



TECHNICAL GUIDE

GAS-FIRED RESIDENTIAL TWO STAGE STANDARD ECM MULTI-POSITION GAS FURNACES STANDARD & Low NOx MODELS MODELS: TM8Y

NATURAL GAS
60 - 120 MBH INPUT



Due to continuous product improvement, specifications are subject to change without notice.

Visit us on the web at

www.upgnet.com and www.york.com

Additional rating information can be found at

www.ahridirectory.org

WARRANTY

20-year limited warranty on the heat exchanger.

10-year heat exchanger warranty on commercial applications.

Standard 5-year limited Parts warranty.

Extended 10-year limited parts warranty when product is registered online within 90 days of purchase for replacement or closing for new home construction.

DESCRIPTION

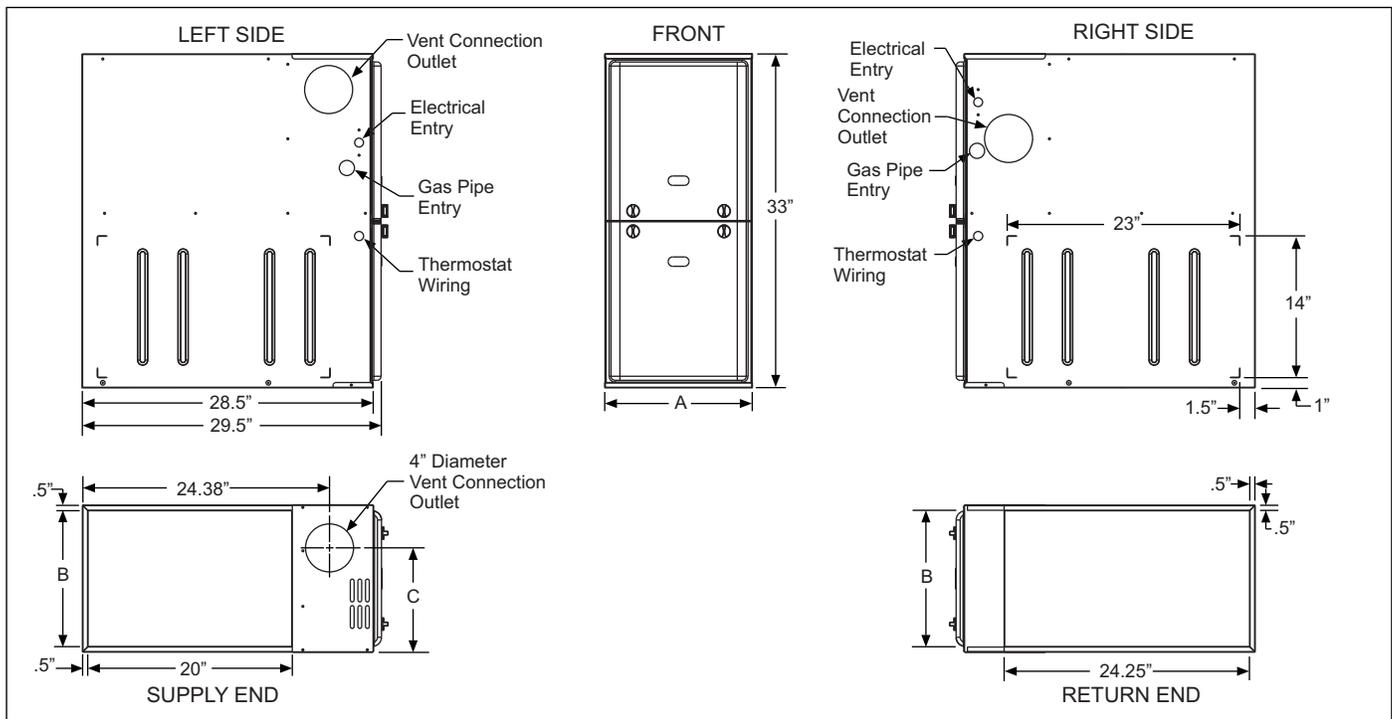
These compact units employ induced combustion, reliable hot surface ignition and high heat transfer aluminized steel tubular heat exchangers. The units are factory shipped for installation in upflow or horizontal applications and may be converted for downflow applications.

These furnaces are designed for residential installation in a basement, closet, alcove, attic, recreation room or garage and are also ideal for commercial applications. All units are factory assembled, wired and tested to assure safe dependable and economical installation and operation.

These units are Category I listed and may be common vented with another gas appliance as allowed by the National Fuel Gas Code.

FEATURES

- Two stage heating operation includes two stage gas valve, two stage inducer operation and standard ECM blower operation. Auto-staging allows two stage operation with a single stage thermostat.
- Easily applied in upflow, horizontal left or right, or downflow installation with minimal conversion necessary.
- Compact, easy to install, ideal height 33" tall cabinet.
- Blower-off delay for cooling SEER improvement.
- Easy access to controls to connect power/control wiring.
- Built-in, high level self diagnostics with fault code display.
- Low unit current requirement for easy replacement application.
- All models are convertible to use propane (LP) gas.
- Electronic Hot Surface Ignition saves fuel cost with increased dependability and reliability.
- 100% shut off main gas valve for extra safety.
- 24V, 40 VA control transformer and integrated control supplied for add-on cooling.
- Hi-tech tubular aluminized steel primary heat exchanger.
- Solid removable bottom panel allows easy conversion.
- Airflow leakage less than 1% of nominal airflow for duct performance testing conditions.
- No knockouts to deal with, making installation easier.
- Movable duct connector flanges for application flexibility.
- Quiet inducer operation, burner, and blower operation.
- Inducer rotates for easy conversion of venting options.
- Fully supported blower assembly for easy access and removal of blower.
- External air filters used for maximum flexibility in meeting customers IAQ needs.
- Insulated blower compartment for thermal and acoustic performance.
- Low NOx models have been designed to meet specific code requirements.
- Venting applications may be installed as a common vent with other gas-fired appliances or use a lined masonry chimney.
- 1/4 turn knobs provided for easy independent door removal.



Cabinet and Duct Dimensions

| BTUH (kW) Input | Nominal CFM (m ³ /min) | Cabinet Size | Cabinet Dimensions (Inches) | | |
|--------------------|--------------------------------------|-----------------|-----------------------------|--------|------|
| | | | A | B | C |
| TM8Y060A12MP11 | 1200 (34.0) | A | 14 1/2 | 13 3/8 | 10.3 |
| TM8Y080B12MP11 | 1200 (34.0) | B | 17 1/2 | 16 3/8 | 11.8 |
| TM8Y080C16MP11 | 1600 (45.3) | C | 21 | 19 7/8 | 13.6 |
| TM8Y100C16MP11 | 1600 (45.3) | C | 21 | 19 7/8 | 13.6 |
| TM8Y100C20MP11 | 2000 (56.6) | C | 21 | 19 7/8 | 13.6 |
| TM8Y120C20MP11 | 2000 (56.6) | C | 21 | 19 7/8 | 13.6 |

Ratings & Physical / Electrical Data

| Models | High Fire Input | Low Fire Input | High Fire Output | Low Fire Output | Nominal Airflow | AFUE | Max Over-Current Protection | Max. Outlet Air Temp |
|----------------|--------------------------|-------------------------|------------------|-----------------|-----------------|-----------------|--------------------------------------|----------------------|
| | MBH | MBH | MBH | MBH | | | | °F |
| TM8Y060A12MP11 | 60 | 39 | 48 | 31.2 | 1200 | 80.0 | 15 | 190 |
| TM8Y080B12MP11 | 80 | 52 | 64 | 41.6 | 1200 | 80.0 | 15 | 190 |
| TM8Y080C16MP11 | 80 | 52 | 64 | 41.6 | 1600 | 80.0 | 15 | 190 |
| TM8Y100C16MP11 | 100 | 65 | 80 | 52 | 1600 | 80.0 | 15 | 190 |
| TM8Y100C20MP11 | 100 | 65 | 80 | 52 | 2000 | 80.0 | 15 | 190 |
| TM8Y120C20MP11 | 120 | 78 | 96 | 62.4 | 2000 | 80.0 | 15 | 190 |
| Models | High Fire Air Temp. Rise | Low Fire Air Temp. Rise | Blower | | Blower Size | Total Unit Amps | Min. wire Size (awg) @ 75 ft one way | Operating Weight |
| | °F | °F | HP | Amps | | | | In. |
| TM8Y060A12MP11 | 30-60 | 20-50 | 1/2 | 6.8 | 11 x 8 | 9.3 | 14 | 94 |
| TM8Y080B12MP11 | 30-60 | 20-50 | 1/2 | 6.8 | 11 x 8 | 9.3 | 14 | 103 |
| TM8Y080C16MP11 | 30-60 | 20-50 | 1/2 | 6.8 | 11 x 10 | 9.3 | 14 | 114 |
| TM8Y100C16MP11 | 30-60 | 20-50 | 1/2 | 6.8 | 11 x 10 | 9.3 | 14 | 118 |
| TM8Y100C20MP11 | 30-60 | 20-50 | 3/4 | 8.4 | 11 x 11 | 10.9 | 14 | 122 |
| TM8Y120C20MP11 | 35-65 | 20-50 | 3/4 | 8.4 | 11 x 11 | 10.9 | 14 | 129 |

Annual Fuel Utilization Efficiency (AFUE) numbers are determined in accordance with DOE Test procedures.
 Wire size and over current protection must comply with the National Electrical Code (NFPA-70-latest edition) and all local codes.
 The furnace shall be installed so that the electrical components are protected from water.

HORIZONTAL SIDEWALL VENTING

For applications where vertical venting is not possible, the only approved method of horizontal venting is the use of an auxiliary power vent. Auxiliary power venters must be approved by CSA, UL, or other recognized safety agencies. Follow all application and installation details provided by the manufacturer of the power vent.

FILTER PERFORMANCE

⚠ CAUTION

In downflow furnace arrangement, the filter must be located a minimum of 12" from the return air inlet of furnace.

The airflow capacity data published in the "Blower Performance" table shown represents blower performance **WITHOUT** filters.

All applications of these furnaces require the use of field installed air filters. All filter media and mounting hardware or

provisions must be field installed external to the furnace cabinet. **DO NOT** attempt to install any filters inside the furnace.

NOTICE

Single side return above 1800 CFM is approved as long as the filter velocity does not exceed filter manufacturer's recommendation and a transition is used to allow use on a 20x25 filter.

Recommended Filter Sizes

| CFM | Cabinet Size | Side (inches) | Bottom (inches) |
|------|--------------|---------------|-----------------|
| 1200 | A | 16 x 25 | 14 x 25 |
| 1200 | B | 16 x 25 | 16 x 25 |
| 1600 | C | 16 x 25 | 20 x 25 |
| 2000 | C | (2) 16 x 25 | 20 x 25 |

- Air velocity through throwaway type filters may not exceed 300 feet per minute (91.4 m/min). All velocities over this require the use of high velocity filters.
- Do not exceed 1800 CFM using a single side return and a 16x25 filter. For CFM greater than 1800, you may use two side returns or one side and the bottom or one return with a transition to allow use of a 20x25 filter.

Unit Clearances to Combustibles (All Dimensions in Inches, and All Surfaces Identified with the Unit in an Upflow Configuration)

| Application | Top | Front | Rear | Left Side | Right Side | Flue | Floor/ Bottom | Closet | Alcove | Attic | Line Contact |
|-------------------|----------|----------|----------|-----------|------------|----------|-----------------------|--------|--------|-------|------------------|
| | In. (cm) | In. (cm) | In. (cm) | In. (cm) | In. (cm) | In. (cm) | | | | | |
| Upflow | 1 (2.5) | 1 (2.5) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 6 (15.2) | Combustible | Yes | Yes | Yes | No |
| Upflow B-Vent | 1 (2.5) | 1 (2.5) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (2.5) | Combustible | Yes | Yes | Yes | No |
| Downflow | 1 (2.5) | 1 (2.5) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 6 (15.2) | 1 (25.4) ¹ | Yes | Yes | Yes | No |
| Downflow B-Vent | 1 (2.5) | 1 (2.5) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (2.5) | 1 (25.4) ¹ | Yes | Yes | Yes | No |
| Horizontal | 1 (2.5) | 1 (2.5) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 6 (15.2) | Combustible | No | Yes | Yes | Yes ² |
| Horizontal B-Vent | 1 (2.5) | 1 (2.5) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (2.5) | Combustible | No | Yes | Yes | Yes ² |

- Combustion floor base accessory or air conditioning coil required for use on combustible floor.
- Line contact only permitted between lines formed by the intersection of the rear panel and side panel (top in horizontal position) of the furnace jacket and building joists, studs or framing.

ACCESSORIES

Propane (LP) Conversion Kit - This accessory conversion kit may be used to convert natural gas units for LP operation.

S1-1NP0347 - All Models

LP Stainless Steel Burner Kit - This accessory conversion kit may be used to convert existing burners to stainless steel burners for LP use only.

S1-32926889000 - All LP Models

Natural (NAT) Gas Stainless Steel Burner Kit - This accessory kit may be used to replace existing burners with stainless steel burners for NAT gas use only.

S1-32924441000 - All NAT gas Models

Side Return Filter Racks - The S1-1SR0200 Kit accommodates a 1", 2" or 4" filter. The S1-1SR0402 Kit accommodates a 1" filter only.

S1-1SR0200 - All Models

S1-1SR0402 - All Models

Bottom Return Filter Racks - The S1-1BR05* series are galvanized steel filter racks. The S1-1BR06* series are pre-painted steel filter racks to match the appearance of the furnace cabinet. The S1-1BR05* and S1-1BR06* series filter racks accommodate a 1", 2" or 4" filter.

S1-1BR0514 or S1-1BR0614 - For 14-1/2" cabinets

S1-1BR0517 or S1-1BR0617 - For 17-1/2" cabinets

S1-1BR0521 or S1-1BR0621 - For 21" cabinets

Masonry Chimney Kit - This accessory kit allows upflow 80% models to be vented into a tile-lined masonry chimney.

S1-1CK0604 - All 80% Non-modulating Models

Combustible Floor Base Kit - These kits are required to prevent potential overheating situations when the furnaces are installed in downflow applications directly onto combustible flooring material. These kits are also required in any applications where the furnace is installed in a downflow configuration without an indoor coil and where the combustible floor base kit provides access for combustible airflow.

S1-1CB0514 - For 14-1/2" cabinets

S1-1CB0517 - For 17-1/2" cabinets

S1-1CB0521 - For 21" cabinets

High Altitude Pressure Switches - For installation where the altitude is less than 5,000 feet, it is not required that the pressure switch be changed. For altitudes above 5,000 feet, see kits below.

S1-1PS3309

Thermostats - Compatible thermostat controls are available through accessory sourcing. For optimum performance, these outdoor units are fully compatible with our Yorktouch screen thermostat with proprietary (patent-pending) hexagon interface. For more information, see the thermostat section of the Product Equipment Catalog.

S1-THXU280 - All Models

Blower Performance CFM - Any Position (without filter)

| Models | Speed | Airflow Data (SCFM) ^{1, 2} | | | | | | | | | |
|--------|-------------|-------------------------------------|------|------|------|------|------|------|------|------|------|
| | | Ext. Static Pressure (in. H2O) | | | | | | | | | |
| | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| 060A12 | High | 1260 | 1220 | 1180 | 1150 | 1110 | 1070 | 1030 | 990 | 940 | 900 |
| | Medium High | 1160 | 1120 | 1080 | 1030 | 990 | 950 | 900 | 850 | 800 | 760 |
| | Medium | 1010 | 960 | 920 | 880 | 830 | 780 | 740 | 680 | 640 | 590 |
| | Medium Low | 860 | 810 | 770 | 710 | 670 | 580 | 560 | 510 | 460 | 410 |
| | Low | 800 | 760 | 710 | 650 | 610 | 550 | 500 | 460 | 390 | 350 |
| 080B12 | High | 1330 | 1300 | 1270 | 1240 | 1210 | 1160 | 1130 | 1090 | 1050 | 1000 |
| | Medium High | 1140 | 1100 | 1070 | 1020 | 990 | 950 | 900 | 850 | 800 | 760 |
| | Medium | 990 | 960 | 920 | 870 | 830 | 780 | 730 | 680 | 630 | 580 |
| | Medium Low | 920 | 890 | 840 | 790 | 740 | 700 | 640 | 600 | 550 | 510 |
| | Low | 820 | 770 | 730 | 680 | 630 | 580 | 540 | 480 | 430 | 390 |
| 080C16 | High | 1730 | 1700 | 1660 | 1610 | 1580 | 1520 | 1470 | 1410 | 1360 | 1300 |
| | Medium High | 1560 | 1530 | 1490 | 1450 | 1400 | 1350 | 1310 | 1270 | 1220 | 1170 |
| | Medium | 1370 | 1330 | 1280 | 1230 | 1180 | 1130 | 1080 | 1030 | 970 | 910 |
| | Medium Low | 1190 | 1140 | 1090 | 1040 | 990 | 930 | 870 | 820 | 750 | 680 |
| | Low | 1000 | 940 | 880 | 820 | 750 | 680 | 600 | 540 | 460 | 410 |
| 100C16 | High | 1730 | 1690 | 1650 | 1610 | 1570 | 1530 | 1470 | 1420 | 1360 | 1310 |
| | Medium High | 1570 | 1530 | 1490 | 1440 | 1400 | 1360 | 1320 | 1270 | 1220 | 1170 |
| | Medium | 1360 | 1310 | 1260 | 1220 | 1180 | 1130 | 1070 | 1010 | 950 | 890 |
| | Medium Low | 1210 | 1160 | 1110 | 1050 | 1000 | 940 | 880 | 810 | 760 | 700 |
| | Low | 1010 | 950 | 900 | 820 | 760 | 680 | 610 | 540 | 500 | 430 |
| 100C20 | High | 2230 | 2180 | 2130 | 2070 | 2020 | 1960 | 1900 | 1850 | 1790 | 1720 |
| | Medium High | 1820 | 1780 | 1740 | 1680 | 1620 | 1580 | 1530 | 1470 | 1410 | 1350 |
| | Medium | 1610 | 1550 | 1500 | 1440 | 1390 | 1340 | 1280 | 1230 | 1170 | 1110 |
| | Medium Low | 1440 | 1380 | 1320 | 1270 | 1210 | 1150 | 1090 | 1030 | 960 | 890 |
| | Low | 1210 | 1150 | 1080 | 1020 | 960 | 890 | 820 | 740 | 680 | 640 |
| 120C20 | High | 2150 | 2020 | 2040 | 1990 | 1930 | 1880 | 1820 | 1770 | 1720 | 1660 |
| | Medium High | 1780 | 1740 | 1690 | 1640 | 1590 | 1540 | 1490 | 1430 | 1380 | 1310 |
| | Medium | 1580 | 1520 | 1470 | 1420 | 1370 | 1320 | 1270 | 1220 | 1160 | 1090 |
| | Medium Low | 1410 | 1350 | 1290 | 1240 | 1180 | 1130 | 1070 | 1020 | 950 | 890 |
| | Low | 1190 | 1130 | 1060 | 1000 | 940 | 880 | 820 | 760 | 680 | 630 |

1. Airflow expressed in standard cubic feet per minute (SCFM).

2. Motor voltage at 115 V.

Note: Operation at external static pressure higher than rating on furnace data plate is not recommended.

NOTES