

TECHNICAL SPECIFICATIONS

KG7SD with ECM

High Efficiency, Single Stage Condensing, Upflow/Horizontal Gas Furnace Models

Up to 95% AFUE

38,000 - 120,000 Btuh Input

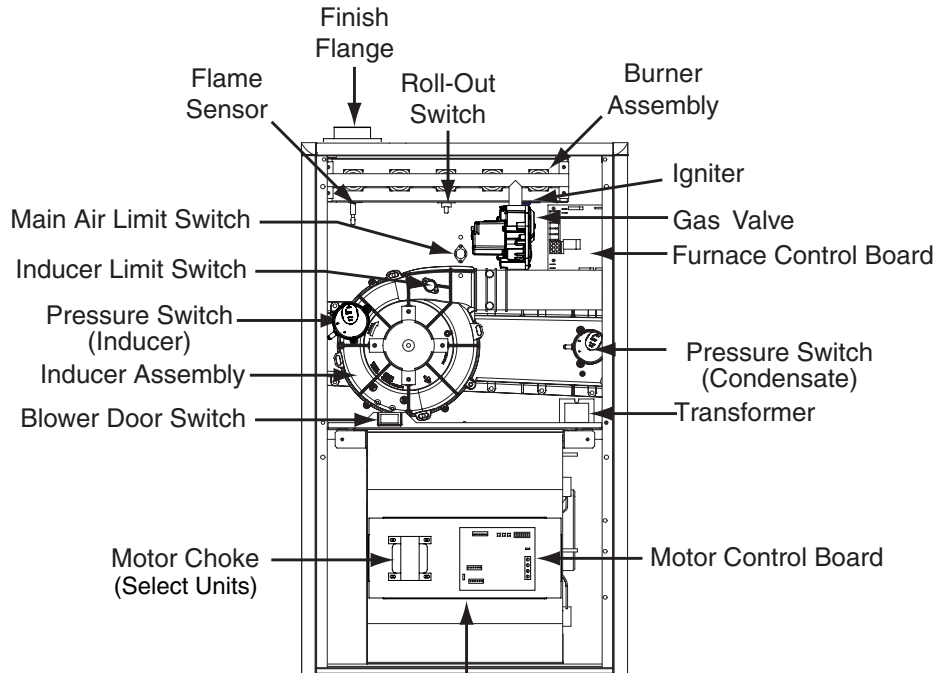
The high efficiency upflow gas furnace may be installed free standing in a utility room, basement, or enclosed in an alcove or closet. Upflow/horizontal units come ready for upflow or horizontal application. The extended flush jacket provides a pleasing "appliance appearance." Design certified by CSA 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® 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 ECM blowers.
- **16 speeds** for heating and cooling enables flexible airflow.
- **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.
- **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.
- **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.

GAS FURNACE COMPONENTS

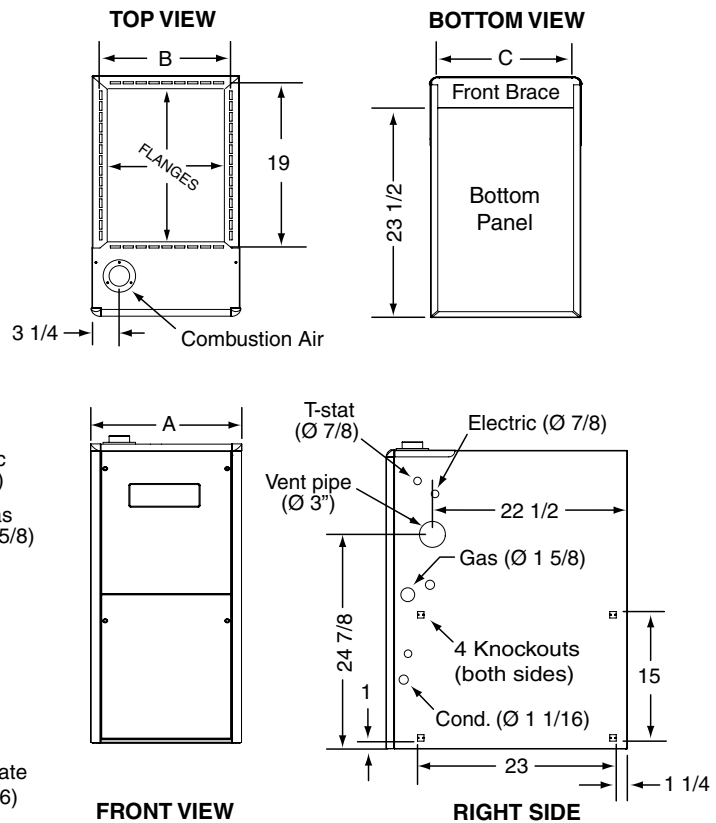


KG7SD Series -Upflow / Horizontal Furnace

DIMENSIONS

KG7SD Upflow / Horizontal Furnaces			
Model #'s	Dim. -A-	Dim -B-	Dim -C-
038D-23EB1	17 1/2	15 7/8	16 1/8
054D-23EB1			
072D-35EC1	21	19 3/8	19 5/8
090D-35EC1			
108D-35ED1	24 1/2	22 7/8	23 1/8
120D-35ED1			

NOTE: Dimensions shown in inches.



KG7SD Series -Upflow / Horizontal Furnace

BLOWER PERFORMANCE - KG7SD

KG7SD FURNACES WITH FIXED SPEED HIGH EFFECIENCY BLOWERS

MODEL NUMBER	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
KG7SD 038D-23EB1	0	0	0	0	570	55	530	58	—	—	—	—	—	—	—	—	—	—	—	—
	1	0	0	0	635	51	605	54	555	56	—	—	—	—	—	—	—	—	—	—
	0	1	0	0	710	46	670	48	625	50	590	53	550	57	—	—	—	—	—	—
	1	1	0	0	805	41	765	43	725	44	680	47	645	49	605	52	570	56	—	—
	0	0	1	0	865	39	830	41	790	42	755	44	715	46	675	48	635	50	590	53
	1	0	1	0	945	36	910	38	875	39	835	41	800	42	755	44	715	45	675	48
	0	1	1	0	975	34	940	36	910	37	875	38	840	40	795	42	755	43	675	45
	1	1	1	0	1020	34	985	35	955	36	920	37	880	38	845	40	805	42	765	42
	0	0	0	1	1080	33	1050	33	1020	34	980	35	950	36	910	37	875	39	835	41
	1	0	0	1	1120	32	1085	31	1045	32	1025	33	990	35	955	35	915	37	880	39
	0	1	0	1	1180	31	1145	31	1110	32	1080	32	1040	33	1010	34	975	35	940	36
	1	1	0	1	—	—	1180	30	1145	31	1115	31	1085	32	1050	33	1015	34	980	35
	0	0	1	1	—	—	—	—	1185	30	1155	30	1120	31	1090	32	1050	33	1015	34
	1	0	1	1	—	—	—	—	—	—	—	—	1175	30	1140	30	1110	32	1080	32
	0	1	1	1	—	—	—	—	—	—	—	—	—	—	1175	30	1145	30	1110	31
	1	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	1180	30	1150	31
KG7SD 054D-23EB1	0	0	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1	0	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	0	1	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1	1	0	0	725	59	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	0	0	1	0	810	57	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1	0	1	0	940	51	890	54	845	57	795	58	750	60	700	—	—	—	—	—
	0	1	1	0	990	48	945	51	905	53	860	56	820	58	775	—	—	—	—	—
	1	1	1	0	1,055	44	1,015	46	970	48	930	50	890	52	845	55	805	58	760	—
	0	0	0	1	1,135	43	1,095	45	1,055	46	1,010	48	960	50	930	53	890	55	850	58
	1	0	0	1	1,185	40	1,145	41	1,105	43	1,065	44	1,030	46	990	48	950	51	910	55
	0	1	0	1	1,250	40	1,210	41	1,170	41	1,135	43	1,095	44	1,055	46	1,020	48	980	51
	1	1	0	1	1,290	38	1,255	38	1,220	39	1,180	40	1,145	42	1,110	44	1,075	46	1,040	49
	0	0	1	1	1,315	37	1,275	38	1,240	39	1,200	40	1,160	41	1,120	43	1,085	45	1,045	47
	1	0	1	1	1,350	36	1,315	36	1,280	37	1,245	38	1,205	39	1,170	42	1,135	44	1,100	45
	0	1	1	1	1,390	36	1,350	36	1,315	36	1,275	38	1,240	39	1,200	41	1,160	42	1,125	42
	1	1	1	1	1,420	34	1,380	35	1,345	35	1,310	36	1,270	37	1,235	39	1,200	40	1,160	41
KG7SD 072D-35EC1	0	0	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1	0	0	0	1,205	59	1,120	61	1,040	63	—	—	—	—	—	—	—	—	—	—
	0	1	0	0	1,305	56	1,225	59	1,150	61	1,070	64	—	—	—	—	—	—	—	—
	1	1	0	0	1,430	52	1,350	54	1,270	55	1,190	58	1,110	60	1,030	61	950	62	—	—
	0	0	1	0	1,525	51	1,450	53	1,375	54	1,300	56	1,225	57	1,150	59	1,075	61	1,000	64
	1	0	1	0	1,620	48	1,540	49	1,465	50	1,390	51	1,315	53	1,240	54	1,165	56	1,090	61
	0	1	1	0	1,695	48	1,620	49	1,545	49	1,465	51	1,390	52	1,315	54	1,235	55	1,160	57
	1	1	1	0	1,770	44	1,700	45	1,630	46	1,555	47	1,485	48	1,410	50	1,340	51	1,265	55
	0	0	0	1	1,875	43	1,805	44	1,730	45	1,655	46	1,580	47	1,510	49	1,435	50	1,340	52
	1	0	0	1	1,905	41	1,840	42	1,775	42	1,710	43	1,640	44	1,575	46	1,510	48	1,445	50
	0	1	0	1	1,980	40	1,910	41	1,845	41	1,780	42	1,715	43	1,650	46	1,580	47	1,515	48
	1	1	0	1	2,025	39	1,960	39	1,895	40	1,830	41	1,765	42	1,700	44	1,635	45	1,570	47
	0	0	1	1	2,085	38	2,025	39	1,960	40	1,900	41	1,840	42	1,775	43	1,715	44	1,655	45
	1	0	1	1	2,135	37	2,070	38	2,010	39	1,945	39	1,880	40	1,815	41	1,750	42	1,685	43
	0	1	1	1	2,200	37	2,145	38	2,090	38	2,035	39	1,980	39	1,925	40	1,870	40	1,820	41
	1	1	1	1	2,280	36	2,225	37	2,170	37	2,115	38	2,065	38	2,010	39	1,955	39	1,900	40

- 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 - KG7SD Continued

KG7SD FURNACES WITH FIXED SPEED HIGH EFFECIENCY BLOWERS

MODEL NUMBER	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
KG7SD 090D-35EC1	0	0	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1	0	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	0	1	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1	1	0	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	0	0	1	0	1,525	63	1,450	65	—	—	—	—	—	—	—	—	—	—	—	—
	1	0	1	0	1,620	60	1,540	61	1,465	63	1,390	63	1,315	64	—	—	—	—	—	—
	0	1	1	0	1,695	57	1,620	58	1,545	59	1,465	61	1,390	62	—	—	—	—	—	—
	1	1	1	0	1,770	55	1,700	56	1,630	57	1,555	59	1,485	60	1,410	63	1,340	65	—	—
	0	0	0	1	1,875	53	1,805	54	1,730	55	1,655	57	1,580	58	1,510	59	1,435	60	1,340	62
	1	0	0	1	1,905	51	1,840	52	1,775	53	1,710	54	1,640	55	1,575	56	1,510	58	1,445	60
	0	1	0	1	1,980	49	1,910	50	1,845	51	1,780	52	1,715	52	1,650	54	1,580	55	1,515	57
	1	1	0	1	2,025	48	1,960	49	1,895	50	1,830	50	1,765	51	1,700	52	1,635	54	1,570	56
	0	0	1	1	2,085	47	2,025	48	1,960	48	1,900	49	1,840	50	1,775	51	1,715	52	1,655	54
	1	0	1	1	2,135	46	2,070	46	2,010	47	1,945	48	1,880	49	1,815	50	1,750	51	1,685	53
	0	1	1	1	2,200	44	2,145	45	2,090	45	2,035	46	1,980	47	1,925	48	1,870	49	1,820	51
	1	1	1	1	2,280	42	2,225	43	2,170	44	2,115	45	2,065	46	2,010	47	1,955	48	1,900	49
KG7SD 108D-45ED1	0	0	0	0	1,395	62	1,350	64	1,305	66	1,260	68	—	—	—	—	—	—	—	—
	1	0	0	0	1,465	58	1,420	60	1,375	62	1,330	64	—	—	—	—	—	—	—	—
	0	1	0	0	1,555	57	1,510	59	1,470	61	1,425	63	—	—	—	—	—	—	—	—
	1	1	0	0	1,625	54	1,585	56	1,540	58	1,500	59	—	—	—	—	—	—	—	—
	0	0	1	0	1,690	53	1,650	55	1,610	56	1,570	58	—	—	—	—	—	—	—	—
	1	0	1	0	1,760	51	1,715	52	1,670	54	1,625	56	1,575	64	—	—	—	—	—	—
	0	1	1	0	1,835	50	1,790	52	1,745	54	1,695	56	1,650	62	—	—	—	—	—	—
	1	1	1	0	1,885	49	1,840	50	1,790	52	1,745	53	1,700	60	1,655	63	1,610	65	—	—
	0	0	0	1	1,945	49	1,900	51	1,850	52	1,805	53	1,760	58	1,710	59	1,665	60	1,620	62
	1	0	0	1	1,950	47	1,905	49	1,860	50	1,820	51	1,775	55	1,735	56	1,690	58	1,650	60
	0	1	0	1	2,075	47	2,030	49	1,990	50	1,945	51	1,900	52	1,855	54	1,810	55	1,770	57
	1	1	0	1	2,125	45	2,085	47	2,040	49	2,000	50	1,955	51	1,910	52	1,870	54	1,825	56
	0	0	1	1	2,170	45	2,130	47	2,090	48	2,045	49	2,005	50	1,965	51	1,925	52	1,880	54
	1	0	1	1	2,215	44	2,180	45	2,140	47	2,105	48	2,070	49	2,035	50	2,000	51	1,965	53
	0	1	1	1	—	—	—	—	—	—	—	—	2,225	47	2,165	48	2,100	49	2,040	51
	1	1	1	1	—	—	—	—	—	—	—	—	—	—	2,170	47	2,120	48	2,065	49
KG7SD 120D-45ED1	0	0	0	0	1,395	69	1,350	68	—	—	—	—	—	—	—	—	—	—	—	—
	1	0	0	0	1,465	66	1,420	66	—	—	—	—	—	—	—	—	—	—	—	—
	0	1	0	0	1,555	62	1,510	64	1,470	69	—	—	—	—	—	—	—	—	—	—
	1	1	0	0	1,625	61	1,585	62	1,540	67	1,500	69	—	—	—	—	—	—	—	—
	0	0	1	0	1,690	59	1,650	60	1,610	64	1,570	66	1,530	68	1,485	70	—	—	—	—
	1	0	1	0	1,760	58	1,715	59	1,670	63	1,625	64	1,575	66	1,530	68	1,485	70	—	—
	0	1	1	0	1,835	57	1,790	59	1,745	61	1,695	63	1,650	64	1,605	66	1,555	68	1,510	70
	1	1	1	0	1,885	57	1,840	58	1,790	60	1,745	62	1,700	63	1,655	65	1,610	66	1,565	69
	0	0	0	1	1,945	57	1,900	56	1,850	59	1,805	61	1,760	62	1,710	63	1,665	64	1,620	67
	1	0	0	1	1,950	55	1,905	55	1,860	58	1,820	59	1,775	61	1,735	62	1,690	63	1,650	65
	0	1	0	1	2,075	53	2,030	54	1,990	56	1,945	58	1,900	59	1,855	60	1,810	61	1,770	63
	1	1	0	1	2,125	52	2,085	53	2,040	55	2,000	56	1,955	58	1,910	59	1,870	60	1,825	62
	0	0	1	1	2,170	51	2,130	52	2,090	54	2,045	55	2,005	56	1,965	58	1,925	59	1,880	60
	1	0	1	1	2,215	51	2,180	51	2,140	53	2,105	54	2,070	55	2,035	56	2,000	58	1,965	59
	0	1	1	1	—	—	—	—	—	—	—	—	2,225	54	2,165	55	2,100	56	2,040	58
	1	1	1	1	—	—	—	—	—	—	—	—	—	—	2,170	54	2,120	55	2,065	57

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).

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.

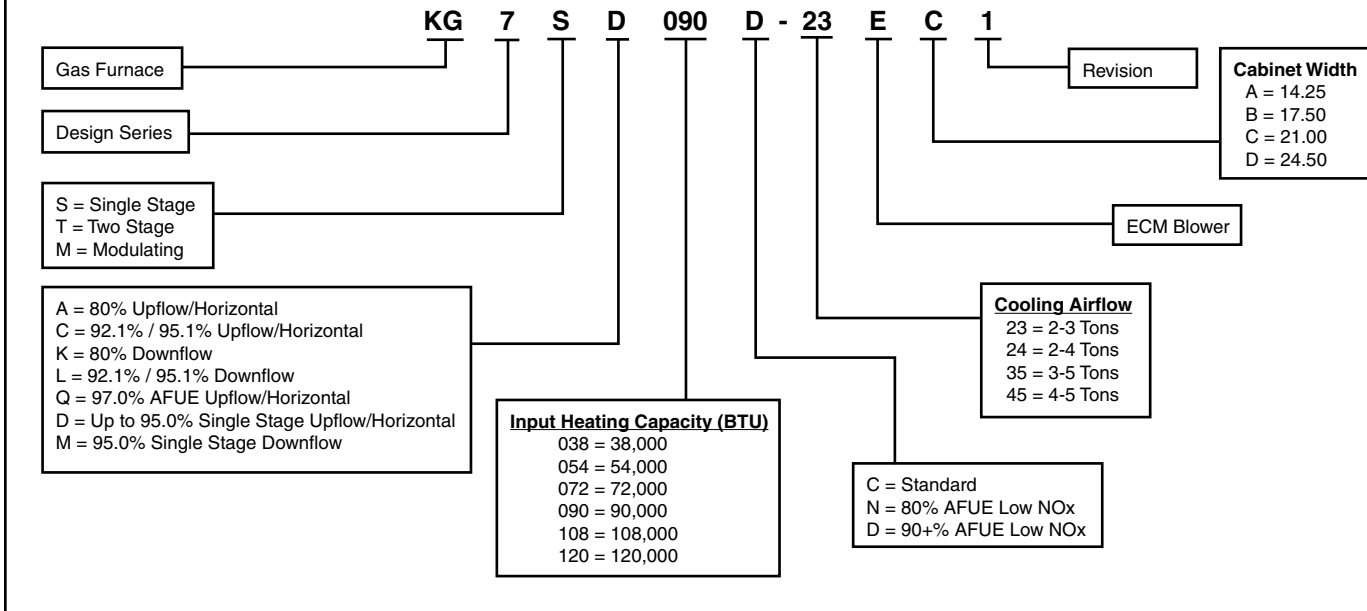
VENT TABLE

	SINGLE PIPE LENGTH (FT.) with 1 long radius elbow*		DIRECT VENT, DUEL PIPE LENGTH (ft.) WITH 1 long radius elbow on each pipe*	
	OUTLET	OUTLET	INLET/OUTLET	INLET/OUTLET
MODELS	2"	3"	2"	3"
KG7SD 038	50	70	50	70
KG7SD 054	70	90	70	90
KG7SD 072	50	90	50	90
KG7SD 090	60	90	60	90
KG7SD 108	N/A	90	N/A	90
KG7SD 120	N/A	90	N/A	90

* NOTE:

1. Subtract 2.5 ft. for each additional 2" elbow and 3.5 ft. for each additional 3" elbow.
2. Two 45 degree elbows are equivalent to one 90 degree elbow.
3. One short radius elbow is equivalent to two long radius elbows.
4. Do not include termination elbows in calculation of vent length.
5. This table is applicable for elevations from sea level to 2000 ft. For higher elevations decrease vent pipe lengths by 8% per 1000 ft. of altitude.
6. Only the listed pipe materials are approved for use with KG7 condensing furnaces.

MODEL IDENTIFICATION CODE



SPECIFICATIONS

KG7SD MODEL NUMBERS:	038D-23EB1	054D-23EB1	072D-35EC1	090D-35EC1	108D-35ED1	120D-35ED1
Input - Btuh (a)	38,000	54,000	72,000	90,000	108,000	120,000
Heating Capacity - Btuh	36,100	51,300	68,400	85,500	102,600	113,760
AFUE	95.0	95.0	95.0	95.0	95.0	94.3
Motor FLA	6.4	6.4	8.8	8.8	11.5	11.5
Rated Ext. SP - In. W.C.	0.5	0.5	0.5	0.5	0.5	0.5
Temperature Rise Range - °F	30-60	30-60	35-65	35-65	45-65	50-70
Shipping Weights	117lbs	117lbs	134lbs	140lbs	157lbs	157lbs
Net Weight	107lbs	107lbs	126lbs	132lbs	145lbs	145lbs

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.

ACCESSORIES

KG7SD KITS	
Description	SKU
2" Concentric Vent Kit (US)	904177
3" Concentric Vent Kit (US)	904176
2" Concentric Vent Kit (Canada)	904952
3" Concentric Vent Kit (Canada)	904953
"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
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 (02/2017)