



Electric Unit Heaters



**Model UHEC
Horizontal Discharge**

**Model UHEC
Vertical Discharge**



**Model UHXA
Explosion-Proof**



**Model UHRA
Hose-Down**



Features and Benefits

Model UHEC

Electric Unit Heaters

- Thirty-seven models to choose from ranging from 3.3 to 50 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 units and above.
- Meets all requirements of UL listing standard 1025 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 50 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. Two-speed fan operation on 25 kW units and above provides greater airflow flexibility.

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

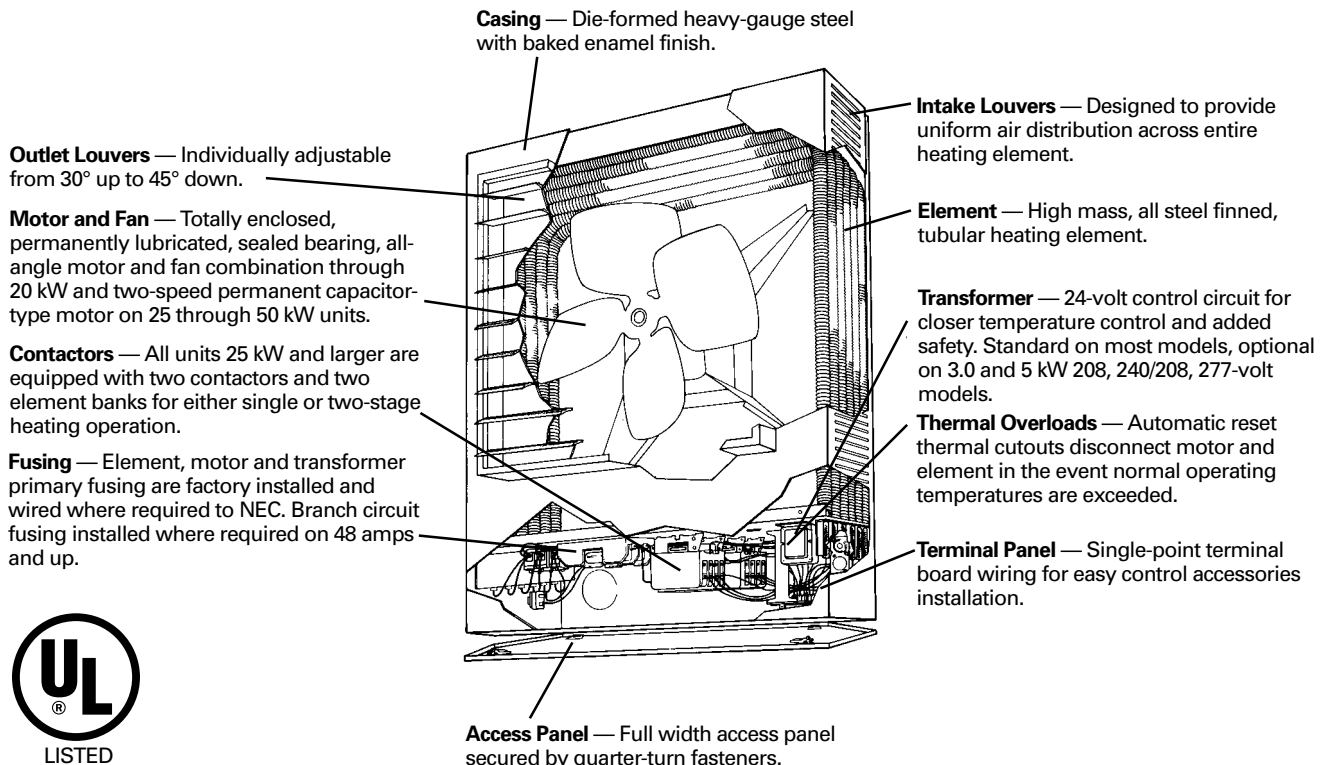
throw. Outlet diffusers are provided to properly direct the heated discharge air.

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.



Contents

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. In addition to meeting all requirements of UL listing standard 1025, the heating element is backed with a five-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.

Features and Benefits

Model Number Description

Selection Procedure

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Application Considerations

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Horizontal Discharge



Vertical Discharge



Features and Benefits

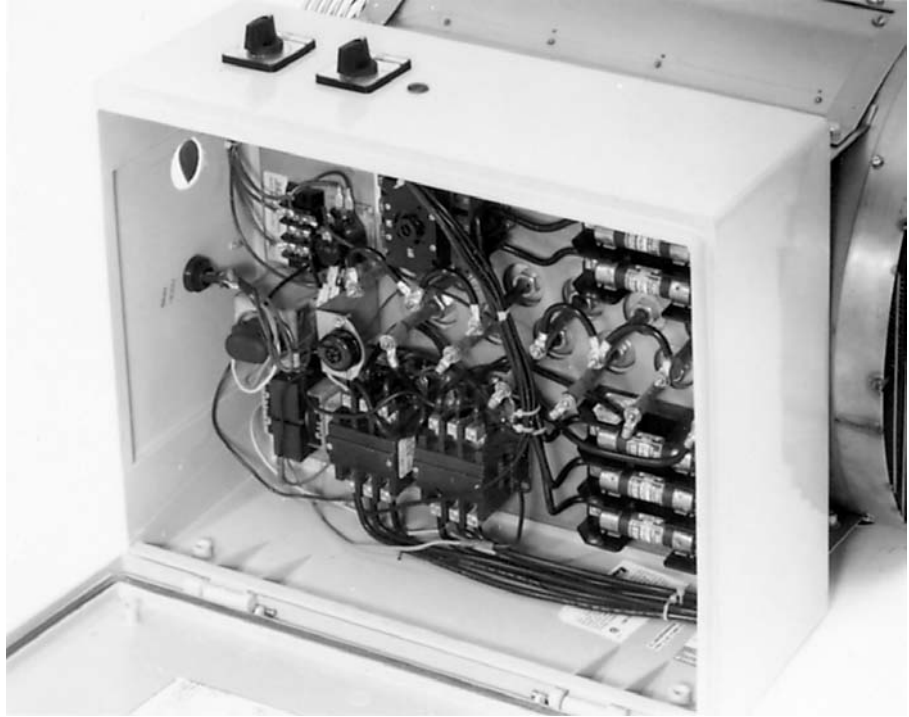
Model UHRA

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

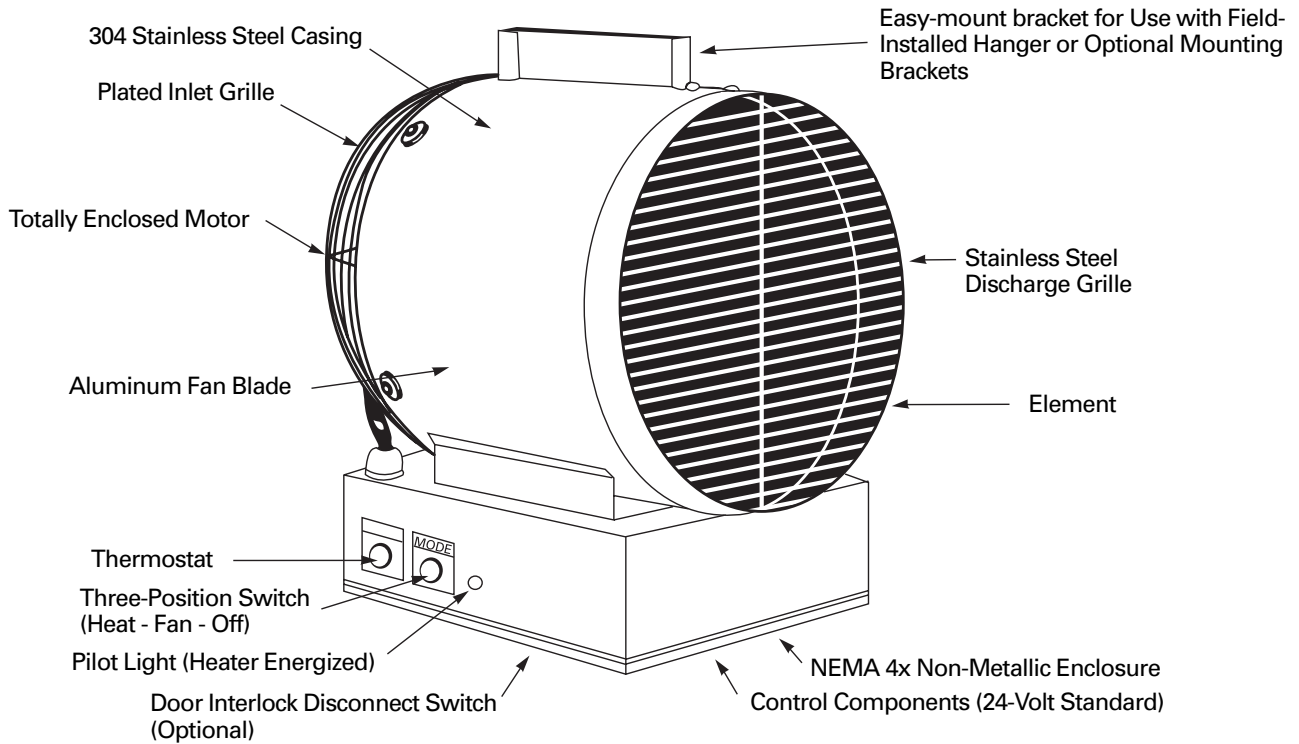


Control Enclosure

- 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).

Features and Benefits

Model UHRA

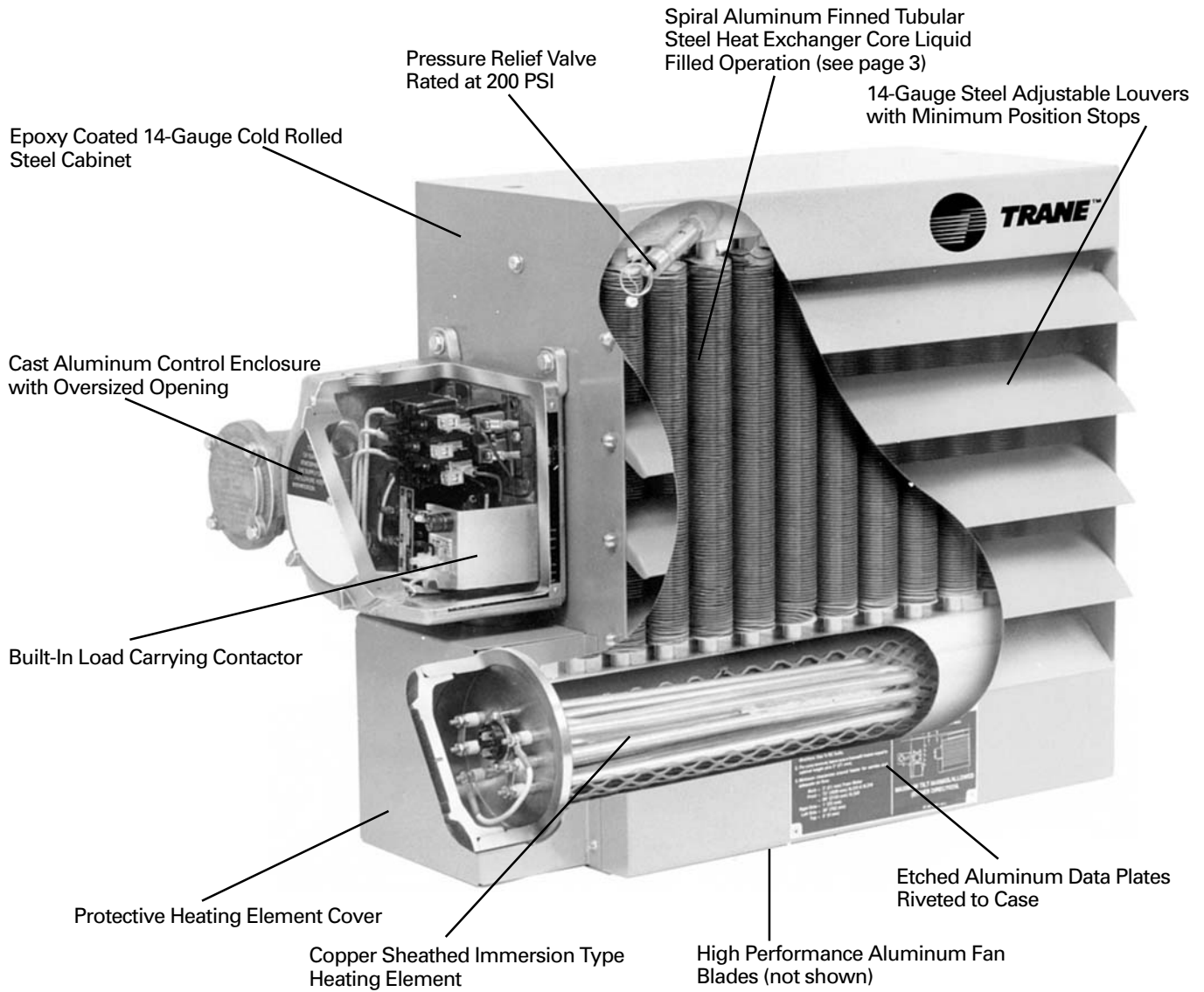




Features and Benefits

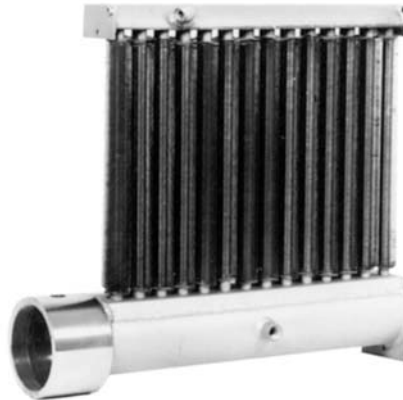
Model UHXA

Trane Explosion-Proof Electric Unit Heaters

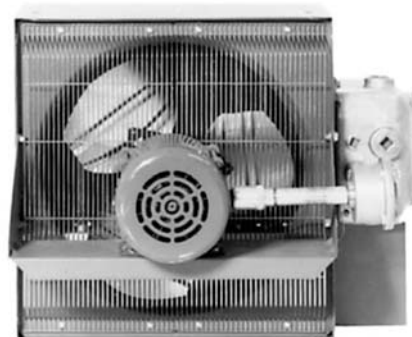


Features and Benefits

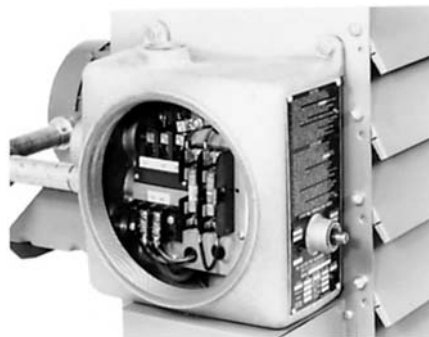
Model UHXA



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.

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.



Model Number Description

Model UHEC
Model UHRA
Model UHXA

Model UHEC

UHE C — 15 3 D A C A
1,2,3 4 5,6 7 8 9 10 11

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

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 — Contactor - for 24-volt control circuits

Model UHRA

UHR A — 48 3 D A A T
1,2,3 4 5,6 7 8 9 10 11

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

Model UHXA

UHX A — 03 1 A 1 B
1,2,3 4 5,6 7 8 9 10

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 Volts
B — 240 Volts
D — 480 Volts
F — 600 Volts

Digit 9 — Control Voltage

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

Digit 10 — Design Sequence

Notes:

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

Selection Procedure

Model UHEC and Model UHRA

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.

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 UHXA

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 less 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.



General Data

Model UHEC

Table GD-1 — Model UHEC

Unit Model Number	Electrical Data										Air Delivery Data				
	Capacity		Element and Motor Voltage	Element Phase	Std. Control Voltage	Max. Amp Rating	Min. Circuit Fuse Size	Supply Wire Gauge (60°C)	Motor Data		Airflow At Outlet (Cfm)	Approx. Air Rise @ Outlet (F)	Horiz. Air Throw (Ft)	Rec. Max. Mounting Height (Ft)	
	kW Rating	Btu/Hr (000)							Hp	Rpm				Horiz.	Vert.
UHEC-031A0C0	3.3	11.2	208	1	208	15.9	20A	12G	1/125	1550	400	26	12	9	9
UHEC-031B0C0	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-032A0C0	3.3	11.2	208	1-3	208	15.9/9.2†	20A	12GA	1/125	1550	400	26	12	9	9
UHEC-032B0C0	3.3/2.5	11.2/8.5	240/208	1-3	240/208	13.7/11.9 7.9/6.9†	20A/15A	12GA/14GA	1/125	1550	400	26	12	9	9
UHEC-031C0C0	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	4.0	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†	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†	20A/15A	12GA/14GA	1/125	1550	400	26	12	9	9
UHEC-051A0C0	5.0	17.1	208	1	208	24.1	35A	8GA	1/125	1550	400	40	12	9	9
UHEC-052AACA	5.0	17.1	208	1-3	24	24.1/13.9	35A	8GA	1/125	1550	400	40	12	9	9
UHEC-051B0C0	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-052A0C0	5.0	17.1	208	1-3	208	24.1/13.9†	35A	8GA	1/125	1550	400	40	12	9	9
UHEC-052B0C0	5.0/3.7	17.1/12.8	240/208	1-3	240/208	20.9/18.1 12.1/10.4†	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†	30A/25A	10GA/10GA	1/125	1550	400	40	12	9	9
UHEC-051C0C0	5.0	17.1	277	1	277	18.1	25A	10GA	1/125	1550	400	40	12	9	9
UHEC-053DACA	5.0	17.1	480	3	24	6.1	15A	14GA	1/125	1550	400	40	12	9	9
UHEC-051AACA	5.0	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	5.0	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†	50A	6GA	1/50	1550	700	34	22	10	12
UHEC-072BACA	7.5/5.6	25.6/19.2	240/208	1-3	24	31.3/27.1 18.1/15.6†	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	10.0	34.1	208	1-3	24	47.8/27.7†	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†	60A/50A	4GA/6GA	1/50	1550	700	45	22	10	14
UHEC-101CACA	10.0	34.1	277	1	24	36.1	50A	6GA	1/50	1550	700	45	22	10	14
UHEC-103DACA	10.0	34.1	480	3	24	12.1	20A	12GA	1/50	1550	700	45	22	10	14
UHEC-153AACA	15.0	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*	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*	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

Notes:

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.

*Supply wire on these models should have insulation rated 75°C minimum.

† Amp Rating for three-phase operation.



General Data

Model UHEC

Table GD-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
5.0	6	25.8	189	22.2	3.7	2.7	2.7
7.5	14	25.8	330	18.9	6.7	3.0	3.7
10	14	25.8	330	25.0	6.7	3.0	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 13.7	3.7 3.7	6.7 6.7
			25	50	25.8	944/ 849	22.2/ 24.4
480/3 Mtr 30	62	25.8	944/ 849	26.1/ 29.4	12.2 12.2	3.7 3.7	6.1 6.1
			30	50	25.8	944/ 849	26.1/ 29.4
480/3 Mtr 40	186	25.8	1463/ 1321	22.2/ 25.0	16.8 16.8	4.6 4.6	7.3 7.3
			40	149	25.8	1463/ 1321	22.2/ 25.0
480/3 Mtr 50	186	25.8	1463/ 1321	28.3/ 31.1	15.2 15.2	4.6 4.6	6.7 6.7
			50	149	25.8	1463/ 1321	28.3/ 31.1

1. 25 through 50 kW models are equipped with two-speed motors for Hi-Lo fan operation with addition of fan switch option.



General Data

Model UHRA

Table GD-3 — Model UHRA

Unit Model Number	kW Rating	Btu/Hr	Motor & Heater Volts/Phase	Control Volts	Max Amp Rating	Motor HP	Motor RPM
031AAAT			208/1		15.9		
033AAAT			208/3		9.2		
031GAAT			240/1		13.8		
033GAAT	3.3	11,200	240/3	24	8.0	35 mhp	1550
031CAAT			277/1		12.0	(21 w)	(26 rps)
033DAAT			480/3		4.0		
033FAAT			600/3		3.2		
051AAAT			208/1		24.1		
053AAAT			208/3		13.9		
051GAAT			240/1		20.9		
053GAAT	5.0	17,100	240/3	24	12.1	35 mhp	1550
051CAAT			277/1		18.1	(21 w)	(26 rps)
053DAAT			480/3		6.1		
053FAAT			600/3		4.9		
071AAAT			208/1		36.1		
073AAAT			208/3		20.9		
071GAAT			240/1		31.3		
073GAAT	7.5	25,600	240/3	24	18.1	35 mhp	1550
071CAAT			277/1		27.1	(21 w)	(26 rps)
073DAAT			480/3		9.1		
073FAAT			600/3		7.3		
101AAAT			208/1		48.1		
103AAAT			208/3		27.8		
101GAAT			240/1		41.7		
103GAAT	10	34,130	240/3	24	24.1	35 mhp	1550
101CAAT			277/1		36.2	(21 w)	(26 rps)
103DAAT			480/3		12.1		
103FAAT			600/3		9.7		
151AAAT			208/1		72.2		
153AAAT			208/3		41.7		
151GAAT			240/1		62.5		
153GAAT	15	51,200	240/3	24	36.2	35 mhp	1550
153DAAT			480/3		18.1	(21 w)	(26 rps)
153FAAT			600/3		14.5		
203AAAT			208/3		55.6		
203GAAT	20	68,260	240/3	24	48.2	1/3	1625
203DAAT			480/3		24.1	(249 w)	(27 rps)
203FAAT			600/3		19.3		
253AAAT			208/3		69.5		
253GAAT	25	85,325	240/3	24	60.3	1/3	1625
253DAAT			480/3		30.2	(249 w)	(27 rps)
253FAAT			600/3		24.1		
303AAAT			208/3		83.4		
303GAAT	30	102,390	240/3	24	72.3	1/3	1625
303DAAT			480/3		36.2	(249 w)	(27 rps)
303FAAT			600/3		29.0		
403DAAT	40	136,520	480/3	24	48.2	1/3	1625
403FAAT			600/3		38.6	(249 w)	(27 rps)
483DAAT	48	163,824	480/3	24	57.9	1/3	1625
483FAAT			600/3		46.3	(249 w)	(27 rps)

Table GD-4 — Air Delivery Data

Unit Model Number UHRA	kW	Cfm Outlet	FPM Outlet	F Deg. Temp. Rise Outlet	Air Throw Feet	Rec. Mtg. Height
031AAAT						
033AAAT						
031GAAT						
033GAAT	3.3	400	500	26°F (-3.3°C)	20 Ft. (6.1 M)	6 Ft. (1.8 M)
031CAAT		(189 L/S)	(2540 MM/S)			
033DAAT						
033FAAT						
051AAAT						
053AAAT						
051GAAT						
053GAAT	5.0	400	500	40°F (4.4°C)	20 Ft. (6.1 M)	6 Ft. (1.8 M)
051CAAT		(189 L/S)	(2540 MM/S)			
053DAAT						
053FAAT						
071AAAT						
073AAAT						
071GAAT						
073GAAT	7.5	400	500	60°F (16°C)	20 Ft. (6.1 M)	6 Ft. (1.8 M)
071CAAT		(189 L/S)	(2540 MM/S)			
073DAAT						
073FAAT						
101AAAT						
103AAAT						
101GAAT						
103GAAT	10	700	660	45°F (7.2°C)	28 Ft. (8.5 M)	6 Ft. (1.8 M)
101CAAT		(330 L/S)	(3353 MM/S)			
103DAAT						
103FAAT						
151AAAT						
153AAAT						
151GAAT						
153GAAT	15	700	660	68°F (20°C)	28 Ft. (8.5 M)	6 Ft. (1.8 M)
153DAAT		(330 L/S)	(3353 MM/S)			
153FAAT						
203AAAT						
203GAAT	20	1400	1000	45°F (7.2°C)	35 Ft. (10.7 M)	6 Ft. (1.8 M)
203DAAT		(661 L/S)	(5080 MM/S)			
203FAAT						
253AAAT						
253GAAT	25	1400	1000	56°F (13.3°C)	35 Ft. (10.7 M)	6 Ft. (1.8 M)
253DAAT		(661 L/S)	(5080 MM/S)			
253FAAT						
303AAAT						
303GAAT	30	1400	1000	68°F (20°C)	35 Ft. (10.7 M)	6 Ft. (1.8 M)
303DAAT		(661 L/S)	(5080 MM/S)			
303FAAT						
403DAAT	40	1800	1000	70°F (21°C)	42 Ft. (12.8 M)	6 Ft. (1.8 M)
403FAAT		(849 L/S)	(5080 MM/S)			
483DAAT	48	1800	1000	84°F (29°C)	42 Ft. (12.8 M)	6 Ft. (1.8 M)
483FAAT		(849 L/S)	(5080 MM/S)			

General Data

Model UHRA

Table GD-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)	(11 M)	(20.4 Kg)
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)	(14 M)	(24.9 Kg)

Table GD-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, 30	750	450	300	55 Ft. (16.8 M)	85 lbs. (39 Kg)
	(45.7 M/S)	(27.4 M/S)	(18.3 M/S)	(16.8 M)	(39 Kg)
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)	(19.8 M)	(59 Kg)

Table GD-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 GD-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* Wire AWG
3 kW	031A1B	208/1		14.4	16.3				20.4	25	10
	033A1B	208/3		8.3	9.8				12.3	15	14
	033B1B	240/1	1/4	12.5	14.8	10239	16.6	9.2	18.5	20	12
	033B1B	240/3	(186W)	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		24.0	26.0				32.4	35	8
	053A1B	208/3		13.9	15.4				19.2	20	12
	051B1B	240/1	1/4	20.8	23.1	17065	27.6	15.3	28.9	30	10
	053B1B	240/3	(186 W)	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		36.1	38.0				47.5	50	8
	073A1B	208/3		20.8	22.3				27.9	30	10
	071B1B	240/1	1/4	31.3	33.6	25598	41.4	23.0	42.0	45	8
	073B1B	240/3	(186 W)	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		27.8	29.3				36.6	40	8
	101B1B	240/1		41.7	44.0				55.0	60	6
	103B1B	240/3	1/4	24.1	25.5	34130	21.7	12.1	31.8	35	8
	103D1B	480/3	(186 W)	12.0	12.7				15.9	20	12
	103F1B	600/3		9.6	10.2				12.8	15	14
	15 kW	153A1B	208/3		41.6	43.5				54.4	60
153B1B		240/3	1/2	36.1	38.1	51195	19.2	10.7	47.6	50	8
153D1B		480/3	(186 W)	18.0	19.0				23.8	25	10
153F1B		600/3		14.4	15.2				19.0	20	12
203D1B		480/3	1/2	24.1	25.1				31.3	35	8
203F1B		600/3	(373 W)	19.2	20.0	68260	26.2	14.6	25.1	30	10
20 kW	253D1B	480/3	1/2	30.1	31.1				38.8	40	8
	253F1B	600/3	(373 W)	24.1	24.9	85325	32.8	18.2	31.1	35	8

*Supply conductors must be suitable for 90°C

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.



General Data

Model UHXA

Table GD-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* Wire AWG
3 kW	031A2B	208/1		14.4	16.3				20.4	25	10
	033A2B	208/3		8.3	9.8				12.3	15	14
	033B2B	240/1	1/4	12.5	14.8	10239	16.6	9.2	18.5	20	12
	033B2B	240/3	(186W)	7.2	8.6				10.8	15	14
	033D2B	480/3		3.6	4.3				5.4	15	14
5 kW	051A2B	208/1		24.0	26.0				32.4	35	8
	053A2B	208/3		13.9	15.4				19.2	20	12
	051B2B	240/1	1/4	20.8	23.1	17065	27.6	15.3	28.9	30	10
	053B2B	240/3	(186 W)	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		36.1	38.0				47.5	50	8
	073A2B	208/3		20.8	22.3				27.9	30	10
	071B2B	240/1	1/4	31.3	33.6	25598	41.4	23.0	42.0	45	8
	073B2B	240/3	(186 W)	18.0	19.4				24.3	25	10
	073D2B	480/3		9.0	9.7				12.2	15	14
10 kW	103A2B	208/3		27.8	29.3				36.6	40	8
	101B2B	240/1		41.7	44.0				55.0	60	6
	103B2B	240/3	1/4	24.1	25.5	34130	21.7	12.1	31.8	35	8
	103D2B	480/3	(186 W)	12.0	12.7				15.9	20	12
15 kW	153A2B	208/3		41.6	43.5				54.4	60	6
	153B2B	240/3	1/2	36.1	38.1	51195	19.2	10.7	47.6	50	8
	153D2B	480/3	(186 W)	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

*Supply conductors must be suitable for 90°C.

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

Table GD-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* Wire AWG	Control Voltage
3 kW	031A3B	208/1		14.4	16.3				20.4	25	10	208
	033A3B	208/3		8.3	9.8				12.3	15	14	208
	033B4B	240/1	1/4	12.5	14.8	10239	16.6	9.2	18.5	20	12	240
	033B4B	240/3		7.2	8.6				10.8	15	14	240
5 kW	051A3B	208/1		24.0	26.0				32.4	35	8	208
	053A3B	208/3		13.9	15.4				19.2	20	12	208
	051B4B	240/1	1/4	20.8	23.1	17065	27.6	15.3	28.9	30	10	240
	053B4B	240/3		12.0	13.4				16.8	20	12	240
7.5 kW	071A3B	208/1		36.1	38.0				47.5	50	8	208
	073A3B	208/3		20.8	22.3				27.9	30	10	208
	071B4B	240/1	1/4	31.3	33.6	25598	41.4	23.0	42.0	45	8	240
	073B4B	240/3		18.0	19.4				24.3	25	10	240
10 kW	103A3B	208/3		27.8	29.3				36.6	40	8	208
	101B4B	240/1	1/4	41.7	44.0	34130	21.7	12.1	55.0	60	6	240
	103B4B	240/3	(186 W)	24.1	25.5				31.8	35	8	240
15 kW	153A3B	208/3	1/2	41.6	43.5				54.4	60	6	208
	153B4B	240/3	(186 W)	36.1	38.1	51195	19.2	10.7	47.6	50	8	240

*Supply conductors must be suitable for 90°C.

1. Not available for 480 and 600 volt heaters.



General Data

Model UHXA

Table GD-11 — Model UHXA

Unit Size	3 kW, 5 kW & 7.5 kW	10 kW	15 kW, 20 kW & 25 kW
Capacities Available	3 kW 10,236 Btu 5 kW 17,060 Btu 7.5 kW 25,590 Btu	10 kW 34,120 Btu	15 kW 51,180 Btu 20 kW 68,240 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 9.1°C 5 kW 27.2°F 15.1°C 7.5 kW 40.8°F 22.7°C	10 kW 21.0°F 11.7°C	15 kW 19.0°F 10.6°C 20 kW 25.5°F 14.2°C 25 kW 32.3°F 17.9°C
Horizontal Throw	24 ft. 7.3 M	40 ft. 12.2 M	43 ft. 13.1 M
Max. Mtg. Height from floor	8 ft. 2.4 M	10 ft. 3.1 M	13 ft. 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)
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 Thermostats Models TW161 & TW162	Explosion-proof 40-90°F operating range 22A, 125-277 VAC - 3/4 HP @ 125 VAC; 1 1/2 HP @ 250-277 VAC.		
Built-in "T" Option	125 VA pilot duty Sensing Bulb and Capillary made from 300 Series Stainless Steel ASW Tube.		
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)

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 10^5 ohm-centimeter.
- **Group F:** Atmospheres containing carbon black, charcoal, coal or coke dust.
- **Group G:** Atmospheres containing combustible dust having resistivity of 10^5 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

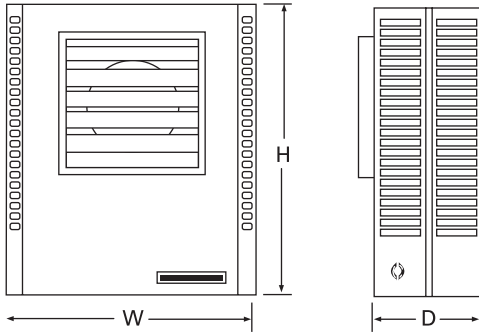
- 1**
Refer to owner's manual.
- 2**
The Trane explosion-proof electric unit heaters have been listed by the Underwriters Laboratories for maximum surface temperatures. Use only in atmospheres having an ignition temperature higher than 165°C (T3B) for Class I and Class II operation.
- 3**
Altitude restrictions — 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.



Dimensional Data

Model UHEC

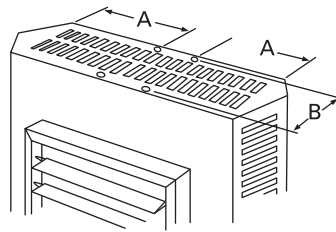
Unit Casing



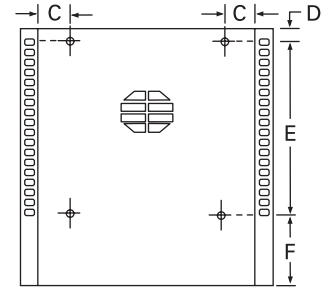
Unit Casing (Inches)

Unit Size	H	W	D
3.3-5	17 3/4 (451)	14 15/32 (368)	6 1/2 (165)
7.5-10	24 9/16 (618)	21 1/2 (546)	6 1/2 (165)
15-20	28 11/16 (729)	21 1/2 (546)	6 1/2 (165)
25-50	34 (864)	29 1/4 (743)	10 1/16 (256)

Horizontal Air Discharge



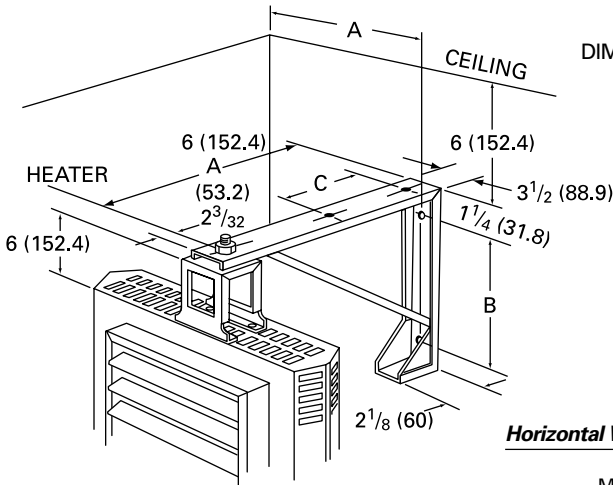
Vertical Air Discharge



Weld-Nut Locations in Inches and Millimeters ()

Unit Size	Horizontal			Vertical		
	A	B	C	D	E	F
3.3-5	3 1/32 (77)	5 1/4 (133)	2 7/16 (62)	1 5/32 (29)	11 5/32 (283)	5 7/16 (138)
7.5-10	7 17/32 (191)	5 1/4 (133)	3 1/2 (89)	1 7/8 (48)	16 1/16 (408)	6 3/8 (162)
15-20	7 17/32 (191)	5 1/4 (133)	3 1/2 (89)	1 7/8 (48)	20 7/16 (519)	6 3/8 (162)
25-50	10 27/32 (275)	8 13/16 (224)	6 13/16 (173)	1 7/8 (48)	26 1/2 (673)	5 5/8 (143)

Horizontal Air Discharge



DIMENSIONS SHOWN IN () ARE IN MILLIMETERS

All dimensions approximate.
Certified prints available on request.

Horizontal Wall/Ceiling Swivel Bracket Clearance Requirements (Inches)

Unit Size	Model Mounting Bracket	Minimum Distance			Mounting Bracket Wt. lbs. (Kg)	Dimensions		
		Ceiling To Unit	Adjacent Surface To Unit	Floor To Unit*		A	B	C
3.3-5	A5105	12 (305)	12 (305)	84 (2134)	6 (2.7)	19 15/64 (487)	10 1/2 (267)	9 1/4 (235)
7.5-20	A5120	18 (457)	12 (305)	84 (2134)	9 (4.1)	23 (584)	12 (305)	19 1/8 (486)
25-50	A5150	18 (457)	12 (305)	84 (2134)	11 (5.0)	26 21/32 (677)	13 1/2 (343)	19 7/8 (505)

*Do not exceed unit's maximum mounting height.

Vertical Mounting Bracket Clearance Requirements (Inches)

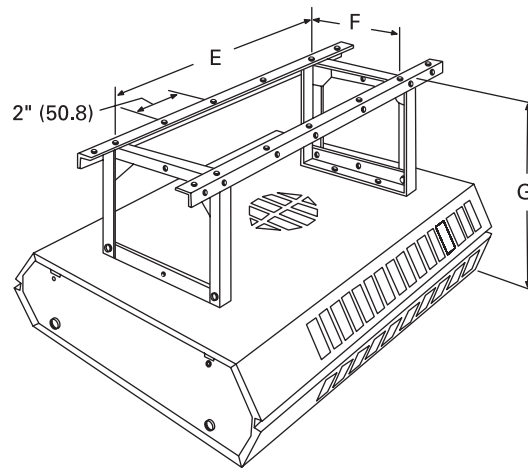
Unit Size	Model Mounting Bracket	Minimum Distance			Mounting Bracket Wt. lbs. (Kg)	Dimensions		
		Ceiling To Unit	Adjacent Surface To Unit	Floor To Unit*		E	F	G
3.3-5	V5105	12 (305)	12 (305)	84 (2134)	9 (4.1)	26 (660)	9 1/8 (232)	18 3/4 (476)
7.5-20	V5120	18 (457)	24 (610)	84 (2134)	13 (5.9)	36 9/16 (929)	13 7/8 (352)	24 1/2 (622)
25-50	V5150	18 (457)	24 (610)	84 (2134)	13 (5.9)	42 (1067)	13 7/8 (352)	28 1/16 (713)

*Do not exceed unit's maximum mounting height.

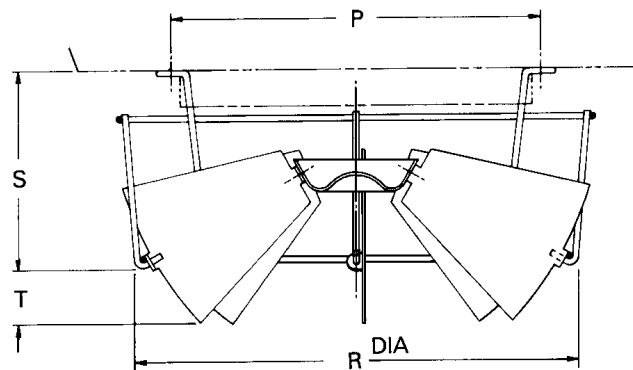
Dimensional Data

Model UHEC

Vertical Air Discharge



Louver Cone Diffuser



Dimensions shown in () are in millimeters

Louver Cone Diffuser

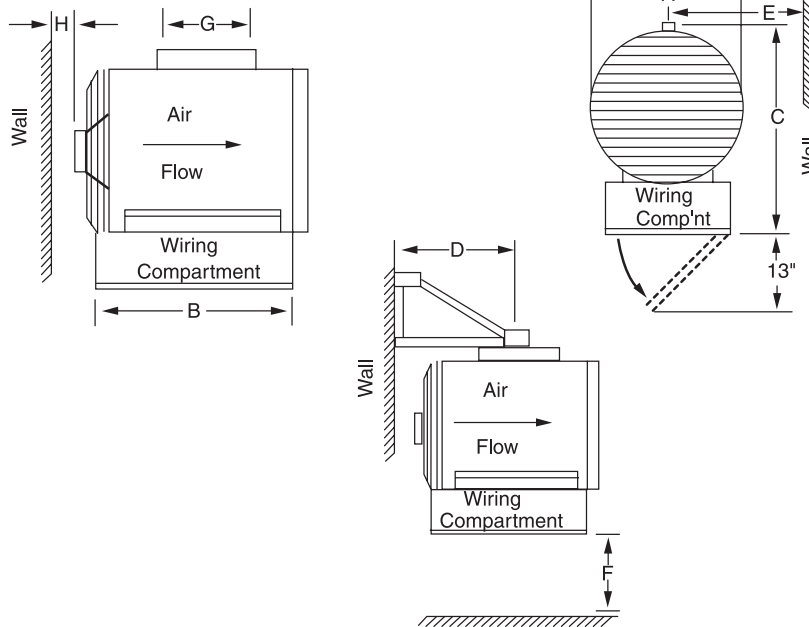
Unit Size	P	R	S	T
03 & 05	N/A	N/A	N/A	N/A
07 & 10	11 ⁵ / ₈ (295.3)	14 ¹ / ₄ (362.0)	6 ¹ / ₂ (165.1)	1 ³ / ₄ (44.5)
15 & 20	11 ⁵ / ₈ (295.3)	14 ¹ / ₄ (362.0)	6 ¹ / ₂ (165.1)	1 ³ / ₄ (44.5)
25-50	17 ¹ / ₈ (435.0)	21 (533.4)	9 ³ / ₄ (247.7)	2 ³ / ₄ (69.9)

Dimensional Data

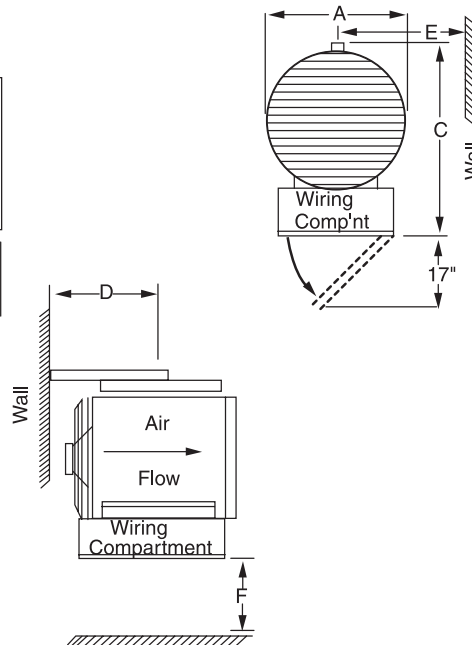
Model UHRA

3 kW thru 15 kW

Dimensions shown in () are in millimeters



20 kW thru 48 kW



Unit Size	Dimensions							
	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)

Dimensional Data

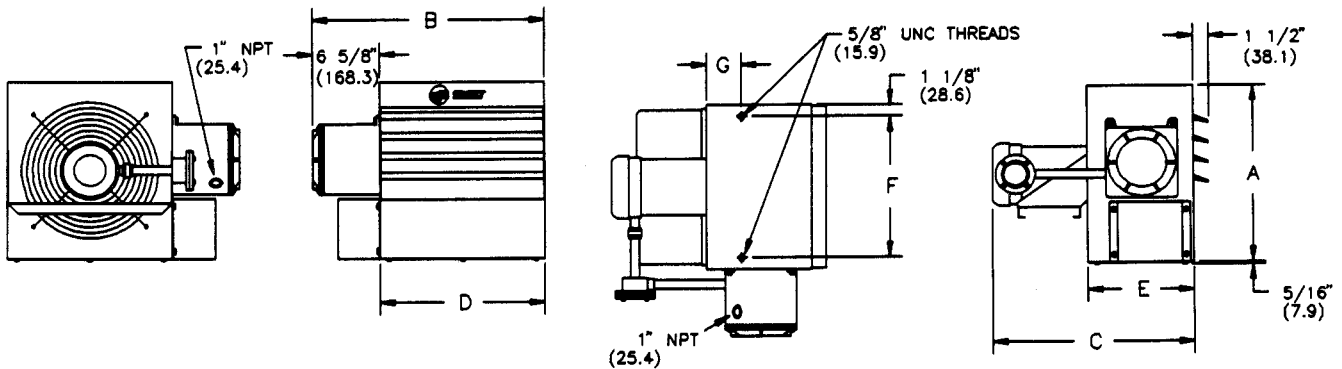
Model UHXA

Physical Dimensions (Inches)

Unit Size	A	B	C		D	E	F	G
			3 PH.	1 PH.				
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 PH.	1 PH.				
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)

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

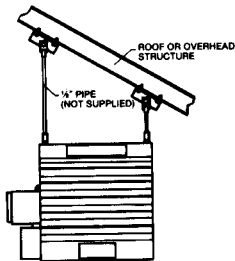
Floor Mounting Bracket

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

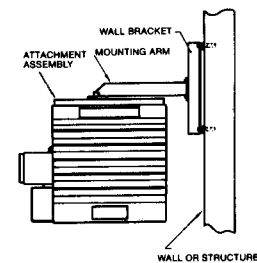
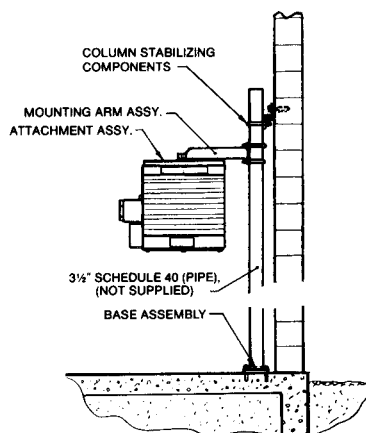
Ideal for use in buildings that have substantial walls. Arm only can also be bolted directly to structural steel.



HLHM

Ceiling Mounting Bracket

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



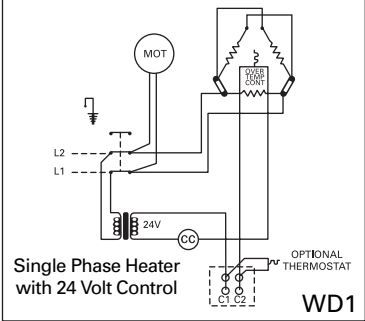
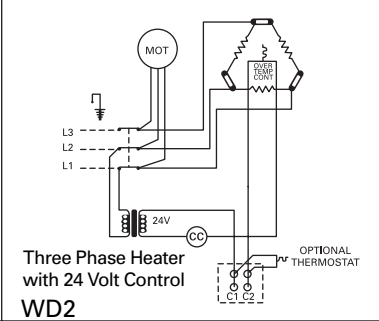
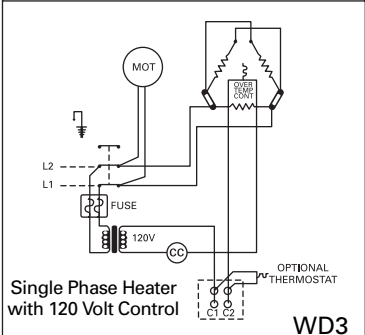
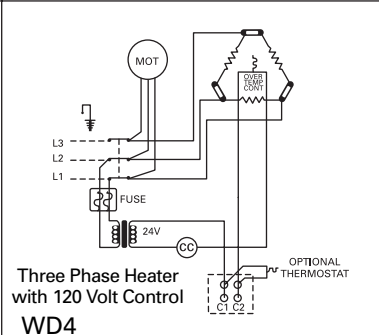
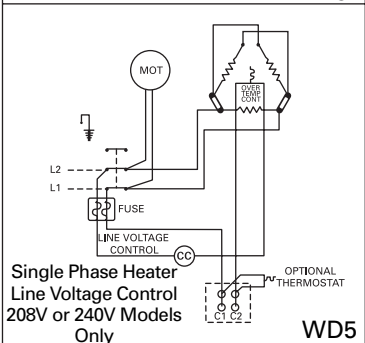
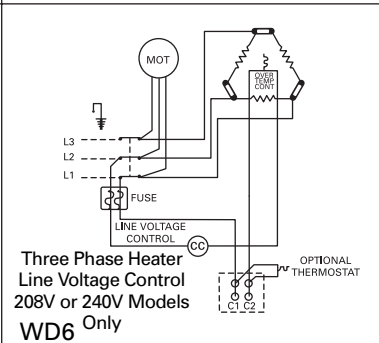
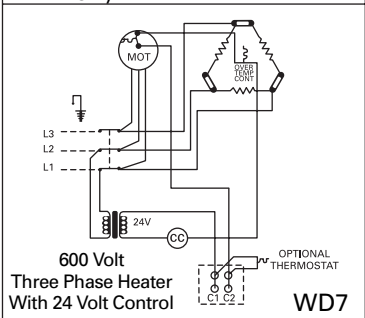
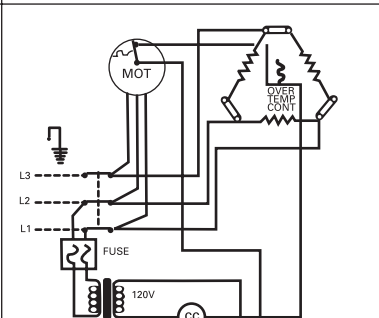
Wiring Diagrams

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.

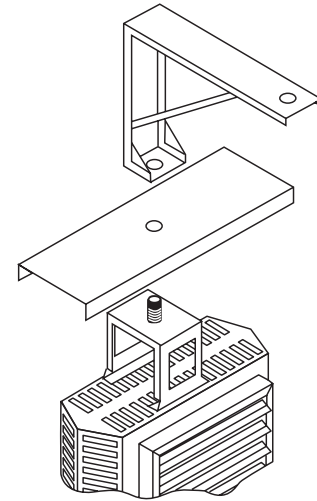
 <p>Single Phase Heater with 24 Volt Control</p> <p>WD1</p>	<p>24 Volt Control</p> <p>WD1 – Single Phase 208, 240 Volt</p> <p>WD2 – Three Phase 208, 240, 480 Volt</p>	 <p>Three Phase Heater with 24 Volt Control</p> <p>WD2</p>
 <p>Single Phase Heater with 120 Volt Control</p> <p>WD3</p>	<p>120 Volt Control</p> <p>WD3 – Single Phase 208, 240 Volt</p> <p>WD4 – Three Phase 208, 240, 480 Volt</p>	 <p>Three Phase Heater with 120 Volt Control</p> <p>WD4</p>
 <p>Single Phase Heater Line Voltage Control 208V or 240V Models Only</p> <p>WD5</p>	<p>Line Voltage Control</p> <p>WD5 – Single Phase 208, 240 Volt</p> <p>WD6 – Three Phase 208, 240 Volt</p>	 <p>Three Phase Heater Line Voltage Control 208V or 240V Models Only</p> <p>WD6</p>
 <p>600 Volt Three Phase Heater With 24 Volt Control</p> <p>WD7</p>	<p>600 Volt</p> <p>WD7 – Three Phase 24 Volt Only</p> <p>WD8 – Three Phase 120 Volt Only</p>	 <p>600 Volt Three Phase Heater With 120 Volt Control</p> <p>WD8</p>

Options

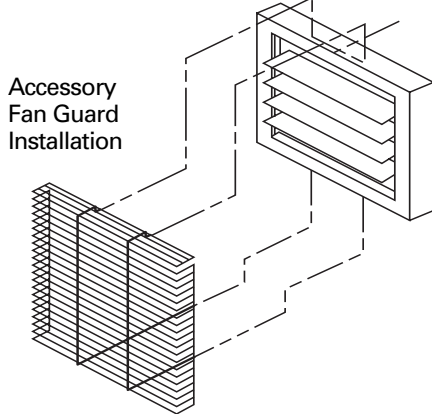
Model UHEC

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



OSHA Fan Guards



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.

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 doorways as an air curtain or to meet rectangular floor pattern heating requirements.	3.3 & 5.0 kW	STD	9' (2.7 M)	20' (6.1 M)	10' (3.0 M)		
	7.5 & 10.0 kW	STD	12' (3.7 M)	40' (12.2 M)	22' (6.7 M)		
	15.0 & 20.0 kW	STD	18' (5.5 M)	52' (15.8 M)	30' (9.1 M)		
	25.0 & 30.0 kW	STD	22' (6.7 M)	75' (22.9 M)	42' (12.8 M)		
	40.0 & 50.0 kW	STD	24' (7.3 M)	84' (25.6 M)	47' (14.3 M)		
2. General Distribution (No Diffuser) Trane's Airchute Venturi permits general downflow air pattern distribution as required at a higher mounting height.	3.3 & 5.0 kW	N/R	9' (2.7 M)	15' (4.6 M)			
	7.5 & 10.0 kW	N/R	12' (3.7 M)	30' (9.1 M)			
	15.0 & 20.0 kW	N/R	18' (5.5 M)	40' (12.2 M)			
	25.0 & 30.0 kW	N/R	22' (6.7 M)	55' (16.8 M)			
	40.0 & 50.0 kW	N/R	24' (7.3 M)	64' (19.5 M)			
3. Anemostat Diffuser (Optional) For application where draft restriction is required at lower unit mounting heights.	3.3 & 5.0 kW	N/A	—	—	—		
	7.5 & 10.0 kW	AD5120	10' (3.0 M)	30' (9.1 M)			
	15.0 & 20.0 kW	AD5120	15' (4.6 M)	38' (11.6 M)			
	25.0 & 30.0 kW	AD5150	17' (5.2 M)	50' (15.2 M)			
	40.0 & 50.0 kW	AD5150	20' (6.1 M)	60' (18.3 M)			
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 & 5.0 kW	N/A	45° 90°	45° 90°			
	7.5 & 10.0 kW	RD5120	—	—			
	15.0 & 20.0 kW	RD5120	10' 3.0 M 14' 4.3 M	36' 11.0 M 30' 9.1 M			
	25.0 & 30.0 kW	RD5150	14' 4.3 M 21' 6.4 M	42' 12.8 M 35' 10.7 M			
	40.0 & 50.0 kW	RD5150	20' 6.1 M 30' 9.1 M 18' 5.5 M 28' 8.5 M	62' 18.9 M 44' 13.4 M 68' 20.7 M 54' 16.5 M			

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

Options

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 45°F (7.2°C) to 90°F (32.2°C); and the stratification thermostat has a range of 70°F (21.1°C) to 130°F (54.4°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 nonheating season, the summer fan switch will allow the unit's fan to provide air circulation without providing heat.

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 40°F (4.4°C) to 90°F (32.2°C). Single-stage low voltage thermostats have a range of 50°F (10°C) to 80°F (26.7°C), and two-stage low voltage thermostats have a range of 45°F (7.2°C) to 85°F (29.4°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

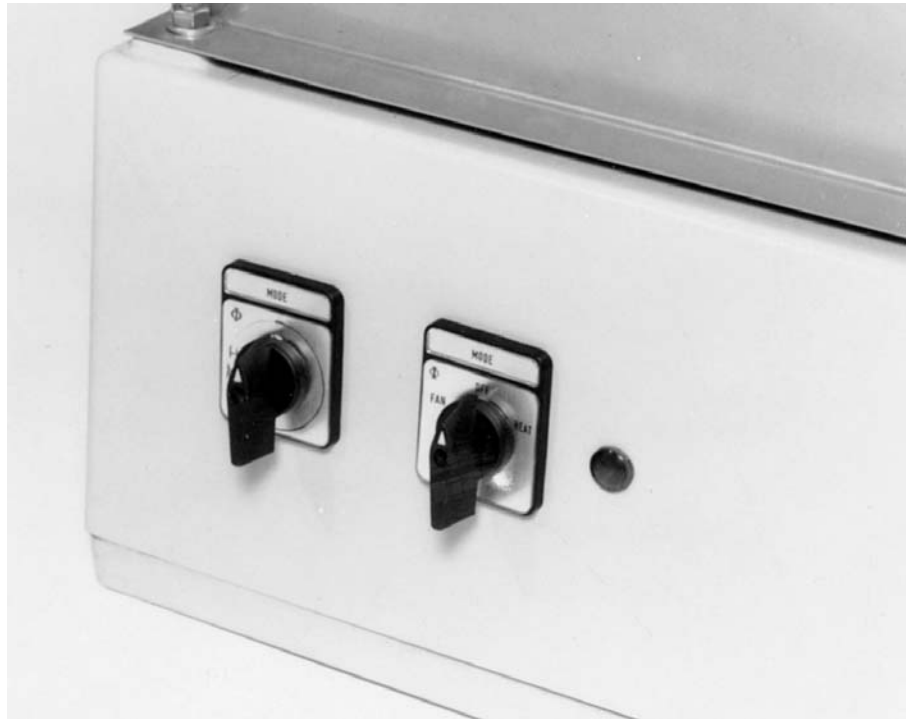
Unit and wall mounted power disconnect switches are available to provide a positive disconnect of the unit from the power supply. Two-pole and three-pole power disconnect switches are available with voltage ratings from 25 to 63 amps.



Options

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



Options

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.

Explosion-Proof Thermostat

Specifications

- TW161 Single Pole
- 22 Amps 125-277 VAC
- 3/4 Hp 125 VAC
- 1½ Hp 250-277 VAC
- 5½" H x 5½" W x 4¾" D
- Can be used for heating or cooling applications



Built-In Hydraulic Thermostat 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 1025. 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.

- 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 tamperproof 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.

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)

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.

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



Mechanical Specifications

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 washdown 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.

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.

- 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.

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.

Mechanical Specifications

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 UL listed.

UL 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 10^5 ohm-centimeter.
- **Group F:** Atmospheres containing carbon black, charcoal, coal or coke dust.
- **Group G:** Atmospheres containing combustible dust having resistivity of 10^5 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.

UL Temperature Codes

The UL 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 $\frac{1}{4}$ " (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 $2\frac{5}{8}$ " (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:

- Explosion-proof thermostat (wall-mounted) - SPST 40°F (4.4°C) -90°F (32.2°C) 22 amps, 125-277 VAC, $\frac{3}{4}$ HP (559 W) @ 125 VAC, 1 $\frac{1}{2}$ 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, $\frac{3}{4}$ hp (559 W) @ 125 VAC, 1 $\frac{1}{2}$ hp (1119 W) @ 250-277 VAC.
- Explosion-proof hydraulic thermostat (built-in) — 45°F (7.2°C) -90°F (32.2°C) 125 VA 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 $\frac{1}{2}$ " (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 $\frac{1}{2}$ " (88.9 mm) schedule 40 pipe 4" (101.6 mm) OD supplied by others.



TRANE[®]

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An American Standard Company
www.trane.com

*For more information contact
your local district office or
e-mail us at comfort@trane.com*

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Stocking Location La Crosse

Since Trane has a policy of continuous product and product data improvement, it reserves the right to change design and specifications without notice.