



Gibson KG7S High Efficiency Single Stage Condensing Upflow Horizontal and Downflow Gas Furnace Models User Manual

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TECHNICAL SPECIFICATIONS

KG7S (D and M Series)
High Efficiency,
Single Stage Condensing,
Upflow/Horizontal and Downflow Gas
Furnace Models
95.0 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.

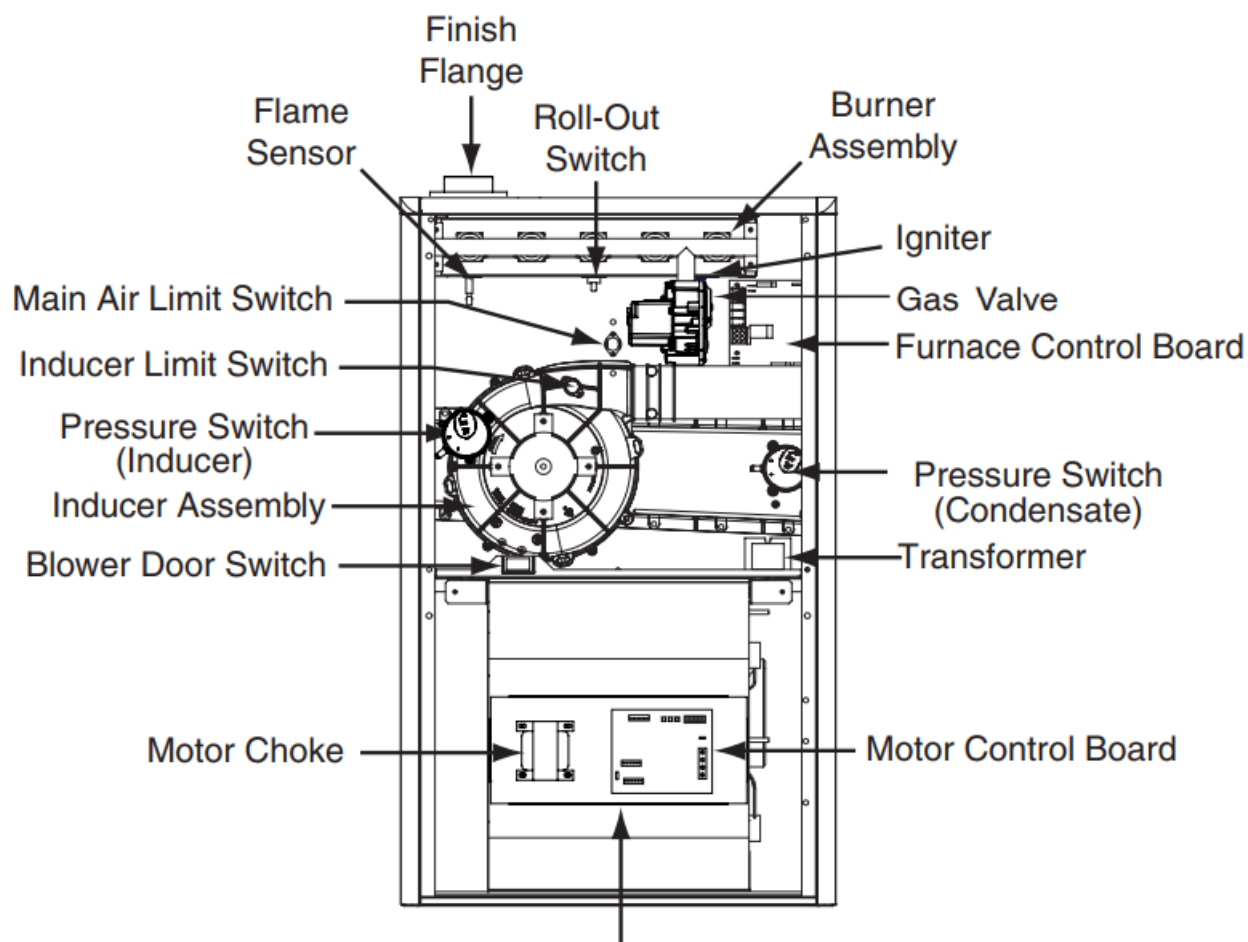


FEATURES and BENEFITS

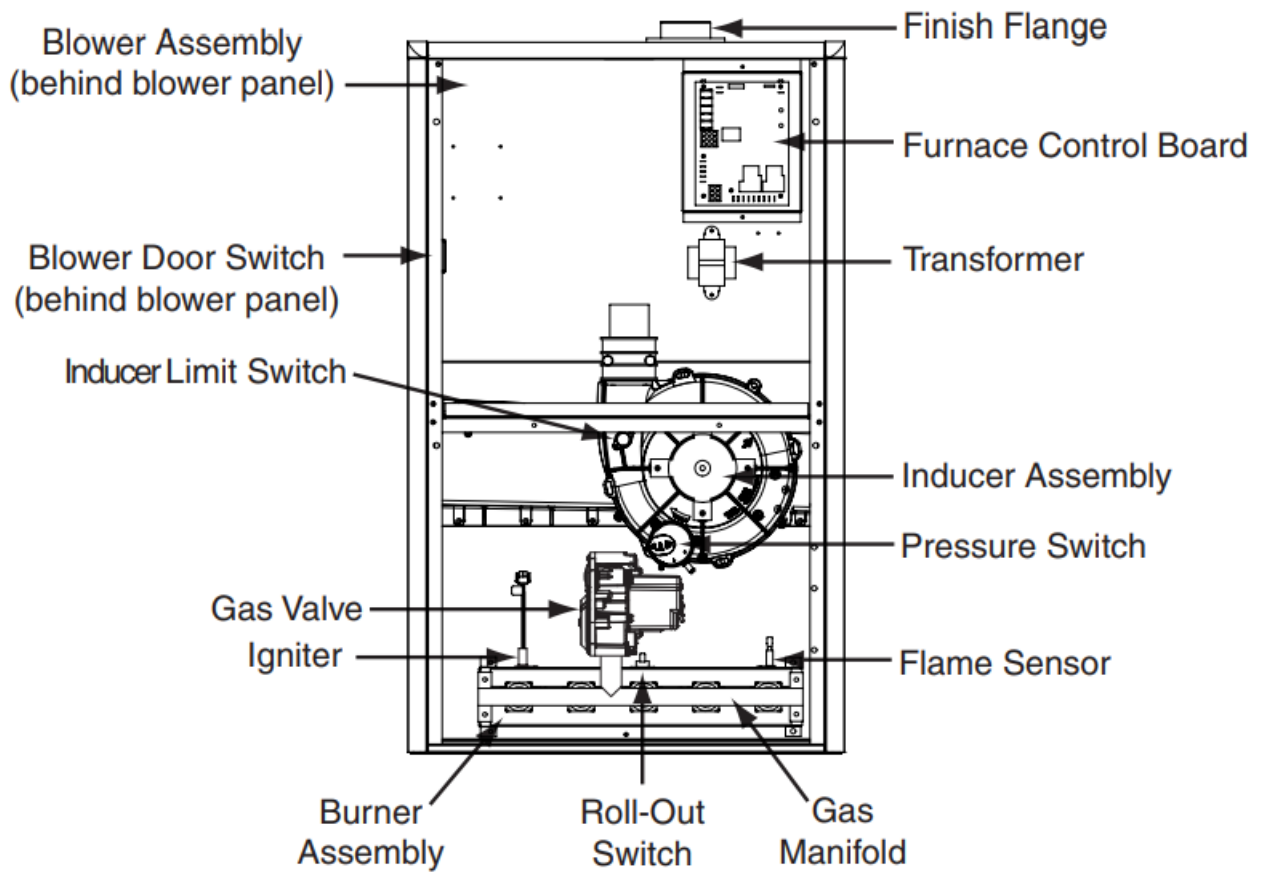
- 100% fired and tested — All units and each component are tested on the manufacturing line.
- Best packaging in the industry — Unique corner post design assures product will arrive to the homeowner dent free.
- 30 second blower delay at start-up assures a warm duct temperature at furnace start-up. Adjustable blower off settings (60, 90, 120 and 180 seconds).
- 30 second post purge increases life of heat exchanger.
- Hot surface igniter — Innovative application of an appliance type igniter with a 20 year history of reliability. 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 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.
- 60 second fixed cooling cycle blower-off delay (TDR) increases cooling performance when matched with a Nortek Global HVAC coil.
- High efficiency blower kits maximize efficiencies. On select units, a SEER improvement of up to 1 point is realized.
- Multi-speed direct drive blower — Designed to give a wide range of cooling capacities. Switches on PCB, provide ultra easy motor speed selection.
- 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, humidifier, and twinning.
- Two piece door design enhances furnace appearance and uses captured screws to prevent losing door screws.
- Seated 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



***SD Series -Upflow / Horizontal Furnace**

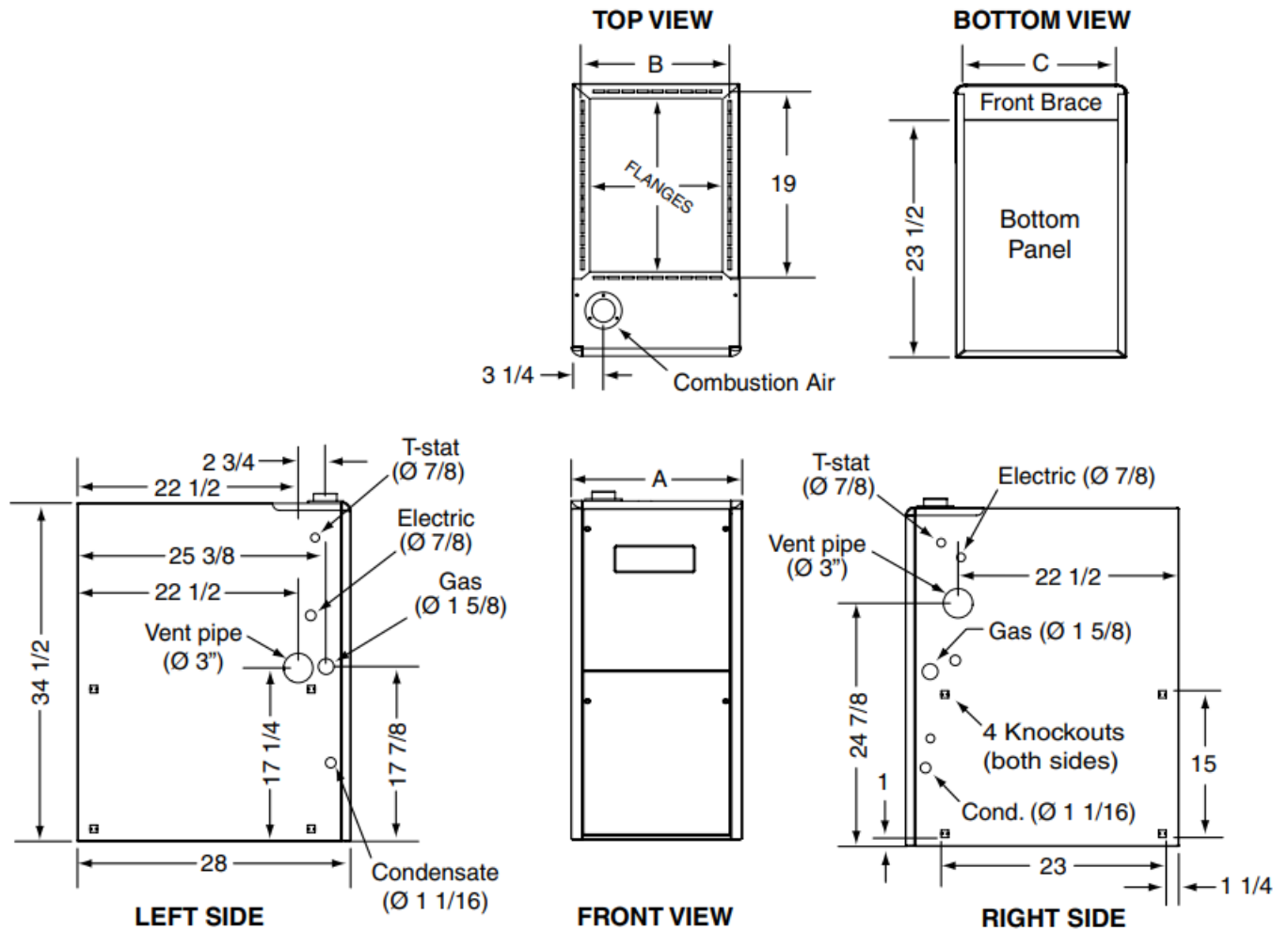


***SM Series Downflow Furnace**

DIMENSIONS

*SD Upflow / Horizontal Furnaces			
Model #'s	Dim. -A-	Dim -B-	Dim -C-
038D-24B	17 1/2	15 7/8	16 1/8
054D-24B			
072D-35C	21	19 3/8	19 5/8
090D-35C			
108D-45D	24 1/2	22 7/8	23 1/8
120D-45D			

NOTE: Dimensions shown in inches.

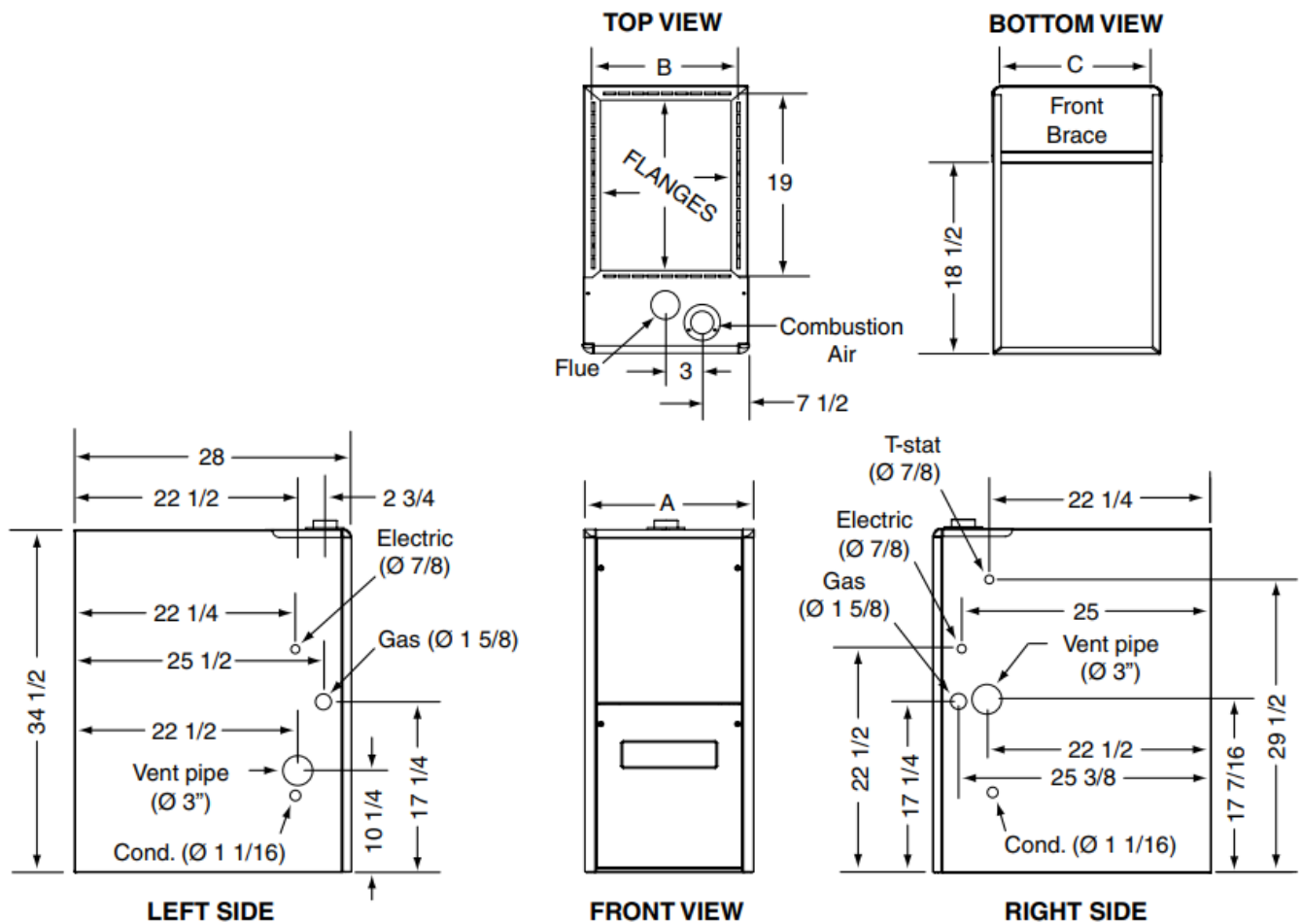


***SD Series -Upflow / Horizontal Furnace**

***SM Downflow Furnaces**

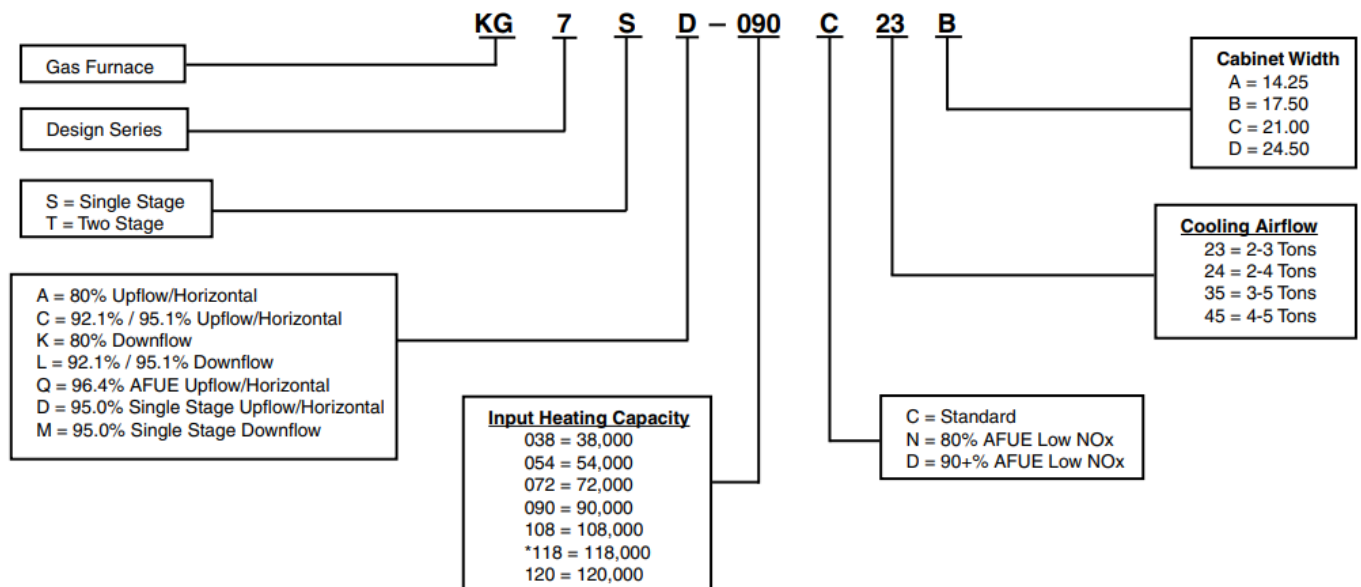
Model #'s	Dim. -A-	Dim. -B-	Dim. -C-
054D-24B	17 1/2	15 7/8	16 1/8
072D-35C	21	19 3/8	19 5/8
090D-35C			
118D-450	24 1/2	22 7/8	23 1/8

NOTE: Dimensions shown in inches.



***SM Series -Downflow Furnace**

MODEL IDENTIFICATION CODE



* 118 = 118,000 for SM Models

SPECIFICATIONS

KG7SD MODEL NUMBER S:	-038D-24B	-054D-24B	-072D-35C	-090D-35C	-108D-45D	-120D-45D
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	114,000
AFUE	95.0	95.0	95.0	95.0	95.0	95.0
Blower D x W	10 x 8	11 x 8	10 x 10	1 x 10	11 x 10	11 x 10
Motor H.P. – Speed – Type	1/2 – 4 – P SC	1/2 – 4 – P SC	1/2 – 4 – P SC	1 – 4 – PS C	1 – 4 – PS C	1 – 4 – PS C
Motor FLA	8.6	8.6	8.0	13.75	13.75	13.75
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	40-70	40-70
Shipping Weights	100lbs	120lbs	130lbs	135lbs	155lbs	155lbs

KG7SM MODEL NUMBERS:	-054D-24B	-072D-35C	-090D-35C	-118D-45D
Input – Btuh (a)	54,000	72,000	90,000	118,000
Heating Capacity – Btuh	51,300	68,400	85,500	112,100
AFUE	95.0	95.0	95.0	95.0
Blower D x W	11 x 8	11 x 10	11 x 10	11 x 10
Motor H.P. – Speed – Type	1/2 – 4 – PSC	1 – 4 – PSC	1 – 4 – PSC	1 – 4 – PSC
Motor FLA	8.6	13.7	13.7	13.75
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	120lbs	125lbs	135lbs	155lbs

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 – KG7SD

MAXIMUM AIRFLOW & TEMPERATURE RISES (0 F) FOR

***SD SERIES UPFLOW / HORIZONTAL FURNACES**

Model Number & Heating Input (Btuh)	Motor Speed	External Static Pressure (Inches Water Column)																
		0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		
		C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	
	HIGH*	1519	—	1483	—	1433	—	1397	—	1335	—	1272	—	1214	—	1130	—	
SD038D-24B Bottom Return (38,000)	MED-H**	1238	—	1216	—	1188	—	1164	—	1136	30	1092	31	1043	32	973	34	
		1094	31	1082	32	1052	32	1034	33	1021	34	977	34	928	36	865	37	
	LOW	841	40	817	42	801	43	786	45	750	46	720	48	683	49	639	53	
	HIGH*	1664	—	1631	—	1596	—	1546	—	1489	—	1433	—	1366	—	1285	—	
SD038D-24B Side Return (38,000)	MED-H	1272	—	1255	—	1249	—	1217	—	1189	—	1145	30	1096	31	1036	33	
		1130	—	1114	31	1100	31	1079	31	1048	33	1025	33	987	35	944	36	
	LOW	869	39	839	42	809	42	790	44	764	45	739	47	711	48	664	52	
	HIGH*	1519	33	1483	34	1433	35	1397	36	1335	37	1272	39	1214	41	1130	44	
SD054D-24B	MED-H	1238	40	1216	41	1188	42	1164	43	1136	44	1092	46	1043	48	973	51	

Bottom Return (54,000)	MED-L**	1094	46	1082	46	1052	48	1034	48	1021	49	977	51	928	54	865	58	
	LOW	841	59	817	—	801	—	786	—	750	—	720	—	683	—	639	—	
	HIGH*	1664	30	1631	31	1596	31	1546	32	1489	34	1433	35	1366	37	1285	39	
SD054D-24B Side Return (54,000)	MED-H MED-L**	1272 1130	39 44	1255 1114	40 45	1249 1100	40 45	1217 1079	41 46	1189 1048	42 48	1145 1025	44 49	1096 987	46 51	1036 944	48 53	
	LOW	869	58	839	60	809	—	790	—	764	—	739	—	711	—	664	—	
	HIGH*	1933	—	1857	36	1780	37	1695	39	1629	42	1498	45	1396	48	1280	52	
SD072D-35C Bottom Return (72,000)	MED-H** MED-L	1872 1320	36 31	1804 1299	37 31	1731 1264	39 33	1699 1233	41 34	1651 1183	43 36	1588 1126	46 39	1533 1059	49 33	1437 963	54 —	
	LOW	1185	56	1170	57	1132	59	1102	60	1067	62	1015	—	947	—	856	—	
	HIGH*	1916	35	1848	36	1773	38	1692	39	1613	41	1515	44	1426	47	1316	51	
SD072D-35C	MED-H**	1815	37	1771	38	1711	39	1641	41	1553	43	1468	45	1373	49	1270	52	

Side Return (72,000)	MED-L	1 2 5 9	5 3	1 2 4 1	5 4	1 2 2 4	5 4	1 1 9 2	5 6	1 1 6 3	5 7	1 1 1 5	6 0	1 0 5 6	6 3	9 8 2	—	
	LOW	1 1 3 9	5 9	1 1 2 0	6 0	1 0 9 6	6 1	1 0 7 5	6 2	1 0 4 7	6 4	1 0 1 4	—	9 5 9	—	8 8 4	—	
SD72D-35C Side + Bottom or 2 Sides (72,000)	HIGH* MED-H** MED-L	1 9 5 4	—	1 8 9 0		1 8 2 4		1 7 4 1		1 6 5 6		1 5 6 4	4 3 4 4	1 4 7 0	4 5 4 7	1 3 5 2	4 9 5 1	
		1 8 6 9	3 6 5 2	1 8 0 5		1 7 4 1		1 6 8 5		1 6 0 7		1 5 1 6	1 6 0	1 4 1 9	6 3	1 3 0 8		
		1 2 8 7		1 2 6 2		1 2 3 1		1 1 9 7		1 1 6 6		1 1 1 7	—	1 0 6 1	—	9 6 6	—	
	LOW	1 1 4 7	5 8	1 1 1 5	6 0	1 0 9 7	6 1	1 0 7 5	6 2	1 0 4 7	6 4	1 0 1 4		9 5 9		8 8 4	—	
	HIGH*	2 2 8 8	3 6	2 2 3 6	3 7	2 1 6 1	3 9	2 0 9 2	4 0	2 0 1 7	4 1	1 9 3 4	4 3	1 8 4 1	4 5	1 7 4 8	4 8	
SD090D-35C Bottom Return (90,000)	MED-H**	2 1 4 4		2 0 9 3		2 0 4 9		1 9 8 5		1 9 1 2		1 8 4 2		1 7 6 4		1 6 6 8	5 0	
	MED-L	1 8 7 4	4 4	1 8 4 5		1 8 0 6		1 7 6 6		1 7 1 7		1 6 6 1	5 0	1 5 8 2	5 3	1 5 0 3	5 5	
	LOW	1 5 4 1	5 4	1 5 1 6		1 5 0 9		1 4 8 6		1 4 5 6		1 4 0 2	5 9	1 3 6 1	6 1	1 2 9 4	6 4	
	HIGH*	2 2 7 3	3 7	2 2 2 2	3 8	2 1 6 4	3 9	2 0 9 8	4 0	2 0 2 5	4 1	1 9 4 7	4 3	1 8 6 4	4 5	1 7 8 0	4 7	

SD090D-35C	MED-H**	2084	40	2039	41	207	42	1955	43	1895	44	1832	45	1750	48	1665	50	
Side Return (90,000)	MED-L	1784	47	1777	47	1749	48	1725	48	1679	50	1629	51	1576	53	1501	56	
	LOW	1482	56	1470	57	1444	58	1432	58	1405	59	1375	61	1339	62	1286	65	
SD90D-35C	HIGH* MED-H**	2382	36	2273	37	2224	37	2151	39	2082	40	2005	42	1920	43	1825	46	
Side + Bottom or 2 Sides (90,000)	MED-L	2124	39	2108	40	2052	41	2018	41	1954	43	1884	44	1813	46	1725	48	
	LOW	1509	55	1488	56	1468	57	1440	58	1422	59	1379	60	1351	62	1292	64	

Table 1. *SD Upflow / Horizontal Furnaces

BLOWER PERFORMANCE – KG7SD Continued

MAXIMUM AIRFLOW & TEMPERATURE RISES (0 F) FOR UPFLOW / HORIZONTAL FURNACES (*SD SERIES)																		
Model Number & Heating Input (Btuh)	Motor Speed	External Static Pressure (Inches Water Column)																
		0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		
		C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	C F M	Ri s e	

SD108D-4 5D	HIGH * MED-H** MED-L LOW	2		2		2		2		2	4	1	5	1	5	1	5			
		2		2		1		1		0	9	9	8	3	7	6				
		7		2		7		0		3	5	6	5	7	8	6				
		6	4	8	4	3	4	8	4	5	3	1	4	6	0					
2	4	2	5	2	6	1	7	1	6	1	6	1	6	7						
1	4	0	7	1	5	9	7	9	0	4	8	2	6	7						
1	3	7	8	8	9	0	0	1	4				8		7					
Bottom Return (108,000)	LOW	1	5	1	5	1	5	1	5	1		1		1		1				
		8	5	7	6	7	7	7	9	6		6		5		4				
		1	6	8	6	5	0	6	6	0		1		5		8				
		9	7	9	7	7	9	6	6	6	—	0	—	1	—	6	—			
		1		1		1		1		1		1		1		1				
		4		4		4		4		4		3		3		2				
		9		8		5		3		0		6		3		6				
SD108D-4 5D	HIGH * MED-H** MED-L LOW	2		2		2		2	4	2	4	1	5	1	5	1	5			
		3		2		1		1	7	0	9	9	8	3	7	6				
		0		4		9		2		4	5	7	9	2	5	7				
		6	4	7	4	2	6	1	5	3	4	6	1	5	9	6				
2	3	2	5	2	6	1	5	1	9	1	8	1	6	1						
1	3	1	0	5	5	9	9	3	5	9	6	3	7	6	9					
3	5	7	3	0	0	1	5					8		8		0				
Side Return (108,000)	LOW	1	5	1	5	1	5	1		1		1		1		1				
		8	4	8	7	8	8	7		7		6		6		5				
		4	6	3	6	0	7	6		1		6		0		3				
		5	5	4	9	5	0		—	—	—	—	—	1	—	3	—			
		1		1		1		1		1		1		1		1				
		5		5		5		4		5		4		3		1				
		4		2		0		7		2		1		6		4				
SD120D-4 5D	HIGH * MED-H** MED-L LOW														5		6			
															9		2			
															6		6			
															3		6			
2	4	2	5	2	5	2	5	2	5	1	5	1		1						
2	9	2	0	1	1	1	3	0	5	9	7	8		7						
7	5	2	5	7	8	5	6	3	5	6	6	6		7						
6	3	8	3	3	5	8	5	5	8	1	0	6		8						
2	6	2	6	2	6	1	6	1	6	1	6	9		1						
1	1	0	2	0	1	9	5	9	9	8	6	7		7						
1	3	7	8	9	3	7	0	4	0	4	0	8		6						
1		1		1		1		1		1		1		1						
8		7		7		7		6		6		5		4						
1		8		5		0		6		1		1		8						
9		9		7		7		6		6		0		6						

		1 4 9 6	—	1 4 8 4	—	1 4 5 9	—	1 4 3 0	—	1 4 0 2	—	1 3 6 3	—	1 3 3 0		1 2 6 2	
SD120D-4 5D Side Return (120,000)	HIGH * MED-H** MED-L LOW	2 3 0 6	4 8 5 2	2 9 4 7	4 9 5 3	2 1 9 2	5 1 5 4	2 1 2 1	5 2 5 6	2 0 4 4	5 4 5 7	1 9 7 9	5 6 6 0	1 8 9 2	5 9 6 2	1 7 8 7	6 2 6 6
		2 1 3 5	6 0	2 1 0 3	6 1	2 0 5 0	6 2	1 9 9 5	6 3	1 9 3 5	6 5	1 8 5 8	6 7	1 7 7 8	6 9	1 6 9 0	
		1 8 4 5		1 8 3 4		1 8 0 5		1 7 7 6		1 7 1 9		1 6 6 3		1 6 0 5		1 5 3 3	— —
		1 5 4 3	—	1 5 2 1	—	1 5 0 2	—	1 4 7 7	—	1 4 5 2	—	1 4 1 2	—	1 3 6 8	—	1 3 1 4	

Table 1. Continued

BLOWER PERFORMANCE – KG7SM

MAXIMUM AIRFLOW & TEMPERATURE RISES (0 F) FOR DOWNFLOW FURNACES (*SM SERIES)																		
Model Number & Heating Input (Btuh)	Motor Speed	External Static Pressure (Inches Water Column)																
		0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		
		C F M	Rise	C F M	Rise	C F M	Rise	C F M	Rise	C F M	Rise	C F M	Rise	C F M	Rise	C F M	Rise	
SM054D-2 4B	HIGH * ME D-H MED-	1590	31414	1563	3241	1538	3342	1513	3443	1477	3443	1430	3544	1370	3646	1312	3848	
		1228		1207	1193	1169	1157	1127	1108	1084	1067	1037	1010	987	964	937		

5D	MED-L	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Top Return (118,000)	LOW	8	8	8	7	7	5	6	6	5	4	3	1	5	7		
		3	2	6	0	0	0	9	3	1	4	2	8	6			
		1	1	1	1	1	1	1	1	1	1	1	1	1	1		
		5	5	5	4	4	4	4	4	4	4	4	3	8	6		
		4	2	1	9	6	6	4	2	8	9						
		4	8	4	9	2	2	1	9								

NOTES:

* Factory Set Cooling Speed

** Factory Set Heating Speed

1. Two openings are recommended for airflows above 1,600 CFM if filter(s) is(are) adjacent to furnace
2. Temperature rises in the table are approximate. Actual temperature rises may vary.
3. Cells shaded in gray indicate a temperature rise outside of the recommended range.

Table 2. *SM Downflow Furnaces

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"
SD038	50	70	50	70
SD054	70	90	70	90
SD072	50	90	50	90
SD090	60	90	60	90
SD108	N/A	90	N/A	90
SD120	N/A	90	N/A	90

SM054	70	90	70	90
SM072	50	90	50	90
SM090	60	90	60	90
SM118	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.

ACCESSORIES

KG7S (D, M) KITS	
Description	SKU
2" Concentric vent kit	904952
3" Concentric vent kit	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
Bottom return filter 20 per box, "B" cabinet	904916
Bottom return filter 20 per box, "C" cabinet	904917
Bottom return filter 20 per box, "D" cabinet	904918
Side return filter kit	541036
Neutralizer kit	902377
"A" Cabinet fixed speed, high efficiency, FSHE	904872
"B" Cabinet fixed speed, high efficiency, FSHE	904873
"C" Cabinet fixed speed, high efficiency, FSHE	904874
"D" Cabinet fixed speed, high efficiency, FSHE	904875
"A" Cabinet variable speed, high efficiency, VSHE	904876
"B" Cabinet variable speed, high efficiency, VSHE	904877
"C" Cabinet variable speed, high efficiency, VSHE	904878
"D" Cabinet variable speed, high efficiency, VSHE	904879



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 (09/2016)

750D-0916 (Replaces 750D-0514)

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www.gibsonhvac.com

Documents / Resources

	Gibson KG7S High Efficiency Single Stage Condensing Upflow Horizontal and Downflow Gas Furnace Models [pdf] User Manual KG7S High Efficiency Single Stage Condensing Upflow Horizontal and Downflow Gas Furnace Models, KG7S, High Efficiency Single Stage Condensing Upflow Horizontal and Downflow Gas Furnace Models, Single Stage Condensing Upflow Horizontal and Downflow Gas Furnace Models, Condensing Upflow Horizontal and Downflow Gas Furnace Models, Upflow Horizontal and Downflow Gas Furnace Models, Horizontal and Downflow Gas Furnace Models, and Downflow Gas Furnace Models, Downflow Gas Furnace Models, Gas Furnace Models, Furnace Models, Models
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References

- [User Manual](#)