APF Series

7-1/2 Ton Belt Drive Units
Package Air Conditioner
SPECIFICATIONS

CONVERTIBLE SINGLE PACKAGE AIR CONDITIONER

SINGLE PACKAGE

- Electric cooling, self contained for year-round comfort. Systems can be installed on rooftop or ground level with the new convertible design.

CABINET

- Triple-coated steel, consisting of a Polyester top coat, a urethane primer coat preceded by an oxide pretreatment. Access panels for easy service. Side by side supply and return. Heavy gauge base with rails.

INTEGRAL BASE RAILS

- Fork-lift access on three sides. Holes provided for lifting lugs makes rooftop installation easier.

IMPROVED INSULATION

- Dual density insulation improves temperature separation.

INDOOR BLOWER

- Electronic Fan Control, continuous fan feature responds quickly to circulate heated air and provide maximum comfort.
- Standard belt drive blower.
- "No Difference" Design - Unit will operate at the same rated External Static Pressure in the down shot or horizontal duct position.

INTERNAL AIR FILTERS

- Easy access air filters to maintain a clean evaporator coil.

COPPER TUBE/ALUMINUM FIN COILS

- Enhanced aluminum fins mechanically bonded to 3/8" copper tubes for improved heat transfer.

COMPRESSORS

- Scroll compressor.

HIGH & LOW PRESSURE SWITCHES

- To provide excellent compressor protection.

FREEZE THERMOSTAT

- Mounted to evaporator, prevents coil freeze up.

EXTERNALLY-MOUNTED GAUGE PORTS

- Allows for more accurate reading of operating conditions while servicing.

PRE-WIRED FOR ECONOMIZER

- Designed for slide in, plug in economizer installation.

65VA TRANSFORMER

- Standard 65 VA transformer has built-in secondary circuit breaker standard on all models.

ELECTRIC HEAT ACCESSORY

- 10 thru 30KW

WARRANTY

- Standard one (1) year limited warranty on parts.
- Five (5) year limited warranty on the compressor.

Rated in accordance with ARI Standard 210.

Listed By Underwriters' Laboratories

International Comfort Products
650 Heil-Quaker Ave.
Lewisburg, Tennessee 37091

513 56 1501 02

2/03

UNIT SPECIFICATIONS

MODEL NUMBER	Electrical Data				Compressor Data		Factory Charge R-22 Oz.	Ship. Weight Lbs.
	Voltage Phase - Hz	Max. Fuse	Min. Fuse	Min. Circuit Ampacity	RLA	Locked Rotor Amps		
APF090H00A	208/230-3-60	70	60	45	28.85	195.0	212	684
APF090L00A	460-3-60	35	30	22.9	14.74	95.0	212	684
APF090S00A	575-3-60	25	20	17.2	10.77	80.0	212	684

MODEL NUMBER	Condenser Data								
	Coil			Fan Motor			Fan – 4 Blade		
	Total Face Area Sq. Feet	Fins Per In. / Rows	Tube Diameter In.	Horse-power	FLA /LRA	RPM (Max.)	Size Diameter In.	Degree Pitch	CFM (Max.)
APF090H00A	16.48	20 / 2.7	3/8	.75	2.9 / 9.5	1140	22	28	4500
APF090L00A	16.48	20 / 2.7	3/8	.75	1.5 / 5.0	1140	22	28	4500
APF090S00A	16.48	20 / 2.7	3/8	.75	1.3 / 3.9	1140	22	28	4500

MODEL NUMBER	Evaporator Coil Data								
	Coil				Motor		Blower		
	Total Face Area Sq. Feet	Fins Per In. / Rows	Tube Diameter In.	Blower H.P. - Speeds	FLA / LRA	RPM	Type & Size	RPM (Max)	CFM Rated
APF090H00A	8.24	14 / 4	3/8	2.0	6.0 / 49.6	1725	BD12-12A	1400	3000
APF090L00A	8.24	14 / 4	3/8	2.0	3.0 / 24.9	1725	BD12-12A	1400	3000
APF090S00A	8.24	14 / 4	3/8	2.0	2.4 / 16.3	1725	BD12-12A	1400	3000

PERFORMANCE DATA: COOLING

MODEL NUMBER	Rated Capacity BTUH*	S / T Ratio	E.E.R.	Evaporator Rated Airflow (SCFM)
APF090	91,000	.74	9.00	3000

***NOTES:** Rated Capacity @ ARI Standards 95° Amb, 80° DB, / 67° WB, 230 Volts. For applications at 208 volts deduct 1000 BTU.

MODEL NUMBER IDENTIFICATION GUIDE

MODEL NUMBER **A** **P** **F** **090** **H** **00** **A**

Type Unit
A = Air Conditioner

Product Family
P = Single Package

Design Series

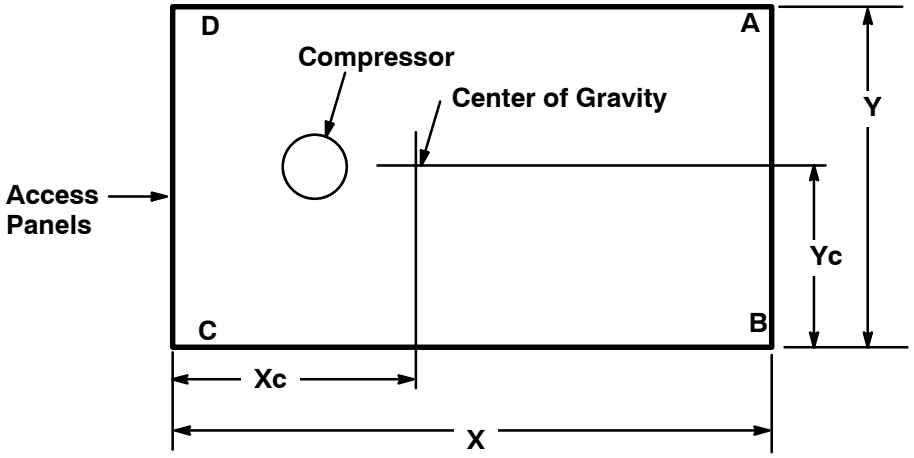
Capacity (Nominal BTU)
090 = 7-1/2 Ton

Voltage / Phase / Hertz
H = 208/230/3/60
L = 460/3/60 S = 575/3/60

Options

Sales Code

WEIGHTS AND CENTER OF GRAVITY

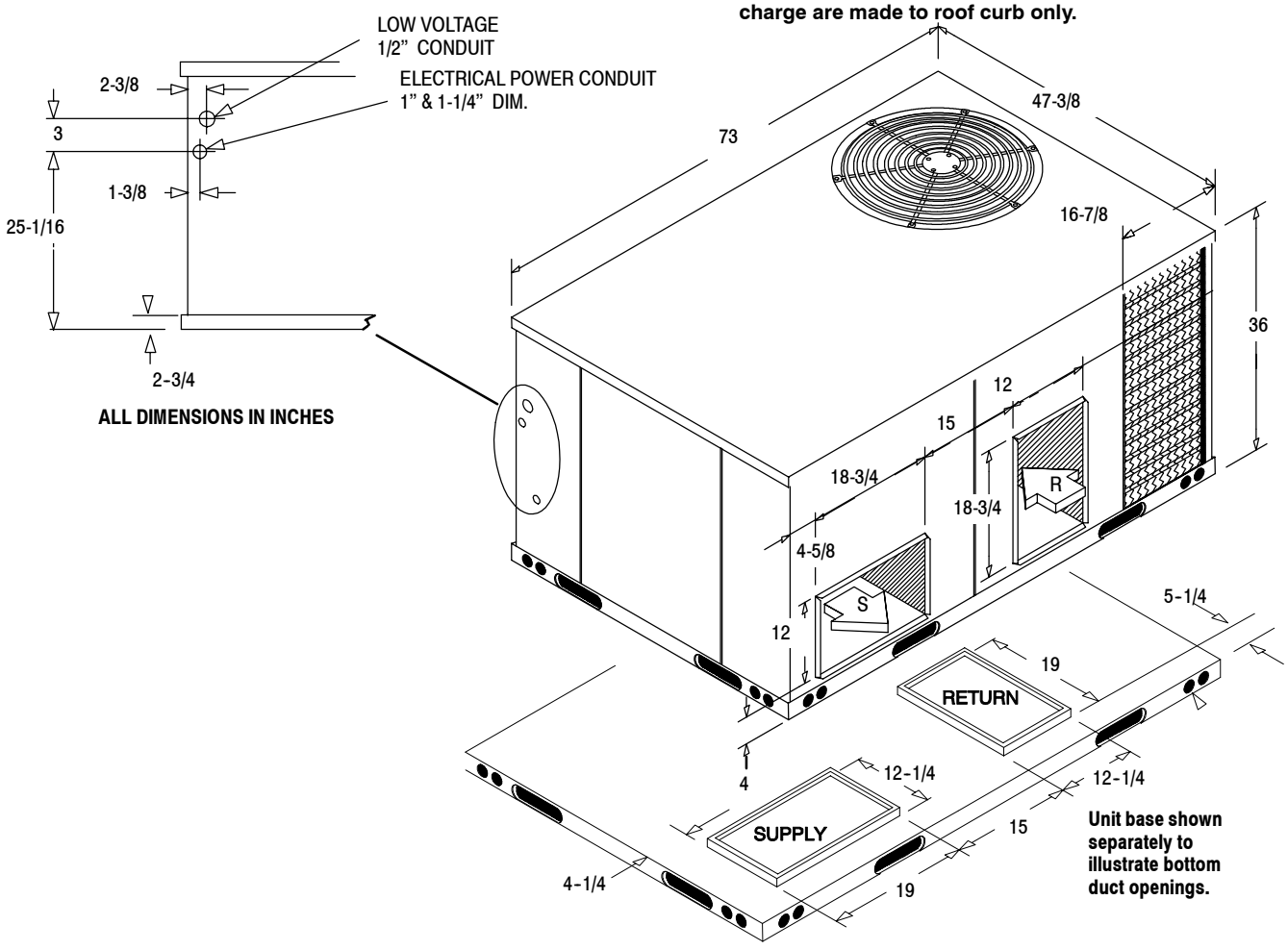


Center of Gravity Location (Inches)				
Unit Size	X	Y	Xc	Yc
7-1/2 Ton	73	47-3/8	34-3/4	19-3/4

Total and Corner Weight (lbs) (Operating Weight)					
Unit Size	A	B	C	D	Total
7-1/2 Ton	134	188	207	148	677

UNIT DIMENSIONS

Note: Duct connections for downflow discharge are made to roof curb only.



EXPANDED PERFORMANCE DATA (COOLING) - 7-1/2 Ton (Gross Capacity)

IDB*	Airflow CFM		Outdoor Ambient Temperature - Degrees F. Dry Bulb																							
			65				75				85				95				105				115			
			Entering Indoor Temperature - Degrees F. Wet Bulb																							
			59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71
70	3360	MBh	93.8	97.2	106.5	-	91.6	94.9	104.0	-	89.4	92.7	101.5	-	87.2	90.4	99.1	-	82.9	85.9	94.1	-	76.8	79.6	87.2	-
		S/T	0.74	0.62	0.43	-	0.77	0.64	0.45	-	0.79	0.66	0.46	-	0.82	0.68	0.47	-	0.85	0.71	0.49	-	0.85	0.71	0.49	-
		KW	8.00	8.16	8.40	-	8.57	8.75	9.01	-	9.08	9.27	9.55	-	9.53	9.73	10.03	-	9.91	10.12	10.43	-	10.24	10.45	10.78	-
	3000	MBh	91.0	94.4	103.4	-	88.9	92.2	101.0	-	86.8	90.0	98.6	-	84.7	87.8	96.2	-	80.5	83.4	91.4	-	74.5	77.2	84.6	-
		S/T	0.71	0.59	0.41	-	0.73	0.61	0.43	-	0.75	0.63	0.44	-	0.78	0.65	0.45	-	0.81	0.67	0.47	-	0.81	0.68	0.47	-
		KW	7.94	8.10	8.33	-	8.51	8.68	8.94	-	9.01	9.20	9.48	-	9.45	9.65	9.95	-	9.83	10.04	10.35	-	10.15	10.37	10.70	-
	2640	MBh	86.5	89.6	98.2	-	84.5	87.6	95.9	-	82.5	85.5	93.7	-	80.5	83.4	91.4	-	76.4	79.2	86.8	-	70.8	73.4	80.4	-
		S/T	0.68	0.57	0.39	-	0.70	0.59	0.41	-	0.72	0.60	0.42	-	0.74	0.62	0.43	-	0.77	0.65	0.45	-	0.78	0.65	0.45	-
		KW	7.82	7.98	8.21	-	8.38	8.55	8.80	-	8.87	9.05	9.33	-	9.31	9.50	9.79	-	9.67	9.88	10.19	-	9.99	10.20	10.53	-
75	3360	MBh	95.4	98.2	106.3	114.1	93.1	95.9	103.8	111.4	90.9	93.6	101.3	108.8	88.7	91.3	98.9	106.1	84.3	86.8	93.9	100.8	78.1	80.4	87.0	93.4
		S/T	0.84	0.76	0.57	0.37	0.88	0.78	0.59	0.38	0.90	0.80	0.61	0.39	0.93	0.83	0.63	0.40	0.96	0.86	0.65	0.42	0.97	0.87	0.66	0.42
		KW	8.06	8.22	8.46	8.72	8.64	8.81	9.08	9.36	9.15	9.34	9.63	9.93	9.60	9.80	10.11	10.43	9.99	10.20	10.52	10.86	10.32	10.54	10.87	11.23
	3000	MBh	92.6	95.3	103.2	110.7	90.4	93.1	100.8	108.2	88.3	90.9	98.4	105.6	86.1	88.7	96.0	103.0	81.8	84.2	91.2	97.9	75.8	78.0	84.5	90.7
		S/T	0.81	0.72	0.55	0.35	0.84	0.75	0.57	0.36	0.86	0.77	0.58	0.37	0.88	0.79	0.60	0.38	0.92	0.82	0.62	0.40	0.93	0.83	0.63	0.40
		KW	8.00	8.16	8.40	8.65	8.57	8.75	9.01	9.29	9.08	9.27	9.55	9.85	9.53	9.73	10.03	10.35	9.91	10.12	10.44	10.77	10.24	10.45	10.79	11.13
	2640	MBh	88.0	90.6	98.0	105.2	85.9	88.5	95.7	102.8	83.9	86.4	93.5	100.3	81.8	84.2	91.2	97.9	77.7	80.0	86.6	93.0	72.0	74.1	80.2	86.1
		S/T	0.77	0.69	0.52	0.34	0.80	0.72	0.54	0.35	0.82	0.73	0.56	0.36	0.85	0.76	0.57	0.37	0.88	0.79	0.59	0.38	0.89	0.79	0.60	0.39
		KW	7.88	8.04	8.27	8.52	8.44	8.61	8.87	9.14	8.94	9.12	9.40	9.70	9.38	9.57	9.87	10.18	9.75	9.96	10.27	10.60	10.07	10.29	10.61	10.95
80	3360	MBh	97.1	99.2	106.0	113.3	94.8	96.9	103.5	110.6	92.5	94.6	101.0	108.0	90.3	92.3	98.6	105.4	85.8	87.6	93.6	100.1	79.5	81.2	86.7	92.7
		S/T	0.93	0.87	0.71	0.53	0.96	0.90	0.73	0.55	1.00	0.92	0.75	0.56	1.00	0.95	0.78	0.58	1.00	1.00	0.81	0.60	1.00	1.00	0.81	0.61
		KW	8.12	8.28	8.53	8.78	8.70	8.88	9.15	9.43	9.22	9.41	9.70	10.01	9.68	9.88	10.19	10.52	10.07	10.28	10.60	10.95	10.40	10.62	10.96	11.32
	3000	MBh	94.2	96.3	102.9	110.0	92.0	94.1	100.5	107.4	89.9	91.8	98.1	104.9	87.7	89.6	95.7	102.3	83.3	85.1	90.9	97.2	77.1	78.8	84.2	90.0
		S/T	0.88	0.83	0.67	0.50	0.92	0.86	0.70	0.52	0.94	0.88	0.72	0.54	0.97	0.91	0.74	0.55	1.00	0.94	0.77	0.57	1.00	0.95	0.77	0.58
		KW	8.06	8.22	8.46	8.72	8.64	8.81	9.08	9.36	9.15	9.34	9.63	9.93	9.60	9.80	10.11	10.43	9.99	10.20	10.52	10.86	10.32	10.54	10.87	11.23
	2640	MBh	89.5	91.5	97.7	104.5	87.4	89.4	95.5	102.0	85.4	87.2	93.2	99.6	83.3	85.1	90.9	97.2	79.1	80.8	86.4	92.3	73.3	74.9	80.0	85.5
		S/T	0.85	0.79	0.65	0.48	0.88	0.82	0.67	0.50	0.90	0.84	0.69	0.51	0.93	0.87	0.71	0.53	0.96	0.90	0.74	0.55	0.97	0.91	0.74	0.55
		KW	7.94	8.10	8.33	8.58	8.51	8.68	8.94	9.22	9.01	9.20	9.48	9.77	9.45	9.65	9.95	10.26	9.83	10.04	10.35	10.68	10.15	10.37	10.70	11.04
85	3360	MBh	98.8	100.7	105.4	112.5	96.5	98.3	103.0	109.9	94.2	96.0	100.5	107.3	91.9	93.6	98.1	104.6	87.3	89.0	93.2	99.4	80.8	82.4	86.3	92.1
		S/T	0.97	0.94	0.85	0.69	1.00	0.97	0.88	0.71	1.00	1.00	0.90	0.73	1.00	1.00	0.93	0.75	1.00	1.00	0.96	0.78	1.00	1.00	0.97	0.79
		KW	8.18	8.34	8.59	8.85	8.77	8.95	9.22	9.51	9.29	9.49	9.78	10.09	9.75	9.96	10.27	10.60	10.15	10.36	10.69	11.03	10.48	10.71	11.05	11.41
	3000	MBh	95.9	97.7	102.4	109.2	93.7	95.5	100.0	106.7	91.4	93.2	97.6	104.1	89.2	90.9	95.2	101.6	84.7	86.4	90.5	96.5	78.5	80.0	83.8	89.4
		S/T	0.93	0.89	0.81	0.65	0.96	0.93	0.84	0.68	0.98	0.95	0.86	0.70	1.00	0.98	0.89	0.72	1.00	1.00	0.92	0.75	1.00	1.00	0.93	0.75
		KW	8.12	8.28	8.53	8.78	8.70	8.88	9.15	9.43	9.22	9.41	9.70	10.01	9.68	9.88	10.19	10.52	10.07	10.28	10.60	10.95	10.40	10.62	10.96	11.32
	2640	MBh	91.1	92.9	97.2	103.7	89.0	90.7	95.0	101.3	86.9	88.5	92.7	98.9	84.7	86.4	90.5	96.5	80.5	82.1	85.9	91.7	74.6	76.0	79.6	84.9
		S/T	0.89	0.86	0.77	0.63	0.92	0.89	0.80	0.65	0.94	0.91	0.82	0.67	0.97	0.94	0.85	0.69	1.00	0.97	0.88	0.71	1.00	0.98	0.89	0.72
		KW	8.00	8.16	8.40	8.65	8.57	8.75	9.01	9.29	9.08	9.27	9.55	9.85	9.53	9.73	10.03	10.35	9.91	10.12	10.43	10.77	10.24	10.45	10.78	11.13

* Entering Indoor Temperature - Degrees F. Dry Bulb

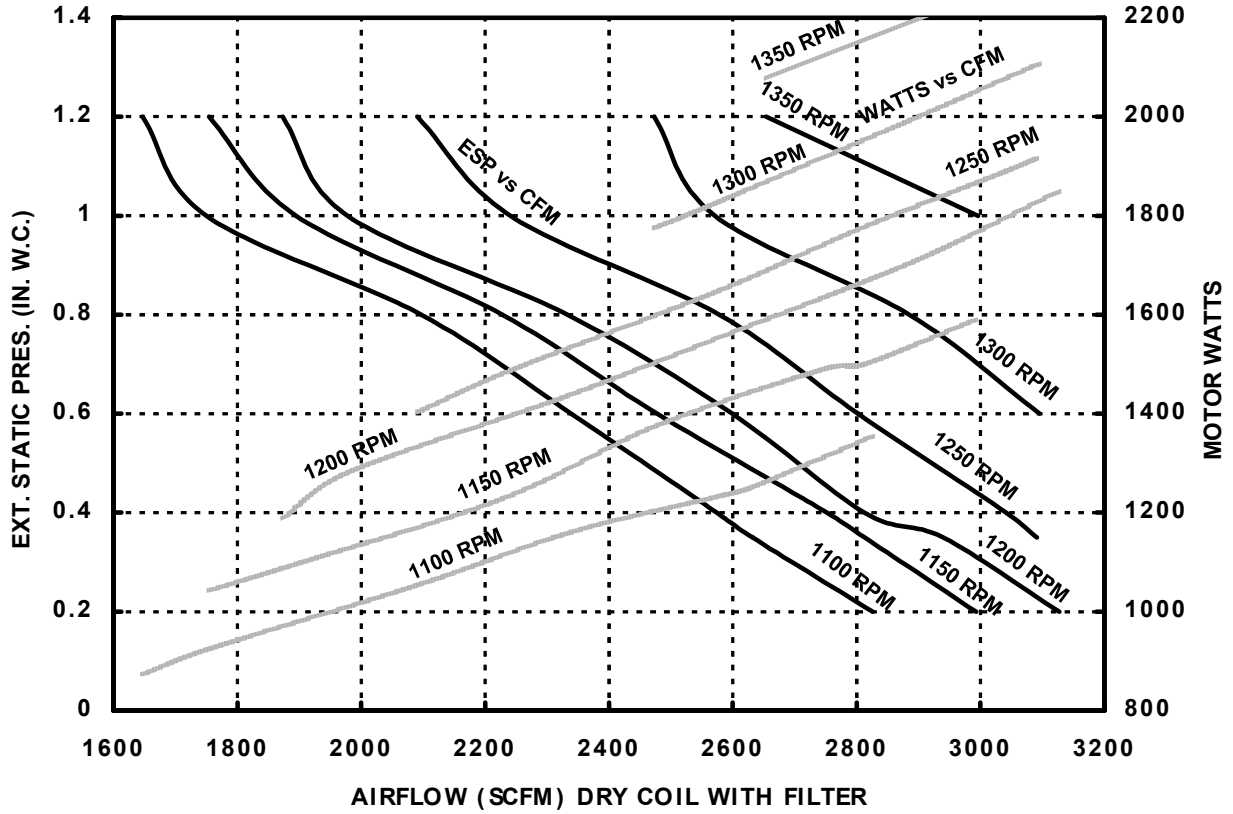
ELECTRICAL DATA - ELECTRIC HEAT ACCESSORY - 575 VOLT ON NEXT PAGE

Heater Model #	Use With	Supply Voltage (Volts-Phase-Hz)	Nominal Btu/h	1st / 2nd Stage kW Rating	Supply Circuit Number	Heater Amps	Minimum Circuit Ampacity	Max. Fuse or NEC HACR Breaker (Amps)
AEB010CHA	7-1/2 Ton	240-3-60	34,130	10.0	L4-L5-L6	24.1	30.1	35
		208-3-60	25,598	7.5	L4-L5-L6	20.8	26.1	30
AEB015CHA	7-1/2 Ton	240-3-60	51,195	15.0	L4-L5-L6	36.1	45.2	50
		208-3-60	38,567	11.3	L4-L5-L6	31.4	39.3	40
AEB020CHA	7-1/2 Ton	240-3-60	68,260	10.0 / 20.0	L4-L5-L6	24.1	30.1	35
					L7-L8-L9	24.1	30.1	35
		208-3-60	51,195	15.0	L4-L5-L6	20.8	26.1	30
					L7-L8-L9	20.8	26.1	30
AEB025CHA	7-1/2 Ton	240-3-60	85,325	12.5 / 25.0	L4-L5-L6	30.1	37.6	40
					L7-L8-L9	30.1	37.6	40
		208-3-60	64,164	9.4 / 18.8	L4-L5-L6	26.1	32.7	35
					L7-L8-L9	26.1	32.7	35
AEB030CHA	7-1/2 Ton	240-3-60	102,390	15.0 / 30.0	L4-L5-L6	36.1	45.2	50
					L7-L8-L9	36.1	45.2	50
		208-3-60	76,793	11.25 / 22.5	L4-L5-L6	31.4	39.3	40
					L7-L8-L9	31.4	39.3	40
AEB010CLA	7-1/2 Ton	480-3-60	34,130	10.0	L4-L5-L6	12.0	15.0	15
AEB015CLA	7-1/2 Ton	480-3-60	51,195	15.0	L4-L5-L6	18.1	22.6	25
AEB020CLA	7-1/2 Ton	480-3-60	68,260	10.0 / 20.0	L4-L5-L6	12.0	15.0	15
					L7-L8-L9	12.0	15.0	15
AEB025CLA	7-1/2 Ton	480-3-60	85,325	12.5 / 25.0	L4-L5-L6	15.1	18.8	20
					L7-L8-L9	15.1	18.8	20
AEB030CLA	7-1/2 Ton	480-3-60	102,390	15.0 / 30.0	L4-L5-L6	18.1	22.6	25
					L7-L8-L9	18.1	22.6	25

ELECTRICAL DATA - ELECTRIC HEAT ACCESSORY (CONT.)

Heater Model #	Use With	Supply Voltage (Volts-Phase-Hz)	Nominal Btu/h	1st / 2nd Stage kW Rating	Supply Circuit Number	Heater Amps	Minimum Circuit Ampacity	Max. Fuse or NEC HACR Breaker (Amps)
AEB010CSA	7-1/2 Ton	600-3-60	34,130	10.0	L4-L5-L6	9.6	12.0	15
AEB015CSA	7-1/2 Ton	600-3-60	51,195	15.0	L4-L5-L6	14.5	18.1	20
AEB020CSA	7-1/2 Ton	600-3-60	68,260	10.0 / 20.0	L4-L5-L6 L7-L8-L9	9.6 9.6	12.0 12.0	15 15
AEB025CSA	7-1/2 Ton	600-3-60	85,325	12.5 / 25.0	L4-L5-L6 L7-L8-L9	12.1 12.1	15.1 15.1	20 20
AEB030CSA	7-1/2 Ton	600-3-60	102,390	15.0 / 30.0	L4-L5-L6 L7-L8-L9	14.5 14.5	18.1 18.1	25 25

BELT DRIVE BLOWER PERFORMANCE DATA - 7-1/2 TON UNIT - ALL VOLTAGES



NOTES: 1) Maximum motor Watts is 2158 Watts at 208V, and 2246 Watts at 230-460-575V. 2) Maximum blower speed is 1400 RPM. 3) Contact factory for applications requiring operation outside standard cooling operating range. 4) Airflow data is based on dry coil with filters. 5) Pulley turns refers to turns out. In other words, 0 turns is a *narrower* sheave than 5 turns. 6) Blower speed MUST be set to give the correct air temperature rise through the unit as marked on the Rating Plate. 7)Add 0.05 in. ESP for 208 volt operation.

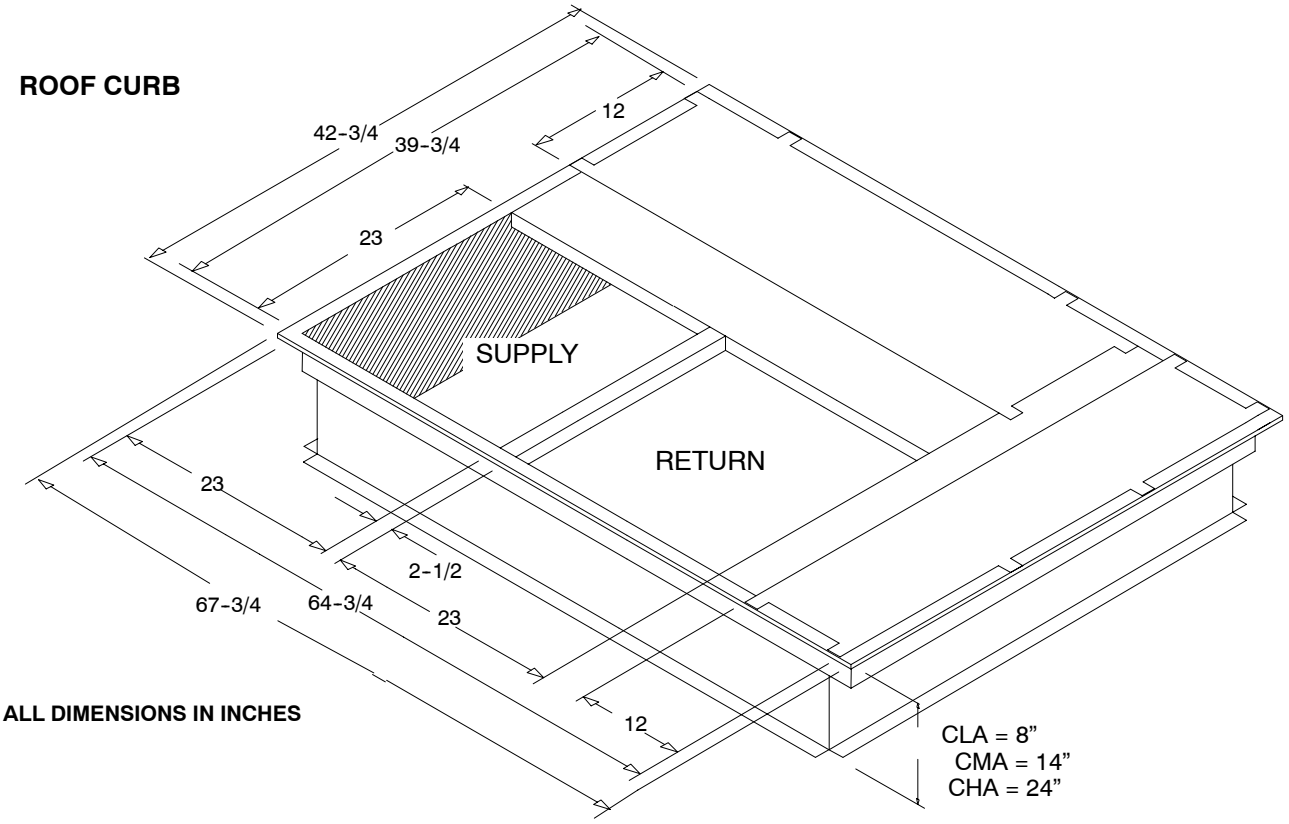
VOLTS	TURNS OPEN	EXTERNAL STATIC PRESSURE IN INCHES WATER COLUMN																	
		.2			.4			.6			.8			1.0			1.2		
		CFM	WATTS	RPM	CFM	WATTS	RPM	CFM	WATTS	RPM	CFM	WATTS	RPM	CFM	WATTS	RPM	CFM	WATTS	RPM
230 / 460/ 575	0													2996	2246	1345	2654	2077	1355
	1							3095	2107	1295	2885	1992	1297	2571	1825	1300	2473	1775	1305
	2				3041	1890	1240	2802	1772	1242	2578	1649	1245	2241	1487	1253	2091	1403	1255
	3	3127	1850	1180	2812	1667	1190	2599	1564	1192	2333	1436	1195	1978	1281	1196	1873	1188	1200
	4	2993	1590	1126	2752	1492	1133	2478	1376	1136	2228	1228	1140	1895	1096	1142	1754	1043	1145
	5	2826	1355	1075	2574	1232	1080	2339	1161	1082	2097	1056	1085	1750	923	1088	1647	873	1090

VOLTAGE	PULLEY TURNS OPEN	0	1	2*	3	4	5
230 - 460 - 575	RPM WITH 2 HP STD PULLEY	1344	1299	1245	1191	1136	1082

* Factory Setting Turns Open

ACCESSORIES

ROOF CURB



ALL DIMENSIONS IN INCHES

ROOF CURBS		
Description	**Model Number**	**Used on**
8"	AXB030CLA	7-1/2 Ton
14"	AXB030CMA	7-1/2 Ton
24"	AXB030CHA	7-1/2 Ton

OUTDOOR AIR DAMPERS		
Description	**Model Number**	**Used on**
Manual - 25%	AXB030FAC	7-1/2 Ton
Motorized- 25%	AXB030FMC	7-1/2 Ton

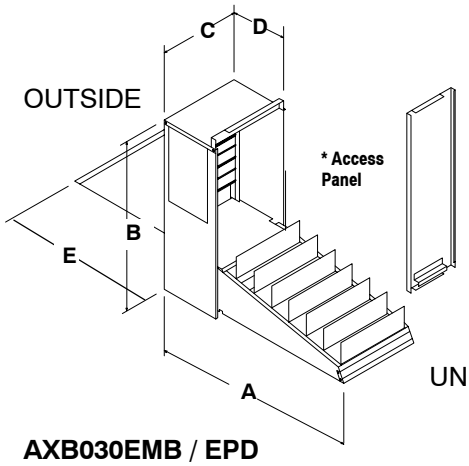
COIL PROTECTION		
Description	**Service Parts Number**	**Used on**
Coil Guard	1149486	7-1/2 Ton
Hail Guard	1065342	7-1/2 Ton

CONCENTRIC DUCT KIT		
Description	**Mainline Model Number**	**Used on**
Transition	ACT03FB0A	7 1/2 Ton
Grille, Flush Mount	AXB040CFA	7 1/2 Ton
Grille, Step Down	AXB040CSA	7 1/2 Ton

LOW AMBIENT CONTROLS		
Description	**Service Parts Number**	**Used on**
To 0º F	1148233	7 1/2 Ton

ECONOMIZERS/DOWNFLOW

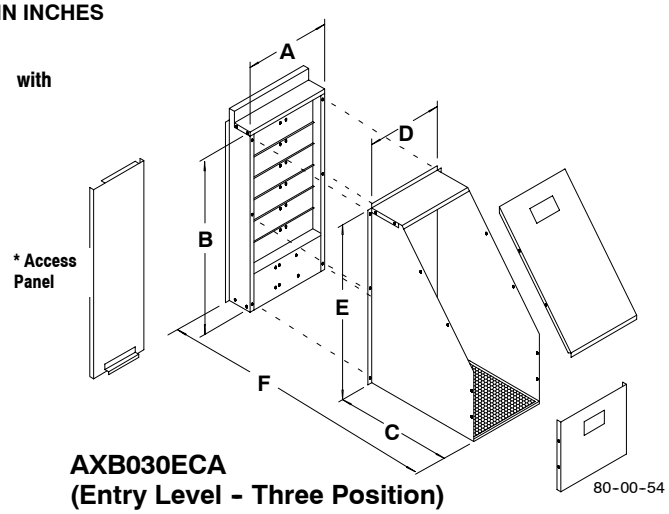
ALL DIMENSIONS IN INCHES



Access panel included with AXB030E only.**

AXB030EMB / EPD
(Modulating or Three Position)

Economizer Model No.	A	B	C	D	E
AXB030EMC/PD	35	31	14-3/4	10-7/8	22



AXB030ECA
(Entry Level - Three Position)

Economizer Model No.	A	B	C	D	E	G
AXB030ECA	14-3/4	31	20-1/4	13	30	24

All Economizers Feature Enthalpy and/or ambient temperature control providing outdoor air ventilation and "free cooling" when outdoor conditions are favorable.

Return Air and Pressure Relief dampers for proper air balance, on most models.

Interconnecting wiring furnished.

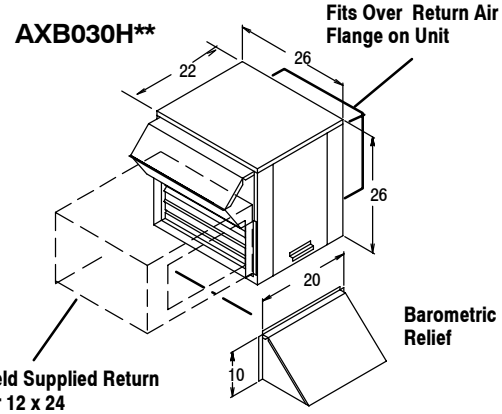
Center controlled dual action dampers with gaskets to provide proper seal.

Description	Model Number	Used on
Fully Modulating (1)	AXB030EMC	7 1/2 Ton
Three Position (2)	AXB030EPD	
Entry Level Three Position (3)	AXB030ECA	

NOTES:
(1)- Ambient/Enthalpy Control; Includes Return Air Damper & Relief Damper.
(2) - Ambient Control Only; Includes Return Air Damper & Relief Damper.
(3) - Ambient Control Only; No Return Air Damper; No Relief Damper.

ECONOMIZERS/HORIZONTAL

AXB030H**



Description	Model Number	Used on
Fully Modulating (1)	AXB030HEC	7 1/2 Ton
Three Position (2)	AXB030HPD	

NOTES:
(1)- Ambient/Enthalpy Control; Includes Return Air Damper & Relief Damper.
(2) - Ambient Control Only; Includes Return Air Damper & Relief Damper.

GUIDE SPECIFICATION

CABINET

The cabinet is made of sturdy G-90 galvanized steel, Triple-coated, consisting of a Polyester top coat, a urethane primer coat preceded by an oxide pretreatment. Access panels for easy service. Base rails are 18 gauge steel with fork lift slots and holes provided for lifting shackles. Unit is designed for convertible airflow and is shipped ready for downflow application. Conversion to horizontal airflow is accomplished by relocating two panels.

Return air compartments are insulated with 1"(25.4mm) of water resistant coated glass fiber and 1"(25.4mm) of aluminum foil faced glass fiber in the furnace/supply compartments.

COOLING SECTION

Units are factory charged and operationally ready. Each refrigerant circuit has a compressor with internal overload protection, high and low pressure switches, filter drier, and copper tube/aluminum fin evaporator and condenser coils.

Units are capable of cooling operation down to 40°F (17.4°C) as shipped from the factory.

COILS

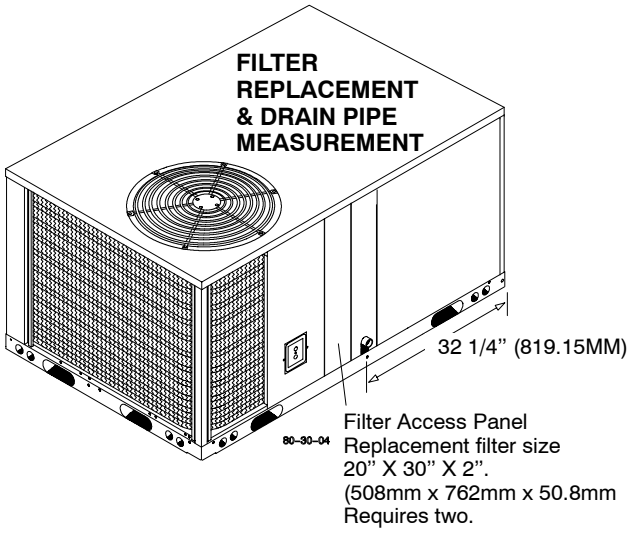
The evaporator and condenser coils are fabricated with aluminum fins mechanically bonded to copper tubing. Both coils are pressure tested prior to assembly into the unit and electronically leak tested after assembly into the unit. The evaporator coil is protected from dust and debris on the return air side by factory installed 2"(50.8mm) air filters.

CONDENSER FAN

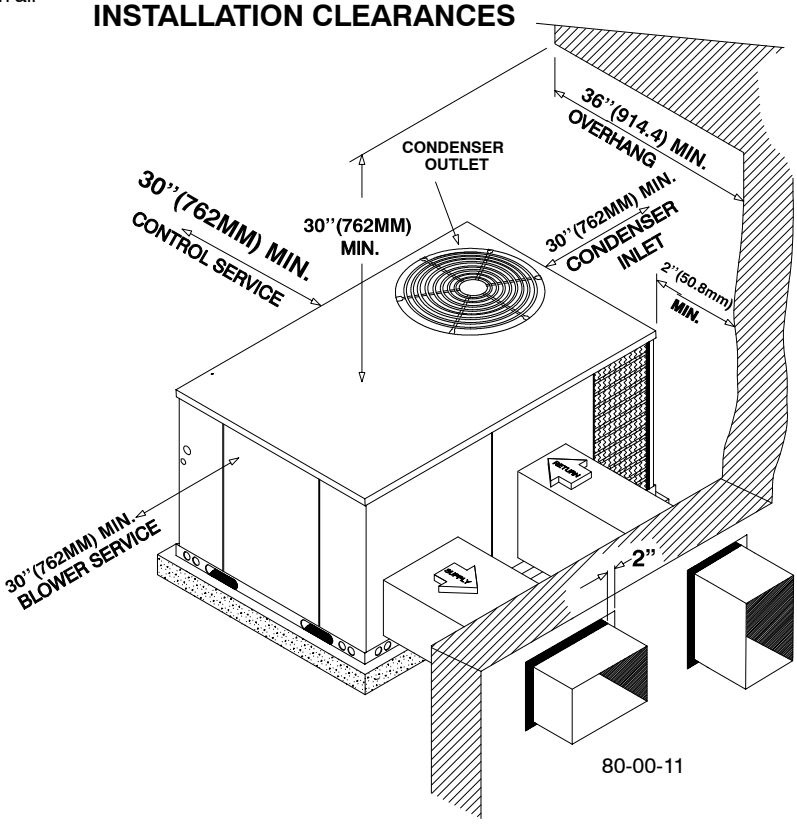
The unit has a single direct drive propeller fan/motor assembly mounted directly to a vertical-discharge grille panel that is easily removable. Motors are 1140 RPM with permanently lubricated sleeve bearings and inherent overload protection.

EVAPORATOR BLOWER

The units have belt drive blowers for high static applications. The evaporator blower system has the capability to operate against the same rated external static pressure in downflow or horizontal duct designs.



INSTALLATION CLEARANCES



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