



**MULTI-POSITION
INDUCED DRAFT
VARIABLE SPEED
2-STAGE HEAT
GAS FURNACE
GMPE SERIES**



DESCRIPTION / APPLICATION

- Revolutionary new HIGH EFFICIENCY design utilizing the second generation Electronically Commutated Motor (ECMTM-2) by General Electric
- Ideal for new or retrofit applications. Provides constant CFM over a wide range of Static Pressure conditions independent of duct systems
- Thirteen field selectable airflow settings which can be adjusted to optimize the system CFM for each mode of operation
- Blower operation designed for soft start and stop for quieter more efficient operation. Eliminates cold blast of air on heating start-up
- Designed to provide low CFM for efficient FAN ONLY operation
- Provides improved humidity control and comfort. Additional humidity control is obtained using a standard humidistat
- Simple and uncomplicated design and application
- Requires no special controls or installation procedures
- Capable of multi-position installation- upflow, downflow or horizontal (left or right side application)
- All models certified by ETL Laboratories for compliance with National Safety Standards
- Completely assembled, factory tested furnace for heating or heating/cooling application
- Utility room, closet, alcove, basement or attic installation
- All models may be vertically vented with a hot water heater using B-1 vent

CONSTRUCTION

- Heavy gauge, reinforced, wrap-around, insulated cabinet with durable baked enamel finish
- Aluminized steel heat exchanger cells featuring our "weld free" manufacturing process
- Aluminized steel in-shot burners
- Right or left handed connection for gas and electric service

STANDARD EQUIPMENT

- Quiet operating
- 40va transformer for heating and air conditioning control service
- Combination redundant 2-stage gas valve and regulator
- Solid state integrated furnace control
- Blower door interlock switch
- Energy saving Hot Surface Ignition system
- Provision for bottom, left or right side return air connection
- Quietly operating vent motor
- Easily removable base plate
- Multiple flame roll-out switches
- Outlet air limit switch
- Pressure switch for proof of air
- LoNox approved

OPTIONAL EQUIPMENT

- L.P. Conversion Kit (LPM-03)
- Combustible floor base for down flow application (SBM)
- Sidewall Venting Blower (SVB-80) for Horizontal venting

BEFORE PURCHASING THIS APPLIANCE, READ IMPORTANT ENERGY COST AND EFFICIENCY INFORMATION AVAILABLE FROM YOUR RETAILER.

PERFORMANCE RATINGS

Model No.	Input Nat Gas 1st stage BTUH	Input Nat Gas 2nd stage BTUH	Heating capacity 2nd stage BTUH	DOE **A.F.U.E	Temp. rise range
GMPE075-3	48,000	75,000 ⁺ *	60,000	80.0	35-65
GMPE100-4	65,000	100,000 ⁺ *	80,000	80.0	35-65
GMPE125-5	80,000	125,000 ⁺ *	100,000	80.0	40-70

* for altitudes above 2,000 feet reduce rating 4% for each 1,000 feet above sea level. ⁺(L.P. Derated 25% of Normal Input)

**DOE AFUE based upon Isolated Combustion System

SPECIFICATION DATA

Model GMPE	Motor H.P.	Blower Dia.	Blower width	Vent dia. metal	Filter size In. *	F.L.A.	Max..fuse	Shipping weight
075-3	1/2	10"	8"	4"	16 x 25	8	15	124
100-4	3/4	10"	10"	4"	20 x 25	12	15	156
125-5	1	11"	10"	4"	20 x 25	12	15	166

*Filter dimensions are for bottom return. All models require 18 X 25 filter(s) for side return installations.

CLEARANCES FROM COMBUSTIBLE SURFACES

Sides	Rear	Front	Top	Top (horiz. installation)	Vent (single wall)	Vent(B-1)
1"	0"	3"	1"	1"	6"	1"

The **GMPE** series of gas furnaces represent the next generation of gas fired heating equipment in conjunction with sophisticated air moving capabilities. Combining all the standard features of our multi-position furnace with the new General Electric **ECMTM** Programmable Motor, the **GMPE** series furnaces were designed to provide the highest level of indoor comfort at the increased energy efficiencies demanded today.

The **GMPE** furnaces do not require any special external electronic controls. This new generation of furnaces can be operated utilizing the same controls as our standard furnaces, without any extensive or complicated connections.

WHAT DOES THE GMPE SERIES OF GAS FURNACES DO?

Efficiency

The **ECMTM** motors used in the **GMPE** series of furnaces are, at full load, over 20% more efficient than the motors used in a typical furnace -- and they maintain this efficiency throughout the entire load range in variable speed applications.

When coupled with a High Efficiency condensing unit and matching indoor coil the **S.E.E.R.** ratings will increase.

This is attributed to the reduced wattage consumption of the **ECMTM** motor and the extraction of residual cooling captured in the indoor coil during the rampdown process.

Constant CFM vs. Static Pressure

The air flow delivered to the air distribution system is dependent upon the static pressure required for comfort. This requires careful attention to the design of this distribution system. Often the system's air flow requirements in the cooling and heating mode differ greatly. This makes the system design much more difficult to achieve. In most cases it is a compromise. In such cases the system's capacity may be reduced, resulting in higher operating costs while the comfort level decreases.

The **GMPE** series of furnaces delivers the optimum air flow for the system size, whether in the heating or cooling mode. This is done without regard to the static pressure imposed by the air distribution system.

Constant Fan Operation

The air flow delivered to the system in the constant fan operation by the typical furnace is the full system requirement. In most applications the constant fan operation is intended to provide air circulation throughout the conditioned space to prevent air stratification (dead air). In such applications the full system air flow is not desired due to the high level of background noise and increased operating costs.

The **GMPE** series of furnaces deliver approximately 30% of the system's full air flow. This results in low background noise and reduced operating costs.

Humidity Control

The typical furnace, when coupled with today's High Efficiency outdoor sections and operating under high humidity conditions, may not remove sufficient moisture from the conditioned air to provide desired comfort levels.

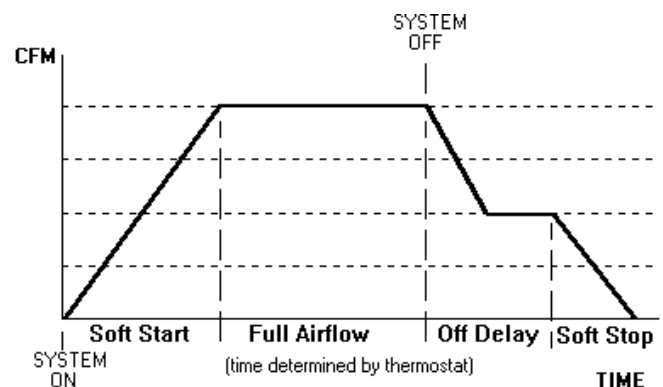
The **GMPE** series of furnaces provide humidity control when operated with a standard 24v. humidistat. When the humidistat detects a high humidity condition the air flow supplied to the system is reduced. This in turn allows the indoor coil to remove more moisture from the conditioned air. When the humidistat detects reduced humidity conditions, the air flow to the system returns to normal operation.

Soft start/stop vrs. Instant on/off

Upon a call for system operation, the **GMPE** furnace motor provides a soft start. This means that the air flow delivered to the system "ramps" from zero to the system's full air flow requirements. Ramping the air flow during the system start-up matches the air flow requirements more closely to the immediate system capacity needs. This eliminates the complaints of warm or cool air blasts.

Upon satisfying the heat or cool demand the **GMPE** furnace motor provides a soft stop. This means that the air flow delivered to the system ramps down to approximately 50% of the full system requirements. It remains there for a short period of time before ramping down to a full stop. The intent of the shut-down air profile is to take advantage of the residual heating or cooling capacity without warm or cool air blasts.

The start-up and shut-down ramping of the air flow requirements eliminate the perceived noise and distraction that occurs during the normal operation of heating and cooling equipment.



Two Speed Application

The typical furnace blower motor, when matched with a two speed outdoor section, does not deliver the optimum air flow to the system for both high and low speed operations. This is due to design deficiencies inherent in the design of the standard induction motor. Because of this, the typical two speed application is designed to operate based upon the air flow delivered at either high or low speed. As a result, the overall system efficiency and comfort level provided is compromised.

The GMPE series of furnace delivers the optimum air flow to the system for both high and low speed operations. As a result the overall system efficiency and comfort level provided by the system is not compromised.

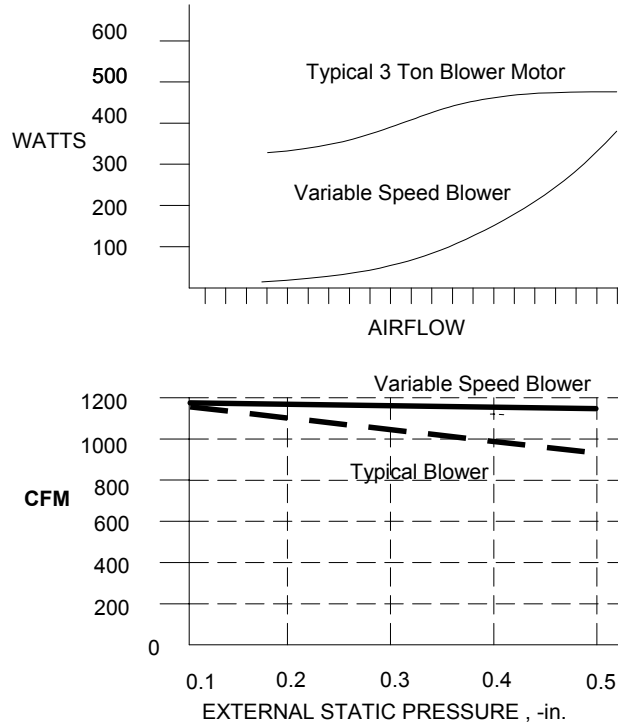
Two Stage Heating Operation

The GMPE furnace incorporates a two stage heating function. Controlled by a two stage room thermostat, this furnace reduces the firing input to match the house demand. This feature saves gas and electrical usage while providing maximum comfort.

HOW DOES THE GMPE FURNACE AIR FLOW CHANGE?

The **GMPE** series furnace blower motor has an internal microprocessor control circuit that has been programmed with pertinent information about the system. As such, the motor responds directly to the demands communicated by the thermostat and other control lines in a preprogrammed manner. Simply by flipping a switch or removing a jumper wire on the field wiring low voltage input board, it is possible to tailor the air flow delivered by the furnace.

The **GMPE** series furnace blower motors have been preprogrammed for operation at four (4) distinct air flow levels. These are as follows: cooling, gas heat, heat pump, and heat pump with gas heat back-up. The various combinations on the low voltage terminal board permit different air flow selections for each mode of operation. The use of a humidistat or other low voltage controller allows for further variation.



BLOWER PERFORMANCE

GMPE075-3

	COOLING CFM	1 st STAGE GAS CFM	2 nd STAGE GAS CFM	HEAT PUMP CFM
A (3 TON)	1200	800	1120	1250
B (2.5 TON)	1000	800	1120	1050
C (2 TON)	800	650	910	850
D (1.5 TON)	700	650	910	750

GMPE100-4

	COOLING CFM	1 st STAGE GAS CFM	2 nd STAGE GAS CFM	HEAT PUMP CFM
A (4 TON)	1600	1050	1470	1650
B (3.5 TON)	1400	1050	1470	1450
C (3 TON)	1200	900	1260	1250
D (2.5 TON)	1000	900	1260	1050

GMPE125-5

	COOLING CFM	1 st STAGE GAS CFM	2 nd STAGE GAS CFM	HEAT PUMP CFM
A (5 TON)	2000	1200	1680	2050
B (4 TON)	1600	1200	1680	1650
C (3.5 TON)	1400	1050	1470	1450
D (3 TON)	1200	1050	1470	1250

"FAN ONLY"

= CFM of selected mode X .3

"HUMIDSTAT"

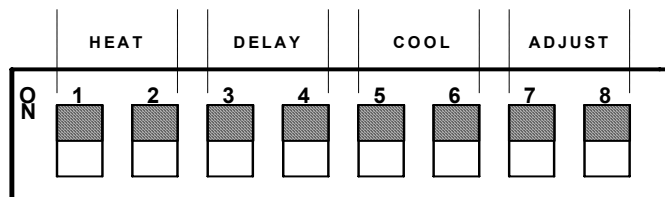
= CFM of selected mode X .85

"ADJUST" B

= Increases selected speed by 10% (Switches 7&8)

"ADJUST" C

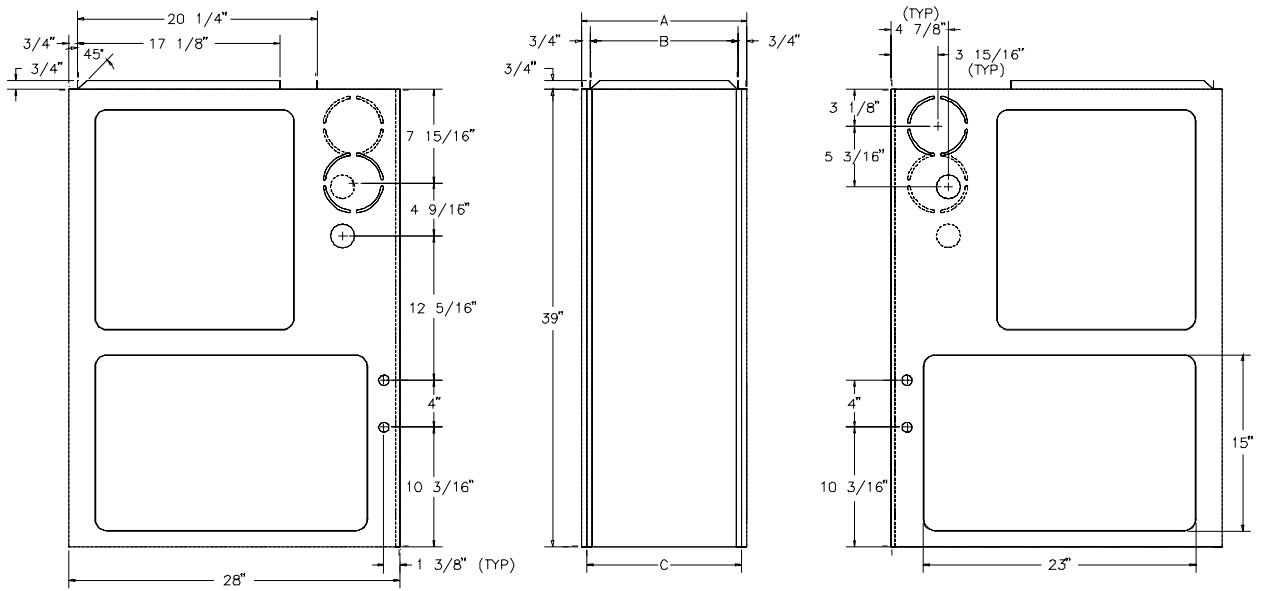
= Decreases selected speed by 15% (Switches 7&8)



	HEAT		DELAY (F)		COOL		ADJUST	
A	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
B	ON	OFF	ON	OFF	ON	OFF	ON	OFF
C	OFF	ON	OFF	ON	OFF	ON	OFF	ON
D	ON	ON	ON	ON	ON	ON	ON	ON
	1	2	3	4	5	6	7	8
DIP SWITCH NUMBER								

F= Factory Setting

NOTE: For desired Cooling and Heating air flow, see details in Special Instruction manual.



MODEL	A	B	C	DOWNFLOW COMBUSTIBLE FLOOR KIT
GMPE075-3	17.5	16.0	16.0	SBM-17
GMPE100-4	21.0	19.5	19.5	SBM-21
GMPE125-5	21.0	19.5	19.5	SBM-21

Specification and Performance Data Subject to Change Without Prior Notification