



Product Data

58TUA Weathermaker® 8000 Two-Speed Mid-Efficiency Upflow Furnace

Input Capacities:
40,000 — 140,000 Btuh



Two-Speed Heating for Mid-Efficiency Gas Furnaces

Carrier leads the industry with our new Weathermaker® 8000 Two-Speed Induced-Draft Gas Furnace. This furnace can operate at 2 different speed settings which provide outstanding home comfort. The Weathermaker® 8000 furnace is built with 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 58TUA Upflow Furnace is the latest addition to Carrier's list of product leadership in the gas furnace industry.

These 2-speed 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 80.0%. The Carrier Weathermaker® 8000 two-speed 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, a soft mount 2-speed inducer assembly, and a 2-stage slow opening gas valve to minimize sound level. The Super-S heat exchanger provides better heat transfer while enabling us to make a compact furnace. This provides more room in closet, utility room, and short basement installations. The heat exchanger is constructed of aluminized steel and is backed by a 20-year Limited Warranty.

The Carrier Weathermaker® 8000 Two-Speed Gas Furnace will meet your home heating requirements. This furnace family provides the

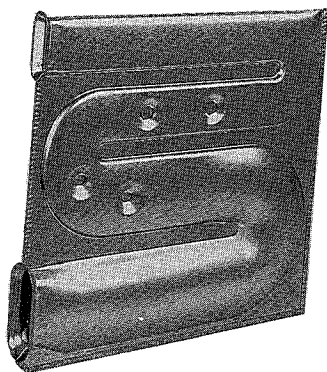
widest range of heating capacities available.

The superior attention to cabinet detail is obvious. The Carrier Weathermaker® 8000 two-speed features 1-piece, seamless, wrap-around construction. There are no spot welds on the exterior surfaces of the Weathermaker® 8000 Two-Speed 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 Weathermaker® 8000 two-speed is the state-of-the-art microprocessor control center. The

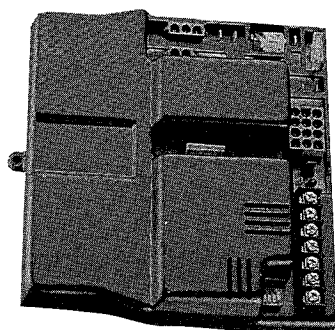
simplified electronics in this control provide high reliability while performing many of the functions of older, electro-mechanical devices in other furnaces. Advanced features of the control show true leadership in furnace technology. The control provides blower delay at start-up and shutdown, while 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 low and high inducers, silicon carbide ignition, and low-, medium-, and high-speed blower. The control board also features a 3-amp fuse that protects the transformer and control.

Best of all, the Carrier Weathermaker® 8000 two-speed 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, Molex blower speed selector, cased or uncased cooling coils, low-voltage, humidifier, and electronic air cleaner terminal connections are among other features. For added installation flexibility, these furnaces can be vented Category I (vertical) or with a minor field modification kit, Category III (horizontal) using the high temperature plastic.



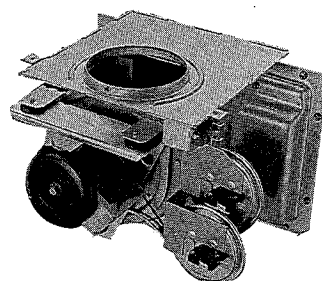
HEAT EXCHANGER

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2-SPEED FURNACE CONTROL

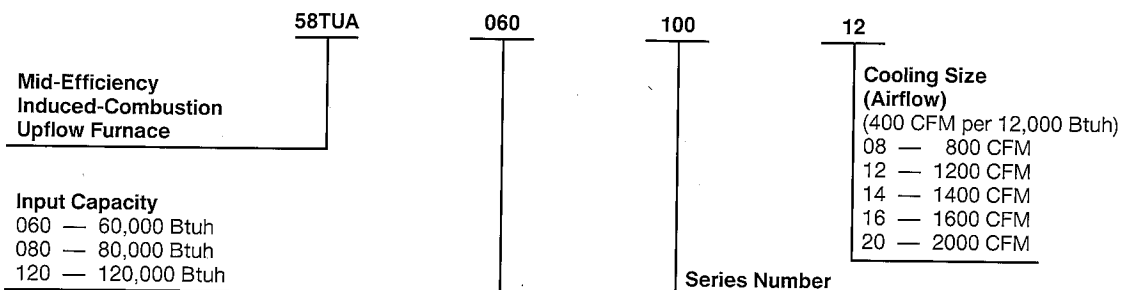
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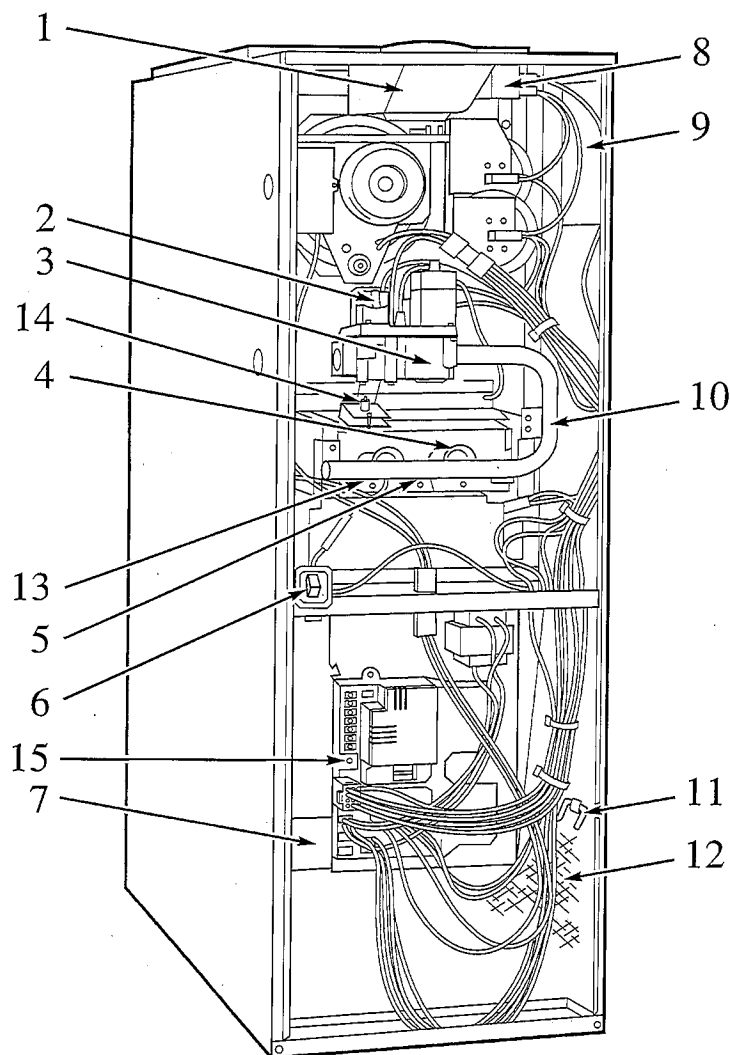


2-SPEED
INDUCER BLOWER

A93149

Model number nomenclature





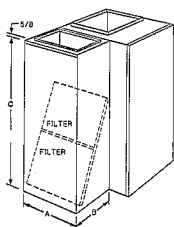
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NOTE: The 58TUA Furnaces are for use with natural gas, but can be field-converted for propane gas with a factory-authorized and listed accessory conversion kit.

NOTE: Control location and actual control may be different than shown above.

- | | |
|-----------------------------------|-------------------------------------|
| ① Relief Box | ⑨ Rating Plate |
| ② Gas Valve Control Knob (On/Off) | ⑩ Gas Manifold |
| ③ 2-Stage Gas Valve | ⑪ Filter Retainer |
| ④ Gas Burner | ⑫ Air Filter |
| ⑤ Hot Surface Ignitor | ⑬ Flame Sensor |
| ⑥ Blower Door Safety Switch | ⑭ Manual Reset Flame Rollout Switch |
| ⑦ Blower and Blower Motor | ⑮ Status LED Light |
| ⑧ Draft Safeguard Tube and Switch | |

Carrier Accessories*

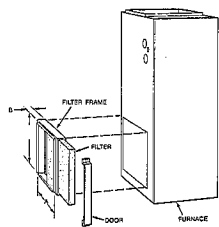


A93067

RETURN-AIR PLENUM

Custom-made return-air plenum can be mounted on either side of the furnace. Includes washable filters.

A	25 in.
B	16 in.
C	39-7/8 in.

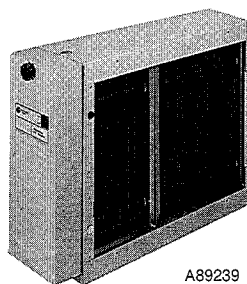


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SIDE FILTER RACK

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

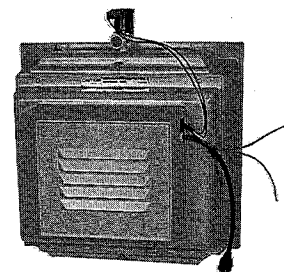
A	23-1/8 in.
B	2-3/8 in.
C	14-1/2 in.



A89239

MODEL 31KAX ELECTRONIC AIR CLEANER

Cleans the air of smoke, dirt, and many pollens commonly found. Saves on decorating and cleaning expenses.



A89459

MODEL 49FH HUMIDIFIER

By adding moisture to winter-dry air, a Carrier humidifier can often improve 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	060-12	080-14 and 16	120-20
ELECTRONIC AIR CLEANER	Model 31KAX		
HUMIDIFIER	Model 49FH		
THERMOSTAT	See Master Price Pages		
RETURN-AIR PLENUM (With Washable Filters)	KGARP0101ALL		
SIDE FILTER RACK (With Washable Filter)	KGAFR0101ALL		
TWINNING KIT†	KGATW0201HSI		
HIGH ALTITUDE PRESSURE SWITCH KIT‡	KGAHA5501PSW		
CATEGORY III VENT CONVERSION KIT	KGASW01012SP		KGASW02012SP
GAS CONVERSION KIT* — NATURAL-TO-PROPANE	KGANP24012SP		
PROPANE-TO-NATURAL	KGAPN20012SP		

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

† 16 and 20 Models only.

‡ 5500 ft and above for Category I or 4000 ft and above for Category III vents.

Physical data

UNIT SIZE		060	080		120
		12	14	16	20
OUTPUT CAPACITY (BTUH)†	High Fire	48,000	64,000	64,000	96,000
	Nonweatherized ICS**	31,000	42,000	42,000	63,000
INPUT (BTUH)*	High Fire	60,000	80,000	80,000	120,000
	Low Fire	39,000	52,000	52,000	78,000
CERTIFIED TEMP RISE RANGE (°F)	High Fire	25-55	35-65	30-60	40-70
	Low Fire	15-45	20-50	15-45	25-55
CERTIFIED EXT STATIC PRESSURE (in. wc)	Heating	0.12	0.15	0.15	0.20
	Cooling	0.5	0.5	0.5	0.5
AIRFLOW CFM‡	Heating High/Low	1175/1025	1150/960	1445/1260	1730/1525
	Cooling	1300	1335	1740	1980
LIMIT CONTROL	SPST				
HEATING BLOWER CONTROL	Solid-State Time Operation				
BURNERS (Monoport)		3	4	4	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.

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

‡ Air delivery above 1800 CFM requires that both sides, or a combination of 1 side and bottom, or bottom only of the furnace be used for return air. A filter is required for each return-air supply.

** ICS — Isolated Combustion System

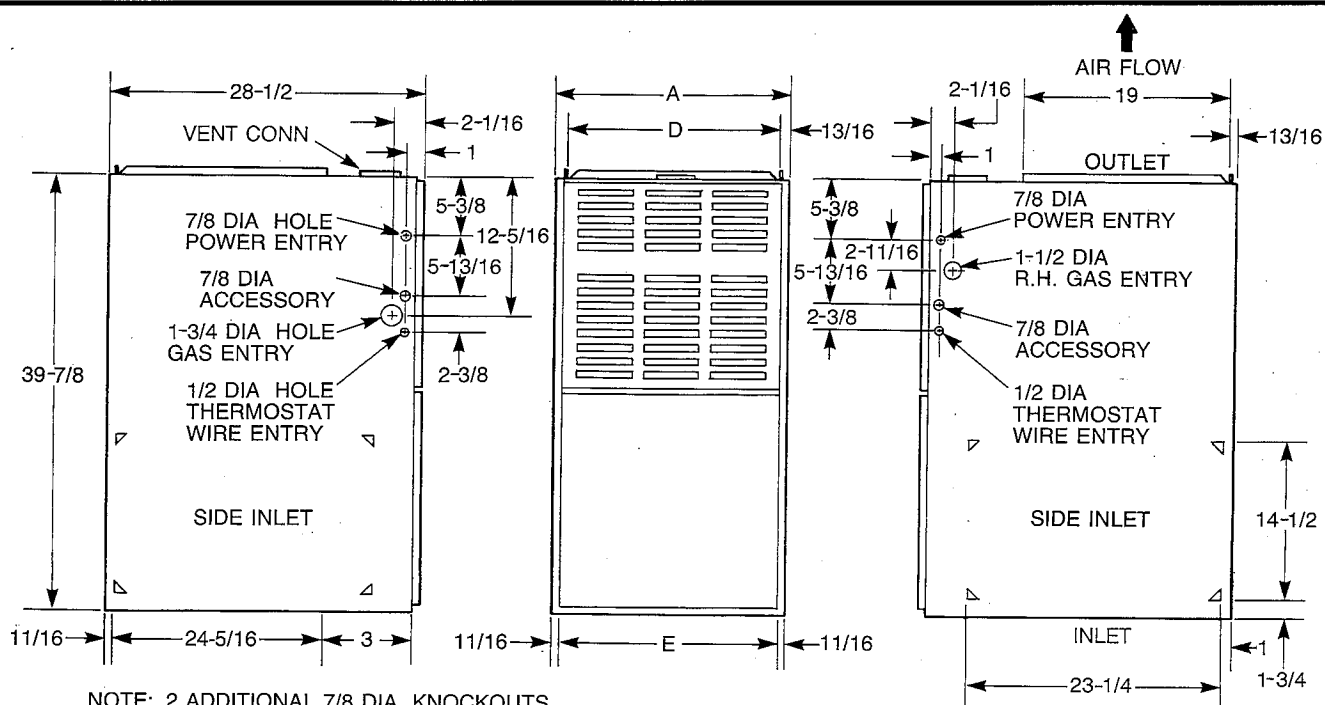
Dimensions

CLEARANCES (In.)

SIZE	060	080	120
Sides — Single-Wall Vent	1	0	0
Type B-1, Double-Wall Vent	0	0	0
Special Gas Vents* — Diameter	3	3	4
Clearance	0	0	0
Back	0	0	0
Top of Plenum	1	1	1
Vent Connector — Single-Wall	6	6	6
Type B-1, Double-Wall	1	1	1
Special Gas Vents* — Diameter	3	3	4
Clearance	5	5	9
Front† — Single-Wall	6	6	6
Type B-1, Double-Wall Vent	3	3	3
Special Gas Vents* — Diameter	3	3	4
Clearance	5	5	9
Service	30	30	30

* Listed for Category III appliances (high temperature plastic).

† A minimum 3-in. front clearance is needed for combustion-air and ventilation-air entry.



NOTE: 2 ADDITIONAL 7/8 DIA KNOCKOUTS ARE LOCATED IN THE TOP PLATE

NOTE: AIR DELIVERY ABOVE 1800 CFM REQUIRES THAT BOTH SIDES OF FURNACE BE USED, OR A COMBINATION OF 1 SIDE AND BOTTOM, OR BOTTOM ONLY FOR RETURN AIR.

NOTES:

1. A factory-supplied panel covers the back side of the accessory return-air plenum that extends above the furnace.
2. Refer to the furnace Installation Instructions for proper venting procedures.

A88367

DIMENSIONS (In.)

UNIT SIZE	A	D	E	VENT CONNECTION
060-12	14-3/16	12-9/16	11-11/16	4
080-14	17-1/2	15-7/8	16	4
080-16	21	19-3/8	18-1/2	4
120-20	24-1/2	22-7/8	22	5

Performance data

UNIT SIZE	060	080		120
	12	14	16	20
DIRECT-DRIVE MOTOR Hp (PSC)	1/3	1/3	1/2	3/4
MOTOR FULL LOAD AMPS	5.8	5.8	7.9	11.1
RPM (Nominal) — SPEEDS	1075-4	1075-4	1075-4	1075-4
BLOWER WHEEL DIAMETER X WIDTHS (in.)	10 x 6	10 x 7	10 x 8	11 x 10
WASHABLE 16 x 25 x 1-in. FILTER — No.	1	1	—	2
WASHABLE 20 x 25 x 1-in. FILTER — No.	—	—	1	—

PSC — Permanent Split Capacitor

EFFICIENCY

UNIT SIZE		060	080		120
		12	14	16	20
CAPACITY*	High Fire	48,000	64,000	64,000	96,000
	Low Fire	31,000	42,000	42,000	63,000
AFUE %*	Nonweatherized ICS†	80.0	80.0	80.0	80.0

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

†ICS — Isolated Combustion System

SPECIAL GAS VENTING*

MAXIMUM HORIZONTAL VENT LENGTH†	NO. OF 90° LONG RADIUS (SWEEP) ELBOWS
40 ft	4

*Listed for Category III applications per UL 1738 (high temperature plastic).

†For 3-in. vents, reduce the vent length 5 ft for each additional 90° elbow. Add 5 ft to the allowable vent length for each 90° elbow less than 4. (Length adjustment for 4-in. vents is 6 ft per sweep elbow.)

AIR DELIVERY — CFM* (WITH FILTER)

UNIT SIZE	SPEED	EXTERNAL STATIC PRESSURE (in. wc)							
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
060-12	High	—	1485	1430	1365	1300	1220	1140	1045
	Med-High	—	1355	1305	1260	1200	1135	1055	960
	Med-Low	1175	1170	1140	1110	1055	1005	950	860
	Low	1020	1015	995	970	930	885	825	745
080-14	High	1585	1540	1470	1410	1335	1220	1110	980
	Med-High	1355	1325	1280	1230	1175	1090	1015	910
	Med-Low	1150	1125	1105	1085	1035	965	895	786
	Low	960	950	935	910	880	815	715	580
080-16	High	2010	1950	1875	1810	1740	1660	1550	1455
	Med-High	1675	1660	1625	1600	1545	1490	1395	1295
	Med-Low	1445	1430	1415	1400	1370	1325	1265	1170
	Low	1260	1260	1260	1250	1210	1180	1115	1030
120-20	High	—	2210	2130	2055	1980	1895	1795	1680
	Med-High	2015	1975	1925	1880	1805	1735	1655	1555
	Med-Low	1730	1710	1670	1635	1590	1535	1470	1385
	Low	1525	1520	1495	1450	1410	1375	1315	1245

*Air delivery above 1800 CFM requires that both sides, or a combination of 1 side and bottom, or bottom only of the furnace be used for return air. A filter is required for each return-air supply opening.

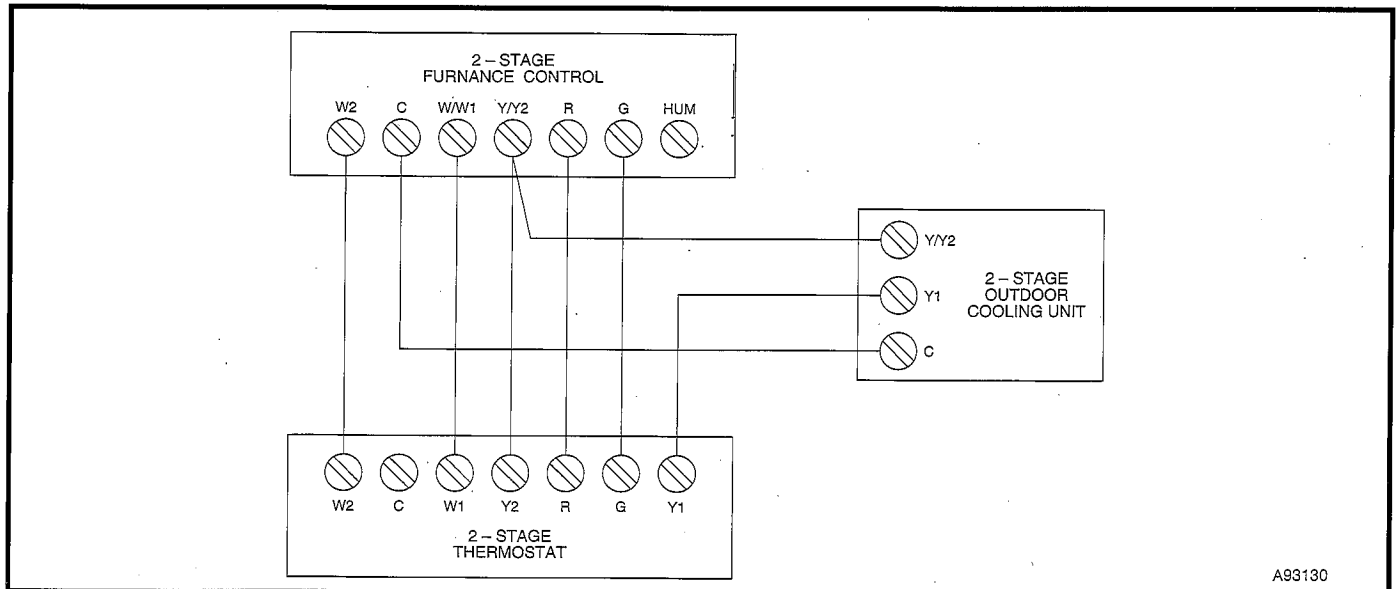
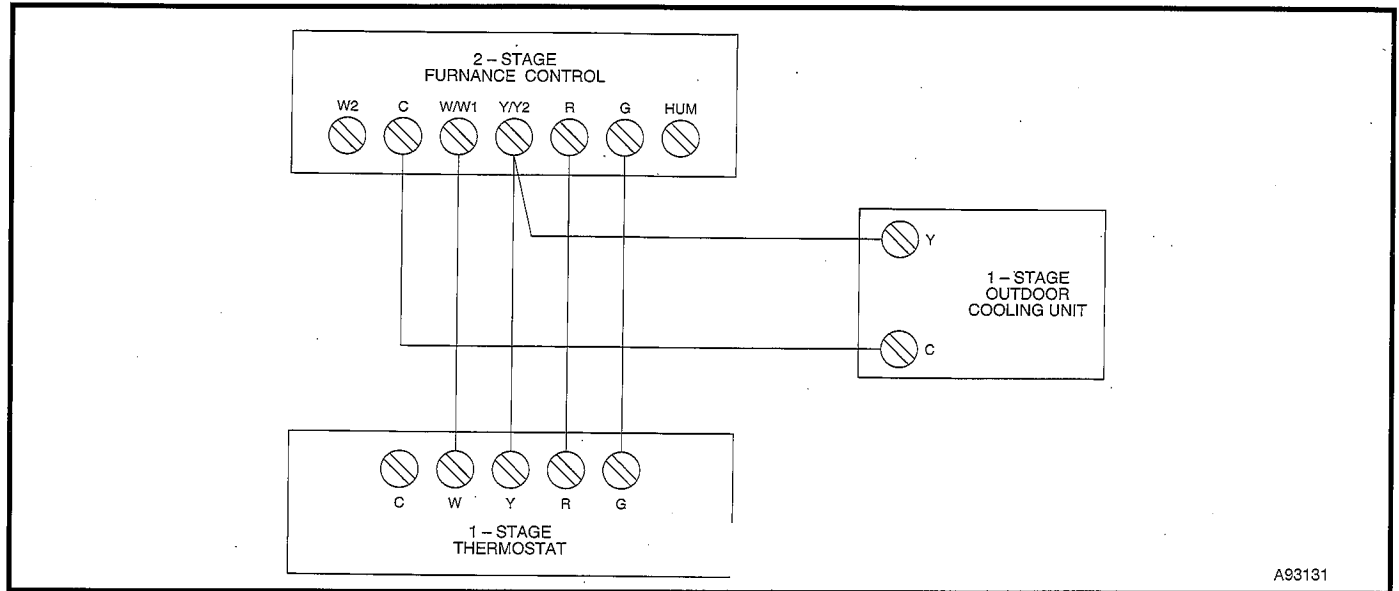
— Indicates unstable operating conditions.

MEETS DOE RESIDENTIAL CONSERVATION SERVICES
PROGRAM STANDARDS.

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



Typical wiring schematic



Electrical data

UNIT SIZE		060-12	080-14	080-16	120-20
UNIT VOLTS — HERTZ — PHASE		115 — 60 — 1			
MINIMUM WIRE SIZE		14	14	14	12
MAXIMUM WIRE LENGTH (Ft)*		32	31	27	33
MAXIMUM UNIT AMPS		8.9	9.2	10.6	13.5
OPERATING VOLTAGE RANGE† (Min — Max)		104-127			
MAX FUSE SIZE OR HACR-TYPE CKT BKR‡ (Amps)		15	15	15	20
TRANSFORMER (24v)		40VA			
EXTERNAL CONTROL POWER AVAILABLE	Heating	19VA			
	Cooling	35VA			
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 installations

