



Product Catalog

Electric Unit Heaters



Model UHWA



Model UHAA



Model UHRA



Model UHXA



Model UHCA









Model UHEC



Introduction

Electric unit heaters have been a traditional means of heating hard-to-warm spaces for many years. Their uncomplicated approach in auxiliary heating make them easy to install and maintain. Their versatile characteristics allow Trane’s electric unit heaters to fill nearly every heating application gap, while their structural integrity makes them a reliable heat source to blend into today’s building décor. Trane’s electric unit heaters are available in 6 variations. The following chart presents a brief overview of the different electric unit heater models Trane offers.

Model	Description	Application
UHEC 3 to 100 kW 	Heating electric unit heater	Applied as an auxiliary heat source in walkways, stairways, vestibules, and entrances. The horizontal and vertical spot heater may be used in commercial, industrial and institutional applications.
UHRA 3 to 48 kW 	Hose-down, corrosion-resistant electric unit heater	Used in industrial applications where dirt or dust may be extensive. The totally enclosed, watertight casing is corrosion-resistant for non-hazardous locations.
UHXA 3 to 25 kW 	Explosion-proof electric unit heater	Designed for hazardous locations, the UHXA model may be applied where flammable gases, vapors, powdered metals or dust may be present.
UHCA 2 to 5 kW 	Commercial, ceiling-mounted electric unit heater	The surface- or recessed mounted model may be applied in restricted areas or where wall space is limited. This may include vestibules, lobbies, rest rooms, small-offices or guard buildings.
UHWA 2 to 5 kW 	Heavy duty, wall mounted electric unit heater series 20 and 50	Suited for public buildings such as schools, stores, offices, dormitories, hospitals and transportation terminals.

Model	Description	Application
<p>UHAA 1.5 to 4.8 kW</p> 	<p>Architectural wall mounted electric unit heater</p>	<p>The rugged construction and attractive design of the UHAA model make them appropriate for offices, lobbies, and reception areas for schools and dormitories.</p>

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Revision History

Updated the Model UHEC, Model UHEC, Model UHAA, Model UHRA, Model UHXA, Model UHCA data in the following chapters:

- Features and benefits
- Model number description
- General data
- Control wiring
- Dimensional data
- Options
- Mechanical specifications



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Features and Benefits

Model UHEC

Electric Unit Heaters

- Forty-nine models to choose from ranging from 3.3 to 100 kW. Available for 208, 240/208, 277 or 480-volt operation.
- One unit can be used for either horizontal or vertical discharge.
- Specially designed inlet louvers, venturi and outlet diffuser provide uniform air temperature and throw characteristics.
- Single-phase units, easily converted to three-phase power, are available in 3.3 to 10 kW for 208 and 240-volt operation.
- Two-speed fan operation standard on 25 kW through 50 kW units. 60 kW through 100 kW are single speed fan only.
- ETL listed to meet all requirements of UL listing standards when installed as directed.

UHEC electric unit heaters are ideal for applications ranging from new construction to auxiliary heat to renovation. They are available in 37 models ranging from 3.3 kW to 100 kW. In addition to a wide capacity range, each compact, attractive unit can be mounted in either a horizontal or vertical discharge arrangement.

Flexibility

The Trane electric unit heater shows its flexibility in installation and operation. Intended for industrial, commercial or institutional use, the Trane electric unit heater is available for 208 to 480-volt, single or three-phase operation. Units from 3.3 to 10 kW for 208 and 240-volt operation may be converted easily from single to three-phase operation in the field. Single speed fan on 3.3 to 20 kW. Two-speed fan operation is available on 25 kW through 50 kW. Single speed only available on 60 kW through 100 kW units.

Uniform Air Distribution

The Trane unit heater uniformly directs the air to exactly where it's needed. A specially designed deep-drawn venturi assures uniform air distribution. The outward-drawn venturi channels the air forward for maximum, uniform air throw. Outlet diffusers are provided to properly direct the heated discharge air.

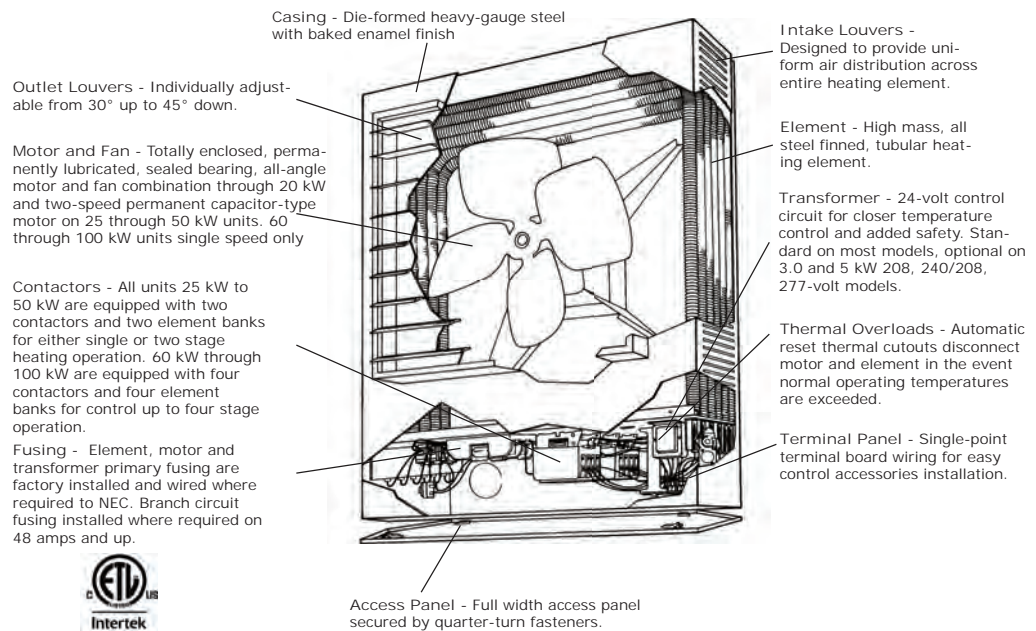
In order to minimize the potential for hot spots on the heating coil, inlet louvers evenly distribute intake air over the entire heating element.

Trane electric unit heaters are designed with totally enclosed, permanently lubricated industrial motors. The air-over-motor design reduces operating temperatures, promoting long motor life. Thermal overloads provide additional protection for major circuits, in case normal operating temperatures are exceeded.

Quick and Easy Low-Cost Installation

Installation time and costs are minimized. Compact and completely factory wired, the Trane electric unit heater requires only a single-source power supply connection. The units are available with factory installed 24-volt control transformers and contactors.

Features and Benefits



Mounting the unit is easily accomplished with the use of hanger rods connected to weld nuts on the unit casing. An accessory mounting bracket is available for single-point mounting. Field installed accessories such as built-in thermostats, disconnect switches and summer fan switches are provided with spade terminals for easy installation to a single-point terminal board.

Reliable Operation

Trane electric UHEC unit heaters operate reliably when installed and operated as directed. All units are ETL listed. One-year warranty.

Easy Access

In the event that service is required, easy access to the control components is provided with a full-length access panel secured by quarter-turn fasteners. For added convenience, unit wiring diagrams are located inside the access panel for easy reference during installation and servicing.



Horizontal Discharge



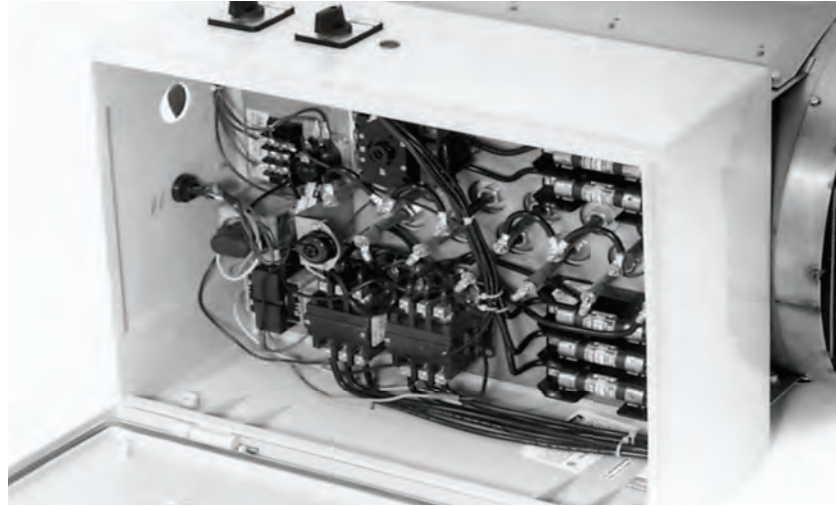
Vertical Discharge



Features and Benefits

Model UHRA

Hose-Down Electric Unit Heaters Trane UHRA hose-down electric unit heaters are constructed for use in areas that require washing or hosing of equipment due to a dirty or dusty industrial environment in non-hazardous locations. The totally enclosed, watertight casing made with corrosion-resistant material, makes the unit ideal for industrial heating applications. All controls are built-in and the safety temperature controls are wired in a nonmetallic NEMA 4x control panel with single-point power connections.

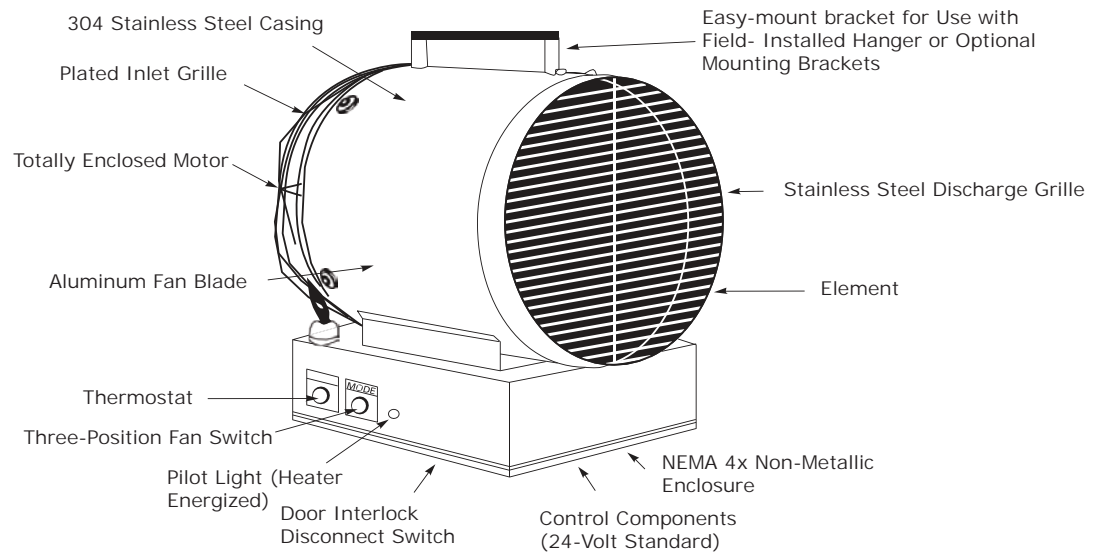


Standard Features

- Heavy-duty 304 stainless steel casing
- NEMA 4x nonmetallic control panel
- 24-volt transformer and control circuit
- Three-position switch (off - heat - fan)
- Disconnect switch with enclosure interlock
- Capillary thermostat with stainless steel sensor
- Automatic reset thermal cutout
- Totally enclosed UL listed motor
- Pilot light (power on indicator)
- Chrome-plated finned tubular element
- Control panel on bottom of unit for ease of installation and service

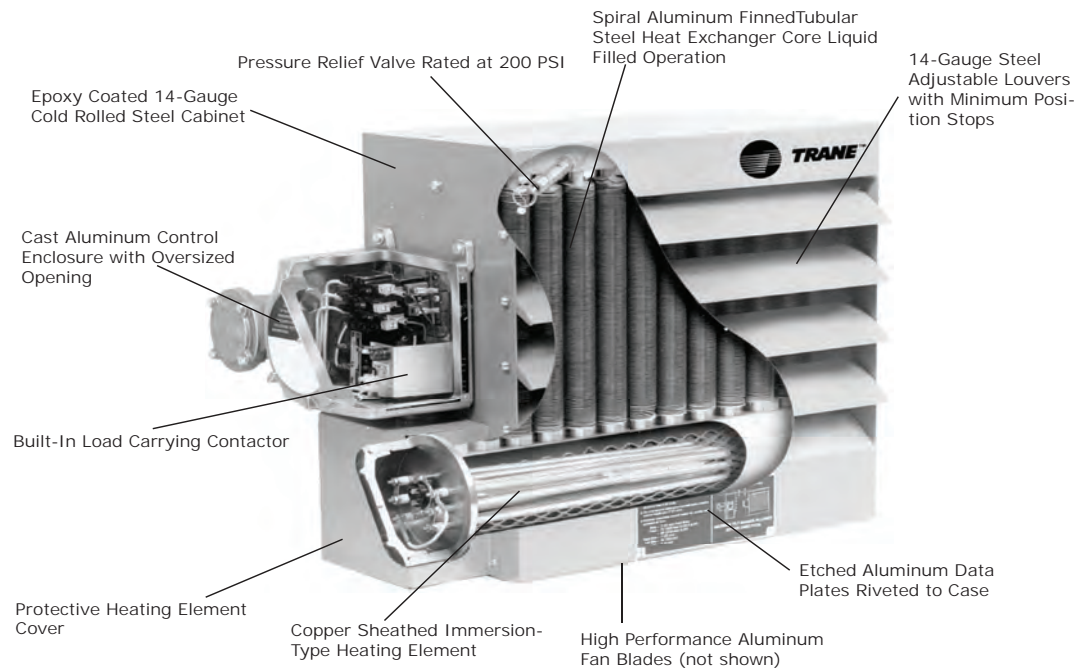
Control Enclosure

- Single-point power connection
- Meets all UL, NEC and OSHA requirements (when installed as directed)
- Corrosion-resistant in high humidity and water-saturated areas (for areas where corrosion-resistance is needed in non-hazardous areas).



Model UHXA

Trane Explosion-Proof Electric Unit Heaters



Features and Benefits

Designed for rugged industrial applications in hazardous locations where the possibility of explosion or fire exists due to the presence of certain flammable gases, vapors, powdered metals or dusts.

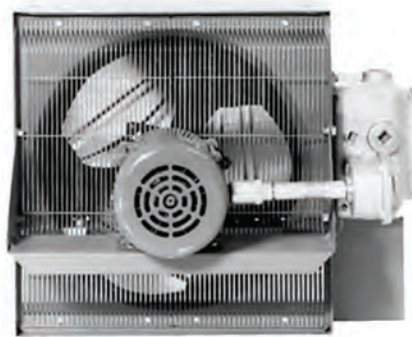
- Permanently sealed, liquid to air, finned tube heat exchanger core.
- Ethylene glycol water mixture used as heat transfer fluid in the heater core, providing -45°C, (-49°F) freeze damage protection.
- High-performance electric motor driven fan blows air across finned tubes to effect uniform heat transfer and area heat distribution.
- Automatic reset capillary type high limit provides high temperature regulation and is rated for 100,000 cycles of service.
- Stainless steel and aluminum pressure relief valve handles any over-pressure.
- 14-gauge steel cabinet contains heater core, motor and fan assembly.
- Narrow gap safety fan guard shields all moving parts.
- Adjustable louvers allow directional control of air.
- Copper conductor wires enclosed in rigid metal conduits carry all electrical power.
- Box lugs are furnished for field connections within an approved enclosure.

Optional accessories available for the UHXA models:

- Integral thermostat - field adjustable thermostat mounted in the face of the NEMA 7 control enclosure.
- Disconnect switch - disconnect switch for single point connection of electric power mounted in NEMA 7 enclosure and factory wired.
- Pilot light - pilot light to indicate manual reset tripped in the event of safe operating temperatures exceeded. Factory wired and located on the NEMA 7 control enclosure.
- Mounting kits - kits for wall, pipe and joist mounting are available for field installation and mounting of heaters.
- Wall thermostat - hazardous location thermostat for field mounting.



Liquid to air heat exchanger with low watt density heating elements in ethylene glycol solution that provides freeze protection to -45°C.



Ball bearing permanently lubricated explosion-proof motor. Chrome plated guard meets OSHA requirements.



Heavy-duty control contactor with 24-volt control circuit provided on all models.

Model UHWA Series 20 and 50

Heavy-Duty Wall Heaters

Trane heavy-duty wall mounted electric forced-air unit heaters are architecturally styled in a vandal-resistant design for all commercial, institutional and many industrial applications. They are particularly suited for schools, office buildings, dormitories, stores, hospitals and other public buildings.

The high capacity and wide range of voltage/phase and control systems provides application versatility to meet most installation requirements. A wide selection of built-in factory installed and wired, pre-engineered control systems minimizes system design and installation time.

All units are equipped with manual reset limit control thermal cut-outs for overheat protection and a totally enclosed, permanently lubricated motor. Optional circuit breaker, control transformer and a selection of integral or wall-mounted thermostat controls are part of the unit package.

Solid Construction and Dependable Components

Sleeve

Sleeve for surface or semi-recessed installation. 16 gauge (1.5 mm thickness) zinc coated steel.

Element

Totally enclosed, corrosion-resistant. Maximum finning for lower operating temperature and longer life. Will not become dust clogged. (No filter required.)

Thermal Cut-Out

All units are equipped with manual reset limit control.

Transformer

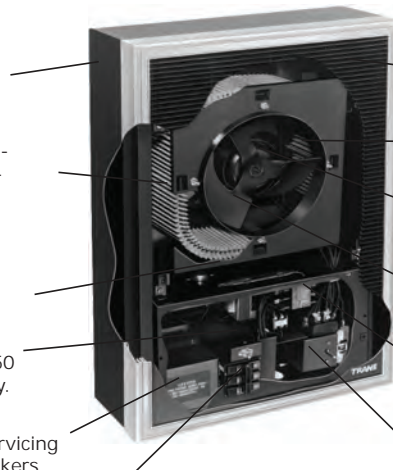
Optional factory assembled and wired in 50 Series. Choice of 24 or 120 volt secondary.

Entrance Terminals

Line side termination enclosed for safe servicing of heaters when supplied with circuit breakers.

Circuit Breakers

Reduces installation cost by allowing one or more heaters to be wired from feeder and feeder tap. Separate control circuit switch supplied when required. All power can be turned off before front cover is removed.



Louvered Grille

Heavy-duty welded steel for maximum impact resistance. Closely spaced (pencil proof), tamperproof.

Motor Shield

Protects motor by separating return air from heated air.

Motor

Heavy-duty unit bearing, permanently lubricated, totally enclosed, impedance protected.

Blade

Highly efficient, space saving blade- over-motor design, individually balanced.

Contactors

Optional, definite purpose, heavy-duty type with flame path separators and dust covers. Choice of heater voltage, 120 volt or 24 volt holding coil.

Thermostat

Optional heavy-duty hydraulic snap action type with sensing bulb in return airstream. Disconnects all ungrounded conductors in OFF position.



Series 50 with exposed thermostat knob and covered circuit breaker and control switch only

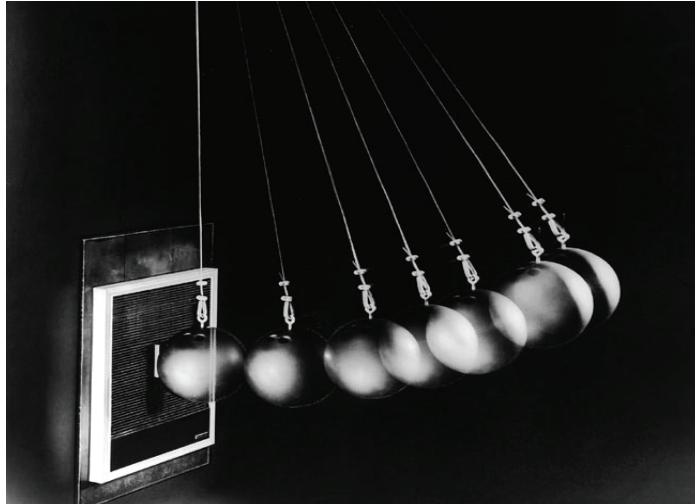


Series 20 and 50 with tamper-resistant thermostat cover plate which is included with each heater.



Series 50 with tamper-resistant cover removed.

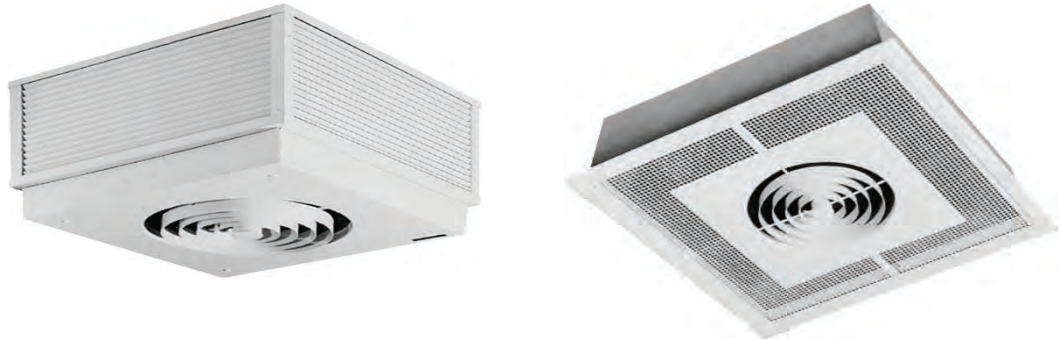
Features and Benefits



- Architecturally styled and vandal-resistant for schools, churches, stores, office buildings, transportation terminals, dormitories, hospitals.
- Use in vestibules, entrance ways, lobbies, corridors, stairways, reception rooms, rest rooms, offices.
- Simple application design — wide selection of built-in, factory installed and wired, pre-engineered control systems. Saves design and on-the-job time.
- Versatile application — higher capacity and wider range of voltage/phase and control systems than any similar heaters previously available.
- Heater front withstands with less than 1/16" (1.6 mm) permanent distortion, 10.8 ft lbs (324 pounds) impact and 400 lbs (181.4 kg) static force applied to an 8 sq. in. (5160 sq. mm) area at center grille location.

Model UHCA Series 70 and 80

Commercial and Industrial Ceiling - Mounted Fan Forced Heaters



Series 80 Recess mounted for 2' (609.6 mm) x 2' (609.6 mm) "T" bar or plaster ceilings

Mounting Bracket — features swing up installation on surface mounted 70 Series. Bracket center notched to accept screws of ceiling outlet box (installed by others). Recessed heater 80 Series has junction box attached to heater can.

Motor — heavy-duty unit bearing, permanently lubricated, totally enclosed, impedance protected.

Blade — highly efficient, space-saving blade over motor design, individually balanced.

Thermal Cut-Out — manual reset over temperature limit in the event that normal operating temperatures are exceeded.

Element — totally enclosed and corrosion resistant. Maximum finning for lower operating temperatures and long life. Will not become dust clogged. (No filter required.)

Discharge Venturi — bull's-eye design permitting heated air to leave in uniform pattern.

Plaster Trim — optional plaster trim for recessed mounted heaters (series 80) only. Provides finished ceiling appearance.

Low voltage — all units standard with 24 volt transformer and contactor for low voltage control and an internal fan purge to dissipate residual heat on shutdown.

Series 70 and 80 Features

- Crisp, unique styling to blend into any architectural design — unit designed for long life and warranted for five years.
- Higher velocity ceiling-mounted heater gets air down to warm those hard to heat areas where public accessibility is not desired or where wall area is restricted.
- Single or multiple installations at a fraction of the cost of cabinet unit heaters.
- One-year warranty.
- 2,000 to 5,000 watts.
- 208, 204 V single and three-phase. 277 V single-phase.
- ETL listed.



Features and Benefits

Optional built-in accessories on all 70 and 80 series units:

- **Disconnect switch** - optional disconnect is factory installed and wired for single point incoming power connections.
- **Thermostat** - optional built in single pole thermostat in low voltage circuit. Thermostat can be adjusted through the front grill and is tamper proof design (1-110 degree F range).
- **Night setback** - relays factory installed and wired to be field wired to bas for night setback energy conservation.

Commercial and Institutional Applications

- Use in vestibules, entrance ways, lobbies, restrooms and small office and guard building applications.
- A unique design offers surface and recessed applications with higher wattage capacity and wider range of voltage and phase capabilities than other heaters of this type.



Model UHAA Series 3320

Architectural Quality

- Built - in tamper resistant thermostat
- Built - in tamper resistant disconnect switch
- Richly styled, rugged grille
- Whisper-quiet sound level
- Fan delay
- Decorator designed for functional beauty and versatility.
- One-year warranty
- ETL listed

Optional Accessories

3320EX33 = Surface Mounting Adapter

Factory-Installed Accessories

Suffix R = Day/Night Relay

Rugged Grille — grille made of 18 gauge (1.2 mm thickness) steel painted with a dark brown baked enamel finish.

Richly Styled Grille — grille is highlighted by a snap-on, 14-gauge (1.9 mm thickness) aluminum frame, secured to the heater with an inconspicuous fastener.

Element — steel sheath with plate heat exchanger.

Fan Delay Switch — to allow the fan to continue to run for a short period after the thermostat is satisfied, to expel warm air from inside the heater. Also delays fan on start up to insure delivery of heated air. This switch also prolongs element life.

“Unique” Vane Axial Fan Wheel — draws in large volumes of air then quietly and gently discharges 175 cfm (82.6 l/s) of heated air downward into the room.





Application Considerations

Model UHXA

Abbreviated descriptions of UL classes, groups and divisions. Before selecting any heater for a particular application, refer to Article 500 as well as other standards referenced in the National Electric Code.

- Class I: Equipment does not have surface operating temperature in excess of the ignition temperature of the specific gas or vapor.
- Class II: Equipment does not have surface temperature greater than the ignition temperature of the specified dust.
- Group D: Atmospheres such as but not limited to acetone, alcohol, gasoline, lacquer solvent vapors, natural gas, propane or other gases or vapors of equivalent hazard.
- Group E: Atmospheres containing combustible metal dust regardless of resistivity, or other combustible dust of similar hazard characteristics having resistivity of less than 105 ohm-centimeter.
- Group F: Atmospheres containing carbon black, charcoal, coal or coke dust.
- Group G: Atmospheres containing combustible dust having resistivity of 105 ohm-centimeter or greater.
- Division I: A location in which ignitable concentrations of flammable material exist under normal operating conditions.
- Division II: Locations in which flammable materials will normally be confined within closed containers and escape only in the case of accidental rupture, breakdown or during maintenance operations. Any equipment approved for Division I is automatically also approved for Division II.

Selection and application of electric unit heaters should consider the location, classification and properties of flammable vapors, liquids, gases, dusts and fibers which may be present. Each room, section or area should be considered individually.

For further information consult National Electric Code and National Fire Prevention Association (ANSI) standards. All models conform to OSHA requirements when mounted at any height.

Installation Conditions

1. Refer to owner's manual.
2. The Trane explosion-proof electric unit heaters have been ETL listed for maximum surface temperatures. Use only in atmospheres having an ignition temperature higher than 165°C (T3B) for Class I and Class II operation.
3. Altitude restrictions — see specification table.
4. Heater must be installed in permanently mounted upright position and connected to fixed power supply.
5. Do not operate in atmospheres corrosive to steel and aluminum.



Selection Procedure

Model UHEC, UHRA, UHXA, UHWA, UHCA, UHAA

Calculate the heating loads using the NEMA, ASHRAE, or other accepted heating load calculation method. Determine the quantity and size of unit heaters to be used. To maintain uniform temperature and recommended air circulation, it is suggested that cfm should be adequate to accomplish three air changes per hour.

For maximum comfort, the use of smaller units with lower airflows is suggested to provide more uniform temperature and even airflow. In warehouses and storage areas where uniform heat distribution and temperature control is of lesser importance, it is desirable to use fewer units with greater capacity.

Unit heaters mounted in the horizontal discharge position are most effective when heat is directed along the perimeter of the building wall with the airflow of each unit supporting the airflow of the other units to create a constant flow of warm air.

Model UHEC and Model UHRA

Unit heaters in the vertical position are ideal for use in high ceiling areas and areas where low mounting heights would interfere with personnel or equipment activity. Units mounted in the vertical discharge position should not be mounted higher than the unit's published maximum mounting height ratings. When unit heaters are used to temper areas such as loading dock doors, one or more units should be arranged to blanket the exposed opening.



Model Number Descriptions

Model UHEC

Digits 1-3 – Electric Unit Heater

Digit 4 – Development Sequence

Digits 5-6 – Unit Capacity

03	=	3.3 kW
05	=	5 kW
07	=	7.5 kW
10	=	10 kW
15	=	15 kW
20	=	20 kW
25	=	25 kW
30	=	30 kW
40	=	40 kW
50	=	50 kW
60	=	60 kW
70	=	70 kW
80	=	80 kW
90	=	90 kW
100	=	100 kW

Digit 7 – Element Phase

1	=	Single-phase
2	=	Single-phase/three-phase (field convertible)
3	=	Three-phase

Digit 8 – Element and Motor Voltage

A	=	208 V
B	=	240/208 V
C	=	277 V - Single-phase only
D	=	480 V - Three-phase only

Digit 9 – 24-Volt Control Transformer

0	=	None - wired for direct line voltage
A	=	Transformer - for 24-volt control circuits

Digit 10 – Design Sequence

Digit 11 – Contactors

0	=	None - wired for direct line voltage
A	=	Contactors - for 24-V control circuits

Model UHRA

Digits 1-3 – Electric Hose-Down Corrosion Resistant Unit Heater

Digit 4 – Development Sequence

Digits 5-6 – Unit Capacity

03	=	3.3 kW
05	=	5 kW
07	=	7.5 kW
10	=	10 kW
15	=	15 kW
20	=	20 kW
25	=	25 kW
30	=	30 kW
40	=	40 kW
48	=	48 kW

Digit 7 – Element Phase

1	=	Single-phase
3	=	Three-phase

Digit 8 – Element Voltage

A	=	208 V
G	=	240 V
C	=	277 V
D	=	480 V
F	=	600 V

Digit 9 – 24-Volt Control Transformer/Relay

A	=	Transformer/Relay – Standard
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Digit 10 – Design Sequence

Digit 11 – Thermostat/off/on/fan switch – Factory installed and wired

T	=	Thermostat/off/on/fan switch – Standard
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Model UHXA

Digits 1-3 – Electric Explosion-Proof Unit Heater

Digit 4 – Development Sequence

Digits 5-6 – Unit Capacity

03	=	3 kW
05	=	5 kW
07	=	7.5 kW
10	=	10 kW
15	=	15 kW
20	=	20 kW
25	=	25 kW

Digit 7 – Element Phase

1	=	Single Phase
3	=	Three Phase

Digit 8 – Voltage

A	=	208 V
B	=	240 V
D	=	480 V
F	=	600 V

Digit 9 – Control Voltage

1	=	24 V (STD)
2	=	120 V (For 208, 240 & 480 V only)
3	=	208 V (For 208 V only)
4	=	240 V (For 240 V only)

Digit 10 – Design Sequence

Digit 11

T	=	Built-in thermostat
D	=	Built-in disconnect switch
P	=	Built-in pilot light

Notes:

1. Available in 3 phase only.
2. Available in 480 V or 600 V, 3 phase only.
3. Available for 3 kW, 5 kW and 7.5 kW in 208 and 240 V and 10 kW in 240 V only.

Model UHWA

Digits 1-3: Unit Type

UHW = Electric Wall Mounted Unit Heater

Digit 4: Development Sequence

Digits 5 - 6: Unit Capacity

02 = 2 kW
03 = 3 kW
04 = 4 kW
05 = 5 kW

Digit 7: Element Phase

1 = 1 Phase/60 Cycle
3 = 3 Phase/60 Cycle

Digit 8: Element and Motor Voltage

A = 208 V
B = 240 V
C = 277 V

Digit 9: Unit Series

2 = Unit Series 20
5 = Unit Series 50

Digit 10: Current Design Sequence

Digit 11: Built-in Thermostat

0 = None
T = Unit Mounted Tamper Proof Thermostat

Digit 12: Wall Box

2 = Series 20 Wall Box
5 = Series 50 Wall Box

Digit 13: Extension Sleeves

0 = No Extension Sleeves
A = 4" (102 mm) Ext Surface Mounted (20 Series)
B = 2" (51 mm) Ext Semi-Recessed (20 Series)
C = 1" (25 mm) Ext Semi-Recessed (20 Series)
D = 4" (102mm) Ext Surface Mounted (50 Series)
E = 2" (51 mm) Ext Semi-Recessed (50 Series)
F = 1" (25 mm) Ext Semi-Recessed (50 Series)

Digit 14: Wall Mounted Line Voltage Thermostat

1 = DPST 1-Phase Line Voltage
2 = DPST 1-Phase Tamper Resistant
3 = DPST 3-Phase Line Voltage
4 = SPST Pilot Duty Line Voltage
5 = SPST Pilot Duty Tamper Resistant

Digit 15: Contactors

H = Line Voltage
J = 24V
K = 120V

Digit 18: Circuit Breaker

L = Unit Mounted

Digit 19: Transformer 24 Volt

M = 24V Transformer

Digit 20: Transformer 120 Volt

P = 120V Transformer

Model UHCA

Digit 1-3: Unit Type

UHC = Electric Ceiling Mounted Commercial Heater

Digit 4: Development Sequence

Digits 5-6: Unit Capacity

02 = 2 kW
03 = 3 kW
04 = 4 kW
05 = 5 kW

Digit 7: Element Phase

1 = 1 Phase/60 Cycle
3 = 3 Phase/60 Cycle

Digit 8: Element and Motor Voltage

A = 208 V
B = 240 V
C = 277 V

Digit 9: Unit Series

2 = Surface Mounted, Unit Series 70
5 = Recess Mounted, Unit Series 80

Digit 10: Current Design Sequence

Digit 12-13: Unit Mounted Thermostat

T1 = Single Pole Thermostat

Digit 14: Unit Mounted Disconnect

S = Unit Mounted Disconnect Switch

Digit 15-16: Unit Mounted Relay

R1 = Unit Mounted 24 Volt Transformer/Relay
R = Unit Mounted Line Voltage Relay
R2 = Unit Mounted 120 Volt Relay

Digit 17: Plaster Trim

A = Plaster Trim

Digit 18: Wall Mounted Line Voltage Thermostat

1 = Wall Mounted Low Voltage SPST Thermostat
2 = DPST 1-Phase Tamper Resistant Thermostat
3 = DPST 3-Phase Line Voltage Thermostat
4 = SPST Pilot Duty Line Voltage Thermostat
5 = SPST Pilot Duty Tamper Resistant Thermostat

Digit 19: Control Panels

A1 = Built-in low voltage control transformer and contactor

Model UHAA

Digit 1 - 3: Unit Type

UHA = Electric Architectural Wall Heater

Digit 4: Development Sequence

Digits 5-6: Unit Capacity

15 = 1.5 kW
02 = 2 kW
03 = 3 kW
04 = 4 kW
48 = 4.8 kW

Digit 7: Element Phase

1 = 1 Phase/60 Cycle
3 = 3 phase / 60 cycle

Digit 8: Element and Motor Voltage

A = 208 V 1 Phase
B = 240 V 1 Phase
C = 277 V 1 Phase
E = 120 V 1 Phase
J = 208 V 3 Phase
K = 240 V 3 Phase

Digit 9: Built-in Thermostat

T = Unit Mounted Tamper proof Thermostat

Digit 10: Current Design Sequence

Digit 11: Unit Mounted Disconnect

D = Unit Mounted Disconnect Switch

Digit 12: Day/Night Relay

0 = None
R = Unit Mounted Day/Night Relay

Digit 13: Surface Mounting Adapter Option

0 = None
A = 3320EX33 Surface Mounting Adapter



General Data

Model UHEC

Table 1. Model UHEC

Unit Model Number	Electrical Data								Motor Data		Air Delivery Data			Rec. Max. Mounting Height (Ft)	
	Capacity		Element and Motor Voltage	Element Phase	Std. Control Voltage	Max. Amp Rating	Min. Circuit Fuse Size	Supply Wire Gauge (75°C)			Airflow At Outlet (Cfm)	Approx. Air Rise @ Outlet (F)	Horiz. Air Throw (Ft)		
	kW Rating	Btu/Hr (000)							Horiz	Vert					
UHEC-031A0CO	3.3	11.2	208	1	208	15.9	20A	12G	1/125	1550	400	26	12	9	9
UHEC-031B0CO	3.3/2.5	11.2/8.5	240/208	1	240/208	13.7/11.9	20A/15A	12GA/14GA	1/125	1550	400	26	12	9	9
UHEC-031AACA	3.3	11.2	208	1	24	15.9	20A	12G	1/125	1550	400	26	12	9	9
UHEC-032A0CO	3.3	11.2	208	1-3	208	15.9/9.2 ^(a)	20A	12GA	1/125	1550	400	26	12	9	9
UHEC-032B0CO	3.3/2.5	11.2/8.5	240/208	1-3	240/208	13.7/11.9 7.9/6.9 ^(a)	20A/15A	12GA/14GA	1/125	1550	400	26	12	9	9
UHEC-031C0CO	3.3	11.2	277	1	277	11.9	15A	14GA	1/125	1550	400	26	12	9	9
UHEC-031CACA	3.3	11.2	277	1	24	11.9	15A	14G	1/125	1550	400	26	12	9	9
UHEC-033DACA	3.3	11.2	480	3	24	4	15A	14GA	1/125	1550	400	26	12	9	9
UHEC-031BACA	3.3/2.5	11.2/8.5	240/208	1	24	13.7/11.9	20A/15A	12GA/14GA	1/125	1550	400	26	12	9	9
UHEC-032AACA	3.3	11.2	208	1-3	24	15.9/9.2 ^(a)	20A	12GA	1/125	1550	400	26	12	9	9
UHEC-032BACA	3.3/2.5	11.2/8.5	240/208	1-3	24	13.7/11.9 7.9/6.9 ^(a)	20A/15A	12GA/14GA	1/125	1550	400	26	12	9	9
UHEC-051A0CO	5	17.1	208	1	208	24.1	35A	8GA	1/125	1550	400	40	12	9	9
UHEC-052AACA	5	17.1	208	1-3	24	24.1/13.9	35A	8GA	1/125	1550	400	40	12	9	9
UHEC-051B0CO	5.0/3.7	17.1/12.8	240/208	1	240/208	20.9/18.1	30A/25A	10GA/10GA	1/125	1550	400	40	12	9	9
UHEC-052A0CO	5	17.1	208	1-3	208	24.1/13.9 ^(a)	35A	8GA	1/125	1550	400	40	12	9	9
UHEC-052B0CO	5.0/3.7	17.1/12.8	240/208	1-3	240/208	20.9/18.1 12.1/10.4 ^(a)	30A/25A	10GA/10GA	1/125	1550	400	40	12	9	9
UHEC-052BACA	5.0/3.7	17.1/12.8	240/208	1-3	24	20.9/18.1 12.1/10.4 ^(a)	30A/25A	10GA/10GA	1/125	1550	400	40	12	9	9
UHEC-051C0CO	5	17.1	277	1	277	18.1	25A	10GA	1/125	1550	400	40	12	9	9
UHEC-053DACA	5	17.1	480	3	24	6.1	15A	14GA	1/125	1550	400	40	12	9	9
UHEC-051AACA	5	17.1	208	1	24	24.1	35A	8GA	1/125	1550	400	40	12	9	9
UHEC-051BACA	5.0/3.7	17.1/12.8	240/208	1	24	20.9/18.1	30A/25A	10GA/10GA	1/125	1550	400	40	12	9	9
UHEC-05ACACA	5	17.1	277	1	24	18.1	25A	10GA	1/125	1550	400	40	12	9	9
UHEC-072AACA	7.5	25.6	208	1-3	24	36.1 20.8 20.8 ^(a)	50A	6GA	1/50	1550	700	34	22	10	12



General Data

Table 1. Model UHEC (continued)

Unit Model Number	Electrical Data								Motor Data		Air Delivery Data			Rec. Max. Mounting Height (Ft)	
	Capacity		Element and Motor Voltage	Element Phase	Std. Control Voltage	Max. Amp Rating	Min. Circuit Fuse Size	Supply Wire Gauge (75°C)			Airflow At Outlet (Cfm)	Approx. Air Rise @ Outlet (F)	Horiz. Air Throw (Ft)		
	kW Rating	Btu/Hr (000)												Horiz.	Vert.
UHEC-072BACA	7.5/5.6	25.6/19.2	240/208	1-3	24	31.3/27.1 18.1/ 15.6 ^(a)	40A/ 35A	8GA/8GA	1/50	1550	700	34	22	10	12
UHEC-071CACA	7.5	25.6	277	1	24	27.1	35A	8GA	1/50	1550	700	34	22	10	12
UHEC-073DACA	7.5	25.6	480	3	24	9.1	15A	14GA	1/50	1550	700	34	22	10	12
UHEC-102AACA	10	34.1	208	1-3	24	47.8/ 27.7 ^(a)	60A	4GA	1/50	1550	700	45	22	10	14
UHEC-102BACA	10.0/7.5	34.1/25.6	240/208	1-3	24	42.2/36.1 24/20.8 ^(a)	60A/ 50A	4GA/6GA	1/50	1550	700	45	22	10	14
UHEC-101CACA	10	34.1	277	1	24	36.1	50A	6GA	1/50	1550	700	45	22	10	14
UHEC-103DACA	10	34.1	480	3	24	12.1	20A	12GA	1/50	1550	700	45	22	10	14
UHEC-153AACA	15	51.2	208	3	24	41.7	60A	4GA	1/20	1550	1100	43	32	11	20
UHEC-153BACA	15.0/ 11.2	51.2/38.4	240/208	3	24	36.1/31.3	50A/ 40A	6GA/6GA	1/20	1550	1100	43	32	11	20
UHEC-153DACA	15.0	51.2	480	3	24	18.1	25A	10GA	1/20	1550	1100	43	32	11	20
UHEC-203BACA	19.7/ 14.8	67.2/50.5	240/208	3	24	47.8/41.1	70A/ 60A	4GA/4GA	1/20	1550	1100	57	32	12	18
UHEC-203DACA	20.0	68.3	480	3	24	24.1	35A	8GA	1/20	1550	1100	57	32	12	18
UHEC-253AACA	25.0	85.3	208	3	24	69.5	90A	2GA	1/12	1550	2000/ 1800	40/44	45	12	22
UHEC-253BACA	25.0/ 18.7	85.3/64.0	240/208	3	24	60.2/52.1	80A/ 70A	3GA/4GA	1/12	1550	2000/ 1800	40/44	45	12	22
UHEC-253DACA	25.0	85.3	480	3	24	30.1	40A	8GA	1/15	1550	2000/ 1800	40/44	45	12	22
UHEC-303AACA	30.0	102.4	208	3	24	83.4	110A	1GA	1/12	1550	2000/ 1800	47/53	40	12	20
UHEC-303BACA	30.0/ 22.5	102.4/76.8	240/208	3	24	72.3/62.5	100A/ 80A	1GA/3GA	1/12	1550	2000/ 1800	47/53	40	12	20
UHEC-303DACA	30.0	102.4	480	3	24	36.2	50A	6GA	1/15	1550	2000/ 1800	47/53	40	12	20
UHEC-403AACA	40.0	136.5	208	3	24	111.2	150A	1/0 ^(b)	1/4	1550	3100/ 2800	40/45	55	15	24
UHEC-403BACA	40.0/ 30.0	136.5/102.4	240/208	3	24	96.4/83.4	125A/ 110A	1/0/1GA	1/4	1550	3100/ 2800	40/45	55	15	24
UHEC-403DACA	39.0	133.1	480	3	24	47.0	70A	4GA	1/5	1550	3100/ 2800	40/45	55	15	24
UHEC-503AACA	50.0	170.6	208	3	24	139.0	175A	2/0 ^(b)	1/4	1550	3100/ 2800	51/56	50	15	22
UHEC-503BACA	50.0/ 37.5	170.6/128.0	240/208	3	24	120.5/ 104.3	175A/ 175A	2/0/2/0	1/4	1550	3100/ 2800	51/56	50	15	22
UHEC-503DACA	50.0	170.6	480	3	24	60.3	80A	3GA	1/5	1550	3100/ 2800	51/56	50	15	22



General Data

Table 1. Model UHEC (continued)

Unit Model Number	Electrical Data								Motor Data		Air Delivery Data			Rec. Max. Mounting Height (Ft)	
	Capacity		Element and Motor Voltage	Element Phase	Std. Control Voltage	Max. Amp Rating	Min. Circuit Fuse Size	Supply Wire Gauge (75°C)			Airflow At Outlet (Cfm)	Approx. Air Rise @ Outlet (F)	Horiz. Air Throw (Ft)		
kW Rating	Btu/Hr (000)														
UHEC-603AACA	60	204.7	208	3	24	166.7	225	Feb-00	1/3	1100	3400	60	50	18	31
UHEC-603BACA	60/45	204.7/153.6	240/208	3	24	144.6/125	200/175	1/0//1	1/3	1100	3400	60/45	50	18	31
UHEC-603DACA	60	204.7	480	3	24	72.3	100	4	1/3	1100	3400	60	50	18	31
UHEC-703AACA	70	238.9	208	3	24	194.4	250	Mar-00	1/3	1100	3400	70	50	18	31
UHEC-703BACA	70/52.5	238.9/179.2	240/208	3	24	168.7/145.8	225/200	2/0//1/0	1/3	1100	3400	70/53	50	18	31
UHEC-703DACA	70	238.9	480	3	24	84.3	110	3	1/3	1100	3400	70	50	18	31
UHEC-803AABACA	80/60	273/204.7	240/208	3	24	192.8/166.7	250/225	3/0//2/0	3/4	1100	5000	55/41	65'	22	40
UHEC-803DACA	80	273	480	3	24	96.3	125	3	3/4	1100	5000	55	65'	22	40
UHEC-903BACA	90/67.5	307.1/230.4	240/208	3	24	216.9/187.5	300/250	3/0//3/0	3/4	1100	5000	61/46	65'	22	40
UHEC-903DACA	90	307.1	480	3	24	108.4	150	2	3/4	1100	5000	61	65'	22	40
UHEC-1003BACA	100/75	341.3/256	240/208	3	24	241/208.3	350/300	250MCM//4/0	3/4	1100	5000	68/51	65'	22	40
UHEC-1003DACA	100	341.3	480	3	24	120.4	175	1	3/4	1100	5000	68	65'	22	40

Note:

1. Maximum amp rating indicates single-phase on those units suitable for both single and three-phase.
 2. 25 through 50 kW models are wired for two-stage, low voltage control. These units are also equipped with two-speed motors for Hi-Lo fan operation with addition of fan switch option.
 3. Dual voltage unit ratings indicate highest voltage performance.
 4. 1 kW equals 3,413 BTU.
- (a) Amp Rating for three-phase operation.
 (b) Supply wire on these models should have insulation rated 75°C minimum.

Table 2. Model UHEC – Metric

Unit Heater Capacity Kw Rating	Motor Data		Airflow at Outlet (L/S)	Approx. Air Rise @ Outlet (C)	Horiz. Air Throw (M)	Rec. Max Mounting Height (M)	
	Watts	R.P.S.				Horizontal	Vertical
3.3	6	25.8	189	14.4	3.7	2.7	2.7
5	6	25.8	189	22.2	3.7	2.7	2.7
7.5	14	25.8	330	18.9	6.7	3	3.7
10	14	25.8	330	25	6.7	3	4.3
15	37	25.8	519	23.9	9.8	3.4	6.1
20	37	25.8	519	31.7	9.8	3.7	5.5
25	62	25.8	944/849	22.2/24.4	13.7	3.7	6.7
25 480/3 Mtr	50	25.8	944/	22.2/	13.7	3.7	6.7
			849	24.4	13.7	3.7	6.7
30	62	25.8	944/	26.1/	12.2	3.7	6.1
			849	29.4	12.2	3.7	6.1
30 480/3 Mtr	50	25.8	944/	26.1/	12.2	3.7	6.1
			849	29.4	12.2	3.7	6.1
40	186	25.8	1463/	22.2/	16.8	4.6	7.3
			1321	25	16.8	4.6	7.3
40 480/3 Mtr	149	25.8	1463/	22.2/	16.8	4.6	7.3
			1321	25	16.8	4.6	7.3
50	186	25.8	1463/	28.3/	15.2	4.6	6.7
			1321	31.1	15.2	4.6	6.7
50 480/3 Mtr	149	25.8	1463/	28.3/	15.2	4.6	6.7
			1321	31.1	15.2	4.6	6.7
60	250	18.3	1604	33	15	5.4	9.4
70	250	18.3	1604	38	15	5.4	9.4
80	560	18.3	2360	30	20	6.7	12.1
90	560	18.3	2360	33	20	6.7	12.1
100	560	18.3	2360	37	20	6.7	12.1

Notes:

1. 25 through 50 kW models are equipped with two-speed motors for Hi-Lo fan operation with addition of fan switch option
2. 60 through 100 kW units have single speed motor with multiple stages available.



General Data

Model UHRA

Table 3. Model UHRA

Unit Model Number UHRA	kW Rating	Btu/Hr	Motor & Heater Volts/Phase	Control Volts	Max Amp Rating	Motor HP	Motor RPM
031AAAT	3.3	11,200	208/1	24	15.9	35 mhp (21 w)	1550 (26 rps)
033AAAT			208/3		9.2		
031GAAT			240/1		13.8		
033GAAT			240/3		8.0		
031CAAT			277/1		12.0		
033DAAT			480/3		4.0		
033FAAT			600/3		3.2		
051AAAT	5	17,100	208/1	24	24.1	35 mhp (21 w)	1550 (26 rps)
053AAAT			208/3		13.9		
051GAAT			240/1		20.9		
053GAAT			240/3		12.1		
051CAAT			277/1		18.1		
053DAAT			480/3		6.1		
053FAAT			600/3		4.9		
071AAAT	7.5	25,600	208/1	24	36.1	35 mhp (21 w)	1550 (26 rps)
073AAAT			208/3		20.9		
071GAAT			240/1		31.3		
073GAAT			240/3		18.1		
071CAAT			277/1		27.1		
073DAAT			480/3		9.1		
073FAAT			600/3		7.3		
101AAAT	10	34,130	208/1	24	48.1	35 mhp (21 w)	1550 (26 rps)
103AAAT			208/3		27.8		
101GAAT			240/1		41.7		
103GAAT			240/3		24.1		
101CAAT			277/1		36.2		
103DAAT			480/3		12.1		
103FAAT			600/3		9.7		
151AAAT	15	51,200	208/1	24	72.2	35 mhp (21 w)	1550 (26 rps)
153AAAT			208/3		41.7		
151GAAT			240/1		62.5		
153GAAT			240/3		36.2		
153DAAT			480/3		18.1		
153FAAT			600/3		14.5		

Table 3. Model UHRA (continued)

Unit Model Number UHRA	kW Rating	Btu/Hr	Motor & Heater Volts/Phase	Control Volts	Max Amp Rating	Motor HP	Motor RPM
203AAAT 203GAAT 203DAAT 203FAAT	20	68,260	208/3 240/3 480/3 600/3	24	55.6 48.2 24.1 19.3	1/3 (249 w)	1625 (27 rps)
253AAAT 253GAAT 253DAAT 253FAAT	25	85,325	208/3 240/3 480/3 600/3	24	69.5 60.3 30.2 24.1	1/3 (249 w)	1625 (27 rps)
303AAAT 303GAAT 303DAAT 303FAAT	30	102,390	208/3 240/3 480/3 600/3	24	83.4 72.3 36.2 29	1/3	1625
403DAAT 403FAAT	40	136,520	480/3 600/3	24	48.2 38.6	1/3 (249 w)	1625 (27 rps)
483DAAT 483FAAT	48	163,824	480/3 600/3	24	57.9 46.3	1/3 (249 w)	1625 (27 rps)

Table 4. Air delivery data

Unit Model Number UHRA	kW	Cfm Outlet	FPM Outlet	F Deg. Temp. Rise Outlet	Air Throw Feet	Rec. Mtg. Height
033AAAT 031GAAT 033GAAT 031CAAT 033DAAT 033FAAT	3.3	400 (189 L/S)	500 (2540 MM/S)	26°F (-3.3°C)	20 Ft. (6.1 M)	6 Ft. (1.8 M)
051AAAT 053AAAT 051GAAT 053GAAT 051CAAT 053DAAT 053FAAT	5.0	400 (189 L/S)	500 (2540 MM/S)	40°F (4.4°C)	20 Ft. (6.1 M)	6 Ft. (1.8 M)



General Data

Table 4. Air delivery data (continued)

Unit Model Number UHRA	kW	Cfm Outlet	FPM Outlet	F Deg. Temp. Rise Outlet	Air Throw Feet	Rec. Mtg. Height
071AAAT 073AAAT 071GAAT 073GAAT 071CAAT 073DAAT 073FAAT	7.5	400 (189 L/S)	500 (2540 MM/S)	60°F (16°C)	20 Ft. (6.1 M)	6 Ft. (1.8 M)
101AAAT 103AAAT 101GAAT 103GAAT 101CAAT 103DAAT 103FAAT	10.0	700 (330 L/S)	660 (3353 MM/S)	45°F (7.2°C)	28 Ft. (8.5 M)	6 Ft. (1.8 M)
151AAAT 153AAAT 151GAAT 153GAAT 153DAAT 153FAAT	15	700 (330 L/S)	660 (3353 MM/S)	68°F (20°C)	28 Ft. (8.5 M)	6 Ft. (1.8 M)
203AAAT 203GAAT 203DAAT 203FAAT	20	1400 (661 L/S)	1000 (5080 MM/S)	45°F (7.2°C)	35 Ft. (10.7 M)	6 Ft. (1.8 M)
253AAAT 253GAAT 253DAAT 253FAAT	25	1400 (661 L/S)	1000 (5080 MM/S)	56°F (13.3°C)	35 Ft. (10.7 M)	6 Ft. (1.8 M)
303AAAT 303GAAT 303DAAT 303FAAT	30	1400 (661 L/S)	1000 (5080 MM/S)	68°F (20°C)	35 Ft. (10.7 M)	6 Ft. (1.8 M)
403DAAT 403FAAT	40	1800 (849 L/S)	1000 (5080 MM/S)	70°F (21°C)	42 Ft. (12.8 M)	6 Ft. (1.8 M)
483DAAT 483FAAT	48	1800 (849 L/S)	1000 (5080 MM/S)	84°F (29°C)	42 Ft. (12.8 M)	6 Ft. (1.8 M)

Table 5. Air delivery characteristics

Heater Capacity (kW Rating)	Velocity of Air Movement (FPM)			Throw Distance	Weight
	Distance from Heater				
	6 Ft. (1.8 M)	12 Ft. (3.7 M)	24 Ft. (7.3 M)		
3.3, 5.0	210	80	25	36 Ft. (11 M)	45 lbs. (20.4 Kg)
7.5	(12.8 M/S)	(4.9 M/S)	(1.5 M/S)		
10, 15	270	95	45	46 Ft. (14 M)	55 lbs. (24.9 Kg)
	(16.5 M/S)	(5.8 M/S)	(2.7 M/S)		

Table 6. Air delivery characteristics

Heater Capacity (kW Rating)	Velocity of Air Movement (FPM)			Throw Distance	Weight
	Distance from Heater				
	10 Ft. (3.0 M)	20 Ft. (6.1 M)	30 Ft. (9.1 M)		
20, 25,	750	450	300	55 Ft. (16.8 M)	85 lbs. (39 Kg)
30	(45.7 M/S)	(27.4 M/S)	(18.3 M/S)		
40, 48	900	500	350	65 Ft. (19.8 M)	130 lbs. (59 Kg)
	(54.9 M/S)	(30.5 M/S)	(21.3 M/S)		

Table 7. Unit electrical data

Model Number	Watts	BTU/Hr. Output
UHRA-03	3,300	11,261
UHRA-05	5,000	17,062
UHRA-07	7,500	25,594
UHRA-10	10,000	34,125
UHRA-15	15,000	51,188
UHRA-20	20,000	68,250
UHRA-25	25,000	85,313
UHRA-30	30,000	102,375
UHRA-40	40,000	136,500
UHRA-48	48,000	163,800



General Data

Model UHXA

Table 8. Model UHXA

Unit Size	Model No. UHXA	Volts/Phase	Motor HP	Heater Amps	Line Amps	BTU/Hr.	Air Temp. Rise Deg. F	Air Temp. Rise Deg. C	Min. Cir. Ampacity	Max Fuse Amps	Min ^(a) Wire AWG
3 kW	031A1B	208/1	1/4 (186W)	14.4	16.3	10239	16.6	9.2	20.4	25	10
	033A1B	208/3		8.3	9.8				12.3	15	14
	033B1B	240/1		12.5	14.8				18.5	20	12
	033B1B	240/3		7.2	8.6				10.8	15	14
	033D1B	480/3		3.6	4.3				5.4	15	14
	033F1B	600/3		2.9	3.5				4.4	15	14
5 kW	051A1B	208/1	1/4 (186 W)	24.0	26.0	17065	27.6	15.3	32.4	35	8
	053A1B	208/3		13.9	15.4				19.2	20	12
	051B1B	240/1		20.8	23.1				28.9	30	10
	053B1B	240/3		12.0	13.4				16.8	20	12
	053D1B	480/3		6.0	6.7				8.4	15	14
	053F1B	600/3		4.8	5.4				6.8	15	14
7.5 kW	071A1B	208/1	1/4 (186 W)	36.1	38.0	25598	41.4	23.0	47.5	50	8
	073A1B	208/3		20.8	22.3				27.9	30	10
	071B1B	240/1		31.3	33.6				42.0	45	8
	073B1B	240/3		18.0	19.4				24.3	25	10
	073D1B	480/3		9.0	9.7				12.2	15	14
	073F1B	600/3		7.2	7.8				9.8	15	14
10 kW	103A1B	208/3	1/4 (186 W)	27.8	29.3	34130	21.7	12.1	36.6	40	8
	101B1B	240/1		41.7	44.0				55.0	60	6
	103B1B	240/3		24.1	25.5				31.8	35	8
	103D1B	480/3		12.0	12.7				15.9	20	12
	103F1B	600/3		9.6	10.2				12.8	15	14
15 kW	153A1B	208/3	1/2 (186 W)	41.6	43.5	51195	19.2	10.7	54.4	60	6
	153B1B	240/3		36.1	38.1				47.6	50	8
	153D1B	480/3		18.0	19.0				23.8	25	10
	153F1B	600/3		14.4	15.2				19.0	20	12
20 kW	203D1B	480/3	1/2 (373 W)	24.1	25.1	68260	26.2	14.6	31.3	35	8
	203F1B	600/3		19.2	20.0				25.1	30	10
25 kW	253D1B	480/3	1/2 (373 W)	30.1	31.1	85325	32.8	18.2	38.8	40	8
	253F1B	600/3		24.1	24.9				31.1	35	8

Notes:

1. 1 watt equals 3.413 Btu.
2. 1 kW equals 3,413 Btu.
3. 24 volt control voltage is standard and includes built-in contactor and 24 volt control transfer.

(a) Supply conductors must be suitable for 90°C

Table 9. Model UHXA with 120 volt control voltage

Unit Size	Model No. UHXA	Volts/Phase	Motor HP	Heater Amps	Line Amps	BTU/ Hr.	Air Temp. Rise Deg. F	Air Temp. Rise Deg. C	Min. Cir. Ampacity	Max Fuse Amps	Min ^(a) Wire AWG
3 kW	031A2B	208/1	1/4 (186W)	14.4	16.3	10239	16.6	9.2	20.4	25	10
	033A2B	208/3		8.3	9.8				12.3	15	14
	033B2B	240/1		12.5	14.8				18.5	20	12
	033B2B	240/3		7.2	8.6				10.8	15	14
	033D2B	480/3		3.6	4.3				5.4	15	14
5 kW	051A2B	208/1	1/4 (186 W)	24.0	26.0	17065	27.6	15.3	32.4	35	8
	053A2B	208/3		13.9	15.4				19.2	20	12
	051B2B	240/1		20.8	23.1				28.9	30	10
	053B2B	240/3		12.0	13.4				16.8	20	12
	053D2B	480/3		6.0	6.7				8.4	15	14
7.5 kW	071A2B	208/1	1/4 (186 W)	36.1	38.0	25598	41.4	23.0	47.5	50	8
	073A2B	208/3		20.8	22.3				27.9	30	10
	071B2B	240/1		31.3	33.6				42.0	45	8
	073B2B	240/3		18.0	19.4				24.3	25	10
	073D2B	480/3		9.0	9.7				12.2	15	14
10 kW	103A2B	208/3	1/4 (186 W)	27.8	29.3	34130	21.7	12.1	36.6	40	8
	101B2B	240/1		41.7	44.0				55.0	60	6
	103B2B	240/3		24.1	25.5				31.8	35	8
	103D2B	480/3		12.0	12.7				15.9	20	12
15 kW	153A2B	208/3	1/4 (186 W)	41.6	43.5	51195	19.2	10.7	54.4	60	6
	153B2B	240/3		36.1	38.1				47.6	50	8
	153D2B	480/3		18.0	19.0				23.8	25	10
20 kW	203D2B	480/3	1/2 (373 W)	24.1	25.1	68260	26.2	14.6	31.3	35	8
25 kW	253D2B	480/3	1/2 (373 W)	30.1	31.1	85325	32.8	18.2	38.8	40	8

Notes:

1. 120 volt control voltage is standard and includes built-in contactor and 120 volt control transformer.
2. Not available for 600 volt heaters.

(a) Supply conductors must be suitable for 90°C.

Table 10. Model UHXA with 208 or 240 volt control voltage

Unit Size	Model No. UHXA	Volts/Phase	Motor HP	Heater Amps	Line Amps	BTU/ Hr.	Air Temp. Rise Deg. F	Air Temp. Rise Deg. C	Min. Cir. Ampacity	Max Fuse Amps	Min ^(a) Wire AWG	Control Voltage
3 kW	031A3B	208/1	1/4 (186 W)	14.4	16.3	10239	16.6	9.2	20.4	25	10	208
	033A3B	208/3		8.3	9.8				12.3	15	14	208
	033B4B	240/1		12.5	14.8				18.5	20	12	240
	033B4B	240/3		7.2	8.6				10.8	15	14	240
5 kW	051A3B	208/1	1/4 (186 W)	24.0	26.0	17065	27.6	15.3	32.4	35	8	208
	053A3B	208/3		13.9	15.4				19.2	20	12	208
	051B4B	240/1		20.8	23.1				28.9	30	10	240
	053B4B	240/3		12.0	13.4				16.8	20	12	240



General Data

Table 10. Model UHXA with 208 or 240 volt control voltage (continued)

Unit Size	Model No. UHXA	Volts/Phase	Motor HP	Heater Amps	Line Amps	BTU/Hr.	Air Temp. Rise Deg. F	Air Temp. Rise Deg. C	Min. Cir. Ampacity	Max Fuse Amps	Min ^(a) Wire AWG	Control Voltage
7.5 kW	071A3B	208/1	1/4 (186 W)	36.1	38.0	25598	41.4	23.0	47.5	50	8	208
	073A3B	208/3		20.8	22.3				27.9	30	10	208
	071B4B	240/1		31.3	33.6				42.0	45	8	240
	073B4B	240/3		18.0	19.4				24.3	25	10	240
10 kW	103A3B	208/3	1/4 (186 W)	27.8	29.3	34130	21.7	12.1	36.6	40	8	208
	101B4B	240/1		41.7	44.0				55.0	60	6	240
	103B4B	240/3		24.1	25.5				31.8	35	8	240
15 kW	153A3B	208/3	1/2 (186 W)	41.6	43.5	51195	19.2	10.7	54.4	60	6	208
	153B4B	240/3		36.1	38.1				47.6	50	8	240

Note: Not available for 480 and 600 volt heaters.

(a) Supply conductors must be suitable for 90°C.

Table 11. Model UHXA

Unit Size	3 kW, 5 kW & 7.5 kW	10 kW	15 kW, 20 kW & 25 kW
Capacities	3 kW 10,236 Btu	10 kW 34,120 Btu	15 kW 51,180 Btu
Available	5 kW 17,060 Btu		20 kW 68,240 Btu
	7.5 kW 25,590 Btu		25 kW 85,300 Btu
UL Listing	Class I, Group D, Divisions 1 & 2 Class II, Groups E, F & G, Divisions 1 & 2		
UL Temperature Code	Class I: T3B 165°C (329°F) Class II: T3B 165°C (329°F)		
CFM @ 70°F (21°C)	580	1500	2450
L/S @ 21°C (70°F)	274	708	1156
FPM	1000	1600	2000
MM/S	5080	8128	10160
Air Temperature Rise	3 kW 16.3°F	10 kW 21.0°F	15 kW 19.0°F
	9.1°C	11.7°C	10.6°C
	5 kW 27.2°F		20 kW 25.5°F
	15.1°C		14.2°C
	7.5 kW 40.8°F		25 kW 32.3°F
	22.7°C		17.9°C
Horizontal	24 ft.	40 ft.	43 ft.
Throw	7.3 M	12.2 M	13.1 M
Max. Mtg. Height from floor	8 ft.	10 ft.	13 ft.
	2.4 M	3.1 M	4.0 M
Max. Operational Altitude	3 kW, 5 kW, 10 kW & 15 kW - 8000 ft. (2438 M)		
	20 kW - 7000 ft. (2134 M)		
	7.5 kW & 25 kW - 5500 ft. (1676 M)		
Ambient Temperature Limits	Min. -45°C, (-49°F)		
	Max. 40°C, (104°F)		
RPM/RPS	1725/29	1725/29	1725/29
Propeller Fan — 3 wing, Aluminum	12" Dia. (305 mm)	16" Dia. (406 mm)	20" Dia. (508 mm)

Table 11. Model UHXA (continued)

Unit Size	3 kW, 5 kW & 7.5 kW	10 kW	15 kW, 20 kW & 25 kW
Motor	Motor Voltage/Phase same as element. PSC, Explosion-Proof, Permanently Lubricated, Ball Bearing		
	1/4 HP (186 W)	1/4 HP (186 W)	1/2 HP (373 W)
Heat Exchanger	Heavy wall, liquid filled with immersion elements.		
Core Material	Steel with aluminum fins.		
Heat Transfer Fluid	Ethylene-glycol solution, protected to -45°C (-49°F).		
Heating Elements	Three, low watt density, immersion type copper sheathed.		
Thermal Cut-Out	Snap action capillary type rated 100,000 cycles pilot duty.		
Relief Valve	Stainless steel and aluminum construction, opens @ 200 PSI (1379 kPa).		
Cabinet	14-gauge cold rolled steel, epoxy coated, individually adjustable louvers.		
Fan Guard	Wire, less than 1/4" (6.4 mm) spacing, plated, split design for easy removal.		
Fasteners	Zinc plated.		
Conduit Material	3/4 (19.1 mm) rigid metal.		
Control Box	Cast aluminum with oversized opening. (2) 1" (25.4 mm) NPS with conduits stops for field wiring.		
Hanger Connections	5/8" (15.9 mm) NC tap, 2 holes.		
Contactors	Heavy-duty, break all ungrounded conductors rated 100,000 cycles @ full load. Built-in and prewired.		
Control Transformer	Built-in and prewired - 24 volt secondary (standard) and 120 volt (optional).		
Control Circuits	24 volt standard on all models. 120 volt optional on 208, 240 and 480 volt models. Line voltage on 208 and 240 volt models only.		
Remote wall mounted	Explosion-proof 40-90°F operating range		
Thermostats Models	22A, 125-277 VAC - 3/4 HP @ 125 VAC; 1 1/2 HP @ 250-277VAC.		
TW161 & TW162			
Built-in "T" Option	125VA pilot duty Sensing Bulb and Capillary made from 300 Series Stainless Steel ASWTube.		
Heater Net Weight	3, 5 & 7.5 kW 132 lbs (60 Kg)	10 kW 158 lbs (72 Kg)	15, 20 & 25 kW 190 lbs (86 Kg)
Shipping Weight	3, 5 & 7.5 kW 167 lbs (76 Kg)	10 kW 193 lbs (88 Kg)	15, 20 & 25 Kw 225 lbs (102 Kg)



General Data

Model UHWA Series 20 and 50

Table 12. Electric wall-mounted unit heaters — series 20

Watts	Model No. UHWA	Order No. 233	Element + Motor Voltage	Element Phase	Ship Wt. Lbs	Ship Wt. Kg	BTU	Degree F Air Rise	Degree C Air Rise
2000 Watts	021A2AT	-400	208	1	41	18.6	6,826	27	15
	021B2AT	-402	240	1					
	021C2AT	-404	277	1					
3000 Watts	031A2AT	-406	208	1	41	18.6	10,239	41	23
	031B2AT	-408	240	1					
	031C2AT	-410	277	1					
4000 Watts	041A2AT	-412	208	1	41	18.6	13,652	57	32
	041B2AT	-414	240	1					
	041C2AT	-416	277	1					
	043A2AT	-418	208	3					
	043B2AT	-420	240	3					
5000 Watts	051A2AT	-422	208	1	41	18.6	17,065	73	41
	051B2AT	-424	240	1					
	051C2AT	-426	277	1					
	053A2AT	-428	208	3					
	053B2AT	-430	240	3					

Note: ONLY thermostat and/or contactor may be built-in on Series 20 wall heaters.

Table 13. Electric wall-mounted unit heaters — series 50

Watts	Model No. UHWA	Order No. 233	Element + Motor Voltage	Element Phase	Ship Wt. Lbs	Ship Wt. Kg	BTU	Degree F Air Rise	Degree C Air Rise
2000 Watts	021A5AT	-431	208	1	54	24.5	6,826	27	15
	021B5AT	-433	240	1					
	021C5AT	-435	277	1					
3000 Watts	031A5AT	-437	208	1	55	24.9	10,239	41	23
	031B5AT	-439	240	1					
	031C5AT	-441	277	1					
4000 Watts	041A5AT	-443	208	1	55	24.9	13,652	57	32
	041B5AT	-445	240	1					
	041C5AT	-447	277	1					
	043A5AT	-449	208	3					
	043B5AT	-451	240	3					
5000 Watts	051A5AT	-453	208	1	55	24.9	17,065	73	41
	051B5AT	-455	240	1					
	051C5AT	-457	277	1					
	053A5AT	-459	208	3					
	053B5AT	-461	240	3					

Table 14. Series 70 electric ceiling surface heaters

Watts	Model No. UHCA	Order No. 233	Element + Motor Voltage	Element Phase	Mounting Application	Amp Rating	BTU	(a)Degree F Air Rise	(a)Degree C Air Rise
2000	021A7A	-300	208	1	Surface	9.6	6,826	15	13.9
	021B7A	-302	240	1	Surface	8.3			
	021C7A	-304	277	1	Surface	7.2			
3000	031A7A	-306	208	1	Surface	14.4	10,239	32	17.8
	031B7A	-308	240	1	Surface	12.5			
	031C7A	-310	277	1	Surface	10.8			
4000	041A7A	-312	208	1	Surface	19.2	13,652	40	22.2
	041B7A	-314	240	1	Surface	16.7			
	041C7A	-316	277	1	Surface	14.4			
	043A7A	-318	208	3	Surface	11.1			
	043B7A	-320	240	3	Surface	9.6			
5000	051A7A	-322	208	1	Surface	24.1	17,065	44	24.4
	051B7A	-324	240	1	Surface	20.8			
	051C7A	-326	277	1	Surface	18.1			
	053A7A	-328	208	3	Surface	13.9			
	053B7A	-330	240	3	Surface	12.1			

Notes:

1. Surface Mounted Ceiling Heaters — Series 70 designed to be mounted to standard 4 inch (101.6 mm) ceiling box furnished and installed by others. Approximate weight 32 lbs (14.5 kg) packed and shipped as complete.
 2. Throw designed for 8 foot (2438.4 mm) to 12 foot (3657.6 mm) ceilings. DB RE 10-12 WATT = 63.9
- (a) Degree F (c) air rise measured at 710 fpm (3606.8 mm/s) and 425 cfm (201 l/s).

Table 15. Series 80 electric ceiling recessed heaters

Watts	Model No. UHCA	Order No. 233	Element + Motor Voltage	Element Phase	Mounting Application	Amp Rating	BTU	(a)Degree F Air Rise	(a)Degree C Air Rise
2000	021A8A	-331	208	1	Recessed	9.6	6,826	15	13.9
	021B8A	-333	240	1	Recessed	8.3			
	021C8A	-335	277	1	Recessed	7.2			
3000	031A8A	-337	208	1	Recessed	14.4	10,239	32	17.8
	031B8A	-339	240	1	Recessed	12.5			
	031C8A	-341	277	1	Recessed	10.8			
4000	041A8A	-343	208	1	Recessed	19.2	13,652	40	22.2
	041B8A	-345	240	1	Recessed	16.7			
	041C8A	-347	277	1	Recessed	14.4			
	043A8A	-349	208	3	Recessed	11.1			
	043B8A	-351	240	3	Recessed	9.6			
5000	051A8A	-353	208	1	Recessed	24.1	17,065	44	24.4
	051B8A	-355	240	1	Recessed	20.8			
	051C8A	-357	277	1	Recessed	18.1			
	053A8A	-359	208	3	Recessed	13.9			
	053B8A	-361	240	3	Recessed	12.1			

Notes:

1. Recessed Mounted Ceiling Heaters — Series 80 packed as a complete unit. Contains junction box, heater box and grille. For finished ceiling application, use plaster trim (PT3480) which is an optional accessory. Approximate weight 35 lbs (15.9 kg) for use with 2' (609.6 mm) x 2' (609.6 mm) T-bar or hard surface.
 2. Use PT3480 plaster trim for Series 80 when recessed in a hard finished ceiling. Option Accessory.
- (a) Degree F (c) air rise measured at 710 fpm (3606.8 mm/s) and 425 cfm (201 l/s).



General Data

Model UHAA Series 3320

Table 16. Electrical specifications and ordering information

Unit No.	Volts	Phase	kW	Watts	Btu/Hr Output	Wgt Lbs	Wgt Kg
UHAA151ETAD	120	Phase 1	1.5	1500	5119	27	12
UHAA151BTAD	240	Phase 1					
UHAA151ATAD	208	Phase 1					
UHAA151CTAD	277	Phase 1					
UHAA021BTAD	240	Phase 1	2	2000	6825	27	12
UHAA021ATAD	208	Phase 1					
UHAA021CTAD	277	Phase 1					
UHAA031BTAD	240	Phase 1	3	3000	10240	27	12
UHAA031ATAD	208	Phase 1					
UHAA031CTAD	277	Phase 1					
UHAA041BTAD	240	Phase 1	4	4000	13650	27	12
UHAA041ATAD	208	Phase 1					
UHAA041CTAD	277	Phase 1					
UHAA481BTAD	240	Phase 1	4.8	4800	16380	27	12
UHAA481ATAD	208	Phase 1					
UHAA481CTAD	277	Phase 1					
UHAA043ATAD	208	Phase 3	4	4000	13650	30	14
UHAA043BTAD	240	Phase 3					
UHAA483ATAD	208	Phase 3	4.8	4800	16380	30	14
UHAA483BTAD	240	Phase 3					

Notes:

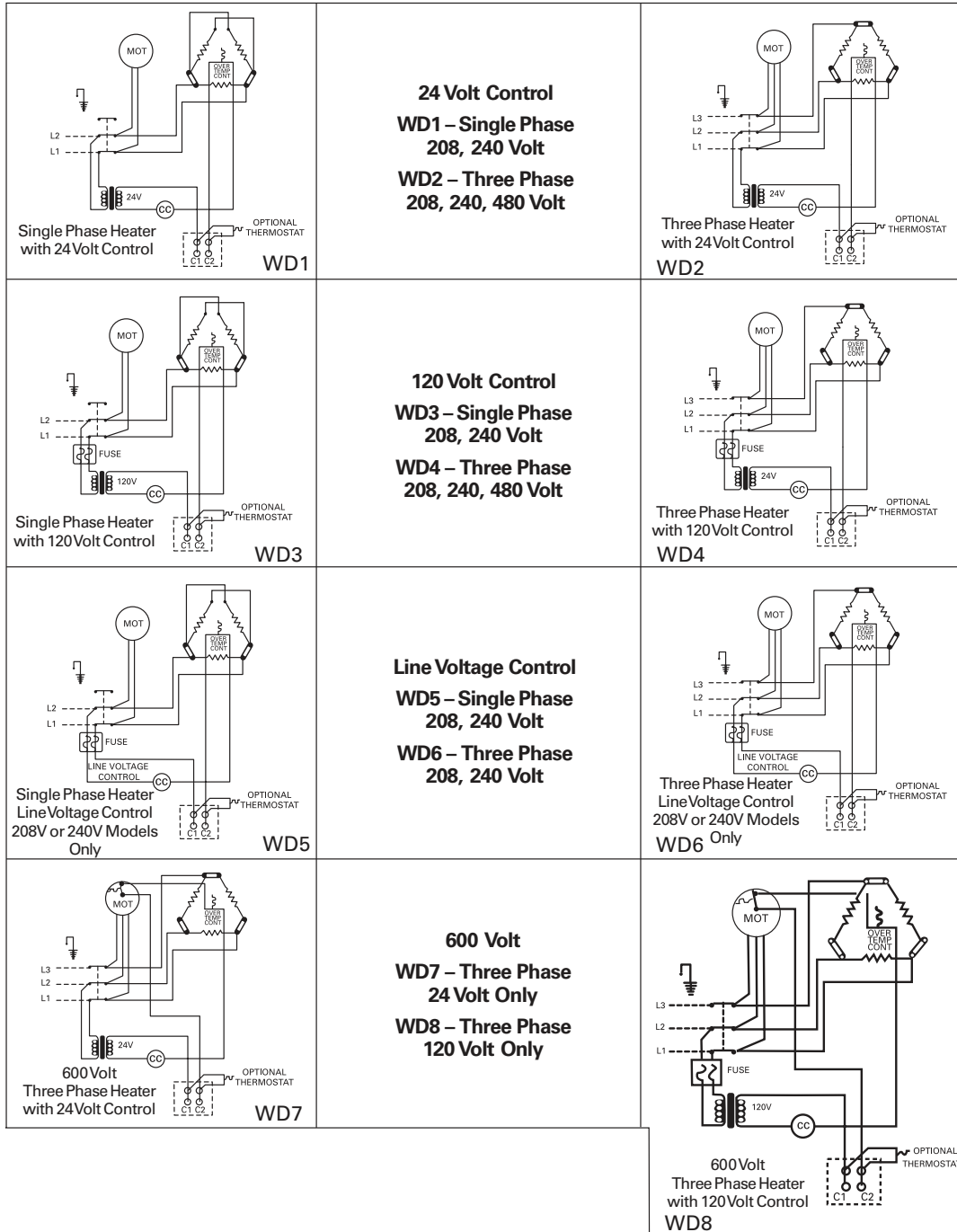
1. 1 watt equals 3.413 btu.
2. 1000 Watts Equals 1 kW.



Control Wiring

Model UHXA

The Trane heaters have been designed for explosion-proof service with single and 3-phase inputs of 208, 240, 480 and 600 volts. They meet stringent UL requirements. However, it is essential that correct installation procedures be followed to eliminate all potential hazards arising from faulty installation.



Model UHCA Series 70 and 80

Optional Control Systems

- Heaters operated from wall mounted, line voltage, heavy-duty thermostats.
- Direct Line Voltage. More than one heater may be controlled from one thermostat providing total amperage of heaters does not exceed thermostat rating.
- Single-Phase Heaters. Use any good quality single pole thermostat of sufficient ampacity. Use double pole thermostat if positive off is desired. Knob operated and tamper resistant type available.
- Three-Phase Heaters. Use TW1512. Makes and breaks two poles simultaneously.
- Control Panels. For control of one or more single or three-phase ceiling heaters from one 24V or 120V thermostat. Panels are in NEMA 1 enclosures and have one or more 30 amp, three-pole, 600 VAC contactor(s), operating voltage to control voltage transformer and transformer fusing. (User must provide separate circuit for each contactor.)

Optional

Unit Mounted Controls for Series 80 Recessed Ceiling Heater only shall be factory installed and wired on the Heater

T2 = Thermostat option to be factory mounted with tamper proof access through the front grill
 S = Disconnect switch option to be factory mounted with tamper proof access through the front grill

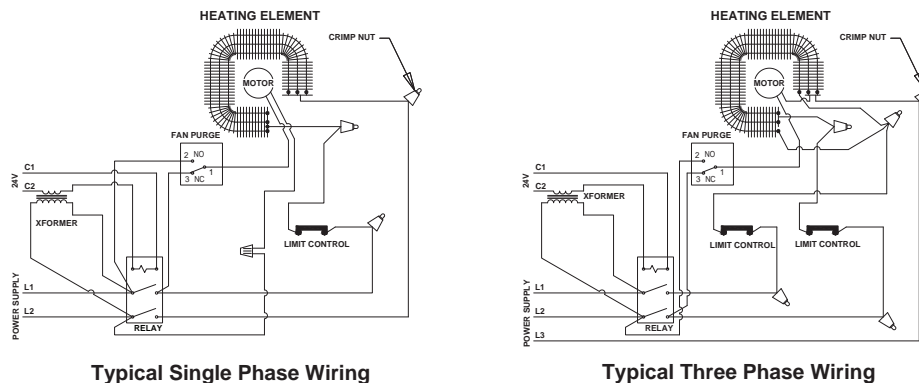
R1 = Internal relay 24 volt for night setback or external control.

R = Internal relay same voltage as the incoming power for night setback or external control

R2 = Internal relay 120 volt for night setback or external control

- Three-phase heaters shall be used with a control panel when factory controlled by a low voltage (24V or 120V) thermostat.
- **Low Voltage Thermostat (Wall Mounted).** Heaters operated from wall mounted, low voltage thermostats.
- **Thermal Relay With Built-In Line Voltage/24 Volt Transformer.** Relay with built-in line volt/24 V transformer are provided for use with wall mounted low voltage thermostat. For remote mounting only.
- Fan purge (off delay to dissipate residual heat on shut off) supplied as a standard control on heaters with factory installed options.

Figure 1. Model UHCA - Typical single phase and three phase wiring diagram





Controls

Model UHWA Series 20 and 50

Table 17. Control systems

Type of Control	WD	Heater Type
Built-in thermostat control	1	20 & 50 ^(a)
Wall mounted thermostat, heater voltage, line duty. For single phase heaters use SP or DP (DP if used as a disconnect) of sufficient capacity. For three-phase heaters use TW1512 which cycles two poles simultaneously.	2	20 & 50 (1)
Wall mounted, heater voltage, pilot duty, one or more heaters. Heater has built-in contactor with heater voltage coil.	3	20 & 50 (1)
Wall mounted, 120 V, pilot duty, one or more heaters. Heater has built-in contactor with 120 V coil.	4	20 & 50
Wall mounted, 24 V, pilot duty, one or more heaters. Heater has built-in contactor with 24 V coil.	4	20 & 50
Wall mounted, 24 V. Heater has built-in contactor with 24V coil and heater voltage/24 V transformer.	5	50 Only
Wall mounted, pilot duty, 120V. Heater has built-in contactor with 120V coil and heater voltage/120 V transformer.	5	50 Only

Notes:

1. Transformer with 24 V secondary (A1) available on all models.
2. Transformer with 120 V secondary (A2) available on following models only:
3. All three-phase models
4. 277 V one-phase up to 4000 watts
5. 208 and 240 V one-phase up to 3000 watts

(a) If built-in circuit breaker and/or built-in transformer are desired, 50 Series must be ordered.

Accessories

For Accessory Built-in Controls:

T = Built-in thermostat breaks all ungrounded conductors in OFF position.

C = Circuit breaker (Series 50 only) arranged to be disconnected before removal of front with line side terminals covered for safe maintenance. Additional control circuit switch installed if required.

R = Built-in contactor holding coil same as heater voltage.

R1 = Built-in contactor 24V holding coil. R2 Built-in contactor 120V holding coil. A1 Built-in control transformer, (Series 50 only) 24V secondary.

A2 = Built-In control transformer, (Series 50 only) 120V secondary available on all three-phase heaters, up to 3000 watts on 208 and 240V, one - phase and up to 4000 watts on 277V, 1-phase.

For Semi-recessed and Surface Mounting:

20 Series

20 EX 34 = Extension sleeve for full surface mounting. 20 EX 16 Extension sleeve for extending front additional 2" (50.8 mm) from finished wall. Heater recesses 2 1/4" (57.2 mm).

20 EX 8 = Extension sleeve for extending front additional 1" (25.4 mm) from finished wall. Heater recesses 3 1/4" (82.6 mm).

20 Box = Must be used on all heater installations.

50 Series

50 EX 34 = Extension sleeve for full surface mounting. 50 EX 16 Extension sleeve for extending front additional 2" (50.8 mm) from finished wall. Heater recesses 2 1/4" (57.2 mm).

50 EX 8 = Extension sleeve for extending front additional 1" (25.4 mm) from finished wall. Heater recesses 3 1/4" (82.6 mm).

50 Box = Must be used on all heater installations.



Dimensional Data

Model UHEC

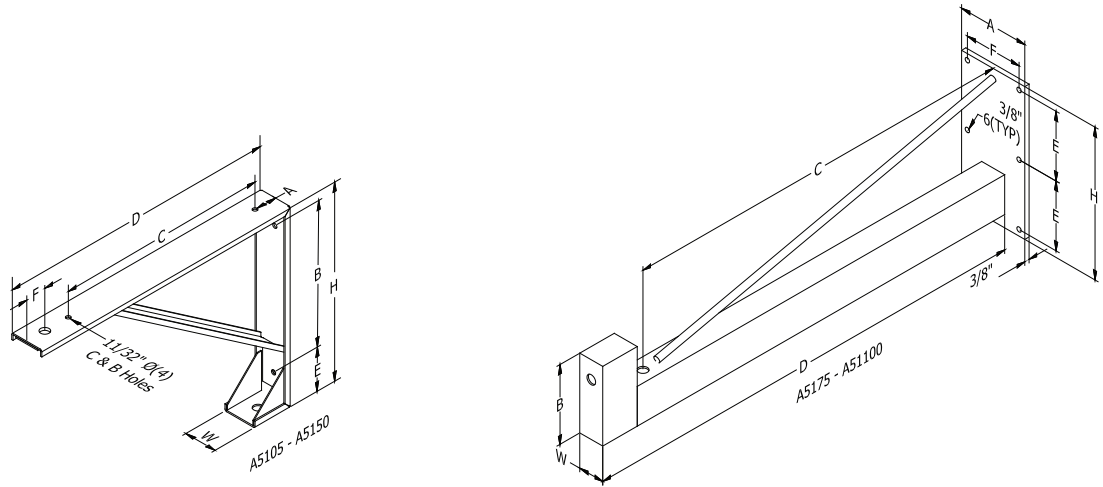


Table 18. Model UHEC - A5100 brackets

A5100 B											
	Heater KW	Bracket	Weight (lbs)	A	B	C	D	E	F	H	W
Wall Bracket	3.3 - 5	A5105	9	1-3/4	10-1/2	9-1/4	20-3/4	2	1-1/2	14-1/2	2-1/2
	7.5 - 20	A5120	13	2-1/8	12	20-1/8	25-1/8	2-1/8	2-5/32	16	3-1/2
	25 - 50	A5150	16	2-1/8	13-1/2	19-7/8	28-3/4	2-1/8	2-1/8	17-1/2	3-1/2
	60 - 70	A5175	25	5-1/2	6-1/8	30-1/2	35	5-1/4	4-1/2	11-1/2	2
	80 - 100	A51100	36	5-1/2	6-1/8	30-1/2	35	5-1/4	4-1/2	11-1/2	2

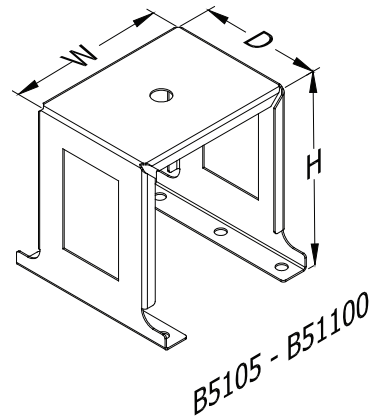


Table 19. Model UHEC - B5100 bracket

B5100 BRACKET						
Heater Bracket	Heater KW	Bracket	Weight (lbs)	D	H	W
	3.3 - 20	B5105	2	4-1/4	6	6-1/2
	25 - 50	B5150	3	4-1/4	6	10-1/8
	60 - 70	B5175	5	4-1/4	6	13-3/4
	80 - 100	B51100	12	10-1/4	6	18

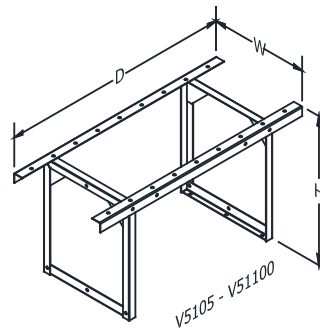


Table 20. Model UHEC - V5100 bracket

V5100 Bracket						
Vertical Mount Bracket	HEATER KW	BRACKET	WEIGHT (lbs)	D	H	W
	3.3 - 5	V5105	9	26	12 1/4	10 15/16
	7.5 - 20	V5120	13	36 9/16	15 11/16	15 1/2
	25 - 50	V5150	16	42	18	15 1/2
	60 - 70	V5175	19	42	18	14 5/16
	80 - 100	V51100	22	42	18	20 5/16

Figure 2. Vertical air discharge

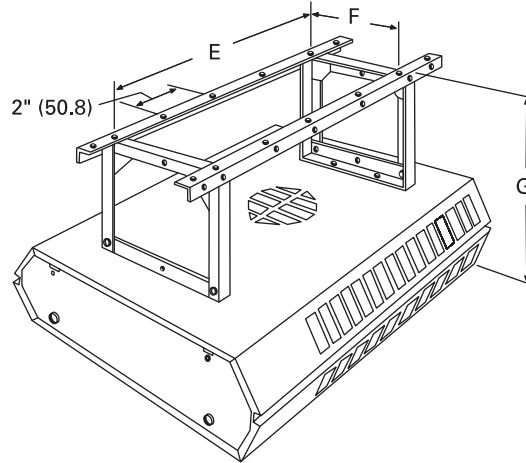


Figure 3. Louver cone diffuser

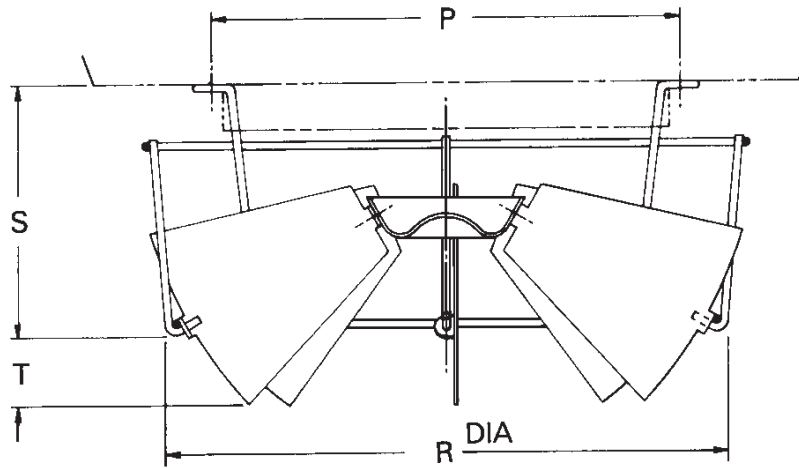
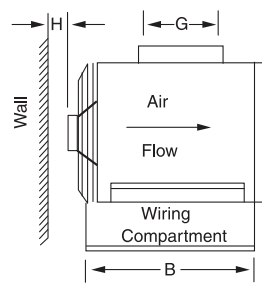


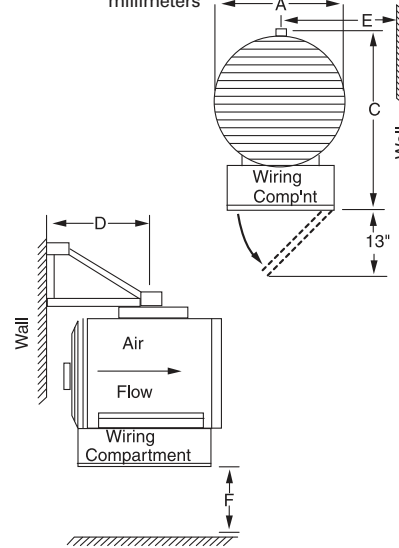
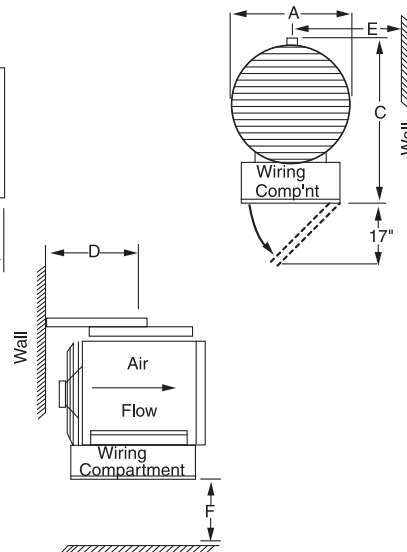
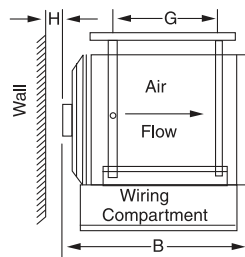
Table 21. Louver cone diffuser dimensions, in. (mm)

Unit Size	P	R	S	T
03 & 05	N/A	N/A	N/A	N/A
07 & 10	11 5/8 (295.3)	14 1/4 (362.0)	6 1/2 (165.1)	1 3/4 (44.5)
15 & 20	11 5/8 (295.3)	14 1/4 (362.0)	6 1/2 (165.1)	1 3/4 (44.5)
25-50	17 1/8(435.0)	21 (533.4)	9 3/4 (247.7)	2 3/4 (69.9)

Model UHRA

3 kW thru 15 kW


Dimensions shown in () are in millimeters


20 kW thru 48 kW

Table 22. Model UHRA - dimensional data

Dimensions, in. (mm)								
Unit Size	A	B	C	D	E	F	G	H
03,05,07	12" (305)	18" (457)	19 3/4" (502)	15 1/4" (387)	16 1/2" (419)	6 Ft. (1.8 M)	8" (203)	6" (152)
10,15	14" (356)	19" (483)	21 3/4" (552)	15 1/4" (387)	18" (457)	6 Ft. (1.8 M)	8" (203)	6" (152)
20,25,30	16" (406)	27" (686)	28 3/4" (730)	19 1/2" (495)	17 1/2" (445)	6 Ft. (1.8 M)	15 1/2" (394)	4 1/2" (114)
40,48	18" (457)	31" (787)	30 3/4" (781)	19 1/2" (495)	19 1/2" (495)	6 Ft. (1.8 M)	21 3/4" (552)	2 3/4" (70)

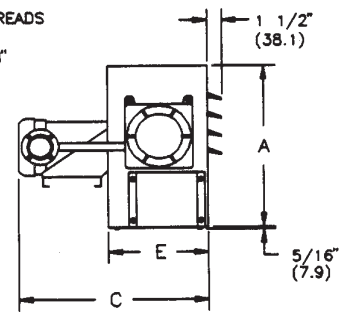
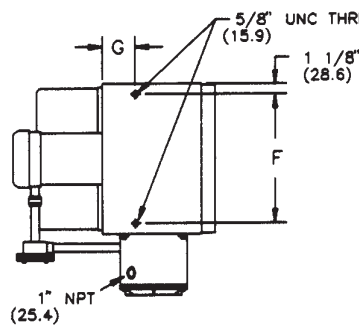
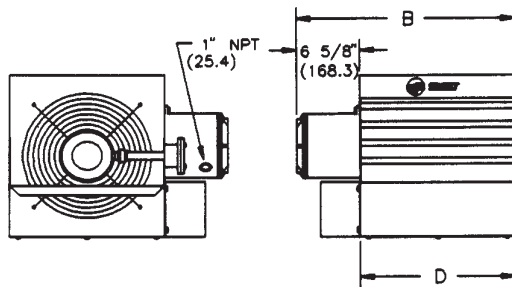
Model UHXA

Table 23. Model UHXA - dimensional data

Unit Size	A	B	C		D	E	F	G
			3 PH.	1PH.				
3-5 7.5 kW	17 3/4"	22 3/8"	19 3/4"	20 5/8"	16 1/4"	10 1/2"	14"	3"
10 kW	20 3/4"	26 3/8"	20 3/4"	21 5/8"	20 1/4"	11 1/2"	18"	4"
15-20 25 kW	24 3/4"	30 3/8"	22 1/2"	—	24 1/4"	12 1/2"	22"	4 1/2"
Unit Size	A	B	C		D	E	F	G
3-5 7.5 kW	(450.9)	(568.3)	(501.7)	(523.9)	(412.8)	(266.7)	(355.6)	(76.2)
10 kW	(527.1)	(669.9)	(527.1)	(549.3)	(514.4)	(292.1)	(457.2)	(101.6)
15-20 25 kW	(628.7)	(771.5)	(571.5)	—	(616.0)	(317.5)	(558.8)	(114.3)

Notes:

1. Physical Dimensions, in. (mm)
2. Dimensions shown in () are in millimeters



Mounting Bracket Kit

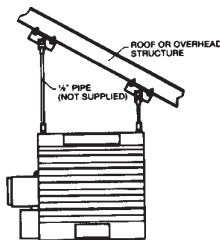
In examples HLPm and HLWm, heater may be rotated horizontally at attachment point as required.

HLPm Floor Mounting Bracket

Particularly useful in buildings with insufficient strength to use other types of mounts. Requires 3 1/2" (89 mm) pipe [4" (102 mm) O.D. — not supplied].

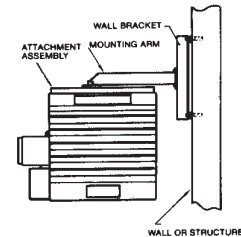
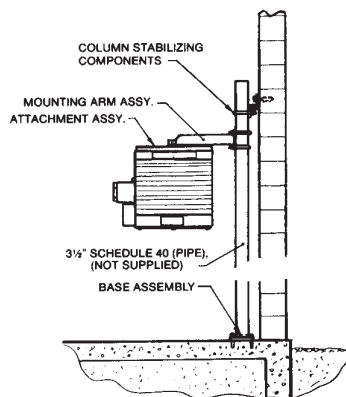
HLWm Wall Mounting Bracket

Ideal for use in buildings that have substantial walls. Arm only can also be bolted directly to structural steel.



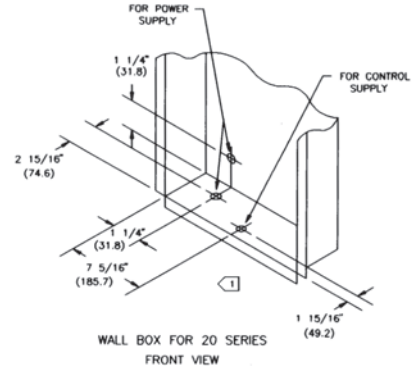
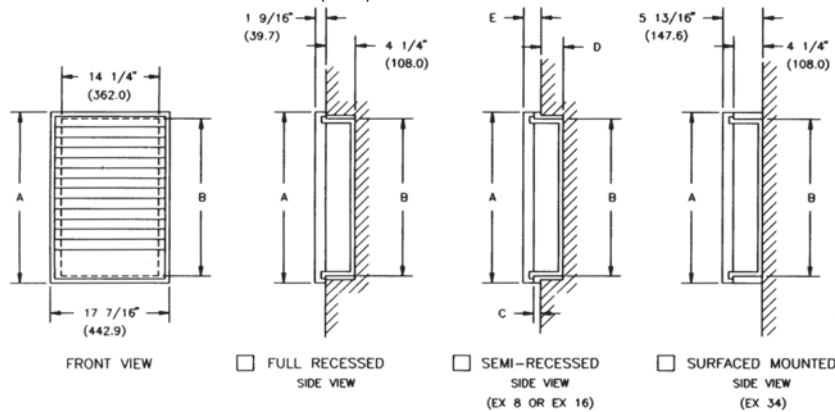
HLHM Ceiling Mounting Bracket

Simple and economical if adequate overhead structure exists. Requires 1/2" (13 mm) pipe, cut and threaded (not supplied).



Model UHWA Series 20 and 50

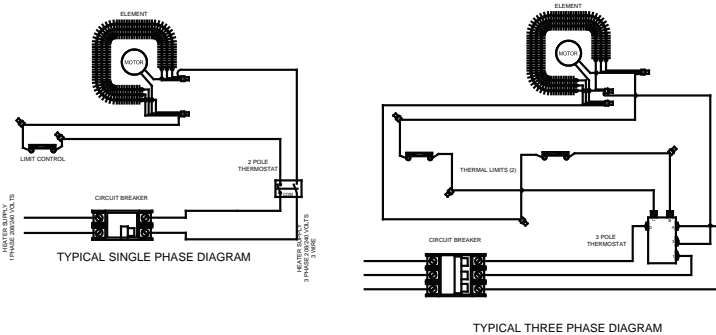
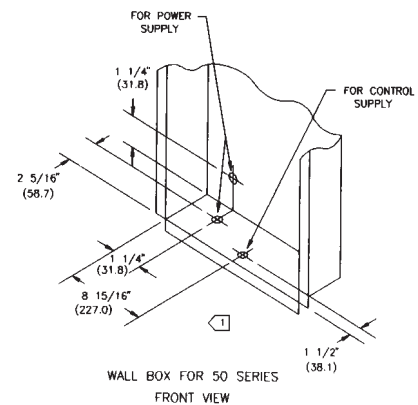
Dimensions shown in are inches (mm)



20/50 DIMENSIONS		EXTENDERS								
	UNIT	A	B	EX 8			EX 16			
				C	D	E	C	D	E	
2	20 SERIES	21 15/32\" (545.3)	19 3/8\" (492.1)	1\" (25.4)	3 1/4\" (82.6)	2 9/16\" (65.1)	2\" (50.8)	2 1/4\" (57.2)	3 9/16\" (90.5)	
1	50 SERIES	25 1/32\" (635.8)	23 1/16\" (585.8)	1\" (25.4)	3 1/4\" (82.6)	2 9/16\" (65.1)	2\" (50.8)	2 1/4\" (57.2)	3 9/16\" (90.5)	
3										

- 1 FOR SEMI-RECESSED AND SURFACE MOUNTING, USE THE FOLLOWING EXTENSION SLEEVES.
 EX 34 EXTENSION SLEEVE FOR FULL SURFACE MOUNTING.
 EX 16 EXTENSION SLEEVE FOR EXTENDING FRONT ADDITIONAL 2\" (50.8) FROM FINISHED WALL. HEATER RECESSES 2 1/4\" (57.15).
 EX 8 EXTENSION SLEEVE FOR EXTENDING FRONT RECESSES 3 1/4\" (82.55).

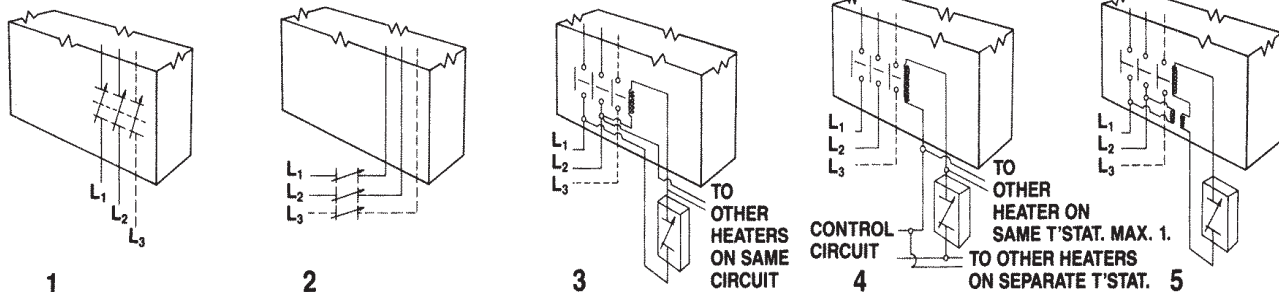
- 2 ONLY THERMOSTAT AND/OR CONTACTOR MAY BE BUILT-IN THE SERIES 20 HEATERS.
- 3 IF CIRCUIT BREAKER AND/OR TRANSFORMER ARE REQUIRED SERIES 50 ONLY MUST BE ORDERED.



Control System Wiring Diagrams

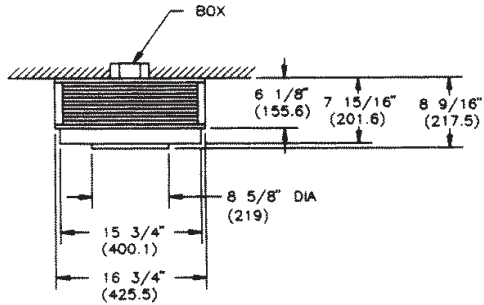
ONLY CONTROL CIRCUITS SHOWN
SEE HEATER DIAGRAMS BELOW

- 1 POWER SUPPLY KO'S 1/2\"-3/4\"-1\" (12.7-19.05-25.4). CONTROL SUPPLY KO'S 1/2\" (12.7). DO NOT MOUNT HEATER CLOSER THAN 12\" (304.8) TO ADJACENT WALL OR TO FLOOR.

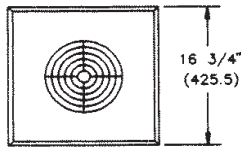


Model UHCA Series 70 and 80

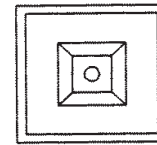
Series 70 — Surface Mounted



SIDE VIEW
(ALL SIDES IDENTICAL)

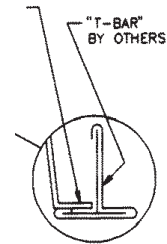


BOTTOM VIEW



TOP VIEW

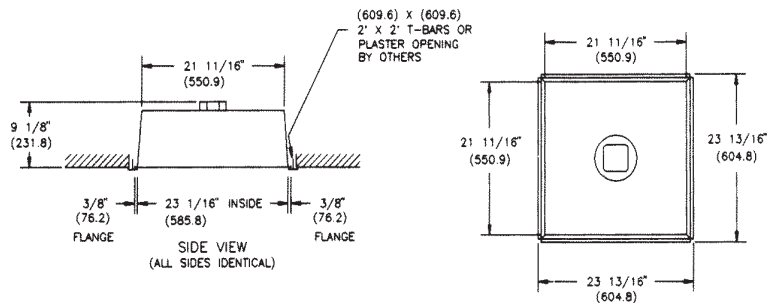
Series 70 — Surfaced Details



RECESSED T-BAR
INSTALLATION

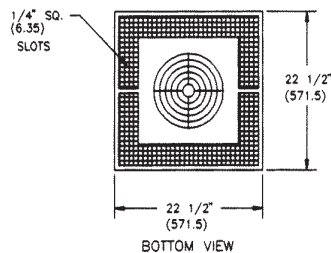
Note: Dimensions shown in inches (mm)

Series 80 — Recessed Mounted

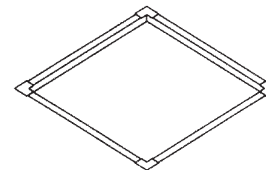


SIDE VIEW
(ALL SIDES IDENTICAL)

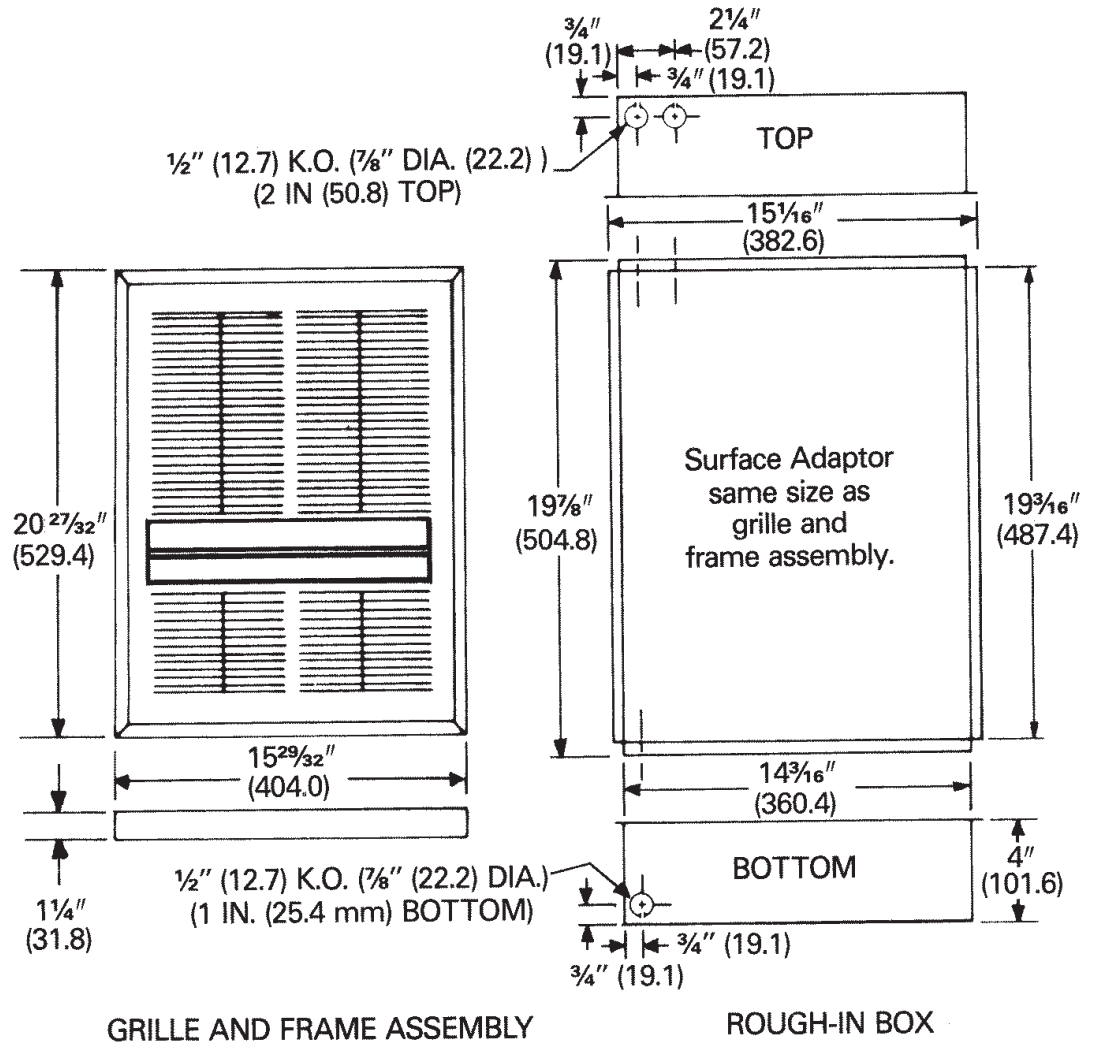
TOP VIEW



BOTTOM VIEW



Model UHAA Series 3320



Note: Dimensions are shown in inches (mm)



Options

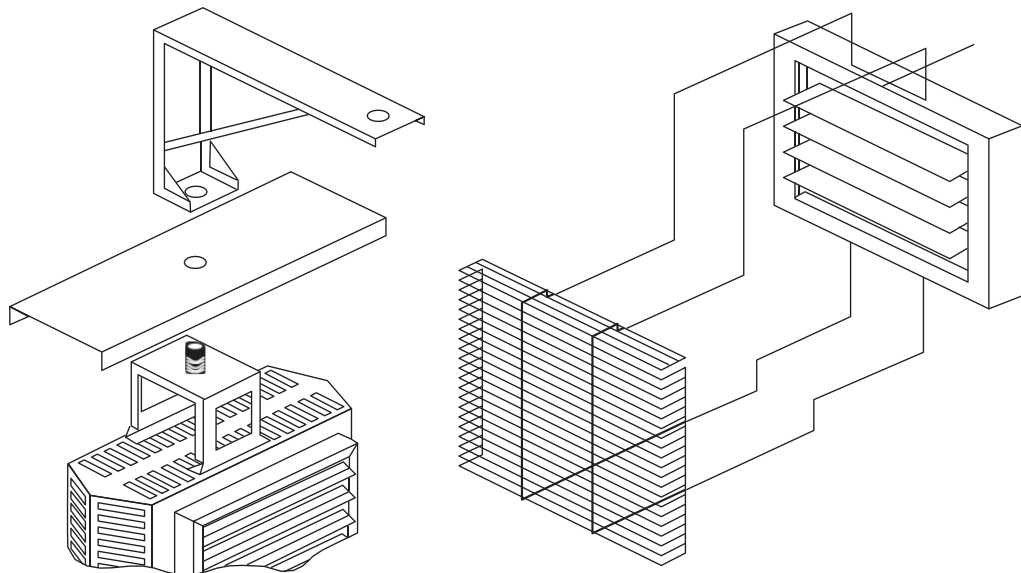
Model UHEC

Table 24. Dust shield

Used On	Horizontal	
	Heater and Wall Brackets	Dust Shield
3.3 kW	A5105	DS5105
7.5 kW to 20.0 kW	A5120	DS5120
25.0 kW to 50.0 kW	A5150	DS5150
60 kW - 70 kW	A5175	DS5175
80 kW - 100 kW	A51100	DS5100

Stratification Control Option

Electric UHEC unit heaters are an efficient way to provide quick, efficient heat when and where it's required. A wall thermostat with an optional stratification thermostat makes the Trane unit heater even more energy efficient. The stratification thermostat recovers trapped ceiling heat, saving electrical energy. When ceiling temperatures are high, the stratification thermostat allows the fan to operate without energizing the heating element. Recovering this otherwise wasted heat assures substantial energy savings.



Diffuser Options

Optional diffusers lend added air pattern versatility to individual vertical down blown installations as shown in illustrations.

Table 25. Diffuser options

Description	Used On	Model No.	Max.Mtg.Ht.	Dim.A	Dim.B	Diffuser Pattern	
1. Louver Diffuser (Standard) Louvers can be individually adjusted for rectangular coverage over door ways as an air curtain or to meet rectangular floor pattern heating requirements.	3.3 & 5.0kW	STD	9'(2.7M)	20'(6.1M)	10'(3.0M)		
	7.5 & 10.0kW	STD	12'(3.7M)	40'(12.2M)	22'(6.7M)		
	15.0 & 20.0kW	STD	18'(5.5M)	52'(15.8M)	30'(9.1M)		
	25.0 & 30.0kW	STD	22'(6.7M)	75'(22.9M)	42'(12.8M)		
	40.0 & 50.0kW	STD	24'(7.3M)	84'(25.6M)	47'(14.3M)		
2. General Distribution (No Diffuser) Trane's Airchute Venturi permits general down flow air pattern distribution as required at a higher mounting height.	3.3 & 5.0kW	N/R	9'(2.7M)	15'(4.6M)			
	7.5 & 10.0kW	N/R	12'(3.7M)	30'(9.1M)			
	15.0 & 20.0kW	N/R	18'(5.5M)	40'(12.2M)			
	25.0 & 30.0kW	N/R	22'(6.7M)	55'(16.8M)			
3. Anemostat Diffuser (Optional) For application where draft restriction is required at lower unit mounting heights.	3.3 & 5.0kW	N/A	— —	— —			
	7.5 & 10.0kW	AD5120	10'(3.0M)	30'(9.1M)			
	15.0 & 20.0kW	AD5120	15'(4.6M)	38'(11.6M)			
	25.0 & 30.0kW	AD5150	17'(5.2M)	50'(15.2M)			
4. Louver Cone Diffuser (Optional) Individually adjustable blades permit increased floor coverage at 45° open. Additional throw is accomplished when blades are 90° vertical. Allow higher mounting height.	3.3 & 5.0kW	N/A	45° 90°	45° 90°			
	7.5 & 10.0kW	RD5120	— —	— —			
	15.0 & 20.0kW	RD5120	10'3.0M 14'4.3M	36'11.0M 30'9.1M			
	25.0 & 30.0kW	RD5150	14'4.3M 21'6.4M	42'12.8M 35'10.7M			
	40.0 & 50.0kW	RD5150	20'6.1M 30'9.1M	62'18.9M 44'13.4M			
			18'5.5M 28'8.5M	68'20.7M 54'16.5M			

Note: STD= Standard N/R= None Required N/A= Not Applicable

Model UHEC & Model UHRA

Model UHEC

Unit-Mounted Room and Stratification Thermostats

Unit-mounted thermostats for field installation are available in low voltage (24V) for either single or two-stage operation, and line voltage (up to 277V) for single-stage operation. All room thermostats have an adjustable temperature setting range of 50°F (10°C) to 90°F (32.2°C); and the stratification thermostat has a range of 70°F (21.1°C) to 140°F (60°C).

Low voltage thermostats should only be used with units provided with contactors and a low voltage control transformer. Line voltage thermostats can be used with all units provided the thermostat's maximum amp and voltage ratings are not exceeded. Line voltage thermostats have a maximum amp rating of 25 amps, and maximum voltage rating of 277V. Two-stage thermostats can be used on unit sizes 25 kW and above to provide automatic two-stage heating operation.

Unit and Wall Mounted Summer-Fan Switches

Unit mounted and wall mounted summer fan switches are available for line voltage (up to 277V) and low voltage (24V). Summer fan switches allow fan only operation without energizing the unit's heating element. During the non-heating season, the summer fan switch will allow the unit's fan to provide air circulation without providing heat.

Table 26. Dust shield chart

Dust shield	Used on	Heater and wall bracket
DSS175	60 - 70 kW	A5175
DSS100	80 - 90 - 100 kW	A51100

Model UHRA

- Remote 24-volt thermostat
- Stainless steel wall/ceiling mounting bracket (3.3-15 kW)
- Cast iron painted mounting bracket available on all units for wall/ceiling or pipe mounting
- Hanging bracket for use with threaded rod.

Wall-Mounted Room Thermostat

Wall-mounted thermostats are available in low voltage (24V) for either single or two-stage operation, and line voltage (up to 277V) for single-stage operation. All Line voltage thermostats have an adjustable temperature setting range of 50°F (10°C) to 90°F (32.2°C).

Single stage low voltage thermostats have a range of 50°F (10°C) to 90°F (32.2°C), and two-stage low voltage thermostats have a range of 40°F (4.44°C) to 90°F (32.2°C).

The same guidelines for the application of unit-mounted thermostats are also applicable to wall-mounted thermostats.

Unit and Wall Mounted Power Disconnect Switches

Unit and wall mounted power disconnect switches are available to provide a positive disconnect of the unit from the power supply. Two-pole and three-pole power disconnect switches are available with voltage ratings from 25 to 63 amps.



Model UHXA

Mounting Bracket Kits

Trane makes three mounting kits available — the HLPM Pipe Mounting Bracket, the HLHM Ceiling Mounting Bracket, and the HLWM Wall Mounting Bracket. Each of these is illustrated and described on page 20 of this brochure. To order, specify the type of bracket with the heater model desired.

Hazardous Location Thermostat

Specifications

- TW161 Single Pole
- Cast Steel Metal Enclosure
- 22 Amps 125-277 VAC
- 3/4 Hp 125 VAC
- 1 1/2 Hp 250-277 VAC
- 51/2" H x 51/2" W x 43/4" D
- Can be used for heating or cooling applications



Built-In Hydraulic Thermostat, Disconnect and Pilot Light, Optional On All Models

- Stainless steel bulb and capillary
- 125 VA pilot duty
- Used on 24 volt, 120 volt or 208-240 volt line voltage control
- 60°F to 90°F temperature range
- Adjustable from front of unit with screwdriver.





Mechanical Specifications

Model UHEC

Heaters shall be installed and wired in accordance with the manufacturer's recommendations and applicable national and local codes.

Casing

Casings fabricated of die-formed, heavy gauge steel and finished in high gloss, baked enamel. Supply air shall be drawn through a stamped louver periphery evenly across the heating element, and discharged through an outward drawn venturi. Adjustable discharge louvers shall be provided to control the direction of airflow. A large, hinged access door shall extend the width of the heater and locked in position by quarter-turn fasteners. Heater and supply wiring diagram shall be permanently attached to the inside of the access door.

Elements

Elements shall be high mass, all steel tubular finned type, copper brazed. Centrally located and installed in fixed element banks.

Motors

Motors shall be totally enclosed, all angle industrial rated. All units 3.3 through 20 kW will utilize sealed bearings to assure permanent lubrication. 25 through 50 kW units are provided with a two-speed, permanent capacitor-type.

Fan Blades

Fan blades shall be of the axial flow type designed for quiet efficient operation. Fan speed does not exceed 1,600 rpm (26.7 R.P.S.).

Wiring

Heaters designed for a single circuit, with elements, motor and control circuits subdivided with factory wired fuses to conform to the National Electric Code and Underwriter's Laboratory, Inc., Standard 1278. All three-phase heaters shall have balanced phases.

Thermal Overload Protection

All heaters shall be equipped with automatic reset thermal overloads which shut down the element and motor if safe operating temperatures are exceeded.

Fusing

Element, motor and transformer primary fusing are factory installed and wired where required by NEC. Branch circuit fusing is installed where required (48 amps and up).

Control

Contactors and control circuit transformers where required are factory installed and wired. Only direct line supply and thermostat connections in the field are required. Two-stage operation is standard on all units 25 kW and larger with use of two-stage thermostats. Built-in fan override is provided to purge unit casing of excess heat after unit shutdown. The units are listed under the Reexamination Service of Underwriter's Laboratories, Inc. Units are warranted to be free from defective material and workmanship for a period of one year with the exception of the heating elements which are warranted for five years.

Control Options

- Integral power disconnects (where applicable) — supplied to disconnect all ungrounded connectors in the "Off" position. Disconnect is isolated from unit wiring by use of a metal plate and fish paper.



Mechanical Specifications

- Thermostats (unit-mounted); (wall- mounted) — heavy-duty hydraulic actuating-type. Thermostat range 45°F (7.2°C) to 90°F (32.2°C). Unit-mounted thermostat can be rendered tamper proof by removing the temperature adjustment knob.
- Independent fan operation for summer air circulation — provided from a line or low voltage (unit- mounted) (wall- mounted) fan switch.
- Combination low voltage wall thermostat and fan switch — provided to give wall mounted control of element and fan.
- Stratification thermostat with a range of 70°F (21.1°C) to 130°F (54.4°C) — provided for units mounted in the vertical discharge position to provide an energy saver cycle recovering warm stratified air.

Optional Dust Shield

- For use on horizontal units with wall brackets only, to protect from dust and other particles falling inside the unit heater.

Optional Diffusers

- Louver Cone Diffuser — shall have individually adjustable blades to permit increased floor coverage at 45 degrees open. Additional throw is accomplished when blades are 90 degrees vertical, allowing higher mounting height.
- Anemostat Diffuser — for applications where draft restriction is required at a lower unit mounting height.

Quiet Operation

The heater's air chute is specifically designed with an outward deep-drawn venturi to provide the maximum throw of warm air forward in either the horizontal or vertical mounting position.

Table 27. OSHA fan guards - optional

Model No.	Unit Size	Number of Holes	Dim. From Edge	Center to Center Dimension
OFG-5101	2-5 kW	4	1/4" (6.4 mm)	3 3/4" (95 mm)
OFG-5102	7-20 kW	4	1/4" (6.4 mm)	4 3/4" (121 mm)
OFG-5103	25-50 kW	4	1/4" (6.4 mm)	4 3/4" (121 mm)

Notes:

1. For units with existing holes in louver frame, the fan guard snaps into place.
2. To retrofit the fan guard, holes must be drilled 1/8" (3.2 mm) diameter.
3. OSHA approved

Table 28. Sound ratings of free field

Unit Size	dba Rating
3.3-5.0 kW	56
7.5-10 kW	57
15-20 Kw	71
25-30 kW	70 High/70 Low Speed
40-50 kW	79 High/73 Low Speed

Model UHRA

Heaters shall be installed and wired in accordance with the manufacturers recommendations and applicable national and local codes.

Casing

The casing that houses the heating elements shall be fabricated from 16-gauge 304 stainless steel with a 304 stainless steel outlet protective grille and angled outlet louvers to insure uniform air flow and delivery temperature across the entire face of the heater. The inlet grille shall be chrome plated. The control enclosure compartment factory installed to the bottom of the heater shall be NEMA 4x nonmetallic provided with a hinged and latched access door that opens from the bottom to simplify wiring installation and maintenance. A single point line voltage connection is provided for 208, 240, 277, 480 and 600 volt service.

Elements

Heavy duty heating elements shall be manufactured from rugged finned tubular steel and chrome-plated for corrosion resistance. Factory wired and sealed for wash down applications.

Motors

Motors shall be totally enclosed permanently lubricated manufactured with corrosion resistant windings to resist moisture and corrosion, factory wired to NEMA 4x enclosure and UL Listed. Both the motor and fan blade shall be factory installed within the heaters casing on rubber isolators to minimize vibration and noise.

Motors specification: 60 - 100 kW units are provided with single speed motor.

Fan Blades

Fan Blades shall be manufactured from anodized aluminum and finished with an epoxy coating.

Thermal Overload Protection

All heaters equipped with corrosion resistant auto reset thermal overloads shall be sealed to prevent moisture to enclosure. Shuts down the element and motor if safe operating temperatures are exceeded.

Controls

All heaters shall be provided as standard with 24-volt transformer and control circuit, fusing (NEC required), pilot light (power-on indicator), thermostat with stainless steel capillary sensor and three-position switch (heat- off-fan) factory installed and wired in the control enclosure compartment to the terminal block for ease of wiring.

Controls specification: 60 - 100 kW units are standard with 4 stages of heat. 4 stages can be controlled individually or grouped to controller with a field supplied thermostat or building automation control. A built in 4 stage electronic step controller is optional to connect units to building management controls or to 0 - 10 VDC input field supplied signal or factory optional wall thermostat.

- Fan delay relay shall be provided as standard factory installed and wired in the control enclosure to maintain fan operation for approximately 21/2 minutes (150 S) after the heating cycle has ended.
- Disconnect switch with control enclosure compartment door interlock shall be furnished as standard factory installed and wired.

Installation

All heaters shall be used in (non- hazardous) locations with corrosive atmospheres where humidity, incidental water, water-saturated or direct spray of water is the normal condition.

Mechanical Specifications

Supply Connections

Supply connections shall meet all local and NEC requirements and shall be suitable for use in WET or CORROSIVE atmospheres and locations.

Wiring Instructions

The heaters wiring diagram for field connections shall be located inside the control enclosure and all field wiring connections shall terminate in coded terminal blocks. Terminal blocks shall be suitable for either copper or aluminum field wiring. A single power supply circuit shall be provided for all voltages thru 48 kW size heaters.

UL, NEC and OSHA

Heaters shall meet all UL, NEC and OSHA requirements when installed as directed per Installation Operation Maintenance Manual (UHRA-IOM-1) dated March 1994.

Mounting Bracket Kits

Wall Mounting Bracket Kits — Model A5520 shall be manufactured from stainless steel and epoxy coated. Models W5520, W5550, H5550, P5520 and P5550 shall be manufactured from epoxy coated steel.

Model UHXA

Heaters shall be installed and wired in accordance with the manufacturer's recommendations and applicable national and local codes for use in hazardous classified locations and shall be ETL listed.

ETL Classes

For Class I, Group D, Divisions 1 and 2 and Class II, Groups E, F and G, Divisions 1 and 2.

Abbreviated descriptions of UL classes, groups and divisions.

Before selecting any heater for a particular application, refer to Article 500 as well as other standards referenced in the National Electric Code.

- **Class I:** Equipment does not have surface operating temperature in excess of the ignition temperature of the specific gas or vapor.
- **Class II:** Equipment does not have surface temperature greater than the ignition temperature of the specified dust.
- **Group D:** Atmospheres such as but not limited to acetone, alcohol, gasoline, lacquer solvent vapors, natural gas, propane or other gases or vapors of equivalent hazard.
- **Group E:** Atmospheres containing combustible metal dust regardless of resistivity, or other combustible dust of similar hazard characteristics having resistivity of less than 105 ohm-centimeter.
- **Group F:** Atmospheres containing carbon black, charcoal, coal or coke dust.
- **Group G:** Atmospheres containing combustible dust having resistivity of 105 ohm-centimeter or greater.
- **Division I:** A location in which ignitable concentrations of flammable material exist under normal operating conditions.
- **Division II:** Locations in which flammable materials will normally be confined within closed containers and escape only in the case of accidental rupture, breakdown or during maintenance operations. Any equipment approved for Division I is automatically also approved for Division II.

ETL Temperature Codes

The ETL temperature code is T3B 165°C (329°F) for Class 1 and Class 2, indicating maximum operating surface temperatures.

Cabinet

Cabinet fabricated of 14-gauge (1.9 mm thickness) cold rolled steel, with individually adjustable louvers, epoxy coated. A wire fan guard chrome-plated with less than 1/4" (6.4 mm) spacing conforms to NEMA requirements and shields all moving parts to meet OSHA requirements. Zinc plated fasteners, conduit made of cadmium-plated seamless steel tubing, cast aluminum control box with opening and 25/8" (16 mm) NC top hanger connections.

Heat Exchanger. Heat exchanger double walled, liquid filled with three low watt density immersion type copper sheathed elements hermetically sealed into the core made of steel with aluminum fins. Heat transfer fluid of ethylene-glycol solution protected to -45°C (-49°F).

Motors

Motors PSC, explosion-proof, permanently lubricated, ball bearing type, 1725 rpm (29 rps). Motor voltage/phase same as element.

Fan Blade

Fan blades are made of aluminum designed for quiet efficient operation.

Controls Factory Installed

Contactors shall be built-in and pre-wired into an explosion-proof enclosure. Contactors shall be heavy duty and break all ungrounded conductors and be rated for 100,000 cycles at all full load. Control transformers where required shall be built-in and pre-wired. Control circuits shall be 24 volts on 208, 240, 480 and 600 volt heaters or 120 volts on 208, 240 and 480 volt heaters or 208 volts on 208 volt heaters or 240 volts on 240 volt heaters.

Thermal Overload Protection

All heaters equipped with automatic reset thermal overload switch capillary type rated for 100,000 cycles of reliable service for temperature regulation.

Relief Valve

Over-pressure arising from excessive external temperature is relieved by a pressure relief valve factory installed in the top header tank. Made of stainless steel opens @ 200 psi (1379 kPa).

Control Options:

- Built-in hazardous location hydraulic thermostat built into the NEMA 7 control enclosure. Adjustable from front of panel with screw driver slot 45 degrees F (7.5 C) to 90 degrees F (32.2 C) 125 VA pilot duty
- Disconnect switch factory installed and wired built into NEMA enclosure and mounted on heater. Single point power input to disconnect
- Pilot light mounted in NEMA 7 enclosure indicates power on to the heater
- Hazardous location wall mounted thermostat SPST 40 degrees F (4.4 C) to 90 degrees F (32.2 C) 22 amps @ 125 - 277 VAC plastic front and knob with bi-metal sensor
- Hazardous location wall mounted thermostat SPST 40 degrees F (4.4 C) to 90 degrees F (32.2 C) 22 amps @ 125 - 277 VAC all steel enclosure with bulb and capillary sensor
- Explosion-proof thermostat (wall- mounted) - SPST 40°F (4.4°C) - 90°F (32.2°C) 22 amps, 125-277 VAC, 3/4 HP (559 W) @ 125 VAC, 11/2 hp (1119 W) @ 250-277 VAC.
- Explosion-proof thermostat (wall- mounted) - DPST 40°F (4.4°C) - 90°F (32.2°C) 22 amps, 125-277 VAC, 3/4 hp (559 W) @ 125 VAC, 11/2 hp (1119 W) @ 250-277 VAC.



Mechanical Specifications

- Explosion-proof hydraulic thermostat (built-in) — 45°F (7.2°C) -90°F (32.2°C) 125VA pilot duty.

Mounting Bracket Kits:

- Wall mounting bracket, ideal for use in buildings that have substantial walls. Note the arm only can be bolted directly to structural steel.
- Ceiling mounting bracket, must have adequate overhead structure to mount to. Note 1/2" (12.7 mm) pipe, cut and threaded and supplied by others is required.
- Floor mounting bracket should be used in buildings with insufficient strength to use other types of mounting brackets. To be used with 3 1/2" (88.9 mm) schedule 40 pipe 4" (101.6 mm) OD supplied by others.

Model UHWA Series 20 and 50

Contractor shall supply and install heavy-duty, wall-mounted forced-air electric unit heaters of the wattage, voltage and phase as indicated on the plans. The heater is designed to provide an even distribution of heated air to the space by drawing return air in the periphery of the heater across 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 are recessed to extend no more than 1 1/2" (38.1 mm) from the finished wall, surface mounted to extend no more than 5 3/4" (146.1 mm) from the finished wall or semi-recessed to extend no more than 2 1/2" (63.5 mm) from the finished wall.

Enclosure

Heater front can withstand, with less than 1/16" (1.6 mm) permanent distortion, 10.8 ft. lbs (324 poundals) impact and 400 lbs. (181.4 kg) static force applied to an 8 sq. in. (5160 sq mm) area at center grille location.

The combination return and supply grille assembly are constructed of 1/16" (1.6 mm) x 3/8" (9.5 mm) rounded edge horizontal steel. Louvers are spaced for maximum opening of 1/4" (6.4 mm).

Louvers are welded at every intersection to three evenly spaced 1/16" (1.6 mm) diameter vertical members and completely framed in a heavy - gauge natural anodized aluminum extrusion. Front assembly are be attached to the chassis by hidden tamper-resistant (Allen-head) machine screws. All other parts are 16-gauge (1.5 mm thickness) steel zinc coated both sides painted in a high gloss bronze colored baked enamel finish.

Motor

Motors are permanently lubricated unit bearing, totally enclosed, shaded pole type with impedance protection. Motors will operate at no more than 1400 rpm (23.3 rps) and are the same voltage as the heater. A protective shield shall surround the motor to separate return air from heated air.

Performance

Heaters have a rating of 245 cfm (115.6 l/s) at 660 fpm (3352.8 mm/s) with a maximum temperature rise of 73 F (40.6 C).

Elements

Element assemblies consist of two or three corrosion-resistant steel sheathed type elements mechanically bonded to common corrosion-resistant steel fins. Each sheathed element 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 have 2" (50.8 mm) cold conductor pins extending into the sheath and have a density of no more than 60 watts per inch (25.4 mm).

Thermal Overload

Heaters are equipped with manual reset thermal limit control that disconnects elements and motor in the event normal operating temperatures are exceeded. For safety, if opened due to abnormal temperatures, thermal overload will remain open until manually reset by turning heater off for five minutes. Automatic reset thermal overloads which allow the element to continue to cycle under abnormal conditions will not be accepted.

Warranty

Heaters have a one-year warranty

Approval

Heaters are ETL listed. Heaters conform to Underwriters' Laboratories, Inc. Standard 1025, Paragraphs 31.20, 31.21, 31.22 and 31.23. Heaters not conforming to these paragraphs will not be acceptable.

Optional Control Systems

Heaters are operated from wall - mounted, line voltage, heavy-duty (tamper-resistant) thermostats.

Heaters with built-in, pre-wired contactors are operated from wall - mounted, line voltage, pilot duty (tamper-resistant) thermostats.

Heaters with built-in, pre-wired contactors (and control transformers) will be operated from wall-mounted, pilot duty (24 V) or (120 V) wall- mounted tamper-resistant thermostats.

Heaters are controlled by integrally mounted thermostats. Thermostats are heavy-duty, hydraulic type with a range of 40 F (4.4 C) to 80 F (26.7 C) and with remote sensing bulb placed in the return air. Thermostats shall be electrically rated at least 125 percent of heater rating. Thermostats also act as a disconnect by breaking all ungrounded conductors in the OFF position. (Thermostat control knob is covered by a 16-gauge (1.5 mm thickness) tamper-resistant access plate to prevent adjustment by unauthorized personnel.)

Contactors

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

Contactors are rated at least 125 percent of heater rating and are UL approved for 250,000 cycles.

Control Transformers

Heaters are equipped with a Class 2 control transformer, sealed rating of 20VA, to supply control circuits of 24 volts or 120 volts. (120 volt secondaries not available in single phase heaters over 3 kW.)

Circuit Breakers

Heaters 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 are included where required. Circuit breakers and control switches are 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.



Mechanical Specifications

Model UHCA Series 70 and 80

Contractor shall supply and install heavy duty ceiling-mounted forced-air electric heater(s) of the wattage, voltage and phase as indicated on the plans. The heater is designed to provide an even distribution of heated air to the space to be heated by drawing return air in the periphery of the heater, across and through the element and be discharged from the center section of the heater by means of an electric motor and axial flow fan blade.

Heaters that are recessed type and mounted flush with the finished ceiling or surfaced mounted to extend no more than 8 9/16" (217.5 mm) from the finished ceiling.

Enclosure — Recessed

The return grille assembly is constructed of a one piece heavy gauge steel with 1/4" (6.4 mm) sq. slots for return air and concentric rings for uniform air discharge. Grille assembly is attached to the chassis by tamper-resistant (Allen head) machine screws. All parts of enclosure are heavy gauge steel, zinc coated both sides and finished in neutral, off-white colored, baked enamel.

Surface Mounted

Enclosure are constructed of 1/16" (1.6 mm) x 3/8" (9.5 mm) rounded edge horizontal steel louvers which are spaced for maximum opening of 5/16" (7.9 mm). Louvers are welded at every intersection to evenly spaced 1/8" (3.2 mm) diameter vertical members. Discharge grille to have concentric rings for uniform air discharge. Grille assembly are attached to chassis by tamper-resistant (Allen head) machine screws. All parts of enclosure are heavy gauge steel, zinc coated both sides and finished in neutral, off-white colored, baked enamel.

Motor

Motors are permanently lubricated, unit bearing, totally enclosed shaded pole type with impedance protection. Motors operate at no more than 1,300 rpm (21.7 RPS) and are the same voltage as the heater.

Performance

Heaters have a rating of 425 cfm (200.6 l/s) at 710 fpm (3606.8 mm/s) with a maximum temperature rise of 44 F (24.4 C) and 63.9 DB RE 10-12 watt.

Elements

Element assemblies consist of two or three corrosion-resistant, steel-sheathed type elements mechanically bonded to common corrosion-resistant steel fins. Each sheathed element 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 have 2" (50.8 mm) cold conductor pins extending into sheath and have a density of no more than 60 watts per inch (25.4 mm).

Thermal Overload

Heaters are be equipped with manual reset thermal limit control that disconnects elements and motor in the event normal operating temperatures are exceeded. For safety, if opened due to abnormal temperatures, thermal overload will remain open until manually reset by turning heater off for five minutes. Automatic reset thermal overloads which allow the element to continue to cycle under abnormal conditions will not be accepted.

Approval

Heaters are ETL listed. Heaters conform to Underwriters' Standard 1025.

Model UHAA Series 3320

Furnish and install heavy-duty forced air wall heaters, Series 3320 where specified. Heaters are architectural styled, constructed of a 18-gauge (1.2 mm thickness) steel housing with a 14-gauge (1.9 mm thickness) extruded aluminum frame. The rugged steel grille and heater box are painted with a rust resistant dark brown baked enamel color finish. Rough-in dimensions of 19 3/16" (487.4 mm) high x 14 3/16" (360.4 mm) wide x 4" (101.6 mm) deep. Power wiring is connected through two 1/2" (12.7 mm) knockouts in the top of the heater and one 1/2" (12.7 mm) knockout on the bottom of the heater. Units are available in ratings from 1500 to 4800 watts at 240, 208 and 277 volts and 1500 watts at 120 volts. The heaters have a low-speed 600 rpm (10 rps), four-pole motor which drives a vane axial blower to deliver a quiet 175 cfm (82.6 l/s) of down flow air.

The heating element are of the sealed tubular type with large, parallel steel fins for quick heat transfer.

Unit's have as standard, thermal overload cut-off for added safety, fan delay switch, manual tamper resistant disconnect switch and a tamper resistant thermostat which are calibrated to provide a range of 55 F (12.8 C) to 85 F (29.4 C). All items factory installed and wired.

Optional accessories include a surface mounting adapter and day-night relays. All heaters are listed by ETL listed. The heating element are supplied with a manufacturer's one - year limited warranty.



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