

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 BTU_h 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}²® 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 SST heat exchanger |
| AC4 | 316 SST 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 |
| CC21 | SST vent cap |
| 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 thermostat |
| 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 cover for CL1 thermostat |
| CM1B | Locking cover for CL22 thermostat |
| CM3 | Bracket assembly for mounting thermostat on unit |
| DJ20 | High-elevation pressure switch |
| DL2 | Propane conversion |
| SC1 | Separated-combustion conversion (requires either vertical (option CC2) or horizontal (option CC6) vent/combustion air inlet terminal kit) |

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 |
| 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

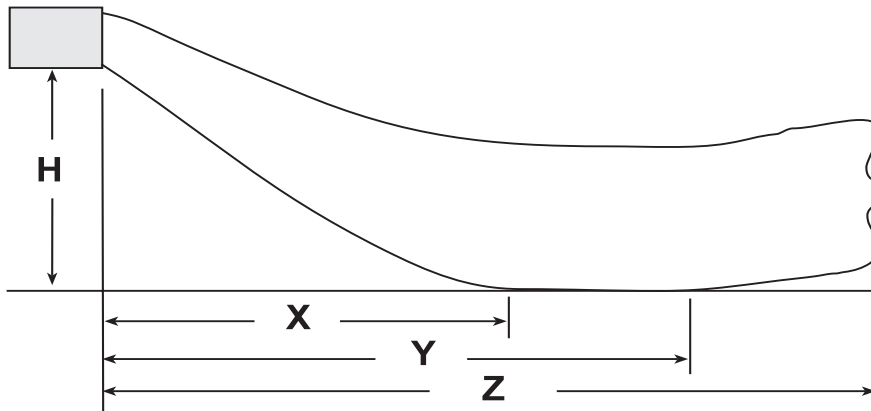
| Parameter | Unit of Measure | Unit Size (MBTUh) | | | | | | | |
|---|----------------------------|-------------------|------|------|------|------|-------|-------|-------|
| | | 150 | 175 | 200 | 225 | 250 | 300 | 350 | 400 |
| Gas connection** | inch | 1/2 | | | 3/4 | 3/4 | | | |
| Vent connection 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 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

| 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) | 13 (4.0) | |
| | Y | | 17 (5.2) | 14 (4.3) | 20 (6.1) | 20 (6.1) | 20 (6.1) | |
| | Z | | 38 (11.6) | 34 (10.4) | 47 (14.3) | 53 (16.2) | 53 (16.2) | |
| | Downward louver angle | | 54° | 58° | 50° | 51° | | |
| 18 (5.5) | X | — | 11 (3.4) | 11 (3.4) | 11 (3.4) | 11 (3.4) | 11 (3.4) | |
| | Y | | 17 (5.2) | 17 (5.2) | 17 (5.2) | 17 (5.2) | 17 (5.2) | |
| | Z | | 40 (12.2) | 44 (13.4) | 44 (13.4) | 44 (13.4) | 44 (13.4) | |
| | Downward louver angle | | 57° | 58° | 58° | 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.

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 No. 409, latest edition). Installations in public garages should be in accordance with the *Standard for Parking Structures* (ANSI/NFPA No. 88A, latest edition). Installations in repair garages should be in accordance with the *Standard for Repair Garages* (ANSI/NFPA No. 88B, latest edition). In Canada, installations in aircraft hangars should be in accordance with the requirements of the enforcing authorities, and in public garages, in accordance with the CSA B149 code.
- If the heater is being installed in the Commonwealth of Massachusetts, installation must be performed by a licensed plumber or licensed gas fitter.

Clearances

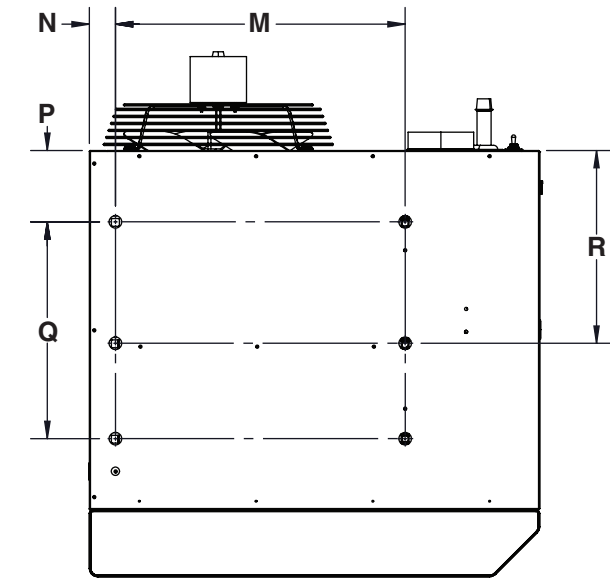
Units must be located so that clearances are provided for with regards to combustion air space, inspection, and service and for proper spacing from combustible construction. Clearance to combustibles is defined as the minimum distance from the heater to a surface or object for which it is necessary to 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) | 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. | | |

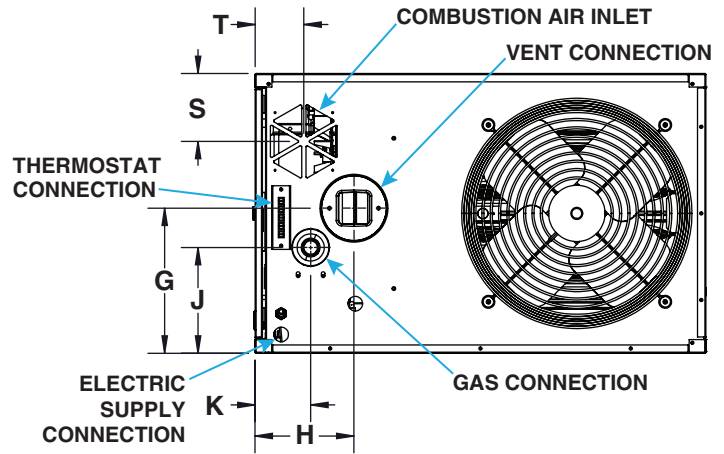
Weights

| 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) |

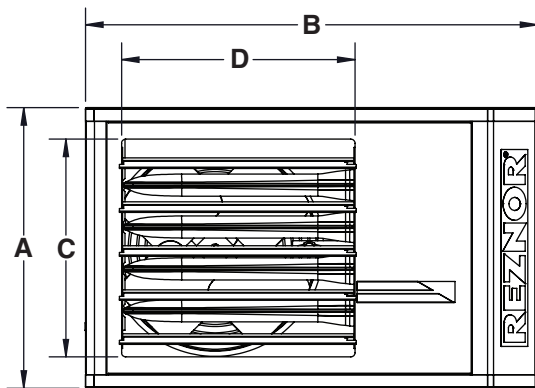
Dimensions



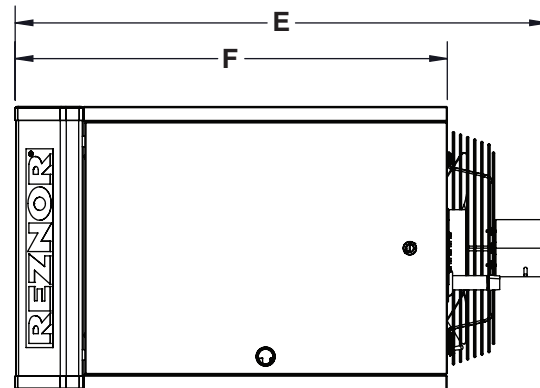
TOP VIEW



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 |

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.**
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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

