

Engineering Submittal HeatMaster 399TC



HeatMaster TC Features

- High efficiency combination boiler and domestic water heater
- Floor standing
- Approved for zero clearance to combustibles
- 4" PVC, CPVC, PP, or AL29-4C venting up to 100 equivalent feet
- Limited 5 year warranty on parts, except igniter
- Limited 10 year warranty on heat exchanger

Approvals

- 95% Thermal Efficiency
- ANSI Z21.13 / CSA 4.9 Boiler Standard Compliance
- ANSI Z21.10.3 / CSA 4.3 Water Heater Standard Compliance
- ASME Heat Exchanger Certification - "H" & "HLW" Stamped

Fire Tube / "Tank-in-Tank" Heat Exchanger

- Stainless Steel fire tube heat exchanger construction for corrosion resistance
- Low pressure drop minimizes circulator size
- High water content provides stable temperature control
- Self cleaning flue ways reduce maintenance
- Suitable for use with propylene glycol up to 50% concentration
- 1-1/2" Polyurethane foam insulation for low standby heat loss

ACVMax Control System

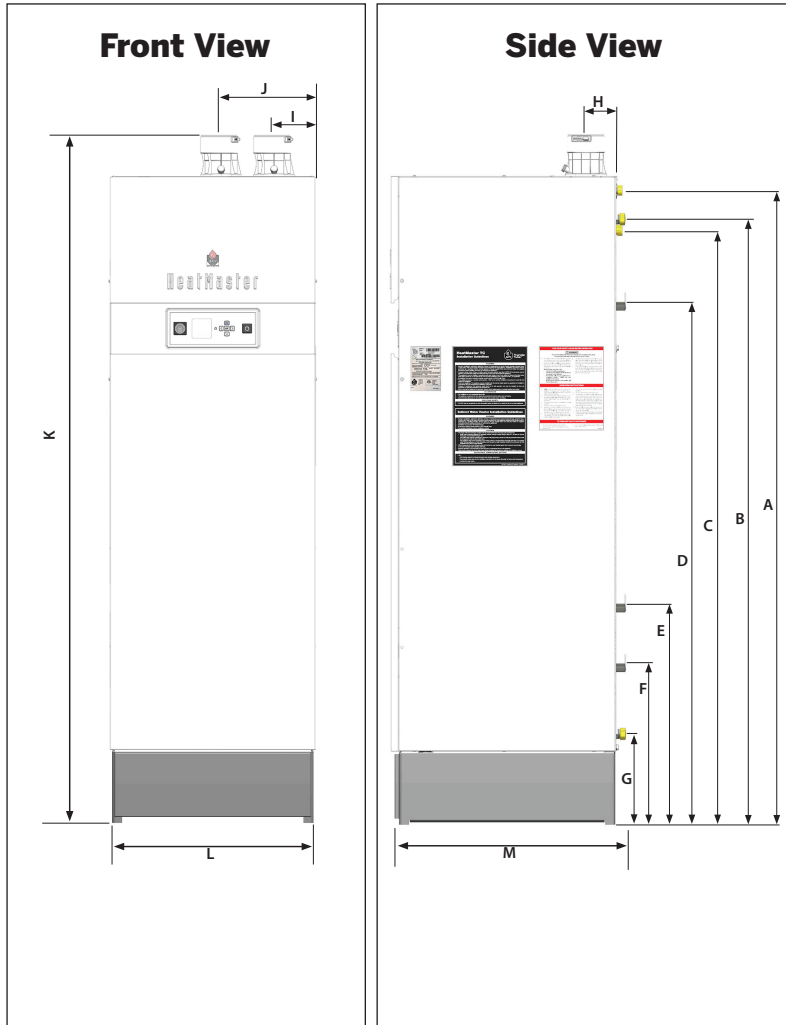
- Graphical display with 6 navigation buttons
- EZ Setup allows quick and easy settings adjustment
- Presets allow quick configuration of 3 circulator outputs
- Each circulator output is fully configurable for custom applications
- Outdoor temperature reset to maximize efficiency
- Accepts two space heating call inputs with independent outdoor reset curves
- Simultaneously heat dual temperature heating systems with built-in mixing valve control
- Domestic hot water priority with optional time-out
- 0-10 VDC Modulation input
- Modbus building management system (BMS) interface, LonWorks® and BACnet® interface optional
- Warm weather shutdown option
- Optional boiler freeze protection
- Logging function records sensor readings for system optimization and troubleshooting
- Describes lockouts in plain english and suggests solutions while storing last 8 errors

Standard Equipment

- Stainless steel premix burner
- Direct spark ignition with variable speed blower
- Full modulation with turndown ratio of 4.2:1
- Automatic air vent
- Factory installed ASME 45 PSI pressure relief valve
- Factory installed ASME 250°F / 150 PSI temperature and pressure relief valve
- Domestic Hot Water thermostatic mixing valve
- Integrated pressure and temperature gauge
- Outdoor temperature sensor
- Automatic low water cutoff feature with early warning
- High temperature limit safety control
- Terminal block for circulator output
- Low voltage terminal strip with removable jumpers for manual or automatic reset limits
- Alarm and flame status contacts
- Polypropylene condensate pan and internal flue pipe
- Polypropylene vent/air connections accept PVC, CPVC, PP, or AL29-4C without adapter

Project / Location: _____	Date: _____
Consulting Engineer / Architect: _____	
Mechanical Contractor: _____	

Dimensions



Letter	Connection	Dimension in [mm]
A	3/4" NPT Gas Connection	83 1/2" [2121.6]
B	1" NPT DHW Outlet	79 1/4" [2023]
C	3/4" NPT Pressure Relief Valve	78 1/2" [1994]
C	3/4" NPT T&P Relief Valve	78 1/2" [1994]
D	1-1/2" NPSC Boiler Supply	69" [1750]
E	1-1/2" NPSC Primary Hot Return	29" [737]
F	1-1/2" NPSC Low Temp. Primary Return	21 1/8" [540]
G	1" NPT DHW Inlet	11 3/4" [303]
H	4" Vent Outlet and Combustion Air Inlet	4 1/4" [108]
I	4" Vent Outlet	5 3/4" [146.4]
J	4" Combustion Air Inlet	12 7/8" [324.4]
K	Unit Height	91" [2309]
L	Unit Width	27 1/4" [690]
M	Unit Depth	30" [762]

Specifications

Model	Fuel	Input Modulation (MBH)	Thermal Efficiency	Heating Capacity (MBH)	Net AHRI (MBH)	Boiler Water Volume (gal)	Shipping Weight Lbs
HM399TC	Natural Propane	95 - 399	95%	379	330	33	800

DHW Performance

Model	1st Hour Rating* (GPH)	Continuous Flow @ 70° Rise* (GPH)	Peak Flow (Gal/10min)	Domestic Connections	DHW Water Volume (Gal)
HM399TC	660	620	155	1"	50

*Domestic performance based on average temperature of 120°F at mixing valve outlet and 50°F inlet.