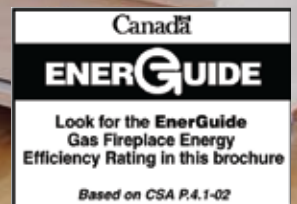


Mantis™

by Empire Comfort Systems

CANADIAN MODELS

The World's Most *Efficient* and
Versatile
Fireplace System



The First and ONLY Vented Fireplace That

- Exceeds 90% Efficiency
- Uses PVC-636 Pipe for Low-Cost Venting Installation
- Humidifies as it Heats
- Installs as Fireplace or Freestanding Stove
- Installs as a Direct-Vent or Single-Vent System



Above: Mantis Bay Window Pedestal Package (Shown with Chrome Window Frame)

Below: Mantis Bay Window Pedestal Package (Shown with Black Window Frame)



Welcome to MANTIS

The World's Most Efficient and Versatile Fireplace

The Mantis exceeds 90% efficiency – which means it uses about 35 percent less fuel compared to any other vented heater or fireplace system per Btu of heat in your room. This makes Mantis the greenest fireplace you can buy.

Because its inexpensive 1 1/2-inch PVC-636 vent pipe can be run inside a conventional 2 x 4 framed wall, the Mantis costs less to install – in materials, time, and labor.

The Mantis is the first and only vented fireplace that adds humidity to the dry winter air, making your home feel warmer and more comfortable.

The Mantis comes in two versions. The new flat-front Mantis Fireplace comes in models with vent kits to allow installation in a wall or in a mantel. The Mantis Bay Window comes in models for installation in a mantel or on a pedestal.

	<i>Mantis</i>	<i>Conventional DV Fireplace</i>
Efficiency	90%*	60%
Gas Input (Btu/H)	28,000	28,000
Heat Output (Btu/H)	25,200	16,800
Exhaust Gas Heat Loss (Btu/H)	2,800	11,200!!
Annual Savings	35%	0

Green Heating with Gas

According to the US Environmental Protection Agency, heating with any gas appliance generates far less particulate pollution than heating with any other common fuel. The worst polluter, a wood fireplace, generates 28 pounds of particulates (measuring 2.5 microns or more) for every million Btu of fuel you put in. Heating with gas generates a tiny fraction of that (just 0.0083 pound) for every million Btu input. Compared to an EPA-certified wood stove, gas heat still generates less than 1 percent of the particulate pollution. And gas produces less than 2 percent of the pollution emitted by a pellet stove.

<i>Particulate Pollution Generated by Heat Source</i>	<i>PM 2.5 lb/ million BTU</i>	<i>Percentage Compared to a Wood Fireplace</i>
Fireplace Burning Wood	28	-
Uncertified Wood Stove	4.6	16.43%
EPA-certified Wood Stove	1.4	5.00%
Pellet Stove	0.49	1.75%
Oil Furnace	0.013	0.05%
Gas Furnace	0.0083	0.03%



What Makes Mantis Unique?

Inside the Mantis a three-stage heat exchanger sends more than 90 percent of the heat energy into your home – not up the flue. While the temperature inside the combustion chamber may exceed 900 degrees F, the exhaust gas exits the flue at just 120 to 130 degrees F – as little as two feet away!

This makes Mantis the first and only condensing fireplace, which means the exhaust is cool enough to run in PVC. Using PVC for venting makes the total installed price (unit, labor, and materials) comparable to a direct-vent fireplace or pellet stove.

The Mantis puts the green in environmentally friendly. Its power-vented 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 CO₂.

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 burners deliver a total of 28,000 Btu. 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.

The Award Winning Mantis

The Mantis won the **2007 Innovation Award**, which recognizes products that best help HVAC contractors provide safer, healthier, more efficient, and more comfortable environments. Sponsored by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, the Air Conditioning & Refrigeration Institute, and The International Exposition Company.

The Mantis earned the **2007 Dealer Design Award**, which recognizes products that advance home heating & air conditioning, and attain new levels of installation, maintenance, and service ease. Sponsored by the NEWS, a monthly magazine serving HVAC Contractors.

The Home Builders Association of Connecticut awarded the **2009 HOBI Award for Best Green Product** to the Mantis Fireplace in The Homes at Greenbrier sustainable community. The HOBI awards were sponsored by HBA of Connecticut, Inc.

ENERGUIDE

EnerGuide is a Government of Canada rating system that provides consumers with comparative information on the energy performance of energy-using products sold in Canada.

The **EnerGuide** energy efficiency rating for the Bay Window and Fireplace Mantis vented gas fireplace is 91% when tested to the Canadian Standards Association's *CSA P.4.1-02 Testing Method for Measuring Annual Fireplace Efficiency*.

For more information on the EnerGuide Program, please visit the EnerGuide Web site at oee.nrcan.gc.ca/equipment.



Mantis In-Wall Fireplace Package (Shown with Black In-Wall Surround Kit)



Advanced Technology and Solid-State Controls

The sophisticated control system monitors every critical aspect of the Mantis' 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 temperature to low (front only), medium (rear only) or high (both burners).

Or, choose one of the optional external controls, such as the programmable thermostat, 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 igniters conserve 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.



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

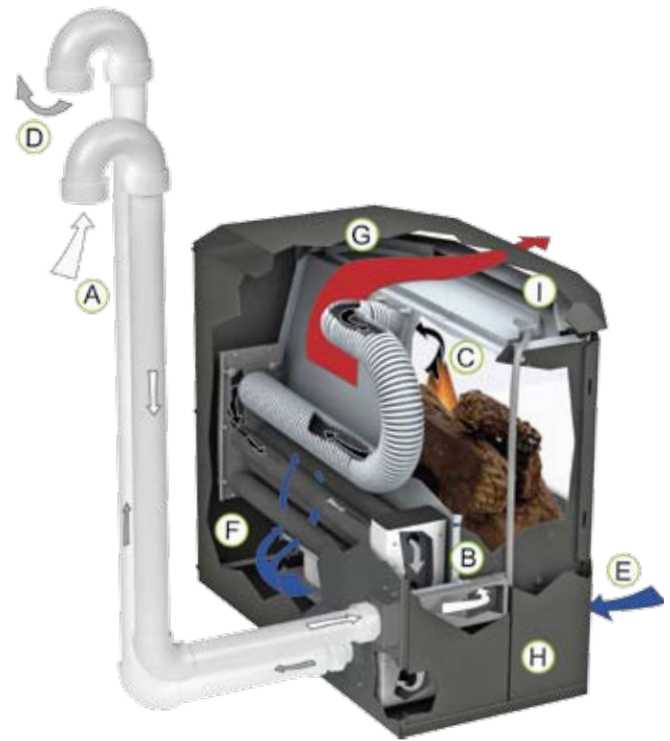
Creating the Heat (White, Black and Gray Arrows)

(A) The power vent blower draws in outdoor air (White Arrow) via the PVC intake 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 extracts the hot combustion gases (up to 900° Fahrenheit) out of the combustion chamber and through the heat exchanger (Black Arrow).

(D) The combustion gases exit the heat exchanger (now cooled to less than 130°) and are forced outdoors through the PVC 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 more than 90% of the heat inside the tubes to the room air.

(G) The blower forces this warm air out through louvers above the fireplace to warm the home (Red Arrow).

Adding the Humidity

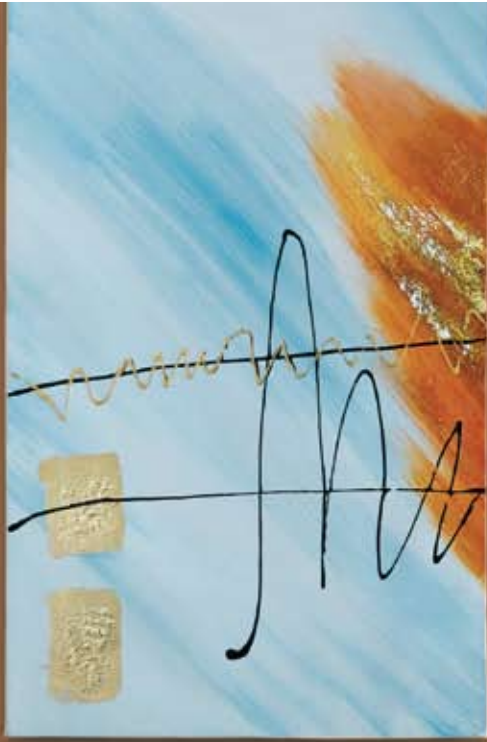
(H) Droplets of moisture, a by-product of the Mantis' super-efficient heat exchanger, are captured in a holding tank (not visible).

(I) Once the Mantis reaches operating temperature, a pump cycles on to send any 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.

Opposite Page: Mantis In-Wall Fireplace Package (Shown with Copper Metallic In-Wall Surround Kit)

Right: Mantis Fireplace Package (Shown with Matte Black Mantel Surround Kit and Oak Mantel)





*Mantis Bay Window
Pedestal Package with
Chrome Window Frame*

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 that was developed for high-efficiency central furnaces.

The steel cabinet is finished in matte black powder coating to resist chipping and smudging. The Mantis Bay Window is available with decorative fireplace frames in rich 24-karat gold plating, contemporary nickel chrome plating, or matte black.

Ceramic glass withstands temperatures in excess of 1,500-degrees F and radiates more heat into the room, while providing a great view of the flames and log set.

The Mantis' hand-painted ceramic fiber log set complements the flame pattern, and glows when heated to provide exceptional realism.

Two rugged printed circuit boards – designed specifically for the Mantis – monitor all 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 quiet, efficient performance. One fan draws air into the combustion chamber and draws hot gases through the heat exchanger. The second 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 an exhaust system, and test fired before it leaves our factory.



Humidify While You Heat - Greater Comfort

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.

This water contains fewer contaminants than the drinking water in most homes. An automatic blower in the Mantis gently diffuses the humidified air into the room.

The result is a more comfortable home environment.



Automatic Humidification

Most heaters dry the air. Mantis actually adds humidity to the home for greater winter comfort.

- (A) Water vapor, a combustion by-product, condenses out of the rapidly cooled exhaust and collects in a holding tank (not shown).
- (B) Mantis pumps the water onto an evaporation tray above the firebox.
- (C) Heat and circulating air evaporate the water to create humidity.

Versatile Installation

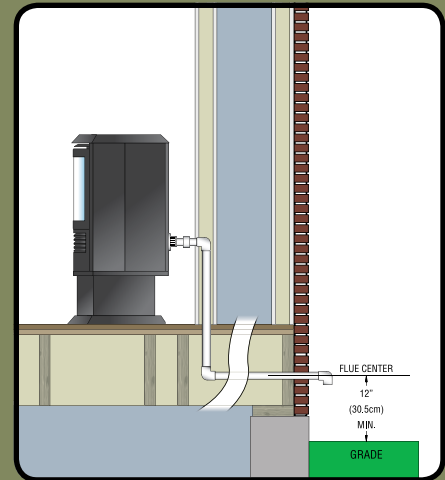
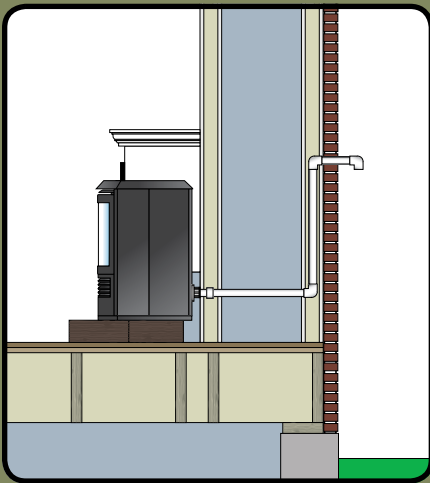
With the power-vented exhaust and intake made from PVC, the venting options are numerous. Install the Mantis as a direct-vent co-linear or as a single-vent system.

Any vent configuration may be used with any Mantis package. Using PVC for venting significantly reduces installation time, and requires cutting a much smaller opening in the home's exterior than is required for conventional metal venting. This makes Mantis ideal for any installation, especially for sunrooms, basements, and other applications that demand unobtrusive venting.

Packages include PVC vent adaptors for single and co-linear venting. Lengths of 1 1/2-inch PVC to complete the vent run are available at your local hardware store.

Freestanding Pedestal Stove Package ▶

Mantis Bay Window Pedestal Package installed with single vent running down and out through a basement or crawlspace to a horizontal termination (up to 40 ft of PVC-636). Single-vent and direct-vent 1 1/2-inch PVC-636 runs can also route up and out an exterior wall or up and out through the roof.

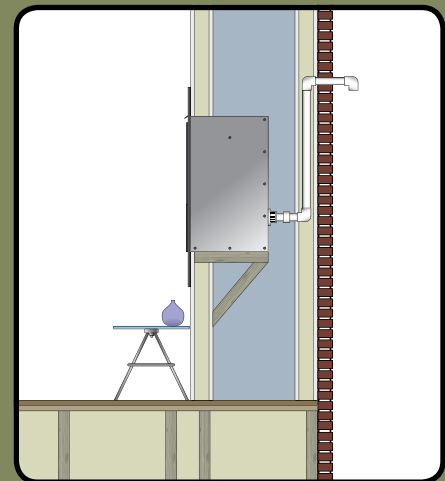


◀ Mantis Fireplace In-Wall Package

Mantis Fireplace installed in-wall with single-vent running up and out through a horizontal termination (up to 40 ft of PVC-636).

Zero-Clearance Fireplace Package ▶

Mantis installed with single-vent along an outside wall. Bay Window model shown with Empire cabinet mantel.



Surround Options and Available Finishes



Mantis Bay Window (BF28-BM)
with surround



Mantis Fireplace (FF28-BM)
with Mantel Surround (FFK-28)



Mantis Fireplace (FW28-BM) with
In-Wall Surround (FWK-28)



NEW! Mantis Fireplace (FW28-BM)
with Louverless Surround (FGK-28)



Matte Black



Stainless Steel



Copper Metallic



Hammered Pewter

Window Frame Color Choices for Mantis Bay Window



Black Frame



Chrome Frame



Gold Frame



Mantis Bay Window Pedestal Package
with Black Window Frame (installed
without pedestal)

Mantis Packages

Fireplace packages require metal surround available in Matte Black, Copper Metallic, Hammered Pewter, and Stainless Steel. Bay Window Fireplace packages include a Matte Black surround. Mantis Bay Window may be ordered with Black, Chrome, or Gold window frame.

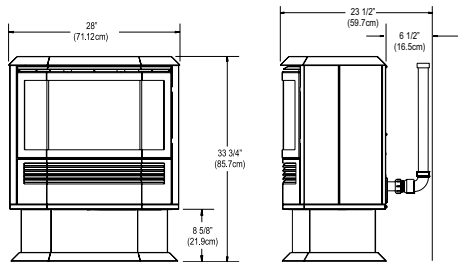
Mantis Fireplace Package for Zero-Clearance Fireplace <i>Includes PVCA Co-linear Adaptor, PVVKSH Vent Adaptor, 24-V Thermostat</i>	
BF28-BM	Mantis Bay Window Fireplace Package, Black Window Frame (for use with mantel) - Includes Slim Top & Surround
BF28-CM	Mantis Bay Window Fireplace Package, Chrome Window Frame (for use with mantel) - Includes Slim Top & Surround
BF28-GM	Mantis Bay Window Fireplace Package, Gold Window Frame (for use with mantel) - Includes Slim Top & Surround
FW28-BM	Mantis Fireplace In-Wall Package (for in-wall installation) - Requires FWK-28 Surround
FF28-BM	Mantis Fireplace Package (for use with mantel) - Requires FFK-28 Surround
Mantis Pedestal Package for Installation as a Freestanding Stove (with or without pedestal) <i>Includes PVVKSH-636 Single-Vent Adaptor, PVPK Pedestal, 24-V Thermostat</i>	
BP28-BM	Mantis Bay Window Pedestal Package, Black Window Frame - Includes Full Top
BP28-CM	Mantis Bay Window Pedestal Package, Chrome Window Frame - Includes Full Top
BP28-GM	Mantis Bay Window Pedestal Package, Gold Window Frame - Includes Full Top
Mantis Accessories	
TDV-1	Wall Thermostat, Wire, 24-V
TMV2	Wall Thermostat, 2-Stage
TRW	Wall Thermostat, Wireless
FRBTC	Remote Control, Thermostat, Battery Operated
FRBC	Remote Control, Battery Operated
FRBTP	Remote Control, Programmable, Battery Operated
FSW-1	Wall Switch
EMBF-9S	Cabinet Mantel*
EMBC-9S	Corner Cabinet Mantel*
Mantis Bay Window Accessories	
PV-4H	Top, 10-inch, for insert installation, projects Mantis further into room
PVSH	Black Metal Rear Shroud, 5-inch deep, conceals vent pipes on Pedestal Package
Floor Pad	May be required for applications over carpet or tile – see dealer
Mantis Fireplace Accessories <i>(FWK and FFK surrounds available in Matte Black, Copper Metallic, Hammered Pewter, or Stainless Steel. FGK surround available in Matte Black and Stainless Steel)</i>	
FGK-28	Mantis Fireplace Louverless In-Wall Surround Kit for use with FW28-BM
FWK-28	Mantis Fireplace In-Wall Surround Kit for use with FW28-BM
FFK-28	Mantis Fireplace Mantel Surround Kit for use with FF28-BM

* Mantels are available in Cherry, Dark Oak, Oak, Nutmeg, Unfinished Hardwood, Unfinished Oak, and White.

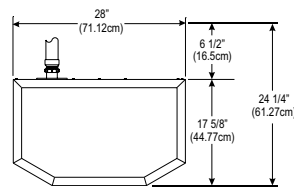
Specifications:

Btu/H	Fireplace Input/Output	Bay Window Input/Output	Efficiency	90+%
High (Both Burners)	28,000/25,200	28,000/25,200	Fan	3-Speed Automatic (cycles on only when heat is available)
Med (Back Burner)	15,000/13,500	19,000/17,100	Ignition	Hot Surface (eliminates standing pilot)
Low (Front Burner)	13,000/11,700	9,000/8,100	Humidification	Automatic
			Heating	Heats up to 1,600 sq ft (actual area will depend on heater position, floorplan, and home insulation)
			Clearance	Zero Clearance to combustibles

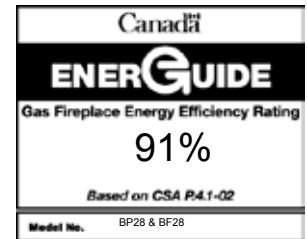
Mantis Bay Window Dimensions:



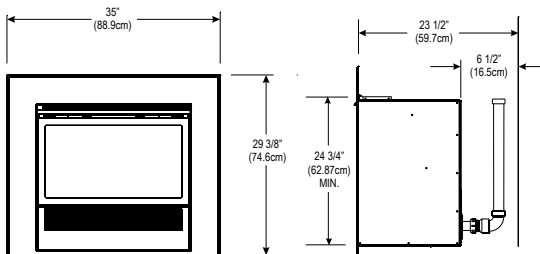
Bay Window Pedestal Package



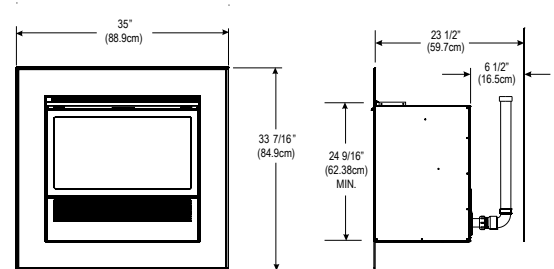
Bay Window Top-Down View



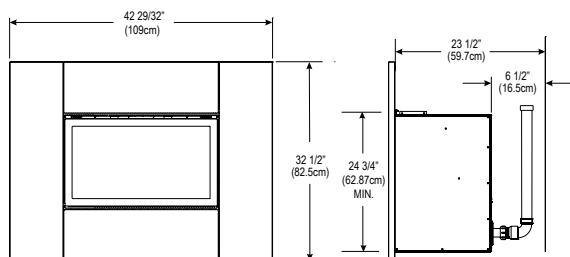
Mantis Fireplace Dimensions:



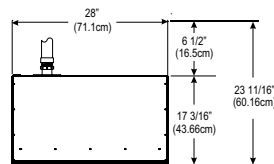
Fireplace Mantel Package
(with FFK-28 Surround)



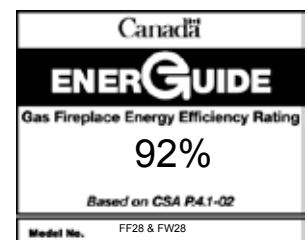
Fireplace In-Wall Package
(with FWK-28 Surround)



Fireplace In-Wall Package
(with FGK-28 Surround)



Fireplace Top-Down View



www.empirecomfort.com

Warranty Overview:

All Mantis units carry a limited 10-year warranty on Heat Exchanger, limited 5-year warranty on parts, and limited 2-year warranty on labor (See owner's manual for complete warranty information).

PVC pipe for Canada must comply with ULC S636.

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.

Member of the following industry associations:



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



Recipient of the following awards:



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