Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 03/07/16

987MA EVOLUTION® MODULATING 4-WAY MULTIPOISE, VARIABLE SPEED CONDENSING GAS FURNACE, SERIES B

bryant®

Product Data

A11264

The 987MA Multipoise Variable-Speed Condensing Gas Furnace features the modulating Evolution® System. The Perfect Heat® Technology modulating gas system is at the heart of the comfort provided by this furnace, along with the Perfect ECM™ full-featured variable-speed communicating blower motor, and variable-speed inducer motor. With an Annual Fuel Utilization Efficiency (AFUE) of up to 98.3%, the Evolution modulating gas furnace provides exceptional savings as well. This Evolution Gas Furnace also features 4-way multipoise installation flexibility, and is available in six model sizes. The 987MA can be vented for direct vent/two-pipe, ventilated combustion air. A Bryant Evolution Control and Evolution Air Conditioner or Heat Pump, can be used to form a complete Evolution System. All units meet California Air Quality Management District emission requirements. All sizes are design certified in Canada.

STANDARD FEATURES

- Evolution System; compatible with **single- and multi-zone** Evolution systems.
- Evolution Features—match with the Evolution Control for Evolution System benefits.
- All sizes meet ENERGY STAR® Version 4.0 criteria for gas furnaces: 95+AFUE; AMACF electrical rating; 2% or less cabinet airflow leakage.
- Quiet operation. Compare for yourself at HVACpartners.com.
- Ideal height 35" (889 mm) cabinet: short enough for taller coils, but still allows enough room for service.
- Silicon Nitride Perfect Light™ Hot Surface Igniter.
- SmartEvap™ technology helps control humidity levels in the home when used with a compatible humidity control system.
- FanOn Plus™ technology allows control of continuous fan speed from a compatible thermostat.
- External Media Filter Cabinet included.
- 4-way multipoise design for upflow, downflow or horizontal installation with unique vent elbow and optional through-the-cabinet downflow venting capability.
- Full-featured variable-speed communicating blower motor, variable-speed inducer motor, and modulating gas valve.
- Aluminized-steel primary heat exchanger.
- Stainless-steel condensing secondary heat exchanger.
- Propane convertible (see Accessory list).
- Factory-configured ready for upflow applications.
- Fully-insulated casing including blower section.
- Convenient Air Purifier and Humidifier connections.
- Direct-vent/sealed combustion or ventilated combustion air.
- Installation flexibility: sidewall or vertical vent.
- Residential installations may be eligible for consumer financing through the Retail Credit Program.
- Variable-Speed blower motor, variable-speed inducer motor, and modulating gas valve.
- Self-diagnostics and extended diagnostic data through the Advanced Product Monitor (APM) accessory or Evolution User Interface.
- Adjustable blower speed for cooling, continuous fan, and dehumidification.
- Certified to leak 2% or less of nominal air conditioning CFM delivered when pressurized to 1-in. water column with all present air inlets, air outlets, and condensate drain port(s) sealed.

EVOLUTION™ SYSTEM

Perfect Humidity™

ENERGY STAR

DESIGN CERTIFIED®

CERTIFIED®

AHRI CERTIFIED www.ahridirectory.org

Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.

Certified System™ ISO 9001 QMI-SAI Global

Always Ask For FACTORY AUTHORIZED PARTS

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SPECIFICATIONS

The furnace should be sized to provide 100 percent of the design heating load requirement plus any margin that occurs because of furnace model size capacity increments. None of the furnace model sizes can be used if the heating load is 20,000 BTU or lower. Use Air Conditioning Contractors of America (Manual J and S); American Society of Heating, Refrigerating, and Air-Conditioning Engineers; or other approved engineering method to calculate heating load estimates and select the furna

Excessive oversizing of the furnace may cause the furnace anc vent to fail prematurely, customer discomfort and/or vent freezi

Failure to follow these guidelines is considered faulty installation and/or misapplication of the furnace; and resulting failure, damage, or repairs may impact warranty coverage.

987MA

Heating Capacity and Efficiency			42060	60060	42080	60080	66100	66120
Input	Maximum Heat	(BTUH)	60,000	60,600	80,000	80,000	100,000	120,000
	Intermediate Heat	(BTUH)	39,000	39,000	52,000	52,000	65,000	78,000
	Minimum Heat	(BTUH)	24,000	24,000	32,000	32,000	40,000	48,000
Output	Maximum Heat	(BTUH)	59,000	60,000	78,000	78,000	98,000	117,000
	Intermediate Heat	(BTUH)	38,000	39,000	51,000	51,000	64,000	76,000
	Minimum Heat	(BTUH)	24,000	24,000	31,000	31,000	39,000	47,000
Certified Temperature Rise Range °F (°C)		Maximum Heat	35 - 65 (19 - 36)	35 - 65 (19 - 36)	40 - 70 (22 - 39)	40 - 70 (22 - 39)	45 - 75 (25 - 42)	45 - 75 (25 - 42)
		Intermediate Heat	50 - 80 (28 - 44)	40 - 70 (22 - 39)	50 - 80 (28 - 44)	50 - 80 (28 - 44)	50 - 80 (28 - 44)	50 - 80 (28 - 44)
		Minimum Heat	35 - 65 (19 - 36)	25 - 55 (14-31)	35 - 65 (19 - 36)	35 - 65 (19 - 36)	35 - 65 (19 - 36)	35 - 65 (19 - 36)

Airflow Capacity and Blower Data		42060	60060	42080	60080	66100	66120
Rated External Static Pressure (in. w.c.)	Heating	0.12	0.12	0.15	0.15	0.20	0.20
	Cooling	0.5	0.5	0.5	0.5	0.5	0.5
Airflow Delivery	Maximum Heat	1075	1080	1500	1345	1575	1820
	Intermediate Heat	530	690	750	795	955	1100
	Minimum Heat	415	555	620	595	745	900
	Cooling	1335	1905	1375	1945	2160	2185
Cooling Capacity (tons) @ 400, 350 CFM/ton	400 CFM/ton	3	4.5	3.5	4.5	5.5	5.5
	350 CFM/ton	3.5	5.5	4	5.5	6	6
Direct-Drive Motor Type		Electronically Commutated Motor (ECM)					
Direct-Drive Motor HP		1/2	1	1/2	1	1	1
Motor Full Load Amps		7.7	12.8	7.7	12.8	12.8	12.8
RPM Range		300 - 1300					
Speed Selections		Variable (Communicating)					
Blower Wheel Dia x Width	in.	11 x 8	11 x 10	11 x 8	11 x 10	11 x 10	11 x 11
Air Filtration System		Factory Supplied Media Cabinet Field Supplied Filter					
Filter Used for Certified Watt Data*		KGAWF**06UFR					

Electrical Data		42060	60060	42080	60080	66100	66120
Input Voltage	Volts-Hertz-Phase	115-60-1					
Operating Voltage Range	Min-Max	104 -127					
Maximum Input Amps	Amps	9.7	14.8	9.7	14.8	14.8	14.8
Unit Ampacity	Amps	12.7	19.1	12.7	19.1	19.1	19.1
Minimum Wire Size	AWG	14	12	14	12	12	12
Maximum Wire Length @ Minimum Wire Size	Feet	29	30	29	30	30	30
	(M)	(8.8)	(9.1)	(8.8)	(9.1)	(9.1)	(9.1)
Maximum Fuse/Ckt Bkr (Time-Delay Type Recommended)	Amps	15	20	15	20	20	20
Transformer Capacity (24vac output)		40VA					
External Control Power Available	Heating	27.9 VA					
	Cooling	34.6 VA					

Controls		42060	60060	42080	60080	66100	66120
Gas Connection Size		1/2" - NPT					
Burners (Monoport)		3	3	4	4	5	6
Gas Valve (Redundant)	Manufacturer	White Rogers					
Minimum Inlet Gas pressure (in. wc)		4.5					
Maximum Inlet Gas pressure (in. wc)		13.6					

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DIMENSIONAL DRAWING

NOTES:
1. Doors may vary by model.
2. Minimum return-air openings at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendations for equivalent diameters.
   a. For 800 CFM-16-in. (406 mm) round or 14 1/2 x 12-in. (368 x 305 mm) rectangle.
   b. For 1200 CFM-20-in. (508 mm) round or 14 1/2 x 19 1/2-in. (368 x 495 mm) rectangle.
   c. For 1600 CFM-22-in. (559 mm) round or 14 1/2 x 22 1/16-in. (368 x 560mm) rectangle.
   d. Return air above 1800 CFM at 0.5 in. w.c. ESP on 24.5" casing, requires one of the following configurations: 2 sides, 1 side and a bottom or bottom only. See Air Delivery table in this document for specific use to allow for sufficient airflow to the furnace.
3. Vent and Combustion air pipes through blower compartment must use accessory "Vent Kit - Through the Cabinet". See accessory list for current part number.

987MA FURNACE SIZE	A CABINET WIDTH	B OUTLET WIDTH	C BOTTOM INLET WIDTH	D AIR INTAKE	SHIP WT. LB (KG)
42060	17-1/2 (445)	15-7/8 (403)	16 (406)	8-3/4 (222)	154.0 (69.3)
42080					164.0 (73.8)
60060	21 (533)	19-3/8 (492)	19-1/2 (495)	10-1/2 (267)	158.5 (72.0)
60080					168.5 (76.6)
66100					178.5 (80.3)
66120	24-1/2 (622)	22-7/8 (581)	23 (584)	12-1/4 (311)	202.5 (91.1)