

Customer: \_\_\_\_\_

Sales Representative: \_\_\_\_\_

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

# Field Start-Up Sheet

## Steam Heating Equipment

\*\*\*Please Print\*\*\*

### INITIAL INSPECTION

#### I. Installer Responsibilities

1. Remote Panel: All interconnecting wires run from remote to unit ☐ Yes  
Remote Panel Location: ☐ Inside Wall ☐ Outside Wall \_\_\_\_\_ Feet From Unit (approx.)
2. Electrical Supply properly installed to main panel, at the voltage and amperage as stated on the unit nameplate ☐ Yes
3. Multi-section units: joints caulked at mating frames, all bolts and nuts installed and tightened, seam tape applied ☐ Yes
4. Upright Units: Legs attached and bolted, shimmed properly so unit does not "rock" ☐ Yes
5. Duct connections made and sealed properly ☐ Yes
6. Discharge head installed secure, with diffuser blades tightened and in the open position ☐ Yes
7. All "shipped loose" items installed properly - filters, vibration isolators, smoke detectors, dampers, louvers, service lights supply fan belts, service platform, roof curb, humidistat, CO detector, etc. ☐ Yes
12. All shipping and rigging paint scratches have been properly touched-up ☐ Yes

Comments: \_\_\_\_\_

#### II. Miscellaneous Items

1. Visible Physical Damage? \_\_\_\_\_ NO IF YES, Specify \_\_\_\_\_
2. Type of Installation: ☐ Outdoor ☐ Indoor ☐ Roof Curb ☐ Platform ☐ Post ☐ Suspended ☐ Upright
3. Hardware Tight & Secure \_\_\_\_\_ 4. Damper Linkages Secure \_\_\_\_\_

Comments: \_\_\_\_\_

#### III. Fan & Motor Sheaves

1. \_\_\_\_\_ Fan & Motor Sheaves Secured Tightly to Shafts
2. \_\_\_\_\_ V-Belts Aligned Properly
3. \_\_\_\_\_ Fan Bearing Set screws Tight
4. \_\_\_\_\_ Fan Motor Manufacturer \_\_\_\_\_
5. \_\_\_\_\_ Bushing Bolts Secure
6. \_\_\_\_\_ V-Belts Tensioned Properly
7. \_\_\_\_\_ Fan Bearing Mounting Bolts Tight
- HP \_\_\_\_\_ FLA \_\_\_\_\_ Frame Size \_\_\_\_\_

Comments: \_\_\_\_\_

#### IV. Filters

1. \_\_\_\_\_ Filters Installed Properly
2. Type: ☐ Aluminum ☐ Pleated 30% ☐ Pad & Frame ☐ Other

Comments: \_\_\_\_\_

## V. Electric Service

1. Electrical Service Provided to Unit: \_\_\_\_\_ Volts \_\_\_\_\_ Phase \_\_\_\_\_ Hertz \_\_\_\_\_ Amps
2. Unit Nameplate Electrical Requirement: \_\_\_\_\_ Volts \_\_\_\_\_ Phase \_\_\_\_\_ Hertz \_\_\_\_\_ Amps
3. Terminal Strip Wires Tight: Main Panel ☐ Yes Remote Panel ☐ Yes
4. Componentry and Relays Mounted Securely in Place ☐ Yes
5. Light Bulbs Installed in Sockets for Control Enclosure Lighting ☐ Yes
6. Main Fusing Size: \_\_\_\_\_ Volts \_\_\_\_\_ Amps 6. Overload Heater Size \_\_\_\_\_
7. The Unit has been grounded by the installer at the main unit panel ☐ Yes

Comments: \_\_\_\_\_

## VERIFICATION OF OPERATION

**NOTE:** Refer to the Sequence of Operation & Wiring Diagram in the Owners Manual for specific data on this unit.  
See Factory Start-up & Test Sheet in the Unit Owners Manual to note the unit settings prior to shipment.

### I. Fan Operation

1. The Inlet Damper is fully open when fan comes on ☐ Yes ☐ NA Discharge Damper operates properly ☐ Yes ☐ NA
2. The low-temperature limit switch is field set at \_\_\_\_\_ °F. (Factory set at 40°F.)
3. The low-limit by-pass timer completes its cycle in \_\_\_\_\_ minutes \_\_\_\_\_ seconds (normal: 5 minutes)
4. Fan Rotation is in the same direction as the rotation arrow ☐ Yes
5. Discharge External Static Pressure \_\_\_\_\_ " W.C.
6. Check the following:

	Unit Off	Unit Running	
Phase 1:	_____ Volts	_____ Volts _____ Amps	Verify the motor running
Phase 2:	_____ Volts	_____ Volts _____ Amps	amps does not exceed the
Phase 3:	_____ Volts	_____ Volts _____ Amps	motor nameplate FLA

### II. Miscellaneous Operational Checks:

1. With the unit fan operating, the circuit check lights are illuminated ☐ Yes
2. If furnished, the time clock has been programmed per owner instructions, and training provided to him by me ☐ Yes
3. The electrical drawing and sequence of operation is taped to the enclosure door. ☐ Yes
4. The owners manual was reviewed by me with the owner, and placed back inside the unit enclosure ☐ Yes
5. The owner was instructed by me on the operation of the following controls and options (check those that apply):

- |   |  |
|---|--|
| <input type="checkbox"/> Keyed Switches on remote panel             | <input type="checkbox"/> 3-phase Power Monitor                             |
| <input type="checkbox"/> Smoke Detector                             | <input type="checkbox"/> CO Detector                                       |
| <input type="checkbox"/> Magnahelic Gauge                           | <input type="checkbox"/> Photohelic Gauge                                  |
| <input type="checkbox"/> 120V GFI Outlet                            | <input type="checkbox"/> Dirty Filter Light/Alarm                          |
| <input type="checkbox"/> Fan Bearing Grease Type & Lube Cycle       | <input type="checkbox"/> Filter Maintenance                                |
| <input type="checkbox"/> Discharge Head Deflection Blade Adjustment | <input type="checkbox"/> Fill & Drain Valves Piped and Wired & Operational |
| <input type="checkbox"/> Steam Inlet Pressure _____ PSI             |  |
| <input type="checkbox"/> _____                                      | <input type="checkbox"/> _____   |

### Comments

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**THE ABOVE START-UP WAS PERFORMED BY**

Company Name: \_\_\_\_\_ Date: \_\_\_\_\_

Phone Number: (\_\_\_\_) - \_\_\_\_\_ Fax Number: (\_\_\_\_) - \_\_\_\_\_

My Name (Service Tech) \_\_\_\_\_

**- MAKE A COPY FOR YOUR FILES AS NECESSARY**

**The Owner Representative that I met with and discussed the unit controls and operation was:**

NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(Please Print)

**CUSTOMER'S AUTHORIZED SIGNATURE**

I acknowledge that I have been instructed on the operation of this unit:

Signature \_\_\_\_\_ Date: \_\_\_\_\_ Phone No. \_\_\_\_\_

*After Completion, Return this start-up sheet to:*

**AbsolutAire, Inc.**

**5496 North Riverview Drive  
Kalamazoo, MI 49004**

**Phone: (800) 804-4000 Fax: (616) 382-5291  
www.absolutaire.com**

(stupstem) 11/99

**— ABSOLUTAIRE, INC. —**

**ABSOLUTAIRE, INC.**  
**GENERAL INSTALLATION INSTRUCTIONS**  
**STEAM HEATING AND MAKE-UP AIR UNITS**

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, including remote mount control panel. 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 (616) 382-1875.

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 blower wheels, shaft and motor for any shipping blocks which must be removed before operation.

### **ROOFTOP/CURB MOUNTED**

For a unit that discharges downward through a curb, locate the required opening for connecting ductwork. Cut through roof deck for connection of duct to blower discharge. Allow adequate, at least one inch, clearance on all sides between ductwork and decking material. Position the curb on the roof in relation to the roof penetration, as shown on the blueprint. Secure the curb to the structural members. The curb may now be flashed into the roof. Roof top, down discharge units are provided with a skirt that is larger than the curb on all sides. This allows for roofing up to the top of the curb, if so desired. On applicable "AA" models, attach the furnished support legs to the intake end of unit, one on each side. The unit may now be lifted up onto the curb.

**NOTE:** Units which discharge down through the curb with discharge dampers must have the roof opening cut large enough to allow access to the damper motor and linkage from below the roof. The damper should be mounted and motor wired with pigtail provided before the unit is set on the curb.

**NOTE:** We recommend the connection of a short length of ductwork to the unit before setting on the curb to extend through the roof if minimum (1") clearance is being used around the duct.

### **PAD MOUNTED**

For a unit designed to mount on a pad or other support and discharge horizontally, vibration isolators are recommended. A channel iron support adequate to carry the weight of the unit must be secured to the bottom of the unit, one at each end, extending at least 3" past the sides of the unit. On standard "AA" models, four vibration isolators will be used, one for each corner of the unit. On some "AA" models, and all R300 models, refer to your submittal or record drawing for size, quantity, and location of isolators. Anchor the vibration isolators to the pad. The unit may now be set down onto the isolators and bolted to them.

### **INDOOR/SUSPENDED**

For a unit designed to be suspended within the building, hanger rods and channel iron adequate to support the weight of the unit will be required. On standard "AA" models, the channel iron must be secured to the bottom of the unit, one at each end, extending at least 3" past the sides of the unit. On some "AA" models, and all R300 models, refer to your submittal or record drawing for size, quantity, and location of channel iron and isolators. Attach the hanger rods to the building structure so they hang down to the channel extensions under the unit. Make sure the rod location does not interfere with the removal of unit access panels. Provide one suspension type vibration isolator in each hanger rod. The minimum combined ratings of the vibration isolators and suspension materials should equal the total weight of the fully assembled unit. Move the unit to its installation location. Fully assemble the unit with all included components (motorized discharge dampers, etc.) Raise the unit so that one hanger rod drops through holes in the channel extensions. Attach two nuts to hanger rods and level unit, jamb the two nuts together to prevent loosening.

*The unit is now ready for piping, wiring, and connection to any required ductwork.*

### **WIRING**

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.

## **DUCTWORK**

Ductwork must be sized and installed in accordance with applicable codes and standards. On units mounted outdoors, it is recommended that all discharge and return air ducts be insulated to prevent condensation during the "Off" cycle in cold weather. A fresh air intake hood with bird screen and/or filters can be supplied by AbsolutAire with the heater. Our intake hood or one of a similar design is recommended.

On units mounted indoors with through the roof intake ductwork, a suitable weather resistant intake hood must be installed. Sheet metal standards should be adhered to to ensure uniform air delivery to the heater inlet. This aids in preventing moisture entrainment. When using a through the wall intake duct, an intake louver properly sized should be used, having adequate moisture baffling characteristics for the design air volume.

In lieu of an intake louver, a wall mounted intake hood with mesh screen may be used. This can be supplied by AbsolutAire. It is recommended that all intake ductwork which is exposed to the heated space be insulated.

The requirements for discharge ductwork are usually considerably less than with a conventional system, as the pressurization principle lends itself to effective air distribution. Generally, a "Splash Plate" or other method of distributing the air is all that is necessary.

## **SOUND CONTROL**

Flexible connectors should be employed on all ductwork connections. Unit vibration isolators are recommended for suspended units and can be supplied by AbsolutAire as optional equipment.

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

## **ACCESS DOORS CLOSED, WITH THE EXCEPTION OF THE MASTER ELECTRICAL**

## **PANEL.**

Energize the system and check for unusual noises or vibrations, etc. Check the fan 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.

If not factory installed, a low temperature limit switch should be interlocked with this heater to prevent prolonged discharge of cold air in the event of burner lockout or shutdown.

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**

**ABSOLUTAIRE, INC.**  
**5496 North Riverview Drive**  
**Kalamazoo, MI 49004-1595**  
**Telephone: (616) 382-1875**  
**Facsimile: (616) 382-5291**

**ABSOLUTAIRE**  
MAINTENANCE GUIDELINES  
**STEAM HEATING UNITS**

5496 North Riverview Drive / Kalamazoo, MI 49004  
Phone (616) 382-1875 / Facsimile (616) 382-5291

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

**MOTOR:** Check the motor sheave set-screws and the motor slide base bolts 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 sheave, fan hub set screws, fan bearing collar set screws, and fan bearing mounting bolts. Also when re-tensioning the v-belts, when re-lubricating the fan bearings, and before each heating season.

**"AA" Model Units:** Most AA units with 18" and smaller blowers are provided with pre-lubricated sealed bearings which require no additional lubrication for the life of the bearing. "AA" units provided with pillow block bearings should be lubricated after the first one hundred (100) hours of operation, and re-lubricated at three (3) month intervals.

**R300 Model Units:** All R300 fan bearings should be lubricated after the first one hundred (100) hours of operation, and re-lubricated at monthly intervals thereafter.



AbsolutAire recommends the use of the following (or equivalent) lubricant:

**MOBIL SHC460**

Clean the grease fitting and then apply the grease with a proper grease gun. Inject enough grease until a small amount shows between the seal and the bearing race.

Examine the blower wheel at six (6) month intervals for accumulation of dust and dirt on the fan blades. Any build-up must be cleaned off to maintain performance. If the accumulation is heavy, more frequent cleaning may be required.

**BELTS:** Due to belt stretching, adjust belt tension after the first one hundred (100) hours of operation. Check belts every three months thereafter for proper tension. Do not over tighten. Adjustment should result in a belt deflection of 3/4" to 1" for each foot of span when applying medium thumb pressure inward at the center of the span.

**FILTERS:** Inspect monthly until an appropriate schedule can be established, based on need. Replace or clean as necessary.

**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.

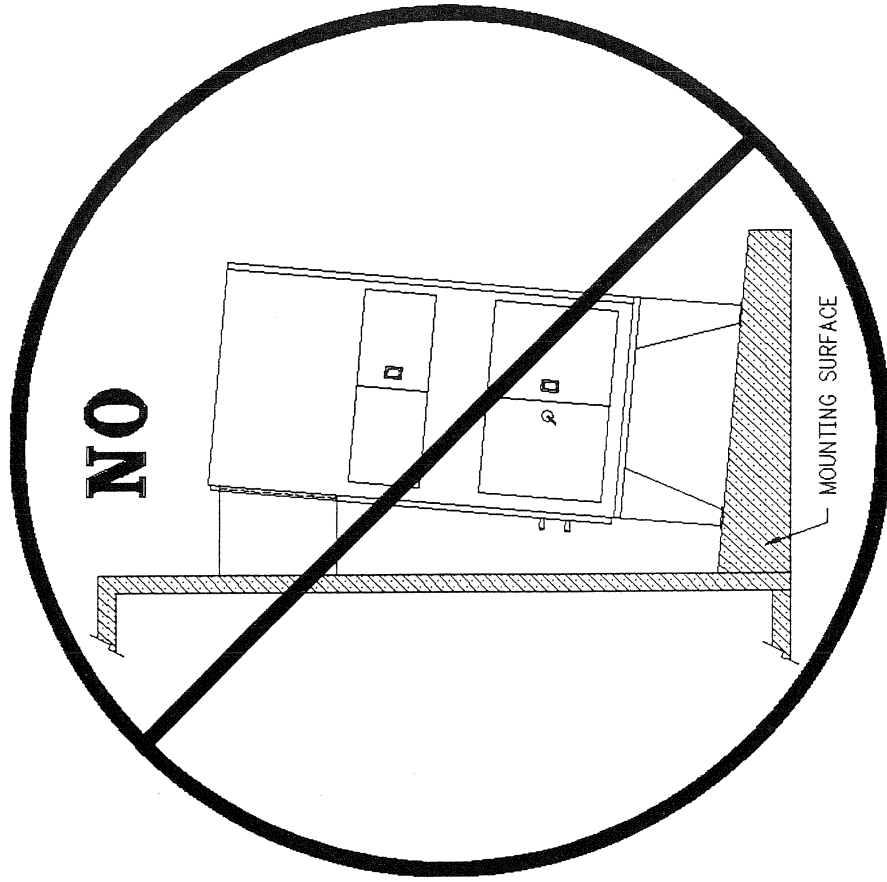
**DAMPER AND MOTOR:** Check linkage connection and/or set screws for tightness. Lubricate the damper bushings as required.

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

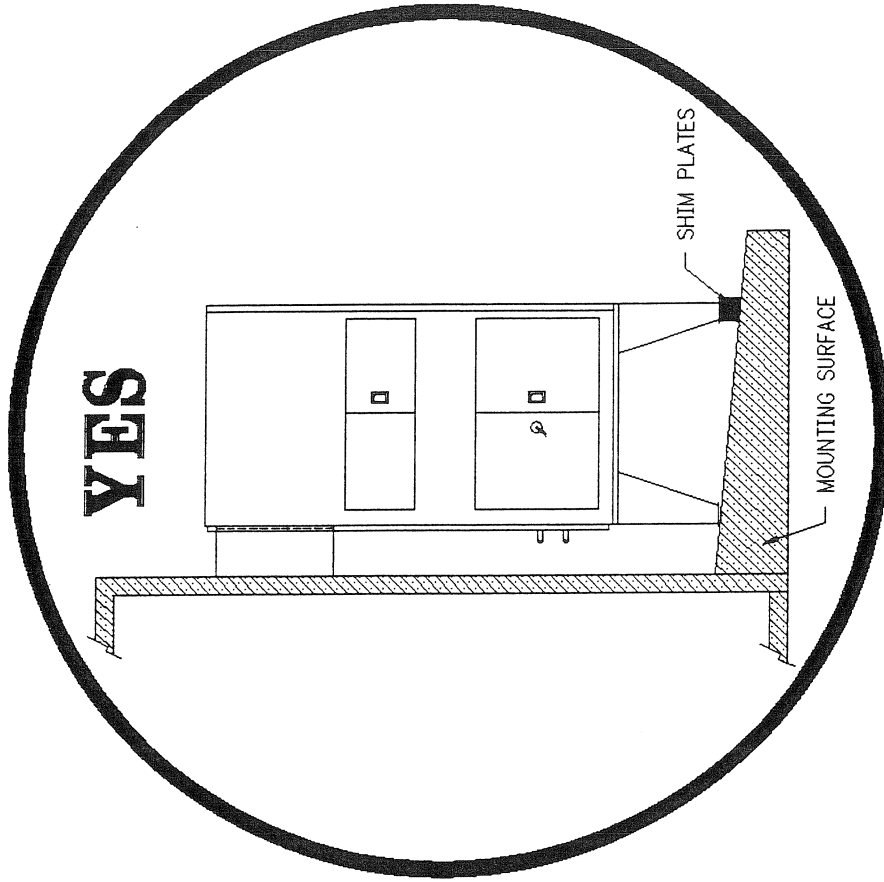
**GASKETS:** Inspect door gasket seals annually. Replace those showing damage or deterioration.

# INSTALLATION GUIDELINE

WHEN INSTALLING UPRIGHT ABSOLUTAIRE EQUIPMENT ON WARPED, UNEVEL, OR RAISED SURFACES, BE SURE TO SQUARE/LEVEL THE UNIT IN BOTH THE X & Y AXIS' TO INSURE PROPER UNIT OPERATION & LONGEVITY OF COMPONENTS.



**NO**



**YES**

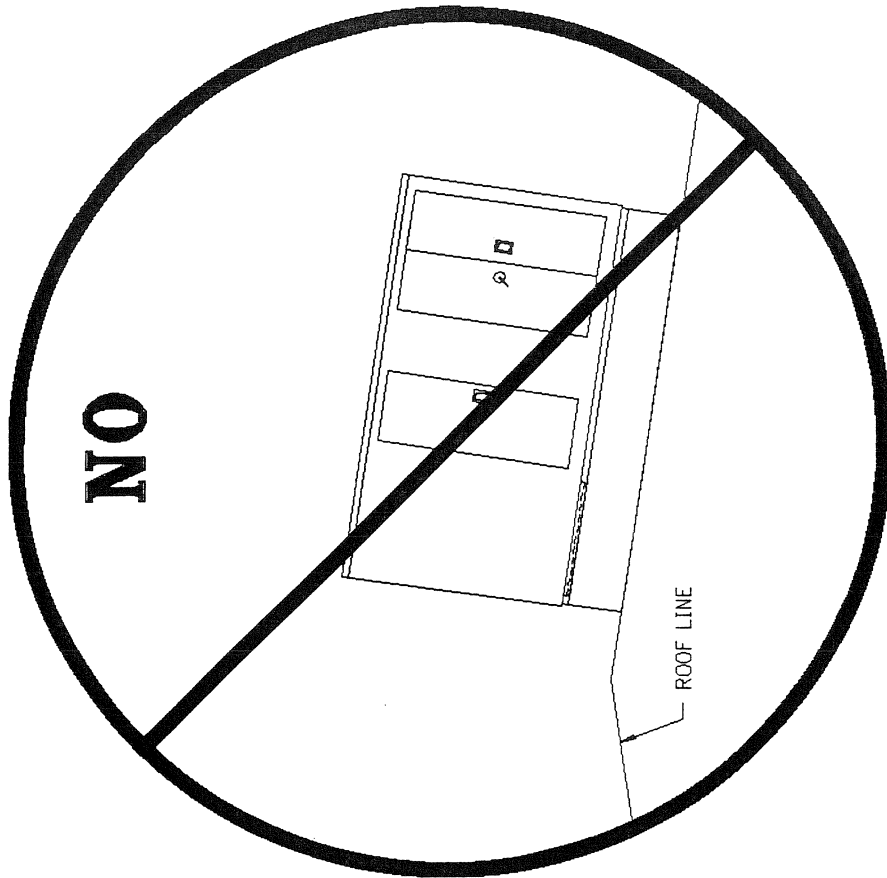
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					DESC. R300 INSTALLATION GUIDELINES			
					SCALE	NONE	DRAWN BY: AMB	DATE: 4-21-94
					PLOT RATIO: 1=1	CK BY: -	WO# -	REV. FILE NO.: - LEVEL 1
DRAWING FILE LOCATION: D:\HTR-LIT								

# INSTALLATION GUIDELINE

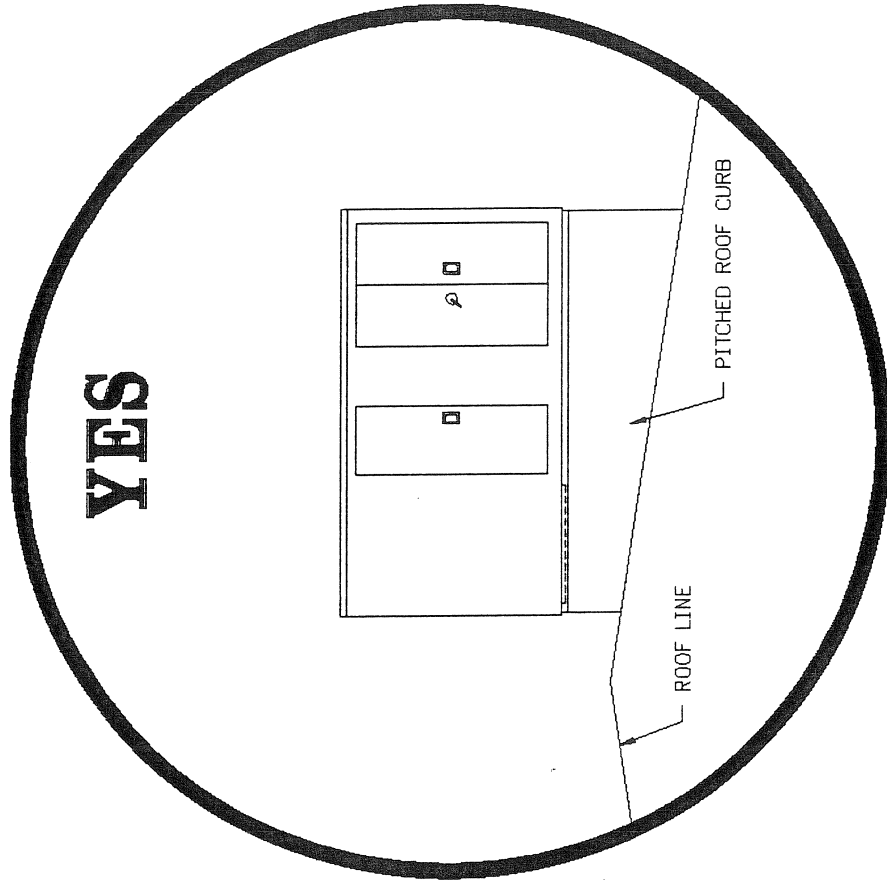
PROPRIETARY

WHEN INSTALLING HORIZONTAL ABSOLUTAIR EQUIPMENT ON PITCHED OR UNEVEL ROOFS, BE SURE TO SQUARE/LEVEL THE UNIT IN BOTH THE X & Y AXIS' TO INSURE PROPER UNIT OPERATION & LONGEVITY OF COMPONENTS.

**NO**



**YES**



NOTES:

REV.	ECO#	DATE	CK BY

<p>Absolut Aire, Inc. 5496 North Riverview Dr., Kalamazoo MI 49004</p>			
DESC. R300 HORIZONTAL UNIT INSTALLATION GUIDELINES			
SCALE	NONE	DRAWN BY: AMB	DATE: 4-21-94
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			LEVEL 2

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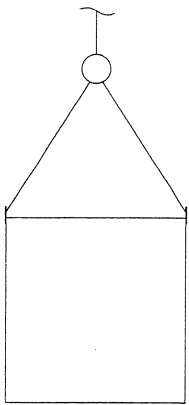
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# INSTALLATION TECHNICIAN

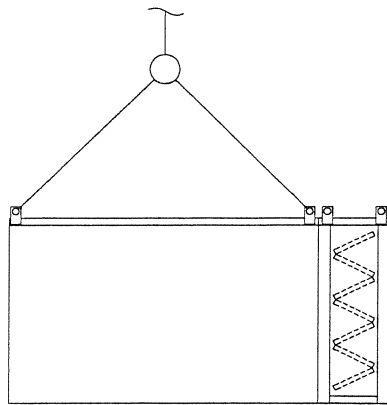
PLEASE READ BEFORE INSTALLING  
ANY ABSOLUTAIRE PRODUCTS

RIGGING WEIGHTS					
MODEL NO.	BASE UNIT	O.A. FILTER	FILTERED MIXBOX	INLET HOOD	LOUVERED INLET PLENUM
AA1500	225	50	CF	25	250
AA3000	350	75	200	30	300
AA1	700	125	275	45	350
AA2	750	125	275	45	350
AA3	850	150	375	60	450
AA4	950	175	525	75	600
AA5	1,100	225	675	175	1,150
AA6	1,300	225	675	175	1,150
AA7	1,800	375	1,100	325	1,750
R318 - R320	1,320	310	575	90	500
R327 - R336	2,180	455	895	245	975
R340 - R349	3,515	625	1,385	560	1,650
R354 - R360	4,950	775	1,735	575	2,300
*R366 - R373	3,450/2,850	1,225	3,275	625	3,100
*R380 - R389	4,400/5,325	1,450	3,725	765	4,000
*(2) PIECE HEATERS	FAN/BURNER	CF = CONSULT FACTORY FOR WEIGHTS			

## RIGGING TIPS & GUIDELINES

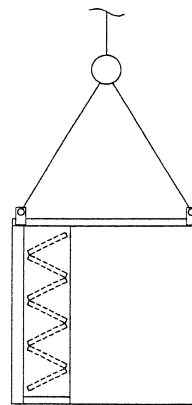


END VIEW  
BASE UNIT

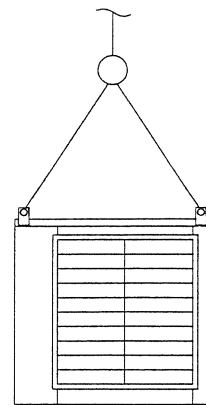


SIDE VIEW  
BASE UNIT

O.A.  
FILTER



FILTERED  
MIXBOX

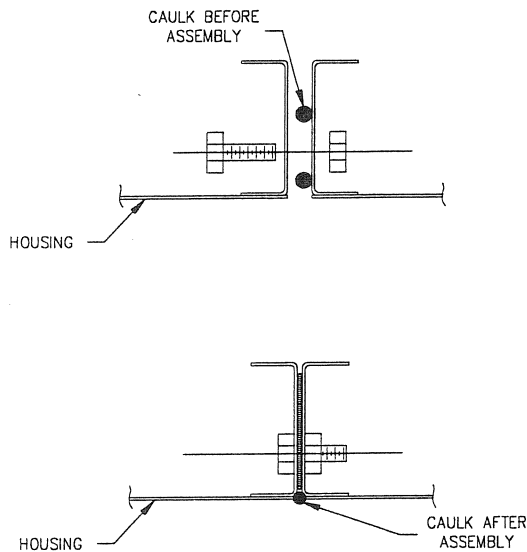


LOUVERED  
INLET PLENUM

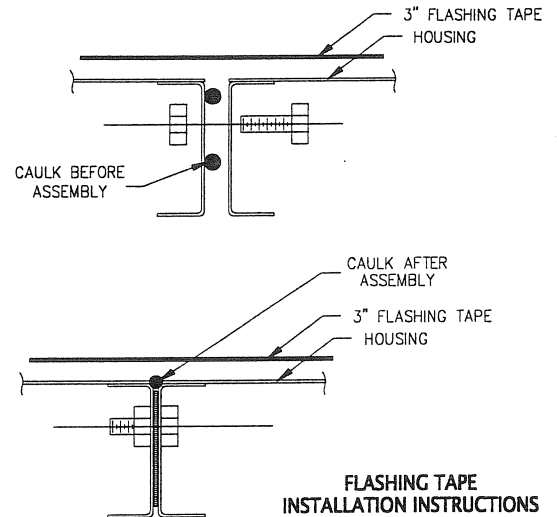
- NOTE: (1) O.A. FILTER SECTION, INLET HOOD & SERVICE PLATFORMS SHOULD BE FINAL ASSEMBLED TO "BASE" UNIT BEFORE LIFTING INTO PLACE.
- (2) FILTERED MIXBOX, LOUVERED INLET PLENUM, DISCHARGE HEAD & ROOF CURB ARE RIGGED SEPARATE FROM THE "BASE UNIT" AND ASSEMBLED TO THE UNIT, ONCE IN PLACE.
- (3) TWO-PIECE "BASE UNIT" MODELS SHOULD BE RIGGED SEPARATELY AND ASSEMBLED IN PLACE.
- (4) ALL WEIGHTS ARE FOR STANDARD CONSTRUCTION -- CONSULT FACTORY FOR SPECIALS.

# CAULKING THE HEATER

All field joints must be properly caulked and sealed for the heater to operate correctly.



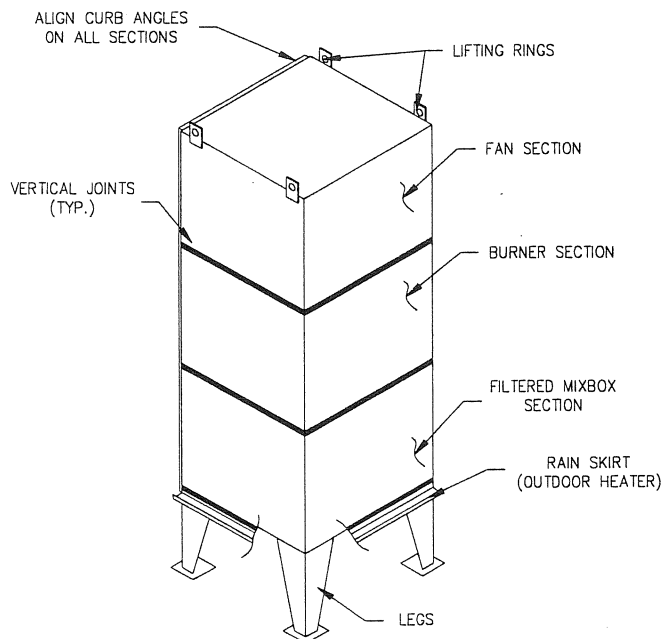
**SIDE SEAMS  
CAULK JOINT**



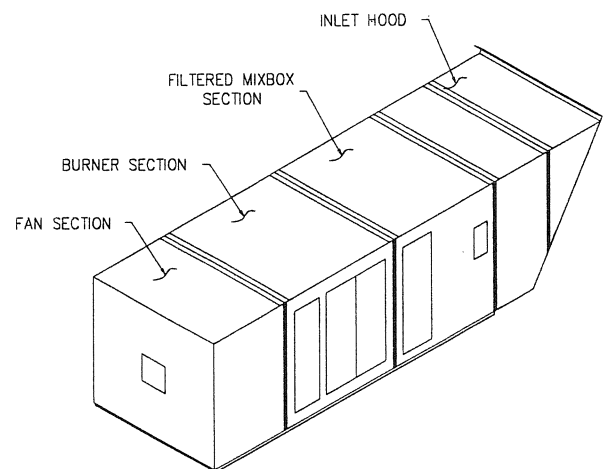
## FLASHING TAPE INSTALLATION INSTRUCTIONS

- 1) WIPE SURFACE CLEAN & DRY
- 2) PEEL BACKING OFF FLASHING TAPE
- 3) APPLY FLASHING TAPE FIRMLY OVER FIELD JOINT.

**ROOF SEAMS  
CAULK & TAPE JOINT**



**UPRIGHT MODEL**



## SEALING INSTRUCTIONS

- ≡ COVER WITH 3" FLASHING TAPE
- SEAL WITH A HEAVY BEAD OF CAULK

**HORIZONTAL MODEL**

PLEASE NOTE: ALL HORIZONTAL, VERTICAL & ROOF JOINTS MUST BE HEAVILY CAULKED PRIOR TO AND AFTER ASSEMBLY