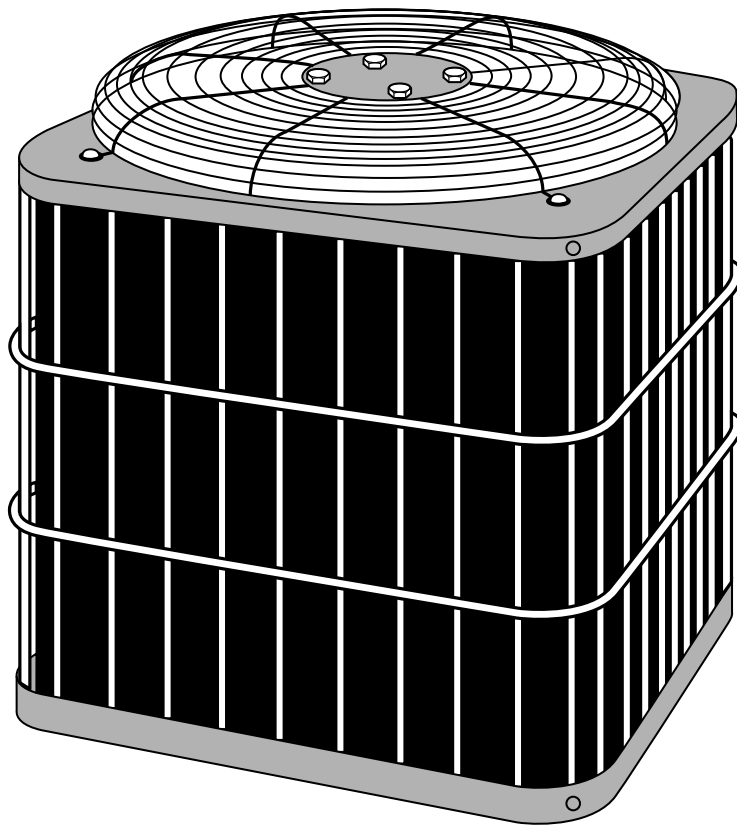




## Product Data

## 38AYB (60 Hz) Heat Pump

Sizes 018 thru 060



The 38AYB Outdoor Sections of Split-System Heat Pumps are designed for quiet, reliable heating during the winter and cooling during the summer. With a SEER of up to 12.0 and HSPF of 8.3, these heat pump systems provide economy of operation through energy conservation. They recover heat for indoor comfort from outdoor air during the heating season and, by automatically reversing the refrigerant system, remove indoor heat and excess humidity during the cooling season. All models are listed with UL, c-UL, CEC, and ARI. The 38AYB is listed with RADCO also.

### FEATURES/BENEFITS

**Electrical Range** — All units are offered in single phase 208–230v.

**Size Range** — 38AYB is available in 7 nominal sizes from 018 through 060 to meet the needs for residential and light commercial applications.

**Compressor** — This unit features a scroll compressor (except 018 size) which is significantly more efficient than conventional compressors. Its simple design offers improved reliability. Each compressor is mounted on rubber isolators for additional sound reduction. For improved serviceability, the 018 through 042 models are equipped with a compressor terminal plug. Continuous operation is approved down to  $-30^{\circ}\text{F}$  ( $-34.4^{\circ}\text{C}$ ) in the heating mode and down to  $55^{\circ}\text{F}$  ( $12.8^{\circ}\text{C}$ ) in the cooling mode. (See heating and cooling performance tables.)

### **Built-in-Reliability**

**Components** — Includes a suction-tube accumulator that reduces the

amount of liquid refrigerant that reaches the compressor, a high-pressure switch for high-pressure protection (except 018 size), and a loss of charge switch.

**Defrost Control Board** —

Incorporates a defrost relay, defrost timer, and low-voltage terminations.

The defrost control is a time/temperature initiation/termination control which includes 3 field-selectable time periods of 30, 50, and 90 minutes. The control includes built-in 5-minute compressor delay.

**Discharge Muffler** — Incorporated to minimize low frequency sound and pressure pulsation generated by compressor discharge gas.

**Weather-Protective Cabinet** —

Steel is protected with a galvanized coating and treated with a layer of zinc phosphate. A coat of modified polyester powder coating is then applied and baked on, providing each unit with a hard, smooth finish that will last for many years.

All screws on cabinet exterior are coated for a long-lasting rust-resistant, quality appearance.

**Unit Design** — All units are equipped with totally enclosed fan motors for greater reliability under rain and snow conditions. The large, wraparound coil uses copper tube and enhanced aluminum fin and is designed for

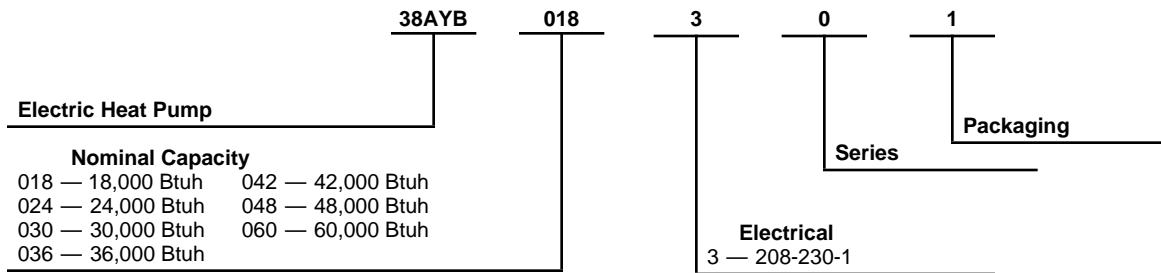
optimum heat transfer during heating and cooling. The vertical air discharge carries the sound and air up and away from adjacent patio areas and foliage. Coil can be cleaned with a common garden hose.

**External Service Valves** — Both

service valves are brass, front seating type. The 38AYB has sweat field connections. Valves are externally located so refrigerant tube connections can be made quickly and easily. Each valve has a service port for ease of checking operating refrigerant pressures.

**Warranty** — Standard 1 year on parts. Additional 4 years on compressor.

## Model number nomenclature





CERTIFICATION APPLIES ONLY WHEN THE COMPLETE SYSTEM IS LISTED WITH ARI.

## Physical data

UNIT SIZE	018	024	030	036	042	048	060
<b>OPERATING WT (LB)</b>	139	166	188	208	209	250	278
<b>COMPRESSOR Manufacturer Type</b>	Bristol Reciprocating	Copeland Scroll					
<b>REFRIGERANT Control Charge (LB)</b>	22 Piston						
	5.5	6.1	7.1	11.0	10.4	12.6	TXV 15.4
<b>CONDENSER FAN Air Discharge Air Qty (CFM) Motor RPM (60 Hz)</b>	Propeller Type, Direct Drive Vertical						
	1700			3000			3300
	1100			825			1125
<b>CONDENSER COIL Face Area (Sq ft)</b>	14.07	14.93	22.40	16.18	18.67	22.40	
<b>VALVE CONNECTION (IN. ID) Vapor Liquid</b>	5/8		3/4	Sweat 3/8		7/8	
<b>REFRIGERANT TUBES* (IN. OD) Vapor Liquid</b>	5/8		3/4	3/8	7/8		1-1/8

\* Tube sizes are for runs up to 50 ft. For tube set over 50 ft, consult Long-Line Application Guideline.

**NOTE:** See unit Installation Instructions for proper installation.

## METERING DEVICE

UNIT SIZE	SERIES	OUTDOOR PISTON	INDOOR PISTON
018	30	43	57
024	30	52	61
030	30	55	67
036	30	63	76
042	30	65	82
048	30	73	90
060	30	78	TXV

# Accessories

ORDERING NUMBER	DESCRIPTION
KAATD0101TDR	Time-Delay Relay
P251-0083 (RCD)	Low-Ambient Controller*
KAFT0101AAA	Evaporator Freeze Thermostat†
KHAIR0101AAA	Isolation Relay†
N/A	Winter Start Control
Standard	Cycle Protector
KSAHS0701AAA	Compressor Start Assist-Capacitor/Relay — Size 018
N/A	Compressor Start Assist-Capacitor/Relay — Sizes 024–060
Standard	Compressor Start Assist-PTC — Size 018
N/A	Compressor Start Assist-PTC — Sizes 024–060
Standard	Crankcase Heater — Size 018, 048, 060
KAACH1201AAA	Crankcase Heater — Sizes 024–042
KSASH1501BRL	Sound Blanket — Size 018
KSASH1801COP	Sound Blanket — Sizes 024, 030
KSASH0601COP	Sound Blanket — Sizes 036, 042
KSASH1701COP	Sound Blanket — Sizes 048, 060
KHAOT0301FST	Outdoor Thermostat
KHAOT0201SEC	Secondary Outdoor Thermostat
KHASA0101AAA	Service Alarm
KHAIC0101AAA	Interface Control (Optimizer II)**
KHAIC0201AAA	Interface Control (Outdoor Thermostat and Lockout Relay)
KHATX0901HSO	Thermostatic Expansion Valve (Hard Shut-Off) — Size 018
KHATX1001HSO	Thermostatic Expansion Valve (Hard Shut-Off) — Size 024
KHATX1101HSO	Thermostatic Expansion Valve (Hard Shut-Off) — Size 030
KHATX1201HSO	Thermostatic Expansion Valve (Hard Shut-Off) — Sizes 036, 042
KHATX1301HSO	Thermostatic Expansion Valve (Hard Shut-Off) — Size 048
KHATX1401HSO	Thermostatic Expansion Valve (Hard Shut-Off) — Size 060
KHATX0201RPB	Thermostatic Expansion Valve (RPB) — Size 018
KHATX0301RPB	Thermostatic Expansion Valve (RPB) — Size 024
KHATX0401RPB	Thermostatic Expansion Valve (RPB) — Size 030
KHATX0501RPB	Thermostatic Expansion Valve (RPB) — Sizes 036, 042
KHATX0601RPB	Thermostatic Expansion Valve (RPB) — Size 048
KHATX0701RPB	Thermostatic Expansion Valve (RPB) — Size 060
Standard	Low-Pressure Switch
KSAHI0201HPS	High-Pressure Switch — Size 018
Standard	High-Pressure Switch — Sizes 024–060
P504-8083S (RCD)	Filter Drier (Bi-flow) — Sizes 018–036
P504-8163S (RCD)	Filter Drier (Bi-flow) — Sizes 042–060
KHALS0101LLS	Liquid Solenoid Valve (LSV)
KSASF0101AAA	Support Feet
Not Available	Snow Rack

\* Isolation relay required.

† Use with low-ambient controller.

N/A — Not Applicable

\*\* Requires outdoor thermostat

THERMOSTAT PKG	DESCRIPTION
TSTATCCNHP01	Thermostat, Auto Changeover, Non-Programmable, °F/°C, 2-Stage Heat, 1-Stage Cool
TSTATCCPHP01	Thermostat, Auto Changeover, 7-Day Programmable, °F/°C, 2-Stage Heat, 1-Stage Cool
--HH--07AT-215	Thermostat, Manual Changeover, Non-Programmable, °F, 2-Stage Heat, 1-Stage Cool
TSTATCCSEN01	Outdoor Sensor

# Accessory Description and Usage

## 1. Time-Delay Relay

A SPST delay relay which briefly continues operation of the indoor blower motor to provide additional cooling after the compressor cycles off.  
SUGGESTED USE: For improved efficiency ratings for certain combinations of indoor and outdoor units. (Refer to ARI Unitary Directory.)

## 2. Evaporator Freeze Thermostat

A SPST temperature actuated switch which stops unit operation when evaporator reaches freeze-up conditions.  
SUGGESTED USE: All units where low-ambient controller has been added.

## 3. Isolation Relay

A SPDT relay which switches the low-ambient controller out of the outdoor fan motor circuit when the heat pump switches to heating mode.  
SUGGESTED USE: All heat pumps where low-ambient controller has been added.

## 4. Compressor Start Assist-Capacitor/Relay Type

Start capacitor and start relay gives "hard" boost to compressor motor at each start-up.  
SUGGESTED USE: Installations where interconnecting tube length exceeds 50 ft.  
Installations where outdoor design temperature exceeds 105°F (40.6°C).  
Replacement installations with hard shut-off expansion valve or liquid line solenoid on indoor coil.  
Units installed with low-ambient controller.

## 5. Crankcase Heater

An electric resistance heater which mounts to the base of the compressor to keep the lubricant warm during off cycles. Improves compressor lubrication on restart and minimizes chance of refrigerant slugging. May or may not include a thermostat control.  
SUGGESTED USE: When interconnecting tube length exceeds 50 ft.  
When unit will be operated below 55°F (12.8°C) outdoor air temperature. (Use with low-ambient controller.)  
All commercial installations.

## 6. Sound Blanket

Wraparound sound attenuation cover for the compressor. Reduces the sound level by about 0.2 bels.  
SUGGESTED USE: Unit installed closer than 15 ft to quiet areas — bedrooms, etc.  
Unit installed between 2 houses less than 10 ft apart.

## 7. Outdoor Thermostat

A SPDT temperature actuated switch which turns on supplemental electric heaters when outdoor air temperature drops below set point.  
SUGGESTED USE: Heat pump installations with multiple-stage supplemental heaters

## 8. Secondary Outdoor Thermostat

A SPDT temperature actuated switch which turns on a third stage of supplemental electric heaters when outdoor air temperature drops below the second-stage set point.  
SUGGESTED USE: Heat pump installations where 3-stage operation of supplemental heaters is desired.

## 9. Service Alarm

A current-sensing lockout relay which provides immediate notification that compressor is not operating during a call for heating or cooling. Used with proper room thermostat, the thermostat light is turned on signifying service is required. This can minimize electrical cost increase due to operation of supplemental heaters only.  
SUGGESTED USE: As a feature to notify owner immediately when the system is not operating most efficiently.

## 10. Interface Control (Optimizer II)

An electric control for controlling a heat pump and gas or oil furnace system for maximum energy savings. It allows heat pump to operate down to a predetermined economic balance point temperature, then switches to allow furnace operation only below that temperature. KHAIC0101AAA requires outdoor thermostat (Item 7) to be adjusted for economic balance point temperature.  
SUGGESTED USE: All heat pump and gas- or oil-fired furnace combination systems.

## 11. Thermostatic Expansion Valve (TXV)

A modulating flow-control valve which meters refrigerant liquid flow rate into the evaporator in response to the superheat of the refrigerant gas leaving the evaporator. Kit includes valve, adapter tubes, and external equalizer tube. Both hard shut-off and RPB valves are available.  
SUGGESTED USE: For improved system performance in cooling mode for certain combinations of indoor and outdoor units. (Refer to ARI Unitary Directory.)

## 12. High-Pressure Switch

Auto reset SPST switch activated by refrigerant pressure on high side of refrigerant circuit. Cycles compressor off if refrigerant pressure rises to about 425 psig. Provides additional protection against compressor damage due to loss of outdoor airflow.  
SUGGESTED USE: Installations exposed to very "dirty" outdoor air.  
Installations where condenser inlet air temperature exceeds 125°F (51.7°C).

## 13. Filter Drier — Bi-flow

A device for removing contaminants from refrigerant circulating in an air conditioner or heat pump system; bi-flow for heat pumps.  
SUGGESTED USE: All field-connected split-system units.

## 14. Liquid Solenoid Valve (LSV)

An electrically operated bi-flow shut-off valve to be installed at the outdoor unit and which stops and starts refrigerant liquid flow in response to compressor operation. Maintains a column of refrigerant liquid ready for action at next compressor operation cycle.  
SUGGESTED USE: For improved system performance in air conditioners for certain combinations of indoor and outdoor units. (Refer to ARI Unitary Directory.)  
In certain long-line applications. (Refer to Long-Line Application Guideline.)

# Electrical data

UNIT SIZE	VOLTS/PH 60 HZ	OPER VOLTS*		COMPRESSOR		FAN FLA	MCA	MIN WIRE SIZE 60°C/75°C**	MAX LENGTH (FT) 60°C/75°C‡	MAX FUSE† OR HACR TYPE CKT BKR AMPS
		Max	Min	LRA	RLA					
018	208-230/1	253	197	48.0	8.5	0.5	11.1	14/14	71/66	15
024				62.5	11.5	0.9	15.3	14/14	51/49	25
030				76.0	14.3	0.9	18.8	14/14	42/40	30
036				90.5	17.9	0.9	23.3	12/12	54/51	40
042				107.0	22.5	0.9	29.0	10/10	69/65	50
048				129.0	25.3	0.9	32.5	8/10	95/58	55
060				169.0	32.1	1.4	41.5	6/8	126/71	60

\* Permissible limits of the voltage range at which unit will operate satisfactorily. Operation outside these limits may result in unit failure.

† Time-delay fuse.

‡ Length shown is as measured 1 way along the wire path between the unit and the service panel for voltage drop not to exceed 2%.

\*\* If wire is applied at ambient greater than 30°C (86°F), consult Table 310-16 of the NEC (ANSI/NFPA 70). The ampacity of nonmetallic-sheathed cable (NM), trade name ROMEX, shall be that of 60°C (140°F) conductors, per the NEC (ANSI/NFPA 70) Article 336-36. If other than uncoated (non-plated), 60° or 75°C (140° or 167°F) insulation, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the NEC (ANSI/NFPA 70).

FLA — Full Load Amps

HACR — Heating, Air Conditioning, Refrigeration

LRA — Locked Rotor Amps

MCA — Minimum Circuit Amps

RLA — Rated Load Amps

**NOTE:** Control circuit is 24v on all units and requires external power source. Copper wire must be used from service disconnect to unit. All motors/compressors contain internal overload protection.

# Combination ratings

UNIT SIZE	INDOOR UNIT	ARI STANDARD RATINGS*											
		Cooling					Heating					Seasonal Efficiency HSPF	Sound Rating (Bels)
		TC	Seasonal Efficiency SEER				High-Temp		Low-Temp				
			Factory-Supplied Enhancement	Standard Rating	Field-Supplied Accessory**		TC	COP	TC	COP			
			TDR	TXV	TC	COP	TC	COP					
018-30	F(A,B)4ANF024†	18,000	TDR	11.00	—	11.00	17,000	3.04	11,500	2.28	7.40	7.8	
	F(A,B)4ANF018	17,300	TDR	10.50	—	10.50	16,500	2.88	11,200	2.20	7.00	7.8	
	FC4BNF024	18,000	TDR & TXV	11.00	—	—	17,000	3.04	11,500	2.28	7.20	7.8	
	FD3ANA018	18,000	None	—	10.70	10.70	16,600	2.92	11,300	2.22	7.00	7.8	
	FD3ANA024	18,000	None	10.20	11.00	11.00	16,700	3.04	11,300	2.30	7.20	7.8	
	FF1(A,B)NA018	17,400	None	10.00	10.50	10.50	16,400	2.94	11,100	2.24	7.00	7.8	
	FF1(A,B)NA024	18,000	None	10.20	11.00	11.00	16,900	3.06	11,400	2.30	7.40	7.8	
	FG3AAA024	18,000	None	10.00	11.00	11.00	16,800	3.00	11,400	2.26	7.20	7.8	
	FK4BNF001	18,000	TDR & TXV	12.10	—	—	16,600	3.26	10,900	2.46	7.90	7.8	
	FK4BNF002	18,000	TDR & TXV	12.10	—	—	16,600	3.32	10,900	2.48	8.00	7.8	
	CC5A/CD5A/CD5BA018	18,000	None	—	10.50	10.50	16,300	2.84	11,100	2.20	7.00	7.8	
	CD3(A,B)A018	18,000	None	—	10.50	10.50	16,300	2.84	11,100	2.20	7.00	7.8	
	CC5A/CD5A/CD5BA024	18,000	None	10.00	11.00	11.00	16,700	2.96	11,300	2.24	7.20	7.8	
	CD3CA024	18,000	None	—	11.00	11.00	16,900	3.02	11,500	2.28	7.40	7.8	
	CD3(A,B)A024	18,000	None	10.00	11.00	11.00	16,700	2.96	11,300	2.24	7.20	7.8	
	CE3AA024	18,000	None	10.00	11.00	11.00	16,800	3.00	11,400	2.26	7.20	7.8	
	CF5AA024	18,000	None	10.10	11.00	11.00	16,800	3.00	11,400	2.26	7.20	7.8	
	CG5AA024	18,000	TXV	11.00	11.00	—	16,800	3.00	11,400	2.26	7.20	7.8	
024-30	F(A,B)4ANF024†	22,600	TDR	11.00	—	11.00	23,600	3.32	14,400	2.16	7.20	7.8	
	FB4AN(A,F)030	23,000	TDR	11.00	—	11.00	23,600	3.32	14,400	2.16	7.50	7.8	
	FC4BNF024	22,600	TDR & TXV	11.00	—	—	23,600	3.32	14,400	2.16	7.50	7.8	
	FC4BNF030	23,000	TDR & TXV	11.50	—	—	23,600	3.32	14,400	2.16	7.50	7.8	
	FD3ANA024	22,200	None	—	10.50	10.50	23,600	3.26	14,300	2.16	7.40	7.8	
	FD3ANA030	23,200	None	—	11.00	11.00	23,600	3.42	14,500	2.20	7.50	7.8	
	FF1(A,B)NA024	22,600	TDR	10.50	—	10.50	23,600	3.32	14,500	2.16	7.50	7.8	
	FF1(A,B)NA030	23,200	TDR	11.00	—	11.00	23,600	3.38	14,500	2.18	7.50	7.8	
	FG3AAA024	22,200	None	—	10.50	10.50	23,600	3.24	14,400	2.14	7.35	7.8	
	FK4BNF001	23,200	TDR & TXV	12.50	—	—	23,600	3.54	14,000	2.30	7.80	7.8	
	FK4BNF002	23,400	TDR & TXV	12.50	—	—	23,600	3.68	14,000	2.36	7.80	7.8	
	FK4BNF003	23,800	TDR & TXV	12.50	—	—	23,800	3.70	13,800	2.38	8.00	7.8	
	CC5A/CD5A/CD5BA024	22,400	None	—	10.50	10.50	23,600	3.20	14,300	2.12	7.30	7.8	
	CD3(A,B)A024	22,400	None	—	10.50	10.50	23,600	3.20	14,300	2.12	7.30	7.8	
	CC5A/CD5A/CD5BA030	22,600	None	—	11.00	11.00	23,600	3.22	14,400	2.14	7.30	7.8	
	CC5A/CD5A/CD5BW030	22,600	None	—	11.00	11.00	23,600	3.22	14,400	2.14	7.30	7.8	
	CD3CA024	22,400	None	—	10.50	10.50	23,600	3.28	14,400	2.16	7.35	7.8	
	CD3CA030	22,400	None	—	10.50	10.50	23,600	3.28	14,400	2.16	7.35	7.8	
	CD3CA036	22,400	None	—	11.00	11.00	23,600	3.32	14,400	2.16	7.35	7.8	
	CD3(A,B)A030	22,600	None	—	11.00	11.00	23,600	3.22	14,400	2.14	7.30	7.8	
	CE3AA024	22,600	None	—	10.50	10.50	23,600	3.24	14,400	2.14	7.30	7.8	
CE3AA030	23,000	None	—	11.00	11.00	23,600	3.34	14,400	2.18	7.50	7.8		
CF5AA024	22,600	None	—	11.00	11.00	23,600	3.24	14,400	2.14	7.30	7.8		
CG5AA024	22,600	TXV	11.00	11.00	—	23,600	3.24	14,400	2.14	7.30	7.8		
030-30	F(A,B)4ANF030†	28,400	TDR	11.00	—	11.00	29,600	3.38	17,800	2.38	7.60	7.8	
	F(A,B)4ANF036	28,400	TDR	11.00	—	11.00	29,600	3.42	18,300	2.38	7.60	7.8	
	FC4BNF030	28,000	TDR & TXV	11.50	—	—	29,600	3.38	17,900	2.38	7.60	7.8	
	FC4BNF036	28,400	TDR & TXV	11.50	—	—	29,600	3.42	18,300	2.36	7.60	7.8	
	FD3ANA030	28,200	None	—	11.00	11.00	29,600	3.46	17,900	2.42	7.50	7.8	
	FF1(A,B)NA030	28,200	TDR	11.00	—	11.00	29,400	3.44	17,900	2.40	7.50	7.8	
	FG3AAA036	28,400	None	—	11.00	11.00	29,400	3.44	17,900	2.42	7.50	7.8	
	FK4BNF001	28,600	TDR & TXV	12.00	—	—	29,200	3.58	17,600	2.48	7.90	7.8	
	FK4BNF002	28,600	TDR & TXV	12.00	—	—	29,200	3.66	17,500	2.54	8.00	7.8	
	FK4BNF003	29,000	TDR & TXV	12.00	—	—	28,800	3.70	17,300	2.58	8.00	7.8	
	FK4BNF004	29,200	TDR & TXV	12.00	—	—	29,200	3.82	17,500	2.60	8.00	7.8	
	CC5A/CD5A/CD5BA030	27,800	None	—	11.00	11.00	29,000	3.26	17,800	2.32	7.30	7.8	
	CC5A/CD5A/CD5BW030	27,800	None	—	11.00	11.00	29,000	3.26	17,800	2.32	7.30	7.8	
	CC5A/CD5A/CD5BA036	28,800	None	—	11.00	11.00	29,400	3.46	17,900	2.40	7.50	7.8	
	CD5A/CD5BW036	28,800	None	—	11.00	11.00	29,400	3.46	17,900	2.40	7.50	7.8	
	CD3(A,B)A030	27,800	None	—	11.00	11.00	29,000	3.26	17,800	2.32	7.30	7.8	
	CD3(A,B)A036	28,800	None	—	11.00	11.00	29,400	3.46	17,900	2.40	7.50	7.8	
	CD3CA030	27,400	None	—	11.00	11.00	29,600	3.30	18,100	2.36	7.50	7.8	
	CD3CA036	28,000	None	—	11.00	11.00	29,600	3.36	18,000	2.38	7.60	7.8	
	CE3AA030	28,000	None	—	11.00	11.00	29,400	3.38	17,900	2.38	7.50	7.8	
	CE3AA036	28,400	None	—	11.00	11.00	29,400	3.40	17,900	2.38	7.50	7.8	
CF5AA036	28,400	None	—	11.00	11.00	29,400	3.42	17,900	2.40	7.50	7.8		
CG5AA036	28,400	TXV	11.00	11.00	—	29,400	3.42	17,900	2.40	7.50	7.8		
036-30	F(A,B)4ANF036†	33,200	TDR	11.00	—	11.00	36,000	3.32	22,600	2.32	7.60	7.8	
	F(A,B)4AN(F,B)042	33,800	TDR	11.50	—	11.50	35,800	3.40	22,600	2.36	8.00	7.8	
	FC4BNF036	33,000	TDR & TXV	11.00	—	—	36,000	3.30	22,600	2.32	7.60	7.8	
	FC4BN(F,B)042	33,800	TDR & TXV	11.50	—	—	35,800	3.44	22,600	2.36	8.00	7.8	
	FG3AAA036	33,000	None	—	11.50	11.50	35,800	3.38	22,400	2.36	7.70	7.8	
	FK4BNB005	35,200	TDR & TXV	12.00	—	—	35,600	3.84	22,000	2.60	8.30	7.8	
	FK4BNF002	33,000	TDR & TXV	11.50	—	—	35,400	3.50	22,400	2.42	8.00	7.8	
FK4BNF003	34,000	TDR & TXV	12.00	—	—	35,200	3.60	22,000	2.48	8.10	7.8		

See notes on pg. 9.

# Combination ratings continued

UNIT SIZE	INDOOR UNIT	ARI STANDARD RATINGS*										Sound Rating (Bels)
		Cooling					Heating					
		TC	Factory-Supplied Enhancement	Seasonal Efficiency SEER			High-Temp		Low-Temp		Seasonal Efficiency HSPF	
				Standard Rating	Field-Supplied Accessory**		TC	COP	TC	COP		
TDR	TXV											
036-30	FK4BNF004	33,600	TDR & TXV	12.00	—	—	35,400	3.68	22,000	2.52	8.20	7.8
	CC5A/CD5A/CD5BA036	33,600	None	—	11.50	11.50	35,800	3.38	22,400	2.36	7.70	7.8
	CD5A/CD5BW036	33,600	None	—	11.50	11.50	35,800	3.38	22,400	2.36	7.70	7.8
	CD3(A,B)A036	33,600	None	—	11.50	11.50	35,800	3.38	22,400	2.36	7.70	7.8
	CD3CA036	32,400	None	—	11.00	11.00	35,600	3.28	22,600	2.32	7.50	7.8
	CD3CA042	32,400	None	—	11.00	11.00	35,600	3.28	22,600	2.32	7.50	7.8
	CD3CA048	33,200	None	—	11.30	11.30	36,000	3.38	22,600	2.36	7.70	7.8
	CC5A/CD5A/CD5BA042	33,600	None	—	11.50	11.50	35,800	3.38	22,400	2.36	7.70	7.8
	CD3(A,B)A042	33,600	None	—	11.50	11.50	35,800	3.38	22,400	2.36	7.70	7.8
	CC5A/CD5A/CD5BW042	33,400	None	—	11.50	11.50	35,800	3.34	22,400	2.34	7.60	7.8
	CE3AA036	33,200	None	—	11.50	11.50	35,600	3.32	22,400	2.34	7.60	7.8
	CE3AA042	33,800	None	—	11.50	11.50	36,000	3.44	22,600	2.38	7.70	7.8
	CF5AA036	33,400	None	—	11.50	11.50	35,800	3.36	22,400	2.34	7.70	7.8
	CG5AA036	33,400	TXV	11.50	11.50	—	35,800	3.36	22,400	2.34	7.70	7.8
	042-30	F(A,B)4AN(F,B)042†	39,500	TDR	11.00	—	11.00	42,500	3.46	27,000	2.46	7.60
F(A,B)4AN(F,B)048		40,000	TDR	11.00	—	11.00	43,000	3.62	27,200	2.52	8.00	7.8
FC4BN(F,B)042		39,500	TDR & TXV	11.00	—	—	42,500	3.46	27,000	2.46	7.60	7.8
FC4BN(F,B)048		40,000	TDR & TXV	11.50	—	—	43,000	3.60	27,200	2.52	8.00	7.8
FG3AAA048		39,500	None	—	11.00	11.00	42,500	3.62	27,000	2.54	7.70	7.8
FK4BNB005		41,500	TDR & TXV	12.00	—	—	42,500	3.88	26,600	2.68	8.30	7.8
FK4BNF003		39,500	TDR & TXV	11.30	—	—	41,500	3.56	26,400	2.64	7.90	7.8
CC5A/CD5A/CD5BA042		39,000	None	—	11.00	11.00	42,000	3.46	26,600	2.46	7.50	7.8
CD3(A,B)A042		39,000	None	—	11.00	11.00	42,000	3.46	26,600	2.46	7.50	7.8
CC5A/CD5A/CD5BW042		39,000	None	—	11.00	11.00	43,500	3.42	26,600	2.44	7.50	7.8
CD5A/CD5BA048		40,000	None	—	11.00	11.00	42,500	3.52	26,800	2.50	7.60	7.8
CD3(A,B)A048		40,000	None	—	11.00	11.00	42,500	3.52	26,800	2.50	7.60	7.8
CC5A/CD5A/CD5BC048		39,000	None	—	11.00	11.00	42,000	3.38	26,800	2.44	7.50	7.8
CC5A/CD5A/CD5BW048		40,000	None	—	11.00	11.00	42,500	3.52	26,800	2.50	7.60	7.8
CD3CA042		37,800	None	—	10.70	10.70	42,000	3.30	26,600	2.40	7.50	7.8
CD3CA048	39,000	None	—	11.00	11.00	42,500	3.46	26,800	2.48	7.70	7.8	
CE3AA042	39,500	None	—	11.00	11.00	42,500	3.52	26,800	2.50	7.60	7.8	
CE3AA048	40,000	None	—	11.00	11.00	42,500	3.56	27,000	2.52	7.70	7.8	
CF5AA048	40,000	None	—	11.00	11.00	42,000	3.50	26,800	2.48	7.60	7.8	
CG5AA048	40,000	TXV	11.00	11.00	—	42,000	3.50	26,800	2.48	7.60	7.8	
048-30	F(A,B)4AN(F,B)048†	45,500	TDR	11.00	—	11.00	48,000	3.32	32,200	2.42	7.60	7.8
	F(A,B)4AN(F,B)060	47,000	TDR	11.00	—	11.00	48,000	3.42	32,600	2.44	7.70	7.8
	FB4ANB070	48,000	TDR	11.50	—	11.50	48,000	3.56	32,400	2.52	8.00	7.8
	FC4BNB070	48,000	TDR & TXV	11.50	—	—	48,000	3.56	32,400	2.52	8.00	7.8
	FC4BN(F,B)048	45,500	TDR & TXV	11.00	—	—	48,000	3.24	31,800	2.40	7.60	7.8
	FC4BN(F,B)060	46,500	TDR & TXV	11.00	—	—	48,000	3.38	32,400	2.44	7.70	7.8
	FG3AAA048	45,000	None	—	11.00	11.00	48,000	3.32	32,000	2.42	7.50	7.8
	FG3AAA060	46,000	None	—	11.00	11.00	48,000	3.38	32,000	2.46	7.70	7.8
	FK4BNB006	47,000	TDR & TXV	12.00	—	—	48,000	3.64	31,000	2.62	8.00	7.8
	CD5A/CD5BA048	44,500	None	—	11.00	11.00	48,000	3.22	31,800	2.38	7.40	7.8
	CD3(A,B)A048	44,500	None	—	11.00	11.00	48,000	3.22	31,800	2.38	7.40	7.8
	CC5A/CD5A/CD5BC048	44,000	None	—	11.00	11.00	48,000	3.02	31,400	2.30	7.00	7.8
	CC5A/CD5A/CD5BW048	44,500	None	—	11.00	11.00	48,000	3.22	31,800	2.38	7.40	7.8
	CC5A/CD5A/CD5BA060	45,000	None	—	11.00	11.00	48,000	3.18	31,800	2.36	7.30	7.8
	CD3(A,B)A060	45,000	None	—	11.00	11.00	48,000	3.18	31,800	2.36	7.30	7.8
CD3CA048	44,000	None	—	10.80	10.80	48,000	3.12	31,800	2.34	7.40	7.8	
CD3CA060	45,500	None	—	11.00	11.00	48,500	3.28	32,000	2.42	7.50	7.8	
CD3CA070	46,000	None	—	11.10	11.10	48,500	3.34	32,000	2.44	7.70	7.8	
CC5A/CD5A/CD5BW060	46,500	None	—	11.00	11.00	48,000	3.36	32,000	2.44	7.70	7.8	
CE3AA048	45,000	None	—	11.00	11.00	48,000	3.26	31,800	2.40	7.50	7.8	
CE3AA060	46,500	None	—	11.50	11.50	48,000	3.36	32,000	2.44	7.70	7.8	
CF5AA048	45,000	None	—	11.00	11.00	48,000	3.16	31,600	2.36	7.30	7.8	
CG5AA048	45,000	TXV	11.00	11.00	—	48,000	3.16	31,600	2.36	7.30	7.8	
060-30**	FB4ANB070†	55,500	TDR	11.00	—	11.00	60,500	3.28	37,600	2.40	7.50	7.8
	F(A,B)4AN(F,B)060	54,000	TDR	11.00	—	11.00	60,500	3.14	37,800	2.32	7.30	7.8
	FC4BNB070	55,000	TDR & TXV	11.00	—	—	60,500	3.26	37,800	2.38	7.50	7.8
	FC4BN(F,B)060	54,000	TDR & TXV	11.00	—	—	60,500	3.14	37,800	2.32	7.30	7.8
	FG3AAA060	53,000	None	—	11.00	11.00	59,500	3.08	37,200	2.32	7.20	7.8
	FK4ANF006	55,500	TDR & TXV	11.50	—	—	60,000	3.36	37,000	2.46	7.70	7.8
	FK4BNB006	55,500	TDR & TXV	11.50	—	—	60,000	3.38	37,000	2.48	7.80	7.8
	CC5A/CD5A/CD5BA060	52,000	None	—	11.00	11.00	58,500	2.88	37,000	2.22	6.80	7.8
	CD3(A,B)A060	52,000	None	—	11.00	11.00	58,500	2.88	37,000	2.22	6.80	7.8
	CD3CA060	52,000	None	—	11.00	11.00	60,000	3.08	37,600	2.32	7.20	7.8
	CD3CA070	53,000	None	—	11.00	11.00	60,000	3.16	37,800	2.34	7.20	7.8
	CC5A/CD5A/CD5BW060	53,500	None	—	11.00	11.00	59,500	3.06	37,200	2.30	7.10	7.8
CE3AA060	54,000	None	—	11.00	11.00	59,500	3.08	37,200	2.32	7.20	7.8	

See notes on pg. 9.



- \* Ratings are net values reflecting the effects of circulating fan heat. Supplemental electric heat is not included. Ratings are based on:  
**Cooling Standard:** 80°F (26°C) db 67°F (19°C) wb indoor entering air temperature and 95°F (35°C) db air entering outdoor unit.  
**High-Temperature Heating Standard:** 70°F (21°C) db indoor entering air temperature and 47°F (8°C) db 43°F (6°C) wb air entering outdoor unit.  
**Low-Temperature Heating Standard:** 70°F (21°C) db indoor entering air temperature and 17°F (-8°C) db 15°F (11°C) wb air entering outdoor unit.
- † Outdoor section/indoor section combination tested in accordance with DOE test procedures for heat pumps. Ratings for other combinations are determined under DOE computer simulation procedures.
- ‡ See TDR.90 table.
- \*\* Requires field-installed TXV, except FC4 and FK4 which have TXV factory installed.
- COP — Coefficient of Performance
- HSPF — Heating Seasonal Performance Factor
- SEER — Seasonal Energy Efficiency Ratio
- TC — Total Capacity (Btuh)
- TDR — Time-Delay Relay
- TXV — Thermostatic Expansion Valve

**TDR.90 TABLE**

METHOD	PART/MODEL NO.
Time-Delay Relay	KAATD0101TDR
Furnaces with TDR	58MCA, 58MVP, 58MXA, 58TMA, 58TUA, 58SX, 58DX, 58SXA, 58SXB, 58DXA, 58DXC, 58SSC, 58DHC, 58WAV, 58ZAV, 58PAV, 58PAP, 58RAP, 58RAV, 58EJA, 58EJB, 58VUA, 58VCA

**NOTE:** In most cases, only 1 of the above should be used to achieve TDR function. More than 1 of the methods listed above in a system may cause degradation in performance.

# Detailed cooling capacities\*

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F														
		85			95			105			115			125		
CFM	EWB	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
<b>38AYB018-30 Outdoor Section With F(A,B)4ANF024 Indoor Section</b>																
550	72	20.5	10.1	1.76	19.4	9.71	1.89	18.3	9.32	2.03	17.2	8.91	2.16	16.1	8.52	2.28
	67	18.6	12.7	1.74	17.6	12.3	1.86	16.6	11.9	1.98	15.5	11.5	2.10	14.5	11.1	2.22
	63††	17.2	12.3	1.72	16.2	11.9	1.84	15.3	11.5	1.95	14.3	11.1	2.06	13.2	10.6	2.16
	62	16.9	15.3	1.71	16.0	14.8	1.83	15.0	14.4	1.94	14.1	13.9	2.05	13.2	13.2	2.16
	57	16.3	16.3	1.70	15.6	15.6	1.82	14.8	14.8	1.94	14.0	14.0	2.05	13.2	13.2	2.16
650	72	20.9	10.7	1.80	19.9	10.3	1.94	18.7	9.91	2.08	17.5	9.51	2.21	16.3	9.10	2.34
	67	19.1	13.8	1.78	18.0	13.3	1.91	16.9	12.9	2.04	15.8	12.5	2.16	14.7	12.1	2.28
	63††	17.6	13.3	1.77	16.6	12.9	1.89	15.6	12.4	2.00	14.6	12.0	2.12	13.5	11.6	2.22
	62	17.4	16.7	1.76	16.5	16.2	1.88	15.6	15.6	2.00	14.7	14.7	2.12	13.9	13.9	2.24
	57	17.1	17.1	1.76	16.4	16.4	1.88	15.6	15.6	2.00	14.7	14.7	2.12	13.9	13.9	2.24
750	72	21.3	11.2	1.85	20.1	10.9	1.99	19.0	10.5	2.13	17.7	10.1	2.26	16.5	9.66	2.39
	67	19.4	14.7	1.83	18.3	14.3	1.96	17.2	13.9	2.09	16.1	13.5	2.21	14.9	13.0	2.33
	63††	17.9	14.2	1.81	16.9	13.8	1.94	15.8	13.3	2.06	14.8	12.9	2.17	13.7	12.4	2.28
	62	17.9	17.8	1.81	17.0	17.0	1.94	16.1	16.1	2.06	15.3	15.3	2.19	14.4	14.4	2.31
	57	17.8	17.8	1.81	17.0	17.0	1.94	16.1	16.1	2.06	15.3	15.3	2.19	14.3	14.3	2.31

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
F(A,B)4ANF	018	0.96	0.98	CC5A/CD5A/CD5BA	018	1.00	0.98
	024	1.00	1.00		024	1.00	0.99
FC4BNF	024	1.00	1.00	CD3(A,B)A	018	1.00	0.98
FD3ANA	018	1.00	0.99		024	1.00	0.99
FF1(A,B)NA	018	0.97	0.96	CD3CA	024	1.00	0.99
	024	1.00	0.99	CE3AA	024	1.00	0.99
FG3AAA	024	1.00	0.99	CF5AA	024	1.00	0.99
FK4BNF	001	1.00	0.90	CG5AA	024	1.00	0.99
	002	1.00	0.91		—	—	—

See notes on pg. 16.

# Detailed cooling capacities\* continued

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F														
		85			95			105			115			125		
CFM	EWB	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
<b>38AYB024-30 Outdoor Section With F(A,B)4ANF024 Indoor Section</b>																
725	72	25.4	12.8	2.05	24.4	12.4	2.24	23.4	12.1	2.47	22.3	11.7	2.72	21.2	11.3	3.01
	67	23.2	16.4	2.02	22.3	16.0	2.22	21.3	15.6	2.44	20.3	15.2	2.69	19.3	14.9	2.98
	63††	21.5	15.9	2.01	20.6	15.5	2.20	19.7	15.1	2.42	18.7	14.7	2.67	17.8	14.3	2.95
	62	21.2	19.8	2.01	20.3	19.4	2.20	19.5	18.9	2.42	18.6	18.4	2.67	17.8	17.8	2.95
	57	20.7	20.7	2.00	20.0	20.0	2.20	19.3	19.3	2.42	18.5	18.5	2.67	17.8	17.8	2.95
825	72	25.8	13.4	2.09	24.7	13.0	2.28	23.7	12.6	2.51	22.6	12.3	2.77	21.5	11.9	3.06
	67	23.6	17.4	2.07	22.6	17.0	2.26	21.6	16.6	2.48	20.6	16.2	2.74	19.5	15.8	3.02
	63††	21.8	16.8	2.05	20.9	16.4	2.24	19.9	16.0	2.46	19.0	15.6	2.72	18.0	15.2	3.00
	62	21.7	21.1	2.05	20.8	20.5	2.24	19.9	19.9	2.46	19.2	19.2	2.72	18.4	18.4	3.00
	57	21.5	21.5	2.05	20.7	20.7	2.24	19.9	19.9	2.46	19.2	19.2	2.72	18.4	18.4	3.00
925	72	26.1	13.9	2.13	25.0	13.5	2.33	23.9	13.2	2.55	22.8	12.8	2.81	21.7	12.4	3.10
	67	23.9	18.3	2.11	22.9	17.9	2.30	21.8	17.6	2.52	20.8	17.1	2.78	19.7	16.7	3.07
	63††	22.1	17.7	2.09	21.1	17.3	2.28	20.2	16.9	2.51	19.2	16.5	2.76	18.2	16.1	3.04
	62	22.1	22.0	2.09	21.3	21.3	2.29	20.5	20.5	2.51	19.7	19.7	2.76	18.9	18.9	3.05
	57	22.1	22.1	2.09	21.3	21.3	2.28	20.5	20.5	2.51	19.7	19.7	2.76	18.9	18.9	3.05

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
FB4AN(A,F)	030	1.02	1.00	CC5A/CD5A/	024	0.99	1.00
F(A,B)4ANF	024	1.00	1.00	CD5BA	030	1.00	1.00
FC4BNF	024	1.00	1.00	CC5A/CD5A/	030	1.00	1.00
	030	1.02	1.00				
FD3ANA	024	0.98	0.99	CD3(A,B)A	024	0.99	1.00
	030	1.03	1.00		030	1.00	1.00
FF1(A,B)NA	024	1.00	1.00	CD3CA	024	0.99	1.00
	030	1.03	1.01		030	0.99	1.00
FG3AAA	024	0.98	1.00		036	0.99	1.00
FK4BNF	001	1.03	0.91	CE3AA	024	1.00	1.00
	002	1.04	0.90		030	1.02	1.00
	003	1.05	0.89	CF5AA	024	1.00	1.00
—	—	—	—	CG5AA	024	1.00	1.00

See notes on pg. 16.

# Detailed cooling capacities\* continued

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F														
		85			95			105			115			125		
CFM	EWB	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
<b>38AYB030-30 Outdoor Section With F(A,B)4ANF030 Indoor Section</b>																
900	72	32.0	16.1	2.44	30.8	15.7	2.65	29.5	15.2	2.89	28.2	14.7	3.16	26.8	14.3	3.46
	67	29.4	20.7	2.40	28.2	20.2	2.61	27.0	19.7	2.85	25.7	19.2	3.11	24.5	18.7	3.41
	63††	27.3	20.0	2.37	26.2	19.6	2.58	25.0	19.1	2.81	23.8	18.6	3.08	22.6	18.1	3.37
	62	26.9	25.0	2.36	25.9	24.5	2.57	24.8	23.9	2.81	23.7	23.3	3.07	22.6	22.5	3.37
	57	26.2	26.2	2.35	25.4	25.4	2.56	24.5	24.5	2.80	23.5	23.5	3.07	22.6	22.6	3.37
950	72	32.2	16.4	2.46	31.0	15.9	2.67	29.7	15.5	2.91	28.3	15.0	3.18	27.0	14.5	3.48
	67	29.6	21.1	2.42	28.4	20.7	2.63	27.2	20.2	2.87	25.9	19.7	3.13	24.6	19.2	3.43
	63††	27.5	20.5	2.39	26.3	20.0	2.60	25.2	19.5	2.83	24.0	19.0	3.10	22.7	18.5	3.40
	62	27.2	25.6	2.38	26.1	25.1	2.59	25.0	24.5	2.83	23.9	23.8	3.10	22.8	22.8	3.40
	57	26.6	26.6	2.38	25.7	25.7	2.59	24.8	24.8	2.83	23.8	23.8	3.10	22.8	22.8	3.40
1125	72	32.7	17.2	2.53	31.4	16.8	2.75	30.1	16.3	2.99	28.7	15.9	3.26	27.3	15.4	3.56
	67	30.1	22.7	2.49	28.9	22.3	2.70	27.6	21.8	2.94	26.3	21.3	3.21	24.9	20.8	3.51
	63††	27.9	22.0	2.46	26.8	21.5	2.67	25.5	21.0	2.90	24.3	20.5	3.17	23.1	19.9	3.47
	62	27.8	27.5	2.46	26.8	26.7	2.67	25.8	25.8	2.91	24.7	24.7	3.18	23.7	23.7	3.48
	57	27.7	27.7	2.45	26.8	26.8	2.67	25.8	25.8	2.91	24.7	24.7	3.18	23.7	23.7	3.48

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
F(A,B)4ANF	030	1.00	1.00	CC5A/CD5A/ CD5BA	030	0.98	1.00
	036	1.00	1.05		036	1.01	1.01
FC4BNF	030	0.99	1.00	CC5A/CD5A/ CD5BW CD3(A,B)A	030	0.98	1.00
	033	1.01	0.98				
	036	1.00	1.04				
FD3ANA	030	0.99	1.01	CD3CA	036	1.01	1.01
FF1(A,B)NA	030	0.99	1.01		030	0.96	1.00
FG3AAA	036	1.00	1.01	CD5A/CD5BW CE3AA CF5AA CG5AA	036	0.99	1.00
FK4BNF	001	1.01	0.94		036	1.01	1.01
	002	1.01	0.92		030	0.99	1.00
	003	1.02	0.91		036	1.00	1.01
	004	1.03	0.92		036	1.00	1.01
—	—	—	—	036	1.00	1.01	

See notes on pg. 16.

# Detailed cooling capacities\* continued

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F														
		85			95			105			115			125		
		Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**
CFM	EWB	Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
<b>38AYB036-30 Outdoor Section With F(A,B)4ANF036 Indoor Section</b>																
1100	72	37.5	19.0	2.99	36.0	18.5	3.26	34.4	17.9	3.57	32.7	17.3	3.90	31.0	16.7	4.27
	67	34.3	24.5	2.95	32.9	24.0	3.22	31.4	23.4	3.53	29.8	22.8	3.86	28.2	22.1	4.21
	63††	31.9	23.8	2.92	30.5	23.2	3.19	29.1	22.6	3.49	27.6	22.0	3.82	25.9	21.3	4.17
	62	31.5	29.8	2.92	30.3	29.1	3.19	28.9	28.4	3.49	27.6	27.5	3.82	26.2	26.2	4.17
	57	30.9	30.9	2.91	29.9	29.9	3.18	28.7	28.7	3.49	27.5	27.5	3.82	26.2	26.2	4.17
1200	72	37.8	19.5	3.04	36.3	19.0	3.31	34.7	18.5	3.62	33.0	17.9	3.95	31.2	17.3	4.32
	67	34.6	25.5	3.00	33.2	25.0	3.27	31.7	24.4	3.57	30.1	23.8	3.90	28.4	23.1	4.26
	63††	32.2	24.7	2.97	30.8	24.1	3.24	29.4	23.5	3.54	27.8	22.9	3.87	26.2	22.2	4.22
	62	32.0	31.0	2.96	30.7	30.2	3.24	29.4	29.3	3.54	28.1	28.1	3.87	26.7	26.7	4.23
	57	31.6	31.6	2.96	30.5	30.5	3.24	29.3	29.3	3.54	28.1	28.1	3.87	26.7	26.7	4.23
1350	72	38.2	20.4	3.11	36.6	19.8	3.38	35.0	19.2	3.69	33.2	18.7	4.02	31.4	18.1	4.39
	67	35.0	27.0	3.07	33.5	26.4	3.34	32.0	25.8	3.64	30.4	25.1	3.98	28.6	24.5	4.33
	63††	32.5	26.0	3.04	31.1	25.4	3.31	29.7	24.8	3.61	28.1	24.2	3.94	26.4	23.4	4.29
	62	32.5	32.4	3.04	31.3	31.3	3.31	30.1	30.1	3.62	28.8	28.8	3.95	27.4	27.4	4.31
	57	32.5	32.5	3.04	31.3	31.3	3.31	30.1	30.1	3.62	28.8	28.8	3.95	27.4	27.4	4.31

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
F(A,B)4ANF	036	1.00	1.00	CD5A/CD5BW	036	1.01	0.98
F(A,B)4AN(F,B)	042	1.02	0.99	CD3(A,B)A	036	1.01	0.98
FC4BNF	036	0.99	1.01		042	1.01	0.98
FC4BN(F,B)	042	1.02	0.99	CD3CA	036	0.98	0.97
FG3AAA	036	0.99	0.98		042	0.98	0.97
FK4BNB	005	1.06	0.90		048	1.00	0.98
FK4BNF	002	0.99	0.95	CC5A/CD5A/CD5BW	042	1.01	0.98
	003	1.02	0.92	CE3AA	036	1.00	0.98
	004	1.01	0.91		042	1.02	0.98
CC5A/CD5A/CD5BA	036	1.01	0.98	CF5AA	036	1.01	0.98
	042	1.01	0.98	CG5AA	036	1.01	0.98

See notes on pg. 16.

# Detailed cooling capacities\* continued

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F														
		85			95			105			115			125		
CFM	EWB	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
<b>38AYB042-30 Outdoor Section With F(A,B)4AN(F,B)042 Indoor Section</b>																
1275	72	44.3	22.5	3.43	42.5	21.8	3.76	40.5	21.1	4.12	38.5	20.4	4.51	36.4	19.7	4.93
	67	40.7	29.1	3.38	39.0	28.4	3.70	37.1	27.6	4.06	35.2	26.9	4.44	33.2	26.1	4.85
	63††	37.8	28.2	3.34	36.2	27.5	3.66	34.4	26.7	4.01	32.6	25.9	4.39	30.3	25.0	4.78
	62	37.4	35.3	3.34	35.9	34.5	3.66	34.3	33.6	4.01	32.6	32.5	4.39	30.7	30.7	4.79
	57	36.7	36.7	3.33	35.4	35.4	3.65	34.0	34.0	4.01	32.5	32.5	4.39	30.7	30.7	4.79
1475	72	45.0	23.6	3.53	43.0	22.9	3.85	41.0	22.2	4.21	39.0	21.5	4.60	36.8	20.8	5.02
	67	41.3	31.0	3.47	39.5	30.3	3.80	37.6	29.6	4.15	35.7	28.8	4.54	33.6	28.0	4.95
	63††	38.4	30.0	3.43	36.7	29.3	3.75	34.9	28.5	4.11	33.0	27.7	4.48	30.8	26.8	4.88
	62	38.2	37.6	3.43	36.7	36.5	3.75	25.1	35.1	4.11	33.6	33.6	4.50	31.8	31.8	4.91
	57	38.0	38.0	3.43	36.6	36.6	3.75	35.1	35.1	4.11	33.6	33.6	4.50	31.8	31.8	4.91
1675	72	45.4	24.6	3.62	43.4	23.9	3.94	41.4	23.2	4.30	39.2	22.5	4.69	37.0	21.8	5.12
	67	41.7	32.9	3.56	39.9	32.2	3.89	38.0	31.4	4.24	36.0	30.6	4.63	33.8	29.8	5.04
	63††	38.8	31.7	3.52	37.0	31.0	3.85	35.2	30.2	4.20	33.3	29.4	4.58	31.1	28.4	4.98
	62	39.1	39.1	3.53	37.6	37.6	3.85	36.1	36.1	4.21	34.4	34.4	4.60	32.7	32.7	5.01
	57	39.1	39.1	3.53	37.6	37.6	3.85	36.1	36.1	4.21	34.4	34.4	4.60	32.7	32.7	5.01

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
F(A,B)4AN(F,B)	042	1.00	1.00	CD3CA	042	0.96	0.97
	048	1.01	1.00		048	0.99	0.97
FC4BN(F,B)	042	1.00	1.00	CC5A/CD5A/ CD5BW	042	0.99	0.97
	048	1.01	1.00		048	1.01	0.98
FG3AAA	048	1.00	0.98	CD5A/CD5BA	048	1.01	0.98
FK4BNB	005	1.05	0.94	CC5A/CD5A/CD5BC	048	0.99	0.98
FK4BNF	003	1.00	0.94	CE3AA	042	1.00	0.98
CC5A/CD5A/CD5BA	042	0.99	0.97		048	1.01	0.99
CD3(A,B)A	042	0.99	0.97	CF5AA	048	1.01	0.98
	048	1.01	0.98	CG5AA	048	1.01	0.98

See notes on pg. 16.

# Detailed cooling capacities\* continued

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F														
		85			95			105			115			125		
CFM	EWB	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
<b>38AYB048-030 Outdoor Section With F(A,B)4AN(F,B)048 Indoor Section</b>																
1400	72	51.3	25.4	4.20	49.0	24.5	4.68	46.6	23.7	5.19	44.1	22.8	5.75	41.5	21.9	6.34
	67	46.9	32.3	4.15	44.8	31.4	4.62	42.6	30.5	5.13	40.3	29.6	5.67	37.7	28.6	6.24
	63††	43.5	31.3	4.11	41.5	30.4	4.58	39.4	29.5	5.07	37.2	28.5	5.61	34.4	27.3	6.15
	62	42.9	38.9	4.11	41.0	38.0	4.57	39.0	37.0	5.07	36.8	35.9	5.60	34.3	34.2	6.15
	57	41.5	41.5	4.09	39.9	39.9	4.56	38.3	38.3	5.06	36.5	36.5	5.59	34.3	34.3	6.15
1600	72	52.1	26.4	4.30	49.7	25.6	4.77	47.2	24.7	5.29	44.7	23.8	5.85	42.0	22.9	6.44
	67	47.7	34.2	4.25	45.5	33.3	4.71	43.2	32.4	5.22	40.8	31.5	5.77	38.2	30.5	6.35
	63††	44.3	33.1	4.21	42.2	32.2	4.67	40.0	31.3	5.17	37.7	30.3	5.71	34.9	29.1	6.25
	62	43.8	41.5	4.20	41.8	40.5	4.67	39.8	39.3	5.17	37.8	37.8	5.71	35.6	35.6	6.27
	57	43.0	43.0	4.20	41.4	41.4	4.66	39.6	39.6	5.17	37.8	37.8	5.71	35.6	35.6	6.27
1800	72	52.7	27.5	4.39	50.2	26.6	4.87	47.7	25.8	5.39	45.1	24.9	5.94	42.3	23.9	6.54
	67	48.3	36.1	4.34	46.0	35.2	4.81	43.7	34.3	5.32	41.2	33.3	5.87	38.6	32.3	6.44
	63††	44.8	34.9	4.30	42.7	33.9	4.76	40.4	33.0	5.27	38.1	32.0	5.80	35.3	30.8	6.36
	62	44.6	43.8	4.30	42.6	42.5	4.76	40.7	40.7	5.27	38.8	38.8	5.82	36.6	36.6	6.39
	57	44.3	44.3	4.29	42.6	42.6	4.76	40.7	40.7	5.27	38.8	38.8	5.82	36.6	36.6	6.39

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
FB4ANB	070	1.05	1.00	CC5A/CD5A/ CD5BW	048	0.98	0.98
F(A,B)4AN(F,B)	048	1.00	1.00		060	1.02	0.98
		060	1.03	1.01	CC5A/CD5A/CD5BA	060	0.99
FC4BNB	070	1.05	1.00	CD3(A,B)A	048	0.98	0.98
FC4BN(F,B)	048	1.00	0.99		060	0.99	0.98
	060	1.02	1.01		CD3CA	048	0.97
FG3AAA	048	0.99	0.98	060		1.00	0.97
	060	1.01	0.98	070		1.01	0.97
FK4BNB	006	1.03	0.90	CE3AA	048	0.99	0.98
CD5A/CD5BA	048	0.98	0.98		060	1.02	0.98
CC5A/CD5A/CD5BC	048	0.97	0.97	CF5AA	048	0.99	0.97
	—	—	—	CG5AA	048	0.99	0.97

See notes on pg. 16.

# Detailed cooling capacities\* continued

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F														
		85			95			105			115			125		
CFM	EWB	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**	Capacity MBtu/h†		Total System Kw**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
<b>38AYB060-30 Outdoor Section With FB4ANB070 Indoor Section</b>																
1750	72	62.4	31.5	5.33	59.9	30.6	5.87	57.3	29.7	6.46	54.5	28.7	7.10	51.6	27.7	7.80
	67	57.8	40.8	5.25	55.3	39.8	5.78	52.9	38.8	6.36	50.3	37.8	7.00	47.6	36.7	7.68
	63††	54.0	39.7	5.18	51.7	38.7	5.71	49.4	37.7	6.29	46.9	36.6	6.92	44.4	35.5	7.59
	62	53.3	49.6	5.17	51.2	48.6	5.70	48.9	47.5	6.28	46.7	46.2	6.91	44.4	44.4	7.59
	57	52.2	52.2	5.15	50.4	50.4	5.69	48.5	48.5	6.27	46.5	46.5	6.91	44.4	44.4	7.59
2000	72	63.1	32.9	5.45	60.5	32.0	5.99	57.8	31.1	6.58	55.0	30.1	7.22	52.0	29.1	7.92
	67	58.4	43.3	5.37	56.1	42.3	5.90	53.5	41.4	6.49	50.9	40.3	7.12	48.1	39.2	7.81
	63††	54.7	42.1	5.30	52.4	41.1	5.83	50.0	40.1	6.41	47.5	39.0	7.04	44.9	37.9	7.72
	62	54.3	53.0	5.30	52.2	51.7	5.83	50.0	50.0	6.41	47.9	47.9	7.05	45.7	45.7	7.74
	57	53.9	53.9	5.29	52.0	52.0	5.83	50.1	50.1	6.41	47.9	47.9	7.05	45.7	45.7	7.74
2200	72	63.5	34.0	5.54	60.9	33.1	6.08	58.1	32.1	6.67	55.2	31.2	7.32	52.2	30.2	8.01
	67	58.9	45.2	5.46	56.4	44.3	6.00	53.8	43.3	6.58	51.2	42.3	7.22	48.4	41.1	7.90
	63††	55.1	43.9	5.40	52.8	42.9	5.93	50.3	41.9	6.51	47.8	40.8	7.14	45.1	39.6	7.81
	62	55.1	55.0	5.40	53.1	53.1	5.93	51.1	51.1	6.52	48.8	48.8	7.16	46.5	46.5	7.85
	57	55.1	55.1	5.40	53.1	53.1	5.93	51.0	51.0	6.52	48.8	48.8	7.16	46.5	46.5	7.85

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
FB4ANB	070	1.00	1.00	CC5A/CD5A/CD5BA	060	0.95	0.97
F(A,B)4AN(F,B)	060	0.98	1.00	CD3(A,B)A	060	0.95	0.97
FC4BNB	070	1.01	0.99	CD3CA	060	0.95	0.98
FC4BN(F,B)	060	0.98	1.00		070	0.96	0.98
FG3AAA	060	0.96	0.97	CC5A/CD5A/CD5BW	060	0.97	0.97
FK4ANF	006	1.01	0.96	CE3AA	060	0.98	0.97
FK4BNB	006	1.01	0.95		—	—	—

\* Detailed cooling capacities are based on indoor and outdoor unit at same elevation per ARI standard 210/240-89. If additional tubing length and/or indoor unit is located above outdoor unit, a slight variation in capacity may occur.

† Total and sensible capacities are net capacities. Blower motor heat has been subtracted.

‡ Sensible capacities shown are based on 80°F (27°C) entering air at the indoor coil. For sensible capacities at other than 80°F (27°C), deduct 835 Btu/h (245 kw) per 1000 CFM (480 L/S) of indoor coil air for each degree below 80°F (27°C), or add 835 Btu/h (245 kw) per 1000 CFM (480 L/S) of indoor coil air per degree above 80°F (27°C).

\*\* System kw is total of indoor and outdoor unit kw's.

†† At TVA rating indoor condition (75°F edb/63°F ewb). All other indoor air temperatures are at 80°F edb.

EWB – Entering Wet Bulb



# Heat pump heating performance

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F																												
		-3			7			17			27			37			47			57			67							
		Capacity MBtu/h†	Total Power		Capacity MBtu/h†	Total Power		Capacity MBtu/h†	Total Power		Capacity MBtu/h†	Total Power		Capacity MBtu/h†	Total Power		Capacity MBtu/h†	Total Power		Capacity MBtu/h†	Total Power		Capacity MBtu/h†	Total Power						
EDB	CFM	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡					
<b>38AYB018-30 Outdoor Section With F(A,B)4ANF024 Indoor Section</b>																														
65	550	8.04	7.39	1.30	9.79	8.99	1.36	11.6	10.5	1.42	13.4	11.9	1.49	15.2	13.9	1.55	17.1	17.1	1.62	18.5	18.5	1.68	19.2	19.2	1.72					
	650	8.29	7.62	1.34	10.1	9.24	1.40	11.8	10.8	1.46	13.7	12.2	1.51	15.6	14.2	1.57	17.3	17.3	1.63	18.1	18.1	1.66	18.8	18.8	1.69					
	750	8.50	7.82	1.38	10.3	9.44	1.44	12.1	11.0	1.49	13.9	12.4	1.54	15.8	14.4	1.60	17.2	17.2	1.63	18.3	18.3	1.67	18.7	18.7	1.69					
70	550	7.66	7.04	1.31	9.45	8.69	1.38	11.2	10.2	1.44	13.0	11.6	1.51	14.8	13.5	1.58	16.7	16.7	1.66	18.4	18.4	1.73	19.4	19.4	1.79					
	650	7.91	7.28	1.35	9.71	8.93	1.41	11.5	10.5	1.48	13.3	11.8	1.54	15.2	13.8	1.61	17.0	17.0	1.67	18.3	18.3	1.72	19.1	19.1	1.76					
	750	8.13	7.48	1.39	9.94	9.13	1.45	11.7	10.7	1.51	13.6	12.1	1.57	15.5	14.1	1.63	17.0	17.0	1.67	18.3	18.3	1.72	18.7	18.7	1.75					
75	550	7.23	6.65	1.31	9.11	8.37	1.39	10.9	9.90	1.46	12.6	11.2	1.54	14.5	13.2	1.61	16.3	16.3	1.70	18.1	18.1	1.78	19.1	19.1	1.83					
	650	7.49	6.89	1.35	9.37	8.61	1.43	11.1	10.2	1.50	13.0	11.5	1.56	14.8	13.5	1.64	16.7	16.7	1.71	18.2	18.2	1.77	19.0	19.0	1.81					
	750	7.71	7.10	1.40	9.59	8.81	1.47	11.4	10.4	1.53	13.2	11.7	1.60	15.1	13.7	1.66	16.9	16.9	1.72	18.0	18.0	1.77	18.6	18.6	1.80					

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Cooling		Indoor Section	Size	Cooling	
		Capacity	Power			Capacity	Power
F(A,B)4ANF	018	0.97	1.02	CC5A/CD5A/CD5BA	018	0.96	1.03
	024	1.00	1.00		024	0.98	1.01
FC4BNF	024	1.00	1.00	CD3(A,B)A	018	0.96	1.03
FD3ANA	018	0.98	1.02		024	0.98	1.01
FF1(A,B)NA	018	0.96	1.00	CD3CA	024	0.99	1.00
	024	0.99	0.99		024	0.99	1.00
FG3AAA	024	0.99	1.00	CG5AA	024	0.99	1.00
FK4BNF	001	0.98	0.91		—	—	—
	002	0.98	0.89				

## 38AYB024-30 Outdoor Section With F(A,B)4ANF024 Indoor Section

65	725	9.44	8.68	1.78	11.9	11.0	1.83	14.4	13.1	1.87	17.1	15.2	1.91	20.2	18.4	1.95	23.6	23.6	2.01	27.6	27.6	2.09	32.0	32.0	2.21					
	825	9.62	8.85	1.81	12.1	11.1	1.85	14.6	13.3	1.88	17.3	15.4	1.91	20.4	18.6	1.94	23.8	23.8	1.99	27.9	27.9	2.07	32.4	32.4	2.18					
	925	9.79	9.00	1.84	12.2	11.3	1.87	14.8	13.4	1.90	17.5	15.6	1.92	20.6	18.8	1.95	24.1	24.1	1.99	28.2	28.2	2.06	32.7	32.7	2.17					
70	725	9.14	8.41	1.84	11.7	10.7	1.89	14.2	13.0	1.94	16.9	15.0	1.99	20.0	18.2	2.04	23.3	23.3	2.10	27.3	27.3	2.19	31.7	31.7	2.32					
	825	9.33	8.58	1.87	11.9	10.9	1.91	14.4	13.1	1.95	17.1	15.2	1.99	20.2	18.4	2.03	23.6	23.6	2.08	27.6	27.6	2.16	32.0	32.0	2.28					
	925	9.49	8.73	1.89	12.0	11.1	1.94	14.6	13.3	1.97	17.3	15.4	2.00	20.4	18.6	2.03	23.8	23.8	2.08	27.8	27.8	2.15	32.3	32.3	2.26					
75	725	8.83	8.12	1.90	11.4	10.5	1.96	14.1	12.8	2.02	16.8	14.9	2.07	19.8	18.0	2.13	23.1	23.1	2.20	27.0	27.0	2.30	31.3	31.3	2.43					
	825	9.01	8.29	1.92	11.6	10.7	1.98	14.2	13.0	2.03	16.9	15.0	2.07	20.0	18.2	2.12	23.4	23.4	2.18	27.3	27.3	2.26	31.7	31.7	2.38					
	925	9.18	8.45	1.95	11.8	10.8	2.00	14.4	13.1	2.05	17.1	15.2	2.08	20.2	18.3	2.12	23.6	23.6	2.17	27.5	27.5	2.25	32.0	32.0	2.36					

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Heating		Indoor Section	Size	Heating	
		Capacity	Power			Capacity	Power
FB4AN(A,F)	030	1.00	1.00	CC5A/CD5A/CD5BA	024	1.00	1.04
F(A,B)4ANF	024	1.00	1.00		030	1.00	1.03
FC4BNF	024	1.00	1.00	CC5A/CD5A/CD5BW	030	1.00	1.03
	030	1.00	1.00		CD3(A,B)A	024	1.00
FD3ANA	024	1.00	1.02	CD3CA		030	1.00
	030	1.00	0.97		024	1.00	1.01
FF1(A,B)NA	024	1.00	1.00	CE3AA	030	1.00	1.01
	030	1.00	0.98		036	1.00	1.00
FG3AAA	024	1.00	1.02	CG5AA	024	1.00	1.02
FK4BNF	001	1.00	0.94		030	1.00	0.99
	002	1.00	0.90		024	1.00	1.02
	003	1.01	0.90				

See notes on pg. 20.

# Heat pump heating performance continued

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F																							
		-3			7			17			27			37			47			57			67		
		Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power
EDB	CFM	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡
<b>38AYB030-30 Outdoor Section With F(A,B)4ANF030 Indoor Section</b>																									
65	900	12.1	11.1	1.93	14.9	13.7	2.01	17.9	16.3	2.10	21.3	19.0	2.20	25.3	23.0	2.32	29.8	29.8	2.47	35.5	35.5	2.68	41.7	41.7	2.93
	950	12.2	11.2	1.94	14.9	13.7	2.02	18.0	16.4	2.10	21.4	19.0	2.20	25.4	23.2	2.32	30.0	30.0	2.46	35.7	35.7	2.66	41.9	41.9	2.92
	1125	12.4	11.4	1.97	15.2	13.9	2.05	18.3	16.6	2.13	21.8	19.3	2.22	25.8	23.5	2.33	30.4	30.4	2.46	36.2	36.2	2.65	42.5	42.5	2.89
70	900	11.9	11.0	2.00	14.7	13.5	2.10	17.7	16.2	2.19	21.1	18.8	2.29	25.0	22.8	2.42	29.5	29.5	2.57	35.0	35.0	2.79	41.1	41.1	3.05
	950	12.0	11.0	2.01	14.8	13.6	2.10	17.8	16.2	2.19	21.2	18.8	2.29	25.2	22.9	2.42	29.6	29.6	2.57	35.2	35.2	2.77	41.3	41.3	3.03
	1125	12.2	11.3	2.05	15.0	13.8	2.13	18.1	16.5	2.21	21.5	19.1	2.31	25.5	23.2	2.42	30.0	30.0	2.56	35.7	35.7	2.75	42.0	42.0	3.00
75	900	11.7	10.7	2.08	14.6	13.4	2.19	17.6	16.0	2.28	20.9	18.6	2.40	24.8	22.5	2.53	29.1	29.1	2.69	34.6	34.6	2.91	40.6	40.6	3.18
	950	11.7	10.8	2.09	14.7	13.5	2.19	17.6	16.1	2.29	21.0	18.7	2.39	24.9	22.6	2.52	29.3	29.3	2.68	34.8	34.8	2.89	40.8	40.8	3.16
	1125	12.0	11.1	2.13	14.9	13.7	2.22	17.9	16.3	2.30	21.3	18.9	2.40	25.2	23.0	2.52	29.7	29.7	2.66	35.3	35.3	2.86	41.4	41.4	3.12

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Heating		Indoor Section	Size	Heating	
		Capacity	Power			Capacity	Power
F(A,B)4ANF	030	1.00	1.00	CC5A/CD5A/CD5BA	030	0.98	1.02
	036	1.00	0.99		036	0.99	0.97
FC4BNF	030	1.00	1.00	CC5A/CD5A/CD5BW	030	0.98	1.02
	036	1.00	0.99		CD3(A,B)A	030	0.98
FD3ANA	030	1.00	0.98	CD3CA		036	0.99
	036	0.99	0.98		030	1.00	1.02
FF1(A,B)NA	030	0.99	0.98	CD3CA	036	1.00	1.01
FG3AAA	036	0.99	0.98		036	1.00	1.01
FK4BNF	001	0.99	0.93	CD5A/CD5BW	036	0.99	0.97
	002	0.99	0.91		CE3AA	030	0.99
	003	0.97	0.89	036		0.99	0.99
	004	0.99	0.87	CF5AA	036	0.99	0.98
—	—	—	—	CG5AA	036	0.99	0.98

## 38AYB036-30 Outdoor Section With F(A,B)4ANF036 Indoor Section

65	1100	15.6	14.4	2.55	19.1	17.5	2.64	22.7	20.7	2.72	26.6	23.6	2.81	31.0	28.2	2.92	36.1	36.1	3.05	42.6	42.6	3.25	49.4	49.4	3.48
	1200	15.8	14.6	2.58	19.3	17.7	2.66	22.8	20.8	2.74	26.8	23.8	2.82	31.3	28.4	2.92	36.5	36.5	3.05	43.0	43.0	3.23	49.9	49.9	3.46
	1350	16.1	14.8	2.62	19.5	18.0	2.70	23.1	21.1	2.77	27.1	24.1	2.84	31.6	28.7	2.93	36.9	36.9	3.05	43.5	43.5	3.23	50.5	50.5	3.44
70	1100	15.2	14.0	2.64	18.8	17.3	2.74	22.4	20.4	2.84	26.3	23.3	2.94	30.7	27.9	3.05	35.7	35.7	3.19	42.0	42.0	3.39	48.8	48.8	3.63
	1200	15.4	14.2	2.67	19.0	17.5	2.76	22.6	20.6	2.85	26.5	23.5	2.94	30.9	28.1	3.05	36.0	36.0	3.18	42.4	42.4	3.37	49.2	49.2	3.60
	1350	15.7	14.5	2.72	19.3	17.7	2.80	22.9	20.9	2.88	26.8	23.8	2.96	31.3	28.4	3.06	36.4	36.4	3.18	42.9	42.9	3.36	49.8	49.8	3.58
75	1100	14.8	13.6	2.74	18.4	16.9	2.84	22.1	20.2	2.96	26.0	23.1	3.06	30.3	27.6	3.18	35.3	35.3	3.33	41.5	41.5	3.53	48.1	48.1	3.78
	1200	15.0	13.8	2.77	18.6	17.1	2.86	22.3	20.4	2.97	26.2	23.3	3.07	30.6	27.8	3.18	35.6	35.6	3.32	41.9	41.9	3.51	48.5	48.5	3.75
	1350	15.3	14.1	2.81	18.9	17.4	2.90	22.6	20.6	3.00	26.5	23.6	3.09	30.9	28.1	3.19	36.0	36.0	3.31	42.4	42.4	3.50	49.1	49.1	3.72

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Heating		Indoor Section	Size	Heating	
		Capacity	Power			Capacity	Power
F(A,B)4ANF	036	1.00	1.00	CD5A/CD5BW	036	0.99	0.98
F(A,B)4AN(F,B)	042	0.99	0.97		CD3(A,B)A	036	0.99
FC4BNF	036	1.00	1.01	CD3CA		042	0.99
FC4BN(F,B)	042	0.99	0.96		CD3CA	036	0.99
FG3AAA	036	0.99	0.98	CD3CA		042	0.99
FK4BNB	005	0.99	0.85		CD3CA	048	1.00
FK4BNF	002	0.98	0.93	CC5A/CD5A/CD5BW		042	0.99
	003	0.98	0.90		CE3AA	036	0.99
	004	0.98	0.89	042		1.00	0.97
CC5A/CD5A/CD5BA	036	0.99	0.98	CF5AA	036	0.99	0.98
	042	0.99	0.98	CG5AA	036	0.99	0.98

See notes on pg. 20.

# Heat pump heating performance continued

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F																									
		-3			7			17			27			37			47			57			67				
		Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power		
EDB	CFM	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡		
<b>38AYB042-30 Outdoor Section With F(A,B)4AN(F,B)042 Indoor Section</b>																											
65	1275	19.0	17.5	2.86	22.8	21.0	2.96	26.9	24.5	3.05	31.4	27.9	3.16	36.4	33.1	3.28	42.5	42.5	3.46	49.9	49.9	3.71	57.6	57.6	4.00		
	1475	19.4	17.9	2.92	23.2	21.3	3.00	27.3	24.9	3.09	31.8	28.2	3.18	36.9	33.5	3.29	43.0	43.0	3.45	50.6	50.6	3.69	58.4	58.4	3.97		
	1675	19.8	18.2	2.98	23.5	21.6	3.06	27.7	25.2	3.13	32.2	28.6	3.21	37.3	33.9	3.31	43.5	43.5	3.47	51.1	51.1	3.69	59.1	59.1	3.97		
70	1275	18.6	17.1	2.96	22.6	20.7	3.08	26.6	24.3	3.19	31.0	27.6	3.30	36.0	32.7	3.43	41.9	41.9	3.61	49.2	49.2	3.86	56.8	56.8	4.17		
	1475	19.0	17.5	3.02	22.9	21.1	3.12	27.0	24.6	3.22	31.5	27.9	3.31	36.5	33.2	3.43	42.5	42.5	3.60	49.9	49.9	3.84	57.6	57.6	4.13		
	1675	19.4	17.8	3.08	23.3	21.4	3.18	27.4	25.0	3.26	31.8	28.3	3.34	36.9	33.6	3.45	43.0	43.0	3.61	50.5	50.5	3.84	58.3	58.3	4.12		
75	1275	18.1	16.7	3.07	22.2	20.4	3.20	26.3	24.0	3.32	30.7	27.3	3.44	35.6	32.4	3.58	41.4	41.4	3.77	48.6	48.6	4.03	56.0	56.0	4.34		
	1475	18.5	17.0	3.12	22.6	20.8	3.25	26.7	24.3	3.35	31.1	27.6	3.46	36.1	32.8	3.58	42.0	42.0	3.75	49.3	49.3	4.00	56.9	56.9	4.29		
	1675	18.9	17.4	3.19	23.0	21.1	3.30	27.1	24.7	3.39	31.5	28.0	3.49	36.5	33.2	3.60	42.5	42.5	3.76	49.9	49.9	3.99	57.5	57.5	4.28		

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Heating		Indoor Section	Size	Heating	
		Capacity	Power			Capacity	Power
F(A,B)4AN(F,B)	042	1.00	1.00	CD3CA	042	0.99	1.04
	048	1.01	0.97		048	1.00	1.00
FC4BN(F,B)	042	1.00	1.00	CC5A/CD5A/CD5BW	042	1.02	1.04
	048	1.01	0.97		048	1.00	0.98
FG3AAA	048	1.00	0.96	CD5A/CD5BA	048	1.00	0.98
FK4BNB	005	1.00	0.89	CC5A/CD5A/CD5BC	048	0.99	1.01
FK4BNF	003	0.98	0.95	CE3AA	042	1.00	0.98
CC5A/CD5A/CD5BA	042	0.99	0.99		048	1.00	0.97
CD3(A,B)A	042	0.99	0.99	CF5AA	048	0.99	0.98
	048	1.00	0.98	CG5AA	048	0.99	0.98

## 38AYB048-30 Outdoor Section With F(A,B)4AN(F,B)048 Indoor Section

65	1400	23.4	21.5	3.51	27.8	25.6	3.62	32.1	29.3	3.71	36.7	32.6	3.80	41.7	38.0	3.91	48.0	48.0	4.08	55.4	55.4	4.31	62.8	62.8	4.59
	1600	23.8	21.9	3.56	28.2	25.9	3.65	32.5	29.7	3.72	37.1	33.0	3.80	42.2	38.4	3.89	48.6	48.6	4.03	56.1	56.1	4.24	63.7	63.7	4.51
	1800	24.2	22.3	3.61	28.6	26.3	3.70	32.9	30.0	3.75	37.5	33.3	3.82	42.7	38.9	3.90	49.1	49.1	4.02	56.8	56.8	4.22	64.5	64.5	4.47
70	1400	22.8	21.0	3.64	27.4	25.2	3.77	31.8	29.0	3.88	36.3	32.3	3.99	41.3	37.5	4.11	47.4	47.4	4.28	54.7	54.7	4.53	62.0	62.0	4.82
	1600	23.2	21.4	3.70	27.8	25.6	3.81	32.2	29.4	3.90	36.7	32.6	3.99	41.8	38.0	4.09	48.0	48.0	4.24	55.4	55.4	4.45	62.9	62.9	4.72
	1800	23.6	21.7	3.75	28.2	25.9	3.85	32.6	29.7	3.93	37.1	33.0	4.00	42.2	38.4	4.09	48.5	48.5	4.22	56.0	56.0	4.42	63.6	63.6	4.67
75	1400	22.1	20.3	3.78	26.9	24.7	3.92	31.5	28.7	4.06	35.9	31.9	4.18	40.8	37.1	4.31	46.8	46.8	4.49	54.0	54.0	4.75	61.1	61.1	5.05
	1600	22.6	20.7	3.83	27.3	25.1	3.96	31.9	29.1	4.08	36.4	32.3	4.17	41.3	37.6	4.29	47.4	47.4	4.44	54.7	54.7	4.67	62.0	62.0	4.94
	1800	23.0	21.1	3.89	27.7	25.5	4.00	32.2	29.4	4.11	36.8	32.7	4.19	41.8	38.0	4.29	48.0	48.0	4.43	55.3	55.3	4.63	62.8	62.8	4.89

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Heating		Indoor Section	Size	Heating	
		Capacity	Power			Capacity	Power
FB4ANB	070	1.00	0.93	CD3CA	048	1.00	1.06
F(A,B)4AN(F,B)	048	1.00	1.00		060	1.01	1.02
	060	1.00	0.97		070	1.01	1.00
FC4BN(F,B)	048	1.00	1.02	CC5A/CD5A/CD5BC	048	1.00	1.10
	060	1.00	0.98	CC5A/CD5A/CD5BW	048	1.00	1.03
FG3AAA	048	1.00	1.00	CC5A/CD5A/CD5BA	060	1.00	0.99
	060	1.00	0.98		060	1.00	1.04
FK4BNB	070	1.00	0.93	CE3AA	048	1.00	1.02
FK4BNB	006	1.00	0.91		060	1.00	0.99
CD5A/CD5BA	048	1.00	1.03	CF5AA	048	1.00	1.05
CD3(A,B)A	048	1.00	1.03	CG5AA	048	1.00	1.05
	060	1.00	1.04		—	—	—

See notes on pg. 20.

# Heat pump heating performance continued

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F																							
		-3			7			17			27			37			47			57			67		
		Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power	Capacity MBtu/h†		Total Power
EDB	CFM	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡	Total	Integ†	Kw‡
<b>38AYB060-30 Outdoor Section With FB4ANB070 Indoor Section</b>																									
65	1750	27.3	25.1	4.12	32.6	29.9	4.28	38.3	34.9	4.45	44.7	39.7	4.63	52.1	47.5	4.86	61.5	61.5	5.17	72.9	72.9	5.59	83.5	83.5	5.94
	2000	27.8	25.6	4.18	33.0	30.3	4.32	38.8	35.3	4.47	45.2	40.1	4.64	52.7	48.0	4.85	62.2	62.2	5.14	73.5	73.5	5.49	82.4	82.4	5.77
	2200	28.1	25.8	4.23	33.3	30.6	4.36	39.1	35.6	4.50	45.5	40.4	4.66	53.2	48.4	4.86	62.7	62.7	5.14	73.4	73.4	5.44	82.3	82.3	5.72
70	1750	26.9	24.7	4.29	32.3	29.7	4.48	38.0	34.6	4.65	44.3	39.3	4.85	51.6	47.0	5.09	60.8	60.8	5.41	72.1	72.1	5.84	83.1	83.1	6.24
	2000	27.3	25.1	4.35	32.7	30.1	4.52	38.4	35.0	4.68	44.8	39.8	4.86	52.2	47.5	5.07	61.5	61.5	5.37	72.9	72.9	5.78	82.3	82.3	6.05
	2200	27.7	25.4	4.40	33.0	30.3	4.56	38.8	35.4	4.71	45.1	40.1	4.88	52.7	47.9	5.08	62.1	62.1	5.37	73.3	73.3	5.72	82.4	82.4	6.01
75	1750	26.4	24.3	4.46	32.0	29.4	4.67	37.7	34.3	4.87	43.9	39.0	5.08	51.1	46.5	5.33	60.1	60.1	5.66	71.2	71.2	6.11	82.6	82.6	6.56
	2000	26.8	24.7	4.52	32.4	29.8	4.71	38.1	34.7	4.89	44.4	39.4	5.08	51.7	47.0	5.31	60.9	60.9	5.61	72.1	72.1	6.04	83.0	83.0	6.41
	2200	27.2	25.0	4.57	32.7	30.1	4.76	38.4	35.1	4.92	44.8	39.8	5.10	52.1	47.4	5.31	61.4	61.4	5.61	72.7	72.7	6.02	82.4	82.4	6.30

Multipliers for Determining the Performance With Other Indoor Sections

Indoor Section	Size	Heating		Indoor Section	Size	Heating	
		Capacity	Power			Capacity	Power
FC4BNB	070	1.00	0.99	CC5A/CD5A/CD5BA	060	0.97	1.09
FC4BN(F,B)	060	1.00	1.04	CD3(A,B)A	060	0.97	1.09
F(A,B)4AN(F,B)	060	1.00	1.04	CD3CA	060	0.99	1.05
FB4ANB	070	1.00	0.99		070	0.99	1.02
FG3AAA	060	0.98	1.04	CC5A/CD5A/CD5BW	060	0.98	1.05
FK4ANF	006	0.99	0.96	CE3AA	060	0.98	1.04
FK4BNB	006	0.99	0.96		—	—	—

† The Btu/h heating capacity values shown are net integrated values from which the defrost effect has been subtracted. The Btu/h heating from supplement heaters should be added to those values to obtain total system capacity.

‡ The kw values include the compressor, outdoor fan motor, and indoor blower motor. The kw from supplement heaters should be added to these values to obtain total system kilowatts.

EDB – Entering Dry-Bulb

## System Design

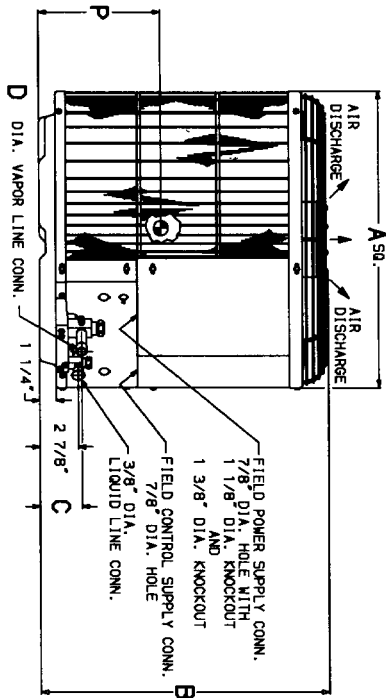
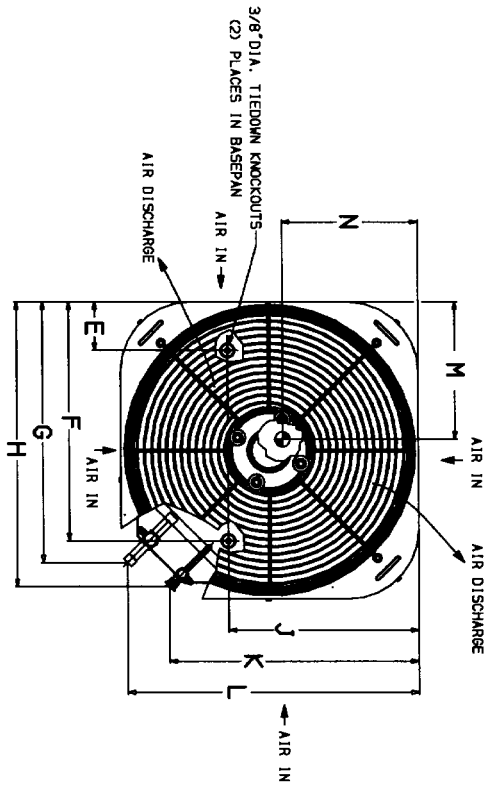
1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01-in. wc.
2. Minimum outdoor operating air temperature for cooling mode without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature for cooling mode is 125°F (51.7°C).
4. Minimum outdoor operating air temperature for heating mode is -30°F (-34.4°C).
5. Maximum outdoor operating air temperature for heating mode is 66°F (18.9°C).
6. For reliable operation, unit should be level in all horizontal planes.
7. Maximum elevation of indoor coil above or below base of outdoor unit is: indoor coil above = 50 ft, indoor coil below = 150 ft. (See items 8 and 9 following.)
8. For interconnecting refrigerant tube lengths greater than 50 ft, consult Long-Line Application Guideline available from equipment distributor.
9. Not more than 36 in. of refrigerant tube should be buried in the ground. If necessary to bury tubes under a sidewalk, provide a minimum 6-in. vertical rise to the valve connections at the unit.
10. Use only copper wire for electric connection at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
11. Mixmatches of indoor coil capacity more than 1 size larger than outdoor unit capacity may result in inadequate indoor comfort.

# Dimensions

PC101

UNIT SERIES	ELECTRICAL CHARACTERISTICS		A	B	C	D	E	F	G	H	J	K	L	M	N	P	SHIPPING WEIGHT	
	0	0																
38AYB018	X	0	0	22 1/2"	37 15/16"	3 3/16"	5/8"	3 11/16"	18 1/8"	18 3/4"	21 5/8"	14 3/8"	18 7/8"	22 1/16"	10 3/4"	11"	14 1/4"	1444
38AYB024	X	0	0	30"	27 15/16"	3 3/16"	3/4"	6 1/2"	23 1/2"	23 1/4"	29 1/8"	20"	26 3/8"	29 9/16"	15 1/2"	15"	11 3/4"	1714
38AYB030	X	0	0	30"	39 15/16"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 1/8"	20"	26 3/8"	29 9/16"	15 3/4"	14 3/4"	16 3/4"	1934
38AYB036	X	0	0	30"	29 15/16"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 1/8"	20"	26 3/8"	29 9/16"	14 1/4"	15"	14"	2134
38AYB042	X	0	0	30"	29 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 1/8"	20"	26 3/8"	29 9/16"	15 1/2"	14 3/4"	14 1/4"	2144
38AYB048	X	0	0	30"	33 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 1/8"	20"	26 3/8"	29 9/16"	15 1/2"	14 1/4"	14 1/2"	2554
38AYB060	X	0	0	30"	39 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 1/8"	20"	26 3/8"	29 9/16"	14 3/4"	13 1/2"	15 1/2"	2834

X=YES  
0=NO



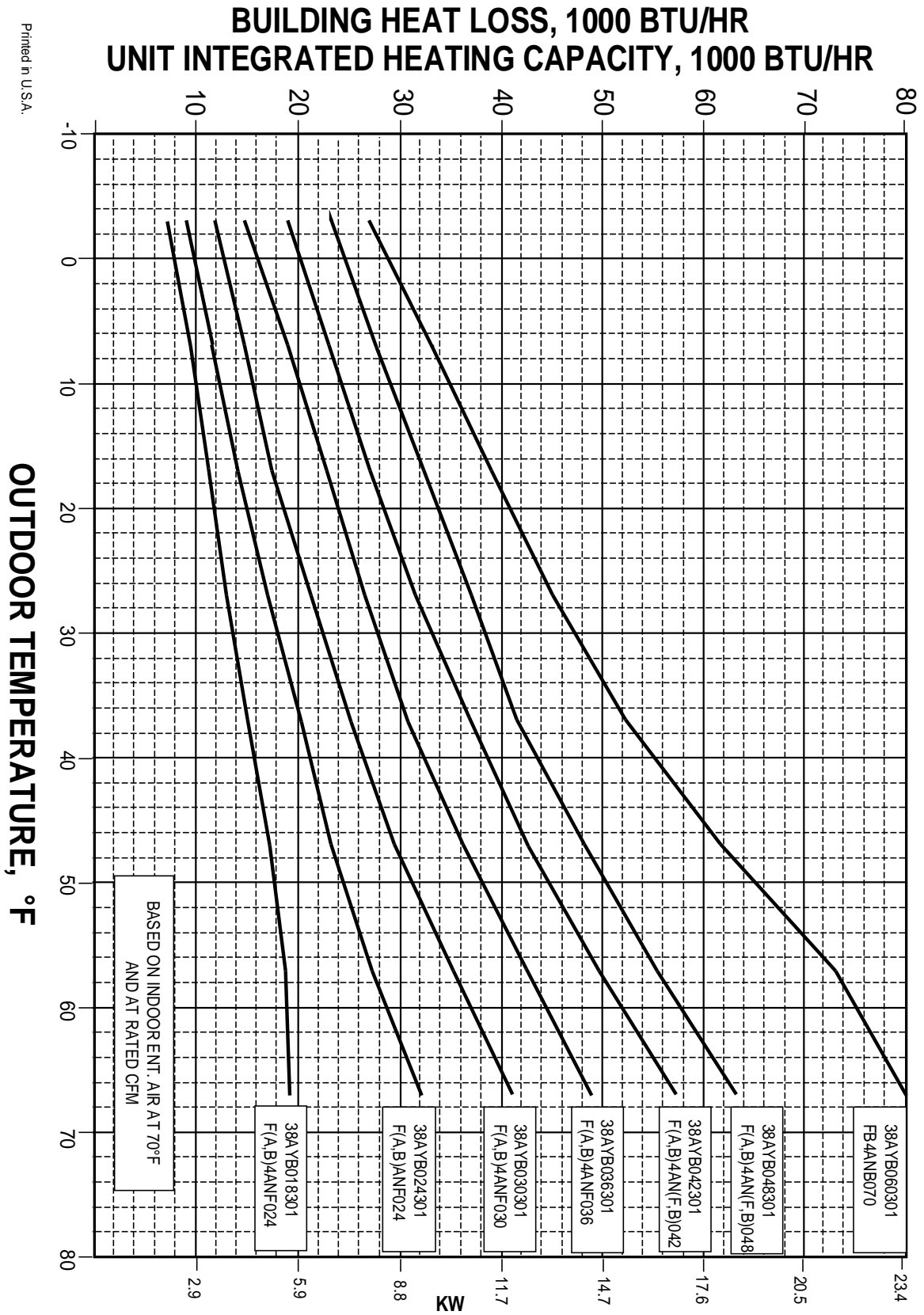
UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18	22 1/2" X 22 1/2"
24, 30, 36, 42, 48, 60	30" X 30"

- NOTES:
1. ALLOW 30" CLEARANCE TO SERVICE SIDE OF UNIT, 48" ABOVE UNIT, 6" ON ONE SIDE, 12" ON REMAINING SIDE, AND 24" BETWEEN UNITS FOR PROPER AIRFLOW.
  2. MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F, MAX. 125°F.
  3. MAXIMUM OUTDOOR OPERATING AMBIENT IN HEATING MODE IS 68°F.
  4. SERIES DESIGNATION IS THE 13TH POSITION OF THE UNIT MODEL NUMBER.
  5. CENTER OF GRAVITY

38AY500024

A95003

# 38AYB BALANCE POINT WORKSHEET



# SERVICE TRAINING

**Packaged Service Training** programs are an excellent way to increase your knowledge of the equipment discussed in this manual, including:

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