

TECHNICAL SPECIFICATIONS

FG7S (A and K Series)

High Efficiency Upflow/Horizontal and Downflow Gas Furnaces

**Induced Draft - 80+ AFUE
Input 45,000 - 126,000 Btuh**

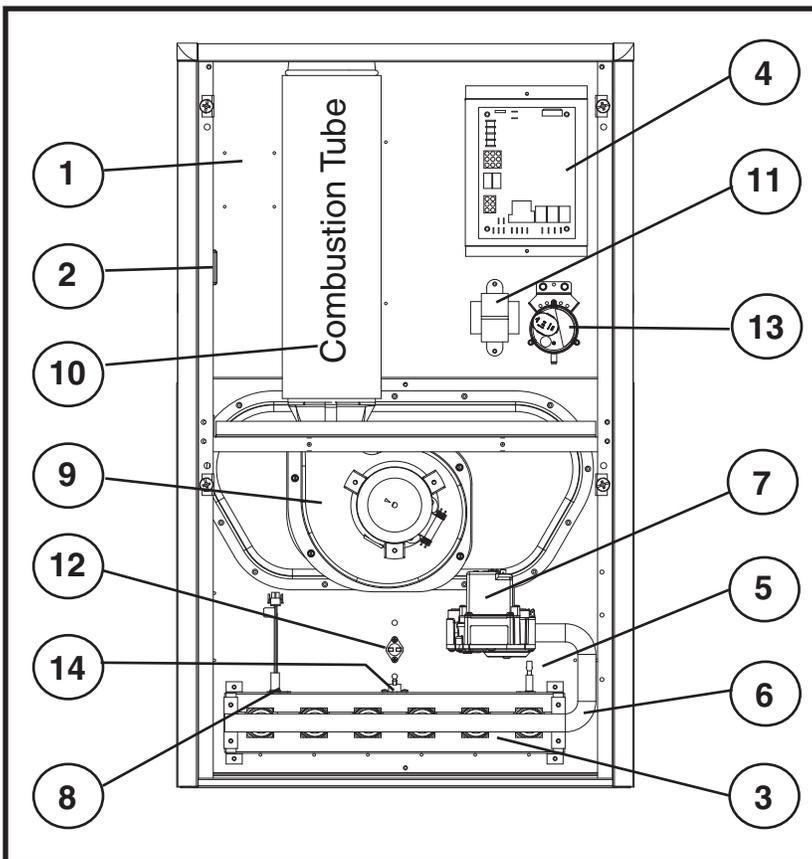
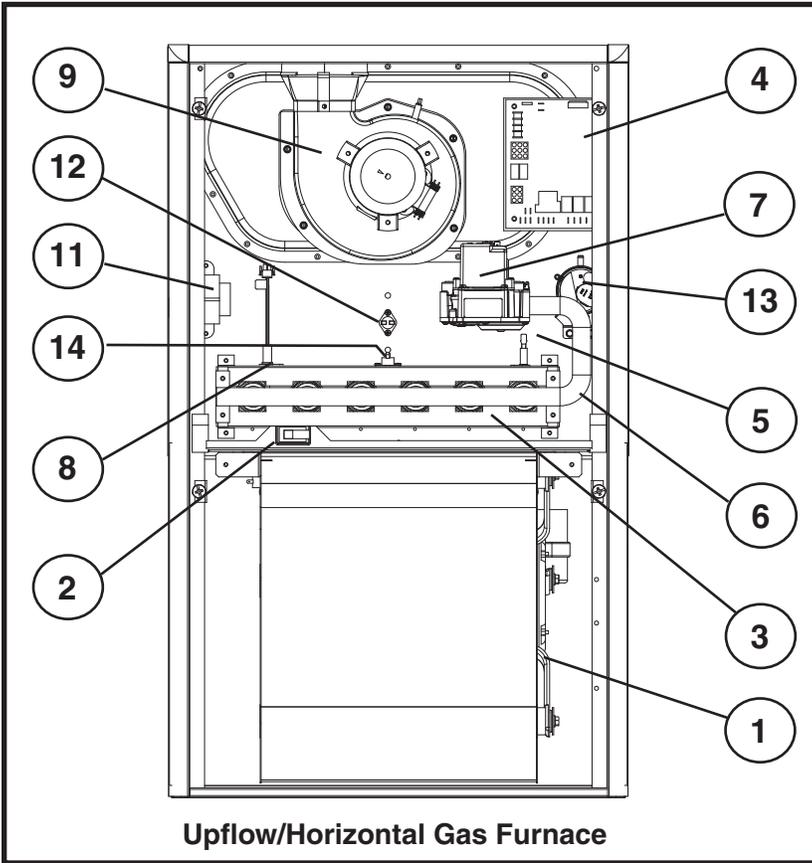
The high efficiency gas furnace may be installed free standing in a utility room, basement, or enclosed in an alcove or closet. The rounded corner jacket provides a pleasing "appliance appearance." Design certified by CSA for application in Canada and the United States.



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.
- **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 assures a long life.
- **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 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.
- **High static blowers:** All models equipped with high static blowers.
- **90 second cooling cycle blower-off delay (TDR):** increases cooling performance when matched with a NORDYNE coil.
- **Flexible category I venting system:** May be vented with dedicated venting system or common vented with other category one appliances.
- **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.
- **Integrated control board:** Incorporates 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:** Insulated for ultra quiet operation.

GAS FURNACE COMPONENTS



1. Blower Assembly

2. Blower Door Switch

3. Burner Assembly

4. Control Board

5. Flame Sensor

6. Gas Manifold

7. Gas Valve

8. Igniter

9. Inducer

10. Insulated Combustion Tube
(Downflow Models)

11. Low Voltage Transformer

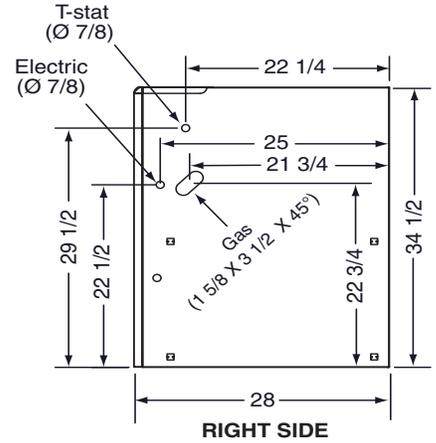
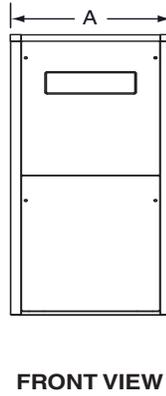
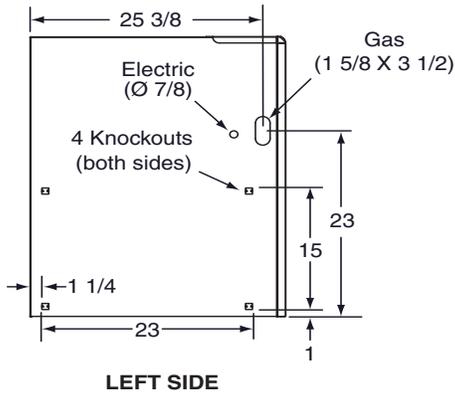
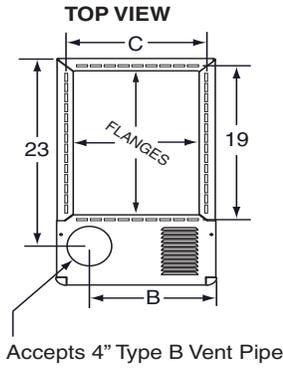
12. Main Air Limit Switch

13. Pressure Switch

14. Roll-Out Switch(s)

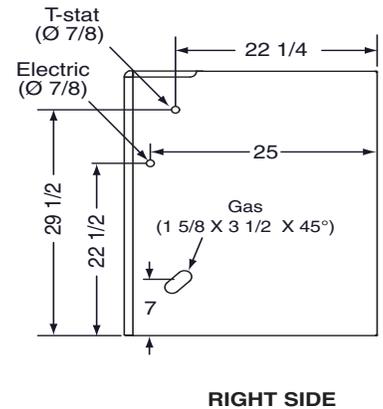
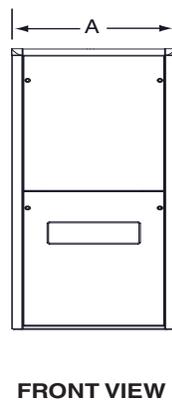
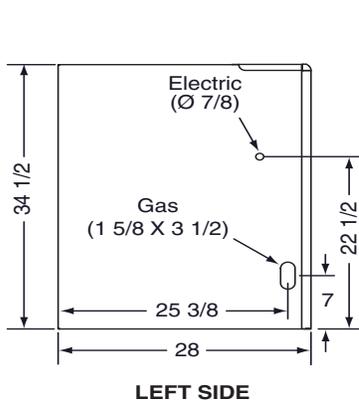
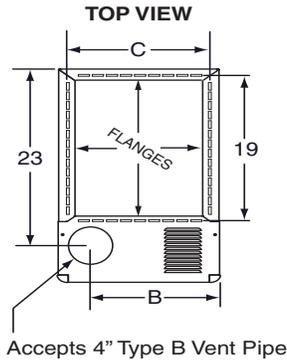
DIMENSIONS

*SA Model #'s	Dimension "A"	Dimension "B"	Dimension "C"	Dimension "D"
045-23A	14 1/4	10 3/4	12 5/8	12 7/8
054-23A				
072-24B	17 1/2	11 3/4	15 7/8	16 1/8
090-24B				
072-35C	21	14	19 3/8	19 7/8
090-35C				
108-35C				
126-45D	24 1/2	15 1/4	22 7/8	23 1/8



FG7SA 80+ High Efficiency Upflow/Horizontal Series

*SK Model #'s	Dimension "A"	Dimension "B"	Dimension "C"	Dimension "D"
054-23A	14 1/4	10 3/4	12 5/8	12 7/8
072-24B	17 1/2	11 3/4	15 7/8	16 1/8
090-24B				
108-35C	21	14	19 3/8	19 7/8
126-45D	24 1/2	15 1/4	22 7/8	23 1/8



FG7SK 80+ High Efficiency Downflow Series

BLOWER PERFORMANCE - FG7SA

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	
			CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise
SA045()-23A Bottom Return	45,000	High*	1260	26	1205	28	1145	29	1080	31	1025	33	960	35	890	37	825	40
		Med-High	955	35	950	35	940	35	935	36	925	36	860	39	800	42	725	46
		Med-Low**	825	40	800	42	760	44	730	46	690	48	650	51	600	—	530	—
		Low	655	51	630	53	610	55	580	—	550	—	520	—	480	—	435	—
SA045()-23A Side Return	45,000	High*	1350	25	1290	26	1225	27	1155	29	1100	30	1025	33	950	35	885	38
		Med-High	1025	33	1015	33	1005	33	1000	33	990	34	920	36	855	39	775	43
		Med-Low**	885	38	855	39	815	41	780	43	740	45	695	48	640	52	565	—
		Low	700	48	675	49	655	51	620	—	590	—	555	—	515	—	465	—
SA054()-23A Bottom Return	54,000	High*	1260	32	1205	33	1145	35	1080	37	1025	39	960	42	890	45	825	48
		Med-High	955	42	950	42	940	43	935	43	925	43	860	47	800	50	725	55
		Med-Low**	825	48	800	50	760	53	730	55	690	—	650	—	600	—	530	—
		Low	655	—	630	—	610	—	580	—	550	—	520	—	480	—	435	—
SA054()-23A Side Return	54,000	High*	1350	30	1290	31	1225	33	1155	35	1100	36	1025	39	950	42	885	45
		Med-High	1025	39	1015	39	1005	40	1000	40	990	40	920	43	855	47	775	52
		Med-Low**	885	45	855	47	815	49	780	51	740	54	695	—	640	—	565	—
		Low	700	—	675	—	655	—	620	—	590	—	555	—	515	—	465	—
SA072()-24B Bottom Return	72,000	High*	1685	32	1640	33	1605	33	1565	34	1515	35	1475	36	1415	38	1345	40
		Med-High	1330	40	1295	41	1275	42	1245	43	1215	44	1185	45	1135	47	1070	50
		Med-Low**	1175	45	1155	46	1125	47	1100	48	1075	50	1045	51	1010	53	955	56
		Low	930	57	895	60	885	60	850	—	825	—	800	—	770	—	740	—
SA072()-24B Side Return	72,000	High*	1770	30	1720	31	1685	32	1645	32	1590	34	1550	34	1485	36	1415	38
		Med-High	1400	38	1360	39	1340	40	1310	41	1275	42	1245	43	1190	45	1125	47
		Med-Low**	1235	43	1215	44	1180	45	1155	46	1130	47	1100	48	1060	50	1005	53
		Low	975	55	940	57	930	57	890	60	865	—	840	—	810	—	775	—
SA090()-24B Bottom Return	90,000	High*	1610	41	1575	42	1530	44	1485	45	1440	46	1385	48	1340	50	1275	52
		Med-High**	1295	51	1260	53	1235	54	1220	55	1175	57	1135	59	1095	—	1015	—
		Med-Low	1155	58	1130	59	1100	61	1070	—	1035	—	1015	—	965	—	920	—
		Low	880	—	860	—	830	—	800	—	765	—	740	—	675	—	660	—
SA090()-24B Side Return	90,000	High*	1690	39	1655	40	1610	41	1560	43	1510	44	1455	46	1405	47	1340	50
		Med-High**	1360	49	1325	50	1300	51	1280	52	1235	54	1190	56	1150	58	1065	—
		Med-Low	1215	55	1190	56	1155	58	1125	59	1090	—	1065	—	1015	—	965	—
		Low	925	—	900	—	870	—	840	—	800	—	775	—	710	—	695	—
SA072()-35C Bottom Return	72,000	High*	1950	—	1865	—	1790	—	1715	—	1630	—	1550	—	1475	36	1390	38
		Med-High	1860	—	1780	—	1710	—	1635	—	1575	—	1500	36	1415	38	1325	40
		Med-Low**	1300	41	1240	43	1200	44	1160	46	1120	48	1065	50	995	54	910	59
		Low	1165	46	1115	48	1060	50	1025	52	985	54	940	57	890	60	825	65
SA072()-35C Side Return	72,000	High*	2030	—	1940	—	1860	—	1785	—	1695	—	1615	—	1535	35	1445	37
		Med-High	1935	—	1850	—	1780	—	1700	—	1635	—	1560	—	1470	36	1380	39
		Med-Low**	1350	40	1290	41	1250	43	1205	44	1165	46	1110	48	1035	52	945	56
		Low	1215	44	1160	46	1105	48	1065	50	1025	52	980	54	925	58	860	62

BLOWER PERFORMANCE - FG7SA Continued

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	
			CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise
SA072()-35C Side + Bottom or 2 Sides	72,000	High*	2050	—	1960	—	1880	—	1800	—	1710	—	1630	—	1550	—	1460	37
		Med-High	1955	—	1870	—	1800	—	1715	—	1655	—	1575	—	1485	36	1390	38
		Med-Low**	1365	39	1300	41	1260	42	1220	44	1175	45	1120	48	1045	51	955	56
		Low	1225	44	1170	46	1115	48	1075	50	1035	52	985	54	935	57	865	62
SA090()-35C Bottom Return	90,000	High*	1940	—	1860	36	1790	37	1710	39	1625	41	1540	43	1450	46	1355	49
		Med-High**	1820	37	1760	38	1695	39	1620	41	1545	43	1466	45	1380	48	1280	52
		Med-Low	1290	52	1245	54	1200	56	1155	58	1110	60	1060	63	995	—	915	—
		Low	1145	58	1110	60	1070	62	1035	64	1000	—	950	—	905	—	835	—
SA090()-35C Side Return	90,000	High*	2020	—	1935	—	1860	36	1780	37	1690	39	1600	42	1510	44	1410	47
		Med-High**	1895	35	1830	36	1765	38	1685	40	1610	41	1525	44	1435	46	1330	50
		Med-Low	1345	50	1295	51	1250	53	1200	56	1155	58	1100	61	1035	64	950	—
		Low	1190	56	1155	58	1115	60	1075	62	1040	64	980	—	940	—	870	—
SA090()-35C Side + Bottom or 2 Sides	90,000	High*	2040	—	1955	—	1880	35	1795	37	1705	39	1620	41	1525	44	1425	47
		Med-High**	1910	35	1850	36	1780	37	1700	39	1625	41	1540	43	1450	46	1345	50
		Med-Low	1355	49	1310	51	1260	53	1215	55	1165	57	1115	60	1050	63	960	—
		Low	1205	55	1165	57	1125	59	1085	61	1050	63	1000	—	950	—	875	—
SA108()-35C Bottom Return	108,000	High*	2205	36	2150	37	2095	38	2030	39	1970	41	1900	42	1830	44	1740	46
		Med-High**	2050	39	1995	40	1955	41	1895	42	1840	43	1775	45	1700	47	1610	50
		Med-Low	1700	47	1680	48	1645	49	1610	50	1565	51	1525	52	1460	55	1375	58
		Low	1390	58	1370	58	1355	59	1320	61	1300	62	1270	63	1225	65	1175	—
SA108()-35C Side Return	108,000	High*	2295	35	2235	36	2180	37	2110	38	2050	39	1975	41	1900	42	1810	44
		Med-High**	2130	38	2075	39	2035	39	1970	41	1915	42	1845	43	1765	45	1675	48
		Med-Low	1770	45	1750	46	1710	47	1675	48	1630	49	1585	50	1520	53	1430	56
		Low	1445	55	1425	56	1410	57	1375	58	1350	59	1320	61	1275	63	1225	65
SA108()-35C Side + Bottom or 2 Sides	108,000	High*	2315	35	2260	35	2200	36	2130	38	2070	39	1995	40	1925	42	1825	44
		Med-High**	2155	37	2095	38	2055	39	1990	40	1930	41	1865	43	1785	45	1690	47
		Med-Low	1785	45	1765	45	1725	46	1690	47	1645	49	1600	50	1535	52	1445	55
		Low	1460	55	1440	56	1425	56	1385	58	1365	59	1335	60	1285	62	1235	65
SA126()-45D Bottom only or 2 openings	126,000	High*	2255	41	2200	42	2125	44	2065	45	2010	46	1935	48	1855	50	1755	53
		Med-High**	2075	45	2025	46	1970	47	1940	48	1875	50	1810	52	1750	53	1680	56
		Med-Low	1720	54	1695	55	1655	56	1630	57	1580	59	1520	61	1455	64	1390	67
		Low	1360	69	1375	68	1365	68	1315	—	1310	—	1300	—	1260	—	1230	—
SA126()-45D Side Return	126,000	High*	2230	42	2180	43	2105	44	2045	46	1990	47	1915	49	1835	51	1740	54
		Med-High**	2055	45	2005	47	1950	48	1920	49	1855	50	1790	52	1735	54	1665	56
		Med-Low	1705	55	1680	56	1640	57	1615	58	1565	60	1505	62	1440	65	1375	68
		Low	1345	69	1360	69	1350	69	1300	—	1230	—	1290	—	1250	—	1220	—

NOTES:

() Can be C or N

* Factory Set Cooling Speed

** Factory Set Heating Speed

1. Two openings are required for airflows above 1600 CFM if filter(s) is(are) adjacent to furnace.

2. Temperature rises in the table are approximate. Actual temperature rises may vary.

3. Temperature rises shaded in gray are not recommended.

BLOWER PERFORMANCE - FG7SA Continued

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	
			CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise	CFM	Rise
SK054()-23A	54,000	High*	1375	29	1340	30	1300	31	1270	31	1225	33	1175	34	1115	36	1035	39
		Med-High	1155	35	1130	35	1110	36	1085	37	1055	38	1015	39	975	41	910	44
		Med-Low**	790	51	775	52	765	52	750	53	730	55	700	—	665	—	610	—
		Low	650	—	640	—	630	—	610	—	590	—	565	—	530	—	480	—
SK072()-24B	72,000	High*	1610	33	1590	34	1575	34	1560	34	1540	35	1495	36	1460	37	1415	38
		Med-High	1295	41	1275	42	1260	42	1250	43	1220	44	1195	45	1170	46	1120	48
		Med-Low**	1155	46	1135	47	1115	48	1095	49	1065	50	1040	51	1015	53	980	54
		Low	910	59	885	60	860	—	835	—	810	—	785	—	765	—	735	—
SK090()-24B	90,000	High*	1675	40	1655	40	1640	41	1620	41	1590	42	1560	43	1520	44	1475	45
		Med-High	1330	50	1315	51	1300	51	1280	52	1255	53	1230	54	1200	56	1150	58
		Med-Low**	1180	56	1165	57	1150	58	1135	59	1115	60	1090	61	1060	63	1010	66
		Low	940	—	925	—	900	—	880	—	850	—	825	—	795	—	760	—
SK108()-35C	108,000	High*	2395	33	2335	34	2285	35	2230	36	2200	36	2140	37	2080	38	2000	40
		Med-High	2190	37	2135	37	2115	38	2080	38	2030	39	1975	41	1915	42	1810	44
		Med-Low**	1785	45	1770	45	1740	46	1725	46	1685	47	1645	49	1615	50	1565	51
		Low	1145	—	1110	—	1070	—	1035	—	1000	—	950	—	905	—	835	—
SK126()-45D	126,000	High*	2445	38	2395	39	2385	39	2330	40	2275	41	2225	42	2130	44	2015	46
		Med-High	2195	43	2170	43	2140	44	2120	44	2090	45	2030	46	1975	47	1855	50
		Med-Low**	1795	52	1780	52	1770	53	1760	53	1725	54	1690	55	1655	56	1610	58
		Low	1480	63	1475	63	1450	64	1440	65	1440	65	1415	—	1405	—	1375	—

() Can be C or N

NOTES:

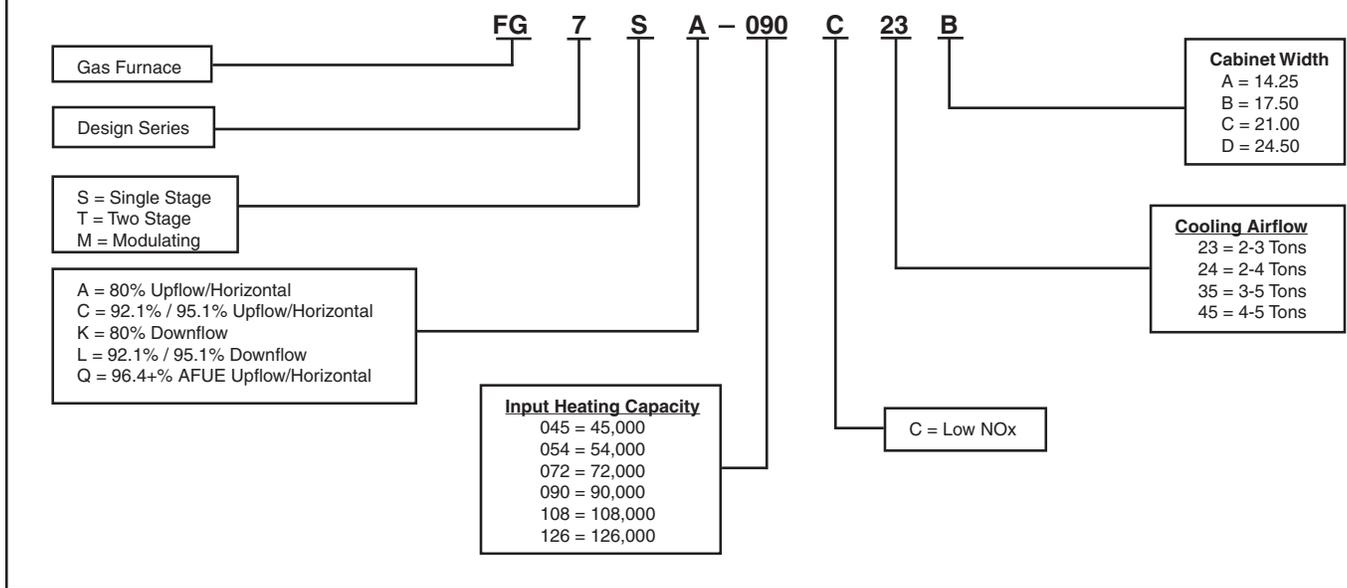
* Factory Set Cooling Speed

1. Temperature rises in the table are approximate. Actual temperature rises may vary.

** Factory Set Heating Speed

2. Temperature rises shaded in gray are not recommended.

MODEL IDENTIFICATION CODE



SPECIFICATIONS

FG7SA MODEL NUMBERS	-045-23A	-054-23A	-072-24B	-090-24B	-072-35C	-090-35C	-108-35C	-126-45D
Input - Btuh (a)	45,000	54,000	72,000	90,000	72,000	90,000	108,000	126,000
Heating Capacity - Btuh	36,000	43,200	57,600	72,000	57,600	72,000	86,400	100,800
AFUE	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
Blower D x W	10 x 6	10 x 6	11x 8	11 x 8	10 x 10	10 x 10	11 x 10	11 x 10
Motor H.P. - Speed - Type	1/3 - 4 - PSC	1/3 - 4 - PSC	1/2 - 4 - PSC	1.0 - 4 - PSC	1.0 - 4 - PSC			
Motor FLA	4.80	4.80	8.20	8.20	7.50	7.50	13.75	13.75
Rated Ext. SP - In. W.C.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Temperature Rise Range - °F	30-60	30-60	35-65	35-65	35-65	35-65	40-70	40-70
Shipping Weights	100lbs	100lbs	110lbs	115lbs	115lbs	120lbs	125lbs	145lbs

FG7SK MODEL NUMBERS	-054-23A	-072-24B	-090-24B	-108-35C	-126-45D
Input - Btuh (a)	54,000	72,000	90,000	108,000	126,000
Heating Capacity - Btuh	43,200	57,600	72,000	86,400	100,800
AFUE	80.0	80.0	80.0	80.0	80.0
Blower D x W	10 x 6	11 x 8	11 x 8	11 x 10	11 x 10
Motor H.P. - Speed - Type	1/3 - 4 - PSC	1/2 - 4 - PSC	1/2 - 4 - PSC	3/4 - 4 - PSC	1.0 - 4 -PSC
Motor FLA	4.80	8.20	8.20	13.75	13.75
Rated Ext. SP - In. W.C.	0.5	0.5	0.5	0.5	0.5
Temperature Rise Range - °F	30-60	35-65	35-65	40-70	40-70
Shipping Weights	100lbs	110lbs	115lbs	125lbs	145lbs

ACCESSORIES

FG7S (A, K) KITS	
Description	SKU
"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
"A" Cabinet downflow sub base kit	902974
"B", "C", "D" Cabinet downflow sub base kit	904911
U.S. LP Conversion kit (0 to 10,000 ft.)	904914
Canada LP Conversion kit (0 to 4,500 ft.)	904915
Bottom return filter 20 per box, "A" cabinet	903088
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



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 (01/2015)