BLOCK 852 LOT 4 ADDRESS (SITE) _____ PERMIT NO. 2198-92

CONSTRUCTION PERMIT APPLICATION

Applicant Completes: Sections I, II, III (optional), IV, VI and VII

I. IDENTIFICATION

1. Proposed Work-site at: Lauralton Circle
2. Name of Owner in Fee: Loews Tel. (908) 458-5078
   Address 1759 RT 88 West (street) Brick (municipality) 08723 (zip code)
3. Ownership in Fee: Public _____ Private _____
4. Principal Contractor: Barr-Tech Heating Cooling Tel. (609) 971-6836
   Address 526 Vaughn Ave Forked River NJ. 08731
   License No. OR, if new home, Builder Reg. No. _____ Exp. Date _____
   Federal Emp. No. _____ Social Security No. _____
5. Architect or Engineer _____ Tel. (____) _____
   Address _____
6. Responsible Person In Charge of Work _____ Tel. (____) _____

V. FEE SUMMARY (for office use only)

		Update	Update
1. Building	$		
2. Electrical			
3. Plumbing		90	
4. Fire Protection			
5. Other			
6. Subtotal	$		
7. Less 20% for State Plan Review			
8. Subtotal	$		
9. DCA Training Fee			
10. Subtotal	$		
11. Cert. of Occupancy		20	
12. Other			
13. TOTAL	$	110	

VI. BUILDING/SITE CHARACTERISTICS

	(office use only)
1. Number of Stories	
2. Height of Structure ____ ft.	
3. Area—Largest Floor ____ sq. ft.	
4. Building Area—All Floors ____ sq. ft.	
5. Volume of Structure ____ cu. ft.	
6. Construction Classification	
7. Total Land Area Disturbed ____ sq. ft.	
8. Flood Hazard Zone	
9. Base Flood Elevation ____ ft.	
10. Wetlands yes ____ sq. ft.	
no ____	
11. Fire Grading	
12. Max. Live Load	
13. Max. Occupancy Load	

II. PROPOSED WORK

Removing + Replace

	Est. Cost
1. ☐ Minor Work (single trade)	
2. ☐ Small Job ($5,000 and no prior approvals)	
3. ☐ New Building	
4. ☐ Addition	
5. ☐ Alteration	
6. ☐ Fire Protection	
7. ☒ Plumbing	
8. ☐ Electrical	
9. ☐ Asbestos Abatement	
10. ☐ Demolition	
TOTAL COSTS	5,000

OPTIONAL (for office use only)

Plans Rec'd By	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates Approval	Resubmission Dates Rejection	Re-viewer
					12/2/91		DM

III. DO YOU WANT: (optional) 1. ☐ Partial Releases 2. ☐ Prototype Processing

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/Dumbwaiters/Moving Walks
2. ☐ High Pressure Boilers
3. ☐ Pressure Vessels
4. ☐ Refrigeration Systems
5. ☐ Cross-Connections/Backflow
6. ☐ Hazardous Uses/Places of Assembly
7. ☐ Sprinklers
8. ☐ Smoke Control Systems In Open Wells

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL-
1. ☐ Hotels (R-1)
2. ☐ Multi-Family (R-2)
3. ☐ Two-Family (R-3) BOCA
4. ☐ Two-Family (R-4) CABO
5. ☐ One-Family (R-3) BOCA
6. ☐ One-Family (R-4) CABO

No of dwelling units:
Before Construction ____
After Construction ____
Net gain or loss ____

B. NON-RESIDENTIAL
1. State Specific Use:
2. Use Group:
3. Change in Use Group, Indicate Former:

LDS BR 10410188

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

A. ( ) I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

B. ( )I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(e)1.vii:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

C. ( ) I further certify that I will perform or supervise the following work:
C.1. ( ) Building C.2. ( ) Fire Protection
I further certify that I will perform the following work:
C.3. ( ) Electrical C.4. ( ) Plumbing

D. ( )I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION

(to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:32-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

( ) Check if contractor.

Agent Name _____

Address _____

_____

Telephone (____) _____

Signature _____ Date _____

OFFICE DATE RECEIVED: _____

VIII. PRIOR APPROVALS CHECKLIST (office use only)	LOCAL APPROVAL		COUNTY APPROVAL		REGIONAL APPROVAL		STATE APPROVAL		COMMENTS
	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	
☐ Planning Board									
☐ Zoning Board									
☐ Sewer Authority									
☐ Water Authority									
☐ Fire Department									
☐ Police Department									
☐ Health Department									
☐ Soil Conservation									
☐ N.J. Dept. of Community Affairs									
☐ N.J. Department of Transportation									
☐ N.J. Dept. of Environmental Protect.									
☐ Utility Dig No.									
☐ Other									
☐									
☐									

IX. SUBCODES AND SPECIAL REGULATIONS APPLICABLE (office use only—optional)

Name of Code & Edition		Name of Code & Edition			
Building		Energy		Other	
Electrical		Barrier Free			
Plumbing		Flood Hazard			
Fire Protection		As Built Elevation Cert.			
Mechanical		Other			

X. CERTIFICATES ISSUED (office use only)

			DATE EXPIRED
☐ Temporary Certificate of Occupancy	No.		
☐ Temporary Certificate of Occupancy	No.		
☐ Continued Certificate of Occupancy	No.		
☐ Certificate of Occupancy	No.		
☐ Certificate of Approval	No.		

CONSTRUCTION PERMIT

Date Issued 10/22/92
Control #
Permit # 2198-92

IDENTIFICATION Block 852 Lot 4

Work Site Location Hamilton Circle

Owner in Fee Adams

Address

Tele. ( )

Contractor Bart-Tech Heating

Address

Tele. ( )

Lic. No. or Bldrs. Reg. No. Exp. Date

Federal Emp. No.

or Social Security No.

is hereby granted permission to perform the following work:

[ ] BUILDING [X] PLUMBING [ ] OTHER

[ ] ELECTRICAL [ ] FIRE PROTECTION

DESCRIPTION OF WORK:

Remove & Replace Heat & Air rooftop units

NOTE: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work $ 25000

CONSTRUCTION OFFICIAL

U.C.C. Form F-170A

PAYMENTS (Office Use Only)	
Building	.00
Plumbing	90 .00
Electrical	.00
Fire Protection	.00
Other	.00
Other	.00
DCA Training Fee	.00
Cert. of Occ.	20 .00
Other	.00
Total	110
Check No.	10/23/92 :55
Cash	
Collected By:	

1 WHITE - OFFICE 2 CANARY - TAX ASSESSER 3 PINK - JACKET 4 GOLD - APPLICANT

PLUMBING SUBCODE
TECHNICAL SECTION

Date Received 10/22/92
Date Issued
Control # 2198-92
Permit # Remove + Replace

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 852 Lot 4
Work Site Location Lawrence Theater 1155 RT 88 WEST BRICK
Owner in Fee LOEWS THEATRE
Address
Tele. ( )
Contractor BARR-TECH Heating + Cooling
Address 52C Vaughn Ave Forked River NJ 08731
Tele. (609) 971-6831
Lic. No.
Federal Emp. No. or Social Security No.

B. PLUMBING CHARACTERISTICS

Use Group Present Proposed
Building Sewer Size
Water Service Size
Estimated Cost of Plumbing Work $

JOB SUMMARY (Office Use Only)

PLAN REVIEW:
[ ] No Plans Required
Joint Plan Review Required:
[ ] Bldg. [ ] Elec. [ ] Fire
[ ] Plumb. Plans Approved
Date:
Approved by:

SUBCODE APPROVAL:
[X] CO [ ] CCO [ ] CA
Approved by:
Date: 10/27/92

INSPECTIONS: Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Slab				
Rough				
Water				
Sewer				
Fixtures				
Gas Equipment				
Gas Final				
Solar				
TCO				

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application and perform the work listed on this application.

Signature-Contractor Seal

[ ] Licensed Plumbing Contractor [ ] Exempt Applicant

D. TECHNICAL SITE DATA (List all fixtures.)

NO.	FIXTURE/EQUIPMENT	FEE (Office Use Only)
	Water Closet	
	Urinal/Bidet	
	Bath Tub	
	Lavatory	
	Shower	
	Floor Drain	
	Sink	
	Dishwasher	
	Drinking Fountain	
	Washing Machine	
	Hose Bibb	
	Gas Piping	
	Fuel Oil Piping	
	Water Heater	
	Steam Boiler	
	Hot Water Boiler	
	Sewer Pump	
	Interceptor/Separator	
	Backflow Preventer	
	Greasetrap	
6 X 15	Water Cooled A/C or Refrigeration Unit	90 -
	Sewer Connection	
	Water Service Connection	
	Gas Service Connection	
	Active Solar System	
	Other	

Administrative Surcharge $
Paid [ ] Check # Minimum Fee $
Collected by: TOTAL $

U.C.C. Form F-130A 1 White = Inspector Copy 2 Canary = Office Copy 3 Pink = Office Copy 4 Gold = Applicant Copy

PLUMBING SUBCODE
TECHNICAL SECTION

Date Received 9/22/92
Date Issued
Control #
Permit # 2198-92

Remove + Replace

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 852 Lot 4
Work Site Location Lawrence Theater 1755 RT 88 West
BRICK
Owner in Fee LOEWS THEATRE
Address
Tele. ( )
Contractor BARR-TECH Heating + Cooling
Address 52C Wagaw Ave Lanoka Harbor NJ 08734
Tele. (609) 971-6834
Lic. No.
Federal Emp. No. or Social Security No.

B. PLUMBING CHARACTERISTICS

Use Group Present Proposed
Building Sewer Size
Water Service Size
Estimated Cost of Plumbing Work $

JOB SUMMARY (Office Use Only)

PLAN REVIEW:
[ ] No Plans Required
Joint Plan Review Required:
[ ] Bldg. [ ] Elec. [ ] Fire
[ ] Plumb. Plans Approved
Date:
Approved by:

SUBCODE APPROVAL:
[ ] CO [ ] CCO [ ] CA
Approved by:
Date:

INSPECTIONS: Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Slab				
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	Sink	
	Dishwasher	
	Drinking Fountain	
	Washing Machine	
	Hose Bibb	
	Gas Piping	
	Fuel Oil Piping	
	Water Heater	
	Steam Boiler	
	Hot Water Boiler	
	Sewer Pump	
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6 X 15	Water Cooled A/C or Refrigeration Unit	90 -
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PLUMBING SUBCODE
TECHNICAL SECTION

Date Received 10/22/92
Date Issued
Control #
Permit # 2198-92

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Block 852 Lot 4
Work Site Location Lawrence Theatre 1155 RT 88 West
BACK
Owner in Fee LOEWS THEATRE
Address
Tele. ( )
Contractor Rain-Tech Heating + Cooling
Address 620 Washington Ave Carteret N.J. 07751
Tele. (609) 971-0231
Lic. No.
Federal Emp. No. or Social Security No.

B. PLUMBING CHARACTERISTICS

Use Group Present Proposed
Building Sewer Size
Water Service Size
Estimated Cost of Plumbing Work $

JOB SUMMARY (Office Use Only)

PLAN REVIEW:
[ ] No Plans Required
Joint Plan Review Required:
[ ] Bldg. [ ] Elec. [ ] Fire
[ ] Plumb. Plans Approved
Date:
Approved by:

SUBCODE APPROVAL:
[ ] CO [ ] CCO [ ] CA
Approved by:
Date:

INSPECTIONS: Type:	Dates (Month/Day) Failure	Failure	Approval	Initial
Slab				
Rough				
Water				
Sewer				
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	Shower	
	Floor Drain	
	Sink	
	Dishwasher	
	Drinking Fountain	
	Washing Machine	
	Hose Bibb	
	Gas Piping	
	Fuel Oil Piping	
	Water Heater	
	Steam Boiler	
	Hot Water Boiler	
	Sewer Pump	
	Interceptor/Separator	
	Backflow Preventer	
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6 X 15	Water Cooled A/C or Refrigeration Unit	90 -
	Sewer Connection	
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	Gas Service Connection	
	Active Solar System	
	Other	

Administrative Surcharge $
Paid [ ] Check # Minimum Fee $
Collected by: TOTAL $

U.C.C. Form F-130A 1 White=Inspector Copy 2 Canary=Office Copy 3 Pink=Office Copy 4 Gold=Applicant Copy

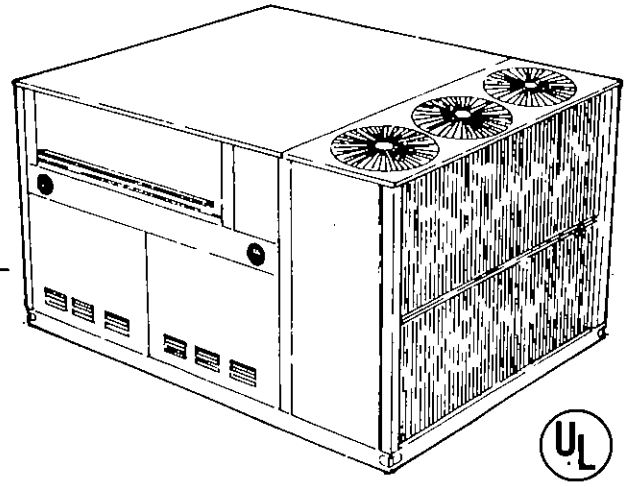
Arcoaire®
Air Conditioning & Heating

ACUR160E Series
SPECIFICATIONS
16 Ton Packaged Rooftop
Cooling & Heating Units

STANDARD EQUIPMENT

ALL UNITS
- GALVANIZED STEEL CABINET WITH BAKED ACRYLIC FINISH
- 1" CABINET INSULATION
- COMPRESSOR(S) WITH INHERENT THERMAL PROTECTION
- COMPRESSOR CONTACTORS
- CONDENSER AND EVAPORATOR COIL(S)
- DIRECT DRIVE CONDENSER FANS AND MOTORS
- EVAPORATOR BLOWER
- EVAPORATOR BLOWER MOTOR CONTACTOR AND OVERLOADS
- FULL CHARGED REFRIGERANT CIRCUIT(S)
- HIGH AND LOW PRESSURE CONTROLS
- 25% MANUAL OA DAMPER
- THROWAWAY FILTER(S)
- 24 VOLT CONTROL CIRCUIT
- ONE-YEAR WARRANTY ON COMPLETE UNITS
- UL/AGA APPROVAL
- CSA CERTIFIED

RPJ HEAT EXCHANGER

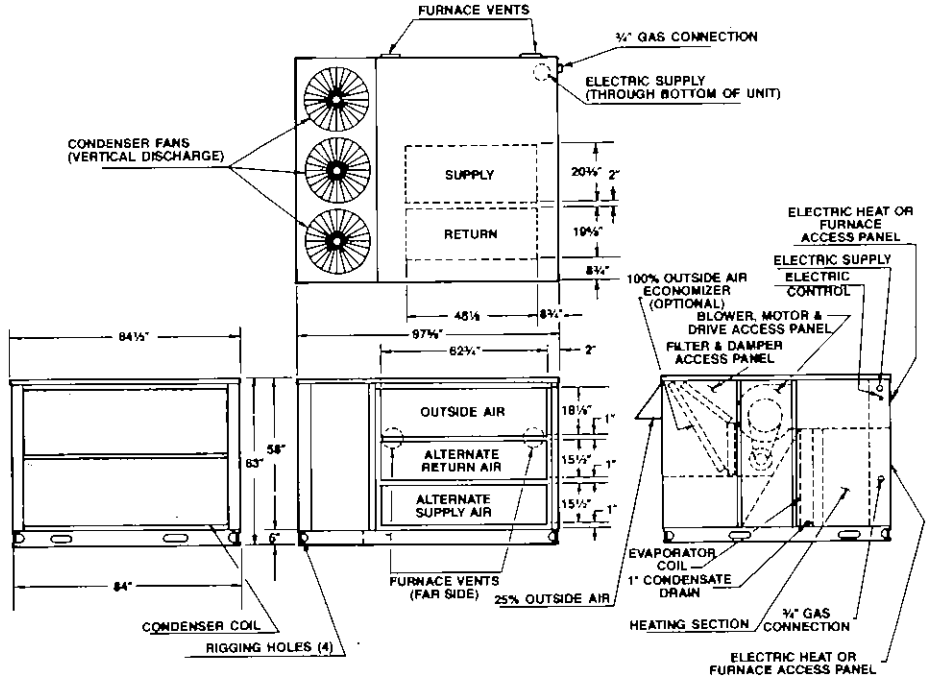


REFRIGERATION SYSTEM
- TX VALVE CONTROL
- FIVE (5) YEAR COMPRESSOR WARRANTY
- ADJUSTABLE BELT DRIVE BLOWER
- CRANKCASE HEATER(S)
- LOW AMBIENT HEAD PRESSURE CONTROL TO 0°F.
- "GUARD-A-MATIC" ™ SOLID STATE COMPRESSOR PROTECTION
- TWO STAGE COOLING
- LIQUID LINE FILTER DRIER(S)
- LOW LIMIT DISCHARGE THERMOSTAT

HEATING SYSTEM

GAS HEATING
- RPJ HEAT EXCHANGER
- TEN (10) YEAR HEAT EXCHANGER WARRANTY
- ALUMINIZED STEEL HEAT EXCHANGER
- MULTI-TRY DIRECT SPARK IGNITION WITH REMOTE FLAME RETIFICATION
- FAN DELAY, HIGH LIMIT AND PRE-PURGE CONTROLS
- MANUAL GAS SHUT-OFF VALVE
- POWER FORCED DRAFT VENTOR MOTORS
- MAIN GAS VALVE AND PRESSURE REGULATORS
- TWO STAGE CONTROL-NAT. GAS
- ONE STAGE CONTROL-LP GAS
- CGA APPROVED

ELECTRIC HEATING
- OPEN WIRE ELECTRIC HEATER
- LOW WATT DENSITY, NI-CHROME WIRE
- INDIVIDUAL CIRCUITS WIRED FOR 48 AMPS MAXIMUM AND FUSED FOR 60 AMPS MAXIMUM AS REQUIRED BY NEC
- AUTO RESET HIGH LIMIT CONTROL
- SAFETY BACK UP FUSABLE LINK
- MECHANICAL (MAGNETIC) CONTACTORS
- TWO STAGE CONTROL (EXCEPT FOR 20 KW)
- SINGLE POINT POWER WIRING CONNECTION



401 Randolph Street, Red Bud, Illinois 62278-1098

6607-033

REVISED: NOVEMBER, 1991
SUPERSEDES: APRIL, 1990

SPECIFICATIONS AND INFORMATION

COOLING① PERFORMANCE	TOTAL BTUH		192,800									
	SENSIBLE HEAT RATIO		.735									
	EER		8.45									
GAS HEATING PERFORMANCE	INPUT		300,000						400,000			
	OUTPUT		241,200						322,000			
	TYPE OF GAS		NATURAL									
	NO. OF STAGES		2									
	°F. TEMP. RISE (STD. CFM)		34.8						47			
COOLING ONLY OR GAS HEAT	VOLTAGE		208				230				460	
	MIN./MAX. VOLTAGE RANGE		187-253								414-506	
	MIN. WIRE SIZE AMPACITY③		101				100				50	
ELECTRIC HEATING PERFORMANCE	KW RATED AT 240/480V		20*	27*		40		47*		60*		80*
	208V	KW	15	20		30		35		45		60
		MBH	51.2	68.3		102.4		120.2		153.6		204.8
		FLA	41.6	56.2		83.2		97.8		124.8		166.5
		MIN. WIRE SIZE AMPS②	101	101		118		135		170		222
		OVER CURRENT PROTECTION	110	110		125		150		175		225
	230V	KW	18.4	24.9		36.8		43.3		55.2		73.6
		MBH	62.8	85.0		125.6		147.8		188.4		251.2
		FLA	46.2	62.4		92.4		108.8		138.6		184.6
		MIN. WIRE SIZE AMPS②	100	100		132		152		192		252
		OVER CURRENT PROTECTION	110	110		150		175		200		300
	460V	KW	18.4	24.9		36.8		43.3		55.2		73.6
		MBH	62.8	85.0		125.6		147.8		188.4		251.2
		FLA	23.1	31.2		46.2		54.3		69.3		92.3
		MIN. WIRE SIZE AMPS②	50	50		66		76		96		126
		OVER CURRENT PROTECTION	50	50		70		80		100		150
	NUMBER OF STAGES		1	2		2		2		2		2
COMPRESSOR	COMPRESSOR TYPE/QTY./HP		HERMETIC/2/8 HP									
	FLA (EACH)		37.5				37.5				18.6	
	LRA (EACH)		194				194				97	
	CAPACITY STEPS % (UNIT)		0-50-100								0-50-100	
EVAPORATOR COIL	TYPE		ALUMINUM FIN/COPPER TUBE									
	FACE AREA (SQ. FT.)		17.5									
	ROWS		2									
	REFRIGERANT CONTROL (QTY.)		TX VALVE (2)									
EVAPORATOR BLOWER CENTRIFUGAL FORWARD CURVED	BLOWER WHEEL DIA. x WIDTH (QTY.)		15 x 11 (2)									
	MAX. RPM/MAX. E.S.P.		1200/1.50									
	STANDARD CFM		6400									
	STANDARD MOTOR	HP/RPM/DRIVE	3/1750/BELT									
		FLA	9.4				8.8				4.4	
		AVAILABLE ESP (STD. CFM)	0.50"				0.50"				0.50"	
	OVERSIZE MOTOR	HP/RPM/DRIVE	5/1750/BELT									
		FLA	16.0				16.0				7.0	
		AVAILABLE ESP (STD. CFM)	1.40"				1.40"				1.40"	
	DOUBLE OVERSIZE MOTOR	HP/RPM/DRIVE	7½/1750/BELT									
		FLA	24.0				24.0				11.0	
		AVAILABLE ESP. (STD. CFM)	1.50"				1.50"				1.50"	
CONDENSER COIL	TYPE		ALUMINUM FIN/COPPER TUBE									
	FACE AREA (SQ. FT.)		30.5									
	ROWS		2									
CONDENSER FAN & MOTOR	FAN DIA. (QTY.)/TYPE		22"/(3)/DIRECT DRIVE									
	MOTOR HP/RPM (QTY.)		⅓/1075/(3)									
	TOTAL FLA		6.6				6.6				3.0	
	AIR FLOW FT^3/MIN		13,650									
RETURN AIR MOTOR	MOTOR HP/RPM/DRIVE		2/1725/BELT									
	FLA		6.8				6.8				3.4	
	WHEEL DIA. (QTY)		18.25 (2)									
	STANDARD AIR FLOW		5800									
	MAX. ESP		.75									
EXHAUST FAN	MOTOR HP/RPM/DRIVE		½/1075/DIRECT									
	FLA		4.4				4.4				2.2	
	MAXIMUM ESP		0.30				0.30				0.30	
PHYSICAL DATA	CONDENSATE DRAIN SIZE (FPT) QTY.		1" (1)									
	FILTER	TYPE	DISPOSABLE TYPE									
		SIZE/QTY	16 x 25 x 2 (8)									
	REFRIGERANT - CHARGE R22		8 LB EACH									
	NET WT.	COOLING ONLY	1780									
		ELECTRIC HEAT	1820									
		GAS HEAT	2180									

①Gross Capacity - Based on 80°F DB, 67°F WB on Evap. Coil, 95°F Ambient Air on Condenser & 230/460V Supply (208V Multiplier .98).
②Based on Using Common Power Supply for Heating & Cooling and Standard Evap. Blower Motor.
③Based on Standard Evaporator Blower Motor.
* CUR160 with Electric Heat is Standard with 40 KW. All other KW's are Built to Order.

CONTINUING ENGINEERING RESEARCH RESULTS IN STEADY IMPROVEMENTS. THEREFORE, THESE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALWAYS CONSULT EQUIPMENT NAMEPLATE FOR EXACT ELECTRICAL REQUIREMENTS.

Arcoaire®
Air Conditioning & Heating

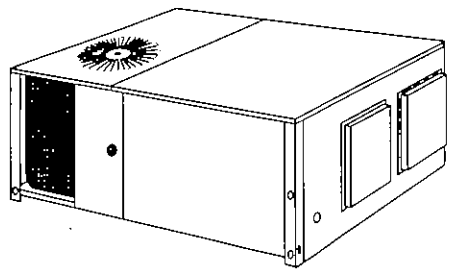
APGMB Series
SPECIFICATIONS
Packaged Cooling and
Gas Heating Units
2 thru 5 Ton Single Phase

STANDARD FEATURES:

- A.G.A. DESIGN CERTIFIED
- A.R.I. CERTIFIED—GAMA CERTIFIED
- C.G.A. APPROVED
- GALVANIZED STEEL CABINET WITH BAKED ACRYLIC FINISH
- COMPRESSOR WITH INHERENT THERMAL PROTECTION
- COMPRESSOR CONTACTOR
- COPPER TUBE/ALUMINUM FIN CONDENSER AND EVAPORATOR COILS
- QUIET, LOW SPEED, CONDENSER FAN MOTOR
- CAPILLARY TUBE REFRIGERANT CONTROL
- LOW VOLTAGE TERMINAL STRIP
- FILTER RACK AND FILTER (4 & 5 TON ONLY)
- MULTI-SPEED DIRECT DRIVE BLOWER
- TIMED HEATING AND COOLING BLOWER CONTROL
- 24 VOLT CONTROL CIRCUIT
- HORIZONTAL OR DOWN DISCHARGE DUCTING

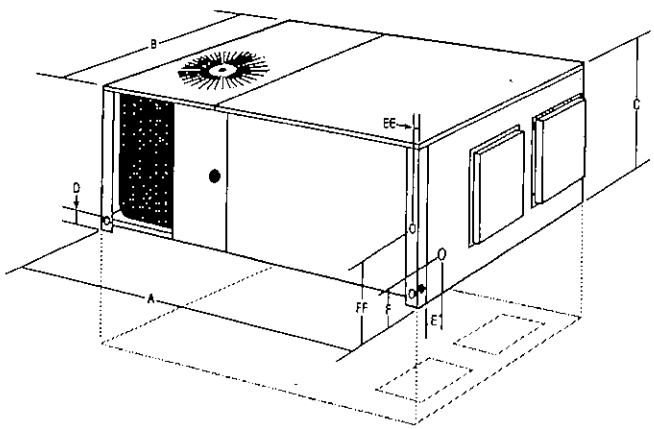
GAS HEATING SYSTEM:

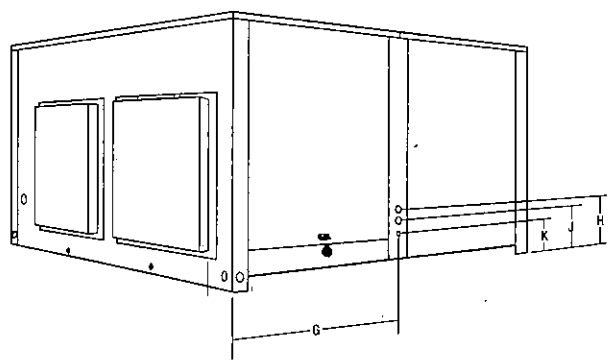
- RPJ II ALUMINIZED STEEL HEAT EXCHANGER WITH IN-SHOT BURNERS
- DIRECT SPARK IGNITION SYSTEM (MULTI-TRY)
- DUAL VOLTAGE INDUCED DRAFT VENTOR MOTOR
- COMBINATION GAS VALVE



WARRANTY: (LIMITED)

Standard warranties of motor, controls and coils are extended for a period of one year. The compressor is guaranteed for a period of five years against defects in workmanship. The heat exchanger is warranted for 15 years against defects in workmanship or material. Limited warranties applicable to this equipment are set forth in the manufacturer's published warranty statement, which is available from our office (address on this literature) and from local distributors of our products in your area (see your phone directory).





DIMENSIONAL SPECIFICATIONS

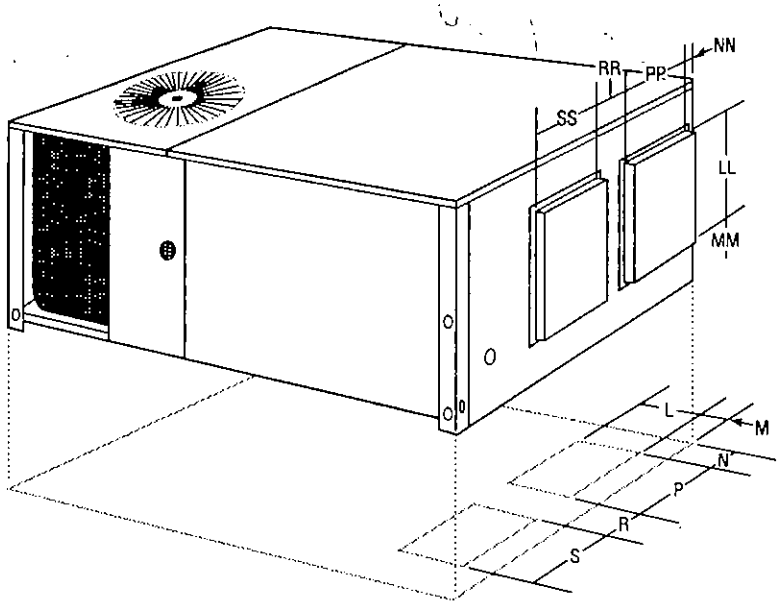
UNIT	CABINET DIMENSIONS (INCHES)				GAS LOCATION				POWER WIRING LOCATION			
PGMB	A	B	C	D	E	F	EE	FF	G	H	J	K
024, 030	52¼	50¼	26	2⅞	4⅞	5⅜	1⅛	7½	29¼	9	7⅛	5
036, 042	56¼	50¼	30	2⅞	4⅞	7½	1⅛	9¾	29¼	9	7⅛	5
048, 060	69⅝	56¾	31⅞	2⅞	4⅞	5 15/16	1⅛	8⅛	36 1/16	9	7⅛	5

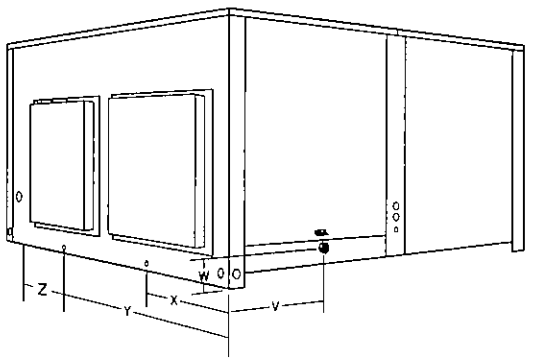
①SHEET METAL KNOCKOUTS ARE PROVIDED IN BASE AND BULKHEAD FOR WIRING THROUGH ROOF AND INSIDE THE CURB.

401 Randolph Street, Red Bud, Illinois 62278-1098

REVISED: OCTOBER, 1991
SUPERSEDES: AUGUST, 1991

SPECIFICATIONS AND INFORMATION





DIMENSIONAL SPECIFICATIONS (Cont.)

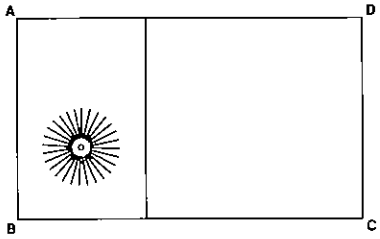
UNIT	DOWN FLOW APPLICATION							HORIZONTAL APPLICATION							CONDENSATE LOCATION		BASE CHANNEL LOCATION		
	①RETURN DUCT				①SUPPLY DUCT			RETURN DUCT①				SUPPLY DUCT①							
PGMB	L	M	N	P	R	S	L	LL	MM	NN	PP	RR	SS	LL	V	W	X	Y	Z
024, 030	9	2 9/16	2 9/16	17	3 7/16	17	9	15 3/4	4 7/8	2 1/4	17 3/4	5	13 3/4	15 3/4	15 1/8	3 3/4	9 1/8	26	—
036, 042	9	2 9/16	2 9/16	17	3 7/16	17	9	15 3/4	4 7/8	2 1/4	17 3/4	5	13 3/4	15 3/4	15 1/8	3 3/4	9 1/8	26	—
048, 060	14	2 5/8	6 3/4	18	4 5/8	18	14	14	4 15/16	6 7/8	18	4 5/8	18	14	20	3 3/4	15 7/8	11 1/8	12 3/4

①DIMENSIONS ARE FOR DUCT OPENINGS

AIRFLOW DATA

UNIT	STATIC	HORIZONTAL						DOWNFLOW DUCT					
		LOW		MED		HIGH		LOW		MED		HIGH	
		208	230	208	230	208	230	208	230	208	230	208	230
024	.10	845	955	1090	1150	1320	1370	895	1010	1110	1170	1260	1310
	.30	780	885	985	1040	1180	1226	795	900	1030	1090	1130	1175
	.50	690	790	865	930	1030	1080	690	790	845	910	980	1030
	.70	570	680	750	770	875	920	500	600	720	750	820	865
	.90	345	380	440	570	700	730	330	365	420	540	630	660
030	.10	845	955	1090	1150	1320	1370	895	1010	1110	1170	1260	1310
	.30	780	885	985	1040	1180	1226	795	900	1030	1090	1130	1175
	.50	690	790	865	930	1030	1080	690	790	845	910	980	1030
	.70	570	680	750	770	875	920	500	600	720	750	820	865
	.90	345	380	440	570	700	730	330	365	420	540	630	660
036	.10	1190	1380	1355	1570	1545	1740	1185	1325	1370	1475	1510	1585
	.30	1030	1265	1305	1480	1460	1630	1090	1215	1310	1390	1410	1485
	.50	820	1060	1030	1200	1200	1350	945	1020	1065	1130	1175	1230
	.70	690	825	808	900	860	960	750	800	805	850	705	875
	.90	510	605	585	660	660	720	520	580	570	620	570	655
042	.10	1190	1380	1355	1570	1545	1740	1185	1325	1370	1475	1510	1585
	.30	1030	1265	1305	1480	1460	1630	1090	1215	1310	1390	1410	1485
	.50	820	1060	1030	1200	1200	1350	945	1020	1065	1130	1175	1230
	.70	690	825	808	900	860	960	750	800	805	850	705	875
	.90	510	605	585	660	660	720	520	580	570	620	570	655
048	.10	1280	1480	1790	1980	2080	2225	1310	1505	1830	2020	2130	2305
	.30	1200	1385	1690	1860	1940	2030	1230	1420	1730	1900	2000	2135
	.50	1095	1250	1550	1670	1740	1760	1130	1300	1595	1710	1820	1880
	.70	945	1040	1310	1350	1440	1460	980	1115	1370	1400	1535	1550
	.90	—	—	—	—	1110	1130	—	—	—	—	1160	1180
060	.10	1275	1470	1765	1945	2060	2150	1295	1490	1805	1975	2090	2240
	.30	1195	1370	1650	1810	1910	1940	1220	1400	1705	1850	1955	2060
	.50	1085	1230	1490	1610	1680	1690	1115	1275	1560	1650	1760	1800
	.70	—	—	1215	1265	1390	1400	—	—	1300	1330	1480	1490
	.90	—	—	—	—	1060	1070	—	—	—	—	1120	1140

CORNER WEIGHTS—IN POUNDS



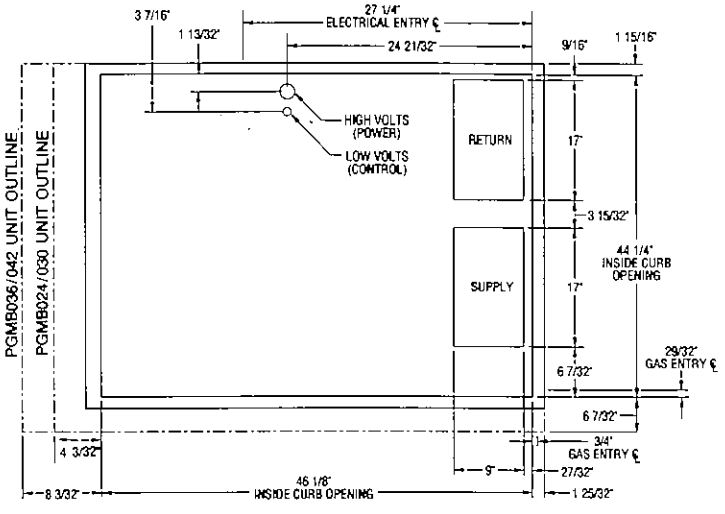
	PGMB024					PGMB030					PGMB036				
GAS SIZE	UNIT WEIGHT	A	B	C	D	UNIT WEIGHT	A	B	C	D	UNIT WEIGHT	A	B	C	D
050/075	380	118	82	72	108	385	123	82	72	108	430	133	93	82	122
100	—	—	—	—	—	—	—	—	—	—	435	133	93	87	122

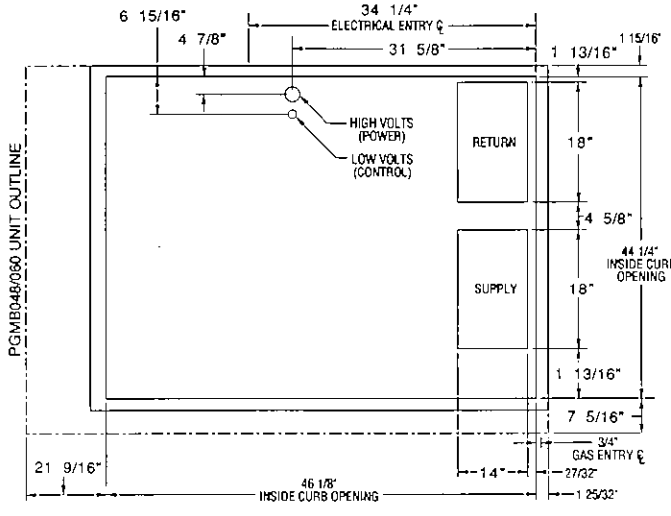
	PGMB042					PGMB048					PGMB060				
GAS SIZE	UNIT WEIGHT	A	B	C	D	UNIT WEIGHT	A	B	C	D	UNIT WEIGHT	A	B	C	D
100	460	141	98	92	129	550	170	118	108	154	—	—	—	—	—
125	—	—	—	—	—	555	170	119	111	155	570	176	122	112	160
150	—	—	—	—	—	—	—	—	—	—	575	176	123	115	161

ACCESSORIES

DESCRIPTION		PART NUMBER	SHIP WT. LBS.	WHERE USED
3 MIN. ANTI-SHORT CYCLE TIMER		8A04080	2	USED ON ALL UNITS
HIGH PRESSURE CONTROL		8P04015	2	USED ON ALL UNITS
LOW PRESSURE CONTROL		8P04016	2	USED ON ALL UNITS
LOW AMBIENT KIT BELOW 50° F		8A04081	1	MUST BE USED WITH EXTERNAL CRANKCASE KIT
EXTERNAL CRANKCASE HTR KIT		8A04079	2	PGMB024-048
LP CONVERSION/HI ALTITUDE KIT		8G07911	2	ALL NAT. GAS UNITS
HIGH ALTITUDE KIT (NAT. GAS)		8G07910	2	ALL NAT. GAS UNITS
ECONOMIZER 100% (INCL. FILTER RACK 8P05001)		8P03010	61	PGMB024-042—VERTICAL DISCHARGE ONLY
ECONOMIZER 100%		8P03012	70	PGMB048-060—VERTICAL DISCHARGE ONLY
DUCT SUPPORT W/COND. PANEL FOR ACRB0213		8P10022	20	PGMB048-060 (USE WITH RECTANGULAR DUCTS ONLY)
CURB W/DUCT SUPPORT AND CONDENSER PANEL		8P10016	90	PGMB024-042 (FULL PERM) 048-060 (CANTILEVER)
ADAPTOR CURB FOR ACRB0213		8P10017	80	USED WITH 8403100 (ACRB0213 CURB) PGMB024-042
ROOF CURB (ACRB0213)		8403100	112	ALL UNITS—MUST ORDER 8P10017 ADAPTOR ON 024-042
DUCT KIT (18"x6' ROUND FLEXIBLE DUCT)		8403108	20	USED WITH 8403103
CONCENTRIC CEILING CONVERTER		8403103	50	USED WITH 8403108
SQ TO ROUND CONVERSION	HORIZ. 14"	8P10018	20	PGMB024-042
	DOWN 18"	8P10021	20	ALL UNITS—USED WITH 8403108 & 8403103
FILTER RACK		8P05001	15	PGMB024-042
HAIL GUARD KIT		8P16006	20	PGMB024-030
HAIL GUARD KIT		8P16007	20	PGMB036-042
HAIL GUARD KIT		8P16009	25	PGMB048-060
25% MANUAL F.A. DAMPER		8P03009	15	PGMB024-042
25% MANUAL F.A. DAMPER		8P03011	20	PGMB048-060

UNIT SUPPORT CURB



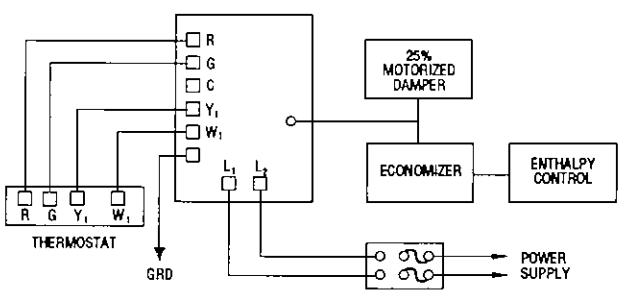


THESE SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

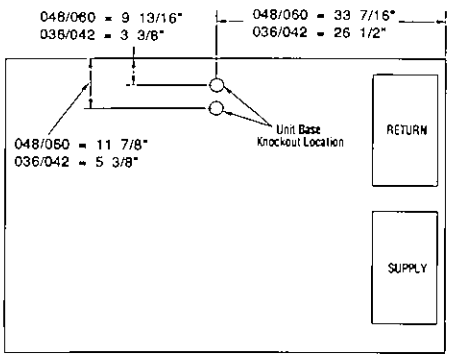
	MODELS				SINGLE PHASE					
					PGMB024G	PGMB030G	PGMB036G	PGMB042G	PGMB048G	PGMB060G
PERFORMANCE	COOLING①	TOTAL BTUH			22,800	28,800	35,000	40,000	46,000	58,000
		SENSIBLE BTUH			16,645	21,025	25,550	28,000	34,500	41,200
		LATENT BTUH			6,155	7,775	9,450	12,000	11,500	16,800
		SEER			10.0	10.0	10.0	10.0	10.0	10.0
	GAS HEATING OPTIONS	INPUT BTUH	OUTPUT BTUH	AFUE④						
		50,000	40,000	80.3%	✓	✓	✓	—	—	—
		75,000	60,000	80%	✓	✓	✓	—	—	—
		100,000	79,000	79%	—	—	✓	✓	✓	—
		125,000	96,000	78.3%	—	—	—	—	✓	✓
		150,000	116,000	78.3%	—	—	—	—	—	✓
		TYPE GAS/STAGE			NAT. GAS/1					
ELECTRICAL DATA	VOLTAGE				208/230-1-60					
	MIN/MAX VOLTAGE RANGE				197/253					
	(60 HZ) PHASE				SINGLE PHASE					
	MIN. CIRCUIT AMPS				18.2	23.7	28.8	32	34	46
	RECOMMENDED FUSE SIZE (MAX)				25	35	45	50	50	70
	COMPRESSOR	TYPE			HERMETIC					
		QUANTITY			ONE	ONE	ONE	ONE	ONE	ONE
		FLA②			10.9	15.3	18.0	20.4	20.4	30.7
PHYSICAL DATA	EVAPORATOR COIL	FACE AREA SQ FT			2.83	2.83	3.31	3.31	5.11	5.11
		FINS PER INCH/NO. OF ROWS			17/2	17/2	13/3	13/3	16/2	15/3
		COIL MATERIAL			COPPER TUBE/ALUMINUM FIN COIL					
		REFR. CONTROL			CAPILLARY TUBE					
	EVAPORATOR BLOWER	DIA. x WIDTH			10 x 6	10 x 6	11.8 x 8	11.8 x 8	11.8 x 10.6	11.8 x 10.6
		QUANTITY			ONE	ONE	ONE	ONE	ONE	ONE
		NOM. CFM			800	1000	1200	1400	1700	1900
	EVAPORATOR BLOWER MOTOR	STANDARD MOTOR	HP		½	½	½	½	¾	¾
			TYPE		PSC	PSC	PSC	PSC	PSC	PSC
			FLA②		3.0	3.0	4.0	4.0	5.0	5.0
	CONDENSER COIL	FACE AREA SQ. FT.			9.4	9.4	11.8	11.8	14.6	14.6
		FINS PER INCH/NO. OF ROWS			22/1	22/1	20/1	20/1	17/1	17/1
		COIL MATERIAL			COPPER TUBE/ALUMINUM FIN COIL					
	CONDENSER FAN	DIA (INCHES)			18	18	24	24	26	26
		QUANTITY			ONE	ONE	ONE	ONE	ONE	ONE
		NO. OF BLADES			3	3	2	3	3	3
	CONDENSER FAN MOTOR	HP			¼	¼	⅓	⅓	⅓	⅓
		RPM			1100	1100	1100	1100	825	825
		FLA②			1.2	1.2	2.0	2.0	2.3	2.3
	COND. DRAIN	SIZE-OD			¾ FPT	¾ FPT	¾ FPT	¾ FPT	¾ FPT	¾ FPT
	AIR FILTER③	RECOM. AREA-SQ. IN.	PERMANENT		290	290	405	405	460	580
			DISPOSABLE		480	480	675	675	765	965
	SHIPPING WEIGHT (LBS)	50,000			405	410	460	—	—	—
		75,000			405	410	460	—	—	—
		100,000			—	—	465	490	585	—
		125,000			—	—	—	—	590	605
		150,000			—	—	—	—	—	610
	REFRIGERANT CHARGE	(LBS/OZ)			2 LB 15 OZ	3 LB 9 OZ	3 LB 14 OZ	4 LB 4 OZ	5 LB 6 OZ	5 LB 13 OZ

①BASED ON 80° D.B., 67° F W.B. ON EVAPORATOR COIL, 95°F AMBIENT ON CONDENSER & 230/460V SUPPLY (208V MULTIPLIER .98).
②NAME PLATE AMPS ARE BASED ON THE RATED SPEED LISTED. HIGHER OR LOWER AMP DRAW COULD OCCUR.
③AIR FILTERS IN RETURN DUCT SUPPLIED BY CONTRACTOR FOR 024 THRU 042. INTERNAL FILTER KIT CAN BE ORDERED FROM FACTORY. FILTERS ARE FURNISHED FROM FACTORY ON 048-060.
④DOE PRESCRIBED TEST METHOD

TYPICAL WIRING DIAGRAM

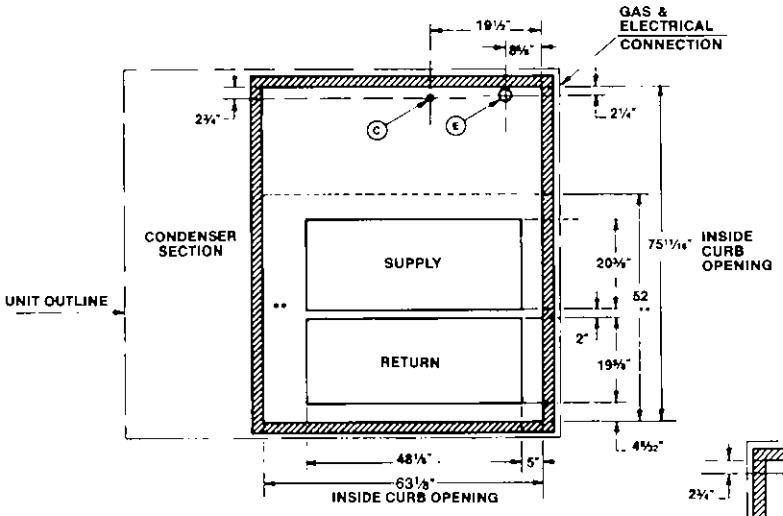


UNIT BASE KNOCKOUT LOCATION



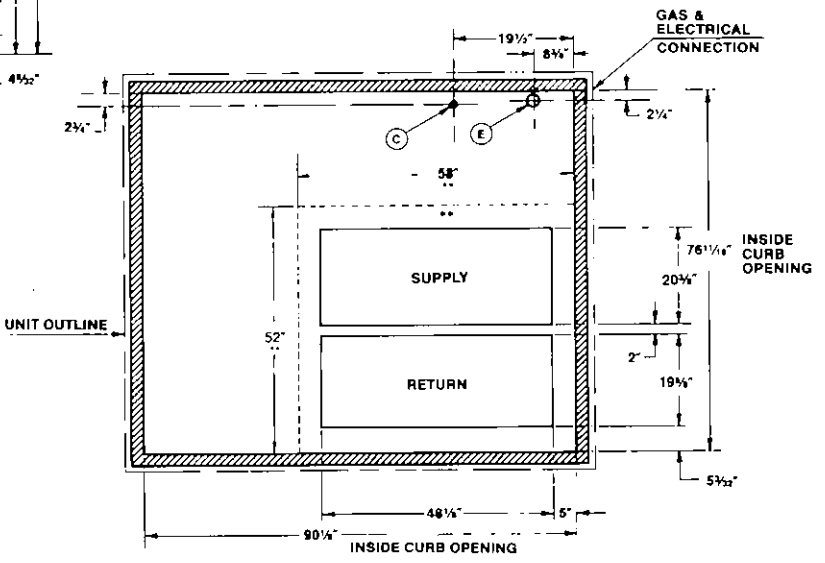
APPLICATIONS . . . UNIT SUPPORT FRAME DIMENSIONS

ACRB 0820 ROOF CURB
(CONDENSER SECTION OVERHANG)

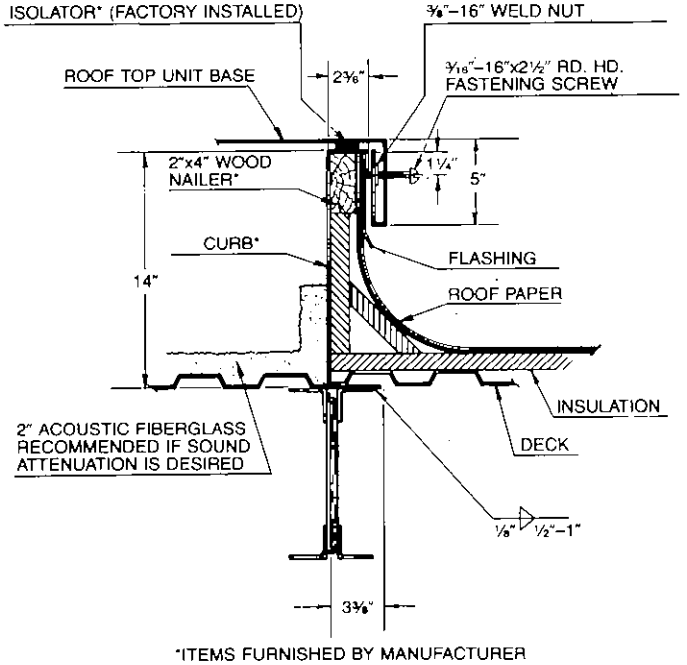


NOTE:
- Ⓒ INDICATES CONTROL CIRCUIT ROUTING THROUGH CURB.
- Ⓔ INDICATES POWER WIRING ROUTING THROUGH CURB.
- ** FOR SUPPLY/RETURN DIFFUSER APPLICATIONS, LEAVE AT LEAST THE SHADED AREA INSIDE THE CURB COMPLETELY FREE OF OBSTRUCTIONS FOR THE SUPPLY/RETURN DUCT KIT.

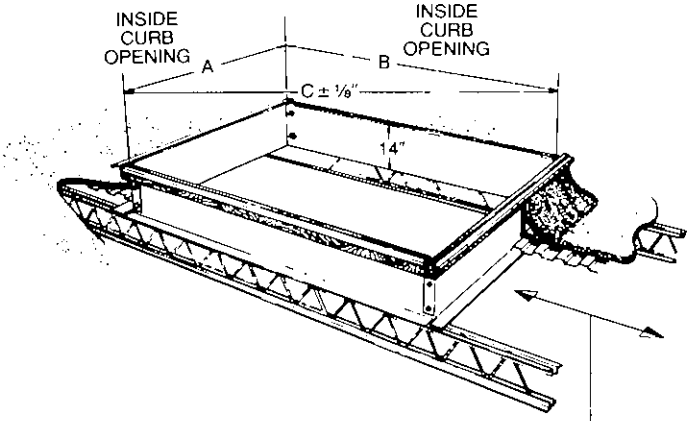
ACRB 1620 ROOF CURB
(FULL PERIMETER DESIGN)



ROOF CURB



*ITEMS FURNISHED BY MANUFACTURER



DIMENSIONS

CURB MODEL	UNIT MODEL	TYPE	A	B	C
ACRB0820	CUR160	Condenser Section Overhang	63 1/8	75 11/16	98 9/16
ACRB1620		Full Perimeter	76 11/16	90 1/8	118 5/16

APPLICATION

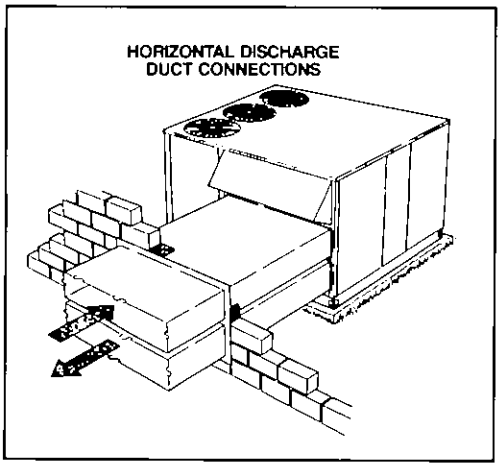
UNIT LOCATION

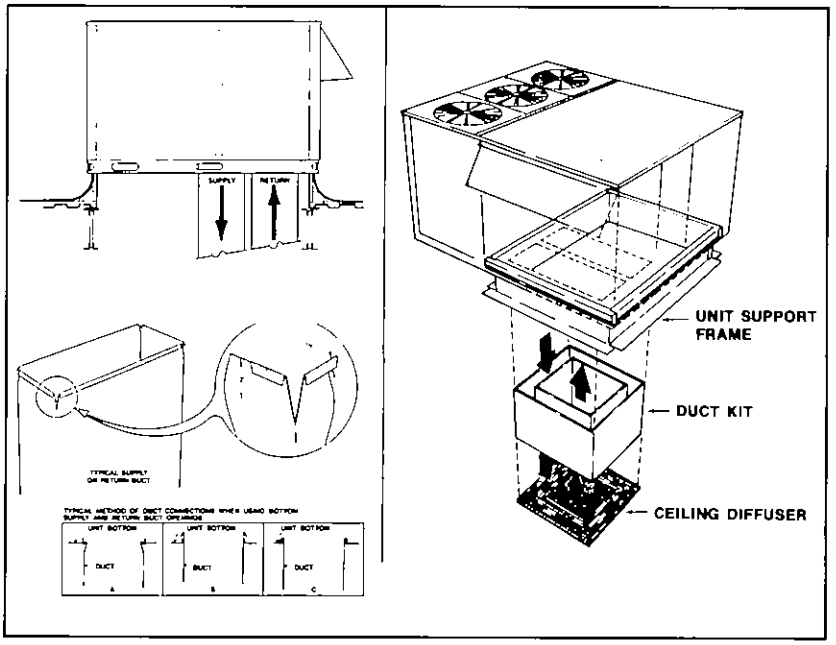
A minimum of 4 feet clearance must be provided on the main control box side of the unit for removal of heating section and compressors. For these models five feet minimum clearance is required on the side opposite the condenser for removal of fan shaft. Three feet minimum clearance is required on all other sides to provide for maintenance and service. The outside air intake must be remote from all exhausts—kitchen, toilet, etc. Likewise, the condenser air intake must be remote from all exhausts to assure full condenser capacity.

DUCT CONNECTIONS

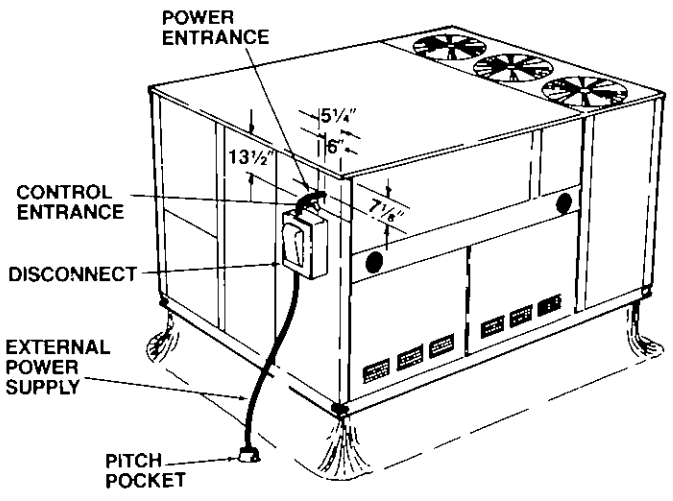
Supply and return duct openings are provided in the unit base to permit vertical side-by-side or concentric duct systems without further field modifications to the unit. When side by side sheet metal ducts are constructed in accordance with the detail shown they are easily inserted through the unit openings, pulled down to lock them over the upward unit flange and require no additional screw or rivet fasteners. Concentric duct systems are field installed using duct kits and diffusers furnished by the manufacturer.

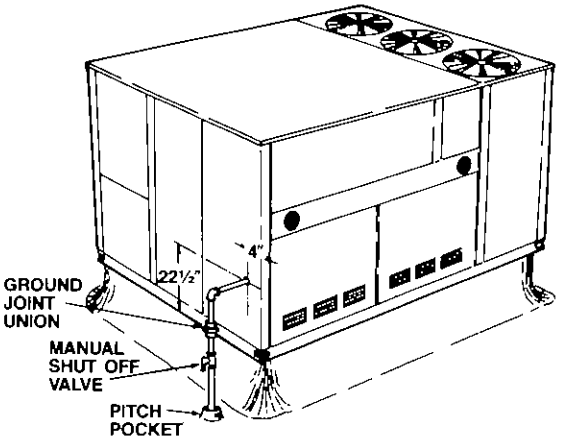
Optional horizontal over-under duct systems can be easily accomplished in the field by removing the unit cabinet panels covering the duct openings, sealing the openings in the unit base with field fabricated covers and moving one internal panel. Horizontal duct openings are factory provided and units do not require field cutting.





APPLICATION . . . Power Wiring Routing
. . . Gas Supply Piping





PERFORMANCE . . . COOLING CAPACITY

16 TON NOMINAL

95°F Ambient Temperature	ENT. WB	CFM	TOTAL COOLING MBH	COMPR. KW	LEAVING WB	75° SENSIBLE MBH	75° LEAVING DB	75° SHR	80° SENSIBLE MBH	80° LEAVING DB	80° SHR	85° SENSIBLE MBH	85° LEAVING DB	85° SHR
	61	5200	165.2	16.47	49.0	134.6	51.3	81	165.2	50.9	100	174.6	54.3	100
		6000	172.7	16.99	50.2	143.6	53.1	84	172.7	53.7	100	184.0	57.0	100
		6400	176.3	17.19	50.7	147.8	53.9	86	176.3	54.8	100	187.5	58.2	100
		7200	183.3	17.54	51.6	156.3	55.2	89	183.3	56.7	100	193.9	60.4	100
	64	5200	175.0	17.12	52.5	120.3	53.8	68	143.6	54.7	82	174.5	54.3	100
		6000	180.6	17.37	53.8	128.0	55.5	70	154.3	56.5	85	184.1	56.9	100
		6400	182.6	17.48	54.4	131.6	56.2	71	159.3	57.2	87	187.6	58.2	100
		7200	186.0	17.73	55.4	138.2	57.4	74	168.6	58.6	90	193.9	60.4	100
	67	5200	186.6	17.77	55.5	106.3	56.3	56	129.7	57.2	69	153.0	58.1	82
		6000	191.0	18.08	56.9	111.6	58.0	58	138.0	59.0	72	164.2	60.0	86
		6400	192.8	18.20	57.5	114.1	58.7	59	141.9	59.7	73	169.7	60.8	87
		7200	195.9	18.43	58.5	119.0	59.9	60	149.6	61.0	76	180.0	62.1	91
	70	5200	197.0	18.49	58.7	91.4	58.9	46	114.8	59.8	58	138.1	60.7	70
		6000	201.7	18.81	60.1	94.9	60.5	47	121.3	61.5	60	147.6	62.5	73
		6400	203.6	18.94	60.7	96.6	61.2	47	124.4	62.2	61	152.2	63.3	74
		7200	207.0	19.16	61.6	99.7	62.3	48	130.3	63.4	62	161.0	64.6	77
	73	5200	208.2	19.24	61.8	76.5	61.8	36	99.8	62.4	47	123.2	63.3	59
		6000	212.8	19.57	63.3	78.0	63.3	36	104.4	64.1	49	130.7	65.1	61
		6400	214.8	19.70	63.8	78.8	63.8	36	106.6	64.8	49	134.4	65.8	62
		7200	218.0	19.93	64.8	80.1	64.8	36	110.7	65.9	50	141.4	67.0	64

SHADED AREA REPRESENTS 100% SENSIBLE COOLING.

1. UNIT IS NOT A.R.I. CERTIFIED SINCE IT DOES NOT FALL WITHIN THE 135,000 BTU/H COOLING CAPACITY LIMITATION OF THE A.R.I. CERTIFICATION PROGRAM.
2. COMPRESSOR MOTOR KW. ALLOW 700 WATTS FOR EACH CONDENSER FAN MOTOR AND CONTROL CIRCUIT. FOR TOTAL KW ADD EVAPORATOR/BLOWER MOTOR WATTS.
3. CAPACITIES STATED AT SEA LEVEL WITH STANDARD AIR. FOR HIGHER ALTITUDES, REDUCE SEA LEVEL CAPACITY 0.6%/1000 FT. CAPACITIES SHOWN ARE GROSS CAPACITIES AND DO NOT INCLUDE EVAPORATOR MOTOR HEAT. EVAPORATOR MOTOR HEAT LOAD MUST BE CONSIDERED AS PART OF BUILDING LOAD.

CORRECTION MULTIPLIERS

AMBIENT TEMP °F	CAPACITY CORRECTION FACTOR	
	TOTAL	SENSIBLE
75	1.12	1.06
85	1.06	1.03
95	1.00	1.00
105	.93	.97
115	.86	.93

EVAPORATOR BLOWER PERFORMANCE

MODEL CUR160E

STD. AIR FLOW FT.³/MIN.	EXTERNAL STATIC PRESSURE (INCHES OF WATER) 0.10 RPM	0.10 BHP	0.25 RPM	0.25 BHP	0.50 RPM	0.50 BHP	0.75 RPM	0.75 BHP	1.00 RPM	1.00 BHP	1.25 RPM	1.25 BHP	1.50 RPM	1.50 BHP
5200	730	1.50	755	1.65	805	190	850	2.20	895	2.40	—	—	—	—
6000	760	1.95	795	2.20	855	2.60	920	3.00	960	3.35	1020	3.80	1080	4.20
6400	790	2.25	825	2.55	890	3.05	940	3.55	1000	4.05	1050	4.55	1120	5.10
7200	840	3.15	875	3.45	935	3.90	1000	4.40	1050	5.00	1120	5.45	1190	6.00
8000	900	3.75	940	4.15	1000	4.65	1065	5.20	1130	5.75	1190	6.35	1250	6.85

NOTE: See table below for motor availability and RPM range. Maximum RPM = 1200.

DO NOT SELECT IN SHADED AREAS—INTERPOLATION ONLY

Evaporator blower performance data includes internal pressure losses for cabinet, dry evaporator coil, standard throw-away filters and standard plenum. Refer to component pressure drop chart for data on wet evaporator coil, options and accessories.

MOTOR AVAILABILITY AND RPM RANGE

	STANDARD HP RPM RANGE	OVERSIZE HP RPM RANGE	DOUBLE OVERSIZE HP RPM RANGE
CUR160E	3 HP① 731—993 RPM	5 HP 875—111 RPM	7½ HP 1011—1206 RPM

① CUR160E with 400 MBH gas heat has 5 HP motor standard.
② Maximum allowable RPM = 1200.

PERFORMANCE . . . Power Return Air Blower, 2HP, 1134-1466 RPM RANGE

STD. AIR FLOW ft.³/min.	RETURN SYSTEM EXTERNAL STATIC PRESSURE INCHES OF WATER													
	0.10		0.2		0.3		0.4		0.5		0.6		0.7	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4500	—	—	—	—	960	.65	1020	.80	1070	.95	—	—	—	—
5000	—	—	960	.55	1020	.75	1080	.90	1140	1.05	1200	1.25	—	—
5500	1000	.65	1050	.80	1100	1.00	1150	1.15	1200	1.30	1260	1.50	1300	1.65
6000	1050	.85	1100	1.00	1150	1.15	1200	1.35	1250	1.50	1300	1.70	1350	1.85
6500	1140	1.05	1190	1.20	1230	1.40	1280	1.60	1320	1.75	1370	1.95	1410	2.10

SHADED AREA REQUIRES FIELD SUPPLIED SHEAVES.

NOTE: To maintain proper building pressurization, the return air fan should be selected to deliver 90% of the difference between supply air and total building exhaust from auxilliary toilet and hood fans.

Example: Total supply air ..... 8000 ft³/min
Exhaust air ..... 800 ft³/min
Difference ..... 7200 ft³/min
Return air fan capacity ..... 7200 × .90. = 6500 ft³/min

POWER EXHAUST FAN PERFORMANCE

MODEL CUR160E

	STATIC PRESSURE					
	.05	.10	.15	.20	.25	.30
CFM	5450	5200	5000	4850	4525	4300

PERFORMANCE . . . Component Pressure Drop (in w.g.)

MODEL	ft³/min.	EVAP. COIL WET	HEATING SECTION		FILTERS			PLENUM SECTION			
			GAS	ELEC	STD. THROW-AWAY	WIRE MESH	MED. EFF.	ECONOMIZER		CONCENTRIC SUPPLY-RETURN	
								STD.	w/POWER RETURN	DIFFUSER	DUCT KIT
16 TON	5200	.06				.01	.07	.02	.06	.17	.07
	6400	.09				.01	.10	.03	.09	.25	.11
	7700	.14				.01	.12	.04	.13	.36	.15

[ ] FAN PERFORMANCE INCLUDES THESE COMPONENT PRESSURE DROPS.

NOTE 1: Add selected component pressure drops to system external static pressure to determine equivalent static pressure, RPM and bhp.

PERFORMANCE—HEATING CAPACITY—ELECTRICAL

POWER SUPPLY	UNIT MODELS			16 TON					
	FACTORY INSTALLED HEATER MODEL:			020	027	040	047	060	080
	NOMINAL KILOWATTS①			20	27	40	47	60	80
208	KILOWATTS			15	20	30	35	45	60
	HEATING CAPACITY	TOTAL - MBH		51.2	68.3	102.4	120.2	153.6	204.8
		1st STAGE - MBH		51.2	51.2	51.2	51.2	51.2	102.4
		2nd STAGE - MBH		—	17.1	51.2	69.0	102.4	102.4
	TEMPERATURE RISE°F②	AIR FLOW FT³/MIN	5200	9.1	12.3	18.2	21.4	27.4	36.5
			6400	7.4	10.0	14.8	17.4	22.2	29.6
			8000	5.9	8.0	11.8	13.9	17.8	23.7
230/460	KILOWATTS			18.4	24.9	36.8	43.3	55.2	73.6
	HEATING CAPACITY	TOTAL - MBH		62.8	85.0	125.6	147.8	188.4	251.2
		1st STAGE - MBH		62.8	62.8	62.8	62.8	62.8	125.6
		2nd STAGE - MBH		—	22.2	62.8	85.0	125.6	125.6
	TEMPERATURE RISE°F②	AIR FLOW FT³/MIN	5200	11.2	15.1	22.4	26.3	33.5	44.7
			6400	9.1	12.3	18.2	21.4	27.3	36.3
			8000	7.3	9.8	14.5	17.1	21.8	29.1

NOTE: 1. Nominal Kilowatts at 240/480V.

2. Air temperature rise is for total heating capacity. Temperature rises at other conditions may be calculated using the formula.

$$\text{Temp. Rise} = \frac{\text{Heating Capacity—btuh}}{1.08 \times \text{ft}^3\text{/min. air flow}}$$

3. For altitudes over 2000 feet, air temperature rise must be calculated using the formula.

$$\text{Temp. Rise} = \frac{\text{Heating Capacity—btuh}}{14.4 \times \text{ft}^3\text{/min. air flow} \times \text{specific weight of air}}$$

PERFORMANCE . . . Heating Capacity . . . Natural and Propane Gas

HEATER MODELS	UNIT MODELS: NATURAL GAS / PROPANE GAS		16 TON: N30 / P30	16 TON: N40 / P40
① Heating Capacity	Total — input/ output - mbh		300.0 / 241.2	400.0 / 322.0
	1st Stage — input/ output - mbh		150.0 / 120.6	200.0 / 161.0
	2nd Stage — ⑤ input/ output - mbh		150.0 / 120.6	200.0 / 161.0
② Temperature Rise—F	Air Flow ft³/min	5200	43	57
		6400	35	47
		8000	28	37

NOTE: 1. Capacities are approved for altitudes to 2000 feet. At higher elevations heating capacity must be reduced 4% (x .96) for each 1000 feet above sea level.

2. Air temperature rise is for total output heating capacity. Temperature rises at other conditions may be calculated using the formula:

$$\text{Temp. Rise (F)} = \frac{\text{Output btuh}}{1.08 \times \text{ft}^3\text{/min. air flow}}$$

3. For altitudes over 2000 feet, air temperature rise must be calculated using the formula:

$$\text{Temp. Rise (F)} = \frac{\text{Output btuh}}{14.4 \times \text{ft}^3\text{/min. air flow} \times \text{specific weight of air}}$$

4. Output capacity based on nominal 1000 BTU/FT³ natural gas or 2500 BTU/FT³ propane gas at 80.5% efficiency for N40, 80.4% efficiency for N30.
5. Two stage control standard on all models with natural gas. Propane units are single stage heat.

HEATING CAPACITY PERFORMANCE (HYDRONIC HEAT)

MODEL CUR160E

CFM	HOT WATER: TOTAL MBH*	TEMP. RISE (°F)	GPM	P.D. (FT.)	STEAM: TOTAL MBH*	TEMP. RISE (°F)	PSIG
5200	283	50	35.1	2.7	300	53	5
6400	314	45	35.1	2.7	328	47	5
8000	349	40	35.1	2.7	366	42	5
9000	373	38	35.1	2.7	383	39	5

*Capacities based on 60°F EAT, 180°F EWT.

HYDRONIC CORRECTION FACTORS

STEAM (SEE NOTE 3)							HOT WATER				
STEAM PSIG	STEAM TEMP. (°F)	LATENT HEAT (°F)	ENTERING AIR TEMP. (°F) 40	50	60	70	ENT. H_2O TEMP. (°F)	ENTERING AIR TEMP. (°F) 40	50	60	70
2	218.5	966.2	1.03	0.97	0.91	0.85	150	0.98	0.87	0.78	0.69
5	227.2	960.6	1.12	1.06	1.00	0.94	180	1.18	1.09	1.00	0.91
10	239.4	952.5	1.19	1.13	1.07	1.01	200	1.39	1.28	1.19	1.10
15	249.7	945.5	1.25	1.19	1.13	1.07					

NOTES: 1. Minimum entering air temperature for hot water application is +35°F.

2. Minimum entering air temperature for steam application is dependent on steam pressure: 2 psig— +10°F; 5 psig— +0°F; 10 psig— −0°F.
3. Steam correction factors for other conditions may be calculated using this formula:

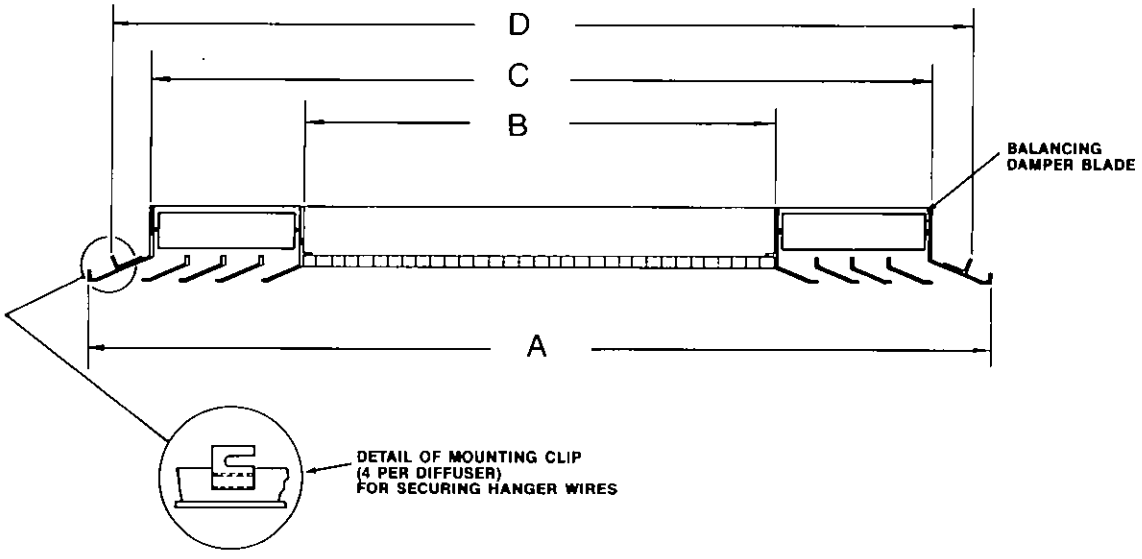
$$\text{Correction Factor} = \frac{\text{Steam Temp.} - \text{Entering Air Temp.}}{167.5}$$

Maintain full steam pressure when coil is exposed to air at temperatures below freezing.

4. Hot water coil designed for maximum 5 ft. pressure drop.
5. Steam distributing coils designed for maximum 75 psig. For optimum modulating control, do not exceed 15 psig.

CONCENTRIC SUPPLY/RETURN DIFFUSER

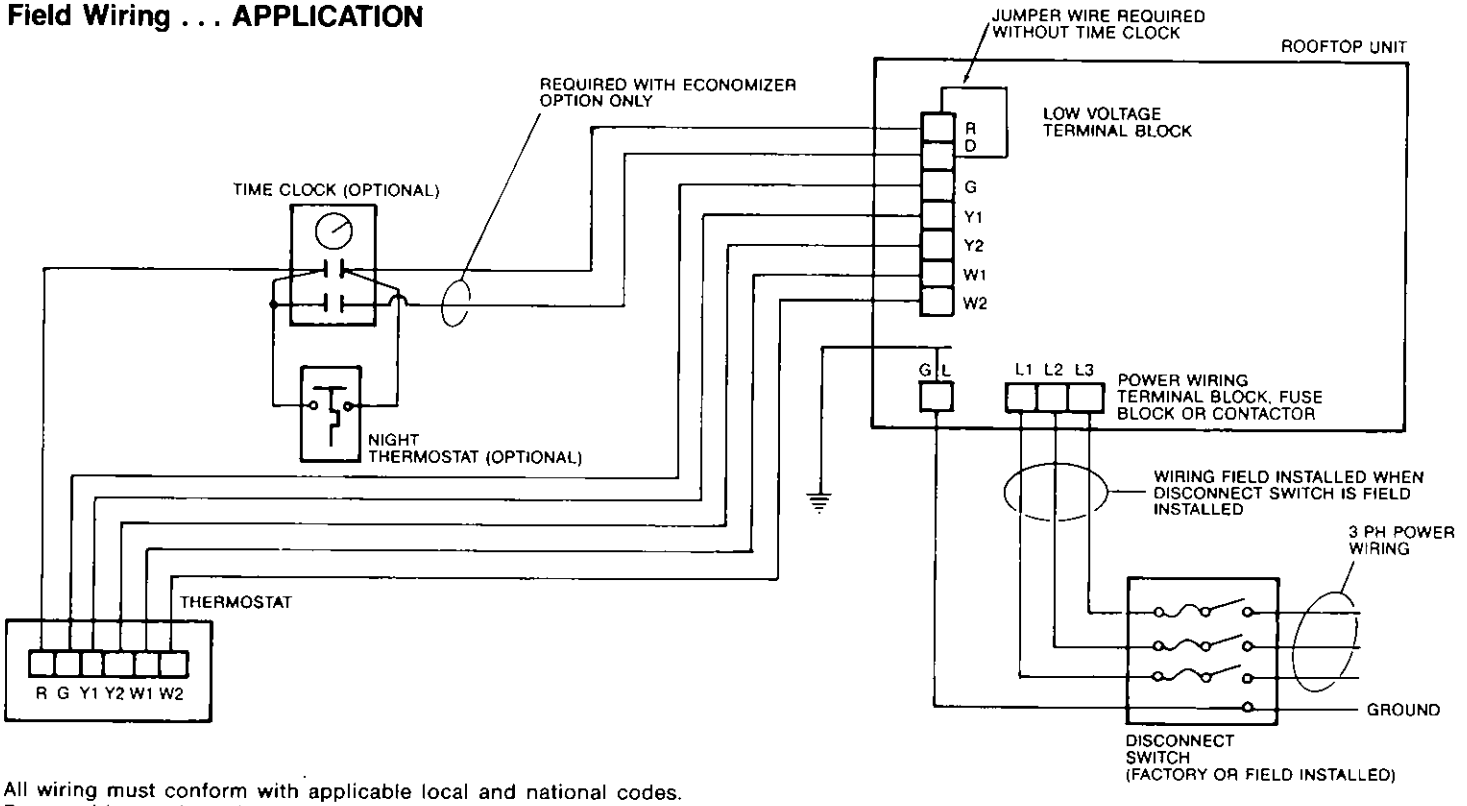
MODEL ADIF 202
SQUARE DIFFUSER



			SUPPLY				RETURN		DIMENSIONS			
					RADIUS OF DIFFUSION-FT							
DIFFUSER MODEL	UNIT MODEL	AIR FLOW FT^3/MIN.	NECK FPM	JET FPM	ACTIVE ZONE	MAX.	AIR FLOW FT^3/MIN.	VELOCITY FPM	A	B	C	D
ADIF 202	CUR160E	6400	830	2100	24	43	4800	635	53¼ x 53¼	32½ x 32½	47¾ x 47¾	51½ x 51½

ALL DATA BASED ON MINIMUM 14 FT. CEILING HEIGHT AND STANDARD 60F SUPPLY AIR.
CONCENTRIC DIFFUSERS REQUIRE A MINIMUM CEILING HEIGHT INSTALLATION EXTENDING SIX FEET ON ALL SIDES OF DIFFUSER.

Field Wiring . . . APPLICATION



All wiring must conform with applicable local and national codes. Power wiring to be selected based on minimum wire size amps specified on unit nameplate.

Use #16 AWG wire for 24V control wiring runs not exceeding 100 ft. Use #14 AWG wire for 24V control wiring runs of 101 to 200 ft. Low voltage wiring must be NEC Class 1.

The room thermostat should be located in the natural circulating path of room air. The device should never be placed where it is directly exposed to supply air, sun or anything that could affect its operation and prevent the thermostat from properly controlling the room temperature.