

Job: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Contractor: \_\_\_\_\_  
 Prepared By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Model: \_\_\_\_\_

# Raytherm<sup>®</sup> - Type H

Hydronic Heating Boilers  
 Commercial

Models 962-1826 (Indoor)

## Efficient

82% efficiency available today

## Thermal shock proof

▶ Limited 25-year thermal shock warranty

## Lightweight

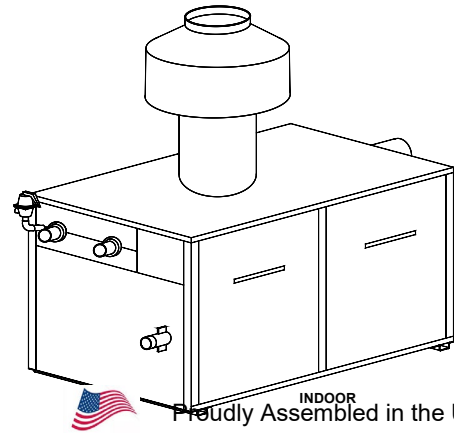
▶ A floor load of 70 lbs./sq. ft. or less

## 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



## 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)
- Flow configuration
  - Two-pass (standard)
  - Single-pass (cast iron only)
- Pump - Rear-mounted, 1/2 HP (optional)
  - 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, 240°F
- On/off switch

## Controls (cont.)

- 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-2 Power vent, loose (optional)
  - D-10 Draft diverter (optional)
- Base (optional)
  - J-1 Combustible floor shield

## Temperature controllers

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

- B-6 Two-stage mechanical (H3)
- B-\_\_\_ TempTracker Mod+ Hybrid 2-16 Boilers (All)
- B-\_\_\_ Two-stage digital (H3)
- B-\_\_\_ Four-stage digital (H9)
- B-60 Stage interface (H3/H9)

## Additional safety controls

- F-9 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
- \_\_\_\_\_
- \_\_\_\_\_

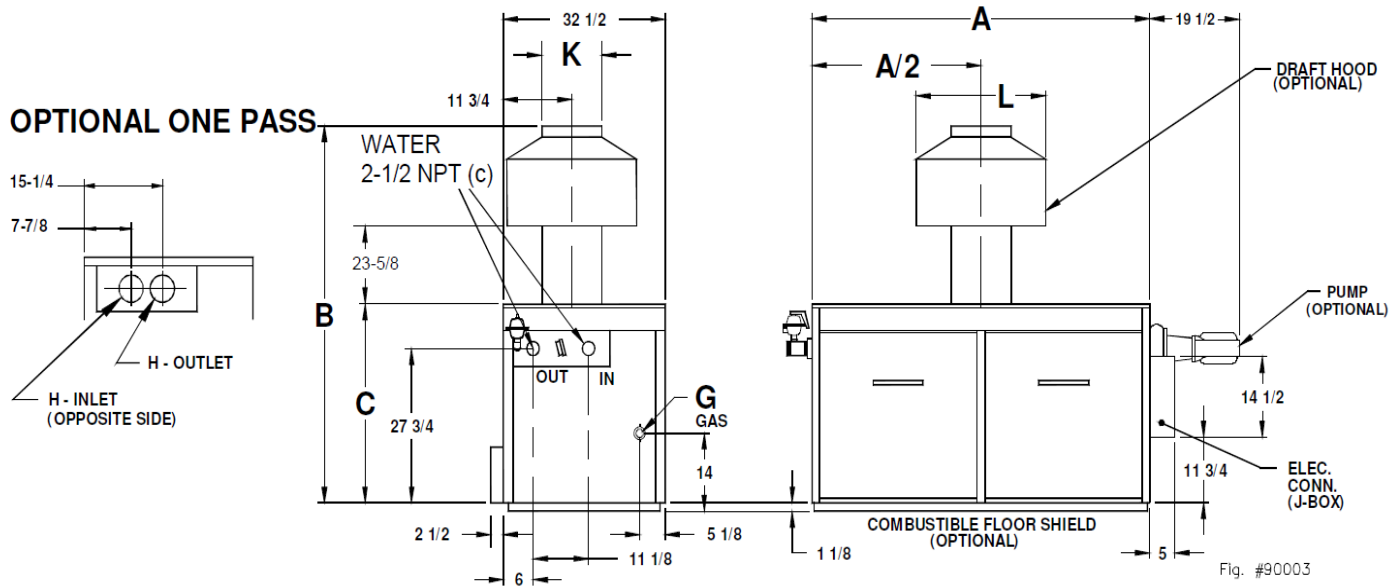
## Regulatory agency requirements

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



# Raytherm - Type H Hydronic Heating Boilers

Model \_\_\_\_\_



(c) 3" NPT on single-pass option

## Models 962 - 1826

Model	MBTUH Natural Gas (kW)		MBTUH Propane Gas (kW)		Dimensions In. (mm)						Electrical Rating		Ship Weight Lbs. (kg)
	Input	Output	Input	Output	Width A	Overall Height B	Jacket Height C	Gas Conn. G	Flue Dia. K	L	With Pump	Without Pump	
											Less than 12 amps at 120V	Less than 4 amps at 120V	
H-962	961.7 (282)	788.6 (231)	885 (259)	725.7 (213)	52-3/8 (1330)	76-1/8 (a) (1934)	33-1/2 (851)	1 (25)	14 (356)	28 (711)	Less than 12 amps at 120V	Less than 4 amps at 120V	705 (320)
H-1125	1124.7 (330)	922.3 (270)	1035 (303)	848.7 (249)	59-1/4 (1505)	76-1/8 (a) (1934)	33-1/2 (851)	1 (b) (25)	16 (406)	32 (813)			745 (338)
H-1223	1222.5 (358)	1002.5 (294)	1125 (330)	922.5 (270)	63-5/8 (1616)	76-1/8 (a) (1934)	33-1/2 (851)	1 (b) (25)	16 (406)	32 (813)			805 (368)
H-1336	1336.6 (392)	1083 (317)	1230 (360)	1008.6 (296)	68-5/8 (1743)	80-1/8 (a) (2035)	33-1/2 (851)	1-1/4 (32)	18 (457)	36 (914)			875 (397)
H-1468	1467 (430)	1203 (353)	1350 (396)	1107 (324)	74-7/8 (1902)	80-1/8 (a) (2035)	33-1/2 (851)	1-1/4 (32)	18 (457)	36 (914)			945 (429)
H-1631	1630 (478)	1336.6 (392)	1500 (440)	1230 (360)	81-1/8 (2061)	80-1/8 (a) (2035)	36-1/2 (927)	1-1/4 (32)	18 (457)	36 (914)			985 (447)
H-1826	1825.6 (535)	1497 (439)	1680 (492)	1377.6 (404)	89-3/8 (2270)	80-1/8 (a) (2035)	36-1/2 (927)	1-1/4 (32)	20 (508)	40 (1016)			1035 (469)

**NOTE:** Ratings shown are for elevations up to 2,000 ft. For elevations over 2,000, reduce ratings 4% for each 1,000 ft above sea level

(a) Add 1-1/8" to overall height for combustibile floor shield option

(b) 1" or 1-1/4" contingent on boiler type or code requirements

# Raytherm - Type H Hydronic Heating Boilers

Model \_\_\_\_\_

	Model No.	10° ΔT		20° ΔT		30° ΔT		40° ΔT		Minimum Flow			Maximum Flow				
		GPM	ΔP FT	GPM	ΔP FT	GPM	ΔP FT	GPM	ΔP FT	GPM	ΔP FT	ΔT	GPM	ΔP FT	ΔT		
TWO-PASS	H-962	Exceeds Maximum Flow		80	8.8	53	3.8	40	2.2	40	2.2	38	90	11.0	18		
	H-1125			90	12.0	61	5.5	47	3.3	45	3.1	40	90	12.0	21		
	H-1223					76	7.0	51	4.0	51	4.0	40	90	12.5	22		
	H-1336					73	8.6	55	4.9	55	4.9	40	90	13.2	25		
	H-1468					80	11.0	61	6.4	61	6.4	40	90	14.0	27		
	H-1631					90	14.8	68	8.3	68	8.3	40	90	8.3	30		
	H-1826							76	10.8	76	10.8	40	90	15.4	34		
ONE-PASS	H-962	157	6.1	Less than Minimum Flow						90	2.1	18	200	9.7	8		
	H-1125	184	8.8	92	2.3							90	2.3	20	200	10.3	9
	H-1223	200	11.0	100	2.9							90	2.4	22	200	11.0	10
	H-1336	Exceeds Maximum Flow		110	3.7							90	2.5	24	200	11.7	11
	H-1468			120	4.5							90	2.7	27	200	12.2	12
	H-1631			134	6.0							90	2.8	30	200	13.0	13
	H-1826			150	8.0	100	3.7							90	3.0	33	200

## BOILER RATE OF FLOW AND PRESSURE DROP

### NOTES:

- Values represent maximum flows and pressure drops for closed heating systems
- Maximum acceptable flow through heat exchanger tubes is 90 GPM (two-pass); 200 GPM (one-pass)
- Single-pass heat exchangers are to be used only when flow rates exceed the allowable for two-pass