

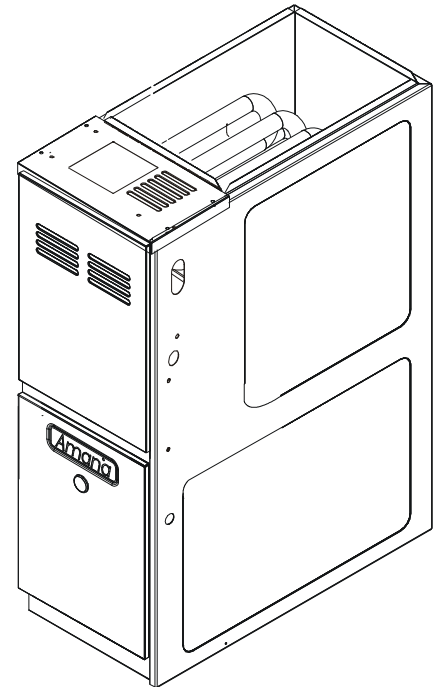
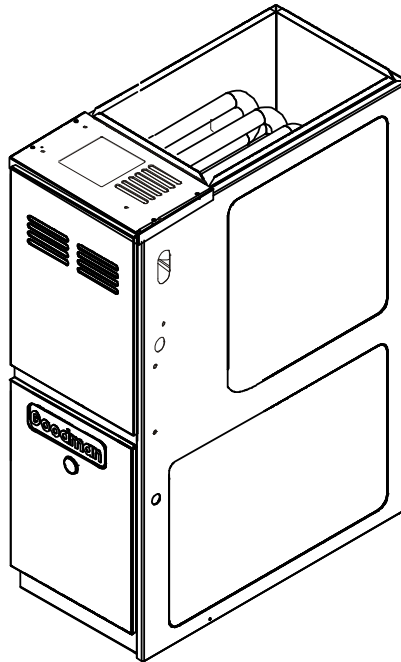
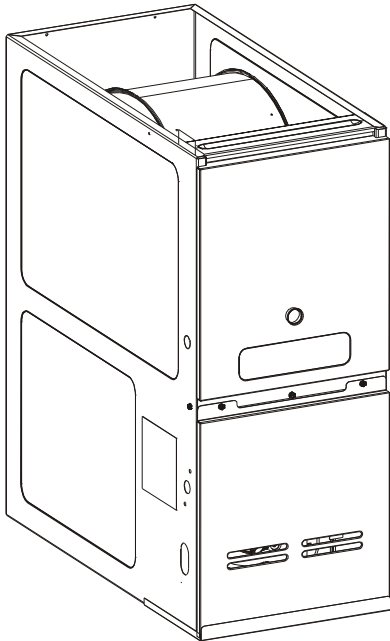
TECHNICAL MANUAL



ADVC8/AMVC8 GMVC8

80% Gas Furnace Units

- Refer to Service Manual RS6612008 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.
- Models listed on page 3.

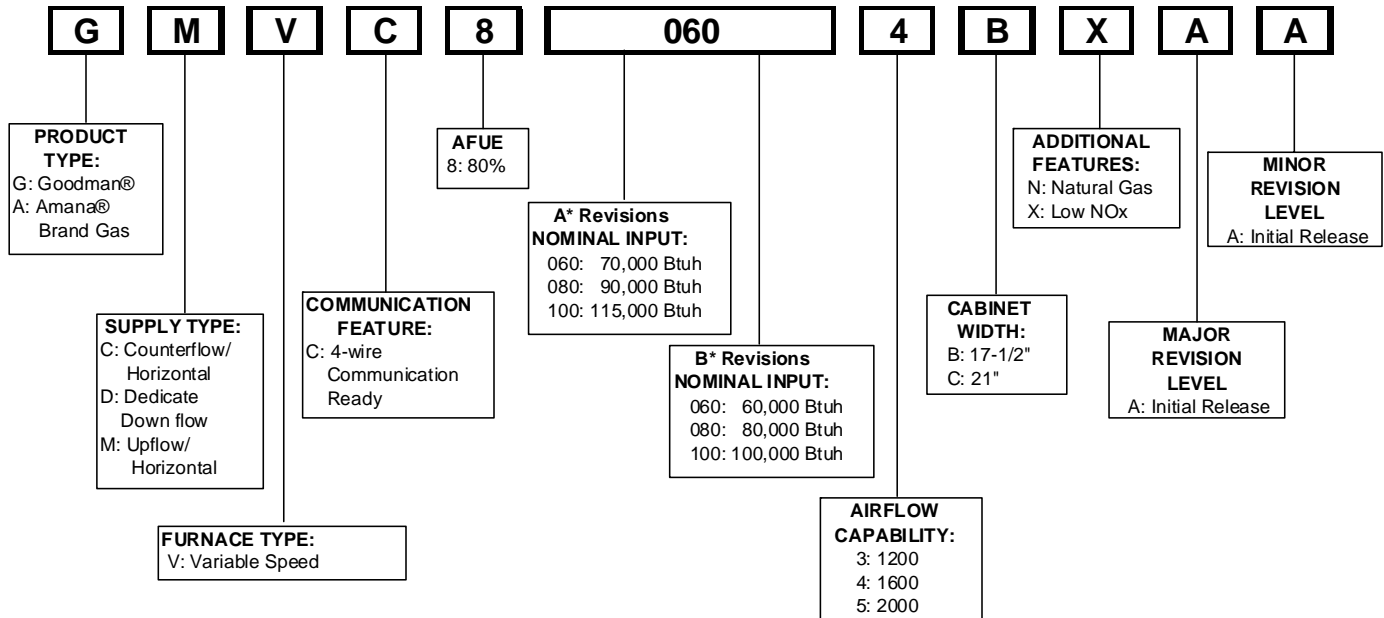


This manual is to be used by qualified, professionally trained HVAC technicians only. Goodman does not assume any responsibility for property damage or personal injury due to improper service procedures performed by an unqualified person.

RT6622016r1
September 2013

PRODUCT IDENTIFICATION

The model and manufacturing number are used for positive identification of component parts used in manufacturing. Please use these numbers when requesting service or parts information.



⚠ WARNING HIGH VOLTAGE! Disconnect ALL power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

⚠ WARNING Goodman will not be responsible for any injury or property damage arising from improper service or service procedures. If you install or perform service on this unit, you assume responsibility for any personal injury or property damage which may result. Many jurisdictions require a license to install or service heating and air conditioning equipment.

⚠ WARNING Installation and repair of this unit should be performed ONLY by individuals meeting the requirements of an "entry level technician", at a minimum, as specified by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). Attempting to install or repair this unit without such background may result in product damage, personal injury or death.

PRODUCT IDENTIFICATION

The model and manufacturing number are used for positive identification of component parts used in manufacturing. Please use these numbers when requesting service or parts information.

ADVC80603BNBB
ADVC80603BXBB
ADVC80805CNBB
ADVC80805CXBB
ADVC81005CNBB
ADVC81005CXBB

AMVC80604BNBB
AMVC80604BXBB
AMVC80805CNBB
AMVC80805CXBB
AMVC81005CNBB
AMVC81005CXBB

GMVC80604BNBB
GMVC80604BXBB
GMVC80805CNBB
GMVC80805CXBB
GMVC81005CNBB
GMVC81005CXBB

AMVC80604BNBC
AMVC80604BXBC
AMVC80805CNBC
AMVC80805CXBC
AMVC81005CNBC
AMVC81005CXBC

GMVC80604BNBC
GMVC80604BXBC
GMVC80805CNBC
GMVC80805CXBC
GMVC81005CNBC
GMVC81005CXBC

**These models available in Natural Gas and Low NOx.*

*Earlier revisions of these units can be found in RT6622015**



The United States Environmental Protection Agency ("EPA") has issued various regulations regarding the introduction and disposal of refrigerants introduced into this unit. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. These regulations may vary by jurisdiction. Should questions arise, contact your local EPA office.



Do not connect or use any device that is not design certified by Goodman for use with this unit. Serious property damage, personal injury, reduced unit performance and/or hazardous conditions may result from the use of such non-approved devices.



To prevent the risk of property damage, personal injury, or death, do not store combustible materials or use gasoline or other flammable liquids or vapors in the vicinity of this appliance.

PRODUCT DESIGN

General Operation

Models covered by this manual come with a new 4-wire communicating PCB. When paired with a compatible communicating indoor unit and a CTK0* communicating thermostat, these models can support 4-wire communication protocol and provide more troubleshooting information. These models are also backward compatible with the legacy thermostat wiring.

The ADVC8, AMVC8, and GMVC8 furnaces are equipped with an electronic ignition device 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 doors in place except for inspection and maintenance.

These furnaces are also equipped with a self-diagnosing electronic control module. In the event a furnace component is not operating properly, the control module's dual 7-segment LED's will display an alpha-numeric code, depending upon the problem encountered.

For information regarding diagnostics and LED codes refer to the Installation Instructions shipped with the furnace or the service manual .PDF available at www.goodmanmfg.com or www.amana-hac.com.

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.
- When suspending the furnace from rafters or joists, use 3/8" threaded rod and 2" x 2" x 1/8" 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.



WARNING

TO PREVENT POSSIBLE PERSONAL INJURY OR DEATH DUE TO ASPHYXIATION, THIS FURNACE MUST BE CATEGORY I VENTED. DO NOT VENT USING CATEGORY III VENTING.

Notes:

1. Category I Venting is venting at a non-positive pressure. A furnace vented as Category I is considered a fan-assisted appliance and the vent system does not have to be "gas tight."

NOTE: Gas furnaces with induced draft blowers draw products of combustion through a heat exchanger allowing, in some instances, common venting with natural draft appliances (i.e. water heaters).

All installations must be vented in accordance with National Fuel Gas Code NFPA 54/ANSI Z223.1 - latest edition. In Canada, the furnaces must be vented in accordance with the National Standard of Canada, CAN/CSA B149.1 and CAN/CSA B149.2 - latest editions and amendments.

NOTE: The vertical height of the Category I venting system must be at least as great as the horizontal length of the venting system.

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 propane gas and high altitude natural and propane gas operation are available. See High Altitude Derate chart for details.

Accessibility Clearances (Minimum)

Unobstructed front clearance of 24" **for servicing** is recommended.

MINIMUM CLEARANCE TO COMBUSTIBLE MATERIALS - INCHES

Sides	Rear	Front*	Vent		Top
			SW	B	
1	0	3	6	1	1

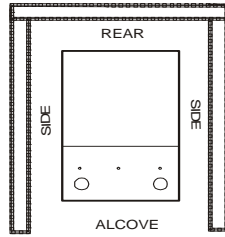
* 24" clearance for serviceability recommended.

** Single Wall Vent (SW) to be used only as a connector. Refer to the venting tables outlined in the Installation Manual for additional venting requirements.

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.

PRODUCT DESIGN

Alcove Illustration



24" 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

IMPORTANT NOTE: The furnace will naturally derate itself with altitude. Do not attempt to increase the firing rate by changing orifices or increasing the manifold pressure. This can cause poor combustion and equipment failure. High altitude installations may require both a pressure switch and an orifice change. These changes are necessary to compensate for the natural reduction in the density of both the gas fuel and the combustion air at higher altitude.

For installations above 7000 feet, please refer to your distributor for required kit(s).

Gas	Altitude	Kit	Orifice	Manifold Pressure		Pressure Switch Change
				High Stage	Low Stage	
Natural	0-7000	None	#45	3.5" w.c.	1.9" w.c.	None
Propane		LPM-06	#55	10.0" w.c.	6.0" w.c.	None

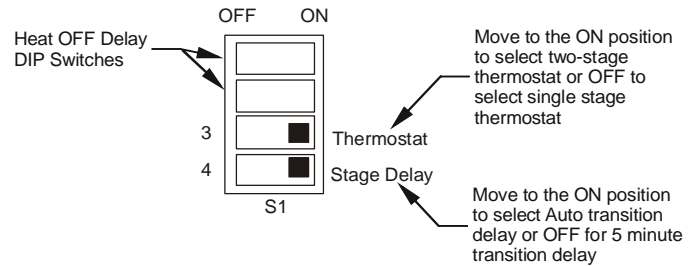
NOTE: In Canada, gas furnaces are only certified to 4500 feet.

Consult the furnace Specification Sheet for appropriate manufacturer's kits for propane gas and/or high altitude installations. The indicated kits must be used to insure safe and proper furnace operation. All conversions must be performed by a qualified installer, or service agency.

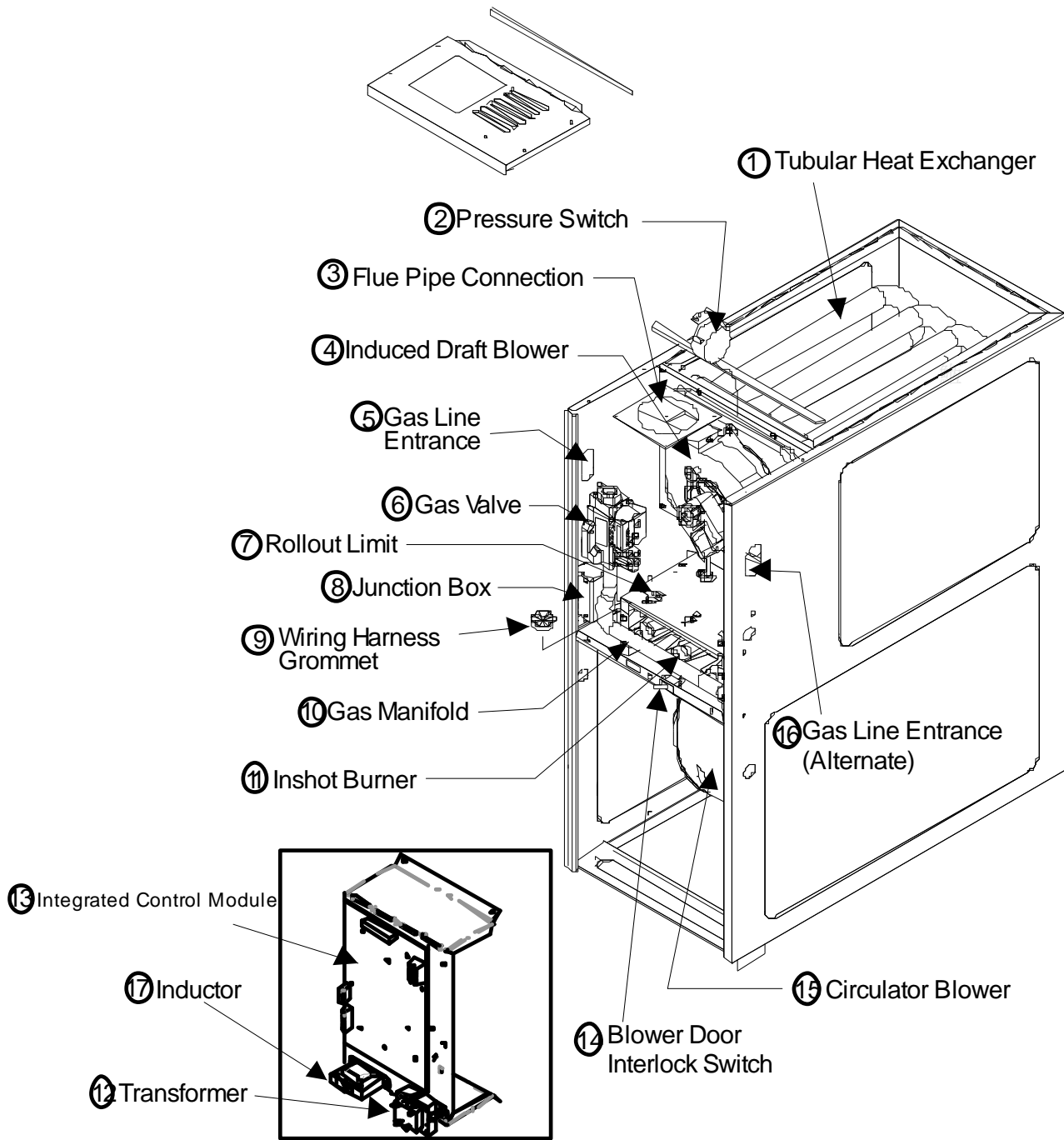
Single Stage Thermostat

A single-stage thermostat with only one heating stage may be used to control this furnace. The application of a single-stage thermostat offers a *timed* transition from low to high fire. The furnace will run on low stage for a fixed period of time before stepping up to high stage to satisfy the thermostat's call for heat. The delay period prior to stepping up can be set at either a fixed 5 minute time delay or a load based variable time between 1 and 12 minutes (AUTO mode). If the AUTO mode is selected, the control averages the cycle times of the previous three cycles and uses the average to determine the time to transition from low stage to high stage.

To use a single-stage thermostat, turn off power to the furnace, move the thermostat selection DIP switch to the OFF position. Set the desired transition time by setting the transition delay DIP switch to the desired ON/OFF position. Turn power back on. Refer to the following figure.



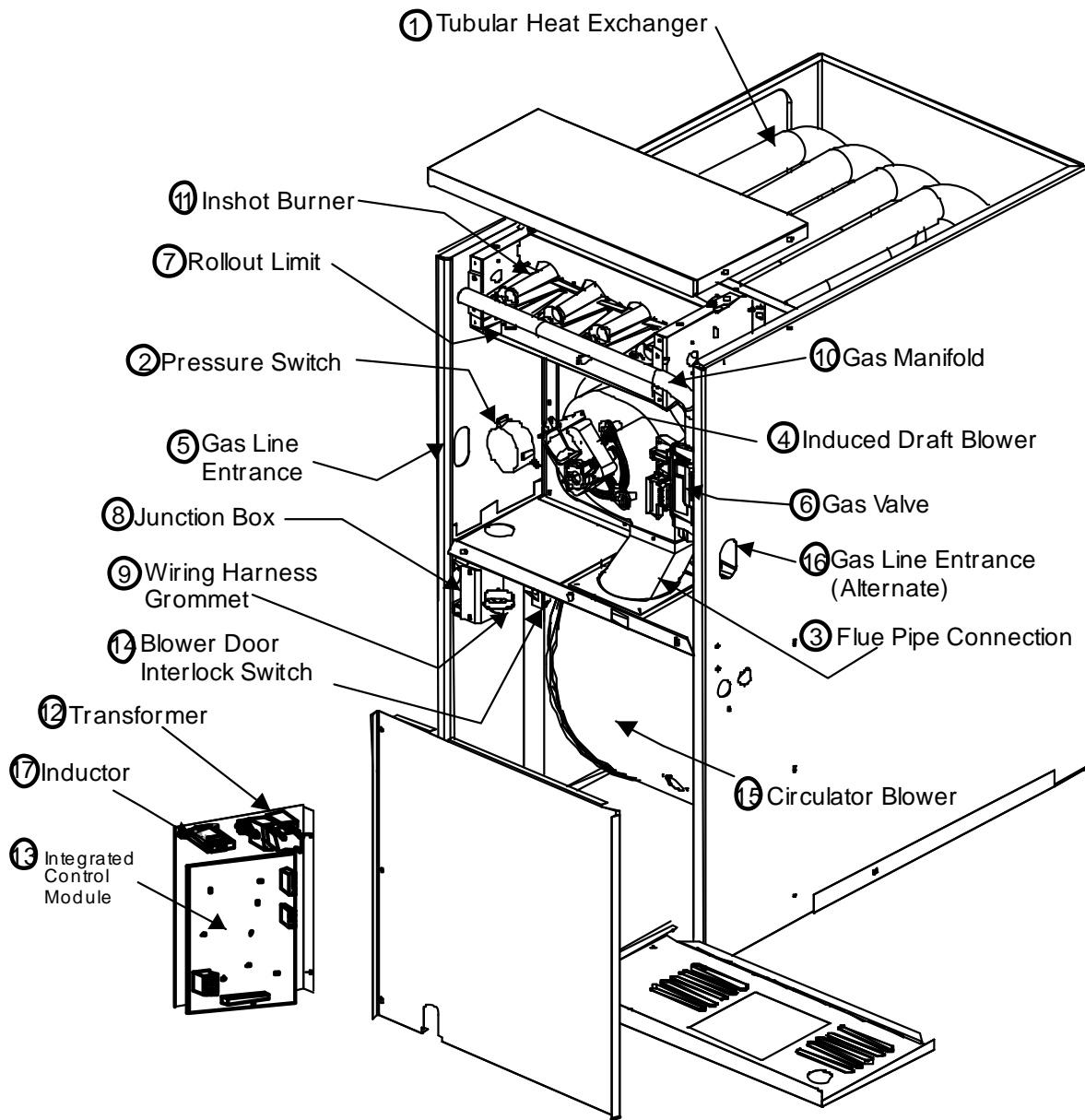
COMPONENT IDENTIFICATION



Upflow/Horizontal

- | | |
|--------------------------|----------------------------------|
| 1 Tubular Heat Exchanger | 10 Gas Manifold |
| 2 Pressure Switch | 11 Inshot Burner |
| 3 Flue Pipe Connection | 12 Transformer |
| 4 Induced Draft Blower | 13 Integrated Control Module |
| 5 Gas Line Entrance | 14 Blower Door Interlock Switch |
| 6 Gas Valve | 15 Circulator Blower |
| 7 Rollout Limit | 16 Gas Line Entrance (Alternate) |
| 8 Junction Box | 17 Inductor |
| 9 Wiring Harness Grommet | |

COMPONENT IDENTIFICATION

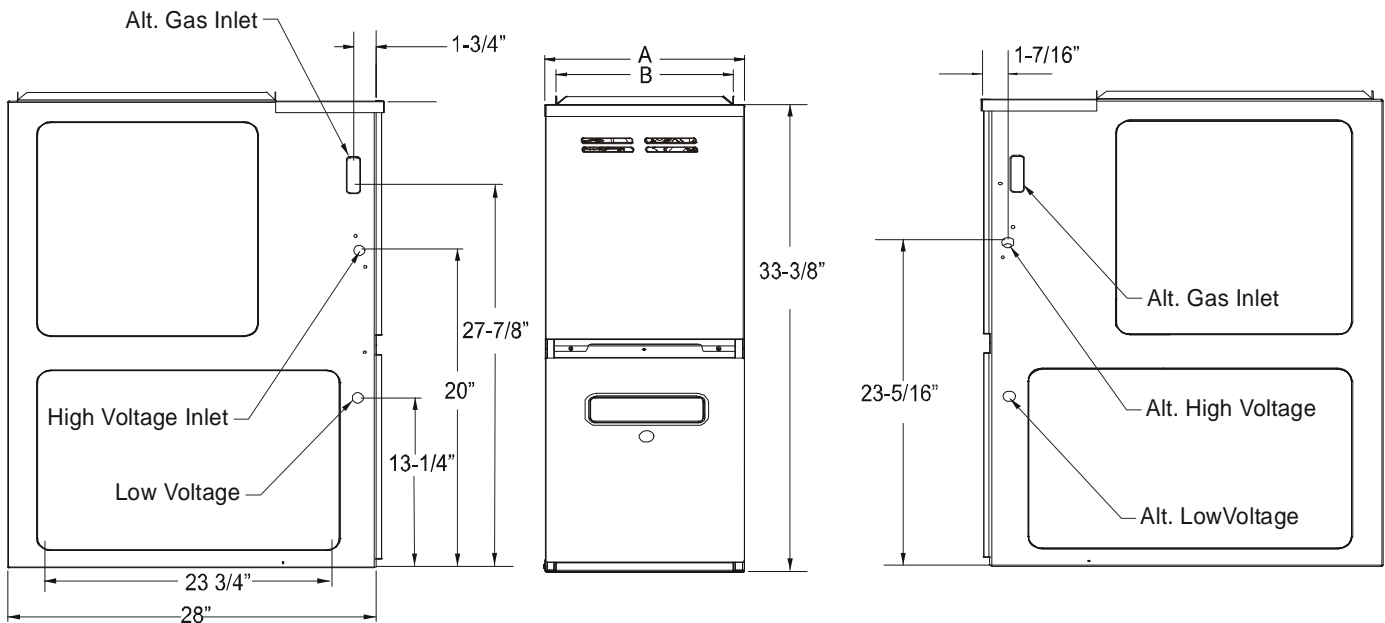


Dedicated Counterflow

- | | |
|--------------------------|----------------------------------|
| 1 Tubular Heat Exchanger | 10 Gas Manifold |
| 2 Pressure Switch | 11 Inshot Burner |
| 3 Flue Pipe Connection | 12 Transformer |
| 4 Induced Draft Blower | 13 Integrated Control Module |
| 5 Gas Line Entrance | 14 Blower Door Interlock Switch |
| 6 Gas Valve | 15 Circulator Blower |
| 7 Rollout Limit | 16 Gas Line Entrance (Alternate) |
| 8 Junction Box | 17 Inductor |
| 9 Wiring Harness Grommet | |

PRODUCT DIMENSIONS

MVC8_____X

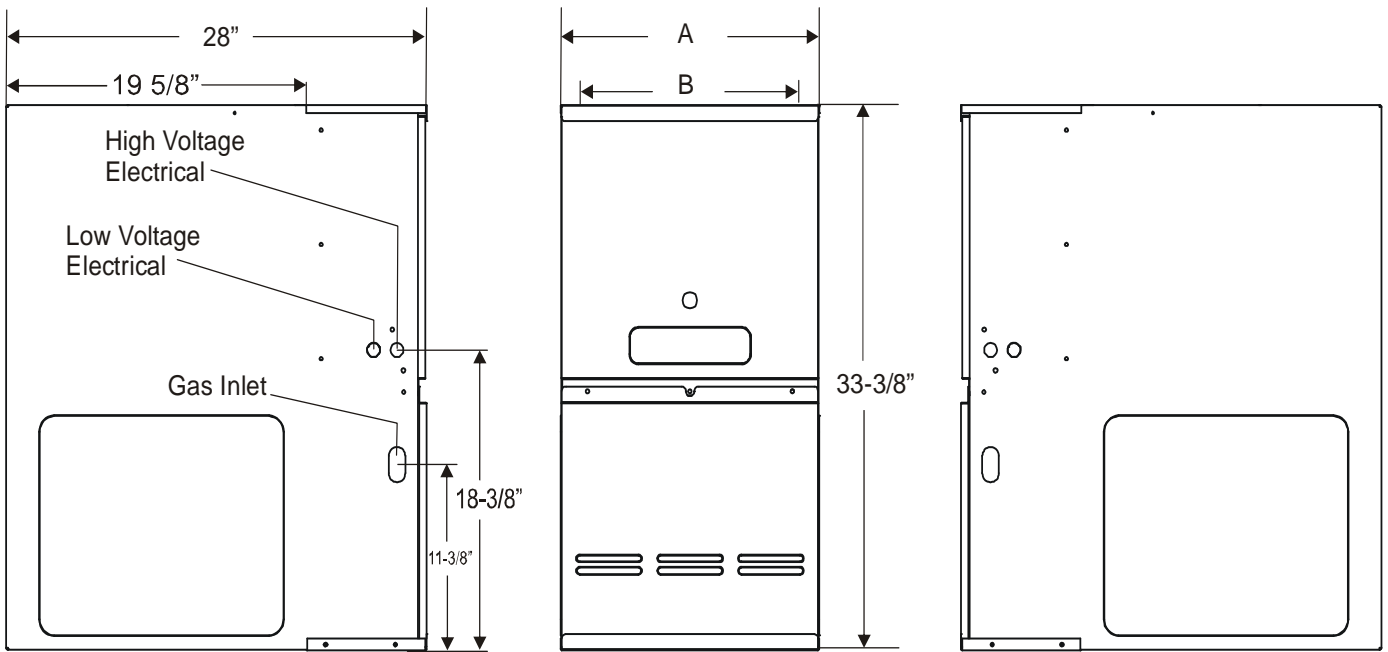


MODELS	A	B
AMVC80604B*** GMVC80604B***	17-1/2	16
AMVC80805C*** GMVC80805C*** AMVC81005C*** GMVC81005C***	21	19-1/2

All dimensions are in inches.

PRODUCT DIMENSIONS

ADVC8____X*



MODEL	A	B	NON-COMBUSTIBLE FLOOR BASE
ADVC80603B***	17 1/2	16	SBT17
ADVC80805C*** ADVC81005C***	21	19 1/2	SBT21

All dimensions are in inches.

PRESSURE SWITCH TRIP POINTS AND USAGE CHART SQUARE NOSE			
MODEL	TRIP POINT ID BLOWER PRESSURE SWITCH - LOW STAGE	TRIP POINT ID BLOWER PRESSURE SWITCH - HIGH STAGE	ID BLOWER PRESSURE SWITCH PART #
AMVC80604B*B* GMVC80604B*B*	-0.35	-0.65	0130F00049
AMVC80805C*B* GMVC80805C*B*	-0.35	-0.65	0130F00049
AMVC81005C*B* GMVC81005C*B*	-0.30	-0.55	B1370210
ADVC80603B*B*	-0.30	-0.55	B1370210
ADVC80805C*B*	-0.35	-0.65	0130F00049
ADVC81005C*B*	-0.35	-0.65	0130F00049

PRIMARY LIMIT				
Part Number	0130M00063	20162905	0130F00036	0130F00067
Open Setting (°F)	140	145	180	190
AMVC80604B*B* GMVC80604B*B*	1	---	---	---
AMVC80805C*B* GMVC80805C*B*	1	---	---	---
AMVC81005C*B* GMVC81005C*B*	---	1	---	---
ADVC80603B*B*	---	---	---	1
ADVC80805C*B*	---	---	---	1
ADVC81005C*B*	---	---	1	---

ROLLOUT LIMIT SWITCHES	
Part Number	10123529
Open Setting (°F)	300
AMVC80604B*B* GMVC80604B*B*	2
AMVC80805C*B* GMVC80805C*B*	2
AMVC81005C*B* GMVC81005C*B*	2
ADVC80603B*B*	1
ADVC80805C*B*	1
ADVC81005C*B*	1

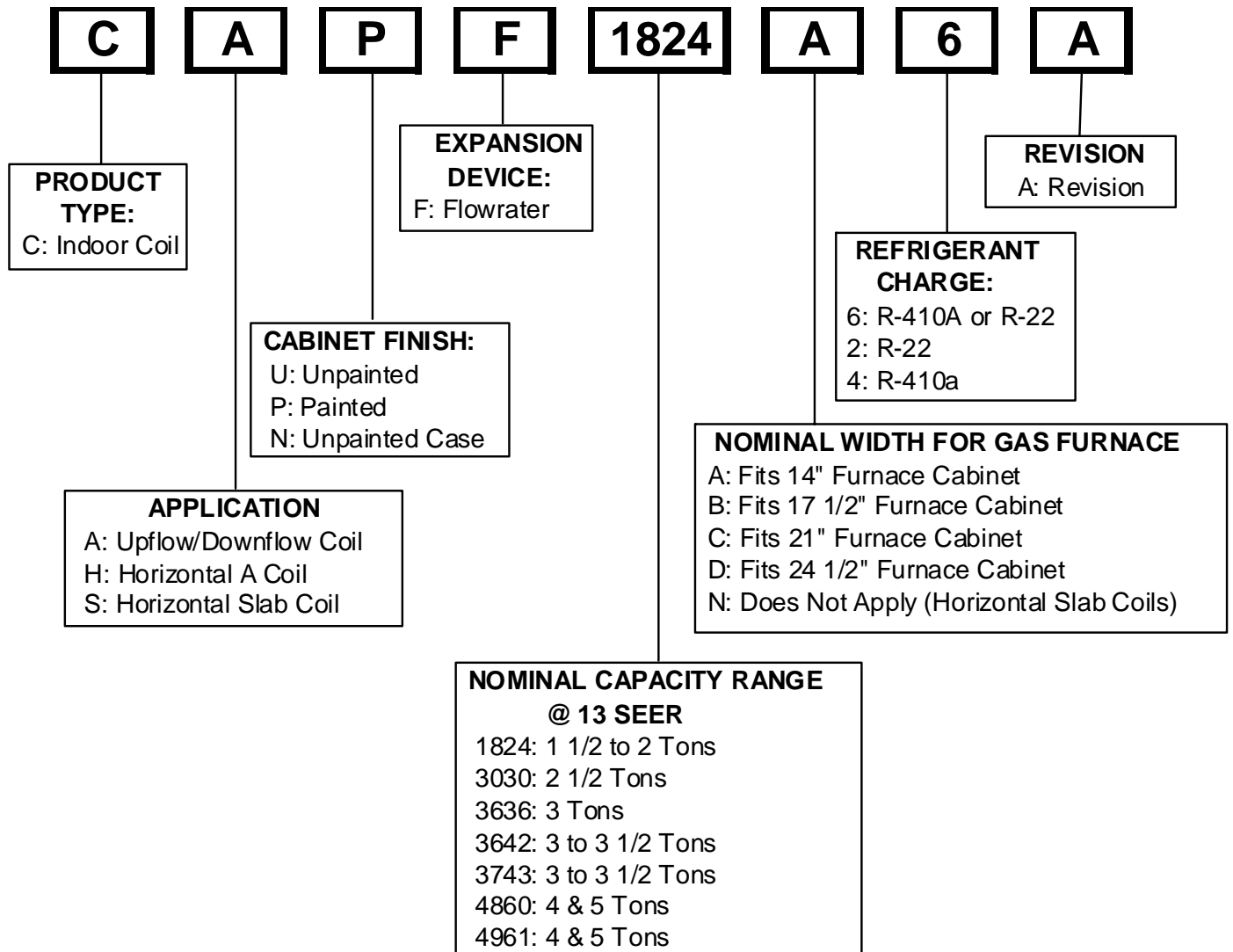
AUXILIARY LIMIT SWITCHES	
Part Number	0130F00038
Open Setting (°F)	120
AMVC80604B*B* GMVC80604B*B*	1
AMVC80805C*B* GMVC80805C*B*	1
AMVC81005C*B* GMVC81005C*B*	1
ADVC80603B*B*	1
ADVC80805C*B*	1
ADVC81005C*B*	1

PRODUCT DESIGN

Coil Matches:

A large array of Amana® brand coils are available for use with the ADVC8 furnaces, in downflow applications, and with AMVC8 and GMVC8 furnaces, in either upflow or horizontal applications. These coils are available in both cased and uncased models (with the option of a field installed TXV expansion device). These 80%+ furnaces match up with the existing Amana® brand coils as shown in the chart below.

Coil Matches (for Goodman® and Amana® Brand units using R22 and R-410A):



- All CAPF coils in B, C, & D widths have insulated blank off plates for use with one size smaller furnaces.
- All CAPF coils have a CAUF equivalent.
- All CHPF coils in B, C & D heights have an insulated Z bracket for use with one size smaller furnace.
- All proper coil combinations are subject to being ARI rated with a matched outdoor unit.

PRODUCT DESIGN

Thermostats:

ComfortNet™ CTK0* Thermostat Kit - Refer to the product marketing literature for a complete list of thermostats offered. -

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

Upflow Filters

Return air filters may be installed at the furnace side and/or bottom return openings. The furnace bottom return opening and side openings will accommodate the following filter sizes depending on cabinet size:

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

Bottom Return Opening		
Cabinet Width (in.)	Nominal Filter Size (in.)	Approx. Flow Area (in ²)
14	12 x 25 x 1	300
17-1/2	14 x 25 x 1	350
21	16 x 25 x 1	400
24-1/2	20 x 25 x 1	500

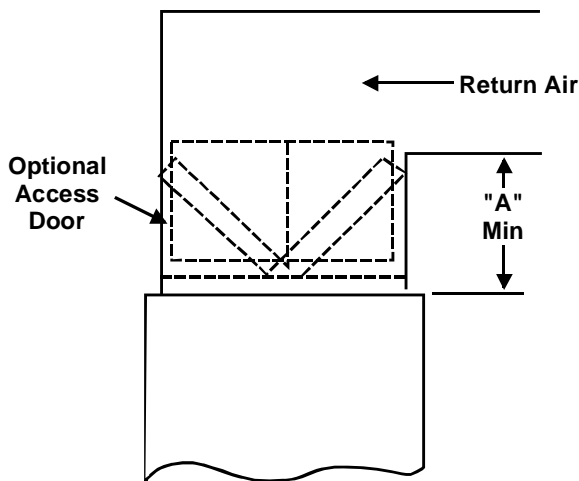
Refer to Minimum Filter Area tables to determine filter area requirement. **NOTE:** Filters can also be installed elsewhere in the duct system such as a central return.

MINIMUM FILTER SIZES	
FURNACE INPUT	FILTER SIZE
60K	610 in ²
80K	813 in ²
100K	889 in ²

DISPOSABLE NOMINAL 300 F.P.M. FACE VELOCITY

Downflow Filters

Return air filters may be installed at the at the downflow top return. A field supplied center filter support must be provided by the installer in order to use the top return. The furnace will accommodate the following downflow top return filter sizes depending on cabinet size:



Counterflow Top Return				
Cabinet Width	Filter Area (in ²)	Qty	Filter Size (in)	Dimension "A" (in)
17 1/2	600	2	15 X 20 X 1	14.2
21				13.0
24 1/2				11.3
17 1/2	800	2	20 X 20 X 1	19.7
21				18.8
24 1/2				17.7
17 1/2	1000	2	25 X 20 X 1	25.0
21				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

MVC8_____X

MODEL	A/GMVC80604B*B*	A/GMVC80805C*B*	A/GMVC81005C*B*
BTUH			
Natural Gas Input (High Fire)	60,000	80,000	100,000
Natural Gas Output (High Fire)	48,000	64,000	80,000
LP Gas Input (High Fire)	60,000	80,000	100,000
LP Gas Output (High Fire)	48,000	64,000	80,000
A.F.U.E.	80%	80%	80%
Rated External Static (" w.c.)	.20 - .50	.20 - .50	.20 - .50
Temperature Rise (°F)	20 - 50	20 - 50	25 - 55
Pressure Switch Trip Point- High Fire(" w.c.)	-0.65	0.65	-0.55
Pressure Switch Trip Point -Low Fire (" w.c.)	-0.35	-0.35	-0.3
Blower Wheel (D" x W")	10 x 8	10 x 10	10 x 10
Blower Horsepower	3/4	3/4	3/4
Blower Speeds	Refer to Blower CFM Charts		
Max CFM @ 0.5 E.S.P.			
Power Supply	115-60-1	115-60-1	115-60-1
Minimum Circuit Ampacity (MCA) ⁽¹⁾	12.1	12.1	12.1
Maximum Overcurrent Device ⁽²⁾	15.0	15.0	15.0
Transformer (VA)	40	40	40
Primary Limit Setting (°F)	140	140	145
Auxiliary Limit Setting (°F)	120	120	120
Rollout Limit Setting (°F)	300	300	300
Fan Delay On Heating	30 secs.	30 secs.	30 secs.
Off Heating ⁽³⁾	150 secs.	150 secs.	150 secs.
Fan Delay On Cooling	5 sec	5 sec	5 sec
Off Cooling	45 secs.	45 secs.	45 secs.
Gas Supply Pressure (Natural/Propane) ("w.c.)	7 / 11	7 / 11	7 / 11
Manifold Pressure (Natural/Propane) ("w.c.)	3.5 / 10	3.5 / 10	3.5 / 10
Orifice Size (Natural/Propane)	45 / 55	45 / 55	45 / 55
Number of Burners	3	4	5
Vent Connector Diameter (inches) ⁽⁴⁾	4	4	4
Shipping Weight (lbs.)	107	121	124

NOTE: Low fire input is 70% of high fire input

1. These furnaces are manufactured for natural gas operation. Optional Kits are available for conversion to propane gas operation.
2. For elevations above 2000 ft. the rating should be reduced by 4% for each 1000 ft. 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 manufactures method 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 x Circulator Blower Amps) + I.D. Blower Amps.

FURNACE SPECIFICATIONS

ADVC8_____X*

MODEL	ADVC80603B*B*	ADVC80805C*B*	ADVC81005C*B*
BTUH			
Natural Gas Input (High Fire)	60,000	80,000	100,000
Natural Gas Output (High Fire)	48,000	64,000	80,000
LP Gas Input (High Fire)	60,000	80,000	100,000
LP Gas Output (High Fire)	48,000	64,000	80,000
A.F.U.E.	80%	80%	80%
Rated External Static (" w.c.)	.20 - .50	.20 - .50	.20 - .50
Temperature Rise (°F)	30 - 60	35 - 65	35 - 65
Pressure Switch High Fire Trip Point -High Fire(" w.c.)	-0.55	-0.65	-0.65
Pressure Switch High Fire Trip Point -Low Fire(" w.c.)	-0.30	-0.35	-0.35
Blower Wheel (D" x W")	10 x 8	10 x 10	10 x 10
Blower Horsepower	3/4	3/4	3/4
Blower Speeds	Refer to Blower CFM Charts		
Max CFM @ 0.5 E.S.P.	Refer to Blower CFM Charts		
Power Supply	115-60-1	115-60-1	115-60-1
Minimum Circuit Ampacity (MCA) ⁽¹⁾	12.1	12.1	12.1
Maximum Overcurrent Device ⁽²⁾	15.0	15.0	15.0
Transformer (VA)	40	40	40
Primary Limit Setting (°F)	190	190	180
Auxiliary Limit Setting (°F)	120	120	120
Rollout Limit Setting (°F)	300	300	300
Fan Delay On Heating	30 secs.	30 secs.	30 secs.
Off Heating ⁽³⁾	150 secs.	150 secs.	150 secs.
Fan Delay On Cooling	5 sec	5 sec	5 sec
Off Cooling	45 secs.	45 secs.	45 secs.
Gas Supply Pressure (Natural/Propane) ("w.c.)	7 / 11	7 / 11	7 / 11
Manifold Pressure (Natural/Propane) ("w.c.)	3.5 / 10	3.5 / 10	3.5 / 10
Orifice Size (Natural/Propane)	45 / 55	45 / 55	45 / 55
Number of Burners	3	4	5
Vent Connector Diameter (inches) ⁽⁴⁾	4	4	4
Shipping Weight (lbs.)	105	124	130

NOTE: Low fire input is 70% of high fire input

1. These furnaces are manufactured for natural gas operation. Optional Kits are available for conversion to propane gas operation.
2. For elevations above 2000 ft. the rating should be reduced by 4% for each 1000 ft. 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 manufactures method 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 x Circulator Blower Amps) + I.D. Blower Amps.

BLOWER PERFORMANCE SPECIFICATIONS

*MVC80604B** Cooling/Heating Speed Charts

MVC80604B*
Cooling Speeds
(@ .1" - .8" w.c. ESP)

Tap	Adjust	High-Stage CFM	Low-Stage CFM
A	Minus 10%	540	351
	Minus 5%	570	371
	Normal	600	390
	Plus 5%	630	410
	Plus 10%	660	429
B	Minus 10%	720	468
	Minus 5%	760	494
	Normal	800	520
	Plus 5%	840	546
	Plus 10%	880	572
C	Minus 10%	990	644
	Minus 5%	1,045	679
	Normal	1,100	715
	Plus 5%	1,155	751
	Plus 10%	1,210	787
D	Minus 10%	1,260	819
	Minus 5%	1,330	865
	Normal	1,400	910
	Plus 5%	1,470	956
	Plus 10%	1,540	1,001

MVC80604B*
Heating Speeds
(@ .1" - .5" w.c. ESP; Rise Range: 20° - 50°F)

Tap	Adjust	High-Stage CFM	Low-Stage CFM	Rise
A	Minus 10%	1,125	788	46
	Minus 5%	1,188	831	43
	Normal	1,250	875	41
	Plus 5%	1,313	919	39
	Plus 10%	1,375	963	38
B	Minus 10%	1,215	851	43
	Minus 5%	1,283	898	40
	Normal	1,350	945	38
	Plus 5%	1,418	992	36
	Plus 10%	1,485	1,040	35
C	Minus 10%	1,305	914	40
	Minus 5%	1,378	964	38
	Normal	1,450	1,015	36
	Plus 5%	1,523	1,066	34
	Plus 10%	1,595	1,117	33
D	Minus 10%	1,395	977	37
	Minus 5%	1,473	1,031	35
	Normal	1,550	1,085	33
	Plus 5%	1,628	1,139	31
	Plus 10%	1,705	1,194	30

MVC80805C Cooling/Heating Speed Charts

MVC80805C*
Cooling Speeds
(@ .1" - .8" w.c. ESP)

Tap	Adjust	High-Stage CFM	Low-Stage CFM
A	Minus 10%	720	468
	Minus 5%	760	494
	Normal	800	520
	Plus 5%	840	546
	Plus 10%	880	572
B	Minus 10%	990	644
	Minus 5%	1,045	679
	Normal	1,100	715
	Plus 5%	1,155	751
	Plus 10%	1,210	787
C	Minus 10%	1,260	819
	Minus 5%	1,330	865
	Normal	1,400	910
	Plus 5%	1,470	956
	Plus 10%	1,540	1,001
D	Minus 10%	1,620	1,053
	Minus 5%	1,710	1,112
	Normal	1,800	1,170
	Plus 5%	1,890	1,229
	Plus 10%	1,980	1,287

MVC80805C*
Heating Speeds
(@ .1" - .5" w.c. ESP; Rise Range: 20° - 50°F)

Tap	Adjust	High-Stage CFM	Low-Stage CFM	Rise
A	Minus 10%	1,350	945	49
	Minus 5%	1,425	998	46
	Normal	1,500	1,050	44
	Plus 5%	1,575	1,103	42
	Plus 10%	1,650	1,155	40
B	Minus 10%	1,440	1,008	46
	Minus 5%	1,520	1,064	44
	Normal	1,600	1,120	42
	Plus 5%	1,680	1,176	40
	Plus 10%	1,760	1,232	38
C	Minus 10%	1,530	1,071	44
	Minus 5%	1,615	1,131	41
	Normal	1,700	1,190	39
	Plus 5%	1,785	1,250	37
	Plus 10%	1,870	1,309	36
D	Minus 10%	1,620	1,134	41
	Minus 5%	1,710	1,197	39
	Normal	1,800	1,260	37
	Plus 5%	1,890	1,323	35
	Plus 10%	1,980	1,386	34

1. All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
2. For most jobs, about 400 CFM per ton when cooling is desirable.
3. Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.
4. Continuous fans speeds of 25%, 50% or 75% of maximum cooling airflow are available with either a dip switch selection of by using a communicating thermostat.

BLOWER PERFORMANCE SPECIFICATIONS

*MVC80805C** Cooling/Heating Speed Charts

***MVC81005C**
Cooling Speeds
(@ .1" - .8" w.c. ESP)**

Tap	Adjust	High-Stage CFM	Low-Stage CFM
A	Minus 10%	720	468
	Minus 5%	760	494
	Normal	800	520
	Plus 5%	840	546
	Plus 10%	880	572
B	Minus 10%	990	644
	Minus 5%	1,045	679
	Normal	1,100	715
	Plus 5%	1,155	751
	Plus 10%	1,210	787
C	Minus 10%	1,260	819
	Minus 5%	1,330	865
	Normal	1,400	910
	Plus 5%	1,470	956
	Plus 10%	1,540	1,001
D	Minus 10%	1,620	1,053
	Minus 5%	1,710	1,112
	Normal	1,800	1,170
	Plus 5%	1,890	1,229
	Plus 10%	1,980	1,287

***MVC81005C**
Heating Speeds
(@ .1" - .5" w.c. ESP; Rise Range: 25° - 55°F)**

Tap	Adjust	High-Stage CFM	Low-Stage CFM	Rise
A	Minus 10%	1,553	1,089	55
	Minus 5%	1,639	1,150	52
	Normal	1,725	1,210	49
	Plus 5%	1,811	1,271	47
	Plus 10%	1,898	1,331	45
B	Minus 10%	1,575	1,103	54
	Minus 5%	1,663	1,164	51
	Normal	1,750	1,225	49
	Plus 5%	1,838	1,286	46
	Plus 10%	1,925	1,348	44
C	Minus 10%	1,598	1,121	53
	Minus 5%	1,686	1,183	50
	Normal	1,775	1,245	48
	Plus 5%	1,864	1,307	46
	Plus 10%	1,953	1,370	44
D	Minus 10%	1,620	1,134	53
	Minus 5%	1,710	1,197	50
	Normal	1,800	1,260	47
	Plus 5%	1,890	1,323	45
	Plus 10%	1,980	1,386	43

1. All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
2. For most jobs, about 400 CFM per ton when cooling is desirable.
3. Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.
4. Continuous fans speeds of 25%, 50% or 75% of maximum cooling airflow are available with either a dip switch selection or by using a communicating thermostat.

BLOWER PERFORMANCE SPECIFICATIONS

ADVC80603B** Cooling/Heating Speed Charts

ADVC80603B**
Cooling Speeds
(@ .1" - .8" w.c. ESP)

Tap	Adjust	High-Stage CFM	Low-Stage CFM
A	Minus 10%	540	351
	Minus 5%	570	371
	Normal	600	390
	Plus 5%	627	408
	Plus 10%	660	429
B	Minus 10%	720	468
	Minus 5%	760	494
	Normal	800	520
	Plus 5%	836	543
	Plus 10%	880	572
C	Minus 10%	900	585
	Minus 5%	950	618
	Normal	1,000	650
	Plus 5%	1,045	679
	Plus 10%	1,100	715
D	Minus 10%	1,080	702
	Minus 5%	1,140	741
	Normal	1,200	780
	Plus 5%	1,254	815
	Plus 10%	1,320	858

ADVC80603B**
Heating Speeds
(@ .1" - .5" w.c. ESP; Rise Range: 30° - 60°F)

Tap	Adjust	High-Stage CFM	Low-Stage CFM	Rise (°F)
A	Minus 10%	945	660	55
	Minus 5%	998	698	52
	Normal	1,050	735	49
	Plus 5%	1,097	770	47
	Plus 10%	1,155	810	45
B	Minus 10%	1,035	725	50
	Minus 5%	1,093	765	47
	Normal	1,150	805	45
	Plus 5%	1,202	841	43
	Plus 10%	1,265	885	41
C	Minus 10%	1,125	790	46
	Minus 5%	1,188	831	43
	Normal	1,250	875	41
	Plus 5%	1,306	912	39
	Plus 10%	1,375	960	38
D	Minus 10%	1,215	850	43
	Minus 5%	1,283	898	40
	Normal	1,350	945	38
	Plus 5%	1,411	988	36
	Plus 10%	1,485	1,040	35

ADVC80805C** Cooling/Heating Speed Charts

ADVC80805C**
Cooling Speeds
(@ .1" - .8" w.c. ESP)

Tap	Adjust	High-Stage CFM	Low-Stage CFM
A	Minus 10%	720	468
	Minus 5%	760	494
	Normal	800	520
	Plus 5%	836	543
	Plus 10%	880	572
B	Minus 10%	990	644
	Minus 5%	1,045	679
	Normal	1,100	715
	Plus 5%	1,150	748
	Plus 10%	1,210	787
C	Minus 10%	1,260	819
	Minus 5%	1,330	865
	Normal	1,400	910
	Plus 5%	1,463	951
	Plus 10%	1,540	1,001
D	Minus 10%	1,620	1,053
	Minus 5%	1,710	1,112
	Normal	1,800	1,170
	Plus 5%	1,881	1,223
	Plus 10%	1,980	1,287

ADVC80805C*B
Heating Speeds

(@ .1" - .5" w.c. ESP; Rise Range: 35° - 65°F)

Tap	Adjust	High-Stage CFM	Low-Stage CFM	Rise (°F)
A	Minus 10%	1,215	850	55
	Minus 5%	1,283	898	52
	Normal	1,350	945	49
	Plus 5%	1,411	988	47
	Plus 10%	1,485	1,040	45
B	Minus 10%	1,305	915	51
	Minus 5%	1,378	964	48
	Normal	1,450	1,015	46
	Plus 5%	1,515	1,059	44
	Plus 10%	1,595	1,115	42
C	Minus 10%	1,395	975	48
	Minus 5%	1,473	1,031	45
	Normal	1,550	1,085	43
	Plus 5%	1,620	1,135	41
	Plus 10%	1,705	1,195	39
D	Minus 10%	1,485	1,040	45
	Minus 5%	1,568	1,097	42
	Normal	1,650	1,155	40
	Plus 5%	1,724	1,207	38
	Plus 10%	1,815	1,270	37

1. All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
2. For most jobs, about 400 CFM per ton when cooling is desirable.
3. Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.
4. Continuous fans speeds of 25%, 50% or 75% of maximum cooling airflow are available with either a dip switch selection of by using a communicating thermostat.

BLOWER PERFORMANCE SPECIFICATIONS

ADVC81005C** Cooling/Heating Speed Charts

ADVC81005C
Cooling Speeds
(@ .1" - .8" w.c. ESP)**

Tap	Adjust	High-Stage CFM	Low-Stage CFM
A	Minus 10%	765	497
	Minus 5%	808	525
	Normal	850	553
	Plus 5%	888	578
	Plus 10%	935	608
B	Minus 10%	1,035	673
	Minus 5%	1,093	711
	Normal	1,150	748
	Plus 5%	1,202	781
	Plus 10%	1,265	822
C	Minus 10%	1,305	848
	Minus 5%	1,378	896
	Normal	1,450	943
	Plus 5%	1,515	985
	Plus 10%	1,595	1,037
D	Minus 10%	1,665	1,082
	Minus 5%	1,758	1,143
	Normal	1,850	1,203
	Plus 5%	1,900	1,257
	Plus 10%	2,000	1,323

ADVC81005C
Heating Speeds
(Rise Range: 35° - 65°F)**

Tap	Adjust	High-Stage CFM	Low-Stage CFM	Rise (°F)
A	Minus 10%	1,395	975	61
	Minus 5%	1,473	1,031	58
	Normal	1,550	1,085	55
	Plus 5%	1,620	1,135	52
	Plus 10%	1,705	1,195	50
B	Minus 10%	1,485	1,040	57
	Minus 5%	1,568	1,188	54
	Normal	1,650	1,155	52
	Plus 5%	1,188	1,188	49
	Plus 10%	1,815	1,270	47
C	Minus 10%	1,575	1,105	54
	Minus 5%	1,188	1,188	51
	Normal	1,750	1,225	49
	Plus 5%	1,188	1,188	46
	Plus 10%	1,925	1,350	44
D	Minus 10%	1,620	1,135	53
	Minus 5%	1,188	1,188	50
	Normal	1,800	1,260	47
	Plus 5%	1,188	1,188	45
	Plus 10%	1,980	1,385	43

1. All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.
2. For most jobs, about 400 CFM per ton when cooling is desirable.
3. Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.
4. Continuous fans speeds of 25%, 50% or 75% of maximum cooling airflow are available with either a dip switch selection of by using a communicating thermostat.

BLOWER PERFORMANCE SPECIFICATIONS

Circulator Blower Speed Adjustment Switches

Switch Bank	Purpose	Function	Dip Switch			
			1	2	3	4
S1	Heating Off Delay	90	Off	Off		
		120	On	Off		
		150	Off	On		
		180	On	On		
	Thermostat Setup	2 Stage Stat			On	On
		2 Stage Stat			On	Off
		1 Stg Stat 5 min delay			Off	Off
		1 Stg Stat auto delay			Off	On
S3	Cooling Airflow	A	Off	Off		
		B	On	Off		
		C	Off	On		
		D	On	On		
	Trim	Add 5%			Off	Off
		Minus 5%			On	Off
		Add 10%			Off	On
		Minus 10%			On	On
S4	Ramping Profile	A	Off	Off		
		B	On	Off		
		C	Off	On		
		D	On	On		
	Heating Airflow	A			Off	Off
		B			On	Off
		C			Off	On
		D			On	On
S5	Dehum	Disabled	Off			
		Enabled	On			
	Trim	Disabled		Off		
		Enabled		On		
	Continuous Fan	25%			Off	Off
		50%			On	Off
		75%			Off	On
		100%			On	On

Note: There are dual 7-segment LED's adjacent to the selection dipswitches. The airflow (rounded to the nearest 100 CFM) is displayed on the dual 7-segment LED's. The CFM display alternates with the operating mode.

Example:

If the airflow demand is 1230 CFM, the LED's will display 12. If the airflow demand is 1275 CFM, the LED's will display 13.

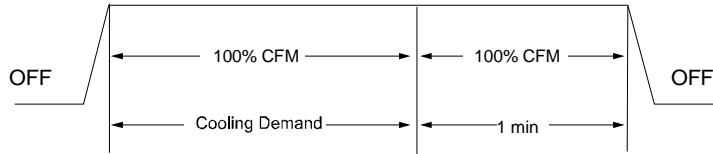
Note: The optional usage of a dehumidistat allows the furnace's circulator blower to operate at a slightly lower speed (85% of desired speed) during a combined thermostat call for cooling and dehumidistat call for dehumidification. This can be done through an independent dehumidistat or through a thermostat's DEHUM terminal (if available). This lower blower speed enhances dehumidification of the conditioned air as it passes through the AC coil. For proper function, a dehumidistat applied to this furnace must operate on 24 VAC and utilize a switch which *opens on humidity rise*.

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4. Continuous fans speeds of 25%, 50% or 75% of maximum cooling airflow are available with either a dip switch selection or by using a communicating thermostat.

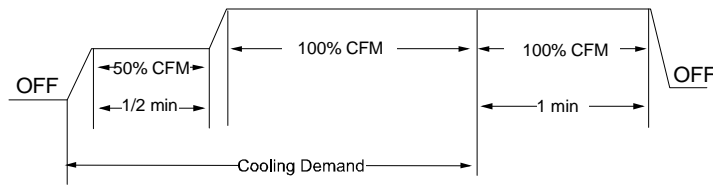
BLOWER PERFORMANCE SPECIFICATIONS

Ramping Profile

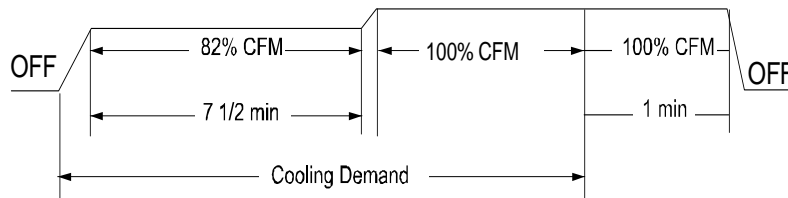
Note: The multi-speed circulator blower also offers several custom ON/OFF ramping profiles. These profiles may be used to enhance cooling performance and increase comfort level. The ramping profiles are selected using DIP switches 5 and 6. Refer to the following figure for switch positions and their corresponding taps. Refer to the bullet points below for a description of each ramping profile. Verify CFM by noting the number displayed on the dual 7-segment LED display.



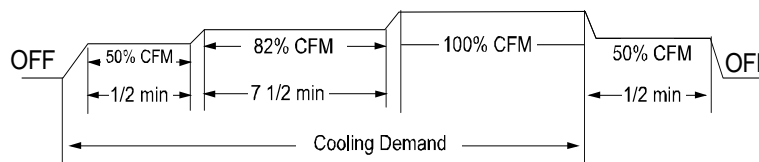
Profile A: provides only an OFF delay of one (1) minute at 100% of the cooling demand airflow.



Profile B: ramps up to full cooling demand airflow by first stepping up to 50% of the full demand for 30 seconds. The motor then ramps to 100% of the required airflow. A one (1) minute OFF delay at 100% of the cooling airflow is provided.



Profile C: ramps up to 82% of the full cooling demand airflow and operates there for approximately 7 1/2 minutes. The motor then steps up to the full demand airflow. Profile C also has a one (1) minute 100% OFF delay.

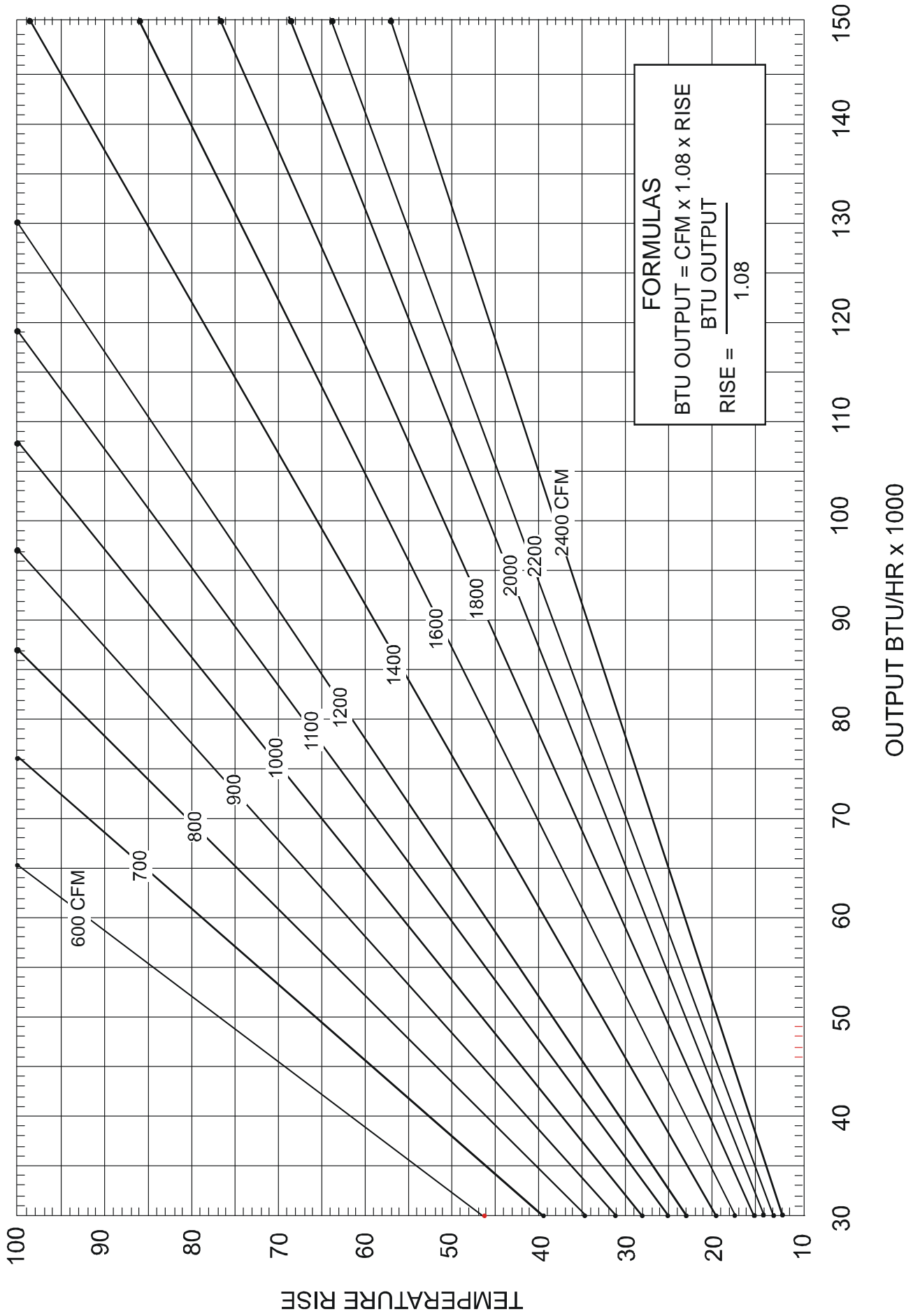


Profile D: ramps up to 50% of the demand for 1/2 minute, then ramps to 82% of the full cooling demand airflow and operates there for approximately 7 1/2 minutes. The motor then steps up to the full demand airflow. Profile D has a 1/2 minute at 50% airflow OFF delay.

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2. For most jobs, about 400 CFM per ton when cooling is desirable.
3. Do not operate above .5" w.c. ESP in heating mode. Operating CFM between .5" and .8" w.c. is tabulated for cooling purposes only.
4. Continuous fans speeds of 25%, 50% or 75% of maximum cooling airflow are available with either a dip switch selection or by using a communicating thermostat.

PERFORMANCE

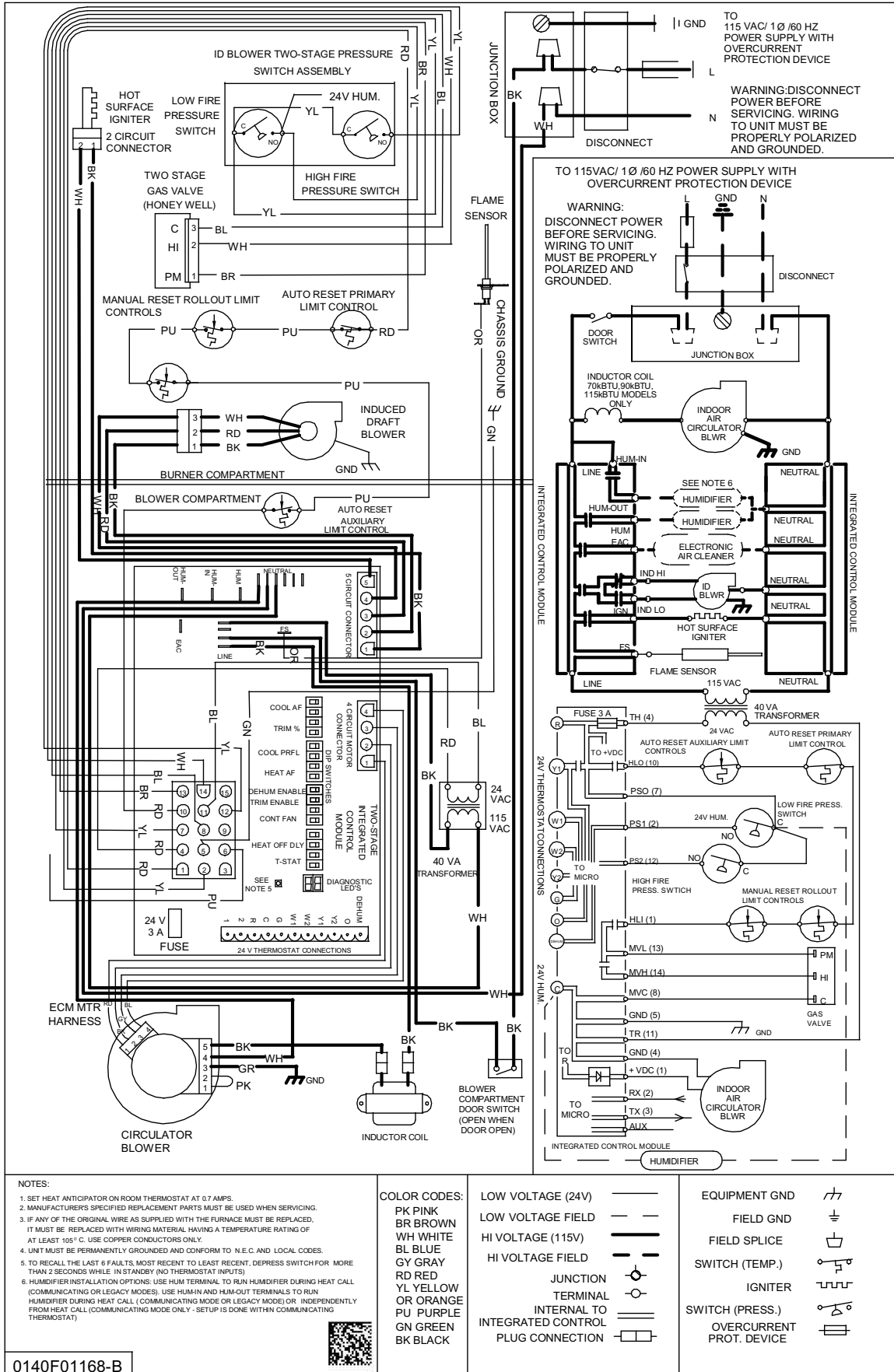
BTU OUTPUT vs TEMPERATURE RISE CHART



WIRING DIAGRAMS

*MVC8, *DVC8 WIRING DIAGRAM

WARNING
 HIGH VOLTAGE!
 DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



- NOTES:**
1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
 2. MANUFACTURERS 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. UNIT MUST BE PERMANENTLY GROUNDED AND CONFORM TO N.E.C. AND LOCAL CODES.
 5. TO RECALL THE LAST 6 FAULTS, MOST RECENT TO LEAST RECENT, DEPRESS SWITCH FOR MORE THAN 2 SECONDS WHILE IN STANDBY (NO THERMOSTAT INPUTS).
 6. HUMIDIFIER INSTALLATION OPTIONS: USE HUM TERMINAL TO RUN HUMIDIFIER DURING HEAT CALL (COMMUNICATING OR LEGACY MODES). USE HUM-IN AND HUM-OUT TERMINALS TO RUN HUMIDIFIER DURING HEAT CALL (COMMUNICATING MODE OR LEGACY MODE) OR INDEPENDENTLY FROM HEAT CALL (COMMUNICATING MODE ONLY - SETUP IS DONE WITH COMMUNICATING THERMOSTAT)

COLOR CODES:

PK PINK	LOW VOLTAGE (24V)	—
BR BROWN	LOW VOLTAGE FIELD	—
WH WHITE	HI VOLTAGE (115V)	—
BL BLUE	HI VOLTAGE FIELD	—
GY GRAY	JUNCTION	⊙
RD RED	TERMINAL	○
YL YELLOW	INTERNAL TO INTEGRATED CONTROL	—
OR ORANGE	PLUG CONNECTION	—
PU PURPLE		
GN GREEN		
BK BLACK		


EQUIPMENT GND	⎓
FIELD GND	⊥
FIELD SPLICE	⊕
SWITCH (TEMP.)	⊕
IGNITER	⊕
SWITCH (PRESS.)	⊕
OVERCURRENT PROT. DEVICE	⊕

0140F01168-B



Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

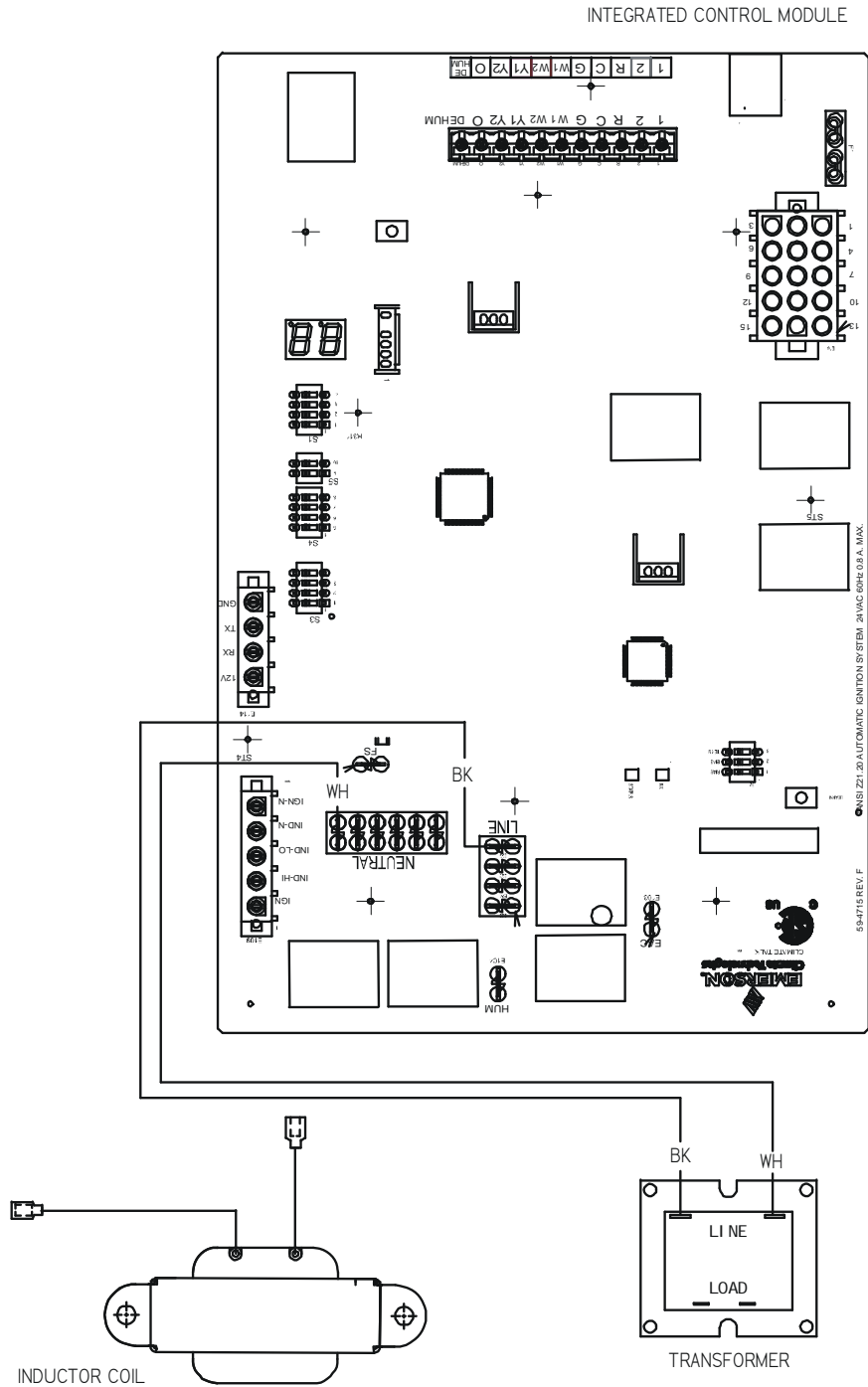
SCHEMATICS



WARNING

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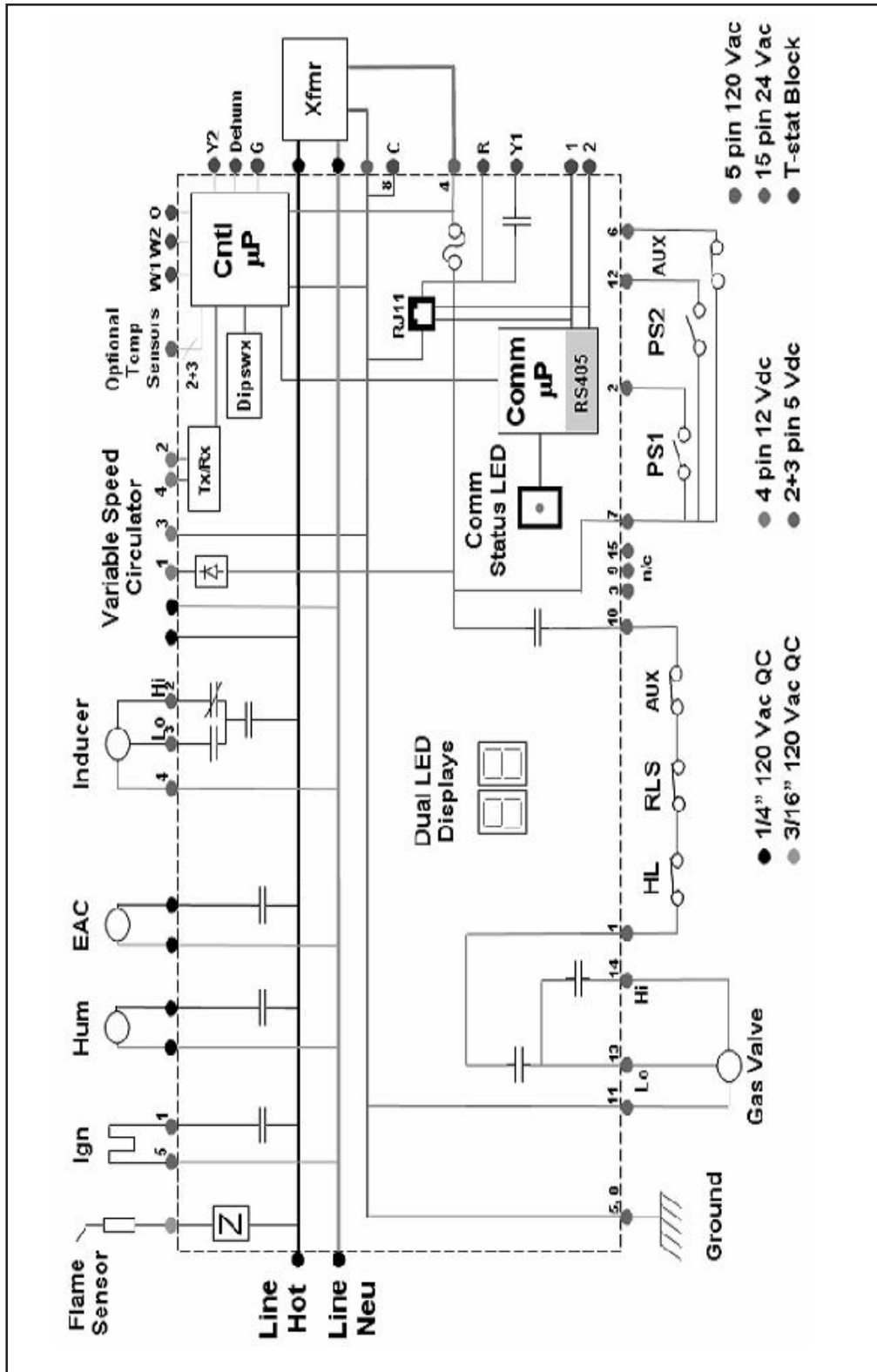
CONTROL ASSEMBLY SCHEMATIC
ADV8/AMVC8/GMVC8_____X* MODEL FURNACES
 This schematic is for reference only. Not all wiring is as shown above,
 refer to the appropriate wiring diagram for the unit being serviced.

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

SCHEMATICS

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



TYPICAL SCHEMATIC
ADV8/AMVC8/GMVC8 X* MODEL FURNACES
PCBKF103

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

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.