Raypak P-R406A-EN-C

Raypak Digital 399,000 BTU Natural Gas Pool Heater Instruction Manual

Model: P-R406A-EN-C

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Raypak Digital 399,000 BTU Natural Gas Pool Heater. This heater is designed for residential swimming pool and spa applications, offering reliable heating performance with advanced digital controls.

Key features include an electronic ignition, a digital thermostat for precise temperature control, and durable polymer headers. The design incorporates high-wind resistance and condensation protection to ensure longevity and consistent performance.



Figure 1: Exterior view of the Raypak Digital Pool Heater. This image shows the compact and robust design of the unit, featuring the control panel access and gas inlet.

2. Safety Information

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment.

- **Professional Installation:** Installation and service must be performed by a qualified installer, service agency, or gas supplier.
- **Gas Safety:** This appliance uses natural gas. Ensure proper ventilation and check for gas leaks after installation. Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **Electrical Safety:** Ensure all electrical connections comply with local codes and are properly grounded. Disconnect power before servicing.
- **Water Chemistry:** Maintain proper pool/spa water chemistry to prevent corrosion and damage to the heater components.

- **Clearances:** Maintain adequate clearances around the heater for proper air circulation and service access.

3. Setup and Installation

The Raypak Digital Pool Heater is designed for outdoor installation. Proper placement and connection are crucial for safe and efficient operation.

3.1 Site Selection

- Choose a location with adequate ventilation and drainage.
- Ensure the heater is installed on a level, non-combustible surface.
- Consider prevailing winds for optimal performance, as the unit features high-wind resistance.
- For installations at elevations between 2,000' and 6,000', this model is specifically designed to operate efficiently.

3.2 Plumbing Connections

Connect the pool/spa plumbing to the heater's inlet and outlet ports. Ensure all connections are watertight and use appropriate unions for ease of service.

- Water Connection: 2 inches.

3.3 Gas Connections

Connect the natural gas supply line to the heater's gas inlet. Ensure all gas connections are sealed and tested for leaks by a qualified professional.

- Gas Connection: 3/4 inch.

3.4 Electrical Connections

Connect the heater to the appropriate electrical supply as per local codes. This unit requires an electronic ignition system.

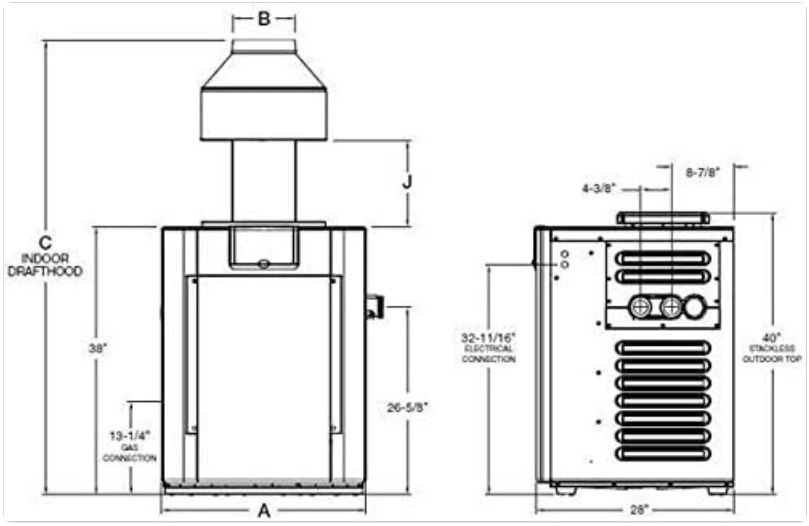


Figure 2: Dimensional diagram of the Raypak Digital Pool Heater. This diagram provides critical measurements for installation planning, including cabinet width, flue diameter, and connection points.

4. Operating Instructions

The Raypak Digital Pool Heater features an intuitive LCD digital display for easy operation and monitoring.

4.1 Powering On/Off

Locate the main power switch on the unit. Turn it to the 'ON' position to power the heater. To turn off, switch to 'OFF'.

4.2 Setting Temperature

1. Press the 'MODE' button to select either Pool or Spa heating.
2. Use the 'UP' and 'DOWN' arrow buttons to adjust the desired water temperature. The LCD display will show the set temperature.
3. The heater will automatically ignite and begin heating the water to the set temperature.

4.3 Monitoring Operational Status

The LCD digital display provides real-time operational status, including current water temperature, set temperature, and diagnostic codes. Refer to the display for any alerts or operational messages.

4.4 Service Diagnostics

The digital display also offers service diagnostics, which can help identify potential issues. If a fault code appears, consult the troubleshooting section of this manual or contact a qualified service technician.

5. Maintenance

Regular maintenance ensures the longevity and efficient operation of your Raypak pool heater.

- **Routine Inspection:** Periodically inspect the heater for any signs of wear, corrosion, or leaks. Ensure the area around the heater is clear of debris.
- **Water Chemistry:** Maintain balanced pool/spa water chemistry to prevent scale buildup and corrosion within the heater's heat exchanger and polymer headers.
- **Condensation Protection:** The integrated Unitherm Governor helps prevent condensation, which can lead to corrosion. Ensure the heater is operating within its recommended parameters.
- **Winterization:** In colder climates, proper winterization procedures are essential to prevent freeze damage. Consult a professional for specific instructions based on your local climate.
- **Professional Service:** It is recommended to have the heater inspected and serviced annually by a qualified technician.



Figure 3: Internal view of the Raypak Digital Pool Heater. This cutaway image illustrates the heat exchanger, burner assembly, and control components, highlighting the robust internal construction.

6. Troubleshooting

This section provides solutions to common operational issues. For complex problems or persistent issues, contact a qualified service technician.

- **Heater Not Igniting:** Check gas supply, ensure power is on, and verify thermostat settings. Look for any diagnostic codes on the LCD display.
- **Insufficient Heating:** Confirm desired temperature setting, check for proper water flow, and ensure the gas supply is adequate.
- **Error Codes on Display:** Refer to the heater's specific error code list (usually found in the full installation manual) to diagnose the issue. Common issues include pressure switch faults, high limit trips, or ignition failures.
- **Unusual Noises or Odors:** Immediately shut off the heater and gas supply. Contact a qualified service technician.

7. Specifications

Detailed specifications for the Raypak Digital 399,000 BTU Natural Gas Pool Heater (Model P-R406A-EN-C).

Specification	Value
Product Dimensions	44 x 34 x 30 inches
Item Weight	247 pounds
Manufacturer	RAYPAK
Item Model Number	009223
BTUH Input	399,000
Gas Connection	3/4 inch
Water Connection	2 inches
Elevation Range	2,000' - 6,000'

Heater Model	BTUH Input (000)	(A) Cabinet Width	(B) Flue Diameter	(C) Indoor Drafthood	(J) Minimum	Gas Conn.	Water Conn.	Shipping Weights (lbs)	
								w/ Polymer Headers and Stackless Top	Indoor Drafthood
R206A	199.5	20"	6"	61-5/8"	11-7/8"	3/4"	2"	187	14
R266A	266.0	23"	7"	62"	11"	3/4"	2"	210	16
R336A	332.5	26"	8"	63"	10-5/8"	3/4"	2"	230	19
R406A	399.0	29"	9"	64-1/2"	12-5/16"	3/4"	2"	249	21

Figure 4: Table detailing specifications for various Raypak heater models, including BTUH input, cabinet dimensions, flue diameter, and connection sizes. This table provides comparative data for different heater configurations.

8. Warranty and Support

For warranty information, please refer to the official warranty document provided with your Raypak Digital Pool Heater or visit the official Raypak website. Warranty terms and conditions may vary.
For technical support, service, or to locate an authorized service provider, please contact Raypak customer service directly. Ensure you have your model number (P-R406A-EN-C) and serial number ready when contacting support.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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