

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

Raytherm® - Type WH

Water Heaters
 Commercial
 Models 514-824

EFFICIENT

- 82% thermal efficiency – highest of any atmospheric water heater available today

THERMAL SHOCK PROOF

- Twenty-year warranty against thermal shock damage up to 150°F differential
- Maximum outlet temperature: 210°F

LIGHTWEIGHT

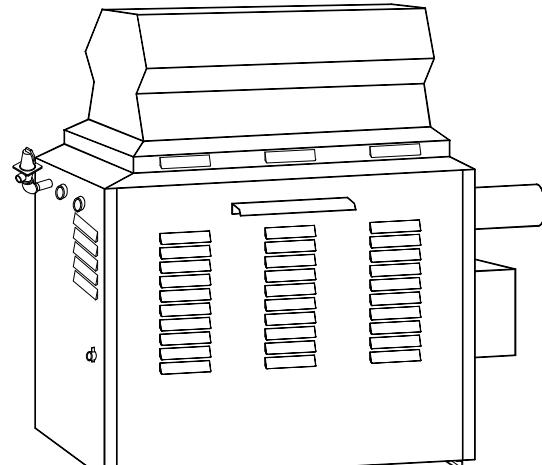
- A floor load of 70 lbs./sq. ft. or less

HIGH RECOVERY

- Cuts fuel costs substantially because the standby and radiation losses associated with tank-type water heaters are eliminated

LOW WATER OPERATING TEMPERATURE

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



Proudly Assembled in the USA

Heat Exchanger

- ASME Inspected and Stamped 160 PSIG
- National Board Approved
- Headers
 - Bronze – Standard
 - A-2 Glass-lined Cast Iron
- Fin Tubing
 - Copper – Standard
 - A-3 Cupro-Nickel
- ASME Steel Tube Sheet
- Silicone O-Rings
- ASME Pressure Relief Valve 125 PSIG – Standard
 - 150 PSIG – Optional
- Temperature and Pressure Gauge
- Water Connections
 - Left Hand – Standard
 - A-6 Right Hand
- 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
 - On/Off (WH1)
 - 2-stage Firing (WH3)
 - Mechanical Modulation (WH2) (110 - 170°F Outlet)
- Fuel
 - Natural Gas
 - Propane Gas

Construction

- Front Controls
- Stainless Steel Burners
- PolyTuf Powder Coat Finish
- Design Certified ANSI Z21.10.3/ CSA 4.3
- CSA Low Lead Certified \leq .25% Lead
- Vent Selection
 - D-10 Drafthood (Indoor)
 - D-2 Power Vent, Loose
 - 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-26 2-Stage Digital
- B-21 4-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

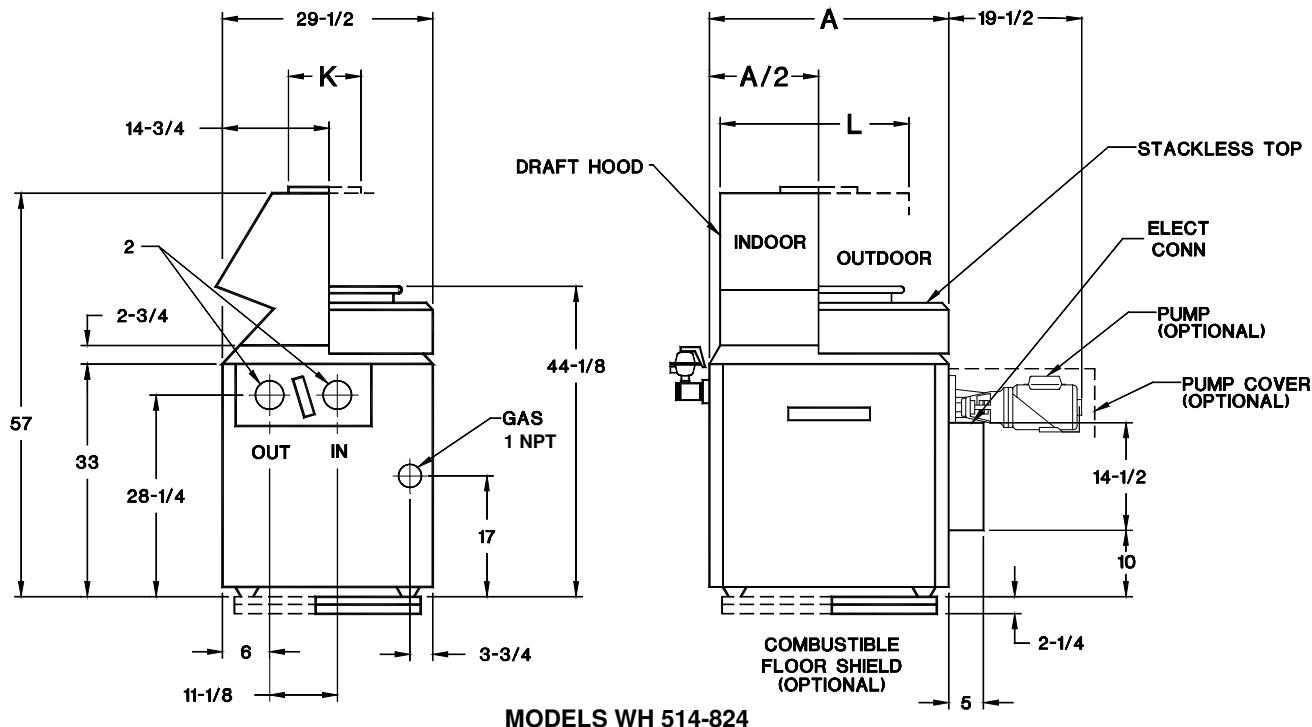
- CSD-1 Safety Controls
- _____



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Model _____



Model No.	Indoor		Outdoor		Dimensions (Inches)			Electrical Rating (Amps)		Shipping Weight (Lbs.) - Approx.	
	MBTUH Input	MBTUH Output	MBTUH Input	MBTUH Output	Width A	Flue Dia. K	L	W/O Pump	W/ Pump	Less Pump	W/ Pump
<input type="checkbox"/> WH - 514	511.5	419.4	511.5	419.4	32-3/4	10	25-3/8	< 4	< 12	475	530
<input type="checkbox"/> WH - 624	627.0	514.0	627.0	514.0	37-1/2	12	29-1/2			485	540
<input type="checkbox"/> WH - 724	726.0	595.0	726.0	595.0	41-5/8	12	34-1/4			635	690
<input type="checkbox"/> WH - 824	825.0	676.5	825.0	676.5	45-3/4	14	38-1/2			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

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