



## **NuTone FG7TE Series Smartlite Two Stage Fixed Speed ECM High Efficiency Upflow Gas Furnace Owner's Manual**

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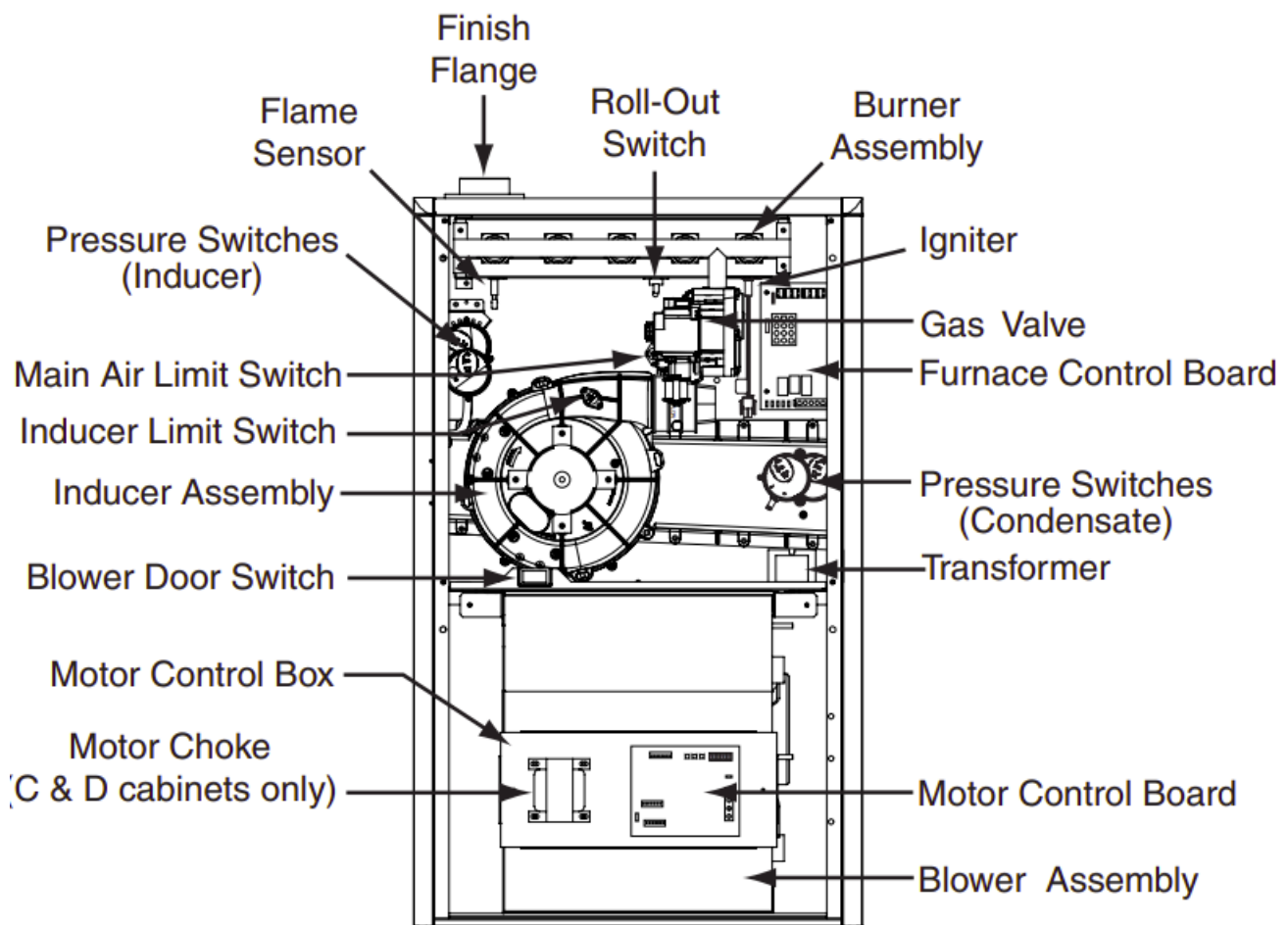
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## FEATURES and BENEFITS

- Multi-speed Direct Drive Blower: Energy-efficient brushless DC (ECM) fixed-speed motor offers 16 speeds designed to give a wide range of cooling capacities.
- SmartLite® Technology: Auto-adjusts igniter on time to extend igniter life.
- Hot Surface Igniter: Innovative application of a silicon nitride type igniter.
- 30 Second Blower Delay: At start-up assures a warm duct temperature at furnace start-up. Adjustable blower off settings (60, 90, 120 and 180 seconds).
- 30 Second Post Purge: Increases life of heat exchanger.

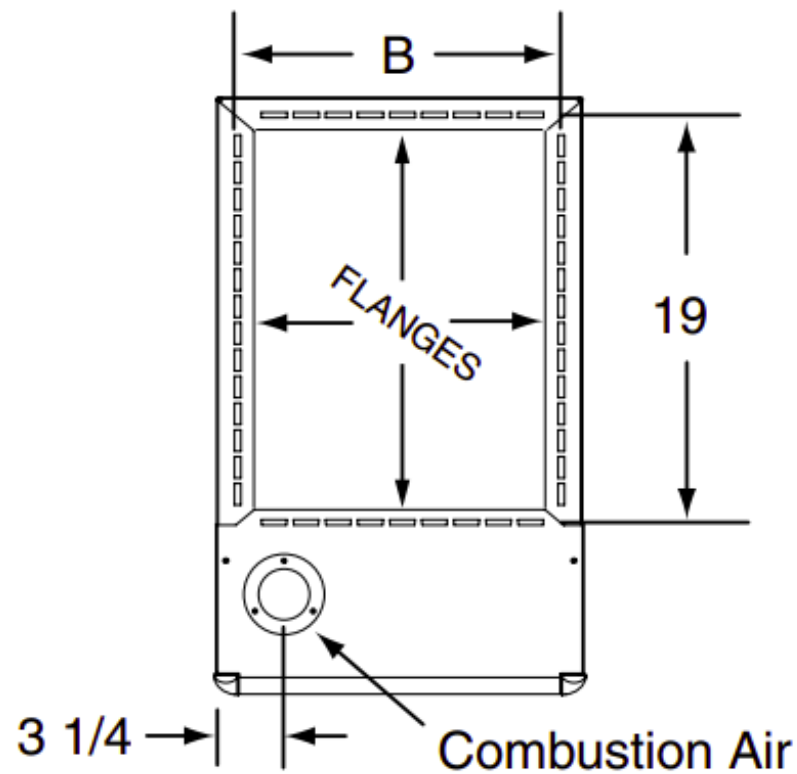
- 60 Second Fixed Cooling Cycle Blower-Off Delay (TDR): Increases cooling performance when matched with a Nortek Global HVAC coil.
- Color Coded Wire Harness: Designed to fit the components, all with quick-connect fittings for ease of service and replacement.
- Diagnostic Lights: Dedicated light for flame signal strength and 2 lights in combination to indicate all other fault codes with easy to recognize states without counting flashes.
- Integrated Control Boards: With connections for electronic air cleaner, humidifier, and dehumidification. Ergonomically located for ease of service.
- 2 Stage Inducer: Optimizes efficiency on first stage heat and reduces sound levels.
- Heat Exchanger: Heavy gauge aluminized steel primary heat exchanger and stainless steel secondary heat exchanger assures a long life.
- 100% Fired and Tested: All units and each component are tested on the manufacturing line.
- Best Packaging in the Industry: Unique corner post design assures product will arrive to the homeowner dent free.
- Flexible Category IV Venting System: May be vertically or horizontally vented using either a one-pipe or two-pipe system for maximum flexibility in installation.
- Low Boy Height: Easy to apply in low ceiling applications, works well with taller high SEER coils, easier to handle and install.
- LP Convertible: Simple burner orifice and regulator spring change for ease of convertibility (as an accessory).
- Two Piece Door Design: Enhances furnace appearance and uses captured screws to prevent losing door screws.
- Blower Compartment: Sealed door to reduce air leakage and insulated for ultra quiet operation.
- Sealed Vestibule: Reduces burner and inducer sound levels.
- Furnace Air Leakage: These furnaces comply with Energy Star cabinet air leakage requirement of less than or equal to 2%. Keep the conditioned air flowing to where it's needed.

## **LOCATION OF COMPONENTS**

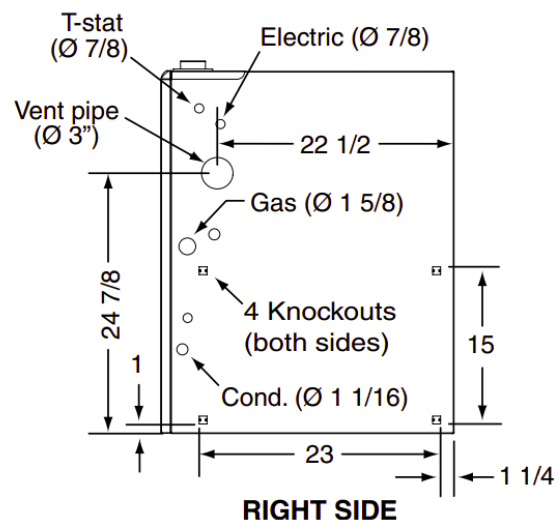
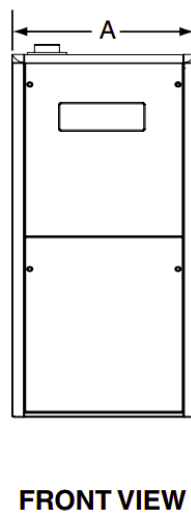
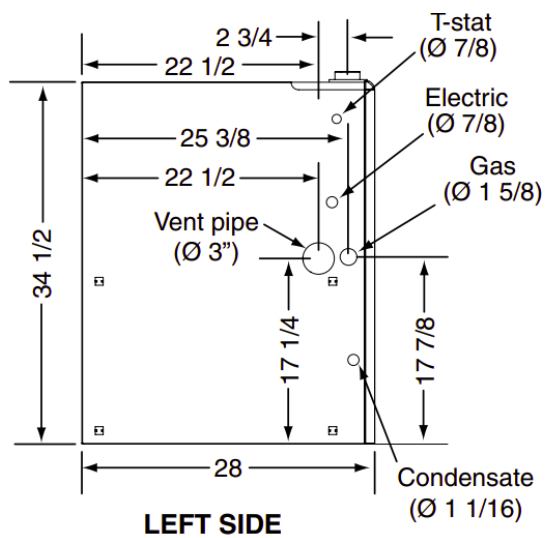
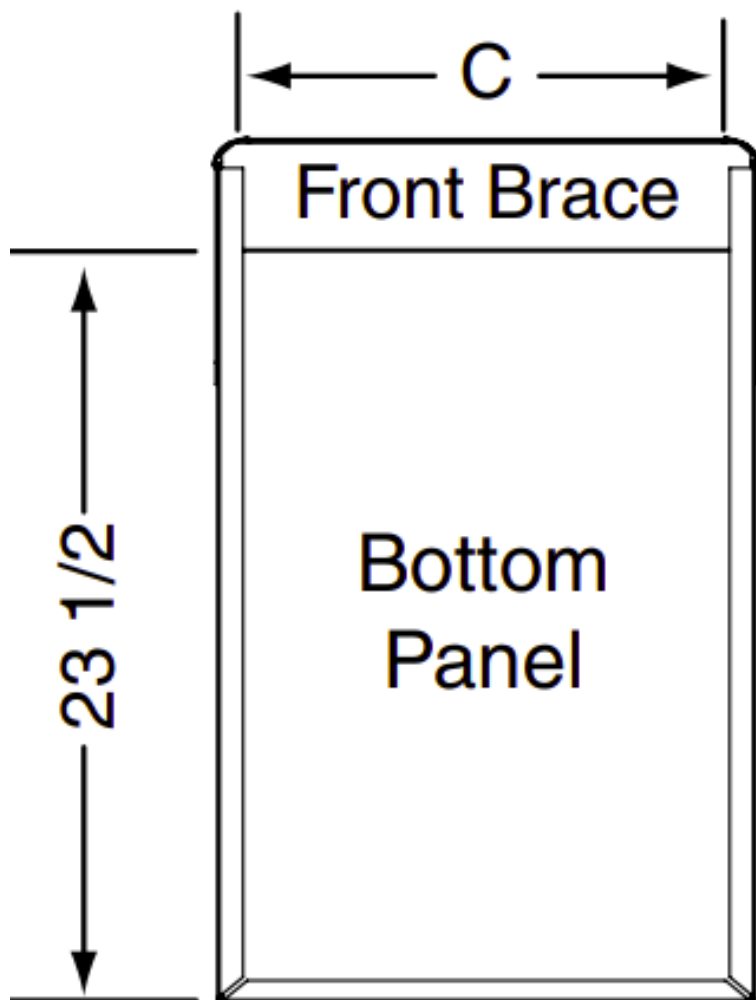


## DIMENSIONS

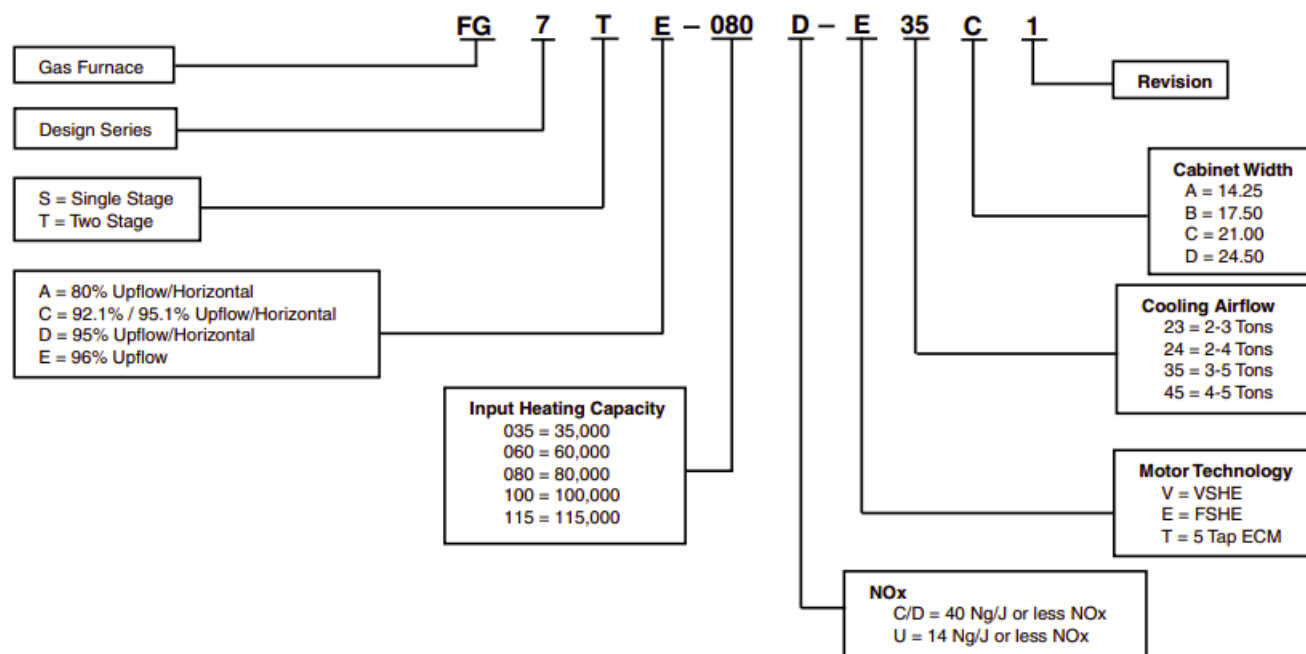
### TOP VIEW



### BOTTOM VIEW



**MODEL IDENTIFICATION CODE**



## SPECIFICATIONS

FG7TE MODEL NUMBERS	-035D-E23A1	-060D-E24B1	-080D-E35C1	-100D-E35C1	-115D-E45D1
Input – Btuh (a)	35000 / 23000	60000 / 39000	80000 / 52000	100000 / 65000	115000 / 74750
Heating Capacity – BtuH	33000 / 22000	58000 / 37000	77000 / 50000	96000 / 62000	110000 / 72000
<b>AFUE</b>	96.0	96.0	96.0	96.0	96.0
Motor H.P. – Speed – Type	1/2 – BLDC	3/4 – BLDC	1 – BLDC	1 – BLDC	1 – BLDC
Motor FLA	6.9	8.8	11.5	11.5	11.5
Rated Ext. SP – In. W.C.	0.50	0.50	0.50	0.50	0.50
Temperature Rise Range – F	30-60	30-60	30-60	35-65	40-70
Shipping Weights	101 lb	120 lb	130 lb	135 lb	145 lb
SKU	1037159F	1025958F	1025959F	1025960F	1025961F

### Note:

All models are 115V, 60 Hz. Gas Connections are 1/2" N.P.T. AFUE = Annual Fuel Utilization Efficiency  
**(a)** Ratings to 2,000 ft. Over 2,000 ft. reduce 4% for each 1,000 ft. above sea level.

## BLOWER PERFORMANCE

[illegible]

COOLING AIRFLOW (CFM)												
Model Number/ Heating Input	MOTOR SWITCH SETTINGS (0=OFF, 1=ON)				External Static Pressure (in.w.c.)							
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	5	6	7	8	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
G7TE-035D-E23A1 35,000 BTU/hr	0	0	0	0								
	1	0	0	0	560	515	475					
	0	1	0	0	570	540	505	460				
	1	1	0	0	670	635	595	565	525	485		
	0	0	1	0	700	670	635	600	565	530	485	
	1	0	1	0	765	725	690	660	625	585	550	510
	0	1	1	0	795	755	720	690	650	615	580	545
	1	1	1	0	845	810	775	740	705	675	640	600
	0	0	0	1	895	860	825	790	760	725	695	660
	1	0	0	1	905	870	840	805	770	740	700	670
	0	1	0	1	950	920	885	850	820	785	760	720
	1	1	0	1	990	955	925	890	860	830	800	765
	0	0	1	1	1010	980	945	910	885	850	820	790
	1	0	1	1	1050	1015	985	955	925	895	865	830
	0	1	1	1	1080	1045	1020	990	960	930	895	865
	1	1	1	1	1105	1075	1045	1015	985	955	920	895

#### NOTES:

1. Motor switch settings for heating speeds use HEAT switches 1, 2, 3, & 4 and for cooling speeds use COOL switches 5, 6, 7, & 8.
2. To comply with government mandated efficiency standards, two openings are required for airflows above 1,600 CFM.
3. Data is shown without filter.
4. Temperature rises in the table are approximate. Actual temperature rises may vary.
5. Individual cells shaded in gray indicate a temperature rise outside of the recommended range.
6. To comply with government mandated efficiency standards, speed settings shaded in gray are not allowed in HEAT mode.
7. When in low stage heat, the airflow is approximately 70% of the tables high value (2-stage furnaces only)

#### BLOWER PERFORMANCE (Continued)



[illegible]

COOLING AIRFLOW (CFM)												
Model Number/ Heating Input	MOTOR SWITCH SETTINGS (0=OFF, 1=ON)				External Static Pressure (in.w.c.)							
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	5	6	7	8	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
G7TE-060D-E24B1 60,000 BTU/hr	0	0	0	0								
	1	0	0	0								
	0	1	0	0								
	1	1	0	0	725							
	0	0	1	0	810							
	1	0	1	0	940	890	845	795	750	700		
	0	1	1	0	990	945	905	860	820	775	735	690
	1	1	1	0	1,055	1,015	970	930	890	845	805	760
	0	0	0	1	1,135	1,095	1,055	1,010	960	930	890	850
	1	0	0	1	1,185	1,145	1,105	1,065	1,030	990	950	910
	0	1	0	1	1,250	1,210	1,170	1,135	1,095	1,055	1,020	980
	1	1	0	1	1,290	1,255	1,220	1,180	1,145	1,110	1,075	1,040
	0	0	1	1	1,315	1,275	1,240	1,200	1,160	1,120	1,085	1,045
	1	0	1	1	1,350	1,315	1,280	1,245	1,205	1,170	1,135	1,100
	0	1	1	1	1,390	1,350	1,315	1,275	1,240	1,200	1,160	1,125
	1	1	1	1	1,420	1,380	1,345	1,310	1,270	1,235	1,200	1,160

#### NOTES:

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#### BLOWER PERFORMANCE (Continued)

[illegible]

COOLING AIRFLOW (CFM)												
Model Number/ Heating Input	MOTOR SWITCH SETTINGS (0=OFF, 1=ON)				External Static Pressure (in.w.c.)							
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	5	6	7	8	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
FG7TE-080 D-E35C1 80,000 BTU/hr	0	0	0	0	1,125	1,040	960	880	795			
	1	0	0	0	1,205	1,120	1,040	960	875	795		
	0	1	0	0	1,305	1,225	1,150	1,070	995	915	840	
	1	1	0	0	1,430	1,350	1,270	1,190	1,110	1,030	950	865
	0	0	1	0	1,525	1,450	1,375	1,300	1,225	1,150	1,075	1,000
	1	0	1	0	1,620	1,540	1,465	1,390	1,315	1,240	1,165	1,090
	0	1	1	0	1,695	1,620	1,545	1,465	1,390	1,315	1,235	1,160
	1	1	1	0	1,770	1,700	1,630	1,555	1,485	1,410	1,340	1,265
	0	0	0	1	1,875	1,805	1,730	1,655	1,580	1,510	1,435	1,340
	1	0	0	1	1,905	1,840	1,775	1,710	1,640	1,575	1,510	1,445
	0	1	0	1	1,980	1,910	1,845	1,780	1,715	1,650	1,580	1,515
	1	1	0	1	2,025	1,960	1,895	1,830	1,765	1,700	1,635	1,570
	0	0	1	1	2,085	2,025	1,960	1,900	1,840	1,775	1,715	1,655
	1	0	1	1	2,135	2,070	2,010	1,945	1,880	1,815	1,750	1,685
	0	1	1	1	2,200	2,145	2,090	2,035	1,980	1,925	1,870	1,820
	1	1	1	1	2,280	2,225	2,170	2,115	2,065	2,010	1,955	1,900

#### NOTES:

1. Motor switch settings for heating speeds use HEAT switches 1, 2, 3, & 4 and for cooling speeds use COOL switches 5, 6, 7, & 8.
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#### BLOWER PERFORMANCE (Continued)

## HEATING AIRFLOW (CFM) & TEMPERATURE RISE (°F)

[illegible]

COOLING AIRFLOW (CFM)												
Model Number/ Heating Input	MOTOR SWITCH SETTINGS (0=OFF, 1=ON)				External Static Pressure (in.w.c.)							
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	5	6	7	8	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
FG7TE-100 D-E35C1 10 0,000 BTU/hr	0	0	0	0	1,125	1,040						
	1	0	0	0	1,205	1,120	1,040					
	0	1	0	0	1,305	1,225	1,150	1,070	995			
	1	1	0	0	1,430	1,350	1,270	1,190	1,110	1,030		
	0	0	1	0	1,525	1,450	1,375	1,300	1,225	1,150	1,075	1,000
	1	0	1	0	1,620	1,540	1,465	1,390	1,315	1,240	1,165	1,090
	0	1	1	0	1,695	1,620	1,545	1,465	1,390	1,315	1,235	1,160
	1	1	1	0	1,770	1,700	1,630	1,555	1,485	1,410	1,340	1,265
	0	0	0	1	1,875	1,805	1,730	1,655	1,580	1,510	1,435	1,340
	1	0	0	1	1,905	1,840	1,775	1,710	1,640	1,575	1,510	1,445
	0	1	0	1	1,980	1,910	1,845	1,780	1,715	1,650	1,580	1,515
	1	1	0	1	2,025	1,960	1,895	1,830	1,765	1,700	1,635	1,570
	0	0	1	1	2,085	2,025	1,960	1,900	1,840	1,775	1,715	1,655
	1	0	1	1	2,135	2,070	2,010	1,945	1,880	1,815	1,750	1,685
	0	1	1	1	2,200	2,145	2,090	2,035	1,980	1,925	1,870	1,820
	1	1	1	1	2,280	2,225	2,170	2,115	2,065	2,010	1,955	1,900

## BLOWER PERFORMANCE (Continued)

[illegible]

COOLING AIRFLOW (CFM)												
Model Number/ Heating Input	MOTOR SWITCH SETTINGS (0=OFF, 1=ON)				External Static Pressure (in.w.c.)							
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
	5	6	7	8	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
FG7TE-115 D-E45D1 11 5,000 BTU/hr	0	0	0	0	1,395	1,350	1,305	1,260	1,210	1,165	1,120	
	1	0	0	0	1,465	1,420	1,375	1,330	1,290	1,245	1,200	1,155
	0	1	0	0	1,555	1,510	1,470	1,425	1,380	1,340	1,295	1,250
	1	1	0	0	1,625	1,585	1,540	1,500	1,460	1,415	1,375	1,335
	0	0	1	0	1,690	1,650	1,610	1,570	1,530	1,485	1,445	1,405
	1	0	1	0	1,760	1,715	1,670	1,625	1,575	1,530	1,485	1,440
	0	1	1	0	1,835	1,790	1,745	1,695	1,650	1,605	1,555	1,510
	1	1	1	0	1,885	1,840	1,790	1,745	1,700	1,655	1,610	1,565
	0	0	0	1	1,945	1,900	1,850	1,805	1,760	1,710	1,665	1,620
	1	0	0	1	1,950	1,905	1,860	1,820	1,775	1,735	1,690	1,650
	0	1	0	1	2,075	2,030	1,990	1,945	1,900	1,855	1,810	1,770
	1	1	0	1	2,125	2,085	2,040	2,000	1,955	1,910	1,870	1,825
	0	0	1	1	2,170	2,130	2,090	2,045	2,005	1,965	1,925	1,880
	1	0	1	1	2,215	2,180	2,140	2,105	2,070	2,035	2,000	1,965
	0	1	1	1					2,225	2,165	2,100	2,040
	1	1	1	1						2,170	2,120	2,065

#### NOTES:

1. Motor switch settings for heating speeds use HEAT switches 1, 2, 3, & 4 and for cooling speeds use COOL switches 5, 6, 7, & 8.
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#### VENTING

All models are approved for vertical non direct (1 pipe) and direct (2 pipe) venting applications. See Vent Table



below for specified sizes and allowable lengths.

FURNACE MODELS (BTU)	FURNACE INSTALLATION	SINGLE PIPE LENGTH (FT.)with 1 long radius elbow**		DIRECT VENT,DUAL PIPE LENGTH (ft.) WITH1 long radius elbow on each pipe**	
		OUTLET	OUTLET	INLET/OUTLET	INLET/OUTLET
		2" Diameter	3" Diameter	2" Diameter	3" Diameter
35,000	Upflow	60	90	60	90
60,000	Upflow	60	90	60	90
80,000	Upflow	40	90	40	90
100,000	Upflow	30	90	30	90
115,000	Upflow	N/A	90	N/A	90

#### NOTES:

1. Subtract 2.5 ft. for each additional 2 inch long radius elbow, 5 ft. for each additional 2 inch short radius elbow, 3.5 ft. for each additional 3 inch long radius elbow, and 7 ft. for each additional 3 inch short radius elbow. Subtract 5ft for each 2" tee and 8ft for each 3" tee.
2. Two 45 degree elbows are equivalent to one 90 degree elbow.
3. This table applies for elevations from sea level to 2,000 ft. For higher elevations, decrease pipe lengths by 8% per 1,000 ft of altitude.

#### ACCESSORIES

FG7TE KITS	
Description	SKU
2" Concentric Vent Kit (US & Canada Approved)	904952
3" Concentric Vent Kit (US & Canada Approved)	904953
2" Side Wall Vent Kit	904617
3" Side Wall Vent Kit	904347
U.S. LP Conversion Kit (0 to 10,000 ft.)	905028
Canada LP Conversion Kit (0 to 4,500 ft.)	905029
Bottom Return Filter 20 per Box, "B" Cabinet	904916
Bottom Return Filter 20 per Box, "D" Cabinet	904918
Side Return Filter Kit	541036
Neutralizer Kit	902377

## GENERAL TERMS OF LIMITED WARRANTY

Nortek Global HVAC, LLC will furnish a replacement for any part of this product which fails in normal use and service within the terms and conditions of the warranty.

For complete details of the Limited Warranty, including applicable terms and conditions, see your local installer or contact the Nortek Global HVAC, LLC warranty department for a copy

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer. Specifications and illustrations subject to change without notice and without incurring obligations. Printed in U.S.A (11/2021)


[www.nutonehvac.com](http://www.nutonehvac.com)

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## Documents / Resources

 <p><b>NuTone</b> FG7TE Series Smartlite Two Stage Fixed Speed ECM High Efficiency Upflow Gas Furnace</p>	<p><b><a href="#">NuTone FG7TE Series Smartlite Two Stage Fixed Speed ECM High Efficiency Upflow Gas Furnace [pdf] Owner's Manual</a></b></p> <p>FG7TE Series Smartlite Two Stage Fixed Speed ECM High Efficiency Upflow Gas Furnace, FG 7TE Series, Smartlite Two Stage Fixed Speed ECM High Efficiency Upflow Gas Furnace, Two S tage Fixed Speed ECM High Efficiency Upflow Gas Furnace, Fixed Speed ECM High Efficiency Upflow Gas Furnace, ECM High Efficiency Upflow Gas Furnace, High Efficiency Upflow Gas Fur nace, Upflow Gas Furnace, Gas Furnace, Furnace</p>
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## References

- [User Manual](#)