Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
Little Rock, AR 72231
Phone 501-834-3320
Fax 501-834-5416

Date: 4/11/2023
Return Request: 4/21/2023
Project: Pine Bluff – 6th Avenue Plaza
Supplier: Powers of Arkansas
Submittal: Electric Heater
Submittal Number: 23 00 00-03
Drawing # and Installation: Mechanical Drawings

ARCHITECT
Taggart Architects
4500 Burrow Drive
North Little Rock, AR 72116
501-758-7443

ENGINEER
Brown Engineers
17200 Chenal Parkway #300
Little Rock, AR 72223
501-448-0100

GENERAL CONTRACTOR
Nabholz Construction
612 Garland St.
Conway, AR 72032
501-505-5800

MECHANICAL SUBCONTRACTOR
Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:

CSUSA PROJECT NO.
23-1009
jon@comfortar.com

3420/AFC SERIES

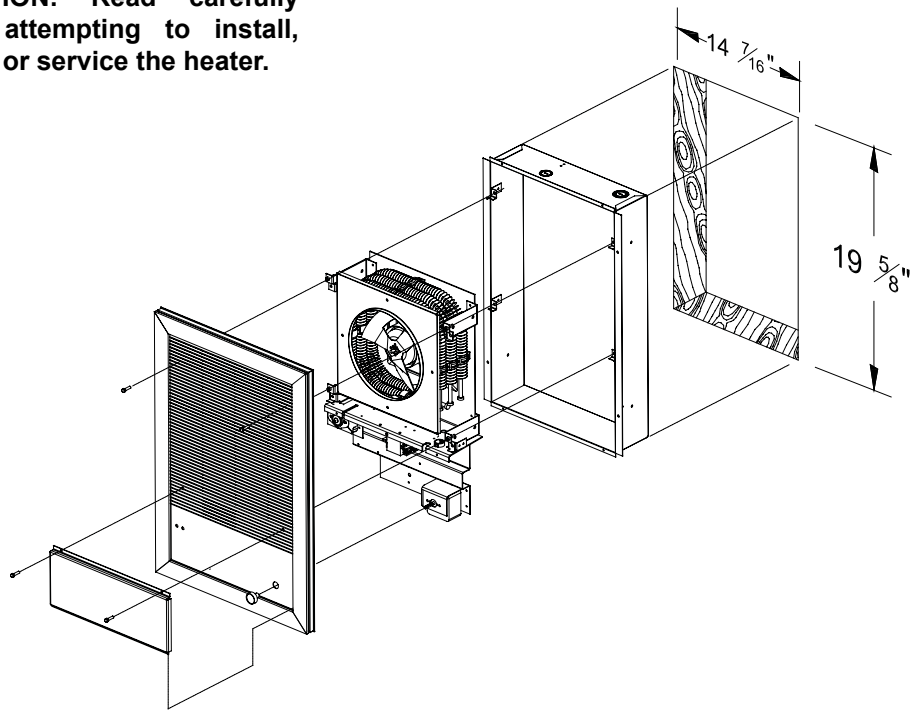
INSTALLATION INSTRUCTIONS

Recessed Mounting
3420/AFC Series

NOT FOR RESIDENTIAL USE

TPI Corporation
P.O. Box 4973
Johnson City, TN
37602-4973
America's Comfort Conditioning Company

ATTENTION: Read carefully before attempting to install, operate or service the heater.



CAUTION - High temperature, risk of fire, keep electrical cords, drapery, furnishings and other combustibles at least 3 feet (0.9m) from the front of the heater and away from the side and rear. Disconnect all power supplies before servicing.

ATTENTION - Haute température risque, d'incendie, gardez les cordons électriques, rideaux, ameublement et autres matériaux combustibles au moins 3 pieds (0,9 m) de l'avant et des côtés et l'arrière de l'appareil de chauffage à hautes températures. Avant d'intervenir, couper toutes les alimentations.

GENERAL SAFETY INFORMATION / CAUTION:

- Mount in vertical position only.
- Do not install any closer than 12" to any vertical surface or 12" to floor.
- Do not mount beneath towel racks or behind doors.
- Heater must have no obstructions in front of it.
- Make certain power supply is same as nameplate voltage on heater.
- All wiring must conform to the National Electric Code and existing local code requirements.

INSTALLATION INSTRUCTIONS:

1. Heater box 3420/AFC is installed just like ordinary outlet box. Box should be mounted in the wall - top side up, so that the front edges are 3/16" away from the finished wall surface.

2. The knockouts on bottom and back of box can be used for conduit, metallic or nonmetallic armored cable. Terminate feed lines at knockout.

3. Mount heater mechanism to interior of box by inserting straight into box engaging (4) lower tabs on interior mounting brackets with (4) tabs on wall box. Secure with (4) screws supplied.

4. Mount heater front to heater mechanism mounting brackets (4) top tabs with (4) allen head screws trapped behind louvers to engage (4) allen head screws.

Thermal Cutout operation shown on page 3.

IMPORTANT: OWNER SHOULD RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

ECO 1-7333 REV. 10/17 Form 9282

IMPORTANT INSTRUCTIONS

When using electrical appliances, basic precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons, including the following:

1. Read all instructions before using this heater.

2. **CAUTION:** High temperatures. Keep cords and all other combustible material, such as furniture, papers, clothes and curtains away from the heater. For safe and efficient operation, keep an open space around heater of three feet in front and 12 inches at ends and rear.

3. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.

4. Do not operate any heater after it malfunctions, has been dropped or damaged in any manner. Return heater to authorized service facility for examination, electrical or mechanical adjustment, or repair.

5. Do not use outdoors.

6. To disconnect heater, turn controls to off, and turn off power to heater circuit at main disconnect panel (or operate internal disconnect switch if provided).

7. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock or fire, or damage the heater.

8. To prevent a possible fire, do not block air intakes or exhaust in any manner.

9. A heater has hot and arcing or sparking parts inside. **WARNING:** Do not use it in area where gasoline, paint or flammable liquids are used or stored.

10. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons. This heater may include an audible or visual alarm to warn that parts of the heater are getting excessively, hot If the alarm sounds (or illuminates), immediately turn the heater off and inspect for any objects on or adjacent to the heater that may have blocked the airflow or otherwise caused high temperatures to have occurred. **DO NOT OPERATE THE HEATER WITH THE ALARM SOUNDING (OR ILLUMINATING).**

11. SAVE THESE INSTRUCTIONS

OPERATION

1. Turn on the power supply to heater.
2. Rotate thermostat knob fully clockwise.
3. Allow the room to reach desired temperature, then rotate thermostat knob counter clockwise until the heater de-energizes.

MAINTENANCE AND CLEANING

The heater should be cleaned at least annually to prevent excess build-up of dirt and lint accumulated under normal operating conditions. In an unusually dirty environment the cleaning should be done more often. To clean the heater first DISCONNECT THE HEATER FROM THE MAIN POWER SOURCE. Then remove the grille. Using a vacuum cleaner with soft brush attachment clean the fan blade and element of any accumulated dirt or lint. Be careful not to bend the petals of the blade. when the cleaning is finished, re-install the grille and restore power. DO NOT OPERATE THE HEATER WITHOUT GRILLE.

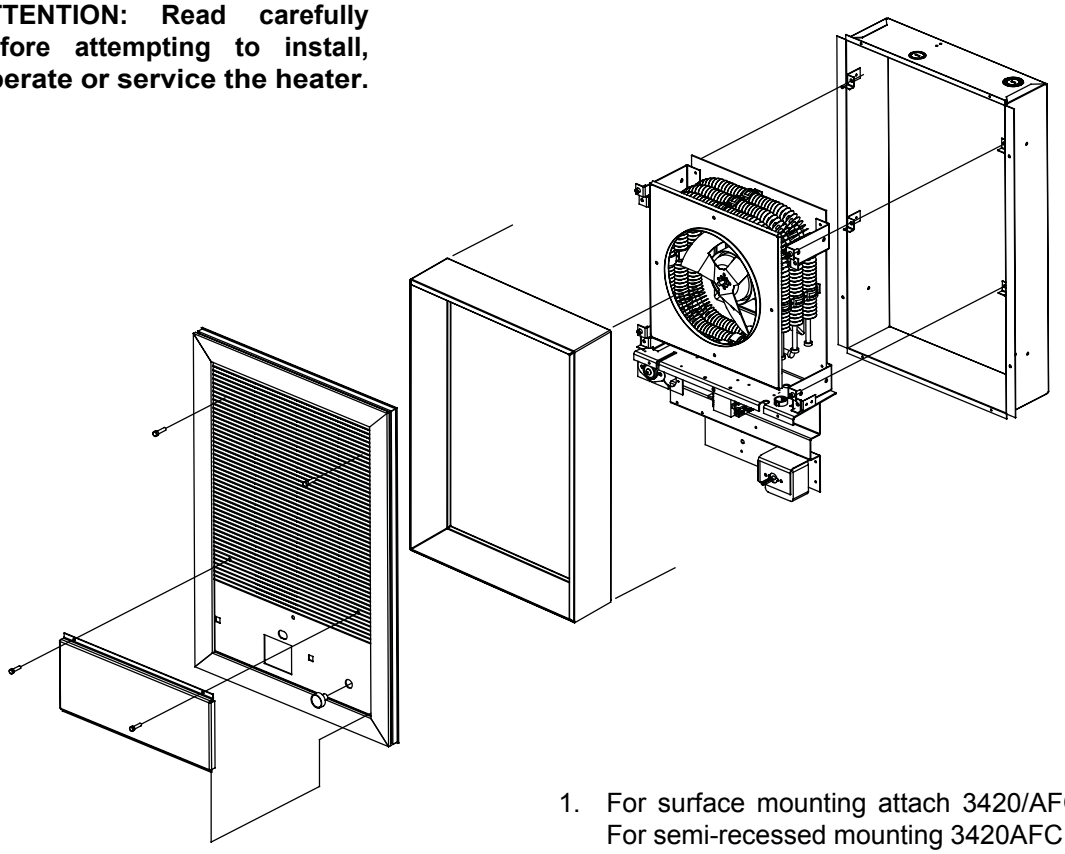
3420/AFC SERIES

Surface Mounting
Semi-Recessed Mounting
3420/AFC Series

INSTALLATION INSTRUCTIONS

TPI Corporation
P.O. Box 4973
Johnson City, TN
37602-4973
America's Comfort Conditioning Company

ATTENTION: Read carefully before attempting to install, operate or service the heater.



GENERAL SAFETY INFORMATION / CAUTION:

- Mount in vertical position only.
- Do not install any closer than 12" to any vertical surface or 12" to floor.
- Do not mount beneath towel racks or behind doors.
- Heater must have no obstructions in front of it.
- Make certain power supply is same as nameplate voltage on heater.
- All wiring must conform to the National Electric Code and existing local code requirements.

INSTALLATION INSTRUCTIONS:

- For Surface Mounting use extender 3420 / AFC EX34
- For Semi-Recessed Mounting use extender 3420 / AFC EX16 for 2", or 3420 / AFC EX8 for 1"
- Box 3420 / AFC must be used in conjunction with accessory extender.

1. For surface mounting attach 3420/AFC box to wall. For semi-recessed mounting 3420AFC box should be set in the wall so the flange is out from the finished wall a distance equal to the frame depth (1" for a 1" frame, 2" for a 2" frame).
2. Remove knockout(s) in 3420/AFC as required.
3. Proceed as with recessed installation described on page one - steps 2 & 3.
4. Extender frame is attached to heater front (slip fit) and this assembly is then attached to the heater following step 4 on page 1. Frame is captured between heater front and finished wall.

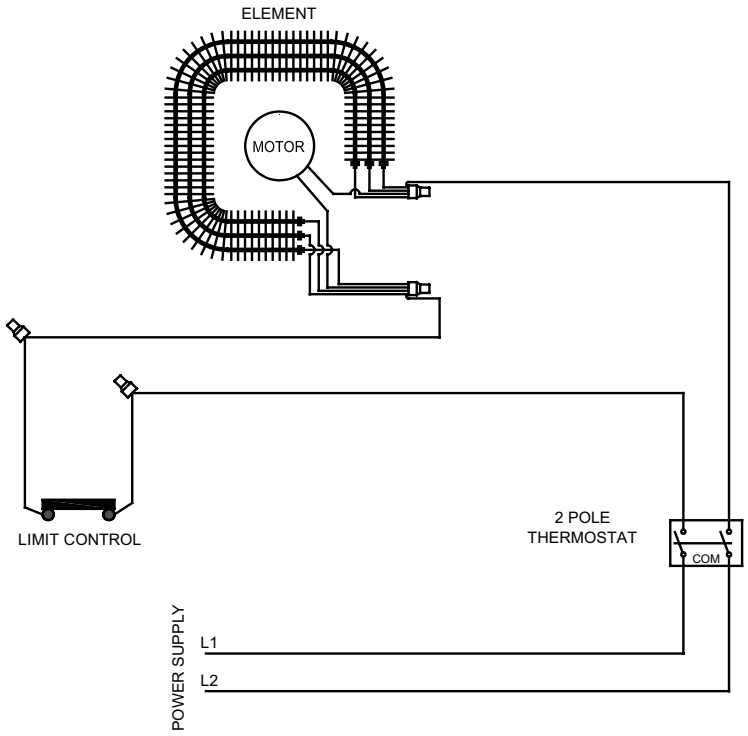
(CAPILLARY) LIMIT CONTROL

To reset thermal cutout disconnect all power, when heater has cooled locate the two 1/4" dia. holes in the control panel portion of the front grille. Using a small screwdriver or pencil press the reset button (with minimal amount of force) through the 1/4" dia. opening, then restore power to the unit. If fault continues disconnect power and check for cause.

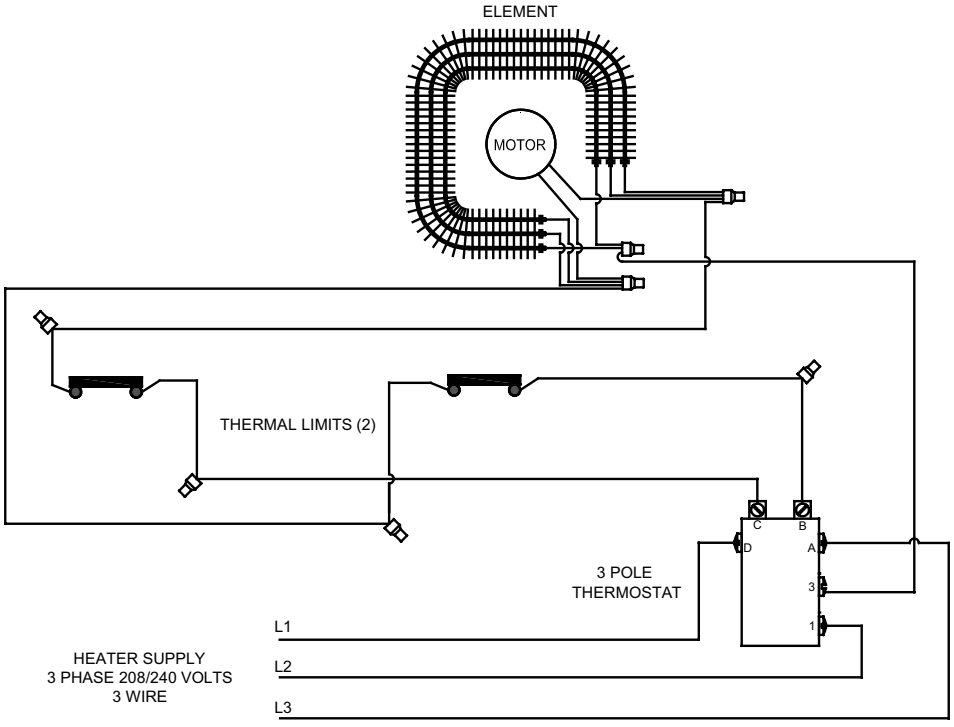
IMPORTANT: OWNER SHOULD RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

ECO 1-7333 REV. 10/17 Form 9282

WIRING DIAGRAMS



TYPICAL SINGLE PHASE
WIRING DIAGRAM



TYPICAL THREE PHASE
WIRING DIAGRAM

TRANSMITTAL LETTER

TAGGART ARCHITECTS

To: Mr. Ralph Moreno
Nabholz Construction Corp
1718 Aldersgate Road
Little Rock, Arkansas 72205

Project: City of Pine Bluff – 6th Avenue Plaza– Submittals

FROM: James Meyer, A.I.A.
Project Architect

Date: April 21, 2023

WE TRANSMIT to you ☒ herewith ☐ under separate cover via

☐ Drawings	☒ Approved	☐ As Requested
☐ Specifications	☐ Approved as Noted	☒ For Your Use
☐ Correspondence	☐ Revise and Resubmit	☐ For Comment or Approval
☒ Shop Drawings	☐ Not Approved	☐

Copies	Document #	Date	Description
1	230000	4/21/2023	Electrical Heater – Product Data

Remarks: For your Use and Information.

Copies To:

Signed By:

Billy J. Mathis, CSI, CDT
Administrative Assistant for Architecture

600 Main Street, North Little Rock, Arkansas 72114
Phone: (501) 758-7443 FAX: (501) 753-7309

BROWN ENGINEERS

17200 Chenal Pkwy. Suite 300, PMB 324
Little Rock, Arkansas 72223
501-448-0100
www.BrownEngineers.net

SUBMITTAL REVIEW

Date: 04/21/23

To:	Taggart Architects 4500 Burrow Drive North Little Rock, AR 72116		
Attention:	James Meyer, AIA		
From:	Michael J. Biebesheimer, PE		
Re:	Electrical Heater – Product Data		
Project No.	TAG-043	Project Name:	Pine Bluff Sixth Avenue District

■	☐	☐	☐	☐	☐	☐
CODE 1 Approved	**CODE 2 Approved as Noted**	**CODE 3 Approved As Noted / Confirm**	**CODE 4 Revise and Resubmit**	**CODE 5 Not Approved**	**CODE 6 Comments Attached**	**CODE 7 Receipt Acknowledged**

1. EH-01: Raywall AFC8120T – **Approved**

SHOP DRAWING REVIEW

Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Engineer's review and approval will be only to determine if the items covered by the submittals will conform to the information given in the Contract Documents and be compatible with the design concept. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.

TRANSMITTAL LETTER

TAGGART ARCHITECTS

To: Ms. Scott Guerin
Brown Engineers
17200 Chenal Parkway, #300
Little Rock, Arkansas 72223

Project: City of Pine Bluff – 6th Avenue Plaza – Submittals

FROM: James Meyer, A.I.A.
Project Architect

Date: April 18, 2023

WE TRANSMIT to you ☒ herewith ☐ under separate cover via

☐ Drawings
☐ Specifications
☐ Correspondence
☒ Shop Drawings

☐ Approved
☐ Approved as Noted
☐ Revise and Resubmit
☐ Not Approved

☐ As Requested
☒ For Your Use
☐ For Comment or Approval
☐

Copies	Document #	Date	Description
1	230000	4/18/2023	Electrical Heater – Product Data

Remarks: Please find enclosed the above referenced submittals for your review and comment. Please maintain a copy of the submittal for your records and return the remainder with your comments and the Taggart as well as the Nabholz Transmittals.

Copies To:

Signed By:

Billy J. Mathis, CSI, CDT
Administrative Assistant for Architecture

4500 Burrow Drive, North Little Rock, Arkansas 72116
Phone: (501) 758-7443 FAX: (501) 753-7309

Nabholz Construction - HQ
1718 Aldersgate Road
Little Rock, Arkansas 72205
P: +15012175500

Project: 04-22-3162 SIXTH AVENUE PLAZA
601 SOUTH MAIN STREET
PINE BLUFF, Arkansas 71601

Submittal #1.0 - Electrical Heater: Product Data

Revision	0	**Submittal Manager**	Ralph Moreno (Nabholz Construction Corporation)
Status	Open	**Date Created**	Apr 18, 2023
Issue Date		**Spec Section**	
Responsible Contractor	COMFORT SYSTEMS USA (ARK) INC	**Received From**	Matthew Aldridge (COMFORT SYSTEMS USA (ARK) INC)
Received Date		**Submit By**	
Final Due Date	May 2, 2023	**Lead Time**	
		Type	
Approvers	Brie Gregory , Billy Mathis , James Meyer		
Ball in Court	Brie Gregory , Billy Mathis , James Meyer		
Distribution			
Description			
Lead Time		**Priority**	

Submittal Workflow

Name	Sent Date	Due Date	Returned Date	Response	Attachments
General Information Attachments					
Ralph Moreno		Apr 19, 2023	Apr 18, 2023	Submitted	23 00 00-03 Electric Heater.pdf (Current)
Comment	Please see attached for your review.				
Brie Gregory	Apr 18, 2023	May 2, 2023		Pending	
Billy Mathis	Apr 18, 2023	May 2, 2023		Pending	
James Meyer	Apr 18, 2023	May 2, 2023		Pending	

Nabholz Construction - HQ
1718 Aldersgate Road
Little Rock, Arkansas 72205
P: +15012175500

Project: 04-22-3162 SIXTH AVENUE PLAZA
601 SOUTH MAIN STREET
PINE BLUFF, Arkansas 71601

Submittal #1.0 - Electrical Heater: Product Data

Revision	0	**Submittal Manager**	Ralph Moreno (Nabholz Construction Corporation)
Status	Open	**Date Created**	Apr 18, 2023
Issue Date		**Spec Section**	
Responsible Contractor	COMFORT SYSTEMS USA (ARK) INC	**Received From**	Matthew Aldridge (COMFORT SYSTEMS USA (ARK) INC)
Received Date		**Submit By**	
Final Due Date	May 3, 2023	**Lead Time**	
		Type	
Approvers	Brie Gregory , Billy Mathis , James Meyer		
Ball in Court	Ralph Moreno (Nabholz Construction Corporation)		
Distribution			
Description			
Lead Time		**Priority**	

Submittal Workflow

Name	Sent Date	Due Date	Returned Date	Response	Attachments
General Information Attachments					
Ralph Moreno		Apr 19, 2023		Pending	
Brie Gregory		May 3, 2023		Pending	
Billy Mathis		May 3, 2023		Pending	
James Meyer		May 3, 2023		Pending	

NABHOLZ CONSTRUCTION CORP.

Reviewed for general compliance with the Design Documents. Subcontractor or vendor is fully responsible for all materials, accessories, coordination with contract documents and other trades, detailing and field measurements, and related construction criteria necessary to produce a complete, properly functioning and coordinated product, prepared for installation in full compliance with the contract documents, Nabholz Construction Subcontract or Purchase Order.

Ralph Moreno 04/18/2023

Signature **Date**

CREATING CUSTOMERS FOR LIFE

POWERS

SUBMITTAL

PRODUCT	Electric Heater
MANUFACTURER	Raywall
JOB NAME	Pine Bluff 6th Avenue Plaza
LOCATION	Pine Bluff, AR
ENGINEER	Michael Biebesheimer
CONTRACTOR	Comfort Systems
DATE	3/30/2023
SUBMITTED BY	Brady Smith

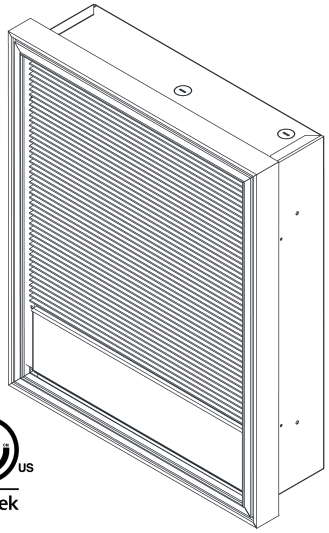
5440 Northshore Drive - North Little Rock, Arkansas 72118 - Tel: 501.374.5420 Fax: 501.370.9298

Raywall
Comfort Conditioning Products

MADE IN THE U.S.A.

AFC SERIES
FAN FORCED WALL HEATER

SALES ORDER NO.		**QUOTE**	NPK68
CUSTOMER		**DATE:**	03/30/2023
PROJECT	Pine Bluff 6th Avenue Plaza		
SALES REP			
ENGINEER			
CONTRACTOR			
SUBMITTED BY	Powersar		
APPROVED BY			
APPROVED BY			

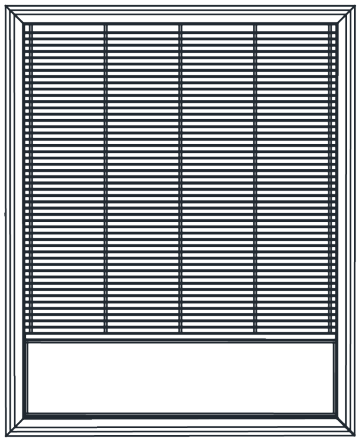


Intertek

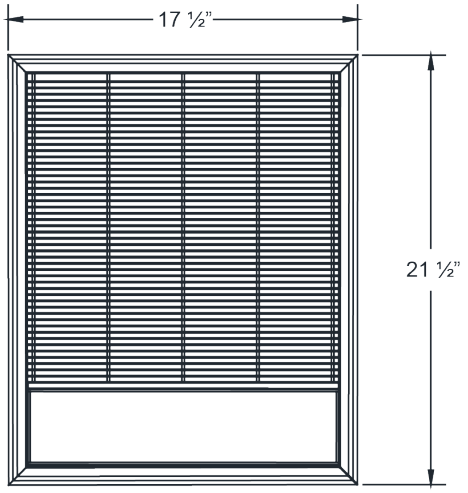
SUBMITTAL DATA SHEET

QTY	MODEL	TAG	WATTAGE	VOLTS	PHASE	AMPS	CFM	DISCONNECT	THERMOSTAT	OPTIONS
1	AFC8120T	EH-01	2	208	1	9.6	245	Yes	Yes	3420EX34

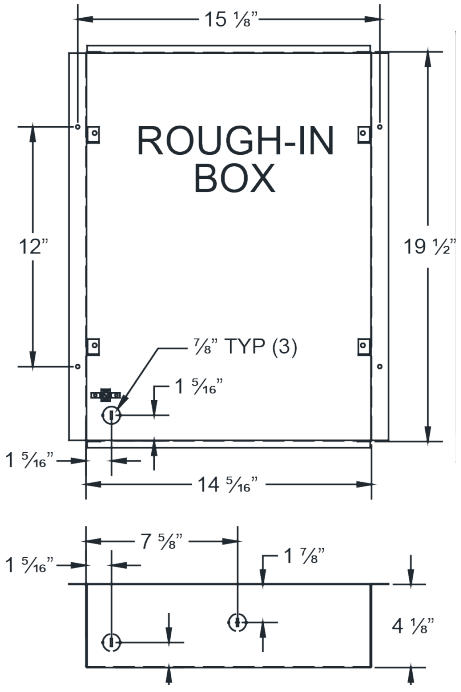
NOTES/SPECIAL INSTRUCTIONS:



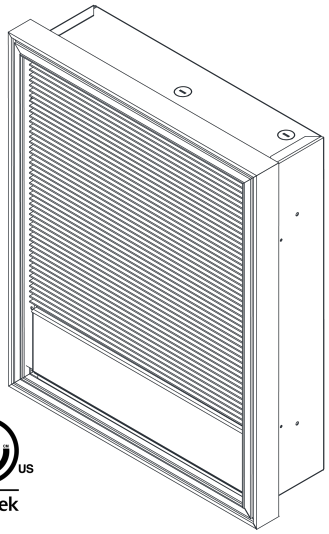
CLEARANCE



GRILLE



- Heavy 16 gauge steel construction
- Powder coated paint finish
- Steel block fin element
- All units equipped with manual reset thermal limit switch
- Van Axial fan blade produces 245 CFM
- Dual wattage and voltage units available foe 208/240 volts
- Surface Mounting Frames available for non-recessed and semi-recessed applications
- Units built with factory installed Disconnecting Tamper-Proof Thermostats



HEATER		WALL BOX		WATTS	BTUs	VOLTS	PH	AMPS	WT. (LBS)
MFG CATALOG NUMBER	MFG MODEL NUMBER	MFG CATALOG NUMBER	MFG MODEL NUMBER						
SERIES AFC - ROUGH-IN DIMENSIONS: 19 5/8" H X 14 7/16" W X 4 1/8" D GRILL DIMENSIONS: 21 1/2" H X 17 1/2" W									
06911302	AFC8120T	06915702	Box 3420	2000	6826	208	1	9.6	41
06911902	AFC2120T					240		8.3	
06911702	AFC7120T					277		7.2	
03846202	AFC8380			2000	6826	208	3	5.6	
03846402	AFC2320					240		4.8	
06912302	AFC8130T			3000	10239	208	1	14.4	
06913102	AFC2130T					240		12.5	
06912702	AFC7130T					277		10.8	
03238502	AFC8330			3000	10239	208	3	8.3	
03846502	AFC2330					240		7.3	
06913302	AFC8140T			4000	13652	208	1	19.2	
06913802	AFC2140T					240		16.7	
06913602	AFC7140T					277		14.4	
06914002	AFC8340T					208	3	11.1	
06914102	AFC2340T					240		9.6	
06914302	AFC8150T			5000	17065	208	1	24.03	
06915102	AFC2150T					240		20.8	
06914802	AFC7150T					277		18.1	
06915302	AFC8350T					208	3	13.9	
06915602	AFC2350T					240		12.0	

Factory Installed Accessories

Units with transformers must have a contactor. A control transformer with 120V secondary is available on all 3-phase models, 208V/240V 1-phase units up to 3KW, and up to 4KW on 277V. All heaters must be installed with a wall box

MFG MODEL NUMBER	DESCRIPTION	SERIES OPTIONS	
		AFC	AFH
Suffix - R	Contactor with Coil same as heater	YES	YES
Suffix - R1	Contactor with 24V Coil	YES	YES
Suffix - R2	Contactor with 120V Coil	YES	YES
Suffix - C	Circuit Breakers - all models	NO	YES
Suffix - A1	Control Transformers with 24V Secondary	NO	YES
Suffix - A2	Control Transformers with 120V Secondary	NO	YES

MFG CATALOG NUMBER	MFG MODEL NUMBER	DESCRIPTION	WT. (LBS)
06916002	AFCEX34	4" Surface Mounting Sleeve	5
06915902	AFCEX16	2" Semi-Recessing Sleeve	4
06915802	AFCEX8	1" Semi-Recessing Sleeve	3
06915705	Box AFC	Wall Box for AFC	4

Product Specifications

Contractor shall supply and install heavy duty wall mounted forced air electric heaters of the wattage, voltage and phase as specified. The heater shall so be designed to provide an even distribution of heated air to the space to be heated by drawing return air in the peripheral area of the heater across and through the element which shall then be discharged from the center section of the heater by means of an electric motor and axial flow fan blade. Heaters shall be recessed type to extend no more than 1 ½" from the finished wall or surface mounted to extend no more than 5 ¾" from the finished wall or semi-recessed type to extend no more than 3 ½" from finished wall or semi-recessed type to extend no more than 2 ½" from finished wall.

ENCLOSURE:
Heater front shall withstand 10.8 ft. lbs. (324 poundals) impact and 400 lbs. static force applied to an 8 sq. in. area at center grille location with less than 1/16" permanent distortion. The combination return and supply grille assembly shall be constructed of 1/16" x 3/8" rounded edge horizontal steel louvers which shall be spaced for maximum opening of ¼". Louvers shall be welded at every intersection to three evenly spaced 1/16" diameter vertical members and completely framed in a heavy gauge natural anodized Aluminum extrusion. Front assembly shall be attached to the chassis by hidden tamper-resistant (Allen-head) machine screws. All other parts shall be 16 gauge steel Zinc coated, both sides finished in a high gloss or bronze colored baked powder coat finish.

MOTOR:
Motor shall be a permanently lubricated unit bearing, totally enclosed shaded pole type with impedance protection. Motors shall operate at no more than 1400 RPM and shall be same voltage as the heater. A protective shield shall surround the motor to separate return air from heated air

PERFORMANCE:
Heaters shall have a rating of 245 CFM at 660 F.P.M. with a maximum temperature rise of 73°F

ELEMENTS:
Element assemblies shall consist of two or three corrosion resistant steel sheathed type elements mechanically bonded to common corrosion resistant steel fins. Each sheathed element shall consist of helically coiled Nickel Chromium alloy resistant wire completely embedded in and surrounded by Magnesium Oxide, enclosed and wedged into corrosion resistant steel sheaths. Elements shall have 2" cold conductor pins extending into the sheath and shall have a density of no more than 60 Watts per inch.

THERMAL OVERLOAD:
Heaters shall be equipped with a "manual reset" thermal overload which disconnects elements and motor in the event normal operating temperatures are exceeded. For safety, if opened due to abnormal temperature, thermal overload shall remain open until manually reset. Automatic reset thermal overloads which allow the element to continue to cycle under abnormal conditions will not be accepted.

APPROVAL:
Heaters shall be ETL Listed.

OPTIONAL CONTROL SYSTEMS:
Heaters shall be operated from wall-mounted, line voltage, heavy-duty (tamper-proof) thermostats. Heaters with built-in, pre-wired contactors shall be operated from wall-mounted, line voltage, pilot duty (tamper-proof) thermostats. Heaters built with, pre-wired contactors (and control transformers) shall be operated from wall-mounted, pilot duty (24V) or (120V) wall-mounted tamper-proof thermostats. Heaters shall be controlled by integrally mounted thermostats. Thermostats shall be heavy-duty, hydraulic type with a temperature range of 40°F-120°F for double pole units and 40°F-120°F for three pole units and with remote sensing bulb placed in the return air. Thermostats shall be electrically rated at least 125% of heater rating. Thermostats shall be electrically rated at least 125% of heater rating. Thermostats shall also act as a disconnect by breaking all ungrounded conductors in the OFF position. (Thermostat control knob shall be covered by a 16 gauge tamper-proof access plate to prevent adjustment by unauthorized personnel.)

CONTACTORS:
Where required, heaters shall be equipped with heavy-duty, definite purpose contactors with flame path separators and dust covers. Contactors shall cycle all ungrounded conductors. Contactors shall have holding coils (of the same voltage as the heater) or (120 Volts) or (24 Volts).

CONTROL TRANSFORMERS:
Heater shall be equipped with a Class 2 control transformer, sealed rating of 20 VA, to supply control circuits of (24 Volts) or (120 Volts). (120 Volt secondaries not available in single phase heaters over 3 KW).

CIRCUIT BREAKERS (AFH Series Only):
Heaters shall be equipped with built-in circuit breakers in order to allow the heaters to be supplied from feeder taps. A separate switch providing a positive off for control circuits shall be included where required. Circuit breakers and control switches shall be arranged so that all line side conductors will be separately enclosed when heater front is removed for servicing so that no current carrying parts are accessible without the use of additional tools.