

I. IDENTIFICATION

- LDS BR 10413715

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 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 Loisi Const. & Plumbing INC.
Address 516 CRESTVIEW TERR
Pl. Pleasant NJ
Telephone (732) 899-2569
Signature Steve R. Li

III. ☐ LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:17.

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	
☐ Zoning Officer									
☐ Planning Board									
☐ Zoning Board									
☐ Sewer Authority									
☐ Water Authority									
☐ Police Department									
☐ Health Department									
☐ Soil Conservation									
☐ N.J. Department of Community Affairs									
☐ N.J. Department of Transportation									
☐ N.J. Department of Environmental Protection									
☐ Utility Dig No.									
☐									
☐									

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)

☐ Temporary Certificate of Occupancy	No. _____	DATE ISSUED _____	DATE EXPIRED _____	DATE REISSUED _____	DATE EXPIRED _____
☐ Temporary Certificate of Compliance	No. _____				
☐ Continued Certificate of Occupancy	No. _____				
☐ Certificate of Compliance	No. _____				
☐ Certificate of Occupancy	No. _____				
☐ Certificate of Approval	No. _____				
☐ Lead Abatement Clearance Certificate	No. _____				

TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
CONSTRUCTION
PERMIT

Date Issued 07/24/98
Control #
Permit # 98-2526

IDENTIFICATION Block 1149 Lot 5 Qual

Work Site Location 1930 RT 88 ODYSSEY SALON
GAS PIPING/A/C/FURNACE
Owner in Fee NEW PLAN REALTY TRUST
Address 1120 AVENUE OF THE AMERICAS
NEW YORK, NY 10036-
Telephone (914)623-4950
Contractor LUISI CONST & PLUMBING
Address 516 CRESTVIEW TERR.
PT P LEASANT, NJ 08742-
Telephone (732)899-2569
Lic. No. or Bldgs. Reg. No. 3977
Federal Emp. No. 22-3275090

Is hereby granted permission to perform the following work:

- | | | |
|---|---|--|
| ☐ BUILDING | ☒ PLUMBING | ☐ LEAD HAZARD ABATEMENT |
| ☐ ELECTRICAL | ☒ FIRE PROTECTION | ☐ DEMOLITION |
| ☐ ELEVATOR DEVICES | ☐ ASBESTOS ABATEMENT | ☐ OTHER |

(Subchapter 8 only)

DESCRIPTION OF WORK:
GAS PIPING/A/C/FURNACE

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 \$ 6,000

Construction Official [Signature] Date 07/24/98

U.C.C. #170 (rev. 3/96)

PAYMENTS (Office Use Only)	
Building	0
Electrical	0
Plumbing	60
Fire Protection	46
Elevator Devices	0
Other	
DCA Training Fee	5
Cert. of Occupancy	0
Other	
Total	111
Check No.	2697
Cash	
Collected By	AJP

TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
FIRE PROTECTION
SUBCODE
TECHNICAL SECTION

98-2526

Date Received 07/21/98
Date Issued 7/24/98
Control # C21-5
Permit #
IF closer than 10' edge call N/A
- supply ladder
- spare for supply
- spare for supply

A. IDENTIFICATION-APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING

CONTRACTORS. NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000

Block 1149 Lot 5 Qual

Work Site Location 1930 RT 88 ODYSSEY SALON

GAS PIPING/A/C/FURNACE

Owner in Fee NEW PLAN REALTY TRUST

Address 1120 AVENUE OF THE AMERICAS

NEW YORK, NY 10036-

Tele. (732) 899-2569 Fax ()

Contractor LOISI CONST & PLUMBING

Address 516 CRESTVIEW TERR.

PT P LEASANT, NJ 08747-

Tele. (732) 899-2569

Lic. No. or Bldgs. Reg. No.

Federal Emp. No. 22-3275090

D. TECHNICAL SITE DATA

Description of Work:

Water Supply Source

Method of Alarm/Suppr Sys Superv

Storage Tanks

Type: ☐ Flammable Liquid ☐ Combust Liquid

☐ LPG ☐ LNG Capacity 0 Fuel

Alarm Systems ☐ 110v Interconnected NUMBER

☐ System

Alarm Devices (smoke, heat, pull, water/flow)

Supervisory Devices (tamper, low/high air)

Signalling Devices (horn/strobes, bells)

Other Devices

TOTAL

Suppression Systems

Fire Pump 0 GPM Type

Dry Pipe/Alarm Valves

Pre-action Valves

Sprinkler Heads (Dry and Wet)

Standpipes

Pre-Engineered Systems

Wet Chemical

Dry Chemical

CO2 Suppression

Foam Suppression

Halon Suppression

Other

Kitchen Hood Exhaust System

Smoke Control System

Gas [X] or Oil [] Fired Appliances

Other

Other

Other

Other

Other

Other

Other

Other

Other

Other

Other

JOB SUMMARY (Office Use Only)

PLAN REVIEW

☐ No Plans Required

Joint Plan Review Required:

☐ Bldg ☐ Elect

☐ Plumb ☐ Elevator

☒ Fire Plans Approved

Date: 7-23-98

Approved By: [Signature]

SUBCODE APPROVAL

☐ CO ☐ CCO ☒ CA

Date: 6-10-98

Approved By: [Signature]

INSPECTIONS

Type

Alarm Sys

Suppr Test

Standpipe

Fire Pump

Preeng Sys

Mechanical

Smoke Ctl

TCO

Final

Other

Dates (Month/Day)

Failure Failure Approval Initial

Fire Alarm System

New ☐ Existing ☐

Location of Panel:

Fire Suppression/Standpipe Sys

New ☐ Existing ☐

Location of Main Control Valve

Total Est Cost of Fire Prot Work \$ 5,000

FEF (Office Use Only)

CO2 Suppression

Foam Suppression

Halon Suppression

Other

Kitchen Hood Exhaust System

Smoke Control System

Gas [X] or Oil [] Fired Appliances

Other

Other

Other

Other

Other

Other

Other

Other

Other

Other

Administrative Surcharge

Paid ☐ Check #

Collected by:

DCA Training Fee

Other

\$ 0

\$ 0

\$ 46

\$ 4

\$ 0

TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
PLUMBING
SUBCODE
TECHNICAL SECTION

Date Received 07/17/98
Date Issued 7/24/98
Control # C21-5
Permit # 98-252

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

Block 1149 Lot 5
Work Site Location 1930 Rt 88 ODYSSEY SALON
GAS PIPING/A/C/FURNACE

Owner in Fee NEW PLAN REALTY TRUST
Address 1120 AVENUE OF THE AMERICAS
NEW YORK, NY 10036-

Tele: (732) 899-2569 Fax ()

Contractor LUISI CONST & PLUMBING
Address 516 CRESTVIEW TERR.
PT P LEASANT, NJ 08742-

Tele: (732) 899-2569

Lic. No. or Bids. Reg. No. 3977
Federal Emp. No. 22-3275090

B. PLUMBING CHARACTERISTICS
Use Group Present Proposed B
Building Sewer Size [] Public Sewer [] Private Septic
Water Sewer Size [] Public Water [] Private Well
Estimated Cost of Plumbing Work \$ 1,000

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[] No Plans Required

Joint Plan Review Required:

[] Bldg [] Elect

[] Fire [] Elevator

[] Plumb. Plans Approved

Date: 7-22-98

Approved By: [Signature]

SUBCODE APPROVAL

[] CO [] CC [] SA

Approved By: [Signature]

Date: 8-7-98

INSPECTIONS Dates (Month/Day)

Type Failure Failure Approval Initial

Slab

Rough

Water

Sewer

Fixtures

Gas Equip.

Gas Piping

Solar

TCO

NO. FIXTURE/EQUIPMENT

Water Closet

Urinal / Bidet

Bath Tub

Lavatory

Shower

Floor Drain

Sink

Dishwasher

Drinking Fountain

Washing Machine

Hose Bib

Water Heater

Fuel Oil Piping

Gas Piping

Steam Boiler

Hot Water Boiler

Sewer Pump

Interceptor / Separator

Backflow Preventer

Grasestrap

Sewer Connection

Water Service Connection

Stacks

Other A/C

Other

FEE (Office Use Only)

Water Closet

Urinal / Bidet

Bath Tub

Lavatory

Shower

Floor Drain

Sink

Dishwasher

Drinking Fountain

Washing Machine

Hose Bib

Water Heater

Fuel Oil Piping

Gas Piping

Steam Boiler

Hot Water Boiler

Sewer Pump

Interceptor / Separator

Backflow Preventer

Grasestrap

Sewer Connection

Water Service Connection

Stacks

Other A/C

Other

Administrative Surcharge

Minimum Fee

TOTAL FEE

DCA Training Fee

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.

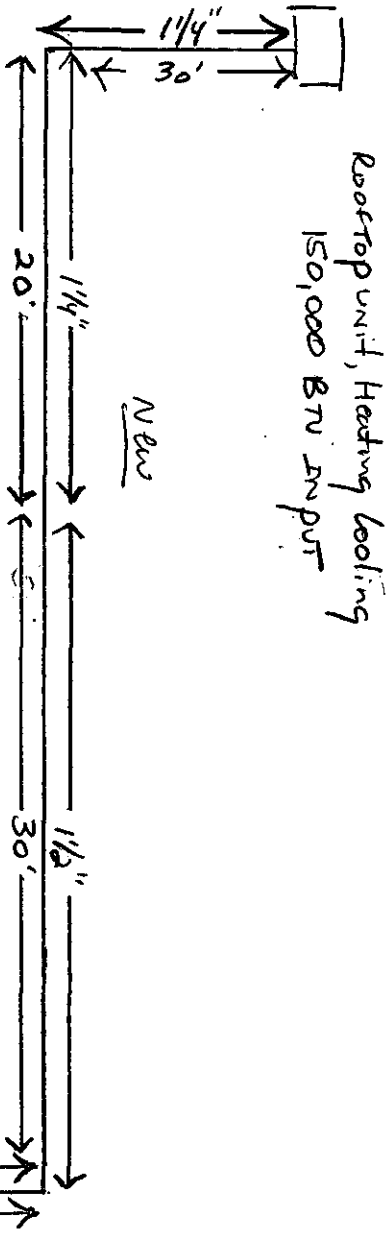
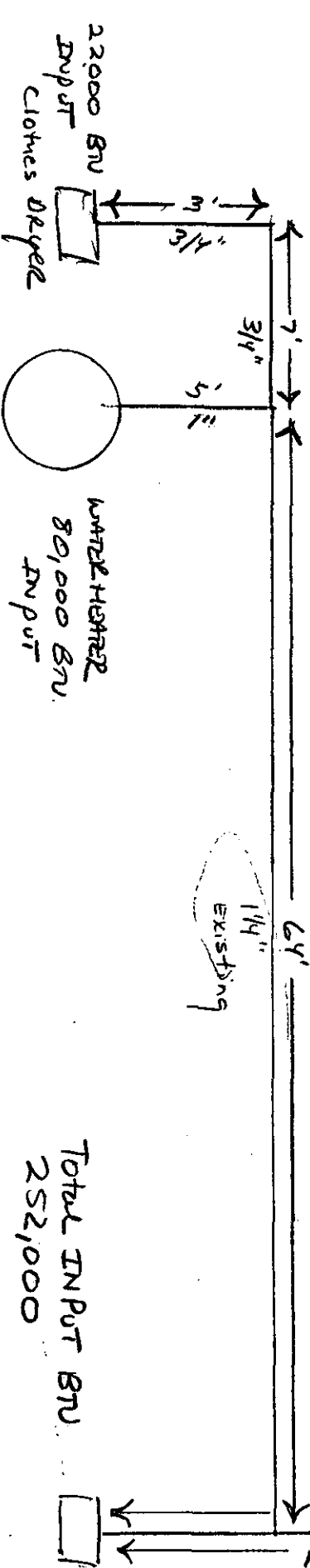
Signature/Contractor Seal

[] Licensed Plumbing Contractor [] Exempt Applicant

Luis Construction Plumbing Inc
 516 Crestview Tce.
 P1 Pleasant NJ 08742
 Lic. # 3977 7/6/98
 732-859-2569

ODYSSEY II HAIR
 Salons
 1930 Rt. 88
 Brick NJ
 732-840-9590

Don
 7-28-98



Rooftop unit, Heating Cooling
 150,000 BTU INPUT

New

New

Total INPUT BTU
 252,000

PLUMBING & HEATING PRODUCTS

PLUMBING FIXTURES

- American Standard
- Jacuzzi Whirlpool Baths
- Lasco Bathware
- Crane Steelware
- Universal Rundle
- Sterling Plumbing
- Moen Sinks
- Elkay Sinks
- Fiat Products
- Swan
- Mustee Laundry Trays
- Corian

FAUCETS & ACCESSORIES

- American Standard
- Moen Faucets & Accessories
- Delta Faucets & Accessories
- Grohe Faucets & Accessories
- Central Brass
- Gerber Brass
- T & S Brass
- Showerite Shower Doors
- Alsons
- Symmons Industries

PIPE • VALVES • FITTINGS

- Legend Valve
- Hammond Valve
- Wardflex Stainless Steel Gas Piping System
- Cambridge Lee Copper
- Cerro Copper
- Howell Metal
- Laclede Steel
- Tyler Pipe
- Bristol Pipe
- Cresline
- Charlotte Pipe
- Polystar Plastic Tubing
- Nibco
- J.P. Ward
- Mueller
- GSR R & S Sloane

WATER FILTRATION & TREATMENT

- Cuno Aqua Pure
- Everpure Water Treatment Products
- Water Soft Inc.

WELL & PUMP SUPPLIES

- Amtrol Well-X-Trol
- Goulds Pumps
- Water Soft Inc.
- Zoeller Pumps
- Harvard/American Granby
- Little Giant Pumps
- Blue Angel Pumps

PLUMBING PRODUCTS

- Ancon Drainage Control Systems
- Amtrol Hot Water Makers
- Brass Craft Supplies & Connectors
- C.D. Sparling Grab Bars
- Church Seats
- Bemis Seats
- Elkay Water Coolers
- Fluidmaster
- Hartell Pumps
- In-Sink-Erator
- Jameco
- Little Giant Pumps
- Mr. Steam/Warmatowel
- Cherne Industries
- Oatey Plumbing
- Sanitary Dash
- Shellback Pumps
- Sloan Valves
- Zoeller Pumps
- Cuno Aqua Pure
- Bradley Wash Fountains
- Jay R. Smith
- Wade

TOOLS

- Holsclaw
- American Saw-Lenox
- Asco-Acetylene Equip.
- Ebinger Manufacturing
- General Wire
- Malco Tools
- Milwaukee Tools
- Rigid Tools
- Uniprise Tools
- Frezall

HEATING EQUIPMENT

- Amtrol
- Argo - Radiation
- Beacon/Morris
- Beckett Oil Burners

- Bristol Oil Tanks
- Burnham Boilers & Cast Iron Radiation
- Bock Water Heaters
- Modine Unit Heaters
- Rheem Water Heaters
- Ruud Commercial Water Heaters
- Slant/Fin Boilers & Baseboard
- Wayne Home Equipment
- Wirsbo Radiant Heat

HEATING ACCESSORIES

- Absolute Air Filters
- Galvanized Pipe, Duct & Fittings
- American Metal Products
- Amtrol
- Argo Industries
- Bell & Gossett
- Conbraco
- Dole Valves
- Field Controls Division
- Flex-L International
- Delavan Nozzles
- General Filters & Humidifiers
- Gorton Vents
- Hart & Cooley
- Firomatic Products
- Hoffman
- Honeywell
- Little Giant Pumps
- Maid-O-Mist
- Marsh/Marshalltown Instruments
- McDonnell & Miller
- Oil Equipment Mfg.
- Spirotherm
- Taco Inc.
- Thermal Materials
- Thrift Products
- Tjernlund
- Watts Regulator
- Central Tankless



AARON & COMPANY

AARON & COMPANY

PO Box 1069 New Brunswick NJ 08903-1069
908-247-4500 • FAX: 908-247-9682 • 800-227-6677

Mar-31-98 10:24A

P.O.1

ABCO REFRIGERATION SUPPLY CORP.
Refrigeration Supplies / Air-Conditioning Equipment
12 North Airmont Road
Suffern, NY 10901
Phone: 914-357-3322
Fax: 914-357-5444

FACSIMILE COVER SHEET

DATE:

7-7-98

ATTN:

ROBERT

COMPANY:

BLENDO AIR

FAX #:

732-223-6805

FROM:

George Ryerson, Branch Manager

MESSAGE:

UNIT # D#UC-TOGON 125

Number of pages including cover sheet: 10

INSTALLATION INSTRUCTION

GAS / ELECTRIC SINGLE PACKAGE AIR CONDITIONERS

Supersedes: 530.18-N8W (983)

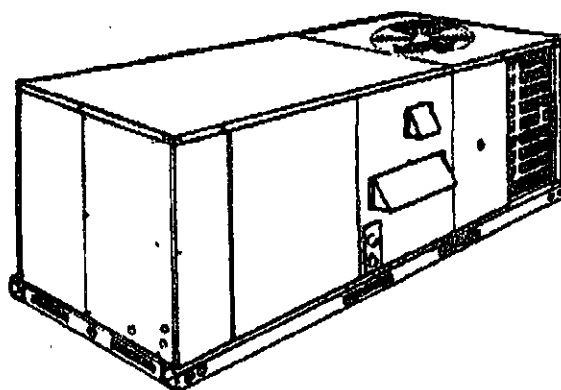
530.18-N8W (295)

035-12858

MODELS DGUC 036, 048 & 060 (10 SEER)

MODEL DAUC 072 (9 EER)

(STYLE A & Belt-Drive Option)



GENERAL

Model DUC units are single package air conditioners with gas heat designed for outdoor installation on a rooftop or a slab.

The units are completely assembled on rigid, permanently attached base rails. All piping, refrigerant charge, and electrical wiring is factory-installed and tested. The units require only electric power, gas piping and duct connections at the point of installation.

The gas-fired heaters have aluminized steel tubular heat exchangers and spark ignition with intermittent pilot.

This appliance is not to be used for temporary heating of buildings or structures under construction.

INSPECTION

As soon as a unit is received, it should be inspected for possible damage during transit. If damage is evident, the extent of the damage should be noted on the carrier's freight bill. A separate request for inspection by the carrier's agent should be made in writing.

REFERENCE

Additional information on the design, installation, operation and service of this equipment is available in the following reference forms:

- 530.18-N1.2V -Economizer Accessory
- 530.18-N1.4V -Fixed Outdoor Air Damper Accessory
- 530.18-N1.6V -Motorized Outdoor Air Damper Accy.

- 530.18-N1.8V -Coil Guard
- 530.18-N2.11V -Low NOx Accessory
- 530.18-N8.2V -High Altitude Accy. (Natural Gas)
- 530.18-N8.3V -High Altitude Accy. (Propane)
- 530.18-N8.4V -Gas Piping Accessory
- 530.18-N8.12V -Propane Conversion Accessory
- 690.15-N25V -Low Ambient Accessory

Renewal Parts:

- Refer to Parts Manual for complete listing of replacement parts on this equipment.

All forms referenced in this instruction may be ordered from:

Publications Distribution Center
Unitary Products Group
P.O. Box 1592, York, PA 17405

APPROVALS

Design certified by CGA and UL listed as follows:

1. For use as a forced air furnace with cooling unit.
2. For outdoor installation only.
3. For installation directly on combustible flooring or, in the U.S.A., on wood flooring or Class A, B, or C roof covering material.
4. For use with natural gas and/or propane (LP) gas.

Not suitable for use with conventional venting systems.

Installer should pay particular attention to the words: **NOTE**, **CAUTION** and **WARNING**. **Notes** are intended to clarify or make the installation easier. **Cautions** are given to prevent equipment damage. **Warnings** are given to alert installer that personal injury and/or equipment damage may result if installation procedure is not handled properly.

FOR YOUR SAFETY

- If you smell gas:
1. Open windows
 2. Don't touch electrical switches.
 3. Extinguish any open flame.
 4. Immediately call your gas supplier.

FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

CAUTION

THIS PRODUCT MUST BE INSTALLED IN STRICT COMPLIANCE WITH THE ENCLOSED INSTALLATION INSTRUCTIONS AND ANY APPLICABLE LOCAL, STATE, AND NATIONAL CODES INCLUDING, BUT NOT LIMITED TO, BUILDING, ELECTRICAL, AND MECHANICAL CODES.

WARNING

INCORRECT INSTALLATION MAY CREATE A CONDITION WHERE THE OPERATION OF THE PRODUCT COULD CAUSE PERSONAL INJURY OR PROPERTY DAMAGE.

530.18-NBW

INSTALLATION

LIMITATIONS

These units must be installed in accordance with the current editions of the following national and local safety codes: **In the U.S.A.:**

1. National Electrical Code ANSI/NFPA No. 70.
2. National Fuel Gas Code Z223.1.
3. Gas-Fired Central Furnace Standard ANSI Z21.47-1993.
4. Local gas utility requirements.

In Canada:

1. Canadian Electrical Code CSA C22.1
2. Current Gas Installation Codes CAN/CGA-2.3-M93.
3. Local plumbing and waste water codes.
4. Other applicable local codes.

Refer to Table 1 for Unit Application Data and to Table 2 for Gas Heat Application Data.

If components are to be added to a unit to meet local codes, they are to be installed at the dealer's and / or the customer's expense.

Size of unit for proposed installation should be based on heat loss / heat gain calculation made according to the methods of Air Conditioning Contractors of America (ACCA).

TABLE 1 - UNIT APPLICATION DATA

Model DUC	036	048	060	072
Voltage Variation	208/230V	187 / 253		
Min. / Max. ¹	480V	414 / 504		
	575V	518/630		
Supply Air CFM, Nom.	1200	1800	2000	2400
Wet Bulb Temperature (°F) of Air on Evaporator Coil, Min. / Max.	57 / 72	57 / 72	57 / 72	57 / 72
Dry Bulb Temperature (°F) of Air on Condenser Coil, Min. / Max.	45 / 120	45 / 120	45 / 120	45 / 120

¹Utilization range "A" in accordance with ASH Standard 110.

²A low ambient accessory is available for operation down to 0°F.

LOCATION

Use the following guidelines to select a suitable location for these units.

1. Unit is designed for outdoor installation only.
2. Condenser coils must have an unlimited supply of air. Where a choice of location is possible, position the unit on either north or east side of building.

WARNING: Excessive exposure of this furnace to contaminated combustion air may result equipment damage or personal injury. Typical contaminants include: permanent wave solutions, chlorinated waxes and cleaners, chlorine based swimming pool chemicals, water softening chemicals, carbon tetrachloride, Halogen type refrigerants, cleaning solvents (e.g. perchloroethylene), printing inks, paint removers, varnishes, hydrochloric acid, cements and glues, antistatic fabric softeners for clothes dryers, masonry acid washing materials.

3. For ground level installation, use a level concrete slab with a minimum thickness of 4 inches. The length and width should be at least 6 inches greater than the unit base rails. Do not tie slab to the building foundation.
4. Roof structures must be able to support the weight of the unit and its options and / or accessories. Unit must be installed on a solid level roof curb or appropriate angle iron frame.

CAUTION: If a unit is to be installed on a roof curb or special frame other than a CES roof curb, gasketing must be applied to all surfaces that come in contact with the unit underside.

5. Maintain level tolerance to 1/2" maximum across the entire length or width of the unit.

6. Elevate the unit sufficiently to prevent any blockage of the air entrances by snow in areas where there will be snow accumulation. Check the local weather bureau for the expected snow accumulation in your area.

RIGGING AND HANDLING

Exercise care when moving the unit. Do not remove any packaging until the unit is near the place of installation. Rig the unit by attaching chain or cable slings to the lifting holes provided in the base rails. Spreaders, whose length exceeds the largest dimension across the unit, MUST be used across the top of the unit.

BEFORE LIFTING A UNIT, MAKE SURE THAT ITS WEIGHT IS DISTRIBUTED EQUALLY ON THE CABLES SO THAT IT WILL LIFT EVENLY.

Units may also be moved or lifted with a forklift. Slotted openings in the base rails are provided for this purpose.

LENGTH OF FORKS MUST BE A MINIMUM OF 42".

Remove the nesting brackets from the four corners on top of the unit. All screws that are removed when taking these brackets off must be replaced on the unit.

CAUTION: An adhesive backed label is provided over the outside of the combustion air inlet opening to prevent moisture from entering the unit which could cause damage to electrical components. Allow this closure label to remain in place until the combustion air hood is to be installed (refer to Figure 6).

Refer to Table 4 for unit weights and to Figure 1 for approximate center of gravity.

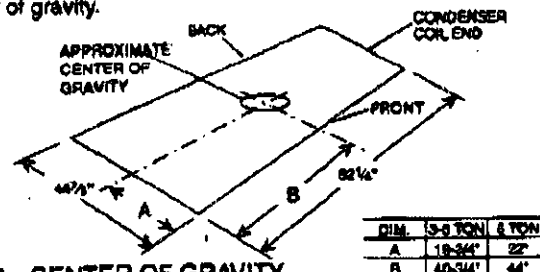


FIG. 1 - CENTER OF GRAVITY

CLEARANCES

All units require certain clearances for proper operation and service. Installer must make provisions for adequate combustion and ventilation air in accordance with Section 5.3, Air for Combustion and Ventilation of the National Fuel Gas Code, ANSI Z223.1 (in U.S.A.) or Sections 7.2, 7.3 or 7.4 of Gas Installation Codes CAN/CGA-B149.1 and 2 (in Canada) and/or applicable provisions of the local building codes. Refer to Figure 7 for the clearances required for combustible construction, servicing, and proper unit operation.

WARNING: Do not permit overhanging structures or shrubs to obstruct condenser air discharge outlet, combustion air inlet or vent outlet.

DUCTWORK

Ductwork should be designed and sized according to the methods in Manual Q of the Air Conditioning Contractors of America (ACCA).

A closed return duct system shall be used. This shall not preclude use of economizers or outdoor fresh air intakes. The supply and return air duct connections at the unit should be made with flexible joints to minimize the transmission of noise.

530.18-N8W

The supply and return air duct systems should be designed for the CFM and static requirements of the job. They should **NOT** be sized to match the dimensions of the duct connections on the unit.

CAUTION: When fastening ductwork to the side duct flanges on the unit, insert the screws through the duct flanges only. **DO NOT** insert the screws through the casing.

Outdoor ductwork must be insulated and waterproofed.

Refer to Figure 7 for information concerning side and bottom supply and return air duct openings.

FILTERS

1" filters are supplied with each unit. 2" replacement filters may be used with no modification to the filter racks. Filters must always be installed ahead of the evaporator coil and must be kept clean or replaced with same size and type. Dirty filters will reduce the capacity of the unit and will result in frosted coils or safety shutdown. Minimum filter area and required sizes are shown in Table 4.

CONDENSATE DRAIN

Plumbing must conform to local codes. Use a sealing compound on male pipe threads. Install a condensate drain line from the 3/4" PVC female connection on the unit to spill into an open drain.

NOTE: The condensate drain line **MUST** be trapped to provide proper drainage. See Figure 2.

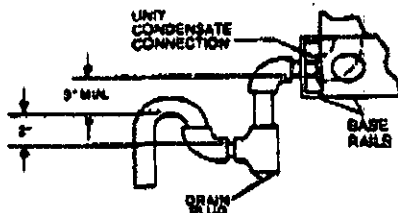


FIG. 2 - RECOMMENDED DRAIN PIPING

SERVICE ACCESS

Access to all serviceable components is provided by the following removable panels:

- Compressor compartment
- Burner compartment
- Blower compartment
- Main control box
- Filter compartment
- Motor access (on units with belt-drive option)

Refer to Figure 7 for location of these access panels.

CAUTION: Make sure that all screws are replaced on the unit to maintain an air-tight seal.

THERMOSTAT

The room thermostat should be located on an inside wall approximately 56" above the floor where it will not be subject to drafts, sun exposure, or heat from electrical fixtures or appliances. Follow manufacturer's instructions enclosed with thermostat for general installation procedure. Color coded insulated wires (#18 AWG) should be used to connect thermostat to unit. See figure 3 for wiring details.

NOTE: If the unit has an economizer, remove jumper J1 from terminals 8 and 10 on the relay board to prevent simultaneous operation of the compressor and the economizer. If you want to energize the compressor for supplemental cooling during the economizer operation, use a thermostat with two stages of cooling.

POWER AND CONTROL WIRING

Field wiring to the unit must conform to provisions of the National Electrical Code (NEC), ANSI/NFPA 70-1987 (in USA) current Canadian Electric Code (CEC) C22.1 (in Canada), and

/ or local ordinances. The unit must be electrically grounded in accordance with the N.E.C. ANSI / NFPA 70 or local codes.

Voltage tolerances which must be maintained at the compressor terminals during start-up and running conditions are indicated on the unit Rating Plate and Table 1.

The internal wiring harness furnished with this unit is an integral part of a UL and CGA design certified unit. Field alteration to comply with electrical codes should not be required.

A disconnect switch should be field provided for the unit. The switch must be separate from all other circuits. Refer to Figure 7 for installation location. If any of the wire supplied with the unit must be replaced, replacement wire must be of the type shown on the wiring diagram.

Electrical lines must be sized properly to carry the load. USE COPPER CONDUCTORS ONLY. Each unit must be wired with a separate branch circuit fed directly from the meter panel and properly protected.

CAUTION: When connecting electrical power and control wiring to the unit, waterproof type connectors **MUST BE USED** so that water or moisture cannot be drawn into the unit during normal operation. The above waterproofing conditions will also apply when installing a field-supplied disconnect switch.

Refer to Figure 3 for typical field wiring and to the appropriate unit wiring diagram for control circuit and power wiring information.

BLOWER SPEED SELECTION

Three blower motor speeds are available on the direct-drive units. The speed selection for the direct-drive units is determined by the CFM and ESP requirements of the applications. All units with belt-drive option have an adjustable motor pulley to achieve the above conditions.

All direct-drive units with 208/230 voltage are shipped with the wire labeled #116 connected to the "HIGH" speed tap on the blower motor. If a lower blower motor speed is desired, this wire should be moved to the "MED" or "LOW" speed tap on the motor for the speed desired.

All direct-drive units with 460 and 575 voltage are shipped with the wire labeled #116 connected to the "HIGH" speed tap on the blower motor. If the medium speed is required, connect wire #116 to the "MED" speed tap and the blue motor lead to the "HIGH" speed tap. If the low speed is required, connect wire #116 to the "LOW" speed tap, the blue motor lead to the "HIGH" speed tap and the orange motor lead to the "MED" speed tap.

COMPRESSORS

On some units the compressor is mounted on springs which have been tightened down for shipment only.

After this unit is installed, back out the compressor bolts until the sleeve clears the top grommet.

CAUTION: Do **Not** loosen compressor mounting bolts.

TABLE 2 - GAS HEAT APPLICATION DATA

Input Capacity, (Mbh)	Output Capacity, (Mbh)	Available on Models	Gas Rate ¹ (Ft. ³ /Hr.)	Temp. Rise °F At Full Input ²	
				Min.	Max.
50	40	3 Ton	47	13	45
75	60	4 Ton	70	25	55
100	79	3/5/6 Ton	93	40/25/25	70/55/55
125	99	4/5/6 Ton	118	45/35/35	75/65/65

NOTE: Gas heaters are shipped available for natural gas, but can be converted to L.P. with Kit Model No. 1NPD434. All burners meet the latest California seasonal efficiency requirements.

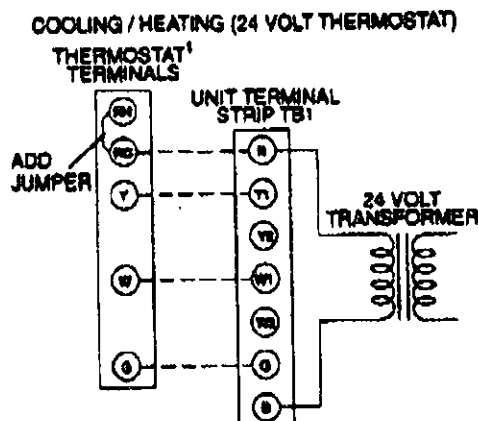
¹ Based on 1075 Btu/Ft.³

² The air flow must be adjusted to obtain a temperature rise within the range shown.

COMBUSTION DISCHARGE

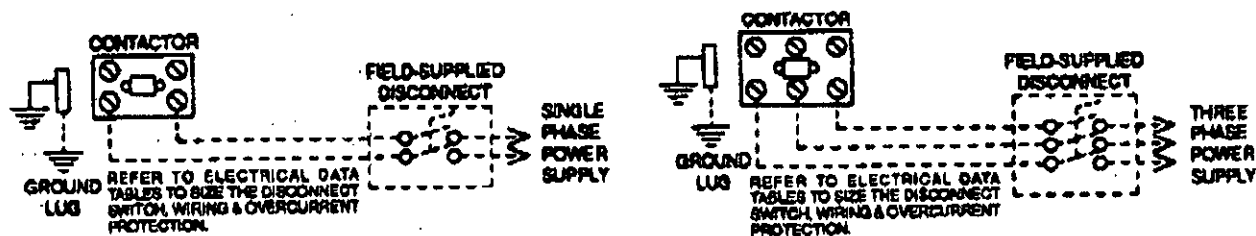
The products of combustion are discharged horizontally through a screened opening on the gas heat access panel.

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CONTROL WIRING

¹ 24 VOLT THERMOSTAT 6TH07700124. IF THE UNIT HAS AN ECONOMIZER, REMOVE JUMPER J1 FROM TERMINALS R AND Y ON THE RELAY BOARD TO PREVENT SIMULTANEOUS OPERATION OF THE COMPRESSOR AND THE ECONOMIZER. IF YOU WANT TO CONTROL THE ECONOMIZER ON A SECOND STAGE OF COOLING OR HAVE AN ELECTRIC HEAT ACCESSORY WITH TWO STAGES OF HEAT, USE THERMOSTAT 6TH04702024.

CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

POWER WIRING**FIG. 3 - TYPICAL FIELD WIRING****DISCONNECT SWITCH BRACKET FOR UNITS WITH OPTIONAL BELT-DRIVE BLOWER**

A special bracket for mounting a field-supplied disconnect switch is provided in each unit ordered with an optional belt-drive supply air blower. The bracket is shipped inside the blower compartment taped to the top of the blower housing. Install the bracket on the left hand side of the unit as shown in Figure 7. Several existing screws at the top of the unit and one screw approximately midway down from the top will be used for mounting the bracket. Screws should be loosened only - NOT REMOVED. Matching holes in the bracket have elongated keyways allowing easy installation. Re-tighten screws after bracket is in place to ensure panels will remain leak tight.

GAS PIPING

Proper sizing of gas piping depends on the cubic feet per hour of gas flow required, specific gravity of the gas and the length of run. "National Fuel Gas Code" Z223-1992 (in the USA), or

the current Gas Installation Codes CAN/CGA-B149.1 and .2 (in Canada) should be followed in all cases unless superseded by local codes or gas company requirements. Refer to Table 3.

TABLE 3 - PIPE SIZING

Length in Feet	Nominal Iron Pipe Size			
	1/2 in.	3/4 in.	1 in.	1-1/4 in.
10	132	278	620	1,050
20	92	190	350	730
30	73	162	285	590
40	63	130	245	500
60	56	115	215	440
80	50	105	195	400
100	46	98	180	370
120	43	90	170	350
140	40	84	160	320
160	38	78	150	305

Maximum capacity of pipe in cubic feet of gas per hour. (Based upon a pressure drop of 0.5 inch water column and 0.6 specific gravity gas).

For natural gas heat installations in locations which require low Nitrogen Oxide emissions, accessory model 1LN0404 must be installed.

LOW NOX APPLICATION

Check all connections for leaks when piping is completed. Using a soap solution, NEVER USE A FLAME.

Complete information regarding tank sizing for vaporization, recommended regulator settings, and pipe sizing is available from most regulator manufacturers and L.P./propane gas suppliers.

L.P./propane gas is an excellent solvent and special pipe compound must be used when assembling piping for this gas as it will quickly dissolve white lead or most standard commercial compounds. Therefore, a special pipe compound must be applied when wrought iron or steel pipe is used. Shellac base compounds such as Gas-Kote or Stalastic, and compounds such as Rectorseal #5, Cyclo's or John Crane may be used.

WARNING: Natural gas may contain some propane. Propane, being an excellent solvent, will quickly dissolve white lead or most standard commercial compounds. Therefore, a special pipe compound must be applied when wrought iron or steel pipe is used.

Shellac base compounds such as Gas-Kote or Stalastic, and compounds such as Rectorseal #5, Cyclo's or John Crane may be used.

4. All piping should be cleaned of dirt and scale by hammering on the outside of the pipe and blowing out the loose dirt and scale. Before initial start-up, be sure that all of the gas lines external to the unit have been purged of air.

5. The gas supply should be a separate line and installed in accordance with all safety codes as prescribed under "Limitations". After the gas connections have been completed, open the main shut-off valve admitting normal gas pressure to the mains. Check all joints for leaks with soap solution or other material suitable for the purpose. NEVER USE A FLAME.

6. The heating value of the gas may differ with locality. The value should be checked with the local gas utility. The value

NOTE: There may be a local gas utility requirement specifying a minimum diameter for gas piping. All units require a 1/2 inch pipe connection at the entrance fitting.

The gas supply line can be routed through the knockouts located on the front of the unit or through the opening provided in the unit's base. Refer to Figure 7 to locate these access openings. Typical supply piping arrangements are shown in Figures 4 and 5. All shaded items are field-supplied.

Two grommets are shipped in the blower compartment (in parts bag taped to the blower housing) of every unit with gas heat and should be used in the knockouts when the gas piping penetrates the front of the unit.

After the gas supply piping has been installed, the bottom opening should be sealed to prevent water from leaking into the building.

Gas piping recommendations:

1. A drip leg and a ground joint union must be installed in the gas piping.

2. When required by local codes, a manual shut-off valve may have to be installed outside of the unit.

3. Use wrought iron or steel pipe for all gas lines. Pipe compound should be applied sparingly to male threads only.

4. All piping should be cleaned of dirt and scale by hammering on the outside of the pipe and blowing out the loose dirt and scale. Before initial start-up, be sure that all of the gas lines external to the unit have been purged of air.

5. The gas supply should be a separate line and installed in accordance with all safety codes as prescribed under "Limitations". After the gas connections have been completed, open the main shut-off valve admitting normal gas pressure to the mains. Check all joints for leaks with soap solution or other material suitable for the purpose. NEVER USE A FLAME.

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3. Use wrought iron or steel pipe for all gas lines. Pipe compound should be applied sparingly to male threads only.

4. All piping should be cleaned of dirt and scale by hammering on the outside of the pipe and blowing out the loose dirt and scale. Before initial start-up, be sure that all of the gas lines external to the unit have been purged of air.

5. The gas supply should be a separate line and installed in accordance with all safety codes as prescribed under "Limitations". After the gas connections have been completed, open the main shut-off valve admitting normal gas pressure to the mains. Check all joints for leaks with soap solution or other material suitable for the purpose. NEVER USE A FLAME.

6. The heating value of the gas may differ with locality. The value should be checked with the local gas utility. The value

NOTE: There may be a local gas utility requirement specifying a minimum diameter for gas piping. All units require a 1/2 inch pipe connection at the entrance fitting.

The gas supply line can be routed through the knockouts located on the front of the unit or through the opening provided in the unit's base. Refer to Figure 7 to locate these access openings. Typical supply piping arrangements are shown in Figures 4 and 5. All shaded items are field-supplied.

Two grommets are shipped in the blower compartment (in parts bag taped to the blower housing) of every unit with gas heat and should be used in the knockouts when the gas piping penetrates the front of the unit.

FIG. 4 - EXTERNAL SUPPLY CONNECTION

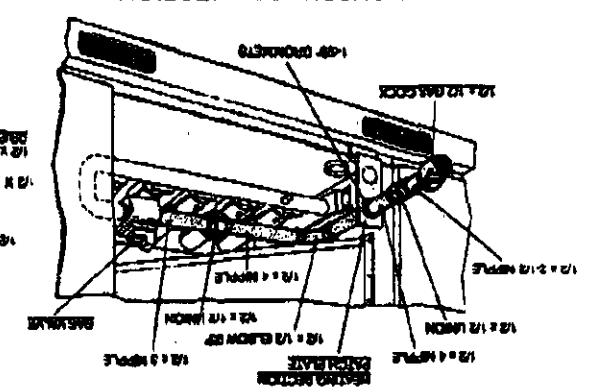
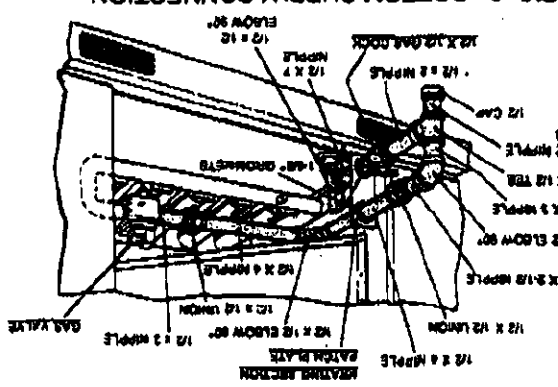


FIG. 5 - BOTTOM SUPPLY CONNECTION



NOTE: Components used on shaded items are field-supplied.

VENT AND COMBUSTION AIR HOODS

The vent and combustion air hoods are shipped attached to the blower housing in the blower compartment. These hoods must be installed on the outside of the gas heat access panel to ensure proper unit function. The necessary mounting screws are provided in a bag also attached to the blower housing.

The screen for the combustion air intake hood is secured to the inside of the access panel opening with three fasteners and the screws used for mounting the hood to the panel. The top flange of this hood slips in under the top of the access panel opening when installing. Refer to Figure 6. Remove the protective label covering the opening just prior to installing this hood.

The vent hood (including its screen) is installed by inserting the top flange of the hood into the slotted opening in the access panel. The top screw secures the hood to the access panel. The remaining two side screws must be installed after the access panel is installed on the unit. These screws engage the bottom flue box flange.

CAUTION: All three screws in the vent hood must be properly installed before furnace operation to insure all combustion products are exhausted from the unit.

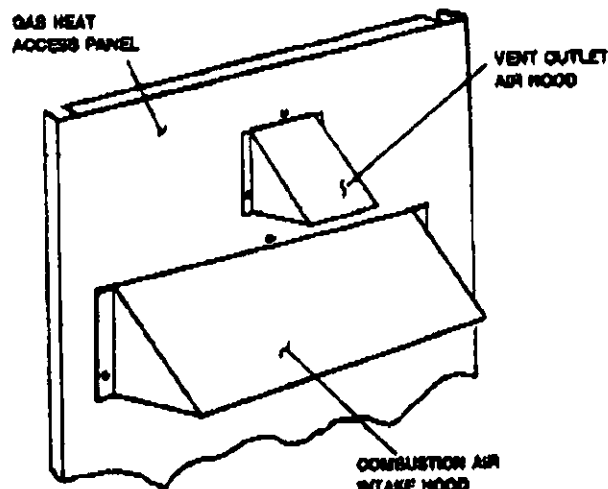


FIG. 6 - VENT AND COMBUSTION AIR HOODS

TABLE 4 - PHYSICAL DATA

MODELS		DUC			
		036	046	060	072
EVAP. BLOWER	CENTRIFUGAL BLOWER (Dia. x Wd. in.)	12 x 10	12 x 10	12 x 10	12 x 11
	FAN MOTOR HP (Direct-Drive)	1/2	3/4	1	1
	FAN MOTOR HP (Bell-Drive)	-	-	1.5	1.5
EVAP. COIL	ROWS DEEP	3	3	3	4
	FINS PER INCH	13	13	13	13
	FACE AREA (Sq. Ft.)	3.6	4.3	5.1	5.1
COND. FAN	PROPELLER DIA. (in.)	22	22	22	24
	FAN MOTOR HP	1/2	1/2	1/2	1/2
	NOM. CFM TOTAL	4,500	4,200	4,500	4,500
COND. COIL	ROWS DEEP	1	1	1	2
	FINS PER INCH	16	19	22	16
	FACE AREA (Sq. Ft.)	17.1	17.1	17.1	16.7
AIR FILTERS (SEE NOTE)	QUANTITY PER UNIT (14" x 20" x 1")	2	2	2	2
	QUANTITY PER UNIT (14" x 25" x 1")	1	1	1	1
	TOTAL FACE AREA (sq. ft.)	6.3	6.3	6.3	6.3
CHARGE	REFRIGERANT 22 (lb./oz.)	6/0	6/8	7/4	10/3

NOTE: Filter racks are adapted for 1" or 2" thick filter.

WEIGHTS (LBS)	
Basic Unit (Nom. Max.)	3 Ton 615
	4 Ton 655
	5 Ton 680
	6 Ton 735
OPTIONS / ACCESSORIES	
Economizer	50
Motorized Outdoor Air Damper	48
Barometric Relief/Fixed Outdoor Air Intake Damper	10
Roof Mounting Curb	92
Belt-Drive Blower	5

TABLE 5 - SUPPLY AIR PERFORMANCE - 3 Thru 6 Ton w/Direct-Drive Blower

GAS HEAT VALUES SHOWN @ 230/460/575 Volts - Side Duct Connections

MODEL DUC	MOTOR SPEED	Available External Static Pressure - IWG*																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	-	-	-	-	1688	825	1850	765	1970	765	1430	725	1380	700	1290	680	1160	660
	MED LOW	1884	800	1621	780	1682	760	1524	720	1410	690	1324	660	1200	630	1165	610	1100	590
046	HI	1998	980	1623	925	1658	910	1799	880	1722	845	1636	820	1544	790	1410	765	1300	740
	MED LOW	1804	935	1765	810	1714	795	1660	765	1598	735	1528	705	1477	675	1320	645	1195	625
060	HI	2400	1185	2038	1135	2074	1095	2167	1045	2085	1015	1980	980	1887	945	1771	905	1625	895
	MED LOW	2280	1105	2214	1055	2145	1030	2071	990	1990	930	1911	920	1828	885	1734	835	1604	790
072	HI	2481	1495	2072	1440	2081	1395	2280	1350	2178	1305	2101	1280	2000	1235	1914	1175	1830	1110
	MED LOW	2380	1405	2072	1390	2081	1355	2280	1310	2178	1265	2101	1240	2000	1195	1914	1135	1830	1110

NOTE: For 208 volts, multiply values by 0.95.

*Includes allowances for a wet evaporator coil, 1" flare and gas fired heat exchangers. Refer to Table 6 for static resistance values on applications other than side duct airflows.

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TABLE 6 - SUPPLY AIR PERFORMANCE - 5 & 6 Ton w/Belt-Drive Blower

5 TON - SIDE DUCT CONNECTIONS @ 230/460/575 Volts

MODEL DUC	AIR FLOW CFM	Available External Static Pressure - IWG*													
		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
		RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
060	2500	1058	1580	1077	1580	1095	1630	1114	1650	1134	1660	1158	1665	1181	1720
	2400	1032	1405	1054	1470	1074	1525	1094	1580	1116	1595	1140	1620	1167	1640
	2300	1005	1260	1024	1275	1049	1370	1069	1440	1090	1475	1118	1505	1142	1535
	2200	980	1160	1002	1170	1022	1190	1044	1250	1066	1350	1090	1410	1117	1440
	2100	950	1060	957	1070	969	1080	1010	1100	1030	1160	1064	1260	1092	1340
	2000	927	950	908	975	941	1000	978	1020	1008	1050	1040	1100	1070	1225
	1900	-	-	-	-	894	985	940	940	980	980	1014	1020	1047	1095
	1800	-	-	-	-	855	915	903	860	950	905	988	940	1022	970
	1700	-	-	-	-	-	-	884	815	925	850	964	880	1001	910
	1600	-	-	-	-	-	-	864	770	908	805	948	835	987	870
	1500	-	-	-	-	-	-	-	-	882	740	926	780	965	830

MODEL DUC	AIR FLOW CFM	Available External Static Pressure - IWG*													
		0.90		1.00		1.10		1.20		1.30		1.40		1.50	
		RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
060	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2400	1193	1665	-	-	-	-	-	-	-	-	-	-	-	-
	2300	1170	1580	1202	1620	-	-	-	-	-	-	-	-	-	-
	2200	1148	1480	1180	1530	-	-	-	-	-	-	-	-	-	-
	2100	1121	1385	1158	1425	1190	1476	-	-	-	-	-	-	-	-
	2000	1100	1285	1133	1340	1169	1385	1205	1445	-	-	-	-	-	-
	1900	1079	1180	1110	1240	1143	1280	1178	1330	1222	1375	-	-	-	-
	1800	1058	1060	1090	1135	1122	1180	1158	1240	1196	1295	-	-	-	-
	1700	1035	980	1071	1030	1103	1100	1134	1140	1164	1178	1197	1205	-	-
	1600	1020	800	1056	865	1088	1035	1118	1085	1145	1105	1170	1130	1198	1150
	1500	1004	850	1038	890	1070	925	1101	980	1130	1045	1158	1075	1184	1110

NOTE: FOR 208 VOLTS, MULTIPLY VALUES BY 0.95.

*INCLUDES ALLOWANCES FOR A WET EVAPORATOR COIL, 1" FILTERS, AND GAS-FIRED HEAT EXCHANGERS. REFER TO TABLE 8 FOR RESISTANCE VALUES ON CONNECTIONS OTHER THAN SIDE DUCT AIRFLOWS.

6 TON - SIDE DUCT CONNECTIONS @ 230/460/575 Volts

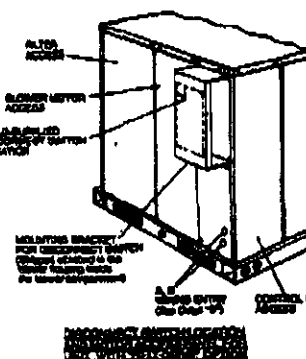
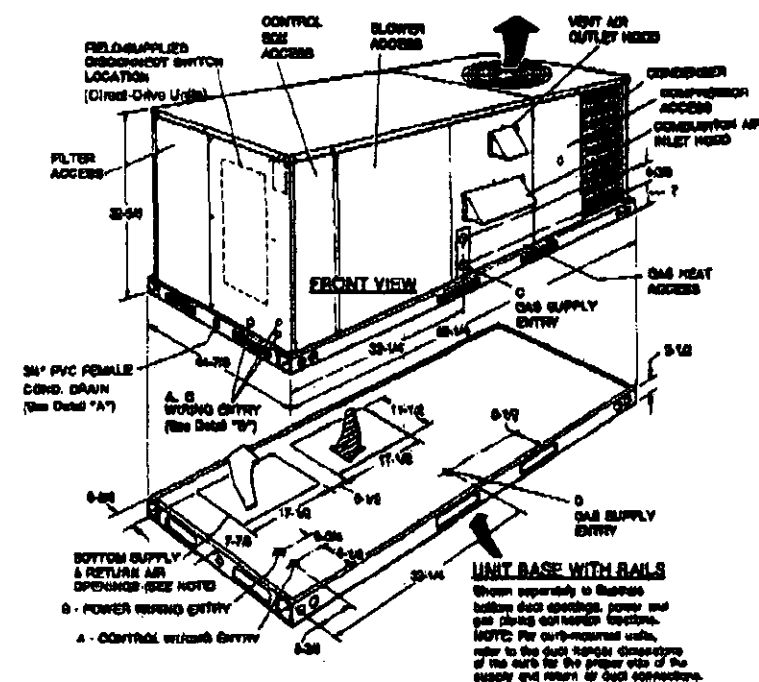
MODEL DUC	AIR FLOW CFM	Available External Static Pressure - IWG*													
		0.20		0.30		0.40		0.50		0.60		0.70		0.80	
		RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
072	3200	1150	2325	1182	2425	1212	2525	-	-	-	-	-	-	-	-
	3000	1100	2010	1128	2090	1157	2150	1185	2225	1215	2290	1242	2360	-	-
	2800	1045	1700	1074	1780	1102	1850	1131	1940	1160	2025	1190	2075	1217	2130
	2600	985	1425	1015	1475	1045	1540	1075	1630	1103	1715	1135	1760	1183	1825
	2400	930	1240	958	1300	990	1350	1020	1400	1051	1430	1081	1490	1111	1600
	2200	-	-	905	1070	933	1160	965	1210	997	1250	1028	1285	1060	1325
	2000	-	-	-	-	-	-	919	1025	950	1100	982	1130	1014	1160
	1800	-	-	-	-	-	-	-	-	909	925	939	1005	968	1030

MODEL DUC	AIR FLOW CFM	Available External Static Pressure - IWG*													
		0.90		1.00		1.10		1.20		1.30		1.40		1.50	
		RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
072	3200	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2800	1245	2190	-	-	-	-	-	-	-	-	-	-	-	-
	2600	1183	1920	1222	1990	1250	2060	-	-	-	-	-	-	-	-
	2400	1142	1675	1173	1730	1208	1800	1234	1895	-	-	-	-	-	-
	2200	1090	1380	1124	1450	1155	1550	1186	1640	1217	1710	1249	1775	-	-
	2000	1045	1175	1077	1200	1109	1275	1140	1360	1170	1480	1205	1545	1235	1600
	1800	998	1050	1028	1060	1058	1080	1087	1075	1118	1150	1148	1250	1176	1360

NOTE: FOR 208 VOLTS, MULTIPLY VALUES BY 0.95.

*INCLUDES ALLOWANCES FOR A WET EVAPORATOR COIL, 1" FILTERS, AND GAS-FIRED HEAT EXCHANGERS. REFER TO TABLE 8 FOR RESISTANCE VALUES ON CONNECTIONS OTHER THAN SIDE DUCT AIRFLOWS.

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DUCT COVERS - Units are shipped with all air duct openings covered.

For side duct applications:

1. Remove and discard the supply and return air duct covers.
2. Connect ductwork to duct flanges on the rear of the unit.

For bottom duct applications:

1. Remove the side supply air duct cover to gain access to the bottom supply air knockout panel.
2. Remove and discard the bottom knockout panel.
3. Replace the side duct cover.
4. With filter section access panel removed from the unit, remove and discard the bottom return air knockout panel.
5. Replace the filter access panel.

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

CLEARANCES

Front	32"
Back	12" (Less Economizer) 36" (With Economizer)
Left Side (Filter Access)	24" (Less Economizer) 36" (With Economizer)
Right Side (Cond. Coil)	24"
Below Unit	0"
Above Unit ²	72" (For Condenser Air Discharge)

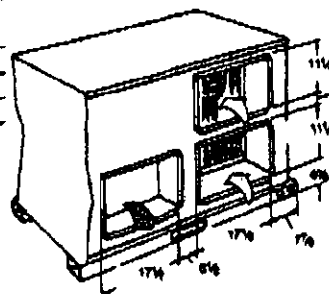
¹ Units may be installed on combustible floors made from wood or class A, B or C roof covering material (Applicable in the USA only).

² Units must be installed outdoors. Overhanging structures or shrubs should not obstruct the outdoor coil nor the fan outlet.

NOTE: A 1" clearance must be provided between any combustible material and the supply air discharge for a distance of 3 feet from the unit. The products of combustion must not be allowed to accumulate within a confined space and recirculate.

Locate unit so that the vent air outlet hood is at least:

- Three (3) feet above any forced air inlet located within 10 horizontal feet (excluding those integral to the unit).
- Four (4) feet below, 4 horizontal feet from, or 1 foot above any door or gravity air inlet into the building.
- Four (4) feet from electric motors, gas motors, regulators and relief equipment.



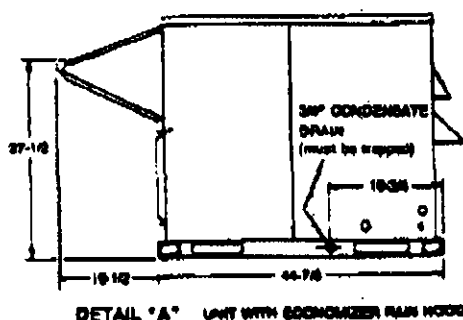
REAR VIEW
SIDE SUPPLY AND RETURN

UTILITIES ENTRY DATA

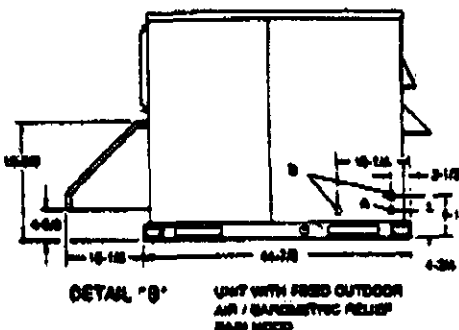
HOLE	KNOCKOUT SIZE (DIA.)	USED FOR
A	7/8" *	Control Wiring (Side or Bottom)**
B	2" *	Power Wiring (Side or Bottom)
C	1-5/8"	Gas Piping (Front)
D	1-1/2"	Gas Piping (Bottom)

* Knockouts in the bottom of the unit can be located by the slot in the insulation.

** Do not remove the 2" knockout ring.



DETAIL 'A' UNIT WITH ECONOMIZER RAIN HOOD



DETAIL 'B' UNIT WITH FIXED OUTDOOR AIR / BAROMETRIC RELIEF RAIN HOOD

AIR FLOW LEGEND

- RETURN AIR
- SUPPLY AIR
- OUTDOOR AIR
- OUTDOOR AIR (Economizer)

FIG. 7 - DIMENSIONS AND CLEARANCE (3, 4, 5 & 6 TON)

530.18-NBW

TABLE 7 - STATIC RESISTANCES

DESCRIPTION	EXTERNAL STATIC PRESSURE DROP										
	RESISTANCE, INWG										
	CFM										
	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000
Economizer/Motorized Damper ^{1,2}	0.07	0.08	0.09	0.11	0.13	0.15	0.17	0.20	0.23	0.26	0.30
Return Duct Connections ¹	0.08	0.07	0.08	0.09	0.10	0.11	0.12	0.14	0.16	0.18	0.22

¹ Deduct these resistance values from the available external static pressure shown in the respective Blower Performance Table.

² The pressure thru the economizer is greater for 100% outdoor air than for 100% return air. If the resistance of the return air duct system is less than 0.25 INWG, the unit will deliver less CFM during full economizer operation.

TABLE 8 - MOTOR AND DRIVE DATA - Belt-Drive Blower

MODEL	BLOWER RANGE (RPM)	MOTOR*				ADJUSTABLE MOTOR PULLEY		FIXED BLOWER PULLEY		BELT	
		HP	RPM	FRAME SIZE	SERVICE FACTOR	PITCH DIA. (in.)	BORE (in.)	PITCH DIA. (in.)	BORE (in.)	PITCH LENGTH (in.)	DESIGNATION
DUC 060	850 - 1220	1-1/2	1725	56	1.15	2.4 - 3.4	7/8	5.2	1	37.3	A38
DUC 072	900 - 1250	1-1/2	1725	56	1.15	2.8 - 3.8	7/8	5.2	1	37.3	A38

* All motors have solid bases and are inherently protected. These motors can be selected to operate into their service factor because they are located in the moving air, upstream of any heating device.

TABLE 9 - ELECTRICAL DATA (BASIC UNIT) w/ Direct-Drive Blower Motor

MODEL DUC	POWER SUPPLY	VOLTAGE LIMITATIONS (SEE NOTE 1)		COMPRESSOR		COND. FAN MOTOR, FLA	SUPPLY AIR BLOWER MOTOR, FLA	TOTAL UNIT AMPACITY, AMPS	MAX. FUSE SIZE, (SEE NOTE 2) AMPS	MAX. HACR BREAKER SIZE, AMPS	MIN. WIRE SIZE, AWG (SEE NOTE 3)
		MIN.	MAX.	FLA	LRA						
038	208/230-1-60	187	253	19.2	87	2.3	4.4	30.7	45	45	8
	208/230-3-60	187	253	14.1	110	2.3	4.4	24.3	35	35	10
	460-3-60	414	504	7.1	54	1.4	2.0	12.5	15	15	14
	575-3-60	518	630	5.8	44	1.4	2.0	10.9	15	-	14
048	208/230-1-60	187	253	23.1	105	2.3	5.0	36.2	50	50	8
	208/230-3-60	187	253	14.7	130	2.3	5.0	25.7	40	40	10
	460-3-60	414	504	7.1	64	1.4	2.2	12.5	15	15	14
	575-3-60	518	630	6.4	52	1.4	2.2	11.6	15	-	14
060	208/230-1-60	187	253	28.2	135	2.3	6.6	44.2	70	70	6
	208/230-3-60	187	253	16.7	150	2.3	6.6	29.8	45	45	10
	460-3-60	414	504	9.6	73	1.4	3.3	16.7	25	25	10
	575-3-60	518	630	8.3	59	1.4	3.3	15.1	20	-	12
072	208/230-3-60	187	253	20.7	156	2.3	6.6	35.0	50	50	8
	460-3-60	414	504	10.0	70	1.4	3.6	17.5	25	25	10
	575-3-60	518	630	8.2	54	1.4	3.6	15.3	20	-	12

NOTES: 1. Utilization Range "A" in accordance with ARI Standard 110.

2. Dual element, time delay type.

3. Based on 60°C copper conductors.

TABLE 10 - ELECTRICAL DATA (BASIC UNIT) w/ Belt-Drive Blower Motor

MODEL DUC	POWER SUPPLY	VOLTAGE LIMITATIONS (SEE NOTE 1)		COMPRESSOR		COND. FAN MOTOR, FLA	SUPPLY AIR BLOWER MOTOR, FLA	TOTAL UNIT AMPACITY, AMPS	MAX. FUSE SIZE, (SEE NOTE 2) AMPS	MAX. HACR BREAKER SIZE, AMPS	MIN. WIRE SIZE, AWG (SEE NOTE 3)
		MIN.	MAX.	FLA	LRA						
060	208/230-1-60	187	253	28.2	135	2.3	6.6	48.2	70	70	8
	208/230-3-60	187	253	16.7	150	2.3	6.0	29.2	45	45	10
	460-3-60	414	504	9.6	73	1.4	3.0	16.4	25	25	10
	575-3-60	518	630	8.3	59	1.4	2.4	14.2	20	-	12
072	208/230-3-60	187	253	20.7	156	2.3	7.3	35.5	50	50	8
	460-3-60	414	504	10.0	70	1.4	3.7	17.6	25	25	10
	575-3-60	518	630	8.2	54	1.4	2.8	14.5	20	-	12

NOTES: 1. Utilization Range "A" in accordance with ARI Standard 110.

2. Dual element, time delay type.

3. Based on 60°C copper conductors.

Block 1149 Plot 5 SITE LOCATION 1930 E188

BUILDING INSPECTION

Contractor _____ Address _____ Phone (____) _____
City _____ State _____ Zip _____
FEDERAL EMP. NO. (or SSN#) _____
LIC # _____

ESTIMATED COST OF BUILDING WORK

NEW BUILDING (1) \$ _____ ALTERATION (2) \$ _____
ADDITION (3) \$ _____ TOTAL (1+2+3) \$ _____

BUILDING CHARACTERISTICS

ADDITION or SINGLE FAMILY DWELLING

CONSTRUCTION CLASS	PRESENT	PROPOSED
NO. OF STORIES	HT. OF STRUCTURE	FT.
AREA: LARGEST FLOOR	SO. FT.	
TOTAL BLDG. AREA: ALL FLOORS	SO. FT.	
VOLUME OF STRUCTURE	CU. FT.	
TOTAL LAND AREA DISTURBED	SO. FT.	

TYPE OF WORK	COST	TYPE OF WORK	COST
NEW BLDG.		MISC.	
ADDITION		FENCE	HT.
ALTERATION		SIGN	Sq. Ft.
POOLING		POOL	
DEMOLITION		ASBESTOS ABATEMENT	
		DCA	
		TOTAL	

DESCRIPTION OF WORK

COMMENTS _____

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 IN THIS APPLICATION.
SEAL & SIGNATURE _____

PLUMBING INSPECTION

Contractor L.V.S. Construction & Plumbing Inc. Address 514 Chestnut View Terrace Phone (____) _____
City Pt. Pleasant NJ State NJ Zip 08742
FEDERAL EMP. NO. (or SSN#) 22-3275090
LIC # 3977

ESTIMATED COST OF PLUMBING WORK

Sewer Size _____ Water Size _____

TECHNICAL SITE DATA (List all fixtures)			
NO.	FIXTURE/EQUIPMENT	NO.	FIXTURE/EQUIPMENT
	Water Closet		Steam Boiler
	Urinal/Bidet		Hot Water Boiler
	Bath Tub		Sewer Pump
	Lavatory		Interceptor/Separator
	Shower		Backflow Preventer
	Floor Drain		Grease Trap
	Sink		Water Cooled A/C
	Dishwasher		or Refrigeration Unit
	Drinking Fountain		Sewer Connection
	Washing Machine		Water Service Connection
	Hose Bibb		Active Solar System
	Water Heater		Other
	Fuel Oil Piping		Other
	Gas Piping		Other

DESCRIPTION OF WORK

COMMENTS Run 1 1/2" p.p. to rooftop package unit above salad.

NO ADDITIONAL DUCTWORK

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 IN THIS APPLICATION.
SEAL & SIGNATURE (Contractor's Seal) John F. Ricci

FIRE INSPECTION

Contractor L.V.S. Construction & Plumbing Inc. Address 514 Chestnut View Terrace Phone (____) _____
City Pt. Pleasant NJ State NJ Zip 08742
FEDERAL EMP. NO. (or SSN#) 22-3275090
LIC # 3977

ESTIMATED COST OF FIRE PROT. WORK:

Heating Type: ☒ Gas ☐ Oil ☐ Electrical ☐ Solar
Heating System: ☒ New ☐ Existing
Location of Furnace / Boiler Roof Top

TECHNICAL SITE DATA (Description of Work)			
WATER SUPPLY SOURCE			
METHOD OF VALVE SUPERVISION			
LOCAL ALARM SUPERVISION			
CENTRAL SUPERVISION			
PROPRIETARY SUPERVISION			
Flammable Liquid Storage Tanks	☐ Capacity _____	ITEM	
Combustible Liquid Storage Tanks	☐ Capacity _____	Pre-Engineered Sy	
L.P.G. Storage Tanks	☐ Capacity _____	CO ₂ Suppression	
L.P.G. Storage Tanks	☐ Capacity _____	Halon Suppression	
Wet Chemical	☐ Capacity _____	Foam Suppression	
Smoke Detectors		Dry Chemical	
Heat Detectors		Wet Chemical	
TOTAL		Gas or Oil Fired	
Stand Pipes		Other	
Kitchen Hood Exhaust System			

DESCRIPTION OF WORK

COMMENTS Change existing rooftop Luxaire unit to 5 ton York 145,000 BTU Heating 60,000 BTU cooling unit

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 IN THIS APPLICATION.
SEAL & SIGNATURE (Contractor's Seal) John F. Ricci