



MODELS
RPMA 30 and RPMA 36
ROOF MOUNT
PACKAGED AIR CONDITIONER
INSTALLATION INSTRUCTIONS

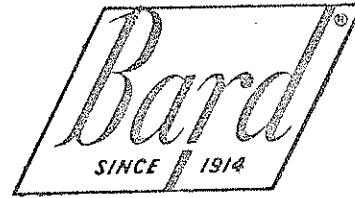
SPECIALLY DESIGNED FOR ROOFTOP
HEATING / COOLING APPLICATIONS

BARD MANUFACTURING CO. • BRYAN, OHIO 43506

Dependable quality home equipment... since 1914

INDOOR BLOWER PERFORMANCE			
CFM - Dry Coil With Filter			
E.S.P. Inches H ₂ O	RPM30 - RPMH30 RPM36 - RPMH36		
	High Speed	Medium Speed	Low Speed
.00	1425	1225	1130
.05	1405	1205	1120
.10	1385	1190	1115
.15	1355	1170	1100
.20	1330	1150	1085
.25	1300	1125	1065
.30	1275	1100	1050
.35	1240	1075	1025
.40	1205	1050	1005
.45	1165	1020	* 975
.50	1130	* 995	
.55	1095		
.60	*1060		

*Maximum allowable E.S.P.



ELECTRIC HEAT TABLE NO. 2			
MODEL	BTUH	240V	AMP
5Kw 1 Ph	17065		20.8
10Kw 1 Ph	34130		41.7
15Kw 1 Ph	51195		62.5
20Kw 1 Ph	68260		83.4
9Kw 3 Ph	30600		21.7
12Kw 3 Ph	40980		29.9
18Kw 3 Ph	61200		43.4

IMPORTANT: The AMP values listed in this Table No. 2 are for electric heating elements only. (Does not include compressor amps.)

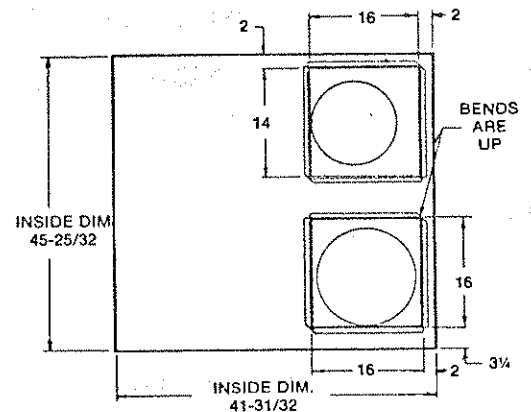
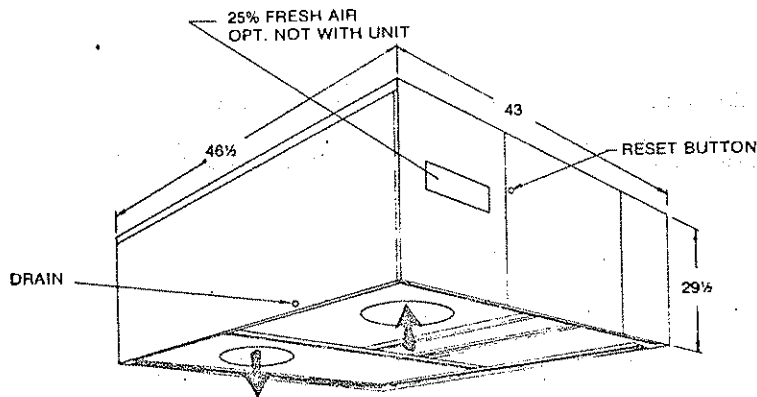
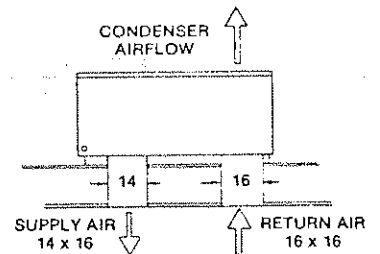
MAXIMUM ALLOWABLE AIRFLOW RANGE	RATED CFM
RPMA30-RPMH30 975 Min. to 1210 Max.	1100
RPMA36-RPMH36 975 Min. to 1400 Max.	1275

IMPORTANT: The AMP values listed in this Table No. 2 are for electric heating elements only. (Does not include compressor amps.)

ELECTRIC HEAT TABLE NO. 1				
MODEL	RPMH30	RPMH30 (3)	RPMH36	RPMH36 (3)
Standard KW	*10	9	*10	9
Max Installed KW	*20	18	*20	18

*Internal Fusing Built In.

NOTE: Maximum amount of electric heat which can be operated in conjunction with the compressor during heating mode is 10Kw on 1 phase and 12Kw on 3 phase. The balance of the electric heat can be operated only during compressor cut off or emergency heat mode.



Bottom view
RA3036 ROOF ADAPTER

IMPORTANT

The equipment covered in this manual is to be installed by trained, experienced service and installation technicians. Any heat pump is more critical of proper operating charge and an adequate duct system than a straight air conditioning unit. All duct work, supply and return, must be properly sized for the design air flow requirement of the equipment. NESCA is an excellent guide to proper sizing. All duct work or portions thereof not in the conditioned space should be properly insulated in order to both conserve energy and prevent condensation or moisture damage.

SHIPPING DAMAGE

Upon receipt of equipment, the carton should be checked for external signs of shipping damage. If damage is found, the receiving party must contact the last carrier immediately, preferably in writing, requesting inspection by the carrier's agent.

GENERAL

The refrigerant system is completely assembled and charged. All internal wiring is complete.

These instructions explain the recommended method to install the air cooled self-contained unit and the electrical wiring connections to the unit.

These instructions and any instructions packaged with any separate equipment required to make up the entire air conditioning system should be carefully read before beginning the installation. Note particularly "Starting Procedure" and any tags and/or labels attached to the equipment.

While these instructions are intended as a general recommended guide, they do not supersede any national and/or local codes in any way. Authorities having jurisdiction should be consulted before the installation is made.

UNPACKING THE SELF-CONTAINED UNIT

It is recommended that the unit be unpacked at the installation site to minimize damage due to handling.

1. Cut and remove the metal band from around unit.
2. Remove the carton from the unit.
3. The installation manual is contained in an envelope shipped with the unit. Make sure that it does not get lost.
4. Carefully block up the unit and remove the shipping skid.
5. CAUTION - DO NOT tip the unit on its side. Oil may enter the compressor cylinders and cause starting or operating trouble. If unit has set on its side, restore to upright position and do not run for several hours. Also run intermittently for a few seconds. Do this three or four times with three minutes in between. Observe abnormal compressor noise.

CONDENSATE AND DEFROST DRAINAGE

A 3/4" FPT coupling is provided to connect a condensate drain line to, and is located on side opposite outdoor coil. See illustration on page

An optional accessory outdoor coil drain pan, DP3036, is available to collect normal condensate run-off and defrost cycle condensate in applications where it may not be desirable to drain on to mounting surface, or may not be permitted by local codes.

There is a space beneath the outdoor coil for the DP3036 to slide in without unit modification, and the DP3036 is also supplied with a 3/4" FPT coupling for drain line connection.

AIR FILTER

A 24"x24"x1" disposable fiberglass type filter is located inside the unit for air filtration of both return air from structure and for optional fresh air intake (see below).

Access to the filter is by removing the corner panel where either the fresh air blank off panel or fresh air intake hood is located.

OPTIONAL FRESH AIR INTAKE

The optional fresh air intake cover is a manual damper operated device to allow intake of fresh air whenever the indoor blower is operating. The damper position can be manually set and locked in position with a wing nut. It is held in place by two screws and has a hardware cloth screen to prevent entry of birds or rodents.

PRESSURE SERVICE PORTS

High and low pressure service ports are installed on all units so the system operating pressures can be observed. Pressure curves can be found later in the manual covering both heating and cooling cycles. Be sure to match the correct curve to the unit by model number.

CRANKCASE HEATERS

An immersion type solid state crankcase heater is built into the bottom of each compressor. It is a self-regulating type design that draws only enough power to maintain the compressor at correct temperature to prevent liquid refrigerant from migrating to the compressor, which causes possible valve damage and/or oil pump out.

The following decal is affixed to all units detailing startup procedure. This is very important. Please read carefully.

IMPORTANT	
THESE PROCEDURES MUST BE FOLLOWED AT INITIAL START-UP AND AT ANY TIME POWER HAS BEEN REMOVED FOR 12 HOURS OR LONGER.	
TO PREVENT COMPRESSOR DAMAGE WHICH MAY RESULT FROM THE PRESENCE OF LIQUID REFRIGERANT IN THE COMPRESSOR/CRANKCASE:	
1. MAKE CERTAIN THE ROOM THERMOSTAT IS IN THE "OFF" POSITION. (THE COMPRESSOR IS NOT TO OPERATE).	
2. APPLY POWER BY CLOSING THE SYSTEM DISCONNECT SWITCH. THIS ENERGIZES THE COMPRESSOR HEATER WHICH EVAPORATES THE LIQUID REFRIGERANT IN THE CRANKCASE.	
3. ALLOW 4 HOURS OR 60 MINUTES PER POUND OF REFRIGERANT IN THE SYSTEM AS NOTED ON THE UNIT RATING PLATE, WHICHEVER IS GREATER.	
4. AFTER PROPERLY ELAPSED TIME THE THERMOSTAT MAY BE SET TO OPERATE THE COMPRESSOR.	
5. EXCEPT AS REQUIRED FOR SAFETY WHILE SERVICING - DO NOT OPEN SYSTEM DISCONNECT SWITCH.	
7961-001	

LOCATING THE UNIT

A location on the roof must be chosen that will provide adequate support to the unit, while at the same time allowing clearance for the supply air and return air duct connections to the RA3036 roof adapter—see layout and dimensions on

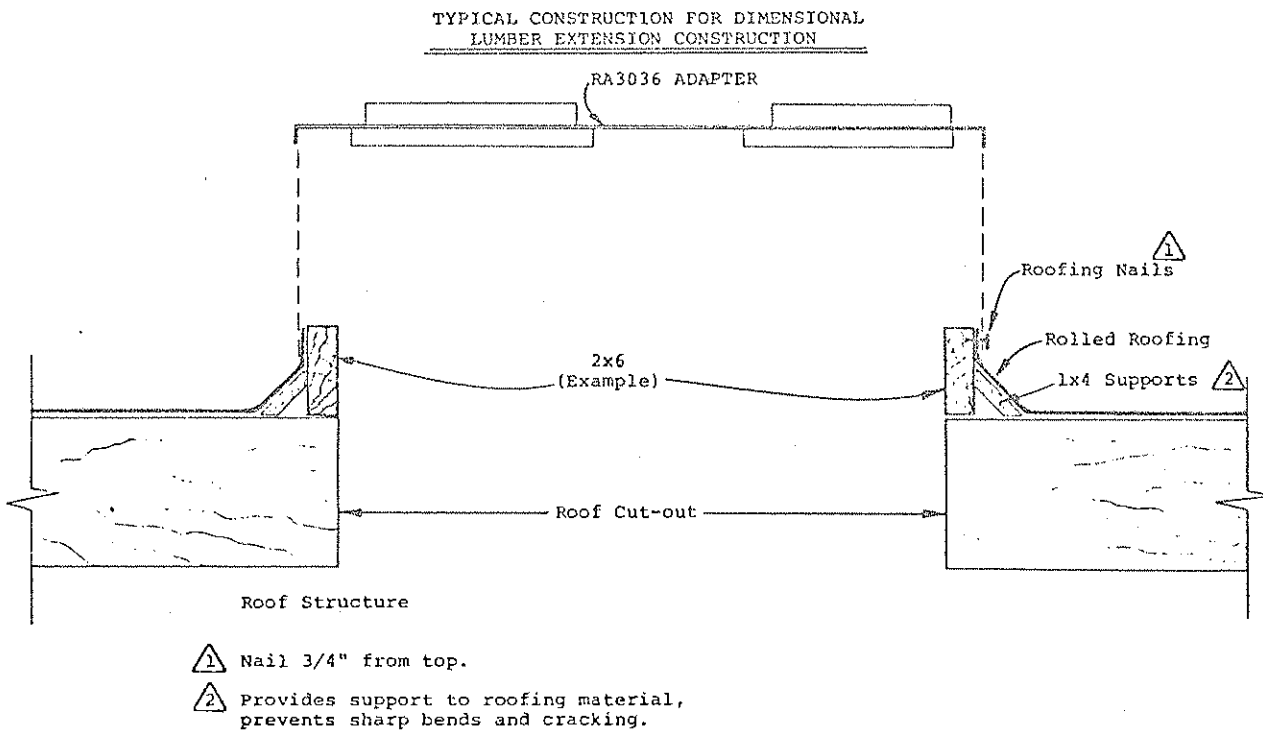
NOTE: The RA3036 Roof Adapter MUST BE USED to assure a leak-free installation, and the U.L. approval is contingent upon the use of this mating adapter.

ROOF CURB FABRICATION

The roof curb (extension section between actual roof and RA3036 roof adapter) could be fabricated from either sheet steel or nominal dimensional lumber. In either case, the O.D. dimension of the extension section must be sized to fit the RA3036 adapter dimensions as shown on page

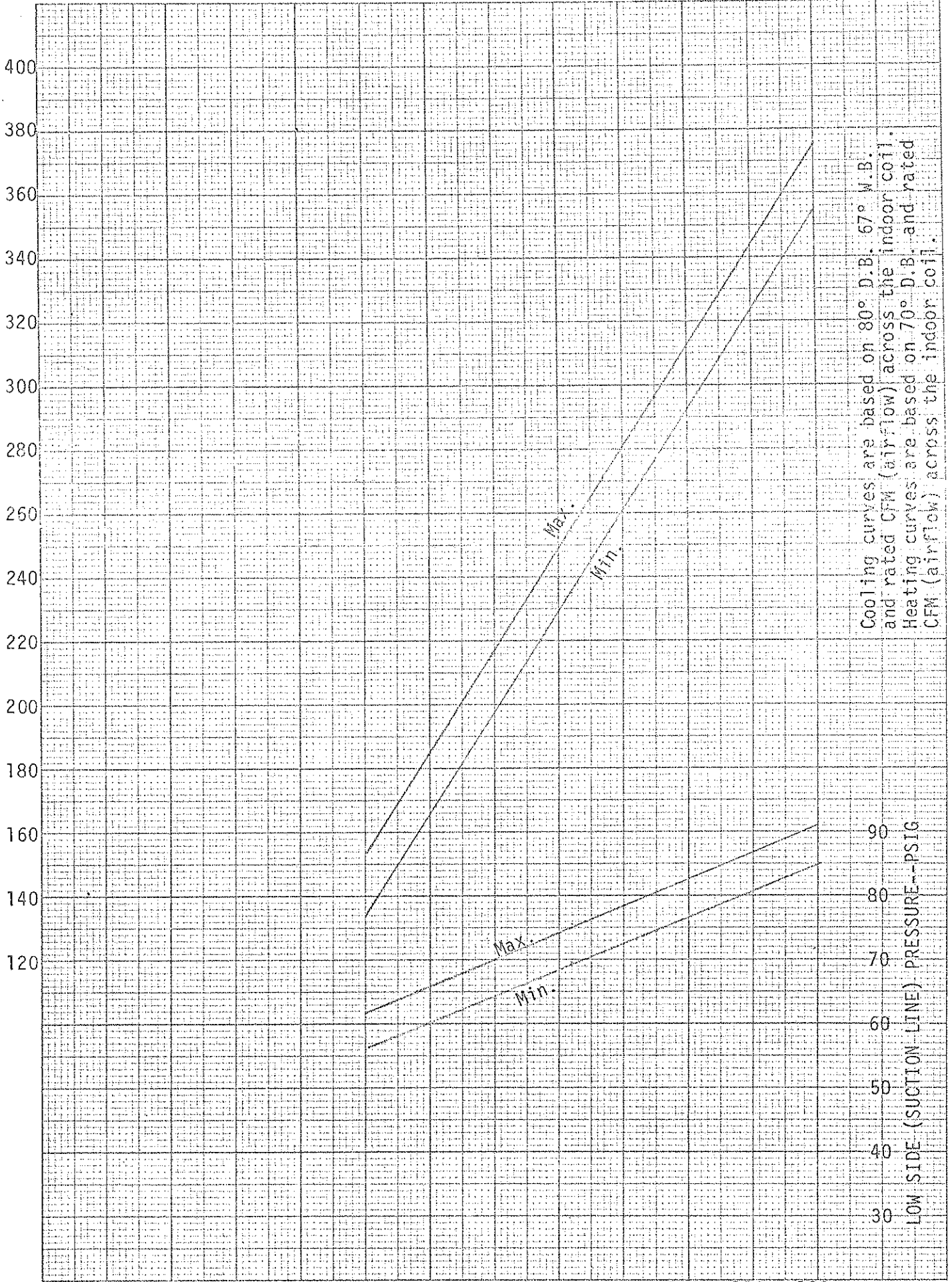
All corners, seams, or joints must be sealed to assure a leak-free installation. The height of the curb section is determined by installation requirements such as degree slope of roof, direction that the outdoor (exposed) coil faces, and geographic location. The unit MUST SET LEVEL when installed, and should be high enough to provide proper defrost drainage from outdoor coil during heating cycle.

A suggested design for a wood frame type construction is shown below:



BARD MANUFACTURING COMPANY
MODEL RPMA30

HIGH SIDE (DISCHARGE LINE) PRESSURE -- PSIG

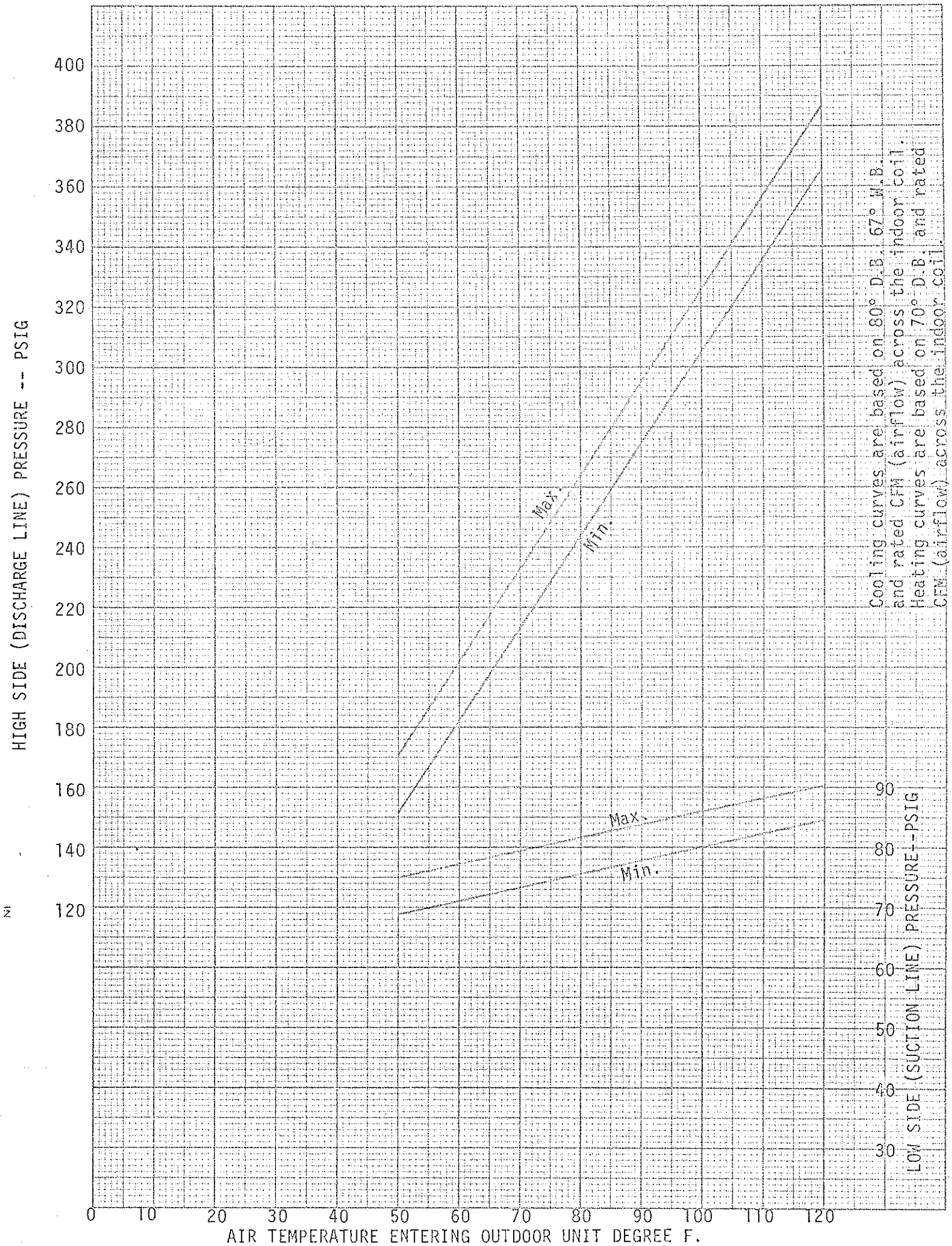


Cooling curves are based on 80° D.B., 67° W.B. and rated CFM (airflow) across the indoor coil.
Heating curves are based on 70° D.B. and rated CFM (airflow) across the indoor coil.

AIR TEMPERATURE ENTERING OUTDOOR UNIT DEGREE F.

LOW SIDE (SUCTION LINE) PRESSURE -- PSIG

BARD MANUFACTURING COMPANY
MODEL RPMA36



PARTS LIST
SINGLE PACKAGE AIR CONDITIONERS

Effective 10/15/81

PART NO.	DESCRIPTION	RPMA30	RPMA30-3	RPMA36	RPMA36-3	RPMA30-3 460V	RPMA36-3 460V
*	Blower Housing	x	x	x	x	x	x
5152-005	Blower Wheel DD9-8A	x	x			x	
5152-010	Blower Wheel DD10-7A			x	x		x
8552-032	Capacitor-Comp. 35/370V	x					
8552-033	Capacitor-Comp. 20/370V	x		x			
8552-019	Capacitor - Blower 5/440V	x	x	x	x	x	x
8552-002	Capacitor - Fan 5/370V	x	x	x	x	x	x
8552-035	Capacitor - Comp. 40/370V			x			
5811-031	Capillary Tube	(3)	(3)			(3)	
5811-017	Capillary Tube			(2)	(2)		(2)
8000-042	Compressor 700411-06-0265	x					
8000-053	Compressor CRG1-0250-TF5-270		x				
8000-054	Compressor CRG1-0250-TFD-270					x	
8000-055	Compressor CRH1-0275-PFV-270			x			
8000-056	Compressor CRH1-0275-TF5-270				x		
8000-057	Compressor CRH1-0275-TFD-270						x
5051-023	Condenser Coil	x	x	x	x	x	x
8401-007	Contactors 1P25A	x		x			
8401-002	Contactors 3P25A		x		x	x	x
8401-006	Contactors (Heat)	x	x	x	x	x	x
5060-012	Evaporator Coil	x	x			x	
5060-022	Evaporator Coil			x	x		x
5151-024	Fan Blade A-1831-5 ccw	x	x	x	x	x	x
7051-014	Fan Guard	x	x	x	x	x	x
8614-017	Fuse Block	x		x			
8614-018	Fuse Block	x		x			
8614-006	Fuse OT30	x		x			
8614-007	Fuse OT60	x		x			
8614-022	Fuse TR60	x		x			
8604-023	Heat Strip 5Kw	x		x			
8604-024	Heat Strip 10Kw	x		x			
8604-025	Heat Strip 15Kw	x	x	x	x		
8604-064	Heat Strip 6Kw		x		x		
8604-035	Heat Strip 9Kw		x		x		
8604-036	Heat Strip 12Kw		x		x		
8604-065	Heat Strip 6Kw					x	x
8604-032	Heat Strip 9Kw					x	x
8604-033	Heat Strip 12Kw					x	x
8402-020	Limit Switch 135°-120°	x	x	x	x	x	x
8105-010	Motor - Blower 1/3 hp	x	x	x	x		
8105-018	Motor - Blower 1/3 hp					x	x
8103-007	Motor - Fan 1/5 hp	x	x	x	x		

*Please order by model number

PARTS LIST
SINGLE PACKAGE AIR CONDITIONERS

Effective 10-15-81

PART NO.	DESCRIPTION	RPMA30	RPMA30-3	RPMA36	RPMA36-3	RPMA30-3 460V	RPMA36-3 460V
8103-011	Motor - Fan 1/5 hp					X	X
8200-003	Motor Mount - Blower	X	X	X	X	X	X
8200-022	Motor Mount - Fan	X	X	X	X	X	X
5451-009	Motor Mounting Parts - Fan	X	X	X	X	X	X
5451-011	Motor Mounting Parts	X	X	X	X	X	X
5153-022	Rain Shield	X	X	X	X	X	X
8201-009	Relay - Blower	X	X	X	X		
8201-032	Relay - Blower					X	X
5210-003	Strainer	X	X			X	
5210-004	Strainer			X	X		X
8607-006	Terminal Board	X	X	X	X	X	X
8607-001	Terminal Block	X		X			
8607-002	Terminal Block		X		X	X	X
8402-030	Thermal Cutoff	X	X	X	X		
8402-034	Thermal Cutoff					X	X
8407-007	Transformer 40VA	X		X			
8407-015	Transformer 55VA		X		X		
8407-027	Transformer 48VA					X	X
7004-015	Filter 24x24x1	X	X	X	X	X	X
8604-034	Heat Strip 15Kw					X	X

Minimum Net Billing \$15.00. Supersedes all previous lists.
Subject to change without notice. F.O.B. Bryan, Ohio.

