COMMERCIAL

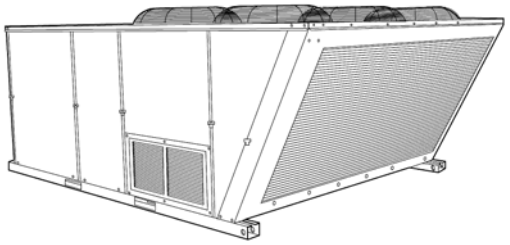
PGE

Product Specification

ASHRAE 90.1 EFFICIENCY PACKAGE GAS / ELECTRIC 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.



PGE300

HEATING

- Two Stage Heating.
- Single point gas connection.
- Induced draft combustion system uses manual reset roll-out switch and induced draft fan-proving switch.
- Heating controls include a cycling ignition system with flame rectification sensor and redundant gas valve.
- Aluminized tubular heat exchangers.

BUILT TO LAST

- Tubular, dimpled heat exchanger.
- 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 gas heating and electric cooling, 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.
- 25% Manual Outside Air Damper.
- Direct-spark ignition systems.
- Two inch return air filters.

WARRANTY

- 10 Year Limited heat exchanger warranty
- 5 year compressor limited warranty
- 1 year parts limited warranty

UNIT PERFORMANCE DATA (3 Phase - 60 Hz)

Model Number	COOLING		HEATING		Voltage/ Phase/Hz	Unit Dimensions H x W x L	Ship Weight
	Net Capacity BTUH	E.E.R	Heating Input Stage 2 / Stage 1	Efficiency (AFUE%)			
PGE300H275A	278,000	9.7	275,000 / 206,000	81	208/230-3-60	52-1/4 X 86-1/8 X 116-3/8	2270
PGE300L275A	278,000	9.7	275,000 / 206,000	81	460-3-60	52-1/4 X 86-1/8 X 116-3/8	2270
PGE300H360A	278,000	9.5	360,000 / 270,000	81	208/230-3-60	52-1/4 X 86-1/8 X 116-3/8	2270
PGE300L360A	278,000	9.5	360,000 / 270,000	81	460-3-60	52-1/4 X 86-1/8 X 116-3/8	2270
PGE300S360A	278,000	9.5	360,000 / 270,000	81	575-3-60	52-1/4 X 86-1/8 X 116-3/8	2270

* Unit voltage: H = 208/230v, L = 460v, S = 575v

International Comfort Products, LLC
650 Heil-Quaker Avenue, Lewisburg, TN 37091

509 71 2701 01

1/08/07

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MODEL NUMBER IDENTIFICATION GUIDE

MODEL NUMBER	P	G	E	300	H	360	A
PRODUCT FAMILY Package Units							**Sales Code**
TYPE A = Air Conditioner H= Heat Pump G = Gas/Electric						**GAS HEATING (INPUT BTUH)** 360 = 360,000 275 = 275,000	
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	**PGE300H275A**	**PGE300L275A**	**PGE300H360A**	**PGE300L360A**	**PGE300S360A**
ARI Rated Capacity Btuh (Net)	278,000		277,000		
Nominal Tons	25		25		
Nominal CFM	10,000		10,000		
EER	9.7		9.5		
IPLV	10.4		10.0		
Sound Rating (decibels)	94		94		
Base Unit Operating Weights (lbs)	2270		2270		
ELECTRICAL					
Volts/ 3 Phase/ 60Hertz	208/230	460	208/230	460	575
Voltage Range Min/Max	187 / 253	414 / 506	187 / 253	414 / 506	518 / 632
Power Supply MCA	138 / 138	64	138 / 138	64	54
Power Supply MOCP*	175 / 175	80	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	20.7 / 156	10 / 75	8.2 / 54
Circuit #2	47.1 / 245	19.6 / 125	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	Propeller Type				
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	2200	2200
FLA (each motor)	1.7	0.8	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	Cross Hatch 3/8 in. Copper Tubes, Aluminum Lanced, Face Split Fins				
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	10.0, 1740, 11.8	10.0, 1740, 10.2
FLA (total both motors)	28.0	14.6	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	
FURNACE SECTION	**PGE300(H,L)275**	**PGE300(H,L,S)360**
Rollout Switch Cutout Temp (˚F) <Manual Reset>	190	190
Burner Orifice Diameter, inches (drill size) – Natural Gas	0.1285" (30 drill)	0.136" (29 drill)
Thermostat Heat Anticipator Setting (amps)		
208/230 & 575 V Stage 1	0.98	0.98
208/230 & 575 V Stage 2	0.44	0.44
460 V Stage 1	0.80	0.80
460 V Stage 2	0.44	0.44
Gas Input (Btuh) Stage 1 / Stage 2	206,000 / 275,000	270,000 / 360,000
Output Capacity (Btuh) Stage 1 / Stage 2	167,000 / 223,000	219,000 / 292,000
Efficiency (Steady State) (%) AFUE	81	81
Temperature Rise Range (˚F)	15 – 45	20 – 50
Manifold Pressure (inches water column) Natural Gas	3.3	3.3
Gas Valve Quantity	1	1
Gas Valve Pressure Range Psig	0.235 – 0.487	0.235 – 0.487
inches water column	5.5 – 13.5	5.5 – 13.5
Field Gas Connection Size (in.)	3/4	3/4
HIGH-PRESSURE SWITCH		
Internal Relief (Differential) Cutout (psig)	426	426
Reset, Automatic (psig)	320	320
LOSS-OF-CHARGE SWITCH (LOW-PRESSURE)		
Cutout (psig)	27	27
Reset, Automatic (psig)	44	44
FREEZE PROTECTION THERMOSTAT (˚F)		
Opens (˚F)	30 ± 5	30± 5
Closes (˚F)	45 ± 5	45 ± 5
RETURN-AIR FILTERS (DISPOSABLE)		
Quantity @ Size (in.)	4 @ 20x20x2 + 4 @ 16x20x2	4 @ 20x20x2 + 4 @ 16x20x2

LEGEND AND NOTES

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)

1. The PGE300 units have a low-pressure switch (standard) located on the suction side.

2. 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 muxt be energized together to minimize condensation issues and ensure proper unit operation.

3. Ratings are based on:
Cooling Standard: 80˚F db, 67˚F wb indoor entering air temperture and 95˚F db air entering outdoor unit.
IPLV Standard: 80˚F db, 67˚F wb indoor entering air temperture and 80˚F db entering air temperature.

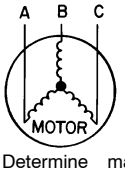
4. PAE300 is beyond the scope of ARI Certification Program.

ELECTRICAL NOTES:

1. 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.

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

EXAMPLE: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3} = \frac{1371}{3} = 457$$

Determine maximum deviation from average voltage.
(AB) 457 - 452 = 5 V
(BC) 464 - 457 = 7 V
(AC) 457 - 455 = 2 V
Maximum deviation is 7 v.
Determine percent voltage imbalance.

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

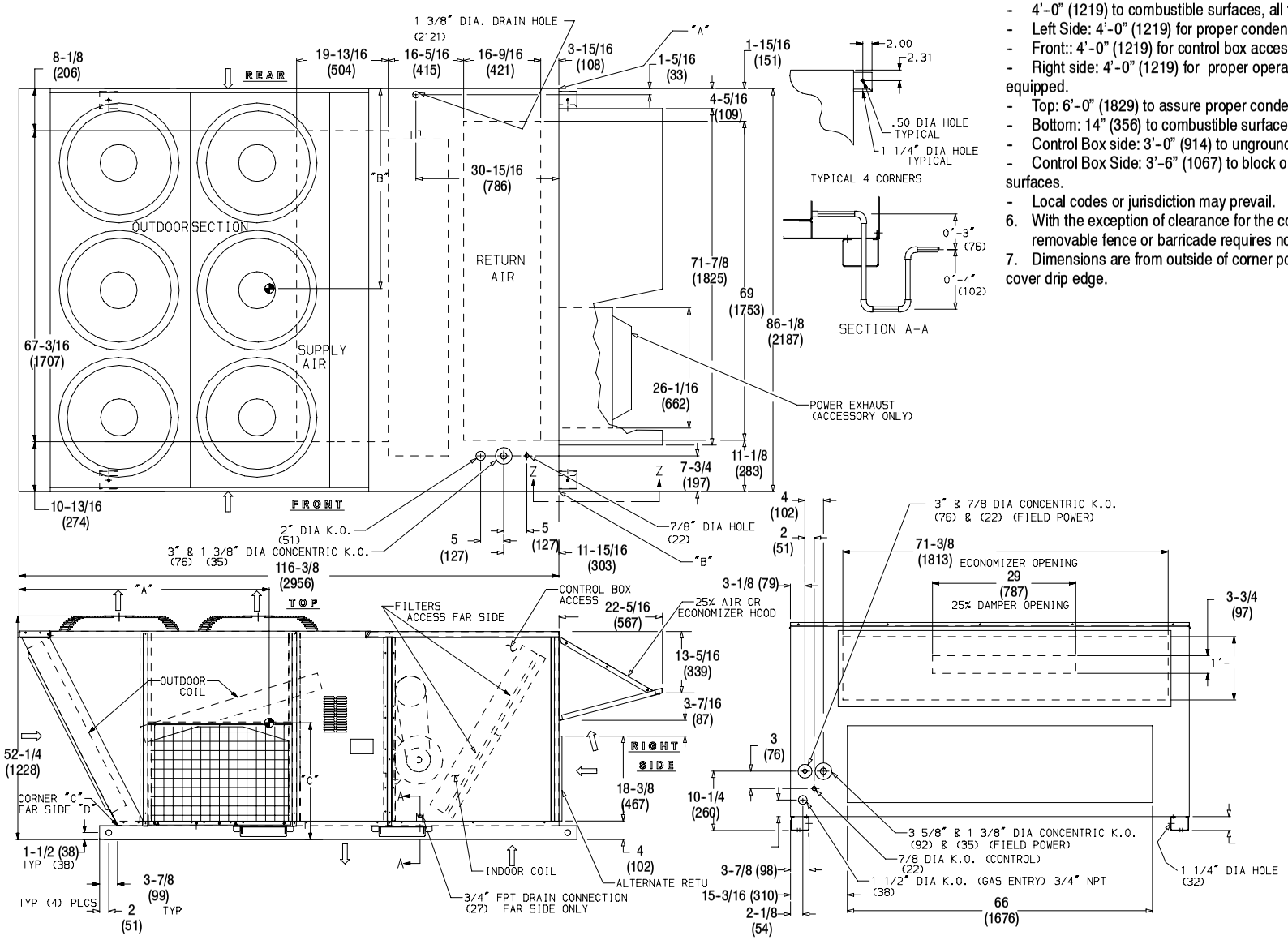
This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

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

PGE300 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
PGE300	2270	1030	532	242	526	239	569	259	593	270	54"	1372	43¼"	1099	25¼"	641

1. Dimensions in parenthesis ( ) are millimeters.
2. Center of Gravity.
3. Direction of Airflow
4. Ductwork to be attached to accessory roof curb only.
5. 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.
6. With the exception of clearance for the condenser coil as stated in Note 5, a removable fence or barricade requires no clearance.
7. Dimensions are from outside of corner post. Allow 5/16" on each side for top cover drip edge.



PGE300 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

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

t ldb = t edb – [sensible capacity (Btuh) / (1.10 x cfm)]

t lwb = Wet bulb temp corresponding to enthalpy of air leaving evaporator coil (h lwb).

h lwb = h ewb – [total capacity Btuh / (4.5 x cfm)]
where h ewb = Enthalpy of air entering evap. coil.

3. 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 permissable.
Correction factor = 1.10 x (1 – BF) x (edb – 80).

PGE300*275 Fan Performance (Low Heat Units)

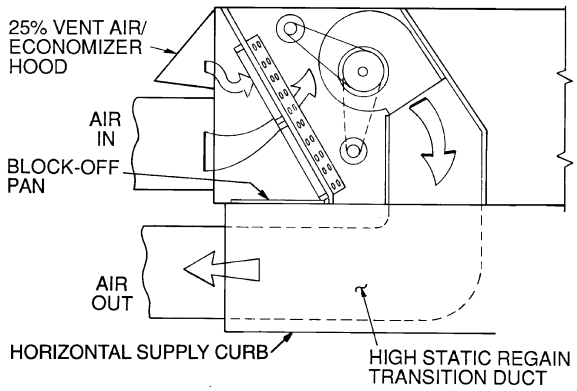
Air-flow (Cfm)	Available External Static Pressure (inches water column)																										
	0.2			0.4			0.6			0.8			1.0			1.2			1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7000	941	3.35	2,769	1002	3.80	3,140	1061	4.27	3528	1117	4.76	3,934	1171	5.27	4,356	1224	5.80	4,794	1274	6.35	5248	1323	6.92	5,718	1371	5.54	6204
7,500	999	4.05	3,348	1057	4.53	3,742	1112	5.02	4152	1166	5.54	4,579	1218	6.07	5,020	1268	6.63	5,478	1316	7.20	6960	1364	7.79	6,437	1410	6.41	6939
8,000	1058	4.85	4,007	1113	5.35	4,424	1165	5.87	4856	1216	6.41	5,304	1266	6.97	5,766	1314	7.55	6,243	1360	8.14	6734	1406	8.76	7,239	1450	7.40	7759
8,500	1117	5.74	4,750	1169	6.28	5,190	1219	6.83	5645	1268	7.40	6,114	1315	7.98	6,597	1361	8.58	7,094	1406	9.20	7605	1449	9.83	8,129	1492	8.48	8666
9,000	1177	6.75	5,583	1226	7.31	6,047	1274	7.89	6524	1320	8.48	7,015	1365	9.09	7,520	1410	9.72	8,037	1453	10.36	8568	1495	11.02	9,111	1536	9.69	9667
9,500	1237	7.98	6,511	1284	8.46	6,999	1329	9.07	7499	1374	9.69	8,012	1417	10.33	8,538	1459	10.98	9,076	1501	11.64	9627	1541	12.32	10,190	-	-	-
10,000	1297	9.12	7,450	1342	9.74	8,051	1385	10.37	8574	1428	11.02	9,110	1469	11.68	9,657	1510	12.36	10,217	-	-	-	-	-	-	-	-	-
10,500	1358	10.49	8,674	1400	11.14	9,209	1442	11.80	9755	1483	12.47	10,314	1523	13.16	10,883	-	-	-	-	-	-	-	-	-	-	-	-
11,000	1418	12.00	9,919	1459	12.67	10,478	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11,250	1449	12.80	10,585	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

PGE300*360 Fan Performance (High Heat Units)

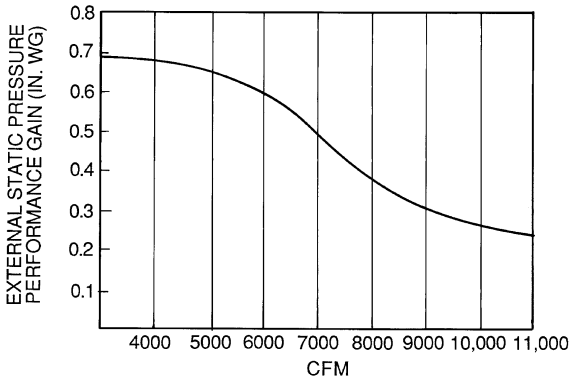
Air-flow (Cfm)	Available External Static Pressure (inches water column)																										
	0.2			0.4			0.6			0.8			1.0			1.2			1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
7000	992	4.05	3,348	1051	4.44	3,668	1106	4.83	3995	1160	5.24	4331	1212	5.65	4675	1262	6.08	5026	1311	6.51	5385	1359	6.96	5751	1405	6.00	6124
7,500	1055	4.77	3,947	1110	5.17	4,277	1162	5.58	4615	1214	6.00	4960	1263	6.43	5312	1311	6.86	5672	1358	7.30	6039	1403	7.76	6412	1448	6.84	6792
8,000	1118	5.58	4,610	1170	5.99	4,950	1220	6.41	5298	1268	6.84	5653	1315	7.27	6014	1361	7.72	6382	1406	8.17	6767	1560	8.63	7137	1492	7.75	7524
8,500	1182	6.46	5,339	1231	6.88	5,690	1278	7.31	6047	1324	7.75	6411	1369	8.20	6782	1413	8.66	7158	1456	9.12	7541	1498	9.59	7929	1539	8.75	8323
9,000	1246	7.42	6,136	1292	7.86	6,498	1337	8.30	6865	1381	8.75	7239	1424	9.21	7618	1466	9.68	8003	1507	10.15	8393	1548	10.63	8790	-	-	-
9,500	1310	8.47	7,005	1354	8.92	7,377	1397	9.38	7754	1439	9.84	8137	1480	10.31	8525	1520	10.79	8918	-	-	-	-	-	-	-	-	-
10,000	1374	9.61	7,947	1416	10.07	8,329	1457	10.54	8715	1497	11.02	9107	1537	11.50	9504	-	-	-	-	-	-	-	-	-	-	-	-
10,500	1439	10.84	8,964	1479	11.32	9,356	1518	11.79	9752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11,000	1503	12.17	10,059	1542	12.65	10,460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11,250	1536	12.86	10,636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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 anount shown above.

Evaporator Fan Motor Efficiency

UNIT		MOTOR EFFICIENCY (%)
PGE300	(10.0 Hp)	**89.5**

Altitude Compensation* - PGE300

ELEVATION (ft.)	NATURAL GAS ORIFICE SIZE	
	Low Heat	High Heat
0 – 3,000	30	29
3,000 – 7,000	31	30
7,000 – 9,000	32	31
9,000 – 10,000	33	31
above 10,000	35	32

* Includes a 4% input reduction per each 1000 feet.

Altitude Derating Factor* - All Units

ELEVATION (ft)	MAXIMUM HEATING VALUE (Btu/ft ^{3})
0-2,000	1,100
2,001-3,000	1,050
3,001-4,000	1,000
4,001-5,000	950
5,001-6,000	900

*Derating of the unit is not required unless the heating value of the gas exceeds the values listed in the table above, or if the elevation exceeds 6000 ft. Derating conditions must be 4% per thousand ft above sea level. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft ^{3}, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

Performance Data

OUTDOOR SOUND POWER										
UNIT	SOUND RATING (60Hz)	A – Weighted (db)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
PGE300	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	½	1	1½	2	2½	3	3½	4	4½	5	5½	6
PGE300	**	**	1283	1269	1247	1225	1203	1182	1160	1138	1116	1095	1066

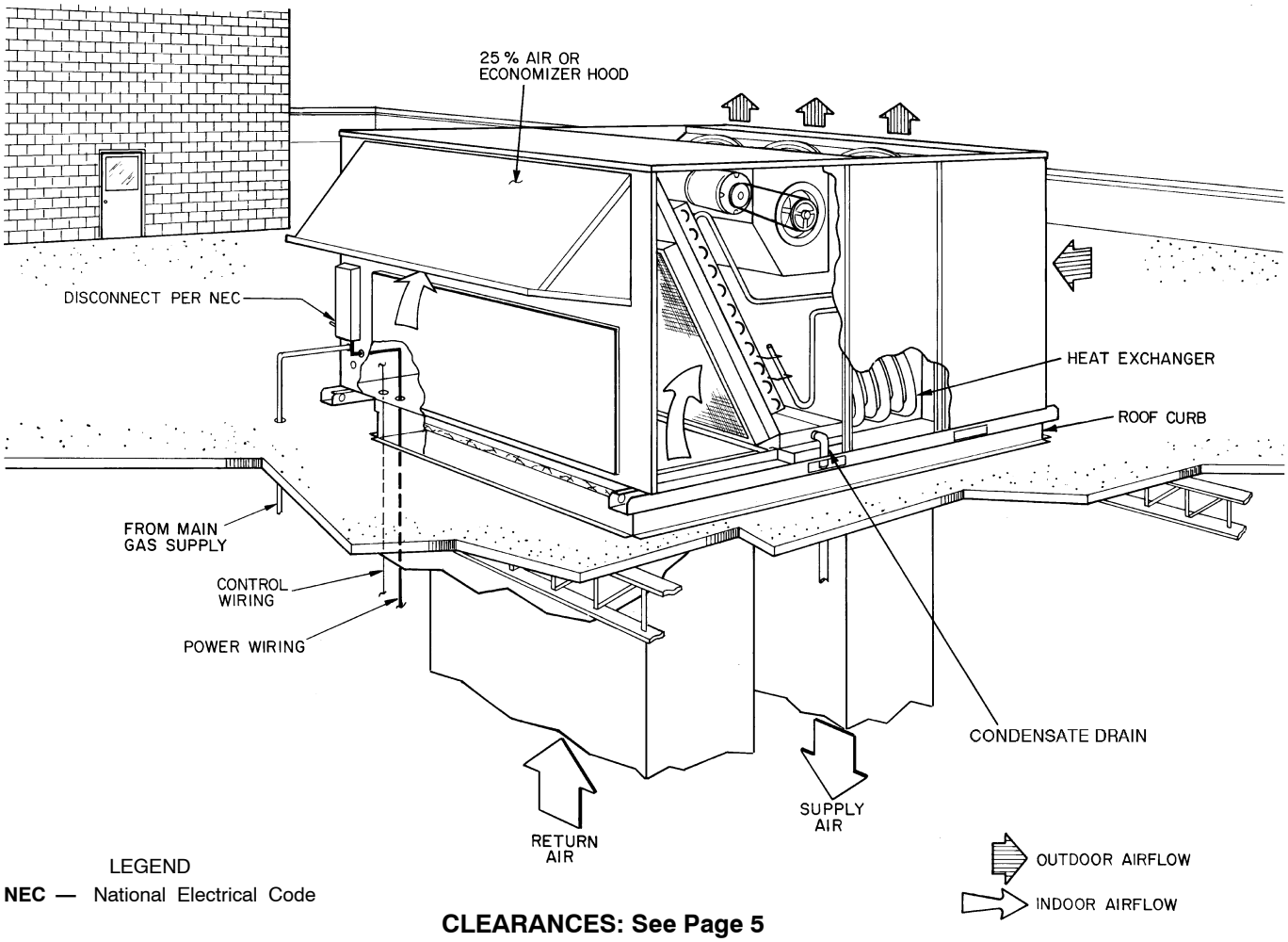
* Approximate fan rpm shown.
** Due to belt and pulley size, pulley cannot be set to this number of turns open.

EVAPORATOR FAN MOTOR PERFORMANCE					
UNIT	Unit Voltage	Maximum Acceptable Continuous BHP*	Maximum Acceptable Continuous BkW*	Maximum Acceptable Operating Watts	Maximum Amp Draw
PGE300	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



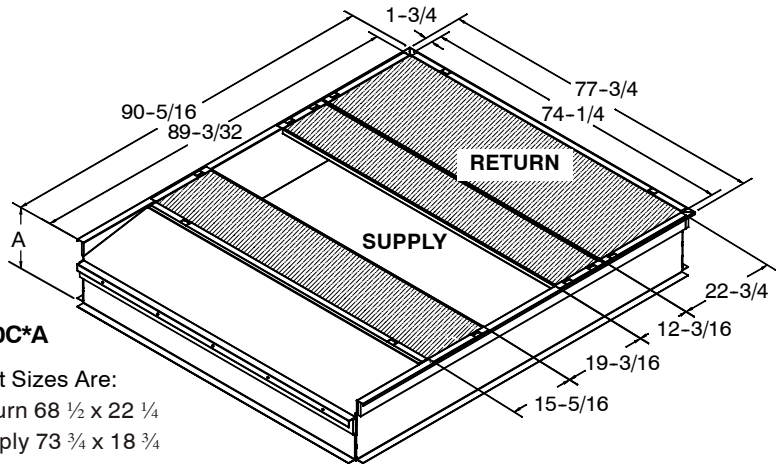
LEGEND

NEC — National Electrical Code

CLEARANCES: See Page 5

ACCESSORIES

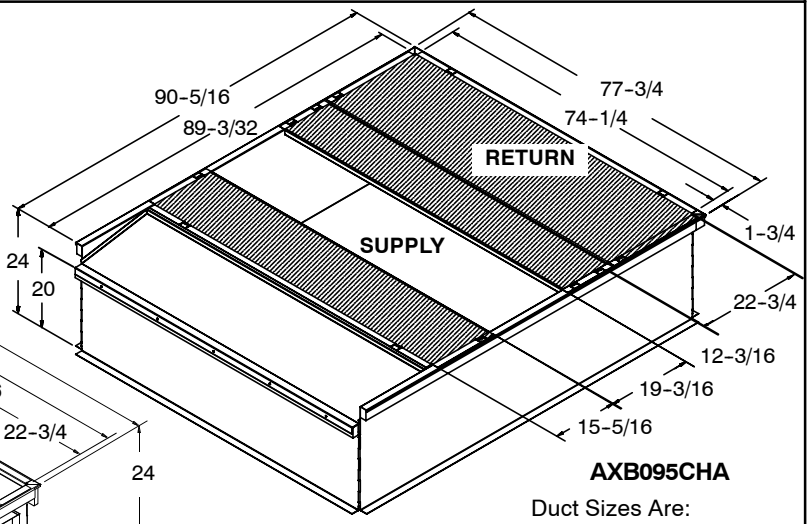
VERTICAL DISCHARGE ROOF CURBS		
Description (A dim.)	**Model Number**	**Where Used**
14" High	AXB090CMA	25 Ton
24" High	AXB090CHA	25 Ton



AXB090C*A

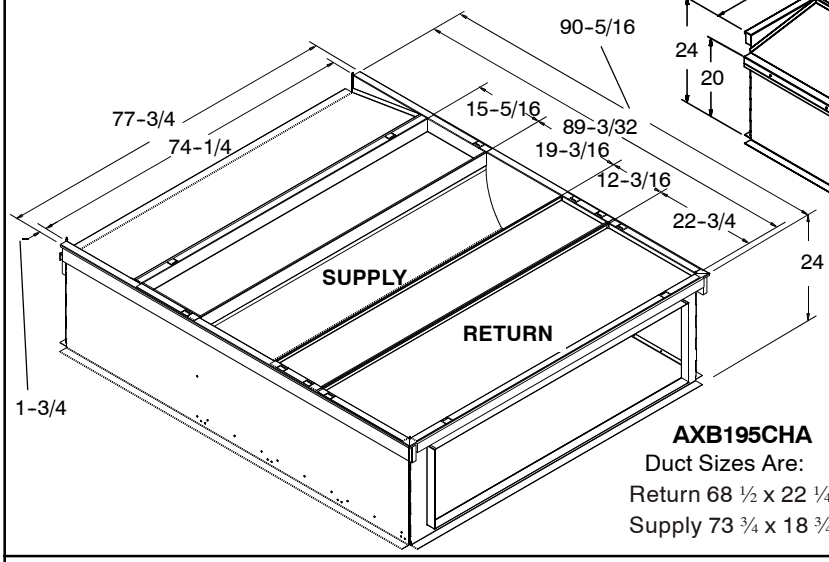
Duct Sizes Are:
Return 68 ½ x 22 ¼
Supply 73 ¾ x 18 ¾

HORIZONTAL DISCHARGE ROOF CURBS		
Description	**Model Number**	**Where Used**
24" High wo/ Duct	AXB095CHA	25 Ton
24" High w/ Duct	AXB195CHA	25 Ton



AXB095CHA

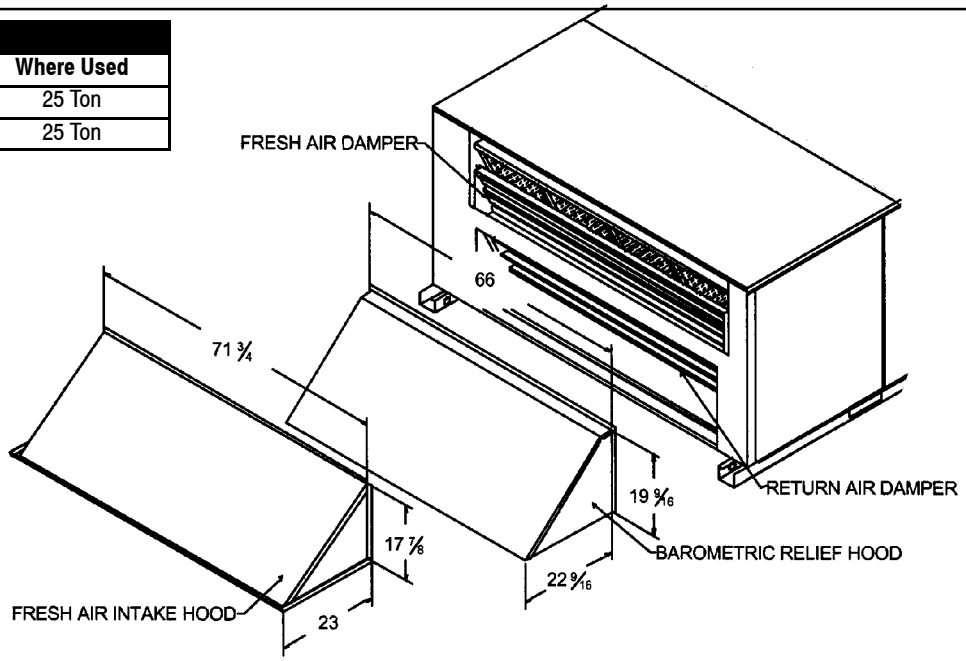
Duct Sizes Are:
Return 68 ½ x 22 ¼
Supply 73 ¾ x 18 ¾



AXB195CHA

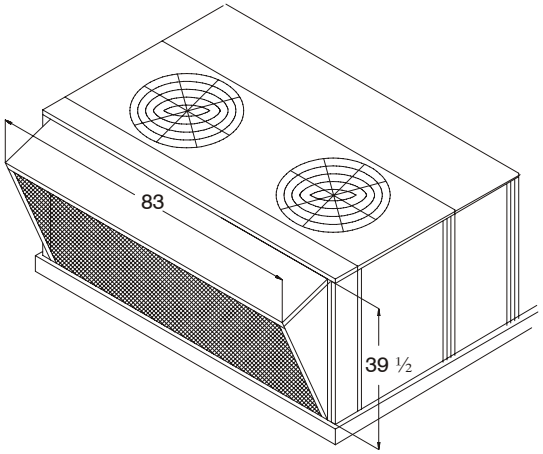
Duct Sizes Are:
Return 68 ½ x 22 ¼
Supply 73 ¾ x 18 ¾

ECONOMIZER - HORIZONTAL / DOWNFLOW		
Description	**Model Number**	**Where Used**
Fully Modulating	AXB060EMA	25 Ton
Three Position	AXB060EPA	25 Ton

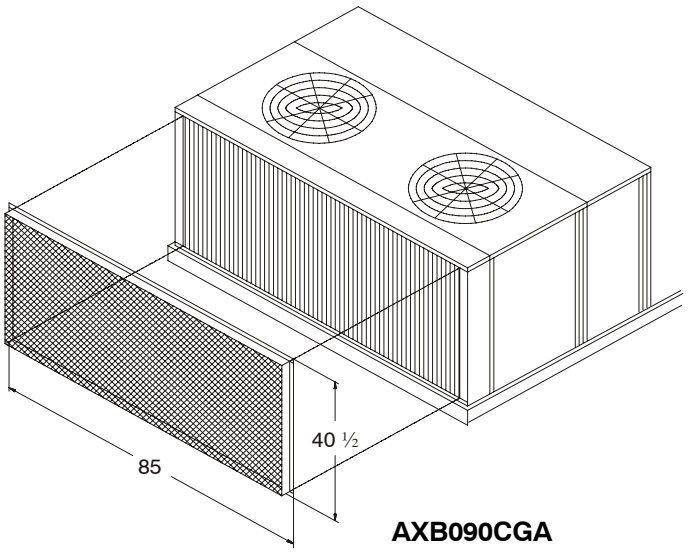


ACCESSORIES (CONT.)

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

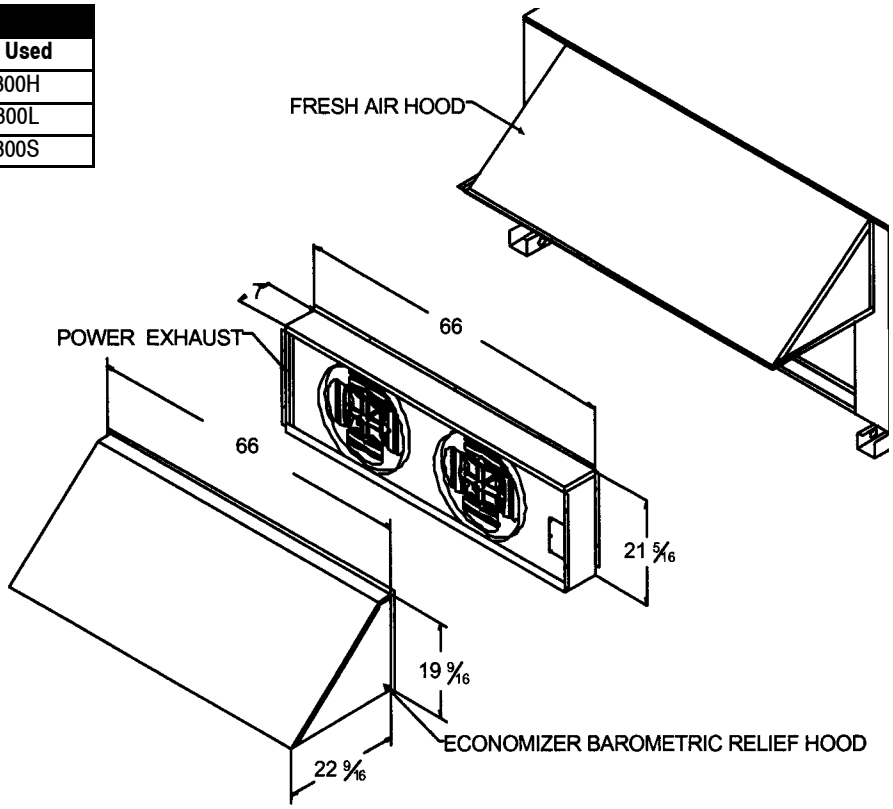


AXB090HGA



AXB090CGA

POWER EXHAUST		
Description	**Model Number**	**Where Used**
208/230 Volt	AXB060PEH	PGE300H
460 Volt	AXB060PEL	PGE300L
575 Volt	AXB060PES	PGE300S

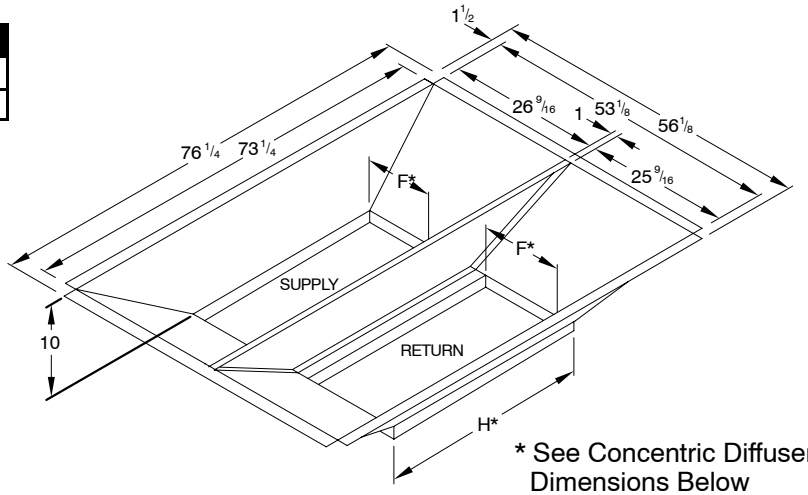


POWER EXHAUST PERFORMANCE DATA

		Motor			Unit					
Model	**Volt/Phase/ Hertz**	**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.)

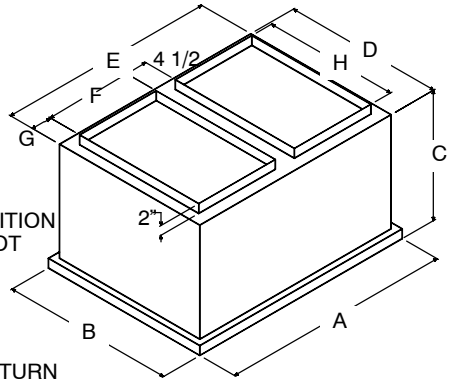
CONCENTRIC DUCT KIT		
Description	**Model Number**	**Where Used**
24" x 48"	AXB260CTA	25 Ton



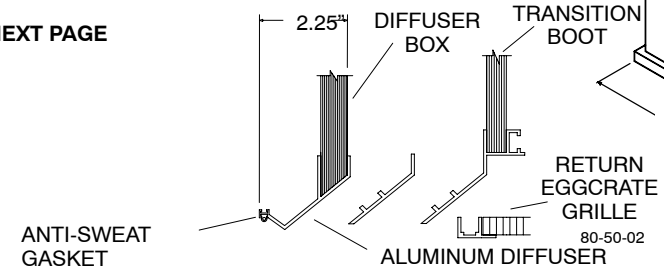
* See Concentric Diffuser Dimensions Below

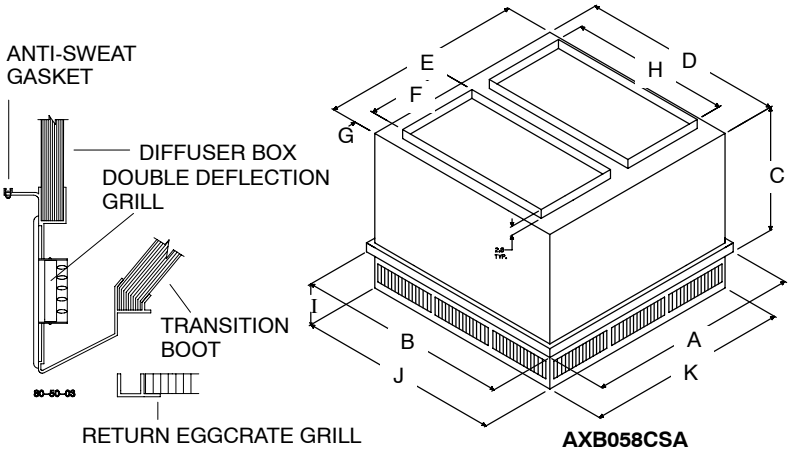
CONCENTRIC DIFFUSER		
Description	**Model Number**	**Used With**
Flush Mount	AXB058CFA	25 Ton
Step Down	AXB058CSA	25 Ton

SEE PERFORMANCE DATA ON NEXT PAGE



AXB058CFA





AXB058CSA

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

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.

CONTROLS

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.

Heating, Units Without Economizer

NOTE: The PGE300 units have 2 stages of heat. When the thermostat calls for heating, power is sent to W on the IGC (integrated gas unit controller) board. An LED (light-emitting diode) on the IGC board will be on during normal operation. A check is made to ensure that the rollout switch and limit switch are closed. The induced-draft motor is then energized, and when speed is proven with the hall effect sensor on the motor, the ignition activation period begins. The burners will ignite within 5 seconds.

If the burners do not light, there is a 22-second delay before another 5-second attempt. If the burners still do not light, this sequence is repeated for 15 minutes. After the 15 minutes have elapsed, if the burners still have not lighted, heating is locked out. To reset the control, break 24-v power to the thermostat.

When ignition occurs the IGC board will continue to monitor the condition of the rollout and limit switches, the hall effect sensor, as well as the flame sensor. If the unit is controlled through a room thermostat set for fan auto., 45 seconds after ignition occurs, the indoor-fan motor will be energized. If for some reason the overtemperature limit opens prior to the start of the indoor fan blower, on the next attempt, the 45-second delay will be shortened to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once modified, the fan on delay will not change back to 45 seconds unless power is reset to the control.

When additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto., the indoor-fan motor will continue to operate for an additional 45 seconds then stop. If the overtemperature limit opens after the indoor motor is stopped within 10 minutes of W1 becoming inactive, on the next cycle the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control.

A LED indicator is provided on the IGC to monitor operation. The IGC is located by removing the side panel and viewing the IGC through the view port located in the control box access panel. During normal operation, the LED is continuously on.

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, control wires, and gas supply 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. HEATING-TO-COOLING CHANGEOVER – All units are automatic changeover from heating to cooling when automatic changeover thermostat and subbase are used.

5. AIRFLOW – Units are draw-thru on cooling and blow-thru on heating.

6. MAXIMUM AIRFLOW –To minimize the possibility of condensate blow-off from evaporator, airflow through units should not exceed 500 cfm/nominal ton.

7. MINIMUM AIRFLOW – The minimum airflow for cooling is 300 cfm/nominal ton.

8. MINIMUM AMBIENT COOLING OPERATION TEMPERATURE Units are designed to operate at outdoor temperatures down to 40 F.

9. MAXIMUM OPERATING OUTDOOR-AIR TEMPERATURE – For cooling, this temperature is 125 F. Refer to Cooling Capacities tables.

10. HIGH ALTITUDE – A change to the gas orifice may be required at high altitudes. Refer to Altitude Compensation charts.

11. MINIMUM TEMPERATURE – Air entering the heat exchanger in heating must be a minimum of 50 F continuous and 45 F intermittent. For entering-air temperatures below 45 F both stages of heat must be energized together to minimize condensation issues and ensure proper unit operation.

12. 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.

HEATING SECTION:

The units shall have aluminized steel tubular heat exchangers located on the discharge side of the evaporator blower and equipped with a two-stage gas valve. The units shall have in-shot burners that are ignited buy an electronic spark with flame proving feature and protected by both a limit switch and flame roll-out switch.

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.