TECHNICAL GUIDE

SPLIT-SYSTEM HEAT PUMPS

10 SEER – R-22 60Hz

MODELS:

E*BA-(T,W)036 THRU 090
(3 THRU 7.5 NOMINAL TONS, 3 PH)

MODELS: 036-048 (3 PH)

MODELS: 060, 090 (3 PH)

ARI PERFORMANCE CERTIFIED ARI Standard 210/240 Unitary Heat Pumps

c UL us LISTED

ISO 9000 REGISTRATION ISO 9001 Certified Quality Management System

Due to continuous product improvement, specifications are subject to change without notice.

Visit us on the web at www.york.com

Additional rating information can be found at www.ari.org/aridirectory.

DESCRIPTION

The 10 SEER Series heat pumps is the outdoor part of a versatile system of heat pumps. It is designed to be custom-matched with one of UPG's complete line of evaporator sections, with each serving a specific function. Matching Air Handlers are available for upflow, downflow, or horizontal applications to provide a complete system. Electric Heaters are available, if required. Add-On coils are available for use with upflow, downflow, or horizontal furnaces and air handlers.

WARRANTY

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

FEATURES

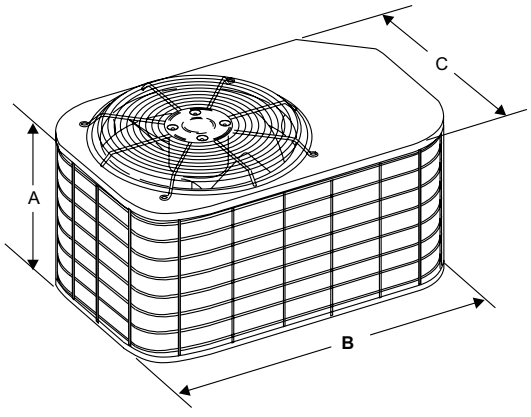
- **QUALITY COILS -** The coil is constructed of copper tube and aluminum fins.
- **COIL PROTECTION -** Coils are protected from damage by a polymer mesh applied between the coil face, and a PVC coated steel coil guard.
- **PROTECTED COMPRESSOR -** The compressor is internally protected against high pressure and temperature. This is accomplished by the simultaneous operation of high pressure relief valve and a temperature sensor which protects the compressor if undesirable operating conditions occur. A liquid line filter-drier further protects the compressor.
- **DURABLE FINISH -** Cabinet is made of pre-painted steel. The pre-treated flat galvanized steel provides a better paint to steel bond, which resists corrosion and rust creep. Special primer formulas and matted-textured finish insure less fading when exposed to sunlight.
- **LOWER INSTALLED COST -** Installation time and costs are reduced by easy power and control wiring connections. Discharge line heat exchanger knockouts are provided, if required. Available in sweat connect models only. The unit contains enough refrigerant for matching indoor coils and 15 feet of interconnecting piping. The small base dimension means less space is required on the ground or roof.
- **TOP DISCHARGE -** The warm air from the top mounted fan is blown up away from the structure and any landscaping. This allows compact location on multi-unit applications.
- **LOW OPERATING SOUND LEVEL -** The upward air flow carries the normal operating noise away from the living area. The rigid top panel effectively isolates any motor sound. Isolator mounted compressor and the rippled fins of the condenser coil muffle the normal fan motor and compressor operating sounds.
- **LOW MAINTENANCE -** Long life permanently lubricated motor-bearings need no annual servicing.
- **EASY SERVICE ACCESS -** Fully exposed refrigerant connections, a single panel covering the electrical controls, and the molex plug in the control box connecting the condenser fan make for easy servicing of the unit.
- **SECURED SERVICE VALVES -** Secured re-usable service valves are provided on both the liquid and vapor sweat connections for ease of evacuating and charging.
- **U.L. and C.U.L. listed -** approved for outdoor application.

Certified in accordance with the Unitary Small Equipment certification program, which is based on ARI Standard 210/240.

Physical and Electrical Data

MODEL		EBBA-T036S	EBBA-T048S	EABA-T060S	EABA-T090S	EBBA-W036S	EBBA-W048S	EABA-W060S	EABA-W090S
Unit Supply Voltage		208/230-3-60				460 - 3 - 60			
Normal Voltage Range [1]		187-252				432-504			
Minimum Circuit Ampacity		14.2	18.9	24.5	40.6	7.7	10.1	12.0	20.7
Max. Overcurrent Device Amps [2]		20	30	40	60	15	15	20	35
Min. Overcurrent Device Amps [3]		15	20	25	45	15	15	15	20
Compressor Type		Recip	Scroll	Scroll	Scroll	Recip	Scroll	Scroll	Scroll
Compressor Amps	Rated Load	10.3	14.1	18.6	28.8	5.5	7.0	9.0	14.7
	Locked Rotor	78	125	128	195	40	55	63	95
Crankcase Heater		Yes	No	No	No	Yes	No	No	No
Fan Motor Amps	Rated Load	1.4	1.3	1.3	4.6	.8	.7	.8	2.3
Fan Diameter Inches		22	22	24	24	22	22	24	24
Fan Motor	Rated HP	1/4	1/4	1/4	3/4	1/4	1/5	1/4	3/4
	Nominal RPM	1,100	850	850	1,100	1,100	825	850	1,100
	Nominal CFM	2900	3500	3100	5000	2900	3500	3100	5000
Coil	Face Area Sq. Ft.	15.7	19.7	18.0	22.5	15.7	19.7	18.0	22.5
	Rows Deep	1	1	2	2	1	1	2	2
	Fin / Inches	18	13	14	16	18	13	14	16
Liquid Line Set OD (Field Installed)		3/8	3/8	3/8	1/2	3/8	3/8	3/8	1/2
Vapor Line Set OD (Field Installed)		3/4	7/8	7/8	1-1/8	3/4	7/8	7/8	1-1/8
Unit Charge (Lbs. - Oz.) [4]		5 - 9	8 - 10	11 - 15	16 - 15	5 - 9	8 - 10	11 - 15	16 - 15
Charge Per Foot, Oz.		0.68	0.70	0.70	1.26	0.68	0.70	0.70	1.26
Operating Weight Lbs.		202	232	243	354	202	232	243	354

1. Rated in accordance with ARI Standard 110, utilization range “A”.
2. Dual element fuses or HACR circuit breaker. Maximum allowable overcurrent protection.
3. Dual element fuses or HACR circuit breaker. Minimum recommended overcurrent protection.
4. The Unit Charge is correct for the outdoor unit, matched indoor coil and 15 feet of refrigerant tubing. For tubing lengths other than 15 feet, add or subtract the amount of refrigerant, using the difference in length multiplied by the per foot value.



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

DIMENSIONS

Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A[1]	B	C	Liquid	Vapor
036	27	37	27	3/8	3/4
048	33	37	27		7/8
060	26	43	32		7/8
090	32	43	32	1/2”	1-1/8”

1. Including fan guard.

Additional R-22 Charge / Orifice Size for Various Matched Systems - 3 Phase

Outdoor Unit	EBBA-(T,W)036S	EBBA-(T,W)048S	EABA-(T,W)060S	EABA-(T,W)090S
Unit Orifice (s) [1]	73	81, 84, 87	99	–
Factory R-22 Charge, lbs-oz	5 - 9	8 - 10	11 - 15	16 - 15
Indoor Coil	System Orifice = Additional Charge, Oz			
FC/MC/PC35(B,C)3X	73 + 0	–	–	–
FC/MC/PC37A3X	73 + 11	–	–	–
FC/MC/PC43(B,C)3X	73 + 11	–	–	–
FC/MC/PC/UC48C3X	–	87 + 6	–	–
FC/MC/PC/UC48D3X	–	87 + 6	–	–
FC/MC/PC/UC60C3X	–	84 + 4	99 + 0	–
FC/MC/PC/UC60D3X	–	84 + 4	99 + 0	–
FC/MC62D	–	–	99 + 2	–
HC36	73 + 0	–	–	–
HC42	73 + 11	–	–	–
HC60	–	84 + 4	99 + 0	–
HD36	73 + 5	–	–	–
HD48	–	87 + 6	–	–
HD60	–	–	99 + 0	–
AHP36C3X	73 + 11	–	–	–
AHP42C3X	73 + 11	–	–	–
AHP/SHP48D3X	–	84 + 4	–	–
AHP60D3X	–	84 + 4	99 + 0	–
F4FP040	73 + 0	–	–	–
F4FP042	73 + 0	–	–	–
F5FP048	–	87 + 6	–	–
F5FP060	–	84 + 4	99 + 0	–
F3EH090A33	–	–	–	TXV[2] + 0

FOOTNOTES:

1. These orifices are packed in the instruction/warranty packet of each outdoor unit.
2. A TXV is factory mounted in the coil or air handler.

PROCEDURES:

1. Unit factory charge listed on the unit nameplate includes refrigerant for the condenser, the smallest evaporator and 15 feet of interconnecting line tubing.
2. Verify the orifice size and additional charge required for specific evaportor coil in the system using the above table.
3. Additional charge for the amount of interconnecting line tubing greater than 15 feet at the rate specified in the table above.
4. Permanently mark the unit nameplate with the total system charge. Total System Charge = Base Charge (as shipped) + adder for evaporator + adder for line set.
5. If the orifice in the evaporator was changed, verify the evaporator nameplate has been marked with the correct orifice size.

COOLING CAPACITY - With Air Handler Coils

UNIT MODEL	AIR HANDLER		COIL[1] MODEL	COOLING					
	MODEL	W		RATED CFM	NET MBH		SEER W/O TXV	SEER WITH TXV[2]	EER
					TOTAL	SENS.			
3 PH 10 SEER HP WITH MA									
EBBA-(T,W)036S	MA12BN2,4	17	FC/MC35B	1200	35.4	25.1	10	–	9.45
	MA12BN2,4	17	FC/MC43B	1200	35.4	25.1	10	–	9.45
EBBA-(T,W)048S	MA16CN4	21	FC/MC48C	1600	45.5	33.7	10	–	9.45
	MA20DN2	24	FC/MC48D	1725	45.5	33.7	10	–	9.45
	MA20DN4	24	FC/MC48D	1725	45.5	33.7	10	–	9.45
EABA-(T,W)060S	MA20DN4	24	FC/MC60D	2000	57.0	41.0	10	–	9.80
3 PH 10 SEER HP WITH AHP / SHP / F*FP									
EBBA-(T,W)036S	F4FP040	21	–	1200	35.4	25.1	10	–	9.45
	F4FP042	21	–	1200	35.4	25.1	10	–	9.45
	AHP36	21	–	1200	35.4	25.1	10	–	9.45
	AHP42	21	–	1200	35.4	25.1	10	–	9.45
EBBA-(T,W)048S	F5FP048	24	–	1600	45.0	33.5	10	–	9.40
	F5FP060	24	–	1600	46.5	34.4	10	–	9.60
	AHP/SHP48	24	–	1600	46.5	34.4	10	–	9.60
EABA-(T,W)060S	F5FP060	24	–	1700	56.0	40.0	10	–	9.40
	AHP/SHP60	24	–	1700	56.0	40.0	10	–	9.40
3 PH 10 SEER HP WITH F*EH									
EABA-(T,W)090S	F3EH090	25-1/8	–	3000	89.0	85.5	–	–	9.40

Rated in accordance with DOE test procedures (Federal Register 12-27-79 and 3-18-88) and ARI Standards 210/240.
Cooling MBH based on 80°F entering air temperature, 50% RH, and rated air flow.
KW includes compressor, outdoor fan and indoor blower motor watts. Add-on coils include 365 watts/1000 CFM for blower motor.
EER (Energy Efficiency Ratio) is the total cooling output in BTU's at a 95°F outdoor ambient divided by the total electric power in watt-hours at those conditions.
SEER (Seasonal Energy Efficiency Ratio) is the total cooling output in BTU's during a normal annual usage period for cooling divided by the total electric power input in watt-hours during the same period.

1. MC coils available with a factory installed horizontal drain pan. See price pages for specific model number.
2. TXV = Use 1TV700 Series Kit.

- = Not applicable.
— = Not applicable.

Go to www.ari.org/aridirectory for the latest additional matches.

COOLING CAPACITY - Upflow, Downflow, & Horizontal Furnaces and Coils

UNIT MODEL	FURNACE**		COIL MODEL	COOLING					
	CFM RANGE (Min.-max.)	W		RATED CFM	NET MBH		SEER W/O TXV	SEER + TXV[1] + TDR*	EER
					TOTAL	SENS.			
EBBA-(T,W)036S	1100 1400	17,21	FC/MC/PC35	1200	35.4	25.1	10	–	9.45
		14	FC/MC/PC37	1200	35.4	25.1	10	–	9.45
		17,21	FC/MC/PC43	1200	35.4	25.1	10	–	9.45
		21	HC36	1200	35.4	25.1	10	–	9.45
		21	HC42	1200	35.4	25.1	10	–	9.45
		–	HD36	1200	35.4	25.1	10	–	9.45
EBBA-(T,W)048S	1400 1800	21,24	FC/MC/PC48	1600	45.5	32.6	10	–	9.5
		21,24	FC/MC/PC60	1600	46.5	33.4	10	–	9.6
		24	HC60	1600	46.0	33.0	10	–	9.5
		–	HD48	1600	46.0	33.0	10	–	9.6
EABA-(T,W)060S	1600 2100	21,24	FC/MC/PC60	1700	55.0	39.5	10	–	9.8
		24	FC/MC62	1700	55.5	39.9	10	–	9.8
		24	HC60	1700	55.0	39.5	10	–	9.8
		24	HD60	1700	55.0	39.5	10	–	9.8

1. TXV = Use 1TV700 Series Kit.

* Requires a 2FD Blower Time Delay unless a standard furnace is equipped with one.

** Refer to Quick Selection Chart for specific furnace match-up.

HEATING PERFORMANCE - With Air Handler

UNIT MODEL*	Air Handler	COIL[1] MODEL	ARI HEATING[2]				
			47°F		17°F		HSPF
			MBH	COP	MBH	COP	STD
3 PH 10 SEER HP WITH MA							
EBBA-(T,W)036S	MA12BN2,4	FC/MC35B	36.0	3.40	22.0	2.56	7.8
	MA12BN2,4	FC/MC43B	36.0	3.40	22.0	2.56	7.8
EBBA-(T,W)048S	MA16CN4	FC/MC48C	47.0	3.02	31.2	2.32	7.5
	MA20DN2	FC/MC48D	47.0	3.02	31.2	2.32	7.5
	MA20DN4	FC/MC48D	47.0	3.02	31.2	2.32	7.5
EABA-(T,W)060S	MA20DN4	FC/MC60D	58.0	3.20	38.5	2.40	7.7
3 PH 10 SEER HP WITH AHP / SHP / F*FP							
EBBA-(T,W)036S	F4FP040	–	36.0	3.40	22.0	2.56	7.8
	F4FP042	–	36.0	3.40	22.0	2.56	7.8
	AHP36	–	36.0	3.40	22.0	2.56	7.8
	AHP42	–	36.0	3.40	22.0	2.56	7.8
EBBA-(T,W)048S	F5FP048	–	47.0	3.02	31.2	2.32	7.5
	F5FP060	–	47.0	3.02	31.2	2.32	7.5
	AHP/SHP48	–	47.0	3.02	31.2	2.32	7.5
EABA-(T,W)060S	F5FP060	–	58.0	3.20	38.5	2.40	7.7
	AHP/SHP60	–	58.0	3.20	38.5	2.40	7.7
3 PH 10 SEER HP WITH F*EH							
EABA-(T,W)090S	F3EH090	–	83.0	3.00	54.0	2.15	–

1. Rated CFM same as for cooling.
2. Heating MBH based on ARI standards of 70° DB entering indoor air, 72% RH outdoor air with 25 feet of interconnecting piping and no supplemental electric heat operation.

COP equals MBH output divided by (total KW input x 3.412).

HSPF (Heating Seasonal Performance Factor) is the total heating output during a normal annual usage period for heating divided by the total electric power input during the same period.

— = Not Applicable.

HEATING CAPACITY - Upflow, Downflow, & Horizontal Furnaces and Coils

UNIT MODEL*	COIL[1] MODEL	ARI HEATING[2]				
		47°F		17°F		HSPF
		MBH	COP	MBH	COP	STD
EBBA-(T,W)036S	FC/MC/PC35	36.0	3.40	22.0	2.56	7.8
	FC/MC/PC37A	36.0	3.40	22.0	2.56	7.8
	FC/MC/PC43	36.0	3.40	22.0	2.56	7.8
	HC36	36.0	3.40	22.0	2.56	7.8
	HC42	36.0	3.40	22.0	2.56	7.8
	HD36	36.0	3.40	22.0	2.56	7.8
EBBA-(T,W)048S	FC/MC/PC/UC48	47.0	3.02	31.2	2.32	7.5
	FC/MC/PC/UC48	47.0	3.02	31.2	2.32	7.5
	FC/MC/PC/UC60	47.0	3.02	31.2	2.32	7.5
	HC60	47.0	3.02	31.2	2.32	7.5
	HD48	47.0	3.02	31.2	2.32	7.5
EABA-(T,W)060S	FC/MC/PC/UC60	58.0	3.20	38.5	2.40	7.7
	FC/MC62	58.0	3.20	38.5	2.40	7.7
	HC60	58.0	3.20	38.5	2.40	7.7
	HD60	58.0	3.20	38.5	2.40	7.7

1. Rated CFM same as for cooling.
2. Heating MBH based on ARI standards of 70° DB entering indoor air, 72% RH outdoor air with 25 feet of interconnecting piping and no supplemental electric heat operation.

COP equals MBH output divided by (total KW input x 3.412).

HSPF (Heating Seasonal Performance Factor) is the total heating output during a normal annual usage period for heating divided by the total electric power input during the same period.

— = Not Applicable.

ACCESSORIES

Refer to Price Manual for specific model numbers.

Start Assist Kit (2SA067*)

Blower Time Delay - Available to increase efficiency when installed. Installs on indoor section and maintains blower for approximately one minute after cooling thermostat has been satisfied.

Hard Start Kits - Provides required starting torque for use with Thermal Expansion Valve Kit.

Low Temperature Cutout (2LT06700224) - Prevents heat pump operation below -10°F ambient temperature.

Compressor Blanket - Designed to further reduce the normal operating sound.

Add-on Fossil Fuel Control - Interface controls for use with gas, oil furnaces and the heat pump system are available.

Thermal Expansion Valve Kit - 1TVM700 Series TXV kit used to improve system performance.

Outdoor Thermostat (2TD06700124) - Provides additional staging of supplemental electric heat.

Room Thermostats - A wide selection of matching thermostats is available to provide features required for any installation.

2H/1C, manual changeover electronic non-programmable thermostat.

3H/2C, non-programmable digital thermostat.

3H/2C, auto/manual changeover, electronic programmable, 7-day, thermostat.

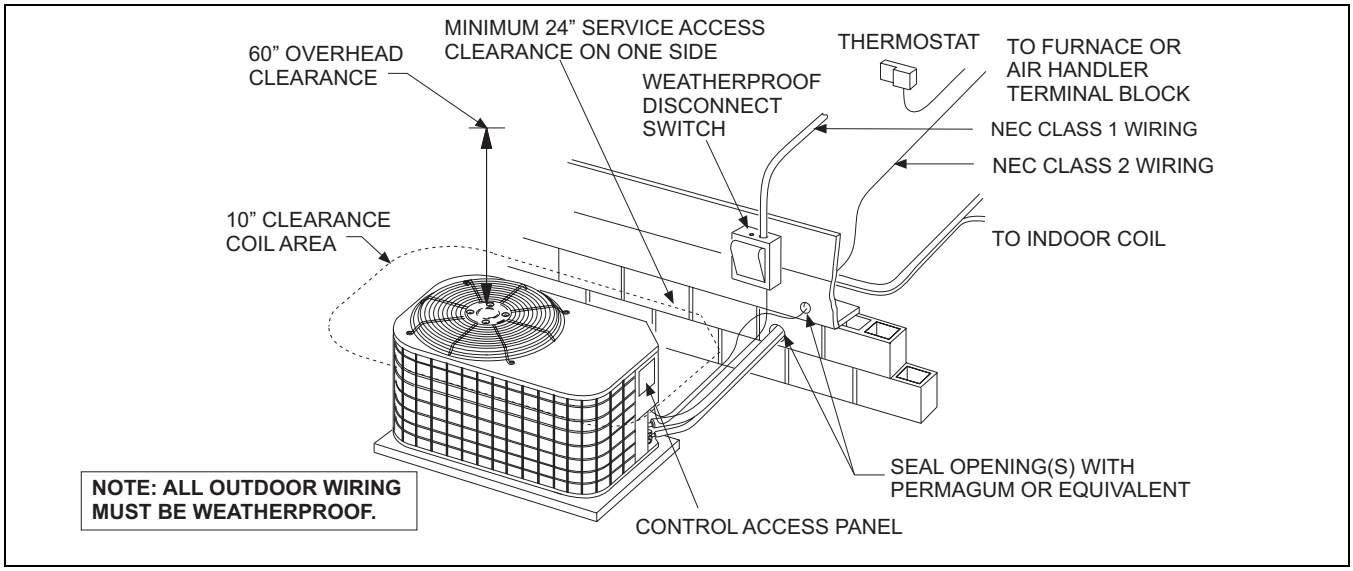
* For the most current accessory information, refer to the price book or consult factroy.

SOUND POWER RATINGS*

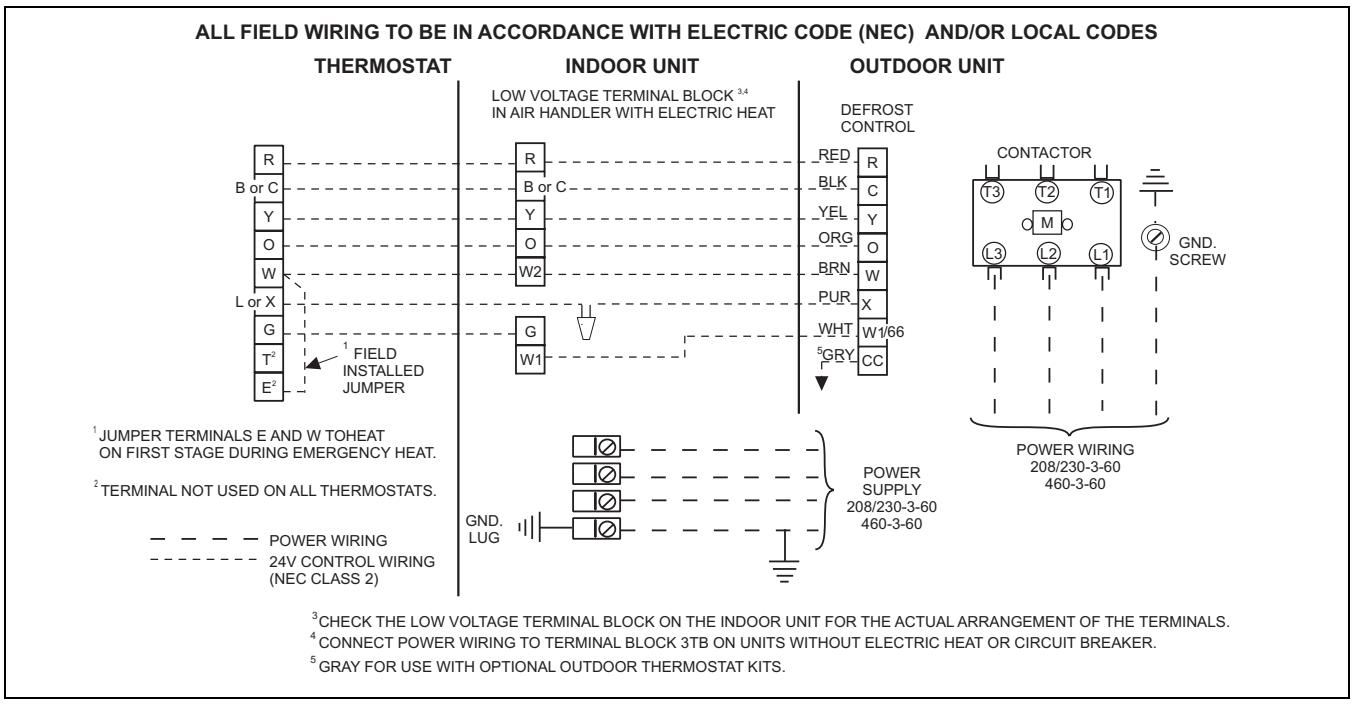
Unit MODEL	(dBA)
036	TBD
048	77
060	82
090	TBD

* Rated in accordance with ARI 270-95 Standards.

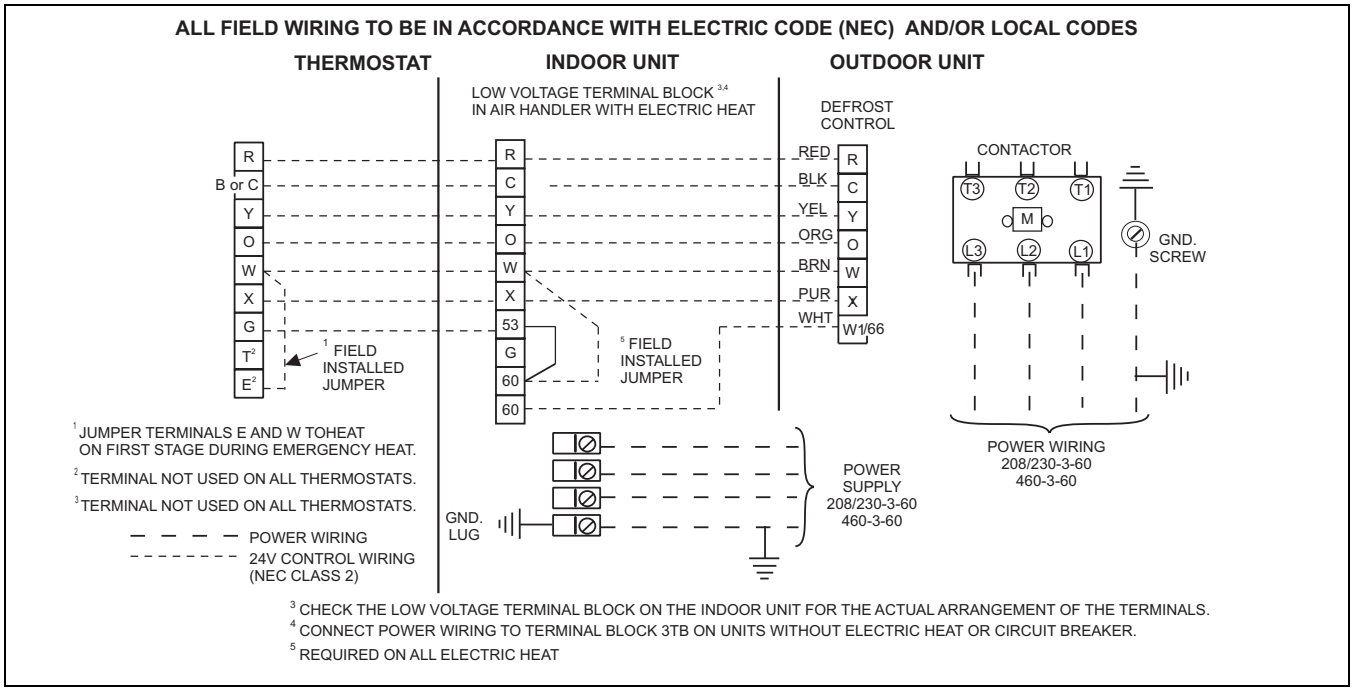
TYPICAL INSTALLATION



TYPICAL FIELD WIRING - 3 PH (036 - 060)



TYPICAL FIELD WIRING - 3 PH (090)



COOLING PERFORMANCE DATA																
AIR CONDITIONER MODEL NO.		**EBBA-(T,W)036S**														
INDOOR COIL MODEL NO.		**FC/MC/PC35**														
CONDENSER ENTERING AIR TEMPERATURE	ID CFM	600					800					1000				
	ID DB (°F)	80	80	75	80	80	80	80	75	80	80	80	80	75	80	80
	ID WB (°F)	57	62	62	67	72	57	62	62	67	72	57	62	62	67	72
75	T.C.	33.8	35.4	34.1	37.0	38.6	36.1	37.0	35.5	38.0	39.6	38.4	38.7	36.9	39.1	40.6
	S.C.	32.0	30.4	25.0	24.2	18.2	34.1	33.0	27.5	25.6	18.9	36.2	35.6	29.9	27.1	19.6
	KW	2.75	2.77	2.78	2.81	2.86	2.78	2.79	2.79	2.83	2.87	2.80	2.81	2.81	2.85	2.88
85	T.C.	31.8	33.4	31.7	35.4	37.1	34.2	35.3	33.2	36.6	38.1	36.6	37.2	34.7	37.7	39.0
	S.C.	29.9	29.6	24.1	23.6	17.7	32.1	32.1	26.5	25.2	18.7	34.3	34.7	28.9	26.9	19.7
	KW	2.96	2.98	2.98	3.06	3.13	3.00	3.01	3.00	3.08	3.15	3.04	3.04	3.02	3.11	3.16
95	T.C.	29.8	31.4	29.3	33.7	35.6	32.3	33.6	30.9	35.1	36.6	34.7	35.8	32.5	36.4	37.5
	S.C.	27.9	28.7	23.1	23.0	17.2	30.2	31.2	25.6	24.8	18.5	32.5	33.7	28.0	26.7	19.8
	KW	3.16	3.18	3.17	3.30	3.41	3.22	3.23	3.20	3.33	3.42	3.28	3.28	3.23	3.37	3.44
105	T.C.	28.2	29.3	27.1	31.0	32.9	30.3	31.2	28.6	32.2	34.0	32.4	33.0	30.1	33.5	35.0
	S.C.	26.3	27.1	22.2	22.0	16.4	28.3	29.1	24.5	23.9	17.8	30.2	31.2	26.8	25.8	19.2
	KW	2.1	3.4	3.4	3.5	3.6	2.8	3.5	3.4	3.5	3.7	3.5	3.5	3.4	3.6	3.7
115	T.C.	26.6	27.3	25.0	28.3	30.3	28.4	28.8	26.3	29.5	31.5	30.1	30.4	27.7	30.6	32.6
	S.C.	24.7	25.5	21.2	21.1	15.7	26.4	27.1	23.4	23.0	17.1	28.0	28.7	25.6	24.9	18.6
	KW	1.04	3.61	3.55	3.70	3.86	2.39	3.67	3.59	3.74	3.89	3.73	3.72	3.64	3.78	3.93
125	T.C.	25.0	25.3	22.9	25.6	27.7	26.4	26.5	24.1	26.7	29.0	27.8	27.7	25.3	27.8	30.2
	S.C.	23.1	23.9	20.3	20.1	14.9	24.5	25.1	22.3	22.0	16.4	25.8	26.2	24.4	24.0	18.0
	KW	0.00	3.83	3.74	3.90	4.08	1.98	3.88	3.79	3.94	4.13	3.95	3.94	3.84	3.97	4.17
NOTE: ALL CAPACITIES INCLUDE INDOOR FAN HEAT AT 1250 BTUH/1000 CFM.																

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree belowthe listed temperature.

Air Handler	Coil	T.C.	S.C.	KW
MA12BN2,4	FC/MC35B	1.00	1.00	1.00
MA12BN2,4	FC/MC43B	1.00	1.00	1.00
AHP36	–	1.00	1.00	1.00
AHP42	–	1.00	1.00	1.00
F*FP040	–	1.00	1.00	1.00
F*FP042	–	1.00	1.00	1.00
–	FC/MC/PC37A	1.00	1.00	1.00
–	FC/MC/PC43	1.00	1.00	1.00
–	HC36	1.00	1.00	1.00
–	HC42	1.00	1.00	1.00
–	HD36	1.00	1.00	1.00

COOLING PERFORMANCE DATA													
AIR CONDITIONER MODEL NO.		**EBBA-(T,W)048S**											
INDOOR COIL MODEL NO.		**FC/MC/PC48**											
CONDENSER ENTERING AIR TEMPERATURE	ID CFM	1300				1450				1550			
	ID DB (°F)	85	80	75	70	85	80	75	70	85	80	75	70
	ID WB (°F)	72	67	62	57	72	67	62	57	72	67	62	57
75	T.C.	52.3	48.3	45.0	40.6	53.0	49.0	45.7	41.3	53.4	49.4	46.1	41.9
	S.C.	32.5	32.8	31.7	33.5	34.0	34.3	33.2	35.1	35.0	35.2	34.1	36.3
	KW	4.14	4.07	4.02	3.95	4.16	4.08	4.04	3.97	4.17	4.09	4.05	3.97
85	T.C.	50.9	47.0	43.7	39.4	51.5	47.6	44.4	40.3	51.9	48.0	44.7	40.6
	S.C.	32.4	32.6	31.6	33.3	34.0	34.2	33.2	35.1	35.2	35.4	34.2	36.2
	KW	4.44	4.36	4.30	4.22	4.46	4.38	4.32	4.24	4.47	4.38	4.33	4.25
95	T.C.	48.8	45.0	41.8	37.9	49.2	45.5	42.4	38.4	49.6	45.8	42.7	38.7
	S.C.	32.0	32.2	31.2	32.9	33.6	33.8	32.9	34.5	34.9	35.1	33.8	35.6
	KW	4.87	4.79	4.73	4.64	4.90	4.81	4.74	4.66	4.91	4.81	4.76	4.67
105	T.C.	46.1	42.5	39.5	35.8	46.6	43.0	40.1	36.3	46.4	43.3	40.4	36.7
	S.C.	31.0	31.1	30.1	32.0	32.9	32.9	31.9	33.7	33.8	34.3	32.9	35.1
	KW	5.37	5.28	5.22	5.12	5.38	5.30	5.22	5.14	5.34	5.30	5.24	5.14
115	T.C.	43.2	39.9	37.0	33.5	43.6	40.3	37.6	34.2	43.8	40.6	37.9	35.0
	S.C.	29.9	30.2	29.2	30.7	31.8	32.1	30.8	32.8	32.9	33.1	31.8	34.5
	KW	5.90	5.80	5.74	5.66	5.90	5.80	5.76	5.66	5.92	5.83	5.78	5.68
125	T.C.	40.3	37.3	34.6	31.2	40.6	37.6	35.0	32.1	41.2	37.9	35.3	33.3
	S.C.	28.8	29.3	28.2	29.4	30.7	31.3	29.7	31.9	32.0	31.9	30.8	33.9
	KW	6.43	6.32	6.27	6.20	6.42	6.30	6.31	6.18	6.50	6.36	6.31	6.22
NOTE: ALL CAPACITIES INCLUDE INDOOR FAN HEAT AT 1250 BTUH/1000 CFM.													

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree belowthe listed temperature.

Air Handler	Coil	T.C.	S.C.	KW
MA16CN2,4	FC/MC48C	1.00	1.00	0.97
MA20DN2,4	FC/MC48D	1.00	1.00	0.97
AHP/SHP48	–	1.02	1.01	1.02
F5FP048	–	1.02	1.01	1.02
F5FP060	–	1.02	1.01	1.02
–	FC/MC/PC60	1.02	1.02	1.00
–	HC60	1.02	1.02	1.00
–	HD48	1.01	1.01	1.00

COOLING PERFORMANCE DATA										
AIR CONDITIONER MODEL NO.		**EABA-(T,W)060S**								
INDOOR COIL MODEL NO.		**FC/MC/PC60**								
CONDENSER ENTERING AIR TEMPERATURE	ID CFM	1600			1800			2000		
	ID DB (°F)	85	80	75	85	80	75	85	80	75
	ID WB (°F)	71	67	63	71	67	63	71	67	63
65	T.C.	63.0	61.1	60.7	62.9	60.9	61.1	62.9	60.6	61.4
	S.C.	39.6	39.7	40.3	41.6	41.5	42.2	43.7	43.3	44.1
	KW	3.71	3.66	3.68	3.71	3.66	3.67	3.71	3.67	3.67
75	T.C.	62.3	59.8	57.9	62.5	60.0	58.5	62.6	60.1	59.0
	S.C.	39.6	39.3	39.1	41.8	41.3	41.1	43.9	43.3	43.1
	KW	4.20	4.14	4.12	4.21	4.15	4.13	4.21	4.16	4.13
85	T.C.	61.7	58.5	55.1	62.0	59.1	55.9	62.3	59.6	56.6
	S.C.	39.6	38.9	38.0	41.9	41.1	40.1	44.2	43.3	42.2
	KW	4.70	4.63	4.57	4.71	4.64	4.58	4.72	4.65	4.60
95	T.C.	61.0	57.2	52.3	61.5	58.2	53.3	62.0	59.1	54.2
	S.C.	39.6	38.5	36.8	42.0	40.9	39.0	44.4	43.3	41.2
	KW	5.19	5.11	5.01	5.21	5.13	5.04	5.22	5.14	5.06
105	T.C.	58.3	53.9	49.1	59.1	54.7	49.9	60.0	55.6	50.7
	S.C.	38.5	37.2	35.4	41.0	39.6	37.6	43.6	41.9	39.8
	KW	5.78	5.67	5.55	5.80	5.69	5.57	5.82	5.71	5.60
115	T.C.	55.5	50.5	45.9	56.8	51.3	46.5	58.0	52.1	47.1
	S.C.	37.4	35.9	34.0	40.1	38.2	36.2	42.7	40.5	38.3
	KW	6.36	6.22	6.08	6.39	6.25	6.11	6.41	6.27	6.13
NOTE: ALL CAPACITIES INCLUDE INDOOR FAN HEAT AT 1250 BTUH/1000 CFM.										

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree belowthe listed temperature.

Air Handler	Coil	T.C.	S.C.	KW
MA20DN2,4	FC/MC60D	1.00	1.00	1.00
AHP/SHP60	–	0.98	0.98	1.02
F5FP060	–	0.98	0.98	1.02
–	FC/MC62	1.01	1.01	1.01
–	HC60	1.00	1.00	1.00
–	HD60	1.00	1.00	1.00

COOLING PERFORMANCE DATA										
AIR CONDITIONER MODEL NO.		**EABA-(T,W)090S**								
INDOOR COIL MODEL NO.		**F3EH090**								
CONDENSER ENTERING AIR TEMPERATURE	ID CFM	2400			3000			3600		
	ID DB (°F)	85	80	75	85	80	75	85	80	75
	ID WB (°F)	71	67	63	71	67	63	71	67	63
75	T.C.	103.9	94.3	88.5	107.3	98.0	92.1	110.6	101.8	95.7
	S.C.	86.2	82.8	81.1	95.3	91.5	89.1	104.4	100.3	97.2
	K.W	8.13	8.14	7.84	8.22	8.18	7.94	8.30	8.22	8.03
85	T.C.	99.6	91.2	85.5	103.1	94.6	88.8	106.5	98.0	92.1
	S.C.	84.1	80.9	79.0	93.4	89.5	87.2	102.8	98.1	95.4
	K.W	8.91	8.83	8.61	8.98	8.89	8.69	9.06	8.94	8.78
95	T.C.	95.3	88.2	82.4	98.8	91.2	85.5	102.3	94.2	88.6
	S.C.	82.0	79.0	76.8	91.6	87.4	85.2	101.1	95.8	93.6
	K.W	9.68	9.53	9.38	9.75	9.60	9.45	9.82	9.66	9.53
105	T.C.	91.1	84.2	78.6	94.4	86.9	81.5	97.6	89.5	84.5
	S.C.	79.4	76.8	74.6	89.0	85.0	82.9	98.7	93.3	91.1
	K.W	10.62	10.47	10.33	10.70	10.55	10.40	10.78	10.63	10.46
115	T.C.	86.9	80.2	74.7	89.9	82.5	77.6	92.9	84.8	80.5
	S.C.	76.7	74.6	72.5	86.5	82.7	80.5	96.3	90.8	88.5
	K.W	11.55	11.41	11.29	11.64	11.50	11.34	11.74	11.60	11.40
125	T.C.	82.7	76.2	70.8	85.4	78.2	73.6	88.1	80.1	76.4
	S.C.	74.1	72.4	70.3	84.0	80.4	78.2	93.8	88.3	86.0
	K.W	12.48	12.35	12.24	12.59	12.46	12.29	12.69	12.57	12.33
NOTE: ALL CAPACITIES INCLUDE INDOOR FAN HEAT AT 1250 BTUH/1000 CFM.										

HEATING PERFORMANCE DATA										
CONDENSING UNIT MODEL NO		**EBBA-(T,W)036S**								
EVAPORATOR COIL MODEL NO		**FC/MC/PC35**								
AIR TEMP. ENTERING OUTDOOR UNIT	**AIR TEMP. ENTERING INDOOR COIL**	ID CFM								
		1000			1200			1400		
		MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.
60	60	46.5	4.00	3.04	47.6	4.10	2.96	48.8	4.21	2.88
	70	43.6	3.59	3.19	45.2	4.10	2.39	46.8	4.21	3.04
	80	40.7	3.20	3.35	42.8	4.10	3.27	44.9	4.21	3.19
47	60	39.1	3.68	2.74	40.0	4.10	2.67	40.9	4.21	2.60
	70	36.8	3.34	2.86	38.0	4.10	2.08	39.2	4.21	2.76
	80	34.5	3.01	2.99	36.1	4.10	2.95	37.6	4.21	2.91
40	60	33.7	3.39	2.54	34.9	4.10	2.49	36.2	4.21	2.44
	70	31.4	3.03	2.67	33.0	4.10	2.61	34.6	4.21	2.56
	80	29.2	2.70	2.80	31.1	4.10	2.74	33.0	4.21	2.69
30	60	27.2	2.79	2.49	30.4	4.10	2.40	33.6	4.21	2.30
	70	26.3	2.70	2.48	28.6	4.10	2.42	30.9	4.21	2.36
	80	25.5	2.63	2.47	26.8	4.10	2.45	28.2	4.21	2.42
17	60	22.1	2.59	2.13	24.5	4.10	2.10	26.8	4.21	2.07
	70	21.4	2.47	2.17	23.1	4.10	2.15	24.8	4.21	2.13
	80	20.7	2.35	2.21	21.7	4.10	2.20	22.8	4.21	2.19
10	60	23.7	2.99	1.95	23.8	4.10	1.95	23.8	4.21	1.94
	70	21.6	2.67	2.00	21.9	4.10	1.99	22.0	4.21	1.98
	80	19.6	2.37	2.05	20.0	4.10	2.03	20.3	4.21	2.02
NOTE: ALL CAPACITIES INCLUDE INDOOR FAN HEAT AT 1250 BTUH/1000 CFM.										

Multipliers for determining the performance with other indoor sections.

Air Handler	Coil	MBH	KW	COP
MA12BN2,4	FC/MC35B	1.00	1.00	1.00
MA12BN2,4	FC/MC43B	1.00	1.00	1.00
AHP36	–	1.00	1.00	1.00
AHP42	–	1.00	1.00	1.00
F*FP040	–	1.00	1.00	1.00
F*FP042	–	1.00	1.00	1.00
–	FC/MC/PC37A	1.00	1.00	1.00
–	FC/MC/PC43	1.00	1.00	1.00
–	HC36	1.00	1.00	1.00
–	HC42	1.00	1.00	1.00
–	HD36	1.00	1.00	1.00

HEATING PERFORMANCE DATA										
CONDENSING UNIT MODEL NO		**EBBA-(T,W)048S**								
EVAPORATOR COIL MODEL NO		**FC/MC/PC48**								
AIR TEMP. ENTERING OUTDOOR UNIT	**AIR TEMP. ENTERING INDOOR COIL**	ID CFM								
		1250			1400			1550		
		MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.
60	60	53.4	4.86	3.23	52.9	4.72	3.28	52.2	4.25	3.61
	70	54.2	4.76	3.34	54.1	4.61	3.44	53.7	4.14	3.80
	80	54.1	5.57	2.85	54.4	5.39	2.96	54.4	4.83	3.30
47	60	47.0	4.54	3.03	46.6	4.45	3.07	46.5	4.05	3.36
	70	46.9	4.56	3.02	47.0	4.47	3.08	47.2	4.06	3.41
	80	46.3	5.24	2.59	46.9	5.13	2.68	47.3	4.65	2.98
40	60	37.7	3.54	3.12	42.9	4.31	2.92	43.4	3.93	3.24
	70	37.3	3.98	2.75	42.9	4.40	2.86	42.6	4.13	3.02
	80	36.6	5.79	1.85	42.5	5.00	2.50	40.0	5.47	2.14
30	60	37.7	4.01	2.76	38.7	4.03	2.82	37.9	3.70	3.00
	70	36.7	4.16	2.58	38.2	4.22	2.65	38.4	3.93	2.86
	80	35.3	4.60	2.25	37.3	4.70	2.33	38.7	4.44	2.55
17	60	32.2	3.67	2.57	32.7	3.68	2.61	33.0	3.40	2.85
	70	30.8	3.98	2.27	31.4	3.97	2.32	31.8	3.66	2.55
	80	29.4	4.30	2.00	30.1	4.29	2.06	30.6	3.94	2.28
10	60	29.2	3.46	2.48	29.6	3.46	2.51	30.1	3.19	2.77
	70	27.5	3.81	2.12	27.9	3.80	2.15	28.4	3.51	2.37
	80	25.8	4.02	1.88	26.3	4.02	1.92	26.7	3.71	2.12
NOTE: ALL CAPACITIES INCLUDE INDOOR FAN HEAT AT 1250 BTUH/1000 CFM.										

Multipliers for determining the performance with other indoor sections.

Air Handler	Coil	MBH	KW	COP
MA16CN2,4	FC/MC48C	1.00	1.00	0.97
MA20DN2,4	MC48D	1.00	1.02	0.98
AHP/SHP48	–	1.01	1.02	0.99
F5FP048	–	1.01	1.02	0.99
F5FP060	–	1.01	1.02	0.99
–	FC/MC/PC60	0.99	1.04	0.96
–	HC60	0.98	1.04	0.98
–	HD48	1.00	1.02	0.98

HEATING PERFORMANCE DATA										
CONDENSING UNIT MODEL NO		**EABA-(T,W)060S**								
EVAPORATOR COIL MODEL NO		**FC/MC/PC60**								
AIR TEMP. ENTERING OUTDOOR UNIT	**AIR TEMP. ENTERING INDOOR COIL**	ID CFM								
		1600			1800			2000		
		MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.
60	60	63.6	5.09	3.67	61.9	4.98	3.64	60.1	4.87	3.62
	70	64.8	5.33	3.56	63.5	5.18	3.59	62.2	5.04	3.62
	80	65.9	5.60	3.45	65.1	5.39	3.54	64.2	5.20	3.62
47	60	56.9	4.15	4.03	55.7	4.02	4.06	54.4	3.90	4.10
	70	58.3	4.62	3.70	58.0	4.54	3.75	56.3	4.35	3.80
	80	59.7	5.19	3.38	59.0	5.03	3.44	58.2	4.88	3.50
40	60	54.5	4.05	3.95	53.3	3.93	3.97	52.0	3.81	4.00
	70	53.7	4.41	3.57	53.4	4.32	3.63	53.2	4.22	3.69
	80	52.9	4.87	3.19	53.6	4.78	3.29	54.3	4.71	3.38
30	60	49.6	3.89	3.74	49.8	3.80	3.84	49.9	3.72	3.93
	70	47.7	4.18	3.34	48.0	4.10	3.44	48.4	4.02	3.53
	80	45.8	4.57	2.94	46.3	4.47	3.04	46.8	4.39	3.13
17	60	40.6	3.56	3.34	41.0	3.51	3.42	41.3	3.46	3.50
	70	38.8	3.86	2.94	39.2	3.80	3.02	39.7	3.74	3.11
	80	36.9	4.26	2.54	37.5	4.18	2.63	38.0	4.10	2.71
10	60	36.3	3.53	3.01	36.7	3.46	3.11	37.1	3.38	3.21
	70	34.3	3.82	2.63	34.7	3.74	2.72	35.2	3.67	2.81
	80	32.2	4.19	2.25	32.7	4.12	2.33	33.2	4.05	2.40
NOTE: ALL CAPACITIES INCLUDE INDOOR FAN HEAT AT 1250 BTUH/1000 CFM.										

Multipliers for determining the performance with other indoor sections.

Air Handler	Coil	MBH	KW	COP
MA20DN2,4	FC/MC60D	1.00	1.00	1.00
AHP/SHP60	–	1.01	1.03	0.98
F5FP060	–	1.01	1.03	0.98
–	FC/MC62	1.00	1.00	1.00
–	HC60	1.00	1.00	1.00
–	HD60	1.00	1.00	1.00

HEATING PERFORMANCE DATA										
CONDENSING UNIT MODEL NO		**EABA-(T,W)090S**								
EVAPORATOR COIL MODEL NO		**F3EH090**								
AIR TEMP. ENTERING OUTDOOR UNIT	**AIR TEMP. ENTERING INDOOR COIL**	ID CFM								
		2400			3000			3600		
		MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.
60	60	94.5	8.93	3.10	91.9	8.63	3.13	89.2	8.38	3.12
	70	96.7	9.32	3.04	94.8	8.98	3.10	92.8	8.72	3.12
	80	96.7	10.88	2.61	95.5	10.42	2.69	94.1	10.10	2.73
47	60	82.3	8.61	2.80	81.7	8.39	2.86	78.7	8.25	2.80
	70	83.0	8.99	2.71	83.3	8.76	2.79	80.9	8.63	2.75
	80	82.2	10.26	2.35	83.2	9.99	2.44	81.5	9.83	2.43
40	60	76.5	8.23	2.73	77.4	8.27	2.75	74.3	8.17	2.67
	70	77.3	8.86	2.56	77.4	8.78	2.58	76.7	8.74	2.58
	80	76.9	9.91	2.28	76.2	9.67	2.31	78.0	9.65	2.37
30	60	71.0	8.15	2.55	71.4	8.07	2.60	71.1	7.99	2.61
	70	69.1	8.85	2.29	69.8	8.74	2.34	69.9	8.69	2.36
	80	66.4	9.37	2.08	67.3	9.23	2.14	67.9	9.21	2.16
17	60	54.8	7.43	2.16	56.3	7.51	2.20	53.3	7.50	2.09
	70	53.1	7.86	1.98	54.0	7.88	2.05	52.0	7.87	1.94
	80	51.4	8.44	1.79	52.9	8.38	1.85	50.7	8.38	1.77
10	60	48.2	7.17	1.97	50.1	7.20	2.04	50.5	7.17	2.07
	70	46.0	7.52	1.79	47.6	7.54	1.85	48.2	7.53	1.88
	80	44.1	7.80	1.66	45.5	7.81	1.71	46.2	7.82	1.73
NOTE: ALL CAPACITIES INCLUDE INDOOR FAN HEAT AT 1250 BTUH/1000 CFM.										

347201-BTG-B-0108
Supersedes: 347201-BTG-A-1207

Unitary Products Group

5005 York Drive

Norman OK 73069