Tested by OMNI-Test Laboratories, Inc. and approved to UL 737-2011 and ULC S627-00
US EPA exempt
Report Number: 0304WF014S

This document was packed with the appliance.
KEEP THESE INSTRUCTIONS FOR FUTURE USE
Please read this entire manual before you install and use your focus fireplace. Failure to follow instruction may result in property damage, bodily injury or even death. When this room heater is not properly installed, a house fire may result. To reduce the risk of fire, follow the installation instructions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

This fireplace is approved for use as a wood burning fireplace or for use with a vented gas log listed to ANSI Z21.60 standard having an input rate of 65,000 Btu or less.

Thank you for choosing focus fireplaces.

Appliance designation: mezzofocus

Manufacturer:
Focus - Atelier Dominique Imbert
Le fort – 34380 Viols le fort – France.
Specifications

▲ CAUTION

DO NOT INSTALL IN A MOBILE HOME. NOT FOR EXTERIOR INSTALLATION!
DO NOT CONNECT TO OR USE IN CONJUNCTION WITH ANY AIR DISTRIBUTION DUCTWORK!
NOT TO INSTALL WITH MASONRY CHIMNEY SYSTEM.
DO NOT INSTALL IN SLEEPING ROOM.

• The authority having jurisdiction (such as municipal building department, fire department, fire prevention bureau, etc.) Should be consulted before installation to determine the need to obtain a permit.
• Using make-shift compromises during installation can cause damage. Such installation is not covered under focus limited warranty.
• When this room heater is not properly installed, a house fire may result. To reduce the risk of fire, follow the installation instructions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

■ CHARACTERISTICS

• Hood weight: 88 lbs (40 kg)
• Flue diameter: 12-5/8 inch (311 mm); length custom made
• Flue weight: 22 lbs per foot (32 kg per meter)
• Anchor plate weight: approx. 41 lbs (19 kg)
• 1/10-inch (2.5 mm) thick steel
• High heat resistant paint
• Guaranteed efficiency with a minimum flue length (interior and exterior) of 16.4 feet (5.00m)
**ROOF OUTLET REQUIREMENT**

Do not connect this unit to a chimney flue serving another appliance!

Mezzofocus requirements: the floor to top of chimney must be 21 feet minimum (6.4 m) or 24 feet (7.3 m) for an installation less than 3 miles from the ocean or if a 30° elbow is necessary. Elbows should not be more inclined than 30° (USA) or 45° (Canada) from vertical, and with maximum number of 2. Maximum inside + outside height: 30 feet.

The Mezzofocus must be connected to a chimney complying with the requirements for Type HT chimneys in the standard for Chimneys, Factorybuilt, Residential Type and Building Heating Appliance, UL 103. For example, a class A insulated stainless steel flue chimney system with an 12-inch minimum inside diameter.
Specifications

■ STRUCTURAL REQUIREMENT

▲ CAUTION
THE SUPPORT OF THE ANCHOR PLATE (ROOF STRUCTURE, SLAB, ETC.) AND OF THE STATIONARY PLATE MUST BE SIZED IN CONGRUENCE WITH THE FIREPLACE STATIC AND DYNAMIC CHARGES. THE SIZE CALCULATION FOR THE SUPPORT IS NOT THE RESPONSIBILITY OF FOCUS OR ITS AFFILIATES. IT IS YOUR RESPONSIBILITY TO CONSULT WITH AN ENGINEER OR ARCHITECT FOR YOUR PROJECT.

■ CONNECTOR

Connectors are all non-insulated chimney parts including focus black flue, focus 12” universal adaptor and the chimney manufacturer single wall adaptor.

To avoid heat traps the chimney connector shall not pass through an attic or roof space, closet or similar concealed space, or a floor, or ceiling.

Passage through an attic, roof frame floor, or ceiling must be done using an insulated chimney respecting all chimney manufacturer clearances.

▲ CAUTION
PASSAGE THROUGH A WALL OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS NOT AN APPROPRIATE INSTALLATION FOR THIS FOCUS FIREPLACE.

■ FRESH AIR INTAKE

For optimum functioning, focus requires a fresh air intake in the room (ideally under the stationary plate). We recommend deflect-O A0684 semi rigid aluminium duct. The fire bowl is supplied with a fresh air control.

Minimum fresh air intake size:

IMPORTANT
This fresh air intake is compulsory when operating venting appliances such as kitchen hoods, permanent air extractors or any appliances creating an air depression in the habitation.
CLEARANCES TO COMBUSTIBLES

A. CLEARANCES TO FLOOR AND CEILING

A minimum clearance of 16" from the floor to the top of the stationary plate strictly must apply.
B. CLEARANCES TO WALLS

▲ CAUTION
THE DISTANCE TO A COMBUSTIBLE WALL MUST BE MAINTAINED AT 30” FROM THE HOOD. PROPERTY DAMAGE OR DEATH CAN OCCUR IF THIS DISTANCE IS NOT MAINTAINED. DRYWALL PRODUCTS LINED WITH PAPER SUCH AS SHEETROCK ARE COMBUSTIBLE. CLEARANCES AS INDICATED FURTHER APPLY.

Manufacturer specifications:
• When placed close to a non-combustible wall leave a minimum of 4” for proper ventilation. To avoid premature aging of your painted walls, only use mineral paint. With other paints, above clearances apply.
• Fire clearance to glass (from hearth): 31-½”.
• Fire clearance to vinyl windows: refer to window technical specifications.

Clearances may only be reduced by means approved by the regulatory authority.
Installation

**INCLUDED PARTS, MATERIALS AND REQUIRED TOOLS FOR INSTALLATION**

- Appliance and designated parts are the hood, stationary plate, 4 curved pyroceramic glass panels, anchor plate, flue pipe, focus kit (protective glove, mounting gloves, can of touch-up paint), and insulating washers.
- Required tools: drill, M8 allen key, level, screwdrivers, M12 key, scaffolding (up to underceiling height), refractory compound.
- 2 persons minimum are required for installation.

**OPTIONS**

- custom ceiling cover disc (steel disc) + cover disc screw kit
- custom anchor steel plate (inclined...)
- extra flue length for ceiling heights above 9 feet
- Adjustable suspension plate
- steel base

**GOOD TO KNOW**

The hood and the fire bowl may not be perfectly and geometrically centered and aligned due to hood balance position. We strongly recommend to:

- First install the hood, then find the right position of the fire bowl by installing the pivoting glasses: the best position is when the glass panels are sliding smoothly throughout the entire diameter of the track.
- In the event the fire bowl is to be recessed, keep a gap of 1 inch on the radius to allow the fire-bowl position to be adjusted (recess diameter Ø42-1/2 inches).
- For ease of glass panels installation, the distance between the bottom of the hood and the finished surface that the fire bowl will sit must be 20-1/2” (520 mm).
- The stationary glasses should be installed opposite one another.

**ASSEMBLY DETAILS**

**A. STAINLESS STEEL CHIMNEY SYSTEM PLATE SETUP AND CONNECTION**

- Class A insulated chimney pipe 12” id - 14” od cheminée isolée: (305 int./355 ext.)
- Finishing collar collier de finition
- Slip connector: same brand as the class A insulated chimney. adaptateur simple paroi de même marque que la cheminée isolée
- Anti-heat loss washers rondelles à rupture de pont thermique
- Optional sub-ceiling oblique cover disc disque cache plafonnier (optionnel)
- Focus steel flue conduit en acier

**B. FLUE ATTACHMENT TO ANCHOR PLATE**

- 8 cramping screws 8 vis pointeaux
- Focus steel flue conduit en acier

**C. ORDER IN WHICH TO TIGHTENING THE PLATE SCREWS (TO SECURE PROGRESSIVELY)**

1. Focus 12” universal adaptor adaptateur focus pour conduit en 305
2. Optional sub-ceiling oblique cover disc disque cache plafonnier (optionnel)
3. Focus steel flue conduit en acier
D. JUNCTION SLEEVE DETAIL

- Welding
- 4 punch impressions
- Security hole \( \Omega 13/32" \)
- 6 clamping screws
- 1 crossing screw “security”

**NOTE:** The junction sleeves are provided only in case the floor to ceiling height requires more than one flue section.

**CAUTION**

**SCREWS DO NOT SIT FLUSH WHEN INSTALLED.**

E. SUSPENSION MECHANISM DETAIL

- Low part of steel flue
- Hearth smoke outlet sleeve
- Washer
- M12 nut

**NOTE:**

- Low part of steel flue
- Hearth smoke outlet sleeve
- Washer
- M12 nut
**F. GLASS INSTALLATION / REPLACEMENT**

**Installation:** Use caution when manipulating glass to prevent injury. Do not apply any force on the glass as this may cause breakage. Please check the hood level to be 20-1/2” (520 mm) from stationary box support level. The mezzofocus receives 4 glass panels: 2 stationary and 2 sliding on track. To fit a glass panel, first remove the grate for easier access. Then present the glass panel bottom first, inclined as illustrated on the image hereunder.

The top left and right corners must be presented and adjusted to penetrate into the hood rail. External rail is for sliding panels, internal rail is for the stationary panels. Slide up the panel and rotate it gently so it gets its position vertical again. Then just slide down the panel in order to secure it in the stationary box track.

Each stationary glass panel should be gently secured to the hood internal ring using the supplied offset retention clips and knurled bolts.

**Replacement:** Allow the fireplace to cool before removing or replacing glass. Use caution when removing broken glass to prevent injury. Do not apply any force on the glass as this may cause breakage. To remove a glass, first remove the grate and the removable stud. Then lift the first sliding glass up so it can get out of the base rail. Now push gently the base of the glass in order to move it in direction of the center of the fireplace, as illustrated on the image hereunder. The top of the glass will then get out of the hood rail; proceed the same way for the stationary glass panels.
Operating instructions

▲ CAUTION

HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

■ STORAGE / USE OF FLAMMABLE LIQUIDS

Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or « freshen up » a fire in this heater. Keep all such liquids well away from the heater while it is in use.

■ GRATE

The grate is located inside the stationary box, it must be installed on the 3 studs. One of the studs is removable, for easier installation of the glasses. Underneath the grate is the fresh air intake control. To adjust fresh air intake, rotate the handle in the way to open or close the air openings. Grate must not be removed. Fire must not be built outside the grate area.
ASHES

DISPOSAL OF ASHES

Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

FUEL

▲ CAUTION

DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL. DO NOT STORE THE FUEL WITHIN THE SPACE HEATER INSTALLATION CLEARANCES OR WITHIN THE SPACE REQUIRED FOR REFUELING AND ASH REMOVAL.

Only burn dry, natural, well-seasoned wood. Wood moisture content should not be more than 20%. We recommend using 2 year dry stored wood. For the best efficiency use a covered storage.

▲ WARNING

THE MEZZOFOCUS HAS BEEN TESTED FOR USE WITH GLAZED PANELS FULLY CLOSED. IF DOOR IS OPEN OR LEFT PARTLY OPEN, GAS AND FLAME MAY BE DRAWN OUT OF THE FIREPLACE OPENING, CREATING RISKS FROM BOTH FIRE AND SMOKE. TO REDUCE THE RISK OF FIRE INJURY, DO NOT REMOVE GLAZED PANELS!

BEFORE LIGHTING YOUR FIRST FIRE

For all designs it is necessary:
• To remove the stickers from the glass panels (if any).
• To clean off (with a damp sponge and/or a dry cloth) any dirt collected during transport or installation.
• Actual scratches on painted designs can be retouched solely with the expressly provided focus paint. If this is necessary, ventilate the area thoroughly before lighting your fire to disperse any fumes generated in the spraying process.

The first fire should be a modest one; do not use packing material or pallet wood for fuel.

The paint finish we use, oven baked at 250°C for 30 minutes, is thermo-plastic. Because of the very gradual polymerisation of the components, the unit may give off a light smoke the first few times the fire is lit. The painted surfaces nearest the fire may, while hot, acquire a certain viscosity, or slight stickiness perceptible to the touch. We advise therefore:
• Not to be alarmed at possible smoking or residual odors. This is normal on the first fires and will rapidly subside.
• Not to touch, rub or try to clean the fireplace while it is still hot.

To avoid thermal shocks, we strongly advise against throwing buckets of water on a very vigorous fire to try to put it out.
### BUILDING, STARTING AND MAINTAINING THE FIRE

**CAUTION**

DO NOT LIGHT A FIRE WITH ASH REMOVAL HATCH REMOVED, AS THIS WILL PRODUCE OVER-FIRING OR HOUSE FIRE. DAMAGE CAUSED FROM NON-OBSERVANCE OF THIS CAUTION IS NOT COVERED UNDER FOCUS LIMITED WARRANTY.

Do not overload your focus fireplace to avoid over-firing.

Do not use chemicals or fluids to start the fire.

Do not operate with broken glass. Do not build the fire too close to the glass.

Build the fire without elevating it, directly on the grate. For starting the fire, we recommend using a small amount of fire starter with enough kindling (small logs or mill ends) to establish a primary fire.

After a few minutes, and making sure the primary fire is well started, add larger wood (between 3 and 7 pieces, depending on their size), directly on top, making sure not to smother the fire. Leave some spaces between the logs for air intake.

To maintain or refuel your fire, add when needed (see note), a few larger logs.

**NOTE**: For the same weight of fuel, 10 logs will burn more intensely (and faster) than 3 logs, but you will get the same heat power at the end. The log size you buy will determine the heating and refueling time.

### PROTECTIVE GLOVE

The use of the focus special protective glove supplied with our models is required upon handling the damper, glass panels, fresh air control, etc.

### DAMPER OPERATION AND USE

Use of supplied cold handle tool or protective glove is recommended to operate the damper. Do not touch the damper handle without protection when a fire is operating.

The mezzofocus damper has four positions. The damper is in the same direction as the handle: when the handle is vertical, the damper is fully open. Handle can rotate at 30°, 60° and 90° (horizontal : closed). In closed position the damper obturates by 75% the flue section. To modify the damper position, first pull the handle, then rotate and push again the handle in order to lock on a preset position.

**CAUTION**

NEVER ADJUST THE DAMPER HANDLE ON AN INTERMEDIATE POSITION!

The damper position must be adapted to the fire intensity: during the lighting it must be fully open. Then it must be adjusted in order to reduce the smoke flow, so the heat efficiency will be optimal. If the smoke spills out it means the damper is too obstructive: re-open the damper at the first signs of spillage.
TAKING OUT THE ASHES

CAUTION
BE SURE THE FIRE IS OUT AND THE FIREPLACE BODY COLD BEFORE REMOVING ASHES!

To remove ashes we recommend to use a brush and a shovel. Dispose of ashes in an appropriate ash container (not supplied). After cleaning, be sure to secure the fireplace properly!

CREOSOTE FORMATION AND NEED FOR REMOVAL

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire. The chimney and chimney connector should be inspected at least once every two months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (3mm or more) it should be removed to reduce the risk of a chimney fire.

INSPECTION, MAINTENANCE AND CLEANING OF THE CHIMNEY

CAUTION
CHEMICAL SWEEP NOT PERMITTED: ONLY MECHANICAL SWEEP ALLOWED!

CAUTION
THE CHIMNEY AND CHIMNEY CONNECTOR MUST BE IN GOOD CONDITION AND KEPT CLEAN.

A. REFERING TO FOCUS STEEL FLUE

It must absolutely be swept with a nylon brush. Never use metal brushes! Damage caused from non-observance of this caution is not covered under the focus limited warranty.

B. REFERING TO CHIMNEY PIPE

Call a professional chimney sweeper or buy a brush at your local focus retailer and clean the chimney this way: Remove rain cap, use appropriately sized brush and sweep the entire system to remove all debris or refer to chimney manufacturer recommendations. Keep firing and de-ashing doors closed and maintain all seals in good condition.
SURFACES

The outer surfaces can be wiped with a soft, dry rag (making sure the metal is cool). For continued use of the touch-up paint can following its initial usage, invert the focus can (spray head down) and spray into a balled up newspaper until the can sprays clear. Clean the spray can bottom with a dry rag and store out of the reach of children.

DIRECTIONS AND REASONS FOR CLEANING GLASS

Cracked or broken glass should be replaced. Do not clean the glass when hot. Glasses should not be struck, banged or slamming shut.

The outer surfaces can be wiped with a soft, dry rag and a standard glass cleaner product (making sure the glass is cool). The inner surfaces can be cleaned with a special insert glass product.

REPLACEMENT PARTS

Do not use substitute materials!

For ordering replacement parts, please contact the Focus North American exclusive importer:

European Home
30 Log Bridge Road
Building 300 – Suite 303
Middleton, MA 01949
T: 781-324-8383
www.europeanhome.com

Cast iron grate
4 Ceramic glass Panels
(trade name: Schott-Robax).

Cold handle

Dimensions:
Thickness 5/32” (4 mm)
Height: 19-11/16” - 500 mm
Radius: 19-11/16” - 500 mm
Developed length:
31-1/2” - 800 mm

Touch-up paint
All of our focus models are guaranteed against any defect in design, construction, or manufacture, and guaranteed to function properly for 5 years from date of order. Our product guarantees are applicable only when our fireplaces have been installed with respect to all local building codes and with strict attention to the technical details outlined in our Plan Study as well as our installation, maintenance, and user’s manuals. Our guarantees exclude accidental damages such as those occurring during transport without written notification upon receipt, damages incurred during installation, and damages resulting from improper use.
Annex

**ADJUSTABLE SUSPENSION PLATE**

![Diagram of adjustable suspension plate with dimensions and tolerances.](image-url)
The Focus adjustable suspension plate is designed to be used on rafters/structures with a pitch between zero and forty-five degrees.

8" inside diameter / 10" outside diameter Class A insulated chimney flue sits inside the 12" wide portion of the drum. Keeping a 2" overall air gap between the Class A insulated chimney flue and the 12" wide portion of the drum prevents the transfer of heat to surrounding building materials.

The wide portion of the drum is 8" wide to accept the Focus single wall interior flue.

The adjustable suspension plate is for use with Gyrofocus, Ergofocus, Filiofocus Central 1600, Filiofocus Central 2000, Bathyscafocus, Mejijfocus and Agorafocus 630 models only.

The adjustable suspension plate consists of:
(x2) Mounting bars
(x1) Support collar
(x1) Drum
(x8) Cramping screws M8x10

The drum is designed to be field cut as needed.
The mounting bars may be cut to length and must be attached securely to the rafter/structure using lag bolts (wood installation) or through bolts (wood or metal installation) to support the weight of the fireplace and flue.

Components:

La plaque de suspension réglable Focus est conçue pour être utilisée sur des chevrons ou des structures ayant une inclinaison comprise entre zéro et quarante-cinq degrés.

Le conduit de fumée isolé de classe A et de diamètre interieur 8” (225mm)/ diamètre extérieur 10”(254mm) s’installe dans la portion de fourreau de largeur 12” (324mm). Maintenir un espace d’air de 2” (50mm) entre le conduit de fumée isolé de classe A et la portion de fourreau de largeur 12” (324mm) afin d’éviter le transfert de chaleur aux matériaux de construction environnants.

La plaque de suspension réglable se compose de :
(x2) Barres de montage
(x1) Collier de soutien
(x1) Fourreau
(x8) Vis de serrage M8x10

Le fourreau est conçu pour être coupé sur le terrain au besoin.
Les barres de montage peuvent être coupées à la longueur et doivent être fixées solidement aux chevrons/structures en utilisant des fixations telles que des tirefonds (structures bois) ou des boulons (structures métallique) pour soutenir le poids de la cheminée et du conduit.

Composants:
The steps of installation and cutting of the adjustable suspension plate are as follows:
1 - Place support collar between the mounting bars. Tighten bolts using supplied nuts and lock washers.
2 - Mount this assembly in the ceiling or roof.
3 - Install the drum inside the support collar from below.

4 - Adjust drum to desired length. The large portion of the drum must be a minimum 3" below ceiling finish.
5 - If drum is to be cut, mark the drum above the support collar with a pencil using the support collar as a guide.
6 - Remove the drum from the support collar and apply tape around pencil marks. Use as cutting guide.

7 - Cut the drum with an angle grinder outfitted with cutting wheel following the tape.
8 - Install the drum again into the support collar. Using a level, confirm and tighten firmly cramping screws following the pattern below.
Screw 1 – Install first x 3
Screw 2 – Install next x 2
Screw 3 – Install last x 3
Note: Screws are not designed to sit flush with support collar.

Les étapes d'installations et de coupe de la platine de suspension ajustable sont les suivantes:
1 - Placer le collier de soutien entre les barres de montage. Serrer les boulons à l'aide des écrous et des rondelles frein fournies.
2 - Monter l'ensemble sur/sous le plafond ou toit.
3 - Installer le fourreau dans le collier de soutien par dessous.

4 - Ajuster le fourreau à la longueur désirée, minimum de 3" (76mm). Mesure à prendre depuis la base du fourreau.
5 - Si le fourreau doit être coupé, marquer le fourreau au-dessus du collier de soutien avec un crayon en utilisant le collier de soutien comme guide.
6 - Retirez le fourreau du collier de soutien et appliquez du ruban adhésif autour des marques de crayon. Utiliser comme guide de coupe.

7 - Couper le fourreau à l'aide d'une meuleuse d'angle munie d'un disque de coupe suivant le ruban.
8 - Remonter le fourreau dans le collier de soutien. À l'aide d'un niveau, confirmez et serrez fermement les vis de serrage en suivant le modèle ci-dessous.
Vis 1 - A installer en premier x 3
Vis 2 - A installer ensuite x 2
Vis 3 - A installer en dernier x 3
Remarque : Les vis ne sont pas prévues pour être à fleur du collier de soutien.
HOW TO DETERMINE IF ALTERNATE FLOOR PROTECTION MATERIALS ARE ACCEPTABLE

All floor protection must be non-combustible (i.e., metals, brick, stone, mineral fiber boards, etc.). Any organic materials (i.e., plastics, wood paper products, etc.) are combustible and must not be used. The floor protection specified includes some form of thermal designation such as R-value (thermal resistance) or k-factor (thermal conductivity).

A. PROCEDURE

1. Convert specification to R-value:
   I. R-value given - no conversion needed.
   II. k-factor is given with a required thickness (T) in inches:
      \[ R = \frac{1}{k} \times T \]
   III. K-factor is given with a required thickness (T) in inches
      \[ R = \frac{1}{K \times 12} \times T \]
   IV. r-factor is given with a required thickness (T) in inches:
      \[ R = r \times T \]

2. Determine the R-value of the proposed alternate floor protector.
   I. Use the formula in step (1) to convert values not expressed as “R”.
   II. For multiple layers, add R-values of each layer to determine overall R-value.

3. If the overall R-value of the system is greater than the R-value of the specified floor protector, the alternate is acceptable.

   EXAMPLE: The specified floor protector should be 3/4-inch thick material with a k-factor of 0.84. The proposed alternate is 4” brick with an r-factor of 0.2 over 1/8” mineral board with a k-factor of 0.29.

   Step (a): Use formula above to convert specification to R-value.
   \[ R = \frac{1}{0.84} \times 0.75 \]
   Step (b): Calculate R of proposed system.
   4” brick of \( r = 0.2 \), therefore:
   \[ R_{\text{brick}} = 0.2 \times 4 = 0.431 \]
   1/8” mineral board of \( k = 0.29 \), therefore
   \[ R_{\text{mineral board}} = \frac{1}{0.29} \times 0.125 = 0.431 \]
   \[ R_{\text{total}} = R_{\text{brick}} + R_{\text{mineral board}} = 0.8 + 0.431 = 1.231 \]
   Step (c): Compare proposed system \( R_{\text{total}} \) of 1.231 to specified \( R \) of 0.893. Since proposed system \( R_{\text{total}} \) is greater than required, the system is acceptable.

B. DEFINITIONS

\[ R = \frac{(\text{ft}^2)(\text{hr})(^\circ\text{F})}{\text{Btu}} \]
\[ k = \frac{\text{(Btu)/(in)}}{(\text{ft}^2)(\text{hr})(^\circ\text{F})} = K \times 12 \]
\[ K = \frac{\text{(Btu)/(ft)}}{(\text{ft}^2)(\text{hr})(^\circ\text{F})} \]
\[ r = \frac{(\text{ft}^2)(\text{hr})(^\circ\text{F})}{\text{(Btu)/(in)}} = \frac{1}{k} \]