YORK Technical Guide: Y92E Series - Condensing Residential Gas Furnaces

Two-Stage Standard ECM Multi-Position

York International Corporation, 5005 York Drive, Norman, OK 73069

6556035-YTG-A-1124

Supersedes: nothing

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Contents

Description

These compact units employ induced combustion, reliable hot surface ignition, a high heat transfer aluminized steel tubular primary heat exchanger, and a corrosion resistant stainless steel secondary heat exchanger. The units are factory shipped for installation in upflow applications and can be converted for downflow or horizontal 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 ensure safe, dependable, and economical installation and operation.

These units are Category IV, National Fuel Gas Code and can be vented either through side wall or roof applications using approved plastic combustion air and vent piping. Approved plastic combustion air and vent piping include PVC, CPVC, ABS, IPEX System 1738, Selkirk Polyflue, Duravent PolyPro, and Centrotherm InnoFlue polypropylene venting systems.

Due to continuous product improvement, specifications are subject to change without notice. **This document is only for distribution use - it is not to be used at point of retail sale.**

Visit us on the web at www.simplygettingthejobdone.com and www.york.com.

Additional rating information can be found at www.ahridirectory.org.

Certification

Assembled at a facility with an ISO 9001:2015-certified Quality Management System

Warranty

20-year limited warranty on the heat exchanger.

10-year heat exchanger warranty on non-residential applications.

5-year limited parts warranty.

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

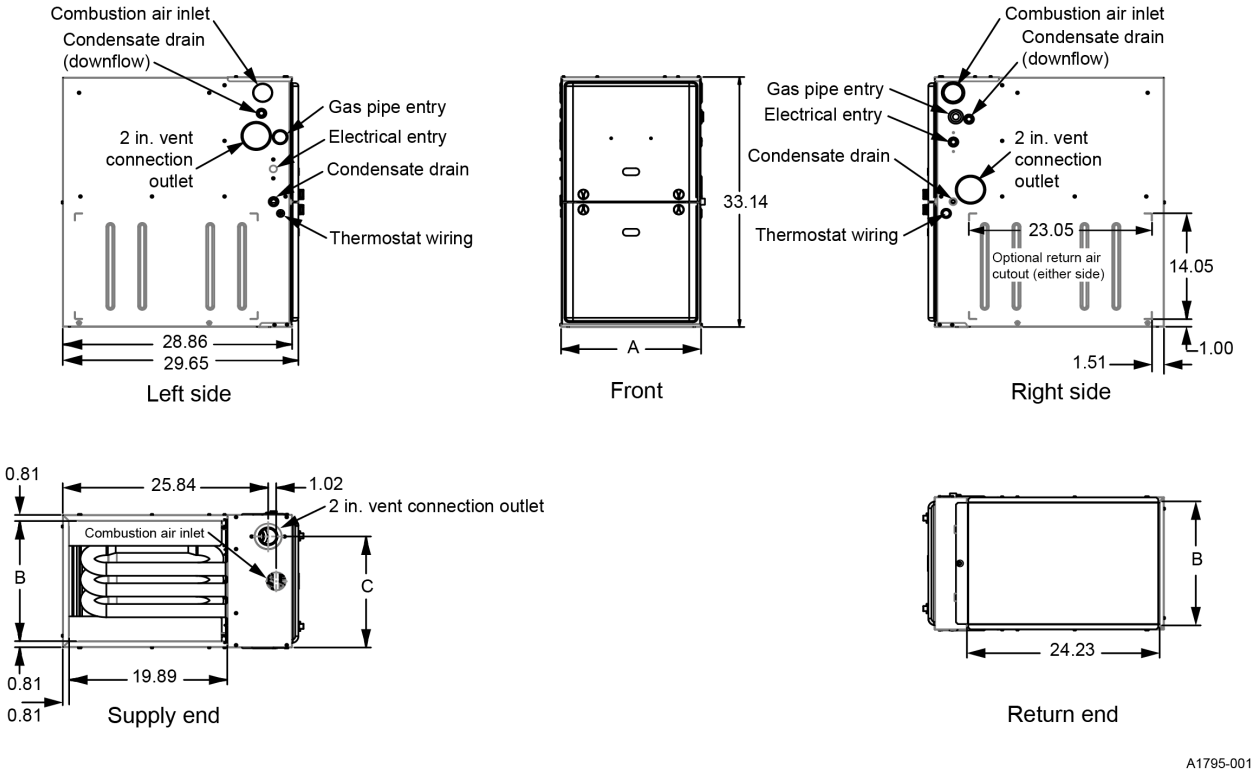
See the *Limited Warranty certificate* in the *Users Information Manual* for details.

Features

- Easily applied in upflow, horizontal left or horizontal right, or downflow installation with minimal conversion necessary.
- Venting kit for downflow (counter-flow) applications on B, C, and D cabinets where side discharge is not possible.
- The unit cabinet is compact and easy to install with an ideal height of 33 in.
- Full length fold-up duct connector flanges for application flexibility.
- Easy access to controls to connect power and control wiring.
- No electrical knockouts to deal with, making installation easier.
- 24 V, 40 VA control transformer and control provisions supplied for single or multi-stage add on cooling or heat pump heating.
- Built-in, high level self diagnostics with fault code displays standard on integrated control module for reliable operation.
- Front-facing screws on flame sensor and hot surface ignitor for ease of service.
- Front-facing screws on blower assembly for easy access and removal of blower.
- Constant torque blower motor for cooling SEER2 enhancement.
- Blower-off delay for cooling SEER2 improvement.
- Continuous fan options for indoor air quality (IAQ) performance.
- Airflow leakage less than 2% of nominal airflow for duct performance testing conditions.
- Low unit current requirement for easy replacement application.
- Electronic hot surface ignition saves fuel cost with increased dependability and reliability.
- 100% shut-off main gas valve for extra safety.
- Inducer rotates for easy conversion of venting options.
- Five-speed direct drive standard ECM blower motor.
- Hi-tech tubular aluminized steel primary heat exchanger.
- Corrosion resistant stainless steel secondary heat exchanger including rear cover pan and front vestibule panel.
- Quiet inducer operation.
- Timed on, adjustable off blower capability for maximum comfort.
- Blower door safety switch below the blower deck.
- Solid removable bottom panel allows easy conversion for bottom return air applications.
- External air filters are used for maximum flexibility in meeting customers' IAQ needs.
- 1/4 turn knobs are provided for easy independent door removal.
- Insulated blower compartment for thermal and acoustic performance.
- Internal condensate trap design (patent pending) provides condensate management options and is self priming to prevent nuisance problems.
- Protection included from air intake, exhaust vent, or condensate blockage. Venting applications may be installed as either two-pipe sealed combustion or single-pipe vent using indoor combustion air.
- No special vent termination required.
- These condensing furnace models produce <40 ng/J NOx emissions.
- Fold-up duct connector flanges for application flexibility.
- Patented self-priming internal condensate trap design for easy installation.

Dimensions

Figure 1: Dimensions



Note: All measurements are in inches.

Table 1: Cabinet and duct dimensions

Model	Cabinet size	A		B		C		Approximate operating weight	
		in.	cm	in.	cm	in.	cm	lb	kg
Y92E040A10SMPS1	A	14.5	36.8	13.4	34	11.7	29.7	106	48
Y92E060B12SMPS1	B	17.5	44.4	16.4	41.6	14.7	37.4	112	51
Y92E080B12SMPS1	B	17.5	44.4	16.4	41.6	14.7	37.4	117	53
Y92E080C16SMPS1	C	21	53.3	19.8	50.5	18.2	46.2	127	58
Y92E100C16SMPS1	C	21	53.3	19.8	50.5	18.2	46.2	131	59
Y92E100C20SMPS1	C	21	53.3	19.8	50.5	18.2	46.2	138	63
Y92E120D20SMPS1	D	24.5	62.2	23.4	59.4	21.7	55.1	147	67

Ratings and physical and electrical data

Table 2: Ratings and physical and electrical data

Input high/ low		Output high/ low		Nominal airflow		Total unit	AFUE	High fire air temperature rise		Low fire air temperature rise		Maximum outlet temperature		Blower		Blower size	Gas pipe connection NPT
MBH	kW	MBH	kW	CFM	m³/min	A	%	°F	°C	°F	°C	°F	°C	HP	A	(in.)	(in.)
40/26	12/8	38/25	11/7	1000	28.3	8.7	97	30 to 60	17 to 33	25 to 55	14 to 31	190	88	1/2	6.8	11 x 8	1/2
60/39	18/11	58/37	17/11	1200	34	8.7	97	35 to 65	19 to 36	30 to 60	17 to 33	190	88	1/2	6.8	11 x 8	1/2
80/52	23/15	77/50	22/14	1200	34	8.7	97	40 to 70	22 to 39	30 to 60	17 to 33	190	88	1/2	6.8	11 x 8	1/2
80/52	23/15	77/50	22/14	1600	45.3	8.7	97	40 to 70	22 to 39	25 to 55	14 to 30	190	88	3/4	10.8	11 x 10	1/2
100/65	29/19	95/62	28/18	1600	45.3	8.7	96.8	40 to 70	22 to 39	30 to 60	17 to 33	190	88	3/4	10.8	11 x 10	1/2
100/65	29/19	95/62	28/18	2000	56.6	10.3	96.4	35 to 65	19 to 36	30 to 60	17 to 33	190	88	1	14.6	11 x 11	1/2
120/78	35/23	115/75	33/22	2000	56.6	10.3	97	45 to 75	25 to 42	30 to 60	17 to 33	190	88	1	14.6	11 x 11	1/2

Note:

- For optimal performance, external static pressures of 0.2 in. W.C. to 0.5 in. W.C. are recommended. Heating applications are tested at 0.5 in. W.C. external static pressure.
- Annual fuel utilization efficiency (AFUE) numbers are determined in accordance with DOE Test procedures.
- Wire size and overcurrent protection must comply with the National Electrical Code (NFPA-70-latest edition) and all local codes.
- The furnace must be installed so the electrical components are protected from water.

Filter performance

CAUTION

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

The airflow capacity data shown in Table 6 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 the filter manufacturer's recommendation and a transition is used to allow use of a 20 x 25 filter.

Table 3: Recommended filter sizes

CFM (m^3/min)	Cabinet size	Side (in.)	Bottom (in.)
1000 (28.3)	A	16 x 25	14 x 25
1200 (34.0)	A	16 x 25	14 x 25
1200 (34.0)	B	16 x 25	16 x 25
1600 (45.3)	C	16 x 25	20 x 25
2000 (56.6)	C	(2) 16 x 25	20 x 25
2000 (56.6)	D	(2) 16 x 25	22 x 25

Note:

- Air velocity through disposable type filters must not exceed 300 ft/min (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 16 x 25 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 20 x 25 filter.

Table 4: Unit clearances to combustibles - all dimensions in inches and all surfaces identified with the unit in an upflow configuration

Application	Top	Vent	Rear	Side	Front	Floor	Closet	Line contact
	in. (cm)	in. (cm)	in. (cm)	in. (cm)	in. (cm)			
Upflow	1 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	Combustible	Yes	No
Downflow	1 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	Combustible[1]	Yes	No
Horizontal	1 (2.5)	0 (0.0)	0 (0.0)	1 (2.5)	0 (0.0)	Combustible	Yes	Yes

1 For combustion floors but only when used with special sub-base

Note: Ensure a 24 in. clearance in front and 18 in. on side for service access. All furnaces are approved for alcove and attic installation.

Accessories

Propane (LP) conversion kit

This accessory conversion kit can be used to convert natural (NAT) gas units for propane (LP) operation.

S1-1NP0347

Propane (LP) conversion kit with stainless steel burners

This accessory conversion kit can be used to convert natural (NAT) gas units for propane (LP) operation. The kit includes stainless steel burners.

S1-1NP0820

Propane (LP) stainless steel burner kit

This accessory conversion kit can be used to convert existing burners to stainless steel burners for propane (LP) use only.

S1-32926889000 - all propane (LP) models

Natural (NAT) gas stainless steel burner kit

This accessory kit can be used to replace existing burners with stainless steel burners for natural (NAT) gas use only.

S1-32924441000 - all natural (NAT) gas models

Concentric vent termination

For use through rooftop, sidewall. Allows combustion air to enter and exhaust to exit through single common hole. Eliminates unsightly elbows for a cleaner installation.

S1-1CT0302 (2 in.) and S1-1CT0302-636 (2 in.)

S1-1CT0303 (3 in.) and S1-1CT0303-636 (3 in.)

Sidewall vent termination kit

For use on sidewall, two-pipe installations only. Provides a more attractive termination for locations where the terminal is visible on the side of the home.

S1-1HT0901 (3 in.)

S1-1HT0902 (2 in.)

Condensate neutralizer kit

Neutralizer cartridge has 1/2 in. plastic tube fittings for installation in the drain line. Calcium carbonate refill media is also available from Source 1 Parts (P/N 026-30228-000).

S1-1NK0301

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 in., 2 in., or 4 in. filter.

S1-1BR0514 or S1-1BR0614 - for 14 1/2 in. cabinets

S1-1BR0517 or S1-1BR0617 - for 17 1/2 in. cabinets

S1-1BR0521 or S1-1BR0621 - for 21 in. cabinets

S1-1BR0524 or S1-1BR0624 - for 24 1/2 in. cabinets

Side return filter racks

The S1-1SR0402 kit accommodates only a 1 in. filter.

S1-1SR0402 - all models

Combustible floor base kit

This kit is required to prevent potential overheating situations when the furnace is installed in a downflow application directly onto combustible flooring material. This kit is also required in any application 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 in. cabinets

S1-1CB0517 - for 17 1/2 in. cabinets

S1-1CB0521 - for 21 in. cabinets

S1-1CB0524 - for 24 1/2 in. cabinets

High altitude pressure switch kit

Installations at altitudes above 5,000 ft require a high altitude pressure switch kit. Use the correct kit for the furnace input rate and size. For more information, see Table 5.

Table 5: High altitude pressure switch kit

Furnace input rate (kBtu/h) and size	Kit
40A10	S1-1PS3317
60B12	No kit required
80B12	S1-1PS3317
80C16	S1-1PS3315
100C16	No kit required
100C20	No kit required
120D20	No kit required

Thermostats

Compatible thermostat controls are available through accessory sourcing. For optimum performance, these outdoor units are fully compatible with our residential Hx™ Touch Screen Thermostat available through Source 1. For more information, refer to the *Thermostat & Controllers* section at http://www.simplygettingthejobdone.com.

Downflow vent kit

This kit can be used when the furnace is in the downflow position and there is not enough room for venting through the side of the furnace cabinet.

S1-37348990001 internal vent kit 17.5 in.

S1-37348991001 internal vent kit 21.0 in.

S1-37348992001 internal vent kit 24.5 in.

ⓘ **Note:** There is no kit available for A width cabinet models.

Blower performance

Table 6: Blower performance CFM - any position (without filter)

Model	Speed	Airflow (SCFM)							
		External static pressure (in. H_2O)							
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
40A10	High	1275	1225	1200	1150	1125	1075	1025	975
	Medium high	1025	1000	975	950	900	875	850	825
	Medium	850	825	775	750	725	700	650	625
	Medium low	625	575	525	475	450	400	350	300
	Low	550	500	450	400	350	300	250	200
60B12	High	1300	1275	1250	1225	1200	1175	1150	1100
	Medium high	1100	1075	1050	1025	1000	975	950	900
	Medium	1000	975	950	900	875	850	800	775
	Medium low	900	850	800	750	700	675	625	600
	Low	800	725	675	600	550	500	450	400
80B12	High	1400	1375	1350	1325	1300	1275	1250	1200
	Medium high	1275	1250	1225	1200	1175	1150	1125	1100
	Medium	1075	1050	1000	975	950	900	875	850
	Medium low	950	925	875	850	825	775	750	700
	Low	675	625	575	525	475	400	350	300
80C16	High	1750	1725	1700	1675	1625	1600	1550	1500
	Medium high	1575	1525	1500	1475	1450	1400	1375	1325
	Medium	1325	1275	1250	1200	1175	1125	1100	1050
	Medium low	1250	1225	1175	1125	1075	1050	1000	950
	Low	1025	950	875	825	750	700	650	600
100C16	High	1800	1775	1750	1725	1675	1650	1600	1550
	Medium high	1700	1675	1625	1600	1575	1550	1500	1475
	Medium	1425	1375	1350	1300	1275	1225	1175	1150
	Medium low	1225	1175	1125	1075	1025	975	925	875
	Low	975	875	800	725	650	575	500	450
100C20	High	1975	1925	1900	1875	1825	1775	1725	1675
	Medium high	1875	1850	1825	1800	1750	1700	1650	1600
	Medium	1700	1675	1650	1625	1575	1550	1500	1450
	Medium low	1350	1300	1275	1225	1175	1125	1100	1050
	Low	1175	1125	1075	1025	975	925	875	825
120D20	High	2150	2125	2075	2050	2000	1950	1900	1850
	Medium high	1850	1825	1775	1750	1725	1675	1650	1600
	Medium	1650	1625	1575	1550	1500	1475	1425	1400
	Medium low	1400	1350	1300	1275	1225	1175	1125	1075
	Low	1250	1200	1150	1075	1025	975	925	875

Note:

- The airflow is expressed in standard cubic feet per minute (SCFM).
- The motor voltage is at 115 V.
- Do not use shaded values as heating speeds.

Third-party trademarks

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