

Job: _____
 Engineer: _____
 Contractor: _____
 Prepared By: _____ Date: _____
 Model: _____ Indoor/Outdoor: _____

Raytherm® - Type WH

Water Heaters
 Commercial
 Models 514-824

Efficient

- ▶ 82% thermal efficiency

Thermal shock proof

- ▶ Limited 25-year thermal shock warranty

Lightweight

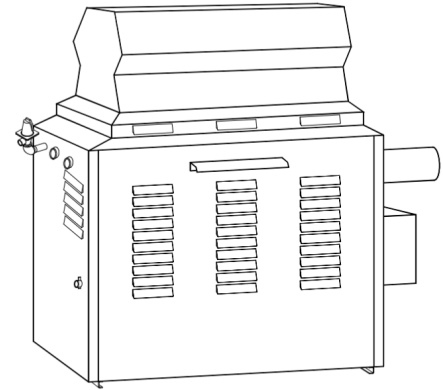
- ▶ A floor load of 70 lbs./sq. ft. or less

Dependable

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

Low water operating temperature

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



Proudly Assembled in the USA

Heat Exchanger

- ASME HLW Stamped; 160 PSIG MAWP
- National Board
- Headers
 - Bronze (standard)
 - A-2 Glass-lined cast iron (optional)
- Fin Tubing
 - Copper (standard)
 - A-3 Cupronickel (optional)
- ASME steel tube sheet
- Silicone O-Rings
- ASME Pressure relief valve
 - 125 PSIG (standard)
 - 150 PSIG (optional)
- T&P Gauge
- Water connections
 - Left hand (standard)
 - A-6 Right hand (optional)
- Two-pass flow configuration
- Pump (optional)
 - Mounted, 1/2 HP, 120 VAC, 1Ø, 60 Hz

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 – 200°F
- On/off switch
- Flow switch
- Economaster II pump time delay

Gas control train

- Manual main gas shut-off cock
- Main gas pressure regulator
- Redundant safety shut-off valve
- Control valve
- Firing mode
 - WH-1 On/off
 - WH-2 Mechanical modulation (110 - 170°F Outlet)
 - WH-3 2-stage firing
- Fuel
 - Natural gas
 - Propane gas (minimum grade HD-5)

Construction

- Front controls
- Stainless steel burners
- PolyTuf powder coat finish
- Design certified ANSI Z21.10.3/ CSA 4.3
- CSA Low lead certified ≤ .25% Lead
- Vent selection
 - D-2 Power vent, loose
 - D-10 Draffhood (indoor)
 - D-11 Stackless top (outdoor)
- Base (optional)
 - J-1 Combustible floor shield

Temperature controls

- B-2 Single-stage tankstat (100-180°F)
- B-3 2-Stage tankstat (100-180°F)
- B-21 4-Stage digital (WH-3 only)
- B-26 2-Stage digital

Additional safety controls

- F-9 Low water cut-off probe
- I-3 High limit control, auto reset, 180°F
- S-1 Low gas pressure switch, manual
- S-2 High gas pressure switch, manual
- _____
- _____

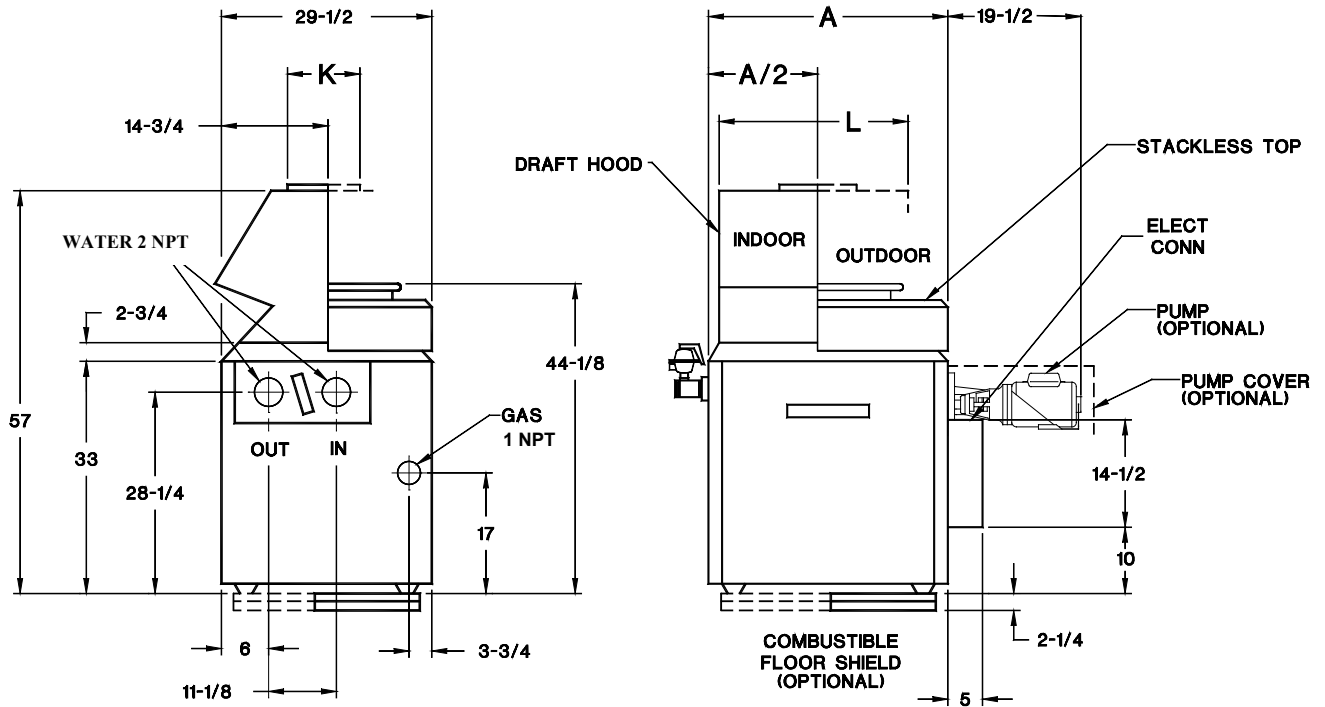
Regulatory agency requirements

- CSD-1 Safety controls
- _____
- _____



Raytherm - Type WH Models 514-824

Model _____



Model No.	Natural Gas MBTUH (kW)		Propane MBTUH (kW)		Dimensions In. (mm)			Electrical Rating (Amps)		Ship Weight (Lbs.)	
	Input	Output	Input	Output	Width A	Flue Dia. K	L	W/O Pump	W/ Pump	Less Pump	W/ Pump
<input type="checkbox"/> WH - 514	511.5 (150)	419.4 (123)	481 (141)	394.4 (116)	32-3/4 (832)	10 (254)	25-3/8 (645)	< 4	< 12	475	530
<input type="checkbox"/> WH - 624	627 (184)	514.2 (151)	589 (173)	483 (142)	37-1/2 (952)	12 (305)	29-1/2 (749)			485	540
<input type="checkbox"/> WH - 724	726 (213)	595.3 (174)	682 (200)	559.2 (164)	41-5/8 (1057)	12 (305)	34-1/4 (870)			635	690
<input type="checkbox"/> WH - 824	825 (242)	676.5 (198)	775 (227)	635.5 (186)	45-3/4 (1162)	14 (356)	38-1/2 (978)			645	700

NOTE: Ratings shown are for 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.

HEATER RATES OF FLOW AND PRESSURE DROPS

Model No.	20° ΔT		30° ΔT		40° ΔT	
	GPM	ΔP (ft)	GPM	ΔP (ft)	GPM	ΔP (ft)
<input type="checkbox"/> WH - 514	42	1.9	N/A	N/A	N/A	N/A
<input type="checkbox"/> WH - 624	51	3.0	N/A	N/A	N/A	N/A
<input type="checkbox"/> WH - 724	60	4.4	40	2.0	N/A	N/A
<input type="checkbox"/> WH - 824	68	6.0	45	2.6	N/A	N/A

N/A – Not Applicable
At first usage: Grains per gallon (GPG)

HEATER RECOVERY RATES

Model No.	Temperature Rise						
	20°F	30°F	40°F	50°F	60°F	80°F	100°F
	Gallons Per Hour						
<input type="checkbox"/> WH - 514	2541	1695	1271	1016	847	635	508
<input type="checkbox"/> WH - 624	3115	2077	1558	1246	1038	779	623
<input type="checkbox"/> WH - 724	3606	2404	1803	1442	1202	902	721
<input type="checkbox"/> WH - 824	4100	2733	2050	1640	1367	1025	820

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