

TECHNICAL SPECIFICATIONS FOR MODEL UDXC

**COMMERCIAL/INDUSTRIAL/RESIDENTIAL POWER-VENTED LOW-STATIC AXIAL FAN
CONVERTIBLE GAS-FIRED UNIT HEATER**



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In keeping with our policy of continuous product improvement, we reserve the right to alter, at any time, the design, construction, dimensions, weights, etc., of equipment information shown here.

TECHNICAL SPECIFICATIONS—CONTINUED

Unit Sizes

These heaters are available in fourteen unit sizes based on 30,000–400,000 BTUh input.

Features

- 115/1/60 voltage/phase/Hz
- 82–83% thermal efficient
- May be converted to separated-combustion for use in installation locations where dirt, dust, or other airborne contaminants are present in the indoor environment
- Natural gas standard (propane conversion kit available)
- Integrated circuit board with seven-segment display
- Easily-viewed status-indicating LED
- Hinged access door panel with quarter-turn latch
- Improved cabinet design with removable front face
- Painted galvanized-steel cabinet with two-toned black and white glossy, scratch-resistant paint scheme
- Patented single-burner combustion system
- TCO^{RE}® titanium-stabilized aluminized-steel heat exchanger
- External terminal strip for 24V wiring
- Built in disconnect switch
- Four-point suspension standard on all unit sizes (two-point suspension available on unit sizes 30–125 when installed without downturn nozzle or stepdown transformer)

Factory-Installed Options

Option	Description
AC1	Aluminized-steel heat exchanger
AC2	409 stainless steel heat exchanger
AC4	316 stainless steel heat exchanger
AG1	Single-stage combination gas valve
AG2	Two-stage combination gas valve
AL1	Open drip-proof motor
AL14	Totally-enclosed motor

Field-Installed Options

Option	Description
CC1	Vent cap
CC2	Vertical vent terminal kit
CC6	Horizontal vent terminal kit
CC21	Vent cap, stainless steel
CD1	Vertical louvers, direct discharge air to provide wider throw pattern
CD2	Downturn nozzle, 25- to 65-degree variable air deflection range
CD3	Downturn nozzle, 50- to 90-degree variable air deflection range
CD4	Downturn nozzle, 25- to 65-degree variable air deflection range with vertical louvers
CD5	Downturn nozzle, 50- to 90-degree variable air deflection range with vertical louvers
CE1	Manual shutoff valve, natural gas or propane
CG1	208V–115V stepdown transformer
CG4	230V–115V or 460V–115V stepdown transformer
CG5	575V–115V stepdown transformer
CK8	Adapts 3/8-inch hangers for two-point suspension from 1-inch threaded pipe
CK10	Adapts 3/8-inch hangers for four-point suspension from 1-inch threaded pipe
CK22	Angle brackets for low ceiling mounting (does not include hanger rods)

Option	Description
CL1	Single-stage thermostat
CL22, CL23, CL83, CL84, CL90	Two-stage thermostats
CL31, CL32	Multiple unit control: option CL31 includes components for one control unit and one additional unit—option CL32 includes components for each additional non-control unit
CM1	Locking thermostat cover
CM1B	Large locking thermostat cover
CM3	Bracket assembly for mounting thermostat on unit
DJ20	High-elevation pressure switch
DL2	Propane conversion kit
SC1	Separated-combustion conversion (requires option CC2 or CC6)

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	—		34,860	43,575	61,005	69,720
	kW			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		109	155	155	217	276	354
Discharge air temperature rise	°F	50	55	60		60	
	°C	27.8	30.6	33.3		33.3	
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.

TECHNICAL SPECIFICATIONS—CONTINUED

Technical Data—Continued

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	33.3							
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.									

Certification

These unit heaters are listed by Intertek for use in industrial and commercial installations in the United States and Canada. In addition, unit sizes 30, 45, 60, 75, 100, and 125 are listed in the United States and Canada as utility heaters for use in non-living spaces that are attached to, adjacent to, or part of a structure that contains space for family living quarters.

Heater Throw

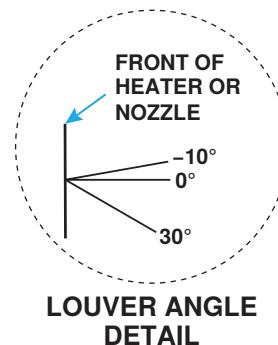
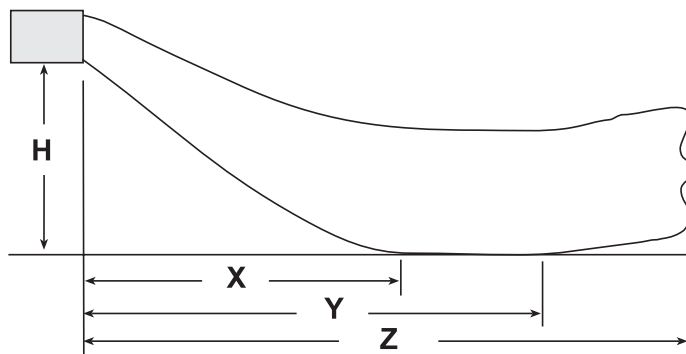
The graphic shows throw patterns and the tables list throw distances for heaters suspended at varying mounting heights. The throw pattern changes with the addition of optional vertical louvers.

H = the distance from the bottom of the heater to the floor

X = the distance from the heater to the start of floor coverage

Y = the distance from the heater to the end of floor coverage

Z = the distance at which air velocity drops below 50 feet (15.2 meters) per minute



Heater Throw Distance with Standard Horizontal Louvers								
Dimension H* (Feet (Meters))	Louver Angle* and Dimension*	Unit Size (MBTUh)						
		30	45	60	75	100	125	150
		Feet (Meters)						
5 (1.5)	Angle	21°	20°	16°	14°	18°	14°	—
	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)	
8 (2.4)	Angle	39°	34°	29°	25°	28°	24°	26°
	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)
10 (3.0)	Angle	52°	43°	37°	32°	36°	30°	32°
	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)
12 (3.7)	Angle	—	55°	46°	39°	44°	36°	39°
	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)
14 (4.3)	Angle	—		56°	46°	51°	43°	45°
	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)
16 (4.9)	Angle	—			54°	58°	50°	51°
	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)
18 (5.5)	Angle	—					57°	58°
	X	—					11 (3.4)	11 (3.4)
	Y						17 (5.2)	17 (5.2)
	Z						40 (12.2)	44 (13.4)
Dimension H* (Feet (Meters))	Louver Angle* and Dimension*	Unit Size (MBTUh)						
		175	200	225	250	300	350	400
		Feet (Meters)						
8 (2.4)	Angle	22°	20°	24°	21°	24°	20°	17°
	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)
10 (3.0)	Angle	27°	25°	30°	26°	29°	25°	21°
	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)
12 (3.7)	Angle	32°	30°	35°	31°	34°	30°	25°
	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)
14 (4.3)	Angle	37°	34°	41°	36°	40°	34°	29°
	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)
16 (4.9)	Angle	42°	39°	47°	41°	45°	38°	33°
	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)
18 (5.5)	Angle	48°	44°	53°	46°	51°	43°	37°
	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)

*See graphic above.

TECHNICAL SPECIFICATIONS—CONTINUED

Heater Throw—Continued

Heater Throw Distance with 30-Degree Downturn Nozzle													
Dimension H* (Feet (Meters))	Louver Angle* and Dimension*	Unit Size (MBTUh)											
		30	45	60	75	100	125	150	200	250	300	400	
		Feet (Meters)											
5 (1.5)	Angle	15°	15°	15°	15°	15°	15°	—					
	X	2 (0.6)	2 (0.6)	3 (0.9)	1 (0.3)	2 (0.6)	2 (0.6)						
	Y	15 (4.6)	21 (6.4)	17 (5.2)	21 (6.4)	22 (6.7)	21 (6.4)						
	Z	18 (5.5)	25 (7.6)	22 (6.7)	25 (7.6)	27 (8.2)	26 (7.9)						
8 (2.4)	Angle	30°	15°	30°	15°	15°	15°	15°	15°	15°	15°	15°	
	X	1 (0.3)	4 (1.2)	2 (0.6)	4 (1.2)	4 (1.2)	5 (1.5)	3 (0.9)	2 (0.6)	3 (0.9)	1 (0.3)	1 (0.3)	
	Y	13 (4.0)	21 (6.4)	15 (4.6)	23 (7.0)	21 (6.4)	22 (6.7)	28 (8.5)	24 (7.3)	28 (8.5)	35 (10.7)	43 (13.1)	
	Z	18 (5.5)	27 (8.2)	22 (6.7)	28 (8.5)	30 (9.1)	32 (9.8)	38 (11.6)	41 (12.5)	42 (12.8)	49 (14.9)	48 (14.6)	
10 (3.0)	Angle	30°	15°	30°	15°	30°	15°	15°	15°	15°	15°	15°	
	X	4 (1.2)	6 (1.8)	5 (1.5)	6 (1.8)	3 (0.9)	7 (2.1)	3 (0.9)	4 (1.2)	4 (1.2)	2 (0.6)	3 (0.9)	
	Y	12 (3.7)	21 (6.4)	15 (4.6)	21 (6.4)	19 (5.8)	20 (6.1)	29 (8.8)	24 (7.3)	28 (8.5)	36 (11.0)	44 (13.4)	
	Z	17 (5.2)	27 (8.2)	20 (6.1)	28 (8.5)	24 (7.3)	35 (10.7)	38 (11.6)	41 (12.5)	42 (12.8)	50 (15.2)	48 (14.6)	
12 (3.7)	Angle	—	30°	30°	30°	30°	30°	15°	15°	15°	15°	15°	
	X	—	2 (0.6)	6 (1.8)	5 (1.5)	5 (1.5)	5 (1.5)	4 (1.2)	6 (1.8)	5 (1.5)	6 (1.8)	5 (1.5)	
	Y		14 (4.3)	18 (5.5)	16 (4.9)	19 (5.8)	18 (5.5)	28 (8.5)	26 (7.9)	30 (9.1)	32 (9.8)	40 (12.2)	
	Z		18 (5.5)	18 (5.5)	26 (7.9)	23 (7.0)	25 (7.6)	40 (12.2)	42 (12.8)	41 (12.5)	52 (15.8)	50 (15.2)	
14 (4.3)	Angle	—			30°	30°	30°	15°	15°	15°	15°	15°	
	X	—			6 (1.8)	7 (2.1)	6 (1.8)	7 (2.1)	8 (2.4)	7 (2.1)	8 (2.4)	8 (2.4)	
	Y				15 (4.6)	18 (5.5)	16 (4.9)	28 (8.5)	27 (8.2)	30 (9.1)	33 (10.1)	33 (10.1)	
	Z				26 (7.9)	18 (5.5)	25 (7.6)	41 (12.5)	43 (13.1)	39 (11.9)	54 (16.5)	50 (15.2)	
16 (4.9)	Angle	—				30°	30°	30°	30°	30°	30°	30°	
	X	—				7 (2.1)	3 (0.9)	2 (0.6)	2 (0.6)	2 (0.6)	1 (0.3)		
	Y					14 (4.3)	22 (6.7)	23 (7.0)	21 (6.4)	26 (7.9)	32 (9.8)		
	Z					24 (7.3)	32 (9.8)	30 (9.1)	29 (8.8)	42 (12.8)	39 (11.9)		
18 (5.5)	Angle	—						15°	30°	30°	30°	30°	
	X	—						9 (2.7)	3 (0.9)	4 (1.2)	4 (1.2)	4 (1.2)	
	Y							24 (7.3)	19 (5.8)	17 (5.2)	22 (6.7)	30 (9.1)	
	Z							37 (11.3)	29 (8.8)	29 (8.8)	44 (13.4)	37 (11.3)	
*See graphic above.													

*See graphic above.

Heater Throw Distance with 60-Degree Downturn Nozzle												
Dimension H* (Feet (Meters))	Louver Angle* and Dimension*	Unit Size (MBTUh)										
		30	45	60	75	100	125	150	200	250	300	400
		Feet (Meters)										
5 (1.5)	Angle	-10°	-10°	-10°	-10°	-10°	-10°	—				
	X	0 (0.0)	0 (0.0)	1 (0.3)	1 (0.3)	0 (0.0)	1 (0.3)					
	Y	13 (4.0)	16 (4.9)	13 (4.0)	12 (3.7)	12 (3.7)	14 (4.3)					
	Z	1 (0.3)	18 (5.5)	18 (5.5)	22 (6.7)	20 (6.1)	13 (4.0)					
8 (2.4)	Angle	-10°	-10°	-10°	-10°	-10°	-10°	-10°	-10°	-10°	-10°	-10°
	X	4 (1.2)	3 (0.9)	4 (1.2)	3 (0.9)	2 (0.6)	2 (0.6)	1 (0.3)	0 (0.0)	1 (0.3)	0 (0.0)	0 (0.0)
	Y	13 (4.0)	17 (5.2)	13 (4.0)	15 (4.6)	12 (3.7)	14 (4.3)	21 (6.4)	22 (6.7)	32 (9.8)	45 (13.7)	36 (11.0)
	Z	4 (1.2)	24 (7.3)	20 (6.1)	23 (7.0)	22 (6.7)	15 (4.6)	25 (7.6)	30 (9.1)	35 (10.7)	45 (13.7)	46 (14.0)
10 (3.0)	Angle	15°	-10°	-10°	-10°	-10°	-10°	-10°	-10°	-10°	-10°	-10°
	X	0 (0.0)	6 (1.8)	7 (2.1)	6 (1.8)	3 (0.9)	3 (0.9)	1 (0.3)	1 (0.3)	3 (0.9)	0 (0.0)	2 (0.6)
	Y	5 (1.5)	16 (4.9)	10 (3.0)	15 (4.6)	12 (3.7)	15 (4.6)	21 (6.4)	23 (7.0)	31 (9.4)	48 (14.6)	28 (8.5)
	Z	2 (0.6)	23 (7.0)	18 (5.5)	23 (7.0)	20 (6.1)	18 (5.5)	26 (7.9)	30 (9.1)	35 (10.7)	48 (14.6)	47 (14.3)
12 (3.7)	Angle	—	-10°	15°	15°	-10°	-10°	-10°	-10°	-10°	-10°	-10°
	X	—	8 (2.4)	1 (0.3)	0 (0.0)	4 (1.2)	4 (1.2)	2 (0.6)	2 (0.6)	4 (1.2)	3 (0.9)	4 (1.2)
	Y		14 (4.3)	9 (2.7)	10 (3.0)	12 (3.7)	14 (4.3)	22 (6.7)	22 (6.7)	28 (8.5)	46 (14.0)	38 (11.6)
	Z		22 (6.7)	9 (2.7)	14 (4.3)	18 (5.5)	21 (6.4)	26 (7.9)	30 (9.1)	37 (11.3)	46 (14.0)	47 (14.3)
14 (4.3)	Angle	—			15°	15°	-10°	-10°	-10°	-10°	-10°	-10°
	X	—			2 (0.6)	0 (0.0)	6 (1.8)	2 (0.6)	3 (0.9)	10 (3.0)	7 (2.1)	6 (1.8)
	Y				10 (3.0)	7 (2.1)	13 (4.0)	22 (6.7)	20 (6.1)	27 (8.2)	42 (12.8)	34 (10.4)
	Z				14 (4.3)	7 (2.1)	19 (5.8)	28 (8.5)	31 (9.4)	35 (10.7)	44 (13.4)	44 (13.4)
16 (4.9)	Angle	—						-10°	-10°	15°	-10°	-10°
	X	—						4 (1.2)	4 (1.2)	0 (0.0)	9 (2.7)	8 (2.4)
	Y							20 (6.1)	18 (5.5)	8 (2.4)	30 (9.1)	32 (9.8)
	Z							28 (8.5)	30 (9.1)	15 (4.6)	40 (12.2)	38 (11.6)
18 (5.5)	Angle	—						-10°	-10°	15°	-10°	-10°
	X	—						7 (2.1)	6 (1.8)	2 (0.6)	11 (3.4)	12 (3.7)
	Y							16 (4.9)	21 (6.4)	4 (1.2)	26 (7.9)	33 (10.1)
	Z							26 (7.9)	30 (9.1)	13 (4.0)	37 (11.3)	35 (10.7)

*See graphic above.

TECHNICAL SPECIFICATIONS—CONTINUED

Installation Codes

- These units must be installed in accordance with local building codes. In the absence of local codes, in the United States, the unit must be installed in accordance with the *National Fuel Gas Code* (ANSI Z223.1, latest edition). A Canadian installation must be in accordance with the *Natural Gas and Propane Installation Code* (CSA B149, latest edition). This code is available from CSA Information Services, 1-800-463-6727. Local authorities having jurisdiction should be consulted before installation is made to verify local codes and installation procedure requirements.
- Installations in aircraft hangars should be in accordance with the *Standard for Aircraft Hangars* (ANSI/NFPA 409, latest edition). Installations in public garages should be in accordance with the *Standard for Parking Structures* (ANSI/NFPA 88A, latest edition). Installations in repair garages should be in accordance with the *Standard for Repair Garages* (NFPA 88B), which has been incorporated into the *Code for Motor Fuel Dispensing Facilities and Repair Garages* (NFPA 30A, latest edition). In Canada, installations in aircraft hangars and public garages should be in accordance with CSA B149.
- If the heater is being installed in the Commonwealth of Massachusetts, installation must be performed by a licensed plumber or licensed gas fitter.

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)	
Access panel side	18 (457)	
Non-access side	1 (25)	2 (51)
Bottom*	1 (25)	
Rear**	18 (457)	
Front	Refer to values for variable X (distance from heater to start of floor coverage) in Heater Throw section	

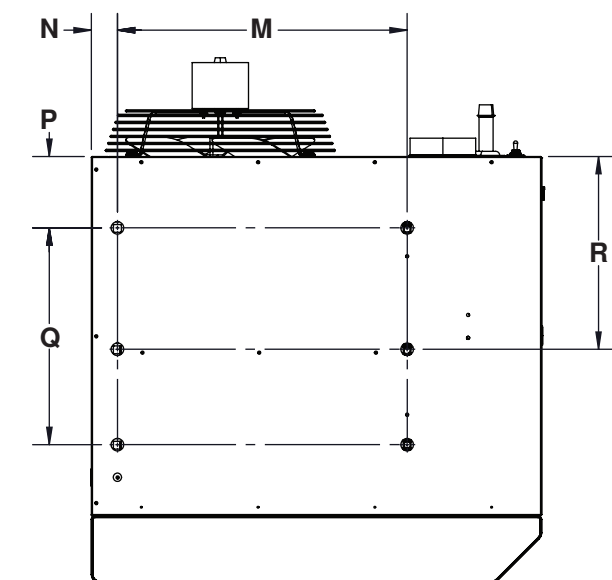
*Suspend the heater so that the bottom is a minimum of 5 feet (1.5 meters) above the floor.

**Measure rear clearance from the fan motor.

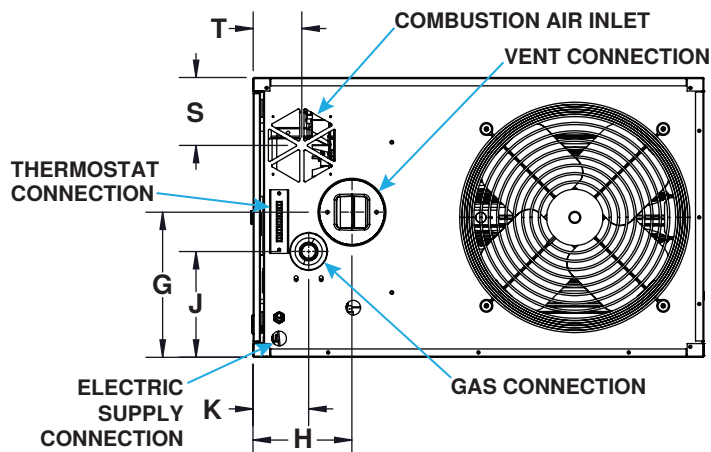
Weights

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)

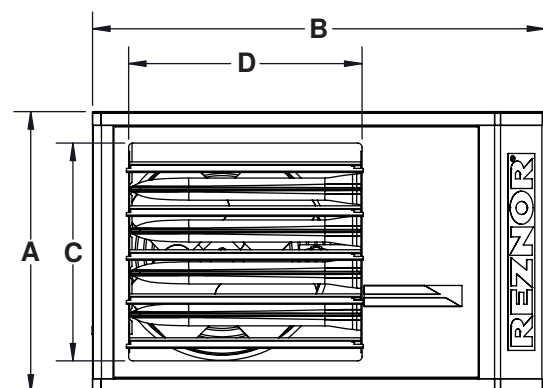
Dimensions



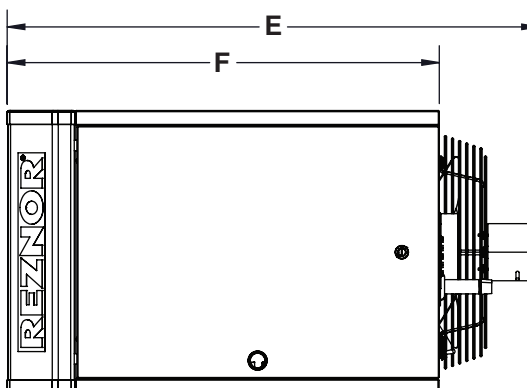
TOP VIEW



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).

TECHNICAL SPECIFICATIONS—CONTINUED

Halogenated Hydrocarbons

Halogenated hydrocarbons are a family of chemical compounds characterized by the presence of halogen elements (fluorine, chlorine, bromine, etc.). These compounds are used in refrigerants, cleaning agents, and solvents and are heavier than air, a fact that should be kept in mind when determining the installation location of heaters and building exhaust systems.

⚠ CAUTION ⚠

CORROSION HAZARD: Halogenated hydrocarbons, when exposed to flame, precipitate with any condensation present in the heater to form hydrochloric acid, which readily attacks all metals, including 300 grade stainless steel. Care should be taken to separate these vapors from the combustion process. An outside air supply **MUST BE** provided to the burner whenever the presence of these compounds is suspected.

Gas Supply Pressure

- The unit is equipped for a maximum gas supply pressure of 1/2 psi, 3.5 kPa, or 14 IN WC for natural gas or propane. The minimum supply pressure, as measured while the unit is operating at full fire, is 5 IN WC for natural gas or 11 IN WC for propane.
- Supply pressure higher than 1/2 psi requires the installation of an additional service regulator external to the unit.
- Pressure testing supply piping:** For test pressures **above** 1/2 psi, disconnect the heater and manual valve from the gas supply line to be tested and cap or plug the supply line. For test pressures **below** 1/2 psi, before testing, close the manual valve on the heater.

Gas Supply Piping

- All piping must be in accordance with requirements outlined in the *National Fuel Gas Code* (ANSI/Z223.1, latest edition) or the *Natural Gas and Propane Installation Code* (CSA B149.1, latest edition).
- The heater is orificed for operation with natural gas having a heating value of 1,050 (±50) BTU per cubic foot or with propane gas having a heating value of 2,550 (±100) BTU per cubic foot. Sizing of gas supply lines depends on piping capacity and is based on cubic feet per hour based on a 0.3 IN WC pressure drop, a 0.6 specific gravity for natural gas at 1,050 BTU per cubic feet, and a 1.6 specific gravity for propane at 2,550 BTU per cubic feet. If the gas at the installation does not meet this specification, consult the factory for proper orificing.
- Variables for sizing gas supply lines are listed in the table below. When sizing supply lines, consider the possibility of future expansion and increased requirements. Refer to the *National Fuel Gas Code* for additional information on line sizing.

Pipe Length (Feet)	Natural Gas						Propane					
	Pipe Diameter (Inches)											
	1/2	3/4	1	1-1/4	1-1/2	2	1/2	3/4	1	1-1/4	1-1/2	2
	Cubic Feet per Hour											
20	92	190	350	730	1100	2100	56	116	214	445	671	1281
30	73	152	285	590	890	1650	45	93	174	360	543	1007
40	63	130	245	500	760	1450	38	79	149	305	464	885
50	56	115	215	440	670	1270	34	70	131	268	409	775
60	50	105	195	400	610	1105	31	64	119	244	372	674
70	46	96	180	370	560	1050	28	59	110	226	342	641
80	43	90	170	350	530	990	26	55	104	214	323	604
90	40	84	160	320	490	930	24	51	98	195	299	567
100	38	79	150	305	460	870	23	48	92	186	281	531
125	34	72	130	275	410	780	21	44	79	168	250	476
150	31	64	120	250	380	710	19	39	73	153	232	433
175	28	59	110	225	350	650	17	36	67	137	214	397
200	26	55	100	210	320	610	16	34	61	128	195	372

Electrical Connections

CAUTION

- All electrical wiring and connections, including electrical grounding **MUST BE** made in accordance with the *National Electric Code* (ANSI/NFPA No. 70, latest edition) or, in Canada, the *Canadian Electric Code* (Part 1, CSA C.22.1). In addition, the installer should be aware of any local ordinances or gas company requirements that might apply.
 - A dedicated line voltage supply with a disconnect switch **MUST BE** run directly from the main electrical panel to the heater.
 - Ensure that all wiring is in accordance with the wiring diagram provided with the unit. A two-stage valve circuit is **NOT** available on all models.
-

Vent Connections

Vent system methods vary depending on whether the installation is residential or commercial/industrial, whether the vent is dedicated or common, and whether the unit is standard or separated-combustion. Refer to the installation manual provided with the unit and select and follow the venting instructions that apply to the installation only. For venting separated-combustion units, refer to the installation manual provided with the unit as well as the separated-combustion conversion instructions provided with the conversion kit.

CAUTION

- When an existing appliance is removed or replaced in a venting system, verify that the venting system is properly sized to vent the new appliance. An improperly sized venting system may result in the formation of condensate, leakage, and/or spillage.
 - Do not intermix different vent system parts from different manufacturers in the same venting system.
-

NOTE: Venting must be in accordance with local codes and with the *National Fuel Gas Code* (ANSI Z223.1) or the *Installation Code for Gas Burning Appliances and Equipment* (CSA B149.1). Local requirements supersede national requirements.

⚠ DANGER ⚠

FIRE OR EXPLOSION HAZARD

- Failure to follow safety warnings exactly could result in serious injury, death, or property damage.
- Improper installation, adjustment, alteration, service, or maintenance can cause serious injury, death, or property damage.
- Installation and service must be performed by a qualified installer, service agency, or the gas supplier.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Leave the building immediately.
- Immediately call your gas supplier from a phone remote from the building. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

For more information on Reznor HVAC products:

- **Contact your local Reznor representative at 1-800-695-1901**
- **Refer to the manuals and additional consumer materials found at www.reznorhvac.com**

