Job:	
Engineer:	
Contractor:	
Prepared By:	Date:
Model:	Outdoor

# Raytherm® - Type H

Hydronic Heating Boilers Models 182-400 - Outdoor

#### **EFFICIENT**

 82% thermal efficiency – highest of any atmospheric boiler available today

#### THERMAL SHOCK PROOF

- Twenty-year warranty against thermal shock damage up to 150°F differential
- Maximum operating temperature: 230°F

#### LIGHTWEIGHT

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

#### **HIGH RECOVERY**

 Cuts fuel costs substantially because the standby and radiation losses normal to other boilers and tank-type water heaters are eliminated

#### LOW WATER OPERATING TEMPERATURE

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

#### **Heat Exchanger**

- ASME Inspected and Stamped 160 PSIG
- National Board Approved
- Headers
  - ☐ Cast Iron Glass-lined Standard☐ Bronze Option A-1
- Finned Tubing
  - ☐ Copper Standard
    ☐ Cupro Nickel Option A-3
- ASME Steel Tube Sheet
- Silicone O-Rings
- 45 PSIG ASME Pressure Relief Valve
- Temperature and Pressure Gauge, Shipped Loose
- Water Connections
  - ☐ Left Hand Standard ☐ Right Hand Option A-6
- Flow Configuration Two-pass
- Pump Optional
  - ☐ Mounted, 1/8 HP, 120 Volt, 1∅, 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
- 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 (H4)
  - ☐ Two-stage Firing (H3)
  - ☐ Mechanical Modulation,
    - 110-170°F (H5)
  - ☐ Mechanical Modulation,
    - 150-210°F (H1)
- Fuel
- ☐ Natural Gas
- ☐ Propane Gas
- Design Certified ANSI Z21.13

#### Construction

- Front Controls
- Stainless Steel Burners
- Polytuf Powder Coat Finish
- Stackless Top
- Vent Selection
  - ☐ Stackless Top Option D-11
  - Power Vent, Loose Option D-2
- Base Optional
  - 8" Base Assembly Option J-2

### **Temperature Controls**

Note: H1 and H5 do not require a controller

- ☐ B-6 Two-stage 100-200°F
- ☐ Y-241 Electronic Sequencer,
  - 1-4 Stages
- ☐ Y-281 Electronic Sequencer, 1-8 Stages

## Additional Safety Controls

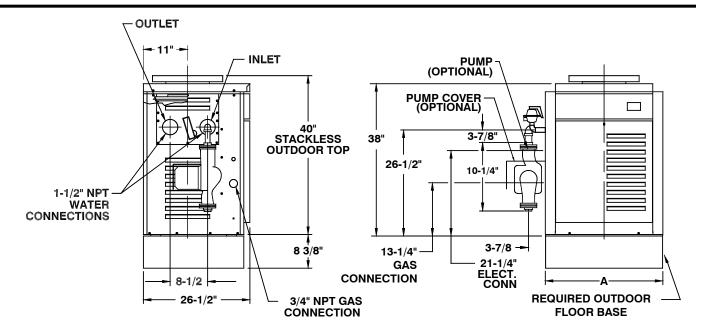
- F-10 Low Water Cut-off Probe
  I-1 High Limit Control, Auto
  - Reset, 240°F
- ☐ S-1 Low Gas Pressure Switch,
  - Manual
- S-2 High Gas Pressure Switch,
  - Manual

Regulatory	Agency	Requiremen	its





Catalog No.: 2000.206D Effective: 1-1-08 Replaces: 4-1-05



Model	MBTU	MBTU	Width	Shipping Weight (Lbs.) - Approx.	
No.	Input	Output	Α	No Pump	w/ Pump
H-182	181	145	18-1/4"	191	221
H-260	264	211	22-3/8"	214	244
H-330	334	267	25-3/4"	234	264
H-400	399	319	29-1/4"	253	283

NOTE: Ratings shown are for elevations up to 2,000 feet for indoor or outdoor installations. For elevations over 2,000 feet, reduce ratings at the rate of 4% for each 1,000 feet above sea level.

#### **BOILER RATE OF FLOW AND PRESSURE DROP**

Model	10°	ΔΤ	20° ΔΤ		30° ΔΤ		40°ΔT	
No.	GPM	ΔP FT	GPM	ΔP FT	GPM	ΔP FT	GPM	ΔP FT
H-182	30	4.2	N/A	N/A	N/A	N/A	N/A	N/A
H-260	43	8.5	22	2.2	N/A	N/A	N/A	N/A
H-330	N/A	N/A	27	3.4	N/A	N/A	N/A	N/A
H-400	N/A	N/A	33	5.2	22	2.3	N/A	N/A

N/A - Not Applicable

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