



Product Data

58SXB Electronic Upflow Gas- Fired Condensing Furnace

60,000 — 100,000 Btuh Output



The Ultimate Comfort Machine . . .

Carrier continues to lead the HVAC industry with the 58SXB Weathermaker Infinity Electronic Condensing Furnace — the ultimate in home heating and cooling. The 58SXB is designed for variable heating capacity and can be used in conjunction with either standard or variable speed air conditioners.

The utmost in economic operation is achieved in gas and electric savings. The 58SXB Weathermaker Infinity operates efficiently — providing a 93.5% Annual Fuel Utilization Efficiency (AFUE). Variable speed motors provide performance and economy. When compared to standard furnaces, the 58SXB uses 80% less power. The result? You save money. For example: in Cleveland, the 58SXB would reduce your gas bill by \$230.00 and your electric bill by \$90.00; as compared to a standard 68% AFUE furnace (see consumer brochure).

The 58SXB Weathermaker Infinity is designed to provide comfort. The variable heating enables the furnace to heat the home on the coldest days. Then, in low-fire operation, the furnace supplies heating on the more common, moderate temperature days. This furnace is designed to keep the homeowner warm and cozy in all types of weather.

But, supplying heat isn't the only comfort concern the 58SXB resolves — it has a sealed combustion system which brings combustion air into the furnace and vents the flue gases. This sealed system isolates burner noise, resulting in quiet furnace operation. It also reduces the amount of air infiltration into the home, thus there

are fewer cold drafts and improved humidification.

Durability and reliability were key concerns in the design of the 58SXB. Both were accomplished. The heat exchanger, the heart of the furnace, is backed by a Lifetime Warranty*. The electronics are backed by a five year warranty — including the microprocessor control board, the variable speed inducer motor and its controller, and the variable speed blower motor with its controls.

Designed to provide the ultimate in economy, comfort, and reliability for every homeowner . . . Carrier's 58SXB Weathermaker Infinity — The Ultimate Comfort Machine.

*See warranty for details.

58SXB FEATURES/ BENEFITS

Insulated Blower Compartment —

The acoustical insulation reduces air and motor noise to promote quiet operation.

Certifications — The 58SXB units are A.G.A. and C.G.A. design certified for use with natural and propane gases. The efficiency is GAMA efficiency rating certified. The 58SXB surpasses California minimum seasonal efficiency requirements, and meets the oxides of nitrogen (NO_x) emission levels set by South Coast and Bay Area Air Quality Management Districts in California.

Side Wall Venting — The combustion-air and vent pipes can terminate through a side wall or through the roof when used with a factory-authorized vent termination kit.

Blower Door Switch — Shuts off all power and fuel to furnace whenever blower door is opened.

Serpentine Heat Exchangers — Designed to accelerate heat transfer

and extract heat that conventional heat exchangers waste up the flue. The primary heat exchanger is aluminized steel for corrosion resistance.

The Superentuff™ condensing heat exchanger is also a serpentine design. The sheet metal cells are laminated with polypropylene for greater resistance to corrosion and epoxy coated externally to prevent oxidation. This breakthrough in heating technology (Patent No. 4,738,307) helps extend the life of the furnace for years of dependable performance. The heat exchanger is positioned in the furnace to extract additional Btu's of heat from the combustion products as they move through its four passes.

WARRANTY — Limited Warranty for lifetime of original owner in single family residence; 20 years in other residential and commercial applications. Your Dealer has details.

Electronic Variable Speed Motors

— Special motors provide variable-speed operation to improve the comfort levels in the home. They are also more economical to operate than standard motors. Motor and electronic controls are guaranteed by a 5-year Limited Warranty.

Two-Stage Heating Capacity — On the coldest days of the year, the 58SXB Furnace has the capacity to heat your home. For the moderate days when less heat is required, this furnace will regulate the heat to a lower capacity, which gives a more comfortable home.

Microprocessor Control Center —

The microprocessor control center features state-of-the-art control of combustion, temperature, and airflow to maximize comfort while operating at peak efficiency.

Combustion control is obtained by

taking the appropriate inducer motor RPM readings when the low- and high-fire pressure switches make. Using this information, the microprocessor maintains consistent air to fuel ratio independent of vent sizing.

Uses a single-stage thermostat to provide two-stage heating. The first cycle after power reset will provide six minutes of low heat before switching to high heat unless the room thermostat has been satisfied. Subsequent thermostat cycles will provide anywhere from 0 to 15 minutes of low heat depending on the length of the previous thermostat cycle.

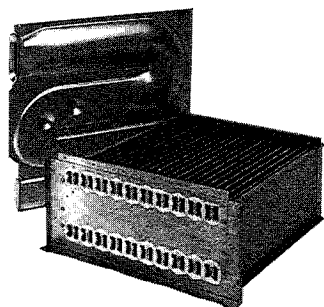
Airflow control is accomplished by using a technique involving the microprocessor and blower motor whereby the static load on the air delivery system is measured each heating cycle. The microprocessor then uses this information to deliver correct airflow independent of variations in system restrictions. (For example, dirty filter and zone damper.)

Insulation — Foil-faced insulation in heat exchanger section of the casing minimizes heat loss.

Direct Vent Sealed Combustion

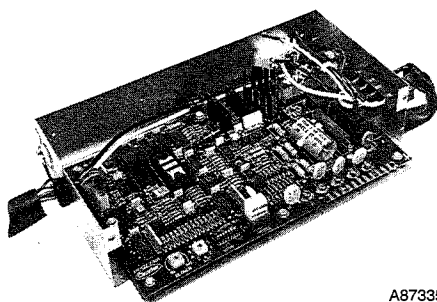
System — Model 58SXB uses 100% outdoor air, which results in especially quiet operation. Direct venting also minimizes the possibility of chloride contamination which can result in heat exchanger corrosion. Also reduces air infiltration into the home.

Monoport Burners — The burners are finely tuned for smooth, quiet combustion plus economical gas usage.



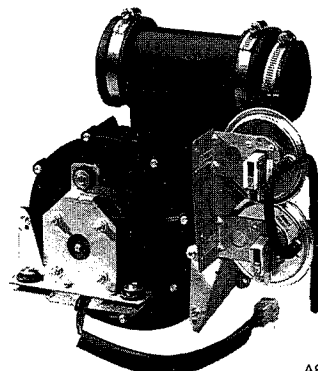
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HEAT EXCHANGERS



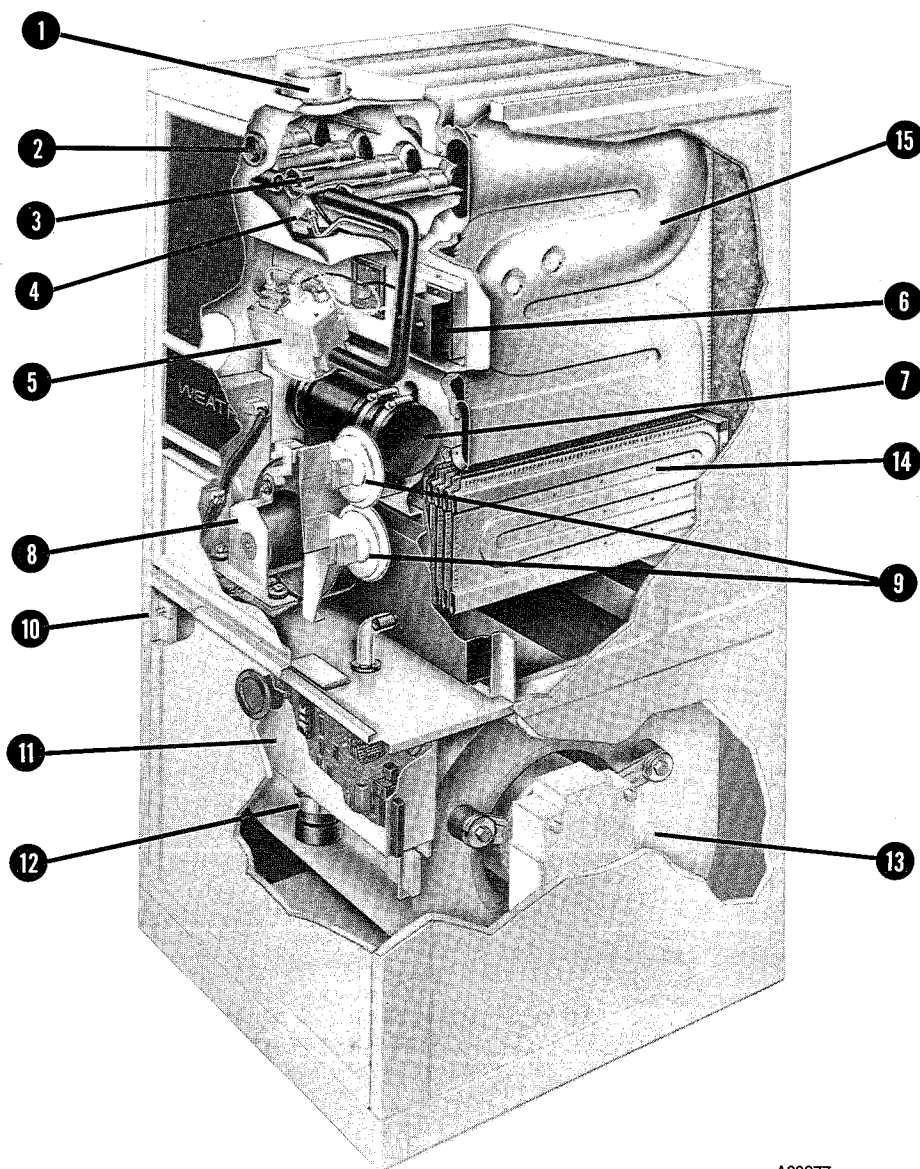
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PRINTED-CIRCUIT
BOARD



A89376

INDUCER BLOWER



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NOTE: The 58SXB Furnace is factory built for use with natural gas. The furnace can be field-converted for propane gas with a factory-authorized and listed accessory conversion kit.

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

- | | |
|------------------------------------|--|
| 1 Combustion-Air Pipe Connection | 9 Pressure Switches |
| 2 Sight Glass | 10 Blower Door Safety Switch |
| 3 Burner Assembly | 11 Control Box |
| 4 Pilot | 12 Condensate Trap |
| 5 Two-Stage Gas Valve | 13 Blower Assembly With Variable-Speed Motor |
| 6 Electronic Spark Ignition System | 14 Secondary Heat Exchanger |
| 7 Vent Pipe Connection | 15 Primary Heat Exchanger |
| 8 Variable Speed Inducer Motor | |

Physical data

FURNACE MODEL 58SXB		060-GG	080-GG	100-HG	100-LG
OUTPUT CAPACITY BTUH† (ICS) **	Low/High	41,000/59,000	55,000/79,000	68,000/99,000	68,000/99,000
INPUT BTUH*	Low/High	43,500/63,000	58,000/84,000	72,500/105,000	72,500/105,000
SHIPPING WEIGHT (lb)		182	195	230	237
CERTIFIED TEMP RISE RANGE (F)	Low/High	70—80/55—65	70—80/55—65	70—80/55—65	70—80/55—65
CERTIFIED EXT STATIC PRESSURE (in. wc)	Heating	0.12	0.15	0.20	0.20
	Cooling	0.50	0.50	0.50	0.50
AIRFLOW CFM‡	Heating Low/High	500/925	665/1235	835/1320	835/1320
	Cooling	1200	1200	1400	2000
LIMIT CONTROL		SPST			
HEATING BLOWER CONTROL		Microprocessor Time Operation 60—240 Seconds @ 20 Second Intervals			
BURNERS (Monoport)		3	4	5	5
GAS CONNECTION SIZE		1/2-inch NPT			
GAS VALVE (Redundant) Manufacturer		White-Rodgers			
Minimum Inlet Pressure (in. wc)		4.5			
Maximum Inlet Pressure (in. wc)		13.6			
PILOT MODEL		740A			

*Gas input ratings are certified for elevations to 2000 feet. For elevations above 2000 feet, For elevations above 2000 feet, reduce ratings 4% for each 1000 feet above sea level.

†Capacity and AFUE in accordance with U.S. Government DOE test procedures. California Seasonal Efficiencies based on California-specified procedures.

‡Air delivery above 1800 cfm requires that both sides, or a combination of one 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.

Accessories

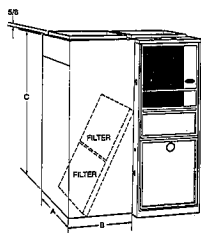
ITEM	ACCESSORY*
Cold-Air Return Plenum	✓
Side Filter Rack†	✓
Electronic Air Cleaner	✓
Humidifier	✓

*Factory-authorized and listed, field-installed.

†Side filter rack is required for right-hand side return air installations.

ITEM	ACCESSORY*
Cooling Coils	✓
Gas Conversion Kit†	✓
Twinning Kit	✓
Thermostat	✓

†Natural-to-propane and propane-to-natural.

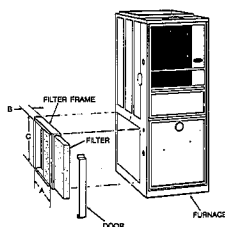


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RETURN-AIR PLENUM

Custom-made return-air plenum can be mounted on either side of the furnace. Accommodates two throwaway or washable filters.

A	25 in.
B	16 in.
C	46-3/16 in.

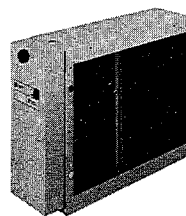


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SIDE FILTER RACK

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

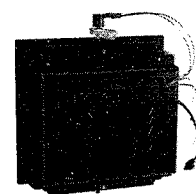
A	23-1/8 in.
B	2-3/8 in.
C	14-1/2 in.



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ELECTRONIC AIR CLEANER

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

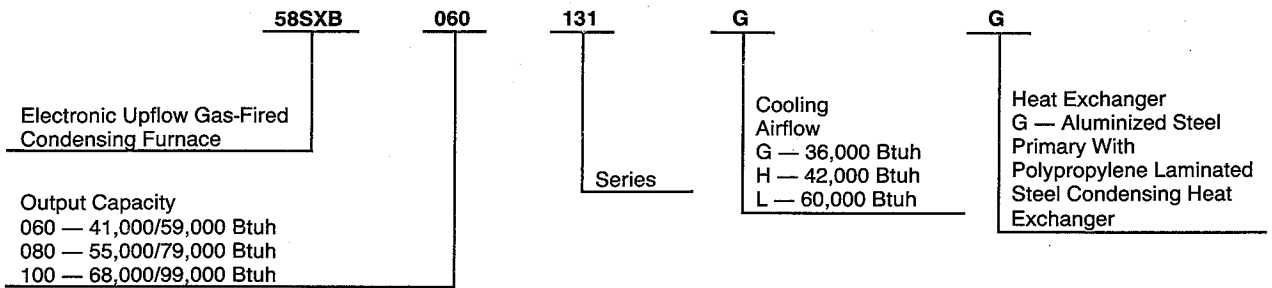


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HUMIDIFIER

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 temperature.

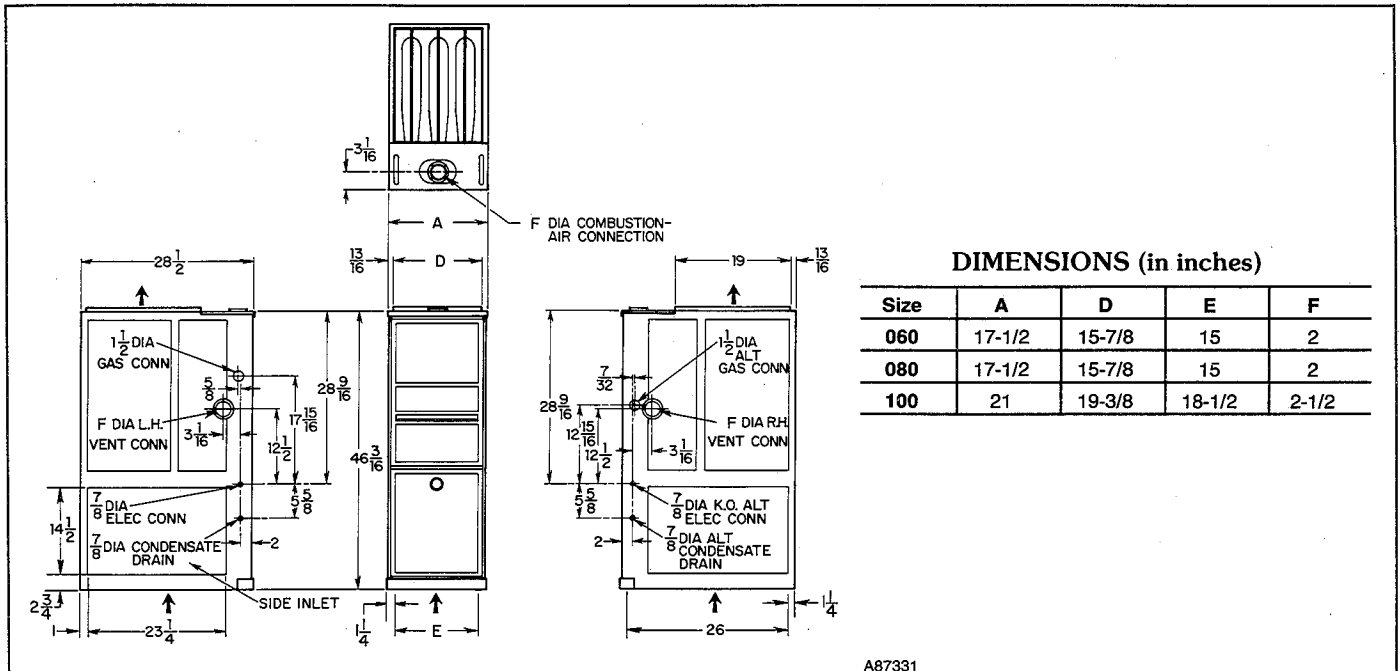
Model number nomenclature



Dimensions

CLEARANCES (in.)

SIZE	060, 080, & 100
SIDES	0
BACK	0
TOP OF PLENUM	1
VENT CONNECTOR	0
FRONT — CASING VENTILATION	3
SERVICE	30



EFFICIENCY

CAPACITY BTUH (Low/High)*	41,000/59,000	55,000/79,000	68,000/99,000	68,000/99,000
Nonweatherized (ICS)†				
AFUE %*	93.5	93.5	93.5	93.5
Nonweatherized (ICS)†				
CALIFORNIA SEASONAL EFFICIENCIES (CSE) %	90.5	91.1	91.3	91.2

*Rated in accordance with U.S. Government DOE test procedures. California Seasonal Efficiencies based on California-specified procedures.

†ICS — Isolated Combustion System

AIR DELIVERY — Cfm* (With Filter)

Airflow CFM		Operational External Static Pressure Range*
060-GG		
Low Heat	500	0—0.20
High Heat	925	0—0.68‡
1-1/2 Ton A/C Setting	600	0—0.28†
2 Ton A/C Setting	800	0—0.51†
2-1/2 Ton A/C Setting	1000	0—0.80
3 Ton A/C Setting	1200	0—0.68
080-GG		
Low Heat	675	0—0.35
High Heat	1240	0—0.60
1-1/2 Ton A/C Setting	600	0—0.29†
2 Ton A/C Setting	800	0—0.50†
2-1/2 Ton A/C Setting	1000	0—0.80†
3 Ton A/C Setting	1200	0—0.68†
100-HG		
Low Heat	835	0—0.32
High Heat	1320	0—0.76
2 Ton A/C Setting	800	0—0.30†
2-1/2 Ton A/C Setting	1000	0—0.46†
3 Ton A/C Setting	1200	0—0.67†
3-1/2 Ton A/C Setting	1400	0—0.64
100-LG		
Low Heat	835	0—0.32
High Heat	1320	0—0.80
2 Ton A/C Setting	800	0—0.30†
2-1/2 Ton A/C Setting	1000	0—0.46†
3 Ton A/C Setting	1200	0—0.67†
3-1/2 Ton A/C Setting	1400	0—0.80
4 Ton A/C Setting	1600	0—0.80
4-1/2 Ton A/C Setting	1800	0—0.75
5 Ton A/C Setting	2000	0—0.50

*Actual external static pressure can be determined by using the fan laws (CFM² proportional to ESP); i.e., a system with 925 cfm at 0.5 ESP would operate at cooling airflow of 800 cfm at 0.37 ESP and low-heating airflow of 500 cfm at 0.15 ESP. (See fan curves.)

†Ductwork must be sized for high-heating cfm within the operational range of external static pressure.

‡0.8 in. wc when used with a 1-1/2- or 2-ton air conditioner.

Performance data

FURNACE MODEL 58SXB	060-GG	080-GG	100-HG	100-LG
DIRECT-DRIVE MOTOR Hp (ICM)	1/2	1/2	1/2	1
MOTOR FULL LOAD AMPS	7.0	7.0	7.0	12.0
RPM (Nominal) — SPEEDS	Variable 300 — 1300			
BLOWER WHEEL DIAMETER x WIDTHS (in.)	10 x 7	10 x 7	11 x 10	11 x 10
FILTER SIZE (in.) — (WASHABLE)	15-7/8 x 27-3/4 x 1			

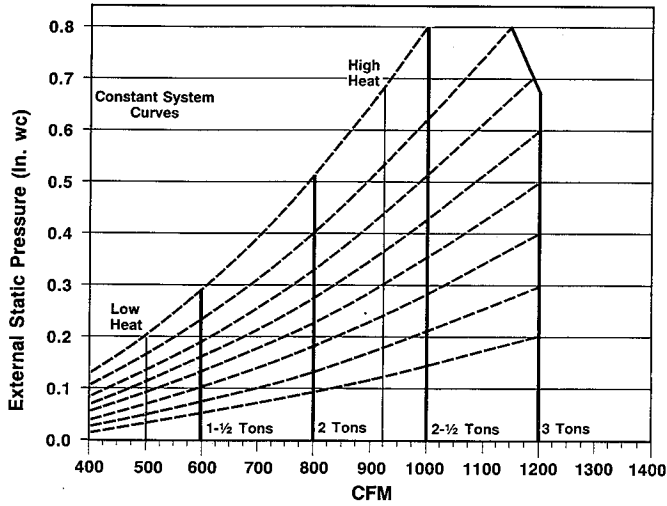
PSC — Permanent Split Capacitor

MEETS DOE RESIDENTIAL CONSERVATION SERVICES
PROGRAM STANDARDS.

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

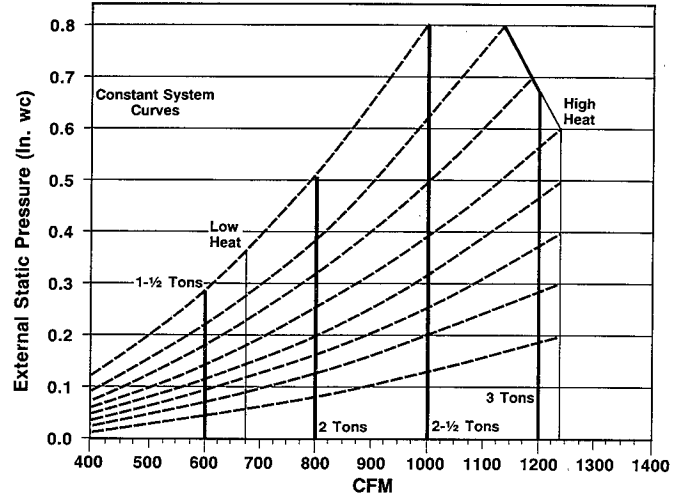


AIR DELIVERY CURVE—060-GG



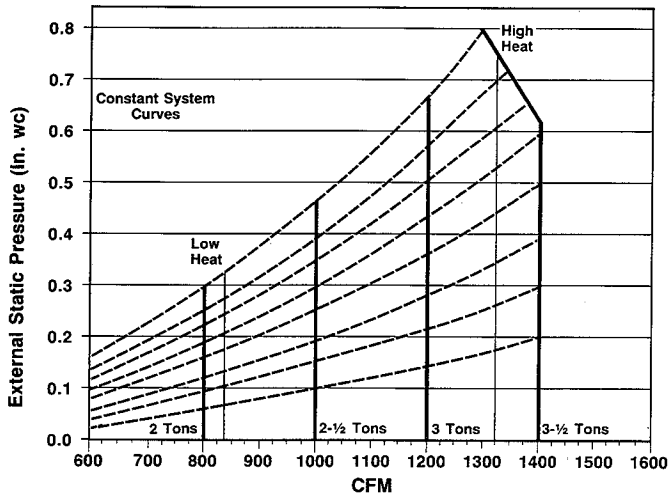
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AIR DELIVERY CURVE—080-GG



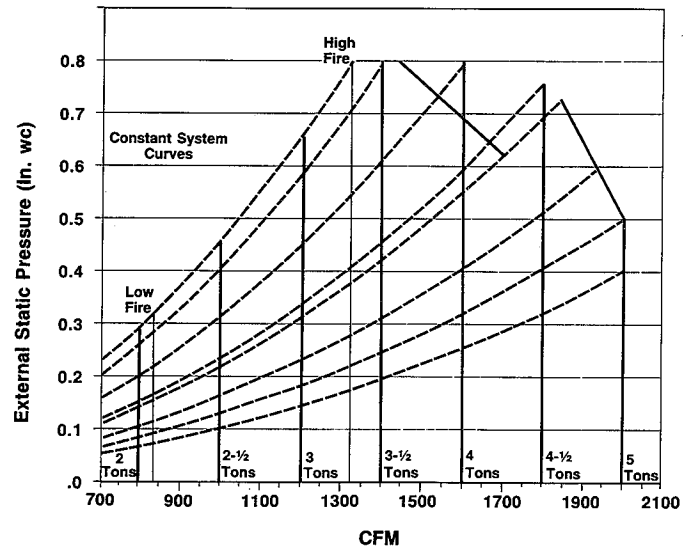
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AIR DELIVERY CURVE—100-HG



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AIR DELIVERY CURVE—100-LG



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Combustion-Air and Vent Pipe

MAXIMUM ALLOWABLE PIPE LENGTH (In Feet)

Altitude (feet above sea level)	Furnace Size	Pipe Dia.	Number of 90 Degree Elbows				
			1	2	3	4	5
0 to 2000	060 & 080	2	35	35	35	35	35
	100	2 2-1/2	25 35	20 35	15 35	— 35	— 35
2001 to 3000	060 & 080	2 2-1/2	35 35	35 35	35 35	32 35	29 35
	100	2 2-1/2 3	22 35 35	16 35 35	12 35 35	— 32 35	— 29 35
3001 to 4000	060 & 080	2 2-1/2	35 35	35 35	31 35	28 35	24 35
	100	2 2-1/2 3	20 35 35	14 35 35	9 31 35	— 28 35	— 24 35
4001 to 5000	060 & 080	2 2-1/2	35 35	33 35	29 35	26 35	22 35
	100	2 2-1/2 3	18 35 35	12 33 35	8 29 35	— 26 35	— 22 35
5001 to 6000	060 & 080	2 2-1/2	34 35	30 35	26 35	22 35	18 35
	100	2 2-1/2 3	16 34 35	10 30 35	6 26 35	— 22 35	— 18 35
6001 to 7000	060 & 080	2 2-1/2	32 35	28 35	24 35	20 35	16 35
	100	2 2-1/2 3	15 32 35	8 28 35	5 24 35	— 20 35	— 16 35
7001 to 8000	060 & 080	2 2-1/2	29 35	25 35	20 35	16 35	11 35
	100	2 2-1/2 3	13 29 35	6 25 35	— 20 35	— 16 35	— 11 35
8001 to 9000	060 & 080	2 2-1/2	27 35	23 35	18 35	14 35	9 35
	100	2 2-1/2 3	11 27 35	— 23 35	— 18 35	— 14 35	— 9 35
9001 to 10,000	060 & 080	2 2-1/2	25 35	20 35	15 35	10 35	5 35
	100	2 2-1/2 3	9 25 35	— 20 35	— 15 35	— 10 35	— 5 35

NOTES:

1. Pipe length applies to individual combustion-air or vent pipe.
2. Elbows and pipe section supplied in the vent terminal kit should not be included in the count.
3. Two 45-degree elbows are equal to one 90-degree elbow. Long radius elbows are desirable.
4. The installer may use one pipe size larger than what is specified (up to 3-in. diameter maximum).
5. The minimum air pipe length on the 060 size with 2-in. diameter pipe and one elbow is 10-ft.

Electrical data

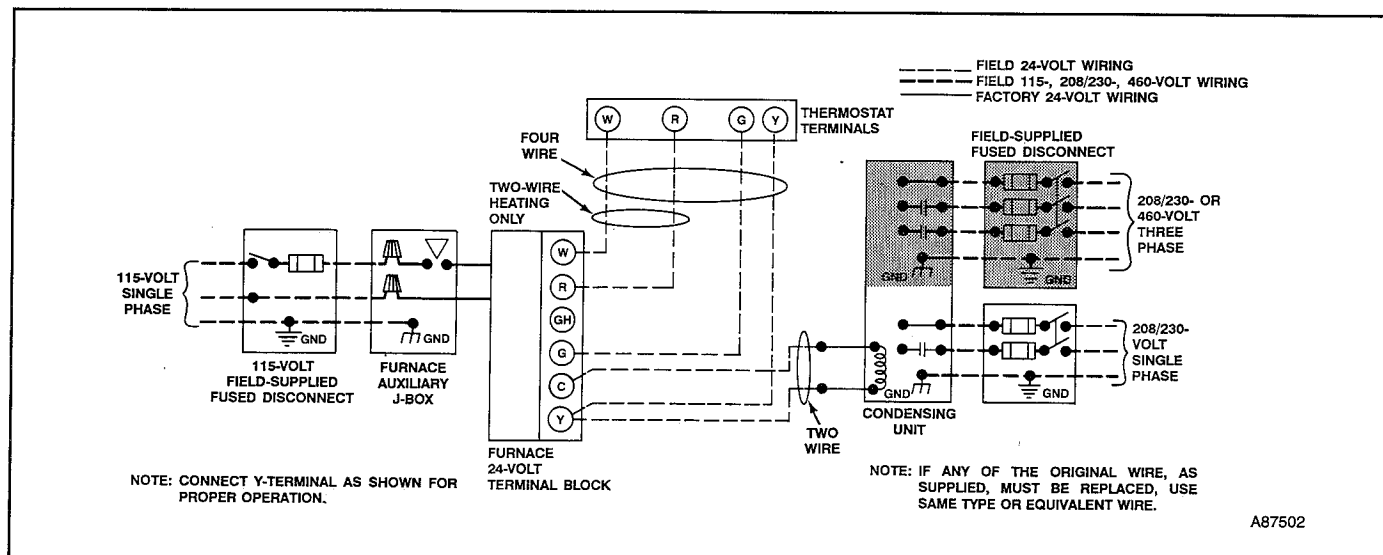
FURNACE MODEL 58SXB		060-GG	080-GG	100-HG	100-LG
UNIT VOLTS — HERTZ — PHASE		115—60—1			
MINIMUM WIRE SIZE		14	14	14	12
MAXIMUM WIRE LENGTH* (Ft.)		44	44	44	44
MAXIMUM UNIT AMPS		9.0	9.0	9.0	13.0
OPERATING VOLTAGE RANGE† (Min — Max)		104—127			
MAXIMUM FUSE SIZE OR HACR-TYPE CKT BKR‡ (Amps)		15	15	15	20
TRANSFORMER (24v)		40 VA			
EXTERNAL CONTROL POWER AVAILABLE —	Heating	21 VA			
	Cooling	36 VA			
AIR CONDITIONING BLOWER RELAY		Standard			

*Length shown is as measured one 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

