Date: _____   **Job:** _____   **Location:** _____

Equipment Tags: _____   **Engineer:** _____   **Contractor:** _____

Model: _____   **Notes:** _____

Prepared by: _____   Indoor ☐ Outdoor ☐   Gas Type: Natural Gas ☐ Propane ☐

96% Thermal efficiency at full rate

100% Factory fire-tested

VERSA IC® modulating controller with 7" color touchscreen display

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

Features and Options

Heat Exchanger

- Bronze headers
- ASME H stamped; 160 PSIG MAWP
- National board registered
- Cupronickel fin tubing
- ASME powder-coated tube sheet
- Silicone high-temp O-rings
- ASME pressure relief valve
  - ☐ 125 PSIG (standard)
  - ☐ __PSIG (optional)
- Air bleed valve - manual
- T & P gauge (shipped loose)
- Stainless steel secondary heat exchanger
- Stainless steel evaporator plate
- Bronze boiler pump: 120V, 1Ø, 60Hz

Power

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

Control

- Cascade up to 8 heaters
- Parallel and sequential modulation cascade modes
- Cascade interstage delay settings
- Ignition Module
  - ☐ 3-Try (standard)
  - ☐ C-6 Single-try (optional)
- Hot surface ignition (HSI)
- Remote flame sensor
- High limit, manual reset, fixed, 240°F
- On/off power switch
- Flow switch
- Blocked vent pressure switch
- Freeze protection
- Alarm dry contact
- Pump outputs – pilot duty
  - • DHW indirect
  - • System
- Programmable pump time delays

- 7" (178 mm) Color HD touchscreen display
- Modulating temp. 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

- 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 with 162°F manual reset limit (factory-installed only)
- ☐ D-33 Adapter, vent, Centrotherm™ polypro, with 180°F manual-reset limit
- ☐ 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 switch, manual reset
- ☐ Z-4 T&P relief valve
- ☐ Z-9 Thermometer
- ☐ Z-12 Condensate treatment kit

Additional requirements

☐ _____

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)
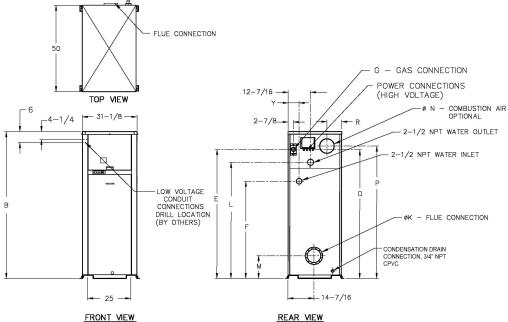
Regulatory agency requirements

- ☐ G-15 CSD-1 field upgrade

TOP VIEW

FRONT VIEW

REAR VIEW

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

Model H7-	MBTUH (kW)		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	
☐ 1005A	999 (292)	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)
☐ 1505A	1500 (439)	1440 (422)	67-1/8 (1705)	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)	59-1/8 (1502)	8-3/16 (208)	6-1/16 (154)	1234 (560)
☐ 2005A	1999 (585)	1919 (562)	81-1/8 (2060)	71 (1803)	71-3/16 (1808)	38-1/2 (978)	2 (51)	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 required below 10,000 ft.

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

CLEARANCES - inches (mm)		
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	1 (25)	24 (610)
Left	1 (25)	1 (25)
Top	0	0
Floor	0	0
Vent	1 (25)	N/A

MODEL	Amp Draw*		
	Boiler	Medium Pump	H Pump
1005A	12**	10	14
1505A		14	17
2005A	18**	17	N/A

*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).

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	140	2" (51 mm) NPT	2-1/2" (63 mm) NPT	151	2" (51 mm) NPT	2-1/2" (63 mm) NPT
80	147	2" (51 mm) NPT	2-1/2" (63 mm) NPT	140	2" (51 mm) NPT	2-1/2" (63 mm) NPT	151	2-1/2" (63 mm) NPT	3" (76 mm) NPT
100	147	2-1/2" (63 mm) NPT	3" (76 mm) NPT	140	2-1/2" (63 mm) NPT	3" (76 mm) NPT	151	2-1/2" (63 mm) NPT	3" (76 mm) NPT
120	145	2-1/2" (63 mm) NPT	3" (76 mm) NPT	140	2-1/2" (63 mm) NPT	3" (76 mm) NPT	151	2-1/2" (63 mm) NPT	3" (76 mm) NPT
140	165	2-1/2" (63 mm) NPT	3" (76 mm) NPT	160	2-1/2" (63 mm) NPT	3" (76 mm) NPT	171	2-1/2" (63 mm) NPT	3" (76 mm) NPT
160	185	2-1/2" (63 mm) NPT	3" (76 mm) NPT	180	2-1/2" (63 mm) NPT	3" (76 mm) NPT	191	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.