

# MODELS HRSB & HRSD

## HOODED PROPELLER ROOF SUPPLY FANS



### **MODEL FEATURES**

- Supply air to over 56,000 CFM up to 3/4" w.g.
- Belt drives permit easy performance adjustments when needed
- Direct drive units have low sound levels and quiet operation.
- Filtered models available
- cULus 705 Listed (HRSB only)

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### **MODEL OPTIONS**

<b>MODEL NAME</b>	<b>DESCRIPTION</b>
<b>HRSB</b>	Belt Drive Hooded Propeller Roof Supply Fan
<b>HRSB-F</b>	Belt Drive Hooded Propeller Roof Filtered Supply Fan
<b>HRSD</b>	Direct Drive Hooded Propeller Roof Supply Fan
<b>HRSD-F</b>	Direct Drive Hooded Propeller Roof Filtered Supply Fan

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### **MODEL OVERVIEW**

Models HRSB and HRSD are roof mounted supply fans rated from 4,000 to over 56,000 CFM and to 3/4" static pressure. They are used in a variety of commercial and industrial operations such as warehouses manufacturing plants, equipment and machinery rooms, assembly plants and similar facilities to provide fresh outside air for personal comfort and to reduce negative pressure caused by exhaust systems.

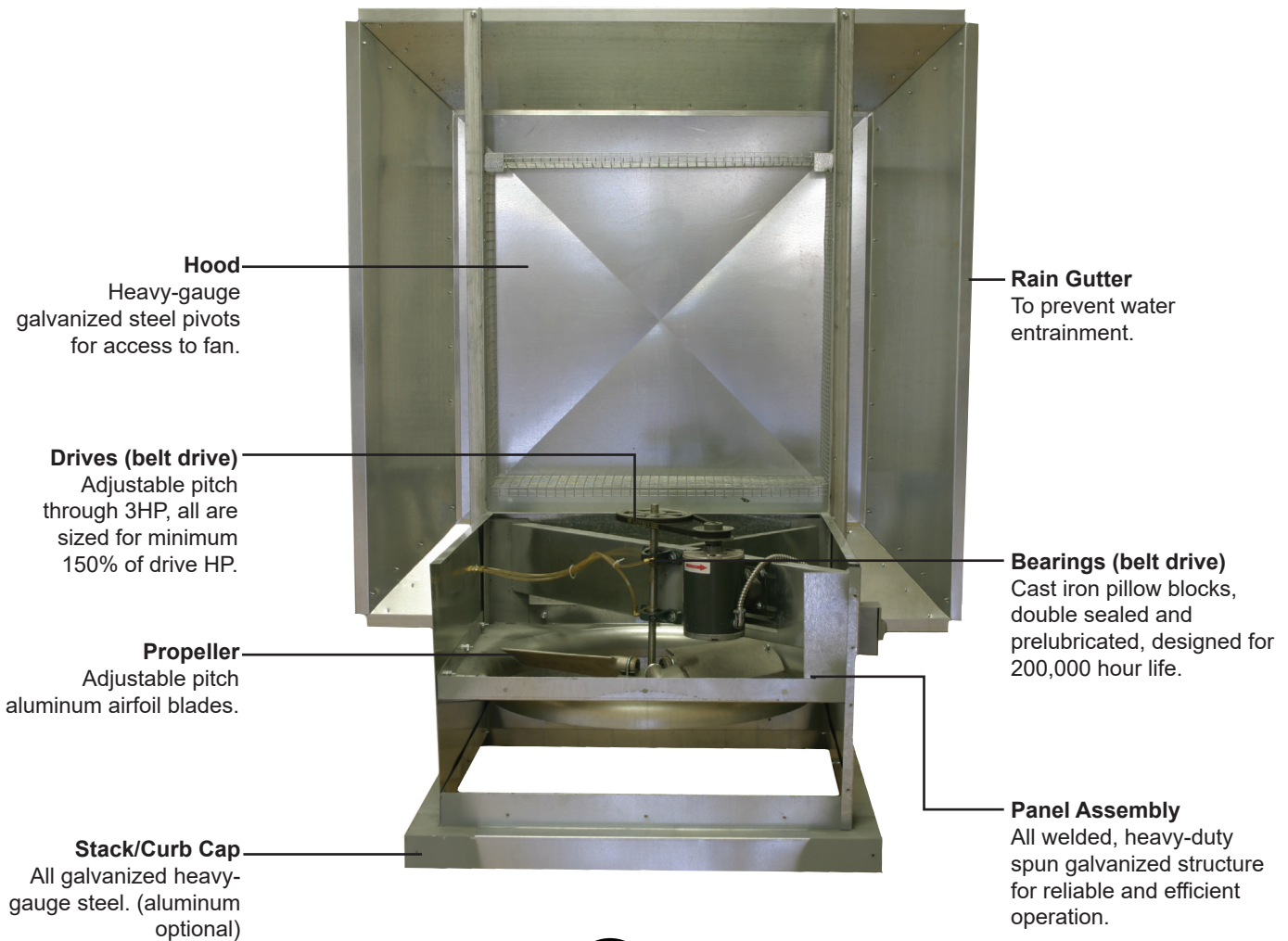
Models HRSB-F and HRSD-F include permanent re-cleanable aluminum filters for application where filtered supply air is required. Performance ratings include the effect of filters on air delivery.

Belt drive units usually operate more quietly and afford easier performance adjustments, while direct drive units require less maintenance.

**2 year fan housing warranty, 1 year motor warranty**



# CONSTRUCTION FEATURES AND OPTIONS



**Hood**

Heavy-gauge galvanized steel pivots for access to fan.

**Rain Gutter**

To prevent water entrainment.

**Drives (belt drive)**

Adjustable pitch through 3HP, all are sized for minimum 150% of drive HP.

**Bearings (belt drive)**

Cast iron pillow blocks, double sealed and prelubricated, designed for 200,000 hour life.

**Propeller**

Adjustable pitch aluminum airfoil blades.

**Panel Assembly**

All welded, heavy-duty spun galvanized structure for reliable and efficient operation.

**Stack/Curb Cap**

All galvanized heavy-gauge steel. (aluminum optional)



**UL Standard 705 (optional)**  
 Listing assures electrical reliability.  
 Not available on HRSD units.

**Factory Run & Tested**

Assures dependable operation.



## **Construction/Specification Checklist**

### **Panel Assembly**

- Heavy-gauge G90 galvanized steel panel.
- One piece spun venturi for maximum efficiency.
- All welded support structure of schedule 40 galvanized pipe.
- Motor/bearing plates of minimum 10 gauge galvanized steel.
- All welds coated with cold galvanized paint.

### **Hood**

- All heavy-gauge G90 galvanized steel.
- Low silhouette design for pleasing appearance.
- Unique design rain gutter minimizes water entrainment.
- Gutter provides additional hood strength and rigidity.

### **Base**

- All galvanized construction for corrosion resistance.
- Secures fan unit to roof curb.
- Elevates fan unit above curb for ease of damper installation.

### **Propeller**

- Two, three, four or six airfoil aluminum blades.
- Steel hub plate with steel taper lock busing.
- Hub finished with corrosion resistant epoxy paint.
- Adjustable pitch for optimum efficiency.

### **Drives (belt drive models)**

- Sized for minimum 150% of drive horsepower.
- Single belt adjustable pitch sheaves through 3HP.
- Two belt fixed pitch sheaves through 10HP.
- Adjustable pitch sheaves are optional above 3HP.
- Adjustable tension rods for belt adjustment.
- Nonstatic oil resistant v-belts.
- Keyed, turned, ground and polished shafts.

### **Bearings**

- Bearings designed for minimum 200,000 hour life, L50.
- Cast iron self-aligning pillow block ball bearings.
- Bearings are sealed, prelubricated with relube fittings.

### **Motors**

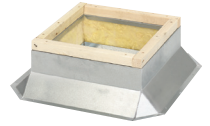
- Brands are nationally recognized and locally serviced.
- Open drip-proof construction is standard.
- High-efficiency, explosion proof, totally enclosed, and corrosion duty motors can be specified.



## Options/Accessories

**Filters:** Permanent cleanable aluminum mesh 2" filters installed in hood opening. See pages 298 and 299 for certified performance data with filters in place.

**Roof Curb:** Prefabricated heavy-gauge galvanized steel, welded construction, 12" high (other heights are also available) with 1-1/2" wood nailer. Assures perfect fit of unit to roof opening. Options include burglar bars, single or double pitch construction and hinged curbs for easy duct access.



**Disconnect Switch:** Nonfused safety disconnects are available for all motor sizes in rain-tight or open enclosures. Explosion proof, Nema 4 and 4X are also available.



**Motor Operated Damper:** Motor operated for positive closure against backdraft.

**Automatic Damper:** Automatic (counter-balanced) damper for ease in installation.

**Bird Screen:** 1/2" x 1" wire mesh guard prevents birds and other objects from entering fan.

**Fiberglass Free Insulation:** Hood crown is covered with 1/2" high performance and ecologically friendly fiberglass free insulation only, to reduce fan sound and condensation.

**Extended Grease Lines:** Extended copper grease lines allow motor and/or fan bearings to be relubricated from the exterior.

**Motor Safety Chain:** Secures motor to fan unit to prevent motor accidentally falling during maintenance.

**Aluminum Construction:** Optional aluminum construction available for external fan components (hood and base) only.

**Special Coatings:** For protective and decorative purposes. Available coatings include: Synthetic Resin, Epoxy, and Heresite (air-dried phenolic). Contact your representative or the factory for more information on available coatings and colors.



# PERFORMANCE DATA - HRSB BELT DRIVE

Model HRSB	CFM @ Static Pressure							HP	RPM	No. of Blades	Max BHP	Sones @ 5 ft.
	0	1/8	1/4	3/8	1/2	5/8	3/4					
24	4724	4043	2979	-	-	-	-	1/3	930	3	.38	15
	5444	4844	4022	3000	-	-	-	1/2	1060	4	.58	19
	6171	5648	5049	4244	3315	-	-	3/4	1215	3	.85	24
	6781	6302	5841	5121	4374	3493	-	1	1335	3	1.13	28
	7771	7354	6946	6467	5830	5189	4436	1 1/2	1530	3	1.70	34
	8533	8153	7777	7412	6881	6298	5715	2	1680	4	2.25	41
30	7099	5557	3085	-	-	-	-	1/3	660	3	.37	13
	8194	6922	5008	-	-	-	-	1/2	775	3	.58	16
	9304	8246	6822	4979	-	-	-	3/4	865	3	.85	21
	10310	9369	8175	6585	-	-	-	1	950	3	1.15	24
	11724	10915	9991	8841	7402	-	-	1 1/2	1090	3	1.70	30
	12908	12173	11373	10448	9266	7946	-	2	1200	3	2.27	36
	14669	13780	12876	11851	10820	9824	8804	3	1370	3	3.44	45
36	9903	6558	-	-	-	-	-	1/3	495	3	.38	11
	11381	8600	-	-	-	-	-	1/2	565	3	.58	14
	12993	10696	7433	-	-	-	-	3/4	645	3	.85	18
	14302	12333	9637	-	-	-	-	1	710	3	1.14	21
	16417	14783	12589	10000	-	-	-	1 1/2	815	3	1.73	27
	18029	16541	14686	12604	-	-	-	2	895	3	2.29	31
	20647	19348	17959	16131	14300	11940	-	3	1025	3	3.44	39
42	14503	9169	-	-	-	-	-	1/2	445	3	.58	13
	16525	12079	-	-	-	-	-	3/4	510	3	.85	16
	18251	14350	-	-	-	-	-	1	560	3	1.15	19
	20858	17815	13510	-	-	-	-	1 1/2	640	3	1.72	24
	22977	20268	16414	12245	-	-	-	2	705	3	2.30	35
	26236	23863	20873	17540	13601	-	-	3	805	3	3.43	46
48	19542	11487	-	-	-	-	-	3/4	405	3	.86	14
	21742	14137	-	-	-	-	-	1	445	3	1.14	17
	24493	17864	10164	-	-	-	-	1 1/2	500	3	1.72	21
	27161	22026	15327	-	-	-	-	2	560	3	2.30	25
	30881	26694	20675	15035	-	-	-	3	640	3	3.40	30
	36671	33145	28874	23792	19200	-	-	5	760	3	5.71	40
	46322	38899	35818	31144	26982	23220	-	7 1/2	870	3	8.55	53
	49979	43530	40739	37344	32782	29339	25924	10	960	3	11.49	64
54	29628	23717	14745	-	-	-	-	2	465	3	2.09	23
	33769	29093	22202	-	-	-	-	3	530	3	3.10	28
	39709	35990	31085	25359	-	-	-	5	630	3	4.99	37
	45382	42128	38469	33640	28551	21662	-	7 1/2	720	3	7.47	47
	50109	47162	44215	40031	35603	30935	-	10	795	3	10.07	58
60	30739	25920	-	-	-	-	-	2	390	3	2.02	20
	35284	31586	23994	-	-	-	-	3	450	3	3.05	26
	41557	38758	34372	-	-	-	-	5	530	3	4.99	35
	47830	45398	42206	37327	29300	-	-	7 1/2	610	3	7.59	44
	52534	50320	47771	44348	38720	-	-	10	670	3	10.07	52

Performance shown is for Models HRSB and HRSD without inlet or outlet ducts.

Brake horsepower does not include drive losses.

The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301 @ free air. Values shown are installation Type A, free inlet fan sone levels.



UL Standard 705



# PERFORMANCE DATA - HRSD DIRECT DRIVE

Model HRSD	CFM @ Static Pressure							HP	RPM	No. of Blades	Max BHP	Sones @ 5 ft.
	0	1/8	1/4	3/8	1/2	5/8	3/4					
24	4645	4210	3779	3286	2509	-	-	1/2	870	3	.57	17
	4455	3793	2703	-	-	-	-	1/3	1160	2	.38	17
	5433	4766	3747	-	-	-	-	1/2	1160	2	.56	19
	6336	5750	5077	4202	3203	-	-	3/4	1160	3	.86	21
	6756	6091	5460	4730	3978	3168	-	1	1160	4	1.13	22
	6232	5838	5348	4705	3942	3175	-	1	1750	2	1.14	30
	7709	7308	6880	6322	5619	4786	-	1 1/2	1750	2	1.71	34
	8646	8212	7722	7157	6486	5650	-	2	1750	2	2.26	38
	9447	9023	8599	8208	7811	7340	6917	3	1750	4	3.34	42
30	9272	8232	6830	5009	-	-	-	3/4	870	3	.84	19
	10276	9223	8132	6732	5191	-	-	1	870	4	1.13	29
	8691	7744	6428	4459	-	-	-	3/4	1160	2	.85	23
	10150	9275	8152	6209	-	-	-	1	1160	2	1.14	25
	11973	11016	9766	8085	5714	-	-	1 1/2	1160	2	1.71	29
	13020	12213	11322	10281	9004	7572	6106	2	1160	3	2.28	33
	11269	10688	9930	9101	7924	6719	5504	2	1750	2	2.30	43
	14249	13723	13109	12374	11661	10595	9225	3	1750	2	3.41	47
	17790	17198	16557	15818	14918	14219	13147	5	1750	2	5.65	58
36	12436	10693	7806	-	-	-	-	3/4	870	2	.85	21
	14185	12501	10031	-	-	-	-	1	870	2	1.13	23
	16237	14844	13175	11021	8499	-	-	1 1/2	870	3	1.73	26
	18084	16439	14310	11982	-	-	-	2	870	3	2.34	29
	15289	14160	12700	10280	-	-	-	1 1/2	1160	2	1.73	32
	17594	16478	14962	13317	10332	-	-	2	1160	2	2.29	33
	20753	19552	18052	16345	13852	-	-	3	1160	2	3.41	37
	24253	23000	21746	20165	18307	16643	14526	5	1160	3	5.66	49
	22388	21666	20886	19790	18910	17717	16129	5	1750	2	5.70	65
27417	26691	25942	25145	24055	23018	22187	7 1/2	1750	2	8.46	70	
42	15924	13504	9568	-	-	-	-	1	870	2	1.13	27
	20258	18236	15266	10310	-	-	-	1 1/2	870	2	1.74	28
	22642	20590	17805	-	-	-	-	2	870	2	2.25	29
	26128	23792	20453	15603	-	-	-	3	870	2	3.43	35
	24423	22947	21061	18816	15600	-	-	3	1160	2	3.34	43
	30979	29471	27836	25605	23318	19844	15452	5	1160	2	5.71	48
	21071	19517	17487	15477	13897	11833	-	5	1750	2	5.72	92
	30329	29285	28177	26703	25307	23501	21555	7 1/2	1750	2	8.49	91
	48	19172	14905	-	-	-	-	-	1	680	2	1.13
23378		20013	13975	-	-	-	-	1 1/2	680	2	1.70	24
26407		22763	16577	-	-	-	-	2	680	2	2.29	26
24151		21396	17029	-	-	-	-	2	870	2	2.32	34
29404		26778	23214	18540	-	-	-	3	870	2	3.40	35
35765		32909	29547	24033	18298	-	-	5	870	2	5.71	41
41979		38899	35818	31144	26982	23220	18390	7 1/2	870	2	8.55	49
32705		30685	28585	25121	21863	17961	-	5	1160	2	5.64	57
40052		38113	36090	33945	30299	26778	23119	7 1/2	1160	2	8.46	59
45047	43029	40906	38618	35611	31538	27579	10	1160	2	11.40	64	
54	43139	40158	37454	33863	29948	26098	20042	7 1/2	1160	2	7.70	71
	50109	47343	44544	42270	38346	34362	30282	10	1160	2	10.02	72

Performance shown is for Models HRSB and HRSD without inlet or outlet ducts.

Brake horsepower does not include drive losses.

The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301 @ free air. Values shown are installation Type A, free inlet fan sone levels.



## PERFORMANCE DATA - HRSB-F BELT DRIVE WITH FILTERS

Model HRSB-F	CFM @ Static Pressure							HP	RPM	No. of Blades	Max BHP	Sones @ 5 ft.
	0	1/8	1/4	3/8	1/2	5/8	3/4					
24	4327	3650	2716	-	-	-	-	1/3	930	3	.381	15
	4984	4430	3645	2754	-	-	-	1/2	1060	3	.575	19
	5653	5211	4555	3863	3042	-	-	3/4	1215	3	.848	24
	6277	5891	5344	4698	4052	3270	-	1	1335	3	1.155	28
	7194	6857	6434	5909	5352	4797	4153	1 1/2	1530	3	1.738	34
	7899	7592	7244	6807	6287	5789	5282	2	1680	3	2.300	41
30	7242	6003	4432	-	-	-	-	1/2	755	3	.582	16
	8226	7196	5894	4445	-	-	-	3/4	865	3	.850	21
	9034	8128	6988	5739	4244	-	-	1	950	3	1.134	24
	10366	9599	8675	7624	6530	5257	-	1 1/2	1090	3	1.713	30
	11412	10715	9917	9009	8027	7023	5867	2	1200	3	2.283	36
	13028	12418	11782	11024	10211	9350	8483	3	1370	3	3.398	45
36	9637	7192	4033	-	-	-	-	1/2	565	3	.579	14
	11002	8881	6416	-	-	-	-	3/4	645	3	.856	18
	12110	10205	8056	5552	-	-	-	1	710	3	1.147	21
	13901	12276	10515	8501	6284	-	-	1 1/2	815	3	1.737	27
	15266	13792	12203	10056	8620	6434	-	2	895	3	2.295	31
	17483	16196	14851	13452	11915	10281	8550	3	1025	3	3.457	39
42	13841	10120	5578	-	-	-	-	3/4	510	3	.868	16
	15198	11764	8009	-	-	-	-	1	560	3	1.147	19
	17369	14370	11270	7653	-	-	-	1 1/2	640	3	1.720	24
	19133	16415	13766	10577	-	-	-	2	705	3	2.296	35
	21846	19467	17070	14716	11851	-	-	3	805	3	3.415	46
	17949	12146	-	-	-	-	-	1	445	3	1.152	17
48	20571	15261	9820	-	-	-	-	1 1/2	510	3	1.734	21
	22587	17713	12771	-	-	-	-	2	560	3	2.295	25
	25814	21489	17701	12978	-	-	-	3	640	3	3.428	30
	30654	27000	23498	20506	16124	12188	-	5	760	3	5.739	40
	35091	31899	28757	25802	23302	19238	16118	7 1/2	870	3	8.610	53
	38721	35828	32935	30200	27684	25195	21506	10	960	3	11.570	64

Performance shown is for Models HRSB-F and HRSD-F without inlet or outlet ducts.

Performance includes the effect of a filter.

Brake horsepower does not include drive losses.

The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301 @ free air. Values shown are installation Type A, free inlet fan sone levels.



UL Standard 705



## PERFORMANCE DATA - HRSD-F DIRECT DRIVE WITH FILTERS

Model HRSD-F	CFM @ Static Pressure							HP	RPM	No. of Blades	Max BHP	Sones @ 5 ft.
	0	1/8	1/4	3/8	1/2	5/8	3/4					
24	5724	5215	4523	3733	2889	-	-	3/4	1160	3	.853	21
	6204	5713	5141	4541	3945	3395	2860	1	1160	4	1.115	22
	5932	5527	5090	4466	3692	2891	-	1	1750	2	1.149	30
	7164	6778	6335	5919	5262	4434	3593	1 1/2	1750	2	1.720	34
	7988	7544	7057	6567	6002	5256	4429	2	1750	2	2.352	38
	8779	8476	8173	7821	7463	7091	6726	3	1750	4	3.408	42
30	8273	7251	5961	4530	-	-	-	3/4	870	3	.865	19
	9111	8130	6737	5324	3664	-	-	1	870	4	1.152	21
	7919	7012	5841	4468	-	-	-	3/4	1160	2	.865	23
	9019	8119	7087	5733	4094	-	-	1	1160	2	1.154	25
	10319	9275	8126	6799	5451	-	-	1 1/2	1160	2	1.728	29
	11489	10703	9835	8888	7839	6751	5513	2	1160	3	2.306	33
	10360	9677	9024	8212	7360	6614	5540	2	1750	2	2.340	43
	12739	12155	11560	10934	10224	9351	8439	3	1750	2	3.403	47
	15375	14701	14027	13304	12562	11818	10915	5	1750	2	5.657	58
36	10814	9160	7004	-	-	-	-	3/4	870	2	.866	21
	12029	10298	8210	5682	-	-	-	1	870	2	1.144	23
	13467	11303	8919	6739	-	-	-	1 1/2	870	2	1.740	26
	15229	13606	11915	10099	8115	-	-	2	870	3	2.313	29
	13211	11941	10567	8903	7115	-	-	1 1/2	1160	2	1.712	32
	15197	13942	12667	11097	9432	7374	-	2	1160	2	2.338	33
	17216	15783	14320	12708	10951	9433	-	3	1160	2	3.442	37
	20545	19284	18023	16724	15468	14160	12528	5	1160	3	5.749	49
	19654	18794	17943	17155	16187	15117	14010	5	1750	2	5.726	65
	23366	22527	21689	20853	20022	19089	18090	7 1/2	1750	2	8.437	70
42	13965	11651	8971	5239	-	-	-	1	870	2	1.147	27
	16958	14787	12347	9265	-	-	-	1 1/2	870	2	1.703	28
	18835	16487	14046	11171	-	-	-	2	870	2	2.307	29
	20709	17795	14729	11692	8483	-	-	3	870	2	3.396	35
	25471	23668	21893	20074	18041	15847	13556	5	1160	2	5.739	48
	26240	24928	23677	22653	21293	19916	18551	7 1/2	1750	2	8.425	91
48	21205	18422	15525	10623	-	-	-	2	870	2	2.344	34
	24860	22013	19430	16007	-	-	-	3	870	2	3.397	35
	28822	25302	21915	18436	13330	-	-	5	870	2	5.724	41
	35091	31899	28757	25802	23302	19238	16118	7 1/2	870	3	8.610	49
	28661	26447	24563	22522	20057	16080	12406	5	1160	2	5.709	57
	33747	31570	29480	27547	25436	22954	19494	7 1/2	1160	2	8.473	59
36844	34454	32078	29866	27653	25141	22274	10	1160	2	11.337	64	

Performance shown is for Models HRSB-F and HRSD-F without inlet or outlet ducts.

Performance includes the effect of a filter.

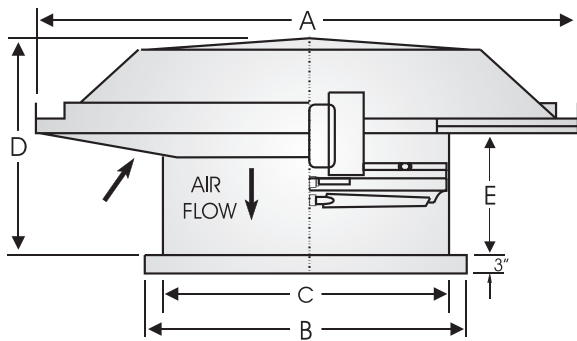
Brake horsepower does not include drive losses.

The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301 @ free air. Values shown are installation Type A, free inlet fan sone levels.

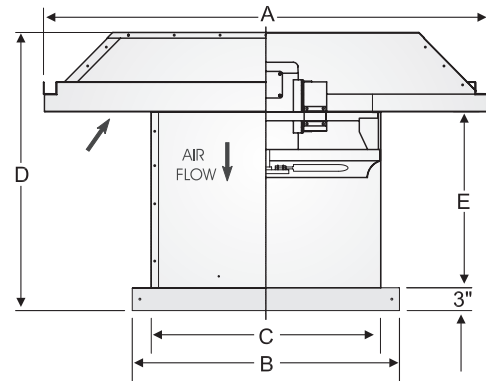




# DIMENSIONS



**Model HRSB - Belt Drive**  
**Model HRSD - Direct Drive**



**Model HRSB-F - Belt Drive**  
**Model HRSD-F - Direct Drive**

Model HRSB/ HRSD	Dimensions (Inches)						Metal Gauges			Avg. Wt.
	A	B	C	D	E	F	Crown / Side Hood	Stack	Curb Cap	
24	58	35	30	31	23	33-1/4	18 / 18	18	16	425
30	66	41	36	32	23	39-1/4	18 / 18	18	16	550
36	78	47	42	34	23	45-1/4	18 / 18	18	16	700
42	87	53	48	43	30	51-1/4	18 / 18	16	16	800
48	99	59	54	44	30	57-1/4	18 / 18	16	14	1100
54	111	65	60	45	30	63-1/4	18 / 18	16	14	1300
60	111	71	66	46	30	69-1/4	18 / 18	16	14	1550

Model HRSB-F/ HRSD-F	Dimensions (Inches)						Standard Filter <sup>7</sup>	Avg. Wt.
	A	B	C	D	E	F	Size (Nominal)	
24	58	35	30	31	23	33-1/4	15 x 20 x 2	375
24	66	35	30	32	23	33-1/4	19 x 22 x 2	450
30	66	41	36	32	23	39-1/4	16 x 25 x 2	550
30	78	41	36	34	23	39-1/4	19 x 22 x 2	600
36	78	47	42	34	23	45-1/4	19 x 29-3/4 x 2	675
36	87	47	42	43	23	45-1/4	16-1/8 x 23-1/2 x 2	750
42	87	53	48	43	30	51-1/4	20 x 25 x 2/16 x 20 x 2	850
42	99	53	48	44	30	51-1/4	18-3/8 x 26-1/2 x 2	900
48	99	59	54	44	30	57-1/4	19-1/8 x 23-1/2 x 2	1100
48	111	59	54	45	30	57-1/4	16-1/2 x 29-1/2 x 2	1200

- A** - Outside dimension of square hood.
- B** - Inside dimension of square curb cap.
- C** - Minimum inside dimension of curb opening for rated performance.
- D** - Height of unit above curb cap.
- E** - Height of hood opening above curb cap.
- F** - Outside dimension of prefab curb.