Advanced Heating
& Hot Water Systems

MOD CON VWH

An Intelligent Design that Delivers Highly Efficient Water Heating with up to 98% Thermal Efficiency

Gas Fired
Volume Water Heater

- Up to 5:1 Turndown Ratio
- Whisper Quiet Operation
- Low NOx Operation
- High Grade Inconel Burner
- Cascade up to 8 Units
- ASME Approved

Heat Exchanger Bears the ASME "H" Stamp

AHRI MEMBER

ETL LISTED

ULTRA Low NOx Emissions SCAQMD Rule 1146.2

LEAD FREE

HTP Made in America

UP TO 850,000 BTUH OF HEATING POWER

Construction Features

Combustion System

- Modulating Burner with up to a 5 to 1 Turndown
- Gas Valve (Tested to UL, FM, CSA Standards)
- Up to 98% Thermal Efficiency*
- High Grade NIT Burner
- Low Nox Operation
- Gas Conversion Available
- Whisper Quiet Operation
- Reliable Spark Ignition

*Note: thermal efficiency tested with low temperature return.

Heat Exchanger

- All Stainless Steel Construction
- No Gaskets, Welded Construction. ASME Approved
- 150 PSI Relief Rated
- Easy to Service

Integrated Control System

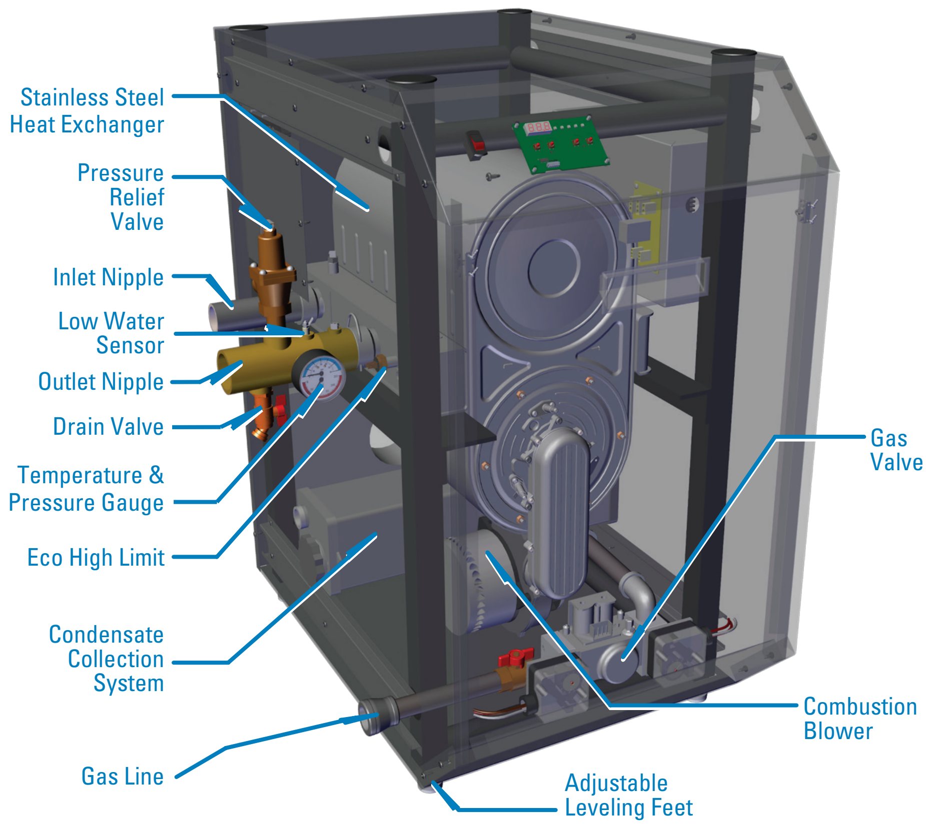
- Built-in Sequencer for up to 8 Boilers
- Digital Display - Total System Control
- Integrated Control Allows Only the Amount of Heated Energy Required
- 24 Volt Monitor for System Safeties
- Dual Flame Sensing (Flame Probe - Spark Ignition Probe)

MOD CON VWH

Optional Equipment

- High and Low Gas Pressure Switch
- Alarm Sytem
- Venting Kit
- Caster Wheel Kit
- PC Software for History and System Monitoring
- Condensate Neutralizer Kit

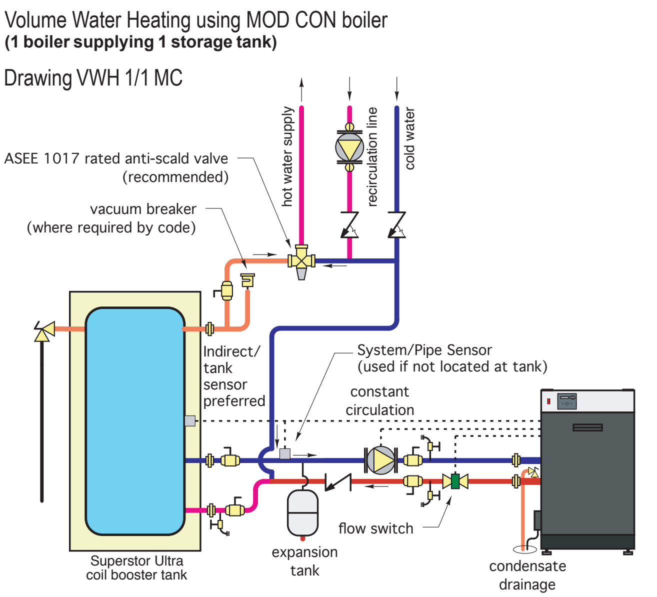
Look Inside

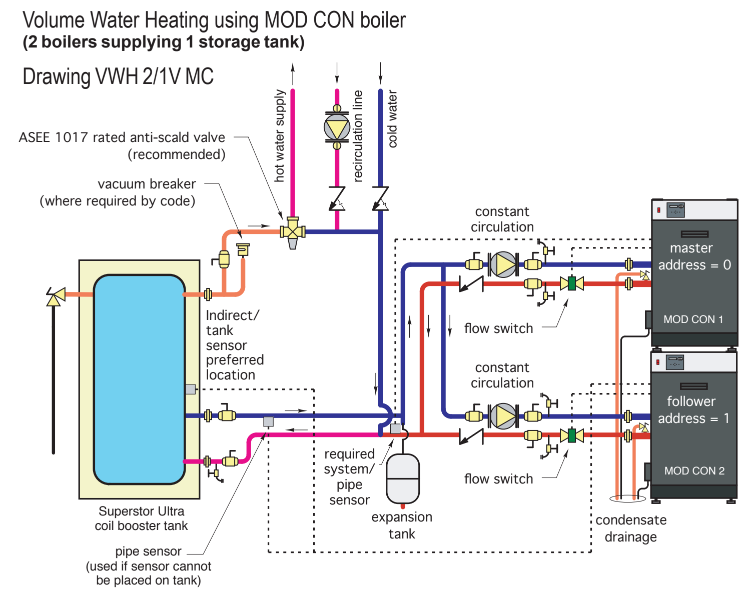


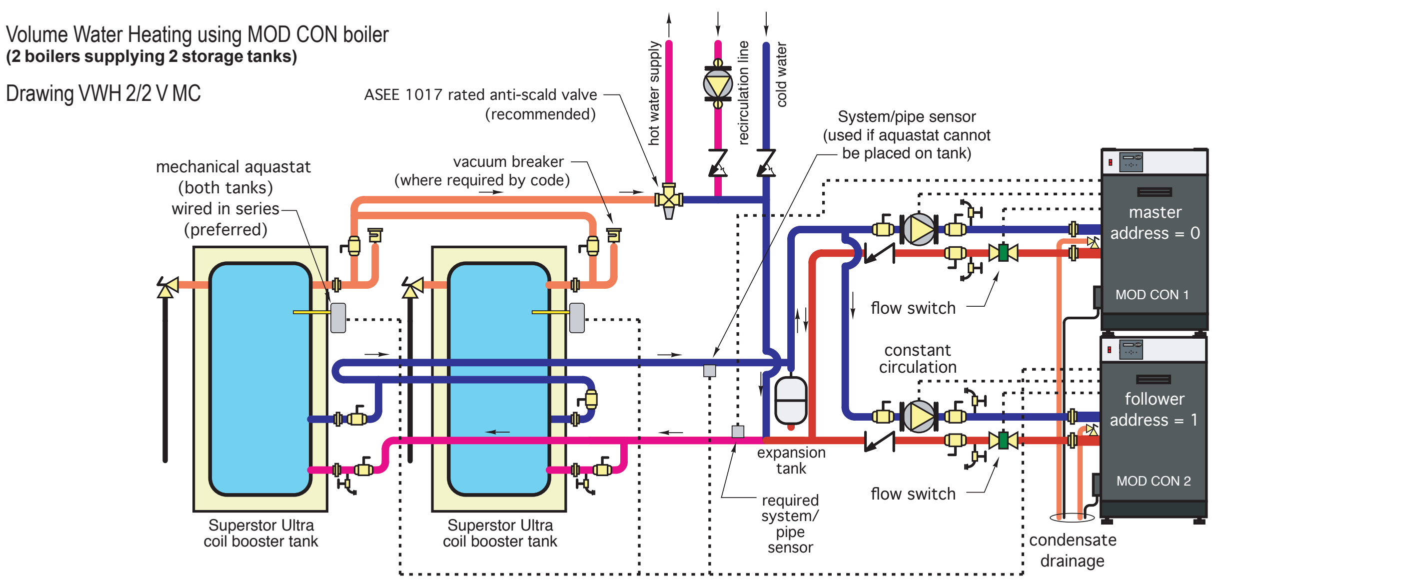
Additional Features

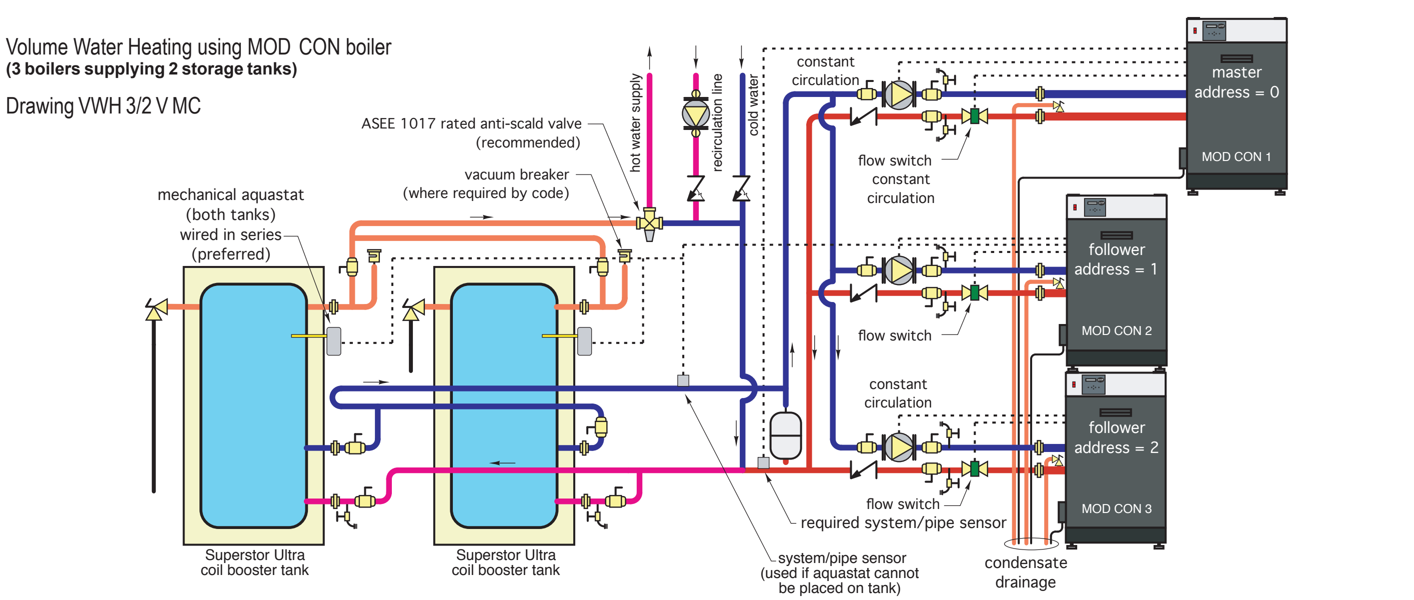
- Superior Condensate Collection System - Easy to Service with Overflow Protection
- PVC – CPVC – Stainless Steel Venting
- Vents up to 200 feet Combined
- Stack Units for Increased Output in Small Footprint
- Adjustable Legs
- Direct Vent Sealed Combustion
- Models Available for Natural or LP Gas
- Easy Access for Wiring or Field Service of Combustion Heat Exchanger
- High Limit Manual Reset/Low Water Cut-Off (Standard Equipment)
- Removable Front Cover Allows Easy Access to Burner Assembly
- Zero Clearance to All Combustible Surfaces
- Factory installed AGA/ASME Rated Relief Valve.
- PC Monitoring for History – System Operation (optional)
- Self Diagnostic Electronic Control with Digital Readout to Monitor System Parameters.
- 5-Year Limited Warranty

Preferred Piping (Zoning with Valves) Space Heating Mode

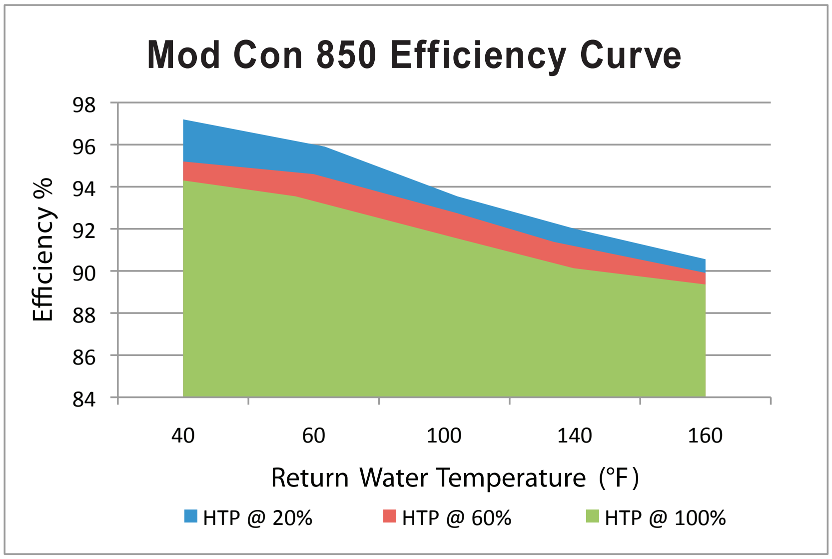


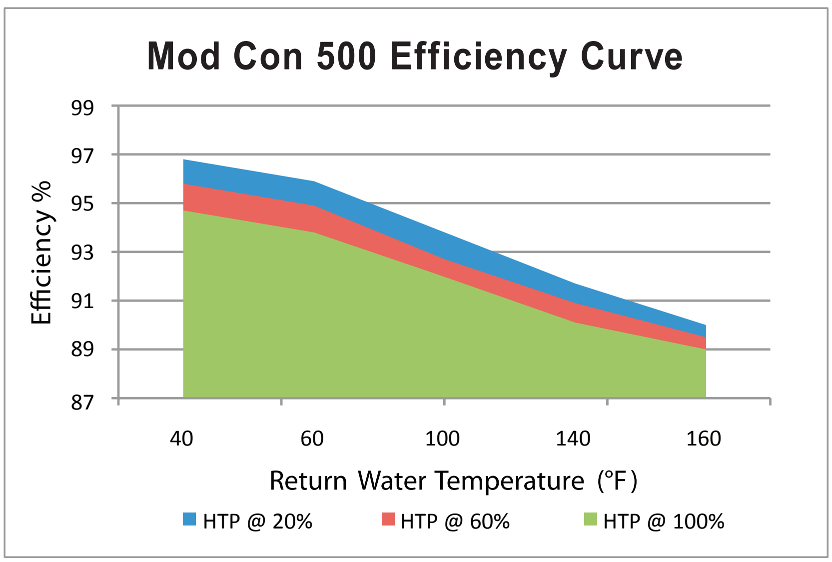




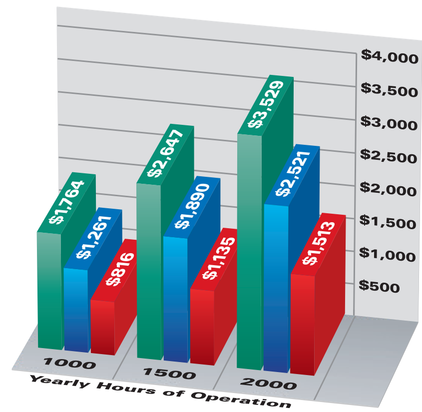


Condensing Technology, with up to 98% Efficiency, This Means Lower Energy Cost to You!

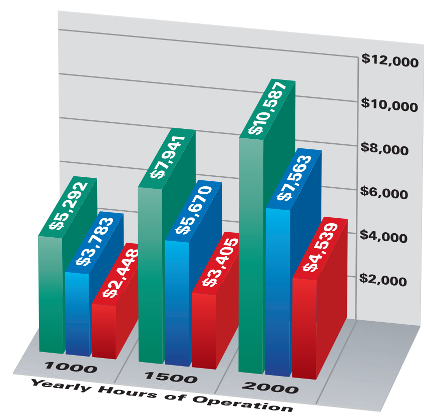




MOD CON VWH 500 Fuel Savings
at 1 Year n 75% n 80% n 85%



MOD CON VWH 500 Fuel Savings
at 3 Years n 75% n 80% n 85%



(based on running hours, calculated using FTC-published average energy costs, Jan. 2009; $1.21 per therm) The cost of fuel in some areas of the country has increased by almost 40% in just one year. The highly efficient modulating output of the Mod Con VWH will provide a maximum payback on fuel savings. As the charts below illustrate, savings can result in a payback period in less than three years when compared to the conventional technology of other Hot Water Supply Boilers. The Mod Con VWH could save you as much as 50% on your present fuel bills.

MOD CON VWH Recovery Ratings with Storage Tanks

The chart below provides you with the first hour ratings as compared to commercial direct fired storage water heaters. This chart will help you determine the exact size of the storage tank required for the new or retro-fit application.

ModCon 500 VWH

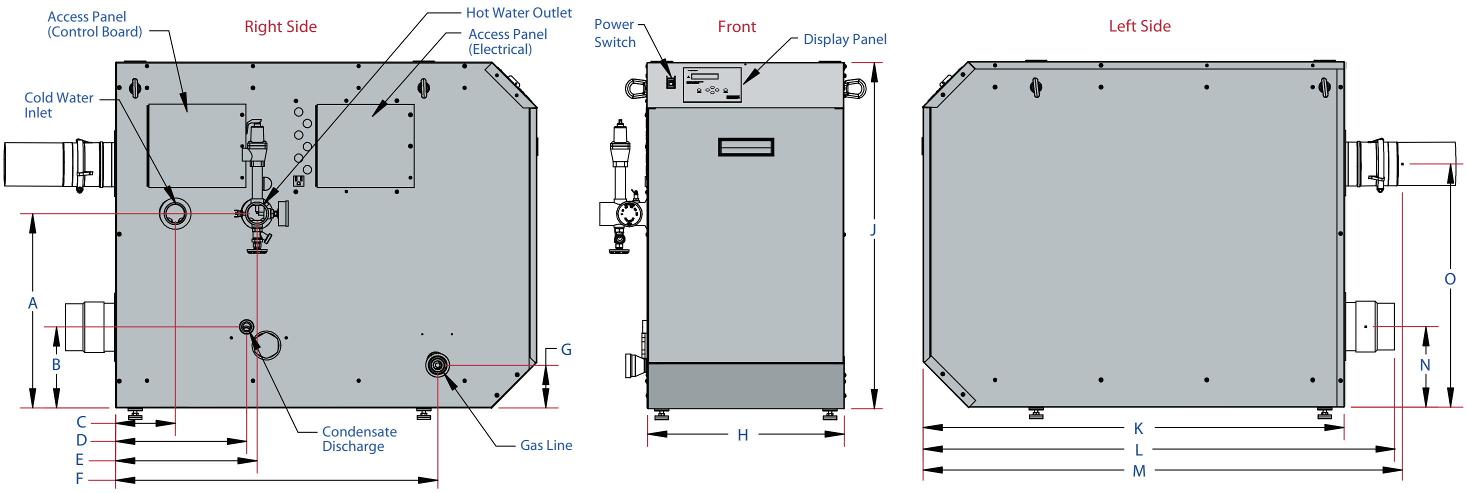
Delta T	Gallons Per Hour	First Hour Rating With 119 Gallon	First Hour Rating With 175 Gallon	First Hour Rating With 200 Gallon
40°F	1414	859	883	894
50°F	1131	872	902	915
60°F	943	884	920	937
70°F	808	897	939	958
80°F	707	910	958	979
90°F	628	923	977	1001
100°F	566	935	995	1022
110°F	514	948	1014	1044
120°F	471	961	1033	1065
130°F	435	974	1052	1087
140°F	404	986	1070	1108

ModCon 850 VWH

Delta T	Gallons Per Hour	First Hour Rating With 119 Gallon	First Hour Rating With 175 Gallon	First Hour Rating With 200 Gallon
40°F	2404	1449	1459	1502
50°F	1923	1467	1481	1534
60°F	1602	1486	1502	1566
70°F	1374	1505	1524	1599
80°F	1202	1524	1545	1631
90°F	1068	1542	1566	1663
100°F	961	1561	1588	1695
110°F	874	1580	1609	1727
120°F	801	1599	1631	1759
130°F	740	1617	1652	1791
140°F	687	1636	1674	1824

Minimum Storage Tank Sizes For The Mod Con VWH Models

Mod Con 500	Mod Con 850	Mod Con 1000	Mod Con 1700
119 Gal.	175 Gal.	200 Gal.	350 Gal.



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	O
Mod Con VWH 500	20"	14.75"	6.25"	13.25"	14.50"	33.25"	5.25"	20.5"	36"	43.75"	46"	48"	8.25"	25.5"
Mod Con VWH 700	20"	20"	6.25"	16.25"	18.75"	43.50"	20"	20.5"	36"	62.25"	68.5"	73"	8.25"	25.5"
Mod Con VWH 850	20"	20"	6.25"	16.25"	18.75"	43.50"	20"	20.5"	36"	62.25"	68.5"	73"	8.25"	25.5"

Model		500	700	850
Installation		Indoor, Floor Standing, Fully Condensing		
Minimum / Maximum Input (Btu/Hr)		100,000 / 500,000	170,000 / 700,000	170,000 / 850,000
Thermal Efficiency		98%	98%	97%
Heating Capacity (MBH)		470	686	799
Flue System		Category IV, Sealed Combustion Direct Vent, Power Vent		
Minimum Combined Vent Run		16 feet		
Maximum Combined Vent Run		4" (200 feet)	6" (200 feet)	
Approved Exhaust Vent Materials		PVC, CPVC, PP, Stainless Steel		
Shipping Weight (lbs)		505	580	
Gas Supply Pressure	NG	3.5" to 14" WC		
	LP			
Manifold Pressure	Min / Max	NG/LP: -0.01" WC		
Power Supply		120V 60 Hz, 6.3A		
General Operating Conditions		Ambient Temperature Range: 33 – 104°F (0.6 – 40°C) Product Approvals and Requirements: ANSI Z21.13 / CSA 4.9		
Ignition System		Direct Electronic Spark Ignition / Flame Rectification		
Burner System		Premixed Fuel Modulation / Stainless Steel Metal Fiber Burner		
Gas Valve System		Air Ratio Valve		
Dimensions (in Inches)	W	20.5		
	H	36		
	D	46	68.5	
Boiler Water Content (Gallons)		4.2	5.8	
Minimum Flow Rate @ 30°F ΔT (GPM)		33	54	
DHW Setpoint Temperature Range		95 – 180°F		
Water Pressure (PSI)	Heat Exchanger MAWP	160		
	Pressure Relief Valve	150		
Control Panel / Main Controller		LCD Display with LED Indicators / 926 Digital Control		
Connection Sizes	Supply / Return	2" NPT		
	Gas Inlet	1 1/2" NPTF	2" NPTF	
Materials	Cabinet	Powder Coated Galvaneal Steel		
	Heat Exchanger	316L Stainless Steel Water Tube		
Safety Devices		Flame Rectifier Probe, Water Temperature High Limit Switch (190°F), Freeze Protection, Condensate Trap with Overflow Switch, Included LWCO (Optional UL 353 LWCO), Blocked Vent Pressure Switch, Optional Gas High/Low Pressure Switch		