



**Product Submittal for Raytherm® - Type P
Professional-Series Pool Heaters
Models 514-824
Indoor/Outdoor**

Date: _____ Job: _____ Location: _____

Equipment Tags: _____ Engineer: _____ Contractor: _____

Model: _____ Notes: _____

Prepared by: _____ Indoor Outdoor Gas Type: Natural Gas Propane

82% Thermal efficiency

100% Factory fire-tested

Limited twenty-year warranty against thermal shock damage

Limited five-year heat exchanger warranty

Maximum setpoint: 106°F

A floor load of 70 lbs./sq. ft. or less

Cuts fuel costs substantially because the standby and radiation losses normal to other boilers are eliminated

Proudly assembled in the USA



Indoor unit shown.





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Features and Options

Heat Exchanger

- ASME Inspected and Stamped, 160 PSIG MAWP
- National board registered
- Bronze headers
- Cupronickel finned tubing
- ASME Steel tube sheet
- Silicone high-temp O-rings
- 125 PSIG ASME pressure relief valve
- Water connections
 - Left-hand (standard)
 - A-6 Right-hand
- Unitherm governor (UG)

Controls

- 120 VAC, 60 Hz, 1 Ph power supply
- 120/24 V Transformer
- 100% Pilot shutoff/lockout
- Electronic, intermittent ignition device (IID) pilot
- High limit, auto reset, fixed, 135°F
- High limit, auto reset, fixed, 140°F
- On/Off power switch
- Poolstat, 66-106°F

Gas Train

- Manual main gas shutoff cock
- Main gas pressure regulator
- Redundant safety shutoff valve
- Control valve
- Firing mode - on/off
- Fuel (Left-hand connection)
 - Natural gas
 - Propane gas (minimum grade HD-5)

Construction

- Enclosed front controls
- Indoor/outdoor construction
- Stainless steel burners
- PolyTuf powder-coat finish
- Design Certified ANSI Z21.56/CSA 4.7

Vent selection

- D-2 Power vent, loose (indoor, cat III)
(see catalog # 1000.70)
- D-10 Drafthood (indoor), cat I
- D-11 Stackless top (outdoor)

Base (optional)

- J-1 Combustible floor shield

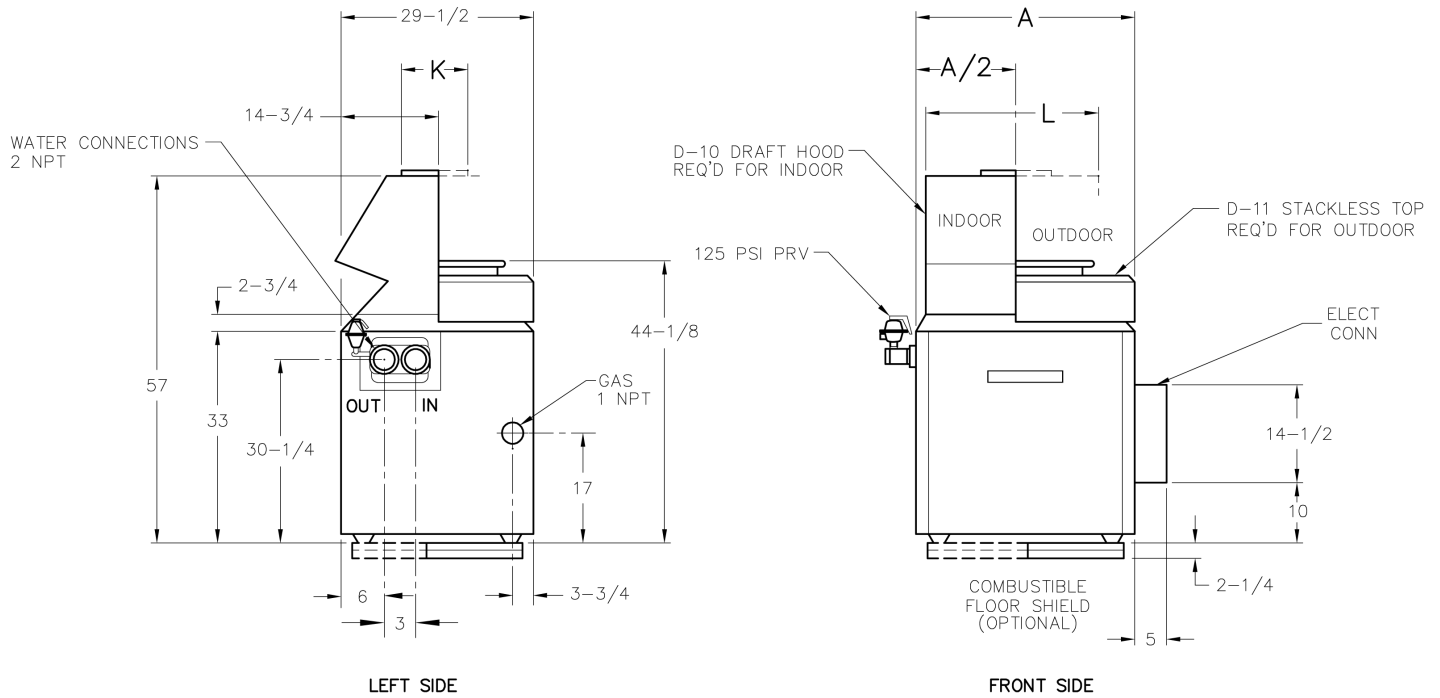
Additional Safety Controls

- C-5 Latching lockout module (CSD-1)
- E-4 Alarm package
 - 3" bell
 - 4" bell
- F-1 Flow switch on outlet
- F-9 Low water cut-off
- I-6 Temp control, 100°F max
- M-1 Safety valve, motorized
- M-10 Safety valve, solenoid
- S-1 Low gas pressure switch, manual reset
- S-2 High gas pressure switch, manual reset
- Z-7 T&P gauge
- _____
- _____

Regulatory Agency Requirements

- G-1 CSD-1 (factory mtd)
Exempt from CSD-1 as of 2004 edition
- G-15 CSD-1 field upgrade kit

Job: _____



The Unitherm Governor is a patented 3-way valve built into the inlet header, which automatically maintains the water entering the heat exchanger at the precise temperature needed to prevent condensation and scale.

Model No.	MBTUH Nat (x1000)* (kWh)		Dimensions - Inches (mm)			Approx. Shipping Weight lbs. (kg)	Amp Draw
	MBTU Input	MBTU Output	Width A	Flue Dia. K	Bell L		
P-514	511.5 (149)	419.4 (122)	32-3/4 (832)	10 (254)	25-3/8 (644)	405 (184)	<4
P-624	627.0 (183)	514.0 (150)	37-1/2 (952)	12 (305)	29-1/2 (749)	425 (192)	
P-724	726.0 (212)	595.0 (174)	41-5/8 (1057)	12 (305)	34-1/4 (869)	460 (208)	
P-824	825.0 (241)	676.5 (198)	45-3/4 (1162)	14 (355)	38-1/2 (977)	495 (224)	

Ratings shown are for natural gas at elevations up to 2,000 feet. For elevations over 2,000 feet, reduce ratings at the rate of 4% for each 1,000 feet above sea level.

* For propane ratings, multiply natural gas values by 0.94.

Model No.	Min. Flow GPM (LPM)	Max. Flow GPM (LPM)
P-514	60 (227)	120 (454)
P-624		
P-724		
P-824		

Size piping for max. flow and adjust flow to obtain 120°F outlet temperature.