



**Product Submittal for XTherm® - Type H
Heating Boilers
Models 1005A-2005A**

Date: _____ Job: _____ Location: _____
Equipment Tags: _____ Engineer: _____ Contractor: _____
Model: _____ Notes: _____
Prepared by: _____ Indoor Outdoor Gas Type: Natural Gas Propane

Stainless steel vertical fire-tube construction with versatile and adaptive controls.

- 96% Thermal efficiency at full rate
- 100% Factory fire-tested
- VERSA IC® modulating controller with 7" color touchscreen display
- Raymote™ remote connectivity provided standard
- Full electronic modulation, constant ratio 7:1 turndown
- Full safety diagnostics with history
- Status display lights
- Cascade up to 8 heaters – no external sequencer required
- Cascade in parallel or sequential modulation modes
- Modbus RTU BMS port
- Maximum outlet water temperature: 235°F (112°C)
- Minimum inlet water temperature: 50°F (10°C)
- Limited 25-year thermal shock warranty
- Limited 10-year primary heat exchanger warranty
- Limited 10-year secondary heat exchanger warranty
- SCAQMD Rule 1146.2 certified, Ultra-Low NOx < 20 ppm
- Primary/secondary plumbing mandatory for proper operation
- Proudly assembled in the USA



Job: _____

Features and Options
Heat Exchanger

- Headers
 - Cast Iron (standard)
 - A-1 bronze (optional)
- ASME H Stamped, 160 PSIG MAWP
- National board registered
- Fin tubing
 - Copper (standard)
 - A-3 Cupronickel
- ASME Powder-coated tube sheet
- Silicone high-temp O-rings
- ASME Pressure relief valve
 - 60 PSIG (standard)
 - ____ PSIG (optional)
- Manual air bleed
- T&P gauge
- Secondary stainless steel condensing heat exchanger – U stamped
- Stainless steel evaporator plate
- Boiler pump: 120V, 1Ø, 60Hz;
 - Cast iron (standard)
 - Bronze (optional)

Power

- 120V, 60Hz, 1Ø, power supply
- 120/24V, 60Hz, transformer

Control

- VERSA IC® built-in controller
- 7" (178 mm) color HD touchscreen display
- Raymote™ Wi-Fi remote connectivity
- Cascade up to 8 Boilers
- Parallel and sequential modulation cascade modes
- Cascade interstage delay settings
- Ignition module
 - 3-Try (standard)
 - C-6 Single-try
- Remote flame sensor
- Fixed high limit, manual reset, 240°F
- On/off power switch
- Flow switch
- Blocked vent pressure switch

- Freeze protection
- Alarm dry contact
- Pump outputs boiler pump
 - DHW indirect
 - System
- Programmable pump time delays
- Modulating temperature control; 7:1 turndown
- Water temperature sensors 10kΩ (2 mtd, 3 loose, 1 well)
- Cold water protection – built-in
- Blocked condensate switch
- Modbus RTU BMS port (up to 115K baud rate, see cat. no. 5000.73)
 - B-85 BMS Gateway, Modbus RTU to Modbus TCP, N2 Metasys, BACnet IP, or BACnet MS/TP
 - B-86 BMS Gateway, Modbus RTU to LonWorks

Burner

- Hot surface ignition (HSI)
- Radially-fired knitted burner

Gas train

- Fuel
 - Natural gas
 - Propane (minimum grade HD-5)
- Dual-seat combination valve
- Manual shutoff firing valve

Construction

- Indoor/outdoor construction
- Enclosed front controls
- PolyTuf powder coat finish
- Rear connections (water, gas, vent, electrical, combustion air, condensate drain)
- Combustion air filter
- Design certified ANSI Z21.13/CSA 4.9
- Front connection low-voltage wiring

Venting, cat IV

- D-11 Vent termination, outdoor
- D-15 Vent termination, sidewall
- D-18 Adapter, boiler vent
- D-19 Adapter, flue termination
- D-23 Outdoor vent supports
- D-32 Adapter, PVC vent (Includes 162°F/72.2°C manual vent limit) (factory-installed only)

- D-33 Adapter, Centrotherm™ polypro vent (Includes 180°F manual vent limit) (shipped loose)
- D-37 Motorized combustion air damper

Options

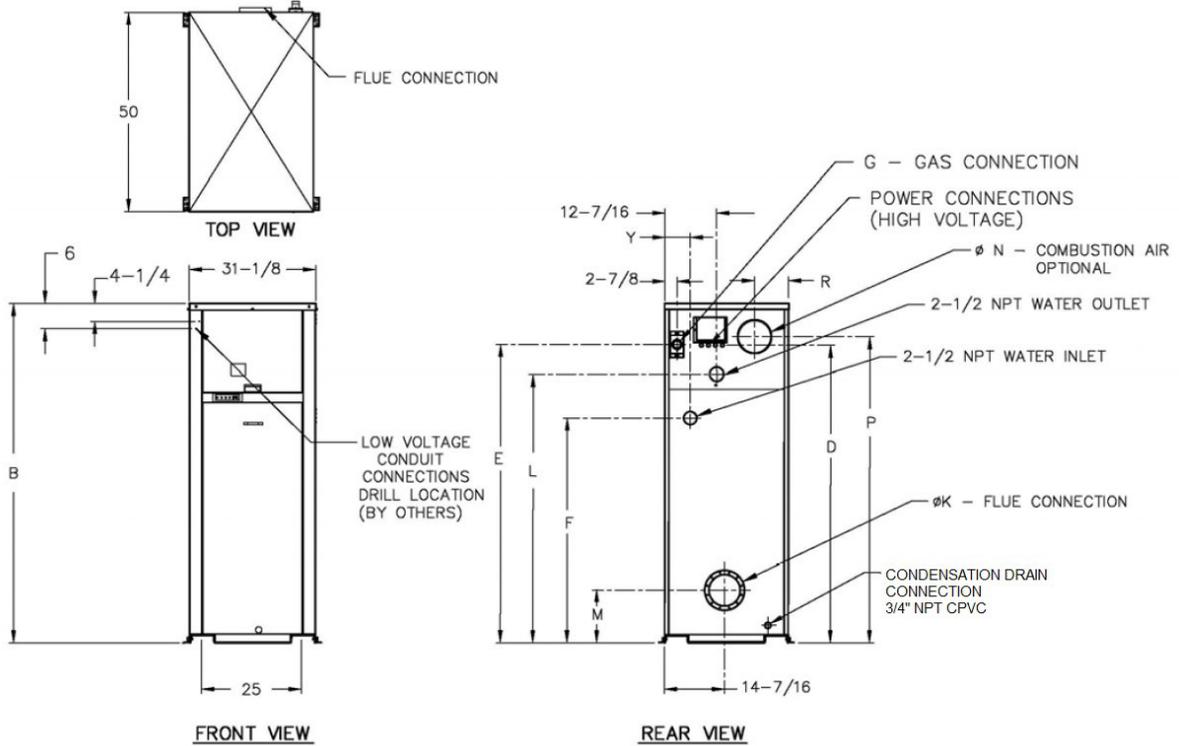
- B-31 Sensor well assembly
- B-32 Outdoor air sensor
- B-65 Indirect tank Aquastat control
- E-5 Boiler alarm with 4" bell
- E-15 Boiler alarm with buzzer
- F-10 Low water cut-off, remote probe
- I-1 High limit, auto reset, adj. 240°F max
- I-2 High limit, manual reset, adj. 240°F max
- I-5 High limit, manual reset, 200°F max
- I-13 High limit, auto reset, 200°F max
- M-1 Safety valve, motorized
- M-10 Safety valve, solenoid
- M-15 Safety valve, vent (requires M-1 or M-10)
- S-1 Low gas pressure switch, manual reset
- S-2 High gas pressure
- Z-4 T&P relief valve
- Z-9 Thermometer
- Z-12 Condensate treatment kit

Additional options or accessories

Multi-boiler digital temp controllers

- B-36 TempTracker Mod+ Hybrid, 2-4 boilers, OA Reset
- B-37 TempTracker Mod+ Hybrid, 5-10 boilers, OA Reset
- B-38 TempTracker Mod+ Hybrid, 11-16 boilers, OA Reset
- B-39* EMS 4-20 mA remote setpoint interface module
- B-62* BACnet MS/TP interface module (*requires B-36 to B-38)

Job: _____



NOTE: Primary/Secondary plumbing is mandatory for proper operation.

| Model | MBTUH (kW/h) | | Dimensions - inches (mm) | | | | | | | | | | | | Ship Weight Lbs. (Kg) |
|--------------------------------|--------------|------------|--------------------------|-----------|----------------|--------------|------------|----------|----------------|--------------|---------|----------------|--------------|--------------|-----------------------|
| | Input | Output | B Height | D | E | F | G* NPT | K Flue Ø | L | M | N C/A Ø | P | R | Y | |
| <input type="checkbox"/> 1005A | 999 (293) | 959 (281) | 55-1/4 (1403) | 45 (1143) | 47-1/8 (1197) | 36-1/2 (927) | 1-1/4 (32) | 6 (152) | 40-1/16 (1018) | 11-1/2 (292) | 6 (152) | 47-1/8 (1197) | 8-1/16 (205) | 6-1/16 (154) | 1065 (483) |
| <input type="checkbox"/> 1505A | 1500 (440) | 1440 (422) | 67-1/8 (1704) | 57 (1448) | 59-1/16 (1500) | 38-1/2 (978) | 1-1/4 (32) | 8 (203) | 52-1/16 (1322) | 12-5/8 (321) | 8 (203) | 59-1/16 (1500) | 8-3/16 (208) | 6-1/16 (154) | 1234 (560) |
| <input type="checkbox"/> 2005A | 1999 (586) | 1919 (562) | 81-1/8 (2060) | 71 (1803) | 71-3/16 (1808) | 38-1/2 (978) | 2 (50) | 8 (203) | 64-1/16 (1627) | 12-5/8 (321) | 8 (203) | 73-1/8 (1857) | 8-3/16 (208) | 6-1/4 (159) | 1461 (663) |

Note: Ratings shown are for elevations up to 4,500 ft. De-rate above 4,500 ft; consult factory. No hardware changes below 10,000 ft.

*For Propane Gas, all models are 1" NPT.

| CLEARANCES | | |
|-------------|---|------------------------------------|
| Heater Side | Minimum Clearances from Combustible Surfaces in. (mm) | Minimum Service Clearance in. (mm) |
| Front | 24 (610) | 24 (610) |
| Rear | 12 (305) | 36 (914) |
| Right Side | 1 (25) | 24 (610) |
| Left Side | 1 (25) | 1 (25) |
| Top | 1 (25) | 0 |
| Floor | 0 | 0 |
| Vent | 1 (25) | N/A |

| Model | Amp Draw | |
|--------------------------------|----------|-------|
| | Boiler* | Pump* |
| <input type="checkbox"/> 1005A | 12** | 10 |
| <input type="checkbox"/> 1505A | | 14 |
| <input type="checkbox"/> 2005A | 18** | 17 |

*Separate power connections are factory-supplied and separate supply breakers must be field-supplied.

** Current draw is for boiler only (Supply breaker must have delayed trip).



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| Rates of Flow and Pressure Drops | | | | | | | | | |
|----------------------------------|-----------------------------|--------------------------------|--------------------|-----------------------------|--------------------------------|--------------------|-----------------------------|--------------------------------|--------------------|
| System Return Temp °F | Model 1005A | | | Model 1505A | | | Model 2005A | | |
| | Supply Temp ¹ °F | Minimum Pipe Size ² | | Supply Temp ¹ °F | Minimum Pipe Size ² | | Supply Temp ¹ °F | Minimum Pipe Size ² | |
| | | <80' eq | 80-200' eq | | <80' eq | 80-200' eq | | <80' eq | 80-200' eq |
| 60 | 147 | 2" (51 mm) NPT | 2-1/2" (63 mm) NPT | 147 | 2" (51 mm) NPT | 2-1/2" (63 mm) NPT | 147 | 2" (51 mm) NPT | 2-1/2" (63 mm) NPT |
| 80 | 147 | 2" (51 mm) NPT | 2-1/2" (63 mm) NPT | 147 | 2" (51 mm) NPT | 2-1/2" (63 mm) NPT | 147 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT |
| 100 | 147 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT | 147 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT | 147 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT |
| 120 | 145 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT | 158 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT | 170 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT |
| 140 | 165 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT | 158 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT | 190 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT |
| 160 | 185 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT | 198 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT | 210 | 2-1/2" (63 mm) NPT | 3" (76 mm) NPT |

¹ – Approximate high fire heater outlet temperature based on the standard heater pump and recommended connecting pipe size.

² – Minimum pipe size based on total equivalent feet of supply and return piping between the system loop and heater.