



COMMERCIAL

PAE

Product Specifications

ASHRAE 90.1 EFFICIENCY PACKAGE AIR CONDITIONER UNIT - 278 MBtuh

REFRIGERATION CIRCUIT

- All models are equipped with high efficiency scroll compressor on each circuit.
- Dual, Electrically and mechanically independent circuits.
- Refrigerant filter drier and evaporator freeze thermostat
- TXV refrigerant metering devices
- High and Low pressure switches for excellent compressor protection.

BUILT TO LAST

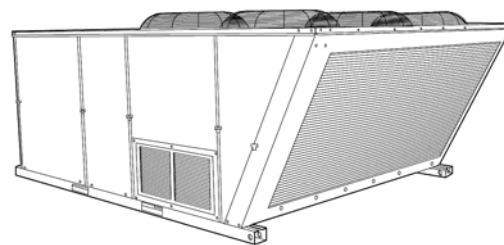
- Pre-painted galvanized steel cabinet for long life and quality appearance.
- Commercial strength base rails with built-in rigging capability.
- Non-corrosive, sloped condensate drain pan, meets ASHRAE 62-89.

EASY TO INSTALL AND SERVICE

- Combination electric cooling and electric heat, self contained for year-round comfort. Unit shipped ready for downflow applications with conversion to horizontal airflow accomplished with accessory horizontal discharge roof curb.
- Thru-the-base utility connections.
- Tool-less removal for filter access with two inch return air filters.

WARRANTY

- 5 year compressor limited warranty
- 1 year parts limited warranty



PAE300



UNIT PERFORMANCE DATA (3 Phase - 60 Hz)

Model Number	COOLING		Voltage/ Phase/Hz	Unit Dimensions H x W x L	Ship Weight
	Nominal Capacity BTUH	E.E.R			
PAE300H000A	278,000	9.8	208/230-3-60	52-1/4 X 86-1/8 X 116-3/8	2400
PAE300L000A	278,000	9.8	460-3-60	52-1/4 X 86-1/8 X 116-3/8	2400
PAE300S000A	278,000	9.8	575-3-60	52-1/4 X 86-1/8 X 116-3/8	2400

RESIDENTIAL AND COMMERCIAL SYSTEMS • SPLIT SYSTEMS • PACKAGED AIR CONDITIONERS • COMBINATION GAS / ELECTRIC UNITS • HEAT PUMPS • AIR HANDLERS • MANUFACTURED HOME AIR CONDITIONERS • GAS, OIL AND ELECTRIC FURNACES

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MODEL NUMBER IDENTIFICATION GUIDE							
MODEL NUMBER	P	A	E	300	H	000	A
PRODUCT FAMILY Package Units							Sales Code
TYPE A = Air Conditioner H = Heat Pump G = Gas/Electric							ACCESSORY) N/A
DESIGN SERIES E = ASHRAE 90.1 compliant S = Standard							Voltage - Phase - Hertz H = 208/230-3-60 L = 460-3-60 S = 575-3-60
							COOLING CAPACITY (NOMINAL BTUH) 300 = 300,000 = 25 Ton

UNIT SPECIFICATIONS - MODELS			
COOLING	PAE300H000A	PAE300L000A	PAE300S000A
ARI Rated Capacity Btuh (Net)	278,000		
Nominal Tons	25		
Nominal CFM	10,000		
EER	9.8		
IPLV	10.4		
Sound Rating (decibels)	94		
Base Unit Operating Weights (lbs)	2120		
ELECTRICAL			
Volts/ 3 Phase/ 60Hertz	208/230	460	575
Voltage Range Min/Max	187 / 253	414 / 508	518 / 622
Power Supply MCA	138 / 138	64	54
Power Supply MOCP*	175 / 175	80	60
COMPRESSOR			
Copeland Scroll			
Circuit #, Model	Circuit #1, ZRU140KC [‡] + Circuit #2, ZR144KC		
No. of Circuits	2		
RLA / LRACircuit #1	20.7 / 156	10 / 75	8.2 / 54
Circuit #2	47.1 / 245	19.6 / 125	15.8 / 100
Oil (Oz.) per circuit	Circuit #1 = 136, Circuit #2 = 106		
REFRIGERANT TYPE			
R-22			
Expansion Device	TXV		
Operating Charge (lb.-oz.) **	Circuit 1 = 26-13 Circuit 2 = 25-10		
CONDENSER FAN			
Nominal CFM (total all motors)	21,000		
Quantity @ Diameter (in.)	6 @ 22"		
Motor Hp - RPM (each motor)	½ – 1050		
Watts Input (Total all motors)	2200	2200	2200
FLA (each motor)	1.7	0.8	0.8
CONDENSER COIL			
Cross Hatched 3/8 in. Copper Tubes, Aluminum Fins			
Rows - Fins Per Inch	3 - 15 (each of 2 coils)		
Total Face Area (Sq. Ft.)	43.4		
EVAPORATOR COIL			
Rows - Fins Per Inch	4 - 15		
Total Face Area (sq. ft.)	17.5		
EVAPORATOR FAN			
Centrifugal Type			
Quantity @ Size (in.)	2 @ 12" x 12"		
Type Drive	Belt		
Nominal CFM	10,000		
Motor Hp, RPM, Maximum Continuous Bhp	10.0, 1740, 10.2	10.0, 1740, 11.8	10.0, 1740, 10.2
FLA (total both motors)	28.0	14.6	13.0
Motor Frame Size	215T		
Fan RPM Range	1066-1283 @ Low/Medium Static, 1332-1550 @ High Static		
Motor Bearing	Ball		
Maximum Allowable RPM	1550		
Motor Pulley Pitch / Diameter Min - Max. (in.)	4.9" - 5.9"		
Motor Shaft Diameter (in.)	1-3/8"		
Fan Pulley Pitch Diam (in)	8.0"		
Belt, Quantity - Type - Length (in.)	2 - BX - 50" @ Low/Medium Static, 2 - BX - 47" @ High Static		
Pulley Center Line Distance Min - Max (in)	14.6" - 15.4"		
Speed Change per Full Turn of Movable Pulley Flange (RPM)	36 @ Low/Medium Static, 45 @ High Static		
Pulley Max. full Turns From Closed Postion	5		
Factory Setting	3.5		
Factory Speed Setting RPM	1182 @ Low/Medium Static, 1470 @ High Static		
Fan Shaft Diameter at Pulley	1-7/16"		
SEE LEGEND AND NOTES ON FOLLOWING PAGES			

UNIT SPECIFICATIONS (CONTINUED)	MODELS
	PAE300(H,L,S)000A
HIGH-PRESSURE SWITCH	
Internal Relief (Differential) Cutout (psig)	426
Reset, Automatic (psig)	320
LOSS-OF-CHARGE SWITCH (LOW-PRESSURE)	
Cutout (psig)	27
Reset, Automatic (psig)	44
FREEZE PROTECTION THERMOSTAT (°F)	
Opens (°F)	30 ± 5
Closes (°F)	45 ± 5
RETURN-AIR FILTERS (DISPOSABLE)	
Quantity @ Size (in.)	4 @ 20x20x2 + 4 @ 16x20x2

LEGEND:

Bhp = Brake Horsepower
 TXV = Thermostatic Expansion Valve
 Decibels = Measure of Sound Level
 EER = Energy Efficiency Ratio
 IPLV = Integrated Part Load Values
 MCA = Minimum Circuit Ampacity
 MOCP = Maximum Over-Current Protection
 FLA = Full Load Amps
 LRA = Locked Rotor Amps
 RLA = Rated Load Amps

NOTES:

* Fuse or HACR circuit breaker

** Circuit 1 uses the lower portion of the condenser coil and lower portion of the evaporator coils; and Circuit 2 uses the upper portion of both coils.

‡ The ZRU140KC compressor is a tandem compressor, consisting of a ZR72KC (25% total capacity) and a ZR68KC (24% total capacity)

- The PAE300 units have a low-pressure switch (standard) located on the suction side.
- Minimum allowable temperature of mixed-air entering the heat exchanger during first-stage heating is 45°F. There is no minimum mixed-air temperature limitation during second-stage heating. For entering-air temperatures below 45°F both stages of heat must be energized together to minimize condensation issues and ensure proper unit operation.
- Ratings are based on:
 Cooling Standard: 80°F db, 67°F wb indoor entering air temperature and 95°F db air entering outdoor unit.
 IPLV Standard: 80°F db, 67°F wb indoor entering air temperature and 80°F db entering air temperature.
- PAE300 is beyond the scope of ARI Certification Program.

LEGEND AND NOTES

ELECTRICAL NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the over-current protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.

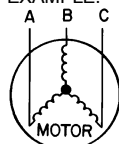
2. Unbalanced 3-Phase Supply Voltage

Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent voltage imbalance.

% Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

EXAMPLE: Supply voltage is 460-3-60.



$$\begin{aligned}
 &AB = 452 \text{ v} \quad \text{Average Voltage} = \frac{452 + 464 + 455}{3} \\
 &BC = 464 \text{ v} \\
 &AC = 455 \text{ v} \\
 &= \frac{1371}{3} \\
 &= 457
 \end{aligned}$$

Determine maximum deviation from average voltage.

$$(AB) 457 - 452 = 5 \text{ V}$$

$$(BC) 464 - 457 = 7 \text{ V}$$

$$(AC) 457 - 455 = 2 \text{ V}$$

Maximum deviation is 7 v.

Determine percent voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457} = 1.53\%$$

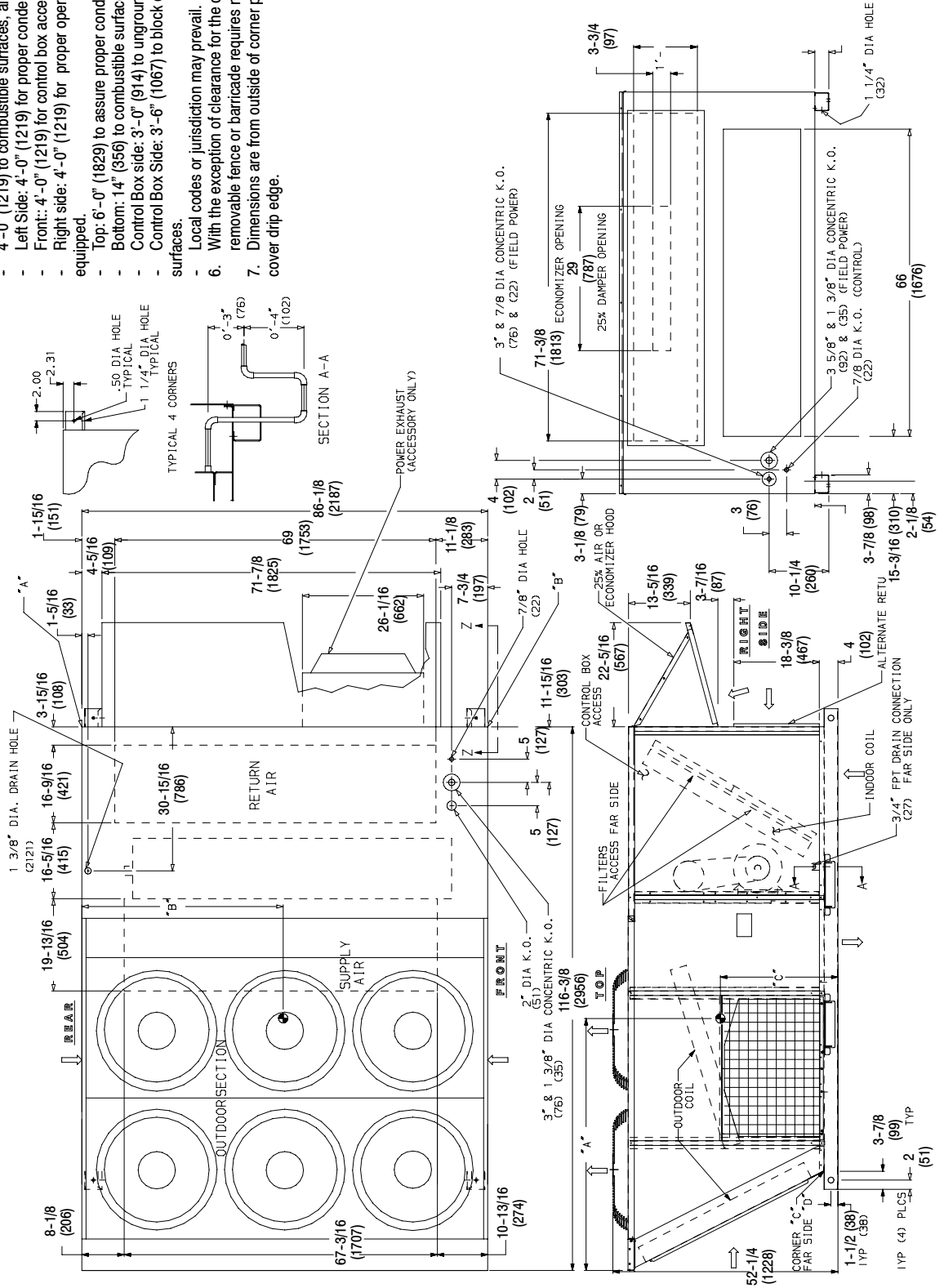
This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

PAE300 BASE UNIT DIMENSIONS

	Unit Weight		Corner A		Corner B		Corner C		Corner D		Dim. A		Dim. B		Dim. C	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	in	mm	in	mm	in	mm
PAE300	2120	964	497	226	490	223	530	241	553	251	54"	1372	43 1/4"	1099	25 1/4"	641

- Dimensions in parenthesis () are millimeters.
- Center of Gravity.
- Direction of Airflow
- Ductwork to be attached to accessory roof curb only.
- Minimum clearance:
 - Rear: 7'-0" (2134) for coil removal. This dimension can be reduced to 4'0" (1219) if conditions permit coil removal from the top.
 - 4'-0" (1219) to combustible surfaces, all four sides (including between units).
 - Left Side: 4'-0" (1219) for proper condenser coil airflow.
 - Front: 4'-0" (1219) for control box access.
 - Right side: 4'-0" (1219) for proper operations of damper and power exhaust if so equipped.
 - Top: 6'-0" (1829) to assure proper condenser fan operation.
 - Bottom: 14" (356) to combustible surfaces (when not using curb).
 - Control Box side: 3'-0" (914) to ungrounded surfaces, non-combustible
 - Control Box Side: 3'-6" (1067) to block or concrete walls, or other grounded surfaces.
- Local codes or jurisdiction may prevail.
- With the exception of clearance for the condenser coil as stated in Note 5, a removable fence or barricade requires no clearance.
- Dimensions are from outside of corner post. Allow 5/16" on each side for top cover drip edge.



PAE300 Expanded Performance Data (Cooling - gross capacity)

Temperature Air Entering Condenser - Edb (°F)		Air Entering Evaporator - Cfm/BF																			
		7,000/0.05				8,000/0.06				9,000/0.07				10,000/0.08				11,250/0.09			
		Temperature Air Entering Evaporator - Ewb (°F)																			
		57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72
75	TC	256	271	299	327	267	278	305	336	276	283	309	341	285	286	313	344	294	294	316	347
	SHC	256	232	196	159	267	249	208	166	276	265	220	173	285	281	232	182	294	294	252	198
	kW	18.0	18.3	18.9	19.6	18.3	18.5	19.1	19.8	18.5	18.7	19.2	19.9	18.7	18.8	19.4	20.1	19.0	19.0	19.5	20.2
85	TC	248	262	288	316	259	267	293	322	267	273	298	328	276	276	302	331	284	285	305	336
	SHC	248	228	192	154	259	244	204	161	267	259	216	169	276	274	228	175	284	284	244	187
	kW	20.0	20.4	20.9	21.5	20.3	20.4	21	21.7	20.6	20.6	21.2	21.9	20.8	20.8	21.3	22	21	21	21.5	22.1
95	TC	241	252	277	303	251	257	281	309	259	262	286	314	266	267	290	317	274	275	293	321
	SHC	241	223	187	149	251	239	198	157	259	254	210	164	266	265	222	171	274	275	238	180
	kW	22.4	22.6	23.1	23.7	22.6	22.7	23.3	23.9	22.8	22.9	23.4	24	23	23	23.5	24.2	23.2	23.2	23.6	24.2
105	TC	233	243	266	289	242	247	270	295	250	252	273	299	256	258	277	303	264	265	280	306
	SHC	233	218	182	145	242	233	194	152	250	248	206	159	256	257	217	166	264	265	232	176
	kW	24.9	25.1	25.6	26.2	25.2	25.3	25.8	26.3	25.4	25.4	25.9	26.5	25.6	25.6	26	26.6	25.8	25.8	26.1	26.7
115	TC	225	232	254	277	234	236	258	281	241	242	261	285	247	247	264	288	254	255	267	291
	SHC	225	214	178	140	234	228	189	148	241	241	201	155	247	247	211	162	253	255	227	171
	kW	27.9	27.9	28.5	29	28	28.1	28.6	29.2	28.2	28.2	28.7	29.2	28.4	28.4	28.8	29.3	28.7	28.7	28.9	29.5
125	TC	216	221	241	263	224	225	245	267	231	231	248	269	237	236	251	273	243	242	253	276
	SHC	216	208	173	136	223	221	184	142	230	231	196	149	236	236	206	157	243	242	221	166
	kW	30.9	31.1	31.6	32	31.2	31.2	31.7	32.2	31.4	31.4	31.7	32.3	31.6	31.6	31.9	32.3	31.7	31.7	31.9	32.5

FORMULAS AND NOTES FOR USING EXPANDED PERFORMANCE DATA

LEGEND

BF - Bypass Factor
 edb - Entering Dry-Bulb
 ewb - Entering Wet-Bulb
 kW - Compressor Motor Power Input
 ldb - Leaving Dry-Bulb
 lwb - Leaving Wet-Bulb
 SHC - Sensible Heat capacity (1000 Btuh) Gross
 TC - Total Capacity (1000 Btuh) Gross

- Direct interpolation is permissible. Do not extrapolate.
- The following formulas may be used:
 - $t_{ldb} = t_{edb} - [\text{sensible capacity (Btuh)} / (1.10 \times \text{cfm})]$
 - t_{lwb} = Wet bulb temp corresponding to enthalpy of air leaving evaporator coil (h_{lwb}).
 - $h_{lwb} = h_{ewb} - [\text{total capacity Btuh} / (4.5 \times \text{cfm})]$
 where h_{ewb} = Enthalpy of air entering evap. coil.

- The SHC is based on 80° F edb temperature of air entering evaporator coil.
 Below 80° F edb, subtract (corr factor x cfm) from SHC.
 Above 80° F edb, add (corr factor x cfm) to SHC.

Bypass Factor (BF)	ENTERING AIR DRY-BULB TEMP (edb) (°F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use Formula Below
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
 Correction factor = $1.10 \times (1 - BF) \times (edb - 80)$.

PAE300(H,L,S) Fan Performance

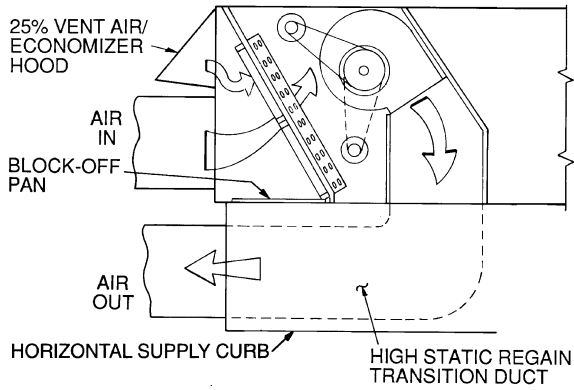
Air-flow (Cfm)		Available External Static Pressure (inches water column)																							
		0.2				0.4				0.6				0.8				1.0				1.2			
		Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7000		845	3.26	2693	909	3.60	2979	969	3.96	3272	1028	4.32	3574	1083	4.70	3883	1137	5.08	4200	1189	5.47	4524	1239	5.87	4854
7,500		896	3.82	3156	956	4.17	3450	1014	4.54	3752	1069	4.91	4060	1123	5.29	4375	1174	5.68	4698	1224	6.08	5026	1272	6.48	5362
8,000		948	4.43	3667	1005	4.80	3969	1060	5.17	4278	1112	5.56	4593	1163	5.94	4915	1213	6.34	5243	1261	6.75	5577	1307	7.16	5917
8,500		1001	5.11	4226	1054	5.49	4537	1106	5.87	4853	1156	6.26	5175	1205	6.66	5504	1253	7.06	5838	1299	7.47	6177	1344	7.89	6523
9,000		1053	5.85	4836	1114	6.23	5155	1154	6.63	5478	1202	7.02	5808	1248	7.43	6142	1294	7.84	6483	1338	8.26	6828	1382	8.68	7179
9,500		1106	6.65	5498	1155	7.04	5824	1202	7.44	6155	1248	7.85	6492	1293	8.26	6833	1336	8.68	7179	1379	9.11	7530	1421	9.54	7887
10,000		1159	7.52	6214	1206	7.92	6547	1251	8.33	6886	1295	8.74	7229	1338	9.16	7577	1380	9.59	7929	1421	10.02	8286	1461	10.46	8648
10,500		1213	8.45	6984	1257	8.86	7325	1300	9.28	7671	1342	9.70	8020	1384	10.13	8375	1424	10.58	8733	1464	11.00	9096	1503	11.45	9464
11,000		1266	9.45	7810	1309	9.87	8159	1350	10.29	8511	1391	10.73	8868	1431	11.16	9229	1470	11.60	9594	1508	12.05	9963	1546	12.50	10,336
11,250		1293	9.97	8245	1334	10.40	8597	1375	10.83	8953	1415	11.26	9313	1454	11.70	9677	1493	12.15	10,145	1530	12.60	10,417	-	-	-

Bhp = Brake Horsepower

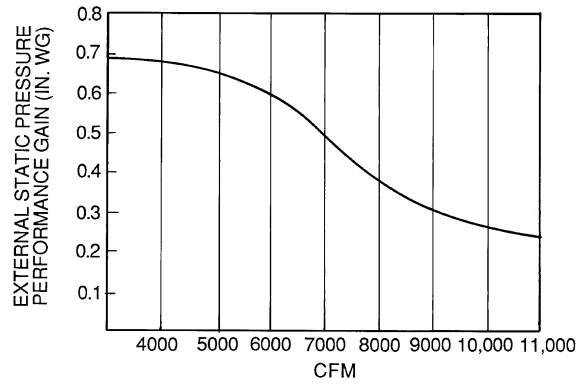
Watts = Input Watts to Motor

NOTE: Maximum continuous Bhp is 10.20 (208/230, 575 V) or 11.80 (460 V) and the maximum continuous watts are 9510 (208/230, 575 V) or 11,000 (460 V). Do not adjust motor rpm such that motor maximum Bhp and/or watts are exceeded at the maximum operating cfm.

HORIZONTAL SUPPLY/RETURN FAN PERFORMANCE WITH HIGH STATIC REGAIN ADAPTER CURB



NOTE: The high static regain adapter accessory may be used to provide horizontal supply/return.



NOTE: The high static supply/return adapter accessory improves fan performance by increasing external static pressure by amount shown above.

Evaporator Fan Motor Efficiency

UNIT	MOTOR EFFICIENCY (%)
PAE300 (10.0 Hp)	89.5

Performance Data

OUTDOOR SOUND POWER										
UNIT	SOUND RATING (60Hz)	A - Weighted (db)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
PAE300	94 decibels	94.1	98.7	92.3	93.8	90.9	89.6	85.9	80.3	74.3

FAN RPM AT MOTOR PULLEY SETTINGS *													
UNIT	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
PAE300	**	**	1283	1269	1247	1225	1203	1182	1160	1138	1116	1095	1066

* Approximate fan rpm shown.

** Due to belt and pulley size, pulley cannot be set to this number of turns open.

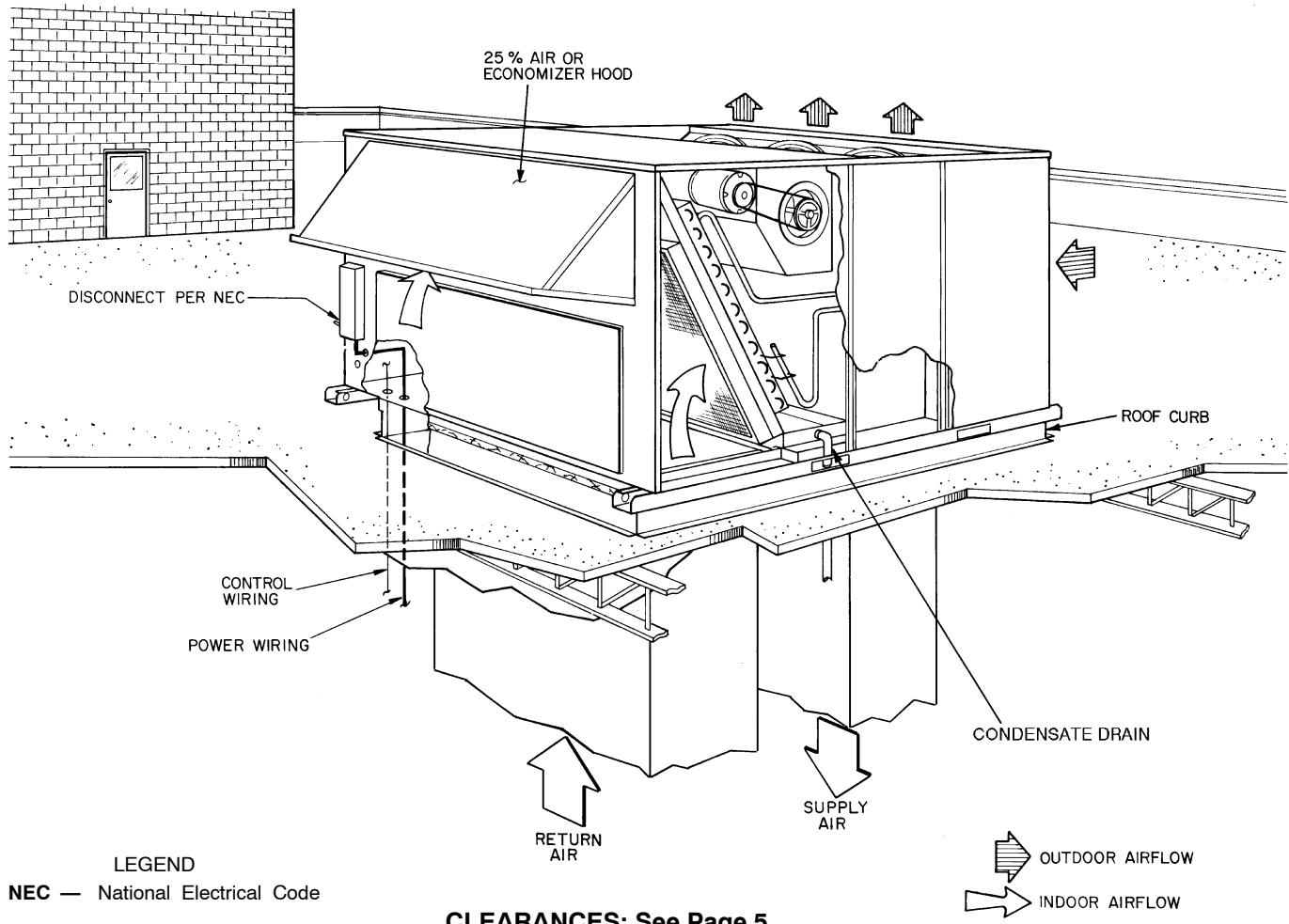
EVAPORATOR FAN MOTOR PERFORMANCE					
UNIT	Unit Voltage	Maximum Acceptable Continuous BHP*	Maximum Acceptable Continuous BkW*	Maximum Acceptable Operating Watts	Maximum Amp Draw
PAE300	208/230	10.20	7.61	9,510	28.0
	460	11.80	8.80	11,000	14.6
	575	10.20	7.61	9,510	13.0

Bhp - Brake Horsepower.

* Extensive motor and electrical testing on these units ensures that the full horsepower range of the motors can be utilized with confidence. Using your fan motors up to the horsepower ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

Note: All indoor fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

TYPICAL INSTALLATION



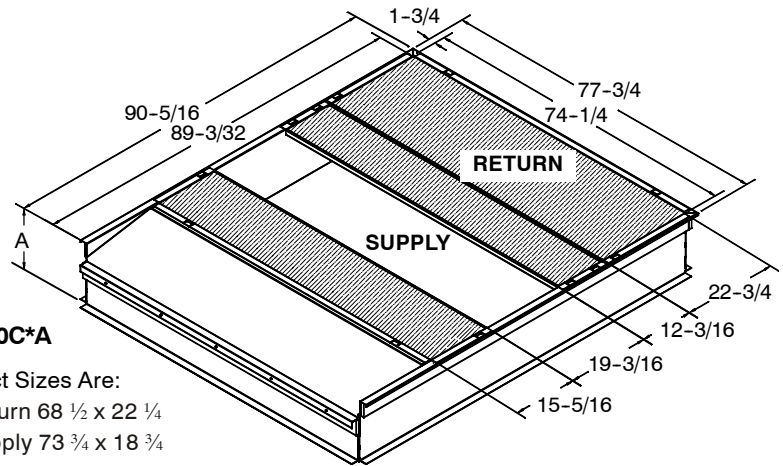
ACCESSORIES

VERTICAL DISCHARGE ROOF CURBS

Description (A dim.)	Model Number	Where Used
14" High	AXB090CMA	25 Ton
24" High	AXB090CHA	25 Ton

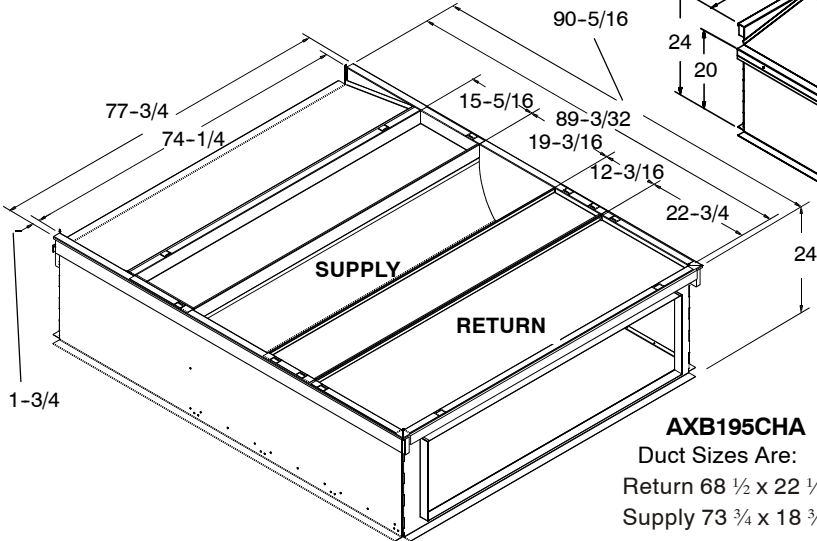
AXB090C*A

Duct Sizes Are:
Return 68 1/2 x 22 1/4
Supply 73 3/4 x 18 3/4



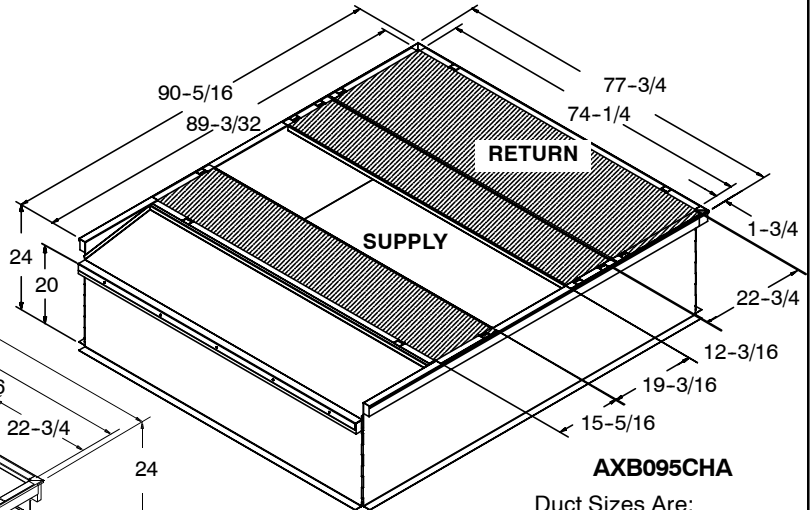
HORIZONTAL DISCHARGE ROOF CURBS

Description	Model Number	Where Used
24" High wo/ Duct	AXB095CHA	25 Ton
24" High w/ Duct	AXB195CHA	25 Ton



AXB195CHA

Duct Sizes Are:
Return 68 1/2 x 22 1/4
Supply 73 3/4 x 18 3/4

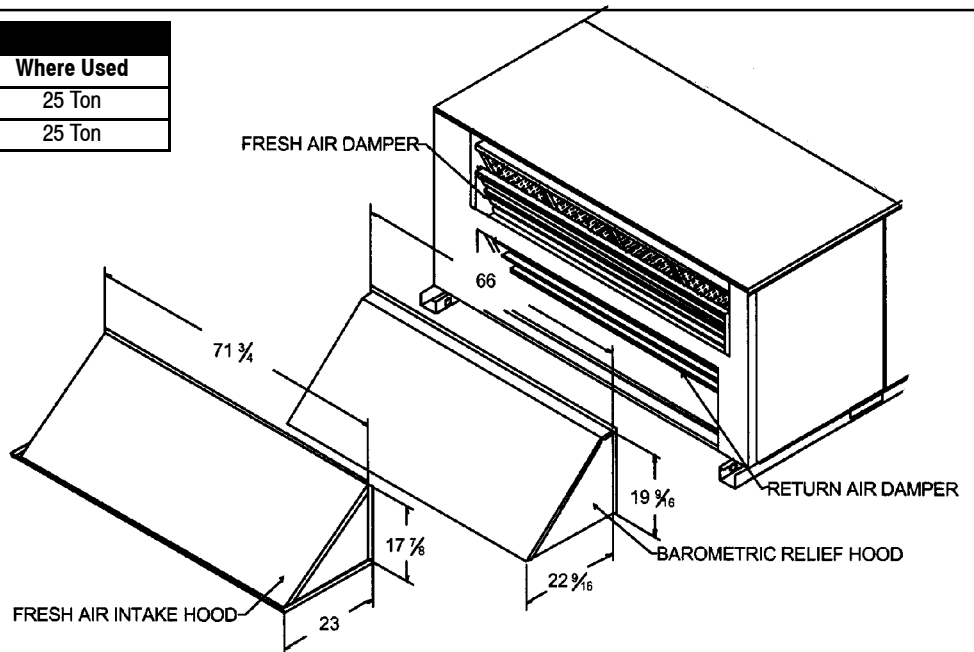


AXB095CHA

Duct Sizes Are:
Return 68 1/2 x 22 1/4
Supply 73 3/4 x 18 3/4

ECONOMIZER - HORIZONTAL / DOWNFLOW

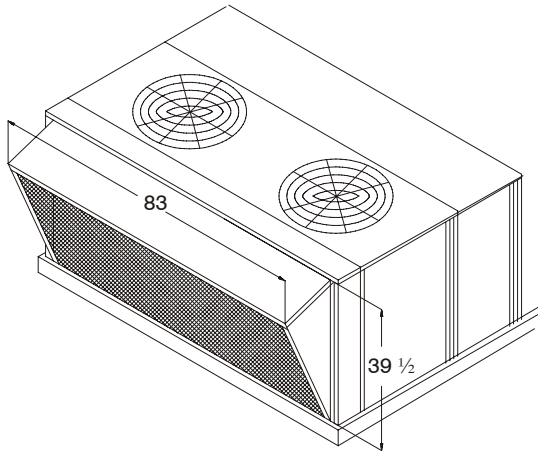
Description	Model Number	Where Used
Fully Modulating	AXB060EMA	25 Ton
Three Position	AXB060EPA	25 Ton



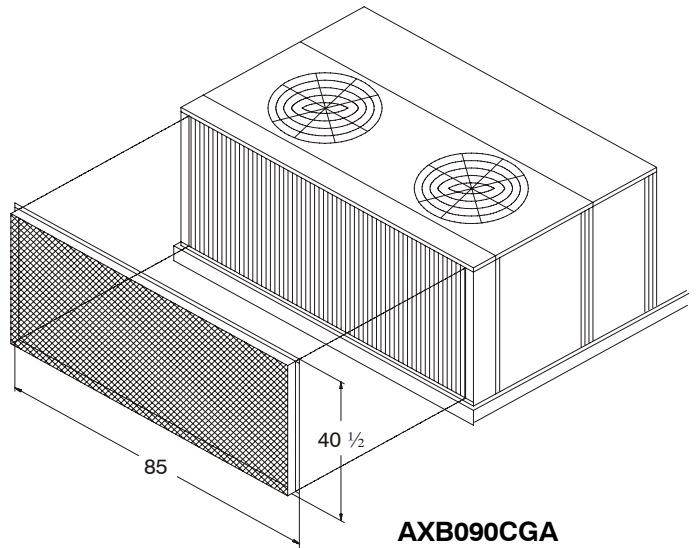
ACCESSORIES (CONT.)

COIL PROTECTION

Description	Model Number	Where Used
Coil Guard	AXB090CGA	25 Ton
Hail Guard	AXB090HGA	25 Ton



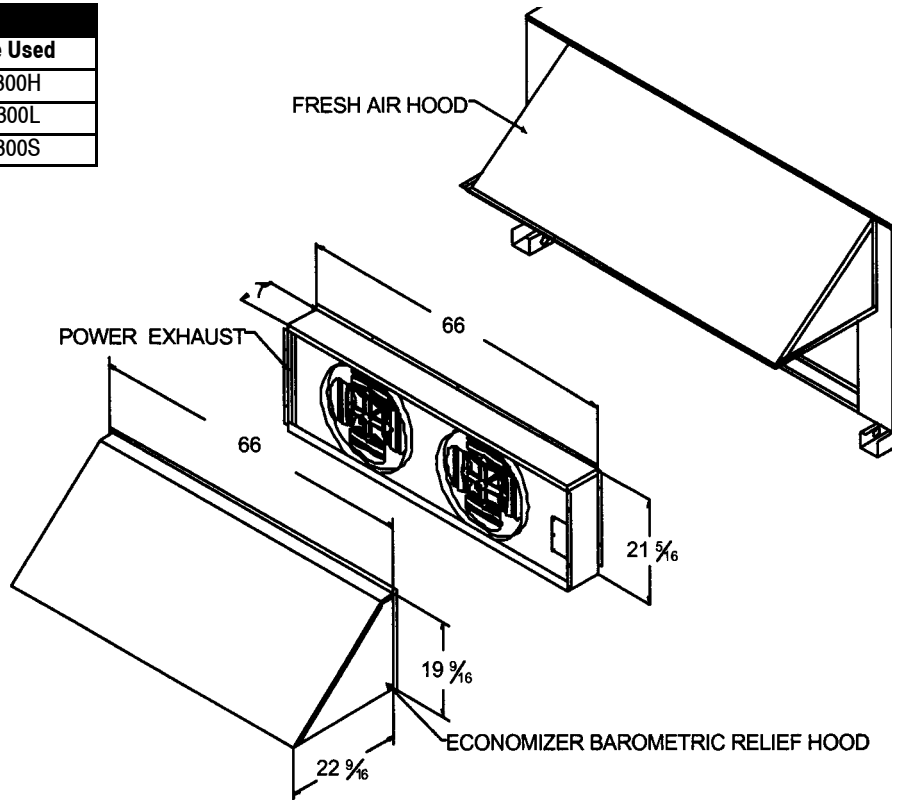
AXB090HGA



AXB090CGA

POWER EXHAUST

Description	Model Number	Where Used
208/230 Volt	AXB060PEH	PAE300H
460 Volt	AXB060PEL	PAE300L
575 Volt	AXB060PES	PAE300S



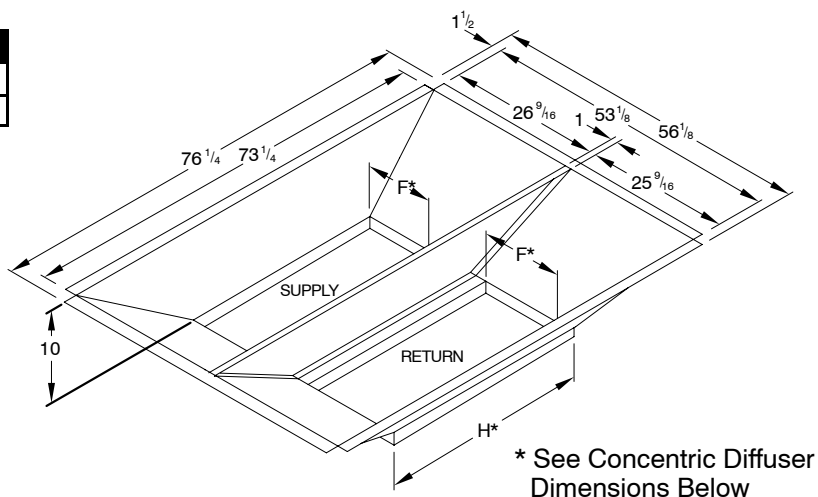
POWER EXHAUST PERFORMANCE DATA

Model	Volt/Phase/ Hertz	Motor			Unit					
		Qty	HP	RPM	Cir. Qty	LRA	FLA	MCA	Fuse Size	@0.1 CFM
AXB060PEH	208-230/3/60	2	3/4	1075	1	24.9	10.0	12.6	15	9,600
AXB060PEL	460/3/60	2	3/4	1075	1	N/A	4.4	5.6	8	9,600
AXB060PES	575/3/60	2	3/4	1055	1	N/A	3.0	3.8	5	9,600

ACCESSORIES (CONT.)

CONCENTRIC DUCT KIT		
Description	Model Number	Where Used
24" x 48"	AXB260CTA	25 Ton

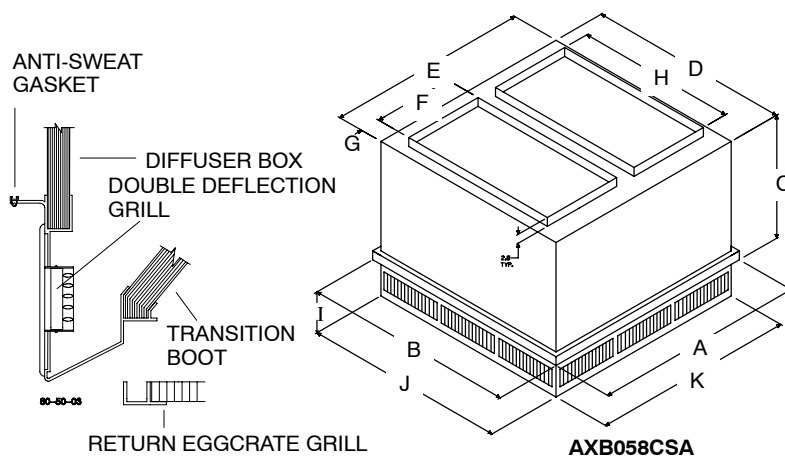
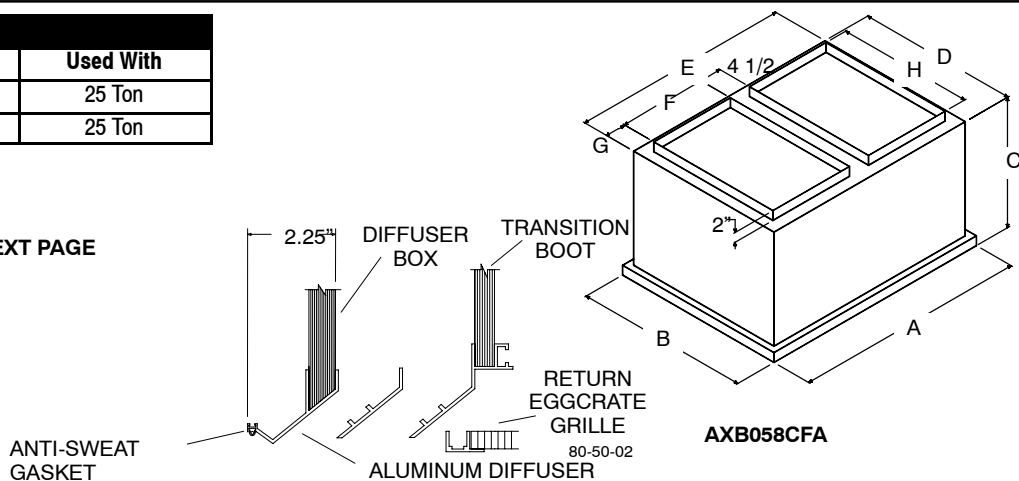
Description	Model Number	Where Used
24" x 48"	AXB260CTA	25 Ton



CONCENTRIC DIFFUSER		
Description	Model Number	Used With
Flush Mount	AXB058CFA	25 Ton
Step Down	AXB058CSA	25 Ton

Description	Model Number	Used With
Flush Mount	AXB058CFA	25 Ton
Step Down	AXB058CSA	25 Ton

SEE PERFORMANCE DATA ON NEXT PAGE



DIMENSIONS												
Model Number	A	B	C	D	E	F	G	H	I	J	K	Duct Size
AXB058CFA	59-5/8	59-5/8	35-1/4	57	57	24	2-1/4	48	N/A	N/A	N/A	24 x 48
AXB058CSA	59-5/8	59-5/8	30-5/8	57-1/2	57-1/2	24	2-1/2	48	11-1/8	57-1/2	57-1/2	24 x 48

Model Number	A	B	C	D	E	F	G	H	I	J	K	Duct Size
AXB058CFA	59-5/8	59-5/8	35-1/4	57	57	24	2-1/4	48	N/A	N/A	N/A	24 x 48
AXB058CSA	59-5/8	59-5/8	30-5/8	57-1/2	57-1/2	24	2-1/2	48	11-1/8	57-1/2	57-1/2	24 x 48

ACCESSORIES (CONT.)

CFA SERIES PERFORMANCE DATA

Part No. AXB	CFM	Static Pressure In WC	Throw Feet	Neck Velocity FPM	Jet Velocity FPM	db Sound Level
058CFA	7200	0.39	26-35	996	2093	45
	8000	0.50	42-51	1107	2326	50
	8400	0.56	44-54	1162	2442	50
	8800	0.63	48-59	1217	2558	50
	9600	0.75	53-64	1328	2791	55
	10000	0.81	57-67	1383	2907	60

CSA SERIES PERFORMANCE DATA

Part No. AXB	CFM	Static Pressure In. WC	Throw Feet	Neck / Jet Velocity FPM	db Sound Levels
058CSA	7200	0.39	33-38	827	25
	8000	0.50	39-44	918	30
	8400	0.56	43-49	964	30
	8800	0.63	47-55	1010	30
	9600	0.70	48-57	1154	30
	10000	0.73	49-58	1202	35

CSA/CFA NOTES:

1. All data is based on the Air Diffusion Council guidelines.
2. Throw data is based on Terminal Velocities of 75 FPM using isothermal air.
3. Throw is based on diffuser blades being directed in a straight pattern.
4. Actual sound levels are less than those shown.
5. Minimum height 9' above floor.

FRESH AIR DAMPERS

Description	Model Number	Used With
35% Motorized	AXB060FMA	25 Ton

LOW AMBIENT KIT

Model Number	Used With
AXB260LAA (25°)	25 Ton

NATURAL TO LP CONVERSION KIT

Model Number	Used With
AXB265LPA	25 Ton

PART NUMBERS FOR APPROVED HIGH STATIC CONVERSIONS*

Unit Size (Tons)	Voltage	Motor	Motor Pulley	Blower Pulley	Belt
25	All Voltages	No Change	1173193	1173625	BLTB47

* Available thru service parts only.

ELECTRICAL DATA - ELECTRIC HEAT ACCESSORY

Unit Size	Voltage (3 Ph - 60 Hz.)	kW	Accessory Heater
25 Ton	208/240	26 / 34	AES034EHA
		42 / 56	AES056EHA
		56 / 75	AES075EHA
	460/480	32	AES132ELA
		55	AES055ELA
		80	AES080ELA

OPERATING SEQUENCE

Cooling, Units Without Economizer - When thermostat calls for cooling, terminals G and Y1 are energized. The indoor (evaporator) fan contactor (IFC) and compressor contactor no. 1 (C1) are energized, and evaporator-fan motor (IFM), compressor no. 1, and condenser fan(s) start. The condenser-fan motor(s) runs continuously while unit is cooling. When the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) is energized and compressor no. 2 starts.

APPLICATION DATA

1. **DUCTWORK** - Ductwork should be attached to the curb on all units. Interior installation may proceed before unit is set in place on roof. If ductwork will be attached to the unit, do not drill in condensate drain pan area - leaks may result.
2. **THRU-THE-CURB SERVICE CONNECTIONS** - Roof curb connections allow field power wires, and control wires to enter through the roof curb opening.
3. **THERMOSTAT** - Use of 2-stage cooling thermostat is recommended for all units. A 2-stage cooling thermostat is required on units with accessory economizer to provide integrated cooling.
4. **AIRFLOW** - Units are draw-thru on cooling and blow-thru on heating.
5. **MAXIMUM AIRFLOW** - To minimize the possibility of condensate blow-off from evaporator, airflow through units should not exceed 500 cfm/nominal ton.
6. **MINIMUM AIRFLOW** - The minimum airflow for cooling is 300 cfm/nominal ton.
7. **MINIMUM AMBIENT COOLING OPERATION TEMPERATURE**
Units are designed to operate at outdoor temperatures down to 40 F.
8. **MAXIMUM OPERATING OUTDOOR-AIR TEMPERATURE** -
For cooling, this temperature is 125 F. Refer to Cooling Capacities tables.
9. **INTERNAL UNIT DESIGN** - Due to the internal unit design (draw-thru over the motor), air path, and specially designed motors, the full horsepower (maximum continuous bhp) listed in the Physical Data table and the notes following each Fan Performance table can be utilized with extreme confidence. Using motors with the values listed in the Physical and Fan Performance Data tables will not result in nuisance tripping or premature motor failure. The unit warranty will not be affected.

CONDENSER FAN:

The unit shall have a single direct drive propeller fan/motor assembly mounted directly to a vertical-discharge grille panel that is easily removable. Motors shall have permanently lubricated sleeve bearings and inherent overload protection.

EVAPORATOR BLOWER:

The units shall have a single belt driven evaporator blower. The motor shall have permanently lubricated ball bearings and internal overload protection. An adjustable motor drive sheave for matching air flow requirements shall be standard. Additionally high static accessory kits shall be available for air flows above the standard requirement.

COILS:

The evaporator and condenser coils shall be fabricated with aluminum fins mechanically bonded to copper tubing. Both coils shall be pressure tested prior to assembly into the unit and electronically leak tested after assembly onto the unit. The evaporator coil shall be protected from dust and debris on the return air side by factory installed 2" air filters.