

A97MV

97% Modulating
Variable Speed
Gas Furnace

Product Specifications

Form No. A97MV-100 (01-2013)



Communicating Thermostat enabled



WARRANTY

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

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

- Communicating control enabled
- Modulating gas valve
- Thermostat flexibility:
 - works with the Comfort Sync T-Stat or a conventional 24V T-Stat
- Self diagnostics saves last 10 fault codes regardless of power interruption

VENTING

- Category 4 direct vent appliance (2 pipe only)

INSTALLATION FEATURES

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



Most Efficient
2013
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Model Number Guide

Brand	AFUE	Config	Stages	Blower	BTUH Input	Cabinet Width	Nom. CFM x 100	Heat Exch. Code	Major Revision
A	97	U S	M	V	110	C	20	S	- 01

A = Armstrong Air/AirEase	97 = 97% Efficiency	U = Upflow/Horizontal D = Downflow	S = Communicating Enabled	M = Modulation	V = Variable Speed	Heating Input x 1000	C = Cabinet Width	20 = Nom. CFM x 100	S = Stainless steel Heat Exchanger	- 01 = Major Revision
									08 = 2 Ton add on cooling 12 = 3 Ton add on cooling 16 = 4 Ton add on cooling 20 = 5 Ton add on cooling	A = 14.5" width B = 17.5" width C = 21.0" width D = 24.5" width

Physical and Electrical Data

	Model	Input (Btuh)	Output * (Btuh)	AFUE (ICS)	Nominal* 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	A97USMV070B12S	66,000	64,000	97.0%	3 Tons	1/2	120-60-1	15	7.7	40	138
	A97USMV090C12S	88,000	85,000	97.0%	3 Tons	1/2	120-60-1	15	7.7	40	155
	A97USMV090C16S	88,000	85,000	97.0%	4 Tons	1/2	120-60-1	15	10.1	40	165
	A97USMV090C20S	88,000	85,000	97.0%	5 Tons	1/2	120-60-1	20	12.8	40	165
	A97USMV110C20S	110,000	106,000	97.0%	5 Tons	1/2	120-60-1	20	12.8	40	175
	A97USMV135D20S	132,000	127,000	97.0%	5 Tons	1/2	120-60-1	20	12.8	40	190
Downflow	A97DSMV070B12S	66,000	64,000	97.0%	3 Tons	1/2	120-60-1	15	7.7	40	140
	A97DSMV090C16S	88,000	85,000	97.0%	4 Tons	1/2	120-60-1	15	10.1	40	165
	A97DSMV090C20S	88,000	85,000	97.0%	5 Tons	1/2	120-60-1	20	12.8	40	165
	A97DSMV110C20S	110,000	107,000	97.0%	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 @ 0" - 0.5" w.c.				Cooling Stages	Speed Adjustment	Cooling CFM @ 0" - 0.8" w.c.					
					**	40% Input	70% Input	100% Input			Low	Medium Low	Medium High	High Default		
Upflow / Horizontal	A97USMV070B12S	1/2 HP	10 x 9	50 - 80 Max. Input	+15%	538	833	1128	2nd Stage	+10%	862	1063	1218	1369		
					+7.5%	496	772	1048		Default	810	962	1130	1269		
					Default	453	710	967		-10%	707	841	1007	1140		
				35 - 65 Min. Input	+10%	604	740	843	971	1st Stage	+10%	604	740	843	971	
					Default	558	668	770	855		Default	558	668	770	855	
					-10%	504	603	683	793		-10%	504	603	683	793	
	A97USMV090C12S	1/2 HP	10 x 9	10 x 9	60 - 90 Max. Input	+15%	734	1014	1295	2nd Stage	+10%	879	1040	1212	1362	
						+7.5%	697	953	1209		Default	803	946	1104	1246	
						Default	660	891	1122		-10%	721	842	972	1117	
					35 - 65 Min. Input	+10%	626	710	832	952	1st Stage	+10%	626	710	832	952
						Default	569	672	764	862		Default	569	672	764	862
						-10%	524	612	687	785		-10%	524	612	687	785
	A97USMV090C16S	3/4 HP	11 x 11	11 x 11	50 - 80 Max. Input	+15%	835	1234	1633	2nd Stage	+10%	1168	1379	1583	1771	
						+7.5%	776	1155	1534		Default	1079	1267	1444	1645	
						Default	716	1075	1434		-10%	938	1148	1324	1469	
					35 - 65 Min. Input	+10%	843	1007	1159	1315	1st Stage	+10%	843	1007	1159	1315
						Default	780	915	1047	1190		Default	780	915	1047	1190
						-10%	693	838	959	1070		-10%	693	838	959	1070
	A97USMV090C20S	1 HP	11 x 11	11 x 11	50 - 80 Max. Input	+15%	665	1159	1653	2nd Stage	+10%	1385	1593	1818	2019	
						+7.5%	618	1085	1553		Default	1226	1463	1647	1884	
						Default	571	1012	1453		-10%	1063	1320	1504	1675	
					35 - 65 Min. Input	+10%	933	1054	1274	1466	1st Stage	+10%	933	1054	1274	1466
						Default	836	978	1121	1336		Default	836	978	1121	1336
						-10%	740	868	1010	1152		-10%	740	868	1010	1152
A97USMV110C20S	1 HP	11 x 11	11 x 11	50 - 80 Max. Input	+15%	861	1424	1988	2nd Stage	+10%	1312	1560	1744	1955		
					+7.5%	825	1349	1874		Default	1219	1405	1569	1796		
					Default	789	1274	1759		-10%	1075	1272	1428	1634		
				35 - 65 Min. Input	+10%	937	1064	1247	1407	1st Stage	+10%	937	1064	1247	1407	
					Default	864	972	1146	1282		Default	864	972	1146	1282	
					-10%	790	888	1025	1167		-10%	790	888	1025	1167	
A97USMV135D20S	1 HP	11 x 11	11 x 11	55 - 85 Max. Input	+15%	1033	1534	2035	2nd Stage	+10%	1353	1567	1751	1994		
					+7.5%	957	1426	1895		Default	1202	1448	1616	1828		
					Default	881	1317	1754		-10%	1080	1290	1472	1668		
				35 - 65 Min. Input	+10%	935	1074	1260	1450	1st Stage	+10%	935	1074	1260	1450	
					Default	834	983	1116	1306		Default	834	983	1116	1306	
					-10%	732	867	1023	1145		-10%	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 @ 0" - 0.5" w.c.				Cooling Stages	Speed Adjust-ment	Cooling CFM @ 0" - 0.8" w.c.			
					**	40% Input	70% Input	100% Input			Low	Medium Low	Medium High	High Default
Upflow / Horizontal	A97USMV070B12S	1/2 HP	10 x 9	50 - 80 Max. Input	+15%	531	812	1093	2nd Stage	+10%	840	1054	1208	1357
					+7.5%	490	756	1022		Default	752	946	1130	1231
					Default	449	700	951		-10%	688	805	991	1114
				35 - 65 Min. Input	+10%	593	706	805	959					
					Default	543	642	729	824					
					-10%	503	584	665	720					
	A97USMV090C12S	1/2 HP	10 x 9	60 - 90 Max. Input	+15%	702	971	1240	2nd Stage	+10%	843	1017	1168	1300
					+7.5%	673	926	1178		Default	772	912	1054	1193
					Default	644	880	1116		-10%	698	799	946	1111
				35 - 65 Min. Input	+10%	610	707	797	921					
					Default	561	643	718	811					
					-10%	526	605	667	729					
	A97USMV090C16S	3/4 HP	11 x 11	50 - 80 Max. Input	+15%	812	1204	1595	2nd Stage	+10%	1140	1341	1526	1728
					+7.5%	759	1127	1495		Default	1043	1235	1398	1566
					Default	706	1051	1395		-10%	913	1124	1279	1402
				35 - 65 Min. Input	+10%	823	1009	1135	1292					
					Default	758	882	1026	1151					
					-10%	684	816	928	1068					
	A97USMV090C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	684	1136	1588	2nd Stage	+10%	1335	1559	1719	1986
					+7.5%	623	1059	1496		Default	1173	1433	1568	1811
					Default	562	983	1403		-10%	1049	1283	1451	1603
				35 - 65 Min. Input	+10%	911	1043	1227	1434					
					Default	805	960	1087	1296					
					-10%	700	840	991	1115					
A97USMV110C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	733	1194	1747	2nd Stage	+10%	1270	1519	1712	1899	
				+7.5%	708	1139	1657		Default	1170	1363	1555	1774	
				Default	683	1085	1566		-10%	1059	1218	1401	1581	
			35 - 65 Min. Input	+10%	918	1053	1198	1366						
				Default	820	964	1095	1231						
				-10%	722	852	987	1116						
A97USMV135D20S	1 HP	11 x 11	55 - 85 Max. Input	+15%	1010	1505	2001	2nd Stage	+10%	1337	1550	1720	1974	
				+7.5%	923	1398	1873		Default	1194	1416	1608	1781	
				Default	836	1290	1744		-10%	1076	1282	1437	1628	
			35 - 65 Min. Input	+10%	938	1070	1236	1418						
				Default	837	985	1114	1296						
				-10%	736	870	1010	1139						

Blower Performance Data SIDE INLET with return air base

	Model	Motor Size (hp)	Blower Size	Temp Rise F°	Heating CFM @ 0" - 0.5" w.c.				Cooling Stages	Speed Adjust-ment	Cooling CFM @ 0" - 0.8" w.c.			
					**	40% Input	70% Input	100% Input			Low	Medium Low	Medium High	High Default
Upflow / Horizontal	A97USMV070B12S	1/2 HP	10 x 9	50 - 80 Max. Input	+15%	519	805	1091	2nd Stage	+10%	857	1049	1206	1354
					+7.5%	480	751	1021		Default	791	946	1093	1255
					Default	441	696	951		-10%	722	845	987	1131
				35 - 65 Min. Input	+10%	596	717	816	950					
					Default	521	657	755	840					
					-10%	494	597	672	747					
	A97USMV090C12S	1/2 HP	10 x 9	60 - 90 Max. Input	+15%	721	988	1254	2nd Stage	+10%	852	999	1166	1305
					+7.5%	679	923	1167		Default	776	907	1050	1206
					Default	637	858	1079		-10%	712	802	947	1074
				35 - 65 Min. Input	+10%	605	715	812	934					
					Default	571	662	735	820					
					-10%	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 @ 0" - 0.5" w.c.				Cooling Stages	Speed Adjust-ment	Cooling CFM @ 0" - 0.8" w.c.			
					**	40% Input	70% Input	100% Input			Low	Medium Low	Medium High	High Default
Upflow / Horizontal	A97USMV090C16S	3/4 HP	11 x 11	50 - 80 Max. Input	+15%	828	1213	1597	2nd Stage	+10%	1162	1360	1533	1742
					+7.5%	766	1132	1499		Default	1064	1240	1400	1594
					Default	703	1052	1401		-10%	928	1133	1298	1441
				35 - 65 Min. Input	+10%	844	955	1124	1280					
					Default	775	910	1011	1173					
					-10%	695	816	932	1045					
	A97USMV090C20S	1 HP	11 x 11	60 - 90 Max. Input	+15%	686	1138	1589	2nd Stage	+10%	1329	1560	1740	1982
					+7.5%	626	1060	1494		Default	1177	1414	1586	1807
					Default	566	983	1399		-10%	1044	1261	1432	1619
				35 - 65 Min. Input	+10%	913	1037	1230	1415					
					Default	827	953	1088	1278					
					-10%	741	855	995	1117					
	A97USMV110C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	893	1419	1945	2nd Stage	+10%	1268	1487	1726	1913
					+7.5%	814	1329	1843		Default	1158	1369	1568	1764
					Default	736	1238	1741		-10%	1030	1224	1393	1575
				35 - 65 Min. Input	+10%	918	1022	1205	1371					
Default					839	955	1084	1235						
-10%					760	865	984	1109						
A97USMV135D20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	992	1487	1983	2nd Stage	+10%	1303	1536	1687	1975	
				+7.5%	907	1382	1858		Default	1164	1380	1584	1762	
				Default	822	1277	1732		-10%	1065	1252	1404	1604	
			35 - 65 Min. Input	+10%	918	1061	1214	1382						
				Default	829	960	1091	1265						
				-10%	739	858	991	1116						

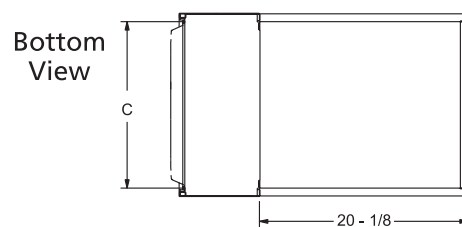
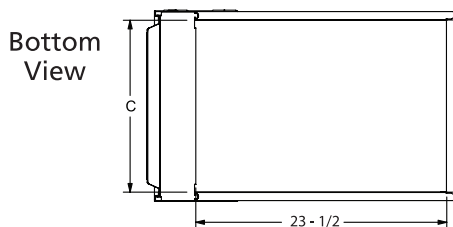
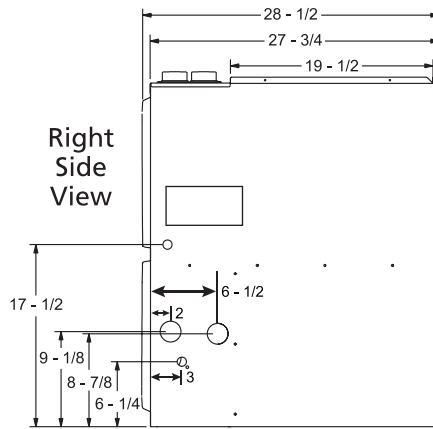
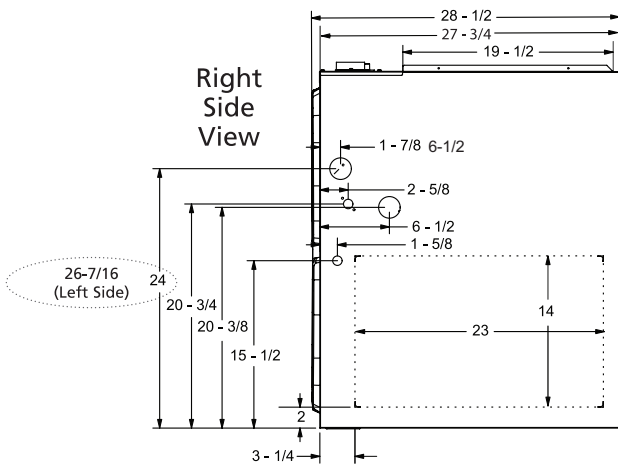
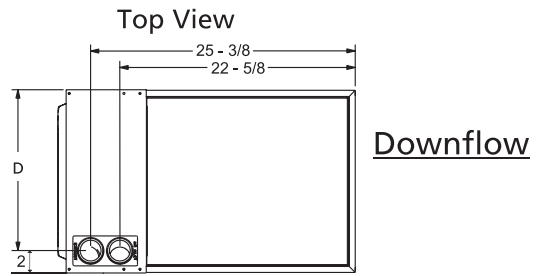
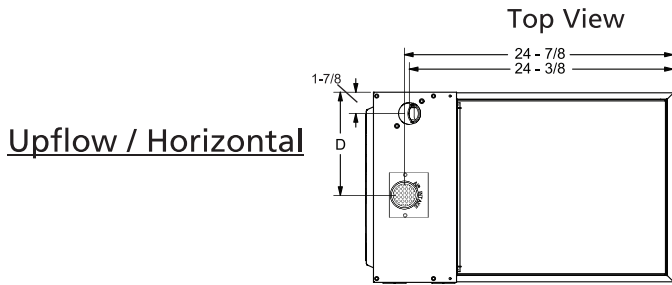
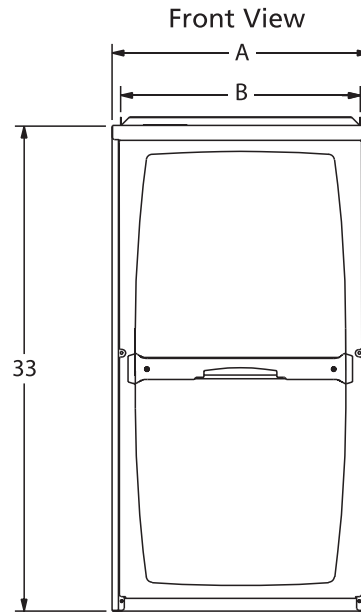
Blower Performance Data RETURN INLET

	Model	Motor Size (hp)	Blower Size	Temp Rise F°	Heating CFM @ 0" - 0.5" w.c.				Cooling Stages	Speed Adjust-ment	Cooling CFM @ 0" - 0.8" w.c.			
					**	40% Input	70% Input	100% Input			Low	Medium Low	Medium High	High Default
Downflow	A97DSMV070B12S	1/2 HP	10 x 9	50 - 80 Max. Input	+15%	543	830	1118	2nd Stage	+10%	910	1075	1232	1366
					+7.5%	516	778	1041		Default	846	963	1126	1267
					Default	489	726	963		-10%	759	889	986	1154
				35 - 65 Min. Input	+10%	625	788	890	998					
					Default	573	711	830	894					
					-10%	520	619	714	822					
	A97DSMV090C16S	1/2 HP	10 x 9	60 - 90 Max. Input	+15%	756	1033	1309	2nd Stage	+10%	924	1083	1218	1386
					+7.5%	713	971	1230		Default	835	1000	1136	1259
					Default	669	910	1150		-10%	751	890	1028	1145
				35 - 65 Min. Input	+10%	610	771	902	1035					
					Default	549	690	808	923					
					-10%	466	623	721	812					
	A97DSMV090C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	728	1176	1625	2nd Stage	+10%	1337	1601	1752	1982
					+7.5%	673	1092	1512		Default	1225	1449	1629	1830
					Default	618	1009	1399		-10%	1119	1269	1448	1664
				35 - 65 Min. Input	+10%	956	1114	1265	1449					
Default					855	1004	1148	1286						
-10%					753	888	1063	1172						
A97DSMV110C20S	1 HP	11 x 11	50 - 80 Max. Input	+15%	906	1475	2045	2nd Stage	+10%	1337	1583	1792	2011	
				+7.5%	835	1380	1926		Default	1222	1440	1629	1867	
				Default	764	1285	1807		-10%	1098	1273	1473	1678	
			35 - 65 Min. Input	+10%	922	1093	1264	1442						
				Default	830	965	1129	1289						
				-10%	738	860	1034	1156						

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

Dimensions (in.)

	Model	A	B	C	D
Upflow/Horizontal	A97USMV070B12S	17-1/2	16-3/8	16	7-5/8
	A97USMV090C12S	21	19-7/8	19-1/2	9-3/8
	A97USMV090C16S	21	19-7/8	19-1/2	9-3/8
	A97USMV090C20S	21	19-7/8	19-1/2	9-3/8
	A97USMV110C20S	21	19-7/8	19-1/2	9-3/8
	A97USMV135D20S	24-1/2	23-3/8	23	11-1/8
Downflow	A97DSMV070B12S	17-1/2	16-3/8	16	15-1/2
	A97DSMV090C16S	21	19-7/8	19-1/2	19
	A97DSMV090C20S	21	19-7/8	19-1/2	19
	A97DSMV110C20S	21	19-7/8	19-1/2	19



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 97% (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	
89W52	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.

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

