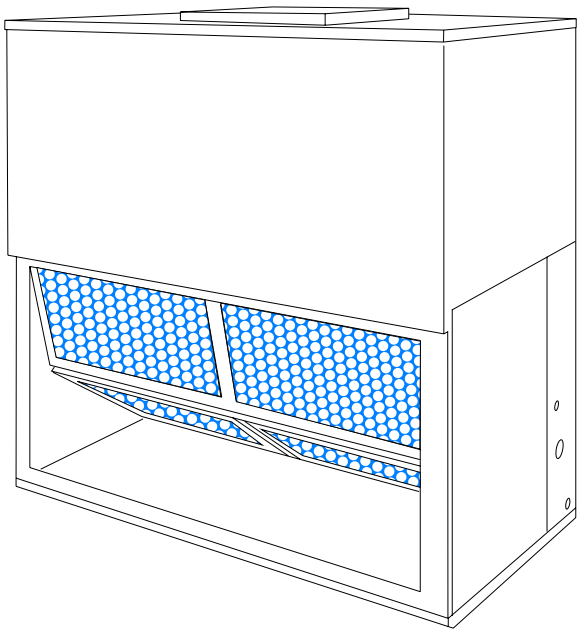


YORK®

SPLIT-SYSTEM EVAPORATOR BLOWERS

K2EU060, K4EU090, K3EU120 & K3EU180

5 Thru 15 Nominal Ton

ISO 9001 CERTIFIED

AN INDEPENDENT LABORATORY UL® TESTING FOR PUBLIC SAFETY

DESCRIPTION

These completely assembled units include a well-insulated cabinet, a DX cooling coil with copper tubes and aluminum fins, expansion valve(s), distributor(s), throwaway filters, a centrifugal blower, a blower motor, an adjustable belt drive, a blower motor contactor and a small holding charge of refrigerant-22.

The units are shipped in the vertical position ready for field installation. They can be installed for horizontal operation by reversing the position of the solid bottom panel with the return air duct flange on the front of the unit.

ACCESSORIES—FIELD INSTALLED

SUPPLY AIR PLENUMS - These fully insulated plenums are available for free standing units located within the conditioned space, are shipped knocked-down for easy field assembly, are finished to match the exterior of the basic unit, and have double deflection grilles that can be adjusted to vary the throw, spread and drop of the supply air.

RETURN AIR GRILLES - These expanded metal grilles are available for free standing units located within the conditioned space, are finished to match the exterior of the basic unit and are shipped in one piece for easy installation.

BASES - Bases are available to raise vertical units above the floor. Outdoor air may be introduced through these bases by cutting an access opening to accommodate the outdoor air duct connection. These bases are finished to match the exterior of the basic unit. They may have to be insulated in the field for certain applications.

THREE-PHASE ELECTRIC HEATERS - Electric heaters are available in several capacities to provide maximum flexibility. Both the air conditioning unit and the heater can be selected to precisely match the cooling and heating requirements of the conditioned space. These heaters are designed for easy field-installation over the supply air opening of the unit. They have been tested by Underwriters' Laboratories and will be shipped with a UL label. Every heater will be fully protected against excessive current and temperature by fuses and two high limit thermostats.

Units with electric heat will require only one power supply for both the heating elements and the supply air blower motor, and the power wiring can be protected by either dual element/time delay fuses or an inverse time circuit breaker.

HOT WATER COILS - These drainable coils have 2 rows of 1/2" copper tubes, 12 aluminum fins per inch, a casing that is finished to match the exterior of the basic unit, but no water control valve. The coils slide out of their casings for easy field installation. They should be mounted over the return ai opening on 5, 7-1/2 and 10-ton units—between the unit coil and blower sections on 1 5-ton units.

STEAM COILS - These non-freeze coils have 1 row of 1" copper tubes, a 5/8" copper tube inside each 1" tube to distribute the steam evenly across the entire length of the coil, 8 aluminum fins per inch, a casing that is finished to match the exterior of the basic unit, but no steam control valve. The coils slide out of their casings for easy field installation and are pitched in their casings to facilitate condensate drainage. They should be mounted over the return air opening on 5, 7-1/2 and 10-ton units—between the unit coil and blower sections on 15-ton units.

SUSPENSION KIT - Suspension kit 1HH0451 is available for 15-ton units installed horizontally. The accessory includes two channel iron supports and the hardware to secure them to the top of the unit. The hanger rods must be supplied by the field.

THERMOSTATS - Wall-mounted thermostats and subbases (24-volt) with system and fan switches are available to control the operation of these split system air conditioners.

APPLICATION FLEXIBILIT

MODELS 060, 090, 120

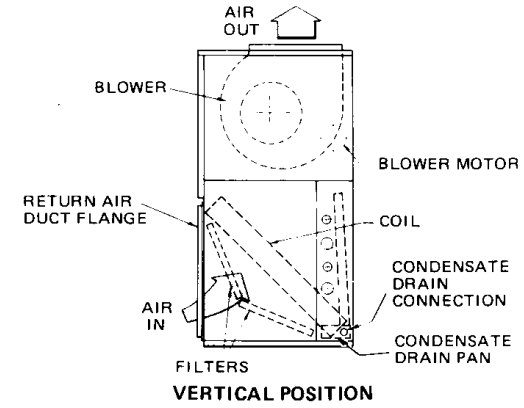
These units are built in a single cabinet with two condensate drain pans. This allows the units to be installed in either the vertical or horizontal position for maximum flexibility.

On vertical applications, the air velocity the cooling coil keeps the condensate from dripping off the finned surface onto the filters.

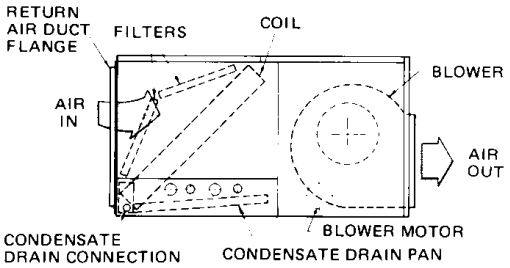
On horizontal applications, the unit must be installed with the condensate drain pan under the entire cooling coil.

- The **Supply Air Plenum** and **the Return Air Grille accessories can be used on either arrangement.**
- The **Base** accessory can only be used on the vertical arrangement.

Units installed horizontally are designed for ceiling suspension. Four 3/8"-16 weld nuts are provided in the angle supports on the front of the unit (the side with the logo). Knockouts are provided in the exterior panels for access to these weld nuts. The hanger rods must be supplied in the field.



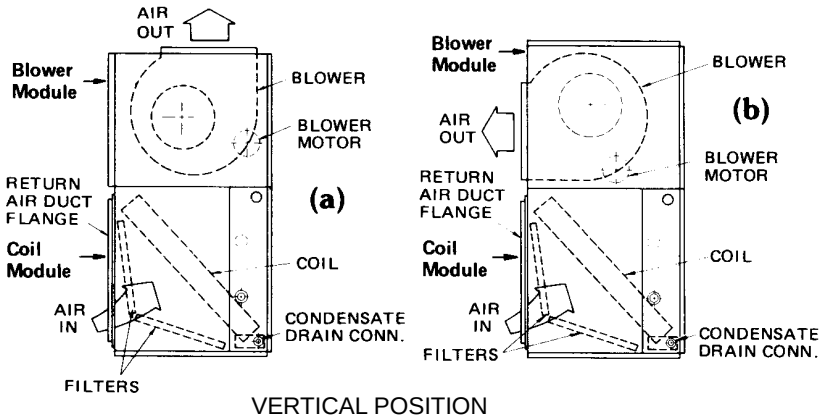
VERTICAL POSITION



HORIZONTAL POSITION

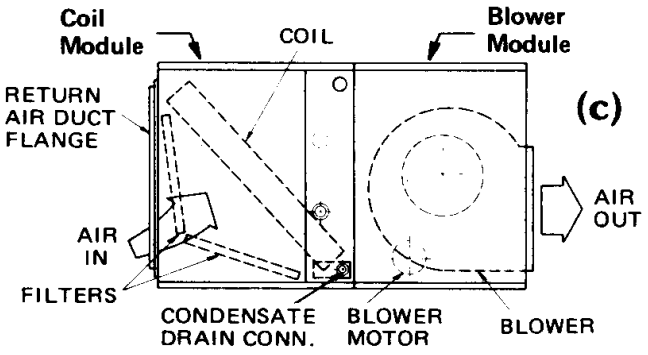
MODEL 180

This unit has two distinct modules . . . a blower module and a coil module. Although the unit is always shipped in the vertical position with a vertical air discharge as shown in-illustration (a), the blower module can be repositioned in the field as shown in illustrations (b) and (c) for maximum flexibility.



VERTICAL POSITION

- The **Supply Air Plenum, Return Air Grille** and **Base accessories can be applied on arrangement (a).**
- The **Return Air Grille** and **Base** accessories can be applied on arrangement (b).
- The **Supply Air Plenum, Return Air Grille** and **Suspension** accessories can be applied on arrangement (c).



HORIZONTAL POSITION

HEATING CAPACITY - Electric Heat Accessory

Unit Model	Heater Model		UL Test Voltage	Nominal Ratings[1]		Capacity[1]			
						Per Stage[1]		Per Stage[2]	
				KW	MBH	KW	MBH	KW	MBH
060	2HT045010	25	240[2]	10	34.2	10	34.2	-	-
	2HT045016	25	240[2]	16	54.7	10	34.2	6	20.5
	2HT045026	25	240[2]	26	88.9	16	54.7	10	34.2
090 120	2HS045010	25	240[2]	10	34.2	10	34.2	-	-
		46	480[3]						
	2HS045016	25	240[2]	16	54.7	10	34.2	6	20.5
		46	480[3]						
	2HS045026	25	240[2]	26	88.9	16	54.7	10	34.2
		46	480[3]						
	2HS045036	25	240[2]	36	123.0	16	54.7	20	68.3
		46	480[3]						
180	2HS045010	25	240[2]	10	34.2	10	34.2	-	-
		46	480[3]						
	2HS045016	25	240[2]	16	54.7	10	34.2	6	20.5
		46	480[3]						
	2HS045026	25	240[2]	26	88.9	16	54.7	10	34.2
		46	480[3]						
	2HS045036	25	240[2]	36	123.0	16	54.7	20	68.3
		46	480[3]						
	2HS045072	25	240[2]	72	246.0	36	123.0	36	123.0
		46	480[3]						

[1]Capacity ratings do not include the heat generated by the supply air blower motor.
[2]For 208 volts, multiply the MBH and KW values by $(208/240)^2$ or 0.751. For 230 volts, multiply the MBH and KW values by $(230/240)^2$ or 0.918.
[3]For 460 volts, multiply the MBH and KW values by $(460/480)^2$ or 0.918

SOUND POWER RATINGS

UNIT MODEL	CFM	ESP	BLOWER		SOUND POWER (dB 10^{-12} WATTS OCTAVE BAND CENTERLINE FREQUENCY (Hz)								SWL dB(A)	dB(A) @ 10 ft.*
		IWG	RPM	BHP	63	125	250	500	1,000	2,000	4,000	8,000		
060	2,000	0.50	940	0.70	88	88	78	71	73	66	61	56	77	44
090	3,000	0.60	750	1.05	88	88	78	73	71	66	61	56	77	45
120	4,000	0.70	850	1.75	91	91	81	74	76	69	64	59	81	48
180	6,000	0.75	750	2.75	95	95	85	80	78	73	68	63	84	52

*At a distance of 10 feet from the blower.

NOTE: These values have been accessed using a model of sound propagation from a point source into the hemispheric free field. The dBA values provided are for reference only. Calculation of dBA values cover matters of system design and the fan manufacturer has no way of knowing the details of each system. This constitutes an exception to any specification or guarantee requiring a dBA value or sound data in any other form than sound power level ratings.

STEAM COIL CAPACITY[1], MBH @ 2 PSIG[2]

STEAM COIL MODEL	UNIT MODEL	CFM	DRY BULB TEMPERATURE OF AIR ENTERING COIL, °F			
			10	30	50	70
1NF0450	060	1600	104.0	94.0	83.9	73.9
		2000	115.2	104.0	93.1	81.9
		2400	124.9	113.0	100.9	89.0
1NF0451	090	2400	172.2	155.5	139.1	122.4
		3000	191.2	172.6	154.3	136.0
		3600	207.5	187.1	167.4	147.4
	120	3200	196.4	177.6	158.8	140.0
		4000	217.3	195.3	175.3	154.8
		4800	236.1	212.9	190.4	167.8
1NF0452	180	4800	298.2	268.4	236.7	211.5
		6000	329.1	297.0	265.6	234.1
		7200	356.4	321.8	287.9	254.0

[1]These capacities do no include any blower motor heat.

[2]Multiply these capacities by the following factors to correct for higher steam pressures.

Steam pressure, psig	5	10	15	20	25
Capacity correction factor	1.05	1.12	1.19	1.25	1.30

NOTE: Steam rate (lb../hr.) = 1.025 x MBH

CAUTION: Do NOT operate a motor above its nominal HP rating when a unit is equipped with a steam coil accessory.

HOT WATER COIL CAPACITY[1], MBH

WATER COIL MODEL	UNIT MODEL	GPM	CFM	ENTERING WATER TEMP. MINUS ENTERING AIR TEMP., °F				
				70	90	110	130	150
1HW0450	060	10	1600	46.5	60.4	74.6	89.0	101.8
			2000	51.7	67.2	83.0	99.2	113.4
			2400	56.0	73.0	90.4	107.9	123.3
1HW0451	090	15	2400	78.0	101.3	124.7	148.5	169.7
			3000	87.7	113.3	139.6	166.6	190.4
			3600	95.5	124.0	153.0	182.1	208.1
	120	15	3200	90.3	117.1	144.6	172.1	196.6
			4000	100.2	130.2	160.7	191.3	218.6
			4800	108.3	140.9	174.3	207.5	237.4
1HW0452	180	20	4800	135.5	175.1	215.8	257.4	294.1
			6000	150.0	195.0	240.3	285.9	326.6
			7200	162.4	210.8	260.4	309.8	354.3

[1]These capacities do no include any blower motor heat.

NOTE: Water Temperature Drop, °F = $\frac{2 \times \text{MBH}}{\text{GPM}}$

CAUTION: Do NOT operate a motor above its nominal HP rating when a unit is equipped with a hot water coil accessory.

PRESSURE DROP VS. GPM

1HW0450	GPM	10	20	30
	Pressure Drop, PSI	.10	.32	.67
1HW0451	GPM	15	30	45
	Pressure Drop, PSI	.17	.58	1.22
1HW0452	GPM	20	40	60
	Pressure Drop, PSI	.20	.67	1.41

CAPACITY CORRECTION VS. GPM

1HW0450	GPM	20	30
	Capacity Correction	1.12	1.16
1HW0451	GPM	30	45
	Capacity Correction	1.11	1.15
1HW0452	GPM	40	60
	Capacity Correction	1.12	1.17

SUPPLY AIR BLOWER PERFORMANCE[1]

RPM	CFM														
	SP[2]	BHP[3]	KW	SP[2]	BHP3	KW	SP[2]	BHP[3]	KW	SP[2]	BHP[3]	KW	SP[2]	BHP[3]	KW
	060														
	1600			1800			2000			2200			2400		
800	0.43	0.38	0.34	0.30	0.45	0.41	0.16	0.52	0.48	-	-	-	-	-	-
810	0.45	0.39	0.35	0.32	0.46	0.42	0.18	0.53	0.49	0.02	0.61	0.56	-	-	-
900	0.64	0.48	0.43	0.53	0.56	0.51	0.40	0.64	0.59	0.25	0.73	0.68	0.10	0.82	0.77
1000	0.87	0.58	0.53	0.77	0.67	0.63	0.65	0.76	0.71	0.51	0.86	0.81	0.37	0.97	0.90
1100	1.12	0.69	0.64	1.03	0.78	0.73	0.92	0.89	0.83	0.79	1.00	0.94	0.66	1.13	1.04
1110	1.15	0.70	0.65	1.06	0.79	0.74	0.95	0.90	0.84	0.82	1.02	0.95	0.69	1.16	1.08
1200	1.39	0.80	0.75	1.30	0.90	0.84	1.20	1.02	0.95	1.09	1.15	1.07	0.97	1.30	-
	090														
	2400			2700			3000			3300			3600		
600	0.35	0.62	0.59	0.26	0.70	0.66	0.13	0.78	0.73	-	-	-	-	-	-
655	0.49	0.70	0.66	0.41	0.78	0.72	0.30	0.87	0.82	0.07	0.96	0.90	-	-	-
700	0.60	0.77	0.73	0.53	0.85	0.80	0.43	0.95	0.89	0.29	1.06	0.99	0.12	1.17	1.09
800	0.92	0.97	0.90	0.85	1.06	0.99	0.77	1.18	1.10	0.65	1.30	1.21	0.49	1.42	1.32
880	1.18	1.11	1.04	1.11	1.24	1.16	1.03	1.37	1.28	0.91	1.50	1.38	0.77	1.64	1.53
900	1.24	1.15	1.07	1.18	1.28	1.19	1.10	1.42	1.32	0.98	1.55	1.43	0.84	1.70	1.57
1000	1.58	1.35	1.26	1.53	1.48	1.38	1.46	1.63	1.48	1.37	1.81	1.65	1.24	2.02	1.85
	120														
	3200			3600			4000			4400			4800		
700	0.49	1.01	0.94	0.34	1.17	1.09	0.14	1.33	1.24	-	-	-	-	-	-
800	0.84	1.25	1.16	0.71	1.42	1.32	0.53	1.60	1.48	0.30	1.80	1.64	-	-	-
900	1.18	1.48	1.38	1.06	1.70	1.57	0.91	1.92	1.75	0.70	2.18	1.99	0.43	2.45	2.24
950	1.37	1.61	1.50	1.26	1.86	1.71	1.11	2.12	1.95	0.91	2.39	2.18	0.65	2.67	2.44
1000	1.56	1.75	1.62	1.46	2.02	1.85	1.32	2.30	2.10	1.13	2.60	2.38	0.87	2.90	2.65
	180[4]														
	4200			4800			5400			6000			6600		
600	.049	1.28	1.22	0.38	1.49	1.42	0.23	1.74	1.66	0.02	1.99	1.89	-	-	-
650	.068	1.47	1.40	0.58	1.73	1.65	0.43	1.99	1.89	0.24	2.29	2.15	-	-	-
700	.087	1.70	1.62	0.79	1.97	1.87	0.65	2.28	2.17	0.47	2.59	2.46	0.24	2.92	2.78
750	1.07	1.94	1.85	1.00	2.25	2.14	0.88	2.58	2.46	0.70	2.91	2.77	0.48	3.30	3.14
800	1.29	2.21	2.10	1.22	2.54	2.42	1.11	2.89	2.75	0.95	3.28	3.12	-	-	
850	1.51	2.50	2.38	1.45	2.85	2.71	1.35	3.24	3.08	-	-	-	-	-	
900	1.75	2.80	2.66	1.69	3.19	3.04	-	-	-	-	-	-	-	-	

NOTE: Refer to Form 550.13-AD1 for blower performance curves.

RPM range for the standard, factory-mounted drive components.

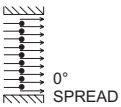
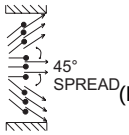
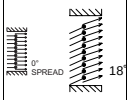
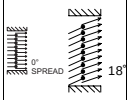
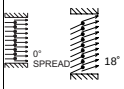
Exceeds the BHP limitation of the standard factory mounted blower motor.

[1]Unit resistance is based on a wet evaporator coil and clean filters.
[2]Available static pressure IWG to overcome the resistance of the duct system and any accessories added to the unit. Refer to the respective tables for the resistance of these accessories and for additional motor and drive data.
[3]Motors can be selected to operate into their service factor because they are located in the moving air stream, upstream of any heating device. Units with steam or hot water coils are the only exception. On these units, the BHP must not exceed the nominal HP rating of the motor.
[4]Data based on unit in horizontal configuration.

STATIC RESISTANCES FOR UNIT ACCESSORIES (IWG)

Unit Model	Accessory		CFM				
			1600	1800	2000	2200	2400
060	Electric Heaters	10 K	0.01	0.01	0.01	0.02	0.02
		16 K	0.01	0.02	0.02	0.03	0.04
		26 K	0.02	0.03	0.04	0.05	0.08
	Supply Air Plenum		0.03	0.04	0.05	0.07	0.10
	Return Air Grille		0.03	0.04	0.05	0.07	0.10
	Hot Water Coil		0.16	0.21	0.24	0.28	0.32
	Steam Coil		0.13	0.16	0.19	0.22	0.26
			2400	2700	3000	3300	3600
090	Electric Heaters	10 K	0.01	0.01	0.01	0.02	0.02
		16 K	0.01	0.02	0.02	0.03	0.04
		26 K	0.03	0.04	0.05	0.06	0.07
		36 K	0.05	0.07	0.08	0.10	0.11
	Supply Air Plenum		0.03	0.03	0.04	0.05	0.06
	Return Air Grille		0.02	0.03	0.04	0.05	0.06
	Hot Water Coil		0.11	0.14	0.17	0.20	0.23
	Steam Coil		0.10	0.12	0.14	0.16	0.19
			3600	3600	4000	4400	4800
120	Electric Heaters	10 K	0.02	0.02	0.03	0.03	0.04
		16 K	0.03	0.04	0.05	0.06	0.07
		26 K	0.06	0.07	0.09	0.11	0.13
		36 K	0.09	0.11	0.14	0.17	0.20
	Supply Air Plenum		0.05	0.06	0.07	0.08	0.10
	Return Air Grille		0.05	0.06	0.07	0.08	0.10
	Hot Water Coil		0.19	0.24	0.30	0.35	0.40
	Steam Coil		0.16	0.19	0.23	0.27	0.31
			4800	5400	6000	6600	7200
180	Electric Heaters	10 K	0.04	0.05	0.06	0.08	0.10
		16 K	0.07	0.09	0.11	0.14	0.17
		26 K	0.13	0.16	0.02	0.24	0.29
		36 K	0.20	0.24	0.29	0.35	0.42
		72 K	0.36	0.43	0.52	0.63	076
	Supply Air Plenum		0.03	0.04	0.05	0.06	0.07
	Return Air Grille		0.04	0.05	0.06	0.07	0.08
	Hot Water Coil		0.18	0.22	0.26	0.30	0.34
	Steam Coil		0.15	0.18	0.22	0.26	0.30

SUPPLY AIR PLENUM PERFORMANCE DATA

Model	CFM	Face Velocity (FPM)	Angle of Deflection																	
			 Vertical Louvers[1] (Plan View)				Horizontal Louvers[2] (Elevation View)		 Vertical Louvers[1] (Plan View)				Horizontal Louvers[2] (Elevation View)		 Vertical Louvers[1] (Plan View)				Horizontal Louvers[2] (Elevation View)	
			Throw (Feet)[3]		Spread (Feet)[3]				Throw (Feet)[3]		Spread (Feet)[3]				Throw (Feet)[3]		Spread (Feet)[3]			
			Min.	Max.	Min.	Max.	Drop (Feet)[4]		Min.	Max.	Min.	Max.	Drop (Feet)[4]		Min.	Max.	Min.	Max.	Drop (Feet)[4]	
060	1600	630	38	59	13	20	15	8	27	43	12	19	14	7	21	32	33	48	8	4
	1800	710	43	67	14	22	16	8	30	48	14	22	14	7	23	37	35	56	8	4
	2000	790	48	74	16	25	16	9	34	53	15	24	14	8	25	40	38	60	9	5
	2200	870	52	81	17	27	16	9	37	58	17	26	15	8	29	44	44	66	9	5
	2400	940	57	89	19	30	17	9	41	64	18	29	15	8	30	48	45	72	9	5
090	2400	615	47	74	20	29	19	9	34	53	23	33	17	8	26	39	45	65	9	5
	2700	690	53	83	22	32	20	10	39	59	25	36	18	9	29	45	48	71	10	5
	3000	770	59	92	24	35	21	10	42	66	27	40	19	9	32	50	52	78	10	5
	3300	845	65	101	26	38	21	10	46	73	29	44	19	9	35	55	56	85	10	5
	3600	920	71	110	28	41	22	11	50	79	32	47	20	10	38	60	60	91	11	6
120	3200	820	63	98	25	37	21	10	45	70	29	43	19	9	34	53	54	82	10	5
	3600	920	71	110	28	41	22	11	50	79	32	47	20	10	38	60	60	91	11	6
	4000	1025	78	123	30	45	22	11	56	88	35	52	20	10	42	66	67	102	11	6
	4400	1130	86	135	33	49	23	12	62	97	38	57	21	11	47	73	76	115	12	6
	4800	1230	94	147	35	53	23	12	68	106	41	62	21	11	51	80	85	127	12	6
180	4800	880	84	132	32	48	23	12	61	95	38	56	21	11	46	72	73	112	12	6
	5400	1000	95	149	36	54	24	12	68	107	42	63	22	11	52	81	81	124	12	6
	6000	1110	106	165	39	59	25	13	76	119	46	69	23	12	57	89	90	138	13	7
	6600	1220	116	182	43	65	26	13	84	131	50	76	23	12	63	98	99	152	13	7
	7200	1330	126	199	46	70	27	14	92	143	55	83	24	12	68	107	109	166	14	7

[1]Adjusting the vertical louvers will vary the throw, the spread and the drop.
[2]Adjusting the horizontal louvers will only vary the drop.
[3]The velocity of the air will be 125 ft./min. at the minimum distance and 80 ft./min. at the maximum distance.
[4]The velocity of the conditioned air at the bottom of the drop will be 50 ft./min. Drafts will occur if the drop extends into the occupied level of the conditioned space.

BLOWER MOTOR AND DRIVE DATA

MODELS	MOTOR HP	BLOWER (RPM)	ADJUSTABLE MOTOR PULLEY		FIXED BLOWER PULLEY		BELTS	
			PITCH DIA. (IN.)	BORE (IN.)	PITCH DIA. (IN.)	BORE (IN.)	DESIG-NATION	PITCH LENGTH (IN.)
060	3/4	810-1110	2.8 - 3.8	5/8	6.0	3/4	A32	33.3
090	1-1/2	655 - 880	2.8 - 3.8	7/8	7.5	1	A36	37.3
120	2	700 - 950	2.8 - 3.8	7/8	7.0	1	A36	37.3
180	3	625 - 810	3.4 - 4.4	7/8	9.5	1	A57	58.3

NOTES: 1. Motors can operate to the limit of their service factor unless the unit is equipped with either a hot water or steam coil accessory.

2. Three-phase motors will always be wired for a 460 volt power supply. Refer to the wiring diagram inside the motor terminal box when motor leads have to be reconnected for a 208 or 230 volt power supply.

Motor Specifications

060

- 1750 RPM
- 208/230-1-60 (Split Phase)
- resilient mount
- 56 frame
- inherent protection
- 1.25 service factor
- permanently lubricated ball bearings

090, 120, 180

- 1750 RPM
- 208/230/460-3-60
- solid base
- 56 frame
- inherent protection
- 1.15 service factor
- permanently lubricated ball bearings

PHYSICAL DATA - Units and Accessories

DESCRIPTION			UNIT MODEL 060	090	120	180
EVAPORATOR COIL	Rows Deep x Rows Wide		3 x 24	3 x 27	3 x 32	4 x 26
	Finned Length - inches		30	46	46	54.5
	Face Area - square feet		5.0	8.6	10.2	12.4
	Tube OD - inches		3/8	3/8	3/8	1/2
	Fins per inch		13	13	13	12
CENTRIFUGAL BLOWER (Forward Curve)	Diameter x Width - inches		10 x 10	15 x 15	15 x 15	18 x 18
MOTORS[1]	Nominal HP Rating		3/4	1-1/2	2	3
FILTERS (Throwaway)	Quantity Per Unit	16" x 25" x 1"	2	4	4	-
		20" x 20" x 1"	-	-	-	6
	Face Area - square feet		5.6	11.1	11.1	16.7
DISTRIBUTOR	One Per Unit		4-3-6-1[2]	5-3-10-1[2]	5-3-12-1[2]	7-3-12-2[2]
OPERATING Weight, Lbs.[3]	Basic Unit		210	320	330	349
	Accessories					
	Supply Air Plenum		09	102	102	114
	Return Air Grille		12	15	15	20
	Hot Water Coil		56	82	82	110
	Steam Coil		57	85	85	113
	Base		45	60	60	100
	Electric Heat:	10 KW	06	63	63	63
		16 KW	64	66	66	66
		26 KW	68	71	71	71
		36 KW	-	74	74	74
		72 KW	-	-	-	104
HOT WATER COIL	Tubes OD, inches		1/2 (Copper)			
	Rows Deep		2			
	Fins Per Inch		12 (Aluminum)			
	Face Area, square feet		3.6	6.8	6.8	10.3
	Connections (Supply & Return)		1" NPTE			
STEAM COIL	Outer Tube OD, inches		1 (Brass)			
	Rows Deep		1			
	Fins Per Inch		8 (Aluminum)			
	Face Area - square feet		3.7	6.6	6.6	10.1
	Connection					
		Inlet	1-1/2" NPTE			
		Outlet	1-1/2" NPTE			
ELECTRIC HEAT	Heater Elements	% Nickel	59.2			
		%Chromium	16.0			
		Watt Density, watts/sq. in.	59.0			
	Face Area, square feet		3.0			
SHIPPING VOLUME - Cubic Feet (Basic Unit)			30	53	53	88

[1]Refer to Blower Motor and Drive Data for additional blower motor and drive information.

[2]The first digit refers to inlet diameter (1/8"), second digit refers to tube diameter (1/16") and the third digit refers to number of tubes and the fourth digit refers to number of distributors.

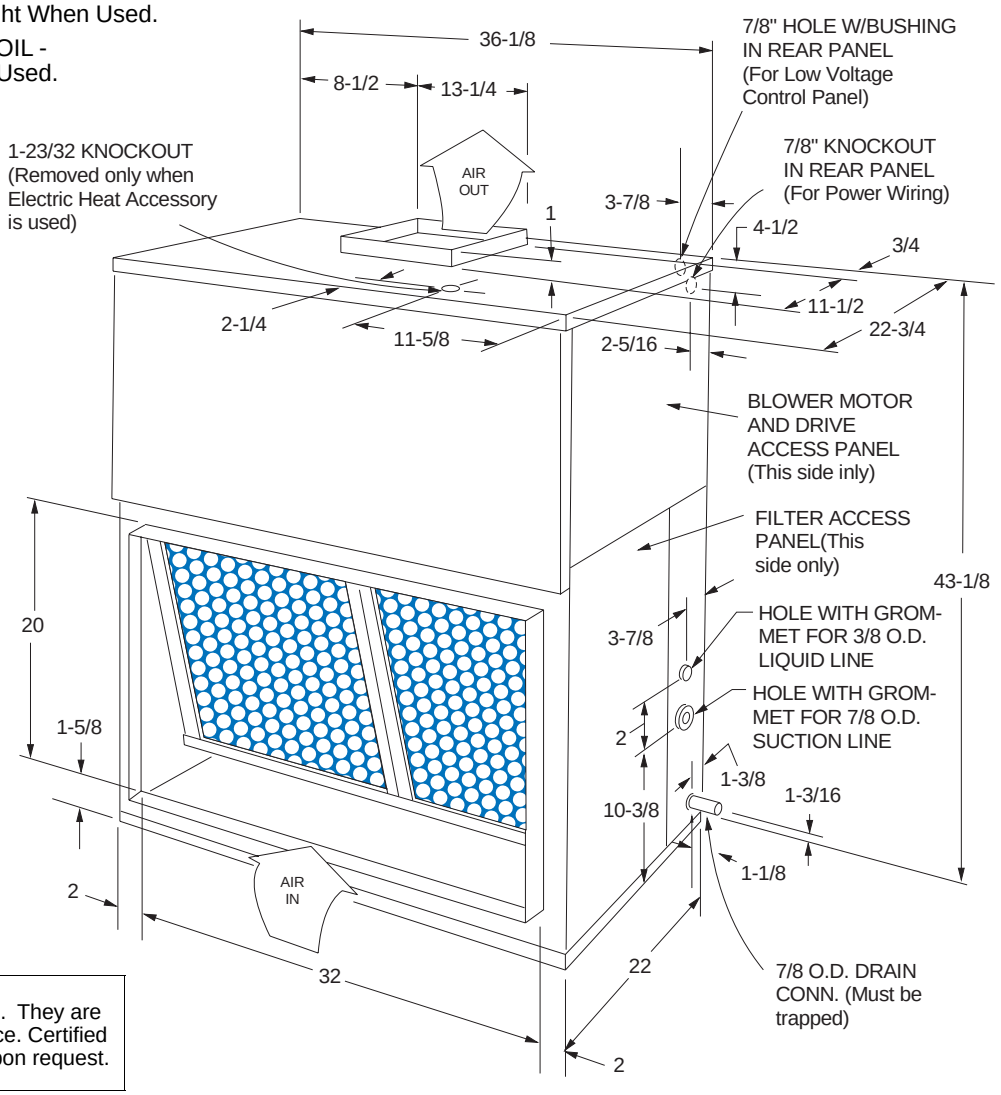
[3]Refer to the unit installation instruction for the distributed weight of the evaporator blower unit:

Form 550.23-N2Y (060, 090 and 120) Form 550.13-N7Y (180)

UNIT DIMENSIONS - 060

ACCESSORIES

- ELECTRIC HEATERS -
  Add 13"To Unit Height When Used.
- SUPPLY AIR PLENUM -
  Add 24-1/4"To Unit Height When Used.
- BASE - Add 20" to Unit Height When Used.
- HOT WATER OR STEAM COIL -
  Add 5"To Unit Depth When Used.



All dimensions are in inches. They are subject to change without notice. Certified dimensions will be provided upon request.

MINIMUM CLEARANCES

Side with RETURN AIR opening	24"
Side with SUPPLY AIR opening	24"[1]
Side with PIPING CONNECTIONS	36"[2]
Side opposite PIPING CONNECTIONS	12"
Side with access for both POWER & CONTROL WIRING	-[3]
Bottom	-[4]

[1]Overall dimension of the unit will vary if an electric heater, a supply air plenum or a base is used.

[2]This dimension is required for removal of the coil. Only 26" is required for normal servicing.

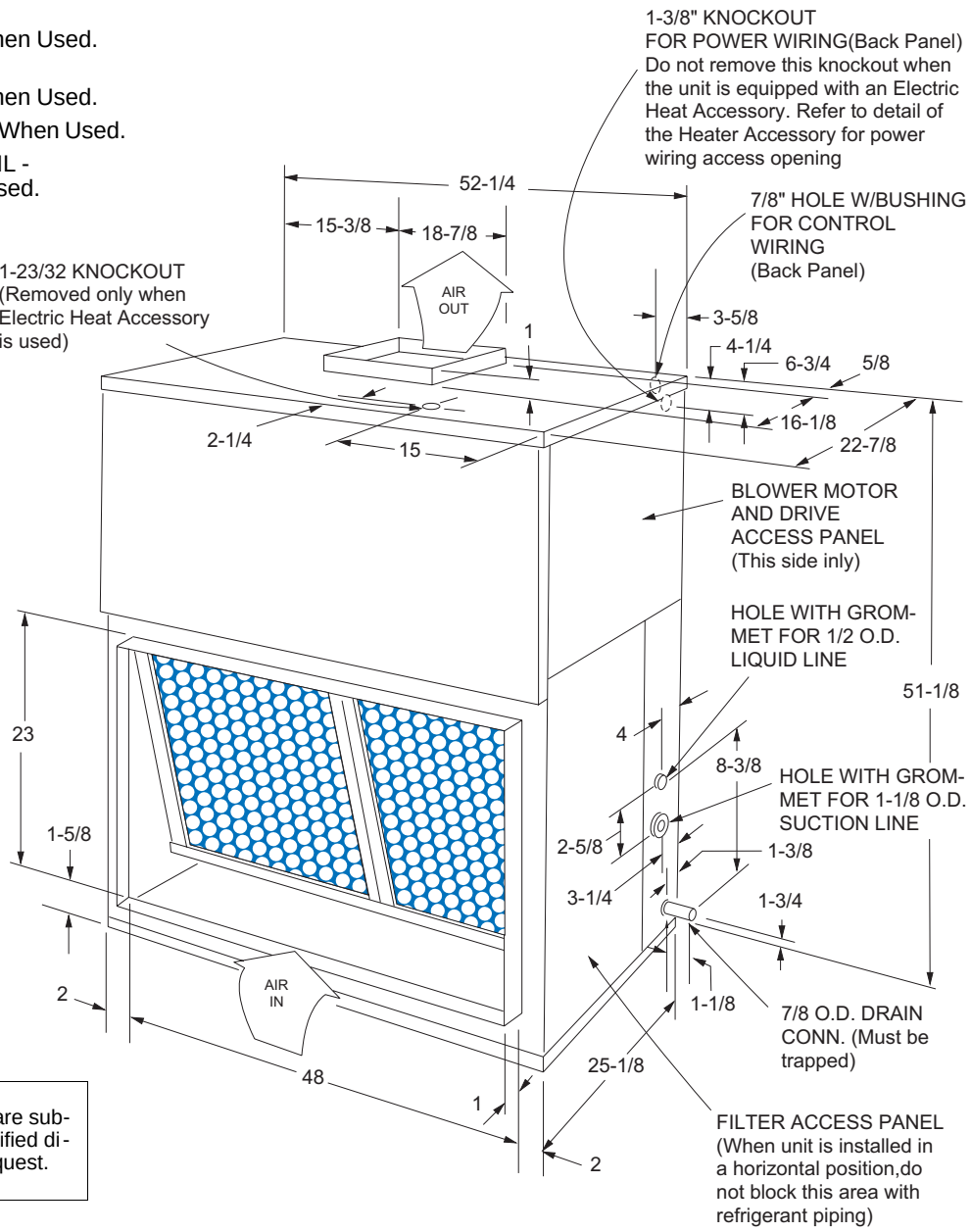
[3]Although no clearance is required for service and operation, some clearance may be required for routing the power and control wiring.

[4]Allow enough clearance to trap the condensate drain line.

UNIT DIMENSIONS - 090 & 120

ACCESSORIES

- ELECTRIC HEATERS - Add 14-1/4"To Unit Height When Used.
- SUPPLY AIR PLENUM - Add 27-1/2"To Unit Height When Used.
- BASE - Add 20" to Unit Height When Used.
- HOT WATER OR STEAM COIL - Add 5"To Unit Depth When Used.



All dimensions are in inches. They are subject to change without notice. Certified dimensions will be provided upon request.

MINIMUM CLEARANCES	
Side with RETURN AIR opening	24"
Side with SUPPLY AIR opening	24"[1]
Side with PIPING CONNECTIONS	52"[2]
Side opposite PIPING CONNECTIONS	12"
Side with access for both POWER & CONTROL WIRING	-[3]
Bottom	-[4]

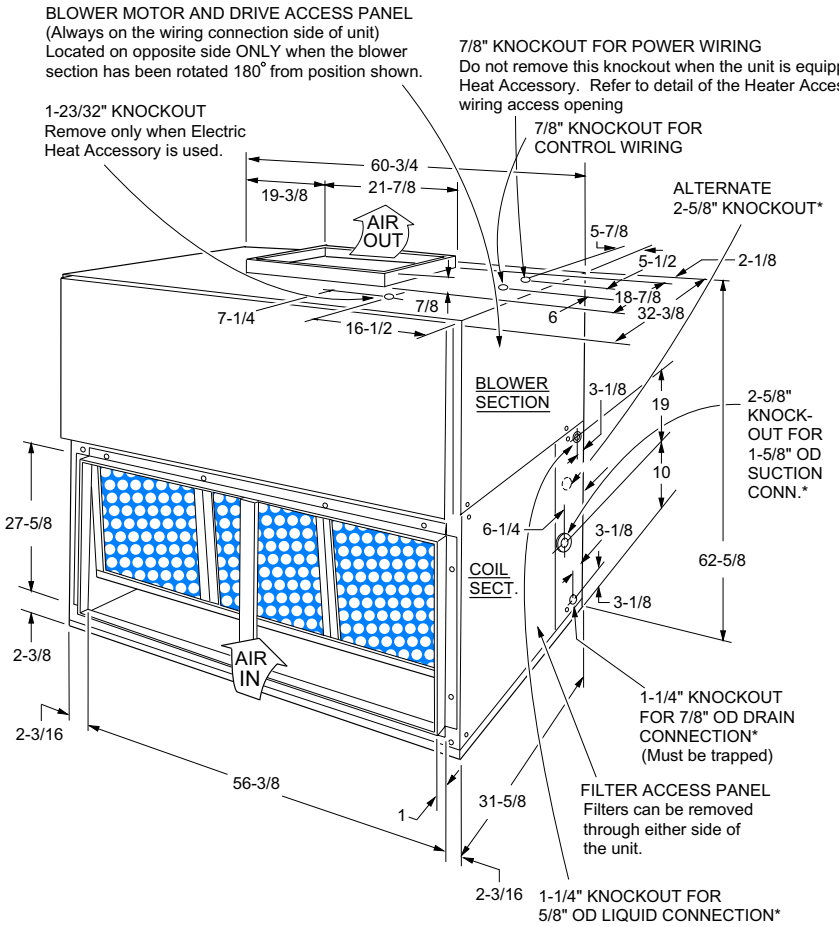
[1]Overall dimension of the unit will vary if an electric heater, a supply air plenum or a base is used.

[2]This dimension is required for removal of the coil. Only 26" is required for normal servicing.

[3]Although no clearance is required for service and operation, some clearance may be required for routing the power and control wiring.

[4]Allow enough clearance to trap the condensate drain line.

UNIT DIMENSIONS - 180



*Refer to INSTALLING REFRIGERANT MAINS in installation instruction when piping through the opposite side of the unit.

ACCESSORIES

- ELECTRIC HEATERS -
  Add 14-1/4"To Unit Height When Using 10, 16, 26 or 36 KW Heater.
  Add 21-3/4"To Unit Height When Using 72 KW Heater.
- SUPPLY AIR PLENUM -
  Add 27"To Unit Height When Used.
- BASE - Add 24" to Unit Height When Used.
- HOT WATER OR STEAM COIL -
  Add 6"To Unit Depth When Used.

All dimensions are in inches. They are subject to change without notice. Certified dimensions will be provided upon request.

MINIMUM CLEARANCES

Side with RETURN AIR opening	24"
Side with SUPPLY AIR opening	24"[1]
Side with PIPING CONNECTIONS	61"[2]
Side opposite PIPING CONNECTIONS	26"
Side with access for both POWER & CONTROL WIRING	-[3]
Bottom	-[4]

[1]Overall dimension of the unit will vary if an electric heater, a supply air plenum, a base, a steam coil or a hot water coil is used.

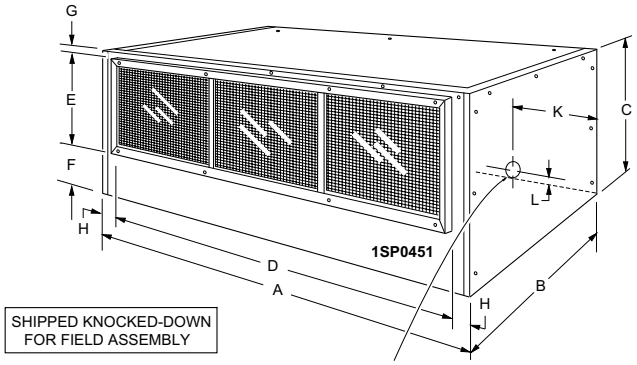
[2]This dimension is required for removal of the coil. Only 26" is required for normal service

[3]If the coil has to be removed, this dimension is required to loosen screws that secure the coil to the unit frame. This dimension will also be required for blower motor access if the piping connections are made on the opposite side of the unit.

[4]Allow enough clearance to trap the condensate drain line.

ACCESSORY DIMENSIONS

SUPPLY AIR PLENUM



060,090,120- KNOCKOUT FOR POWER WIRING

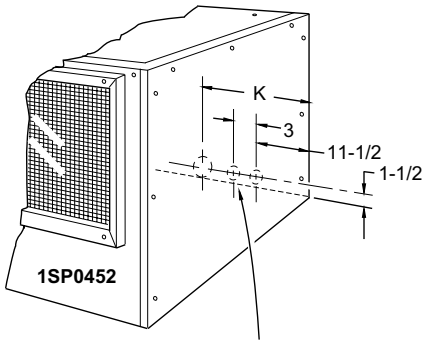
WITH ELECTRIC HEAT - Remove this 2-1/2" knockout from the rear panel of the plenum. Route the power wiring conduit through this opening and connect it to the field-supplied fitting on the electric heat accessory. Connect the power wiring to the fuse block in the heater control box.

Install the control wiring per basic unit instruction Form 550.23-N2Y. DO NOT route any field control wiring through the plenum.

Electric Heaters are NOT UL approved for installation within a supply air plenum.

WITHOUT ELECTRIC HEAT - Install the power and the control wiring basic unit instruction Form 55023-N2Y.. DO NOT route any wiring through the plenum and DO NOT remove this knockout.

Plenum Model	Unit Model	Plenum Dimensions (inches)									
		A	B	C	D	E	F	G	H	K	L
1SP0450	060	36	25-1/2	24-3/8	31-3/4	15-3/4	7-5/8	7/8	2-1/8	11-1/4	2
1SP0451	090 120	52-1/8	28-1/4	27-1/2	49-7/8	17-7/8	8-3/4	7/8	1-1/8	15-1/4	1-3/4
1SP0452	180	60-3/4	31	27	55-3/4	19-7/8	6-1/8	1-	2-1/2	19-1/2	1-3/4



180- KNOCKOUTS FOR POWER & CONTROL WIRING

WITH ELECTRIC HEAT - Remove this 2-1/2" knockout and one of the 7/8" knockouts from the rear panel of the plenum. Remove the 1-23/32" knockout and one of the 7/8" knockouts from the top panel of the basic unit. Install a 1/2" squeeze connector in both of the 7/8" openings.

Route the power wiring conduit through the 2-1/2" opening and connect it to the field-supplied fitting on the electric heat accessory. Connect the power wiring to the fuse block in the heater control box.

Route the control wires through the 7/8" openings and connect them to the terminals on block 4TB. Secure them with the 1/2" squeeze connectors.

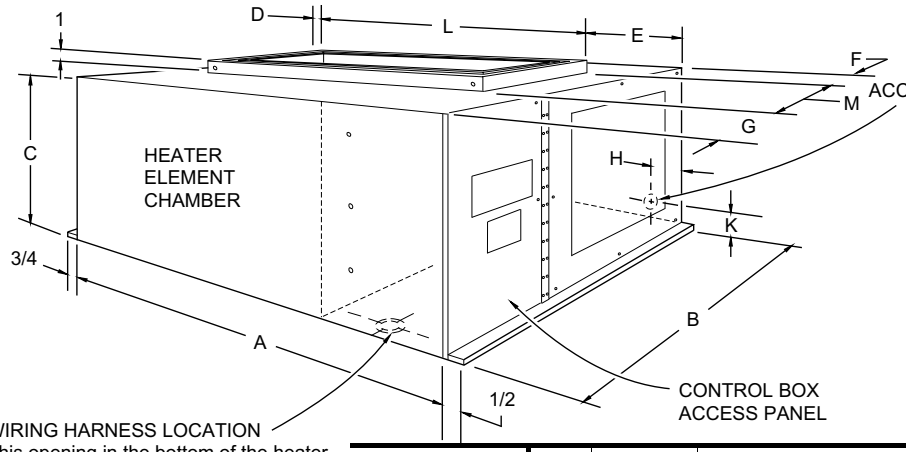
Electric Heaters are NOT UL approved for installation within a supply air plenum.

WITHOUT ELECTRIC HEAT - Remove both 7/8" knockouts from the rear panel of the plenum and both 7/8" knockouts from the top panel of the basic unit. Install a 1/2" squeeze connector in one of the plenum openings and both of the unit openings. Install a 1/2" conduit fitting in the other opening of the plenum.

Connect the power wiring conduit to the fitting on the plenum. Route the power wiring through the conduit, one of the squeeze connectors on the unit, and the field-supplied squeeze connector on the blower motor contactor box. Connect the power wiring to the blower motor contactor.

Route the control wires through the remaining plenum and unit openings and connect them to the terminals on block 4TB. Secure them with the 1/2" squeeze connectors.

ELECTRIC HEATER



10KW THRU 36KW - Add a 1-1/4" conduit fitting to the 1-23/32" hole for wire sizes up through #1 AWG. Remove the knockout ring and add a 1-1/2" conduit fitting to the 1-31/32" hole for wire sizes up through #0 AWG.

72KW - Add a 1-1/4" conduit fitting to the 1-23/32" hole for wire sizes up through #1\ AWG. Remove the knockout ring and add a 2" conduit fitting to the 2-1/2" hole for wire sizes up through #0000 AWG.

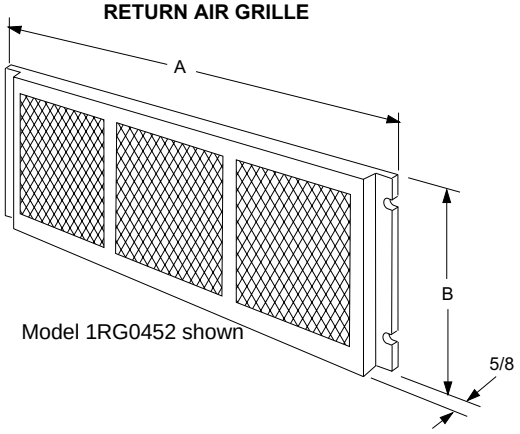
WIRING HARNESS LOCATION
This opening in the bottom of the heater control box is used for the wiring harness that connects the heater accessory to the basic unit. It is provided with a squeeze connector for securing the wiring harness, and its location corresponds to the location of the 1-23/32" knockout in the top panel of the basic unit.

Heater Model	Nom. KW	Unit Model	Heater Dimensions (inches)										
			A	B	C	D	E	F	G	H	K	L	M
2HT04501025 *	10	060	25-1/8	22-1/2	13	7/8	4	1/2	5-1/4	1-11/16	1-3/4	20-1/8	16-7/8
2HT04501625 *	16												
2HT04502625 *	26												
2HS04501025, 46	10	090 120 180	27-1/4	25-1/4	14-1/4	1	4	1/2	5-1/2	1-1/2	1-1/2	22-1/4	19-1/4
2HS04501625, 46	16												
2HS04502625, 46	26												
2HS04503625, 46	36												
2HS04507225, 46	72	180	29-7/8	26-3/8	21-3/4	2-3/8	5-1/4	3/4	6-3/8	2-1/4	2-1/2	22-1/4	19-1/4

*These 2HT Heaters are NOT UL approved for 060 units mounted horizontally.

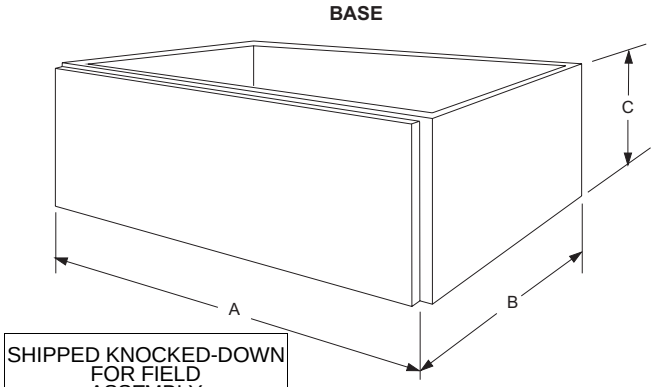
ACCESSORY DIMENSIONS

RETURN AIR GRILLE



Model 1RG0452 shown

BASE

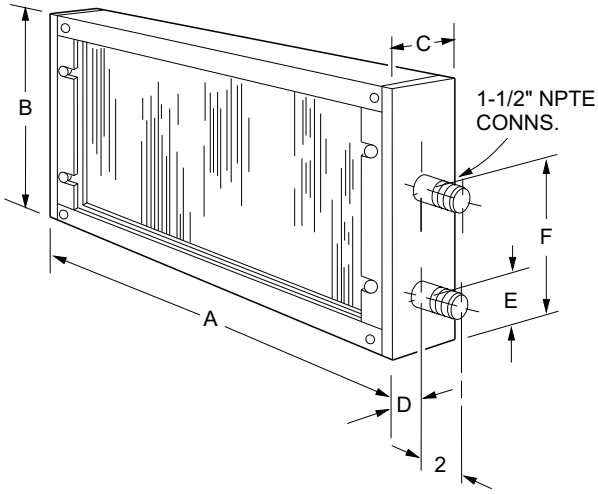


SHIPPED KNOCKED-DOWN FOR FIELD ASSEMBLY

Grille Model	Unit Model	Grille Dimensions (inches)	
		A	B
1RG0450	060	36	22
1RG0451	090 120	52	25
1RG0452	180	60-3/4	31

Grille Model	Unit Model	Base Dimensions (inches)		
		A	B	C
1BS0450	060	36	22	20
1BS0451	090 120	52	25-1/8	20
1BS0452	180	60-3/4	31-5/8	24

STEAM COIL

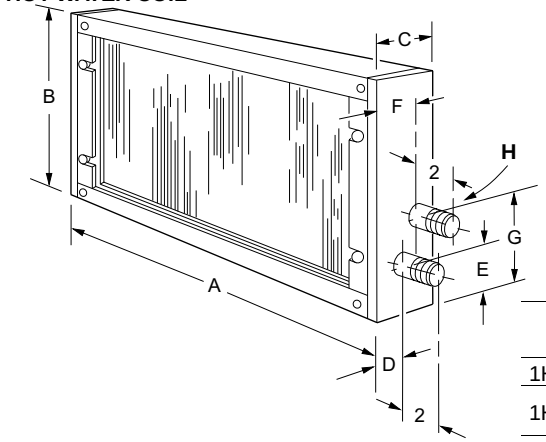


Coil Model	Unit Model	Steam Coil Dimensions (inches)					
		A	B	C	D	E	F
1NF0450*	060	36	21-7/8	5	2-1/2	2-5/8	10-5/8
1NF0451*	090 120	52	25	5	2-1/2	2-5/8	13-5/8
1NF0452**	180	60-3/4	32-1/4	6	3	3-1/2	17-1/2

*Installs over the return air opening of the unit - before the filters.

**Installs between the unit and its blower section.

HOT WATER COIL



Grille Model	Unit Model	Water Coil Dimensions (inches)							
		A	B	C	D	E	F	G	H
1HW0450*	060	36	21-7/8	5	1-11/16	2-3/4	3-3/8	6-1/4	1NPTE
1HW0451*	090 120	52	25	5	1-11/16	2-3/8	3-3/8	5-7/8	1NPTE
1HW0452**	180	60-3/4	32-1/4	6	2-5/32	3-5/16	3-27/32	6-11/16	1-3/8 NPTE

*Installs over the return air opening of the unit - before the filters.

**Installs between the coil and the blower section.

ELECTRICAL DATA - Cooling Only Unit

Model	Motor Blower HP	Power Supply	Full Load Amps	Maximum Fuse Size[1], Amps	Maximum Wire Length[2], Feet
060	3/4	208/230-1-60	5.5	10	191
090	1-1/2	208-3-60	5.7	10	191
		230-3-60	5.2	10	233
		460-3-60	2.6	5	933
120	2	208-3-60	7.5	10	145
		230-3-60	6.8	10	178
		460-3-60	3.4	5	714
180	3	208-3-60	10.6	15	103
		230-3-60	9.6	15	126
		460-3-60	4.8	8	505

[1]Dual element, time delay fuses.
[2]Based on three, 60°C, 14 AWG, insulated copper conductors in steel conduit and a 3% voltage drop.

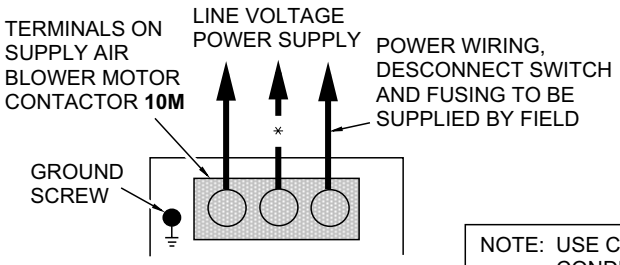
ELECTRICAL DATA - Units with Electric Heat

Model Basic Unit[1]	Nominal Heater KW[2]	Power Supply Voltage[3]	Full Load Amps		Total Ampacity, Amps	Max. Fuse Size[4], Amps	Min. Wire Size[5], AWG	Max. Wire Length[6], Ft.
			Heater	Blower Motor				
060	10	208	20.9	5.5	36	40	8	130
		230	24.0	5.5	39	40	8	134
	16	208	33.4	5.5	51	60	6	144
		230	38.5	5.5	57	60	4	228
	26	208	54.3	5.5	77	80	3	191
		230	62.6	5.5	87	90	2	240
090	10	208	20.9	5.7	36	40	8	130
		230	24.0	5.2	39	40	8	134
		460	12.0	2.6	20	20	12	208
	16	208	33.4	5.7	51	60	6	144
		230	38.5	5.2	57	60	4	228
		460	19.3	2.6	29	30	10	229
	26	208	54.3	5.7	77	80	3	191
		230	62.6	5.2	87	90	2	240
		460	31.3	2.6	44	45	6	373
	36	208	75.1	5.7	104	110	2	180
		230	86.7	5.2	117	125	1	223
		460	43.4	2.6	59	60	4	440
120	10	208	20.9	7.5	40	40	8	117
		230	24.0	6.8	42	45	6	196
		460	12.0	3.4	21	25	10	316
	16	208	33.4	7.5	55	60	6	134
		230	38.5	6.8	60	60	4	217
		460	19.3	3.4	30	30	10	221
	26	208	54.3	7.5	81	90	2	231
		230	62.6	6.8	90	90	2	232
		460	31.3	3.4	45	45	6	365
	36	208	75.1	10.6	107	110	2	174
		230	86.7	9.6	120	125	1	217
		460	43.4	4.8	660	30	4	433
180	10	208	20.9	10.6	40	40	8	117
		230	24.0	9.6	42	45	6	196
		460	12.0	4.8	21	25	10	316
	16	208	33.4	10.6	55	60	6	134
		230	38.5	9.6	60	60	4	217
		460	19.3	4.8	30	30	10	221
	26	208	54.3	10.6	81	90	2	231
		230	63.6	9.6	90	90	2	232
		460	31.3	4.8	45	45	6	365
	36	208	75.1	10.6	107	110	2	174
		230	86.7	9.6	120	125	1	217
		460	43.4	4.8	60	60	4	433
	72	208	150.1	10.6	200	200	000	234
		230	173.3	9.6	228	250	0000	288
		460	86.7	4.8	114	125	2	366

[1]Units with an electric heat accessory will always be wired for a single power supply.
[2]Refer to the HEATING CAPACITY table for the actual KW and MBH ratings of each heater at the different voltages. [3]All voltages are for 3-phase, 60 hertz operation.
[4]Inverse time circuit breakers may be used in lieu of dual element, time delay fuses.
[5]Based on three, insulated copper conductors in steel conduit
60°C wire when the total unit ampacity is below 100 amps. 75°C. wires when the total unit ampacity is above 100 amps.
[6]Based on a 3% voltage drop.

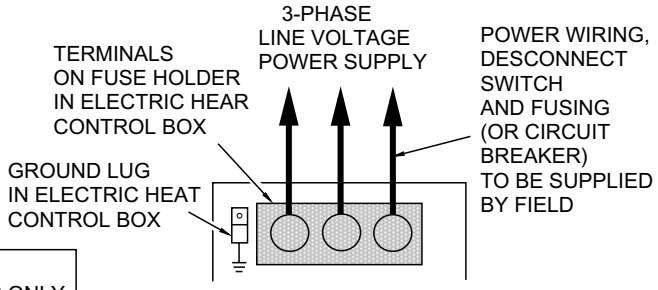
FIELD WIRING

COOLING ONLY UNITS AND UNITS WITH STEAM OR HOT WATER COIL ACCESSORY



*Not required on 060 (1-Phase only) All other units are 3-Phase.

UNITS WITH ELECTRIC HEAT ACCESSORY

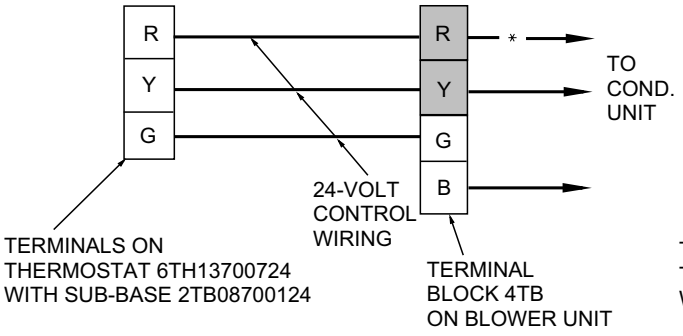


NOTE: USE COPPER CONDUCTORS ONLY

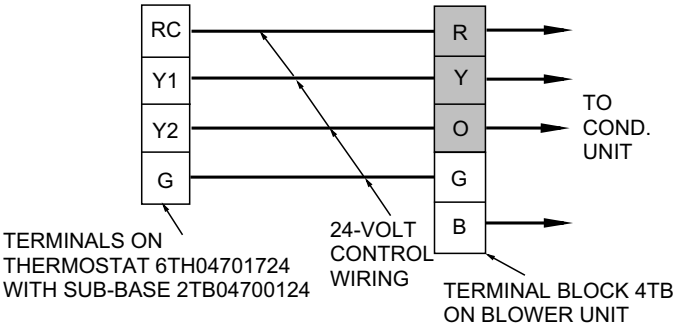
WIRE IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRICAL CODES

COOLING ONLY UNITS

1-STAGE COOLING

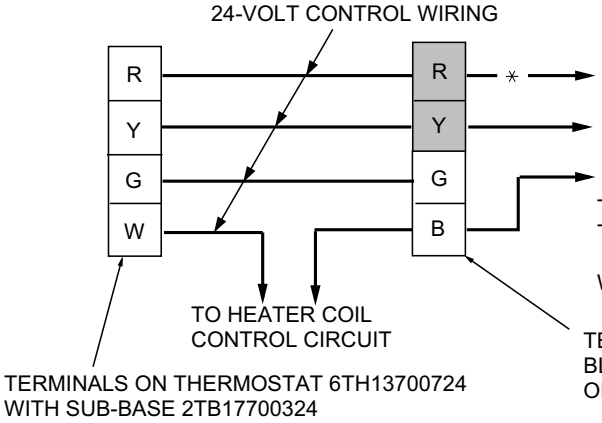


2-STAGE COOLING FOR HCA180/KEU180**

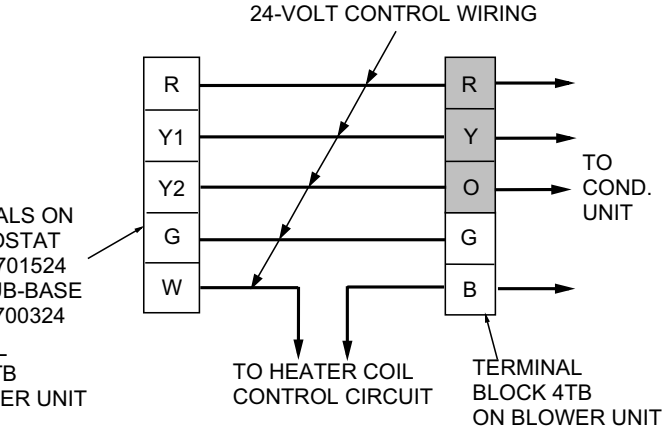


UNITS WITH STEAM OR HOT WATER COIL ACCESSORY

1-STAGE COOLING

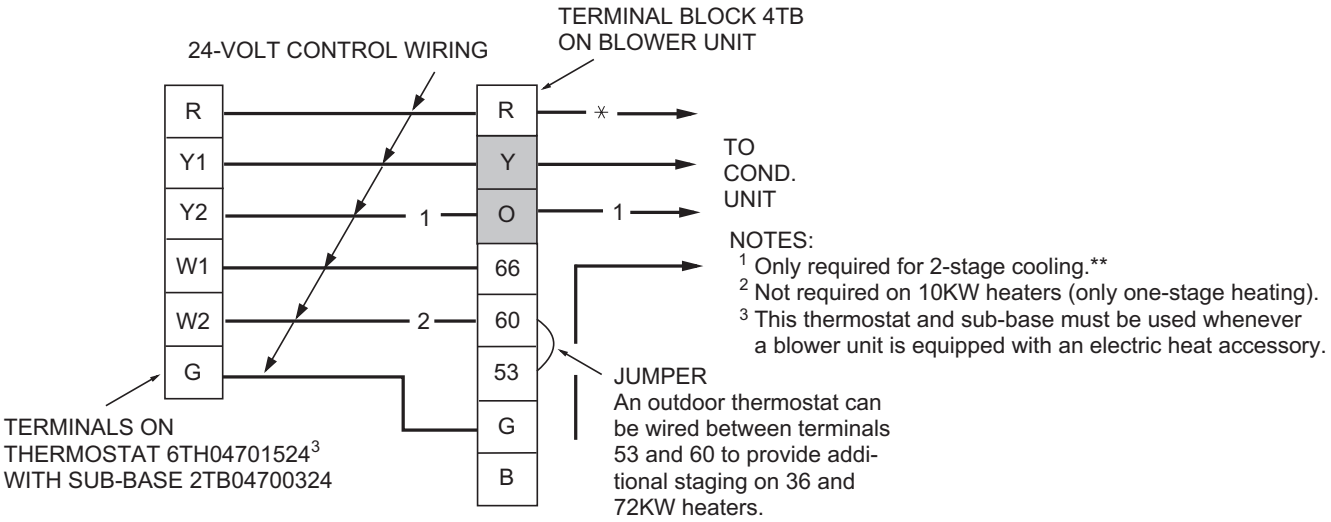


2-STAGE COOLING FOR HCA180/KEU180**



FIELD WIRING (continued)

UNITS WITH ELECTRIC HEAT ACCESSORY



The field wiring connected to these dummy terminals on 4TB can be routed directly from the condensing unit to the termostat if desired.

NOTE: Terminal R on 4TB is not a dummy terminal on KEU060 units because these units include a transformer that powers the control circuit. On larger systems, this transformer is supplied with the condensing unit.

*Wire R on 4TB terminal block is not required on 5 ton unit.

**Only applies to HCA180/KEU180 systems when the HCA180 is equipped with the capacity reduction accessory. Two 115-volt wires will also be required for the liquid line solenoid valve that will be furnished with the capacity reduction accessory. Refer to Form 550.13N1.5 for additional information on this accessory.

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