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## Specifications

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The electric boiler and integrated instantaneous water heater shall be a COMBOMAX from THERMO 2000 Inc. ,model COMB\_\_\_\_\_ with a \_\_\_\_\_ US gallon capacity. The net power of the boiler is\_\_\_\_\_ BTU/HR or \_\_\_\_\_ kW at a voltage of 240V single-phase and a frequency of 60 hertz. The boiler must exhibit 100% efficiency. The tank shall be made of high-carbon steel. The tank shall have a maximum operating pressure of 30 psi and shall undergo a 60 psi hydrostatic test as per the ASME code. The boiler shall be equipped with a steel injector, located on top of the tank, to act as a boiler water outlet, and with a steel collector, located at the bottom of the tank, to act as a boiler water inlet. The tank shall be equipped with a draining ball valve. The instantaneous water heater shall be equipped with copper piping in the form of parralel helicoidal lines with a maximum operating pressure of 150 psi. All copper components will adhere to the NSF 61 standard from the NSF International Standard Drinking Water Systems Components Health Effects document. The boiler shall be wrapped in a 3 inch thick insulating jacket. The outer shell shall be of 20-gauge thickness and epoxy-coated. Three adjustable supports shall allow the leveling of the unit. The boiler shall be shipped from the plant equipped with a safety relief valve as per the ASME code, adjusted to a 30 psi setting, a thermomanometer, a circulator, a thermostatically-controlled mixing valve and a three-way valve. Electrical connections will be made with 3-conductor wire. The square flange immersion heating elements are low-density and made of copper. Each element must be replaceable. The boiler must allow multi-stage power modulation and a pilot lamp is required for each stage. Each heating element in the boiler must be controlled by an individual thermostat (aquastat) which closes the circuit at 9°F below the set point and opens the circuit at the set point. The boiler shall be equipped with an individual thermostat (aquastat) giving priority to domestic hot water production, closing the circuit at 9°F below the set point and opening it at the set point, to power the three-way valve and circulator. The boiler is equipped with a resistive 50 amp main load contactor able to perform 250 000 operations under full load, closing the circuit when the boiler temperature is below the fixed set point of the high-limit temperature controller and opening it when the boiler temperature is above the fixed set point of the high-limit temperature controller. The control circuit powering the magnetic contactor coil shall operate at 120V and protected by a breaker. The control circuit must be equipped with the following items : high-limit temperature controller, bi-energy relay, circulator relay and domestic hot water priority relay. The boiler is protected by a 15-year warranty. The boiler shall be tested, certified and bear the CSA seal under CSA standard C22.2 No. 165-92.

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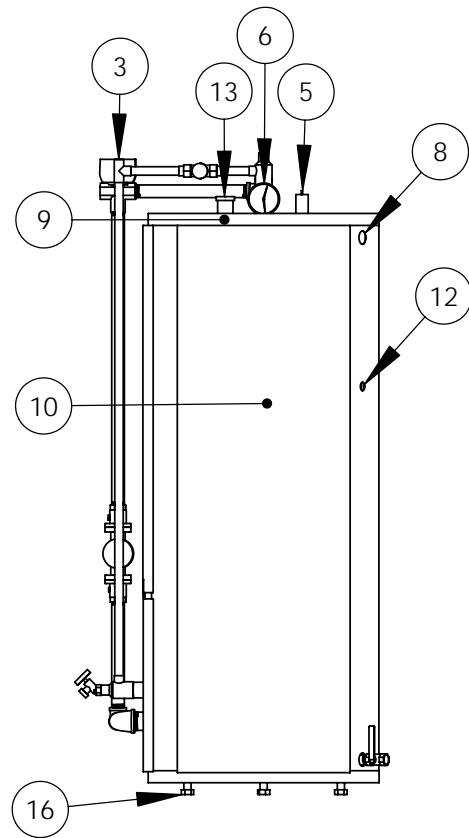
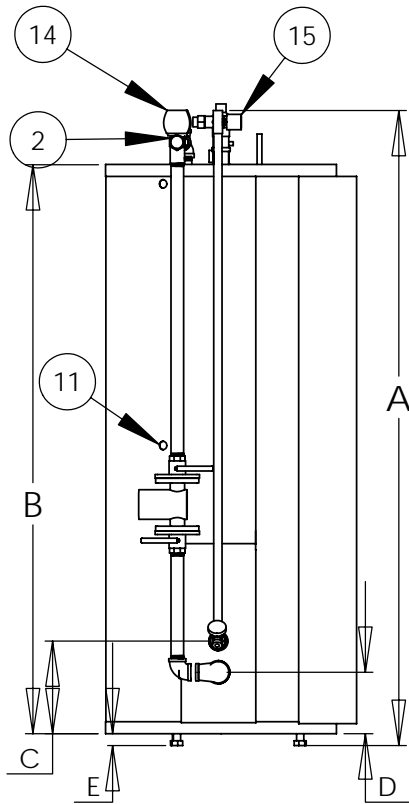
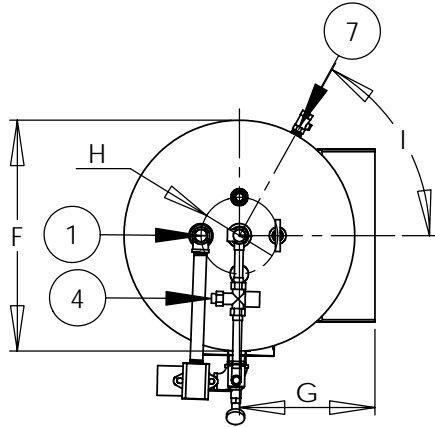


**Table 1: Boiler specifications 240 Vac (single phase) :**

Model	Power		Nominal load in amps		Number of elements	Stages \ Thermostats \ pilots	Wire Cu	Fuse Amps
	Kw	BTU/h	Heating elements	Including the circulator				
COMBOMAX XX-8	8	27 296	33.3	34.3	1 X 3KW 1 X 5KW	2	8	50
COMBOMAX XX-10	10	34 120	41.6	42.6	2 X 5KW	2	6	60
COMBOMAX XX-15	15	51 180	62.5	63.5	2 X 3KW 2 X 4.5KW	4	3	100
COMBOMAX XX-18	18	61 416	75.0	76.0	4 X 4.5KW	4	3	100
COMBOMAX XX-20	20	68 240	83.4	84.4	4 X 5KW	4	2	125
COMBOMAX XX-24	24	81 888	100.0	101.0	4 X 6KW	4	1	125

**Legeng:**

- 1) Boiler Water Supply Connection (1" npt F)
- 2) Boiler Water Return (1" npt F)
- 3) Domestic Water inlet (3/4" Sweat F)
- 4) Domestic Water outlet (3/4" Sweat F)
- 5) Safety relief valve (3/4" npt M.)
- 6) Temperature and pressure Gage (1/2" npt. M)
- 7) Drain Valve (3/4" npt F)
- 8) Power supply wiring
- 9) Pilot Lights
- 10) Electrical Compartments
- 11) Circulator wiring
- 12) Thermostat wiring
- 13) Air vent
- 14) 3 ways valve
- 15) Thermostatic mixing valve
- 16) Adjustable leg



**DIMENSIONAL**

Model	A	B	C	D	E	F	G	H	I
	in.	in.	in.	in.	in.	in.	in.	in.	degree
COMBOMAX 23-XX	50	42 1/4	7 1/4	4	1 1/4	18	10 1/2	8	75
COMBOMAX 34-XX	66 3/4	59	7 1/4	4	1 1/4	18	10 1/2	8	75
COMBOMAX 44-XX	57	49 1/4	9 1/2	5 3/4	1 1/4	22	12 1/2	8	60
COMBOMAX 64-XX	66 3/4	59 1/4	9 1/2	6 1/2	1 1/4	24	13 1/2	8	60