



**98% Ultra High Efficiency
Domestic Hot Water
Supply Boiler**

The Versatile and Ideal Solution for:

Restaurants



Apartments



Hotels



Office, etc.



Efficient 98% Operation

Reliable Operation

**Durable All Stainless Steel
(316L) Construction**

**Load Matching Modulating
Burner 4 to 1 turn down**

Light Weight Construction



HeatTransfer

Advanced Heating and
Hot Water Systems

120 Braley Road
East Freetown, MA 02717



The Munchkin VWH:

A Very Compact and Efficient Hot Water Supply Boiler

Condensing Technology, with 96% Efficiency, means lower energy cost to you!

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 Munchkin VWH will provide a maximum payback on fuel savings. As the chart at right illustrates, 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 Munchkin VWH could save you as much as 50% on your present fuel bills.

Durable All Stainless Steel 316L Heat Exchanger Design

The heart of the Munchkin VWH unit starts with the all stainless steel heat exchanger. The unique design of this heat exchanger provides maximum corrosion resistance on both the water side and flue side of the heat exchanger. Individual stainless steel circuits are precisely formed



The patented **Munchkin Heat Exchanger** has been designed to provide maximum heat transfer, while also providing unsurpassed corrosion resistance with stainless steel construction.

into a uniform shape. These individual circuits provide a larger amount of heat exchanger surface in a smaller area for a maximum amount of heat transfer. The flue and water circuits are scientifically baffled to maximize the flow and further increase the heat transfer rate. This allows the heat energy from the combustion process to transfer directly into the water as it passes through the individual stainless steel circuits. The Munchkin VWH heat exchanger absorbs so much energy that the exhaust gas can be vented with standard schedule 40 PVC pipe and requires no clearance from a combustible surface. The sealed combustion process and minimal water volume content eliminates external

heat loss. This results in negligible stand by heat loss, providing additional energy savings compared to a traditional water heating system.

Load matching Modulating firing rate 4 to 1 turn down ratio:

The advanced modulating burner design allows the Munchkin VWH to accurately match the system load. The 4 to 1 burner turn down ratio allows the Munchkin 399VWH to lower its BTU input from 399,000 to 100,000 and the 199VWH from 199,000 to 50,000 to match the system needs during a cycle. This advanced burner design keeps the heat exchanger running at maximum efficiency. Load matched modulation will eliminate short cycling and will extend the service life of the motor, individual components and will lower your maintenance costs.

European designed, high grade **stainless steel burner** with reliable spark ignition coupled with the Honeywell gas valve and Venturi system. This pre-mix combustion system is the engine which provides reliable and efficient operation.



This graph represents additional operational costs on lower efficiency boilers as compared to the 199VWH: ■=85% ■=80% ■=75%



This graph represents additional operational costs on lower efficiency boilers as compared to the 399VWH: ■=85% ■=80% ■=75%



■ Digital Control System



The **Munchkin 926 Control Board** is engineered to modulate the firing rate to match the actual needs of the heat system, saving money by conserving energy.

The Munchkin VWH digital control system accurately monitors the system requirements by compiling information to generate an algorithm that fully adjusts the firing rate while maintaining the desired output temperature. The pre-mix burner blower has a low voltage direct drive motor with a pulse relay counter. This system allows precise control over the blower speed and combustion air volumes. Coupled with the gas valve and an advanced air/gas mixing system, The digital control system is set to provide a one to one ratio of precisely measured volumes of fuel to air, providing you with clean burning and a highly accurate burner input. This allows the Munchkin VWH to meet the most stringent air quality standards.

■ Exceeds the most Stringent Energy Codes and Air Quality Standards

The Munchkin VWH is a highly efficient domestic Hot Water Generator, exceeding the most stringent state and federal requirements for installing a commercial water heating system. Independent laboratory tests have rated the Munchkin at 96% Efficiency. The Munchkin VWH has also met the requirements for allowable NOx emissions for SCAQMD Rule 1146.2

The Heat Transfer Products, Inc. Munchkin Natural Gas Fired Hot Water Boiler met the allowed 40ng/j NOx or 3% O₂ Corrected 55 ppm NOx and 400 ppm CO requirements of the Southern California Air Quality Management District Rule 1146.2



■ Venting in plastic PVC Schedule 40 Pipe

The Munchkin VWH is so efficient, it can even be vented with plastic Schedule 40 PVC Pipe. This eliminates the expense of stainless steel vents required by other conventional heaters. With a zero clearance rating to combustible surfaces, The Munchkin VWH, is a highly versatile application for almost any installation. This versatility also eliminates the need for expensive mechanical rooms, normally required for conventional systems.

	199VWH	399VWH
Input, BTU/hr	199,000	399,000
3% O ₂ Corr. CO, PPM	110	111
NOx ng/j	27	29
3% O ₂ Corr. NOx PPM	48	51

■ Packaged high velocity bronze pump

Each Munchkin VWH is packaged with a high velocity bronze pump that assures a maximum flow through the stainless steel heat exchanger. This pump is designed to match the system needs and provides a high flow rate to assure trouble free operation.

■ Compact design - Lightweight Construction

The munchkin VWH can easily fit through a standard door opening. The VWH is so light weight the 199VWH only weighs 111 lbs. and the 399VWH only weighs 252 lbs. These units can be double and triple stacked on standard racking that is rated to hold the weight of each heater. This allows multiple heaters to be installed within the footprint of one unit.

■ Standard Features

- Compact, Low Maintenance Design
- Plastic Boiler Cabinet and Cover
- Modulating Boiler Controller
- Combustion Blower
- 24 Volt Transformer
- Supply / Return Temperature Thermister
- Water Flow Switch
- Wiring Harness
- 5/8 Condensation Connection
- Vent Termination Coupling and Tee (PVC)
- Spark Electrode
- Rectification Probe
- High Grade Stainless Steel "NIT" Burner
- Electrical Junction Box With Switch
- High Limit Temperature Control
- 125 PSI ASME Relief Valve
- Boiler Rated up to 125 psi
- High Velocity Bronze Pump
- 5 Year Limited Warranty
- Venting Flexibility

VWH Recovery Rates in Gallons per Hour at Temperature Rise

MUNCHKIN VWH RESIDENTIAL BOILER

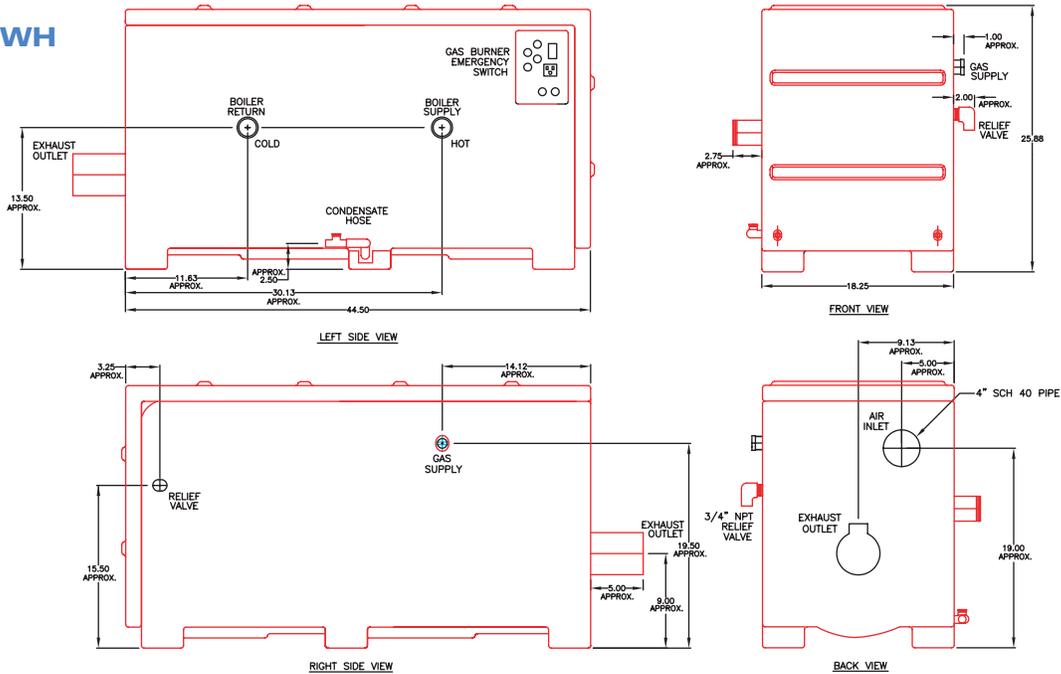
Model Number	Input Modulation BTU / hr	DOE Heating BTU / hr	Net I=B=R Ratings BTU / hr	DOE AFUE %	Boiler Water	Water Connections	Gas Connections	Vent Size	Fan Speeds		Ship. Wt.
									High	Low	
199VWH	66,000-199,000	183,000	159,000	95.1	1.8 gal	1-1/4" NPT	3/4"	3"	4800	1550	139 lbs.

MUNCHKIN VWH COMMERCIAL BOILER

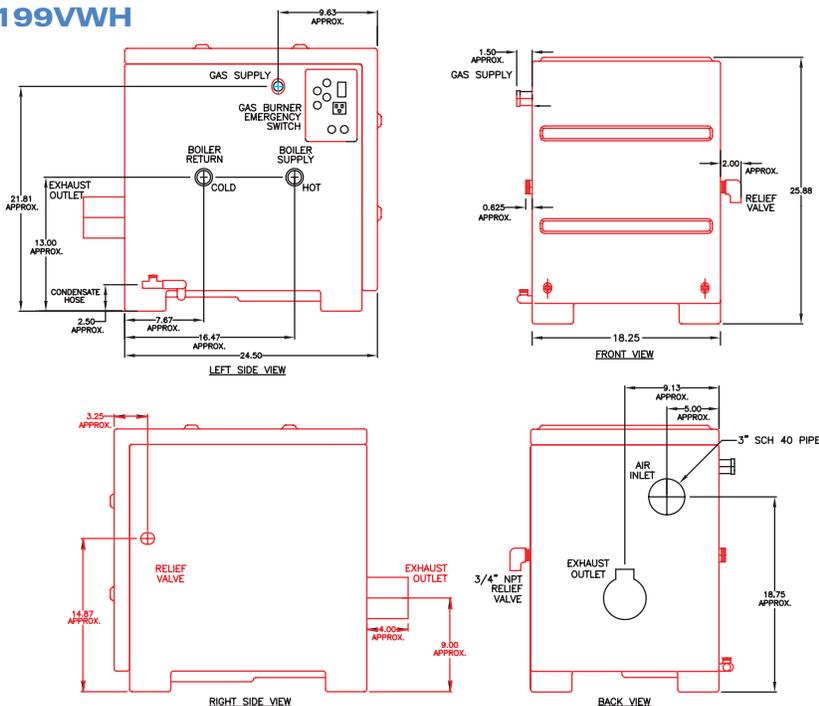
Model Number	Input Modulation BTU / hr	Gross Output BTU / hr	Net I=B=R Ratings BTU / hr	Combustion Efficiency%	Thermal Efficiency%	Boiler Water	Water Connections	Gas Connections	Vent Size	Fan Speeds		Ship. Wt.
										High	Low	
399VWH	100,000-399,000	379,000	330,000	95.1	93.4	4.2 gal	2" NPT	1-1/4"	4"	7700	1900	290 lbs.

Munchkin 199 / 399 VWH Port Locations

399VWH



199VWH



Recommended Service Clearances

