

MUNCHKIN

STAINLESS STEEL HIGH EFFICIENCY BOILER

MODULATING COMMERCIAL GAS BOILER FROM 100,000 TO 399,000 BTU/HR

Opening the Door to the 21st Century in High Performance Heating Equipment

This is one of the most compact and efficient heaters available on the market today. Each Munchkin boiler will modulate its firing rate to match the actual energy requirements. This feature provides additional savings versus traditional single firing heaters. With stainless steel construction, you can be assured that you are buying the highest quality appliance.

Proven European technology, manufactured in the United States.

Quiet operation is just another benefit that comes with the Munchkin boiler.



Durability

96% Efficiency

Quiet Operation

Reliability



The Munchkin Gas Boiler:

The Most Compact and Efficient Boiler Available on the Market

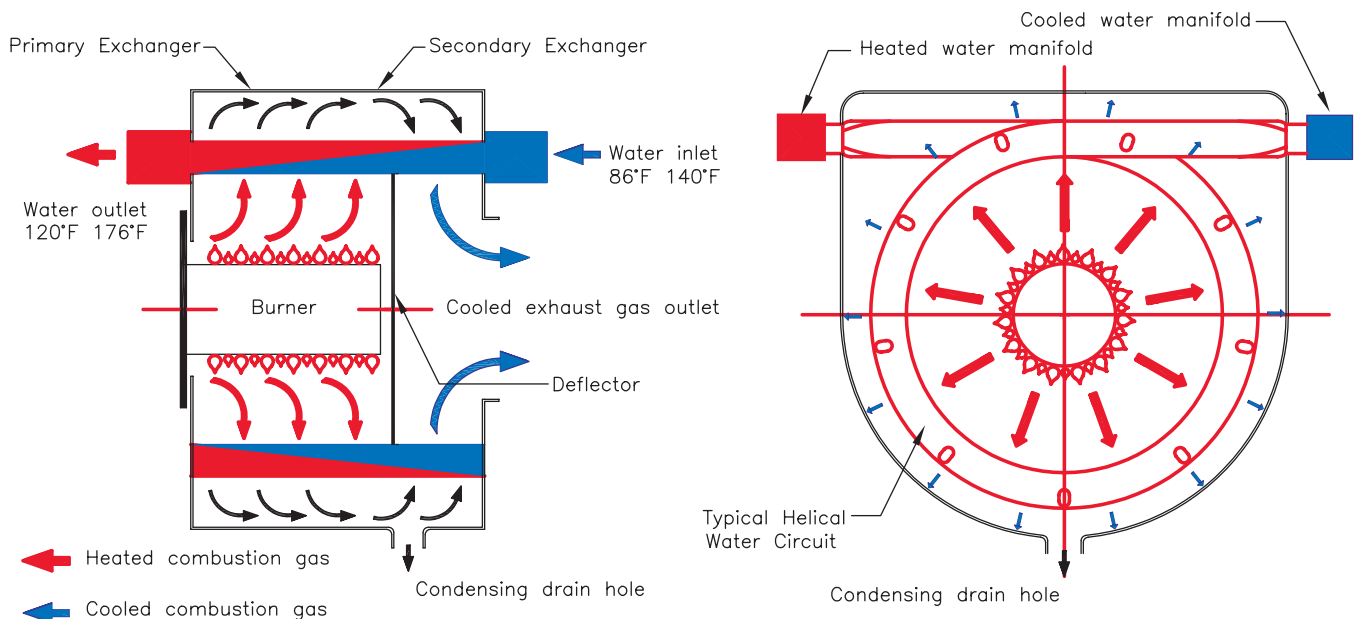
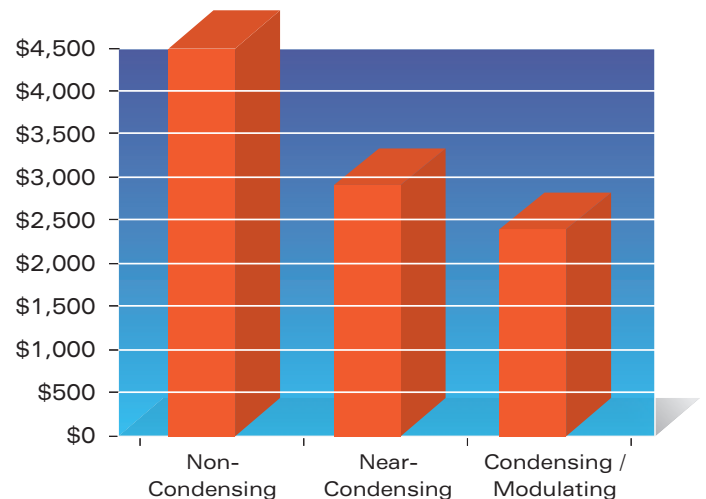
■ 93% AFUE condensing technology

The cost of fuel in some areas of the country has increased almost 40% in just one year! Munchkin High Efficiency Modulating 93% AFUE* commercial gas boilers provide maximum payback on fuel savings. As the chart illustrates below savings can result in payback periods of **less than 3 years**. Depending on the age of your present equipment, the Munchkin could save you as much as **50%** on your fuel bills.

■ Durable All Stainless Steel Heat Exchanger

The Munchkin design starts with the individual stainless steel helical water circuits, which provide maximum corrosion resistance caused by the condensing of the flue gas inside the secondary portion of the heat exchanger. The flue and individual stainless steel water circuits are baffled to direct the flow which maximize 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 helical circuits. The Munchkin 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 means very little stand by heat loss, resulting in additional energy savings versus a traditional system.

3-Year Energy Costs

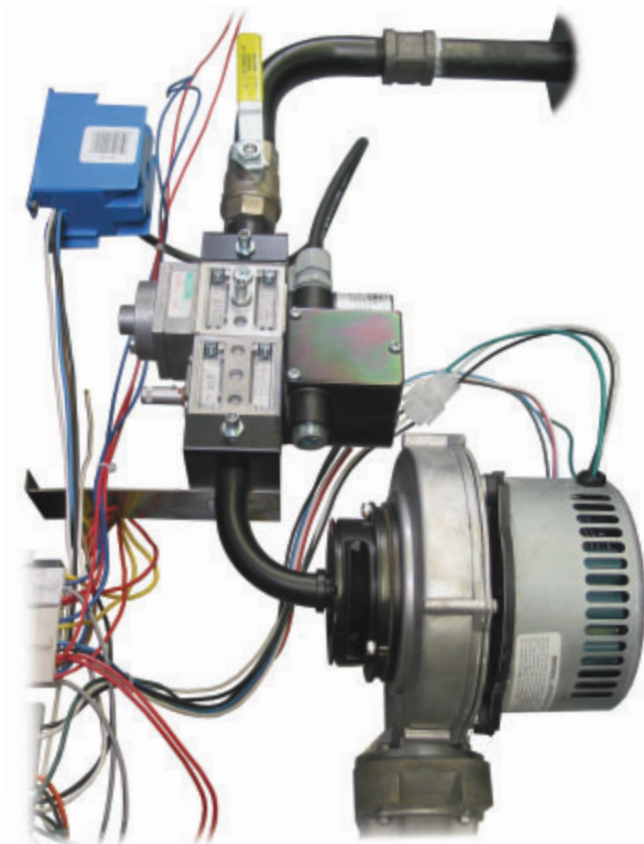


■ Fully Modulating Firing rate 4-to-1 turn down

The fully modulating Munchkin Boiler accurately determines what input the system needs in order to match the system requirements. The 4-to-1 turn down ratio gives the Munchkin the ability to lower or increase the boiler input from 100,000 btu/hr to 399,000 btu/hr. This modulation allows the boiler to match the actual load through the entire heating season, which keeps the efficiency of the boiler at a maximum. The modulation will eliminate short cycle which helps extend the service life of motors and individual system components. **This lowers your maintenance cost.**

■ Digital Control System

The Munchkin digital control system accurately monitors the system requirements by compiling information to generate an algorithm to fully adjust the firing rate while maintaining the desired output temperature. The premix burner fan has a low voltage direct current drive motor with pulse relay counting. This system allows precise control over the fan speed and combustion air volumes. Coupled with the gas valve and venturi system set to provide one-to-one ratio of precisely measured volumes of fuel to air, accurate and instant burner output is achieved. This keeps the Munchkin running at **93% AFUE** and combustion efficiency at **96%**, Thermal Efficiency **95%**.



■ Venting in Plastic PVC Schedule 40

The Munchkin 399 boiler is so efficient it vents in Plastic Schedule 40 PVC Pipe. This eliminates the expense stainless steel vent requirements other boilers require. The Munchkin is so efficient with plastic venting it is rated for **zero clearance** to combustible surfaces. This makes the Munchkin 399 very versatile for many installations. This versatility also eliminates the need for expensive mechanical rooms normally associated with conventional boiler installations.

■ Compact design — Lightweight construction

The Munchkin 399 can easily fit through standard door openings. It also only weighs 252 Lbs., which makes it very easy to handle in difficult installations. These units can be double- and triple-stacked with standard racking that is rated to hold the weight of each boiler. This allows multiple boilers to be installed **within the footprint of one unit!**

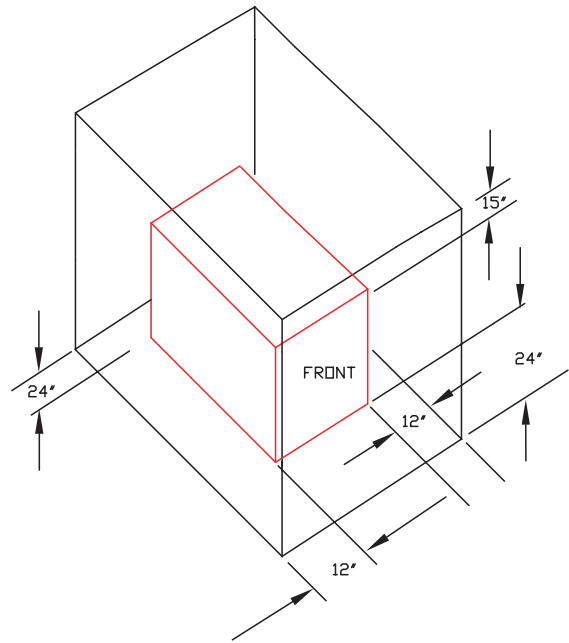
■ Add-on Vision Systems

Vision authorized dealers can increase the installation capability of the Munchkin 399M Boiler by adding on one or more of the three Vision systems. Vision Systems offers the customer a variety of “add-on” controls like Outdoor Reset, Multiple Boiler Control, Zone Temperature Control, Alarms and many other features.

Standard Features

- Plastic Boiler Cabinet and Cover
- Modulating Boiler Controller
- Combustion Blower Fan
- 24 Volt Transformer
- Supply / Return Temperature Thermister
- Water Pressure Switch (Set at 8 PSI)
- Wiring Harness
- 5/8 Condensation Connection
- Vent Termination Coupling and Tee (PVC)
- Spark Electrode
- Rectification Probe
- High Grade Stainless Steel Burner
- Electrical Junction Box With Switch
- High Limit Temperature Control
- 30 PSI ASME Relief Valve
- Boiler Rated up to 125 psi Relief Valve
- Combination Pressure - Temperature Gauge
- New 2" Boiler Return & Supply Connections

Recommended Service Clearances



399M Performance Rating

Input Modulation	DOE Heating	AFUE	Thermal Efficiency	Combustion Efficiency	Normal Output	Shipping Weight
100,000 to 399,000	93,000 to 279,000	93%	93.35%	95%	374,000 BTU/hr.	252 lbs.

399M Connection Sizes

Supply/Return Connection	Gas Connection Size	Vent Diameter
2" NPT	1-1/4"	4"

399M Dimensions

