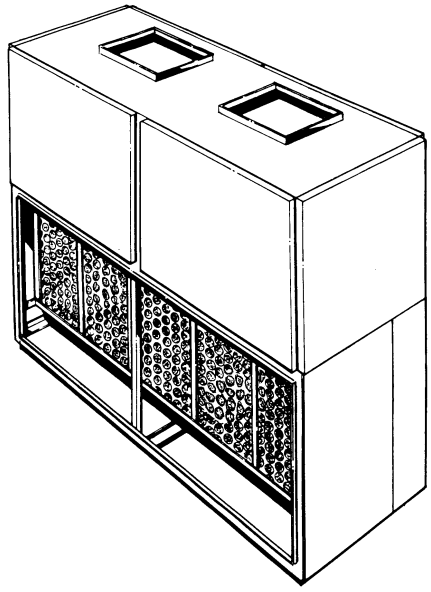


SPLIT-SYSTEM EVAPORATOR BLOWER

L4EU240
20 NOMINAL TONS

DESCRIPTION

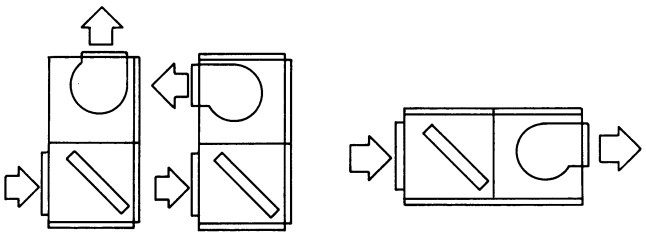
This 20 ton evaporator blower is designed with two distinct modules to provide maximum application flexibility. The units are shipped as single packages with the blower module mounted on top of the coil module, but the blower module can be repositioned in the field to meet almost any installation requirement.

The blower module includes the blower wheels and room for a field-mounted motor and drive. The coil module includes direct expansion coils, one-inch throwaway filters, 1 liquid line solenoid valve for 50% capacity reduction, thermal expansion valves, distributors and a condensate drain pan.

Each evaporator coil is pressurized with air to 325 psig and leak tested under water. After the headers are brazed onto the coil and the coil is installed in the unit, the coil will be pressurized with a combination of refrigerant-22 and nitrogen to 150 psig for pressure testing and additional leak testing. After the coil is evacuated and dehydrated, it will be pressurized with a holding charge of refrigerant-22 for storage and/or shipping.

A supply air plenum, return air grille, steam coil, hot water coil, base section, suspension hardware, blower motors and drive accessories are available for field-installation to provide additional application flexibility.

This evaporator blower, applied with a matching condensing unit, will provide years of quiet, efficient and dependable operation.



FEATURES

APPLICATION FLEXIBILITY - This evaporator blower can be arranged for a variety of air discharge patterns in either the horizontal or the vertical position.

The following illustration shows three of the more common installation arrangements. Refer to the unit installation instruction for other possibilities.

The unit can be bottom-supported or ceiling-suspended and can be arranged to meet almost any space or duct requirements. Each unit is available with a choice of blower motors, drive packages plus other accessories to make them suitable for most applications.

PART LOAD OPERATION - The unit requires no field modifications for part load operation. Capacity reduction not only provides economical operation but also maintains more even temperature and humidity levels in the conditioned space.

ACCESSORIES

RETURN AIR GRILLE - This decorative, expanded metal grille will enhance the appearance of any unit that has no return air ductwork and is especially recommended for units located within the conditioned space.

SUPPLY AIR PLENUM - This decorative, horizontal discharge plenum will enhance the appearance and performance of any unit that does not have supply air ductwork. It has the same durable finish as the evaporator blower, is fully insulated, is shipped ready for mounting on horizontal or vertical units and has grilles which may be adjusted to meet the throw and spread requirements of the conditioned space.

BASE SECTION - The base section can be used to elevate units off the floor. If desired, outdoor air may be introduced thru these sections by cutting an access opening to accommodate the outdoor air duct connection. The base has a durable finish to match the evaporator blower unit. It may have to be insulated for certain applications.

SUSPENSION PACKAGE - This accessory can be used to suspend horizontal units from above without interfering with access to the unit. It can also be used for elevating a floor-mounted unit (either horizontal or vertical) to provide additional height for the installation of a trap at the condensate drain connection. A suspension package can be used with vibration isolators.

HOT WATER COIL - A drainable water coil is available for field installation between the blower and the coil modules of both horizontal and vertical units. Since their casings match the dimensions and the finish of the basic units, they become an integral part of the unit after installation. The coil slides out of its casing for easy installation. The coil has copper tubes that have been mechanically expanded into aluminum fins. Both headers are located on the same end of the coil. Each coil is leak-tested at 325 psig under water and dried before their connections are capped for storage and shipping.

STEAM COIL - A steam coil is available for field installation between the blower and coil modules of both horizontal and vertical units. Since their casings match the dimensions and the finish of the basic units, they become an integral part of the unit after installation. The coil slides out of its casing for easy installation and is pitched in its casing to facilitate condensate drainage. The coil has copper tubes that have been mechanically expanded into aluminum fins. Both headers are located on the same end of the coil. Each coil is leak-tested at 325 psig and dried before their connections are capped for storage and shipping.

BLOWER MOTORS - Different HP motors are available to meet almost any air delivery requirement. All motors are UL approved, have inherent protection, permanently lubricated ball bearings and get field-mounted within the insulated cabinet of the unit to minimize the transmission of sound to the surrounding space.

PHYSICAL DATA - Unit and Accessories

Evaporator Coil	Rows Deep		3
	Rows High		32
	Finned Length (in.)		82.7
	Fins / Inch		13
	Tube OD (in.)		3/8
	Face Area (Sq. Ft.)		18.4
Centrifugal Blowers	Wheel Dia. x Width (in.) (2 Per Unit)		15 x 12
Filters (Throwaway)	Quan. & Size (in.)		(8) 20 x 22 x 1
	Face Area (Sq.Ft.)		24.1
Operating Charge (Refrigerant-22) Lbs.-Oz.			7.4
Drainable, Hot Water Coil Accessory	Rows Deep		2
	Fins / Inch		8
	Tube OD (in.)		1/2
	Face Area (Sq.Ft.)		14.5
	Supply/Return (Copper) OD (in.)		1-3/8
Non-Freeze, Steam Distributing Coil Accessory	Rows Deep		1
	Fins / Inch		8
	Tube OD x ID (in.)		1 x 5/8
	Face Area (Sq.Ft.)		13.5
	Inlet/Outlet (Brass) NPTE (in.)		1-1/2
Weight (Lbs.)	Shipping*		690
	Operating		800
Accessory Operating Weight, (Lbs.)	Motor & Drive	3 HP	90
		5 HP	120
	Supply Air Plenum		150
	Base		120
	Return Air Grille		15
	Steam Coil		150
	Hot Water Coil		150

*Less Motor and Drive.

ELECTRICAL DATA

Motor Rating[1]	Power Supply	Nameplate Amps	Locked Rotor Amps	Min. Wire Size,[2] (AWG)	Max. Wire Length,[3] (Ft.)	Max. Fuse Size,[4] (Amps)
3 HP	208-3-60	10.6	70.4	14	105	20
	230-3-60	9.2	61.2	14	140	15
	460-3-60	4.6	30.6	14	550	8
5 HP	208-3-60	13.6	86.0	12	135	25
	230-3-60	13.4	85.0	12	150	25
	460-3-60	6.7	42.5	14	385	12

[1]For additional motor data, refer to blower motor and drive data table.

[2]Based on three, 60°C insulated copper conductors in steel conduit.

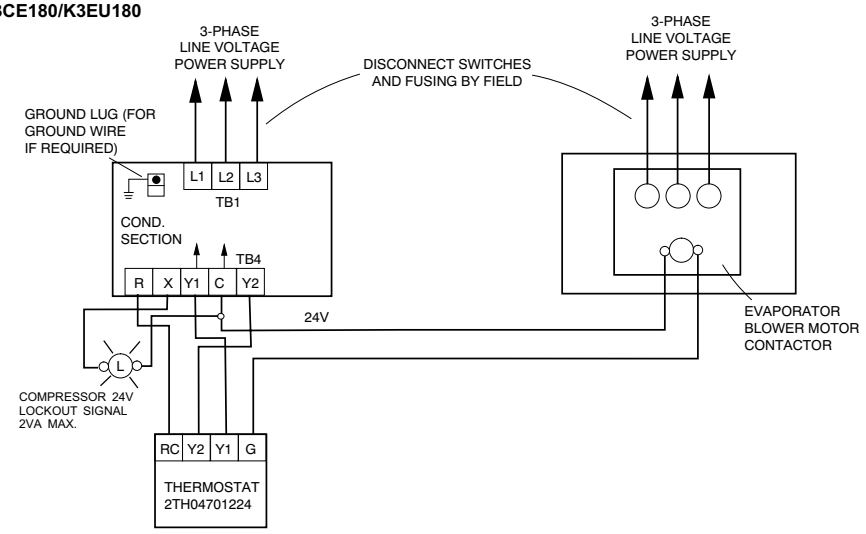
[3]Based on an 80% power factor and a 3% voltage drop.

[4]Dual element, time delay fuses.

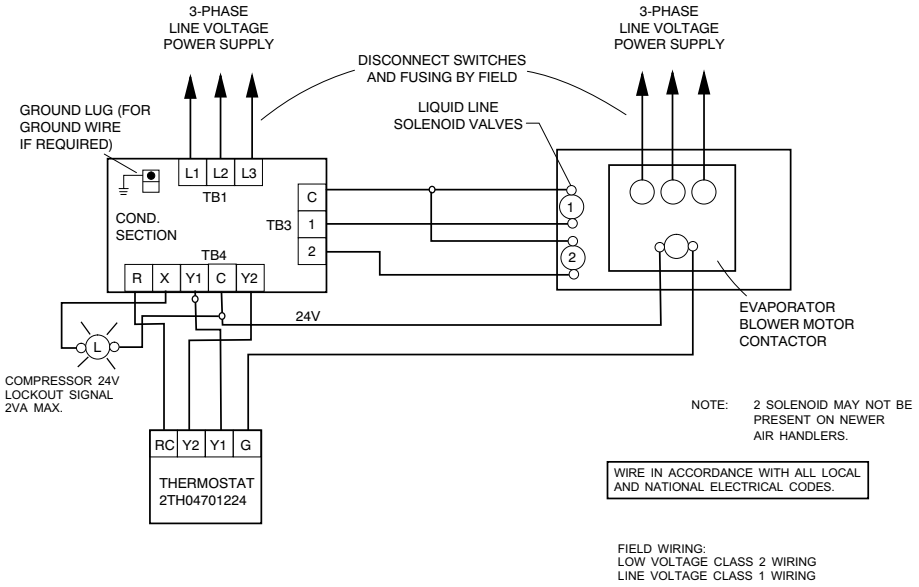
DRIVE PACKAGES - Different size pulleys and belts are available to provide a blower RPM range to meet almost any air delivery requirement. Variable pitch motor pulleys can be adjusted to provide the proper blower RPM. All drive packages are rated at least 25% above the nominal HP rating of the blower motor. Two-groove pulleys and two belts are provided on every drive package rated at 5 HP.

FIELD WIRING

H3CE180/K3EU180



H3CE240/L4EU240



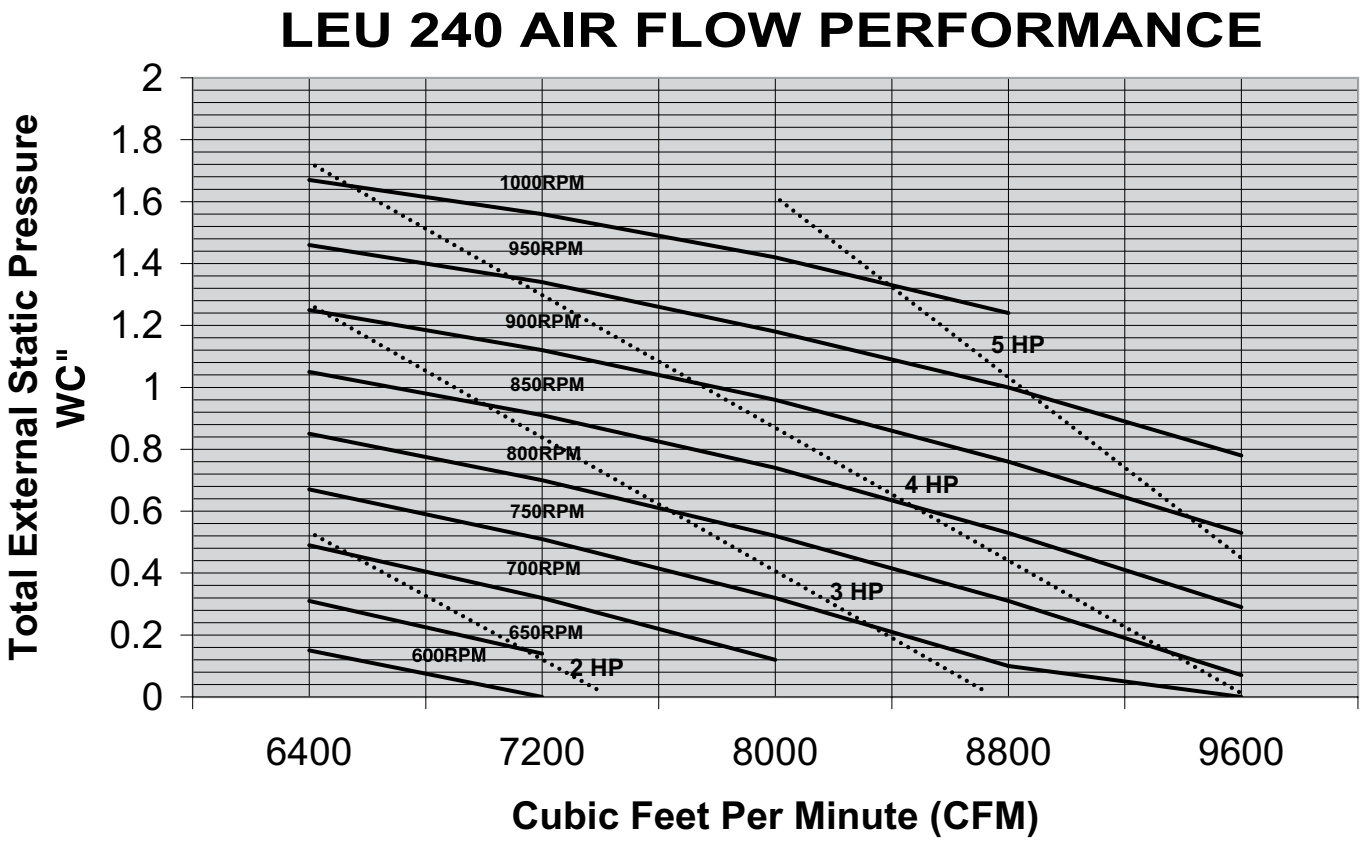
NOTE: 2 SOLENOID MAY NOT BE PRESENT ON NEWER AIR HANDLERS.

WIRE IN ACCORDANCE WITH ALL LOCAL AND NATIONAL ELECTRICAL CODES.

FIELD WIRING:
LOW VOLTAGE CLASS 2 WIRING
LINE VOLTAGE CLASS 1 WIRING

SUPPLY AIR BLOWER PERFORMANCE*

RPM	CFM														
	6400			7200			8000			8800			9600		
	ESP	BHP	KW	ESP	BHP	KW	ESP	BHP	KW	ESP	BHP	KW	ESP	BHP	KW
600	0.15	1.49	1.42	-	-	-	-	-	-	-	-	-	-	-	-
650	0.31	1.71	1.63	0.14	2.00	1.90	-	-	-	-	-	-	-	-	-
700	0.49	1.95	1.86	0.32	2.27	2.16	0.12	2.63	2.50	-	-	-	-	-	-
750	0.67	2.21	2.10	0.51	2.56	2.44	0.32	2.92	2.78	0.10	3.35	3.19	-	-	-
800	0.85	2.50	2.38	0.70	2.85	2.71	0.52	3.25	3.09	0.31	3.70	3.52	0.07	4.20	4.00
850	1.05	2.80	2.66	0.91	3.19	3.04	0.74	3.61	3.44	0.53	4.07	3.87	0.29	4.62	4.40
900	1.25	3.11	2.96	1.12	3.55	3.38	0.96	3.99	3.80	0.76	4.51	4.29	0.53	5.07	4.82
950	1.46	3.46	3.29	1.34	3.92	3.73	1.18	4.43	4.22	1.00	4.97	4.73	0.78	5.53	5.26
1000	1.67	3.82	3.64	1.56	4.33	4.12	1.42	4.88	4.64	1.24	5.44	5.18	-	-	-



*When determining required brake horsepower, select nearest HP to the right of selected CFM.

Horsepower ratings on the Airflow Chart are approximate values. To assure correct BHP, please refer to Supply Air Blower Performance Chart at the top of the page.

BLOWER MOTOR AND DRIVE DATA

Drive Accessory Model No.	Motor				Belt	Blower Pulley		Motor Pulley	
	RPM Range	HP[1]	Frame	Shaft Size		Mfgs. No.	Size	Mfgs. No.	Size
1LD0404	600 - 775	3	56	7/8	A55	AK104	10 X 1-3/16	1VM50	3.4-4.4 x 7/8
1LD0406	775 - 970	5	184	1-1/8	A51[2]	2AK94	9 X 1-3/16	2VP56	4.0-5.0 x 1-1/8

[1]All motors are 1750 RPM and have a 1.15 service factor.

[2]Two matched belts.

HEATING COIL CAPACITIES

HOT WATER COIL CAPACITY*, Mbh

Hot Water Coil Accessory	Unit Model	GPM	CFM	Entering Water Temp. Minus Entering Air Temp., °F				
				70	90	110	130	150
1HW0405	LEU240	35	6,400	179	229	280	331	382
			8,000	199	255	312	369	425
			9,600	220	282	344	407	469

*These capacities do not include any blower motor heat.

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

CAUTION:

Do NOT operate the supply air blower motor above its nominal HP rating when a unit is equipped with a hot water coil accessory.

Do NOT use steam in these hot water coils.

CAPACITY CORRECTION AND PRESSURE DROP VS GPM

Hot Water Coil Accessory	GPM	Pressure Drop+ PSI	Capacity Correction Factor
1HW0405	15	0.2	0.74
	35	0.8	1.00
	55	1.5	1.04
	75	2.5	1.06

+For pressure drop in feet (water), multiply these values by 2.31.

STEAM COIL CAPACITY[1], Mbh @ 2 psig[2]

Steam Coil Accessory	Unit Model	CFM	Dry Bulb Temperature of Air Entering Coil, °Φ			
			10	30	50	70
1NF0453	LEU240	6,400	402	364	325	286
		8,000	464	419	374	330
		9,600	481	435	388	342

[1]These capacities do not 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 (lbs./hr.) = 1.025 x MBH.

CAUTION:

Do NOT operate the supply air blower motor above its nominal HP rating when a unit is equipped with a steam coil accessory.

Although these coils are suitable for much higher pressures, steam above 25 psig will provide too much heat and could damage the blower motor.

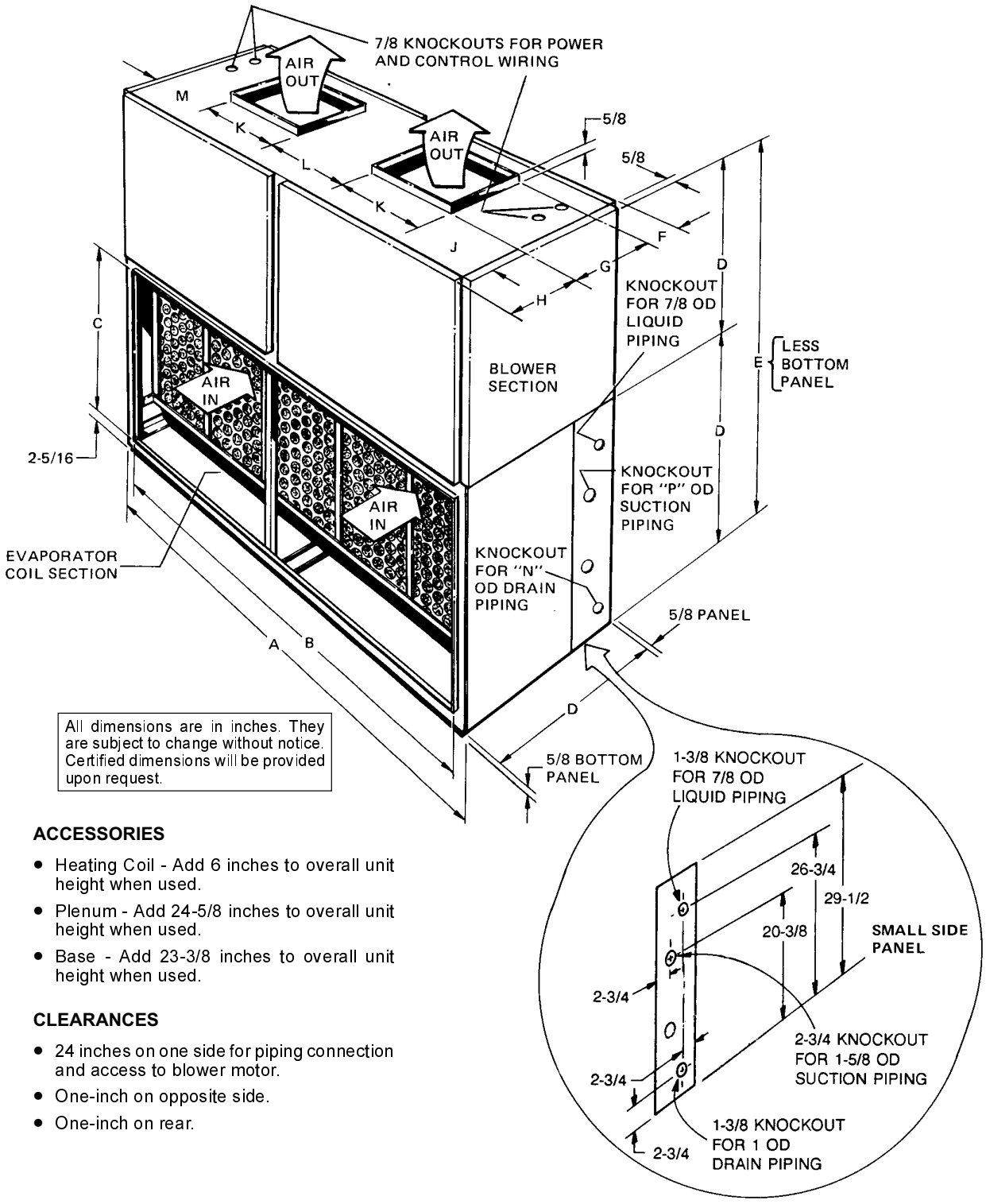
ACCESSORY STATIC RESISTANCES (IWG)

CFM	Supply Air Plenum	Return Air Grille	Non-Freeze Steam Coil	Hot Water Coil
6400	.03	.04	.14	.07
7200	.03	.05	.17	.08
8000	.04	.06	.21	.10
8800	.05	.07	.25	.12
9600	.06	.08	.29	.14

PLENUM PERFORMANCE

CFM	Throw, Feet	
	Minimum	Maximum
6400	80	145
8000	98	165
9600	115	185

UNIT DIMENSIONS



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

ACCESSORIES

- Heating Coil - Add 6 inches to overall unit height when used.
- Plenum - Add 24-5/8 inches to overall unit height when used.
- Base - Add 23-3/8 inches to overall unit height when used.

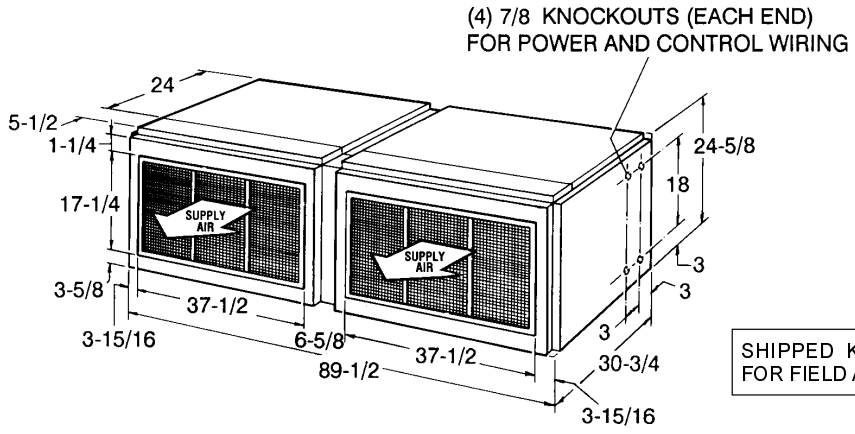
CLEARANCES

- 24 inches on one side for piping connection and access to blower motor.
- One-inch on opposite side.
- One-inch on rear.

A	B	C	D	E	F	G	H	J	K	L	M	N	P
89-1/2	85	26-1/8	29-1/2	59	2-7/16	15-7/8	12-7/16	20-3/4	16	16	20-3/4	1	1-5/8

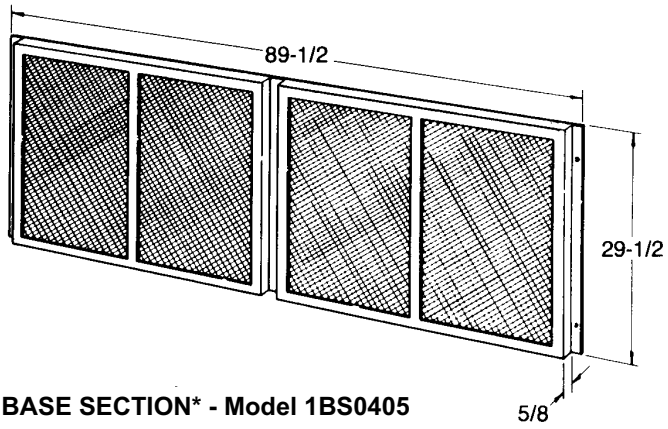
ACCESSORY DIMENSIONS

SUPPLY AIR PLENUM - Model 1SP0405

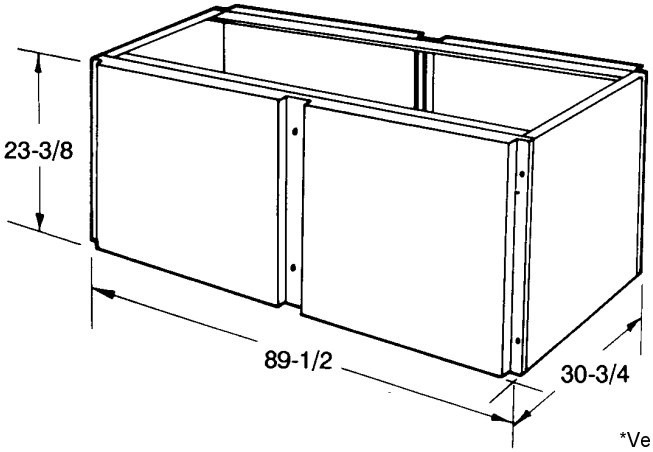


SHIPPED KNOCKED DOWN
FOR FIELD ASSEMBLY

RETURN AIR GRILLE - Model 1RG0405



BASE SECTION* - Model 1BS0405

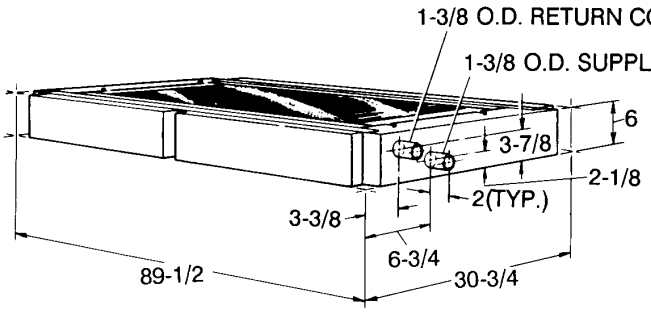


SHIPPED KNOCKED DOWN
FOR FIELD ASSEMBLY

*Ventilation air can be brought into the unit through the base section providing the base section is fully insulated in the field.

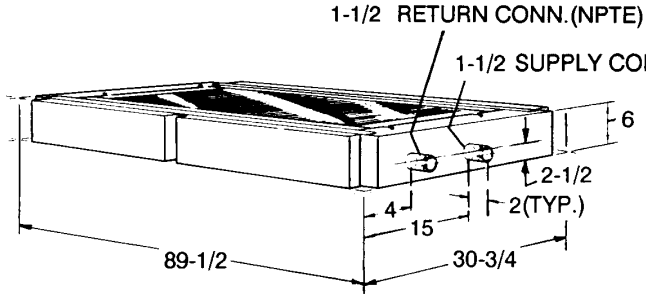
ACCESSORY DIMENSIONS (Cont'd.)

HOT WATER COIL* - Model 1HW0405



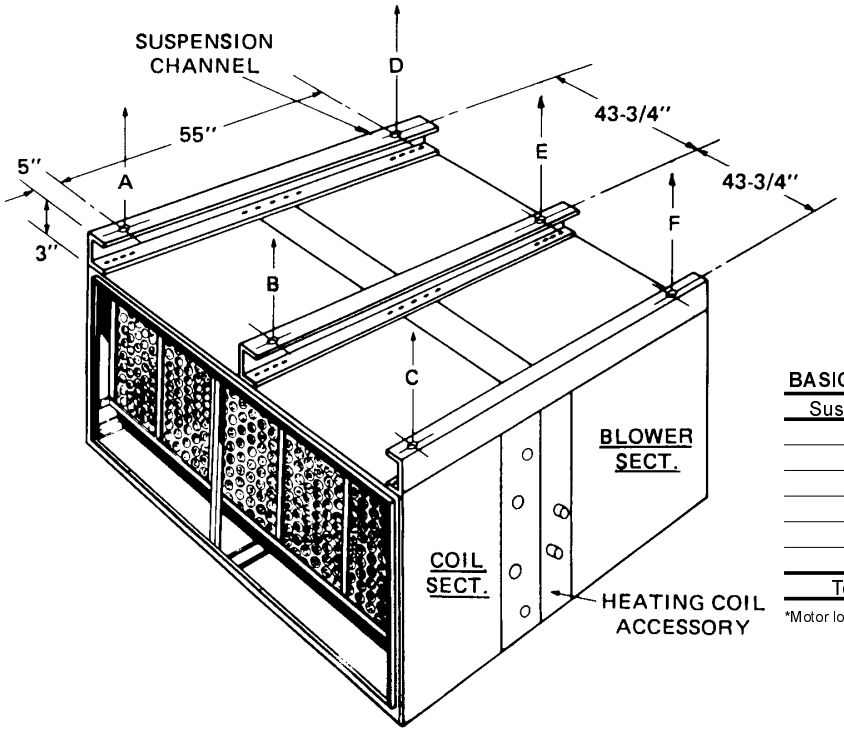
*Coil is field-installed between the evaporator coil and the blower section of the unit.

STEAM COIL* - Model 1NF0453



*Coil is field-installed between the evaporator coil and the blower section of the unit.

SUSPENSION KIT - Model 1HH0451



BASIC UNIT SUSPENSION WEIGHTS (Lbs.)

Suspension Point	w/3 HP Motor*
A	142
B	132
C	152
D	162
E	132
F	127
Total Weight	847

*Motor location at suspension point "F".

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