

# 96% Modulating

# Variable Speed Gas Furnace

Form No. JA96MV-100 (02/2011)

## Features and Benefits



### CONFIGURATIONS

- Upflow / Horizontal
- Downflow

### HEAT EXCHANGER DESIGN

- 409 stainless steel primary heat exchanger with crimped no-weld construction
- AL 29-4C stainless steel secondary heat exchanger

### CABINET DESIGN

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

### AIR DELIVERY SYSTEM

- ECM™ variable speed blower motor
- Easily removable slide out blower design

### CONTROLS

- Modulating gas valve
- Self diagnostics saves last 10 fault codes regardless of power interruption

### VENTING

- Category 4 direct vent appliance

### INSTALLATION FEATURES

- Left or right utility connections
- Zero step horizontal conversion
- Removable floor base for bottom return air



### **WARRANTY**

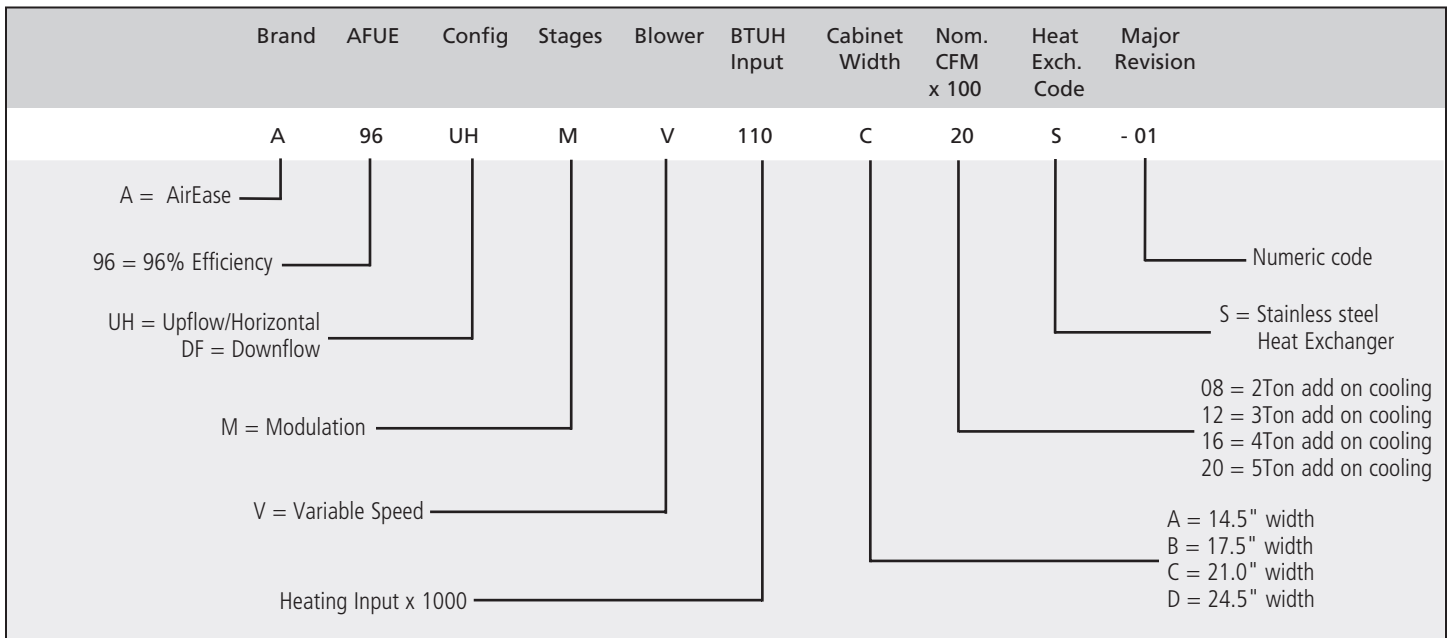
- 10 year limited parts warranty / lifetime heat exchanger warranty available. See limited warranty document for details.



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# Model Number Guide



## Physical and Electrical Data

	Model	Input (Btuh)	Output * (Btuh)	AFUE (ICS)	Nom * Cooling Capacity	Gas Inlet (in.)	Volts-Hertz-Phase	Max. Time Delay Breaker or Fuse	Nominal F.L.A.	Trans. (V.A.)	Approx. Shipping Weight (lbs.)
Upflow / Horizontal	A96UHMV070B12S	66,000	64,000	96.0%	3 Tons	1/2	120-60-1	15	7.7	40	138
	A96UHMV090C12S	88,000	85,000	96.0%	3 Tons	1/2	120-60-1	15	7.7	40	155
	A96UHMV090C16S	88,000	85,000	96.0%	4 Tons	1/2	120-60-1	15	10.1	40	165
	A96UHMV090C20S	88,000	85,000	96.0%	5 Tons	1/2	120-60-1	20	12.8	40	165
	A96UHMV110C20S	110,000	106,000	96.0%	5 Tons	1/2	120-60-1	20	12.8	40	175
	A96UHMV135D20S	132,000	127,000	96.0%	5 Tons	1/2	120-60-1	20	12.8	40	190
Downflow	A96DFMV070B12S	66,000	64,000	96.0%	3 Tons	1/2	120-60-1	15	7.7	40	140
	A96DFMV090C16S	88,000	85,000	96.0%	4 Tons	1/2	120-60-1	15	10.1	40	165
	A96DFMV090C20S	88,000	85,000	96.0%	5 Tons	1/2	120-60-1	20	12.8	40	165
	A96DFMV110C20S	110,000	107,000	96.0%	5 Tons	1/2	120-60-1	20	12.8	40	174

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

\* At full capacity

Blower Performance Data

**BOTTOM INLET**

	Model	Motor Size (hp)	Blower Size	Temp Rise F°	Heating CFM @ .50" w.c.				Cooling Stages	Speed	Cooling CFM @ .50" w.c.			
					**	40%	70%	100%			Setting "A"	Setting "B"	Setting "C"	Setting "D"
Upflow / Horizontal	A96UHMV070B12S	1/2 HP	10 x 9	50 - 80 Max. Input	+15%	538	833	1128	2nd Stage	+	862	1063	1218	1369
					+7.5%	496	772	1048		Norm	810	962	1130	1269
					Default	453	710	967		-	707	841	1007	1140
				35 - 65 Min. Input	-7.5%	419	657	895	1st Stage	+	604	740	843	971
					-15%	385	604	822		Norm	558	668	770	855
										-	504	603	683	793
	A96UHMV090C12S	1/2 HP	10 x 9	60 - 90 Max. Input	+15%	734	1014	1295	2nd Stage	+	879	1040	1212	1362
					+7.5%	697	953	1209		Norm	803	946	1104	1246
					Default	660	891	1122		-	721	842	972	1117
				35 - 65 Min. Input	-7.5%	616	828	1041	1st Stage	+	626	710	832	952
					-15%	572	766	959		Norm	569	672	764	862
										-	524	612	687	785
	A96UHMV090C16S	3/4 HP	11 x 11	50 - 80 Max. Input	+15%	835	1234	1633	2nd Stage	+	1168	1379	1583	1771
					+7.5%	776	1155	1534		Norm	1079	1267	1444	1645
					Default	716	1075	1434		-	938	1148	1324	1469
				35 - 65 Min. Input	-7.5%	652	997	1342	1st Stage	+	843	1007	1159	1315
					-15%	589	919	1249		Norm	780	915	1047	1190
										-	693	838	959	1070
	A96UHMV090C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	665	1159	1653	2nd Stage	+	1385	1593	1818	2019
					+7.5%	618	1085	1553		Norm	1226	1463	1647	1884
					Default	571	1012	1453		-	1063	1320	1504	1675
				35 - 65 Min. Input	-7.5%	507	917	1328	1st Stage	+	933	1054	1274	1466
					-15%	443	823	1203		Norm	836	978	1121	1336
										-	740	868	1010	1152
A96UHMV110C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	861	1424	1988	2nd Stage	+	1312	1560	1744	1955	
				+7.5%	825	1349	1874		Norm	1219	1405	1569	1796	
				Default	789	1274	1759		-	1075	1272	1428	1634	
			35 - 65 Min. Input	-7.5%	731	1187	1644	1st Stage	+	937	1064	1247	1407	
				-15%	673	1101	1528		Norm	864	972	1146	1282	
									-	790	888	1025	1167	
A96UHMV135D20S	1 HP	11 x 11	55 - 85 Max. Input	+15%	1033	1534	2035	2nd Stage	+	1353	1567	1751	1994	
				+7.5%	957	1426	1895		Norm	1202	1448	1616	1828	
				Default	881	1317	1754		-	1080	1290	1472	1668	
			35 - 65 Min. Input	-7.5%	817	1235	1652	1st Stage	+	935	1074	1260	1450	
				-15%	753	1152	1550		Norm	834	983	1116	1306	
									-	732	867	1023	1145	

Note: \*\* See installation instructions for proper blower set up

**Blower Performance Data**

**SIDE INLET**

	Model	Motor Size (hp)	Blower Size	Temp Rise F°	Heating CFM @ .50" w.c.				Cooling Stages	Speed Adjustment	Cooling CFM @ .50" w.c.			
					**	40%	70%	100%			Setting "A"	Setting "B"	Setting "C"	Setting "D"
Upflow / Horizontal	A96UHMV070B12S	1/2 HP	10 x 9	50 - 80 Max. Input	+15%	531	812	1093	2nd Stage	+	840	1054	1208	1357
					+7.5%	490	756	1022		Norm	752	946	1130	1231
					Default	449	700	951		-	688	805	991	1114
				35 - 65 Min. Input	-7.5%	413	635	857	1st Stage	+	593	706	805	959
					-15%	378	571	763		Norm	543	642	729	824
										-	503	584	665	720
	A96UHMV090C12S	1/2 HP	10 x 9	60 - 90 Max. Input	+15%	702	971	1240	2nd Stage	+	843	1017	1168	1300
					+7.5%	673	926	1178		Norm	772	912	1054	1193
					Default	644	880	1116		-	698	799	946	1111
				35 - 65 Min. Input	-7.5%	608	814	1020	1st Stage	+	610	707	797	921
					-15%	571	747	923		Norm	561	643	718	811
										-	526	605	667	729
	A96UHMV090C16S	3/4 HP	11 x 11	50 - 80 Max. Input	+15%	812	1204	1595	2nd Stage	+	1140	1341	1526	1728
					+7.5%	759	1127	1495		Norm	1043	1235	1398	1566
					Default	706	1051	1395		-	913	1124	1279	1402
				35 - 65 Min. Input	-7.5%	644	978	1312	1st Stage	+	823	1009	1135	1292
					-15%	582	905	1228		Norm	758	882	1026	1151
										-	684	816	928	1068
	A96UHMV090C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	684	1136	1588	2nd Stage	+	1335	1559	1719	1986
					+7.5%	623	1059	1496		Norm	1173	1433	1568	1811
					Default	562	983	1403		-	1049	1283	1451	1603
				35 - 65 Min. Input	-7.5%	502	896	1291	1st Stage	+	911	1043	1227	1434
					-15%	441	810	1178		Norm	805	960	1087	1296
										-	700	840	991	1115
A96UHMV110C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	733	1194	1747	2nd Stage	+	1270	1519	1712	1899	
				+7.5%	708	1139	1657		Norm	1170	1363	1555	1774	
				Default	683	1085	1566		-	1059	1218	1401	1581	
			35 - 65 Min. Input	-7.5%	632	1007	1457	1st Stage	+	918	1053	1198	1366	
				-15%	580	929	1348		Norm	820	964	1095	1231	
									-	722	852	987	1116	
A96UHMV135D20S	1 HP	11 x 11	55 - 85 Max. Input	+15%	1010	1505	2001	2nd Stage	+	1337	1550	1720	1974	
				+7.5%	923	1398	1873		Norm	1194	1416	1608	1781	
				Default	836	1290	1744		-	1076	1282	1437	1628	
			35 - 65 Min. Input	-7.5%	775	1208	1641	1st Stage	+	938	1070	1236	1418	
				-15%	715	1126	1537		Norm	837	985	1114	1296	
									-	736	870	1010	1139	

**Blower Performance Data**

**SIDE INLET with return air base**

	Model	Motor Size (hp)	Blower Size	Temp Rise F°	Heating CFM @ .50" w.c.				Cooling Stages	Speed	Cooling CFM @ .50" w.c.			
					**	40%	70%	100%			Setting "A"	Setting "B"	Setting "C"	Setting "D"
Upflow / Horizontal	A96UHMV070B12S	1/2 HP	10 x 9	50 - 80 Max. Input	+15%	519	805	1091	2nd Stage	+	857	1049	1206	1354
					+7.5%	480	751	1021		Norm	791	946	1093	1255
					Default	441	696	951		-	722	845	987	1131
				35 - 65 Min. Input	-7.5%	408	643	877	1st Stage	+	596	717	816	950
					-15%	375	589	803		Norm	521	657	755	840
										-	494	597	672	747
	A96UHMV090C12S	1/2 HP	10 x 9	60 - 90 Max. Input	+15%	721	988	1254	2nd Stage	+	852	999	1166	1305
					+7.5%	679	923	1167		Norm	776	907	1050	1206
					Default	637	858	1079		-	712	802	947	1074
				35 - 65 Min. Input	-7.5%	606	806	1006	1st Stage	+	605	715	812	934
					-15%	576	754	933		Norm	571	662	735	820
										-	530	602	673	725

Note: \*\* See installation instructions for proper blower set up

**Blower Performance Data**

**SIDE INLET with return air base**

(Continued from previous page)

	Model	Motor Size (hp)	Blower Size	Temp Rise F°	Heating CFM @ .50" w.c.				Cooling Stages	Speed	Cooling CFM @ .50" w.c.			
					**	40%	70%	100%			Setting "A"	Setting "B"	Setting "C"	Setting "D"
Upflow / Horizontal	A96UHMV090C16S	3/4 HP	11 x 11	50 - 80 Max. Input	+15%	828	1213	1597	2nd Stage	+	1162	1360	1533	1742
					+7.5%	766	1132	1499		Norm	1064	1240	1400	1594
					Default	703	1052	1401		-	928	1133	1298	1441
				35 - 65 Min. Input	-7.5%	650	986	1323	1st Stage	+	844	955	1124	1280
					-15%	596	921	1245		Norm	775	910	1011	1173
										-	695	816	932	1045
	A96UHMV090C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	686	1138	1589	2nd Stage	+	1329	1560	1740	1982
					+7.5%	626	1060	1494		Norm	1177	1414	1586	1807
					Default	566	983	1399		-	1044	1261	1432	1619
				35 - 65 Min. Input	-7.5%	502	895	1288	1st Stage	+	913	1037	1230	1415
					-15%	437	806	1176		Norm	827	953	1088	1278
										-	741	855	995	1117
	A96UHMV110C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	893	1419	1945	2nd Stage	+	1268	1487	1726	1913
					+7.5%	814	1329	1843		Norm	1158	1369	1568	1764
					Default	736	1238	1741		-	1030	1224	1393	1575
				35 - 65 Min. Input	-7.5%	680	1139	1599	1st Stage	+	918	1022	1205	1371
					-15%	623	1040	1457		Norm	839	955	1084	1235
										-	760	865	984	1109
	A96UHMV135D20S	1 HP	11 x 11	55 - 85 Max. Input	+15%	992	1487	1983	2nd Stage	+	1303	1536	1687	1975
					+7.5%	907	1382	1858		Norm	1164	1380	1584	1762
					Default	822	1277	1732		-	1065	1252	1404	1604
				35 - 65 Min. Input	-7.5%	761	1188	1615	1st Stage	+	918	1061	1214	1382
					-15%	700	1099	1497		Norm	829	960	1091	1265
										-	739	858	991	1116

**Blower Performance Data**

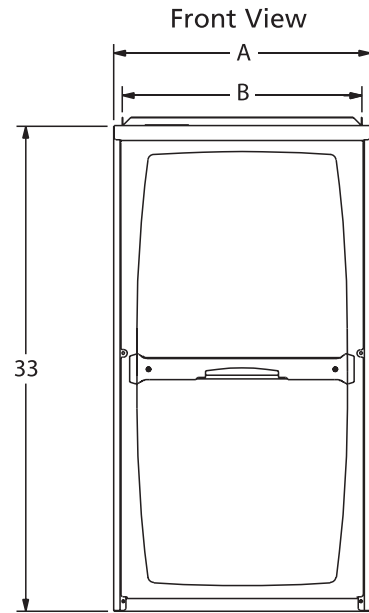
**RETURN INLET**

	Model	Motor Size (hp)	Blower Size	Temp Rise F°	Heating CFM @ .50" w.c.				Cooling Stages	Speed Adjust-ment	Cooling CFM @ .50" w.c.			
					**	40%	70%	100%			Setting "A"	Setting "B"	Setting "C"	Setting "D"
Downflow	A96DFMV070B12S	1/2 HP	10 x 9	50 - 80 Max. Input	+15%	543	830	1118	2nd Stage	+	910	1075	1232	1366
					+7.5%	516	778	1041		Norm	846	963	1126	1267
					Default	489	726	963		-	759	889	986	1154
				35 - 65 Min. Input	-7.5%	467	687	908	1st Stage	+	625	788	890	998
					-15%	444	649	853		Norm	573	711	830	894
										-	520	619	714	822
	A96DFMV090C16S	1/2 HP	10 x 9	60 - 90 Max. Input	+15%	756	1033	1309	2nd Stage	+	924	1083	1218	1386
					+7.5%	713	971	1230		Norm	835	1000	1136	1259
					Default	669	910	1150		-	751	890	1028	1145
				35 - 65 Min. Input	-7.5%	599	845	1091	1st Stage	+	610	771	902	1035
					-15%	530	781	1032		Norm	549	690	808	923
										-	466	623	721	812
	A96DFMV090C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	728	1176	1625	2nd Stage	+	1337	1601	1752	1982
					+7.5%	673	1092	1512		Norm	1225	1449	1629	1830
					Default	618	1009	1399		-	1119	1269	1448	1664
				35 - 65 Min. Input	-7.5%	570	931	1292	1st Stage	+	956	1114	1265	1449
					-15%	522	853	1184		Norm	855	1004	1148	1286
										-	753	888	1063	1172
	A96DFMV110C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	906	1475	2045	2nd Stage	+	1337	1583	1792	2011
					+7.5%	835	1380	1926		Norm	1222	1440	1629	1867
					Default	764	1285	1807		-	1098	1273	1473	1678
				35 - 65 Min. Input	-7.5%	707	1193	1679	1st Stage	+	922	1093	1264	1442
					-15%	650	1101	1551		Norm	830	965	1129	1289
										-	738	860	1034	1156

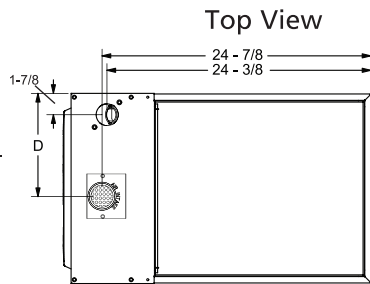
Note: \*\* See installation instructions for proper blower set up

# Dimensions (in.)

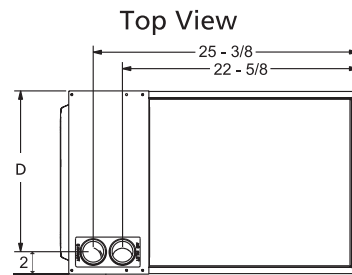
	Model	A	B	C	D
Upflow/Horizontal	A96UHMV070B12S	17-1/2	16-3/8	16	7-5/8
	A96UHMV090C12S	21	19-7/8	19-1/2	9-3/8
	A96UHMV090C16S	21	19-7/8	19-1/2	9-3/8
	A96UHMV090C20S	21	19-7/8	19-1/2	9-3/8
	A96UHMV110C20S	21	19-7/8	19-1/2	9-3/8
	A96UHMV135D20S	24-1/2	23-3/8	23	11-1/8
Downflow	A96DFMV070B12S	17-1/2	16-3/8	16	15-1/2
	A96DFMV090C16S	21	19-7/8	19-1/2	19
	A96DFMV090C20S	21	19-7/8	19-1/2	19
	A96DFMV110C20S	21	19-7/8	19-1/2	19



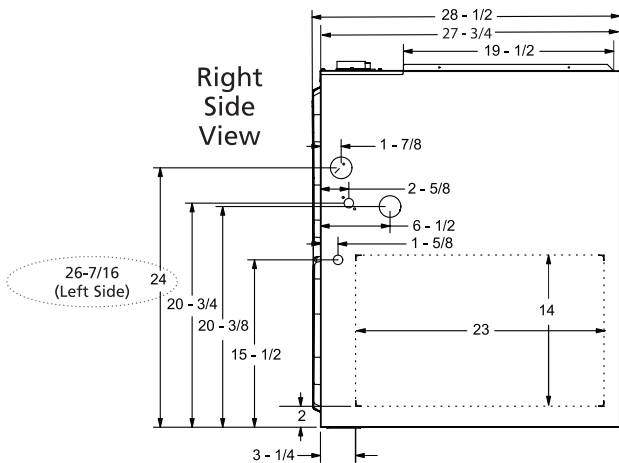
Upflow / Horizontal



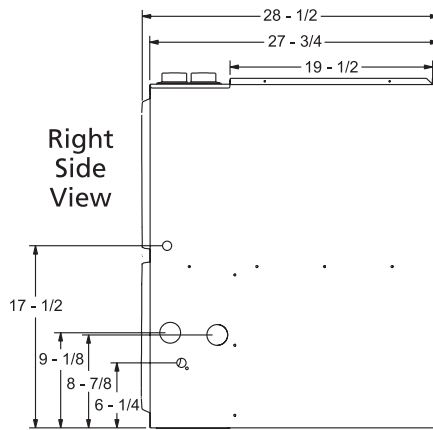
Downflow



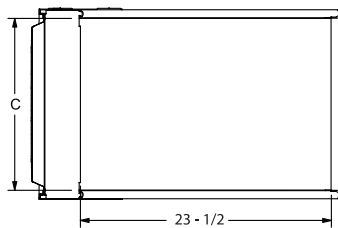
Right Side View



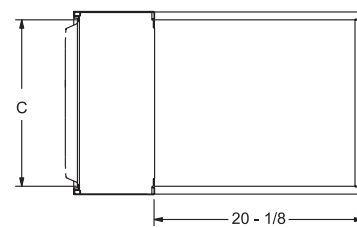
Right Side View



Bottom View



Bottom View



## Accessory List

Catalog Number	Description
External Filter Rack kits	
1.841018	1 pack (16 x 25)
1.841039	10 pack (16 x 25)
Natural to LP kits	
68W77	Modulating 96% (includes gas valve)
Return Air Base	
68W62	17.5" B Width
68W63	21.0" C Width
68W64	24.5" D Width
Downflow Combustible Flooring Base	
11M60	17.5" B Width
11M61	21.0" C Width
Night Service Kits	
68W82	Modulating
Horizontal Suspension Kit	
51W10	80% & 90% Kit
Flush Mount Termination (90% Furnaces only) US Only	
51W11	2" & 3" Vent Version
Concentric Vent Kit (90% Furnaces only) US Only	
71M80	1-1/2" Vent Version
69M29	2" Vent Version
60L46	3" Vent Version

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

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**SUBJECT TO CHANGE**

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



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