

## Super Efficient Design

The super-efficient Mantis exceeds 93 percent efficiency A.F.U.E. – certified to American National Standards Institute criteria – making it the most efficient vented fireplace you can buy.\*

The multistage heat exchanger captures more than 93 percent of the heat energy from the burner and directs this warm air into your home – not up the flue. In fact, the exhaust gas exits the flue at just 120 to 130 degrees F, making Mantis the first and only condensing fireplace. Exhaust from the Mantis is cool enough to run in PVC.

And, because the Mantis uses PVC for venting, the total installed price (unit, labor, and materials) compares favorably to a conventional B-vent or direct-vent fireplace.

The Mantis puts the green in environmentally friendly. Its powered heat-exchanger technology ensures the optimal air/fuel mixture for consistently clean-burning operation. With its clean burn and super-efficient heat exchanger, the Mantis generates fewer greenhouse gases – CO and CO<sub>2</sub> – per Btu of heat than conventional gas heat sources.

With the majority of the heat delivered to your room, the top and sides of the Mantis stay cool-to-the-touch – so cool, in fact, it earned a zero-clearance certification for installation against any combustible building materials.

The dual burner delivers 9,000 Btu (front only), 19,000 Btu (rear only) or 28,000 Btu (combined). Operating the front burner alone lets you enjoy the ambiance of the attractive log set and gas fire without overheating the room. But, when the temperature dips, the Mantis rises to the occasion, switching on the second burner to produce maximum heat output.

As the first condensing vented gas fireplace certified for use in the U.S., the Mantis is unique.

\* When you compare fireplace efficiency, remember, the U.S. government recognizes only Annual Fuel Utilization Efficiency (AFUE). Listings that show "Steady State" or other terminology tend to overestimate efficiency and are not valid comparisons to AFUE.

Gas Inlet: 3/8 Inch Flare
Ignition System: Hot Surface
Electrical Requirements: 115 VAC 60 Hz
Direct-Vent PVC Flue O.D.: 3 in Max Length: 47.5 in
Single-Vent PVC Flue O.D.: 1.5 in Max Length: 20 ft equivalent with elbows
Warranty: 10 Years on Heat Exchanger, Limited 5 years on all other parts, 2 years on Labor

## Mantis Technology

Inside the Mantis separate systems create the heat and distribute the heat, so room air stays isolated from the combustion process.

### Creating the Heat

(White, Black and Gray Arrows)

(A) The power vent blower draws in outdoor air (White Arrow) via the outer direct-vent pipe.

(B) Inside the fireplace the three-stage burner, below the log set, mixes the air and gas (LP or natural) and burns it to produce heat.

(C) The power vent blower forces the hot combustion gases (750° Fahrenheit) out of the combustion chamber and through the heat exchanger (Black Arrow).

(D) The combustion gases exiting the heat exchanger (now cooled to 120° to 130°) are forced outdoors through the small diameter inner vent pipe (Gray Arrow).

### Circulating the Warmth

(Blue and Red Arrows)

(E) The circulation blower draws in room air (Blue Arrow) via louvers beneath the fireplace...

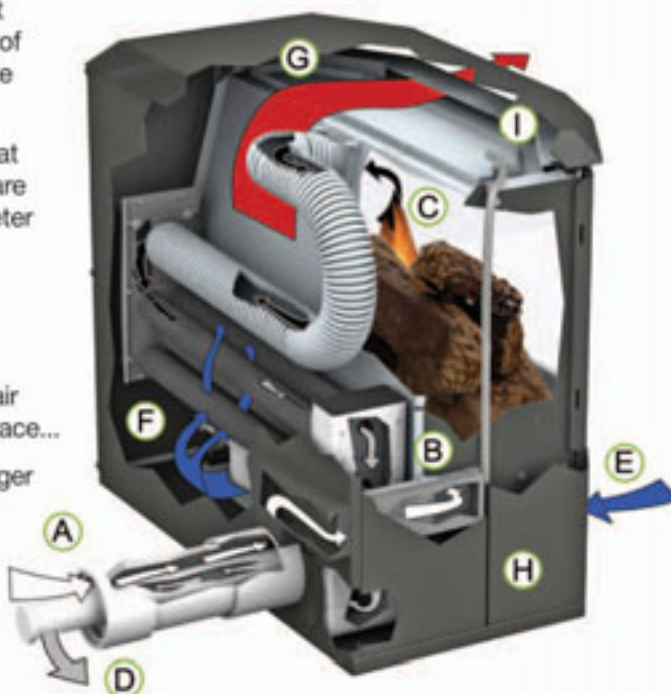
(F) ...and forces it across the heat exchanger fins. This transfers the heat from the combustion gases inside the tubes to the room air flowing through the fins on the outside of the tubes.

(G) The blower forces the now warm air out through louvers above the fireplace.

### Adding the Humidity

(H) Droplets of moisture, a by-product of the Mantis's super-efficient heat exchanger, are captured in a holding tank (not visible).

(I) Once the Mantis reaches operating temperature, a pump cycles on to send the collected water onto a stainless steel tray above the combustion chamber, where heat and airflow circulate the water vapor. This added humidity helps alleviate the static shocks, wood furniture damage, and even sore throats caused by dry winter air.



### Mantis Options and Accessories

Your Empire Comfort Systems Dealers can tailor your Mantis to suit your needs - thermostats, remote controls, pedestal, surround, mantels (Light Oak, Dark Oak, Cherry, White or Unfinished), and vent kits.

### Awards



Member of the following industry associations:



This appliance is design-certified to the ANSI standard by:



Empire is committed to continuous product improvement; specifications are subject to change without notice. Flame size, shape, and color will vary from photos. Our mantels feature natural veneers and hand-rubbed finishes – wood grain and color will vary. Adjust light levels and use "natural light" incandescent bulbs to enhance the dramatic look for your wooden mantel. Specifications are subject to change without notice.

Mantis is a trademark of Empire Comfort Systems Inc.  
ECS, Inc. • 918 Freeburg Ave. • Belleville, IL 62220-2625  
618-255-7420 • 800-851-5155 • FAX 800-443-8648  
e-mail: info@empirecomfort.com  
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# Mantis™

## “The Most Efficient Vented Hearth Product on the Market”

### The First and ONLY Vented Fireplace That

- Exceeds 93% Efficiency – A.F.U.E.
- Uses PVC Pipe for Low-Cost Venting Installation
- Humidifies as it Heats
- Installs as Fireplace, Insert, or Freestanding Stove Direct-Vent or Single-Vent



## Humidify While you Heat

The Mantis captures condensed water – a by-product of its clean combustion and super-efficient heat exchanger – and evaporates it to introduce humidity to the room air. An automatic blower in the Mantis gently diffuses the humidified air into the room.

The result is a more comfortable home environment, fewer complaints of dry throats, and less frequent static electricity discharges as you move about the room.

## Advanced Technology and Solid-State Controls

The sophisticated control system monitors every critical aspect of the Mantis's operation to maximize efficiency, comfort, and safety.

For all its advanced technology, the Mantis is amazingly easy to operate. Two on/off buttons control the two burners, allowing you to set the heat output to low (front only), medium (rear only) or high (both burners).

Or, choose one of the optional external controls, such as the programmable thermostat or thermostat remote, and let your Mantis deliver the right amount of heat for each day of the week and time of the day.

The Mantis automatically purges unburned gas from the combustion chamber for 40 seconds before each ignition for controlled, even starts every time. The modern, hot-surface ignitor conserves gas by eliminating the need for a standing pilot.

The three-speed automatic circulating fan cycles on only after the Mantis reaches operating temperature and continues blowing as long as it senses warm air. You never feel a cool draft – just warm, humidified air.

## Quality Construction - Factory Tested

Critical internal components in the Mantis – including the heat exchanger – are manufactured from the same corrosion-resistant and heat-resistant stainless steel originally developed for high-efficiency central furnaces.

Choose decorative fireplace frames in rich 24-karat gold plating or contemporary chrome plating. The steel cabinet is finished in black matte powder coating to resist chipping and smudging.

Precision-formed one-piece ceramic glass helps radiate heat into the room. This one-piece bay window provides a great view of the flames and log set from any angle.

The long-lasting woven door gaskets are hand formed and factory tested for fit and proper sealing.

The Mantis's ceramic fiber log set complements the flame pattern, while the hand-painted finish provides exceptional realism.

Two rugged printed circuit boards – designed specifically for the Mantis – monitor all critical functions and controls. The hand-assembled wiring harness is made from heat-insulated copper wire fitted with click-lock connectors for reliable performance.

Two powerful blowers inside the Mantis feature maintenance-free motors driving precisely balanced fans for a lifetime of efficient performance. The power vent fan draws air into the combustion chamber and draws hot gases through the heat exchanger. The circulation fan draws room air across the heat exchanger and circulates the heated air throughout the room.

To ensure your fireplace performs flawlessly, every Mantis is connected to gas, electricity, and a PVC exhaust system, and test fired before it leaves our factory.

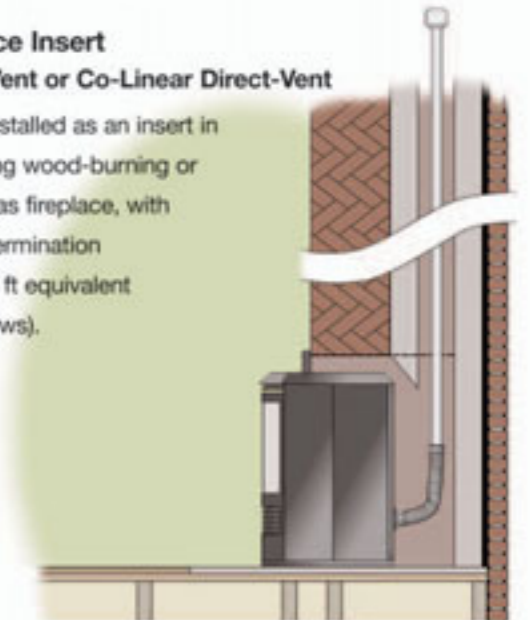
## Versatile Installation

With the exhaust and intake pipe made from PVC and a Power Vent blower controlling the flow of air and exhaust, the venting options are numerous. Install the Mantis as a co-linear direct-vent or single-vent system with PVC pipe (up to 40 feet), or co-axial Direct-Vent (up to 40 feet). Using PVC for venting significantly reduces installation time and means cutting a much smaller opening in the home's exterior than for conventional metal venting.

### Fireplace Insert

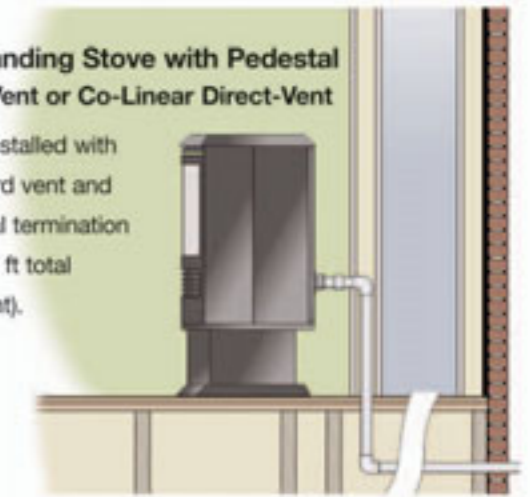
#### Single-Vent or Co-Linear Direct-Vent

Mantis installed as an insert in an existing wood-burning or vented gas fireplace, with vertical termination (up to 40 ft equivalent with elbows).



#### Freestanding Stove with Pedestal Single-Vent or Co-Linear Direct-Vent

Mantis installed with downward vent and horizontal termination (up to 40 ft total equivalent).



#### Zero-Clearance Fireplace Co-Axial Direct-Vent

Mantis installed as a direct-vent along any outside wall (up to 4 ft in depth). Shown in an Empire cabinet mantel with integral base.

