ACiQ

TECHNICAL SPECIFICATIONS

AC-N-KG7SC Models

High Efficiency / Direct Vent or Non Direct Vent Single Stage Condensing Upflow/Horizontal Gas Furnace

Induced Draft - 92.1 AFUE
Input 38,000 - 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.

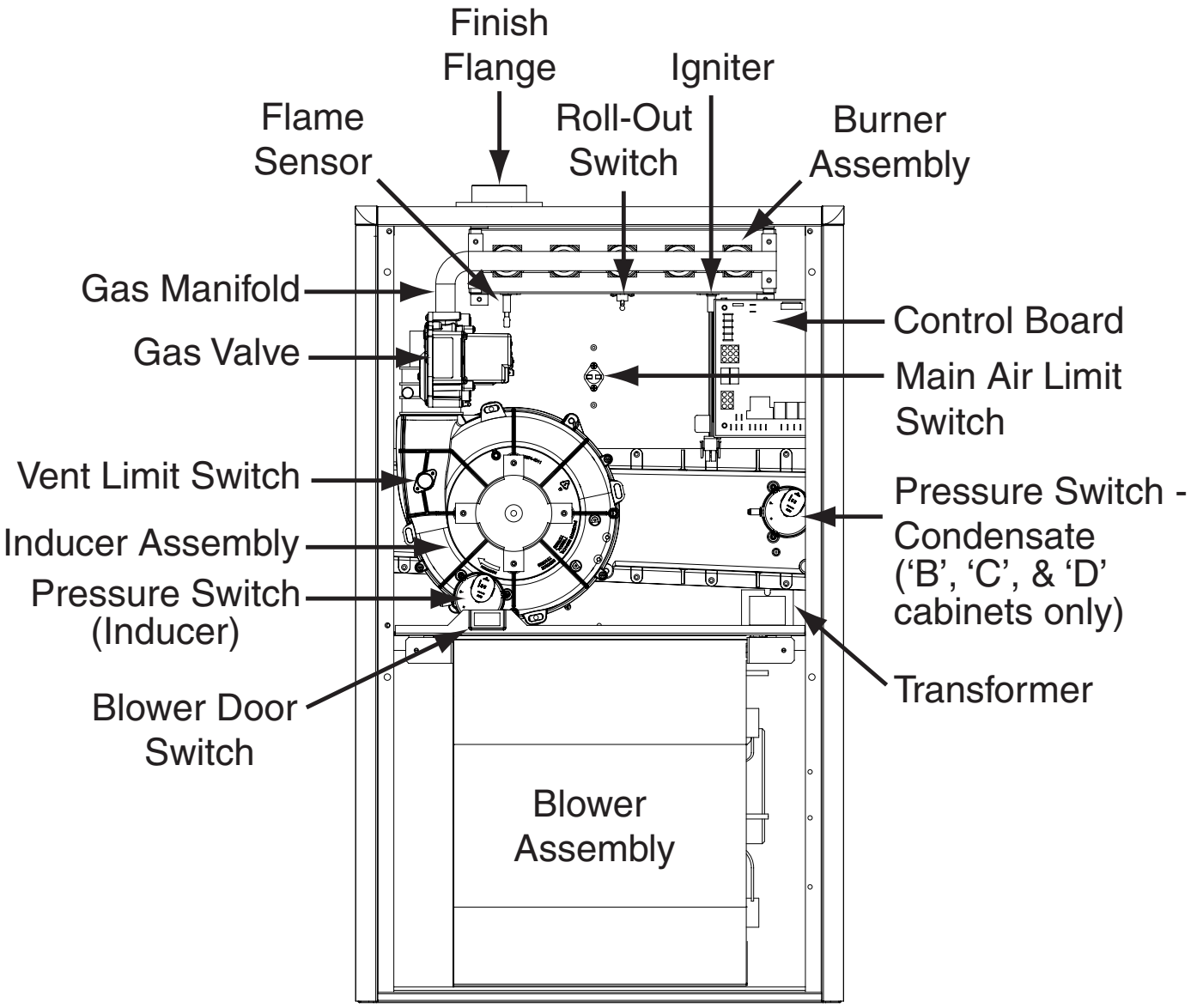
This furnace series is approved and certified by the SCAQM and the SJVAPC Districts in the state of California under each Districts' Mitigation Fee Plan for shipment into and sales in both districts.

For California installations in SCAQMD only: This furnace does not meet the SCAQMD Rule 1111 NOx emission limit (14 ng/J), and thus is subject to a mitigation fee of up to $450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.

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.
- **90 second fixed cooling cycle blower-off delay (TDR)** increases cooling performance when matched with an ACiQ coil.
- **Multi-speed direct drive blower —** Designed to give a wide range of cooling capacities. Dip switches on PCB provide easy motor speed selection.
- **LP convertible —** Simple burner orifice and regulator spring change for ease of convertibility.
- **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.
- **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.
- **PolyPro by DuraVent:** These furnaces have been tested with and are approved to be installed with DuraVent's PolyPro venting system.

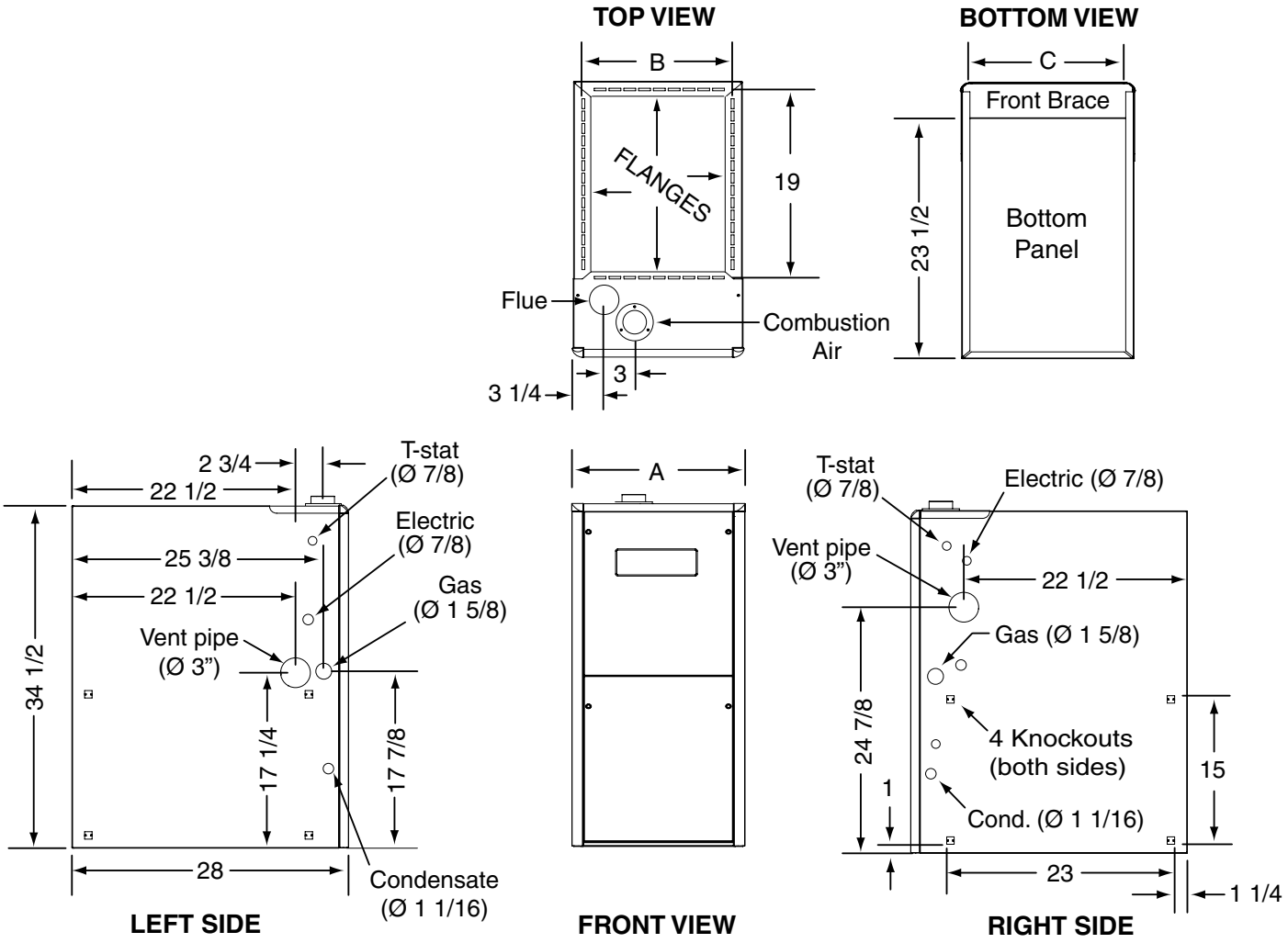
GAS FURNACE COMPONENTS



AC-N-KG7SC Upflow/Horizontal Gas Furnace

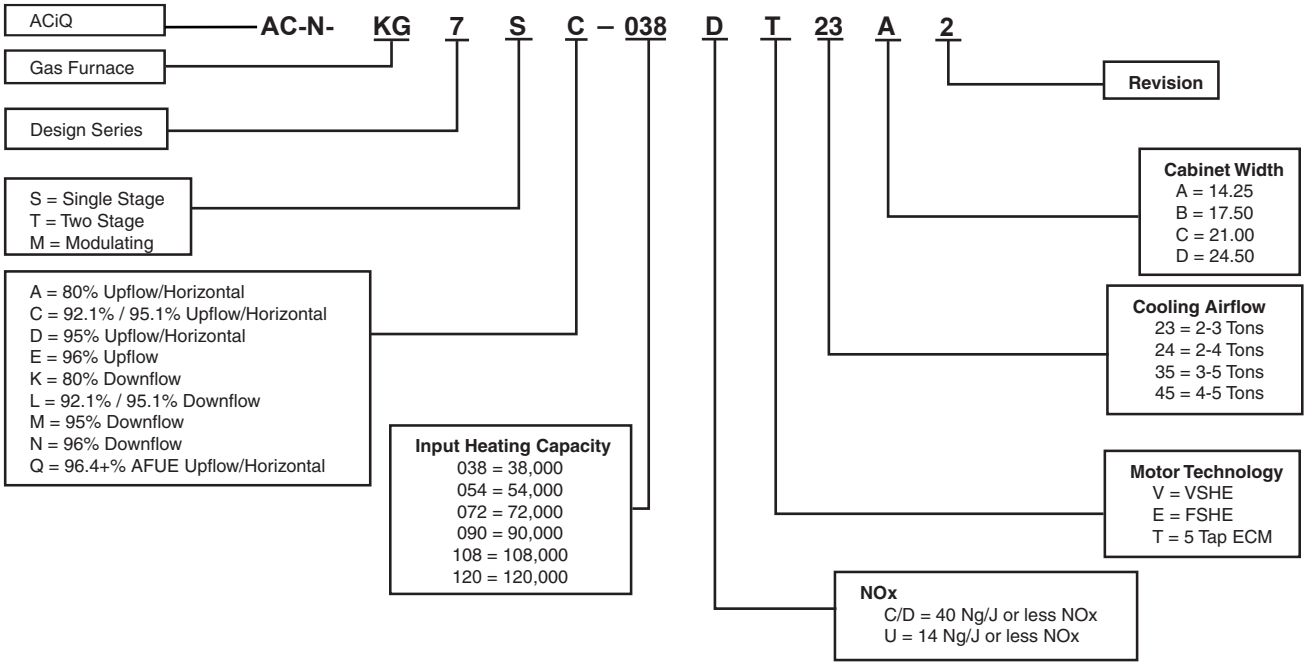
DIMENSIONS

AC-N-KG7SC Model #'s	Dimension "A"	Dimension "B"	Dimension "C"
-038D-T23A2	14-1/4	12-5/8	12-7/8
-054D-T24B2	17-1/2	15-7/8	16-1/8
-072D-T24B2			
-072D-T35C2	21	19-3/8	19-5/8
-090D-T35C2			
-108D-T45D2	24-1/2	22-7/8	23-1/8
-120D-T45D2			



AC-N-KG7SC 90+ High Efficiency Upflow/Horizontal Series

MODEL IDENTIFICATION CODE



SPECIFICATIONS

AC-N-KG7SC MODEL #s:	-038D-T23A2	-054D-T24B2	-072D-T24B2	-072D-T35C2	-090D-T35C2	-108D-T45D2	-120D-T45D2
Input - Btuh (a)	38000	54000	72000	72000	90000	108000	120000
Heating Capacity - Btuh	35000	50000	66000	66000	83000	99000	110000
AFUE	92.1/91.5*	92.0/90.0*	92.0	92.1/90.0*	92.1	92.1/90.0*	92.1/90.0*
Blower D x W	10 x 6	11 x 8	11 x 8	10 x 10	11 x 10	11 x 10	11 x 10
Motor H.P. - Speed - Type	1/2 - 5 - ECM	3/4 - 5 - ECM	3/4 - 5 - ECM	3/4 - 5 - ECM	1 - 5 - ECM	1 - 5 - ECM	1 - 5 - ECM
Motor FLA	6.4	8.8	8.8	8.8	11.5	11.5	11.5
Rated Ext. SP - In. W.C.	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Temperature Rise Range - ºF	25-55	30-60	35-65	35-65	35-65	40-70	40-70
Shipping Weights	100lbs	120lbs	125lbs	130lbs	135lbs	155lbs	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.

* - AFUE for Upflow/Horizontal application.

BLOWER PERFORMANCE - AC-N-KG7SC

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
-038D-T23A2 Bottom Return	38,000	High*	1245	26	1200	27	1150	28	1100	29	1050	31	985	33	920	35	865	37
		Med-High	1115	29	1075	30	1030	31	990	33	935	35	880	37	815	40	740	44
		Med-Low**	785	41	770	42	745	43	720	45	680	48	640	51	595	54	530	61
		Low	645	50	630	51	610	53	580	56	555	58	525	62	480	67	420	77
-038D-T23A2 Side Return	38,000	High*	1330	24	1285	25	1230	26	1175	28	1125	29	1055	31	985	33	925	35
		Med-High	1195	27	1150	28	1100	29	1060	31	1000	32	940	34	875	37	790	41
		Med-Low**	840	39	825	39	800	40	770	42	730	44	685	47	640	51	560	58
		Low	680	48	675	48	655	49	620	52	600	54	560	58	515	63	450	72
-054D-T24B2 Bottom Return	54,000	High*	1550	30	1520	30	1485	31	1450	32	1410	33	1360	34	1300	35	1255	37
		Med-High	1250	37	1220	38	1200	38	1170	39	1140	40	1105	42	1065	43	1010	46
		Med-Low**	935	49	910	51	880	52	850	54	815	56	785	59	735	63	680	68
		Low	720	64	690	67	655	70	620	74	585	79	550	84	520	88	485	95
-054D-T24B2 Side Return	54,000	High*	1630	28	1595	29	1560	29	1525	30	1480	31	1430	32	1365	34	1320	35
		Med-High	1315	35	1280	36	1260	37	1230	37	1200	38	1160	40	1120	41	1060	43
		Med-Low**	980	47	955	48	925	50	890	52	855	54	825	56	775	59	715	64
		Low	755	61	725	63	690	67	650	71	615	75	580	79	545	84	510	90
-072D-T24B2 Bottom Return	72,000	High*	1590	39	1550	40	1525	40	1475	42	1425	43	1380	44	1325	46	1240	49
		Med-High**	1260	49	1240	49	1220	50	1185	52	1160	53	1110	55	1085	57	1030	60
		Med-Low	1125	55	1110	55	1085	57	1050	58	1025	60	990	62	940	65	865	71
		Low	895	69	865	71	830	74	795	77	775	79	750	82	693	89	665	92
-072D-T24B2 Side Return	72,000	High*	1670	37	1630	38	1600	38	1550	40	1495	41	1450	42	1390	44	1300	47
		Med-High**	1325	46	1300	47	1280	48	1245	49	1220	50	1165	53	1140	54	1080	57
		Med-Low	1180	52	1165	53	1140	54	1100	56	1075	57	1040	59	985	62	910	67
		Low	940	65	910	67	870	70	935	66	815	75	790	78	730	84	640	96
-072D-T35C2 Bottom Return	72,000	High*	1895	32	1790	34	1720	36	1630	38	1550	40	1445	42	1330	46	1225	50
		Med-High**	1775	35	1710	36	1650	37	1550	40	1470	42	1385	44	1290	48	1180	52
		Med-Low	1255	49	1200	51	1155	53	1105	56	1050	58	1000	61	925	66	830	74
		Low	1140	54	1100	56	1065	58	1025	60	980	63	930	66	870	70	805	76
-072D-T35C2 Side Return	72,000	High*	1970	31	1865	33	1780	34	1695	36	1615	38	1505	41	1385	44	1275	48
		Med-High**	1845	33	1780	34	1715	36	1615	38	1530	40	1440	43	1340	46	1230	50
		Med-Low	1305	47	1250	49	1200	51	1150	53	1090	56	1040	59	965	64	865	71
		Low	1185	52	1145	54	1110	55	1065	58	1020	60	965	64	905	68	840	73
-072D-T35C2 Side + Bottom or 2 Sides	72,000	High*	1990	31	1880	33	1805	34	1710	36	1630	38	1510	41	1400	44	1285	48
		Med-High**	1865	33	1795	34	1735	35	1630	38	1545	40	1455	42	1355	45	1240	49
		Med-Low	1320	46	1260	49	1215	50	1160	53	1105	56	1050	58	970	63	875	70
		Low	1200	51	1155	53	1120	55	1075	57	1030	60	975	63	915	67	845	73
-090D-T35C2 Bottom Return	90,000	High*	2155	36	2090	37	2015	38	1960	39	1910	40	1835	42	1755	44	1660	46
		Med-High**	2015	38	1960	39	1920	40	1860	41	1805	42	1755	44	1695	45	1615	47
		Med-Low	1705	45	1675	46	1640	47	1590	48	1555	49	1495	51	1435	53	1340	57
		Low	1410	54	1390	55	1365	56	1330	58	1310	59	1275	60	1235	62	1210	63
-090D-T35C2 Side Return	90,000	High*	2240	34	2175	35	2100	37	2040	38	1985	39	1910	40	1825	42	1725	44
		Med-High**	2095	37	2040	38	2000	38	1935	40	1875	41	1825	42	1765	43	1680	46
		Med-Low	1775	43	1740	44	1705	45	1655	46	1615	47	1555	49	1490	51	1335	57
		Low	1465	52	1445	53	1420	54	1385	55	1360	56	1325	58	1285	60	1260	61
-090D-T35C2 Side + Bottom or 2 Sides	90,000	High*	2265	34	2195	35	2115	36	2060	37	2005	38	1930	40	1845	42	1745	44
		Med-High**	2115	36	2060	37	2015	38	1955	39	1895	40	1845	42	1780	43	1695	45
		Med-Low	1790	43	1760	44	1725	44	1670	46	1635	47	1570	49	1510	51	1410	54
		Low	1480	52	1460	53	1435	53	1400	55	1375	56	1340	57	1300	59	1270	60
-108D-T45D2 Bottom only or 2 openings	108,000	High*	2135	43	2095	44	2040	45	1975	47	1910	48	1840	50	1735	53	1675	55
		Med-High**	2000	46	1955	47	1900	48	1845	50	1800	51	1735	53	1665	55	1570	59
		Med-Low	1665	55	1660	55	1625	57	1590	58	1530	60	1500	61	1415	65	1340	69
		Low	1385	66	1360	68	1310	70	1300	71	1275	72	1250	74	1200	77	1150	80
-108D-T45D2 Side Return	108,000	High*	2115	43	2075	44	2020	46	1955	47	1890	49	1822	50	1720	53	1660	55
		Med-High**	1980	46	1935	48	1880	49	1830	50	1780	52	1720	53	1650	56	1555	59
		Med-Low	1650	56	1645	56	1610	57	1575	58	1515	61	1485	62	1400	66	1330	69
		Low	1370	67	1345	68	1300	71	1290	71	1260	73	1240	74	1190	77	1140	81
-120D-T45D2 Bottom only or 2 openings	120,000	High*	2135	48	2095	49	2040	50	1975	52	1910	54	1840	56	1735	59	1675	61
		Med-High**	2000	51	1955	52	1900	54	1845	55	1800	57	1735	59	1665	61	1570	65
		Med-Low	1665	61	1660	62	1625	63	1590	64	1530	67	1500	68	1415	72	1340	76
		Low	1385	74	1360	75	1310	78	1300	79	1275	80	1250	82	1200	85	1150	89
-120D-T45D2 Side Return	120,000	High*	2115	48	2075	49	2020	51	1955	52	1890	54	1822	56	1720	59	1660	62
		Med-High**	1980	52	1935	53	1880	54	1830	56	1780	57	1720	59	1650	62	1555	66
		Med-Low	1650	62	1645	62	1610	63	1575	65	1515	67	1485	69	1400	73	1330	77
		Low	1370	75	1345	76	1300	79	1290	79	1260	81	1240	82	1190	86	1140	90

* Factory Set Cooling Speed
** Factory Set Heating Speed

NOTE: 1. 2 openings are recommended 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 grey are for reference only. These conditions are not recommended.

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: AC-N-KG7SC Models

	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”**
KG7SC-038D	50	70	50	70
KG7SC-054D	70	90	70	90
KG7SC-072D	50	90	50	90
KG7SC-090D	60	90	60	90
KG7SC-108D	N/A	90	N/A	90
KG7SC-120D	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 AC-N-KG7SC Condensing Furnaces.

GENERAL TERMS OF LIMITED WARRANTY

ACIQ 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 ACiQ 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 (04/2022)

588F-0422 (Replaces 588F-0720)