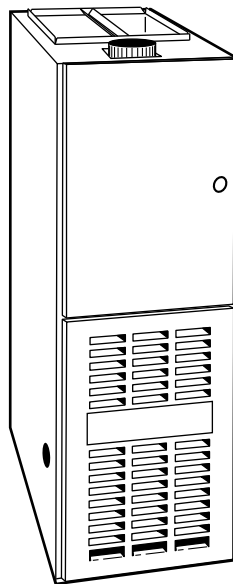




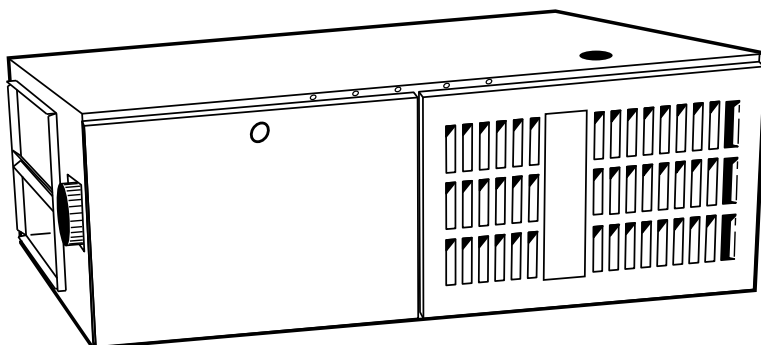
## Product Data

# 58RAV High-Efficiency Downflow/Horizontal Induced-Combustion Gas Furnace

Input Capacities:  
50,000 thru 135,000 Btuh



**DOWNFLOW**



**HORIZONTAL**

### 80% AFUE At Budget Price

Carrier provides an 80% Annual Fuel Utilization Efficiency (AFUE) gas furnace for the budget conscious consumer and builder. The 58RAV offers the same high quality you demand and receive from Carrier.

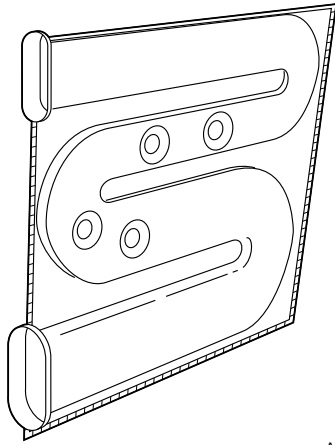
The cabinet is constructed from a specially selected galvanized steel. There is also double protection for the cabinet. First, aluminized steel substrate provides resistance to rusting. Then the cabinet is constructed of prepainted steel — the same high-quality finish found on refrigerators and dishwashers.

The 58RAV offers a hot surface ignition system which provides a superior and more reliable ignition than older spark relight systems.

The heat exchangers are constructed of aluminized steel and covered by a 20-year Limited Warranty. They are Carrier's patented Super-S heat exchangers that improve heat transfer and enable downsizing of this furnace to only 40-in. tall.

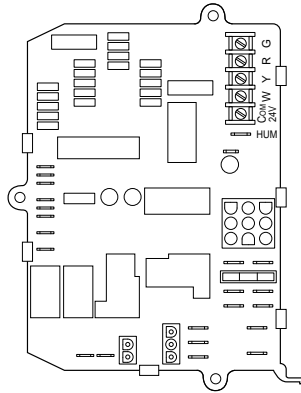
To improve the sound level, we have incorporated a soft mount inducer assembly and a slow opening gas valve.

The control board is the brain of this induced-combustion gas furnace. It offers a unique self-test feature that checks all the major functions of the furnace within 1 minute. The control board also features a 3-amp fuse that protects the transformer and control board. Another feature on the control board is an LED status indicator light to ensure top furnace performance.



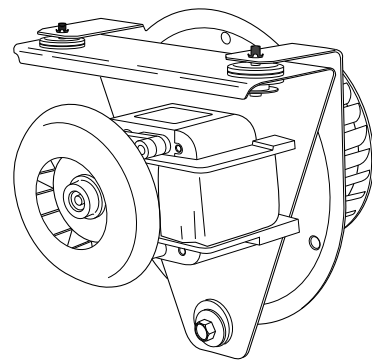
A89217

**HEAT EXCHANGER**



A95246

**CONTROL BOARD**



A92074

**INDUCER BLOWER**



**MEETS DOE RESIDENTIAL CONSERVATION SERVICES PROGRAM STANDARDS.**

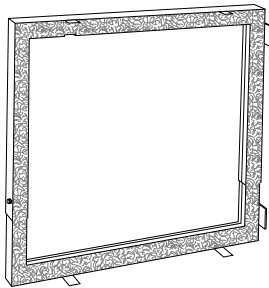
Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.



## Model number nomenclature



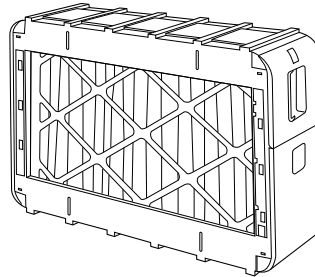
# Carrier accessories\*



A88202

## DOWNFLOW SUBBASE

One base fits all furnace sizes. The base is designed to be installed between the furnace and a combustible floor when no coil box is used, or when a coil box other than a Carrier cased coil is used. It is A.G.A. design certified for use with Carrier 58RAV furnaces.

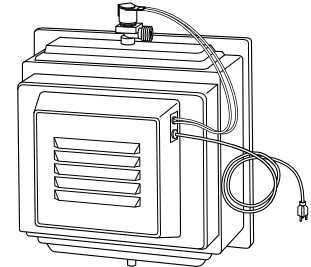


A95432

## 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.

Mechanical air cleaner is shown.



A91365

## MODEL 49FH 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	050-08 & 12	070-08 & 12	095-12 & 16	115-16 & 20	135-20
AIR CLEANER	Model AIRA, BKEACA, 31MF or MECH				
HUMIDIFIER	Model 49BF, 49BG, 49FH, 49FP, or 49WS				
VENTILATOR	Model VA3B, VB5B, VC5B, or VL3A				
THERMOSTAT — NON-PROGRAMMABLE	For Use With Air Conditioner — TSTATCCNAC01-A For Use With Heat Pump — TSTATCCNHP01-A				
THERMOSTAT — PROGRAMMABLE	For Use With Air Conditioner — TSTATCCPAC01-A For Use With Heat Pump — TSTATCCPHP01-A				
DOWNFLOW SUBBASE†	KGASB0101ALL				
GAS CONVERSION KIT	Natural-To-Propane				
	Propane-To-Natural				
	KGANP2001ALL				
	KGAPN1601ALL				

\* Factory authorized and field installed. Gas conversion kits are A.G.A. recognized.

† Required for installation on combustible floors when no coil box is used, or when any coil box other than a Carrier cased coil is used.

## Physical data

UNIT SIZE	050		070		095		115		135	
	08	12	08	12	12	16	16	20	20	
OUTPUT CAPACITY (BTUH)† Nonweatherized ICS	37,000	37,000	56,000	56,000	75,000	75,000	94,000	94,000	110,000	
INPUT BTUH*	46,000	46,000	69,000	69,000	92,000	92,000	115,000	115,000	135,000	
SHIPPING WEIGHT (Lb)	118	121	135	139	146	146	163	171	182	
CERTIFIED TEMP RISE RANGE (°F)	30 — 60	20 — 50	50 — 80	30 — 60	45 — 75	30 — 60	50 — 80	35 — 65	45 — 75	
CERTIFIED EXT STATIC PRESSURE	Heating	0.10	0.10	0.12	0.12	0.15	0.15	0.20	0.20	0.20
	Cooling	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
AIRFLOW CFM	Heating	720	1165	660	1165	1060	1350	1400	1735	1690
	Cooling	895	1160	930	1195	1255	1580	1595	1950	2055
SECONDARY LIMIT CONTROL	Manual Reset									
LIMIT CONTROL	SPST									
HEATING BLOWER CONTROL	Solid-State Time Operation									
BURNERS (Monoport)	2		3		4		5		6	
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% for each 1000 ft above sea level. Refer to National Fuel Gas Code Table F4. In Canada, derate unit 10% for elevations 2000 ft to 4500 ft above sea level.

† Capacity in accordance with U.S. Government DOE test procedures.

ICS — Isolated Combustion System

# Dimensions

## CLEARANCES (IN.)

UNIT SIZE	050 AND 070	095 — 135
<b>DOWNFLOW (In Alcove or Closet)</b>		
Sides — Single-Wall Vent	1	0
Type B-1 Double-Wall Vent	0	0
Back	0	0
Top	1	1
Front — Single-Wall Vent	6†	6†
Type B-1 Double-Wall Vent	3†	3†
Vent — Single-Wall Vent	6	6
Type B-1 Double-Wall Vent	1	1

\* Indicates supply or return sides when furnace is in the horizontal position.

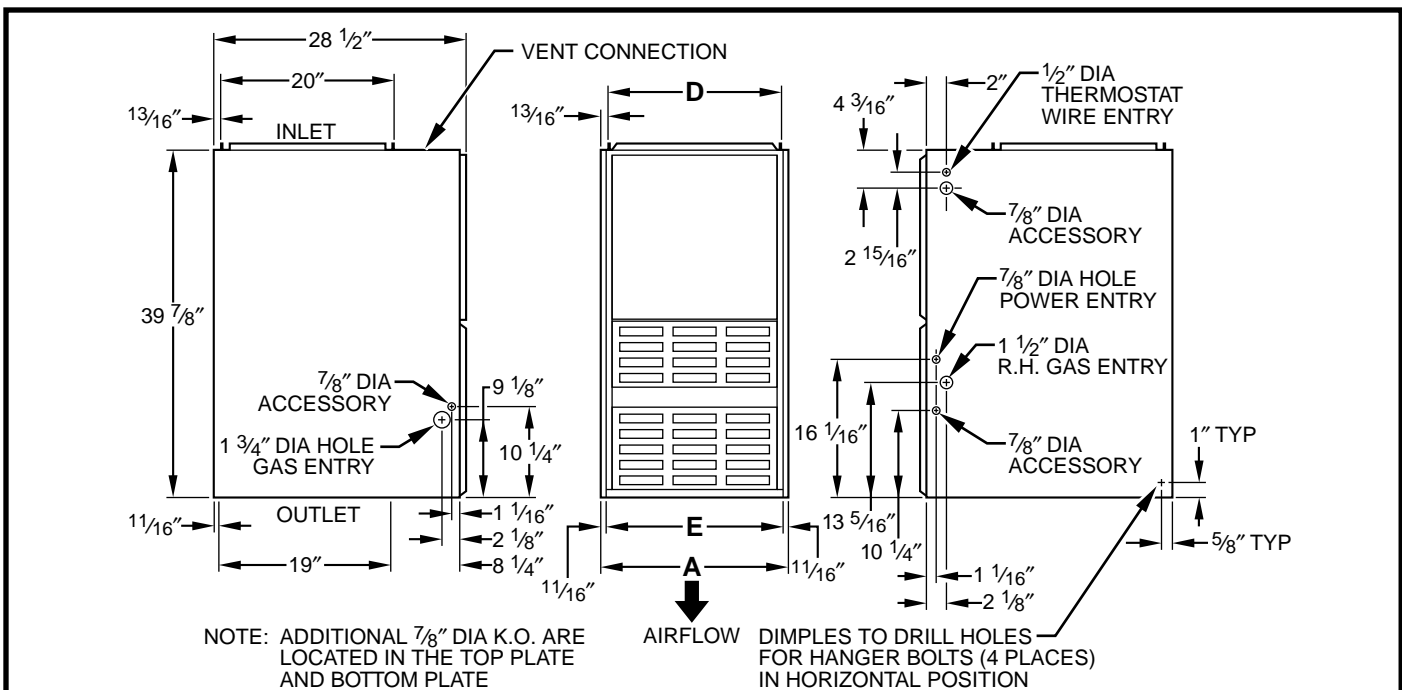
† Clearance shown is for outlet end. The inlet end must maintain 6-in. minimum clearance from the vent to combustible materials when using single-wall vent.

‡ Minimum 18-in. front clearance required for alcove.

### NOTES:

1. Provide 30-in. front clearance for servicing. An open door in front of the furnace can meet this requirement.
2. A minimum clearance of 3 in. must be provided in front of the furnace for combustion air and proper operation.

UNIT SIZE	050 AND 070	095 — 135
<b>HORIZONTAL (In Attic, Alcove, or Crawlspace)</b>		
Sides*	1	0
Back	0	0
Top — Single-Wall Vent	1	1
Type B-1 Double-Wall Vent	1	1
Front‡ — Single-Wall Vent	6†	6†
Type B-1 Double-Wall Vent	3†	3†
Vent — Single-Wall Vent	6	6
Type B-1 Double-Wall Vent	1	1
<b>HORIZONTAL (In Closet)</b>		
Sides*	1	1
Back	3	3
Top — Single-Wall Vent	2	2
Type B-1 Double-Wall Vent	2	2
Front‡ — Single-Wall Vent	6	6
Type B-1 Double-Wall Vent	3	3
Vent — Single-Wall Vent	6	6
Type B-1 Double-Wall Vent	1	1



## DIMENSIONS (In.)

UNIT SIZE	A	D	E	VENT CONN*
050-08	14-3/16	12-9/16	12-11/16	4
050-12	14-3/16	12-9/16	12-11/16	4
070-08	14-3/16	12-9/16	12-11/16	4
070-12	14-3/16	12-9/16	12-11/16	4
095-12	17-1/2	15-7/8	16	4
095-16	17-1/2	15-7/8	16	4
115-16	17-1/2	15-7/8	16	4
115-20	21	19-3/8	19-1/2	4
135-20	24-1/2	22-7/8	23	5

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

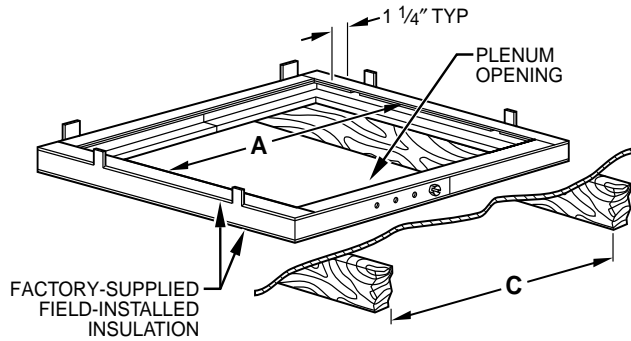
A88324

# Accessory downflow subbase

**DIMENSIONAL DATA (In.)**

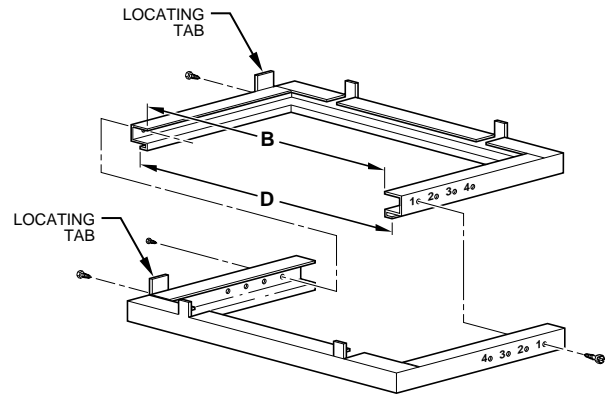
FURNACE WIDTH	PLENUM OPENING		FRAMED FLOOR HOLE		HOLE NO. FOR WIDTH ADJUSTMENT
	A	B	C	D	
14-3/16	11-13/16	19	13-7/16	20-3/8	4
17-1/2	15-1/8	19	16-3/4	20-3/8	3
21	18-5/8	19	20-1/4	20-3/8	2
24-1/2	22-1/8	19	23-3/4	20-3/8	1

\* The plenum should be constructed 1/4 in. smaller in width and depth than the plenum dimensions shown above.



**Assembled**

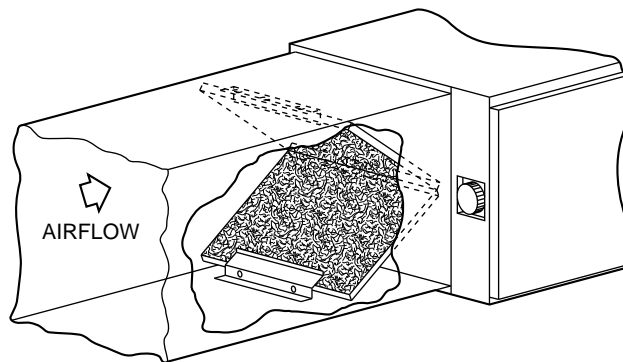
A88206



**Disassembled**

A88207

## FILTER ARRANGEMENT



**Filter Retainers  
(Field Supplied)**

A94307

# Performance data

UNIT SIZE	050-08	050-12	070-08	070-12	095-12	095-16	115-16	115-20	135-20
<b>DIRECT-DRIVE MOTOR Hp (PSC)</b>	1/5	1/3	1/5	1/3	1/3	1/2	1/2	3/4	3/4
<b>MOTOR FULL LOAD AMPS</b>	2.9	5.8	2.9	5.8	5.8	7.9	7.9	11.1	11.1
<b>RPM (Nominal)—SPEEDS</b>	1075 — 3	1075 — 4	1075 — 3	1075 — 4	1075 — 4	1075 — 4	1075 — 4	1075 — 4	1075 — 4
<b>BLOWER WHEEL DIAMETER x WIDTH (In.)</b>	10 x 6	10 x 6	10 x 6	10 x 6	10 x 7	10 x 8	10 x 8	11 x 10	11 x 10
<b>FILTER SIZE (In.)—WASHABLE</b>	(2) 16 x 20 x 1								

PSC—Permanent Split Capacitor

## AIR DELIVERY—CFM (With Filters)

UNIT SIZE	SPEED	EXTERNAL STATIC PRESSURE (In. wc)							
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
050-08	High	1100	1050	1000	950	895	840	760	650
	Med-High	860	820	790	760	710	655	580	480
	Med-Low	720	685	650	615	560	505	440	360
050-12	High	1450	1385	1320	1245	1160	1060	970	855
	Med-High	1305	1270	1225	1160	1090	1000	910	810
	Med-Low	1165	1135	1090	1045	990	905	830	730
	Low	1005	980	955	915	870	810	740	650
070-08	High	—	—	1010	975	930	885	825	745
	Med-High	—	815	800	765	725	685	620	550
	Med-Low	—	660	645	620	590	545	480	415
070-12	High	1435	1385	1320	1265	1195	1145	1080	1000
	Med-High	1300	1265	1230	1185	1135	1070	1010	940
	Med-Low	1165	1140	1100	1055	1005	975	920	850
	Low	985	950	945	920	890	850	810	745
095-12	High	1445	1420	1380	1320	1255	1180	1075	940
	Med-High	1255	1250	1220	1180	1140	1065	975	830
	Med-Low	1060	1055	1045	1025	975	915	820	680
	Low	900	895	890	870	830	760	665	545
095-16	High	1855	1765	1710	1665	1580	1570	1410	1310
	Med-High	1595	1570	1530	1485	1410	1355	1280	1200
	Med-Low	1355	1345	1305	1270	1220	1170	1110	1025
	Low	1170	1170	1140	1110	1075	1025	965	890
115-16	High	1930	1850	1770	1685	1595	1505	1405	1305
	Med-High	1685	1630	1580	1525	1445	1370	1285	1195
	Med-Low	1425	1400	1370	1325	1280	1225	1155	1070
	Low	1250	1240	1210	1170	1150	1095	1035	950
115-20	High	2235	2185	2110	2030	1950	1835	1700	1540
	Med-High	1995	1970	1915	1845	1765	1680	1545	1415
	Med-Low	1735	1735	1675	1625	1565	1480	1370	1265
	Low	1510	1500	1485	1455	1400	1320	1230	1130
135-20	High	—	2250	2190	2130	2055	1960	1875	1760
	Med-High	—	2000	1960	1910	1850	1785	1710	1615
	Med-Low	1700	1690	1670	1650	1610	1560	1490	1435
	Low	1480	1480	1480	1460	1430	1380	1320	1255

—Indicates unstable operating conditions.

## ENERGY EFFICIENCY

UNIT SIZE		050		070		095		115		135
		08	12	08	12	12	16	16	20	20
<b>CAPACITY BTUH*</b>	<b>Nonweatherized ICS</b>	37,000	37,000	56,000	56,000	75,000	75,000	94,000	94,000	110,000
<b>AFUE %*</b>	<b>Nonweatherized ICS</b>	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0

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

ICS—Isolated Combustion System

# Electrical data

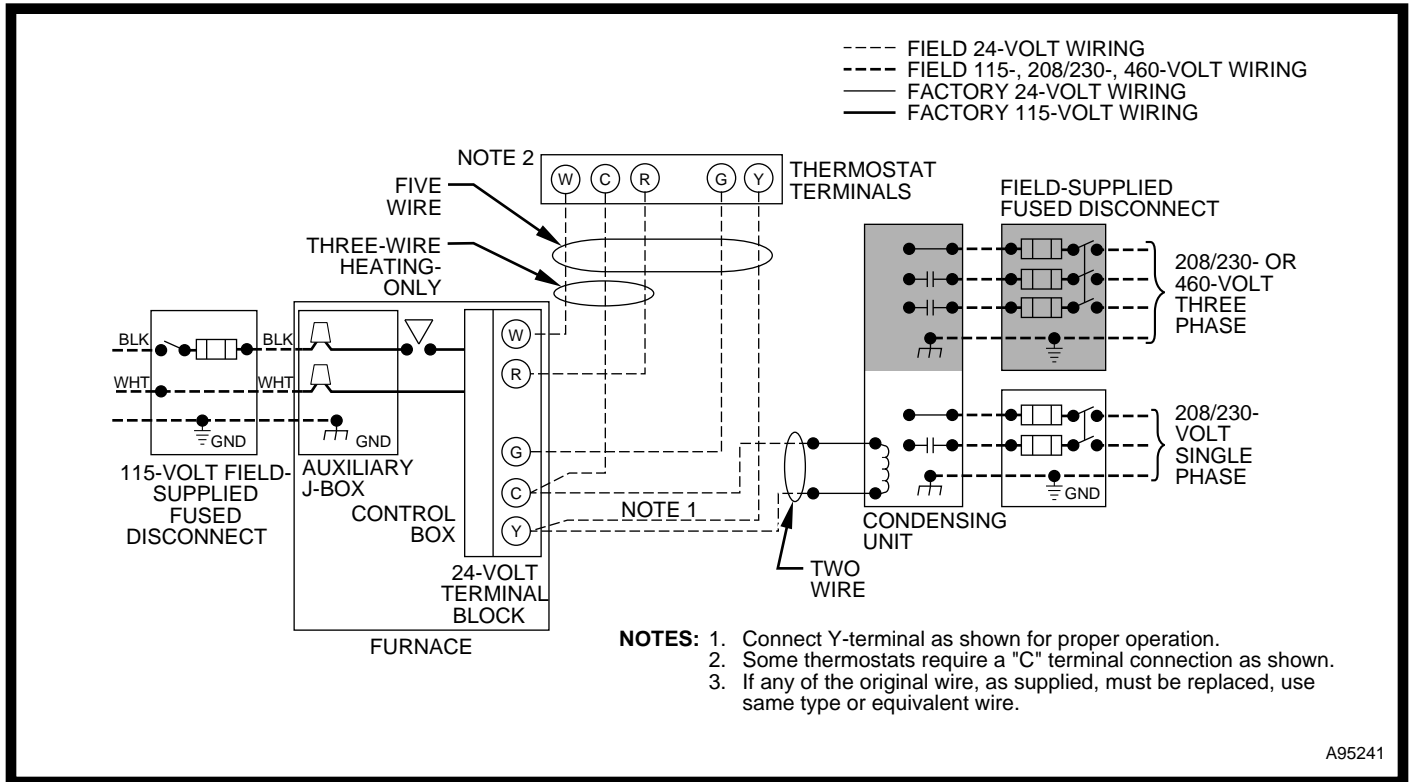
UNIT SIZE	050-08	050-12	070-08	070-12	095-12	095-16	115-16	115-20	135-20
UNIT VOLTS — HERTZ — PHASE	115 — 60 — 1								
MINIMUM WIRE SIZE	14	14	14	14	14	14	14	12	12
MAXIMUM WIRE LENGTH (Ft)*	42	34	42	33	30	28	28	33	31
MAXIMUM UNIT AMPS	6.6	8.1	6.7	8.4	9.2	10.2	10.1	13.3	14.3
OPERATING VOLTAGE RANGE (Min—Max)†	104 — 127								
MAXIMUM FUSE SIZE OR HACR-TYPE CKT BRK (Amps)‡	15	15	15	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% voltage drop.

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

‡ Time-delay fuse is recommended.

## Typical wiring schematic



# Typical installation

