

Job: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Contractor: \_\_\_\_\_  
 Prepared By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Model: \_\_\_\_\_ Indoor/Outdoor: \_\_\_\_\_

# Raytherm<sup>®</sup> - Type H

Hydronic Heating Boilers  
 Commercial

Models 514-824

## Efficient

- ▶ 82% thermal efficiency

## Thermal shock proof

- ▶ Limited 25-year thermal shock warranty

## Lightweight

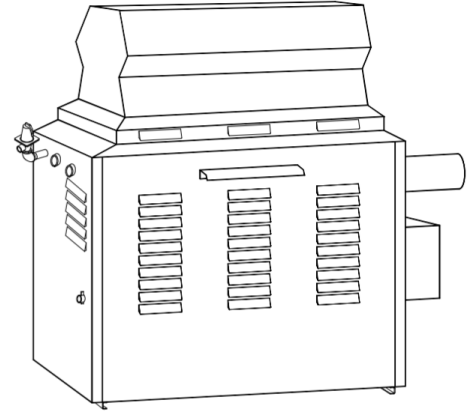
- ▶ A floor load of 70 lbs./sq. ft. or less

## Dependable

- ▶ The simple atmospheric design provides a low cost and long life solution.

## Low water operating temperature

- ▶ Operates with inlet water temperature as low as 105°F without condensing



Proudly Assembled in the USA

## Heat exchanger

- ASME H stamped; 160 PSIG MAWP
- National Board
- Headers
  - Glass-lined cast iron (standard)
  - A-1 Bronze (optional)
- Finned tubing
  - Copper (standard)
  - A-3 Cupronickel (optional)
- ASME Steel tube sheet
- Silicone O-Rings
- Pressure relief valve
  - ASME 60 PSIG (standard)
  - \_\_\_\_\_ PSIG (optional)
- T&P Gauge
- Water connections
  - Left hand (standard)
  - A-6 Right hand (optional)
- Pump ½ HP, rear-mounted
  - 4.25" Impeller
  - 4.7" Impeller

## Controls

- 120V, 60Hz, 1 Ph Power supply
- 120/24V Transformer
- 100% Pilot shut-off/lockout
- Electronic, Intermittent Ignition (IID) Pilot
- High limit control, manual reset
- On/Off switch
- Flow switch
- Economaster pump time delay

## Gas train

- Manual main gas shut-off cock
- Main gas pressure regulator
- Redundant safety shut-off valve
- Control valve
- Firing mode
  - H-1 Mechanical modulation, 150-210°F
  - H-3 Two-stage Firing
  - H-4 On/off
  - H-5 Mechanical modulation, 110-170°F
  - H-9 Four-stage firing
- Fuel
  - Natural gas
  - Propane gas (minimum grade HD-5)
- Design Certified ANSI Z21.13/CSA 4.9

## Construction

- CSA Low lead certified ≤ .25% Lead
- Front controls
- Stainless steel burners
- Polytuf powder coat finish
- Vent Selection
  - D-1 Indoor power vent, Mtd
  - D-2 Indoor power vent, loose
  - D-10 Indoor draft diverter
  - D-11 Outdoor stackless top
- Base (optional)
  - J-1 Combustible floor shield

## Temperature controllers

Note: H1 and H5 require an on/off system controller

- B-6 Two-stage-mechanical
- B-\_\_\_\_ Two-stage digital
- B-\_\_\_\_ Four-stage digital
- B-60 Stage interface
- B-\_\_\_\_ TempTracker Mod+ Hybrid 2-16 Boilers

## Additional safety controls

- F-9 Low water cut-off probe
- I-1 High limit control, auto reset
- S-1 Low gas pressure switch
- S-2 High gas pressure switch
- \_\_\_\_\_
- \_\_\_\_\_

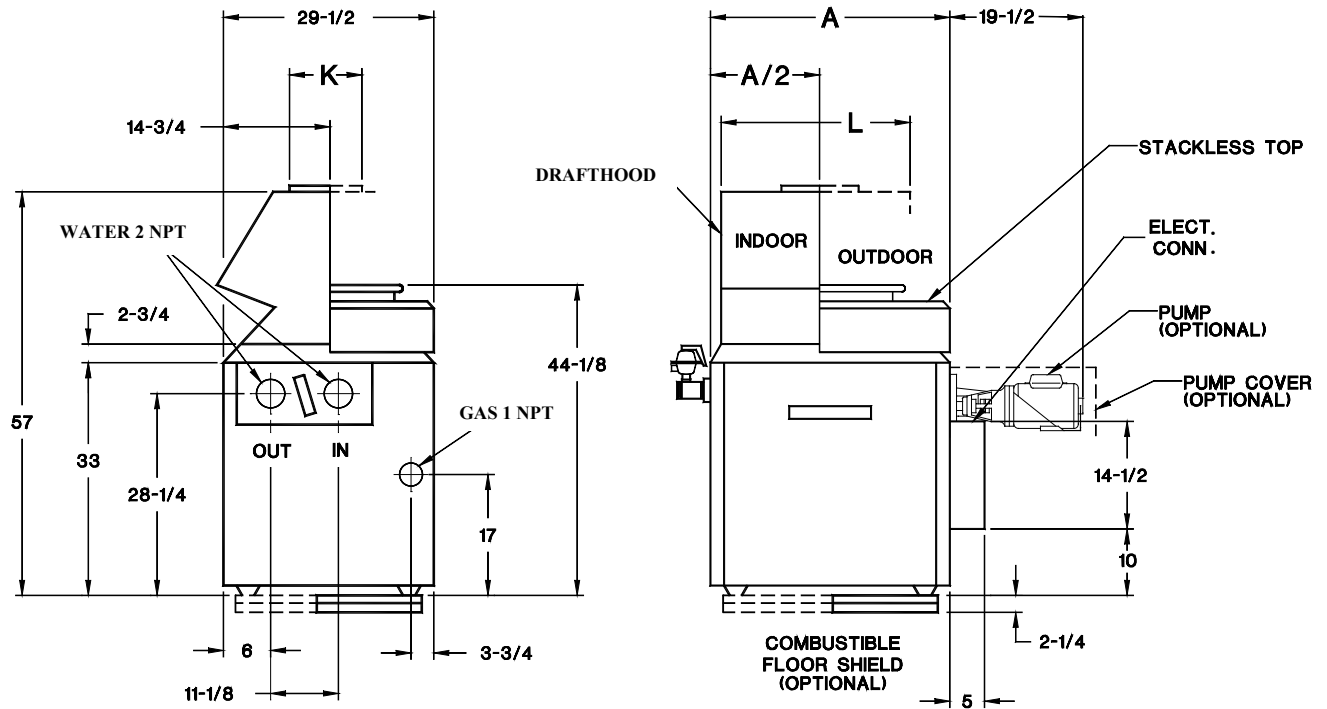
## Regulatory agency requirements

- \_\_\_\_\_
- \_\_\_\_\_



# Raytherm - Type H Hydronic Heating Boilers

Model \_\_\_\_\_



MODELS H 514-824

Model Number	Natural Gas		Propane		Dimensions in. (mm)			Electrical Rating		Ship Weight (Lbs.)
	MBTU Input (kW)	MBTU Output (kW)	MBTU Input (kW)	MBTU Output (kW)	Width A	Flue Dia. K	L	With Pump	Without Pump	
H-514	511.5 (150)	419.4 (123)	481 (141)	394.4 (116)	32-3/4 (832)	10 (254)	25-3/8 (645)	Less than 12 amps @ 120 V	Less than 4 amps @ 120V	455
H-624	627 (184)	514.2 (151)	589 (173)	483 (142)	37-1/2 (952)	12 (305)	29-1/2 (749)			465
H-724	726 (213)	595.3 (174)	682 (200)	559.2 (164)	41-5/8 (1057)	12 (305)	34-1/4 (870)			575
H-824	825 (242)	676.5 (198)	775 (227)	635.5 (186)	45-3/4 (1162)	14 (356)	38-1/2 (978)			605

### Boiler rate of flow and pressure drop

Model No.	10° ΔT		20° ΔT		30° ΔT		Minimum Flow			Maximum Flow		
	GPM	ΔP FT	GPM	ΔP FT	GPM	ΔP FT	GPM	ΔP (ft)	ΔT	GPM	ΔP (ft)	ΔT
H-514	84	7.8	42	1.9	N/A	N/A	40	1.8	21	90	9	9
H-624	N/A	N/A	52	3.0	N/A	N/A	40	1.9	26	90	9.5	12
H-724	N/A	N/A	60	4.4	40	2.0	40	2.0	30	90	10	13
H-824	N/A	N/A	68	6.0	46	2.8	40	2.1	34	90	10.5	15

N/A – Not Applicable