



Product Submittal for XTherm® - Type H Heating Boiler Models 2505-4005

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

The XTherm combines the proven capability of a finned copper tube heat exchanger with a stainless steel condensing heat exchanger to maximize thermal efficiency and provide long-term reliability.

- 96% thermal efficiency at full rate
100% factory fire-tested
VERSA IC® modulating controller with 7" color touchscreen display
Raymote™ IoT connectivity standard
Full electronic modulation, constant ratio up to 11:1 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
CSA low-lead certified ≤ .25% lead
Maximum outlet water temperature: 235°F (112°F)
Minimum inlet water temperature: 50°F (10°F)
Limited 25-year thermal shock warranty
Limited 5-year copper/10-year cupronickel primary heat exchanger warranty
Limited 10-year stainless steel condensing heat exchanger warranty
BAAQMD Rule 9-7 certified, Low NOx < 30 ppm
Primary/secondary plumbing mandatory for proper operation
Proudly assembled in the USA



Job: _____

Standard Features

Heat Exchanger

- Headers
 - Cast iron (standard)
 - A-1 Bronze (optional)
- ASME H stamped; 160 PSIG MAWP
- National board registered
- Finned tubing
 - Copper (standard)
 - A-3 cupronickel (optional)
- ASME powder-coated tube sheet
- Silicone high-temp O-rings
- ASME pressure relief valve (shipped loose)
 - 60 PSIG (standard)
 - ___ PSIG (optional)
- Air bleed valve, manual (2)
- T&P gauge (shipped loose)
- Four-pass primary heat exchanger
- Secondary stainless steel condensing heat exchanger - U stamped
- Stainless steel evaporator plate
- 4" (102 mm) grooved copper water connections

Power supply

- 240V, 60Hz, 1Ø (standard)
- E-16 208/220/240V, 60 Hz, 1Ø (optional)
- 240/120V, 60Hz, transformer
- 240/24V, 60Hz, transformer

Control

- VERSA IC® built-in controller
- 7" (178 mm) color HD touchscreen display
- Raymote™ IoT connectivity
- 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)
- Remote flame sensor
- Fixed high limit, manual reset, 240°F (116°C)
- On/off power switch
- Flow switch
- Blocked vent pressure switch
- Freeze protection

- Alarm dry contact
- High gas pressure switch, manual reset
- Pump outputs - pilot duty
 - Injector system pump
 - DHW indirect
 - System
- Programmable pump time delays
- Modulating temperature control, up to 11:1 turndown
- Water temperature sensors 10kΩ (2 mtd, 3 loose, 1 well)
- Cold water protection package, built in
- Modbus RTU BMS port (up to 115K baud rate, see Cat. No. 5000.73)
 - B-85 BACnet MS/TP, BACnet IP, Metasys N2 or Modbus TCP (optional)
 - B-86 BMS Gateway, Modbus RTU to LonWorks (optional)

Burner

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

Gas Train

- Fuel
 - Natural gas
 - Propane gas (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
- Front connection - low-voltage wiring
- Design certified ANSI Z21.13/CSA 4.9
- CSA low-lead certified ≤ .25% lead

Venting, cat IV

- D-11 Vent termination, outdoor
- D-15 Vent termination, sidewall
- D-18 Adapter, boiler flue
- D-19 Adapter, flue termination
- D-22 Truseal air intake/direct vent, field installed

- D-23 Brackets, flue support
- D-32 Vent Adapter, PVC, with 162°F (72.2°C) max manual vent limit (factory-installed ONLY)
- D-33 Adapter kit, Centrotherm™ polypro vent with 180°F (82.2°C) max manual vent limit (shipped loose)
- D-37 Damper, motorized combustion air

Options

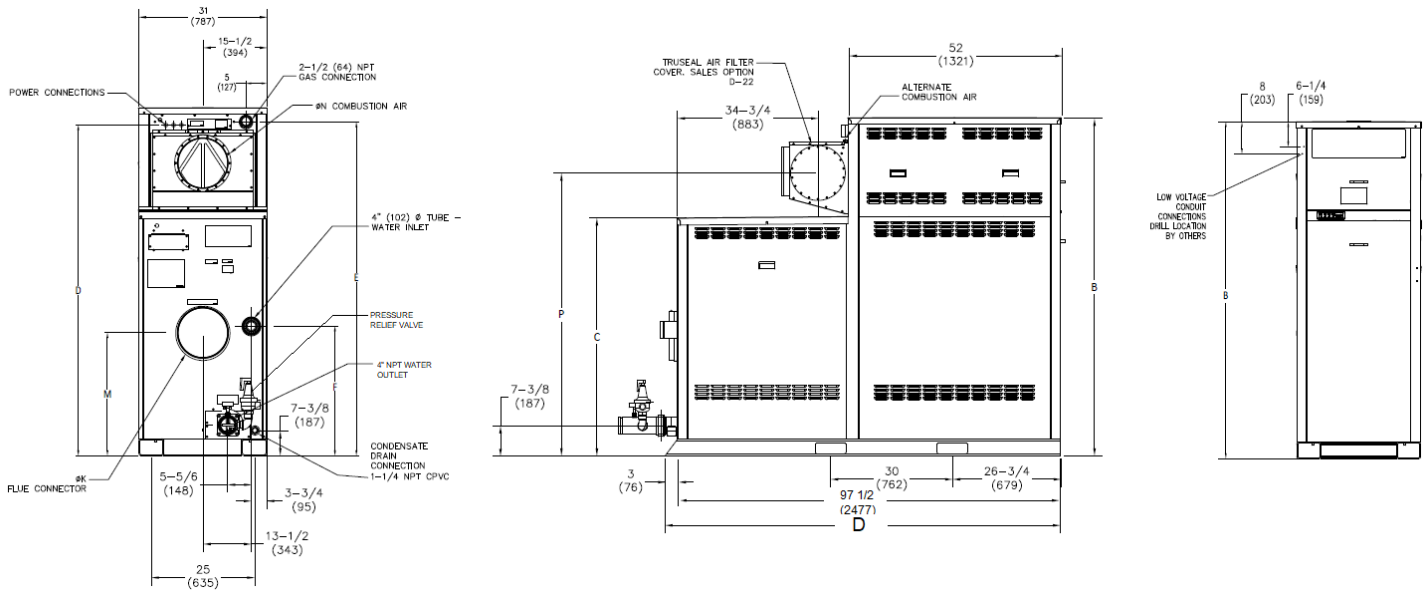
- B-31 Sensor well assembly
- B-32 Outdoor air sensor
- B-65 Indirect tank Aquastat (for use with hydronic system with indirect tank)
- E-5 Alarm with 4" bell with silencing switch
- E-15 Alarm with buzzer
- F-10 Low water cut-off, manual reset & test button
- I-1 High limit, adj. auto reset 240°F (115.6°C) max
- I-2 High limit, adj. manual reset 240°F (115.6°C) max
- I-5 High limit, adj. manual reset 200°F (93.3°C) max
- I-13 High limit, adj. auto reset 200°F (93.3°C) 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
- Z-4 T & P relief valve
- Z-9 Thermometer
- Z-12 Condensate treatment kit

Additional Options or Accessories

Multi-Boiler System Controllers

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

Job: _____



* Water connections are grooved copper tube.
Dimensions are shown in inches (mm).

Model H7-	MBTUH (kW)		Dimensions - inches (mm)									AHRI Thermal Efficiency	Turn Down	Shipping Weight - lbs. (kg)
	Input	Output	B	C	D	E	F	K Flue	M	N C/A	P			
<input type="checkbox"/> 2505	2501 (733)	2401 (703.7)	68-1/4 (1733.6)	43-1/2 (1104.9)	64-1/8 (1628.8)	65 (1651)	21-1/4 (539.8)	10	18-1/2 (469.9)	10	54-5/8 (1387.5)	96%	11:1	2656 (1204.7)
<input type="checkbox"/> 3005	3000 (879.2)	2880 (844)	73-1/4 (1860.6)	48-1/2 (1231.9)	69-1/8 (1755.8)	70 (1778)	26-1/4 (666.8)	10	23-1/2 (596.9)	10	59-1/2 (1511.3)		10:1	2775 (1258.7)
<input type="checkbox"/> 3505	3500 (1025.7)	3360 (984.7)	78-1/4 (1987.6)	53-1/2 (1358.9)	74 (1879.6)	75 (1905)	31-1/4 (739.8)	10	28-1/2 (723.9)	12	64-3/4 (1644.7)		10:1	2925 (1326.8)
<input type="checkbox"/> 4005	4000 (1172.3)	3840 (1125.4)	83-1/4 (2114.6)	58-1/2 (1485.9)	79 (2006.6)	80 (2032)	31 (787.4)	12	29-1/4 (743)	12	69-5/8 (1768.5)		7:1	3058 (1387.1)

Ratings shown apply to elevations up to 4,500 ft. De-rate above 4,500 ft; consult factory.

Clearances - inches (mm)									
Heater Side	Front	Rear	Right	Left	Top (Outdoor)	Floor	Vent	Vent Cap (Outdoor)	
Combustible Minimum	Open	12 (304.8)	1 (25.4)	1 (25.4)	0	0	1 (25.4)	12 (304.8)	
Service Minimum	30 (762)	36 (914.4)	24 (609.6)	1 (25.4)	10 (254)	N/A	1 (25.4)	12 (304.8)	

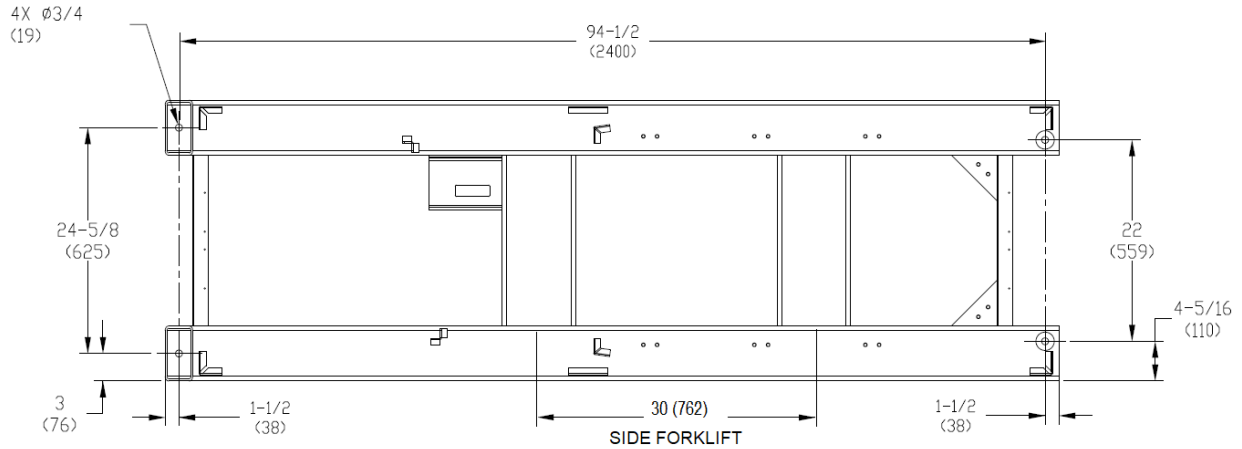
Model H7-	Boiler Current Draw - Amps	
	<input type="checkbox"/> 208VAC	<input type="checkbox"/> 240VAC
<input type="checkbox"/> 2505	16	12
<input type="checkbox"/> 3005	23	15
<input type="checkbox"/> 3505	26	17
<input type="checkbox"/> 4005	37	20

Performance capacity for injection pump, operating at full rate														
System Return Temp. °F (°C)	<input type="checkbox"/> Model 2505				<input type="checkbox"/> Model 3005				<input type="checkbox"/> Model 3505				<input type="checkbox"/> Model 4005	
	Supply Temp. °F (°C)	Flow GPM	Pipe Max Equiv. Ft		Supply Temp. °F (°C)	Flow GPM	Pipe Max Equiv. Ft	Supply Temp. °F (°C)	Flow GPM	Pipe Max Equiv. Ft	Supply Temp. °F (°C)	Flow GPM	Pipe Max Equiv. Ft	
			3"	4"										4"
60 (15.5)	144 (62)	57	230	450	146 (63.3)	66	110	148 (64.4)	76	100	144 (62)	90	100	
80 (26.6)	144 (62)	74	230	450	146 (63.3)	86	110	148 (64.4)	98	100	144 (62)	119	100	
100 (37.7)	144 (62)	108	230	450	146 (63.3)	124	110	148 (64.4)	139	100	144 (62)	173	100	
120 (48.8)	150 (65.5)	158	230	450	150 (65.5)	190	110	152 (66.6)	208	100	153 (67.2)	230	100	
140 (60)	170 (76.6)	158	230	450	170 (76.6)	190	110	172 (77.7)	208	100	173 (78.3)	230	100	
160 (71)	190 (87.7)	158	230	450	190 (87.7)	190	110	192 (88.8)	208	100	193 (89.4)	230	100	

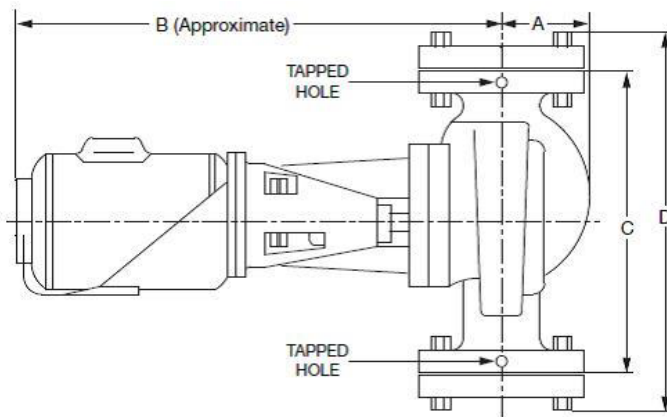
*Pipe size is determined by velocity not to exceed 7.5 ft. per second.

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

Base Anchor Bolt Pattern Models H7-2505 TO -4005

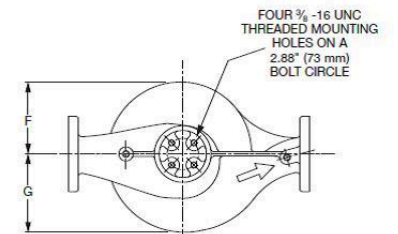
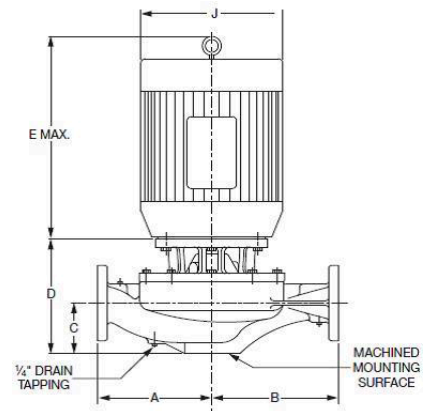


External Injection Pump - Field Installed on Inlet Piping



H7-2505 TO -3005

2-1/2" (64 mm) NPT Flanges Included



H7-3505 TO -4005

3" (76 mm) ANSI Flange - By Others

Model H7-	HP		Dimensions - inches (mm)								
	Internal Boiler Pump	External Injection Pump*	A	B	C	D	E	F	G	H	J
□ 2505	1.5	1.0	3-1/2 (88.9)	19 (482.6)	13-1/2 (342.9)	16-1/8 (409.6)	N/A	N/A	N/A	N/A	N/A
□ 3005	1.5	1.5	3-5/8 (92.1)	21 (533.4)	16-1/2 (419.1)	19-1/2 (495.3)	N/A	N/A	N/A	N/A	N/A
□ 3505	1.5	1.5	10 (254)	10 (254)	6-5/16 (160.3)	10-1/2 (266.7)	13-15/16 (354)	5-5/16 (134.9)	6-5/16 (160.3)	1/4 (6.4)	7-7/8 (200)
□ 4005	3.0	1.5									

Pumps are 240VAC/1PH

* External injection pump ships loose for field installation.

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