

# A962E

## PRODUCT SPECIFICATIONS

## TWO STAGE HIGH EFFICIENCY CONSTANT TORQUE GAS FURNACE

FORM NO. A962E-100 (10/2018)



### CONFIGURATIONS

- Upflow / Horizontal
- Downflow

### HEAT EXCHANGER DESIGN

- 409 Stainless steel primary heat exchanger with crimped non-welded construction
- AL29-4C Stainless steel secondary heat exchanger

### BURNERS

- Aluminized steel in shot burners for smooth ignition
- Isolated burner enclosure for quiet operation

### CABINET CONSTRUCTION

- Compact 33" height
- Standardized widths for easy coil fit

### AIR DELIVERY SYSTEM

- Constant torque ECM
- Efficient blower motor
- Easily removable slide-out blower design
- Dynamically balanced blower wheel with resilient motor mounts for smooth and quiet operation

### CONTROLS

- Two stage gas valve
- Integrated ignition and fan control
- System Sentry™ control retains last ten (10) fault codes with push button memory recall and 7 segment LED display, regardless of power interruption
- Hot surface ignition system uses silicon nitride ignitor
- Control features 120 volt electronic air cleaner and humidifier terminals
- Control circuit is fuse protected
- Color coded control wiring
- Compatible with single or two stage thermostats for heating

Two stage thermostat is recommended when installed with two stage cooling unit.

### VENTING

- 2-speed induced draft motor with stainless steel shaft, steel ball bearings, and fan cooled for long life
- Vent materials for Canadian applications must comply with ULC S636
- Certified for direct vent and indirect vent (1 and 2 pipe) applications

### INSTALLATION FEATURES

- Left or right gas and electric entry
- Zero step horizontal conversion
- Removable floor base (upflow/horizontal units) for bottom return air
- All models comply with California's South Coast Air Quality Management district Low NOx requirements

### WARRANTY

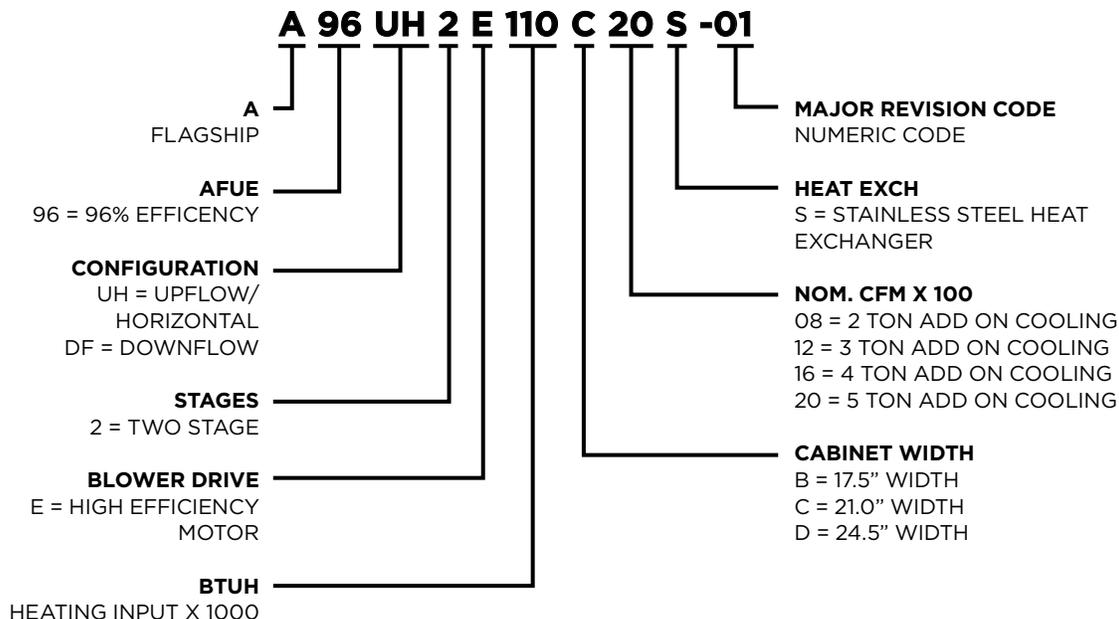
10 year limited parts warranty / lifetime heat exchanger warranty available. See limited warranty document for details.

#### *California Only*

*If installed in South Coast Air Quality Management District (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](http://www.CleanAirFurnaceRebate.com). If installed in San Joaquin Valley Air Pollution Control District (SJVAPCD) only: This furnace does not meet the SJVAPCD Rule 4905 NOx emission limit (14 ng/J), and thus is subject to a mitigation fee of up to \$450.*



**MODEL NUMBER GUIDE**



**PHYSICAL AND ELECTRICAL DATA**

	Model	1st Stage		2nd Stage		AFUE (ICUS)	Nom. Cooling Capacity (tons)	Gas Inlet (in.)	Volts/ Hz/ Phase	Min. Time Delay Breaker or Fuse	Nominal F.L.A.	Trans. (V.A.)	Approx. Weight (lbs.)
		Input (Btuh)	Output (Btuh)	Input (Btuh)	Output (Btuh)								
UPFLOW / HORIZONTAL	A96UH2E030B08S	20,000	19,000	30,000	29,000	96.0	2	1/2	120-60-1	15	6.8	40	130
	A96UH2E045B12S	29,000	28,000	44,000	42,000	96.0	3	1/2	120-60-1	15	6.8	40	130
	A96UH2E070B12S	43,000	41,000	66,000	62,000	96.0	3	1/2	120-60-1	15	6.8	40	138
	A96UH2E090C16S	57,000	55,000	88,000	85,000	96.0	4	1/2	120-60-1	15	8.4	40	166
	A96UH2E110C20S	72,000	70,000	110,000	105,000	96.0	5	1/2	120-60-1	15	10.9	40	174
DOWNFLOW	A96DF2E045B12S	29,000	28,000	44,000	43,000	96.0	3	1/2	120-60-1	15	---	40	131
	A96DF2E070B16S	43,000	42,000	66,000	64,000	96.0	4	1/2	120-60-1	15	---	40	138
	A96DF2E090C16S	57,000	56,000	88,000	85,000	96.0	5	1/2	120-60-1	20	10.9	40	166
	A96DF2E110C20S	72,000	70,000	110,000	106,000	96.0	5	1/2	120-60-1	20	10.9	40	176

Note: For vent length and clearances to combustibles, please reference installation instructions.

**FILTER REQUIREMENT DATA**

Airflow Descriptor	Disposable Filters	Cleanable Filters
	Minimum Area (sq. in.)	Minimum Area (sq.in.)
12	576	288
16	768	384
20	960	480

1. The Airflow Descriptor is the two digits following the "B", "C", or "D" in the model number; e.g. "20" is the Airflow Descriptor.  
 2. Areas shown for permanent filters are based on filters rated at 600 feet per minute face velocity.

**BLOWER DATA: UPFLOW / HORIZONTAL**

<b>A96UH2E030B08S PERFORMANCE (Less Filter)</b>										
External Static Pressure in. w.c.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1025	122	935	97	855	76	820	76	765	69
0.10	985	129	910	104	820	82	775	72	700	63
0.20	955	139	875	114	770	87	640	62	575	52
0.30	915	145	830	120	730	96	575	67	375	40
0.40	875	155	790	130	680	101	530	74	330	47
0.50	830	161	750	136	635	110	470	79	260	51
0.60	800	172	700	146	580	115	420	82	210	47
0.70	765	181	650	150	550	124	385	90	180	51
0.80	715	187	615	159	500	127	325	94	135	52

<b>A96UH2E045B12S PERFORMANCE (Less Filter)</b>										
External Static Pressure in. w.c.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1345	340	1255	245	1150	185	895	105	845	95
0.10	1305	345	1225	250	1105	200	855	110	810	95
0.20	1290	360	1190	260	1080	205	825	120	780	105
0.30	1275	370	1150	270	1045	215	785	125	720	110
0.40	1220	385	1120	280	1015	220	735	135	690	120
0.50	1215	390	1090	290	980	230	705	140	635	125
0.60	1190	395	1060	300	950	240	650	150	600	135
0.70	N/A	N/A	1015	300	900	250	620	155	555	140
0.80	N/A	N/A	1000	310	870	260	580	160	520	145

<b>A96UH2E070B12S PERFORMANCE (Less Filter)</b>										
External Static Pressure in. w.c.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1380	315	1305	250	1190	200	965	105	920	100
0.10	1360	325	1270	255	1180	205	915	115	865	100
0.20	1310	335	1250	265	1130	215	880	120	815	110
0.30	1275	340	1205	275	1100	225	835	125	775	115
0.40	1250	355	1175	280	1065	230	795	135	730	125
0.50	1215	370	1145	295	1045	240	745	145	670	130
0.60	1200	380	1100	310	995	245	705	150	640	140
0.70	1145	380	1070	310	960	255	670	160	585	145
0.80	N/A	N/A	1035	320	925	265	610	165	550	155

**BLOWER DATA: UPFLOW / HORIZONTAL**

<b>A96UH2E090C16S PERFORMANCE (Less Filter)</b>										
External Static Pressure in. w.c.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1740	370	1505	250	1370	195	1285	160	1135	125
0.10	1695	390	1470	265	1325	205	1240	170	1090	135
0.20	1660	405	1435	280	1290	220	1195	185	1045	145
0.30	1615	415	1390	295	1240	235	1140	200	995	160
0.40	1590	425	1350	305	1200	245	1110	210	945	165
0.50	1560	440	1310	320	1155	260	1055	225	895	175
0.60	1525	455	1255	335	1105	270	1005	230	855	190
0.70	1475	470	1220	340	1065	285	960	245	805	200
0.80	N/A	N/A	1170	355	1010	295	920	255	760	210

<b>A96UH2E110C20S PERFORMANCE (Less Filter)</b>																				
External Static Pressure in. w.g.	Air Volume / Watts at Different Blower Speeds																			
	<b>Bottom Return Air, Side Return Air with Optional Return Air Base, Return Air from Both Sides or Return Air from Bottom and One Side.</b>										<b>Single Side Return Air</b> – Air volumes in <b>bold</b> require field fabricated transition to accommodate 20 x 25 x 1 in. air filter in order to maintain proper air velocity.									
	High		Med-High		Medium		Med-Low		Low		High		Med-High		Medium		Med-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2220	645	1940	435	1765	335	1635	280	1435	200	<b>2185</b>	<b>655</b>	<b>1915</b>	<b>440</b>	1745	340	1620	275	1430	195
0.10	2170	660	1920	460	1715	350	1595	290	1380	205	<b>2160</b>	<b>660</b>	<b>1880</b>	<b>460</b>	1705	345	1570	285	1380	205
0.20	2130	680	1865	475	1670	370	1560	305	1345	220	<b>2115</b>	<b>680</b>	<b>1835</b>	<b>470</b>	1670	365	1535	305	1325	220
0.30	2095	700	1835	490	1640	390	1525	325	1285	230	<b>2060</b>	<b>705</b>	1795	495	1630	380	1505	320	1285	230
0.40	2065	720	1785	510	1600	405	1465	335	1250	245	<b>2050</b>	<b>720</b>	1760	510	1570	400	1455	330	1235	245
0.50	2030	740	1755	525	1560	415	1425	355	1215	260	<b>2000</b>	<b>740</b>	1720	530	1535	415	1410	345	1195	260
0.60	1995	760	1705	550	1525	435	1380	370	1150	270	<b>1955</b>	<b>760</b>	1685	550	1505	435	1380	365	1145	275
0.70	1955	770	1660	560	1475	450	1350	375	1100	290	<b>1935</b>	<b>775</b>	1650	555	1455	450	1325	375	1100	285
0.80	1930	790	1635	575	1445	460	1300	395	1050	305	<b>1890</b>	<b>790</b>	1610	575	1425	460	1285	390	1055	295

**BLOWER DATA: DOWNFLOW**

<b>A96DF2E045B12S PERFORMANCE (Less Filter)</b>										
External Static Pressure in. w.c.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1395	335	1290	250	1190	195	910	105	865	95
0.10	1375	350	1245	260	1140	205	875	110	815	100
0.20	1320	360	1215	265	1090	215	825	120	785	110
0.30	1285	365	1165	270	1065	225	795	130	735	115
0.40	1275	375	1150	285	1025	230	750	135	705	120
0.50	1230	385	1095	295	985	240	705	145	650	125
0.60	1185	380	1060	300	935	245	655	150	605	135
0.70	N/A	N/A	1020	310	915	250	590	150	545	140
0.80	N/A	N/A	980	315	860	255	555	160	485	140

<b>A96DF2E070B16S PERFORMANCE (Less Filter)</b>										
External Static Pressure in. w.c.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1770	510	1550	340	1355	220	1255	180	1035	115
0.10	1720	520	1510	355	1315	230	1200	185	980	105
0.20	1705	535	1470	365	1265	245	1165	195	895	110
0.30	1665	540	1430	380	1235	250	1120	205	835	120
0.40	1605	555	1390	395	1185	260	1070	210	775	130
0.50	1585	565	1335	400	1155	275	1015	225	690	140
0.60	1540	565	1300	410	1100	290	970	235	625	145
0.70	N/A	N/A	1260	420	1050	295	915	245	570	150
0.80	N/A	N/A	1220	430	1015	305	865	255	520	155

<b>A96DF2E090C16S PERFORMANCE (Less Filter)</b>										
External Static Pressure in. w.c.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	1765	395	1565	265	1410	210	1290	175	1180	135
0.10	1745	410	1510	280	1365	220	1265	185	1120	140
0.20	1685	425	1455	295	1310	235	1220	200	1080	150
0.30	1630	440	1415	310	1285	250	1165	210	1035	160
0.40	1620	450	1370	320	1245	255	1125	220	985	175
0.50	1570	465	1335	330	1185	265	1080	230	925	180
0.60	1540	470	1295	345	1145	280	1045	240	875	190
0.70	N/A	N/A	1260	355	1110	295	990	255	825	200
0.80	N/A	N/A	1210	370	1060	305	940	260	760	205

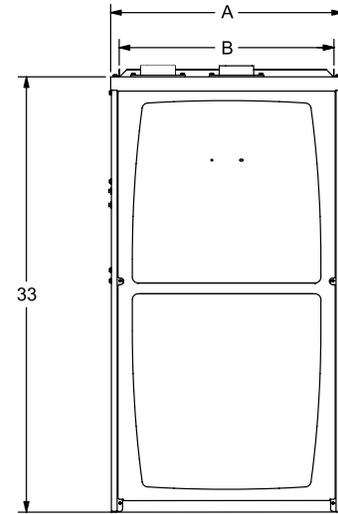
**BLOWER DATA: DOWNFLOW**

<b>A96DF2E110C20S PERFORMANCE (Less Filter)</b>										
External Static Pressure in. w.c.	Air Volume / Watts at Various Blower Speeds									
	High		Medium-High		Medium		Medium-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2285	640	1990	435	1805	330	1685	265	1480	195
0.10	2250	660	1965	450	1775	345	1630	280	1430	205
0.20	2185	675	1910	465	1720	360	1575	295	1360	215
0.30	2150	690	1850	485	1670	375	1525	310	1290	235
0.40	2085	710	1810	495	1605	395	1465	325	1255	245
0.50	2060	725	1765	515	1565	400	1420	335	1190	255
0.60	2005	745	1700	535	1510	420	1370	355	1160	270
0.70	1970	760	1665	550	1460	440	1325	370	1100	280
0.80	1910	775	1620	560	1420	450	1275	380	1045	295

**DIMENSIONS (IN.)**

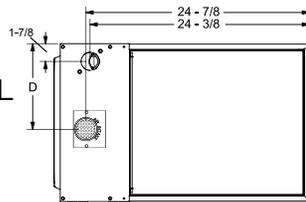
	Model	A	B	C	D
UPFLOW / HORIZONTAL	A96UH2E030B08S	17-1/2	16-3/8	16	7-5/8
	A96UH2E045B12S	17-1/2	16-3/8	16	7-5/8
	A96UH2E070B12S	17-1/2	16-3/8	16	7-5/8
	A96UH2E090C16S	21	19-7/8	19-1/2	9-3/8
	A96UH2E110C20S	21	19-7/8	19-1/2	9-3/8
DOWNFLOW	A96DF2E045B12S	17-1/2	16-3/8	16	15-1/2
	A96DF2E070B16S	17-1/2	16-3/8	16	15-1/2
	A96DF2E090C16S	21	19-7/8	19-1/2	19
	A96DF2E110C20S	21	19-7/8	19-1/2	19

**FRONT VIEW**

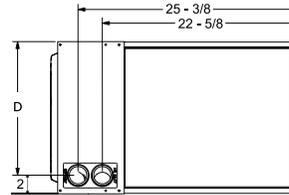


**UPFLOW / HORIZONTAL**

**TOP VIEW**

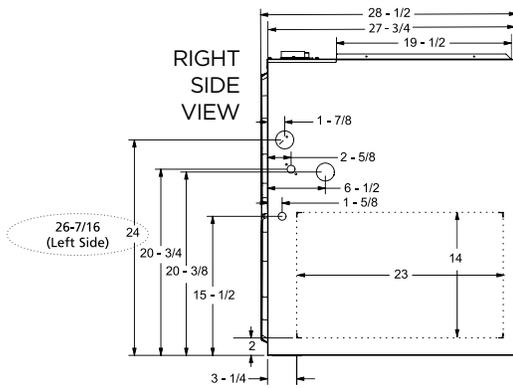


**TOP VIEW**

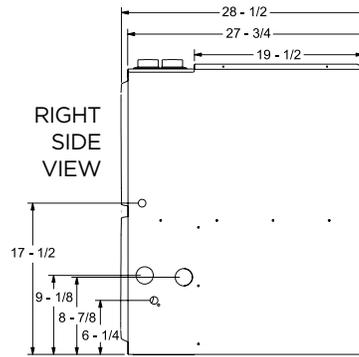


**DOWNFLOW**

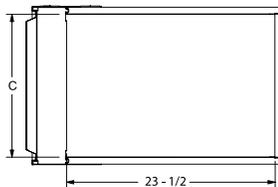
**RIGHT SIDE VIEW**



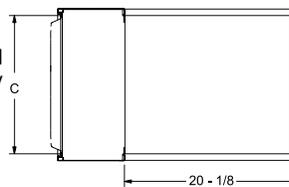
**RIGHT SIDE VIEW**



**BOTTOM VIEW**



**BOTTOM VIEW**



**ACCESSORY LIST**

Description	Catalog Number
Return Air Base	
Return Air Base 17.5 Inch	68W62
Return Air Base 21.0 Inch	68W63
Return Air Base 24.5 Inch	68W64
High Altitude Pressure Swiches	
2-Stage 96% UH/DF (4501-7500 ft) [030, 045]	14A57
2-Stage 96% UH/DF (4501-7500 ft) [070]	14A54
2-Stage 96% UH/DF (4501-7500 ft) [90]	14A57
2-Stage 96% UH/DF (4501-7500 ft) [110]	14A46
2-Stage 96% UH/DF (4501-7500 ft) [135]	14A49
2-Stage 96% UH/DF (7501-10,000 ft) [030, 045]	14A50
2-Stage 96% UH/DF (7501-10,000 ft) [070]	14A53
2-Stage 96% UH/DF (7501-10,000 ft) [090]	14A54
2-Stage 96% UH/DF (7501-10,000 ft) [110]	14A51
High Altitude Orifice Kits (7500'+)	
2-Stage 96% UH/DF - Natural Gas	51W01
2-Stage 96% UH/DF [030] - Natural Gas	14C92
2-Stage 96% UH/DF - Propane Gas	78W97
2-Stage 96% UH/DF [030] - Propane Gas	14C93
LP to Natural Kits	
2-Stage - 90	77W10
Downflow Specific Air Filters	
17.5"	51W07
21.0"	51W08
24.5"	51W09
Night Service Kits	
Two Stage	10U95
Safety Night Service Kit	68W83
Horizontal Suspension Kit	
80% & 90% Kit	51W10
Flush Mount Termination (90% Furnaces only)	
2" & 3.0" Vent - US Version	51W11
2" & 3.0" Vent - ULC S636 Compliant (Canada)	51W12

**ACCESSORY LIST**

Description	Catalog Number
External Filter Rack kits	
1 pack (16 x 25)	1.841018
10 pack (16 x 25)	1.841039
Downflow Combustible Flooring Base	
17.5" B Width	11M60
21.0" C Width	11M61
Concentric Vent Kit (90% Furnaces only) US Only	
1-1/2" Vent Version	71M80
2" Vent Version	69M29
3" Vent Version	60L46
Concentric Vent Kit (90% Furnaces only) Canada	
1-1/2" and 2" Vent Version	44W92
3" Vent Version	44W93
Natural To LP Kits	
2-Stage 90	11K48
2-Stage 90 High Altitude (>7500')	11K47
Low Input (30K Btuh)	13X57
Twinning kit	
16W72	Constant Torque Gas Furnace Twinning Kit

*For vent length and clearances to combustibles, please reference installation instructions.*



1-800-448-5872

All specifications and illustrations subject to change without notice and without incurring obligations.