TECHNICAL GUIDE

80% SINGLE STAGE ECM RESIDENTIAL GAS FURNACES MULTI-POSITIONSTANDARD & LOW NOx

MODELS: TM8X, TMLX

NATURAL GAS

60 - 120 MBH INPUT

5 YEAR COMPLETE ASSURANCE LIMITED WARRANTY PLEDGE

AHRI CERTIFIED www.ahridirectory.org Residential Furnaces DOE 10 CFR Part 430

Good Housekeeping Promises LIMITED WARRANTY TO CONSUMERS REPLACEMENT OR REFUND IF DEFECTIVE

AMERICAN QUALITY DESIGNED, ENGINEERED & ASSEMBLED IN THE USA

DESIGN CERTIFIED

ISO 9000 REGISGRATION ISO 9001 Certified Quality Management System

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

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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

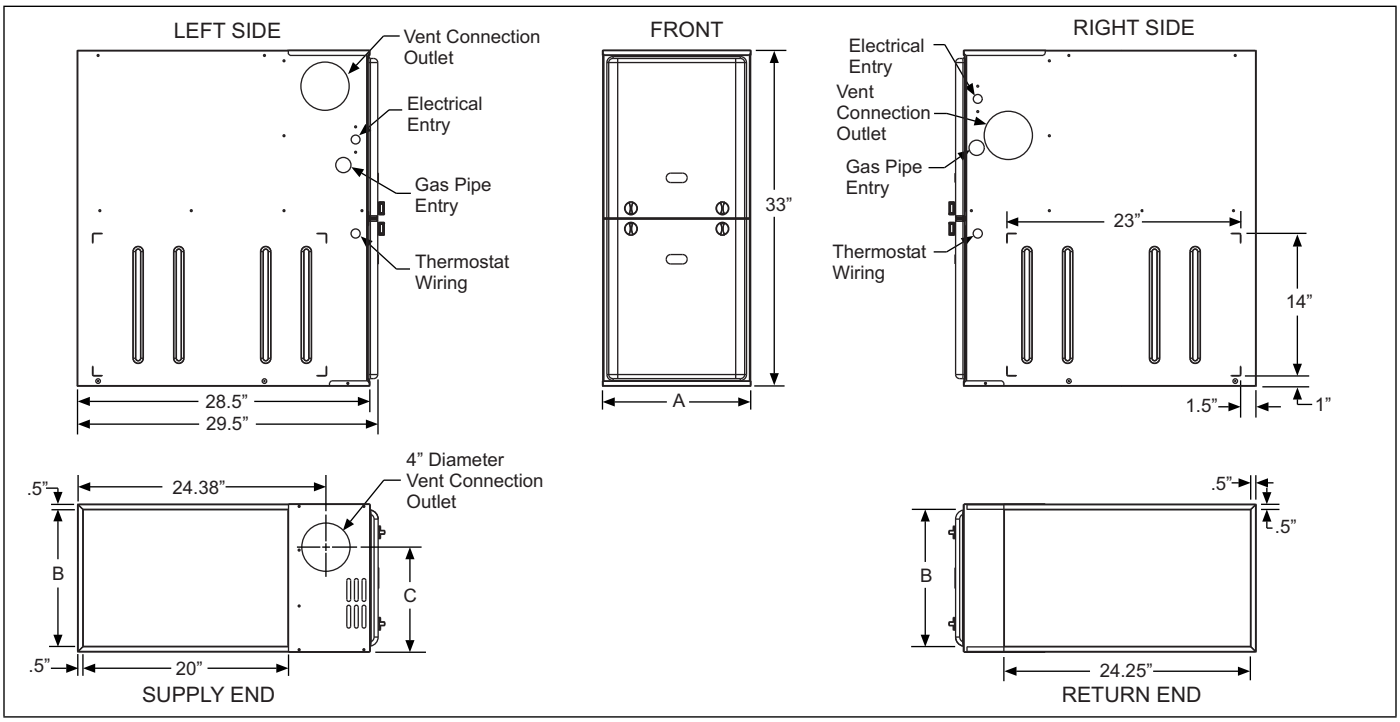
These compact units employ induced combustion, reliable hot surface ignition and high heat transfer aluminized tubular heat exchangers. The units are factory shipped for installation in upflow or horizontal applications and may be converted for downflow applications.

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

- 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 displays standard on integrated control module for reliable operation.
- Low unit amp requirement for easy replacement application.
- All models are convertable 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.
- 5 speed direct drive, X13 style high efficiency DC motor.
- 24V, 40 VA control transformer and blower relay supplied for add-on cooling.
- Hi-tech tubular aluminized steel primary heat exchanger.
- Timed on, adjustable off blower capability for maximum comfort.
- Blower door safety switch.
- Solid removable bottom panel allows easy conversion.
- Low NOx models have been designed to meet specific code requirements.
- Airflow leakage less than 1% of total airflow at duct performance testing conditions.
- No knockouts to deal with, making installation easier.
- Movable duct connector flanges for application flexibility.
- Quiet inducer 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.
- Venting applications - may be installed as a common vent with other gas-fired appliances or use a masonry chimney.
- 1/4 turn knobs provided for easy door removal.
- High-efficiency blower motor for lower electrical power usage and improved A/C SEER ratings.
- Insulated blower compartment for thermal and acoustic performance.



Cabinet & Duct Dimensions

Model	Nominal CFM (m^3/min)	Cabinet Size	Cabinet Dimensions (Inches)			Approximate Operating Weights
			A	B	C	Lbs
TM(8,L)X060A12MP11	1200	A	14 1/2	13 3/8	10.3	94
TM(8,L)X080B12MP11	1200	B	17 1/2	16 3/8	11.8	103
TM(8,L)X080C16MP11	1600	C	21	19 7/8	13.6	114
TM(8,L)X100C16MP11	1600	C	21	19 7/8	13.6	118
TM(8,L)X100C20MP11	2000	C	21	19 7/8	13.6	122
TM(8,L)X120C20MP11	2000	C	21	19 7/8	15.8	129

Table 1: Ratings & Physical / Electrical Data

Models	Input	Output	AFUE	Air Temp. Rise	Max. Outlet Air Temp	Blower		Blower Size	Max Over-Current Protect	Total Unit Amps	Min. wire Size (awg) @ 75 ft one way
	MBH	MBH		° F	° F	HP	Amps				
TM(8,L)X060A12MP11	60	48	80.0	30-60	190	1/2	6.8	11 x 8	15	9.3	14
TM(8,L)X080B12MP11	80	64	80.0	35-65	190	1/2	6.8	11 x 8	15	9.3	14
TM(8,L)X080C16MP11	80	64	80.0	25-55	190	1/2	6.8	11 x 10	15	9.3	14
TM(8,L)X100C16MP11	100	80	80.0	35-65	190	1/2	6.8	11 x 10	15	9.3	14
TM(8,L)X100C20MP11	100	80	80.0	25-55	190	3/4	8.4	11 x 11	15	10.9	14
TM(8,L)X120C20MP11	120	96	80.0	35-65	190	3/4	8.4	11 x 11	15	10.9	14

Nominal external static pressure is 0.50” w.c. at furnace outlet ahead of cooling coils.
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.

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 (in)	Bottom (in)
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

1. 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.
2. 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
Upflow	1	6	0	0	3	6	Combustible	Yes	Yes	Yes	No
Upflow B-Vent	1	3	0	0	0	1	Combustible	Yes	Yes	Yes	No
Downflow	1	6	0	0	3	6	1[1]	Yes	Yes	Yes	No
Downflow B-Vent	1	3	0	0	0	1	1[1]	Yes	Yes	Yes	No
Horizontal	1	6	0	0	3	6	Combustible	No	Yes	Yes	Yes[2]
Horizontal B-Vent	1	3	0	0	0	1	Combustible	No	Yes	Yes	Yes[2]

1. Special floor base or air conditioning coil required for use on combustible floor.
2. 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.

S1-1PS3301 060, 080, 120
S1-1PS3302 100

Thermostats - Compatible thermostat controls are available through accessory sourcing. For optimum performance, these outdoor units are fully compatible with our York touch 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
TM(8,L)X060A12MP11	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
TM(8,L)X080B12MP11	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
TM(8,L)X080C16MP11	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
TM(8,L)X100C16MP11	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
TM(8,L)X100C20MP11	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
TM(8,L)X120C20MP11	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

NOTES:

1. Airflow expressed in standard cubic feet per minute (SCFM).
2. Motor voltage at 115 V.

NOTES

445348-YTG-G-0616
Supersedes: 445348-YTG-F-0715

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