

# TECHNICAL GUIDE

## DOWNFLOW / HORIZONTAL ELECTRIC FURNACE



### MODELS: WEFC & WEFX SERIES

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### SECTION I: DESCRIPTION

This electric furnace is designed for residential installation in Manufactured (Mobile) Homes, Modular Homes and Residential Homes. All furnaces are factory assembled, wired and run tested to assure dependable and economical operation.

#### Warranty

- 5 - Year limited furnace warranty
- 1 - Year limited parts warranty

#### Features

- Furnace is rated at 240 volts AC at 60 Hertz
- Furnace has the same dimensions for all models
- Compact, easy to install, 33” cabinet height
- Blower off delay for cooling SEER improvement
- WEFX models have X-13 blower motor for low current draw, thus efficiency and SEER improvement
- WEFC models have a PSC blower motor; 1/3, 1/2 and 3/4 HP PSC blower motors available
- Timed on blower capability for maximum comfort
- 240, 40VA Fuse protected control transformer
- Quiet blower operation
- Optional WR 1F95-1291 Thermostat
- Optional blower speed change relay
- All models are A/C ready furnaces equipped with blower for A/C or Heat Pump operation
- Holding Strap furnished with furnace
- This furnace is designed for downflow or horizontal application

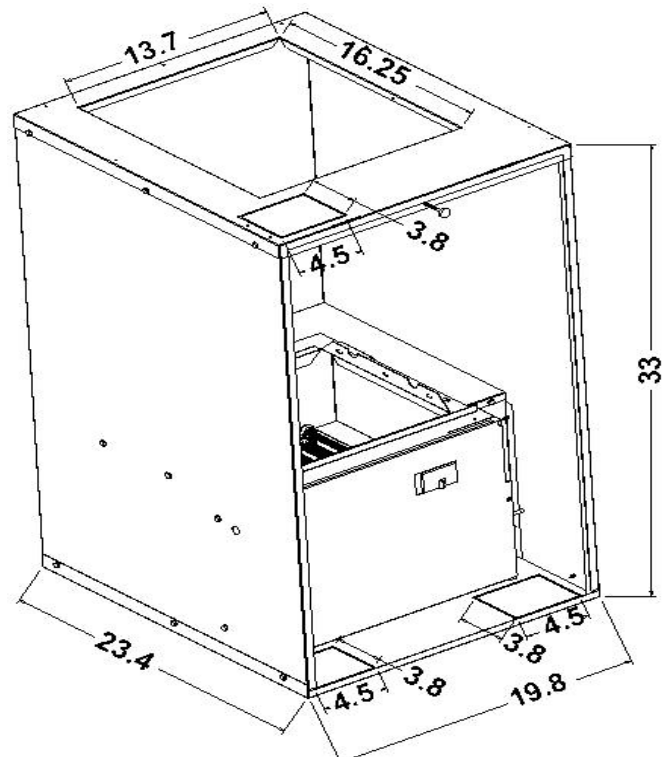


Figure 1: Furnace Dimensions

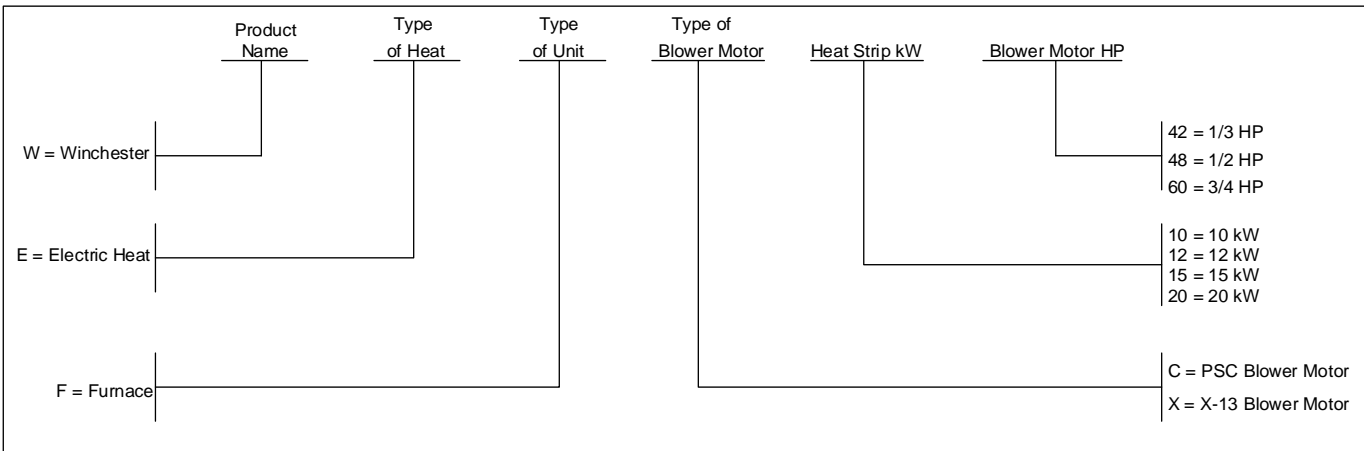
**SECTION II: FURNACE SPECIFICATIONS / TABLES**

Models	ALL	ALL	ALL	ALL
Input, kW	5	8	10	12
With A-Coil Cabinet	NO	NO	NO	NO
Air Temperature Rise, Range - F	20-80	20-80	30-90	30-90
Designed Max Outlet Air Temp-F	170	170	180	180
Blower-Heat or Heat/Cool	10 X 9 BLOWER			
Max. External SP (Duct), In. W.C.	0.3			
Thermostat Circuit	24 VAC, 60 Hz, 40VA			
Electric Furnace Cabinet Height	33 inches			

Models	ALL	ALL	ALL
Input, kW	15	17	20
With A-Coil Cabinet	NO	NO	NO
Air Temperature Rise, Range - F	35-100	40-100	40-100
Designed Max Outlet Air Temp-F	185	185	185
Blower-Heat or Heat/Cool	10 X 9 BLOWER		
Max. External SP (Duct), In. W.C.	0.3		
Thermostat Circuit	24 VAC, 60 Hz, 40VA		
Electric Furnace Cabinet Height	33 inches		

**Table 1: Electric Furnace Model Specifications**

**Table 1: Electric Furnace Model Specifications**



**Table 2: Model Nomenclature**

Coil Cabinet Model	Front Door of Cabinet	Open Top 17 3/4" x 21 3/4"	Maximum Air Flow CFM	1" Pleated Air Filter, In The Door	2" Pleated Air Filter, Top of Cabinet	Height	Depth	Width	Coil Sizes
97-FLSB-21	Louvered	N/A	1200	20x20		23 1/4"	25"	19 3/4"	All Mortex 96 series coils will fit in cabinet
97-FSOB-21	Solid		1600		20x24	23 1/4"	25"	19 3/4"	
97-FLOB-21	Louvered		1800	20x20	20x24	23 1/4"	25"	19 3/4"	
97-FLSB-27	Louvered	N/A	1600	20x30		30 1/2"	25"	19 3/4"	96-97 series coils and 98 series coils sizes up to 98-8W7
97-FSOB-27	Solid		1600		20x24	30 1/2"	25"	19 3/4"	
97-FLOB-27	Louvered		1800	20x20	20x24	30 1/2"	25"	19 3/4"	
97-FLSB-39	Louvered	N/A	1800	2ea 20x20		40 1/4"	25"	19 3/4"	All Mortex series coils will fit in cabinet
97-FSOB-39	Solid		2000		20x24	40 1/4"	25"	19 3/4"	
97-FG-18	Louvered	N/A	1200	N/A	N/A	18"	N/A	19 3/4"	Frame & Grills Non-Cabinet
97-FG-24	Louvered	N/A	1600	N/A	N/A	24"	N/A	19 3/4"	

**Table 3: Optional Cooling Cabinets and Return Air Grille Frame Assemblies**

MODEL	CLEARANCES					
	TOP (in)	BACK (in)	SIDES (in)	FRONT OF FURNACE ALCOVE (in)	CLOSET (in)	DUCT (in)
ALL	6	0	0	18	6	0

**Table 4: Clearances to Combustibles**

**Furnace Weights**

WEFXxx42 Models – 82 lbs  
 WEFXxx48 Models – 79 lbs  
 WEFXxx60 Models – 85 lbs

**SECTION III: ELECTRICAL SPECIFICATIONS AND CONTROL BOX**

	ELECTRIC HEATER SIZES						
	5 kW	8 kW	10 kW	12 kW	15 kW	17 kW	20 kW
Circuit Load - FLA	25.83	38.33	46.50	55.00	67.33	75.83	88.16
Minimum Wire Size (90°C)	#10	#8	#8	#6	#4	#4	#3
Minimum Wire Size (75°C)	#10	#8	#6	#6	#4	#3	#2
Minimum Wire Size (60°C)	#10	#8	#6	#4	#3	#2	#1
Ground Wire Size	#10	#8	#8	#6	#4	#4	#3
Max Fuse Amps	35	50	60	60	80	90	100

**Table 5: Wiring Requirements – Single Branch Circuit**

- Requires a circuit breaker jumper bar or a jumper wire.
- + Refer to the National Electrical Code Table 250-95 for Non-Sheathed Conductor Ground Wire.

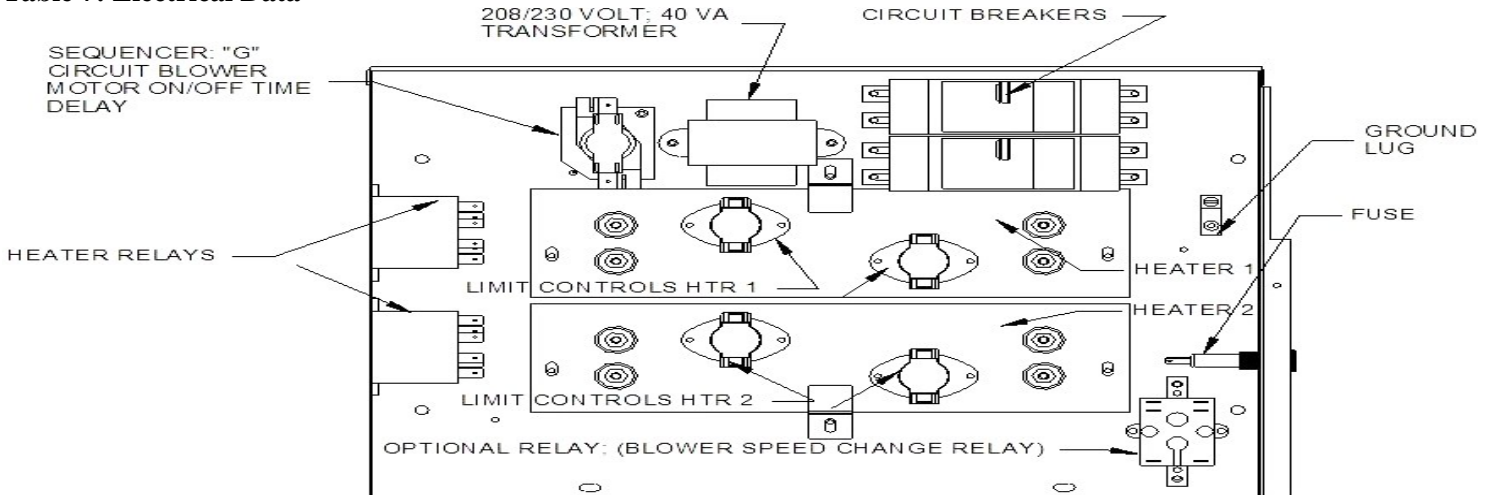
	ELECTRIC HEATER SIZES												
	5 kW		8 kW		10 kW		12 kW		15 kW		17 kW		20 kW
Circuit Number	1	1	1	1	1	2	1	2	1	2	1	2	
Circuit Load - FLA	25.83	38.33	46.5	55.0	46.5	20.83	55.0	20.83	46.5	41.66			
Minimum Wire Size (90°C)	#10	#8	#8	#6	#8	#10	#6	#10	#8	#8			
Minimum Wire Size (75°C)	#10	#8	#6	#6	#6	#10	#6	#10	#6	#6			
Minimum Wire Size (60°C)	#10	#8	#6	#4	#6	#10	#4	#10	#6	#6			
Ground Wire Size	#10	#8	#8	#6	#8	#10	#6	#10	#8	#8			
Max Fuse Amps	35	50	60	60	60	25	60	25	60	50			

**Table 6: Wiring Requirements – Dual Branch Circuit**

- Dual power supply for US only.
- + Refer to the National Electrical Code Table 250-95 for Non-Sheathed Conductor Ground Wire.

Branch Circuit Number		ELECTRIC HEATER SIZES											
		5 kW		8 kW		10 kW		12 kW		15 kW		17 kW	
240 VAC, 60 HZ, 1 PH	BTU	17,033	27,263	34,067	40,946.0	34,067	17,033	40,946	17,033	34,067	34,067		
	kW	4.99	7.99	10	12.0	10	4.99	12.0	4.99	10	10		
230 VAC, 60 HZ, 1 PH	BTU	15,876	26,512	33,686	38,612	33,686	15,876	38,612	15,876	33,686	33,686		
	kW	4.65	7.77	9.78	11.32	9.78	4.65	11.32	4.65	9.78	9.78		
220 VAC, 60 HZ, 1 PH	BTU	14,736	23,339	30,222	36,483	30,222	14,736	36,483	14,736	30,222	30,222		
	kW	4.32	6.84	8.86	10.69	8.86	4.32	10.69	4.32	8.86	8.86		
Heating Element Capacity	BTU	17,033	27,263	34,067	40,946	51,149	57,979	68,232					
	kW	4.99	7.99	9.998	12	14.9904	16.992	19.9968					
Blower Motor @ 240 VAC	AMPS	4.3	4.3	4.3	4.3	4.3	N/A	4.3	N/A	4.3	N/A		
	kW	1.032	1.032	1.032	1.032	1.032	N/A	1.032	N/A	1.032	N/A		

**Table 7: Electrical Data**



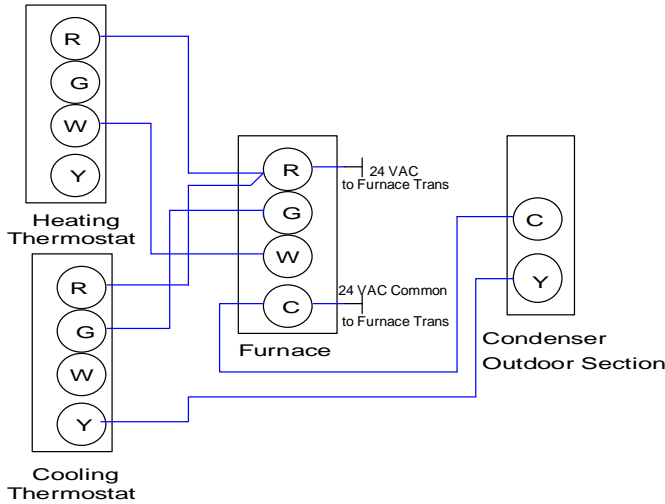
**Figure 2: Control Box Component Locations**

Casing or cabinet must be permanently grounded in accordance with the National Electrical Code or other applicable codes.

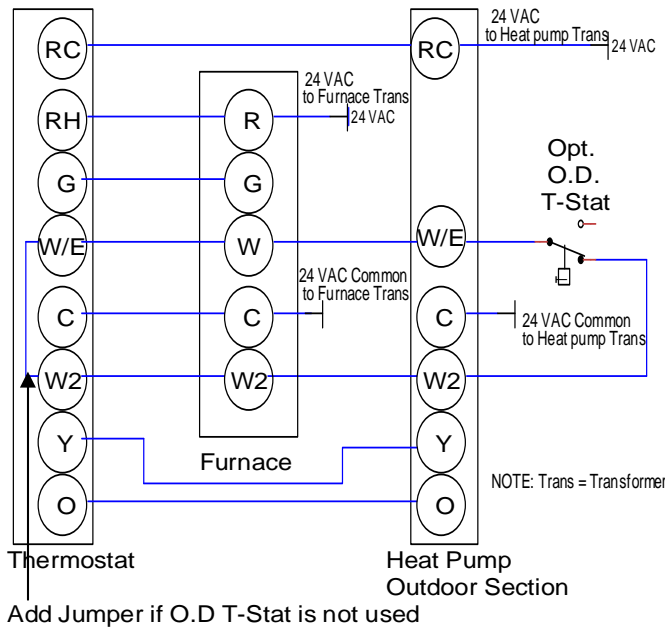
**SECTION IV: THERMOSTAT AND LOW VOLTAGE WIRING AND CONNECTIONS**

Thermostat Wire Length	Thermostat Wire Gauge	Thermostat Wire Maximum Current
0 - 70 Feet	20	1.5 amps
0 - 120 Feet	18	2.3 amps

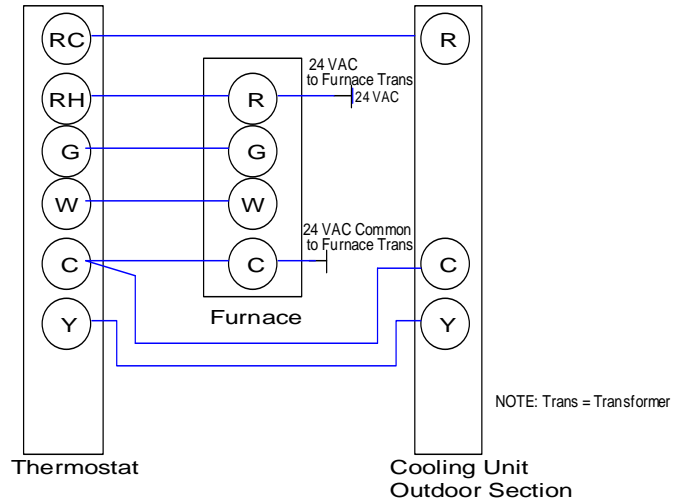
**Table 8: Low Voltage Wire Gauge and Max Lengths**



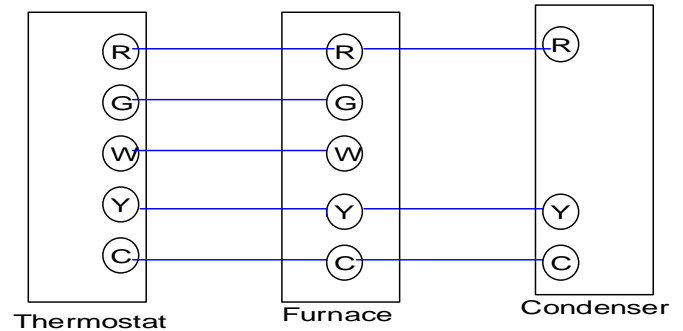
**Figure 3: Separate Thermostats; Same Furnace and Cooling Unit**



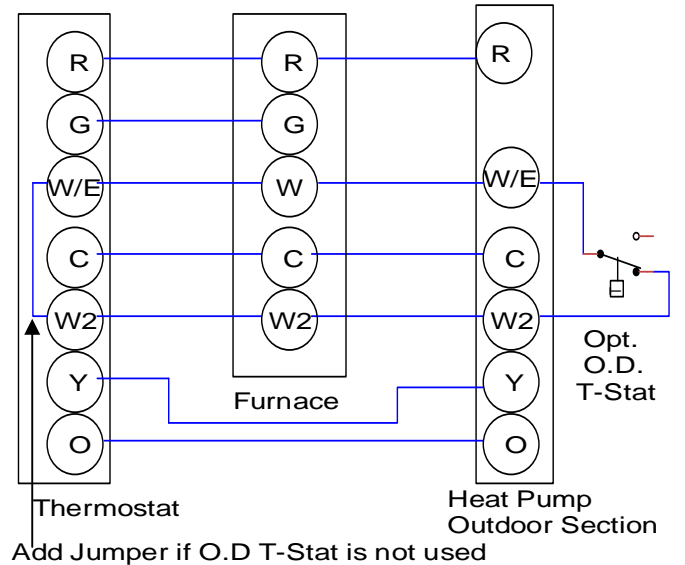
**Figure 4: Same Thermostat; Separate Furnace and Heat Pump Units with separate transformers**



**Figure 5: Same Thermostat; Separate Furnace and Cooling Units with separate transformers; Digital Thermostat**



**Figure 6: Typical Heating / Cooling Digital Thermostat Connections**



**Figure 7: Typical Heat Pump – Heating / Cooling Thermostat Connections**

Wire Color	Description	Letter Code	Furnace Pig Tail Wire Connection	Thermostat Connection	Condenser Connections
RED	24 VAC	R	Red	R	N/A
WHITE	Heat (1st Stage Heat)	W	White	W or W1	N/A
GREEN	Indoor Fan	G	Green	G	N/A
YELLOW	Cooling - Stage 1	Y	Yellow	Y or Y1	Y or Y1
BLACK	24 VAC Common	BLK	Black	C	C

**Table 9: Recommended Heating/Cooling Thermostat Wire Color Codes and Connections.**

Wire Color	Description	Letter Code	Furnace Pig Tail Wire Connection	Thermostat Connection	Condenser Connections
RED	24 VAC	R	Red	R	N/A
WHITE	Heat (1st Stage Heat)	W	White	E	N/A
GREEN	Indoor Fan	G	Green	G	N/A
YELLOW	Cooling - Stage 1	Y	Yellow	Y or Y1	Y or Y1
BLACK	24 VAC Common	BLK	Black	C	C
BROWN	Heat (Optional 2nd Stage Heat)	BRN	White	W2	N/A
ORANGE	Heat Pump Reversing Valve Solenoid	O	N/A	O	O
BLUE	Cooling - (Optional 2nd Stage Cooling)	BLU	N/A	Y2	Y2

**Table 10: Recommended Heating/Cooling/Heat Pump Thermostat Wire Color Codes and Connections.**

Terminal	Connection
C	Speed Tap Common - 24 VAC Common
L	Supply Voltage to Motor - 240 VAC Line 1
G	Ground Connection
N	Supply Voltage to Motor - 240 VAC Line 2
1	Low Speed Tap - 24 VAC
2	Med-Low Speed Tap - 24 VAC
3	Medium Speed Tap - 24 VAC
4	Med-High Speed Tap - 24 VAC
5	High Speed Tap - 24 VAC

**Blower Motor FLA**

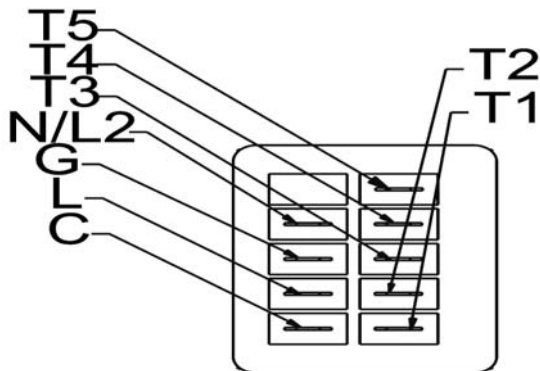
- 1/3 HP PSC Motor – 3.3
- 1/2 HP PSC Motor – 3.0
- 3/4 HP PSC Motor – 5.4
- 1/3 HP X-13 Motor – 2.8
- 1/2 HP X-13 Motor – 4.3
- 3/4 HP X-13 Motor – 6.8

**Thermostat Heat Anticipator**

The heat anticipator should be set to the following settings.  
 For 5kW, 8kW, 10kW, 12kW models set at 0.2  
 15kW, 17kW and 20 kW Models Set at 0.4

**Table 11: X-13 Motor Terminal Connections**

**SECTION V: BLOWER PERFORMANCE, MOTOR TERMINAL CONNECTIONS**



**Figure 8: X-13 Motor Terminals**

**SECTION VI: BLOWER PERFORMANCE AND MOTOR SPEED TAP SETTINGS.**

**Factory Speed Tap Settings @ .3 ESP with Filter and Coil**

Series Model	Sp Tap	Nom-Tons	CFM	Coil Range (See Coil Face Velocity Chart Below)	Max kW	Blower Setting
WEFCxx48	Low	2.0-2.5	950	96-Series, 97-Series, 98-Series	12	Factory Setting High
	Med	2.5-3.0	1100		15	
	High	3.0-3.5	1400		20	
WEFXxx42	T-1	1.5	580	96-Series, 97-Series, 98-Series	5	Factory Setting T-5
	T-2	2.0	750		8	
	T-3	2.5	925		8	
	T-4	3.0	1120		10	
	T-5	3.5	1300		12	
WEFXxx48	T-1	2.0	800	96-Series (Do Not use T-5 w/96-), 97-Series, 98-Series	12	Factory Setting T-5
	T-2	2.5	950		15	
	T-3	3.0	1120		15	
	T-4	3.5	1260		17	
	T-5	4.0	1380		20	
WEFXxx60	T-1	3.0	1080	98-Series only	17	Factory Setting T-3
	T-2	3.5	1300		20	
	T-3	4.0	1440		20	
	T-4	4.0	1520		20	
	T-5	5.0	1680		20	

Electric Furnace temperature rise (TR) can be used to determine air flow delivered. This result can then be used to determine FPM velocity across the coil face area using the chart below. Set Furnace (isolate the Heat Pump, just operate the Furnace) to run all the heater strips and then check return air and supply air temperature. Make sure all strips are operating. The difference is the TR

$CFM = (kW \times 3412) \times (\text{Voltage Correction Less Than } 240V) \times 1.08 / TR$   
 Example:  $CFM = (15kW \times 3412) \times .96 \times 1.08 / 56 TR$   
 $51180 \times .96 \times 1.08 / 56 = 948 CFM$   
 Voltage Correction < 240V  
 .96 = 230 Volts  
 .92 = 220 Volts  
 .87 = 208 Volts

**Coil Face Velocity Formula & Maximum Allowances when using the X-13 Motor**

Coil Series	CFM	Face Area	Nominal FPM	Coil Models (See Note Below)	Max FPM	Note
96-Series	750	3.11	242	96-8(Z,5,G,8,W)2(+)(++)P	300	<b>WARNING</b> Exceeding these nominal and / or maximum allowances may cause water blow off from the coil, which; may damage furnace, void furnace warranty and limit liability from those damages
	925	3.32	279	96-(R,M)2(,3,4)4(+)(++)P	300	
	1120	3.56	315	96-8(Z,2,3,4,5,G,8,W)(3,5)(+)(++)P	320	
	1300	4.06	321	96-(R,M)Z(,2,3,4,5,G,8,W)(4,6)(+)(++)P	325	
97-Series	1380	4.44	311	97-(R,M)Z(,2,3,4,5,G,8,W)(5,7)(+)(++)P	325	
	1440	5.33	270	98-(R,M)Z(,2,3,4,5,G,8,W)(7,10)(+)(++)P	330	
	1520	5.78	263	98-(R,M)Z(,2,3,4,5,G,8,W)(8,11)(+)(++)P	330	
	1520	6.22	245	98-(R,M)Z(,2,3,4,5,G,8,W)(9,12)(+)(++)P	330	
98-Series	1680	6.67	252	98-(R,M)Z(,2,3,4,5,G,8,W)(10,13)(+)(++)P	330	
	1680	7.11	237	98-(R,M)Z(,2,3,4,5,G,8,W)(11,14)(+)(++)P	330	
	1680	7.56	223	98-(R,M)Z(,2,3,4,5,G,8,W)(12,15)(+)(++)P	330	
	1680	8.00	210	98-(R,M)Z(,2,3,4,5,G,8,W)(13,17)(+)(++)P (See Example)	330	

Air Velocity Formula:  $CFM / \text{Coil Face Area} = \text{Air FPM}$ . Example of Coil Complete Model # 98-8G13Y-0P.  
 Note: When setting up the speed tap on the WEFX furnaces with the X-13 motor the coil face area must be taken into account so as not to exceed 330 Feet Per Minute of air across the coil. Anything higher will blow water off the coil and will be the responsibility of the installing contractor.

Table 12: Factory Recommended Blower Motor Speed Tap Settings

		EXTERNAL STATIC PRESSURE (ESP) INCHES WC DUCT										
		SPD TAP	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
CFM-NO-COIL	LO	1042	1036	1030	1024	1018	1006	911	708	542	386	
	MEDIUM	1210	1205	1199	1194	1189	1137	1036	769	601	427	
	HI	1550	1498	1427	1357	1273	1169	1048	924	704	526	
CFM with Coil 98-8Z7W-OP with Cabinet 97-FLSB-27 or 97-FLSF-27	LO	982	976	970	964	951	898	721	609	511	357	
	MEDIUM	1196	1190	1180	1149	1100	1037	951	680	569	405	
	HI	1509	1440	1371	1285	1203	1133	880	792	684	482	
CFM with Coil 98-8Z7W-OP with Cabinet 97-FSOB-27	LO	1011	1008	994	965	916	758	669	588	447		
	MEDIUM	1215	1189	1153	1104	1040	973	739	639	511	377	
	HI	1455	1394	1326	1260	1184	1081	852	703	585	441	
CFM-WITH-Coil 98-8G7W-OP with Cabinet 97-FLSB-27 or 97-FLSF-27	LO	955	952	949	946	928	890	724	648	532	364	
	MEDIUM	1175	1170	1164	1143	1100	1025	964	716	558	405	
	HI	1536	1463	1403	1328	1249	1155	1075	900	716	493	
CFM with Coil 98-8G7W-OP with Cabinet 97-FSOB-27	LO	1010	1013	1001	975	930	874	688	587	463	363	
	MEDIUM	1205	1184	1153	1110	1048	975	751	640	496	367	
	HI	1553	1482	1407	1328	1244	1154	1039	747	608	438	
CFM with Coil 96-8G4W-OP with Cabinet 97-FLSB-21 or 97-FLSF-21	LO	964	961	958	952	928	881	708	609	470	355	
	MEDIUM	1195	1185	1154	1122	1072	1013	820	680	556	405	
	HI	1535	1479	1407	1331	1250	1180	1094	812	658	487	
CFM with Coil 96-8G4W-OP with Cabinet 97-FSOB-21	LO	1005	999	979	943	881	758	641	561			
	MEDIUM	1197	1163	1113	1060	999	916	708	633	490	367	
	HI	1418	1352	1292	1213	1119	1062	946	698	549	409	

**Table 13: Blower Performance – 10 X 9 Morrison Wheel – 1/3 HP 3 SPD PSC Motor with Air Filters**

		EXTERNAL STATIC PRESSURE (ESP) INCHES WC DUCT									
SPD TAP		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
CFM-NO-COIL - OPEN TOP, SOLID DOOR	LO	935	763	680	560	498	437	347			
	MED-LO	968	881	810	756	680	566	531	446	382	
	MEDIUM	1074	1022	953	904	842	789	663	623	565	475
	MED-HI	1192	1131	1079	1042	971	914	862	748	697	519
	HI	1429	1372	1327	1285	1227	1176	1128	1072	941	602
CFM-NO-COIL - SOLID TOP, LOUVERED DOOR	LO	813	742	655	596	490	436	349			
	MED-LO	913	864	806	742	673	593	521	438	379	
	MEDIUM	1050	990	939	885	843	813	726	642	568	471
	MED-HI	1150	1096	1082	1002	958	913	857	806	737	533
	HI	1360	1314	1267	1227	1182	1134	1096	1002	885	564
CFM with Coil 98-827W-OP with Cabinet 97-FLSB-27 or 97-FLSF-27	LO	745	689	595	513	453	393	323			
	MED-LO	859	800	745	641	581	527	458	401	384	
	MEDIUM	978	926	872	832	721	655	600	563	514	420
	MED-HI	1066	1023	965	923	875	793	709	655	596	439
	HI	1276	1237	1197	1150	1117	1061	977	798	668	500
CFM with Coil 98-827W-OP with Cabinet 97-FSOB-27	LO	721	655	556	490	462	382	321			
	MED-LO	832	775	717	623	556	528	470	404	352	
	MEDIUM	939	898	845	793	701	633	623	559	502	413
	MED-HI	1037	994	956	901	832	752	697	655	554	453
	HI	1231	1178	1146	1101	1058	1003	832	741	615	466
CFM-WITH-Coil 98-8G7W-OP with 97-FLSB-27 or 97-FLSF-27	LO	764	689	586	507	460	399	332			
	MED-LO	855	807	733	632	571	521	478	416	367	
	MEDIUM	990	923	878	825	741	672	628	574	520	440
	MED-HI	1085	1031	988	929	878	789	725	663	603	474
	HI	1291	1247	1202	1160	1117	1073	1020	821	665	524
CFM with Coil 98-8G7W-OP with Cabinet 97-FSOB-27	LO	721	655	566	507	451	374	315			
	MED-LO	828	756	705	623	561	529	462	404	359	
	MEDIUM	948	898	845	778	705	641	595	553	502	406
	MED-HI	1048	1003	965	907	851	771	701	637	562	431
	HI	1252	1227	1166	1139	1090	1026	871	709	618	466
CFM with Coil 96-8G4W-OP with Cabinet 97-FLSB-21 or 97-FLSF-21	LO	731	634	577	473	368	394	290			
	MED-LO	827	754	703	629	530	520	457	383	312	
	MEDIUM	937	870	812	769	698	620	590	540	474	403
	MED-HI	1030	967	919	877	816	784	673	615	591	472
	HI	1230	1194	1136	1086	1046	998	947	784	634	500
CFM with Coil 96-8G4W-OP with Cabinet 97-FSOB-21	LO	731	678	587	503	458	398	333			
	MED-LO	848	792	739	630	562	527	483	419	387	
	MEDIUM	956	913	868	820	719	657	597	572	524	447
	MED-HI	1051	1012	962	923	875	766	711	661	603	458
	HI	1251	1216	1169	1132	1093	1053	986	770	643	510

**Table 14: Blower Performance – 10 X 9 Morrison Wheel – 1/3 HP 5 SPD X-13 Motor with Air Filters**



		EXTERNAL STATIC PRESSURE (ESP) INCHES WC DUCT										
		SPD TAP	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
CFM-NO-COIL	LO	984	922	851	799	740	604	578	497	423	365	
	MED-LO	1149	1096	1051	995	933	870	795	891	658	604	
	MEDIUM	1397	1344	1293	1250	1200	1148	1105	1048	982	699	
	MED-HI	1630	1584	1533	1493	1443	1392	1352	1258	1136	702	
	HI	1736	1712	1661	1612	1570	1515	1432	1321	1184	704	
CFM with Coil 98-8G7W-OP with Cabinet 97-FLSB-27 OR 97-FLSF-27	LO	875	818	764	718	611	558	507	455	419	372	
	MED-LO	1027	996	952	897	858	752	688	634	615	497	
	MEDIUM	1241	1212	1176	1129	1090	1051	997	867	713	545	
	MED-HI	1440	1411	1371	1328	1285	1232	1155	1062	734	593	
	HI	1546	1506	1474	1415	1349	1270	1186	1079	702	603	
CFM with Coil 98-8G7W-OP with Cabinet 97-FSOB-27	LO	845	811	753	682	611	563	522	467	407	364	
	MED-LO	1032	990	949	897	838	800	730	677	607	477	
	MEDIUM	1238	1191	1155	1107	1068	1033	991	809	660	492	
	MED-HI	1419	1380	1340	1294	1217	1145	1068	839	665	486	
	HI	1506	1445	1389	1313	1241	1166	1079	824	646	483	
CFM with Coil 98-8W7W-OP with Cabinet 97-FLSB-27 or 97-FLSF-27	LO	884	817	771	722	616	568	536	472	417	380	
	MED-LO	1040	984	955	893	864	756	698	656	630	494	
	MEDIUM	1251	1216	1170	1134	1079	1045	1009	860	685	570	
	MED-HI	1450	1410	1380	1335	1303	1221	1139	1056	737	580	
	HI	1549	1506	1457	1410	1335	1246	1165	1056	741	648	
CFM with Coil 98-8W7W-OP with Cabinet 97-FSOB-27	LO	878	811	771	714	625	558	536	478	417	377	
	MED-LO	1035	981	943	891	852	797	702	652	609	474	
	MEDIUM	1223	1190	1151	1111	1072	1018	940	842	647	523	
	MED-HI	1422	1378	1325	1262	1159	1062	983	868	665	523	
	HI	1478	1416	1338	1277	1174	1095	992	845	657	513	
CFM with Coil 98-8W12W-OP with Cabinet 97-FLSB-39 or 97-FLSF-39	LO	897	842	796	733	619	566	522	470	408	361	
	MED-LO	1054	1013	961	925	874	798	680	623	572	533	
	MEDIUM	1281	1237	1202	1154	1111	1071	1012	902	723	613	
	MED-HI	1478	1453	1414	1374	1333	1271	1191	1094	752	596	
	HI	1581	1522	1477	1421	1350	1270	1180	1070	777	657	
CFM with Coil 98-8W12W-OP with Cabinet 97-FSOB-39	LO	885	825	763	704	612	553	522	459	392	357	
	MED-LO	1043	986	941	891	858	735	687	630	573	504	
	MEDIUM	1240	1178	1139	1100	1076	1013	945	800	679	520	
	MED-HI	1456	1404	1359	1322	1256	1190	1087	845	712	535	
	HI	1550	1485	1426	1355	1294	1221	1104	874	735	534	

**Table 15-1: Blower Performance -10 X 9 Morrison Wheel - 1/2 HP 5 SPD X-13 Motor with Air Filters**

		EXTERNAL STATIC PRESSURE (ESP) INCHES WC DUCT										
		SPD TAP	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
CFM with Coil 98-8G12W-OP with Cabinet 97-FLSB-39 or 97-FLSF-39	LO	884	824	774	692	595	560	507	460	391	360	
	MED-LO	1035	992	954	893	844	783	692	640	545	474	
	MEDIUM	1250	1211	1170	1127	1083	1037	982	834	675	520	
	MED-HI	1449	1415	1376	1345	1289	1218	1127	884	708	535	
	HI	1547	1511	1462	1402	1326	1245	1159	976	724	531	
CFM with Coil 98-8G12W-OP with Cabinet 97-FSOB-39	LO	862	817	752	672	619	560	525	458	395	381	
	MED-LO	1013	967	925	887	824	744	692	636	563	435	
	MEDIUM	1209	1173	1125	1098	1050	1000	865	748	578	484	
	MED-HI	1415	1376	1321	1255	1175	1099	924	767	609	479	
	HI	1478	1428	1362	1279	1195	1110	915	755	600	484	
CFM with Coil 98-8Z12W-OP with Cabinet 97-FLSB-39 or 97-FLSF-39	LO	899	837	784	724	609	570	519	455	388	360	
	MED-LO	1040	1004	964	909	851	751	700	640	616	493	
	MEDIUM	1258	1235	1185	1143	1099	1060	1000	848	704	533	
	MED-HI	1484	1441	1393	1353	1316	1245	1137	1012	679	551	
	HI	1570	1531	1488	1415	1344	1279	1170	1070	736	562	
CFM with Coil 98-8Z12W-OP with Cabinet 97-FSOB-39	LO	851	813	759	708	618	555	523	458	394	362	
	MED-LO	1021	982	934	884	837	740	684	636	573	452	
	MEDIUM	1210	1170	1138	1092	1052	999	922	751	613	469	
	MED-HI	1419	1385	1344	1279	1210	1083	1010	774	621	480	
	HI	1503	1458	1393	1312	1230	1103	1019	785	629	486	
CFM with Coil 96-8W4W-OP with Cabinet 97-FLSB-21 or 97-FLSF-21	LO	856	795	740	680	572	536	502	450	398	358	
	MED-LO	1002	965	920	866	819	712	650	619	630	502	
	MEDIUM	1204	1163	1128	1093	1048	1007	952	785	667	581	
	MED-HI	1383	1364	1332	1291	1248	1184	1099	837	696	528	
	HI	1468	1458	1424	1368	1300	1219	1126	1019	700	536	
CFM with Coil 96-8W4W-OP with Cabinet 97 FSOB-21	LO	816	775	708	672	557	557	507	444	398	357	
	MED-LO	988	926	876	836	791	692	633	630	596	423	
	MEDIUM	1163	1114	1087	1038	1002	959	895	680	653	477	
	MED-HI	1355	1323	1281	1224	1147	1081	977	736	653	483	
	HI	1433	1381	1314	1243	1166	1082	989	740	656	493	

**Table 15-2: Blower Performance -10 X 9 Morrison Wheel - 1/2 HP 5 SPD X-13 Motor with Air Filters**

		EXTERNAL STATIC PRESSURE (ESP) INCHES WC DUCT									
SPD TAP		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
CFM-NO-COIL	LO	1225	1174	1121	1077	1036	976	924	877	740	629
	MED-LO	1429	1386	1345	1308	1245	1220	1158	1115	1070	608
	MEDIUM	1569	1529	1476	1438	1403	1368	1313	1260	1109	707
	MED-HI	1785	1740	1711	1664	1619	1592	1488	1359	1137	967
	HI	2129	2057	2017	1959	1838	1733	1603	1432	1225	1183
CFM with Coil 98-8W7W-OP and Cabinet 97-FLSB-27 or 97-FLSF-27	LO	1104	1059	1012	975	930	876	780	719	662	581
	MED-LO	1292	1244	1214	1184	1136	1098	1053	981	773	584
	MEDIUM	1400	1365	1334	1301	1263	1219	1168	1070	780	592
	MED-HI	1596	1569	1521	1468	1392	1301	1204	1087	811	604
	HI	1743	1659	1615	1505	1425	1341	1236	1106	809	582
CFM with Coil 98-8W7W-OP with Cabinet 97-FSOB-27	LO	1067	1017	978	942	889	805	758	703	661	518
	MED-LO	1268	1229	1199	1158	1109	1075	1012	826	675	536
	MEDIUM	1374	1343	1311	1278	1224	1163	1053	812	708	524
	MED-HI	1549	1481	1409	1338	1258	1189	1087	848	669	481
	HI	1611	1529	1460	1383	1297	1199	1115	889	708	578
CFM with Coil 98-8W12W-OP with Cabinet 97-FLSB-39 or 97-FLSF-39	LO	1104	1085	1025	979	936	882	786	719	682	580
	MED-LO	1309	1266	1232	1197	1156	1119	1074	1010	790	606
	MEDIUM	1429	1390	1350	1323	1281	1234	1203	1124	801	629
	MED-HI	1607	1573	1539	1497	1430	1332	1256	1152	815	637
	HI	1751	1663	1607	1533	1455	1372	1270	1160	811	619
CFM with Coil 98-8W12W-OP with Cabinet 97-FSOB-39	LO	1104	1059	1023	974	935	902	841	723	676	563
	MED-LO	1285	1246	1211	1175	1126	1104	1065	874	711	561
	MEDIUM	1404	1350	1327	1294	1251	1211	1145	1005	718	535
	MED-HI	1601	1538	1468	1400	1327	1241	1148	888	719	541
	HI	1725	1613	1530	1442	1360	1283	1190	1088	739	576
CFM with Coil 98-8G12W-OP with Cabinet 97-FLSB-39 or 97-FLSF-39	LO	1111	1072	1019	976	931	877	781	712	680	548
	MED-LO	1289	1255	1226	1185	1143	1105	1066	938	732	556
	MEDIUM	1415	1367	1345	1308	1270	1226	1170	1072	751	573
	MED-HI	1594	1571	1519	1449	1380	1294	1205	1043	736	551
	HI	1716	1643	1563	1511	1411	1317	1228	1088	748	596
CFM with Coil 98-8G12W-OP with Cabinet 97-FSOB-39	LO	1084	1038	996	952	899	813	748	705	823	494
	MED-LO	1262	1227	1187	1150	1112	1067	1014	775	621	488
	MEDIUM	1373	1341	1314	1265	1207	1134	1032	807	638	489
	MED-HI	1513	1455	1373	1309	1247	1150	1067	793	672	509
	HI	1557	1484	1417	1337	1271	1172	1055	835	885	533
CFM with Coil 98-8Z12W-OP with Cabinet 97-FLSB-39 or 97-FLSF-39	LO	1106	1072	1026	969	938	878	774	721	676	532
	MED-LO	1299	1266	1222	1186	1139	1100	1057	938	752	539
	MEDIUM	1416	1377	1341	1309	1271	1241	1181	1067	740	539
	MED-HI	1603	1588	1540	1476	1390	1336	1232	1095	748	545
	HI	1741	1667	1607	1532	1435	1350	1253	1148	1165	558
CFM with Coil 98-8Z12W-OP with Cabinet 97-FSOB-39	LO	1088	1019	1007	967	924	870	824	716	621	507
	MED-LO	1270	1240	1200	1143	1110	1077	990	747	612	496
	MEDIUM	1371	1340	1303	1265	1210	1138	1019	796	627	506
	MED-HI	1555	1487	1424	1331	1270	1148	1037	792	675	494
	HI	1613	1543	1445	1385	1279	1200	1083	924	700	507

**Table 16: Blower Performance -10 X 9 Morrison Wheel - 3/4 HP 5 SPD X-13 Motor with Air Filters**

		EXTERNAL STATIC PRESSURE (ESP) INCHES WC DUCT										
		SPD TAP	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
CFM-NO-COIL	LO	982	979	976	962	932	894	835	711	598	502	
	MEDIUM	1417	1404	1369	1333	1291	1242	1177	1085	959	579	
	HI	1771	1704	1624	1544	1448	1372	1270	1167	1037	738	
CFM with Coil 98-8G7W-OP with Cabinet	LO	944	931	918	904	863	834	692	590	525	438	
	MEDIUM	1317	1293	1255	1210	1169	1099	1013	918	656	579	
	HI	1620	1563	1499	1432	1362	1293	1195	1066	812	608	
97-FLSB-27 OR 97-FLSF-27												
CFM with Coil 98-8G7W-OP with Cabinet	LO	935	926	901	862	818	717	650	603	513	395	
	MEDIUM	1307	1260	1205	1143	1088	1013	923	737	642	563	
	HI	1519	1445	1362	1298	1225	1138	1054	950	732	594	
97-FSOB-27												
CFM with Coil 98-8W7W-OP with Cabinet	LO	957	951	942	911	866	822	699	635	446	383	
	MEDIUM	1345	1308	1266	1207	1155	1085	998	902	699	546	
	HI	1600	1542	1478	1415	1336	1242	1134	1028	908	694	
97-FLSB-27 or 97-FLSF-27												
CFM with Coil 98-8W7W-OP with Cabinet	LO	956	925	891	852	800	697	641	608	521	393	
	MEDIUM	1271	1222	1166	1117	1055	983	796	721	634	565	
	HI	1438	1369	1304	1232	1166	1090	1008	811	705	615	
97-FSOB-27												
CFM with Coil 98-8W12W-OP with Cabinet	LO	932	919	913	893	860	808	752	674	555	450	
	MEDIUM	1336	1303	1279	1234	1172	1111	1030	948	793	678	
	HI	1683	1615	1552	1465	1386	1303	1208	1100	987	771	
97-FLSB-39 or 97-FLSF-39												
CFM with Coil 98-8W12W-OP with Cabinet	LO	961	934	902	863	811	752	675	596	505	379	
	MEDIUM	1302	1243	1197	1134	1061	988	910	764	632	488	
	HI	1488	1415	1339	1268	1182	1101	1013	910	709	543	
97-FSOB-39												
CFM with Coil 98-8G12W-OP with Cabinet	LO	955	940	922	884	838	786	714	593	510	396	
	MEDIUM	1331	1289	1236	1181	1118	1055	960	874	690	511	
	HI	1607	1538	1461	1362	1284	1191	1096	1003	861	706	
97-FLSB-39 or 97-FLSF-39												
CFM with Coil 98-8G12W-OP with Cabinet	LO	950	925	891	845	797	745	669	556	485	374	
	MEDIUM	1272	1207	1151	1096	1022	948	875	768	589	511	
	HI	1411	1354	1285	1222	1140	1063	986	875	726	567	

**Table 17-1: Blower Performance -10 X 9 Morrison Wheel - 1/2 HP 3 SPD PSC Motor (WITH AIR FILTERS)**

		EXTERNAL STATIC PRESSURE (ESP) INCHES WC DUCT									
SPD TAP		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
CFM with Coil	LO	959	953	947	916	870	815	732	643	547	451
98-8Z12W-OP	MEDIUM	1367	1331	1283	1233	1155	1105	1017	921	763	585
with Cabinet	HI	1641	1579	1506	1425	1340	1238	1150	1053	934	736
97-FLSB-39 or 97-FLSF-39											
CFM with Coil	LO	957	939	904	862	810	755	653	585	502	384
98-8Z12W-OP	MEDIUM	1281	1217	1170	1111	1048	975	902	704	637	553
with Cabinet	HI	1448	1387	1314	1242	1175	1094	1006	916	732	578
97-FSOB-39											
CFM with Coil	LO	946	940	913	890	850	807	701	613	555	445
96-8W4W-OP	MEDIUM	1319	1279	1229	1192	1155	1080	991	897	711	552
with Cabinet	HI	1590	1534	1467	1396	1313	1223	1127	1028	904	731
97-FLSB-21 or 97-FLSF-21											
CFM with Coil	LO	942	920	885	835	789	708	630	573	494	364
96-8W4W-OP	MEDIUM	1264	1203	1150	1090	1025	950	883	709	634	542
with Cabinet	HI	1428	1348	1283	1208	1129	1049	969	890	704	607
97 FSOB-21											

**Table 17-2: Blower Performance -10 X 9 Morrison Wheel - 1/2 HP 3 SPD PSC Motor (WITH AIR FILTERS)**

		EXTERNAL STATIC PRESSURE (ESP) INCHES WC DUCT									
SPD TAP		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
CFM-NO-COIL	LO	1497	1464	1413	1355	1289	1226	1143	1059	929	678
	MEDIUM	1742	1689	1624	1531	1452	1362	1258	1152	1044	727
	HI	1858	1814	1721	1629	1543	1440	1335	1221	1120	1000
CFM with Coil 98-8W7W-OP and Cabinet	LO	1364	1336	1285	1236	1180	1121	1023	816	699	542
	MEDIUM	1631	1573	1510	1443	1373	1289	1195	1029	762	678
	HI	1773	1700	1635	1555	1471	1388	1293	1183	848	723
FLSB-27 or 97-FLSF-27											
CFM with Coil 98-8W7W-OP with Cabinet 97-FSOB-27	LO	1329	1291	1243	1193	1118	1051	965	726	605	453
	MEDIUM	1486	1427	1365	1306	1233	1151	1085	846	698	576
	HI	1562	1498	1444	1365	1301	1228	1135	1051	734	563
CFM with Coil 98-8W12W-OP with Cabinet	LO	1395	1363	1322	1279	1220	1157	1074	971	741	522
	MEDIUM	1677	1613	1551	1481	1408	1322	1245	1162	1002	689
	HI	1804	1737	1656	1583	1506	1418	1332	1217	1099	730
FLSB-39 or 97-FLSF-39											
CFM with Coil 98-8W12W-OP with Cabinet 97-FSOB-39	LO	1343	1293	1235	1174	1115	1042	969	862	622	474
	MEDIUM	1502	1440	1370	1302	1240	1153	1059	950	823	523
	HI	1599	1530	1457	1388	1314	1244	1355	1039	762	566
CFM with Coil 98-8G12W-OP with Cabinet	LO	1412	1372	1326	1278	1214	1145	1067	951	713	504
	MEDIUM	1643	1577	1505	1438	1358	1288	1203	1107	983	684
	HI	1747	1672	1605	1529	1443	1358	1275	1176	1056	688
FLSB-39 or 97-FLSF-39											
CFM with Coil 98-8G12W-OP with Cabinet 97-FSOB-39	LO	1352	1301	1248	1182	1118	1051	879	734	589	450
	MEDIUM	1504	1443	1385	1318	1240	1165	1068	808	706	544
	HI	1597	1528	1455	1385	1311	1233	1149	1051	760	556
CFM with Coil 98-8Z12W-OP with Cabinet	LO	1390	1368	1327	1284	1225	1162	1091	1002	722	575
	MEDIUM	1651	1594	1530	1460	1390	1312	1225	1124	1002	637
	HI	1789	1716	1640	1565	1488	1399	1318	1210	1076	772
FLSB-39 or 97-FLSF-39											
CFM with Coil 98-8Z12W-OP with Cabinet 97-FSOB-39	LO	1365	1324	1267	1208	1145	1068	984	706	620	483
	MEDIUM	1522	1465	1401	1324	1263	1188	1102	1003	698	538
	HI	1609	1534	1461	1404	1318	1248	1173	1068	764	668

**Table 18: Blower Performance -10 X 9 Morrison Wheel - 3/4 HP 3 SPD PSC Motor (WITH AIR FILTERS)**

<b>Description</b>	<b>Part Number</b>
DUCT CONN ASSY 2-4IN MULTI USE	90-DCU0-01
DUCT CONN ASSY 6-8IN MULTI USE	90-DCU0-02
DUCT CONN ASSY 8-12 IN MULTI U	90-DCU0-03
BMH TRANSITION SUB BASE	90-DCU0-04
WR 1F95-1291 MORTEX BRAND THERMOSTAT	68AB0011
WR 1F95-1291 HEAT CONTROLLER BRAND THERMOSTAT	68AB0012
WR 1F95-1291 WINCHESTER BRAND THERMOSTAT	68AB0013
WR OUTDOOR TEMPERATURE SENSOR	68AB0014
VITRONICS DIGITAL HEATING/COOLING/HP THERMOSTAT	68AB0015
1/3 HP X-13 3 TON ACCESSORY BLOWER	65BV0025
1/2 HP X-13 4 TON ACCESSORY BLOWER	65BV0026
3/4 HP X-13 5 TON ACCESSORY BLOWER	65BV0027
21" - 1200 CFM BROKE DOWN COOLING COIL CABINET	97-FLSB-21
21" - 1600 CFM BROKE DOWN COOLING COIL CABINET	97-FSOB-21
21"- 1800 CFM BROKE DOWN COOLING COIL CABINET	97-FLOB-21
27" - 1600 CFM BROKE DOWN COOLING COIL CABINET	97-FLSB-27
27" - 1600 CFM BROKE DOWN COOLING COIL CABINET	97-FSOB-27
27"- 1800 CFM BROKE DOWN COOLING COIL CABINET	97-FLOB-27
39" - 1800 CFM BROKE DOWN COOLING COIL CABINET	97-FLSB-39
39" - 1800 CFM BROKE DOWN COOLING COIL CABINET	97-FSOB-39
18" TALL RETURN AIR FILTER GRILLE	97-FG-18
24" TALL RETURN AIR FILTER GRILLE	97-FG-24

**Table: 19: Accessory Parts**

Subject to change without notice  
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