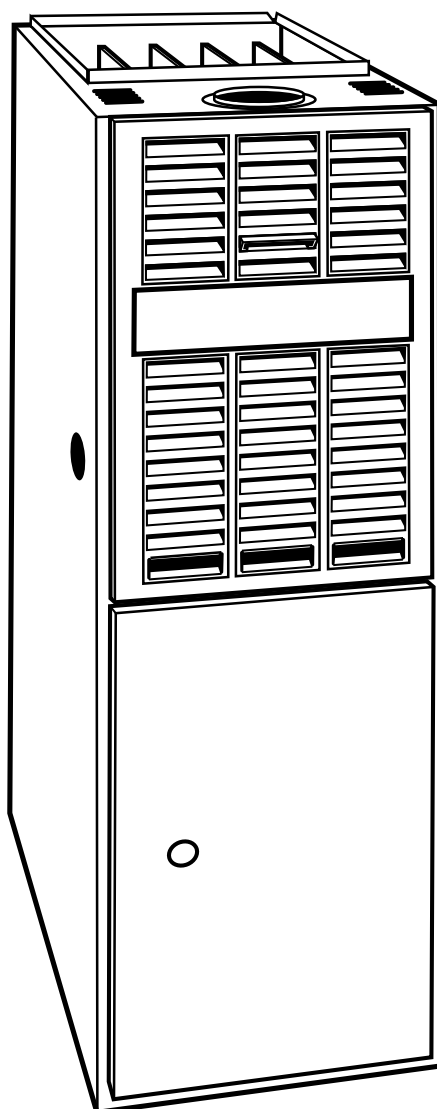




Product Data

58YAV Energy-Efficient Upflow Furnace

Sizes:
070 thru 155



Advanced Technology for Energy-Efficient Gas Furnaces

Carrier leads the industry with its new 58YAV Induced-Draft Gas Furnace. This furnace is built for venting into many exterior tile-lined masonry chimneys. It has the most advanced manufacturing equipment, processes, and technology available in order to ensure top quality. Packed into the cabinet are the industry's foremost dealer and homeowner features. The 58YAV Upflow Furnace is the newest addition to Carrier's list of product leadership in the gas furnace industry.

These induced-combustion, gas-fired furnaces offer not only low installation costs, but fuel economy as well — delivering an Annual Fuel Utilization Efficiency (AFUE) rating of 78.0 percent. The Carrier 58YAV utilizes a hot surface, silicon carbide ignition system to save energy and increase reliability.

Our design uses the patented S-shaped 4-pass heat exchanger, our soft mount inducer assembly, and a slow opening gas valve to improve sound level. The heat exchanger is constructed of aluminized steel and is backed by a 20-year Limited Warranty.

The Carrier 58YAV Gas Furnace will meet your home heating requirements.

The superior attention to cabinet detail is obvious. This Carrier furnace features 1-piece, seamless, wrap-around construction. There are no spot welds on the exterior surfaces of the furnace. There is also double protection for the cabinet. First, a galvanized steel substrate provides resistance to rusting. Then the cabinet is constructed of prepainted steel—the

same high-quality finish found on refrigerators and dishwashers.

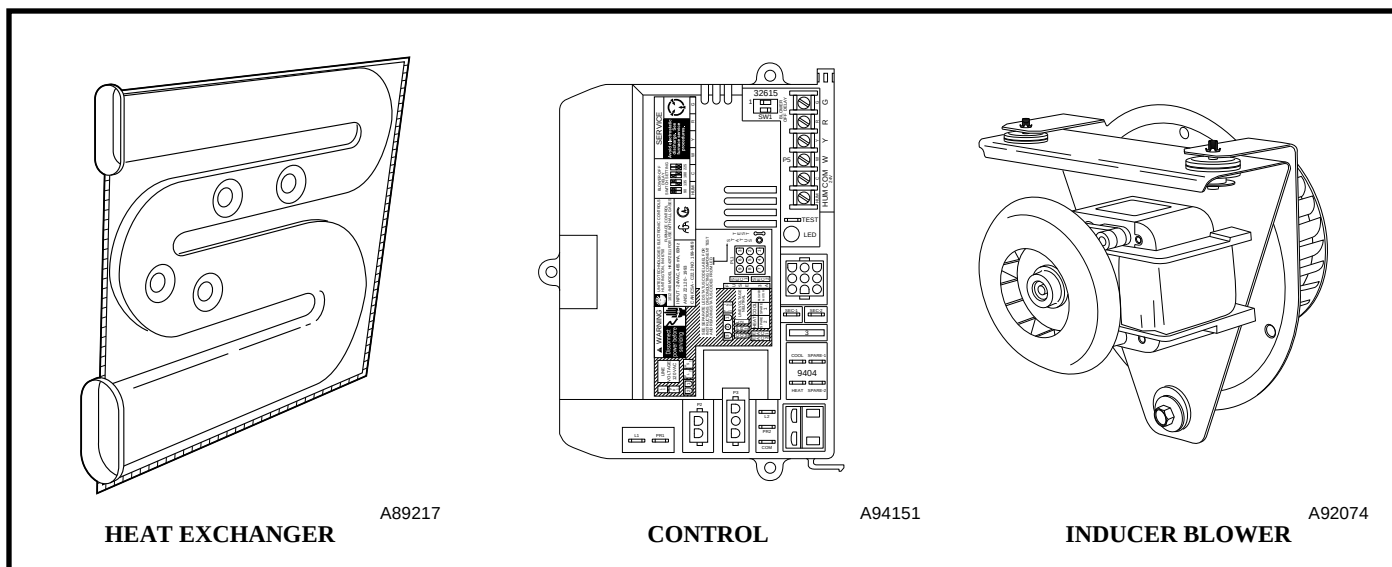
Perhaps the most advanced feature of the 58YAV is the microprocessor control. The simplified electronics in this control provide high reliability while performing many of the functions of older, electro-mechanical devices in other furnaces. Advanced features of the control show true leadership in furnace technology. The control provides blower delay at start-up and shutdown, while monitoring furnace operations and functions. In the unlikely event of a service call, in less

than a minute, the technician can use the self-test feature to determine if a major component has failed. The control will check itself, then the inducer, silicon carbide ignition, heating- and cooling-speed blower, and the electronic air cleaner connections. The control also features a 3-amp fuse that protects the transformer and control. Another feature on the control is an LED status indicator light to ensure top furnace performance.

Our induced-combustion furnace has a patented draft safeguard switch. The draft safeguard switch will stop furnace

operation if the vent system becomes blocked or is not operating properly.

Best of all, the Carrier 58YAV is made to be easily installed. Many features make this furnace the easy choice for replacement or new construction markets. Left and right connections are provided for gas and electrical supplies. An easy-to-remove bottom, blower speed selector, cased or uncased cooling coils, low-voltage humidifier, and electronic air cleaner terminal connections are among other features.



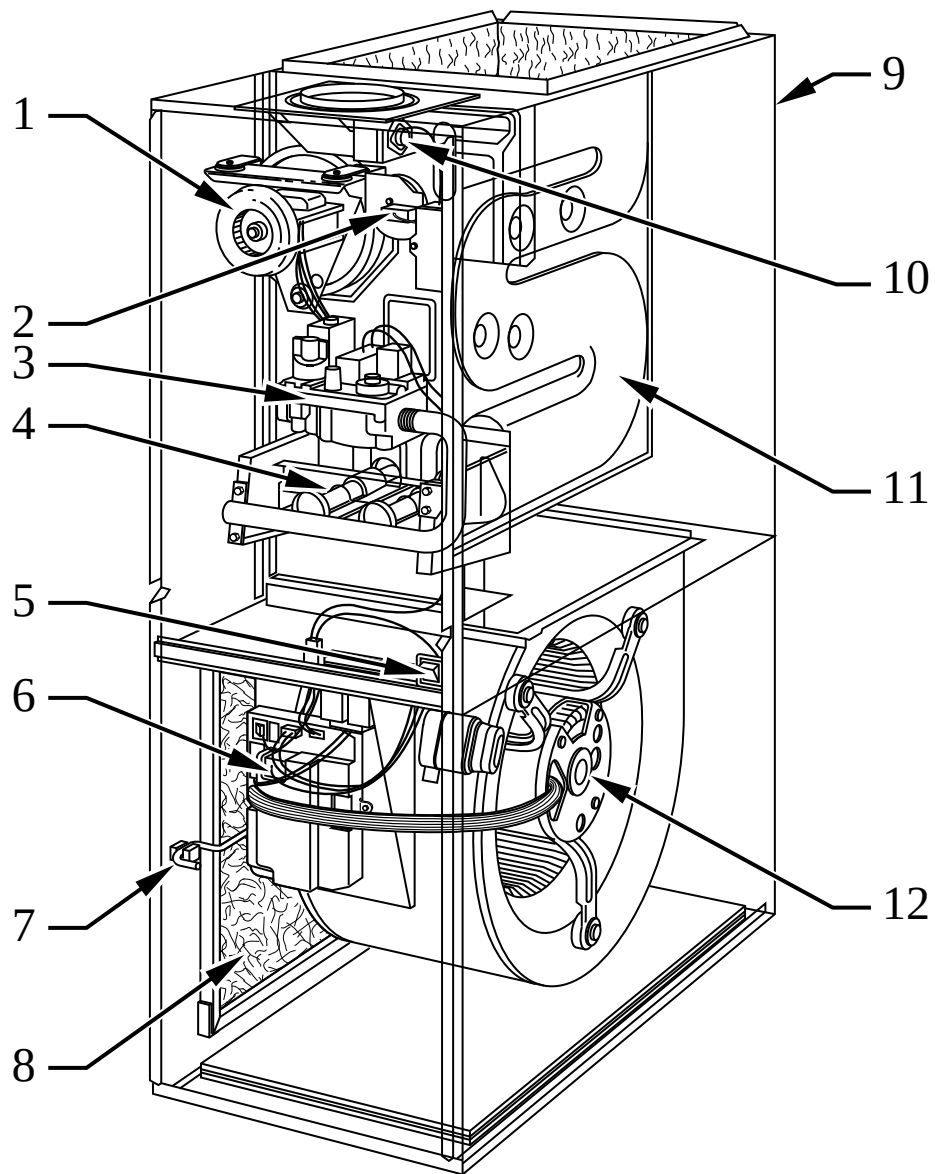
MEETS DOE RESIDENTIAL CONSERVATION SERVICES PROGRAM STANDARDS.

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

REGISTERED
QUALITY SYSTEM

Model number nomenclature

58YAV	070	100	12
High-Efficiency Induced-Combustion Upflow Furnace			Nominal Cooling Size (Airflow) (400 CFM per 12,000 Btuh) 08 — 800 CFM 12 — 1200 CFM 14 — 1400 CFM 16 — 1600 CFM 20 — 2000 CFM
			Series Number
Input Capacity 070 — 66,000 Btuh 091 — 88,000 Btuh 111 — 110,000 Btuh	135 — 132,000 Btuh 155 — 154,000 Btuh		



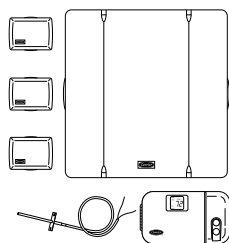
A98062

NOTES:

1. The 58YAV Furnaces are for use with natural gas. These furnaces can be field-converted for propane gas with a factory-authorized and A.G.A. and C.G.A. approved accessory conversion kit.
2. Control location and actual control may be different than shown above.

- | | |
|-----------------------------|---------------------------|
| ❶ Inducer Assembly | ❷ Air Filter Retainer |
| ❷ Pressure Switch | ❸ Air Filter |
| ❸ Gas Control Valve | ❹ Wrap-Around Casing |
| ❹ Burner Assembly | ❺ Draft Safeguard Switch |
| ❺ Blower Door Safety Switch | ❻ Heat Exchanger |
| ❻ Control Box | ❼ Blower and Blower Motor |

Carrier accessories*

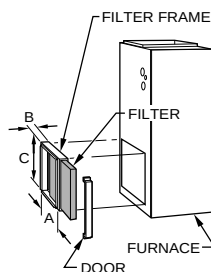


A97432

CONTROLS THERMOSTATS AND ZONING

Available in programmable and non-programmable models. Carrier thermostats maintain a constant, comfortable temperature level in the home.

For the ultimate in home comfort, Carrier's 2, 4, and 8-zone systems allow temperature control of individual "zones" of the home. This is accomplished through a series of electronic dampers and remote room sensors. The 4-zone system is shown.

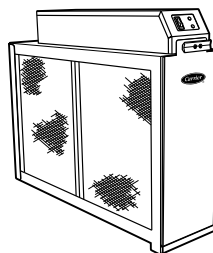


A93068

SIDE FILTER RACK

Custom made filter rack for easy connection when a return plenum already exists. Provides easy access for cleaning filter.

A	23-1/8 in.
B	2-3/8 in.
C	14-1/2 in.

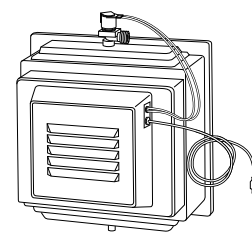


A97380

MECHANICAL OR ELECTRONIC AIR CLEANER

Cleans the air of smoke, dirt, and many pollens commonly found. Saves decorating and cleaning expenses by keeping carpets, furniture, and drapes cleaner.

Electronic air cleaner is shown.



A91365

MODEL HUMCCLFP HUMIDIFIER

By adding moisture to winter-dry air, a Carrier humidifier can often improve the comfort and keep furniture, rugs, and draperies in better condition. Moisturizing household air also helps to retain normal body heat and provides comfort at lower temperatures.

UNIT SIZE		070-08 & 12	091-14	111-16	135-20	155-20
ELECTRONIC AIR CLEANER (EAC)		Model AIRA				
MECHANICAL AIR CLEANER		Model 31MF				
HUMIDIFIER		Model HUM				
HEAT RECOVERY VENTILATOR		Models VA3B, VB5B, or VC5B				
ENERGY RECOVERY VENTILATOR		Model VL3A				
THERMOSTAT — NON-PROGRAMMABLE		Auto Changeover, °F/°C, 1-Stage Heat/1-Stage Cool — TSTATCCNAC01-B Auto Changeover, °F/°C, 2-Stage Heat/1-Stage Cool — TSTATCCNHP01-B Auto Changeover, °F/°C, 2-Stage Heat/2-Stage Cool — TSTATCCN2S01-B in AC Mode, 3-Stage Heat/2-Stage Cool in HP Mode Air Conditioner, 1-Stage Heat/1-Stage Cool. Manual Changeover, °F/°C — TSTATCCBAC01 Heat Pump, 2-Stage Heat/1-Stage Cool. Manual Changeover, °F/°C — TSTATCCBHP01†				
THERMOSTAT — PROGRAMMABLE		Auto Changeover, 7-Day Programmable, °F/°C, 1-Stage Heat/1-Stage Cool — TSTATCCPAC01-B Auto Changeover, 7-Day Programmable, °F/°C, 2-Stage Heat/1-Stage Cool — TSTATCCPHP01-B Auto Changeover, 7-Day Programmable, °F/°C, 2-Stage Heat/2-Stage Cool — TSTATCCP2S01-B in AC Mode, 3-Stage Heat/2-Stage Cool in HP Mode Dual Fuel Thermostat, Includes Outdoor Air Temperature Sensor — TSTATCCPDF01-B† Thermostat Control — Non-Programmable/Programmable Thermostat — TSTATCCPRH01-B† with Humidity Control (For use in Dual Fuel, AC, HP, and 2S applications. Includes Outdoor Air Temperature Sensor.)				
ZONING — 2 ZONE		ZONECC2KIT01, ZONEKIT2ZCAR				
ZONING — 4 ZONE		ZONECC4KIT01				
ZONING — 8 ZONE		ZONECC8KIT01				
SIDE FILTER RACK (With Washable Filter)		KGAFR0101ALL				
EXTERIOR CHIMNEY ADAPTER KIT		KGACA01014FC (6-In. Outlet)			KGACA01015FC (7-In. Outlet)	
GAS CONVERSION KIT*	Natural-To-Propane	KGANP2001ALL				
	Propane-To-Natural	KGAPN1601ALL				

* Factory-authorized and field installed. Gas conversion kits are A.G.A. and C.G.A. approved.

† Do not use in zoning heat pump applications.

Physical data

UNIT SIZE	070		091	111	135	155
	08	12	14	16	20	20
OUTPUT CAPACITY (BTUH)† Nonweatherized ICS	52,000	52,000	69,000	87,000	105,000	122,000
INPUT BTUH*	66,000	66,000	88,000	110,000	132,000	154,000
SHIPPING WEIGHT (Lb)	132	134	150	166	194	204
CERTIFIED TEMP RISE RANGE (°F)	40-70	30-60	40-70	45-75	40-70	50-80
CERTIFIED EXT STATIC PRESSURE	Heating	0.12	0.12	0.15	0.20	0.20
	Cooling	0.5	0.5	0.5	0.5	0.5
AIRFLOW CFM	Heating	830	1140	1170	1415	1775‡
	Cooling	880	1195	1360	1575	2025‡
LIMIT CONTROL	SPST					
HEATING BLOWER CONTROL	Solid-State Time Operation					
BURNERS (Monoport)	3	3	4	5	6	7
GAS CONNECTION SIZE	1/2-in. NPT					
GAS VALVE (Redundant) Manufacturer	White-Rodgers					
Minimum Inlet Pressure (In. wc)	4.5 (Natural Gas)					
Maximum Inlet Pressure (In. wc)	13.6 (Natural Gas)					
IGNITION DEVICE	Hot Surface					

* Gas input ratings are certified for elevations to 2000 ft. For elevations above 2000 ft, reduce ratings 4 percent for each 1000 ft above sea level. Refer to National Fuel Gas Code Table F4 or furnace Installation Instructions. In Canada, derate the unit 10 percent for elevations 2000 ft to 4500 ft above sea level.

† Tentative capacity in accordance with U.S. Government DOE test procedures.

‡ Airflow shown is for bottom only return-air supply. Air delivery above 1800 CFM may require that both sides, or a combination of 1 side and bottom, or bottom only, of the furnace be used for return air, see Air Delivery table. A filter is required for each return-air inlet.

ICS—Isolated Combustion System

Performance data

UNIT SIZE	070		091	111	135	155
	08	12	14	16	20	20
DIRECT-DRIVE MOTOR Hp (PSC)	1/5	1/3	1/3	1/2	3/4	3/4
MOTOR FULL LOAD AMPS	2.9	5.8	5.8	7.9	11.1	11.1
RPM (Nominal) — SPEEDS	1075-3	1075-4	1075-4	1075-4	1075-4	1075-4
BLOWER WHEEL DIAMETER x WIDTHS (In.)	10 x 6	10 x 6	10 x 7	10 x 8	11 x 10	11 x 10
WASHABLE 16 x 25 x 1-In. FILTER Qty	1	1	1	—	—	—
WASHABLE 20 x 25 x 1-In. FILTER Qty	—	—	—	1	—	—
WASHABLE 24 x 29 x 1-In. FILTER Qty	—	—	—	—	1	1

PSC—Permanent Split Capacitor

ENERGY EFFICIENCY

UNIT SIZE	070		091	111	135	155
	08	12	14	16	20	20
CAPACITY BTUH* Nonweatherized ICS	52,000	52,000	69,000	87,000	105,000	122,000
AFUE%* Nonweatherized ICS	78.0	78.0	78.0	78.0	78.0	78.0

* Capacity and AFUE in accordance with U.S. Government DOE test procedures.

ICS—Isolated Combustion System

AIR DELIVERY—CFM (With Filter)*

UNIT SIZE	RETURN-AIR SUPPLY	SPEED	EXTERNAL STATIC PRESSURE (In. wc)							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
070-08	Bottom or 1 Side	High	1040	1010	975	935	880	810	735	640
		Med-High	855	830	800	765	715	660	600	490
		Med-Low	745	715	690	650	605	550	475	385
070-12	Bottom or 1 Side	High	1430	1380	1325	1265	1195	1125	1045	945
		Med-High	1310	1275	1235	1190	1135	1065	990	900
		Med-Low	1140	1130	1100	1065	1000	965	910	815
		Low	990	965	960	935	905	855	800	710
091-14	Bottom or 1 Side	High	1570	1535	1480	1415	1360	1280	1185	1070
		Med-High	1370	1355	1330	1290	1240	1170	1080	955
		Med-Low	1170	1165	1150	1115	1085	1035	970	880
		Low	1010	1005	990	965	950	905	845	745
111-16	Bottom or 1 Side	High	1880	1815	1745	1690	1575	1500	1400	1265
		Med-High	1660	1615	1570	1505	1435	1355	1260	1170
		Med-Low	1455	1410	1375	1350	1290	1235	1145	985
		Low	1265	1265	1240	1210	1180	1110	995	855
135-20	Bottom Only	High	—	2260	2185	2085	2025	1935	1835	1730
		Med-High	2110	2070	2015	1960	1885	1810	1715	1620
		Med-Low	1790	1775	1755	1720	1670	1610	1535	1455
		Low	1495	1500	1515	1485	1450	1400	1345	1270
	Both Sides or 1 Side and Bottom	High	2425	2360	2275	2195	2095	2010	1890	1775
		Med-High	2055	2035	1995	1945	1880	1810	1735	1640
155-20	Bottom Only	High	—	2300	2235	2155	2055	1980	1870	1775
		Med-High	—	2050	2005	1945	1880	1805	1720	1640
		Med-Low	1790	1770	1740	1710	1635	1580	1520	1440
		Low	1520	1525	1505	1485	1450	1410	1350	1290
	Both Sides or 1 Side and Bottom	High	2405	2385	2310	2220	2140	2045	1945	1825
		Med-High	2090	2090	2040	1990	1925	1850	1765	1660
	1 Side Only	High	2325	2260	2175	2085	2000	1900	1805	1705
		Med-High	2085	2045	1985	1920	1855	1765	1680	1570

* A filter is required for each return-air inlet.

—Indicates unstable operating conditions.

MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

This forced air furnace is equipped for use with natural gas at altitudes 0-10,000 ft (0-3,050m).

An accessory kit, supplied by the manufacturer, shall be used to convert to propane gas use or may be required for some natural gas applications.

This furnace is for indoor installation in a building constructed on site.

This furnace may be installed on combustible flooring in alcove or closet at minimum clearance from combustible material.

This furnace may be used with a Type B-1 Vent and may be vented in common with other gas-fired appliances.

For furnaces wider than 14.25 inches (362mm) may be 0 inches.
 ## For single wall vent type 6 inches. For Type B-1 vent type 3 inches.

INSTALLATION WITH CHIMNEY ADAPTER KIT
 Chimney Adapter Kits: No. KGACA01014FC or No. KGACA01015FC may be required for some exterior masonry chimney applications. See Installation Instructions.

This furnace is approved for UPFLOW installations only.

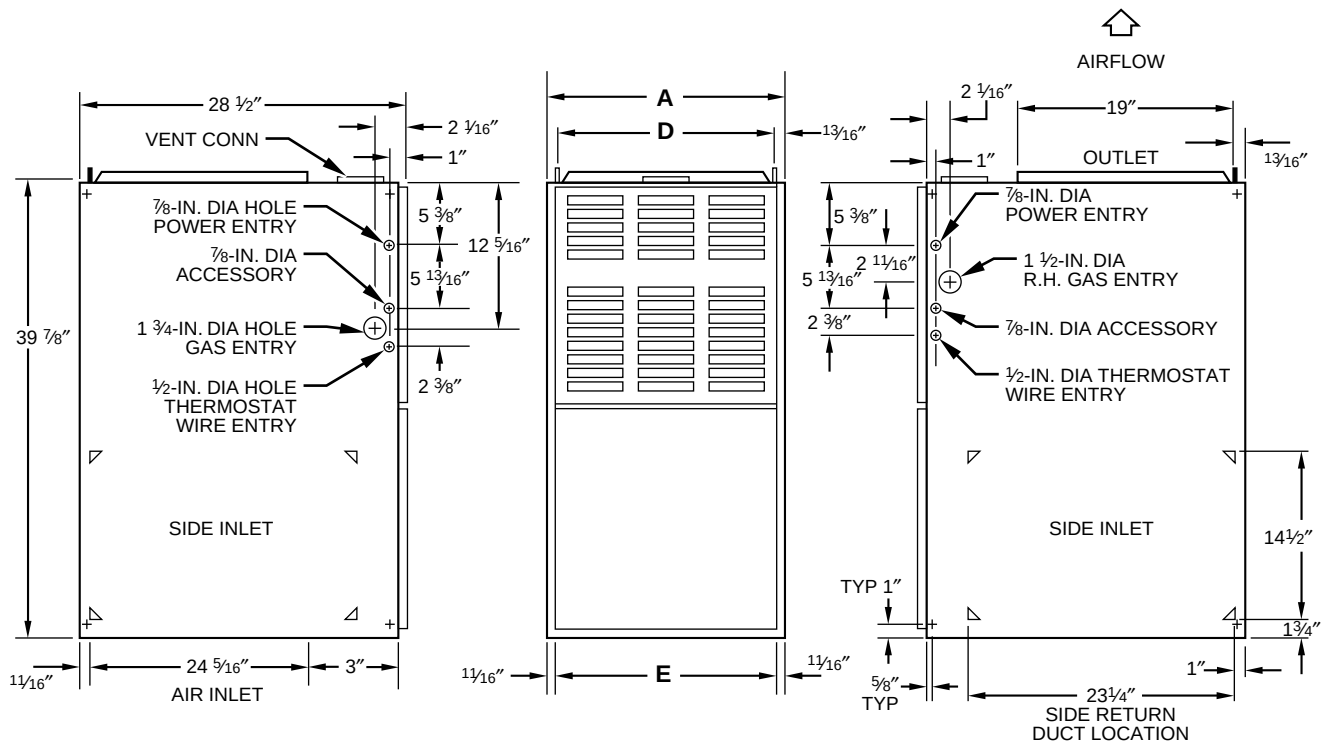
Clearance in inches

Vent Clearance to combustibles:
 For Single Wall vents 6 inches (6 po).
 For Type B-1 vent type 1 inch (1 po).

323653-101 REV. D (lit)

A98046E

Dimensions



- NOTES:**
- Two additional 7/8-in. dia holes are located in the top plate.
 - Minimum return-air openings at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendations for equivalent diameters.
 - Minimum return-air opening at furnace:
 - For 800 CFM—16-in. round or 14 1/2 x 12-in. rectangle.
 - For 1200 CFM—20-in. round or 14 1/2 x 19 1/2-in. rectangle.
 - For 1600 CFM—22-in. round or 14 1/2 x 23 1/4-in. rectangle.
 - For airflow requirements above 1800 CFM, see Air Delivery table in Product Data literature for specific use of single side inlets. The use of both side inlets, a combination of 1 side and the bottom, or the bottom only will ensure adequate return air openings for airflow requirements above 1800 CFM.

A98520

DIMENSIONS (In.)

UNIT SIZE	A	D	E	VENT CONN* (Dia)
070-08	14-3/16	12-9/16	11-11/16	4
070-12	14-3/16	12-9/16	11-11/16	4
091-14	17-1/2	15-7/8	16	4
111-16	21	19-3/8	18-1/2	4
135-20	24-1/2	22-7/8	22	5
155-20	24-1/2	22-7/8	22	5†

* Refer to the furnace Installation Instructions for proper venting procedures.

† Oval collar

Electrical data

UNIT SIZE	070-08	070-12	091-14	111-16	136-20	155-20
UNIT VOLTS — HERTZ — PHASE	115 — 60 — 1					
MINIMUM WIRE SIZE (AWG)	14	14	14	14	12	12
MAXIMUM WIRE LENGTH (Ft)*	47	32	31	28	33	31
MAXIMUM UNIT AMPS	5.9	8.7	9.0	10.1	13.3	14.0
OPERATING VOLTAGE RANGE (Min—Max)†	104—127					
MAX FUSE SIZE OR Ckt Bkr (Amps)‡	15	15	15	15	20	20
TRANSFORMER (24v)	40va					
EXTERNAL CONTROL POWER AVAILABLE	Heating					
	Cooling					
AIR CONDITIONING BLOWER RELAY	Standard					

* Length shown is as measured 1 way along wire path between unit and service panel for maximum 2 percent voltage drop.

† Permissible limits of the voltage range at which the unit will operate satisfactorily.

‡ Time-delay type is recommended.

Typical wiring schematic

