

## TECHNICAL SPECIFICATIONS

# FG7T (E and N Series)

iSEER<sup>+</sup>, Smartlite<sup>®</sup>

**Two Stage, Fixed Speed ECM,  
High Efficiency Upflow  
and Downflow Gas Furnaces  
Induced Draft - 96% AFUE  
Input 60,000 - 115,000 Btuh**

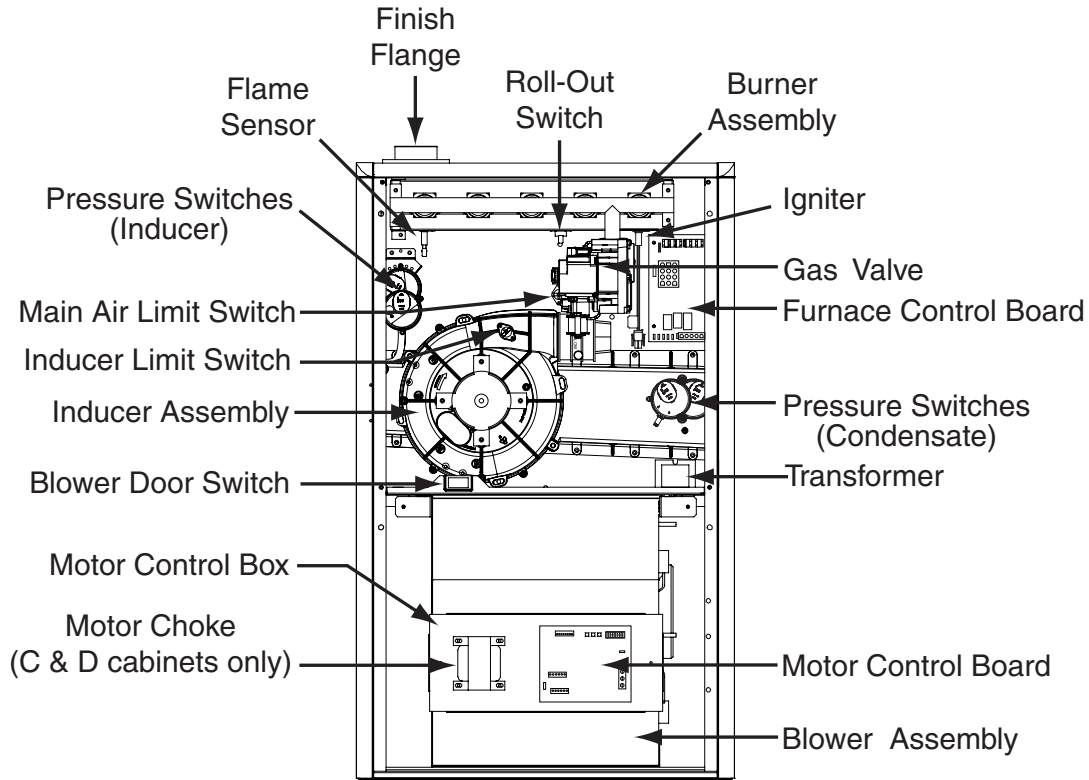
The high efficiency upflow gas furnace may be installed free standing in a utility room, basement, or enclosed in an alcove or closet. The extended flush jacket provides a pleasing "appliance appearance." Design certified by CSA for application in Canada and the United States.



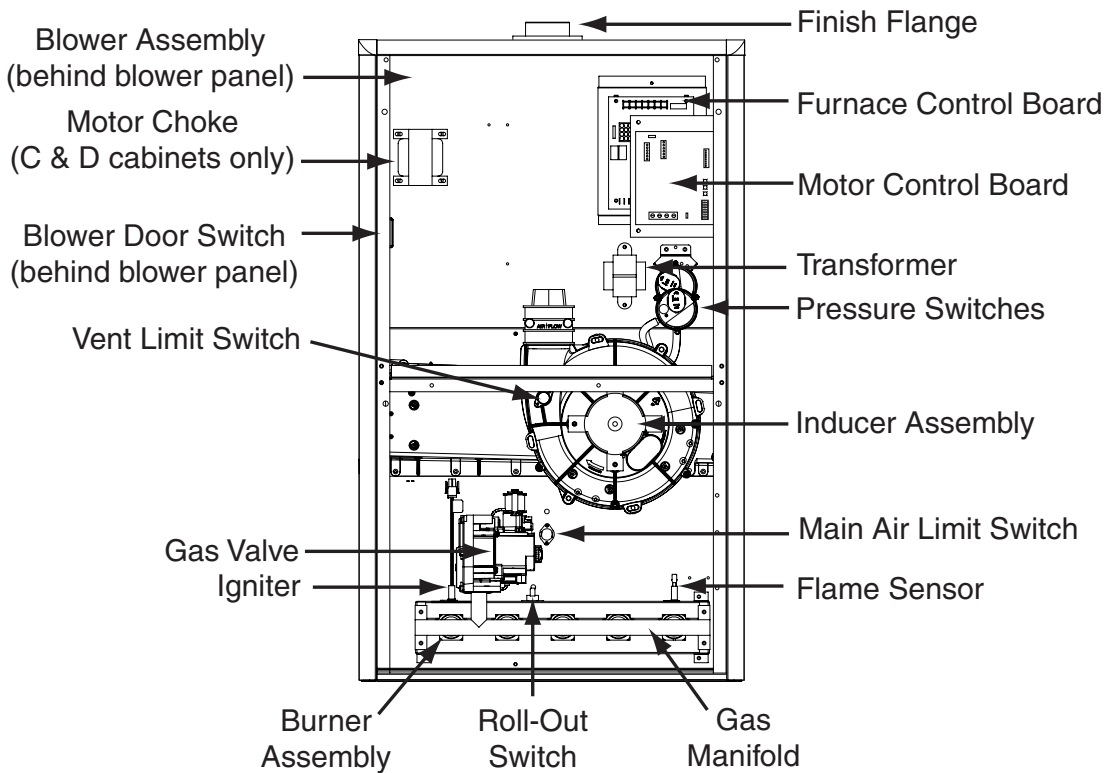
## FEATURES and BENEFITS

- **iSEER<sup>™</sup>**: Energy efficient brushless DC (ECM) fixed-speed motor can give up to 1 SEER point efficiency gain in cooling with 16 speeds in heating and cooling.
- **SmartLite<sup>®</sup> 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.
- **90 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.
- **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 FURNACE COMPONENTS



**Upflow Gas Furnace Components**

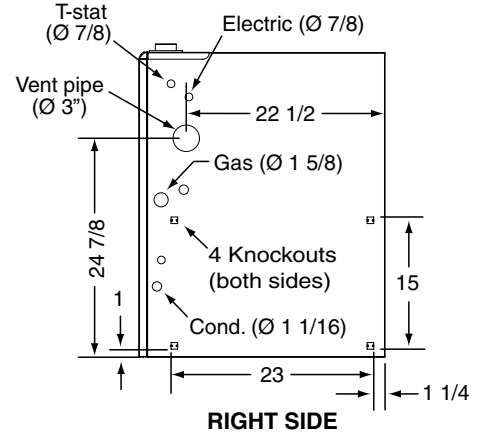
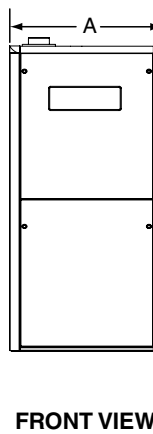
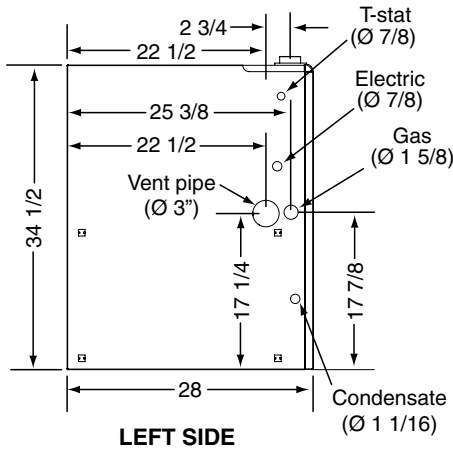
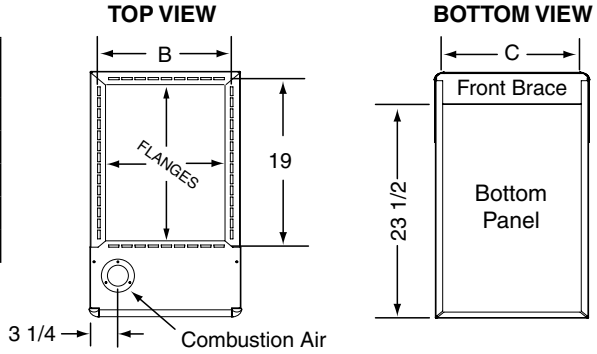


**Downflow Gas Furnace Components**

# DIMENSIONS

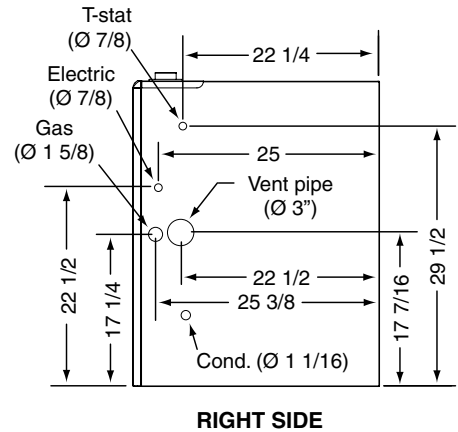
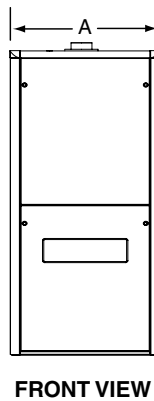
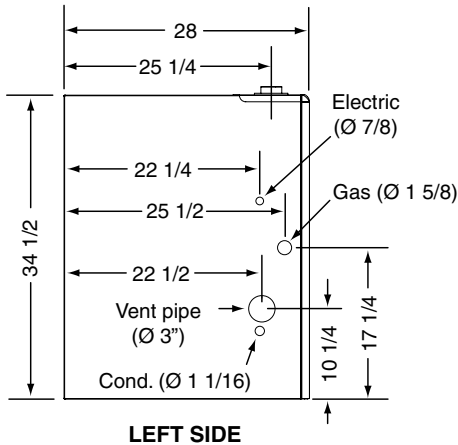
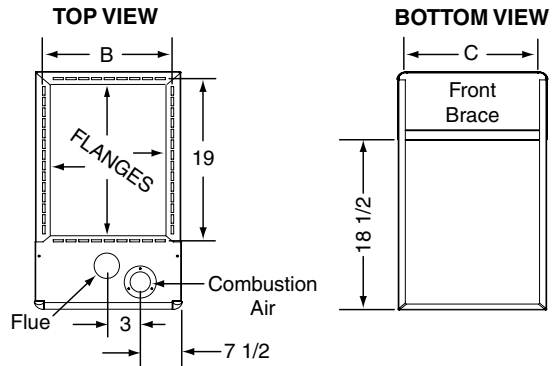
## \*TE 96% Upflow Furnace

Cabinet Size	Dim. "A"	Dim. "B"	Dim. "C"
'B' Cabinet	17 1/2	15 7/8	16 1/8
'C' Cabinet	21	19 3/8	19 5/8
'D' Cabinet	24 1/2	22 7/8	23 1/8
<b>NOTES:</b>			
Dimensions shown in inches.			

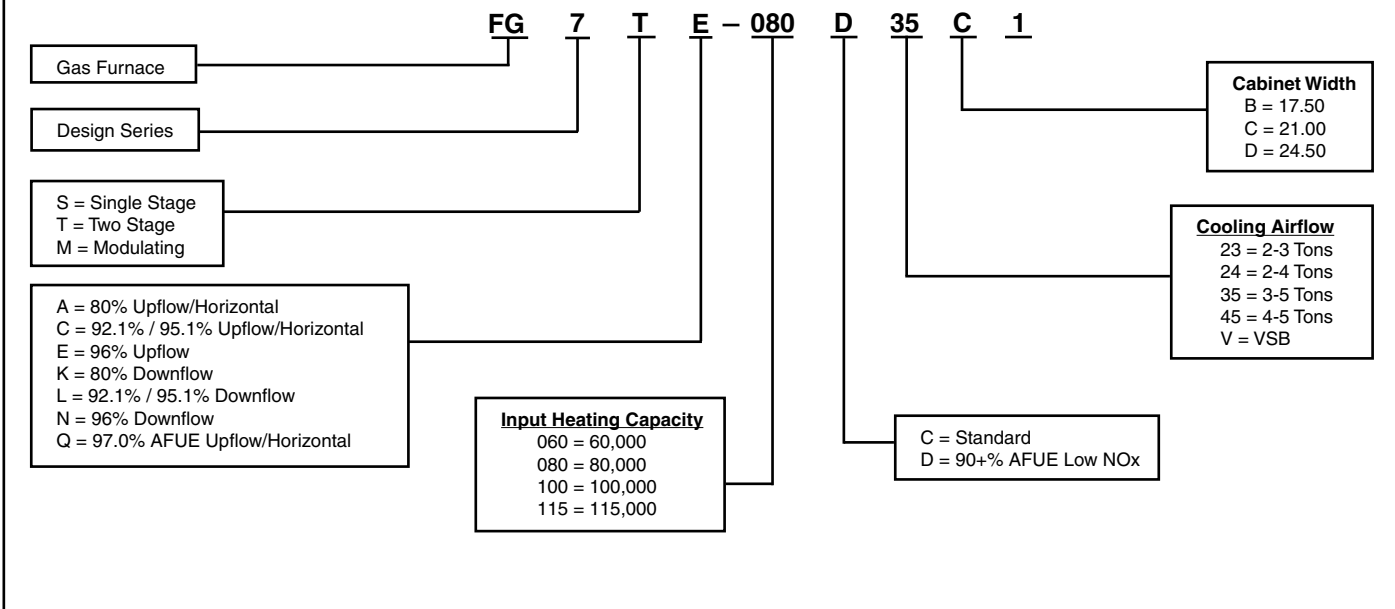


## \*TN 96% Downflow Furnace

Cabinet Size	Dim. "A"	Dim. "B"	Dim. "C"
'B' Cabinet	17 1/2	15 7/8	16 1/8
'C' Cabinet	21	19 3/8	19 5/8
'D' Cabinet	24 1/2	22 7/8	23 1/8
<b>NOTES:</b>			
Dimensions shown in inches.			



## MODEL IDENTIFICATION CODE



## SPECIFICATIONS

<b>FG7TE/TN MODELS NUMBERS:</b>	<b>-060D-24B1</b>	<b>-080D-35C1</b>	<b>-100D-35C1</b>	<b>-115D-45D1</b>
Input - Btuh (a)	60,000 / 39,000	80,000 / 52,000	100,000 / 65,000	115,000 / 74,750
Heating Capacity - Btuh	57,600 / 37,440	76,800 / 49,920	96,000 / 62,400	110,400 / 71,760
<b>AFUE</b>	96	96	96	96
Motor FLA	6.2	8.7	8.7	11.70
Rated Ext. SP - In. W.C.	0.5	0.5	0.5	0.5
Temperature Rise Range - °F	30-60	35-65	35-65	40-70
Shipping Weights	125lbs	135lbs	145lbs	160lbs

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 - FG7TE/TN

FG7TE/TN - 96% AFUE, Two Stage Gas Furnace																					
MODEL NUMBER & HEATING INPUT (BTUH)		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	
		1/5	2/6	3/7	4/8	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE
<b>*TE*/TN - 060D - 24B1 (60,000 BTUH) TEMPERATURE RISE 30° F TO 60° F</b>		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	57	890	60	845	—	795	—	750	—	700	—	—	—	—	
		0	1	1	0	990	54	945	56	905	59	860	—	820	—	775	—	735	—	690	—
		1	1	1	0	1,055	51	1,015	53	970	55	930	57	890	60	845	—	805	—	760	—
		0	0	0	1	1,135	47	1,095	49	1,055	51	1,010	53	960	56	930	57	890	60	850	—
		1	0	0	1	1,185	45	1,145	47	1,105	48	1,065	50	1,030	52	990	54	950	56	910	59
		0	1	0	1	1,250	43	1,210	44	1,170	46	1,135	47	1,095	49	1,055	51	1,020	52	980	54
		1	1	0	1	1,290	41	1,255	42	1,220	44	1,180	45	1,145	47	1,110	48	1,075	50	1,040	51
		0	0	1	1	1,315	41	1,275	42	1,240	43	1,200	44	1,160	46	1,120	48	1,085	49	1,045	51
		1	0	1	1	1,350	40	1,315	41	1,280	42	1,245	43	1,205	44	1,170	46	1,135	47	1,100	48
		0	1	1	1	1,390	38	1,350	40	1,315	41	1,275	42	1,240	43	1,200	44	1,160	46	1,125	47
		1	1	1	1	1,420	38	1,380	39	1,345	40	1,310	41	1,270	42	1,235	43	1,200	44	1,160	46
<b>*TE*/TN - 80D - 35C1 (80,000 BTUH) TEMPERATURE RISE 35° F TO 65° F</b>		0	0	0	0	1,125	63	1,040	—	960	—	880	—	795	—	—	—	—	—	—	
		1	0	0	0	1,205	59	1,120	63	1,040	—	960	—	875	—	795	—	—	—	—	
		0	1	0	0	1,305	54	1,225	58	1,150	62	1,070	—	995	—	915	—	840	—	—	
		1	1	0	0	1,430	50	1,350	53	1,270	56	1,190	60	1,110	63	1,030	—	950	—	865	—
		0	0	1	0	1,525	47	1,450	49	1,375	52	1,300	55	1,225	57	1,150	62	1,075	66	1,000	—
		1	0	1	0	1,620	44	1,540	46	1,465	49	1,390	51	1,315	54	1,240	57	1,165	61	1,090	65
		0	1	1	0	1,695	42	1,620	44	1,545	46	1,465	49	1,390	51	1,315	54	1,235	58	1,160	61
		1	1	1	0	1,770	40	1,700	42	1,630	44	1,555	46	1,485	47	1,410	50	1,340	53	1,265	56
		0	0	0	1	1,875	38	1,805	39	1,730	41	1,655	43	1,580	45	1,510	47	1,435	50	1,340	53
		1	0	0	1	1,905	37	1,840	39	1,775	40	1,710	42	1,640	43	1,575	45	1,510	47	1,445	49
		0	1	0	1	1,980	36	1,910	37	1,845	39	1,780	40	1,715	41	1,650	43	1,580	45	1,515	47
		1	1	0	1	2,025	35	1,960	36	1,895	38	1,830	39	1,765	40	1,700	42	1,635	43	1,570	45
		0	0	1	1	2,085	—	2,025	35	1,960	36	1,900	37	1,840	38	1,775	40	1,715	41	1,655	43
		1	0	1	1	2,135	—	2,070	—	2,010	35	1,945	37	1,880	37	1,815	39	1,750	41	1,685	42
		0	1	1	1	2,200	—	2,145	—	2,090	—	2,035	35	1,980	36	1,925	37	1,870	38	1,820	39
		1	1	1	1	2,280	—	2,225	—	2,170	—	2,115	—	2,065	—	2,010	—	1,955	36	1,900	37

1. Motor Switch Settings are for heating speeds using HEAT switches 1, 2, 3, & 4 and cooling speeds using COOL switches 5, 6, 7, & 8.
2. Two openings are required for airflows above 1,600 CFM if the filter(s) is (are) adjacent to the furnace.
3. Data is shown without filter.
4. Temperature rises in the table are approximate. Actual temperature rises may vary
5. Cells shaded in gray indicate a temperature rise outside of the recommended range.
6. When in low stage, the circulating airflow is 70% of the tables high value (2-stage furnaces only).

# BLOWER PERFORMANCE - FG7TE/TN Continued

FG7TE/TN - 96% AFUE, Two Stage Gas Furnace																					
MODEL NUMBER & HEATING INPUT (BTUH)	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		
	1/5	2/6	3/7	4/8	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	CFM	RISE	
*TE/TN - 100D - 35C1 (100,000 BTUH) TEMPERATURE RISE 35° F TO 65° F	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	62	1,350	66	1,270	—	1,190	—	1,110	—	1,030	—	—	—	—	—	—
	0	0	1	0	1,525	58	1,450	61	1,375	65	1,300	—	1,225	—	1,150	—	1,075	—	1,000	—	—
	1	0	1	0	1,620	55	1,540	58	1,465	61	1,390	64	1,315	—	1,240	—	1,165	—	1,090	—	—
	0	1	1	0	1,695	52	1,620	55	1,545	58	1,465	61	1,390	64	1,315	—	1,235	—	1,160	—	—
	1	1	1	0	1,770	50	1,700	52	1,630	55	1,555	57	1,485	60	1,410	63	1,340	—	1,265	—	—
	0	0	0	1	1,875	47	1,805	49	1,730	51	1,655	54	1,580	56	1,510	59	1,435	62	1,340	—	—
	1	0	0	1	1,905	47	1,840	48	1,775	50	1,710	52	1,640	54	1,575	56	1,510	59	1,445	62	—
	0	1	0	1	1,980	45	1,910	47	1,845	48	1,780	50	1,715	52	1,650	54	1,580	56	1,515	59	—
	1	1	0	1	2,025	44	1,960	45	1,895	47	1,830	49	1,765	50	1,700	52	1,635	54	1,570	57	—
	0	0	1	1	2,085	43	2,025	44	1,960	45	1,900	47	1,840	48	1,775	50	1,715	52	1,655	54	—
	1	0	1	1	2,135	42	2,070	43	2,010	44	1,945	46	1,880	47	1,815	49	1,750	51	1,685	53	—
	0	1	1	1	2,200	40	2,145	41	2,090	43	2,035	44	1,980	45	1,925	46	1,870	48	1,820	49	—
1	1	1	1	2,280	39	2,225	40	2,170	41	2,115	42	2,065	43	2,010	44	1,955	45	1,900	47	—	
*TE/TN - 115D - 45D1 (115,000 BTUH) TEMPERATURE RISE 40° F TO 70° F	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	66	1,510	68	1,470	—	1,425	—	1,380	—	1,340	—	1,295	—	1,250	—	—
	1	1	0	0	1,625	63	1,585	64	1,540	66	1,500	68	1,460	—	1,415	—	1,375	—	1,335	—	—
	0	0	1	0	1,690	60	1,650	62	1,610	63	1,570	65	1,530	67	1,485	—	1,445	—	1,405	—	—
	1	0	1	0	1,760	58	1,715	60	1,670	61	1,625	63	1,575	65	1,530	67	1,485	—	1,440	—	—
	0	1	1	0	1,835	56	1,790	57	1,745	59	1,695	60	1,650	62	1,605	64	1,555	66	1,510	68	—
	1	1	1	0	1,885	54	1,840	56	1,790	57	1,745	59	1,700	60	1,655	62	1,610	63	1,565	65	—
	0	0	0	1	1,945	53	1,900	54	1,850	55	1,805	57	1,760	58	1,710	60	1,665	61	1,620	63	—
	1	0	0	1	1,950	52	1,905	54	1,860	55	1,820	56	1,775	58	1,735	59	1,690	60	1,650	62	—
	0	1	0	1	2,075	49	2,030	50	1,990	51	1,945	53	1,900	54	1,855	55	1,810	56	1,770	58	—
	1	1	0	1	2,125	48	2,085	49	2,040	50	2,000	51	1,955	52	1,910	54	1,870	55	1,825	56	—
	0	0	1	1	2,170	47	2,130	48	2,090	49	2,045	50	2,005	51	1,965	52	1,925	53	1,880	54	—
	1	0	1	1	2,215	46	2,180	47	2,140	48	2,105	49	2,070	49	2,035	50	2,000	51	1,965	52	—
	0	1	1	1	—	—	—	—	—	—	—	—	2,225	46	2,165	47	2,100	49	2,040	50	—
1	1	1	1	—	—	—	—	—	—	—	—	—	—	2,170	47	2,120	48	2,065	50	—	

- Motor Switch Settings are for heating speeds using HEAT switches 1, 2, 3, & 4 and cooling speeds using COOL switches 5, 6, 7, & 8.
- Two openings are required for airflows above 1,600 CFM if the filter(s) is (are) adjacent to the furnace.
- Data is shown without filter.
- Temperature rises in the table are approximate. Actual temperature rises may vary
- Cells shaded in gray indicate a temperature rise outside of the recommended range.
- When in low stage, the circulating airflow is 70% of the tables high value (2-stage furnaces only).

# 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.) WITH 1 long radius elbow on each pipe**	
		OUTLET	OUTLET	INLET/OUTLET	INLET/OUTLET
		2" Diameter	3" Diameter	2" Diameter	3" Diameter
60,000	Upflow	90	90	60	90
	Downflow	30	90	30	90
80,000	Upflow	40	90	40	90
	Downflow	30	90	30	90
100,000	Upflow	30	90	30	90
	Downflow	30	90	25	90
115,000	Upflow	N/A	90	N/A	90
	Downflow	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/TN KITS	
Description	SKU
Fixed Speed to Variable Speed	904880
2" Concentric Vent Kit	904177
3" Concentric Vent Kit	904176
2" Concentric Vent Kit (Canadian Approved)	904952
3" Concentric Vent Kit (Canadian Approved)	904953
"A" Cabinet Downflow Sub Base Kit	902974
"B", "C", "D" Cabinet Downflow Sub Base Kit	904911
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 (02/2018)