Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
Little Rock, AR 72231
Phone 501-834-3320
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Date: 2/4/2025
Return Request: 2/14/2025
Project: City Of Sherwood Public Works (Maintenance Building)
Supplier: Harrison Energy Partners
Manufacturer: Reznor
Submittal: Fuel Fired Unit Heaters
Submittal Number: 23 55 33-01
Drawing # and Installation: Mechanical Drawings

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ENGINEER
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Notes:

CSUSA PROJECT NO.
24-6084
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Submittal

Harrison
Energy Partners

Prepared For:
Cromwell Architects Engineers

Date:
12/10/2024

Sold To:
Comfort Systems USA

Job Name:
Sherwood Public Works

Harrison Energy Partners is pleased to provide the enclosed submittal for your review and approval.

Qty.	**Product Summary**
10	Gas Unit Heater (GUH-1 Thru 10)

Josh Robinson, New Systems Sales
501-539-0633 • harrisonenergy.com
Harrison Energy Partners • Commercial HVAC Excellence
1501 Westpark Dr., Ste. 9 • Little Rock, AR 72204

The attached information describes the equipment we propose to furnish for this project and is submitted for your approval.

Reznor Gas Unit Heaters (GUH-1 Thru 10**)**

- Gas Unit Heater
- 250 MBH Heat Capacity (GUH-1,2,3,4,5,6)
- 200 MBH Heat Capacity (GUH-7,8,9,10)
- Vent Cap 5”
- Built-in Disconnect Switch
- Thermostat

REZNOR®

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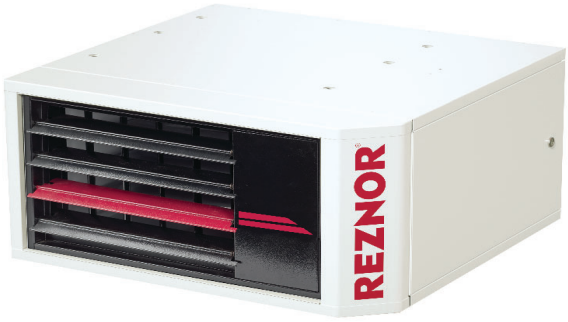
REZNOR®

UDXC-Series

Low Static, Axial Fan Commercial/Industrial Unit Heaters

- **Separated Combustion Capable**
- **82-83% Thermal Efficiency**



Reznor® Model UDXC gas-fired unit heaters are available in 14 sizes ranging from 30,000 to 400,000 BTUH gas input. Model UDXC heaters are approved for installation in the United States and Canada by ETL. These models are built for traditional applications but are easily and quickly converted to separated combustion for use in dirty, dusty, or contaminated spaces.

Each size cabinet is easily suspended from either 2 or 4 suspension points. Or, an optional hanger kit for Sizes 30-125 allows for ceiling mounting. The low voltage terminal strip on the outside of the cabinet makes connecting control wiring easy with no panels to remove. The addition of a "G" terminal to the strip allows for fan only operation (without adding relays).

Reznor model UDXC unit heaters offer a sleek design sure to complement any space. The UDXC features a two-tone black and white powder coated, scratch-resistant paint scheme with a single red louver. Each unit has clean rounded corners and edges with no visible screws or fasteners, and the bottom is embossed with the Reznor logo. Model UDXC unit heaters provide the same superior performance customers have relied on for more than 130 years along with added features that make servicing the unit easier, installation safer and improve monitoring capabilities.

Features and Benefits

- Separated combustion capable with field installed kit
- Sizes 30-400 MBTUH certified for commercial/industrial heating application
- Sizes 30-125 MBTUH also approved for use in residential garage/ workshop heating applications
- 50-60°F Rise range
- Built-in disconnect switch (20A @ 115V Rating)
- Integrated circuit board with 7 segment display
- External status indicating LED
- Hinged door with ¼ turn latch
- Improved cabinet design with removeable front face and two tone white and black powder paint.
- Reznor logo embossed on bottom of unit
- Tcore2 titanium stabilized aluminized steel heat exchanger
- Patented single burner combustion system including a one-piece burner assembly
- 115V, 1 phase, 60 Hz Supply voltage
- 115 Volt open fan motor with internal overload protection
- Transformer for 24-volt controls
- Sealed control compartment houses all electrical components
- Multi-try direct spark ignition with timed lockout
- Fan relay (included on the circuit board)
- Single-stage natural gas valve (field adjustable for operation to 9,000 ft. elevation)*
- Vibration/noise isolated fan and venter motors - designed for low noise operation
- 2-pt and 4-pt Suspension ~ standard on all sizes
- External terminal strip for 24-volt wiring
- External gas pipe connection
- Sealed junction box for supply wiring
- Full fan guard

Optional Features

- Two-stage gas valve (sizes 60-400)
- 409 or 316 stainless steel heat exchangers
- Totally enclosed fan motor (sizes 30-400)
- Horizontal or vertical combustion air/vent kit including concentric adapter
- Many control options from simple to wifi-controllable thermostats to BacNET compatility
- Thermostat guard with locking cover
- Integrated vertical louvers
- Integrated 30° & 60° downturn nozzles
- Gas conversion kits (propane)
- Primary/secondary controls for zoning up to six units
- Ceiling suspension kit - Sizes 30-125
- Hanger kits for 1" pipe
- Stepdown transformer (for 208/115, 230/115 or 460/115 supply voltage)

*Note: Pressure switch change required for installations above 6,000 ft.

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Included Options for UDXC-250 / GUH 1 THRU 6

AA1 Unit equipped for natural gas heating.Natural gas is a naturally occurring gas mixture consisting primarily of methane and includes varying volumes of alkanes, carbon dioxide, nitrogen, and hydrogen sulfide.1 Therm = 100,000 BTU = 29.3kWh

AC1 Heat exchanger is manufactured from die-formed halves of aluminized steel.

AG1 Gas controls designed for recirculating air heating application. Furnace has a 24 volt, single stage combination gas valve which includes the electronic on-off valve controlled by a single-stage 24 volt room thermostat, a pressure regulator, a safety pilot valve, and the manual shutoff valve.

AK1 115 Volt, Single Phase, 60 cycle supply voltage.

AL1 Standard fan motor

AV2 Power Venting

AZ0 Unit supply fan protected by a close mesh fan guard.

CC1 Vent cap

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CL1 Single-stage thermostat 40-80F, 24 volt

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Technical Data

Parameter	Unit of Measure	Unit Size (MBTUh)					
		30	45	60	75	100	125
Thermal efficiency	%	82	83	83		83	
Input heating capacity	BTUh	30,000	45,000	60,000	75,000	105,000	120,000
	kW	8.8	13.2	17.6	22.0	30.8	35.2
Output heating capacity, low fire*	BTUh	17,220	26,145	34,860	43,575	61,005	69,720
	kW	5.0	7.6	10.2	12.7	17.9	20.4
Output heating capacity, high fire*	BTUh	24,600	37,350	49,800	62,250	87,150	99,600
	kW	7.2	10.9	14.6	18.2	25.5	29.2
Gas connection**	inch	1/2					
Vent connection diameter***		4					
Control, 24V	amp	1.0					
Full load amps, 115V		1.9	2.4	2.4	3.7	4.3	5.6
Maximum overcurrent protection, 115V†		15					
Normal power consumption	watt	109	155	155	217	276	354
Discharge air temperature rise	°F	50	55	60		60	
	°C	10	12.8	15.5		15.5	
Air volume	CFM	456	629	769	961	1345	1537
	meter^3/minute	12.9	17.8	21.8	27.5	36.7	45.9
Discharge air opening area	foot^2	0.96		1.25		2.01	
	meter^2	0.09		0.12		0.19	
Output velocity	FPM	475	656	616	770	668	763
	meter/minute	145	200	188	235	204	233
Open fan motor horsepower	HP	0.02	0.03	0.03	0.06	1/30	1/20
Totally-enclosed fan motor horsepower		0.06		0.06		1/4	
Fan motor speed	RPM	1550		1550		1050	
Fan diameter	inch	10		12		16	
Sound level @ 15 feet	dBa	40		40	49	54	55
*ETL ratings for elevations up to 2,000 feet.							
**Size shown is for natural gas or propane gas connection to a single-stage gas valve—not supply line size.							
***Smaller and/or larger vent and combustion air pipe diameters may be permissible.							
†MOCP = 2.25 × (largest motor FLA) + smallest motor FLA. Answer is rounded to the next lower standard circuit breaker size.							

Parameter	Unit of Measure	Unit Size (MBTUh)							
		150	175	200	225	250	300	350	400
Thermal efficiency	%	83							
Input heating capacity	BTUh	150,000	175,000	200,000	225,000	250,000	300,000	350,000	400,000
	kW	44.0	51.3	58.6	65.9	73.3	87.9	102.6	117.2
Output heating capacity, low fire*	BTUh	87,150	101,675	116,200	130,725	145,250	174,300	203,350	232,400
	kW	25.5	29.8	34.0	38.3	42.6	51.0	59.6	68.1
Output heating capacity, high fire*	BTUh	124,500	145,250	166,000	186,750	207,500	249,000	290,500	332,000
	kW	36.5	42.6	48.7	54.7	60.8	73.0	85.1	97.3
*ETL ratings for elevations up to 2,000 feet.									

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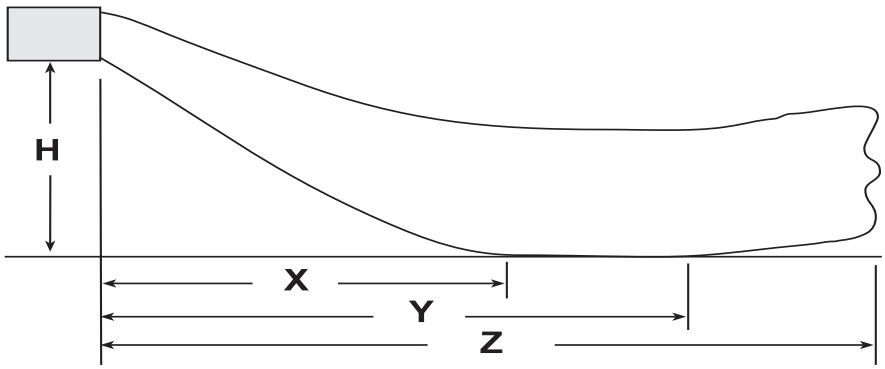
Parameter	Unit of Measure	Unit Size (MBTUh)							
		150	175	200	225	250	300	350	400
Gas connection**	inch	1/2			3/4	3/4			
Vent connection diameter***		5				5	6		
Control, 24V	amp	1.0							
Full load amps, 115V		3.8		4.6	7.5	7.5	11.0		
Maximum overcurrent protection, 115V†		15				15	20		
Normal power consumption	watt	392		491	747	747	1086		
Discharge air temperature rise	°F	60							
	°C	15.5							
Air volume	CFM	1921	2242	2562	2882	3202	3843	4483	5123
	meter^3/minute	54.4	63.5	72.5	81.6	90.7	108.8	126.9	145.1
Discharge air opening area	foot^2	2.56			3.51	3.51	4.79		
	meter^2	0.24			0.33	0.33	0.45		
Output velocity	FPM	752	877	1003	820	911	802	936	1069
	meter/minute	229	267	306	250	278	244	285	326
Open fan motor horsepower	HP	1/6			1/4	1/4	1/2		
Totally-enclosed fan motor horsepower		1/4							
Fan motor speed	RPM	1050							
Fan diameter	inch	18			20	20	24		
Sound level @ 15 feet	dBa	51	52	53	56	56	59	61	62
**Size shown is for natural gas or propane gas connection to a single-stage gas valve—not supply line size.									
***Smaller and/or larger vent and combustion air pipe diameters may be permissible.									
†MOCP = 2.25 × (largest motor FLA) + smallest motor FLA. Answer is rounded to the next lower standard circuit breaker size.									

Heater Throw Distances with Standard Horizontal Louvers

The graphic shows throw patterns and the table lists throw distances for heaters suspended at varying mounting heights. The louver angles listed are relative to the top of the heater. The throw pattern changes with the addition of optional vertical louvers and/or downturn nozzles.



H = Distance from bottom of heater to the floor
X = Distance from heater to start of floor coverage
Y = Distance to end of floor coverage
Z = Distance at which air velocity drops below 50 feet (15.2 meters) per minute

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H* (Feet (Meters))	Distance* or Angle	Unit Size (MBTUh)						
		30	45	60	75	100	125	150
		Feet (Meters)						
5 (1.5)	X	6 (1.8)	7 (2.1)	8 (2.4)	9 (2.7)	9 (2.7)	10 (3.0)	—
	Y	14 (4.3)	16 (4.9)	18 (5.5)	20 (6.1)	20 (6.1)	22 (6.7)	
	Z	30 (9.1)	40 (12.2)	45 (13.8)	57 (17.4)	59 (18.0)	65 (19.9)	
	Downward louver angle	21°	20°	16°	14°	18°	14°	
8 (2.4)	X	7 (2.1)	9 (2.7)	10 (3.0)	12 (3.7)	11 (3.4)	12 (3.7)	13 (4.0)
	Y	13 (4.0)	16 (4.9)	18 (5.5)	22 (6.7)	21 (6.4)	23 (7.0)	24 (7.3)
	Z	26 (7.9)	37 (11.3)	42 (12.8)	54 (16.5)	56 (17.1)	63 (19.2)	73 (22.3)
	Downward louver angle	39°	34°	29°	25°	28°	24°	26°
10 (3.0)	X	6 (1.8)	9 (2.7)	10 (3.0)	12 (3.7)	12 (3.7)	13 (4.0)	14 (4.3)
	Y	11 (3.4)	15 (4.6)	17 (5.2)	22 (6.7)	20 (6.1)	24 (7.3)	24 (7.3)
	Z	22 (6.7)	33 (10.0)	39 (11.9)	52 (15.8)	52 (15.8)	60 (18.3)	69 (21.0)
	Downward louver angle	52°	43°	37°	32°	36°	30°	32°
12 (3.7)	X	—	8 (2.4)	10 (3.0)	12 (3.7)	11 (3.4)	14 (4.3)	14 (4.3)
	Y		12 (3.7)	16 (4.9)	21 (6.4)	19 (5.8)	23 (7.0)	24 (7.3)
	Z		27 (8.2)	34 (10.4)	48 (14.6)	47 (14.3)	57 (17.4)	64 (19.5)
	Downward louver angle		55°	46°	39°	44°	36°	39°
14 (4.3)	X	—		9 (2.7)	12 (3.7)	11 (3.4)	14 (4.3)	14 (4.3)
	Y			14 (4.3)	19 (5.8)	17 (5.2)	22 (6.7)	22 (6.7)
	Z			29 (8.8)	44 (13.4)	42 (12.8)	53 (16.1)	59 (18.0)
	Downward louver angle			56°	46°	51°	43°	45°
16 (4.9)	X	—			11 (3.4)	10 (3.0)	13 (4.0)	13 (4.0)
	Y				17 (5.2)	14 (4.3)	20 (6.1)	20 (6.1)
	Z				38 (11.6)	34 (10.4)	47 (14.3)	53 (16.2)
	Downward louver angle				54°	58°	50°	51°
18 (5.5)	X	—					11 (3.4)	11 (3.4)
	Y						17 (5.2)	17 (5.2)
	Z						40 (12.2)	44 (13.4)
	Downward louver angle						57°	58°

H* (Feet (Meters))	Distance* or Angle	Unit Size (MBTUh)						
		175	200	225	250	300	350	400
		Feet (Meters)						
8 (2.4)	X	15 (4.6)	16 (4.9)	14 (4.3)	16 (4.9)	15 (4.6)	17 (5.2)	18 (5.5)
	Y	28 (8.5)	30 (9.1)	27 (8.2)	29 (8.8)	28 (8.5)	31 (9.4)	34 (11.3)
	Z	90 (27.4)	93 (28.0)	86 (26.2)	93 28.3	94 (28.7)	105 (32.0)	113 (34.4)
	Downward louver angle	22°	20°	24°	21°	24°	20°	17°
10 (3.0)	X	17 (5.2)	17 (5.2)	15 (4.6)	17 (5.2)	16 (4.9)	18 (5.5)	20 (6.1)
	Y	29 (8.8)	31 (9.4)	27 (8.2)	30 (9.1)	28 (8.5)	32 (9.8)	35 (10.7)
	Z	87 (26.6)	91 (27.7)	82 (25.0)	90 27.4	89 (27.1)	103 (31.4)	110 (33.5)
	Downward louver angle	27°	25°	30°	26°	29°	25°	21°
12 (3.7)	X	18 (5.5)	18 (5.5)	16 (4.9)	18 (5.5)	17 (5.2)	19 (5.8)	21 (6.4)
	Y	29 (8.8)	31 (9.4)	27 (8.2)	30 (9.1)	28 (8.5)	32 (9.8)	36 (11.0)
	Z	84 (25.6)	88 (26.8)	78 (23.8)	87 26.5	85 (25.9)	98 (29.9)	108 (32.9)
	Downward louver angle	32°	30°	35°	31°	34°	30°	25°
14 (4.3)	X	18 (5.5)	19 (5.8)	16 (4.9)	18 (5.5)	17 (5.2)	20 (6.1)	23 (7.0)
	Y	28 (8.5)	30 (9.1)	26 (7.9)	30 (9.1)	27 (8.2)	32 (9.8)	35 (10.7)
	Z	79 (24.1)	84 (25.6)	73 (22.3)	83 25.3	80 (24.4)	95 (29.0)	105 (32.0)
	Downward louver angle	37°	34°	41°	36°	40°	34°	29°
16 (4.9)	X	18 (5.5)	19 (5.8)	16 (4.9)	19 (5.8)	17 (5.2)	21 (6.4)	23 (7.0)
	Y	27 (8.2)	29 (8.8)	24 (7.3)	28 (8.5)	25 (7.6)	31 (9.4)	35 (10.7)
	Z	74 (22.6)	79 (24.1)	67 (20.4)	78 23.8	74 (22.6)	90 (27.4)	101 (30.8)
	Downward louver angle	42°	39°	47°	41°	45°	38°	33°
18 (5.5)	X	17 (5.2)	19 (5.8)	14 (4.3)	18 (5.5)	16 (4.9)	20 (6.1)	23 (7.0)
	Y	26 (7.9)	28 (8.5)	22 (6.7)	27 (8.2)	24 (7.3)	30 (9.1)	35 (10.7)
	Z	68 (20.7)	74 (22.6)	60 (18.3)	72 (21.9)	66 (20.1)	85 (25.9)	97 (26.9)
	Downward louver angle	48°	44°	53°	46°	51°	43°	37°

*See graphic above.

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Clearances

Units must be located so that clearances are provided for with regards to combustion air space, inspection, and service and for proper spacing from combustible construction. Clearance to combustibles is defined as the minimum distance from the heater to a surface or object for which it is necessary to ensure that a surface temperature of 90°F (50°C) above the surrounding ambient temperature is not exceeded.

Heater Surface	Unit Size (MBTUh)	
	30–125	150–400
	Minimum Clearance (Inches (mm))	
Top	1 (25)	4 (102)
Flue connector	6 (152)	6 (152)
Access panel	18 (457)	18 (457)
Non-access side	1 (25)	2 (51)
Bottom*	1 (25)	1 (25)
Rear**	18 (457)	18 (457)
Front	Refer to values for variable X (distance from heater to start of floor coverage) in **Heater Throw Distances with Standard Horizontal Louvers** section	
*Suspend the heater so that the bottom is a minimum of 5 feet (1.5 meters) above the floor.		
**Measure rear clearance from the fan motor.		

Weights

Type	Unit Size (MBTUh)												
	30	45	60	75	100	125	150	175, 200	225	250	300	350	400
	Pounds (kg)												
Unit	57 (26)	62 (28)	71 (32)	76 (34)	101 (46)	106 (48)	178 (81)	193 (88)	211 (96)	223 (101)	277 (126)	303 (137)	316 (143)
Shipping	63 (29)	68 (31)	76 (34)	81 (37)	120 (54)	125 (57)	206 (93)	221 (100)	247 (112)	259 (117)	323 (147)	348 (158)	360 (163)

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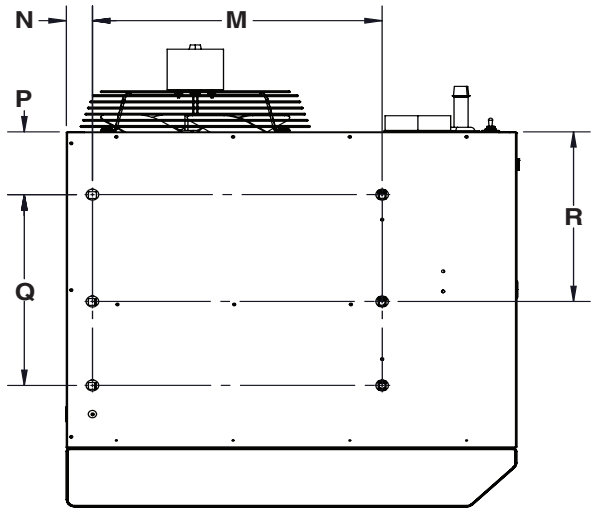
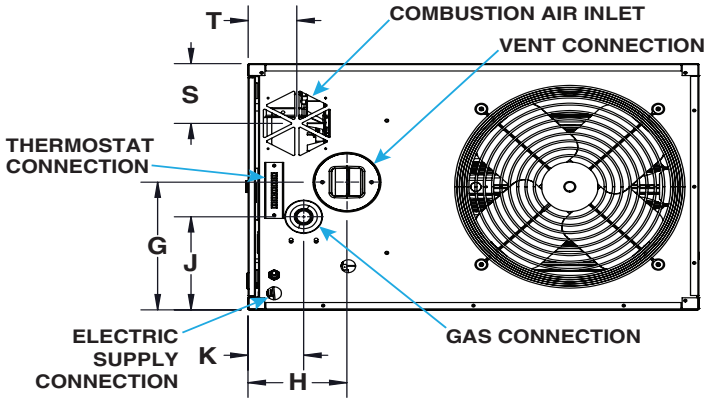
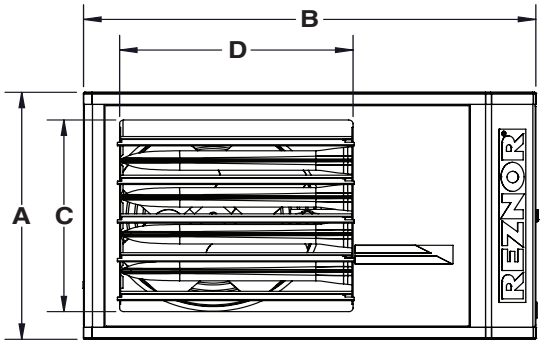
Dimensions



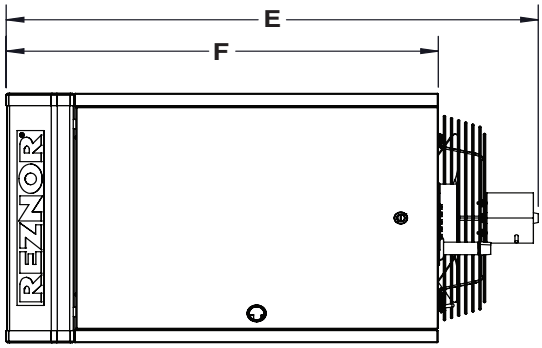
TOP VIEW



REAR VIEW



FRONT VIEW



SIDE VIEW

Dimension (See Graphic Above)	Unit Size (MBTUh)							
	30, 45	60	75	100	125	150, 175, 200	225, 250	300, 350, 400
	Inches (mm)							
A	13-3/4 (349)	16-3/4 (425)		24-3/4 (629)		20-1/8 (511)	26-1/8 (664)	34-1/8 (867)
B	27 (686)					38-3/16 (970)		41 (1041)
C	10 (254)	13 (330)		21 (533)		16 (406)	22 (559)	30 (762)
D	13-13/16 (351)					23 (584)		
E	29-3/4 (756)	32-23/32 (831)	31-29/32 (810)	34-9/32 (871)	34-9/32 (871)	48-7/16 (1230)		48-29/32 (1243)
F	25-9/16 (649)					40 (1016)		
G	6 (152)	8-11/16 (221)		15-5/16 (389)		9-5/8 (244)	13-1/16 (332)	17-1/16 (433)
H	5-15/16 (151)					8-5/16 (211)		8-1/2 (216)
J	3-1/2 (89)	6 (152)		8-29/32 (226)		5-3/8 (137)	9 (229)	11-13/16 (300)
K	3-11/32 (85)					6-1/2 (165)		7-5/16 (186)
M*	17-3/8 (441)					25-11/16 (652)		27-11/16 (703)
N*	1-9/16 (40)					1-13/32 (36)		
P*	4-9/32 (109)					8-1/8 (206)		
Q*	13 (330)					22-3/16 (564)		
R**	11-9/16 (294)					16-3/8 (416)	15-5/8 (397)	16-1/4 (413)
S	3-3/4 (95)	4-1/16 (103)		5-15/32 (139)		5-1/2 (140)	8-1/16 (205)	11-9/16 (294)
T	2-15/16 (75)					4-1/4 (108)	4-5/16 (110)	4-1/2 (114)

*Heater suspension points (3/8-16 FEM).

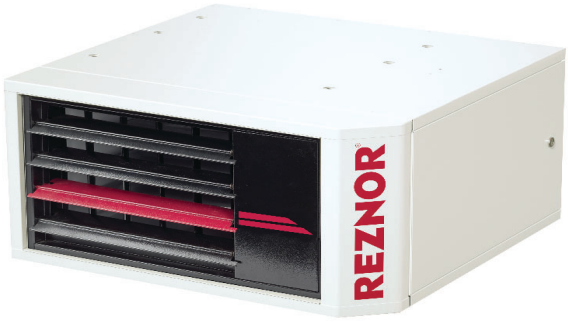
**Heater suspension points for two-point suspension (3/8-16 FEM).

REZNOR®

UDXC-Series

Low Static, Axial Fan Commercial/Industrial Unit Heaters

- **Separated Combustion Capable**
- **82-83% Thermal Efficiency**



Reznor® Model UDXC gas-fired unit heaters are available in 14 sizes ranging from 30,000 to 400,000 BTUH gas input. Model UDXC heaters are approved for installation in the United States and Canada by ETL. These models are built for traditional applications but are easily and quickly converted to separated combustion for use in dirty, dusty, or contaminated spaces.

Each size cabinet is easily suspended from either 2 or 4 suspension points. Or, an optional hanger kit for Sizes 30-125 allows for ceiling mounting. The low voltage terminal strip on the outside of the cabinet makes connecting control wiring easy with no panels to remove. The addition of a "G" terminal to the strip allows for fan only operation (without adding relays).

Reznor model UDXC unit heaters offer a sleek design sure to complement any space. The UDXC features a two-tone black and white powder coated, scratch-resistant paint scheme with a single red louver. Each unit has clean rounded corners and edges with no visible screws or fasteners, and the bottom is embossed with the Reznor logo. Model UDXC unit heaters provide the same superior performance customers have relied on for more than 130 years along with added features that make servicing the unit easier, installation safer and improve monitoring capabilities.

Features and Benefits

- Separated combustion capable with field installed kit
- Sizes 30-400 MBTUH certified for commercial/industrial heating application
- Sizes 30-125 MBTUH also approved for use in residential garage/ workshop heating applications
- 50-60°F Rise range
- Built-in disconnect switch (20A @ 115V Rating)
- Integrated circuit board with 7 segment display
- External status indicating LED
- Hinged door with ¼ turn latch
- Improved cabinet design with removeable front face and two tone white and black powder paint.
- Reznor logo embossed on bottom of unit
- Tcore2 titanium stabilized aluminized steel heat exchanger
- Patented single burner combustion system including a one-piece burner assembly
- 115V, 1 phase, 60 Hz Supply voltage
- 115 Volt open fan motor with internal overload protection
- Transformer for 24-volt controls
- Sealed control compartment houses all electrical components
- Multi-try direct spark ignition with timed lockout
- Fan relay (included on the circuit board)
- Single-stage natural gas valve (field adjustable for operation to 9,000 ft. elevation)*
- Vibration/noise isolated fan and venter motors - designed for low noise operation
- 2-pt and 4-pt Suspension ~ standard on all sizes
- External terminal strip for 24-volt wiring
- External gas pipe connection
- Sealed junction box for supply wiring
- Full fan guard

Optional Features

- Two-stage gas valve (sizes 60-400)
- 409 or 316 stainless steel heat exchangers
- Totally enclosed fan motor (sizes 30-400)
- Horizontal or vertical combustion air/vent kit including concentric adapter
- Many control options from simple to wifi-controllable thermostats to BacNET compatility
- Thermostat guard with locking cover
- Integrated vertical louvers
- Integrated 30° & 60° downturn nozzles
- Gas conversion kits (propane)
- Primary/secondary controls for zoning up to six units
- Ceiling suspension kit - Sizes 30-125
- Hanger kits for 1" pipe
- Stepdown transformer (for 208/115, 230/115 or 460/115 supply voltage)

*Note: Pressure switch change required for installations above 6,000 ft.

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Included Options for UDXC-200 / GUH 7 THRU 10

AA1 Unit equipped for natural gas heating.Natural gas is a naturally occurring gas mixture consisting primarily of methane and includes varying volumes of alkanes, carbon dioxide, nitrogen, and hydrogen sulfide.1 Therm = 100,000 BTU = 29.3kWh

AC1 Heat exchanger is manufactured from die-formed halves of aluminized steel.

AG1 Gas controls designed for recirculating air heating application. Furnace has a 24 volt, single stage combination gas valve which includes the electronic on-off valve controlled by a single-stage 24 volt room thermostat, a pressure regulator, a safety pilot valve, and the manual shutoff valve.

AK1 115 Volt, Single Phase, 60 cycle supply voltage.

AL1 Standard fan motor

AV2 Power Venting

AZ0 Unit supply fan protected by a close mesh fan guard.

CC1 Vent cap

CL1 Single-stage thermostat 40-80F, 24 volt

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Technical Data

Parameter	Unit of Measure	Unit Size (MBTUh)					
		30	45	60	75	100	125
Thermal efficiency	%	82	83	83		83	
Input heating capacity	BTUh	30,000	45,000	60,000	75,000	105,000	120,000
	kW	8.8	13.2	17.6	22.0	30.8	35.2
Output heating capacity, low fire*	BTUh	17,220	26,145	34,860	43,575	61,005	69,720
	kW	5.0	7.6	10.2	12.7	17.9	20.4
Output heating capacity, high fire*	BTUh	24,600	37,350	49,800	62,250	87,150	99,600
	kW	7.2	10.9	14.6	18.2	25.5	29.2
Gas connection**	inch	1/2					
Vent connection diameter***		4					
Control, 24V	amp	1.0					
Full load amps, 115V		1.9	2.4	2.4	3.7	4.3	5.6
Maximum overcurrent protection, 115V†		15					
Normal power consumption	watt	109	155	155	217	276	354
Discharge air temperature rise	°F	50	55	60		60	
	°C	10	12.8	15.5		15.5	
Air volume	CFM	456	629	769	961	1345	1537
	meter^3/minute	12.9	17.8	21.8	27.5	36.7	45.9
Discharge air opening area	foot^2	0.96		1.25		2.01	
	meter^2	0.09		0.12		0.19	
Output velocity	FPM	475	656	616	770	668	763
	meter/minute	145	200	188	235	204	233
Open fan motor horsepower	HP	0.02	0.03	0.03	0.06	1/30	1/20
Totally-enclosed fan motor horsepower		0.06		0.06		1/4	
Fan motor speed	RPM	1550		1550		1050	
Fan diameter	inch	10		12		16	
Sound level @ 15 feet	dBa	40		40	49	54	55
*ETL ratings for elevations up to 2,000 feet.							
**Size shown is for natural gas or propane gas connection to a single-stage gas valve—not supply line size.							
***Smaller and/or larger vent and combustion air pipe diameters may be permissible.							
†MOCP = 2.25 × (largest motor FLA) + smallest motor FLA. Answer is rounded to the next lower standard circuit breaker size.							

Parameter	Unit of Measure	Unit Size (MBTUh)							
		150	175	200	225	250	300	350	400
Thermal efficiency	%	83							
Input heating capacity	BTUh	150,000	175,000	200,000	225,000	250,000	300,000	350,000	400,000
	kW	44.0	51.3	58.6	65.9	73.3	87.9	102.6	117.2
Output heating capacity, low fire*	BTUh	87,150	101,675	116,200	130,725	145,250	174,300	203,350	232,400
	kW	25.5	29.8	34.0	38.3	42.6	51.0	59.6	68.1
Output heating capacity, high fire*	BTUh	124,500	145,250	166,000	186,750	207,500	249,000	290,500	332,000
	kW	36.5	42.6	48.7	54.7	60.8	73.0	85.1	97.3
*ETL ratings for elevations up to 2,000 feet.									

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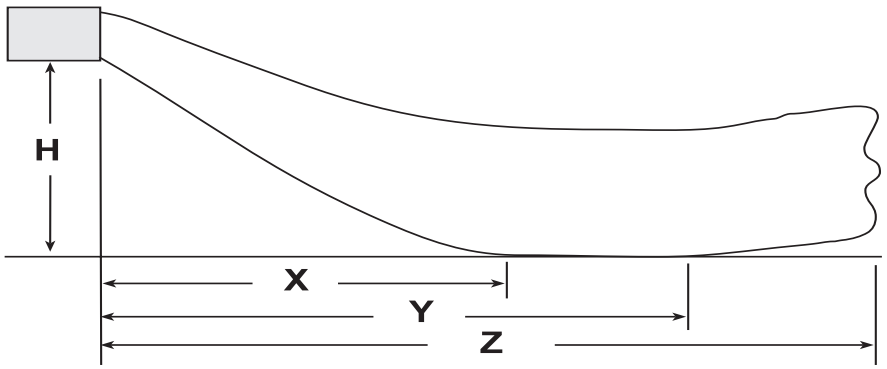
Parameter	Unit of Measure	Unit Size (MBTUh)							
		150	175	200	225	250	300	350	400
Gas connection**	inch	1/2			3/4	3/4			
Vent connection diameter***		5				5	6		
Control, 24V	amp	1.0							
Full load amps, 115V		3.8		4.6	7.5	7.5	11.0		
Maximum overcurrent protection, 115V†		15				15	20		
Normal power consumption	watt	392		491	747	747	1086		
Discharge air temperature rise	°F	60							
	°C	15.5							
Air volume	CFM	1921	2242	2562	2882	3202	3843	4483	5123
	meter^3/minute	54.4	63.5	72.5	81.6	90.7	108.8	126.9	145.1
Discharge air opening area	foot^2	2.56			3.51	3.51	4.79		
	meter^2	0.24			0.33	0.33	0.45		
Output velocity	FPM	752	877	1003	820	911	802	936	1069
	meter/minute	229	267	306	250	278	244	285	326
Open fan motor horsepower	HP	1/6			1/4	1/4	1/2		
Totally-enclosed fan motor horsepower		1/4							
Fan motor speed	RPM	1050							
Fan diameter	inch	18			20	20	24		
Sound level @ 15 feet	dBa	51	52	53	56	56	59	61	62
**Size shown is for natural gas or propane gas connection to a single-stage gas valve—not supply line size.									
***Smaller and/or larger vent and combustion air pipe diameters may be permissible.									
†MOCP = 2.25 × (largest motor FLA) + smallest motor FLA. Answer is rounded to the next lower standard circuit breaker size.									

Heater Throw Distances with Standard Horizontal Louvers

The graphic shows throw patterns and the table lists throw distances for heaters suspended at varying mounting heights. The louver angles listed are relative to the top of the heater. The throw pattern changes with the addition of optional vertical louvers and/or downturn nozzles.



H = Distance from bottom of heater to the floor
X = Distance from heater to start of floor coverage
Y = Distance to end of floor coverage
Z = Distance at which air velocity drops below 50 feet (15.2 meters) per minute

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H* (Feet (Meters))	Distance* or Angle	Unit Size (MBTUh)						
		30	45	60	75	100	125	150
		Feet (Meters)						
5 (1.5)	X	6 (1.8)	7 (2.1)	8 (2.4)	9 (2.7)	9 (2.7)	10 (3.0)	—
	Y	14 (4.3)	16 (4.9)	18 (5.5)	20 (6.1)	20 (6.1)	22 (6.7)	
	Z	30 (9.1)	40 (12.2)	45 (13.8)	57 (17.4)	59 (18.0)	65 (19.9)	
	Downward louver angle	21°	20°	16°	14°	18°	14°	
8 (2.4)	X	7 (2.1)	9 (2.7)	10 (3.0)	12 (3.7)	11 (3.4)	12 (3.7)	13 (4.0)
	Y	13 (4.0)	16 (4.9)	18 (5.5)	22 (6.7)	21 (6.4)	23 (7.0)	24 (7.3)
	Z	26 (7.9)	37 (11.3)	42 (12.8)	54 (16.5)	56 (17.1)	63 (19.2)	73 (22.3)
	Downward louver angle	39°	34°	29°	25°	28°	24°	26°
10 (3.0)	X	6 (1.8)	9 (2.7)	10 (3.0)	12 (3.7)	12 (3.7)	13 (4.0)	14 (4.3)
	Y	11 (3.4)	15 (4.6)	17 (5.2)	22 (6.7)	20 (6.1)	24 (7.3)	24 (7.3)
	Z	22 (6.7)	33 (10.0)	39 (11.9)	52 (15.8)	52 (15.8)	60 (18.3)	69 (21.0)
	Downward louver angle	52°	43°	37°	32°	36°	30°	32°
12 (3.7)	X	—	8 (2.4)	10 (3.0)	12 (3.7)	11 (3.4)	14 (4.3)	14 (4.3)
	Y		12 (3.7)	16 (4.9)	21 (6.4)	19 (5.8)	23 (7.0)	24 (7.3)
	Z		27 (8.2)	34 (10.4)	48 (14.6)	47 (14.3)	57 (17.4)	64 (19.5)
	Downward louver angle		55°	46°	39°	44°	36°	39°
14 (4.3)	X	—		9 (2.7)	12 (3.7)	11 (3.4)	14 (4.3)	14 (4.3)
	Y			14 (4.3)	19 (5.8)	17 (5.2)	22 (6.7)	22 (6.7)
	Z			29 (8.8)	44 (13.4)	42 (12.8)	53 (16.1)	59 (18.0)
	Downward louver angle			56°	46°	51°	43°	45°
16 (4.9)	X	—			11 (3.4)	10 (3.0)	13 (4.0)	13 (4.0)
	Y				17 (5.2)	14 (4.3)	20 (6.1)	20 (6.1)
	Z				38 (11.6)	34 (10.4)	47 (14.3)	53 (16.2)
	Downward louver angle				54°	58°	50°	51°
18 (5.5)	X	—					11 (3.4)	11 (3.4)
	Y						17 (5.2)	17 (5.2)
	Z						40 (12.2)	44 (13.4)
	Downward louver angle						57°	58°

H* (Feet (Meters))	Distance* or Angle	Unit Size (MBTUh)						
		175	200	225	250	300	350	400
		Feet (Meters)						
8 (2.4)	X	15 (4.6)	16 (4.9)	14 (4.3)	16 (4.9)	15 (4.6)	17 (5.2)	18 (5.5)
	Y	28 (8.5)	30 (9.1)	27 (8.2)	29 (8.8)	28 (8.5)	31 (9.4)	34 (11.3)
	Z	90 (27.4)	93 (28.0)	86 (26.2)	93 28.3	94 (28.7)	105 (32.0)	113 (34.4)
	Downward louver angle	22°	20°	24°	21°	24°	20°	17°
10 (3.0)	X	17 (5.2)	17 (5.2)	15 (4.6)	17 (5.2)	16 (4.9)	18 (5.5)	20 (6.1)
	Y	29 (8.8)	31 (9.4)	27 (8.2)	30 (9.1)	28 (8.5)	32 (9.8)	35 (10.7)
	Z	87 (26.6)	91 (27.7)	82 (25.0)	90 27.4	89 (27.1)	103 (31.4)	110 (33.5)
	Downward louver angle	27°	25°	30°	26°	29°	25°	21°
12 (3.7)	X	18 (5.5)	18 (5.5)	16 (4.9)	18 (5.5)	17 (5.2)	19 (5.8)	21 (6.4)
	Y	29 (8.8)	31 (9.4)	27 (8.2)	30 (9.1)	28 (8.5)	32 (9.8)	36 (11.0)
	Z	84 (25.6)	88 (26.8)	78 (23.8)	87 26.5	85 (25.9)	98 (29.9)	108 (32.9)
	Downward louver angle	32°	30°	35°	31°	34°	30°	25°
14 (4.3)	X	18 (5.5)	19 (5.8)	16 (4.9)	18 (5.5)	17 (5.2)	20 (6.1)	23 (7.0)
	Y	28 (8.5)	30 (9.1)	26 (7.9)	30 (9.1)	27 (8.2)	32 (9.8)	35 (10.7)
	Z	79 (24.1)	84 (25.6)	73 (22.3)	83 25.3	80 (24.4)	95 (29.0)	105 (32.0)
	Downward louver angle	37°	34°	41°	36°	40°	34°	29°
16 (4.9)	X	18 (5.5)	19 (5.8)	16 (4.9)	19 (5.8)	17 (5.2)	21 (6.4)	23 (7.0)
	Y	27 (8.2)	29 (8.8)	24 (7.3)	28 (8.5)	25 (7.6)	31 (9.4)	35 (10.7)
	Z	74 (22.6)	79 (24.1)	67 (20.4)	78 23.8	74 (22.6)	90 (27.4)	101 (30.8)
	Downward louver angle	42°	39°	47°	41°	45°	38°	33°
18 (5.5)	X	17 (5.2)	19 (5.8)	14 (4.3)	18 (5.5)	16 (4.9)	20 (6.1)	23 (7.0)
	Y	26 (7.9)	28 (8.5)	22 (6.7)	27 (8.2)	24 (7.3)	30 (9.1)	35 (10.7)
	Z	68 (20.7)	74 (22.6)	60 (18.3)	72 (21.9)	66 (20.1)	85 (25.9)	97 (26.9)
	Downward louver angle	48°	44°	53°	46°	51°	43°	37°

*See graphic above.

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Clearances

Units must be located so that clearances are provided for with regards to combustion air space, inspection, and service and for proper spacing from combustible construction. Clearance to combustibles is defined as the minimum distance from the heater to a surface or object for which it is necessary to ensure that a surface temperature of 90°F (50°C) above the surrounding ambient temperature is not exceeded.

Heater Surface	Unit Size (MBTUh)	
	30–125	150–400
	Minimum Clearance (Inches (mm))	
Top	1 (25)	4 (102)
Flue connector	6 (152)	6 (152)
Access panel	18 (457)	18 (457)
Non-access side	1 (25)	2 (51)
Bottom*	1 (25)	1 (25)
Rear**	18 (457)	18 (457)
Front	Refer to values for variable X (distance from heater to start of floor coverage) in **Heater Throw Distances with Standard Horizontal Louvers** section	
*Suspend the heater so that the bottom is a minimum of 5 feet (1.5 meters) above the floor.		
**Measure rear clearance from the fan motor.		

Weights

Type	Unit Size (MBTUh)												
	30	45	60	75	100	125	150	175, 200	225	250	300	350	400
	Pounds (kg)												
Unit	57 (26)	62 (28)	71 (32)	76 (34)	101 (46)	106 (48)	178 (81)	193 (88)	211 (96)	223 (101)	277 (126)	303 (137)	316 (143)
Shipping	63 (29)	68 (31)	76 (34)	81 (37)	120 (54)	125 (57)	206 (93)	221 (100)	247 (112)	259 (117)	323 (147)	348 (158)	360 (163)

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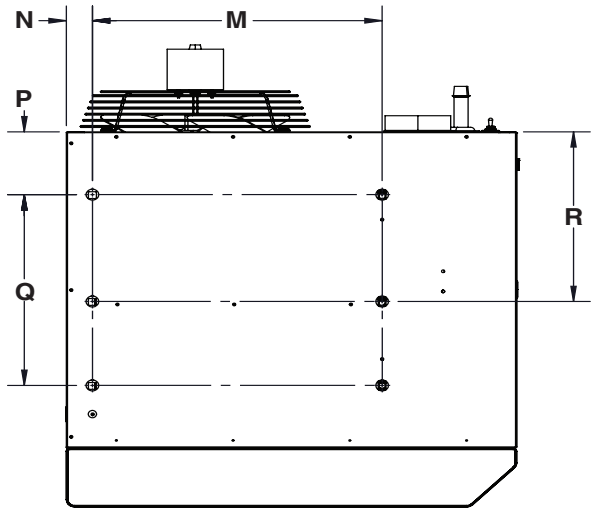
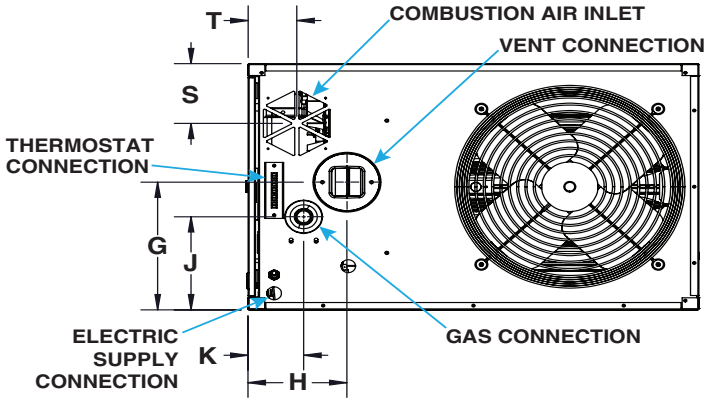
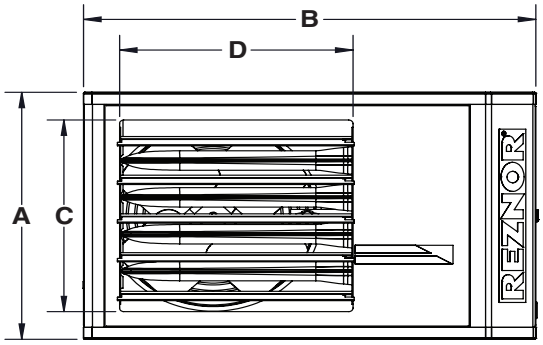
Dimensions



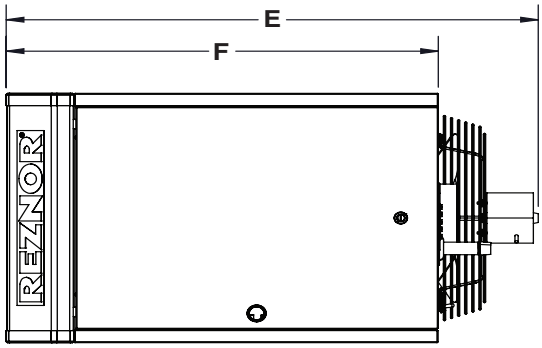
TOP VIEW



REAR VIEW



FRONT VIEW



SIDE VIEW

Dimension (See Graphic Above)	Unit Size (MBTUh)							
	30, 45	60	75	100	125	150, 175, 200	225, 250	300, 350, 400
	Inches (mm)							
A	13-3/4 (349)	16-3/4 (425)		24-3/4 (629)		20-1/8 (511)	26-1/8 (664)	34-1/8 (867)
B	27 (686)					38-3/16 (970)		41 (1041)
C	10 (254)	13 (330)		21 (533)		16 (406)	22 (559)	30 (762)
D	13-13/16 (351)					23 (584)		
E	29-3/4 (756)	32-23/32 (831)	31-29/32 (810)	34-9/32 (871)	34-9/32 (871)	48-7/16 (1230)		48-29/32 (1243)
F	25-9/16 (649)					40 (1016)		
G	6 (152)	8-11/16 (221)		15-5/16 (389)		9-5/8 (244)	13-1/16 (332)	17-1/16 (433)
H	5-15/16 (151)					8-5/16 (211)		8-1/2 (216)
J	3-1/2 (89)	6 (152)		8-29/32 (226)		5-3/8 (137)	9 (229)	11-13/16 (300)
K	3-11/32 (85)					6-1/2 (165)		7-5/16 (186)
M*	17-3/8 (441)					25-11/16 (652)		27-11/16 (703)
N*	1-9/16 (40)					1-13/32 (36)		
P*	4-9/32 (109)					8-1/8 (206)		
Q*	13 (330)					22-3/16 (564)		
R**	11-9/16 (294)					16-3/8 (416)	15-5/8 (397)	16-1/4 (413)
S	3-3/4 (95)	4-1/16 (103)		5-15/32 (139)		5-1/2 (140)	8-1/16 (205)	11-9/16 (294)
T	2-15/16 (75)					4-1/4 (108)	4-5/16 (110)	4-1/2 (114)

*Heater suspension points (3/8-16 FEM).

**Heater suspension points for two-point suspension (3/8-16 FEM).

REZNOR®

JOB RECORD

JOB _____

INSTALLATION DATE _____

CONTRACTOR _____

DISTRIBUTOR _____

Revision: W (06-24) 1036195-D

Supersedes: W (02-24) 1036195-C

WARRANTY

Applies to: **Nortek Global HVAC, LLC Products**

MANUFACTURER PRODUCT LIMITED WARRANTY

Nortek Global HVAC, LLC warrants to the original owner-user that this product will be free from defects in material and workmanship. This warranty is limited to twelve (12) months from the date of original installation, whether or not actual use begins on that date, or eighteen (18) months from date of shipment, whichever occurs first.

MANUFACTURER REPLACEMENT PARTS LIMITED WARRANTY

Nortek Global HVAC, LLC warrants replacement parts for thirty (30) days after installation or thirteen (13) months from date of shipment, whichever occurs first.

EXTENDED WARRANTY

(Limited to the following Models, Components, and Applications. See *Application NOTE* below.)

Model ZQYRA—Extended one (1)-year, non-prorated warranty on all parts.

Models F and B—Extended nine (9)-year, non-prorated warranty on the heat exchanger, burners, draft hood, and flue baffle assembly. Extended four (4)-year, non-prorated warranty on all electrical and mechanical operating components (with the exception of blower belts on Model B).

Models UBX, UBXC, UBZ, UDX, UDXC, UDZ, and UEZ—Extended nine (9)-year, non-prorated warranty on the heat exchanger, burner, and flue collection box assembly. Extended four (4)-year, non-prorated warranty on all electrical and mechanical operating components (with the exception of blower belts on Models UBX, UBXC, and UBZ).

Models EUH, H, and UWS—Extended four (4)-year non-pro-rated warranty on all electrical and mechanical operating components.

Model CAUA—Extended nine (9)-year, non-prorated warranty on the heat exchanger and burners. Extended four (4)-year, non-prorated warranty on all electrical and mechanical operating components (with the exception of blower belts).

Models VCS, VCT, VPS, VPT, VR, VZ, and VZH—Extended nine (9)-year, non-prorated warranty on all tubes. Extended four (4)-year, non-prorated warranty on the burner and all electrical and mechanical operating components.

Model OH—Extended four (4)-year, non-prorated warranty on the heat exchanger and combustion chamber.

***Application NOTE*:** Extended warranty on electrical and mechanical operating components does not apply to any HVAC equipment installed in highly humid environments such as greenhouses.

OPTIONAL PURCHASED EXTENDED WARRANTY

(Purchased with and limited to the following Models and Components.)

Option XW1—Extended four (4) years for a total five-year, non-prorated warranty on compressors.
For Models: PEH, PXH, PDH, RCB, RDB, RDCB, RDDB, RECB, REDB, RCC, RDC, RDCC, RDDC, RECC, REDC, RHH, REH, RXH, RDH, SDH, SHH, MASA, YDHA, YDMA, YDSA, DF6SF, JS4BD, JT4BD, P6SD, P6SP, Q6SD, Q6SP, R6GD, R6GF, R6GI, R6GP, R6GN, R8GD, R8HE, S5BP, T5BP

Option XW2—Extended four (4) years for a total five-year, non-prorated warranty on the heat exchanger.
For Models: PDH, PXH, SDH, SHH, RDH with AC2 or AC4, RHH with AC5, RDCB, RDDB, RDCC, RDDC, RPB, RPBL, SCE, SSCBL, YDHA, YDMA, YDSA

Option XW3—Extended nine (9) years for a total ten-year, non-prorated warranty on the heat exchanger.
For Models: PDH, PXH, SDH, SHH, RDH with AC2 or AC4, RHH with AC5, RDCB, RDDB, RDCC, RDDC, RPB, RPBL, SCE, SSCBL, YDHA, YDMA, YDSA, B6BMM, DF6SF, R6GD, R6GF, R6GI, R6GP, R6GN, R8GD, R8HE

Option XW4—Extended four (4) years for a total five-year, non-prorated warranty on electric furnace.
For Models: PEH, REH, RECB, REDB, RECC, REDC, YDHA, YDMA, YDSA

Option XW8—Extended one (1) year for a total two-years, non-prorated warranty on all parts (including compressor and heat section).
For Models: YDHA, YDMA, YDSA, B5SM, B6BMM, DF6SF, JS4BD, JT4BD, P6SD, P6SP, Q6SD, Q6SP, R6GD, R6GF, R6GI, R6GP, R6GN, R8GD, R8HE, S5BP, T5BP

Option XW9—Extended three (3) years for a total five-year, non-prorated warranty on all parts.
For Model: ZQYRA

Option XW10—Extended eight (8) years for a total ten-year, non-prorated warranty on all parts.
For Model: ZQY1

LIMITATIONS AND EXCLUSIONS

Nortek Global HVAC, LLC (Nortek) obligations under this warranty and the sole remedy for its breach are limited to repair, at its manufacturing facility, of any part or parts of its products which prove to be defective; or, in its sole discretion, replacement of such products. All returns of defective parts or products must include the product model number and serial number, and must be made through an authorized distributor or arranged through Customer Service. Authorized returns must be shipped prepaid. Repaired or replacement parts will be shipped F.O.B. shipping point.

1. The warranty provided herein does not cover charges for labor or other costs incurred in the troubleshooting, repair, removal, installation, service or handling of parts or complete products.
   EXCEPTION: **Model WS—**If heat exchanger leaks or other failure occurs within the warranty period, Nortek will pay up to $50 for qualified contractor to make necessary repairs. If the heat exchanger cannot be repaired, Nortek will exchange the defective unit for a new hydronic heater.
2. All claims under the warranty provided herein must be made within ninety (90) days from the date of discovery of the defect. Failure to notify the manufacturer of a warranted defect within ninety (90) days of its discovery voids obligation hereunder.
3. The warranty provided herein shall be void and of no effect in the event that (a) the product has been operated outside its designed output capacity (heating, cooling, airflow); (b) the product has been subjected to misuse, neglect, accident, improper or inadequate maintenance, corrosive environments, environments containing airborne contaminants (silicone, aluminum oxide, etc.), or excessive thermal shock; (c) unauthorized modifications are made to the product; (d) the product is not installed or operated in compliance with the manufacturer's printed instructions; (e) the product is not installed and operated in compliance with applicable building, mechanical, plumbing and electrical codes; or (f) the serial number of the product has been altered, defaced, or removed.
4. The warranty provided herein is for repair or replacement only. the manufacturer shall not be liable for any loss, cost, damage, or expense of any kind arising out of a breach of the warranty. Further, shall not be liable for any incidental, consequential, exemplary, special, or punitive damages, nor for any loss of revenue, profit or use, arising out of a breach of this warranty or in connection with the sale, maintenance, use, operation, or repair of any product. In no event will be liable for any amount greater than the purchase price of a defective product. The disclaimers of liability included in this paragraph 4 shall remain in effect and shall continue to be enforceable in the event that any remedy herein shall fail of its essential purpose.
5. THIS WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY FOR NORTEK PRODUCTS, AND IS IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES. NORTEK GLOBAL HVAC LLC SPECIFICALLY DISCLAIMS ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. No person or entity is authorized to bind NORTEK to any other warranty, obligation, or liability for any product. Installation, operation, or use of the product for which this warranty is issued shall constitute acceptance of the terms hereof.
6. Failure and replacement caused by contamination from bacteria are excluded from warranty coverage (i.e. dirty sock syndrome). Consequential or other damage(s) caused by rust, brownouts, blackouts, oxidation, corrosion, water, water condition, freezing, fire, other abnormal environmental conditions or other natural acts are excluded from warranty coverage. Premature failure due to the use of inferior building materials such as high sulfur content dry wall, corrosive conditions caused by location, moisture, green slime, etc. are also excluded from warranty coverage.
7. This warranty does not apply to parts that fail as a direct result of environmental influences.

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