



Typical Specifications for TH Series Domestic Hot Water Supply Models THW202 – THW502

The domestic hot water (DHW) boiler shall be a CAMUS® TANK HEATER model _____ having a modulating input rating of _____ Btu (kW) /hr. and a recovery capacity of _____ GPH (LPH) at 100oF (56oC) and shall be operated on Natural gas or L.P. Gas. The boiler shall be capable of full modulation firing down to 20% of rated input with turn down ratio of 5 to 1.

The DHW boiler shall be design certified by UL and shall meet the requirements of ANSI Z21.10.3 and CSA 4.3. The boiler shall bear the ASME "H" stamp and shall be National Board listed. Models 292 – 502 are available with ASME 'HLW' stamp upon request.

Combustion Chamber: The combustion chamber shall be sealed and completely enclosed, independent of the outer jacket assembly. The Stainless Steel combustion chamber shall be designed to drain condensation to the bottom of the heat exchanger assembly. A condensate collection box shall be employed to trap and neutralize flue product condensate. A window viewport shall be provided for visual inspection of the boiler combustion during firing.

Burner: The burner shall be a premix design and constructed of high temperature stainless steel with metal fiber outer covering to provide modulating firing rates. The burner shall provide equal distribution of heat through the entire heat exchanger. A window view port shall be provided for visual inspection of the boiler during firing.

Heat Exchanger: The heat exchanger shall be inspected and tested to A.S.M.E. Section IV requirements. The A.S.M.E. Section IV seal of approval will not be provided as standard for jurisdictions not requiring the A.S.M.E Section IV seal of approval. The heat exchanger shall be a counter-flow water tube design with multi-pass stainless steel all welded construction with maximum working pressure of 160 PSI (1100 kPa). The heat exchanger design shall be capable of 40°F constant system return temperatures to enable fully condensing operation. A temperature and pressure relief valve of _____ lbs/hr shall be furnished with the heater.

Storage Tank: The stainless steel storage tank shall be rated with a maximum working pressure of 160 PSI (1100kPa) with a 10 year warranty.

Integrated Combustion and Operating Controls: Standard controls include a SOLA electronic proportional integrated combination ignition limit/operator control accurate to 10F (0.50C) having a pulse width modulation signal output for modulating fan speeds. Control is BMS Modbus RTU protocol ready and capable of other alternate protocol conversions with additional optional gateway protocol converter. Control shall be supplied with a mounted multi-line user configurable display which shall also provide for control system configuration and set up, readouts of boiler target, differential and inlet/outlet temperatures as well as accumulated runtime, enunciator diagnostics, and firing rates. The display shall be accessed through a 5-way touchpad high resolution LCD control with shortcut key access with user and installer protected parameters. The boiler safety control string shall be furnished with controls for optional low gas pressure, optional high gas pressure, blocked flue, high limit, stack limit and flow switch. A current transformer is supplied on all models to perform flow switch functionality. Additional control safeties shall include flame rectification, fan speed, and high limit.

Venting and Air Intake Options:

The following venting options shall be utilized:

Category II Venting –combined vent*

Category IV Outside Air (Horizontal & Vertical)

Category IV Through-wall Venting (Horizontal & Vertical)

Outdoor Venting

Category IV Direct Venting

* Category II combined vent shall only employ an engineered vent system prepared by a certified vent manufacturer, this can only be used with TH 202 – 502

The following category II and IV vent materials shall be utilized

- Stainless or AL29-4C for all system applications
- Polypropylene (PPE) for all system applications
- CPVC for hydronic heating systems
- PVC for select low temperature systems only – consult factory



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The boiler shall be vented as a through-wall (vertical or horizontal) Category IV condensing appliance for up to 100 equivalent feet using material approved for use on condensing application under standard ULC S636 or equivalent, or as permitted by the local jurisdiction. The following air intake options shall be utilized: Outside air sealed direct (vertical or horizontal);
Outside air sealed direct (vertical or horizontal);
Outside air ducted to jacket flange;
Indoor air.

Gas Train: The gas train shall consist of a dual seat gas valve with a pressure regulating electro-hydraulic actuator to provide slow opening, fast closing, automatic gas valve safety shutoff and air/gas ratio control. Optional high and low gas pressure switches are available. Models 202 – 502 operate with a 5:1 turn down ratio.

External Jacket and Fasteners: The external jacket shall be of 430 stainless steel mirror finish panels and powder coated steel assembled utilizing interference fit locks and minimal non-strip self tap screws for ease of removal and access to the heat exchanger and combustion air/gas control.



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Voltage Requirement for all models: 120VAC, 60Hz, 1 phase

Model	Input BTUH	Output BTUH
TH-202	199,000	186,000
TH-252	250,000	232,500
TH-292	299,000	278,000
TH-392	399,000	371,000
TH-502	500,000	465,000

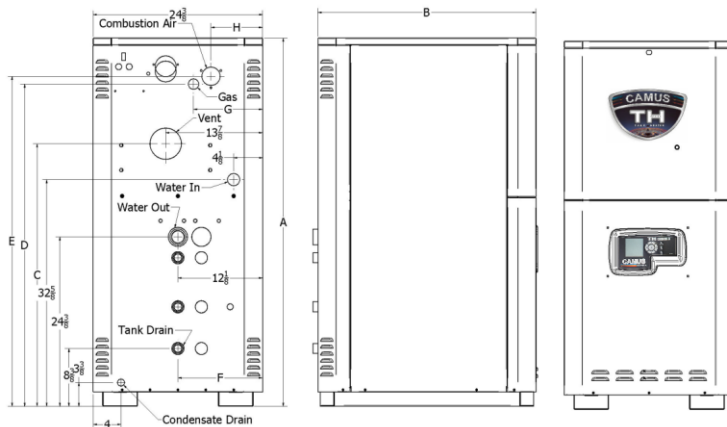
Model	Tank Capacity [US GAL.]
TH-202	40
TH-252	40
TH-292	40
TH-392	40
TH-502	40

Model	Water Content (Gal)	Wetted Heating Surface (Sq. Ft.)
TH-202	1.69	21.8
TH-252	1.69	21.8
TH-292	2.26	29.1
TH-392	3.28	41.8
TH-502	3.97	50.8

Model	Approx. Shipping Weight [lbs.]
TH-202	525
TH-252	525
TH-292	600
TH-392	650
TH-502	710

Model	Recovery Capacity							
	140°F Rise	78°C Rise	100°F Rise	56°C Rise	80°F Rise	44°C Rise	60°F Rise	33°C Rise
	GPH	LPH	GPH	LPH	GPH	LPH	GPH	LPH
TH-202	160	604	223	843	279	1054	372	1405
TH-252	200	755	279	1054	348	1317	465	1756
TH-292	239	903	334	1260	417	1575	556	2101
TH-392	319	1205	446	1682	556	2102	742	2803
TH-502	399	1510	557	2108	697	2634	929	3513

Model	Temperature rise across heat exchanger	
	20°F	
	USGPM	ΔP-FT
TH-202	19.2	25.9
TH-252	23.5	28.3
TH-292	28.8	25.8
TH-392	38.4	23.9
TH-502	48.6	29.4



MODEL	Dim "A" [in.]	Dim "B" [in.]	Dim "C" [in.]	Dim "D" [in.]	Dim "E" [in.]	Dim "F" [in.]	Dim "G" [in.]	Dim "H" [in.]	Length of Vent & Air Intake Pipes at Recommended Diameter [in.]			Water Conn. At Heater NPT [in.]	Gas Conn. At Heater NPT [in.]	
									Category IV					Cat. II Comb. Vent
									over 25' & up to 100'	over 15' & up to 25'	Up to 15'			
TH-202	53	31 1/4	37 3/4	46 3/8	47 1/2	12 1/8	9 7/8	7 3/8	3	3	2	4	1	1/2
TH-252	53	31 1/4	37 3/4	46 3/8	47 1/2	12 1/8	9 7/8	7 3/8	3	3	2	4	1 1/4	1/2
TH-292	65 1/2	31 1/4	37 1/2	58 3/8	53 7/8	12 1/8	11 3/8	8 7/8	4	3	3	5	1 1/4	3/4
TH-392	65 1/2	31 1/4	37 1/2	58 3/8	53 7/8	12 1/8	11 3/8	8 7/8	4	3	3	5	1 1/2	1
TH-502	65 1/2	31 1/4	37 1/2	58 3/8	53 7/8	12 1/8	11 3/8	8 7/8	4	3	3	6	1 1/2	1

Model No.: _____ No. of Units: _____ Type of Gas: _____

Total Input: _____ BTU/hr Total Output: _____ BTU/hr

Flow: _____ USGPM @ Allowable Pressure Drop _____ ft.

Recovery Rate: _____ USGPH @ _____ °F