



Product Submittal for XVers L™ - Type H Heating Boiler Models 406L-856L

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.

- Up to 98% thermal efficiency at full rate
100% factory fire-tested
VERSA IC® modulating controller with 4.3" color touchscreen display
Raymote™ remote connectivity provided standard
Up to 10:1 turndown
Fault history with full diagnostics
Status display lighting in logo on front panel
Cascade up to 8 heaters - no external sequencer required
Cascade in parallel or sequential modulation modes
Modbus RTU BMS port
Maximum outlet water temperature: 200°F
Minimum continuous inlet water temperature: 40°F
Supports primary/secondary and primary piping
PVC, CPVC, polypropylene or stainless steel venting certified
Vent protection with vent temperature sensor
Zero side clearance to combustibles
Indoor/outdoor construction - standard
Limited 25-year thermal shock warranty
Limited 10-year heat exchanger warranty
SCAQMD Rule 1146.2 certified, Low NOx < 20 ppm
Proudly assembled in the USA



Features and Options

Heat Exchanger

- 316L stainless steel
- ASME H-stamped; 160 PSIG MAWP
- National Board registered
- ASME pressure relief valve
 - 60 PSIG (standard)
 - ____ PSIG (optional)
- T&P gauge

Power

- 120V, 60Hz, 1Ø, Power supply (standard)
- E-16 208V, 60Hz, 1Ø, Power supply (optional)
- 24VAC, 60Hz, transformer
- 12VDC, transformer

Control

- VERSA IC® with 4.3" color touchscreen display
- Raymote™ IoT connectivity
- Ignition module
 - 3-try (standard)
 - C-6 Single-try (optional)
- 0-10 VDC input for BMS
- Cascade up to 8 heaters
- Parallel and sequential modulation cascade modes
- Cascade flow offset control (only with optional flow meter)
- Remote flame sensor
- High limit, manual reset, fixed, 200°F
- Alarm dry contact connection
- On/off power switch
- Low water cut-off, remote probe
- Blocked vent pressure switch
- Vent protection with vent temperature sensor
- Boiler, DHW & system pump contacts
- Water temperature sensors 10kΩ (2 mtd, 3 loose, 1 well)
- Modbus RTU BMS port
- B-85 BMS Gateway, Modbus RTU to Modbus TCP, N2 Metasys, BACnet IP, or BACnet MS/TP
 - Loose
 - Factory mounted
- B-86 BMS Gateway, Modbus RTU, LONWorks
 - Loose
 - Factory mounted

Burner

- Direct spark ignition (DSI)
- Easily accessible 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, condensate drain)
- Design-certified ANSI Z21.13/CSA 4.9
- In-line combustion air filter kit
- Condensate trap and switch
- Front connection low-voltage wiring
- Built-in flue gas analysis port
- Forklift or pallet jack accessible

Venting, cat IV (PVC, CPVC, polypropylene or stainless steel)

- Ready to vent with PVC/CPVC
- Adapter required for polypropylene & stainless steel
 - D-11 Outdoor vent termination, Centrotherm™
 - D-15 Vent termination, sidewall
 - D-18 Vent adapter, PVC to stainless steel
 - D-23 Outdoor vent supports
 - D-26 Vent termination tee, Centrotherm™ polypro
 - D-29 Vent pipe, 40" straight, Centrotherm™ polypro
 - D-33 Vent adapter, Centrotherm™ polypro
 - D-37 Motorized combustion air damper

Other Options

- B-31 Sensor Well
- B-65 Indirect DHW Aquastat control
- E-5 Alarm with 4" bell, with silence and reset switches
 - Loose
 - Factory mounted

- E-15 Alarm with buzzer
 - Loose
 - Factory mounted
- F-1 Flow switch
 - Loose
 - Factory mounted
- F-15 Flow meter and manifold kit
 - Loose
 - Factory mounted
- 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)
- P-170 Motorized isolation valve
- S-1 Low gas pressure switch, manual reset
- S-2 High gas pressure switch, manual reset
- Z-12 Condensate treatment kit (mounted inside the boiler cabinet)

Hybrid Multi-Boiler Temp Controllers

- TempTracker Mod+ Hybrid Digital Controller
 - B-36 2-4 boilers, OA reset
 - B-37 5-10 boilers, OA reset
 - B-38 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)

Additional Options or Accessories

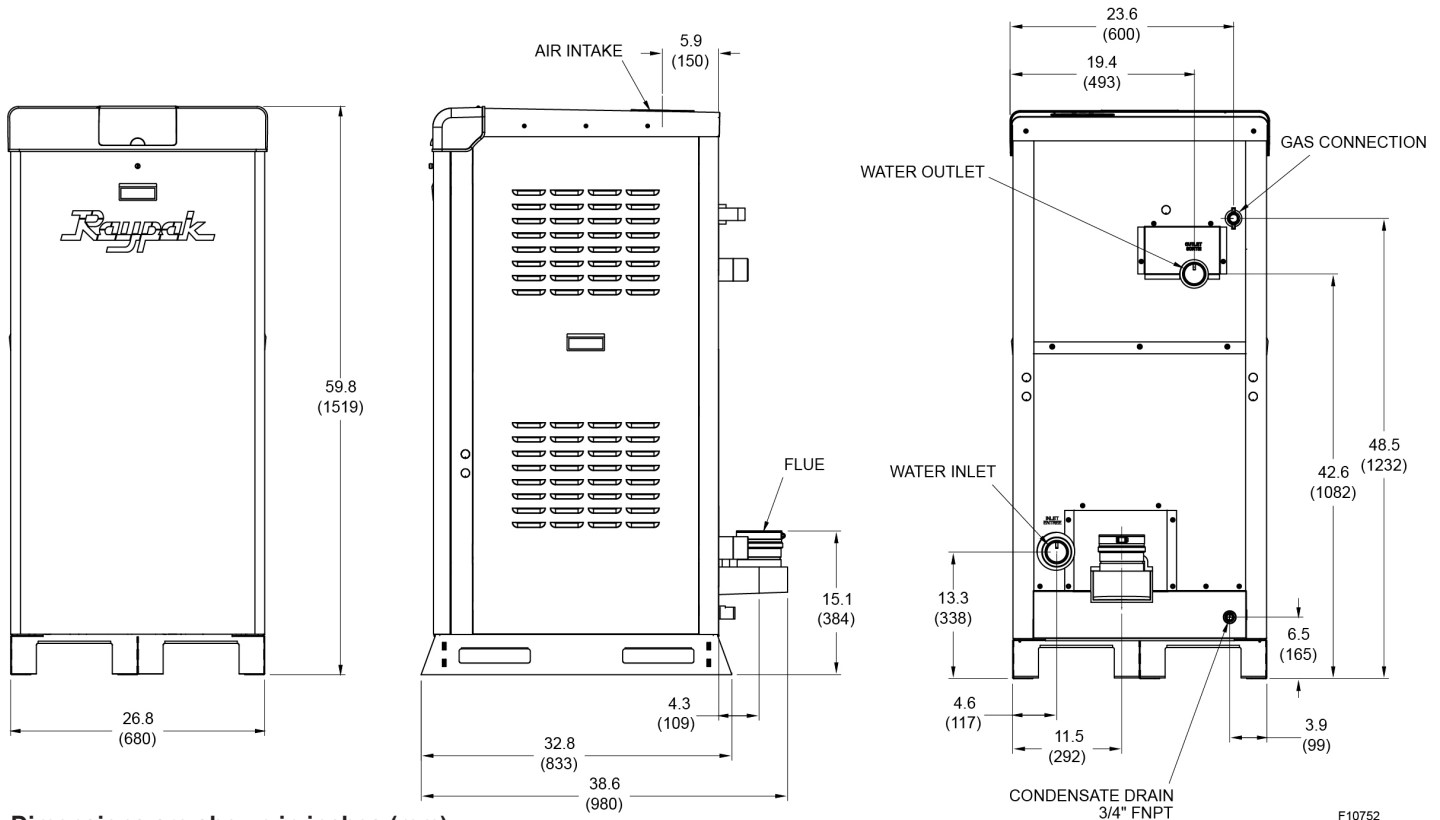
Pumps (optional)

- _____
- P-47 Pump flange kits
- Inline pump cover
- VSP pump cover (model 856 only)

Regulatory Agency Requirements

- G-15 CSD-1 field upgrade

Job: _____



Dimensions are shown in inches (mm)

F10752

Model H7-	MBTUH (kW/h)		Turn Down	AHRI Thermal Efficiency	Dimensions - Inches (mm)				Operating Weight lbs. (kg)	Water Content Gal (L)
	Input	Output			Water Inlet/Outlet NPT	Flue Ø*	Air Intake Ø	Gas Connection NPT		
<input type="checkbox"/> 406L	399 (117)	391 (115)	10 to 1	98.0%	2 (50)	4 (100)	4 (100)	1 (25)	547 (248)	13 (50)
<input type="checkbox"/> 506L	500 (147)	489 (143)	10 to 1	97.8%	2 (50)	4 (100)	4 (100)	1 (25)	611 (277)	12 (46)
<input type="checkbox"/> 606L	600 (176)	586 (172)	7 to 1	97.6%	2 (50)	4 (100)	4 (100)	1-1/4 (31)	603 (274)	12 (46)
<input type="checkbox"/> 726L	725 (213)	705 (207)	7 to 1	97.3%	2.5 (65)	6 (152)	6 (152)	1-1/4 (31)	710 (322)	17 (66)
<input type="checkbox"/> 856L	850 (250)	826 (242)	7 to 1	97.2%	2.5 (65)	6 (152)	6 (152)	1-1/4 (31)	720 (326)	16 (62)

* PVC/CPVC

Clearances - Inches (mm)

	Floor	Rear	Right	Left	Top	Front	Vent
Certified Minimum to Combustibles	0	24 (610)	0	0	0	Open	1 (25)
Minimum Service Clearance	0	24 (610)	0	0	24 (610)	30 (762)	1 (25)

*WARNING: Do not install on carpeting.

Model H7-	Boiler Current Draw	
	<input type="checkbox"/> 120VAC	<input type="checkbox"/> 208VAC
<input type="checkbox"/> 406L	<7.5 A	<5.0 A
<input type="checkbox"/> 506L	<5.0 A	<5.0 A
<input type="checkbox"/> 606L	<5.0 A	<5.0 A
<input type="checkbox"/> 726L	<5.0 A	<5.0 A
<input type="checkbox"/> 856L	<7.5 A	<7.5 A

Single-phase power. Current draw is for boiler only (supply breaker must have delayed trip).

Flow and Pressure Loss Information

Model H7-	Input	Output	Min Pipe Size Inches (mm)	20°F ΔT		30°F ΔT		40°F ΔT		60°F ΔT		*Min Flow for Full Fire (75°F ΔT)		*Min Flow for Min Fire		*Min Flow with Flow Switch (optional)		**Max Flow	
				GPM (L/min)	ΔP ft.hd. (kPa)	GPM (L/min)	ΔP ft.hd. (kPa)	GPM (L/min)	ΔP ft.hd. (kPa)	GPM (L/min)	ΔP ft.hd. (kPa)	GPM (L/min)	ΔP ft.hd. (kPa)	GPM (L/min)	ΔP ft.hd. (kPa)	GPM (L/min)	ΔP ft.hd. (kPa)	GPM (L/min)	ΔP ft.hd. (kPa)
<input type="checkbox"/> 406L	399 (117)	391 (115)	2 (50)	39 (148)	3.5 (10.5)	26 (98)	2.8 (8.4)	20 (76)	2.5 (7.5)	13 (49)	2.4 (7.2)	11 (42)	2.3 (6.9)	6 (23)	2.3 (6.9)	15 (57)	2.3 (6.9)	73 (276)	6.7 (20.0)
<input type="checkbox"/> 506L	500 (147)	489 (144)	2 (50)	49 (185)	4.8 (14.3)	33 (125)	3.4 (10.2)	24 (91)	2.9 (8.7)	16 (61)	2.5 (7.5)	14 (53)	2.3 (6.9)	7 (27)	2.3 (6.9)	15 (57)	2.3 (6.9)	73 (276)	6.7 (20.0)
<input type="checkbox"/> 606L	600 (176)	586 (172)	2 (50)	59 (223)	4.4 (13.2)	39 (148)	3.2 (9.6)	29 (110)	2.8 (8.4)	20 (76)	2.5 (7.5)	16 (61)	2.3 (6.9)	8 (30)	2.3 (6.9)	15 (57)	2.3 (6.9)	73 (276)	6.7 (20.0)
<input type="checkbox"/> 726L	725 (213)	705 (207)	2-1/2" (65)	71 (269)	4.9 (14.6)	47 (178)	3.5 (10.5)	35 (132)	3 (9.0)	24 (91)	2.7 (8.1)	19 (72)	2.6 (7.8)	10 (38)	2.3 (6.9)	18 (68)	2.6 (7.8)	114 (432)	8.7 (26.0)
<input type="checkbox"/> 856L	850 (250)	826 (243)	2-1/2" (65)	83 (314)	5.7 (17.0)	55 (208)	3.9 (11.7)	41 (155)	3.3 (9.9)	28 (106)	2.8 (8.4)	22 (83)	2.6 (7.8)	11 (42)	2.3 (6.9)	18 (68)	2.6 (7.8)	114 (432)	8.7 (26.0)

This boiler is equipped with a Low Water Cutoff as a standard feature. Some state and local codes require this as part of installation. Please be advised that some areas require both a low water cutoff and a flow switch. A flow switch is available as the F-1 option.

Pipe sizing based on not exceeding 7.5 feet per second velocity.

ΔP = boiler pressure drop (feet of head).

*Minimum flow based on water as a heating medium. Any other medium may require higher minimum flow rates.

**Maximum flow based on 7.5 feet per second velocity.

Pump Information

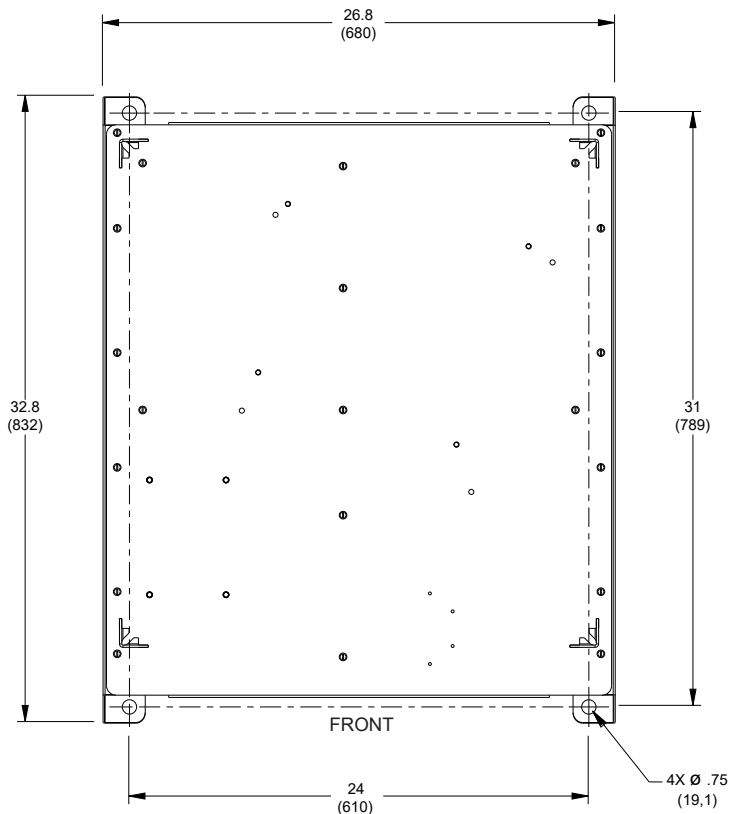
Model H7-	Standard H7 Boiler Fixed-Speed Pump				
	TACO MDL	HP	Amps @120VAC	GPM/FT. HD.	ΔT °F (°C)
<input type="checkbox"/> 406L	0012	1/8	1.3	36@6'	22 (12.2)
<input type="checkbox"/> 506L	0012	1/8	1.3	36@6'	27 (14.9)
<input type="checkbox"/> 606L	0012	1/8	1.3	36@6'	32 (17.7)
<input type="checkbox"/> 726L	0012	1/8	1.3	41@4.5'	34 (18.8)
<input type="checkbox"/> 856L	0611	1/4	5.7	65@7.6'	25 (13.8)

Pump selection based on 35°F ΔT with up to 100 eq. ft. of tubing.

Model H7-	Variable-Speed Pump				
	TACO MDL	HP	Amps @120VAC	GPM/FT. HD.	ΔT °F (°C)
<input type="checkbox"/> 406L	0012	1/8	1.3	36@6'	22 (12.2)
<input type="checkbox"/> 506L	0012	1/8	1.3	36@6'	27 (14.9)
<input type="checkbox"/> 606L	0012	1/8	1.3	36@6'	32 (17.7)
<input type="checkbox"/> 726L	0012	1/8	1.3	41@4.5'	34 (18.8)
<input type="checkbox"/> 856L	VR3452	1/4	2.5	46@5'	35 (19.4)

Pump selection based on 35°F ΔT with up to 100 eq. ft. of tubing.

Engineered Base



Dimensions are shown in inches (mm)