

## FG7T (C and L Series)

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

**Two Stage, Fixed Speed ECM,  
High Efficiency Upflow/Horizontal  
and Downflow Gas Furnaces**

**Induced Draft - 95.1 AFUE  
Input 60,000 - 120,000 Btuh**

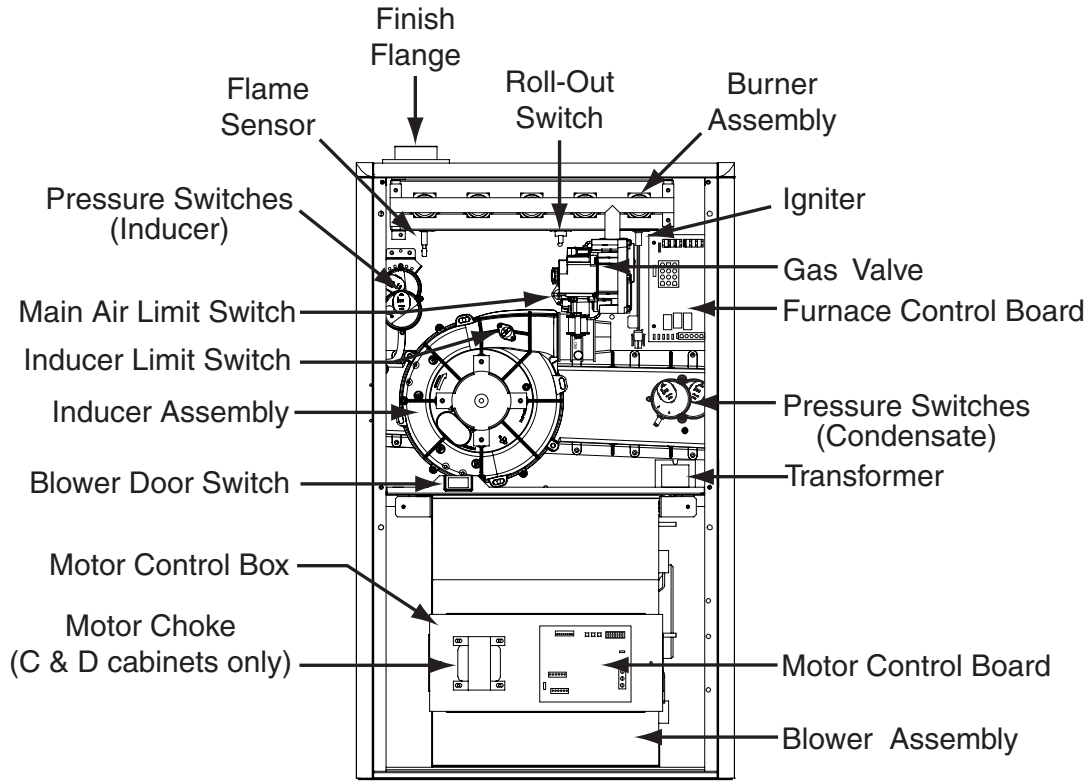
The high efficiency upflow gas furnace may be installed free standing in a utility room, basement, or enclosed in an alcove or closet. Upflow/horizontal units come ready for upflow or horizontal application. The extended flush jacket provides a pleasing "appliance appearance." Design certified by CSA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



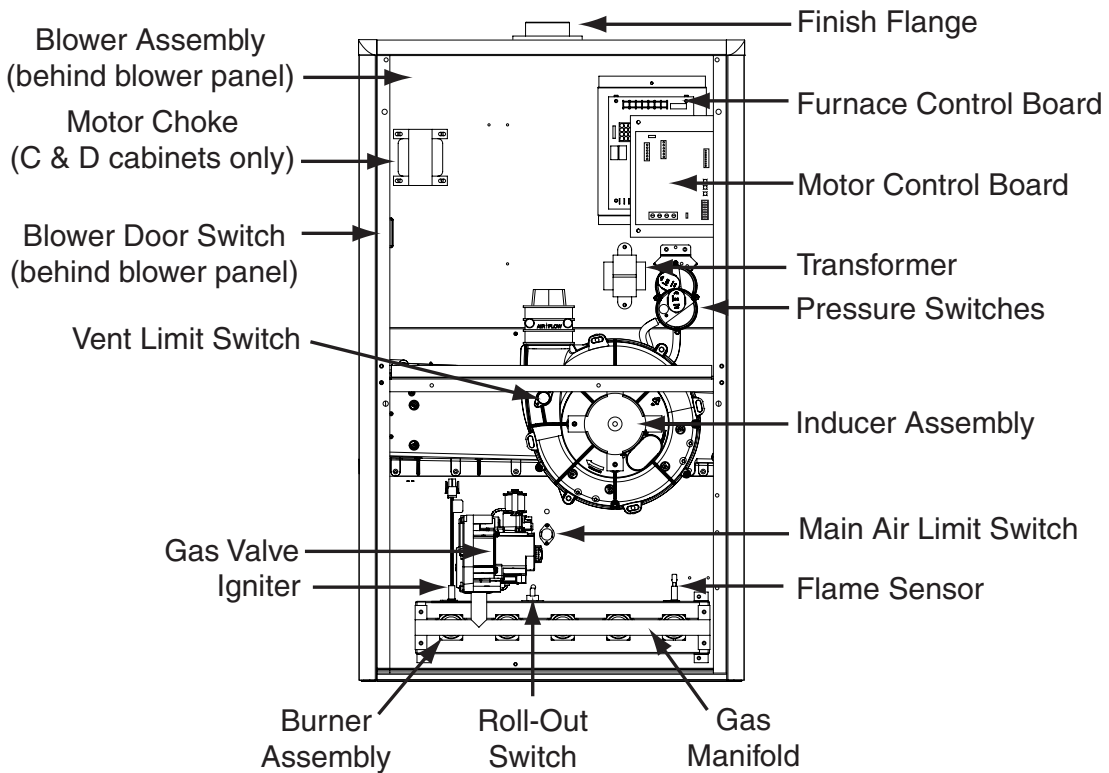
## FEATURES and BENEFITS

- **iSEER:** Energy efficient brushless DC (ECM) motor gives up to 1 SEER point efficiency gain in cooling.
- **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.
- **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.
- **Hot surface igniter:** Innovative application of a silicon nitride type igniter. Utilizes proven Smartlite<sup>®</sup> technology.
- **Color coded wire harness:** Designed to fit the components, all with quick-connect fittings for ease of service and replacement.
- **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.
- **High Static Blowers:** All models equipped with high static blowers.
- **Low Boy Height:** Easy to apply in low ceiling applications, works well with taller high SEER coils, easier to handle and install.
- **Tubular primary heat exchanger:** Heavy gauge aluminized steel heat exchanger and stainless steel secondary heat exchanger assures a long life.
- **90 second fixed cooling cycle blower-off delay (TDR):** Increases cooling performance when matched with a Nortek Global HVAC coil.
- **Variable speed blower kit:** Upgradable to full variable speed with kit.
- **LP convertible:** Simple burner orifice and regulator spring change for ease of convertibility.
- **Diagnostic lights for easy troubleshooting without counting flashes:** 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.
- **Incorporates integrated control board:** With connections for electronic air cleaner and humidifier.
- **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.
- **2 Stage Inducer:** Optimizes efficiency on first stage heat and reduces 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/Horizontal Gas Furnace Components**

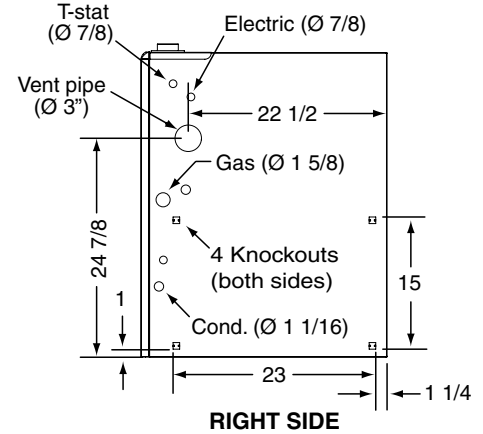
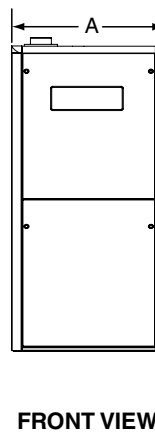
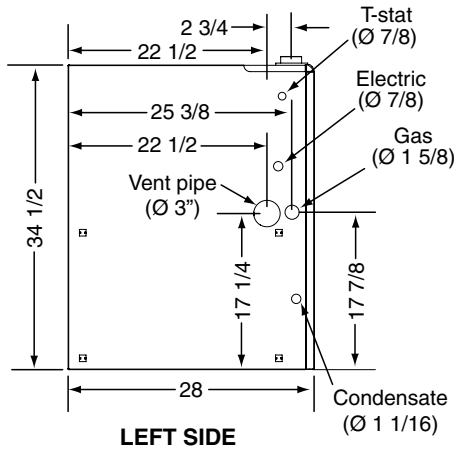
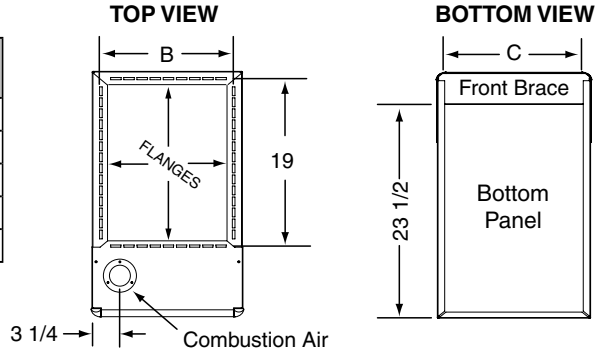


**Downflow Gas Furnace Components**

# DIMENSIONS

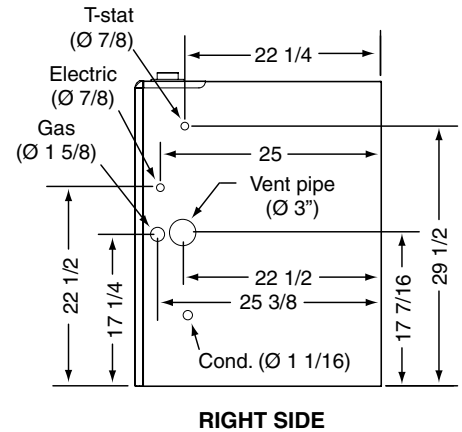
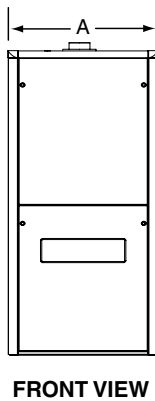
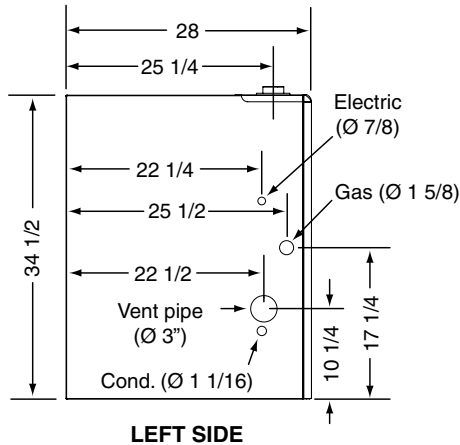
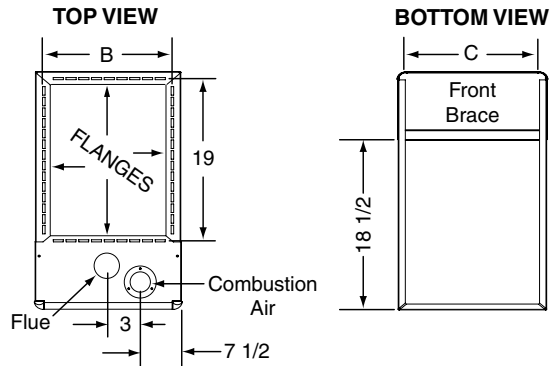
## \*TC 95.1% Upflow/Horizontal Furnace

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.			

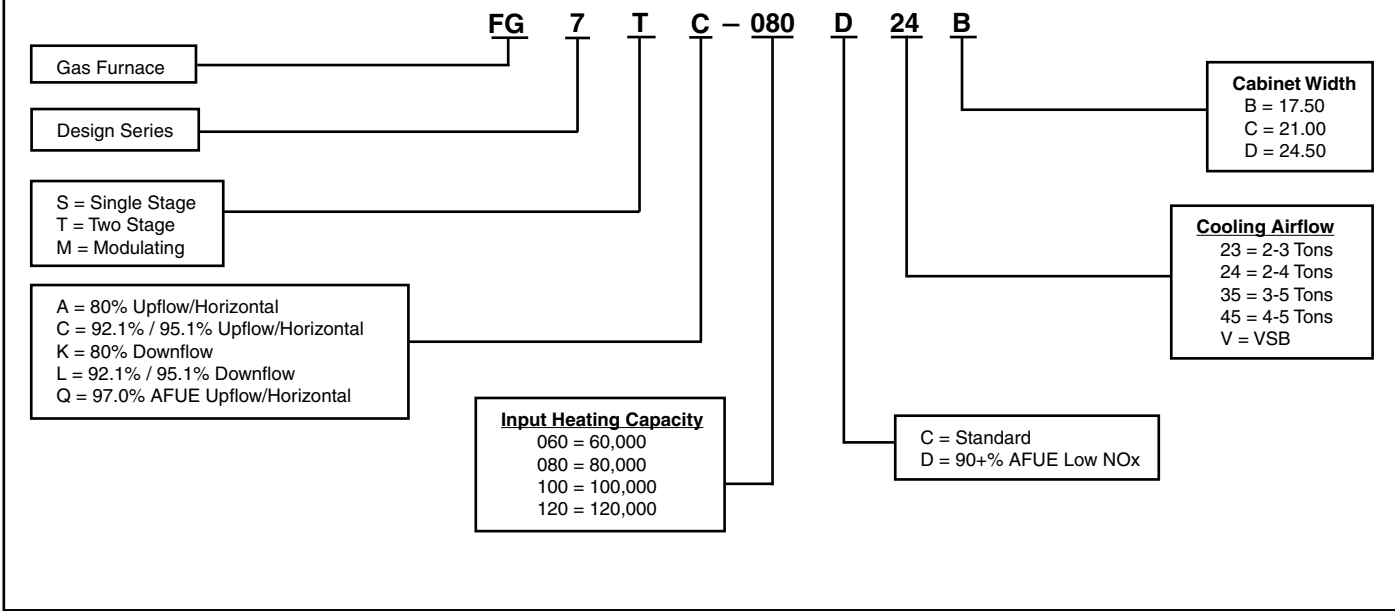


## \*TL 95.1% Downflow Furnace

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>FG7TC/TL MODELS NUMBERS:</b>	<b>-060D-24B</b>	<b>-080D-35C</b>	<b>-100D-35C</b>	<b>-120D-45D</b>
Input - Btuh (a)	60,000 / 39,000	80,000 / 52,000	100,000 / 65,000	120,000 / 78,000
Heating Capacity - Btuh	57,000 / 37,050	76,000 / 49,400	95,000 / 61,750	114,000 / 74,100
<b>AFUE</b>	95.1	95.1	95.1	95.1*
Blower D x W	11 x 8	11 x 10	11 x 10	11 x 10
Motor H.P. - Speed - Type	1/2 - BLDC	3/4 - BLDC	3/4 - BLDC	1 - BLDC
Motor FLA	6.2	8.7	8.7	11.7
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

\* TL 120 is 94.8% AFUE

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 - FG7TC/TL

FG7TC/TL - 95.1% 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
*TC / TL - 060D - 24B (60,000)	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	56	890	59	845	—	795	—	750	—	700	—	—	—	—	—
	0	1	1	0	990	53	945	56	905	58	860	—	820	—	775	—	735	—	690	—
	1	1	1	0	1,055	50	1,015	52	970	54	930	57	890	59	845	—	805	—	760	—
	0	0	0	1	1,135	47	1,095	48	1,055	50	1,010	52	960	55	930	57	890	59	850	—
	1	0	0	1	1,185	45	1,145	46	1,105	48	1,065	50	1,030	51	990	53	950	56	910	58
	0	1	0	1	1,250	42	1,210	44	1,170	45	1,135	47	1,095	48	1,055	50	1,020	52	980	54
	1	1	0	1	1,290	41	1,255	42	1,220	43	1,180	45	1,145	46	1,110	48	1,075	49	1,040	51
	0	0	1	1	1,315	40	1,275	41	1,240	43	1,200	44	1,160	45	1,120	47	1,085	49	1,045	51
	1	0	1	1	1,350	39	1,315	40	1,280	41	1,245	42	1,205	44	1,170	45	1,135	47	1,100	48
	0	1	1	1	1,390	38	1,350	39	1,315	40	1,275	41	1,240	43	1,200	44	1,160	45	1,125	47
	1	1	1	1	1,420	37	1,380	38	1,345	39	1,310	40	1,270	42	1,235	43	1,200	44	1,160	45
*TC / TL - 80D - 35C (80,000)	0	0	0	0	1,125	55	1,040	—	960	—	880	—	795	—	—	—	—	—	—	—
	1	0	0	0	1,205	58	1,120	63	1,040	—	960	—	875	—	795	—	—	—	—	—
	0	1	0	0	1,305	54	1,225	57	1,150	61	1,070	—	995	—	915	—	840	—	—	—
	1	1	0	0	1,430	49	1,350	52	1,270	55	1,190	59	1,110	63	1,030	—	950	—	865	—
	0	0	1	0	1,525	46	1,450	49	1,375	51	1,300	54	1,225	57	1,150	61	1,075	65	1,000	—
	1	0	1	0	1,620	43	1,540	46	1,465	48	1,390	51	1,315	54	1,240	57	1,165	60	1,090	65
	0	1	1	0	1,695	42	1,620	43	1,545	46	1,465	48	1,390	51	1,315	54	1,235	57	1,160	61
	1	1	1	0	1,770	40	1,700	41	1,630	43	1,555	45	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	49	1,340	53
	1	0	0	1	1,905	37	1,840	38	1,775	40	1,710	41	1,640	43	1,575	45	1,510	47	1,445	49
	0	1	0	1	1,980	36	1,910	37	1,845	38	1,780	40	1,715	41	1,650	43	1,580	45	1,515	46
	1	1	0	1	2,025	35	1,960	36	1,895	37	1,830	38	1,765	40	1,700	41	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	36	1,880	37	1,815	39	1,750	40	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 recommended 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 - FG7TC/TL Continued

FG7TC/TL - 95.1% 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
*TC / TL - 100D - 35C (100,000)	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	65	1,270	—	1,190	—	1,110	—	1,030	—	—	—	—	—
	0	0	1	0	1,525	58	1,450	61	1,375	64	1,300	—	1,225	—	1,150	—	1,075	—	1,000	—
	1	0	1	0	1,620	54	1,540	57	1,465	60	1,390	63	1,315	—	1,240	—	1,165	—	1,090	—
	0	1	1	0	1,695	52	1,620	54	1,545	57	1,465	60	1,390	63	1,315	—	1,235	—	1,160	—
	1	1	1	0	1,770	50	1,700	52	1,630	54	1,555	57	1,485	59	1,410	62	1,340	—	1,265	—
	0	0	0	1	1,875	47	1,805	49	1,730	51	1,655	53	1,580	56	1,510	58	1,435	61	1,340	—
	1	0	0	1	1,905	46	1,840	48	1,775	50	1,710	51	1,640	54	1,575	56	1,510	58	1,445	61
	0	1	0	1	1,980	44	1,910	46	1,845	48	1,780	49	1,715	51	1,650	53	1,580	56	1,515	58
	1	1	0	1	2,025	43	1,960	45	1,895	46	1,830	48	1,765	50	1,700	52	1,635	54	1,570	56
	0	0	1	1	2,085	42	2,025	43	1,960	45	1,900	46	1,840	48	1,775	50	1,715	51	1,655	53
	1	0	1	1	2,135	41	2,070	42	2,010	44	1,945	45	1,880	47	1,815	48	1,750	50	1,685	52
	0	1	1	1	2,200	40	2,145	41	2,090	42	2,035	43	1,980	44	1,925	46	1,870	47	1,820	48
	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	46
*TC / TL - 120D - 45D (120,000)	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	68	1,510	70	1,470	—	1,425	—	1,380	—	1,340	—	1,295	—	1,250	—
	1	1	0	0	1,625	65	1,585	67	1,540	69	1,500	70	1,460	—	1,415	—	1,375	—	1,335	—
	0	0	1	0	1,690	62	1,650	64	1,610	66	1,570	67	1,530	69	1,485	—	1,445	—	1,405	—
	1	0	1	0	1,760	60	1,715	62	1,670	63	1,625	65	1,575	67	1,530	69	1,485	—	1,440	—
	0	1	1	0	1,835	58	1,790	59	1,745	60	1,695	62	1,650	64	1,605	66	1,555	68	1,510	70
	1	1	1	0	1,885	56	1,840	57	1,790	59	1,745	60	1,700	62	1,655	64	1,610	66	1,565	67
	0	0	0	1	1,945	54	1,900	56	1,850	57	1,805	58	1,760	60	1,710	62	1,665	63	1,620	65
	1	0	0	1	1,950	54	1,905	55	1,860	57	1,820	58	1,775	59	1,735	61	1,690	62	1,650	64
	0	1	0	1	2,075	51	2,030	52	1,990	53	1,945	54	1,900	56	1,855	57	1,810	58	1,770	60
	1	1	0	1	2,125	50	2,085	51	2,040	52	2,000	53	1,955	54	1,910	55	1,870	56	1,825	58
	0	0	1	1	2,170	49	2,130	50	2,090	51	2,045	52	2,005	53	1,965	54	1,925	55	1,880	56
	1	0	1	1	2,215	48	2,180	48	2,140	49	2,105	50	2,070	51	2,035	52	2,000	53	1,965	54
	0	1	1	1	—	—	—	—	—	—	—	—	2,225	47	2,165	49	2,100	50	2,040	52
	1	1	1	1	—	—	—	—	—	—	—	—	—	—	2,170	49	2,120	50	2,065	51

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 recommended 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).

# 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.

## VENT TABLE

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	90	90
	Horizontal	50	90	50	90
	Downflow	30	90	30	90
80,000	Upflow	40	90	40	90
	Horizontal	30	90	30	90
	Downflow	30	90	30	90
100,000	Upflow	30	90	30	90
	Horizontal	30	90	30	90
	Downflow	30	90	25	90
120,000	Upflow	N/A	90	N/A	90
	Horizontal	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

FG7TC/TL 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 (06/2017)