

Installation, Maintenance & Start-Up Instructions

FOR YOUR SAFETY

If you smell gas:

1. Open all windows
2. Do not touch any electrical switches
3. Extinguish any open flame, and
4. Call your gas supplier-immediately

HAZARD INTENSITY LEVELS

- DANGER:** Failure to comply will result in severe personal injury or death.
- WARNING:** Failure to comply can result in minor personal injury or death.
- CAUTION:** Failure to comply could result in minor personal injury or property damage.

FOR YOUR SAFETY

The use and storage of gasoline and other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.

AIRCRAFT HANGER INSTALLATION

This heating unit is listed for use in Aircraft Hangers when installed, as applicable, in accordance with ANSINFA 409 "Standard on Aircraft Hangers:" NFPA 54 "National Fuel Gas Code" and NFPA 90A "Installation of Air Conditioning and Ventilating System".

WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

Before installing this equipment as a recirculating, suspended or elevated heater for aircraft hanger use, refer to ANSI / NFPA 409 "Aircraft Hangers," Chapter 9-I for clearance and specific installation instructions.

WARNING

Gas-fired appliances are not designed for use in atmospheres containing flammable vapors or dust, or atmospheres containing chlorinated or halogenated hydrocarbons.

PARKING STRUCTURE and REPAIR GARAGE INSTALLATION

This heating unit is listed for use in Parking Structures and Repair Garages when installed, as applicable, in accordance with NFPA 88A "Standard for Parking Structures." NFPA 54 "National Fuel Gas Code" and NFPA 90A "Installation of Air Conditioning and Ventilating System."

Before installing this equipment as a suspended or recirculating heater in a parking structure or repair garage, refer to NFPA 88A, Chapter 4-2 and NFPA 88B, Chapter 3-2 for clearance and specific installation instructions.

OUTDOOR HEATERS

Those heaters to be installed outdoors must have the Inlet Rain Hood option or other means of weather protection, whether provided with MAU manufacturer or others.

Installer

Please take the time to read and understand these instructions prior to any installation. Installer must give a copy of this manual to the owners.

Owner

Keep this manual in a safe place in order to provide your serviceman with necessary information.

Instructions d'installation , d'entretien et de start-up

FOR YOUR SAFETY

Si vous sentez une odeur de gaz :

1. ouvrir toutes les fenêtres
2. ne touchez pas de commutateurs électriques
3. Éteignez toute flamme nue, et
4. Appelez votre fournisseur de gaz-immédiatement

POUR VOTRE SÉCURITÉ

L'utilisation et le stockage de l'essence et d'autres des vapeurs inflammables et des liquides dans l'ouvert conteneurs à proximité de ce appareil est dangereux

CHAUFFE-TERRASSE

Une mauvaise installation, adaptation, altération, service ou entretien peut causer la propriété dommages, des blessures ou la mort. Lire l'installation, instructions d'utilisation et d'entretien soigneusement avant d'installer ou de réparer cet appareil.

AVERTISSEMENT

Appareils au gaz ne sont pas conçus pour une utilisation dans atmosphères contenant des vapeurs inflammables ou poussières, ou atmosphères contenant chlorés ou halogénés des hydrocarbures .

PLEIN AIR CHAUFFE

Ces chauffe-eau doit être installé à l'extérieur doit avoir la Option Rain Hood d'admission ou autres moyens de météo protection, qu'ils soient fournis avec le fabricant MAU ou autres

NIVEAUX DE DANGER INTENSITÉ

DANGER:	Le non-respect entraînera de graves des blessures ou la mort.
AVERTISSEMENT:	Le non-respect peut entraîner la mineur des blessures ou la mort.
MISE EN GARDE:	Le non-respect peut entraîner de mineur des blessures corporelles ou dommages matériels.

AVIONS DE SUSPENSION D'INSTALLATION

Ce foyer est inscrite pour une utilisation en avion cintres lorsque installé, le cas échéant, conformément à l'ANSINFPA 409 "Standard sur des cintres de l'avion:" NFPA 54 "National Fuel Code du gaz » et NFPA 90 a l'Installation de climatisation et de ventilation" .

Avant d'installer cet équipement comme une recirculation, chauffage suspendu ou élevée verser avion cintre utilisation, se référer à la norme ANSI / NFPA 409 « Avion cintres, » chapitre 9-J'ai pour l'espace et les instructions d'installation.

PARKING ET LE Garage automobile INSTALLATION

Ce foyer est répertorié pour utilisation dans la construction de Parking et Garages de réparation lorsque installé, le cas échéant, en conformément à la norme NFPA 88 a "Standard pour Parking Ouvrages d'art. » NFPA 54 « National Fuel Gas Code » et NFPA 90 a "Installation de la climatisation et système de ventilation."

Avant d'installer cet équipement comme une suspension ou radiateur dans un garage de stationnement de structure ou de réparation, de recirculation se référer à la norme NFPA 88 a, chapitre 4-2 et NFPA 88 b, chapitre 3-2 pour l'autorisation et les instructions d'installation.

Installer

Veuillez prendre le temps de lire et comprendre ces mode d'emploi avant toute installation. Installateur doit remettre une copie de ce manuel pour les propriétaires.

Propriétaire

Gardez ce manuel dans un endroit sûr afin de fournir vos militaire avec les informations nécessaires.

ABSOLUTAIRE, INC.
GENERAL INSTALLATION INSTRUCTIONS
DIRECT-FIRED GAS TURNOVER HEATING UNITS (DFATU)
E Series

FOR YOUR SAFETY

The use and storage of gasoline or other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the Installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

WARNING

On heaters which recirculate room air, outside ventilation air must be provided in accordance with the information shown on the heater name plate.

The following recommendations are not intended to replace or void any requirements of federal, state or local codes having jurisdiction. All local authorities having jurisdiction should be consulted before installation is made. The heater should be installed and piped in accordance with the requirements of the National Fuel Gas Code, NFPA 54, and all wiring must be in accordance with the National Electrical Code, NFPA 70 current edition.

Inspect the unit for visible damage. The unit was thoroughly inspected before leaving the factory, and the carrier has accepted and signed for it. Any damage or irregularities should be noted at the time of delivery and immediately reported to the delivery carrier. Request a written inspection report from the Claims Inspector to substantiate any necessary claim. File the claim with the delivery carrier, not with AbsolutAire, Inc.

Further inspect the unit as follows:

- A) Unlatch and open Unit Access Doors. Inspect for internal damage.
- B) Remove and inspect all loose-shipped items. Make certain all items are undamaged.

If questions or complications should arise regarding the application or installation of the AbsolutAire Air Handling System, that cannot be solved by using these instructions, our Maintenance Guidelines, or the Troubleshooting Guide, please feel free to contact us at (800) 804-4000.

It is the responsibility of the installing contractor to see that the unit is installed within the manufacturers design parameters, as stated on the rating plate, and that the start-up procedure specified by the manufacturer is followed. Failure to comply may void our warranty and/or the component manufacturer's warranty.

INSTALLATION

Inspect the fans, shafts and motors for any shipping blocks which must be removed before operation.

FLOOR MOUNTED

All E series heaters are designed to mount on a pad or other support and discharge horizontally. The Filter/Fan section should be set and leveled. If the floor is not adequately level, shims must be provided on any low corners. All E series heaters should be attached to the floor. After the filter fan section is leveled, the burner section may be lifted and set upon the filter section. The burner section must be attached to the fan/filter section with the brackets provided. Remove any temporary bracing. After the burner section is set and secured, the optional extension section(s) may be set and attached using the brackets provided. After all extensions are secured, the discharge plenum may be set and attached using the brackets provided. Due to the height of the unit, additional support and bracing is recommended from the top of the unit to the building structure. See rigging instructions for more detail.

The unit is now ready for piping and wiring.

PIPING

A male pipe connection has been provided on the outside of the unit for connection of the gas service pipe. This is the only gas connection required. Be sure the gas supply pipe is large enough to insure the proper gas volume and line pressure at the inlet of the unit, per the unit nomenclature. Gas pipe must be sized and installed in accordance with applicable codes and standards. After connection of the gas pipe, check for leaks and bleed the line.

NOTE: NFPA 54 National Fuel Gas Code requires that an approved manual gas valve be installed within six feet of the unit. We recommend use of a gas valve with a pressure tap on the inlet to measure gas supply pressure.

NOTE: An inlet gas pressure measurement must be taken to insure proper inlet gas pressure. Inlet pressure should be neither too low or too high. Check your submittal or unit nameplate for the minimum and maximum pressure requirements for your unit. If the supply gas pressure exceeds the maximum inlet supply pressure as stated on the unit rating plate, an auxiliary high pressure regulator must be installed in the incoming gas line by the contractor. The gas supply pressure must meet or exceed the minimum inlet gas supply pressure, as stated on the unit rating plate, while the burner is lit. (See Start-Up Procedure).

This heater and its gas shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of 1/2 PSI (3.5 KPA). In addition, pressure testing of the gas supply piping system at pressures at or below 1/2 PSI (3.5 KPA) requires isolation from the heater by closing it's individual manual shut-off valve.

WIRING *(Refer to unit mechanical drawing for location of electrical rough in).*

All electrical wiring must be in accordance with applicable codes and standards. See the electrical diagram on the unit door or in the service manual before attempting any wiring. Refer to the unit rating plate for required incoming voltage and phase. Check for concurrence with voltage and phase shown on the wiring diagram.

Refer to wiring diagram for numbers of wires needed for main power connection and remote control wiring. Field wiring is shown with dashed lines.

WARNING! ! - Spark testing or shorting of control wires by any means will render the control transformer inoperative. DO NOT allow this to happen as it IS NOT covered under the warranty.

We recommend that the wires for the control circuit be routed through the conduit provided with the main electrical service to the equipment. This procedure is provided for in Chapter 3, Article 300-3(a) of the NFPA 70 1984 National Electrical Code. It reads as follows: "Conductors of 600 volts or less shall be permitted to occupy the same equipment wiring enclosure, cable or raceway, without regard to whether the individual circuits are alternating current or direct current, where all conductors are insulated for the maximum voltage of any conductor within the enclosure, cable or raceway."

An electric disconnect switch having adequate ampacity shall be installed in accordance with Article 430 of the National Electric Code (N.E.C.), ANSI/NFPA 70. If not factory installed, please refer to the unit rating plate for voltage and ampacity requirements.

Open cover on disconnect box, connect line voltage wiring to terminal block provided. Then feed the control wiring through the conduit to the master panel. Connect color coded and/or numbered control wires to terminal strip per the wiring diagram.

DO NOT OPERATE UNIT FOR MORE THAN SIXTY (60) SECONDS WITHOUT ALL UNIT

ACCESS DOORS CLOSED. THE MASTER ELECTRICAL PANEL DOOR IS AN

EXCEPTION TO THIS RULE.

Energize the system and check for unusual noises or vibrations, etc. Check the fans for proper rotation. THIS MUST BE A VISUAL CHECK as fans will move air even if they are running backward, but the system will not perform properly. Check the amp draw to all motors to insure it does not exceed the rated maximum current rating of the motor.

Recirculation of room air may be hazardous in the presence of:

- *Flammable liquids, solids and gases**
- *Explosive dusts or powders**
- *Substances which become toxic when exposed to heat**

In order to reduce the chance of interior condensation, recirculation is not recommended in non-insulated buildings where outdoor temperatures fall below 32°F (0°C).

PROCEED WITH THE FIELD START-UP AND CHECK LIST

GENERAL OPERATION

Your Absolutaire E series heater has been designed for simple controls and maintenance. To operate the heater after installation and start up, simply turn the disconnect to the on position and set the thermostat to the desired temperature. See the attached instructions for programming the thermostat.

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ABSOLUTAIRE
MAINTENANCE GUIDELINES
DIRECT-FIRED GAS TURNOVER HEATING UNITS (DFATU)

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Your ABSOLUTAIRE E SERIES product is engineered to provide trouble-free operation. In order to assure proper performance the following maintenance schedule is recommended.

- MOTORS:** Check the motor sheave set-screws for tightness upon initial start-up and before each heating season. The motor bearings are pre-lubricated at the factory for initial operation but should be re-lubricated (when provided with grease fittings) at six (6) month intervals. AbsolutAire recommends the use of Shell Oil Company's "Dolium R", Chevron Oil's "SRI No. 2", or Texaco "Premium RB" lubricant. Clean the grease fitting and then apply the grease with a proper grease gun. Use two full strokes for each bearing.
- CAUTION: Do not over lubricate.
Keep grease clean.
Lubricate motors at standstill.
Do not mix petroleum grease with silicone grease.
- BLOWER:** After initial start-up, check the tightness of the fan hub set screws.
- Examine the prop fan blade at six (6) month intervals for accumulation of dust and dirt. Any build-up must be cleaned off to maintain performance. If the accumulation is heavy, more frequent cleaning may be required.
- FILTERS:** Inspect monthly until an appropriate schedule can be established, based on need. Replace or clean as necessary.
- COILS:** (When equipped.) Inspect and clean the coil fins on the entering air side annually. If these inspections indicate that more frequent cleaning is required, establish a cleaning schedule accordingly. Fins should be cleaned by brushing and/or back-washing with high pressure air or water. In extreme cases the coils may have to be removed and cleaned with high pressure steam or washed with a mild alkali solution followed by a water rinse.
- BURNER:** Prior to each heating season, a check should be made of the burner and components. Clean the igniter and flame rod and examine porcelain for cracks. Wipe the sight glass clean on the UV scanner, if equipped, and inspect the sight tube for spider webs, removing as necessary.

Periodic maintenance will insure continued trouble-free operation of your burner system. We recommend a yearly inspection, in advance of the heating season.

- 1) Shut the system down totally, disconnecting or locking out the power supply so there can be no accidental start-up during the inspection.
- 2) Inspect the burner carefully. Any accumulation of scale or foreign material on the mixing plates should be removed with a wire brush. Check visually that no holes in the mixing plates are blocked. If any mixing plates are loose or missing fasteners, tighten/replace as necessary. Always use zinc plated or stainless steel fasteners.
- 3) Check burner orifices for carbon build-up and clean if necessary. Use a pin vise with a #42 or 3/32" Drill bit for cleaning the Maxon APX burner orifices.

DO NOT ENLARGE BURNER ORIFICES - THIS MAY AFFECT PERFORMANCE

- 4) Put the system back into operation and view the burner from the downstream side while cycling the burner through its full firing range. A good flame will be blue, with minimal yellow "fingers". The flame length in forced "high fire" should be 12-18" long. The pilot only flame should be about the size of a baseball when properly adjusted.

GAS TRAIN: An annual inspection of the gas control assembly should be made. Internal and external piping should be checked for leaks. Relief vents on gas controls should be checked for clogging.

AIR PRESSURE SWITCHES: An annual check of the tube for the air flow switch, and the entering and leaving side of building pressure switches, should be made to insure against blockage.

PAINTING): After unit installation, touch up any scratches caused by handling.
(if painted) Periodic touch-up painting should be done thereafter as needed.