The appropriate top designated for each type of use is required. If necessary, the top can be changed at a later date to change from outdoor to indoor or vice versa.

All Bronze header units have heat exchangers which are ASME-certified (BPV Section IV part HLW) and are registered with National Board.

Elevation

Rated inputs are suitable for up to 2,000 ft (610 m) elevation. For elevations above 2,000 ft (610 m), reduce input 4% for each 1,000 ft (305 m) above sea level, as high elevation reduces combustion performance.

Ambient Temperature Rating

Heater Components

Electronic Ignition Heater* -32°F to 175°F (-35°C to 79°C)

*Requires 120 or 240VAC, 1 Ph, 60 Hz Power Supply

4. INSTALLATION

⚠WARNING: This unit contains refractory ceramic fiber (RCF) insulation in the combustion chamber. RCF, as manufactured, does not contain respirable crystalline silica. However, following sustained exposure to very high-temperatures (>2192°F), the RCF can transform into crystalline silica (cristabolite). The International Agency for Research on Cancer (IARC) has classified the inhalation of crystalline silica (cristabolite) as carcinogenic to humans.

When removing the burners or heat exchangers, take precautions to avoid creating airborne dust and avoid inhaling airborne fibers. When cleaning spills, use wet sweeping or High Efficiency Particulate Air (HEPA) filtered vacuum to minimize airborne dust. Use feasible engineering controls such as local exhaust ventilation or dust collecting systems to minimize airborne dust. Wear appropriate personal protective equipment including gloves, safety glasses with side shields, and appropriate NIOSH-certified respiratory protection, to avoid inhalation of airborne dust and airborne fiber particles.

IMPORTANT NOTICE: These instructions are intended only for the use by qualified personnel, specifically trained and experienced in the installation of this type of heating equipment and related system components. Installation and service personnel may be required by some states to be licensed. If your state is such, be sure your contractor bears the appropriate license. Persons not qualified shall not attempt to fix the equipment nor attempt repairs according to these instructions.

⚠WARNING: Improper installation, adjustment, alteration, service or maintenance may damage the equipment, creating a hazard resulting in asphyxiation, explosion or fire. Such damage is not covered under warranty.

NOTE: The heater should not be located in an area where possible water leakage will result in damage to the area adjacent to the heater or to the structure. When such locations cannot be avoided, it is recommended that a suitable drain pan, with adequate drainage, be installed under the heater. The pan must not restrict combustion air flow.

RECOMMENDATION: For regions with snow, Raypak recommends installing these units indoors.

Installation Codes

Installation must be in accordance with local codes, or, in the absence of local codes, with the latest edition of the National Fuel Gas Code, ANSI Z223.1/NFPA54 and National Electrical Code, ANSI/NFPA 70, and for Canada, the latest edition of CAN/CSA-B149 Installation Codes, and Canadian Electrical Code, CSA C22.1 Part 1 and Part 2.

Clearances

All Heaters

For indoor and outdoor clearances from combustible surfaces, see the chart below.

Location	Indoor Installation
Top *	30" (762 mm) Drafthood
Front	Alcove (Open)
Vent	6" (152 mm)
Floor **	0"
Back	6" (152 mm)
Right-Side	12" (305 mm) Water Side
Left-Side	6" (152 mm) Opposite Water Side

Location	Outdoor Installation
Top *	Unobstructed (Outdoor Stack)
Top ***	36" (914 mm) (Stackless Top)
Floor	0"
Back	6" (152 mm)
Right-Side	12" (305 mm) Water Side
Left-Side	6" (152 mm) Opposite Water Side

* Clearance from top of vent terminal
** Do not install on carpeting
*** Clearance from top of heater

Table B. Minimum Clearances from Combustible Surfaces

When installed according to the listed minimum clearances from combustible construction, the pool heater can still be serviced without removing permanent construction around the heater.

However, for ease of servicing, we recommend a clearance of at least 24" (610 mm) in the front, and at least 18" (457 mm) on the water connection side. This will enable the heater to be serviced in its installed location, that is, without movement or removal of the heater.

Description	Location	Distance in. (mm)
a. 3-1/2" (89 mm) thick masonry walls without ventilated air space	Back	9 (229)
	Right	9 (229)
	Left	9 (229)
	Vent	5 (127)
	Indoor Top	39 (991)
	Outdoor Top	Unobstructed
b. 1/2" (13 mm)insulation board over 1" (25 mm) glass fiber or mineral wool batts	Back	6 (152)
	Right	6 (152)
	Left	6 (152)
	Vent	3 (76)
	Indoor Top	30 (762)
	Outdoor Top	Unobstructed
c. 0.024" sheet metal over 1" (25 mm) glass fiber or mineral wool batts reinforced with wire on rear face with ventilated air space	Back	4 (102)
	Right	4 (102)
	Left	4 (102)
	Vent	3 (76)
	Indoor Top	24 (610)
	Outdoor Top	Unobstructed
d. 3-1/2" (89 mm) thick masonry wall with ventilated air space	Back	6 (152)
	Right	6 (152)
	Left	6 (152)
	Vent	6 (152)
	Indoor Top	39 (991)
	Outdoor Top	Unobstructed
e. 0.024" sheet metal with ventilated air space	Back	4 (102)
	Right	4 (102)
	Left	4 (102)
	Vent	2 (51)
	Indoor Top	24 (610)
	Outdoor Top	Unobstructed
f. 1/2" (13 mm) thick insulation board with ventilated air space	Back	4 (102)
	Right	4 (102)
	Left	4 (102)
	Vent	3 (76)
	Indoor Top	24 (610)
	Outdoor Top	Unobstructed
g. 0.024" sheet metal with ventilated air space over 0.024 sheet metal with ventilated air space.	Back	4 (102)
	Right	4 (102)
	Left	4 (102)
	Vent	3 (76)
	Indoor Top	24 (610)
	Outdoor Top	Unobstructed
h. 1" (25 mm) glass fiber or mineral wool batts sandwiched between two sheets 0.024 sheet metal with ventilated air space	Back	4 (102)
	Right	4 (102)
	Left	4 (102)
	Vent	3 (76)
	Indoor Top	24 (610)
	Outdoor Top	Unobstructed

Derived from National Fuel Gas Code, Table 10.2.3

Table C. Reduction of Clearances to Protected Surfaces

Clearances less than these may require removal of the heater to service either the heat exchanger or the burner tray. In either case, the heater must be installed in a manner that will enable the heater to be serviced without removing any structure around the heater.

Flooring

This heater can be installed on combustible flooring. The combustible clearances listed can be reduced by protecting the exposed combustible surfaces as shown in **Table C.**

Outdoor Heater Installation

These heaters are design-certified for outdoor installation, when equipped with the approved tops designated for outdoor use.

⚠WARNING: The heater shall not be located in an area where water sprinklers, or other devices, may cause water to spray through the cabinet louvers and into the heater. This could cause internal rusting or damage electrical components. Such damage is not covered under warranty.

⚠WARNING: Do not install within 3' (0.9 m) of a heat pump or an outdoor condensing unit. Strong air intake from this type of equipment can disturb the combustion process and cause damage or personal injury.

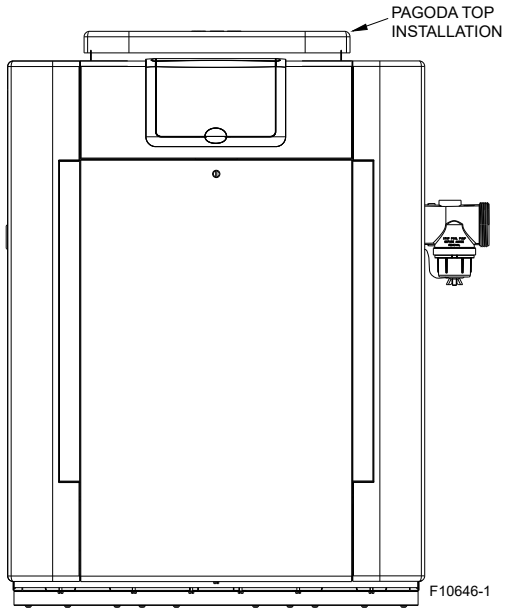

Figure 2. Heater with Outdoor Stackless Top

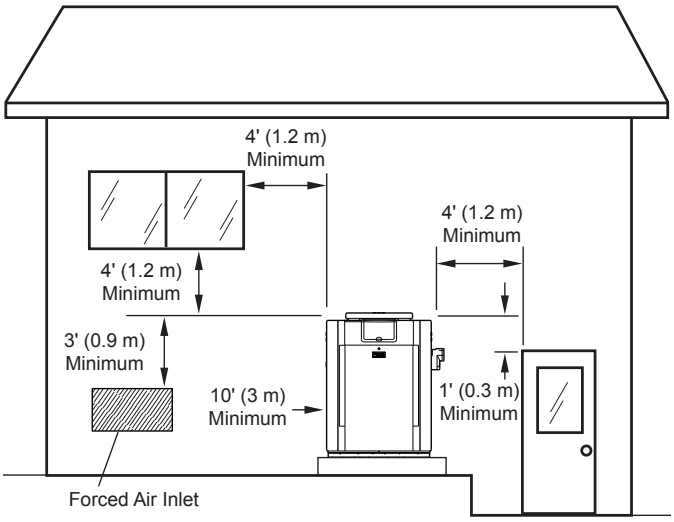

Figure 3. Minimum Distances to Building Openings from Where Flue Products Exit the Boiler

Heaters must not be installed under an overhang of less than 3' (0.9 m) from the top of the heater. Three sides must be open in the area under the overhang. Roof water drainage must be diverted away from the heaters installed under overhangs with the use of gutters.

For U.S. installations, the point from where the flue products exit the heater must be a minimum of 4' (1.2 m) below, 4' (1.2 m) horizontally from, or 1' (0.3 m) above any door, window or gravity inlet into any building. The top surface of the heater shall be at least 3' (0.9 m) above any forced air inlet, or intake ducts located within 10' (3 m) horizontally.

For Canadian installations, pool heaters shall not be installed with the top of the vent assembly within 10' (3 m) below, or to either side, of any opening into the building. Refer to the latest revisions of CAN/CSA-B149.

A minimum of 6**'** (1.8 m) is required from the heater to an inside corner wall for proper outdoor venting.

Pagoda Top Installation

1. Insert tabs into keyhole (4 places). See **Figure 4**, detail A.
2. Snap tabs into keyholes so as not to pull out. See **Figure 4**, detail B.

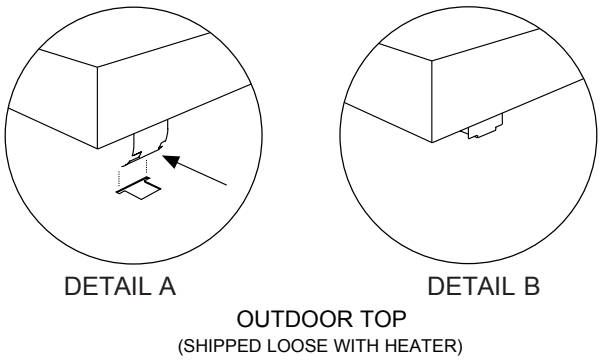

Figure 4. Outdoor Top Installation

For installations in Florida and Texas, that must comply with the Florida or Texas Building Code, follow the directions shown in **Figure 5** for the installation of hurricane tie-down brackets for all models.

Indoor Heater Installation

The heater is also design-certified for indoor installation when equipped with the approved drafthood and a code-compliant vent stack.

For Canada, indoor installation is restricted to an enclosure that is not occupied and does not directly communicate with an occupied area. Refer to the latest edition of CAN/CSA-B149 for specific requirements. Locate heater as close as is practical to a chimney or gas vent. Heater must always be vented to the outside. See section **"Vent Piping" on page 14** for details. Minimum allowable space is shown on the nameplate.

⚠WARNING: Indoor heaters require a drafthood that must be connected to a vent pipe and properly vented to the outside. Failure to follow this procedure can cause fire or fatal carbon monoxide poisoning.

Base Riser (for Canada only)

For all Canada installations, the unit must be installed on a base riser that is shipped along with the unit. This is in accordance with ANSI-Z21.56. See IPL for replacement kit information on page 52 (Item 14-S).

INSTRUCTIONS FOR THE STATE OF FLORIDA
AND FOR AREAS OF TEXAS DESIGNATED BY
THE TEXAS DEPARTMENT OF INSURANCE

WIND SPEED = 150 MPH, 3 SECOND GUST
EXPOSURE = C

Model	B in. (mm)
206A	20 (508)
266A	23 (584)
336A	26 (660)
406A	29 (737)

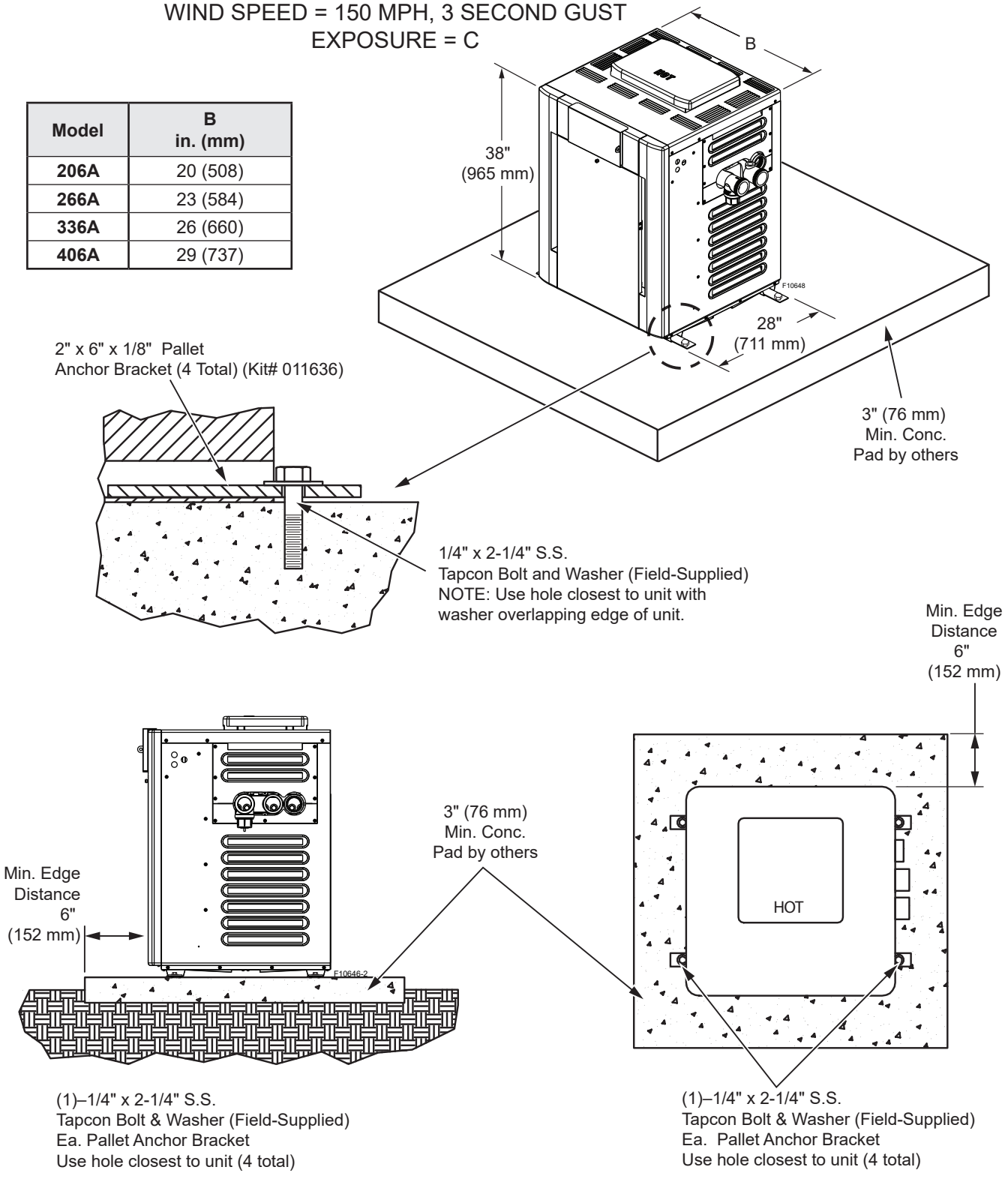

Figure 5. Hurricane Tie-Down Bracket Installation

Outdoor and Indoor Stacks

The outdoor and indoor stacks are optional equipment and do not come standard with the heater. Refer to installation instructions inside box for instructions on how to install outdoor/indoor stack.

Model	Outdoor Stack	Indoor Stack
206A	009834	009838
266A	009835	009839
336A	009836	009840
406A	009837	009841

Table D. Outdoor and Indoor Stack Kit Number

OUTDOOR STACK KIT

(1) Outdoor drafthood, painted
(1) Adapter plate
(3) Mounting brackets (clips)
(1) Top panel cover
(2) 1-foot sections of metal tape
(3) Screws
(1) Instructions

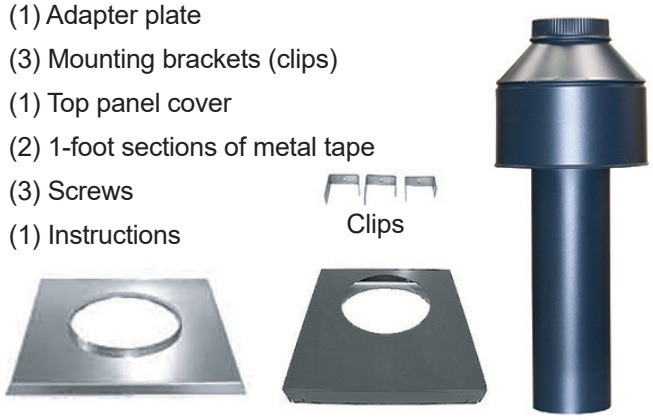

Figure 6. Outdoor Stack Kit Components

NOTE: The outdoor drafthood kit does not require any additional vent pipe for proper operation. This drafthood functions as the vent termination.

INDOOR STACK KIT

(1) Drafthood, unpainted
(1) Adapter plate
(3) Mounting brackets (clips)
(3) Screws
(1) Instructions

Figure 7. Indoor Stack Kit Components

Combustion and Ventilation Air

Indoor Units Only

The heater must have both combustion and ventilation air. The minimum requirements are listed in the latest edition of the National Fuel Gas Code (U.S. ANSI Z223.1 or Canada CAN/CSA-B149) and any local codes that may have jurisdiction. The most common approach is the "2-opening" method, with combustion air opening no more than 12" from the floor and the ventilation opening no more than 12" from the ceiling. For opening sizes using this method, see below.

All Air from Inside the Building:

Each opening shall have a minimum net free area as noted:

Model	Sq. in. (m^2)
206A	200 (0.13)
266A	266 (0.17)
336A	333 (0.21)
406A	399 (0.26)

Table E. Opening Minimum Net Free Requirements - Indoor Air

All Air from Outdoors:

When air is supplied directly from outside the building, each opening shall have a minimum net free area as noted:

Model	Unrestricted Opening sq. in. (m^2)	Typical Screened or Louvered Opening sq. in. (m^2)	Typical Screened and Louvered Opening sq. in. (m^2)
206A	50 (0.03)	75 (0.05)	100 (0.06)
266A	67 (0.04)	101 (0.06)	134 (0.09)
336A	84 (0.05)	126 (0.08)	168 (0.11)
406A	100 (0.06)	150 (0.1)	200 (0.13)

Table F. Opening Minimum Net Free Requirements - Outdoor Air

⚠CAUTION: Combustion air must not be contaminated by corrosive chemical fumes which can damage the heater. Such damage will not be covered by the warranty.

Specifications and Dimensions

Amp Draw	
120 VAC, 1Ph, 60Hz	240 VAC, 1Ph, 60Hz
4	2

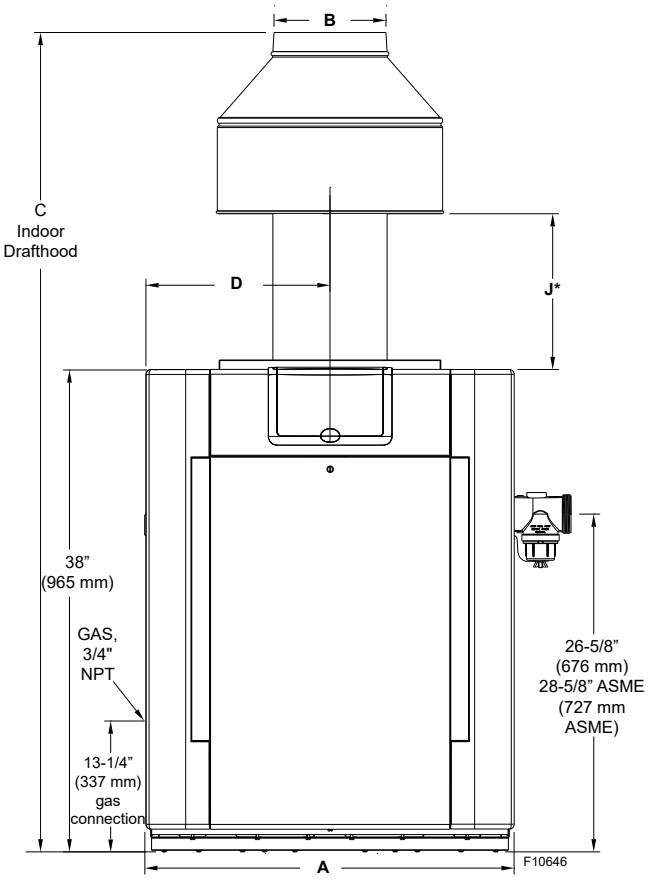

Figure 8. Front View

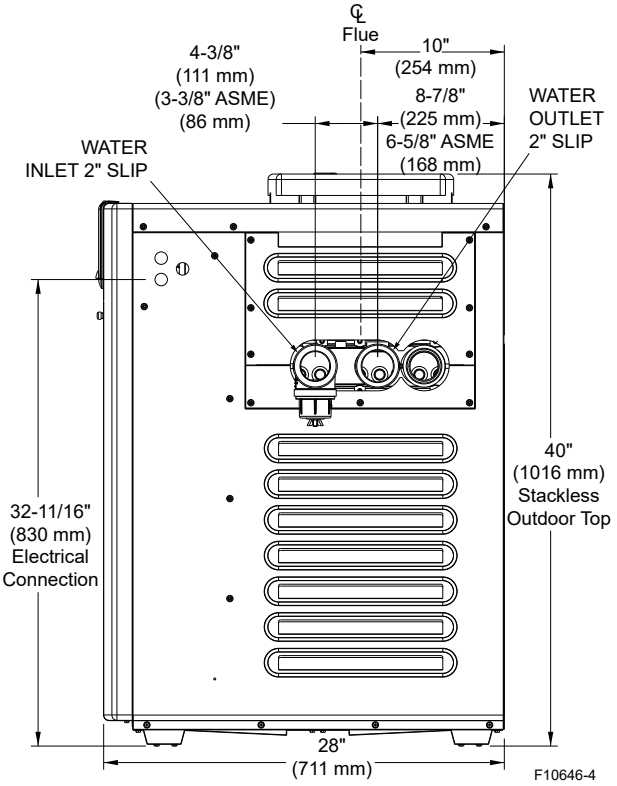

Figure 9. Side View

Residential - Copper Heat Exchanger							Shipping Weights lbs. (kg)	
Heater Mode	**BTUH Input (kwh)**	**(A) Cabinet Width in. (mm)**	**(B) Flue Dia. in. (mm)**	**(C) Indoor Drafthood in. (mm)**	**(D) in. (mm)**	**(J)* in. (mm)**	**Standard Heater w/Stackless Top**	**Indoor Draft-Hood**
P-206A-EN-C	199.5 (58.4)	20 (508)	6 (152)	61-5/8 (1565)	10.0 (254)	11-3/4 (298)	187 (85)	14 (6.4)
P-266A-EN-C	266.0 (77.9)	23 (584)	7 (178)	62 (1575)	11.5 (292)	11 (279)	210 (95)	16 (7.3)
P-336A-EN-C	332.5 (97.4)	26 (660)	8 (203)	63 (1600)	13 (330)	10-5/8 (270)	230 (104)	19 (8.6)
P-406A-EN-C	399 (116.9)	29 (737)	9 (229)	64-9/16 (1640)	14.5 (368)	12-1/8 (309)	249 (113)	21 (9.5)

*Note: For outdoor stack height, use "J" dimension for appropriate size **plus** 6 inches (152 mm).

Table G. Residential - Copper Heater Specifications and Dimensions

Residential - Cupronickel Heat Exchanger							Shipping Weights lbs. (kg)	
Heater Mode	BTUH Input (kwh)	(A) Cabinet Width in. (mm)	(B) Flue Dia. in. (mm)	(C) Indoor Drafthood in. (mm)	(D) in. (mm)	(J)* in. (mm)	Standard Heater w/Stackless Top	Indoor Draft-Hood
P-206A-EN-X	180.0 (52.7)	20 (508)	6 (152)	61-5/8 (1565)	10.0 (254)	11-3/4 (298)	187 (85)	14 (6.4)
P-266A-EN-X	240.0 (70.3)	23 (584)	7 (178)	62 (1575)	11.5 (292)	11 (279)	210 (95)	16 (7.3)
P-336A-EN-X	300.0 (87.9)	26 (660)	8 (203)	63 (1600)	13 (330)	10-5/8 (270)	230 (104)	19 (8.6)
P-406A-EN-X	360.0 (105.5)	29 (737)	9 (229)	64-9/16 (1640)	14.5 (368)	12-1/8 (309)	249 (113)	21 (9.5)

*Note: For outdoor stack height, use "J" dimension for appropriate size **plus** 6 inches (152 mm).

Table H. Residential - Cupronickel Heater Specification and Dimensions

Commercial - ASME Copper or Cupronickel Heat Exchanger							Shipping Weights lbs. (kg)	
Heater Mode	BTUH Input (kwh)	(A) Cabinet Width in. (mm)	(B) Flue Dia. in. (mm)	(C) Indoor Drafthood in. (mm)	(D) in. (mm)	(J)* in. (mm)	ASME Heater w/Stackless Top	Indoor Draft-Hood
B-206A-EN-(C)	199.5 (58.4)	20 (508)	6 (152)	61-5/8 (1565)	10.0 (254)	11-3/4 (298)	206 (94)	14 (6.4)
B-266A-EN-(C or X)	266.0 (77.9)	23 (584)	7 (178)	62 (1575)	11.5 (292)	11 (279)	229 (104)	16 (7.3)
B-336A-EN-(C or X)	332.5 (97.4)	26 (660)	8 (203)	63 (1600)	13 (330)	10-5/8 (270)	249 (113)	19 (8.6)
B-406A-EN-(C or X)	399 (116.9)	29 (737)	9 (229)	64-9/16 (1640)	14.5 (368)	12-1/8 (309)	268 (122)	21 (9.5)

*Note: For outdoor stack height, use "J" dimension for appropriate size **plus** 6 inches (152 mm).

Table I. Commercial - Heater Specifications and Dimensions

Vent Piping

⚠WARNING: Indoor heaters require a drafthood that must be connected to a vent pipe and properly vented to the outside. Failure to follow this procedure can cause fire or fatal carbon monoxide poisoning.

When properly installed outdoors, only the outdoor stackless top (provided) is required. If installed indoors, a drafthood is required, connected to a CATEGORY I (a heater that operates with a non-positive vent static pressure and a vent gas temperature that avoids excessive condensate production in the vent.) vent per the National Fuel Gas Code and local requirements.

Vent piping the same size as the drafthood outlet is recommended, however, when the total vent height is at least 10 ft (3 m) (drafthood relief opening to vent terminal), the vent pipe size may be reduced by no more than one (1) size as specified in Chapter 13 of the National Fuel Gas Code, ANSI Z223.1 (Canada - CAN/CSA-B149).

As much as possible, avoid long horizontal runs of vent pipe and too many elbows. If installation requires horizontal runs, the vent pipe must have a minimum of 1/4 in. per ft rise (20.8 mm per meter rise) and should be supported at not more than 5 ft (1.5 m) intervals.

Plumber's tape, criss-crossed, will serve to space both horizontal and vertical piping. Gas vents supported only by the flashing and extending above the roof more than 5 ft (1.5 m) should be securely guyed or braced to withstand snow and wind loads. We recommend use of insulated vent pipe spacers through the roof and walls.

For protection against rain or blockage by snow, the vent pipe must terminate with a vent cap which complies with the local codes or, in the absence of such codes, to the latest edition of the National Fuel Gas Code, ANSI Z223.1 (Canada - CAN/CSA-B149).

The discharge opening must be a minimum of 2' (0.6 m) vertically from the roof surface and at least 2' (0.6 m) higher than any part of the building within 8' (2.4 m). Vent stack shall be at least 5 ft (1.5 m) in vertical height above the drafthood outlet. The vent cap location shall have a minimum clearance of 4 ft (1.2 m) horizontally from, and in no case below, unless a 4 ft (1.2 m) horizontal distance is maintained, from electric meters, gas meters, regulators and relief equipment.

The weight of the vent stack or chimney must not rest on the heater drafthood. Support must be provided in compliance with applicable codes. The heater top and drafthood must be readily removable for maintenance and inspection. Vent pipe should be adequately supported to maintain proper clearances from combustible construction.

Flue materials must be certified to CATEGORY I or better. Type “B” double-wall or equivalent vent pipe is recommended. A draft of -0.01" to -0.08" WC must be maintained. However, single-wall metal vent pipe may be used as specified in the latest edition of the National Flue Gas Code, ANSI Z223.1 (Canada - CAN/CSA-B149).

D-2 Power Vent Kit

Another option for an installation that requires horizontal runs is the D-2 power vent kit option.

Model	120 VAC P/N	240 VAC P/N
206A	010744	009832
266A	010744	009832
336A	010745	009833
406A	010745	009833

Table J. Power Vent Kit Part Numbers

NOTE: The D-2 Power Vent operates with a positive vent static pressure and with a vent gas temperature that prevents excessive condensate production in the vent, and as such, is a CATEGORY III appliance. For more information consult the D-2 Power Vent manual, (P/N: 241243). CATEGORY I vent material such as B-vent must not be used under CATEGORY III conditions.

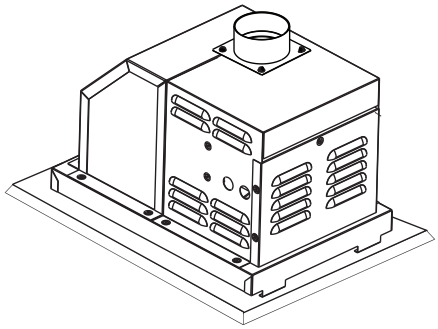

Figure 10. D-2 Power Vent Option

The power vent system is a fan-assisted vent system designed for use on models 266A-406A.

The power vent system, when installed as directed, is capable of operating in applications such as through-the-wall venting with reduced horizontal and vertical vent pipe sizes in new and current installations. The unit is factory-wired for 240 VAC, with capability of field-rewiring for 120 VAC.

For more information consult the D-2 Power Vent manual, (P/N: 241243). This Manual can be viewed on your smart device. See QR Code on page 45. This manual can also be found in the document library at www.raypak.com.