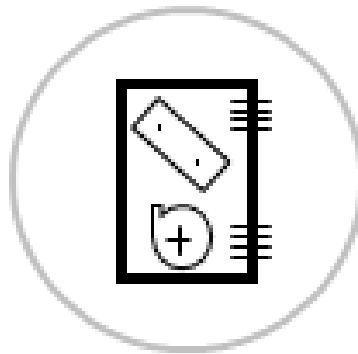


LOW FLOW HEATERS



SLF

TECHNICAL CATALOG



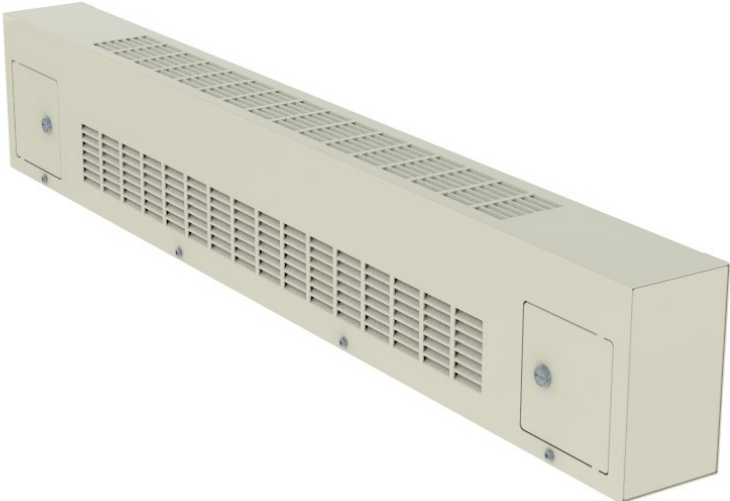
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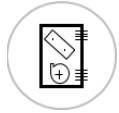
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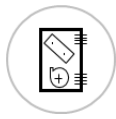
1. PRODUCT OVERVIEW

OVERVIEW

Sigma Low Flow Hydronic Heaters offer a full range of model sizes and configuration styles to suit virtually every type of application suited for this product. Optional SLF unit styles can be mounted within custom enclosures or in a trench under continuous bargrilles, as well as exposed mount applications on the floor, wall, or ceiling. Durable construction, multiple style choices, multiple standard colour choices, and more make these units the perfect solution.

Where design heating requirements can't be met with natural convection alone, the SLF model series is an ideal level up, especially for low water temperature applications and space is an issue. Low profile design with high heat output makes the SLF model series an excellent choice for heating small rooms, offices and entrance ways with individual units or having multiple units mounted end to end for heating hallways or atriums. For floor mount exposed applications, we offer dummy enclosures of the same profile as the units to allow extended enclosures to run supply and return piping as well as electrical wiring to the units.





2. FEATURES AND BENEFITS

CABINETS

Cabinets are constructed from heavy-duty, Galvannealed corrosion-resistant steel with optional primer finish for field painting, multiple standard finish colours applied as a hybrid polyester epoxy powder coat, or as a custom finish colour match as powder coat or baked enamel. Cabinets have air inlet and discharge louvers, bargrilles, or diamond mesh depending on the configuration style.

CHASSIS

The chassis assembly is constructed from corrosion-resistant Galvanized steel. The entire chassis comes as one complete subassembly that incorporates the coil, fan-motor assembly, and controls.

COILS

Coils are constructed from 1/2" diameter copper tube with aluminum fins and rated for maximum working pressure rating of 300 psi. Available coil configurations for opposite end and same end supply and return connections.

FAN MOTORS

Each fan-motor assembly is constructed as one assembly with tangential fans equipped with radial ball bearing and PSC motors that are rated at 115V/1/60 with NEMA Class "H" insulation (180° C/356° F).

Optional chassis only configuration is available as a cost effective means of providing force convective heat for mounting under custom enclosures or bargrille covered trenches.

CONTROLS

All units come standard with a manual 2 pole ON/OFF disconnect switch and solid state variable speed control. Optional control accessories include remote or unit mounted line voltage thermostats, unit

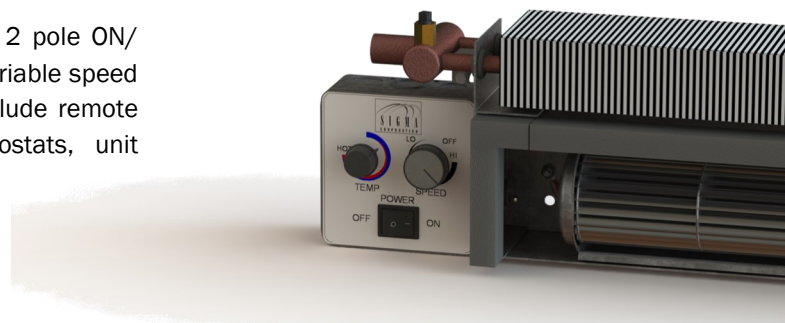
mounted 40VA transformer with 24V relay for field connection to low voltage controls, BAS, etc.

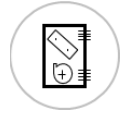
SIMPLE INSTALLATION AND MAINTENANCE

With optional coil connection configurations of opposite end or same end, the coil can be field adjusted to have the connections at the appropriate ends to best suit site conditions. Configurations with enclosures have a front/top panel complete with two access doors, available with choice of slotted or keyed/security latches. All the chassis components including the fan-motors, coils and controls are readily accessible for service and maintenance. All units come equipped with an electrical junction box for simple electrical hook-up.

DESIGN SPECIALS

Although SLF model series has several standard style configurations, jobsite conditions may require alternative types of construction materials for the enclosures. Enclosures can be provided as ultra heavy duty 14ga Galvannealed steel, esthetically pleasing and corrosion resistant brushed stainless steel, or even with an alternate inlet and discharge style such as security type perforations. Contact your local product representative to discuss any special features that may be required.



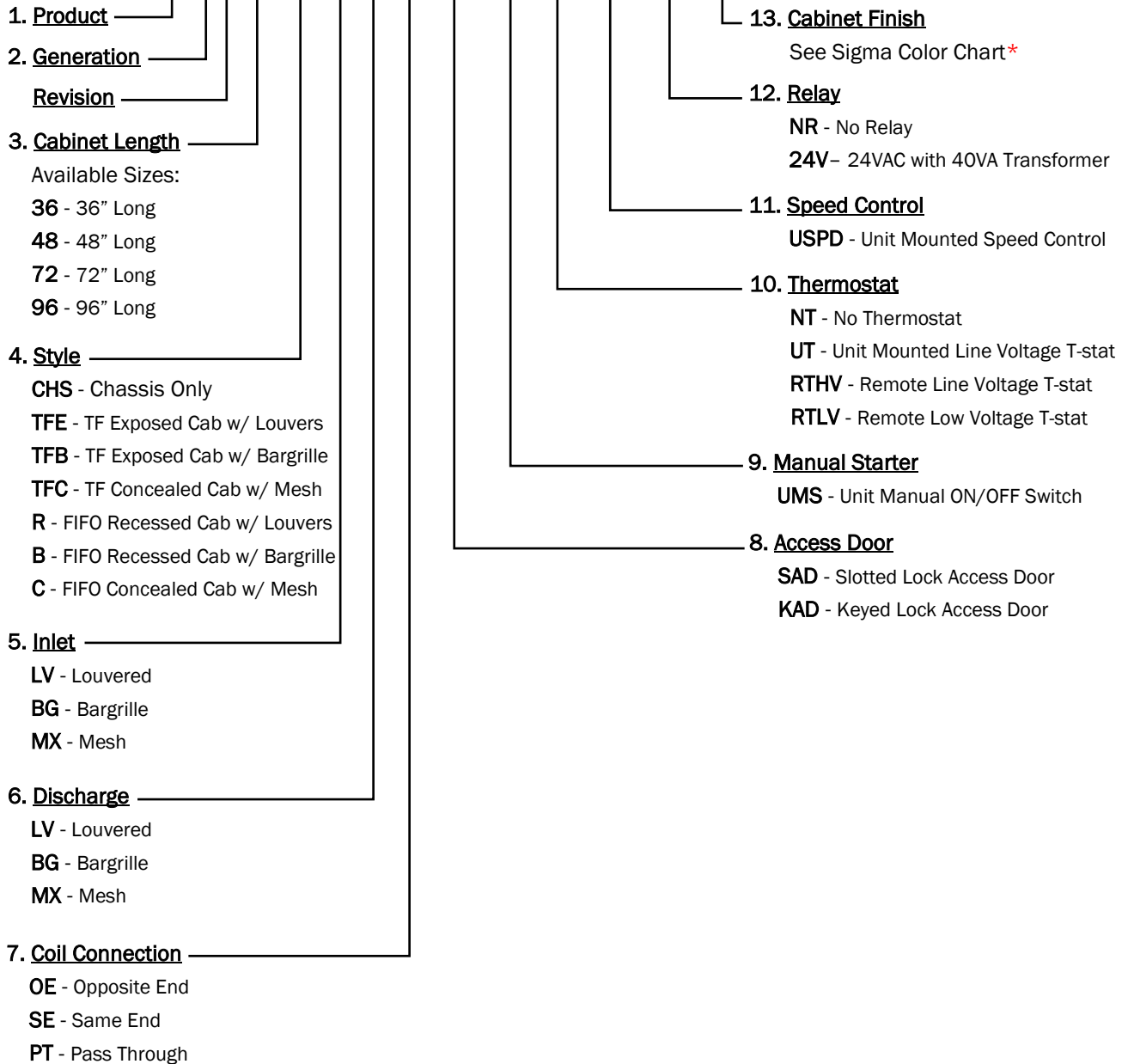


3. PRODUCT OPTIONS

3.1. MODEL NUMBER BREAKDOWN

Sample Product Number:

SLF-A-0-36-TFE-LV-LV-OE-SAD-UMS-UT-USPD-24V-PRM



*See Details (Table 4.1.1) on next page



4. GENERAL DATA

4.1. UNIT DIMENSIONS

Table 4.1.1		CHS Style (Fan Coil Chassis Only)			
Model Sizes		SLF-36	SLF-48	SLF-72	SLF-96
Dimensions (in.)	Chassis Length 'L'	28-1/4	46	63-3/4	86
	Coil Fin Length 'A'	18	36	54	74
	Number of Fans	1	2	3	4

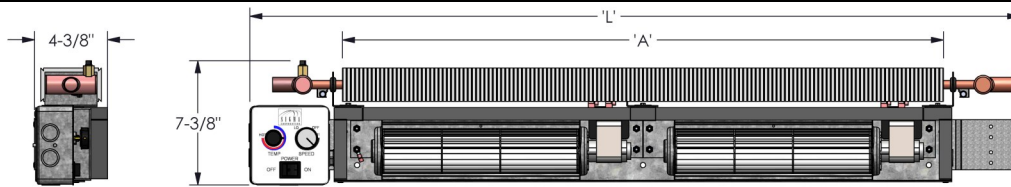


Table 4.1.2		TFE Style (Exposed Cabinet w/ Louvers)			
Model Sizes		SLF-36	SLF-48	SLF-72	SLF-96
Dimensions (in.)	Cabinet Length 'L'	36	48	72	96
	Cabinet Height 'H'	8			

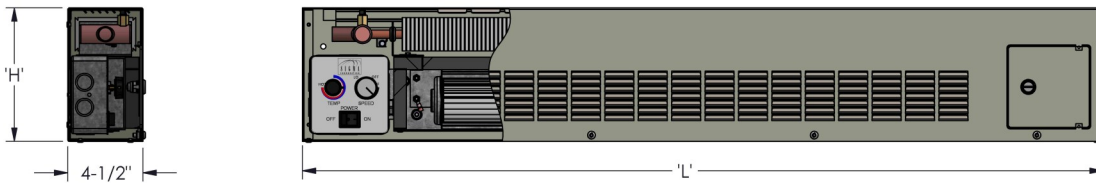


Table 4.1.3		TFB Style (Exposed Cabinet w/ Bargrille)			
Model Sizes		SLF-36	SLF-48	SLF-72	SLF-96
Dimensions (in.)	Cabinet Length 'L'	36	48	72	96
	Cabinet Height 'H'	9			

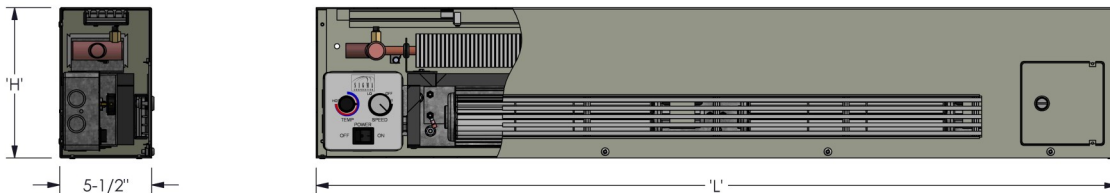
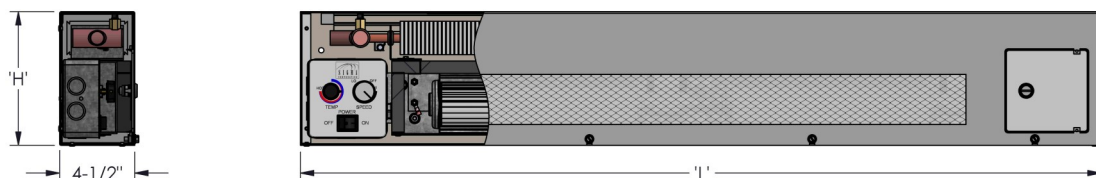
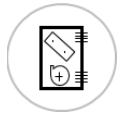


Table 4.1.4		TFC Style (Concealed Cabinet w/ Mesh)			
Model Sizes		SLF-36	SLF-48	SLF-72	SLF-96
Dimensions (in.)	Cabinet Length 'L'	36	48	72	96
	Cabinet Height 'H'	8			





4. GENERAL DATA

4.1. UNIT DIMENSIONS (Continue)

Table 4.1.5		R Style (Recessed Cabinet w/ Louvers)			
Model Sizes		SLF-36	SLF-48	SLF-72	SLF-96
Dimensions (in.)	Cabinet Length 'L'	36	48	72	96
	Cabinet Height 'H'	9-3/4			
	Cabinet Depth 'D'	3-3/4			
	Cover Length 'A'	38	50	74	98
	Cover Height 'B'	11-3/4			

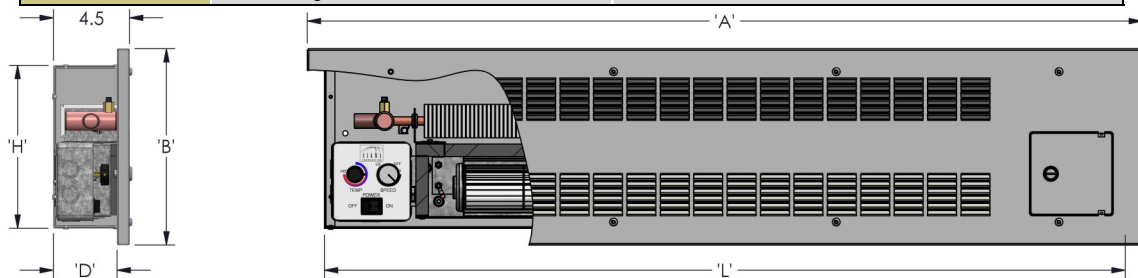


Table 4.1.6		B Style (Recessed Cabinet w/ Bargrille)			
Model Sizes		SLF-36	SLF-48	SLF-72	SLF-96
Dimensions (in.)	Cabinet Length 'L'	36	48	72	96
	Cabinet Height 'H'	9-3/4			
	Cabinet Depth 'D'	4-3/4			
	Cover Length 'A'	38	50	74	98
	Cover Height 'B'	11-3/4			

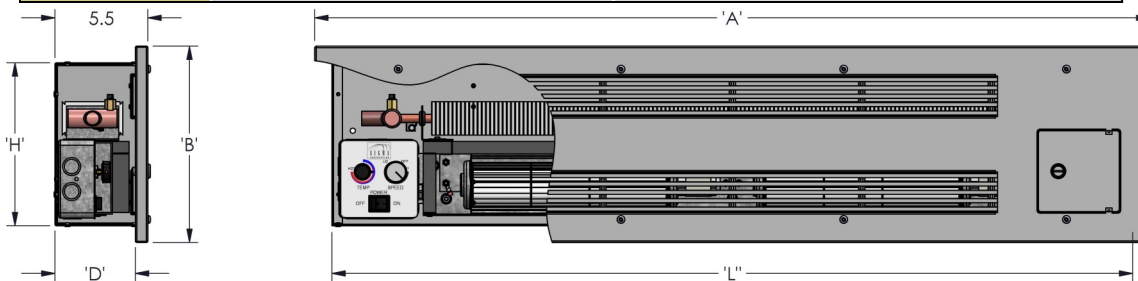
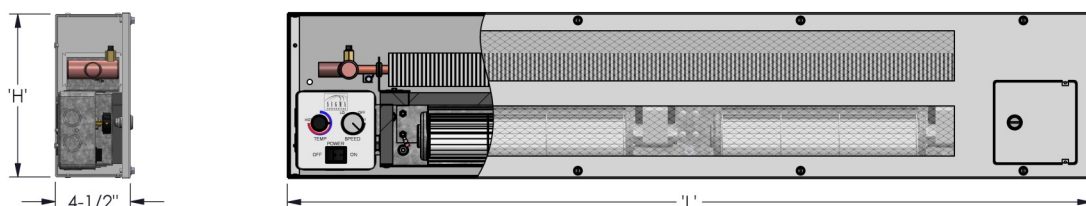


Table 4.1.7		C Style (Concealed Cabinet w/ Mesh)			
Model Sizes		SLF-36	SLF-48	SLF-72	SLF-96
Dimensions (in.)	Cabinet Length 'L'	36	48	72	96
	Cabinet Height 'H'	9-3/4			





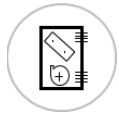
4. GENERAL DATA

4.2. CABINET ARRANGEMENTS

Table 4.2.1		Cabinet Arrangements			
Styles					
Exposed					
	Wall	Floor	Ceiling	Inverted	
Recessed					
	Wall	Floor	Ceiling		
Concealed					
	Wall	Floor			

4.3. COIL ARRANGEMENTS

Table 4.3.1		Coil Arrangements	
Opposite End Connection	Same End Connection	Pass Through Connection	



5. TECHNICAL DATA

5.1. PERFORMANCE DATA

Table 5.1		Performance Data at 200°F EWT / 60°F EAT			
Model	Air Flow (CFM)	Delta T	Capacity (MBH)	Flow Rate (GPM)	Pressure Drop (Ft. H ₂ O)
SLF36	87	10	7.83	1.7	0.05
		20	6.95	0.8	0.02
		30	6.45	0.5	0.01
		40	5.82	0.3	0.01
		50	5.3	0.22	0.01
		60	4.83	0.17	0.01
	125	10	9.83	2.1	0.07
		20	8.76	1	0.02
		30	8.08	0.6	0.01
		40	7.33	0.4	0.01
		50	6.68	0.27	0.01
		60	6.08	0.21	0.01
SLF48	175	10	13.03	2.7	0.19
		20	11.57	1.2	0.05
		30	10.74	0.8	0.02
		40	9.70	0.5	0.01
		50	8.83	0.36	0.01
		60	8.04	0.27	0.01
	250	10	16.37	3.4	0.27
		20	14.60	1.6	0.07
		30	13.45	1	0.03
		40	12.20	0.7	0.02
		50	11.11	0.45	0.01
		60	10.12	0.34	0.01
SLF72	260	10	20.02	4.2	0.85
		20	18.40	1.9	0.22
		30	17.00	1.2	0.10
		40	15.33	0.8	0.05
		50	13.95	0.56	0.02
		60	12.7	0.43	0.01
	375	10	24.92	5.2	1.19
		20	22.94	2.4	0.29
		30	21.12	1.5	0.13
		40	19.08	1	0.07
		50	17.37	0.7	0.05
		60	15.81	0.53	0.02
SLF96	350	10	27.01	5.6	1.5
		20	25.23	2.7	0.39
		30	23.25	1.6	0.18
		40	20.96	1.1	0.08
		50	19.08	0.77	0.05
		60	17.37	0.58	0.02
	500	10	33.47	7	2.1
		20	31.28	3.3	0.51
		30	28.78	2	0.22
		40	25.96	1.4	0.11
		50	23.63	0.95	0.08
		60	21.51	0.72	0.05



5. TECHNICAL DATA

5.2. CORRECTION FACTORS

Table 5.2.1 Hot Water Correction Factors (Applied to 200°F EWT / 60°F EAT Capacity Data)											
Entering Air Temp. (°F)	Entering Water Temperature (°F)										
	100	110	120	130	140	150	160	170	180	190	200
30	0.518	0.592	0.666	0.74	0.814	0.889	0.963	1.042	1.12	1.194	1.268
35	0.479	0.553	0.626	0.7	0.773	0.847	0.921	0.997	1.073	1.147	1.22
40	0.439	0.513	0.585	0.659	0.731	0.805	0.878	0.952	1.025	1.099	1.172
45	0.4	0.474	0.546	0.619	0.691	0.765	0.837	0.911	0.983	1.057	1.129
50	0.361	0.434	0.506	0.579	0.651	0.724	0.796	0.869	0.941	1.013	1.085
55	0.324	0.396	0.468	0.54	0.611	0.684	0.756	0.828	0.899	0.971	1.043
60	0.286	0.358	0.429	0.501	0.571	0.643	0.715	0.787	0.857	0.929	1
65	0.249	0.321	0.391	0.463	0.533	0.605	0.676	0.747	0.817	0.889	0.959
68	0.231	0.302	0.372	0.444	0.513	0.585	0.656	0.727	0.797	0.869	0.939
70	0.212	0.283	0.353	0.424	0.494	0.566	0.636	0.707	0.777	0.848	0.918
72	0.194	0.265	0.335	0.406	0.475	0.547	0.617	0.688	0.757	0.828	0.898
75	0.176	0.246	0.316	0.387	0.457	0.527	0.597	0.668	0.738	0.808	0.878
80	0.14	0.21	0.279	0.349	0.419	0.489	0.558	0.628	0.698	0.768	0.837
85	0.105	0.175	0.243	0.313	0.382	0.452	0.521	0.591	0.66	0.73	0.798
90	0.069	0.139	0.207	0.277	0.345	0.415	0.483	0.553	0.621	0.691	0.759
95	0.035	0.104	0.172	0.241	0.309	0.378	0.446	0.516	0.584	0.653	0.721
100	0	0.069	0.137	0.205	0.273	0.341	0.409	0.478	0.546	0.614	0.682

Apply the appropriate correction factor to the given MBH on Table 5.1 where the corresponding GPM would remain the same for the derated MBH.

Table 5.2.2	Glycol Correction Factors	
Solution	Ethylene	Propylene
20%	0.95	0.98
30%	0.91	0.96
40%	0.88	0.93
50%	0.84	0.9
Pressure Drop	1.23	1.23

Table 5.2.3	Elevation Correction Factors	
Altitude (Ft.)	Ferrous Units (Steel)	Non-Ferrous (Copper Alum.)
Sea Level	1	1
1,000	0.984	0.969
2,000	0.968	0.938
3,000	0.952	0.908
4,000	0.936	0.878
5,000	0.92	0.85
6,000	0.904	0.822
7,000	0.889	0.795
8,000	0.874	0.768
9,000	0.859	0.743
10,000	0.844	0.718
15,000	0.771	0.603
20,000	0.703	0.502

6. ELECTRICAL DATA

6.1. MOTOR FAN DATA

Table 6.1.1	Electrical Data (115/1/60)			
Model Sizes	Fan Qty	Speed (RPM)	Power (Watts)	FLA
SLF-36	1	1163	54	0.53
SLF-48	2	1163	108	1.06
SLF-72	3	1163	162	1.59
SLF-96	4	1163	216	2.12

6.2. WIRING DIAGRAM

