YORK®
Heating and Air Conditioning

TECHNICAL GUIDE

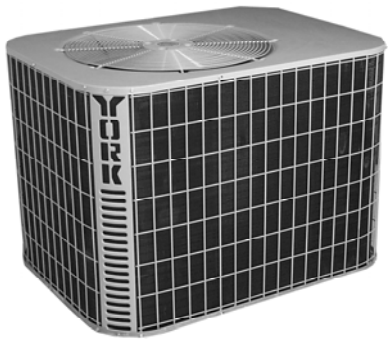
SPLIT-SYSTEM HEAT PUMPS

10 SEER – R-22

MODELS:

E*RA036 THRU 060
(3 THRU 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

LIMITED WARRANTY TO CONSUMERS
Good Housekeeping
Promises
REPLACEMENT OR REFUND IF DEFECTIVE

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

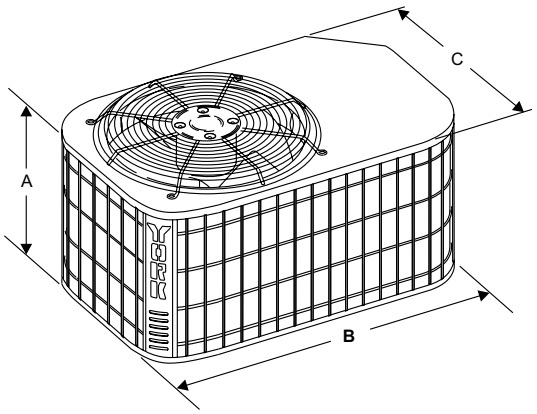
- **QUALITY COILS -** The coil is constructed of copper tube and aluminum fins.
- **COIL PROTECTION -** Coils are protected from damage by a polymer mesh applied between the coil face, and a PVC coated steel coil guard.
- **PROTECTED COMPRESSOR -** The compressor is internally protected against high 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			E1RA036S25	E2RA048S25	E1RA060S25	E1RA036S46	E2RA048S46	E1RA060S46
Unit Supply Voltage			208/230-3-60			460 - 3 - 60		
Normal Voltage Range [1]			187 to 252			432 to 504		
Minimum Circuit Ampacity			15.0	18.9	24.5	8.0	10.1	12.0
Max. Qvercurrent Device Amps [2]			25	30	40	15	15	20
Compressor Type[3]			Inertia	Scroll[D]	Scroll[C]	Inertia	Scroll[D]	Scroll[C]
Compressor Amps		Rated Load	10.9	14.1	18.6	5.8	7.0	9.0
		Locked Rotor	78	125	128	40	55	63
Crankcase Heater			Yes	No	No	Yes	No	No
Fan Motor Amps		Rated Load	1.4	1.3	1.3	.8	.7	.8
Fan Diameter Inches			18	22	24	18	22	24
Fan Motor		Rated HP	1/4	1/4	1/4	1/4	1/5	1/4
		Nominal RPM	1,100	850	850	1,100	825	850
		Nominal CFM	2,750	3,500	3,100	2,750	3,500	3,100
Coil	Face Area Sq. Ft.		12.58	19.65	18.00	12.58	19.65	18.00
	Rows Deep		1	1	2	1	1	2
	Fin / Inches		14	13	14	14	13	14
Liquid Line Set OD (Field Installed)			3/8	3/8	3/8	3/8	3/8	3/8
Vapor Line Set OD (Field Installed)			3/4	7/8	7/8	3/4	7/8	7/8
Unit Charge (Lbs. - Oz.) [4]			5 - 12	8 - 3	11 - 3	5 - 12	8 - 3	11 - 3
Charge Per Foot, Oz.			.68	.70	.70	.68	.70	.70
Operating Weight Lbs.			178	232	243	178	232	243

1. Rated in accordance with ARI Standard 110, utilization range “A”.
2. Dual element fuses or HACR circuit breaker.
3. All scrolls listed with a superscript “D” are Danfoss scrolls. All scrolls listed with a superscript “C” are Copeland scrolls.
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	25	35	23	3/8”	3/4”
048	33	37	27		7/8”
060	26	43	32		7/8”

1. Including fan guard.

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

Outdoor Unit	E1RA036S(25,46)	E1RA048S(25,46)	E1RA060S(25,46)
Unit Orifice (s) [1]	71, 81	81, 84, 87	99
Factory R-22 Charge, lbs-oz	5 - 12	8 - 3	11 - 3

Indoor Coil	System Orifice = Additional Charge, Oz		
FC/MC/PC35(B,C)3X	81 + 8	–	–
FC/MC/PC/UC36(A,B,C)3X	71 + 7	–	–
FC/MC/PC/UC42(B,C)3X	81 + 8	–	–
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
AHP36C3X	81 + 13	84 + 3	–
AHP42C3X	81 + 13	84 + 3	–
AHP/SHP48D3X	–	84 + 4	99 + 0
AHP60D3X	–	84 + 4	99 + 0
G1NA036S17L	71 + 7	–	–
G1NA048S21D	71 + 7	81 + 8	–
G1NA048S24P	–	81 + 8	–
G1UA048S21/24	81 + 13	84 + 3	–
G1UA060S24	–	84 + 4	99 + 0
G1FA048S21/24	81 + 13	84 + 3	–
G1FA060S24	–	84 + 4	99 + 0
G2FD042S21	81 + 8	–	–
G2FD048S21/24	–	87 + 6	–
G2FD060S24	–	84 + 4	99 + 0

FOOTNOTES:

1. These orifices are packed in the instruction/warranty packet of each outdoor unit.

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 evaportor + adder for line set.
5. If the orifice in the evaportor was changed, verify the evaportor nameplate has been marked with the correct orifice size.

COOLING CAPACITY - With Air Handler Coils

UNIT MODEL	AIR HANDLER			COIL[1] MODEL	COOLING					
	MODEL	ELECTRIC [2] HEAT KW	W		RATED CFM	NET MBH		SEER W/O TXV	SEER WITH TXV[3]	EER
						TOTAL	SENS.			
3 PH 10 SEER HP WITH MA / MC / N-AH / G2FD										
E1RA036S(25,46)	MA12BN2,4	10	17	FC/MC35B3X	1250	34.4	25.3	10	–	8.95
	MA12BN2,4	10	17	FC/MC36B3X	1250	34.4	25.3	10	–	8.95
	MA12BN2,4	10	17	FC/MC42B3X	1250	34.4	25.3	10	–	8.95
	N1AHC1646	10, 15	21	G2FD042(S,H)21	1250	34.2	25.3	10	–	8.95
E2RA048S(25,46	MA16CN4	10, 15	21	FC/MC48C3X	1600	45.5	33.7	10	–	9.45
	MA20DN2	10, 15, 25	24	FC/MC48D3X	1725	45.5	33.7	10	–	9.45
	MA20DN4	10, 15, 29	24	FC/MC48D3X	1725	45.5	33.7	10	–	9.45
	N1AHC1646	10, 15	21	G2FD048(S,H)21	1600	45.5	33.7	10	–	9.45
	N1AHD2046	10, 15, 29	24	G2FD048(S,H)24	1600	45.5	33.7	10	–	9.45
E1RA060S(25,46)	MA20DN4	10, 15, 29	24	FC/MC60D3X	2000	57.0	41.0	10	–	9.80
	N1AHD2046	10, 15, 29	24	G2FD048(S,H)24	1700	57.0	41.0	10	–	9.80
3 PH 10 SEER HP WITH AHP / SHP / F2RP / RC / FP / FC[4,5]										
E1RA036S25	F2RP/FP036	5, 8, 10, 15, 19	21	–	1250	34.0	24.9	10	–	9.00
	F2RD/FP042	5, 8, 10, 15	21	–	1250	34.0	25.6	10	–	9.00
	AHP36C3X	10, 15	21	–	1250	34.0	25.6	10	–	9.00
	AHP42C3X	10, 15, 18	21	–	1250	34.0	25.6	10	–	9.00
E2RA048S25	F2FP048	5, 8, 10, 15, 20, 25	24	–	1600	45.0	33.5	10	–	9.40
	F2FP060	5, 8, 10, 15, 20, 25	24	–	1600	46.5	34.4	10	–	9.60
	AHP/SHP48D3X	10, 15, 18	24	–	1600	46.5	34.4	10	–	9.60
E1RA060S25	F2FP060	5, 8, 10, 15, 20, 25	24	–	1700	56.0	40.0	10	–	9.40
	AHP/SHP60D3X	10, 15	24	–	1700	56.0	40.0	10	–	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. G2FD coils available with a factory installed horizontal drain pan. See price pages for specific model number.
2. Single phase units require single phase 2HK heaters.
3. TXV = Use 1TV700 Series Kit.
4. To meet R=4.2 insulation requirements, substitute F2FP for F2RP, and F2FC for F2RC**.** models. All ratings remain the same.
5. FG8, FG9, and FL8 furnaces and F2RP / F2RC air handlers have B.O.D. standard.

- = Not applicable

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.			
E1RA036S(25,46	1100 1400	21,24	G1FA048S21	1250	34.4	24.7	10	–	9.05
		17	G1NA036S17L	1250	35.0	26.2	10	–	9.00
		21	G1NA048S21D	1250	35.0	26.2	10	–	8.95
		21,24	G1UA048S21	1250	34.4	24.7	10	–	9.05
		21	G2FD042S21	1250	34.2	25.3	10	–	8.95
		17,21	FC/MC/PC35*3X	1250	34.4	24.7	10	–	9.5
		14,17,21	FC/MC/PC/UC36*3X	1250	34.4	24.7	10	–	9.5
		17,21	FC/MC/PC/UC42*3X	1250	34.4	24.7	10	–	9.5
E2RA048S(25,46	1400 1800	21,24	G1FA048S21	1600	45.5	32.7	10	–	9.30
		21	G1NA048S21D	1600	45.0	31.2	10	–	9.50
		21,24	G1UA048S21	1600	45.5	32.7	10	–	9.30
		21,24	G2FD048(S,H)21,24	1600	45.5	33.7	10	–	9.40
		21	FC/MC/PC/UC48C3X	1600	45.5	32.7	10	–	9.30
		24	FC/MC/PC/UC48D3X	1600	45.5	32.7	10	–	9.30
E1RA060S(25,46)	1600 2100	21,24	G1FA060S21,24	1700	57.0	41.0	10	–	9.80
		21,24	G1UA060S21,24	1700	57.0	41.0	10	–	9.80
		24	G2FD060(S,H)24	1700	57.0	41.0	10	–	9.80
		21	FC/MC/PC/UC60C3X	1725	57.0	41.0	10	–	9.80
		24	FC/MC/PC/UC60D3X	2000	57.0	41.0	10	–	9.80

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*	COIL[1] MODEL	ARI HEATING[2]					OUTDOOR TEMP[3]													
		47°F		17°F		HSPF	-3°F		7°F		17°F		27°F		37°F		47°F		57°F	
		MBH	COP	MBH	COP	STD	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
E1RA036S(25,4	F2RP/F2FP036	34.0	3.00	20.4	2.16	7.2	15.5	2.40	15.6	2.54	20.4	2.80	24.9	3.03	29.9	3.20	34.0	3.32	38.5	3.50
	AHP36,42	34.0	3.00	20.4	2.16	7.2	15.5	2.40	15.6	2.54	20.4	2.80	24.9	3.03	29.9	3.20	34.0	3.32	38.5	3.50
E2RA048S(25,46	F2FP048	37.0	3.08	31.4	2.32	7.5	20.8	3.64	26.1	3.80	31.4	3.97	36.7	4.13	40.1	4.27	47.0	4.47	54.6	4.71
	AHP48,60	37.0	3.08	31.4	2.32	7.5	20.8	3.64	26.1	3.80	31.4	3.97	36.7	4.13	40.1	4.27	47.0	4.47	54.6	4.71
E1RA060S(25,46)	F2FP060	58.5	3.12	39.0	2.34	7.6	26.0	4.48	32.5	4.68	39.0	4.88	42.1	4.98	45.1	5.07	58.5	5.49	65.0	5.70
	AHP48,60	58.5	3.12	39.0	2.34	7.6	26.0	4.48	32.5	4.68	39.0	4.88	42.1	4.98	45.1	5.07	58.5	5.49	65.0	5.70

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.
3. Integrated heating capacities include the effect of defrost cycles in the temperature range where they occur.

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 PERFORMANCE - With Furnace Coils

UNIT MODEL*	COIL[1] MODEL	ARI HEATING[2]					OUTDOOR TEMP[3]													
		47°F		17°F		HSPF	-3°F		7°F		17°F		27°F		37°F		47°F		57°F	
		MBH	COP	MBH	COP	STD	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
E1RA036S25,46	G2FD042(S,H)21	34.0	3.00	20.2	2.14	7.2	11.3	2.40	15.7	2.58	20.2	2.77	24.7	2.94	29.5	3.15	34.0	3.32	40.5	3.50
	G1NA036S17L	35.0	3.20	22.0	2.26	7.6	13.3	2.62	17.7	2.74	22.0	2.85	23.3	2.71	24.5	2.57	35.0	3.21	39.3	3.32
	G1NA048S21D	35.0	3.20	22.0	2.26	7.6	13.3	2.62	17.7	2.74	22.0	2.85	23.3	2.71	24.5	2.57	35.0	3.21	39.3	3.32
	G1UA048S21	34.0	3.00	20.2	2.14	7.2	11.3	2.40	15.7	2.58	20.2	2.77	24.7	2.95	29.5	3.15	34.0	3.32	40.5	3.50
	G1FA048S21	34.0	3.00	20.2	2.14	7.2	11.3	2.40	15.7	2.58	20.2	2.77	24.7	2.95	29.5	3.15	34.0	3.32	40.5	3.50
	FC/MC/PC35*3X	34.0	3.00	20.2	2.14	7.2	11.3	2.40	15.7	2.58	20.2	2.77	24.7	2.95	29.5	3.15	34.0	3.32	40.5	3.50
	FC/MC/PC/UC36*3X	34.0	3.00	20.2	2.14	7.2	11.3	2.40	15.7	2.58	20.2	2.77	24.7	2.95	29.5	3.15	34.0	3.32	40.5	3.50
	FC/MC/PC/UC42*3X	34.0	3.00	20.2	2.14	7.2	11.3	2.40	15.7	2.58	20.2	2.77	24.7	2.95	29.5	3.15	34.0	3.32	40.5	3.50
E2RA048S25,46	G2FD048(S,H)21,24	47.0	3.02	31.2	2.32	7.5	21.0	3.56	26.1	3.75	31.2	3.94	36.3	4.13	40.1	4.32	47.0	4.56	54.1	4.59
	G1NA048S21D	47.0	2.96	31.2	2.30	7.5	20.7	3.52	25.9	3.75	31.2	3.98	35.2	4.13	39.2	4.29	47.0	4.65	52.3	4.88
	G1UA048S21	47.0	3.00	31.2	2.30	7.50	20.9	3.60	26.1	3.79	31.2	3.98	36.3	4.16	42.0	4.39	47.0	4.56	54.0	4.61
	G1FA048S21	47.0	3.00	31.2	2.30	7.5	20.9	3.60	26.1	3.79	31.2	3.98	36.3	4.16	42.0	4.39	47.0	4.59	54.0	4.61
	FC/MC/PC/UC48C3X	47.0	3.02	31.2	2.32	7.5	21.0	3.56	26.1	3.75	31.2	3.94	36.3	4.13	40.1	4.32	47.0	4.56	54.1	4.59
	FC/MC/PC/UC48D3X	47.0	3.02	31.2	2.32	7.5	21.0	3.56	26.1	3.75	31.2	3.94	36.3	4.13	40.1	4.32	47.0	4.56	54.1	4.59
E1RA060S25,46	G2FD060(S,H)24	58.0	3.20	38.5	2.40	7.7	25.5	4.29	32.0	4.50	3.9	4.70	42.1	4.91	45.7	5.11	58.0	5.31	64.5	5.51
	G1UA060S24	58.0	3.20	38.5	2.40	7.7	25.5	4.29	32.0	4.50	3.9	4.70	42.1	4.91	45.7	5.11	58.0	5.31	64.5	5.51
	G1FA060S24	58.0	3.20	38.5	2.40	7.7	25.5	4.29	32.0	4.50	3.9	4.70	42.1	4.91	45.7	5.11	58.0	5.31	64.5	5.51
	FC/MC/PC/UC60C3X	58.0	3.20	38.5	2.40	7.7	25.5	4.29	32.0	4.50	3.9	4.70	42.1	4.91	45.7	5.11	58.0	5.31	64.5	5.51
	FC/MC/PC/UC60D3X	58.0	3.20	38.5	2.40	7.7	25.5	4.29	32.0	4.50	3.9	4.70	42.1	4.91	45.7	5.11	58.0	5.31	64.5	5.51

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.
3. Integrated heating capacities include the effect of defrost cycles in the temperature range where they occur.

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.

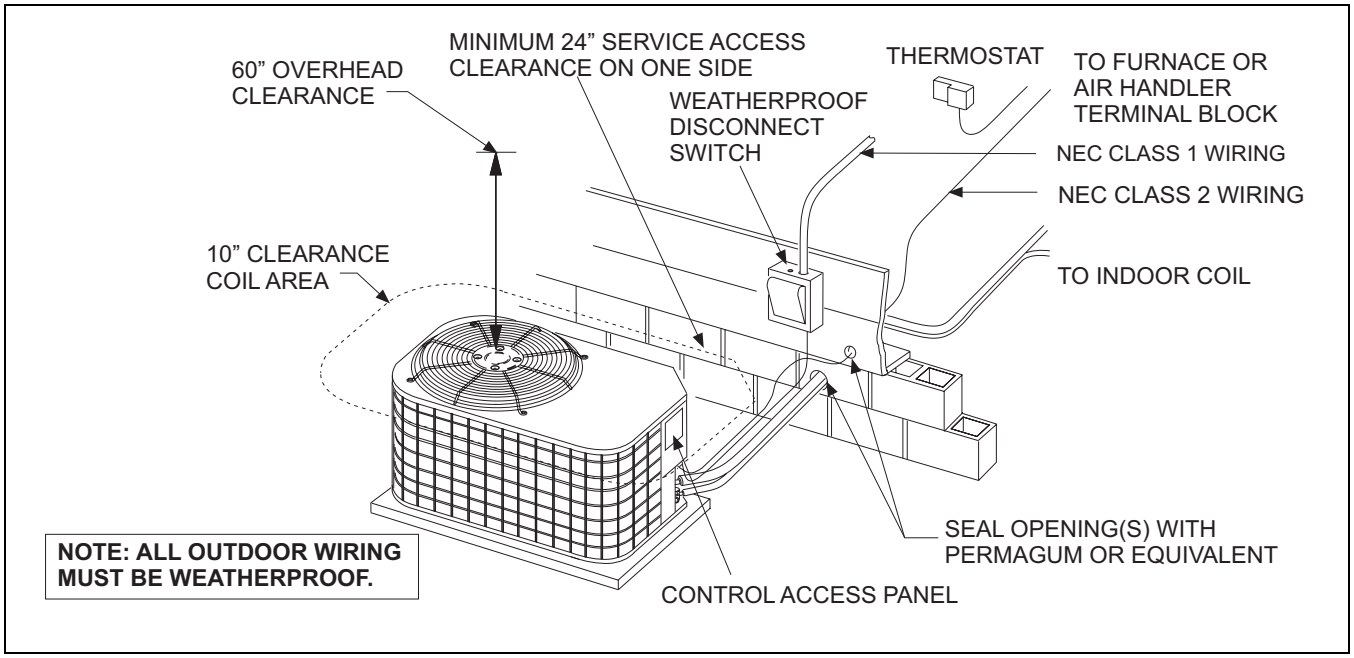
* For the most current accessory information, refer to the price book or consult factroy.

SOUND POWER RATINGS*

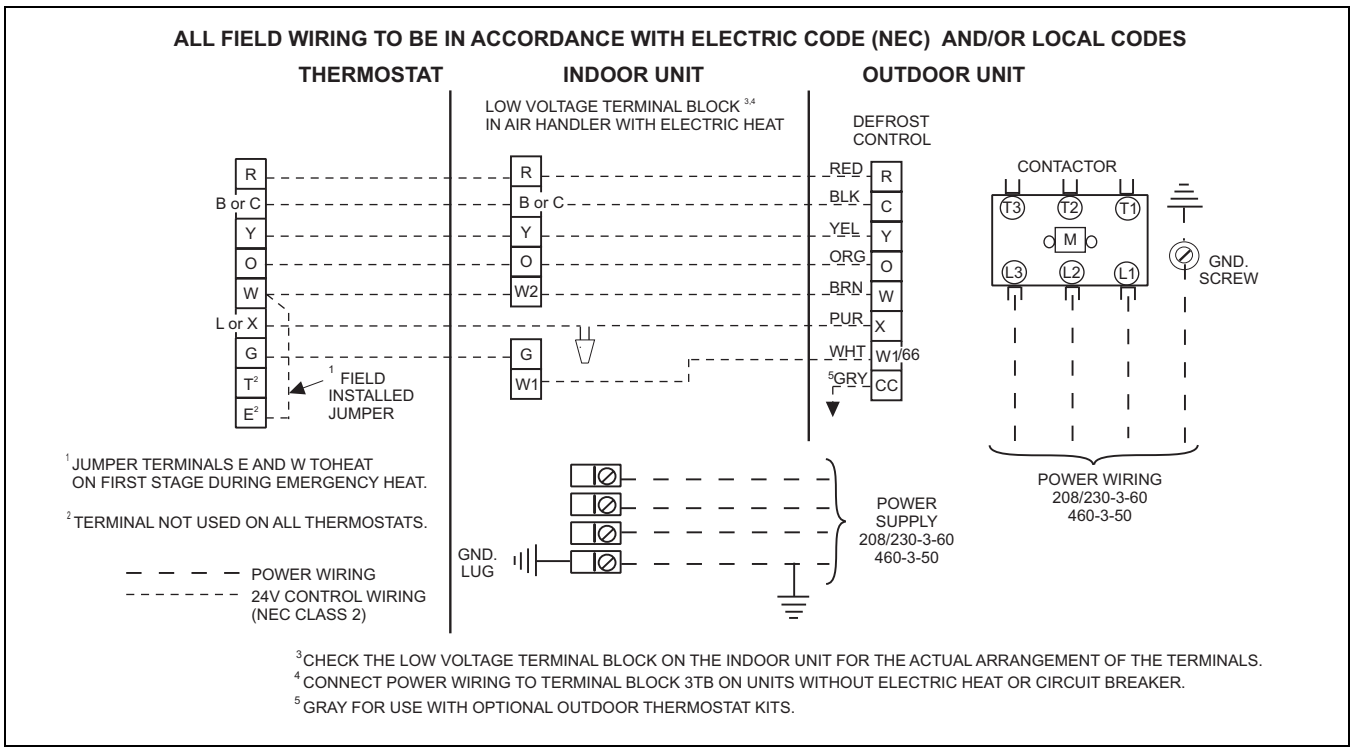
UNIT MODEL	(dBA)
018	80
024	80
030	80
036	82
042	82
048	77
060	82

* Rated in accordance with ARI 270-95 Standards.

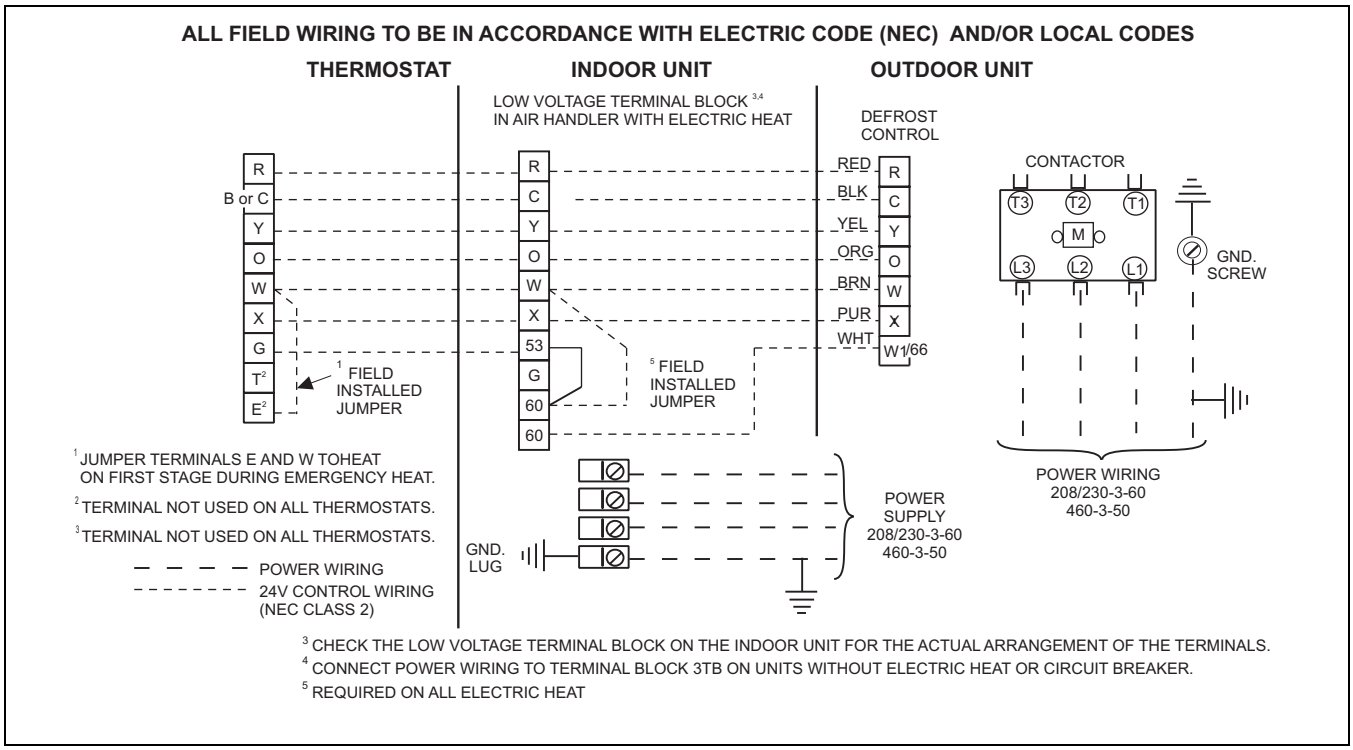
TYPICAL INSTALLATION



TYPICAL FIELD WIRING - 3 PH (036 - 060)



TYPICAL FIELD WIRING - 3 PH (090)



COOLING PERFORMANCE DATA													
AIR CONDITIONER MODEL NO.		**E1RA036S(25,46)**											
INDOOR COIL MODEL NO.		**F2RP/F2FP036**											
CONDENSER ENTERING AIR TEMPERATURE	ID CFM	1000				1250				1400			
	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.	38.1	35.0	32.5	29.4	38.6	35.5	32.9	29.9	38.8	35.7	33.2	30.2
	S.C.	22.9	22.9	22.1	23.6	24.1	24.2	23.4	24.8	24.9	24.9	24.1	25.5
	KW	3.15	3.08	3.02	2.94	3.16	3.10	3.03	2.96	3.17	3.10	3.04	2.97
85	T.C.	37.6	34.6	32.0	28.9	38.1	35.1	32.7	29.4	38.3	35.3	33.0	29.7
	S.C.	23.3	23.4	22.6	23.9	24.8	24.9	24.1	25.3	25.7	25.7	25.0	26.1
	KW	3.39	3.30	3.22	3.12	3.40	3.32	3.24	3.14	3.41	3.33	3.25	3.15
95	T.C.	36.2	33.3	30.9	27.7	36.7	33.7	31.4	28.3	36.8	34.0	31.6	28.6
	S.C.	23.3	23.3	22.6	23.7	24.9	24.9	24.0	25.4	25.8	25.9	24.9	26.2
	KW	3.71	3.60	3.51	3.38	3.72	3.62	3.53	3.40	3.74	3.64	3.55	3.42
105	T.C.	34.4	31.5	29.2	26.3	34.7	32.0	29.6	26.8	35.0	32.2	29.9	27.3
	S.C.	22.9	22.9	22.1	23.3	24.5	24.5	23.5	24.7	25.6	25.5	24.6	25.5
	KW	4.03	3.90	3.79	3.63	4.06	3.93	3.82	3.67	4.06	3.94	3.82	3.71
115	T.C.	32.2	29.6	27.4	24.7	32.6	30.0	27.8	25.5	32.8	30.2	28.1	25.8
	S.C.	22.2	22.2	21.4	22.4	23.9	23.8	22.9	23.8	24.8	24.8	23.8	24.1
	KW	4.34	4.19	4.05	3.88	4.37	4.22	4.09	3.93	4.38	4.24	4.10	3.96
125	T.C.	30.0	27.7	25.6	23.1	30.5	28.0	26.0	24.2	30.6	28.2	26.3	24.3
	S.C.	21.5	21.5	20.6	21.5	23.3	23.1	22.2	22.9	24.0	24.1	23.1	22.7
	KW	4.65	4.48	4.31	4.13	4.68	4.51	4.36	4.19	4.70	4.54	4.38	4.21
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/MC35B3X	1.01	1.02	1.01
MA12BN2,4	FC/MC36B3X	1.01	1.02	1.01
MA12BN2,4	FC/MC42B3X	1.01	1.02	1.01
MA12BN2,4	G2FD042(S,H)21	1.01	1.02	1.01
AHP42C3X	–	1.00	1.00	1.00
F2RP/F2FP042	–	1.00	1.00	1.00
–	G1FA048S21	1.01	0.99	1.01
–	G1NA036S17L	1.03	1.05	1.03
–	G1NA048S21D	1.03	1.05	1.04
–	FC/MC/PC35*3X	1.01	0.99	1.01
–	FC/MC/PC/UC36*3X	1.01	0.99	1.01
–	FC/MC/PC-UC42*3X	1.01	0.99	1.01
–	G1UA048S21	1.01	0.99	1.01
–	G2FD042(S,H)21	1.01	1.02	1.01

COOLING PERFORMANCE DATA													
AIR CONDITIONER MODEL NO.		**E2RA048S(25,46)**											
INDOOR COIL MODEL NO.		**F2FP048**											
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/MC48C3X	1.00	1.00	0.97
N1AHC1646	G2FD048(S,H)21	1.00	1.00	0.97
MA20DN2,4	FC/MC48D3X	1.00	1.00	0.97
N1AHD2046	G2FD048(S,H)24	1.00	1.00	0.97
AHP/SHP48D3X	–	1.02	1.01	1.02
F2FP060	–	1.02	1.01	1.02
–	G1FA048S21	1.00	0.97	0.98
–	G1NA048S21D	0.99	0.93	0.95
–	G1UA048S21	1.00	0.97	0.98
–	FC/MC/PC/UC48C,D3X	1.00	1.00	0.97
–	G2FD048(S,H)21,24	1.00	1.00	0.97

COOLING PERFORMANCE DATA										
AIR CONDITIONER MODEL NO.		**E1RA060S(25,46**								
INDOOR COIL MODEL NO.		**G2FD060(S,H)24**								
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/MC60D3X	1.00	1.00	1.00
N1AHD2046	G2FD060(S,H)24	1.00	1.00	1.00
AHP/SHP60D3X	–	0.98	0.98	1.02
F2FP060	–	0.98	0.98	1.02
–	G1FA060S21,24	1.00	1.00	1.00
–	G1UA060S21,24	1.00	1.00	1.00
–	FC/MC/PC/UC60*3X	1.00	1.00	1.00

HEATING PERFORMANCE DATA										
CONDENSING UNIT MODEL NO		**E1RA036S(25,46)**								
EVAPORATOR COIL MODEL NO		**F2RP/F2FP036**								
AIR TEMP. ENTERING OUTDOOR UNIT	**AIR TEMP. ENTERING INDOOR COIL**	ID CFM								
		1000			1250			1400		
		MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.	MBTUH	KW	C.O.P.
60	60	41.6	3.37	3.62	42.0	3.30	3.73	41.3	3.27	3.70
	70	39.1	3.54	3.24	40.2	3.49	3.37	40.2	3.49	3.38
	80	37.4	3.70	2.97	39.1	3.67	3.12	39.7	3.69	3.16
47	60	35.3	3.17	3.26	35.7	3.15	3.32	34.8	3.15	3.24
	70	33.1	3.32	2.93	34.0	3.32	3.00	33.8	3.33	2.98
	80	31.5	3.46	2.67	32.7	3.48	2.76	33.3	3.49	2.80
40	60	30.2	3.02	2.94	31.2	3.03	3.02	31.9	3.05	3.08
	70	28.7	3.14	2.68	29.5	3.16	2.74	30.4	3.18	2.81
	80	27.1	3.28	2.43	27.9	3.30	2.48	28.9	3.32	2.55
30	60	26.1	2.89	2.65	27.4	2.93	2.74	27.5	2.96	2.73
	70	24.4	2.96	2.42	25.8	3.01	2.51	26.1	3.04	2.51
	80	22.4	3.07	2.14	23.8	3.13	2.23	24.3	3.16	2.25
17	60	21.4	2.66	2.36	21.9	2.71	2.37	22.0	2.74	2.36
	70	19.7	2.73	2.12	20.4	2.79	2.15	20.7	2.82	2.15
	80	18.0	2.79	1.89	18.9	2.86	1.94	19.3	2.89	1.96
10	60	18.1	2.50	2.12	18.8	2.56	2.16	19.1	2.60	2.16
	70	16.5	2.55	1.90	17.4	2.62	1.95	17.7	2.66	1.96
	80	14.8	2.58	1.68	15.8	2.65	1.75	16.2	2.69	1.77
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/MC35B3X	1.01	1.02	1.01
MA12BN2,4	FC/MC36B3X	1.01	1.02	1.01
MA12BN2,4	FC/MC42B3X	1.01	1.02	1.01
MA12BN2,4	G2FD042(S,H)21	1.00	1.00	1.00
AHP42C3X	–	1.00	1.00	1.00
F2RP/F2FP042	–	1.00	1.00	1.00
–	G1FA048S21	1.00	1.00	1.00
–	G1NA036S17L	1.03	0.97	1.07
–	G1NA048S21D	1.03	0.97	1.07
–	FC/MC/PC35*3X	1.01	0.99	1.01
–	FC/MC/PC/UC36*3X	1.01	0.99	1.01
–	FC/MC/PC-UC42*3X	1.01	0.99	1.01
–	G1UA048S21	1.00	1.00	1.00
–	G2FD042(S,H)21	1.00	1.00	1.00

HEATING PERFORMANCE DATA										
CONDENSING UNIT MODEL NO		**E2RA048S(25,46)**								
EVAPORATOR COIL MODEL NO		**F2RP/F2FP048**								
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/MC48C3X	1.00	1.00	0.97
N1AHC1646	G2FD048(S,H)21	1.00	1.02	0.98
MA20DN2,4	MC48D3X	1.00	1.02	0.98
N1AHD2046	G2FD048(S,H)24	1.00	1.02	0.98
AHP/SHP48D3X	–	1.01	1.02	0.99
F2FP060	–	1.01	1.02	0.99
–	G1FA048S21	1.00	1.02	0.98
–	G1NA048S21D	1.00	1.04	0.96
–	G1UA048S21	1.00	1.03	0.97
–	FC/MC/PC/UC48C,D3X	1.00	1.03	0.97
–	G2FD048(S,H)21,24	1.00	1.03	0.97

HEATING PERFORMANCE DATA										
CONDENSING UNIT MODEL NO		**E1RA060S(25,46)**								
EVAPORATOR COIL MODEL NO		**G2FD060(S,H)24**								
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/MC60D3X	1.00	1.00	1.00
N1AHD2046	G2FD060(S,H)24	1.00	1.00	1.00
AHP/SHP60D3X	–	1.01	1.03	0.98
F2FP060	–	1.01	1.03	0.98
–	G1FA060S21,24	1.00	1.00	1.00
–	G1UA060S21,24	1.00	1.00	1.00
–	FC/MC/PC/UC60*3X	1.00	1.00	1.00

NOTES

NOTES

279104-YTG-B-0307
Supersedes: 279104-YTG-A-1106