

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

# Raytherm® - Type WH

Water Heaters  
Commercial

Models 181-401 **Low NOx**

## LOW NOx

- ▶ Less than 40 nanograms per joule

## 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 operating temperature: 210°F

## LIGHTWEIGHT

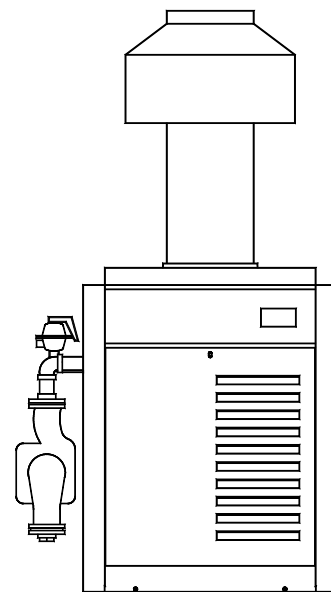
- ▶ A floor load of 70 lbs./sq. ft. or less

## HIGH RECOVERY

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

## LOW WATER OPERATING TEMPERATURE

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



Indoor Model Illustrated

### Heat Exchanger

- ASME Inspected and Stamped 160 PSIG
- National Board Approved
- Headers
  - ☐ Bronze – Standard
  - ☐ Glass-lined Cast Iron – Option A-2
- Finned Tubing
  - ☐ Copper – Standard
  - ☐ Cupro Nickel – Option A-3
- ASME Steel Tube Sheet
- Silicone O-Rings
- 125 PSIG ASME Pressure Relief Valve
- Temperature and Pressure Gauge, Shipped Loose
- Water Connections
  - ☐ Left Hand – Standard
  - ☐ Right Hand – Option A-6
- Two-pass Flow Configuration
- Pump – Optional
  - ☐ Mounted, 1/8 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

### Controls (cont'd)

- High Limit Control, Manual Reset – 200°F
- On/Off Switch
- Flow Switch
- Economaster II Pump Time Delay

### Gas Control Train

- Natural Gas
- 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)
- Design Certified ANSI Z21.10.3/CSA 4.3

### Construction

- Front Controls
- Stainless Steel, Fan-assisted Burners
- PolyTuf Powder Coat Finish
- Vent Selection
  - ☐ Indoor Drafthood – Option D-10
  - ☐ Outdoor Stackless Top – Option D-11
- Base – Optional
  - ☐ Combustible Floor Shield – Option J-1

### Temperature Controls

- ☐ B-2 Single-Stage Tankstat (100-180°F)
- ☐ B-3 2-Stage Tankstat (100-180°F)
- ☐ Y-241 Electronic Sequencer, 1-4 Stages
- ☐ Y-281 Electronic Sequencer, 1-8 Stages

### 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
- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_



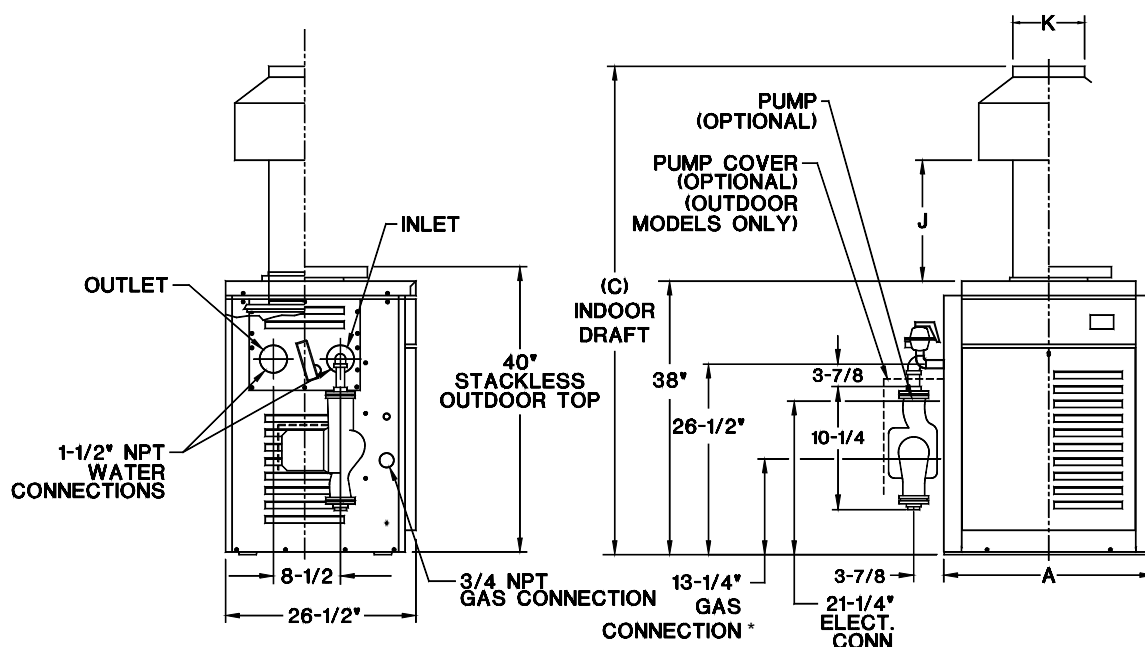
**Raypak®**  
A Rheem® Company

# Raytherm - Type WH

## Models 181-401

Low NOx

Model \_\_\_\_\_



Model No.	MBTUH Input	MBTUH Output	Dimensions (Inches)				Shipping Weight (Lbs.) – Approx.	
			Width A	Height C	J	Flue Dia. K	No Pump	w/ Pump
WH-181*	181	148	18-1/4	62-5/8	12-1/16	6	191	221
WH-261	264	216	22-3/8	62-7/8	11-1/8	7	214	244
WH-331	334	274	25-3/4	63-3/4	10-3/4	8	234	264
WH-401*	399	327	29-1/4	65-3/8	12-1/2	9	253	283

- \* Exceptions on WH3 (2-stage-fired) models:  
 - Model WH3-181 has an 18-1/4" gas connection  
 - Model WH3-401 has 375 MBTUH Input and 308 MBTUH Output

### HEATER RATES OF FLOW AND PRESSURE DROPS

Model No.	10° ΔT		20° ΔT		30° ΔT		40° ΔT	
	GPM	ΔP (ft)	GPM	ΔP (ft)	GPM	ΔP (ft)	GPM	ΔP (ft)
WH-181	30	4.2	N/A	N/A	N/A	N/A	N/A	N/A
WH-261	43	8.5	22	2.2	N/A	N/A	N/A	N/A
WH-331	N/A	N/A	27	3.4	N/A	N/A	N/A	N/A
WH-401	N/A	N/A	33	5.2	22	2.3	N/A	N/A

N/A – Not Applicable

### HEATER RECOVERY RATES

Model No.	Temperature Rise							
	10°F	20°F	30°F	40°F	50°F	60°F	80°F	100°F
Gallons Per Hour								
WH-181	1794	897	598	448	359	299	224	179
WH-261	2618	1309	873	655	524	436	327	262
WH-331	3321	1661	1107	830	664	554	415	332
WH-401	3964	1982	1321	991	793	661	495	396

NOTE: Ratings shown are for elevations up to 5,000 feet for indoor or outdoor installations.  
 For elevations over 5,000 feet, contact manufacturer.