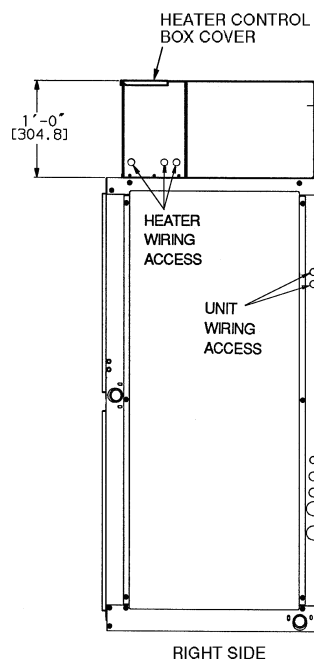
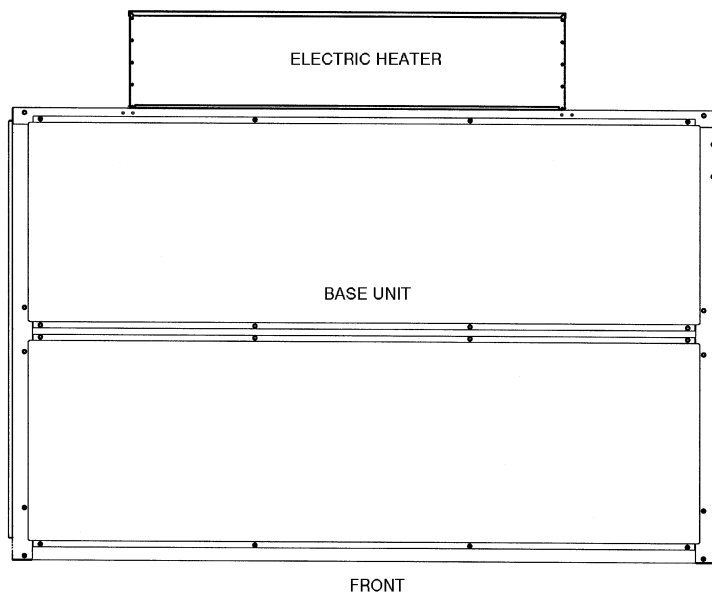
Figure 1 (cont) Electric Heater Mounted on Unit – 12-1/2 to 20 Ton Units



**RECOMMENDED
UNIT SERVICE CLEARANCES**

Front	2'-6" (762 mm)
Rear*	2'-6" (762 mm)
Right Side	2'-6" (762 mm)
Left Side	2'-6" (762 mm)

*Rear clearance for base units with heaters must be increased from that of base units without heaters to allow service access.



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Dimensions – in[mm]

Units size	A	B	C	D	E	F	G	H	J
12-1/2 to 20 Tons	1'-3 1/4" [387.4]	4'-6 3/8" [1381.1]	2 5/16" [58.7]	2'-1 1/4" [641.4]	0'-10 5/8" [269.9]	1'-4" [406.4]	1'-4 5/16" [414.3]	1'-6 3/4" [476.3]	1'-7 7/8" [327.0]

Connect Ductwork

Connect supply duct to the unit and heater assembly as follows:

1. Size the supply air ductwork according to the discharge opening(s) in the top of the heater. (See Figure 1) A 1-in. (25 mm) flange is provided on each heater discharge for securing the ductwork.
2. Connect the supply ductwork to the heater discharge openings in the top of the heater using field-supplied screws. A flexible duct connector is recommended. Provide an access panel in the supply duct to allow service access to the heater elements. (See Figure 2)

3. Insulate the outside of the heater (Figure 3) except the control box, which has internal insulation. Insulation is required to minimize condensation when the unit is in the Cooling mode and to provide additional protection from hot surfaces when the unit is in the Heating mode. Also insulate the supply duct connected to the heater as required by the base unit installation instructions.

Make Electrical Connections

Refer to Figure 4 for wire routing, Figure 5–Figure 7 for typical heater wiring, and Figure 8 and Figure 9 for typical heater control box component layouts for connections. Wire the electric heater and unit assembly as follows:

1. Remove heater control box cover and unit side access panel.
2. Using correctly sized field-supplied power wire selected from Table 1 and matching conduit, connect heater terminals TB1-L1, L2, and L3 through heater control box to fused disconnect as shown in Figure 4.
3. Using correctly sized field-supplied power wire selected from Table 1 and matching conduit, run wire from heater to opening in top of unit fan deck or openings in corner post.
4. Run field-supplied control wiring through heater control box to opening in top of unit fan deck or openings in corner post.
5. Run power wiring (see Step 3) inside unit through access hole in bottom of unit control box. Remove unit control box cover.
6. Connect heater terminals TB1-L1, L2, and L3 to unit circuit breaker or fan contactor terminals 11, 12, and 13 using no. 10 ring terminals. (See Figure 5 and Figure 6)
7. Connect control wiring (see Step 4) from heater terminal connections W1, W2, and C to the unit's TB1 terminals with the same labels, as shown in Figure 7.
8. Re-install heater control box panel and unit side panel.

Figure 2 Typical Ductwork Installation

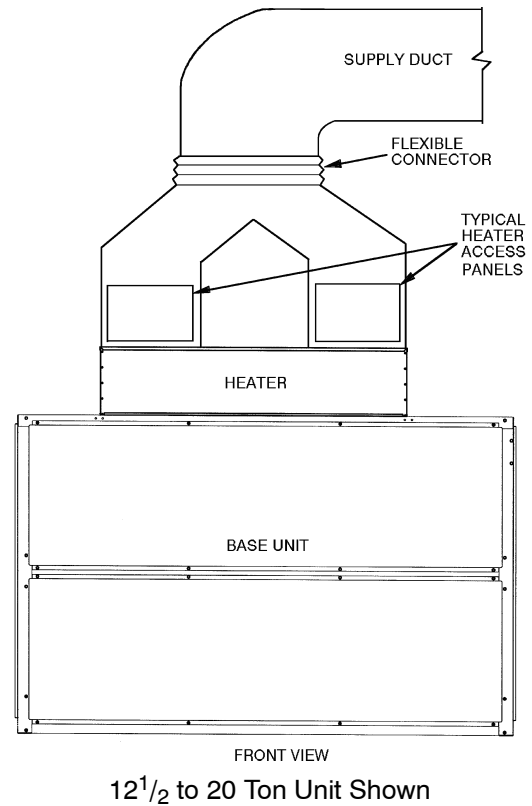


Figure 3 Heater Insulation

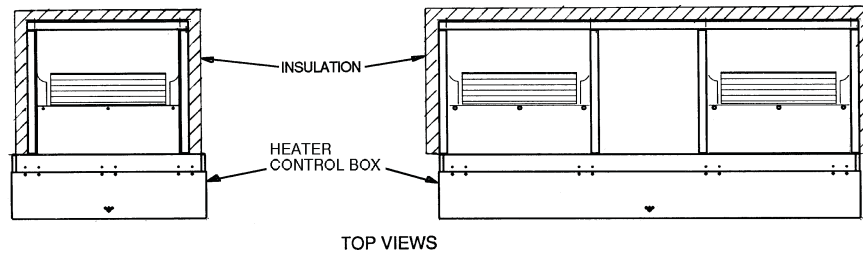


Figure 4 Wire Routing

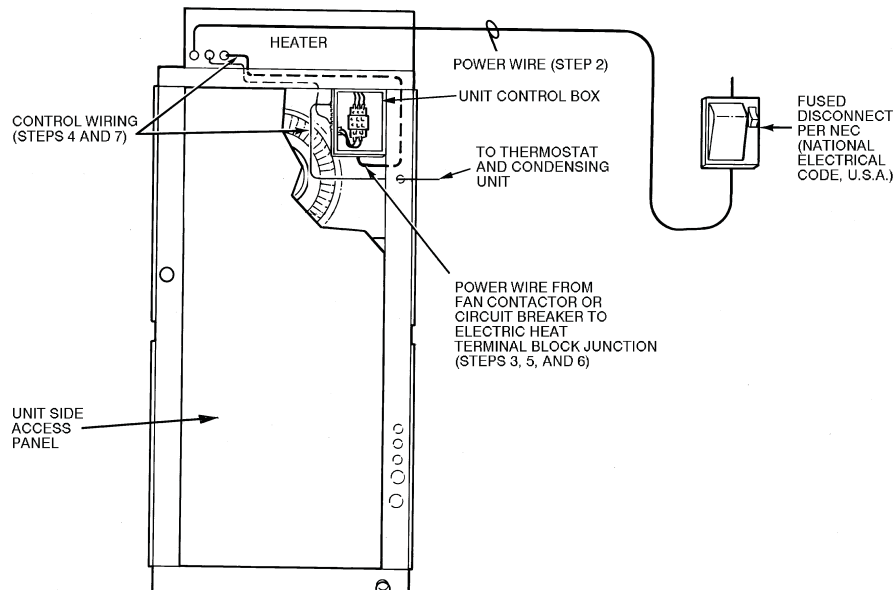
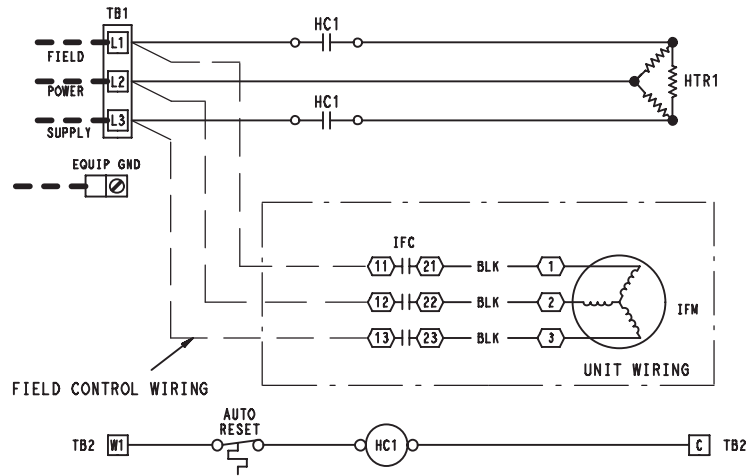
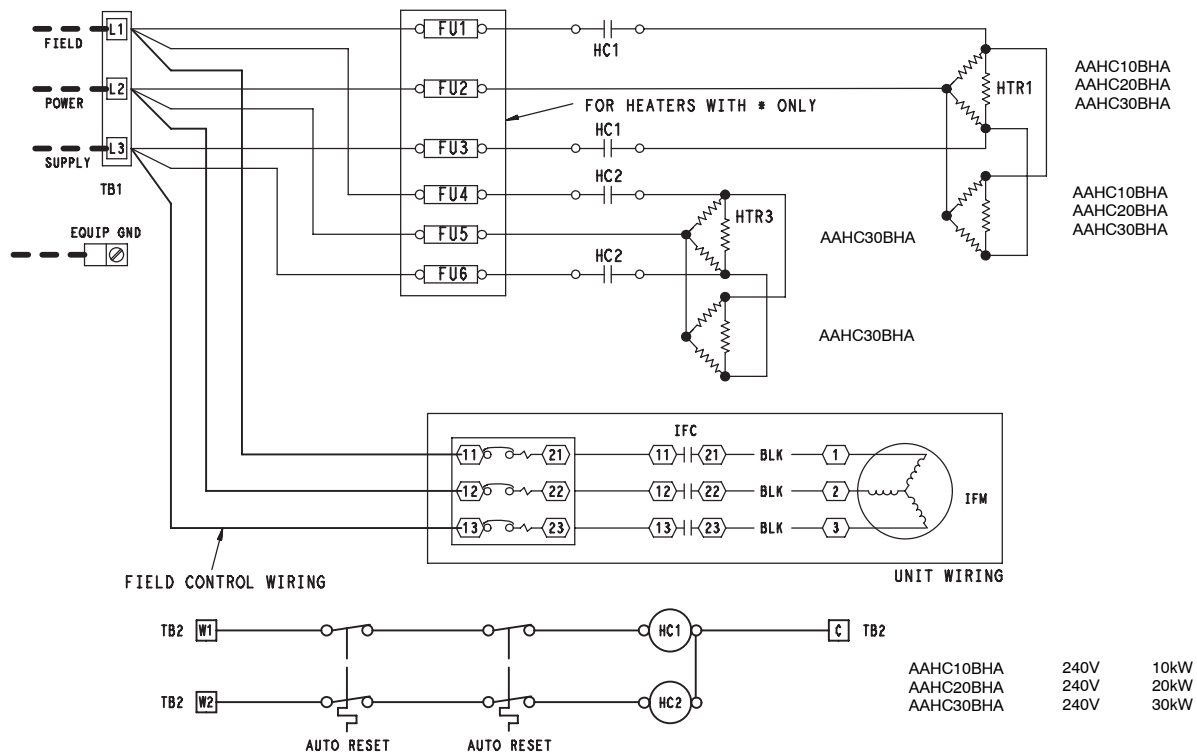


Figure 5 **Wiring Diagrams, 240 V Electric Heat Accessories**



AAHC05AHA	240V	5kW
AAHC10AHA	240V	10kW
AAHC15AHA	240V	15kW



AAHC10BHA
AAHC20BHA
AAHC30BHA

AAHC10BHA
AAHC20BHA
AAHC30BHA

UNIT WIRING

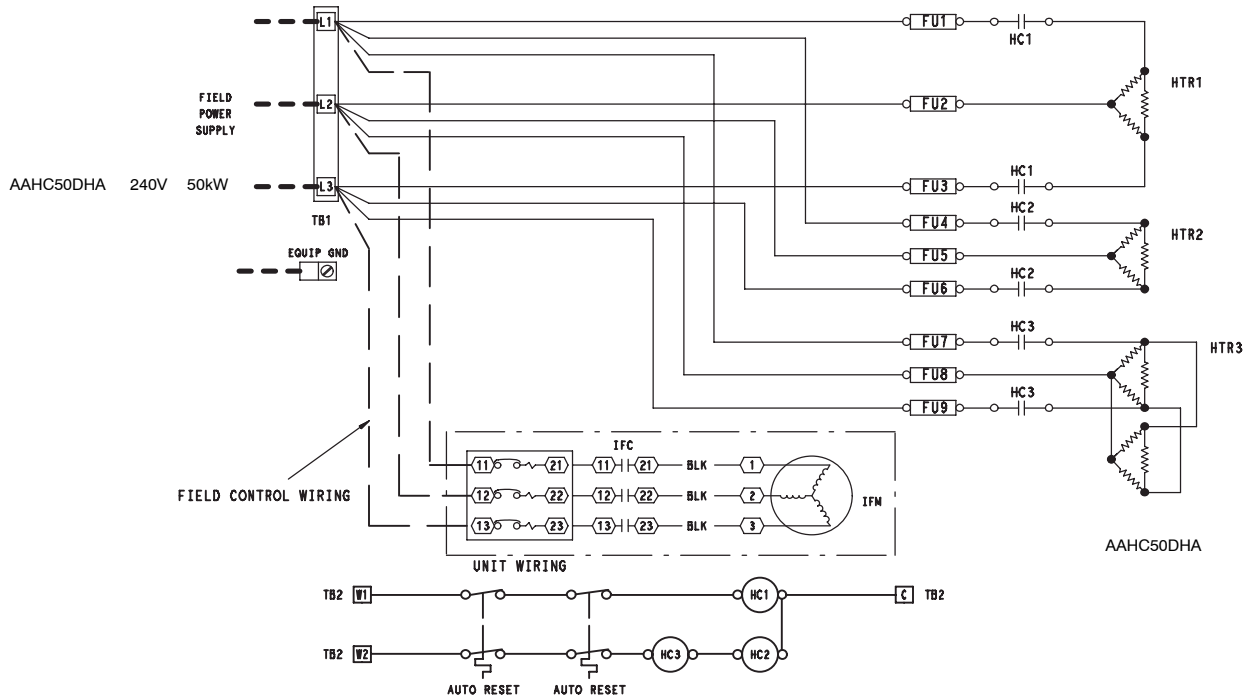
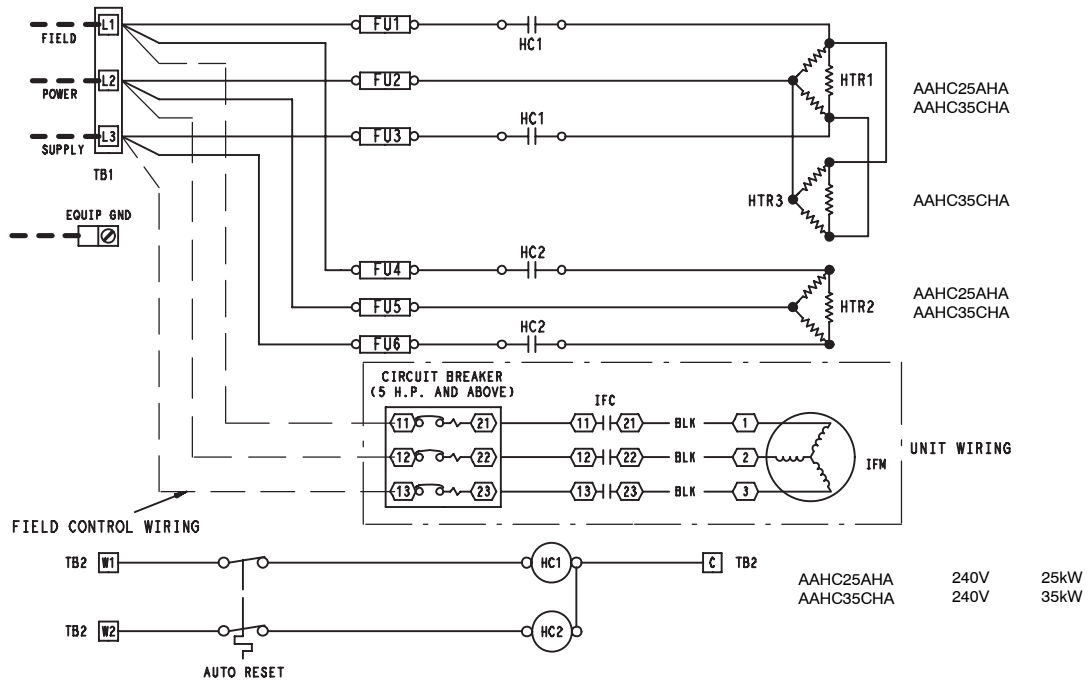
AAHC10BHA	240V	10kW
AAHC20BHA	240V	20kW
AAHC30BHA	240V	30kW

EQUIP GND - Equipment Ground
FU - Fuse
HC - Heater Contactor
H.P. - Horsepower
HTR - Heater Elements
IFC - Indoor Fan Contactor
IFM - Indoor Fan Motor
TB - Terminal Block Connection

□ Terminal Block Connection
◻ Marked Connection
○ Unmarked Connection
⚡ High Temperature Limit Switch (Auto Reset)
— Factory Wiring
--- Field Wiring

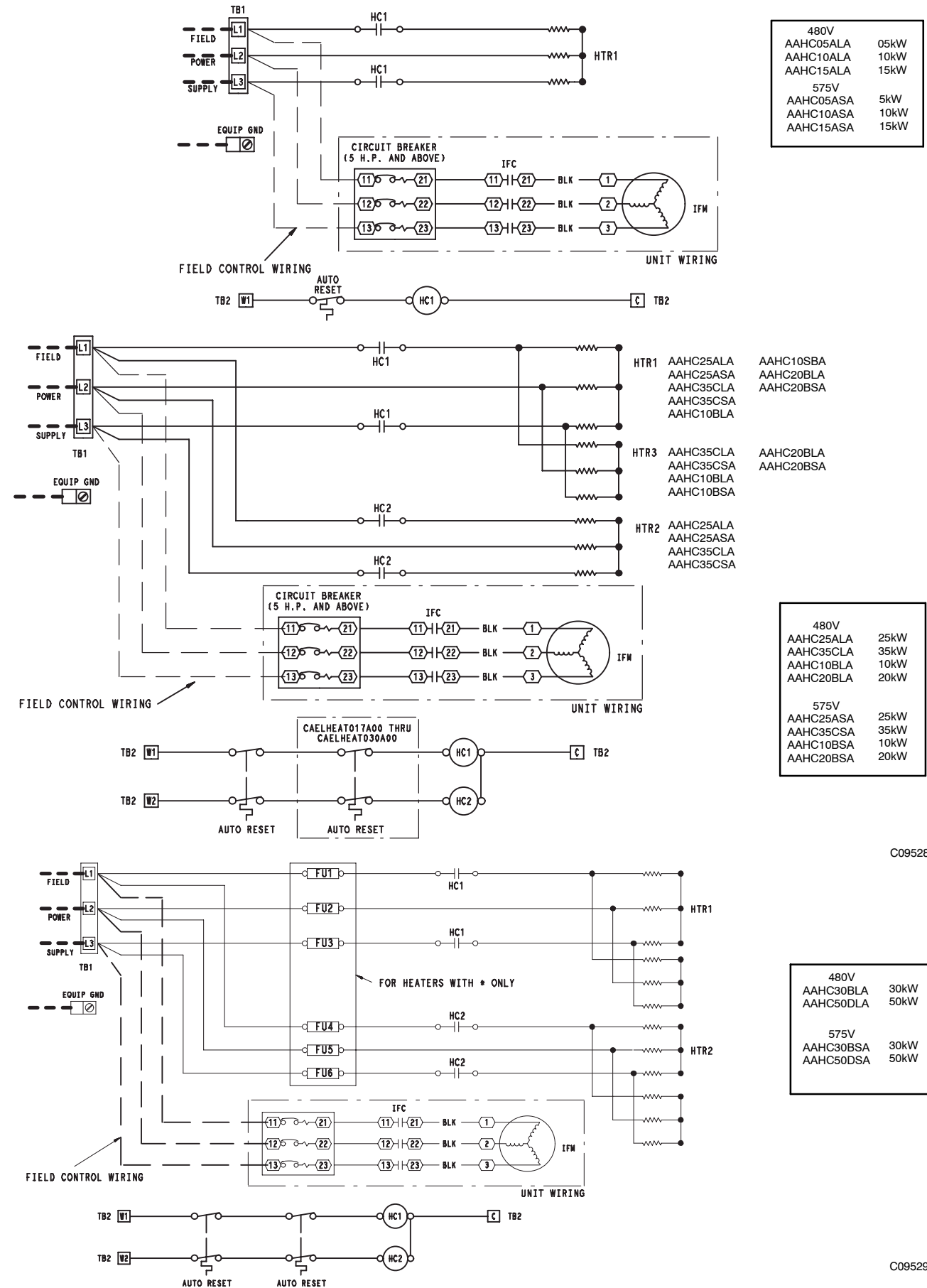
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Figure 5 (cont) Wiring Diagrams, 240 V Electric Heat Accessories



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Figure 6 **Wiring Diagrams, 480 V and 575 V Electric Heat Accessories**



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Figure 7 **Electric Heat and Control Wiring**

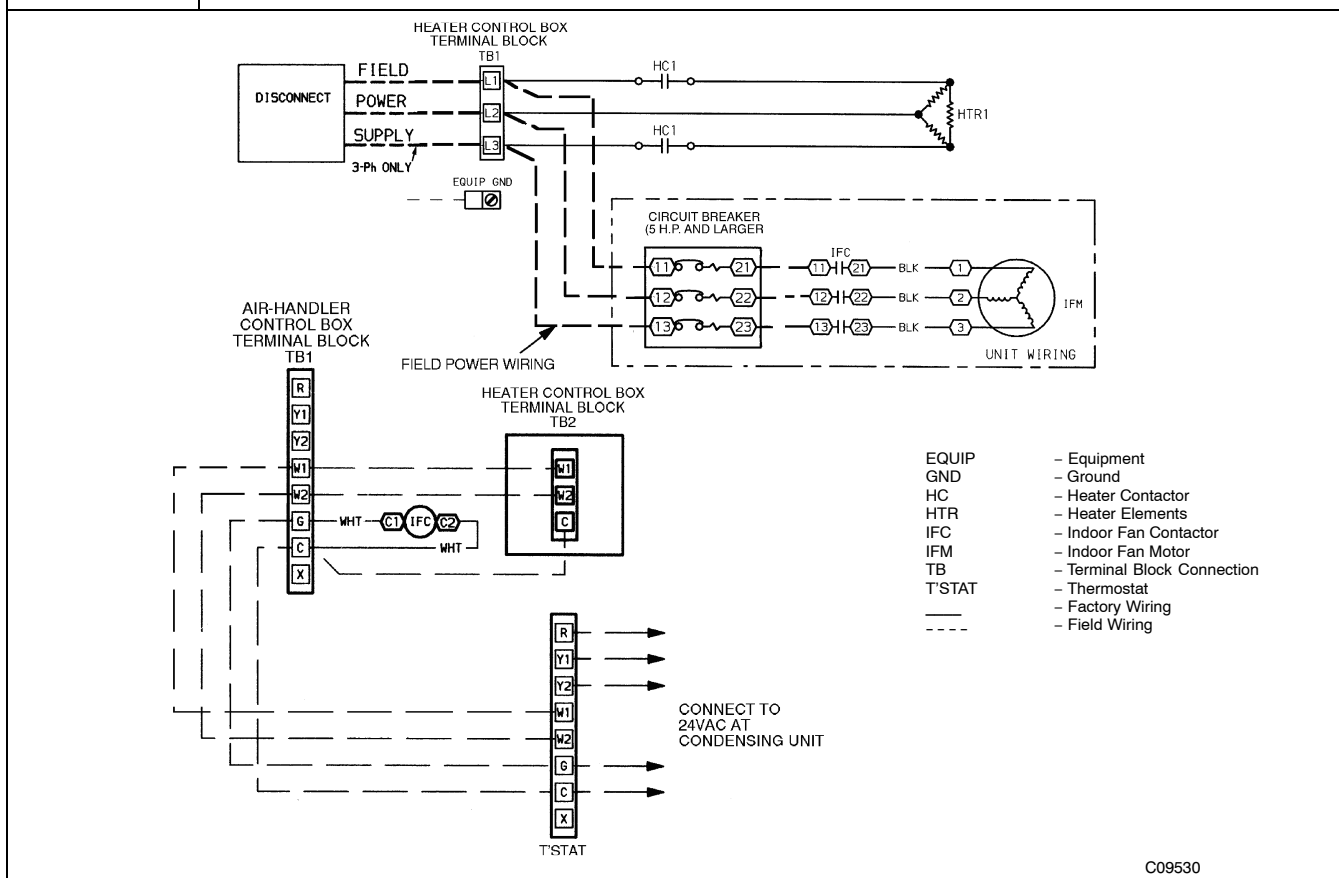
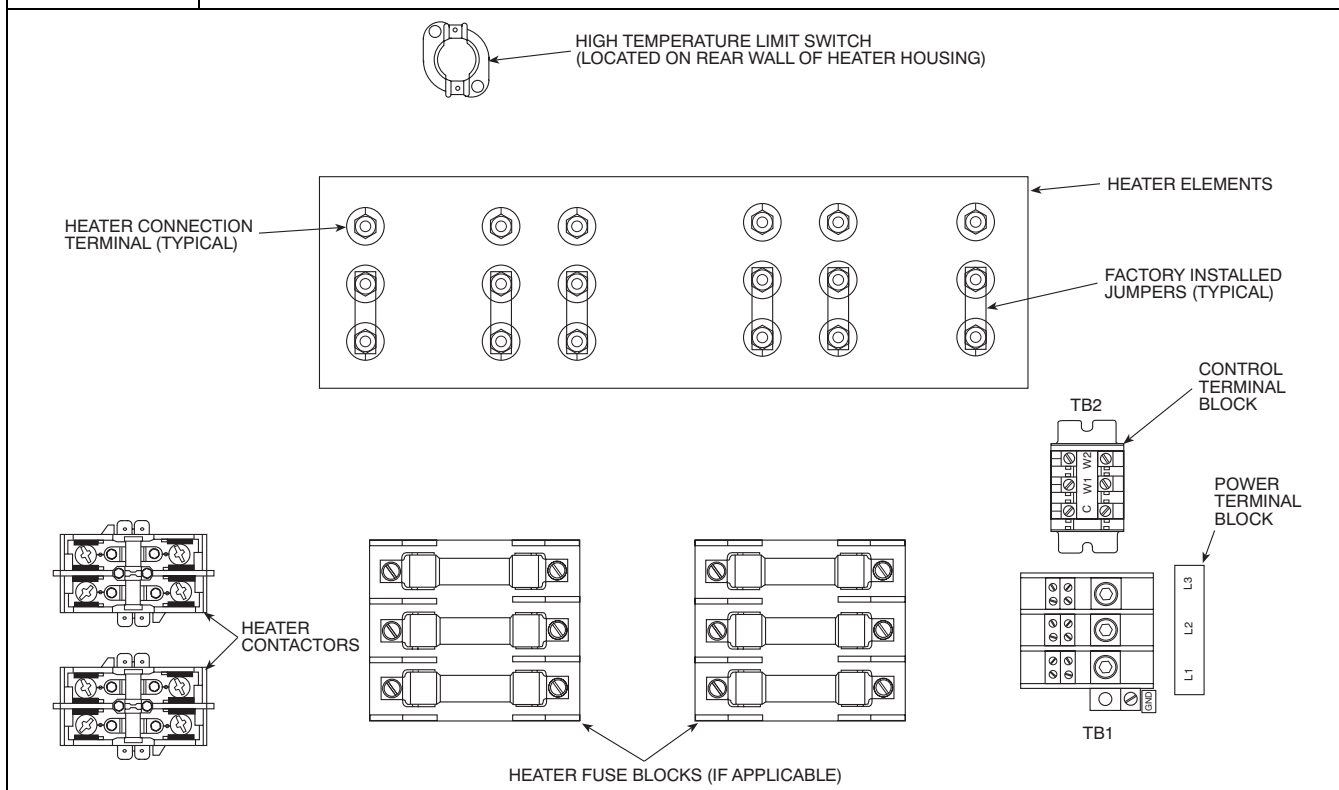
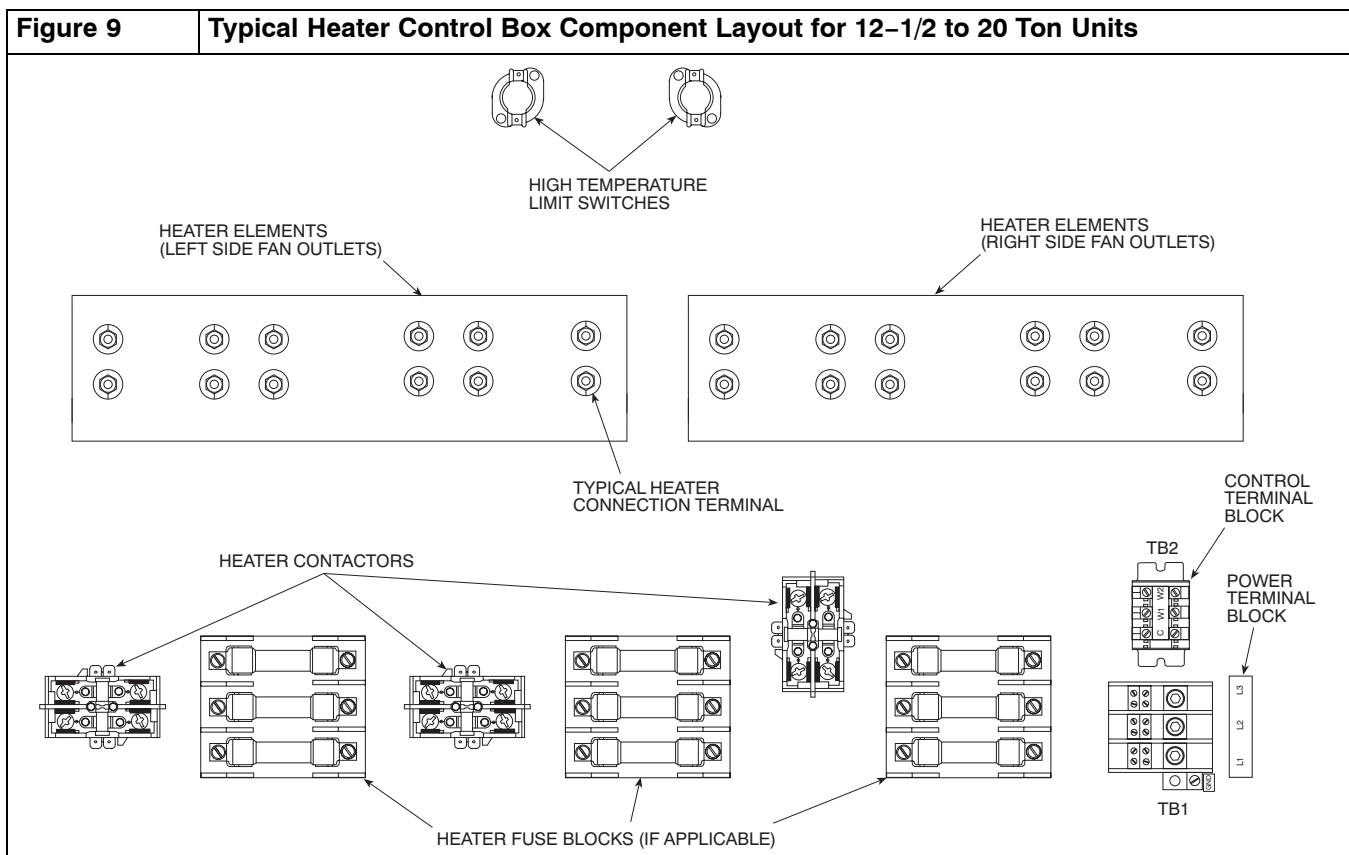


Figure 8 **Typical Heater Control Box Component Layout for 6 to 10 Ton Units**





SERVICE

Controls

Access to the heater contactor(s), fuses (if applicable), and terminal blocks may be gained through the control box hinged top cover panel. (See Figure 1) Figure 8 and Figure 9 show typical heater control box component layouts.

High Temperature Limit Switches

The accessory heaters use automatic reset limit switch(es). The heaters for the 6 to 10 ton units contain a single high temperature limit switch. It is located on the rear wall of the heater assembly. (See Figure 1)

The heaters for the 12–1/2 to 20 ton units have two high temperature limit switches; one for each fan outlet. They are located on the rear wall of the heater assembly. (See Figure 1)

If a problem with the limit switch(es) is suspected, remove the switch(es) and test the switch set points. Table 2 shows the correct set points.

Table 2		High Temperature Limit Switch Set Points	
UNIT SIZE		CUT-OUT –°F (°C)	CUT-IN –°F (°C)
6 to 10 Ton		115 (46.1)	85 (29.4)
12–1/2 to 20 Ton		140 (60)	90 (32.2)

Access to the switch(es) is gained from the outside rear of the heater assembly. Sufficient clearance must be provided for service access. See recommended clearances in Figure 1. Where this is not possible, the entire heater must be removed from the unit in order to replace the limit switches. Each limit switch is attached with two (2) self-tapping screws. The wire connections are made with quick-connect terminals.

Heater Elements

The heater element assemblies are located above each fan discharge opening. When installing heater ductwork, be sure to provide an access panel to allow heater element servicing. (See Figure 2) If this is not possible, it will be necessary to remove a section of the supply duct or the entire heater assembly to service the heater elements.

MODEL NUMBER IDENTIFICATION GUIDE FOR ELECTRIC HEAT									
MODEL NUMBER	A	AH	C	05	A	H	A	Engineering Digit	
ACCESSORY								VOLTAGE-PH-HZ	
								H=208/240–3–60	
								L=460–3–60 S=575–3–60	
AUXILIARY HEAT								UNIT SIZE USED WITH	
								A = 6 to 10 Ton B = 12–1/2 to 20 Ton	
								C = 7–1/2 to 10 Ton D = 15 to 20 Ton	
DESIGN SERIES								COOLING CAPACITY (NOMINAL BTUH)	
							 05 = 5 kW 10 = 10 kW 15 = 15 kW	
							 20 = 20 kW 25 = 25 kW 30 = 30 kW	
							 35 = 35 kW 50 = 50 Kw	