

Project #:

Date:

Engineer:

Project Name:

Prepared By:

Location:

Bid Date:

Contractor:

# MasterTemp® ASME Natural Gas (NA) Propane Gas (LP) Pool Heaters

*Submittal Data*

## Features

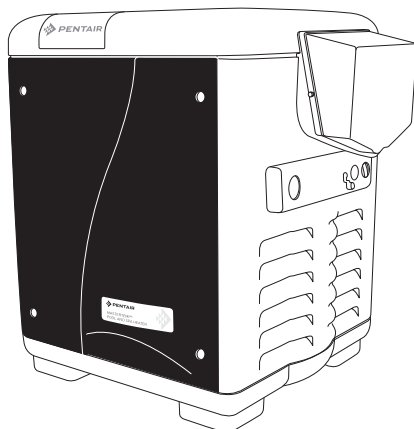
- ▶ **Minimum 82% Efficiency**
- ▶ **ASME Code Brass Headers**
- ▶ **ASME Code Copper or Cupro-Nickel-Fin Tube**
- ▶ **50 lb. Pressure Relief Valve**
- ▶ **Small Footprint**
- ▶ **Indoor/Outdoor**

Models	Natural Gas	Propane
<input type="checkbox"/> 200K BTU/HR (ASME)	461000	461001
<input type="checkbox"/> 200K BTU/HR (HD ASME)	461032	
<input type="checkbox"/> 250K BTU/HR (ASME)	460771	460772
<input type="checkbox"/> 250K BTU/HR (HD ASME)	461020	
<input type="checkbox"/> 400K BTU/HR (ASME)	460775	460776
<input type="checkbox"/> 400K BTU/HR (HD ASME)	461021	

### Heat Exchanger

- ASME HLW stamped; 100 PSIG MAWP
- National Board Listed
- Brass headers
- Finned tubing
  - Copper (standard)
  - Cupro-Nickel (optional)
- ASME Steel tube sheet
- Silicone O-Rings
- Fixed high limit, manual reset 160°F
- Fixed high limit, auto reset 135°F
- 50 PSIG Pressure Relief Valve
- Flow configuration (two-pass)

MODEL	FLOW MIN / MAX
200	20 - 120 GPM
250	25 - 120 GPM
400	40 - 120 GPM



### Controls

- RS-485 for Pentair Automation
  - Firemans Switch
  - Multiple Heater Connections
  - Single mechanical temperature control
  - Runtime (Hours heater is active)
  - Cycles (Heater On/Off cycles)
  - Stack Flue Sensor Temperature
  - Flame Sensor status
  - Digital display with diagnostics
  - 126 Error Messages on LCD
- Firemans Switch
- Input Power
  - 115/240V, 60Hz, 1 Ph Power supply
  - 115/240/24V Transformer
- Safety Interlocks
  - Electronic, Intermittent Ignition
  - High limit switch (HLS)
  - Auto Gas Shut-OFF (AGS)
  - Stack Flue Sensor shut down (SFS)
  - Water pressure switch (PS)

### Gas Control Train

- Fuel
  - Natural gas
  - Propane (minimum grade HD-5)
- Combination control valve
- On/off firing
- ANSI Z223.1/NFPA 54
- and/or CSA B149.1 Design certified

### Construction

- Front controls (Index positioning)
- Stainless steel burners
- Polymer enclosure (Polyurethane Resin)
  - Rodent resistant enclosure
  - Gas line and PR Valve Escutcheons
- Indoor/outdoor installation
- Can be installed on combustible surface
- Listed for installation on combustible surfaces.

### Venting

- Category I (Vertical only)
- Category III (Vertical or Horizontal)
- Indoor Heater Installation
  - Direct Air Intake Duct with 3-inch PVC Pipe
  - Vertical Negative Pressure (positive draft) - Type B vent pipe
  - Clearances from combustible surfaces: 6 in (15 cm) for top and for all sides
- Outdoor Heater Installation
  - Built-In Stackless Venting System
  - Exhaust Grill Vent

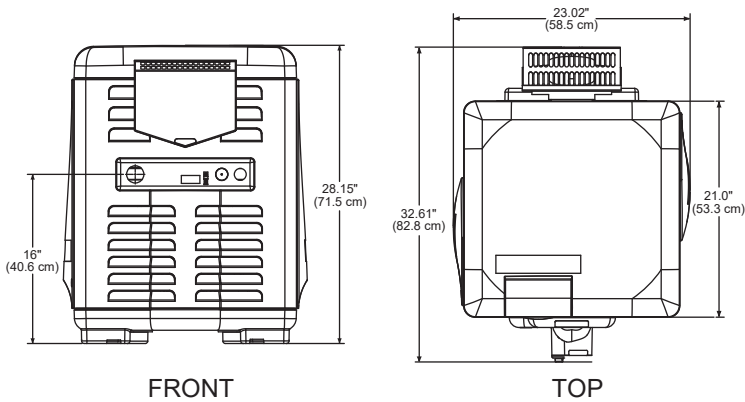
### Other options

- Bolt Down Bracket Kit, P/N 460738

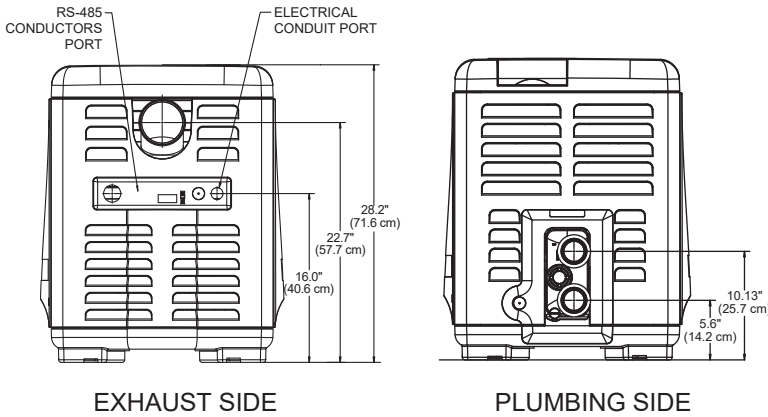


# MasterTemp® ASME Pool Heaters

Model \_\_\_\_\_



Heater Model Part #	Nominal kBTU (kW) Output	Dimensions inches (cm)				Shipping Weight lbs. (kg)
		Cabinet Width	Flue Dia.	Gas Conn.	Water Conn.	
461000	200 (58.61)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	142 (64.4)
461001	200 (58.61)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	142 (64.4)
461032	200 (58.61)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	142 (64.4)
460771	250 (73.27)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	144 (65.3)
460772	250 (73.27)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	144 (65.3)
461020	250 (73.27)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	144 (65.3)
460775	400 (117.23)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	149 (67.6)
460776	400 (117.23)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	149 (67.6)
461021	400 (117.23)	23.02 (58.5)	4 (10.2)	0.75 (1.9)	2 (5.1)	149 (67.6)



## Air Supply Requirements Guide

Minimum Net Free Open Area for Each Opening* (Square Inches/Centimeters)				
Model	All Air From Inside Building		All Air From Outside Building	
	Combustion	Vent	Combustion	Vent
200	200 sq. in. 1290 sq. cm.	200 sq. in. 1290 sq. cm.	50 sq. in. 323 sq. cm.	50 sq. in. 323 sq. cm.
250	250 sq. in. 1613 sq. cm.	250 sq. in. 1613 sq. cm.	63 sq. in. 406 sq. cm.	63 sq. in. 406 sq. cm.
400	400 sq. in. 2580 sq. cm.	400 sq. in. 2580 sq. cm.	100 sq. in. 645 sq. cm.	100 sq. in. 645 sq. cm.

## Combustion Air Supply

For indoor installation, the heater location must provide sufficient air supply for proper combustion and ventilation of the surrounding area. The minimum requirements for the air supply specify that the room in which a heater is installed should be provided with two permanent air supply openings; one within 12 inches (30 cm) of the ceiling, the other within 12 inches (30 cm) of the floor for combustion air, in accordance with the latest edition of ANSI Z223.1, or the National Fuel Gas code, the CSA B149.1, Natural Gas and Propane Installation Codes, as applicable, and any local codes that may apply. These openings shall directly, or through duct, connect to outdoor air.

Note: For indoor installations where combustion air might be insufficient, see "Air Supply Requirements Guide".



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