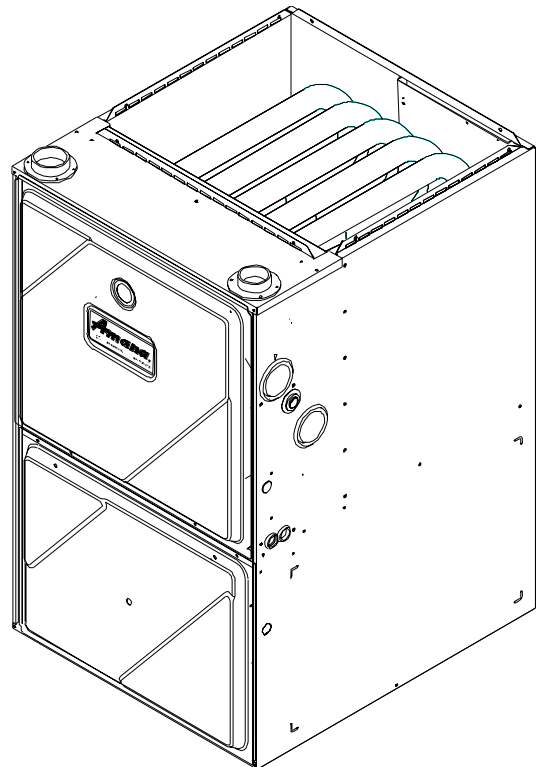
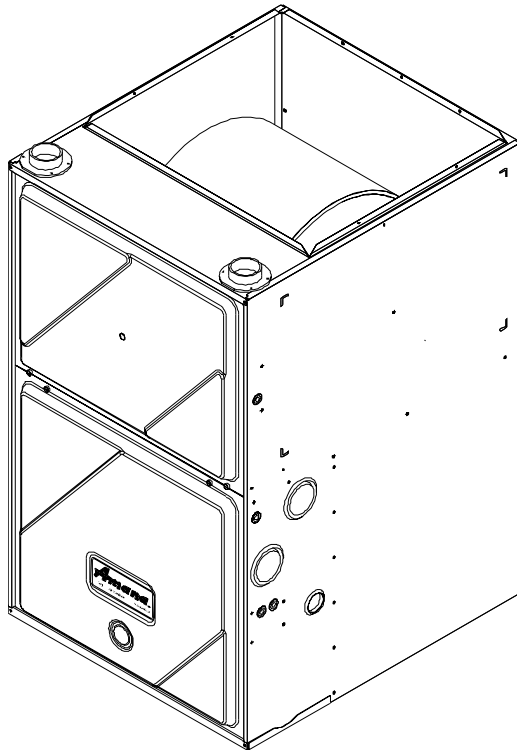


Technical Information

40" 90% Gas Furnaces

GUCA___AX___ & GCCA___AX___

- Refer to Service Manual RS6600001 Rev. 2 for installation, operation, and troubleshooting information.
- All safety information must be followed as provided in the Service Manual.
- Refer to the appropriate Parts Catalog for part number information.



Heating & Air Conditioning
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Comfort. Quality. Trust.

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This manual replaces RT6612001 Rev. 2 October 2001.

REV. 3 - Corrections to previous manual.

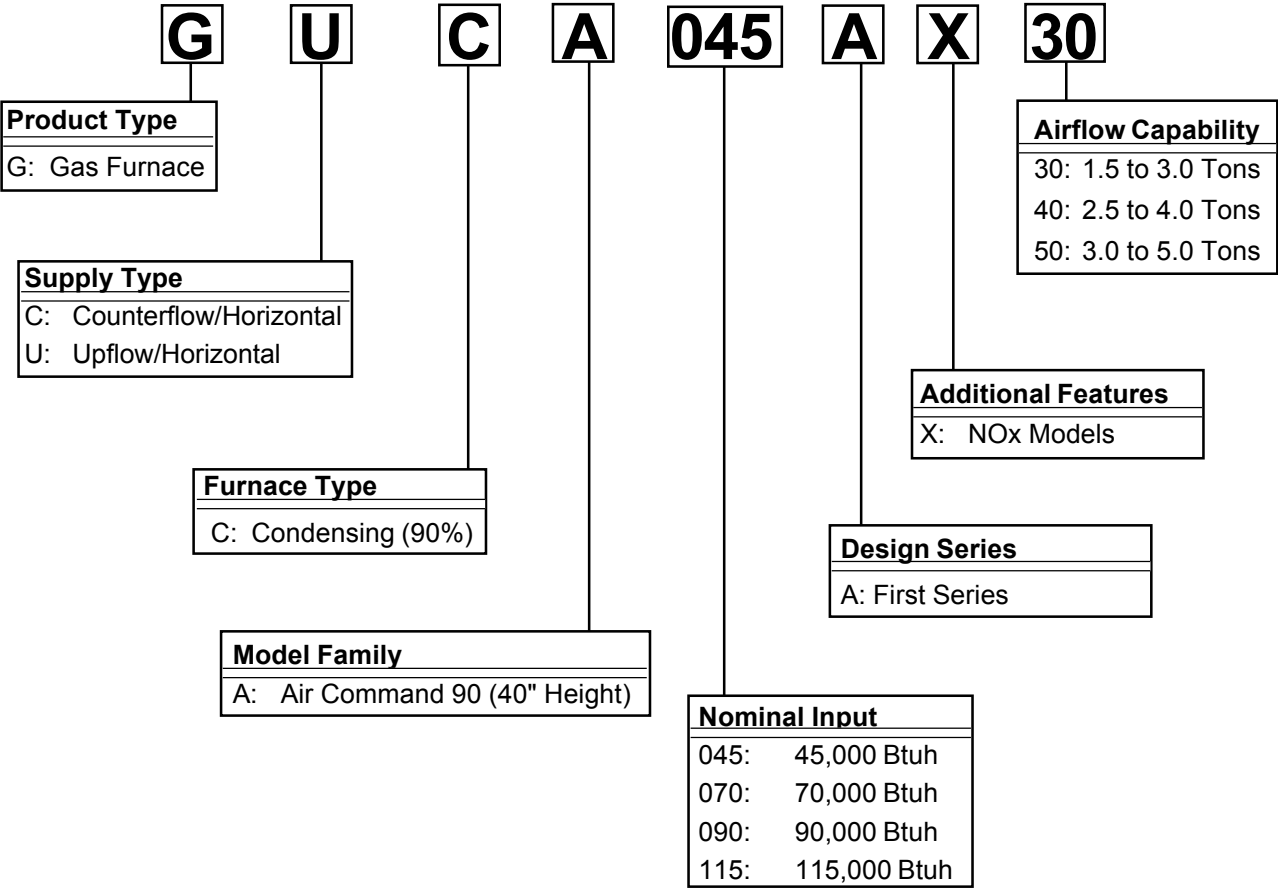
This manual is to be used by qualified HVAC technicians only. Amana does not assume any responsibility for property damage or personal injury due to improper service procedures performed by an unqualified person.

RT6612001
Revision 3
May 2003

PRODUCT IDENTIFICATION

The model and manufacturing number are used for positive identification of component parts used in manufacturing. When engineering and manufacturing changes take place where interchangeability of components are affected, the manufacturing number will change.

It is very important to use the model and manufacturing numbers at all times when requesting service or parts information.



WARNING

IF REPAIRS ARE ATTEMPTED BY UNQUALIFIED PERSONS, DANGEROUS CONDITIONS (SUCH AS EXPOSURE TO ELECTRICAL SHOCK) MAY RESULT. THIS MAY CAUSE SERIOUS INJURY OR DEATH.



CAUTION

AMANA WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SERVICE OR SERVICE PROCEDURES. IF YOU PERFORM SERVICE ON YOUR OWN PRODUCT, YOU ASSUME RESPONSIBILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE WHICH MAY RESULT.

PRODUCT IDENTIFICATION

The model and manufacturing number are used for positive identification of component parts used in manufacturing. When engineering and manufacturing changes take place where interchangeability of components are affected, the manufacturing number will change.

It is very important to use the model and manufacturing numbers at all times when requesting service or parts information.

MODEL	M/N
GUCA045AX30	P1219301F
GUCA070AX30	P1219302F
GUCA070AX40	P1219303F
GUCA090AX40	P1219304F
GUCA090AX50	P1219305F
GUCA115AX50	P1219306F

GUCA045AX30	P1227501F
GUCA070AX30	P1227502F
GUCA070AX40	P1227503F
GUCA090AX40	P1227504F
GUCA090AX50	P1227505F
GUCA115AX50	P1227506F

GUCA045AX30	P1228801F
GUCA070AX30	P1228802F
GUCA070AX40	P1228803F
GUCA090AX40	P1228804F
GUCA090AX50	P1228805F
GUCA115AX50	P1228806F

GUCA045AX30	P1228901F
GUCA070AX30	P1228902F
GUCA070AX40	P1228903F
GUCA090AX40	P1228904F
GUCA090AX50	P1228905F
GUCA115AX50	P1228906F

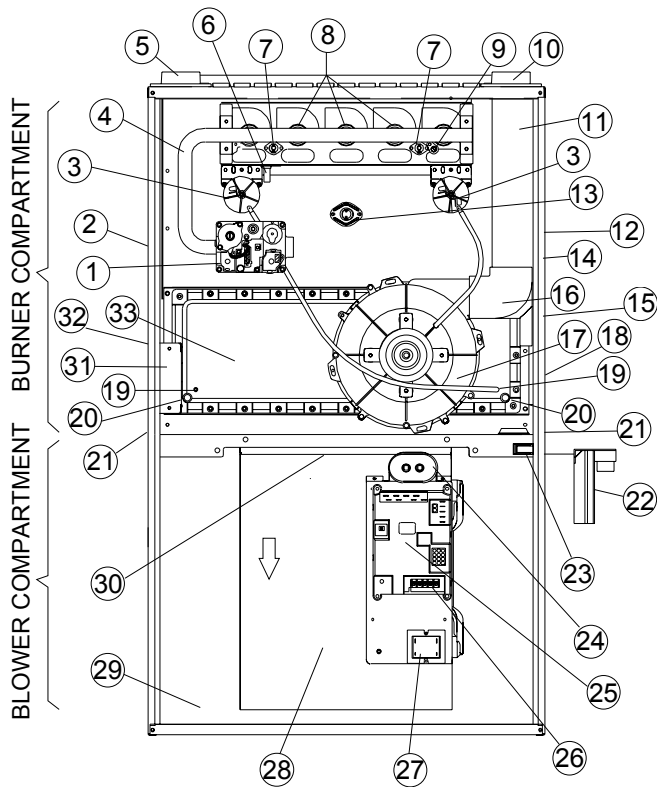
GUCA045AX30	P1239301F
GUCA070AX30	P1239302F
GUCA070AX40	P1239303F
GUCA090AX40	P1239304F
GUCA090AX50	P1239305F
GUCA115AX50	P1239306F

MODEL	M/N
GCCA045AX30	P1227601F
GCCA070AX30	P1227602F
GCCA070AX40	P1227603F
GCCA090AX40	P1227604F
GCCA090AX50	P1227605F
GCCA115AX50	P1227606F

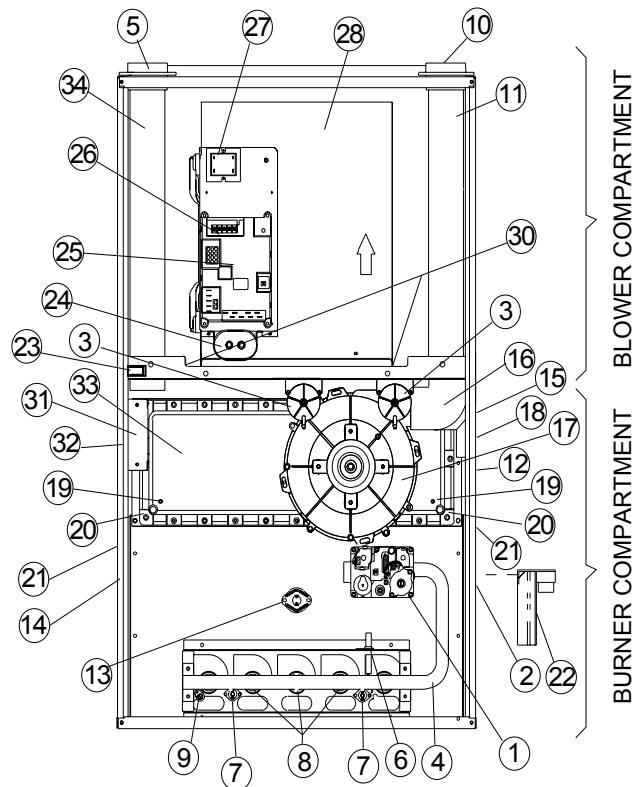
GCCA045AX30	P1232401F
GCCA070AX30	P1232402F
GCCA070AX40	P1232403F
GCCA090AX40	P1232404F
GCCA090AX50	P1232405F
GCCA115AX50	P1232406F

GCCA045AX30	P1239401F
GCCA070AX30	P1239402F
GCCA070AX40	P1239403F
GCCA090AX40	P1239404F
GCCA090AX50	P1239405F
GCCA115AX50	P1239406F

COMPONENT IDENTIFICATION



Upflow /Horizontal (GUCA Models)



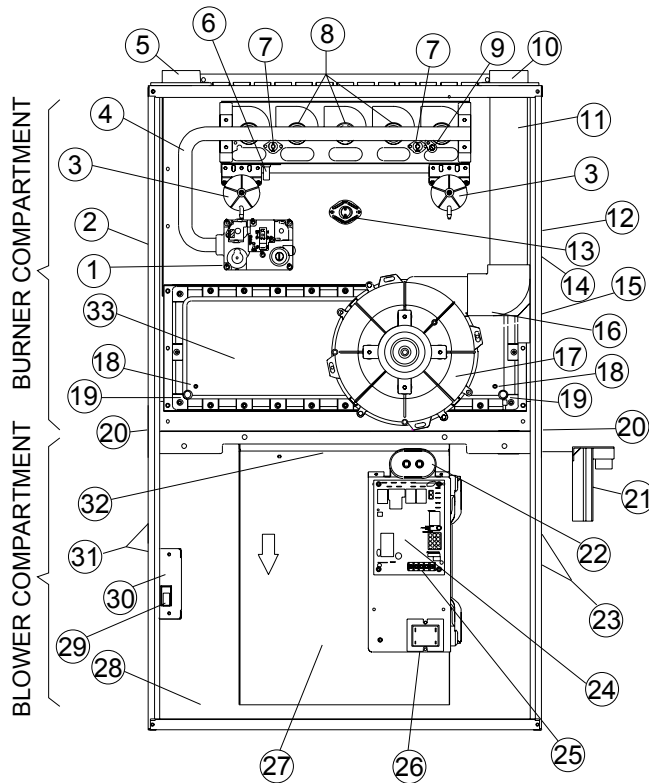
Counterflow /Horizontal (GCCA Models)

- 1 Gas Valve
- 2 Gas Line Entrance (Alternate)
- 3 Pressure Switch(es)
- 4 Gas Manifold
- 5 Combustion Air Intake Connection / "Coupling"
- 6 Hot Surface Igniter
- 7 Rollout Limit
- 8 Burners
- 9 Flame Sensor
- 10 Flue Pipe Connection / "Coupling"
- 11 Flue Pipe (Internal)
- 12 Combustion Air Intake (Alternate)
- 13 Primary Limit
- 14 Gas Line Entrance
- 15 Flue Pipe Connection (Alternate)
- 16 Rubber Elbow

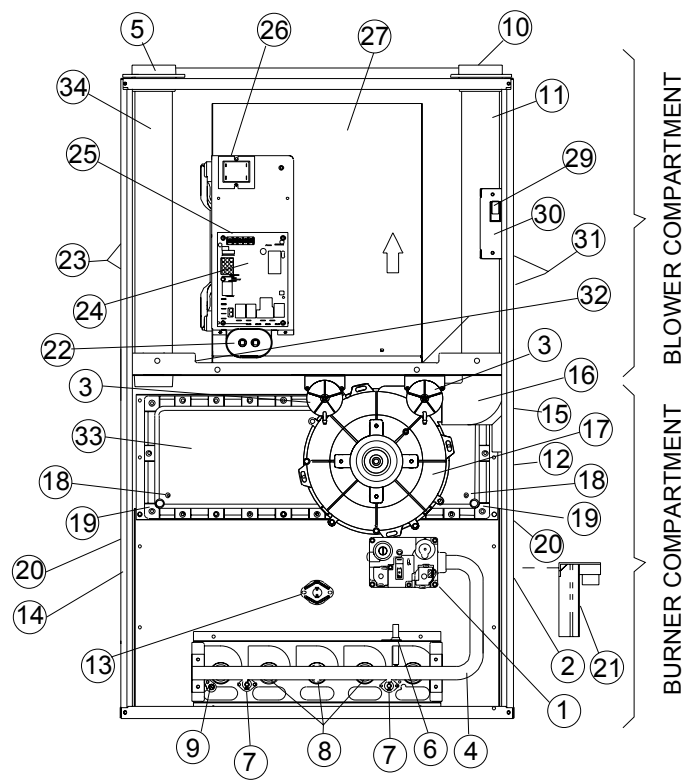
- 17 Induced Draft Blower
- 18 Electrical Connection Inlets (Alternate)
- 19 Coil Front Cover Pressure Tap
- 20 Coil Front Cover Drain Port
- 21 Drain Line Penetrations
- 22 Drain Trap
- 23 Blower Door Interlock Switch
- 24 Capacitor
- 25 Integrated Control Module
(with fuse and diagnostic LED)
- 26 24-Volt Thermostat Connections
- 27 Transformer (40 VA)
- 28 Circulator Blower
- 29 Bottom Return Filter Retainer
- 30 Auxiliary Limit
- 31 Junction Box
- 32 Electrical Connection Inlets
- 33 Coil Front Cover
- 34 Combustion Air Inlet Pipe

GUCA__AX__ (Manufacturing Numbers P1239301-06F)
GCCA__AX__ (Manufacturing Numbers P1239401-06F)

COMPONENT IDENTIFICATION



Upflow/Horizontal (GUCA Models)



Counterflow/Horizontal (GCCA Models)

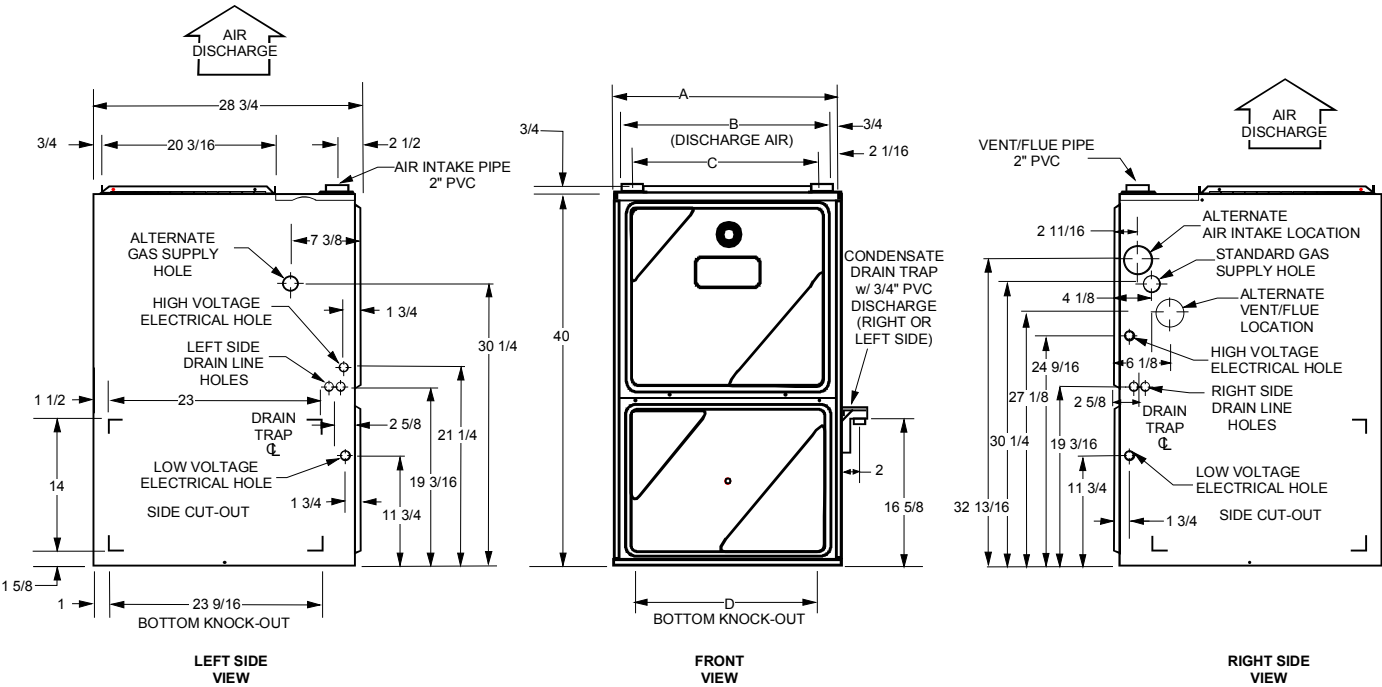
- 1 Gas Valve
- 2 Gas Line Entrance (Alternate)
- 3 Pressure Switch(es)
- 4 Gas Manifold
- 5 Combustion Air Intake Connection / "Coupling"
- 6 Hot Surface Igniter
- 7 Rollout Limit
- 8 Burners
- 9 Flame Sensor
- 10 Flue Pipe Connection / "Coupling"
- 11 Flue Pipe (Internal)
- 12 Combustion Air Intake (Alternate)
- 13 Primary Limit
- 14 Gas Line Entrance
- 15 Flue Pipe Connection (Alternate)
- 16 Rubber Elbow

- 17 Induced Draft Blower
- 18 Coil Front Cover Pressure Tap
- 19 Coil Front Cover Drain Port
- 20 Drain Line Penetrations
- 21 Drain Trap
- 22 Capacitor
- 23 Electrical Connection Inlets (Alternate)
- 24 Integrated Control Module
(with fuse and diagnostic LED)
- 25 24-Volt Thermostat Connections
- 26 Transformer (40 VA)
- 27 Circulator Blower
- 28 Bottom Return Filter Retainer
- 29 Blower Door Interlock Switch
- 30 Junction Box
- 31 Electrical Connection Inlets
- 32 Auxiliary Limit
- 33 Coil Front Cover
- 34 Combustion Air Inlet Pipe

GUCA__AX__ (Manufacturing Numbers P1219301-06F, P1227501-06F and P122801-06F)
 GCCA__AX__ (Manufacturing Numbers P1227601-06F and P1232401-06F)

PRODUCT DIMENSIONS

GUCA__AX__

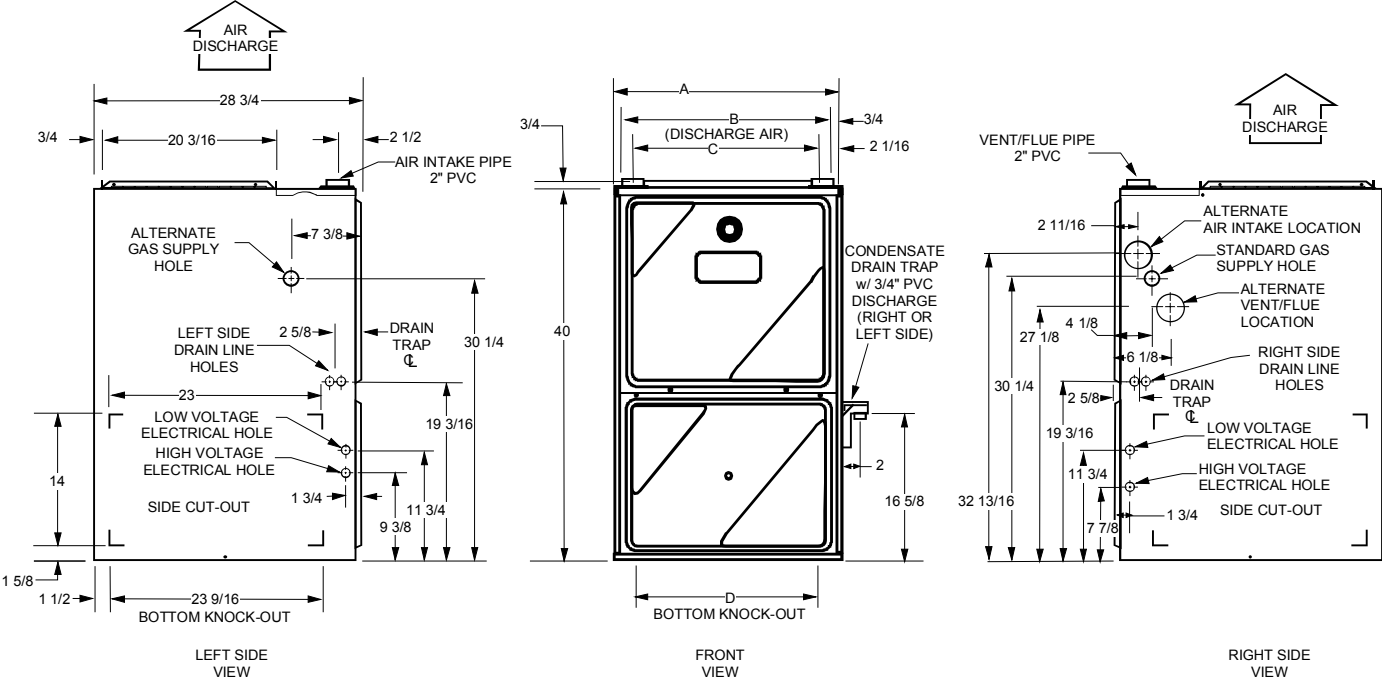


Cabinet Size	Units	A	B	C	D
Small	045__30 070__30	16-1/2	15	12-3/8	12-5/8
Medium	070__40 090__40	20-1/2	19	16-3/8	14-5/8
Large	090__50 115__50	24-1/2	23	20-3/8	18-5/8

All dimensions are in inches.

PRODUCT DIMENSIONS

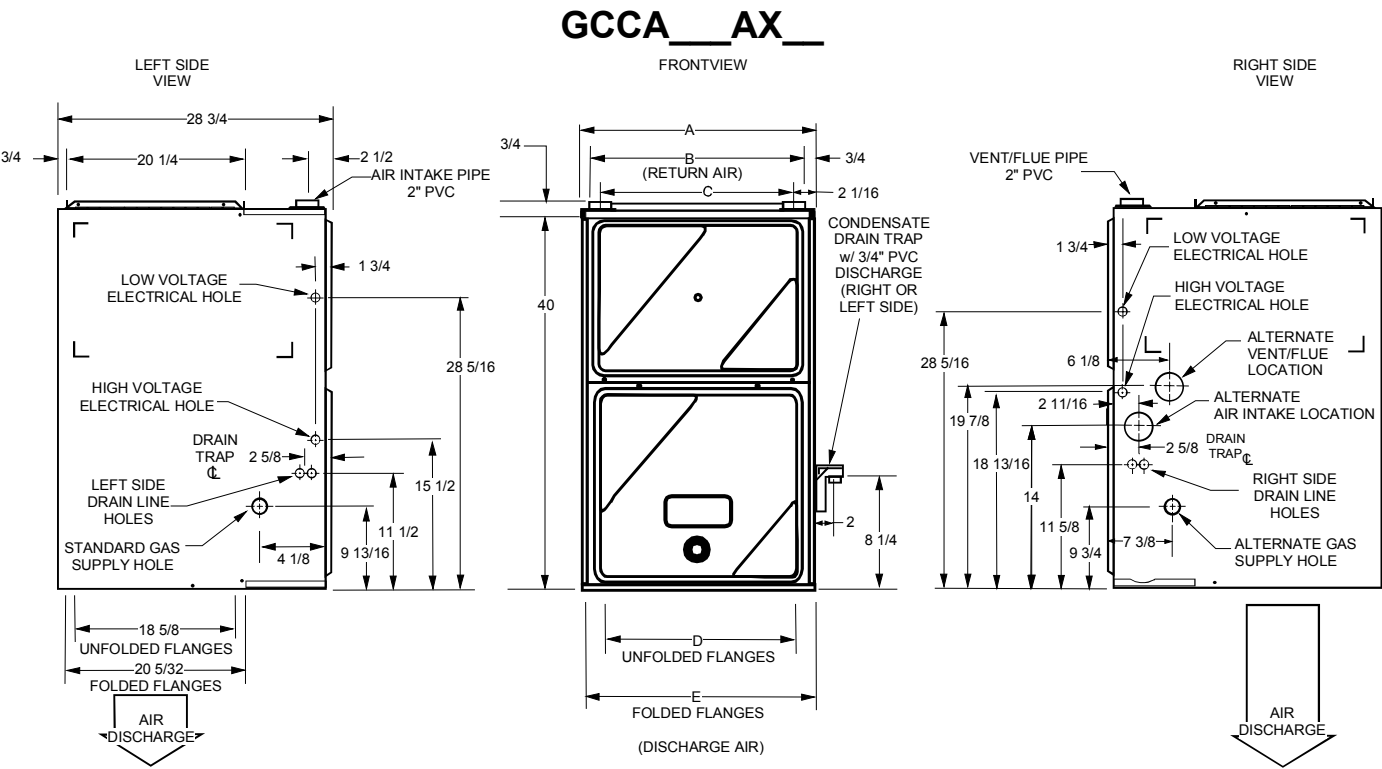
GUCA__AX__



Cabinet Size	Units	A	B	C	D
Small	045__30 070__30	16-1/2	15	12-3/8	12-5/8
Medium	070__40 090__40	20-1/2	19	16-3/8	14-5/8
Large	090__50 115__50	24-1/2	23	20-3/8	18-5/8

All dimensions are in inches.

PRODUCT DIMENSIONS

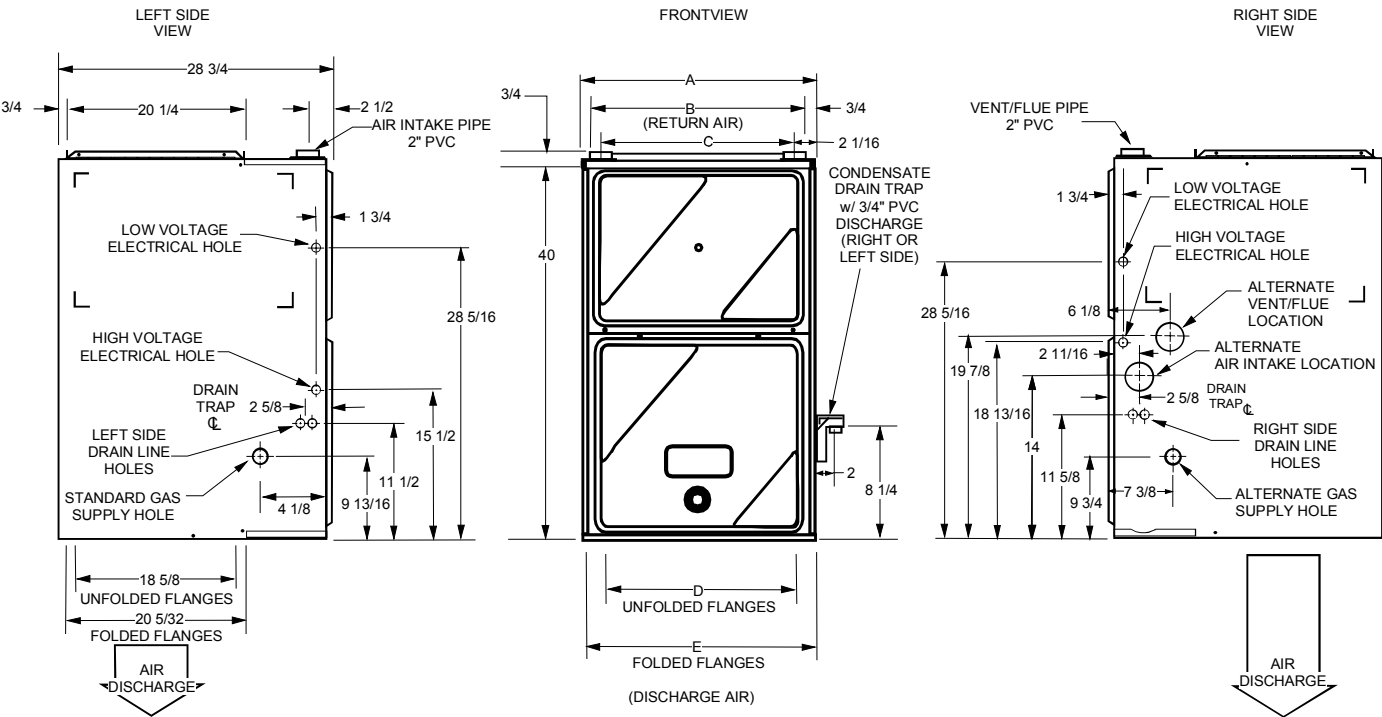


Cabinet Size	Units	A	B	C	D Unfolded	E Folded
Small	045__30 070__30	16-1/2	15	12-3/8	13-1/2	15
Medium	070__40 090__40	20-1/2	19	16-3/8	17-1/2	19
Large	090__50 115__50	24-1/2	23	20-3/8	21-1/2	23

All dimensions are in inches.

PRODUCT DIMENSIONS

GCCA__AX__



Cabinet Size	Units	A	B	C	D Unfolded	E Folded
Small	045__30 070__30	16-1/2	15	12-3/8	13-1/2	15
Medium	070__40 090__40	20-1/2	19	16-3/8	17-1/2	19
Large	090__50 115__50	24-1/2	23	20-3/8	21-1/2	23

All dimensions are in inches.

PRODUCT DESIGN

General Operation

The GUCA & GCCA furnaces are equipped with an electronic ignition device used to light the burners and an induced draft blower to exhaust combustion products.

An interlock switch prevents furnace operation if the blower door is not in place. Keep the blower access door in place except for inspection and maintenance.

This furnace is also equipped with a self-diagnosing electronic control module. In the event a furnace component is not operating properly, the control module LED will flash on and off in a factory-programmed sequence, depending on the problem encountered. This light can be viewed through the observation window in the blower access door. Refer to the *Troubleshooting Chart* for further explanation of the LED codes and *Abnormal Operation - Integrated Ignition Control* section in the Service Instructions for an explanation of the possible problem.

The rated heating capacity of the furnace should be greater than or equal to the total heat loss of the area to be heated. The total heat loss should be calculated by an approved method or in accordance with "ASHRAE Guide" or "Manual J-Load Calculations" published by the Air Conditioning Contractors of America.

*Obtain from: American National Standards Institute 1430 Broadway New York, NY 10018

Location Considerations

- The furnace should be as centralized as is practical with respect to the air distribution system.
- Do not install the furnace directly on carpeting, tile, or combustible material other than wood flooring.
- GCCA models require counterflow subbase kits.
- When suspending the furnace from rafters or joists, use 3/8" threaded rod and 2" x 2" x 3/8" angle as shown in the Installation and Service Instructions. The length of the rod will depend on the application and clearance necessary.
- When installed in a residential garage, the furnace must be positioned so the burners and ignition source are located not less than 18 inches (457 mm) above the floor and protected from physical damage by vehicles.

Notes:

1. Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC.

2. Line voltage wiring can enter through the right or left side of the furnace. Low voltage wiring can enter through the right or left side of furnace.
3. Conversion kits for high altitude natural or propane gas operation are available. See High Altitude Derate chart for details.
4. Installer must supply the following gas line fittings, depending on which entrance is used:
Left -- Two 90° Elbows, one close nipple, straight pipe.
Right -- Straight pipe to reach gas valve.

Accessibility Clearances (Minimum)

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS (INCHES)						
POSITION*	FRONT	SIDES	REAR	TOP	FLUE	FLOOR
Upflow	1	0	0	1	0	C
Counterflow	1	0	0	1	0	NC
Horizontal	Alcove	6	0	4	0	C

* = All positioning is determined as installed unit is viewed from the front.
C = If placed on combustible floor, floor MUST be wood ONLY.
NC = For installation on non-combustible floors only. A combustible floor subbase must be used for installations on combustible flooring.

36" at front is required for servicing or cleaning.

Note: In all cases accessibility clearance shall take precedence over clearances from the enclosure where accessibility clearances are greater. All dimensions are given in inches.

High Altitude Derate

When this furnace is installed at high altitude, the appropriate High Altitude orifice kit must be installed. This is required due to the natural reduction in the density of both the gas fuel and combustion air as altitude increases. The kit will provide the proper design certified input rate within the specified altitude range.

PROPANE AND HIGH ALTITUDE KITS					
MODEL NUMBER	0 to 7,000 ft.	7,001 to 9,000 ft.	9,001 to 11,000 ft.	7,001 to 11,000 ft.	7,001 to 11,000 ft.
GUCA***AX** GCCA***AX**	LPTK09 Propane Conversion Kit (#55 Orifices)	HANG11 High Altitude Natural Gas Kit (#44 Orifices)	HANG12 High Altitude Natural Gas Kit (#45 Orifices)	HALP10 High Altitude LP Gas Kit (#56 Orifices)	HAPS 27 High Altitude Pressure Switch Kit

High altitude kits are purchased according to the installation altitude and usage of either natural or propane gas. Refer to the chart above for a tabular listing of appropriate altitude ranges and corresponding manufacturer's high altitude Natural Gas and Propane Gas kits. For a tabular listing of appropriate altitude ranges and corresponding manufacturer's High Altitude Pressure Switch kits, refer to either the *Pressure Switch Trip Points & Usage Chart* in this manual or the *Accessory Charts* in Service Instructions.

PRODUCT DESIGN

PRESSURE SWITCH TRIP POINTS AND USAGE CHART

MODEL	NEGATIVE PRESSURE ID BLOWER WITH FLUE NOT FIRING TYPICAL SEA LEVEL DATA	NEGATIVE PRESSURE ID BLOWER WITH FLUE FIRING TYPICAL SEA LEVEL DATA	NEGATIVE PRESSURE COIL COVER WITH FLUE NOT FIRING TYPICAL SEA LEVEL DATA	NEGATIVE PRESSURE COIL COVER WITH FLUE FIRING TYPICAL SEA LEVEL DATA	PRESSURE SWITCH TRIP POINTS AND USAGE							
					0 to 7,000 ft.				7,001 to 11,000 ft.			
					TRIP POINT COIL COVER PRESSURE SWITCH	COIL COVER PRESSURE SWITCH PART #	TRIP POINT ID BLOWER PRESSURE SWITCH	ID BLOWER PRESSURE SWITCH PART #	TRIP POINT COIL COVER PRESSURE SWITCH	TRIP POINT ID BLOWER PRESSURE SWITCH	HIGH ALTITUDE KIT	
GUCA045AX30 GCCA045AX30	-1.00	-1.05	-0.65	-1.10	-0.37	20197305 20197306	-0.37	20197305 20197306	-0.37	-0.16	HAPS27 20197307	
GUCA070AX30 GCCA070AX30	-0.80	-0.95	-0.60	-1.10	-0.37	20197305 20197306	-0.37	20197305 20197306	-0.37	-0.16	HAPS27 20197307	
GUCA070AX40 GCCA070AX40	-0.70	-0.85	-0.80	-1.30	-0.37	20197305 20197306	-0.37	20197305 20197306	-0.37	-0.16	HAPS27 20197307	
GUCA090AX40 GCCA090AX40	-0.60	-0.75	-0.80	-1.30	-0.37	20197305 20197306	-0.37	20197305 20197306	-0.37	-0.16	HAPS27 20197307	
GUCA090AX50 GCCA090AX50	-0.60	-0.85	-0.80	-1.30	-0.37	20197305 20197306	-0.37	20197305 20197306	-0.37	-0.16	HAPS27 20197307	
GUCA115AX50 GCCA115AX50	-0.60	-0.85	-1.40	-1.90	-0.37	20197305 20197306	-0.37	20197305 20197306	-0.37	-0.16	HAPS27 20197307	

Note: All installations above 7,000 ft. require a pressure switch change. For installations in Canada the Amana 90% furnace is certified only to 4500 ft.

Note: Replacement pressure switch number is listed below high altitude kit number.

Note: Minimum negative pressure required to activate the pressure switch is -0.52" w.c.

Note: All negative pressure readings are in inches of water column ("w.c.).

T.O.D. PRIMARY LIMIT

Part Number	20162903	20162904	20162905	20162906	20162907
Open Setting (°F)	160	150	145	170	155
Color Code(s)	Blue	Brown	Yellow	White	Orange
GUCA045AX30		1			
GUCA070AX30		1			
GUCA070AX40	1				
GUCA090AX40		1			
GUCA090AX50		1			
GUCA115AX50		1			
GCCA045AX30				1	
GCCA070AX30				1	
GCCA070AX40				1	
GCCA090AX40		1			
GCCA090AX50				1	
GCCA115AX50					1

ROLLOUT LIMIT SWITCHES

Part Number	10123514 or 10123533	10123515 or 10123534	10123517
	Open Setting (°F)	Open Setting (°F)	Open Setting (°F)
GUCA045AX30	200	220	210
GUCA070AX30	Yellow	Orange	White
GUCA070AX40	1		
GUCA070AX40	2		
GUCA070AX40			2
GUCA090AX40	2		
GUCA090AX50		2	
GUCA115AX50		2	
GCCA045AX30			1
GCCA070AX30			2
GCCA070AX40			2
GCCA090AX40		2	
GCCA090AX50		2	
GCCA115AX50			2

AUXILIARY LIMIT SWITCHES

Part Number	10123506 or 10123525	10123516 or 10123535	10123518	10123519
	Open Setting (°F)	Open Setting (°F)	Open Setting (°F)	Open Setting (°F)
GUCA045AX30	160	150	170	160
GUCA045AX30	Orange	Red	Blue	Pink
GUCA070AX30		1		
GUCA070AX40		1		
GUCA070AX40		1		
GUCA090AX40		1		
GUCA090AX50		1		
GUCA115AX50	1			
GCCA045AX30				2
GCCA070AX30				2
GCCA070AX40			2	
GCCA090AX40				2
GCCA090AX50			2	
GCCA115AX50				2

PRODUCT DESIGN

Coil Matches:

A large array of Amana coils are available for use with the new GUCA and GCCA furnaces, in either upflow, counterflow, or horizontal applications. These coils are available in both cased and uncased models, with or without a TXV expansion device. These new 90%+ furnaces match up with the existing Amana coils as shown in the chart below.

Btuh Input	Cabinet Width	Air Flow (tons)	CAA_F*C Cased A-Coils	CCA_FSC Uncased A-Coils	CHA_TCC Cased TXV A-Coils	CHA_TSC Uncased TXV A-Coils	CCF_F*C Horiz. A-Coils	CHF_TCC Horiz. A-Coils
45,000	16 1/2"	1 1/2 - 3	CCA18FCC CCA24FCC CCA30FCC CCA36FCC CCA42FCC	CCA18FSC CCA24FSC CCA30FSC CCA36FSC CCA42FSC	CHA18TCC CHA24TCC CHA30TCC CHA36TCC	CHA18TSC CHA24TSC CHA30TSC CHA36TSC	CCF24FCC CCF30FCC CCF36FCC	CHF18TCC CHF24TCC CHF30TCC
70,000	16 1/2"	2 - 3 1/2						
70,000	20 1/2"	2 1/2 - 4	CCA30FDC CCA36FDC CCA42FDC CCA48FCC	CCA48FSC	CHA42TCC	CHA42TSC	CCF24FDC CCF36FDC CCF42FCC CCF48FCC	CHF36TCC CHF42TCC
90,000	20 1/2"	2 1/2 - 4						
90,000	24 1/2"	3 - 5	CCA36FKC CCA48FDC CCA54FCC CCA57FCC CCA60FCC	CCA54FSC CCA57FSC CCA60FSC	CHA48TCC CHA54TCC CHA57TCC CHA60TCC	CHA48TSC CHA54TSC CHA57TSC CHA60TSC	CCF48FDC CCF60FCC	CHF48TCC
115,000	24 1/2"	3 - 5						

Coil Matches (for the Amana RSD units using R-410A):

Btuh Input	Cabinet Width	Air Flow (tons)	CA_FCA Cased A-Coils	CF_FCA Horizontal A-Coils
45,000	16-1/2"	1 1/2 - 3	CA36FCA	CF30FCA
70,000	20-1/2"	2 1/2 - 4	CA42FCA	CF36FCA
90,000	24-1/2"	3 - 5	CA48FCA CA57FCA	CF48FCA CF60FCA
115,000	24-1/2"	3 - 5		

PRODUCT DESIGN

Thermostats:

The following Amana Thermostats are suggested for use with the GUCA and GCCA Furnace Models:

Thermostats								
Thermostat	Man/Auto	Programmable	Cool	Heat	Batt. Powered	Batt. Bkup*	Shape	Color
M0380101	Man. Changeover	No	1	1	No	No	Rectangular	Beige
1213401	Man. Changeover	Yes	1	1	Yes	No	Rectangular	White
1213402	Man. Changeover	No	1	1	Yes	No	Rectangular	White
1213408	Man. or Auto Changeover	Yes	1	1	No	Yes	Rectangular	White

Filters:

Filters are required with this furnace and must be provided by the installer. The filters used must comply with UL900 or CAN/ULCS111 standards. Installing this furnace without filters will void the unit warranty.

This furnace has provisions for the installation of return air filters at the side and/or bottom return. The furnace will accommodate the following filter sizes depending on cabinet size:

Side Return(s)		
Cabinet Width (in.)	Nominal Filter Size (in.)	Approx. Flow Area (in ²)
All	16 x 25 x 1	400

Bottom Return		
Cabinet Width (in.)	Nominal Filter Size (in.)	Approx. Flow Area (in ²)
16-1/2	14 x 25 x 1	350
20-1/2	16 x 25 x 1	400
24-1/2	20 x 25 x 1	500

Refer to Minimum Filter Area tables to determine filter area requirement. **NOTE:** Filters can also be installed elsewhere in the duct system such as a central return.

		Cooling Airflow Requirement (CFM)						
		600	800	1000	1200	1400	1600	2000
GUCA__AX__ Model (Input__Airflow)	045__30	376*	384	480	576	---	---	---
	070__30	---	564*	564*	564*	672	---	---
	070__40	---	---	564*	564*	672	768	---
	090__40	---	---	752*	752*	752*	768	---
	090__50	---	---	---	752*	752*	768	960
	115__50	---	---	---	940*	940*	940*	960

		Cooling Airflow Requirement (CFM)						
		600	800	1000	1200	1400	1600	2000
GCCA__AX__ Model (Input__Airflow)	045__30	376*	384	480	576	---	---	---
	070__30	---	564*	564*	564*	672	---	---
	070__40	---	---	564*	564*	672	768	---
	090__40	---	---	752*	752*	752*	768	---
	090__50	---	---	---	752*	752*	768	960
	115__50	---	---	---	940*	940*	940*	960

*Minimum filter area dictated by heating airflow requirement.

Disposable Minimum Filter Area (in²)

[Based on a 300 ft/min filter face velocity]

		Cooling Airflow Requirement (CFM)						
		600	800	1000	1200	1400	1600	2000
GUCA__AX__ Model (Input__Airflow)	045__30	188*	192	240	288	---	---	---
	070__30	---	282*	282*	282*	336	---	---
	070__40	---	---	260*	260*	336	384	---
	090__40	---	---	376*	376*	376*	384	---
	090__50	---	---	---	376*	376*	384	480
	115__50	---	---	---	470*	470*	470*	480

		Cooling Airflow Requirement (CFM)						
		600	800	1000	1200	1400	1600	2000
GCCA__AX__ Model (Input__Airflow)	045__30	188*	192	240	288	---	---	---
	070__30	---	282*	282*	282*	336	---	---
	070__40	---	---	260*	260*	336	384	---
	090__40	---	---	376*	376*	376*	384	---
	090__50	---	---	---	376*	376*	384	480
	115__50	---	---	---	470*	470*	470*	480

*Minimum filter area dictated by heating airflow requirement.

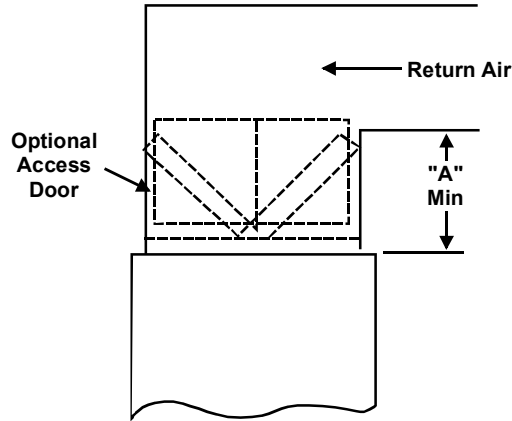
Permanent Minimum Filter Area (in²)

[Based on 600 ft/min filter face velocity]

PRODUCT DESIGN

Counterflow Filters

This furnace has provisions for the installation of return air filters at the counterflow top return. The furnace will accommodate the following filter sizes depending on cabinet size:



Counterflow Top Return				
Cabinet Width	Filter Area (in ²)	Qty	Filter Size (in)	Dimension "A" (in)
16 1/2	600	2	15 X 20 X 1	14.2
20 1/2				13.0
24 1/2				11.3
16 1/2	800	2	20 X 20 X 1	19.7
20 1/2				18.8
24 1/2				17.7
16 1/2	1000	2	25 X 20 X 1	25.0
20 1/2				24.3
24 1/2				23.4

Refer to Minimum Filter Area tables to determine filter area requirement. **NOTE:** Filters can also be installed elsewhere in the duct system such as a central return.

FURNACE SPECIFICATIONS

Model	GUCA045AX30	GUCA070AX30	GUCA070AX40	GUCA090AX40	GUCA090AX50	GUCA115AX50
Btuh						
Input (US)	46,000	69,000	69,000	92,000	92,000	115,000
Output (US)	42,800	64,400	64,400	86,000	85,300	106,500
Input (CAN)	46,000	69,000	69,000	92,000	90,000	115,000
Output (CAN)	42,800	64,400	64,400	86,000	85,300	106,500
A.F.U.E.	92.0%	92.0%	92.0%	92.0%	92.0%	92.0%
Rated External Static (" w.c.)	.20 - .50	.20 - .50	.20 - .50	.20 - .50	.20 - .50	.20 - .50
Temperature Rise (°F)	35 - 65	35 - 65	35 - 65	35 - 65	35 - 65	35 - 65
ID Blower Pressure Switch Trip Point (" w.c.)	-0.37	-0.37	-0.37	-0.37	-0.37	-0.37
Front Cover Pressure Switch Trip Point (" w.c.)	-0.37	-0.37	-0.37	-0.37	-0.37	-0.37
Blower Wheel (D" x W")	11 x 6	11 x 7	11 x 9	11 x 9	11 x 9	11 x 10
Blower Horsepower	1/3	1/2	1/2	1/2	3/4	1/2
Blower Speeds	4	4	4	4	4	4
Max CFM @ 0.5 E.S.P.	1196	1406	1643	1544	2128	2029
Power Supply	115-60-1	115-60-1	115-60-1	115-60-1	115-60-1	115-60-1
Minimum Circuit Ampacity (MCA)	9.0	9.8	8.9	8.9	12.2	10.9
Maximum Overcurrent Device	15.0	15.0	15.0	15.0	15.0	15.0
Transformer (VA)	40	40	40	40	40	40
Heat Anticipator (Amps)	0.7	0.7	0.7	0.7	0.7	0.7
Primary Limit Setting (°F)	150	150	160	150	150	150
Auxiliary Limit Setting (°F)	150	150	150	150	150	160
Rollout Limit Setting (°F)	200	200	210	200	220	220
Fan Delay On Heating	30 secs.	30 secs.	30 secs.	30 secs.	30 secs.	30 secs.
Off Heating *	90 secs.	90 secs.	90 secs.	90 secs.	90 secs.	90 secs.
Fan Delay On Cooling	5 sec.	5 sec.	5 sec.	5 sec.	5 sec.	5 sec.
Off Cooling	45 secs.	45 secs.	45 secs.	45 secs.	45 secs.	45 secs.
Gas Supply Pressure (Natural/Propane) ("w.c.)	7 / 11	7 / 11	7 / 11	7 / 11	7 / 11	7 / 11
Manifold Pressure (Natural/Propane) ("w.c.)	3.5 / 10	3.5 / 10	3.5 / 10	3.5 / 10	3.5 / 10	3.5 / 10
Orifice Size (Natural/Propane)	#43 / #55	#43 / #55	#43 / #55	#43 / #55	#43 / #55	#43 / #55
Number of Burners	2	3	3	4	4	5
Vent Connector Diameter (inches)	2	2	2	2	2	2
Combustion Air Connector Diameter (inches)	2	2	2	2	2	2
Shipping Weight (lbs.)	131	144	152	166	175	187

* Off Heating - This fan delay timing is adjustable (60, 90, 120 or 180 seconds), 90 seconds as shipped.

1. These furnaces are manufactured for natural gas operation. Optional kits are available for conversion to propane operation.
2. For elevations above 2000 feet the rating should be reduced by 4% for each 1000 feet above sea level. The furnace must not be derated, orifice changes should only be made if necessary for altitude.
3. The total heat loss from the structure as expressed in TOTAL BTU/HR must be calculated by the manufacturers method or in accordance with the "A.S.H.R.A.E. GUIDE" or "MANUAL J-LOAD CALCULATIONS" published by the AIR CONDITIONING CONTRACTORS OF AMERICA. The total heat loss calculated should be equal to or less than the heating capacity. Output based on D.O.E. test procedures, steady state efficiency times output.
4. Minimum Circuit Ampacity calculated as: $(1.25 \times \text{Circulator Blower Amps}) + \text{I.D. Blower Amps}$.

FURNACE SPECIFICATIONS

Model	GCCA045AX30	GCCA070AX30	GCCA070AX40	GCCA090AX40	GCCA090AX50	GCCA115AX50
Btuh						
Input (US)	46,000	69,000	69,000	92,000	92,000	115,000
Output (US)	43,000	65,400	63,300	87,500	86,200	109,100
Input (CAN)	46,000	69,000	69,000	92,000	92,000	115,000
Output (CAN)	43,000	65,400	63,300	87,500	86,200	109,100
A.F.U.E.	92.0%	92.0%	92.0%	92.0%	92.0%	92.0%
Rated External Static (" w.c.)	.20 - .50	.20 - .50	.20 - .50	.20 - .50	.20 - .50	.20 - .50
Temperature Rise (°F)	35 - 65	35 - 65	35 - 65	40 - 70	35 - 65	40 - 70
ID Blower Pressure Switch Trip Point (" w.c.)	-0.37	-0.37	-0.37	-0.37	-0.37	-0.37
Front Cover Pressure Switch Trip Point (" w.c.)	-0.37	-0.37	-0.37	-0.37	-0.37	-0.37
Blower Wheel (D" x W")	11 x 6	11 x 7	11 x 9	11 x 9	11 x 9	11 x 10
Blower Horsepower	1/3	1/2	1/2	1/2	3/4	1/2
Blower Speeds	4	4	4	4	4	4
Max CFM @ 0.5 E.S.P.	1195	1366	1590	1581	1987	1903
Power Supply	115-60-1	115-60-1	115-60-1	115-60-1	115-60-1	115-60-1
Minimum Circuit Ampacity (MCA)	9.0	9.8	8.9	8.9	12.2	10.9
Maximum Overcurrent Device	15.0	15.0	15.0	15.0	15.0	15.0
Transformer (VA)	40	40	40	40	40	40
Heat Anticipator (Amps)	0.7	0.7	0.7	0.7	0.7	0.7
Primary Limit Setting (°F)	170	170	170	150	170	155
Auxiliary Limit Setting (°F)	160	160	170	160	170	160
Rollout Limit Setting (°F)	210	210	210	220	220	210
Fan Delay On Heating	30 secs.	30 secs.	30 secs.	30 secs.	30 secs.	30 secs.
Off Heating *	90 secs.	90 secs.	90 secs.	90 secs.	90 secs.	90 secs.
Fan Delay On Cooling	5 sec.	5 sec.	5 sec.	5 sec.	5 sec.	5 sec.
Off Cooling	45 secs.	45 secs.	45 secs.	45 secs.	45 secs.	45 secs.
Gas Supply Pressure (Natural/Propane) ("w.c.)	7 / 11	7 / 11	7 / 11	7 / 11	7 / 11	7 / 11
Manifold Pressure (Natural/Propane) ("w.c.)	3.5 / 10	3.5 / 10	3.5 / 10	3.5 / 10	3.5 / 10	3.5 / 10
Orifice Size (Natural/Propane)	#43 / #55	#43 / #55	#43 / #55	#43 / #55	#43 / #55	#43 / #55
Number of Burners	2	3	3	4	4	5
Vent Connector Diameter (inches)	2	2	2	2	2	2
Combustion Air Connector Diameter (inches)	2	2	2	2	2	2
Shipping Weight (lbs.)	132	145	153	167	176	188

* Off Heating - This fan delay timing is adjustable (60, 90, 120 or 180 seconds), 90 seconds as shipped.

1. These furnaces are manufactured for natural gas operation. Optional kits are available for conversion to propane operation.
2. For elevations above 2000 feet the rating should be reduced by 4% for each 1000 feet above sea level. The furnace must not be derated, orifice changes should only be made if necessary for altitude.
3. The total heat loss from the structure as expressed in TOTAL BTU/HR must be calculated by the manufacturers method or in accordance with the "A.S.H.R.A.E. GUIDE" or "MANUAL J-LOAD CALCULATIONS" published by the AIR CONDITIONING CONTRACTORS OF AMERICA. The total heat loss calculated should be equal to or less than the heating capacity. Output based on D.O.E. test procedures, steady state efficiency times output.
4. Minimum Circuit Ampacity calculated as: $(1.25 \times \text{Circulator Blower Amps}) + \text{I.D. Blower Amps}$.

BLOWER PERFORMANCE SPECIFICATIONS

GUCA Blower Performance (CFM & Temperature Rise vs. External Static Pressure)															
Model (Heating Speed As Shipped)	Motor Speed	Tons AC at 0.5" ESP	External Static Pressure (Inches Water Column)												
			0.1		0.2		0.3		0.4		0.5		0.6	0.7	0.8
			CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	CFM	CFM
GUCA045AX30 (MED-LO)	HIGH	3.0	1322	---	1298	---	1278	---	1243	---	1196	---	1137	1074	1000
	MED	2.5	1131	35	1114	35	1097	36	1068	37	1019	39	968	907	827
	MED-LO	2.0	903	44	896	44	876	45	844	47	807	49	764	706	652
	LOW	1.5	762	51	680	58	719	54	684	57	646	61	542	485	423
GUCA070AX30 (MED-LO)	HIGH	3.5	1590	37	1550	38	1505	39	1554	41	1406	42	1343	1266	1194
	MED	3.0	1489	40	1450	41	1415	42	1370	43	1324	45	1261	1205	1130
	MED-LO	2.5	1251	47	1226	48	1205	49	1173	50	1135	52	1096	1037	975
	LOW	2.0	1001	59	988	60	969	61	956	62	929	64	902	859	807
GUCA70AX40 (MED-LO)	HIGH	4.0	1861	---	1823	---	1778	---	1721	---	1643	36	1581	1500	1387
	MED	3.5	1620	37	1597	37	1565	38	1516	39	1462	41	1410	1318	1235
	MED-LO	3.0	1387	43	1369	43	1313	45	1284	46	1224	48	1167	1095	1024
	LOW	2.5	1193	50	1162	51	1118	53	1072	55	1012	59	961	894	836
GUCA090AX40 (HIGH)	HIGH	4.0	1821	43	1768	45	1699	46	1624	49	1544	51	1439	1354	1227
	MED	3.5	1624	49	1561	51	1520	52	1461	54	1381	57	1297	1217	1109
	MED-LO	3.0	1395	57	1363	58	1311	60	1258	63	1201	66	1120	1045	957
	LOW	2.5	1212	65	1164	---	1126	---	1080	---	1014	---	957	882	815
GUCA090AX50 (MED)	HIGH	5.0	2375	---	2323	---	2282	35	2217	36	2128	37	2056	1956	1857
	MED	4.0	1752	45	1741	45	1729	46	1682	47	1640	48	1591	1534	1454
	MED-LO	3.5	1504	53	1487	53	1469	54	1443	55	1412	56	1380	1318	1228
	LOW	3.0	1274	62	1258	63	1253	63	1222	65	1201	---	1147	1072	972
GUCA115AX50 (HIGH)	HIGH	5.0	2359	42	2298	43	2208	45	2117	47	2029	49	1914	1783	1678
	MED	4.0	1849	53	1808	55	1757	56	1722	57	1651	60	1595	1507	1403
	MED-LO	3.5	1575	63	1556	63	1527	65	1497	---	1456	---	1370	1290	1205
	LOW	3.0	1370	---	1348	---	1313	---	1278	---	1254	---	1180	1114	1029

1. CFM in chart is without filters(s). Filters do not ship with this furnace, but must be provided by the installer. If the furnace requires two return filters, this chart assumes both filters are installed.
2. All furnaces ship as high speed cooling. Installer must adjust blower cooling speed as needed.
3. For most jobs, about 400 CFM per ton when cooling is desirable.
4. INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
5. The chart is for information only. For satisfactory operation, external static pressure must not exceed value shown on rating plate. The shaded area indicates ranges in excess of maximum external static pressure allowed when heating. The data for 0.6" w.c. to 0.8" w.c. is shown for air conditioning purposes only.
6. The dashed (---) areas indicate a temperature rise not recommended for this model.
7. The above chart is for U.S. furnaces installed at 0-4000 feet. At higher altitudes, a properly derated unit will have approximately the same temperature rise at a particular CFM, while the ESP at that CFM will be lower.

BLOWER PERFORMANCE SPECIFICATIONS

GUCA Blower Performance (CFM & Temperature Rise vs. External Static Pressure)															
Model (Heating Speed As Shipped)	Motor Speed	Tons AC at 0.5" ESP	External Static Pressure (Inches Water Column)												
			0.1		0.2		0.3		0.4		0.5		0.6	0.7	0.8
			CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	CFM	CFM
GUCA045AX30 (MED-LO)	HIGH	3.0	1322	---	1298	---	1278	---	1243	---	1196	---	1137	1074	1000
	MED	2.5	1131	35	1114	35	1097	36	1068	37	1019	39	968	907	827
	MED-LO	2.0	903	44	896	44	876	45	844	47	807	49	764	706	652
	LOW	1.5	762	51	680	58	719	54	684	57	646	61	542	485	423
GUCA070AX30 (MED-LO)	HIGH	3.5	1621	37	1572	39	1521	40	1469	41	1407	43	1343	1276	1205
	MED	3.0	1402	43	1366	44	1329	46	1290	47	1243	49	1185	1133	1060
	MED-LO	2.5	1144	53	1122	54	1086	56	1063	57	1024	59	981	940	875
	LOW	2.0	868	---	831	---	805	---	782	---	745	---	703	667	619
GUCA70AX40 (MED-LO)	HIGH	4.0	1861	---	1823	---	1778	---	1721	---	1643	36	1581	1500	1387
	MED	3.5	1620	37	1597	37	1565	38	1516	39	1462	41	1410	1318	1235
	MED-LO	3.0	1387	43	1369	43	1313	45	1284	46	1224	48	1167	1095	1024
	LOW	2.5	1193	50	1162	51	1118	53	1072	55	1012	59	961	894	836
GUCA090AX40 (HIGH)	HIGH	4.0	1821	43	1768	45	1699	46	1624	49	1544	51	1439	1354	1227
	MED	3.5	1624	49	1561	51	1520	52	1461	54	1381	57	1297	1217	1109
	MED-LO	3.0	1395	57	1363	58	1311	60	1258	63	1201	66	1120	1045	957
	LOW	2.5	1212	65	1164	---	1126	---	1080	---	1014	---	957	882	815
GUCA090AX50 (MED)	HIGH	5.0	2090	38	2076	38	2061	38	2054	39	2017	39	1963	1901	1820
	MED	4.0	1615	49	1610	49	1600	49	1591	50	1562	51	1523	1473	1410
	MED-LO	3.5	1367	58	1367	58	1356	58	1351	59	1345	59	1298	1251	1177
	LOW	3.0	1191	---	1182	---	1166	---	1141	---	1115	---	1061	1014	965
GUCA115AX50 (HIGH)	HIGH	5.0	2181	46	2117	48	2073	49	2021	50	1976	51	1913	1831	1746
	MED	4.0	1693	60	1666	61	1647	61	1600	63	1562	65	1522	1471	1408
	MED-LO	3.5	1489	---	1454	---	1428	---	1397	---	1365	---	1328	1270	1214
	LOW	3.0	1299	---	1275	---	1250	---	1224	---	1188	---	1161	1105	1059

1. CFM in chart is without filters(s). Filters do not ship with this furnace, but must be provided by the installer. If the furnace requires two return filters, this chart assumes both filters are installed.
2. All furnaces ship as high speed cooling. Installer must adjust blower cooling speed as needed.
3. For most jobs, about 400 CFM per ton when cooling is desirable.
4. INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
5. The chart is for information only. For satisfactory operation, external static pressure must not exceed value shown on rating plate. The shaded area indicates ranges in excess of maximum external static pressure allowed when heating. The data for 0.6" w.c. to 0.8" w.c. is shown for air conditioning purposes only.
6. The dashed (---) areas indicate a temperature rise not recommended for this model.
7. The above chart is for U.S. furnaces installed at 0-4000 feet. At higher altitudes, a properly derated unit will have approximately the same temperature rise at a particular CFM, while the ESP at that CFM will be lower.

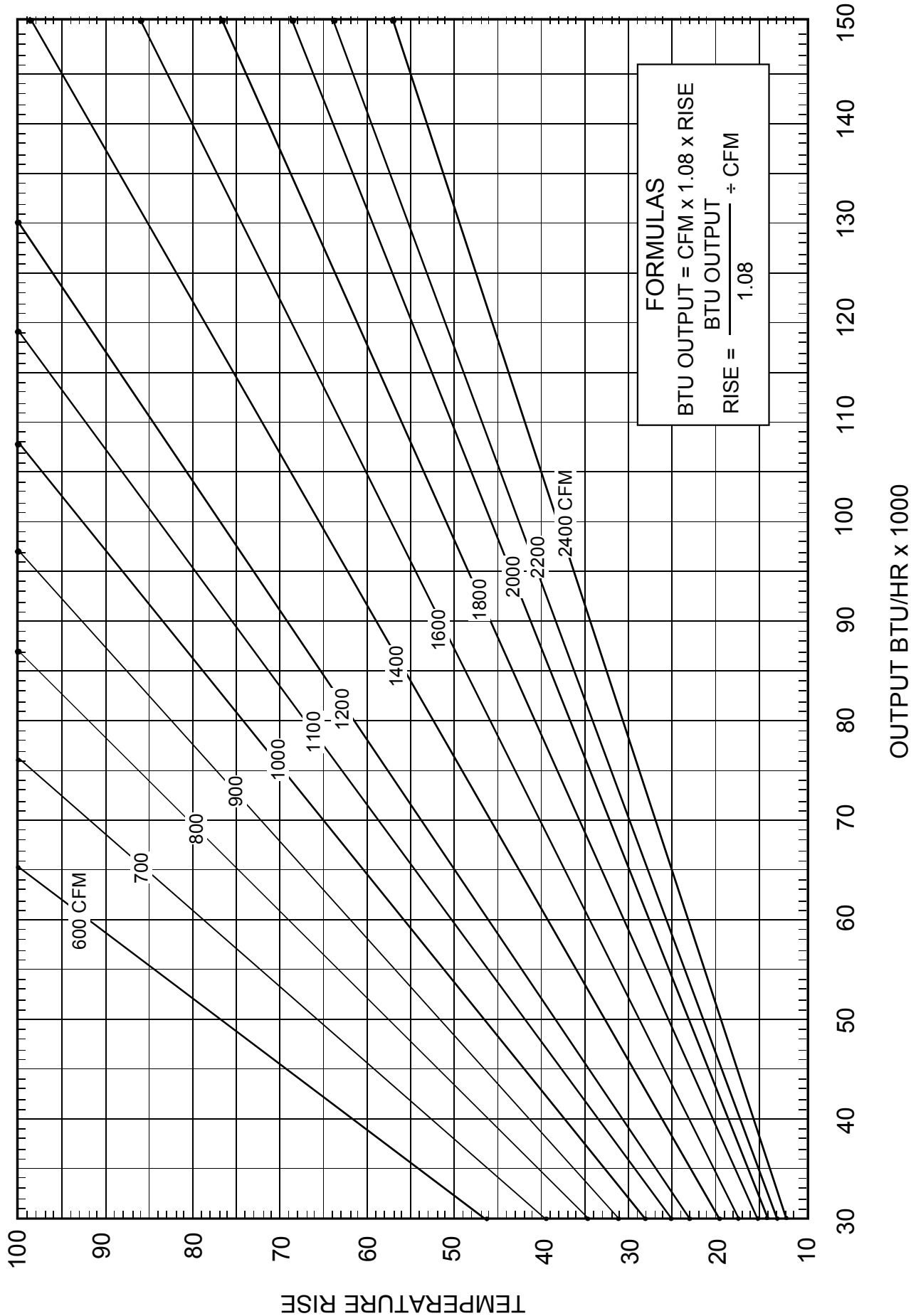
BLOWER PERFORMANCE SPECIFICATIONS

GCCA Blower Performance (CFM & Temperature Rise vs. External Static Pressure)															
Model (Heating Speed As Shipped)	Motor Speed	Tons AC at 0.5" ESP	External Static Pressure (Inches Water Column)												
			0.1		0.2		0.3		0.4		0.5		0.6	0.7	0.8
			CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	CFM	CFM
GCCA045AX30 (MED-LO)	HIGH	3.0	1327	---	1342	---	1305	---	1251	---	1195	---	1128	1056	969
	MED	2.5	1195	---	1179	---	1136	35	1092	36	1037	38	988	918	839
	MED-LO	2.0	979	40	949	42	906	43	862	46	816	48	791	736	668
	LOW	1.5	764	52	736	54	703	56	668	59	621	63	589	537	477
GCCA070AX30 (MED)	HIGH	3.5	1551	69	1499	40	1445	42	1390	44	1324	46	1256	1183	1105
	MED	3.0	1383	44	1347	45	1287	47	1240	49	1191	51	1123	1069	1002
	MED-LO	2.5	1176	52	1139	53	1104	55	1057	57	1016	60	960	908	846
	LOW	2.0	928	65	891	---	867	---	824	---	794	---	747	701	651
GCCA70AX40 (MED-LO)	HIGH	4.0	1911	---	1838	---	1762	---	1674	35	1590	37	1501	1407	1294
	MED	3.5	1674	35	1609	37	1551	38	1481	40	1407	42	1329	1234	1157
	MED-LO	3.0	1481	40	1407	42	1352	44	1329	44	1234	48	1157	1076	972
	LOW	2.5	1282	46	1234	48	1183	50	1117	53	1047	56	987	906	818
GCCA090AX40 (HIGH)	HIGH	4.0	1867	42	1797	44	1730	46	1660	47	1581	50	1498	1403	1316
	MED	3.5	1654	48	1594	49	1531	51	1485	53	1403	56	1263	1239	1157
	MED-LO	3.0	1452	54	1407	56	1353	58	1295	61	1225	64	1156	1083	1005
	LOW	2.5	1255	63	1206	65	1165	68	1115	---	1056	---	997	931	849
GCCA090AX50 (MED-LO)	HIGH	5.0	2153	37	2096	38	2030	39	1969	40	1891	42	1809	1714	1605
	MED	4.5	1775	45	1740	45	1696	47	1651	48	1595	50	1527	1446	1359
	MED-LO	3.5	1537	52	1487	53	1456	54	1414	56	1370	58	1325	1255	1180
	LOW	3.0	1288	61	1273	62	1250	63	1210	65	1169	---	1126	1073	998
GCCA115AX50 (MED)	HIGH	5.0	2130	47	2079	49	1982	51	1936	52	1849	55	1756	1677	1574
	MED	4.5	1815	56	1766	57	1716	59	1651	61	1604	63	1517	1451	1361
	MED-LO	3.5	1616	63	1573	64	1536	66	1484	68	1431	---	1375	1310	1233
	LOW	3.0	1424	---	1382	73	1361	---	1310	---	1256	---	1200	1134	1072

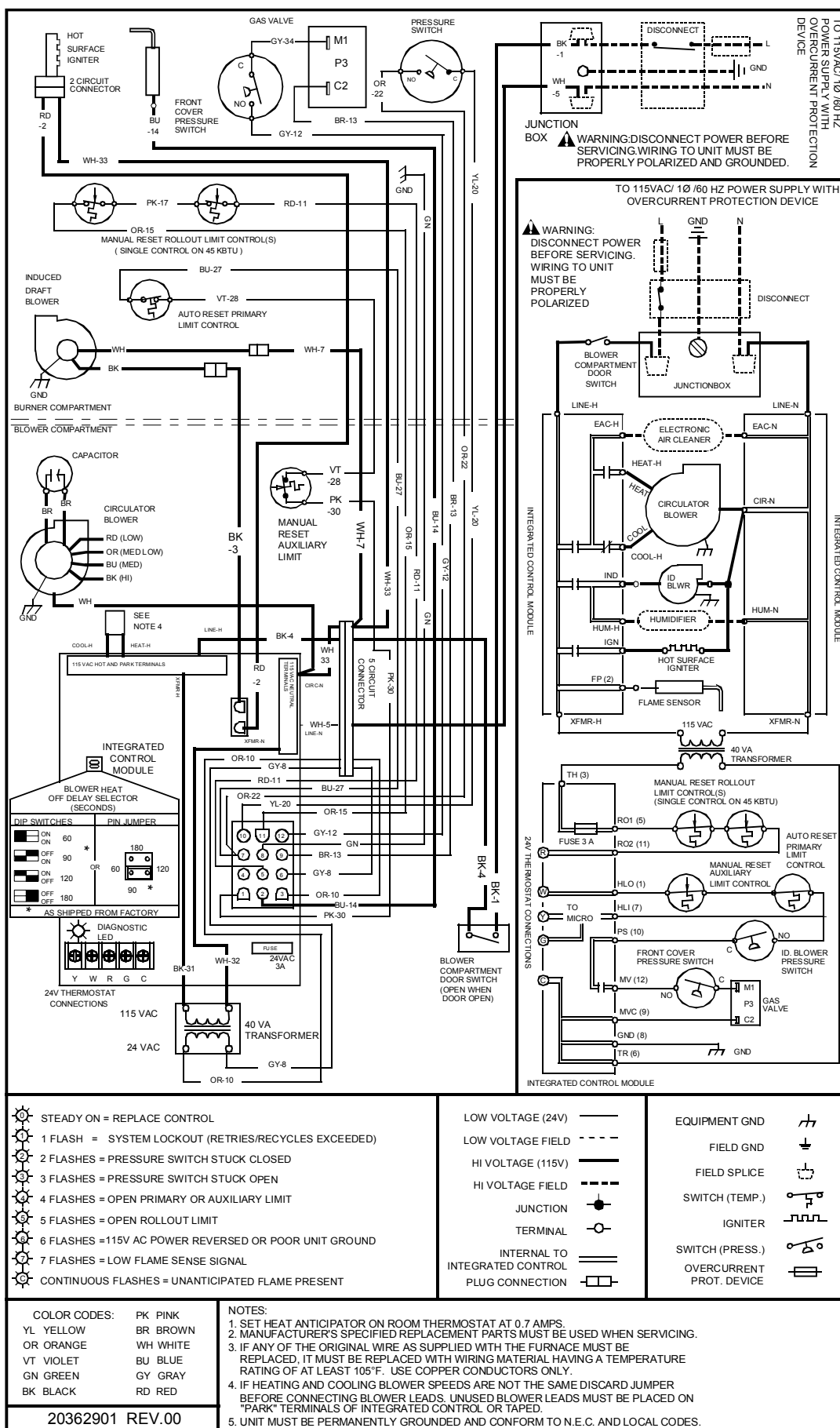
1. CFM in chart is without filters(s). Filters do not ship with this furnace, but must be provided by the installer. If the furnace requires two return filters, this chart assumes both filters are installed.
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6. The dashed (---) areas indicate a temperature rise not recommended for this model.
7. The above chart is for U.S. furnaces installed at 0-4000 feet. At higher altitudes, a properly derated unit will have approximately the same temperature rise at a particular CFM, while the ESP at that CFM will be lower.

BLOWER PERFORMANCE SPECIFICATIONS

BTU OUTPUT vs TEMPERATURE RISE CHART



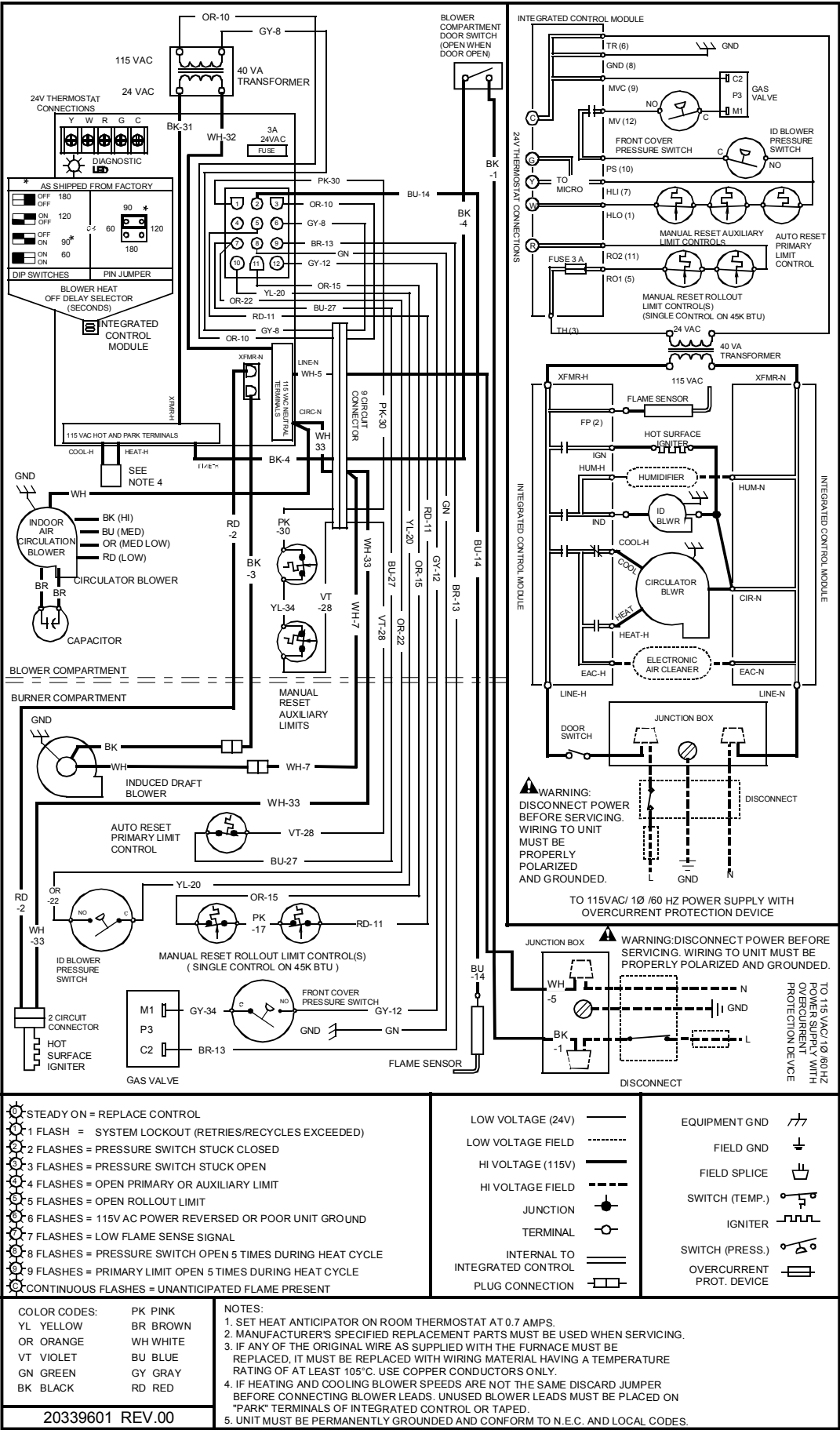
WIRING DIAGRAMS



TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

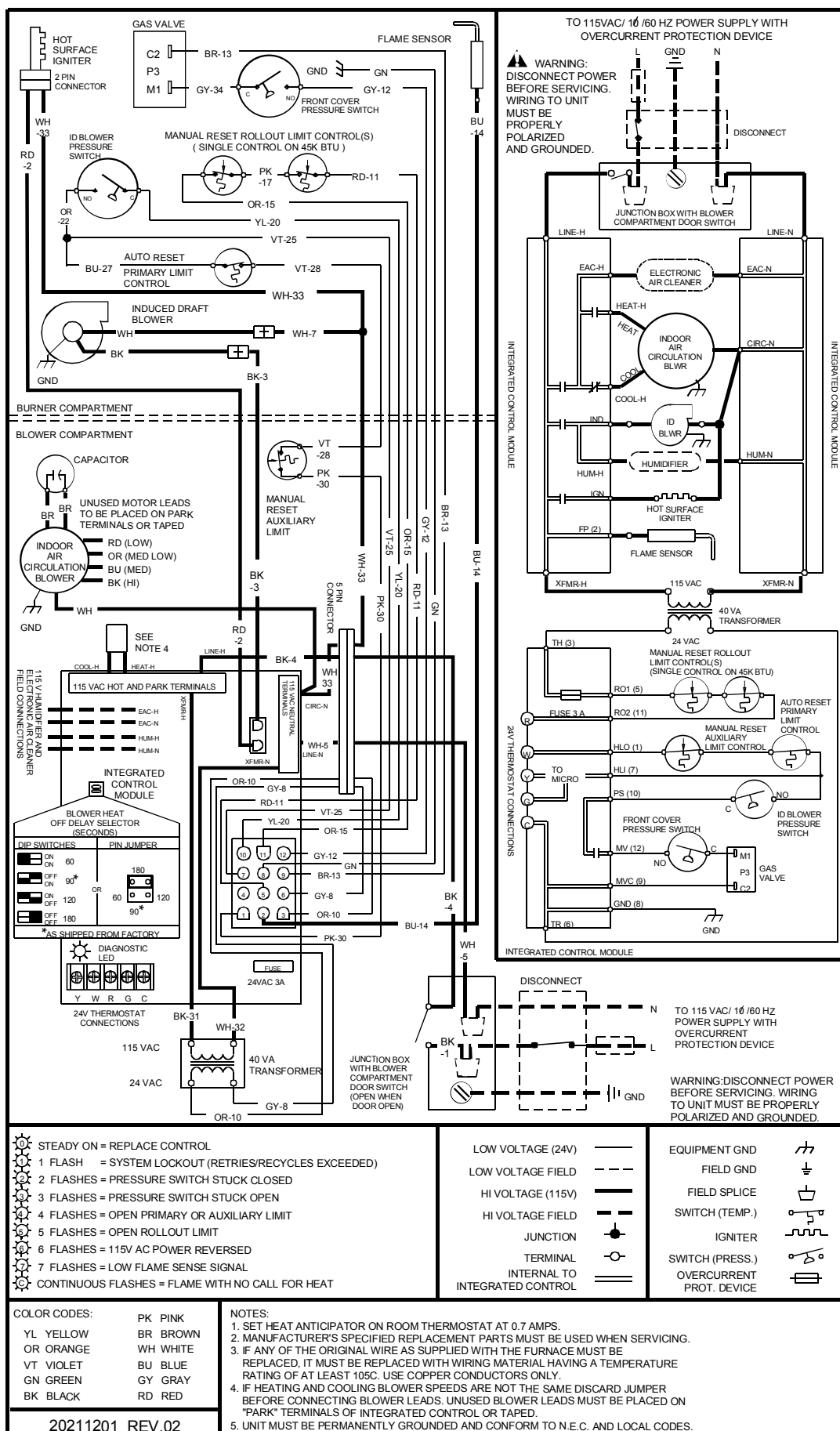
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WARNING

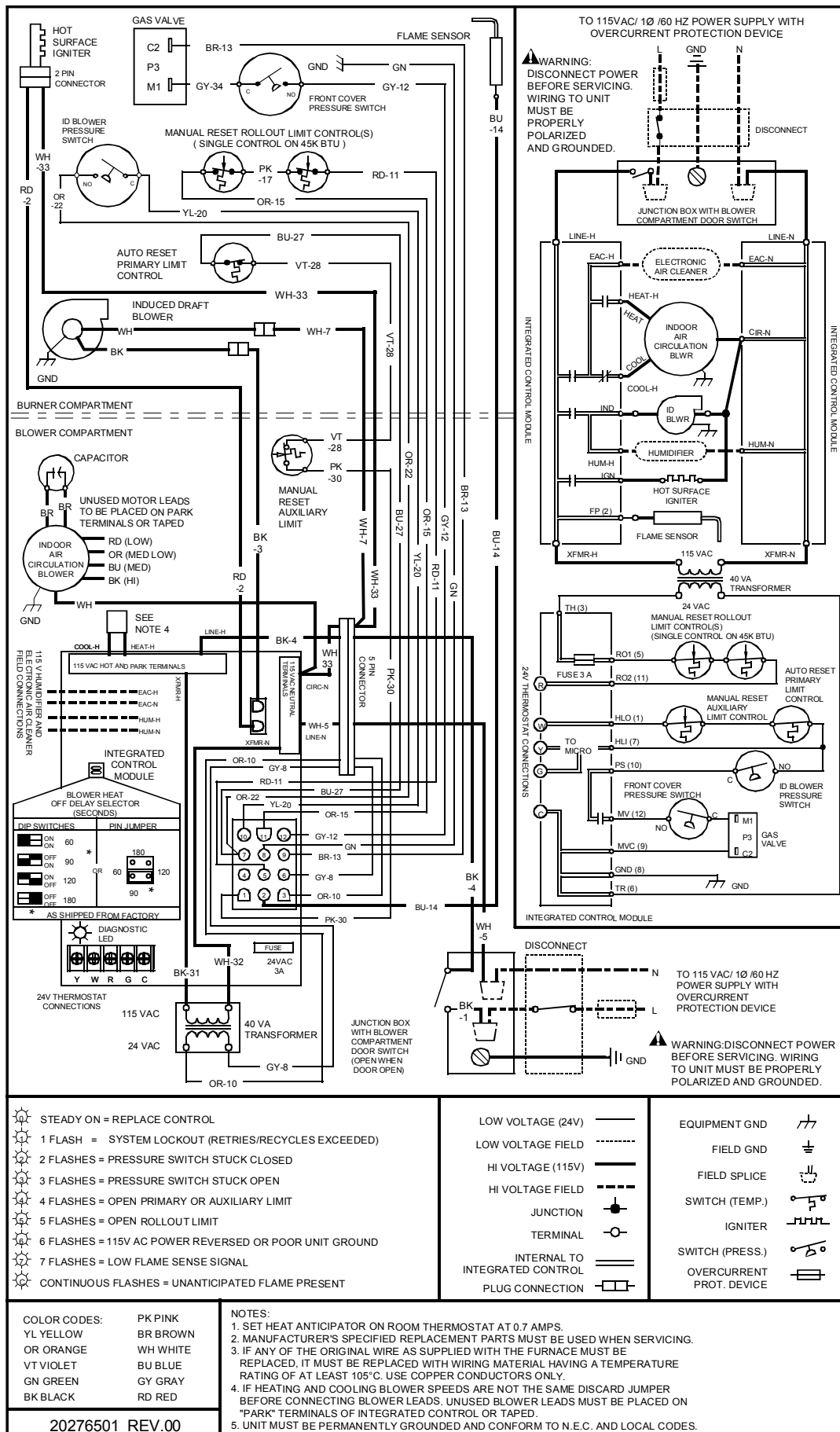
WIRING DIAGRAMS



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OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.**

WARNING

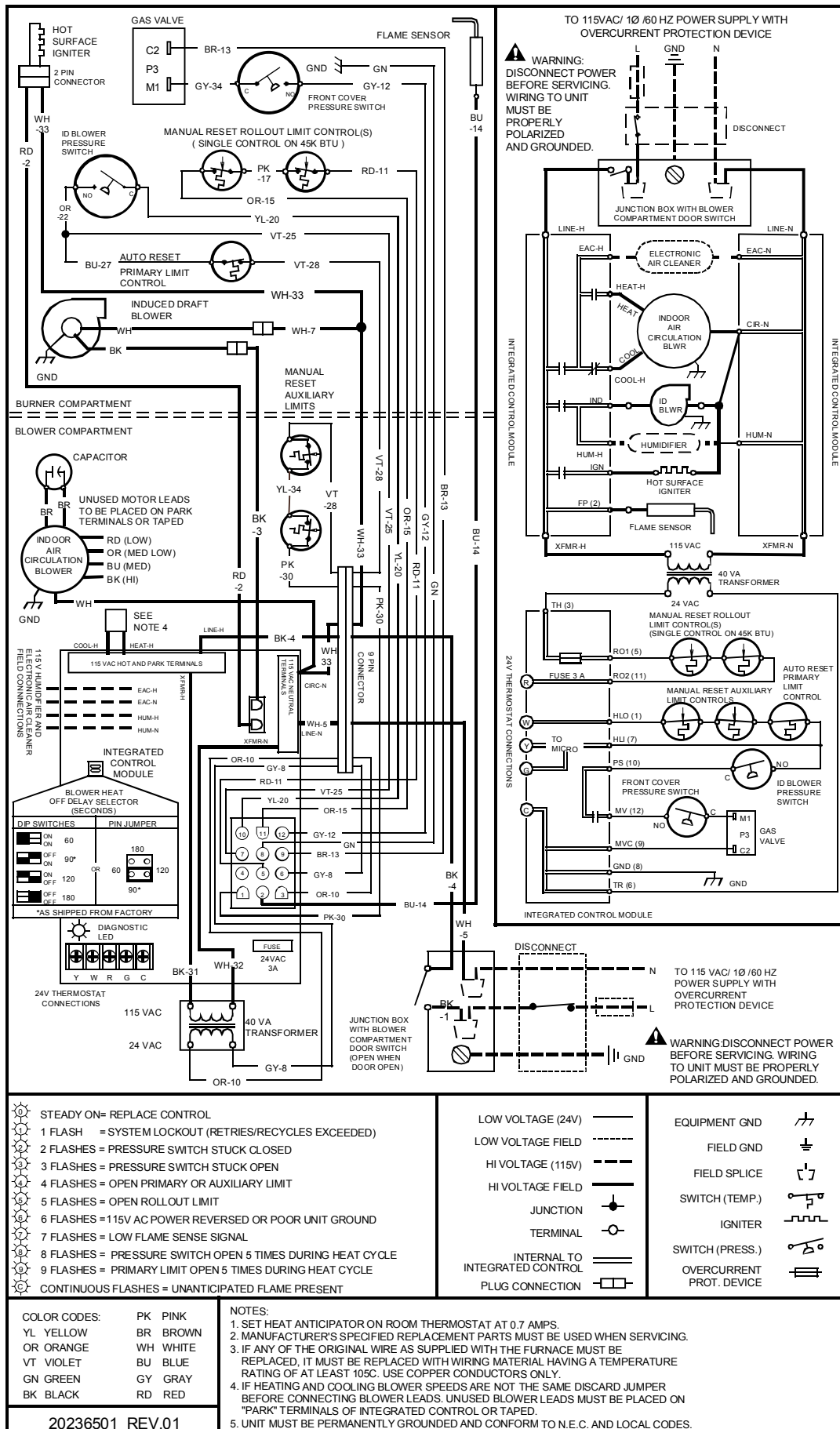
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⚠ WARNING

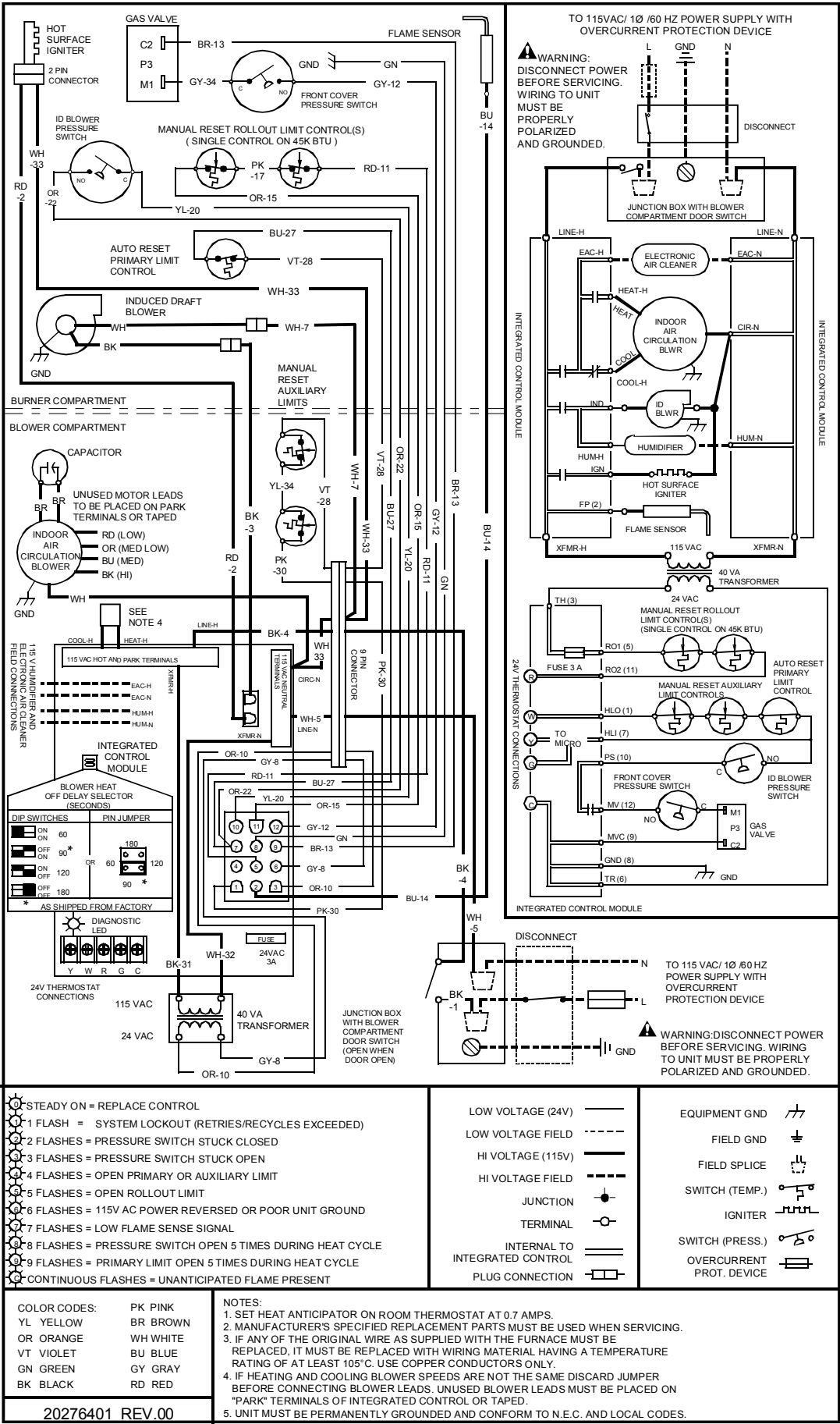
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WARNING

WIRING DIAGRAMS



TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

COLOR CODES:	
PK PINK	BR BROWN
YL YELLOW	WH WHITE
OR ORANGE	BU BLUE
VT VIOLET	GY GRAY
GN GREEN	BK BLACK
RD RED	

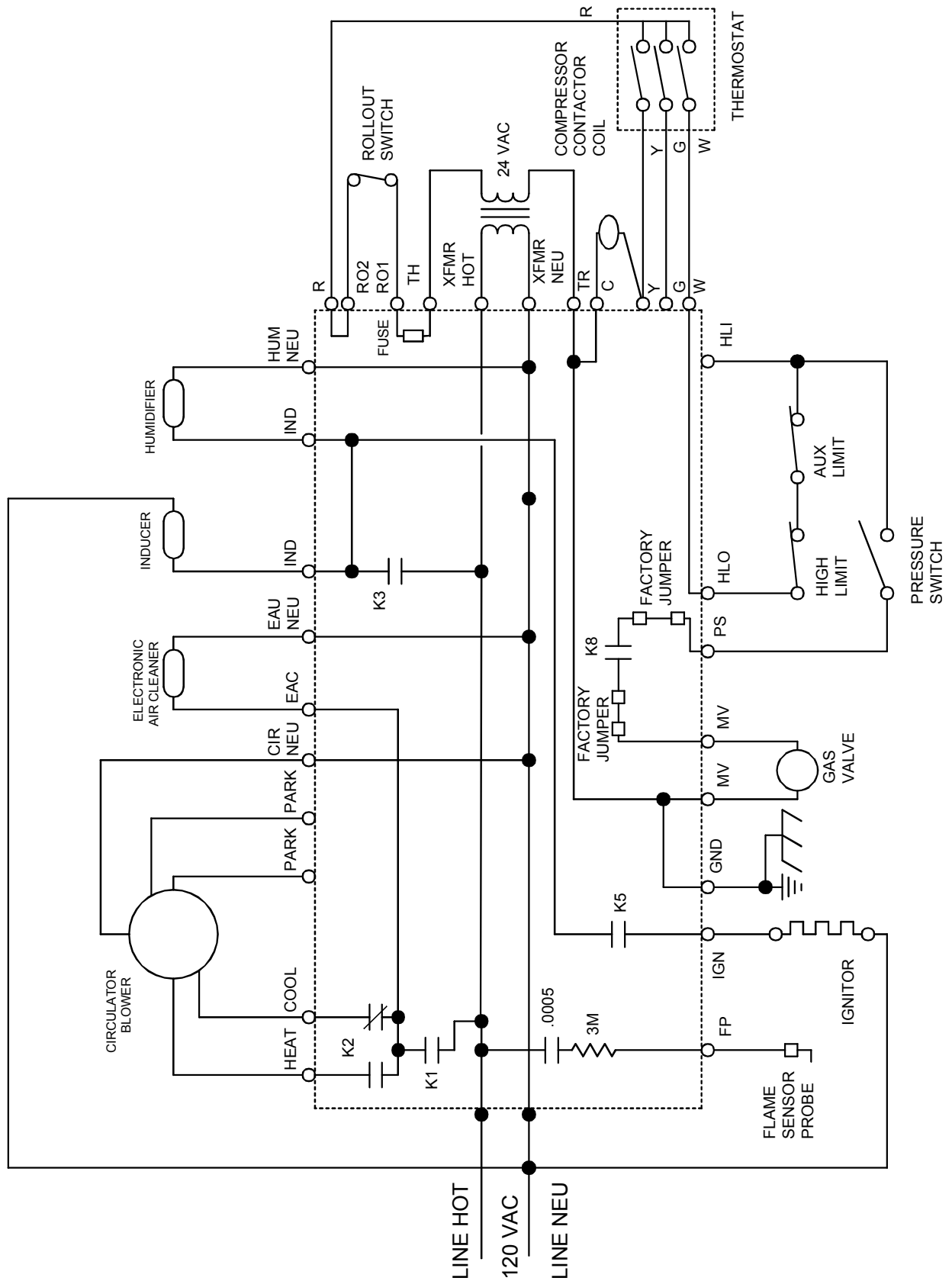
NOTES:

1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
2. MANUFACTURER'S SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
4. IF HEATING AND COOLING BLOWER SPEEDS ARE NOT THE SAME DISCARD JUMPER BEFORE CONNECTING BLOWER LEADS. UNUSED BLOWER LEADS MUST BE PLACED ON "PARK" TERMINALS OF INTEGRATED CONTROL OR TAPED.
5. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.

LOW VOLTAGE (24V)	—
LOW VOLTAGE FIELD	---
HI VOLTAGE (115V)	—
HI VOLTAGE FIELD	---
JUNCTION	•
TERMINAL	○
INTERNAL TO INTEGRATED CONTROL	—
PLUG CONNECTION	—

EQUIPMENT GND	⏏
FIELD GND	⏏
FIELD SPICE	⏏
SWITCH (TEMP.)	⏏
IGNITER	⏏
SWITCH (PRESS.)	⏏
OVERCURRENT PROT. DEVICE	⏏

SCHEMATICS



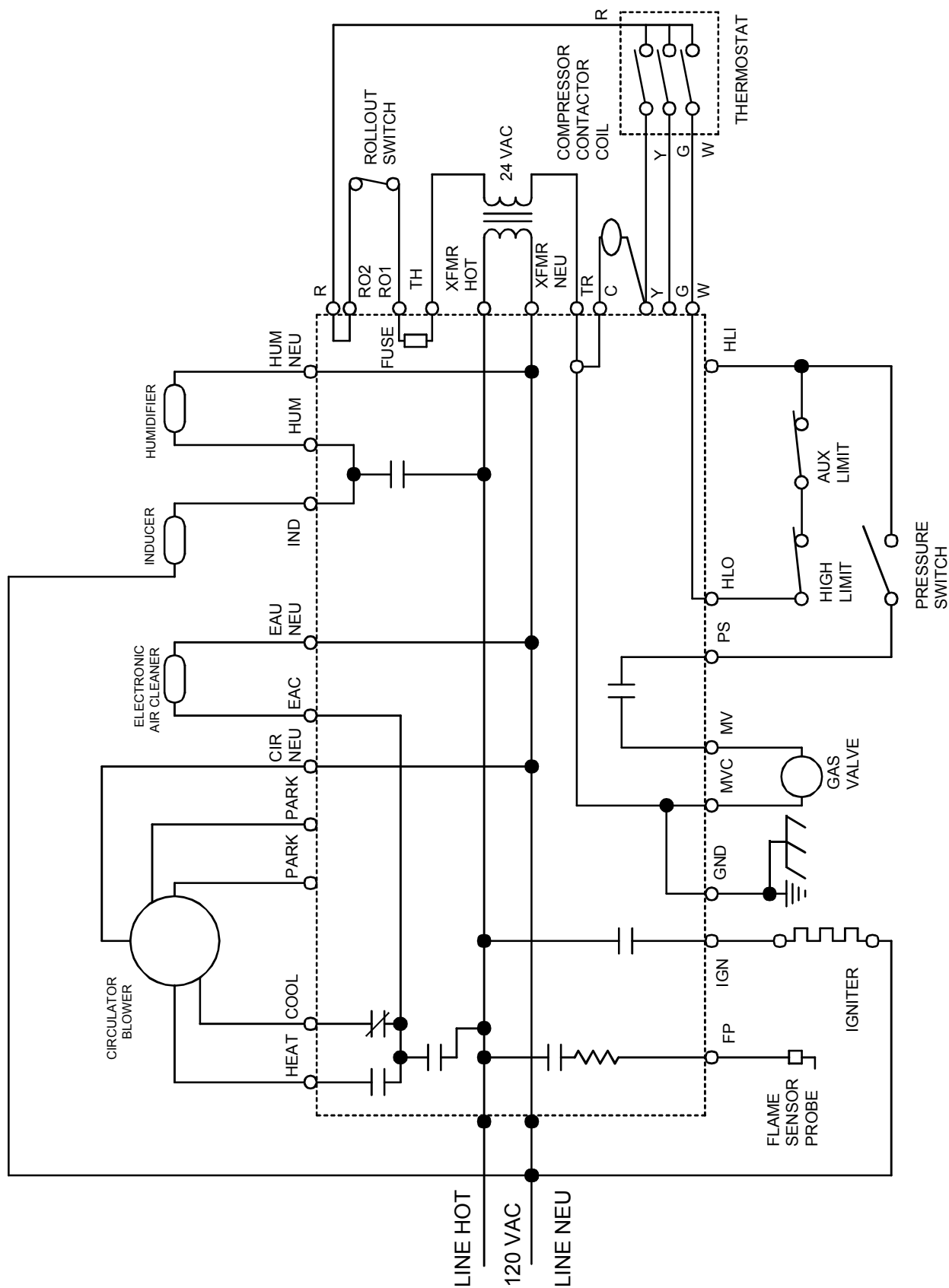
TYPICAL SCHEMATIC
GUCA OR GCCA AX MODEL FURNACES
WR 50A55-288 INTEGRATED IGNITION CONTROL

This schematic is for reference only. Not all wiring is as shown above, refer to the appropriate wiring diagram for the unit being serviced.

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SCHEMATICS



**TYPICAL SCHEMATIC
GCCA__AX__MODEL FURNACES
HSI-2 INTEGRATED IGNITION CONTROL**

This schematic is for reference only. Not all wiring is as shown above, refer to the appropriate wiring diagram for the unit being serviced.

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WARNING