



# ARVM97 / ADVM97

HEATING INPUT: 60,000–120,000 BTU/H



## MODULATING, VARIABLE-SPEED ECM GAS FURNACE 97% AFUE

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R32



### Standard Features

- Integrated communicating ComfortBridge™ Technology
- Commissioning and diagnostics via on board Bluetooth with the CoolCloud phone and tablet application
- Heavy-duty stainless-steel tubular heat exchanger
- Stainless-steel secondary heat exchanger
- Self-calibrating modulating gas valve auto-configure for each installation
- Durable Silicon Nitride igniter
- Quiet variable-speed induced draft blower
- Self-diagnostic control board with constant memory fault code history output to a dual 7-segment display
- Color-coded low-voltage terminals with provisions for electronic air cleaner
- Efficient and quiet variable-speed airflow system gently ramps up or down according to heating or cooling demand
- Multiple continuous fan speed options offer quiet air circulation
- Auto-Comfort and enhanced dehumidification modes available
- All models comply with California 40 ng/J Low NOx emissions standard
- Can not be installed in California's South Coast Air Quality Management District (SCAQMD) and San Joaquin Valley Air Pollution Control District (SJVAPCD).



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### Cabinet Features

- Designed for multi-position installation: ARVM97: upflow, horizontal left or right  
ADVM97: downflow, horizontal left or right
- Certified for direct vent (2-pipe) or non-direct vent (1-pipe)
- Easy-to-install top venting with optional side venting
- Convenient left or right connection for gas and electrical service
- Cabinet air leakage (QLeak)  $\leq$  2%
- Heavy-gauge steel cabinet with durable finish
- Fully insulated heat exchanger and blower section
- Airtight solid bottom or side return with easy-cut tabs for effortless removal in bottom air-inlet applications

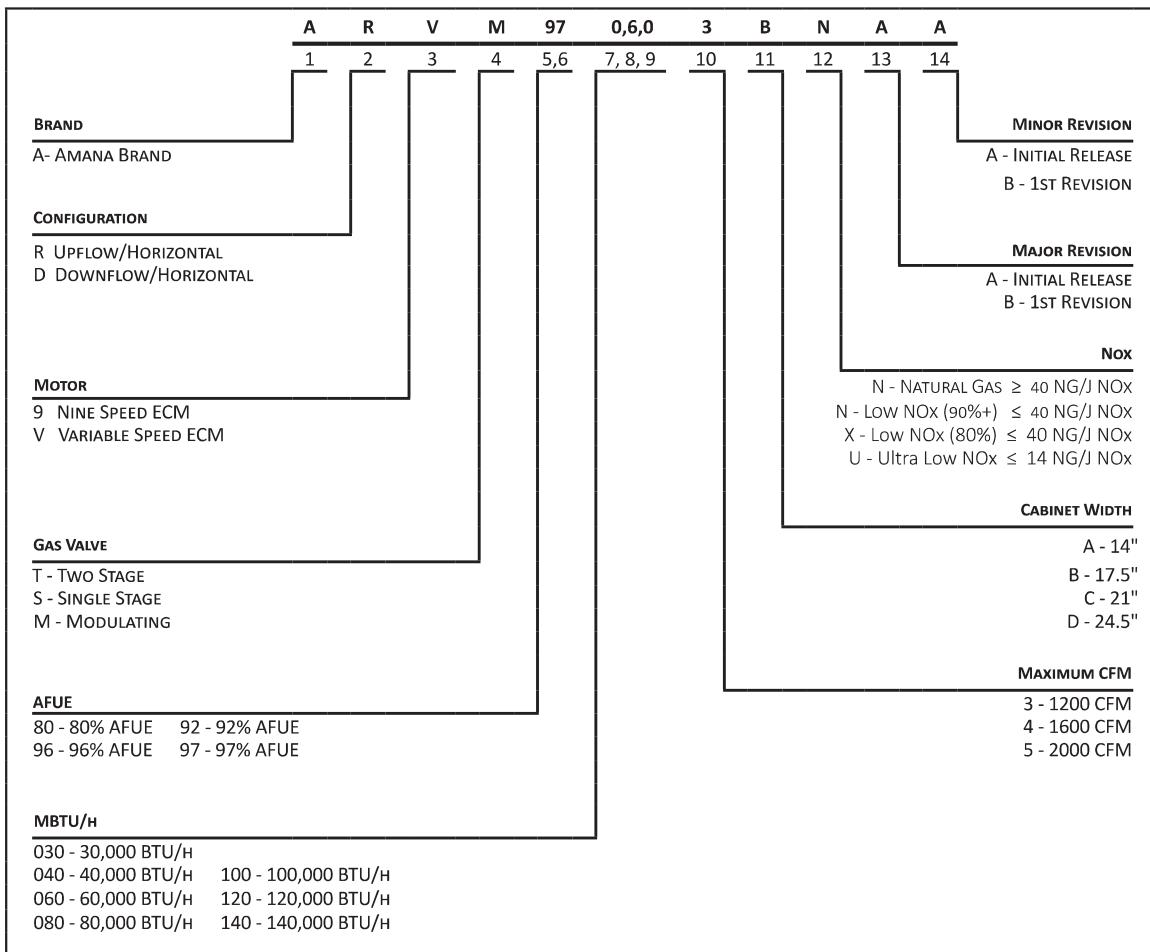


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QUALITY SYSTEM  
CERTIFIED BY DNV GL  
= ISO 9001 =  
COMPANY WITH  
ENVIRONMENTAL SYSTEM  
CERTIFIED BY DNV GL  
= ISO 14001 =

\* Complete warranty details available from your local dealer or at [www.amaa-hac.com](http://www.amaa-hac.com). To receive the Lifetime Heat Exchanger Limited Warranty, the Lifetime Unit Replacement Limited Warranty (in both cases good for as long as you own your home), and the 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration and some of the additional requirements are not required in Florida, California, or Québec. The duration of warranty coverage in Texas and Florida differs in some cases. Other limitations and exclusions apply; refer to complete warranty details for a full list of limitations and exclusions.

## NOMENCLATURE

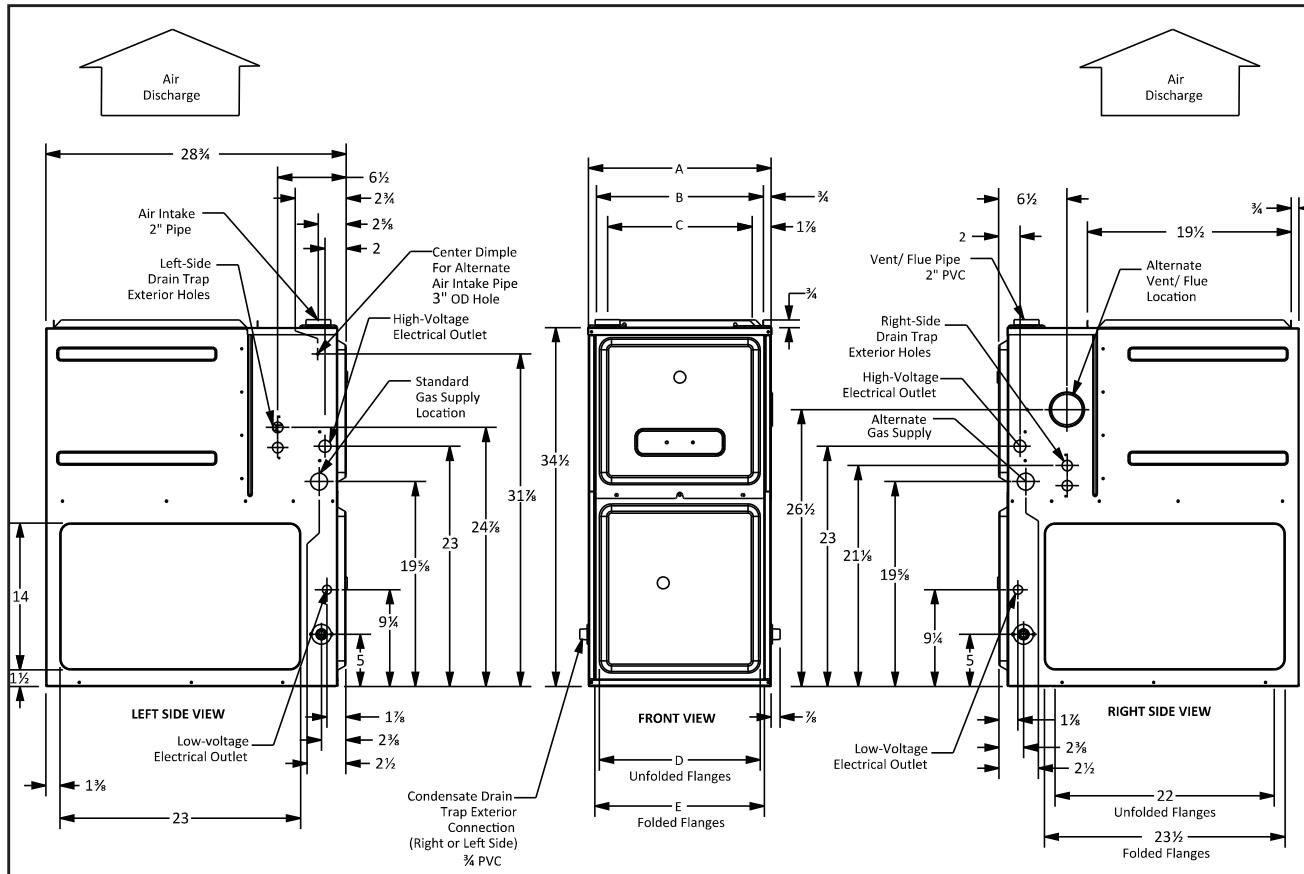


	ARVM97 0603BN	ARVM97 0803BN	ARVM97 0804CN	ARVM97 1005CN	ARVM97 1205DN	ADVM97 0603BN	ADVM97 0803BN	ADVM97 0804CN	ADVM97 1005CN
<b>HEATING DATA</b>									
High Fire Input <sup>1</sup>	60,000	80,000	80,000	100,000	120,000	60,000	80,000	80,000	100,000
High Fire Output <sup>1</sup>	58,200	77,600	77,600	97,000	116,400	58,200	77,600	77,600	97,000
Low-Fire Input <sup>1</sup>	30,000	40,000	40,000	50,000	60,000	30,000	40,000	40,000	50,000
Low-Fire Output <sup>1</sup>	29,100	38,800	38,800	48,500	58,200	29,100	38,800	38,800	48,500
AFUE <sup>2</sup>	97	97	97	97	97	97	97	97	97
Temperature Rise Range (°F) High/Low Fire	35-65 / 35-65	30-60 / 20-50	25-55 / 25-55	35-65 / 25-55	35-65 / 30-60	35-65 / 30-60	35-65 / 35-65	35-65 / 35-65	35-65 / 30-60
Vent Diameter <sup>3</sup>	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"	2" - 3"
No. of Burners	3	4	4	5	6	3	4	4	5
<b>CIRCULATOR BLOWER</b>									
Available AC @ 0.5" ESP	1.5 - 3	1.5 - 3	1.5 - 4	2 - 5	2 - 5	1.5 - 3	1.5 - 3	1.5 - 4	2 - 5
Size (D x W)	11" x 8"	11" x 8"	11" x 10"	11" x 10"	11" x 11"	11" x 8"	11" x 8"	11" x 10"	11" x 10"
Horsepower @ 1075 RPM	1/2	1/2	3/4	1	1	1/2	1/2	3/4	1
Speed	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM	VS ECM
<b>FILTER SIZE (IN<sup>2</sup>) (QTY)</b>	(1) 16 x 25 (side or bottom)	(1) 16 x 25 (side or bottom)	(1) 16 x 25 (side or bottom)	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)	(1) 20 x 25 (bottom) or (2) 16 x 25 (side)	(2) 10 x 20 or (1) 16 x 25 (top return)	(2) 10 x 20 or (1) 16 x 25 (top return)	(2) 10 x 20 or (1) 16 x 25 (top return)	(1) 14 x 20 (bottom) or (1) 20 x 25 (top return)
<b>ELECTRICAL DATA</b>									
Min. Circuit Ampacity <sup>4</sup>	8.1	8.1	11.4	14.4	14.4	8.1	8.1	11.4	14.4
Max. Overcurrent Device (amps) <sup>5</sup>	15	15	15	25	25	15	15	15	25
<b>SHIPPING WEIGHT (LBS)</b>	118	121	142	144	157	117	122	144	146

<sup>1</sup> Natural Gas BTU/h<sup>2</sup> DOE AFUE based upon Isolated Combustion System (ICS)<sup>3</sup> 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.<sup>4</sup> Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.<sup>5</sup> Maximum Overcurrent Protection Device refers to maximum recommended fuse or circuit breaker size. May use fuses or HACR-type circuit breakers of the same size as noted.**NOTES**

- All furnaces are manufactured for use on 115 VAC, 60 Hz, single-phase electrical supply.
- Gas Service Connection ½" FPT
- Important: Size fuses and wires properly and make electrical connections in accordance with the National Electrical Code and/or all existing local codes.
- For bottom return: Failure to unfold flanges may reduce airflow by up to 18%. This could result in performance and noise issues.
- For servicing or cleaning, a 24" front clearance is required. Unit connections (electrical, flue and drain) may necessitate greater clearances than the minimum clearances listed above. In all cases, accessibility clearance must take precedence over clearances from the enclosure where accessibility clearances are greater.

## ARVM97 DIMENSIONS



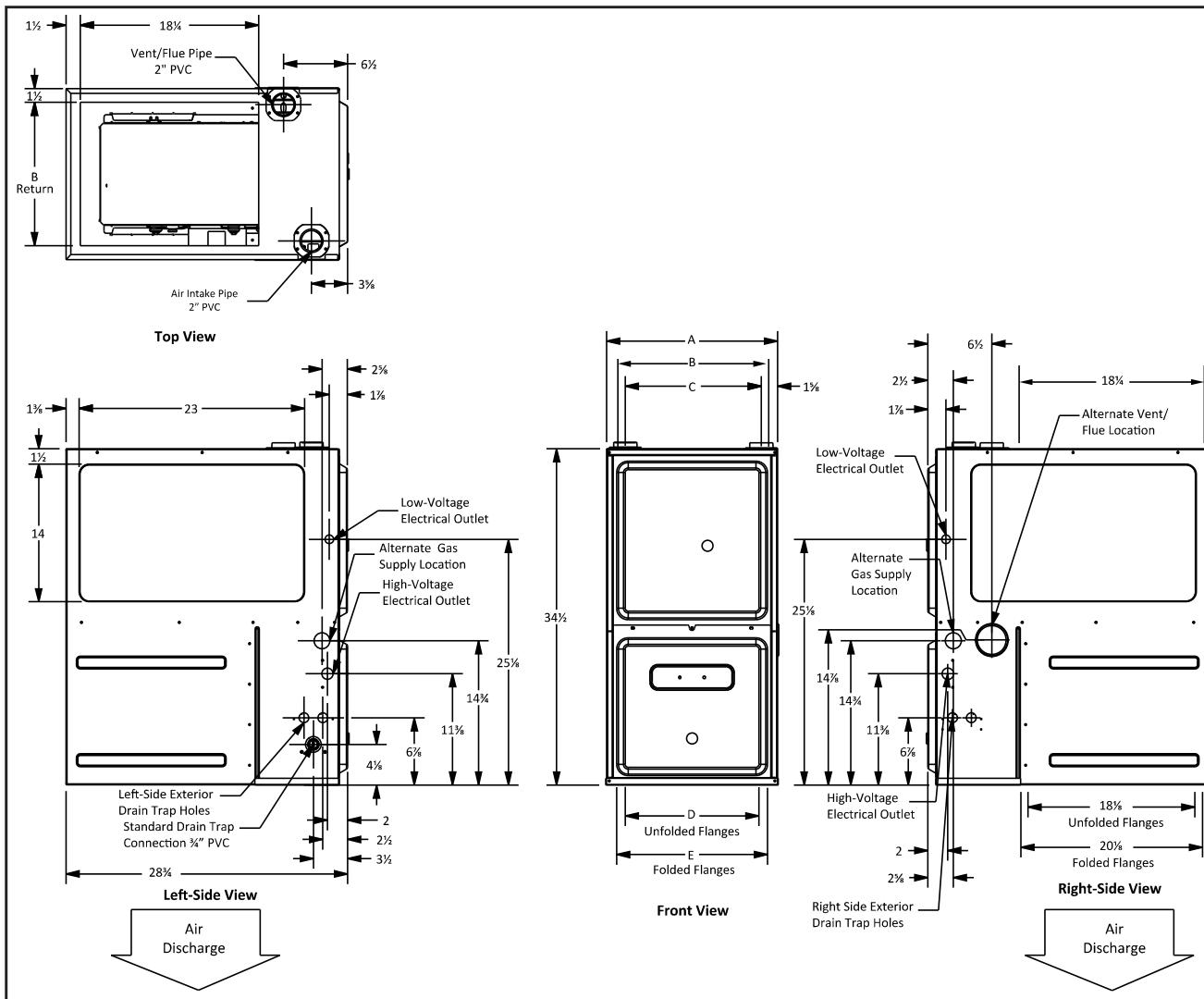
MODEL	W	D	H
ARVM970603BN	17 1/2"	28 7/8"	34 1/2"
ARVM970803BN	17 1/2"	28 7/8"	34 1/2"
ARVM970804CN	21"	28 7/8"	34 1/2"
ARVM971005CN	21"	28 7/8"	34 1/2"
ARVM971205DN	24 1/2"	28 7/8"	34 1/2"

AIR DISCHARGE		AIR RETURN		
A	B	C	D	E
17 1/2"	16"	13 7/8"	12 1/8"	13 5/8"
17 1/2"	16"	13 7/8"	12 1/8"	13 5/8"
21"	19 1/2"	17 7/8"	16"	17 1/2"
21"	19 1/2"	17 7/8"	16"	17 1/2"
24 1/2"	23"	20 7/8"	19 3/8"	20 7/8"

### MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

POSITION	SIDES	REAR	FRONT	BOTTOM	FLUE	TOP
Upflow	0"	0"	3"	C	0"	1"
Horizontal	6"	0"	3"	C	0"	6"

C = If placed on combustible floor, the floor MUST be wood ONLY.



MODEL	W	D	H
ADVM970603BN	17 1/2"	28 7/8"	34 1/2"
ADVM970803BN	17 1/2"	28 7/8"	34 1/2"
ADVM970804CN	21"	28 7/8"	34 1/2"
ADVM971005CN	21"	28 7/8"	34 1/2"

AIR RETURN		AIR DISCHARGE		
A	B	C	D	E
17 1/2"	14 5/8"	14"	14 1/2"	16"
17 1/2"	14 5/8"	14"	14 1/2"	16"
21"	18 1/8"	17 1/2"	18"	19 1/2"
21"	18 1/8"	17 1/2"	18"	19 1/2"

#### MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

POSITION	SIDES	REAR	FRONT	BOTTOM	FLUE	TOP
Downflow	0"	0"	3"	NC	0"	1"
Horizontal	6"	0"	3"	C	0"	6"

C = If placed on combustible floor, the floor MUST be wood ONLY.

NC = For installation on non-combustible floors only. A combustible floor sub-base must be used for installations on combustible flooring.

## ARVM97 AIRFLOW DATA

MODEL/TEMP RISE RANGE (MID RISE)	ARVM970603BNA* 35-65 (50)		ARVM970803BNA* 30-60 (45)		ARVM970804CNA* 25-55 (40)		ARVM971005CNA* 35-65 (50)		ARVM971205DNA* 35-65 (50)	
	CFM	RISE								
Recommended cfm for 100% firing rate & expected temperature rise	1080	50	1450	50	1750	41	1800	50	2150	50
Lowest recommended cfm for 100% firing rate & expected temperature rise	830	65	1200	60	1300	55	1380	65	1660	65

NOTE: Low Heat CFM = High Heat CFM X .7. Low Heat Temperature Rise Is Expected to Equal High Heat Temperature Rise  $\pm$  5%

**ARVM970603BNA\***  
**COOLING SPEED**  
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,400	

**ARVM970803BNA\***  
**COOLING SPEED**  
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,650	

**ARVM970804CNA\***  
**COOLING SPEED**  
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
2.5	1,000	700
3	1,200	840
4	1,600	1,120
MAX	1,760	

**ARVM971005CNA\***  
**COOLING SPEED**  
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

**ARVM971205DNA\***  
**COOLING SPEED**  
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.

For most jobs, about 400 CFM per ton when cooling is desirable.

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.

MODEL/TEMP RISE RANGE (MID RISE)	ADVM970603BNA* 35-65 (50)		ADVM970803BNA* 35-65 (50)		ADVM970804CNA* 35-65 (50)		ADVM971005CNA* 35-65 (50)	
	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
Recommended cfm for 100% firing rate & expected temperature rise	1100	50	1400	51	1450	50	1800	50
Lowest recommended cfm for 100% firing rate & expected temperature rise	830	65	1100	65	1100	65	1380	65

NOTE: Low Heat CFM = High Heat CFM X .7. Low Heat Temperature Rise Is Expected to Equal High Heat Temperature Rise  $\pm$  5%

**ADVM970603BNA\***  
COOLING SPEED  
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,400	

**ADVM970803BNA\***  
COOLING SPEED  
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
1.5	600	420
2	800	560
2.5	1,000	700
3	1,200	840
MAX	1,650	

**ADVM970804CNA\***  
COOLING SPEED  
(@ 0.1" - 0.8" w.c. ESP)

TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
2.5	1,000	700
3	1,200	840
4	1,600	1,120
MAX	1,760	

**ADVM971005CNA\***  
COOLING SPEED  
(@ 0.1" - 0.8" w.c. ESP)

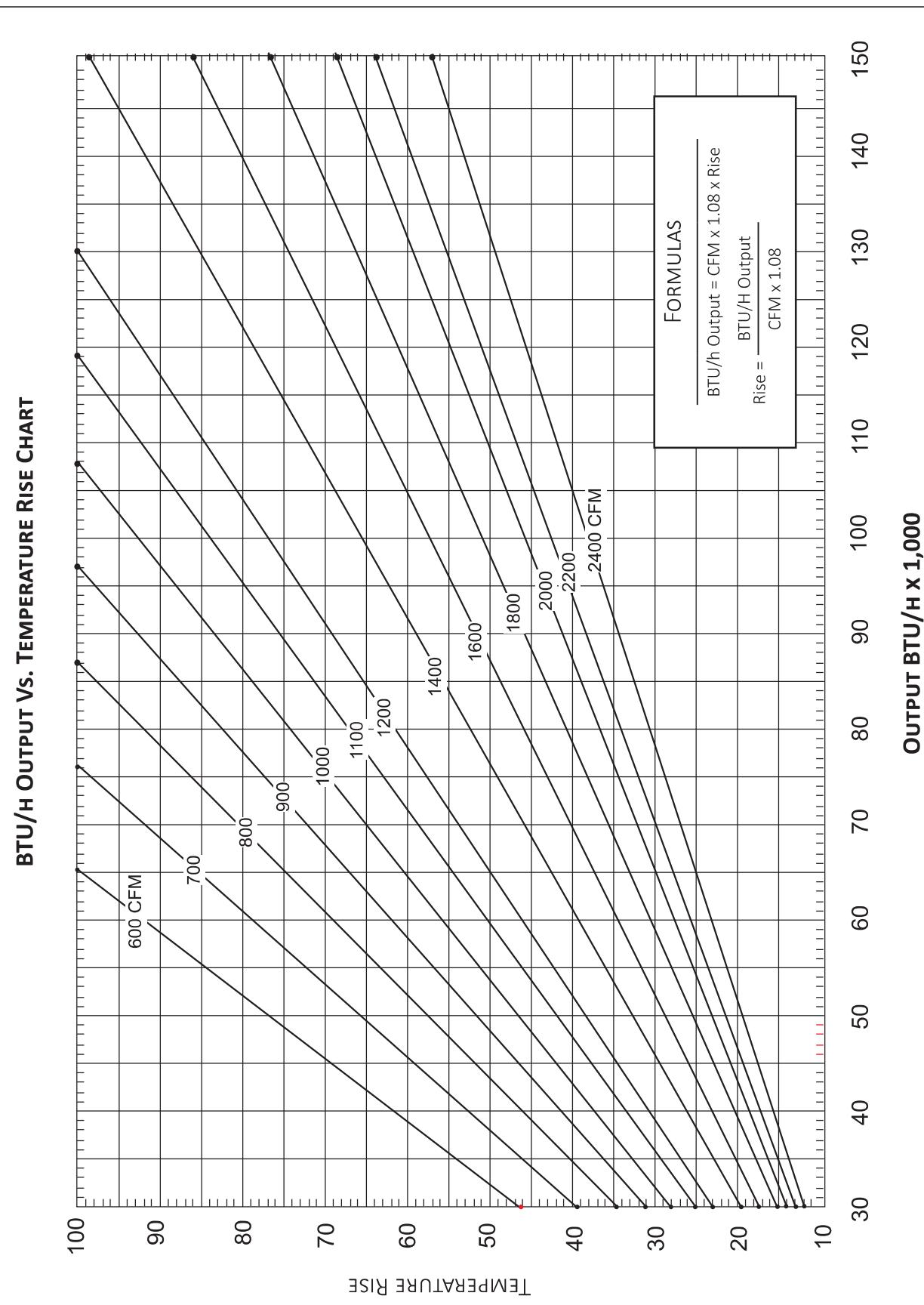
TONS	HIGH-STAGE	LOW-STAGE CFM
2	800	560
3	1,200	840
4	1,600	1,120
5	2,000	1,400
MAX	2,200	

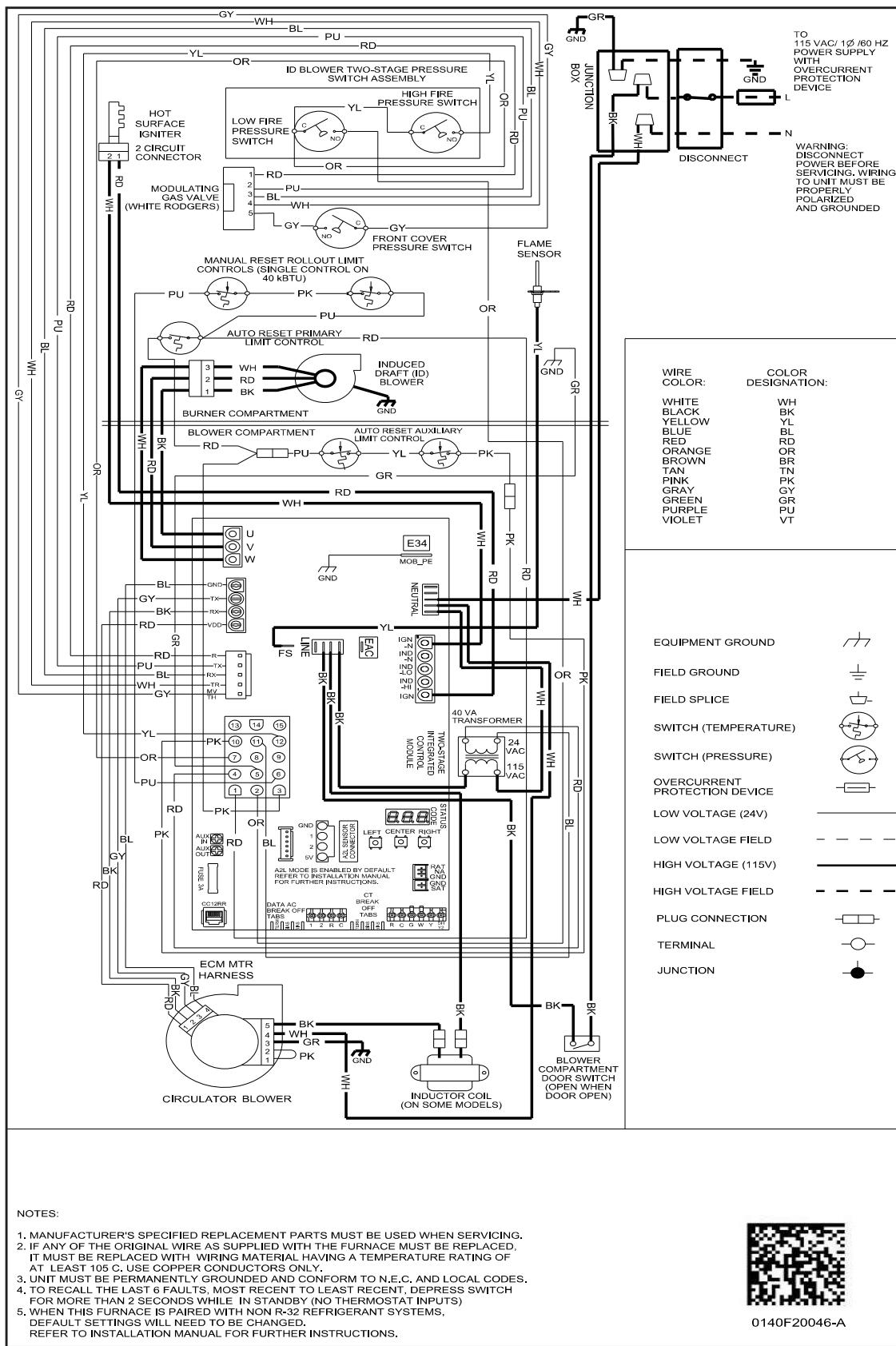
All furnaces ship as high speed for cooling. Installer must adjust blower speed as needed.

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## TEMPERATURE RISE RANGE CHART





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



## ACCESSORIES

MODEL	DESCRIPTION	ARVM97 0603BN	ARVM97 0803BN	ARVM97 0804CN	ARVM97 1005CN	ARVM97 1205DN
72950	Concentric Vent Kit (2")	✓	✓	✓	✓	—
72951	Concentric Vent Kit (3")	✓	✓	✓	✓	✓
RF000142	Drain Kit Horizontal Left Vertical Flue	✓	✓	✓	✓	✓
EFR02	External Filter Rack with 16"x25" Permanent Filter	✓	✓	✓	✓	✓
0170K00000S	Flush Mount Vent Kit - 3" or 2"	✓	✓	✓	✓	✓
0170K00001S	Flush Mount Vent Kit - 2"	✓	✓	✓	✓	—
AFE18-60A	Fossil Fuel (Dual Fuel) Kit	✓	✓	✓	✓	✓
HAMFK-01	High-Altitude Kit	✓	✓	✓	✓	✓
0270F05404	Horizontal Drain Tubing Kit	✓	✓	✓	✓	✓
LPM-35	LP Conversion Kits	✓	✓	✓	✓	✓

### NOTES

✓ Indicates available for this model  
 • For installation in Canada, gas furnaces are certified only to 4,500'.

MODEL	DESCRIPTION	ADVM97 0603BN	ADVM97 0803BN	ADVM97 0804CN	ADVM97 1005CN
72950	Concentric Vent Kit (2")	✓	✓	✓	✓
72951	Concentric Vent Kit (3")	✓	✓	✓	✓
CFSB17	Downflow Sub-Base 17.5"	✓	✓	—	—
CFSB21	Downflow Sub-Base 21"	—	—	✓	✓
0170K00000S	Flush Mount Vent Kit - 3" or 2"	✓	✓	✓	✓
0170K00001S	Flush Mount Vent Kit - 2"	✓	✓	✓	✓
AFE18-60A	Fossil Fuel (Dual Fuel) Kit	✓	✓	✓	✓
HAMFK-01	High-Altitude Kit	✓	✓	✓	✓
0270F05405	Horizontal Drain Tubing Kit	✓	✓	✓	✓
LPM-35	LP Conversion Kits	✓	✓	✓	✓

### NOTES

✓ Indicates available for this model  
 • For installation in Canada, gas furnaces are certified only to 4,500'.



## NOTES

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