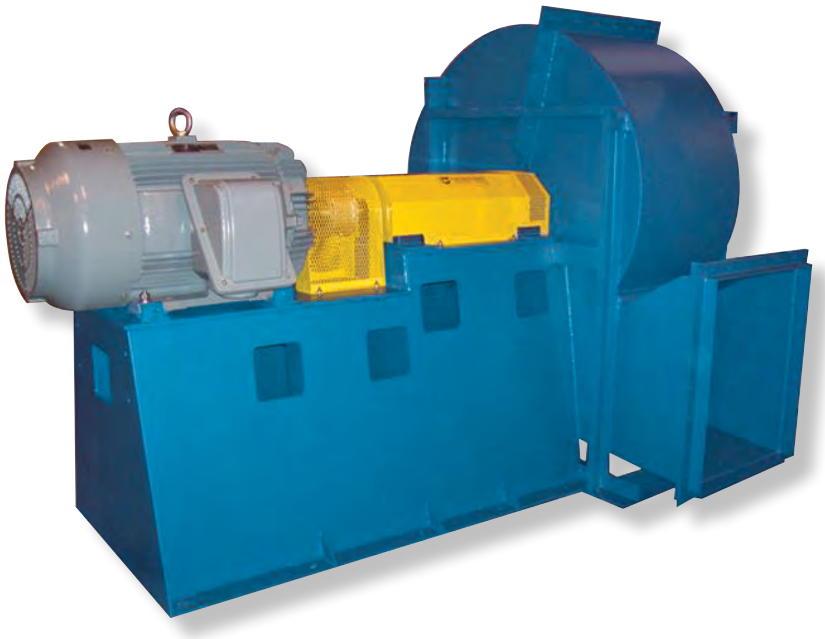
TCF

TWIN CITY FAN

INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

HIGH EFFICIENCY INDUSTRIAL BACKWARD CURVED FANS

MODEL HIB



HIB High-Efficiency Industrial Backward-Curved Fans

Model HIB fans from Twin City Fan & Blower employ a high-efficiency backwardly-curved wheel in a ruggedly constructed fan housing. Designed to handle clean air or air with light dust loading, these fans are widely used on the clean side of baghouses, in high-efficiency filtration, forced-draft, and other high pressure process supply applications. The curve below shows the HIB's characteristic high efficiency over a broad range and its non-overloading horsepower curve. Performance ratings shown in the curve are based on tests to AMCA Standard 210.

HIB High-Efficiency Backward-Curved Wheel

Standard Features

- High-efficiency, non-overloading wheel with continuously welded blades and a steel hub
- Statically and dynamically balanced rotor assembly
- Heavy duty self-aligning grease lubricated anti-friction split roller bearings
- Heavy-gauge reinforced housing and bearing pedestal for vibration-free service
- All fans standard with flanged inlet and outlet, access door, shaft seal, and drain
- Sizes 360 and larger fans are equipped with a pie-shaped split in the casing to permit the wheel and shaft to be removed without disturbing the inlet and outlet ductwork

Capabilities

- Fan sizes from 180 to 800
- Wheel diameters from 20½" to 90¾"
- High temperature construction to 800°F available

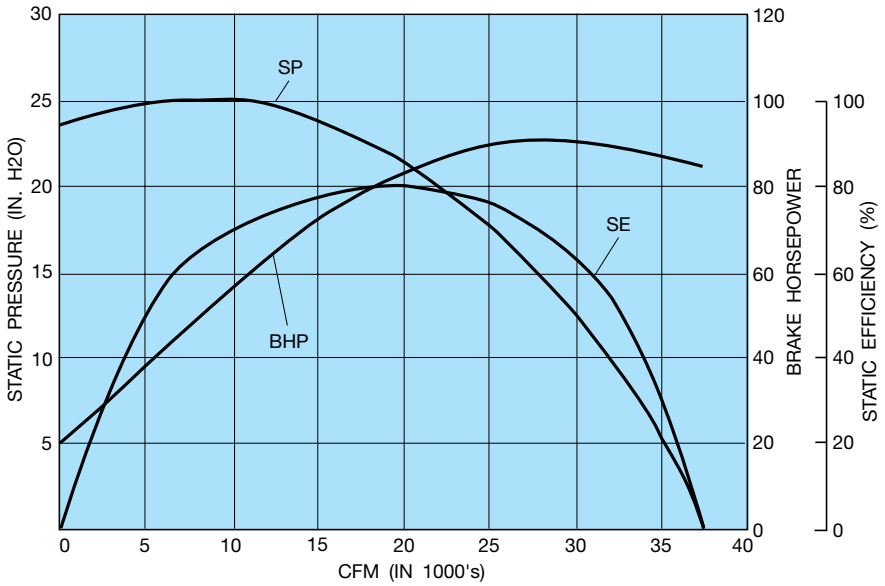
HIB Design 20

- Suitable to 20,000 FPM tip speed
- Pressure to 27" w.g.

HIB Design 24

- Suitable to 24,000 FPM tip speed
- Pressure to 40" w.g.

Typical HIB Curve



Arrangements

Arrangement 1

The usual choice for many V-belt drive applications. Wheel is overhung. Steel bearing pedestal to size 730. Size 800 requires a concrete pedestal. Check with the factory for V-belt drive applications larger than 250 HP.

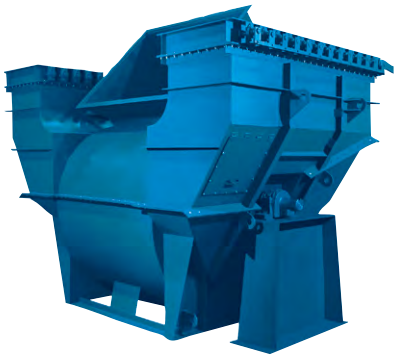
Arrangement 1

Arrangement 3 SI

Single width-single inlet fan with integral inlet box and independent bearing pedestals. The wheel is supported between two bearings.

Arrangement 3 DI

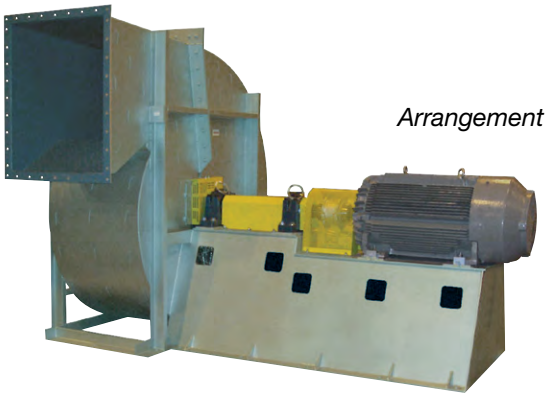
Double width-double inlet fan with inlet boxes on both sides and independent bearing pedestals.



Arrangement 3 DI (shown with temporary pedestal support)

Arrangement 8

Direct coupled with a flexible coupling. The motor pedestal can be custom fabricated out of steel for up to 400 HP. On larger HP units, use of standard Arrangement 1 fan with a concrete pedestal for the motor is advisable. Variations in wheel diameters and wheel widths are available to match design performance at motor speeds. Characteristic curves showing performances at direct drive speeds are available on request.



Arrangement 8

Accessories

Inlet Box Dampers
Pre-spin design, heavy-duty construction. The damper will spin the air in the direction of wheel rotation resulting in a savings in horsepower at reduced loads.

Variable Inlet Vanes
Works on the same principle as inlet box dampers. Nested and external type variable inlet vanes are available.

Evasé
Usually fabricated by customer as part of the ductwork. Fan outlet must be expanded to equal evasé area shown in the catalog to obtain rated performance. Same gauge as fan housing when purchased from the factory.

Temperature and Vibration Detectors
Thermocouples or RTDs can be installed on the bearings. Various types of vibration switches are available.

High Temperature Construction

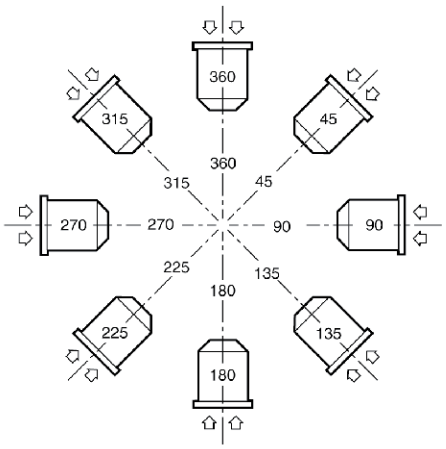
300°F to 500°F . . .	Requires addition of shaft cooler and high temperature grease bearings
501°F to 600°F . . .	Above modifications plus high temperature aluminum paint
601°F to 800°F . . .	Above modifications plus modified pedestal design

Accessories

Inlet Boxes

Integral or detached type generously designed to minimize pressure drop.

Inlet Box Positions For Centrifugal Fans



INLET BOX POSITIONS AND DESCRIPTIONS
45 — Angular Down Intake
90 — Horizontal Right Intake
135 — Angular Up Intake
180 — Bottom Up Intake
225 — Angular Up Intake
270 — Horizontal Left Intake
315 — Angular Down Intake
360 — Top Down Intake

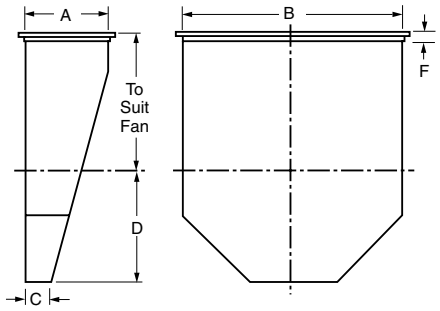
Reference line is the Top Vertical Axis through center of fan shaft.

Position of inlet box and air entry to inlet box is determined from drive side of fan.

Position of inlet box is designated in degrees clockwise from Top Vertical Axis as shown.

Positions 135° to 225° in some cases interfere seriously with floor structure.

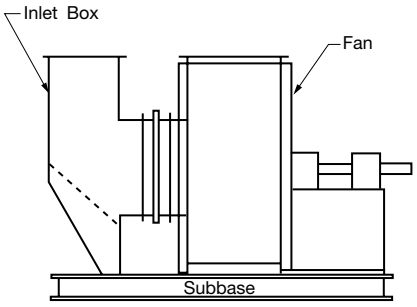
Typical Inlet Box Dimensions



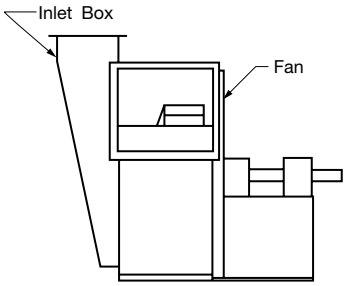
SIZE	A	B	C	D	INLET AREA SQ. FT	F
180	9.75	28.75	3.19	10.00	1.85	1.5 x 1.5
200	10.63	31.50	3.19	11.00	2.22	1.5 x 1.5
220	11.75	35.00	3.19	12.00	2.81	1.5 x 1.5
240	13.00	38.50	3.19	12.50	3.34	1.5 x 1.5
270	14.38	42.50	3.19	14.00	4.10	1.5 x 1.5
300	15.88	46.88	3.19	15.00	5.00	1.5 x 1.5
330	17.88	52.13	3.19	16.50	6.11	2.0 x 2.0
360	19.38	57.38	3.19	20.06	7.52	2.0 x 2.0
400	21.38	63.38	3.19	21.88	9.20	2.5 x 2.5
450	23.38	69.38	4.19	24.50	11.00	2.5 x 2.5
490	25.88	76.87	4.19	26.69	13.60	2.5 x 2.5
540	28.50	84.50	5.25	28.75	16.30	2.5 x 2.5
600	31.50	93.50	5.25	30.88	20.00	3.0 x 3.0
660	34.88	103.50	5.25	33.44	24.60	3.0 x 3.0
730	38.50	114.50	6.25	37.00	30.00	3.5 x 3.5
800	42.50	126.50	6.25	40.38	36.80	3.5 x 3.5

Dimensions are in inches unless otherwise indicated.
Dimensions are not to be used for construction.

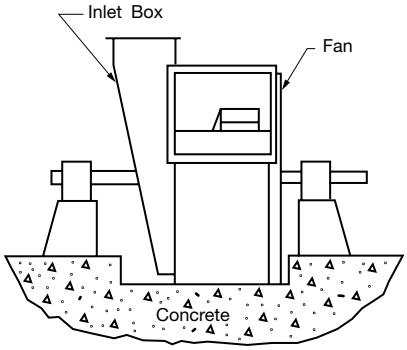
Inlet Box Arrrangements



Arr. 1 fan with detached inlet box. Can also be supplied in Arr. 8.



Arr. 1 fan with attached or integral inlet box. Can also be supplied in Arr. 8.



Arr. 3 SI fan with integral inlet box, centrally supported wheel, independent bearings pedestals to be installed on concrete pedestals.

Engineering Data

Performance Correction for Temperature and Altitude

The performance tables in this catalog are based on fans handling standard air at a density of 0.075 pounds per cubic foot. This is equivalent to 70°F at sea level (29.92" Hg barometric pressure). When specified performance is at a density different than standard, it must be converted to the equivalent standard conditions before entering the performance tables. The equivalent standard conditions can be calculated by using the "Temperature and Altitude Correction Factors" from the table below.

Temperature and Altitude Correction Factors

AIR TEMP °F	ALTITUDE IN FEET ABOVE SEA LEVEL												
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	15000	20000
	BAROMETRIC PRESSURE IN INCHES OF MERCURY												
	29.92	28.86	27.82	26.82	25.84	24.90	23.98	23.09	22.22	21.39	20.58	16.89	13.75
70	1.000	0.964	0.930	0.896	0.864	0.832	0.801	0.772	0.743	0.714	0.688	0.564	0.460
100	0.946	0.912	0.880	0.848	0.818	0.787	0.758	0.730	0.703	0.676	0.651	0.534	0.435
150	0.869	0.838	0.808	0.770	0.751	0.723	0.696	0.671	0.646	0.620	0.598	0.490	0.400
200	0.803	0.774	0.747	0.720	0.694	0.668	0.643	0.620	0.596	0.573	0.552	0.453	0.360
250	0.747	0.720	0.694	0.669	0.645	0.622	0.598	0.576	0.555	0.533	0.514	0.421	0.344
300	0.697	0.672	0.648	0.624	0.604	0.580	0.558	0.538	0.518	0.498	0.480	0.393	0.321
350	0.654	0.631	0.608	0.586	0.565	0.544	0.524	0.505	0.486	0.467	0.450	0.369	0.301
400	0.616	0.594	0.573	0.552	0.532	0.513	0.493	0.476	0.458	0.440	0.424	0.347	0.283
450	0.582	0.561	0.542	0.522	0.503	0.484	0.466	0.449	0.433	0.416	0.401	0.328	0.268
500	0.552	0.532	0.513	0.495	0.477	0.459	0.442	0.426	0.410	0.394	0.380	0.311	0.254
550	0.525	0.506	0.488	0.470	0.454	0.437	0.421	0.405	0.390	0.375	0.361	0.296	0.242
600	0.500	0.482	0.469	0.448	0.432	0.416	0.400	0.386	0.372	0.352	0.344	0.282	0.230
650	0.477	0.460	0.444	0.427	0.412	0.397	0.382	0.368	0.354	0.341	0.328	0.269	0.219
700	0.457	0.441	0.425	0.410	0.395	0.380	0.366	0.353	0.340	0.326	0.315	0.258	0.210
800	0.420	0.404	0.389	0.375	0.362	0.350	0.336	0.323	0.311	0.300	0.290	0.237	0.193

Example:

Assume a Model HIB 540 to handle 35,000 CFM at 13" SP at 500°F at an altitude of 2,000 feet.

1. Knowing the operating conditions are 500°F and 2,000 feet altitude, the correction factor can be found in the table above to be 0.513.
2. Divide the operating SP by this factor:

   13" ÷ 0.513 = 25.3" SP

   This is the equivalent SP at standard air density.
3. Enter the HIB 540 performance table with 35,000 CFM and 26" SP to find the fan RPM and BHP.

   The fan RPM is 1232. The brake horsepower is 183.82 BHP at standard conditions (183.82 BHP is also referred to as "cold" or "starting" brake horsepower).

   To determine the BHP at operating conditions, multiply the BHP at standard conditions by the correction factor from the table above (183.82 x 0.513 = 94.3). The BHP at operating conditions is 94.3 BHP.

Derating Factors For High Temperature

TEMP. (°F)	DERATING FACTOR		
	STANDARD STEEL	STAINLESS STEEL	
		304	316
70	1.000		
200	0.990		
300	0.975		
400	0.955	CONSULT FACTORY	CONSULT FACTORY
500	0.930		
600	0.904		
700	0.880		
800	0.837		

Standard steel construction is suitable for use in gas temperatures to 800°F. Aluminum wheels are suitable for temperatures to 250°F only.

When a fan operates at temperatures higher than 70°F, the maximum RPMs allowable from the table on page 6 must be adjusted according to the derating factor found in the table at the left.

Stainless steel wheels must be derated even at ambient operating temperatures. Please consult factory for stainless steel derating factors.

Engineering Data

Material and Mechanical Specifications

SIZE	DESIGN	SHAFT DIA.	MAX. HP V-BELT DRIVE*	MIN. SHEAVE DIA.*	MAX. HP DIRECT DRIVE	MAX RPM**	WHEEL GAUGES				WR^2 VALUE LB-FT^2	HOUSING GAGE
							BACK PLATE	BLADE	RING	WHEEL CONE		
180	20	2 3/16	30	5.5	40	3724	1/4	10 Ga.	---	10 Ga.	19	7
	24	2 3/16	50	5.1	60	3839	5/16	7 Ga.	---	10 Ga.	23	7
200	20	2 7/16	30	6.1	50	3395	1/4	10 Ga.	---	10 Ga.	28	7
	24	2 3/16	50	5.6	75	3800	5/16	7 Ga.	---	10 Ga.	33	7
220	20	2 3/16	50	7.3	60	3058	1/4	10 Ga.	---	10 Ga.	42	7
	24	2 7/16	60	6.2	75	3670	5/16	7 Ga.	---	10 Ga.	49	7
240	20	2 3/16	60	8.1	75	2778	1/4	10 Ga.	---	10 Ga.	57	7
	24	2 11/16	75	6.9	100	3333	5/16	7 Ga.	---	10 Ga.	68	7
270	20	2 7/16	75	9.5	100	2515	5/16	10 Ga.	10 Ga.	10 Ga.	126	7
	24	2 11/16	150	7.9	150	3018	5/16	7 Ga.	7 Ga.	10 Ga.	141	7
300	20	2 11/16	100	11.1	150	2280	5/16	10 Ga.	10 Ga.	10 Ga.	187	7
	24	2 15/16	200	8.7	200	2737	5/16	7 Ga.	7 Ga.	10 Ga.	241	7
330	20	2 11/16	100	11.4	150	2065	5/16	10 Ga.	10 Ga.	10 Ga.	283	7
	24	2 15/16	200	9.7	250	2478	5/16	7 Ga.	7 Ga.	10 Ga.	339	7
360	20	2 15/16	150	12.6	150	1863	5/16	10 Ga.	10 Ga.	10 Ga.	390	7
	24	3 7/16	250	11.4	300	2236	5/16	7 Ga.	7 Ga.	10 Ga.	474	1/4
400	20	3 7/16	200	12.1	200	1688	5/16	10 Ga.	10 Ga.	7 Ga.	657	7
	24	3 15/16	250	13.5	400	2026	3/8	7 Ga.	7 Ga.	7 Ga.	857	1/4
450	20	3 7/16	200	14.7	250	1528	5/16	10 Ga.	10 Ga.	7 Ga.	1035	7
	24	3 15/16	250	11.5	500	1833	3/8	1/4	1/4	7 Ga.	1524	1/4
490	20	3 15/16	250	14.2	300	1386	3/8	7 Ga.	7 Ga.	7 Ga.	1953	7
	24	4 7/16	400	14.1	600	1790	1/2	1/4	1/4	7 Ga.	2405	1/4
540	20	3 3/16	250	17.2	400	1252	3/8	7 Ga.	7 Ga.	1/4	3249	7
	24	4 3/16	400	17.4	700	1503	1/2	1/4	1/4	1/4	3932	1/4
600	20	4 7/16	300	17.7	400	1132	1/2	7 Ga.	1/4	1/4	5446	1/4
	24	4 15/16	400	15.6	80	1358	1/2	1/4	5/16	1/4	5906	1/4
660	20	4 7/16	300	21.0	500	1029	1/2	7 Ga.	1/4	1/4	7834	1/4
	24	4 15/16	400	18.6	1000	1235	5/8	1/4	5/16	1/4	9476	1/4
730	20	4 7/16	300	24.6	600	932	1/2	7 Ga.	1/4	1/4	11507	1/4
	24	4 15/16	400	21.6	1200	1190	5/8	1/4	5/16	1/4	14309	1/4
800†	20	4 15/16	400	25.7	700	842	1/2	7 Ga.	1/4	1/4	17120	1/4
	24	5 15/16	400	19.6	1400	1010	5/8	1/4	5/16	1/4	21318	1/4

NOTES:

* Minimum sheave diameter when using maximum horsepower motor. Check with factory on applications over 250 HP.

** Maximum fan RPM listed is for carbon steel construction. For stainless steel construction, contact the factory.

† Size 800 HIB is not supplied with conventional bearing pedestal. Instead, channel subbases are supplied. The subbase is to be mounted on concrete pedestal in the field. Fan weights include weight of channel subbase.

Bare Fan Weights (Lbs.)

FAN SIZE	CLASS 20				CLASS 24			
	ARR. 1,9	ARR. 4	ARR. 8	ARR. 9F	ARR. 1,9	ARR.4	ARR. 8	ARR. 9F
180	775	775	1008	814	800	800	1040	840
200	850	850	1105	893	875	875	1138	919
220	890	890	1157	935	950	950	1235	998
240	930	930	1209	977	1030	1030	1339	1082
270	1120	1120	1456	1176	1180	1180	1534	1239
300	1320	1320	1716	1386	1370	1370	1781	1439
330	1550	1550	2015	1628	1610	1610	2093	1691
360	1980	1980	2574	2079	2370	2370	3081	2489
400	2480	2480	3224	2604	2910	2910	3783	3056
450	3020	3020	3926	3171	3600	3600	4680	3780
490	3840	—	4992	4032	4460	—	5798	4683
540	4720	—	6136	4956	5550	—	7215	5828
600	6480	—	8424	6804	6590	—	8567	6920
660	7430	—	9659	7802	7900	—	10270	8295
730	9030	—	11739	9482	9590	—	12467	10070
800†	8880	—	11544	—	9630	—	12519	—

Wheel Weights (Lbs.)

FAN SIZE	DESIGN	
	20	24
180	61	69
200	70	84
220	86	103
240	96	119
270	157	174
300	184	222
330	230	263
360	257	302
400	372	464
450	439	613
490	693	837
540	980	1155
600	1278	1355
660	1476	1723
730	1727	2104
800	2033	2517

NOTES:

† Size 800 HIB is not supplied with conventional bearings pedestal. Instead, channel subbases are supplied. The subbase is to be mounted on concrete pedestal in the field. Fan weights include weight of channel subbase.

Performance Data

180 HIB

Wheel: 20.5" dia., 5.37 ft. circ. **Outlet Area: 1.23 sq. ft.**
Inlet Area: 1.35 sq. ft. **Evasé Outlet Area: 1.98 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1970	1000	1608	1.71	2177	3.66														
2758	1400	1752	2.42	2266	4.78	2701	7.43	3066	10.21										
3546	1800	1939	3.37	2398	6.11	2793	9.14	3152	12.42	3474	15.85	**3762**	**19.37**	**4026**	**22.97**				
4334	2200	2137	4.51	2574	7.81	2930	11.17	3256	14.80	3560	18.64	**3847**	**22.67**	**4112**	**26.80**	**4357**	**31.01**		
4728	2400	2263	5.32	2670	8.78	3011	12.33	3324	16.13	3615	20.14	**3891**	**24.35**	**4153**	**28.71**	**4398**	**33.16**		
5122	2600	2397	6.28	2761	9.76	3102	13.64	3400	17.59	3680	21.77	**3944**	**26.13**	**4197**	**30.67**	**4439**	**35.35**		
5516	2800	2535	7.37	2850	10.76	3196	15.05	3482	19.15	**3752**	**23.50**	**4007**	**28.04**	**4250**	**32.75**				
5910	3000	2676	8.62	2952	11.94	3292	16.54	3573	20.91	**3830**	**25.37**	**4077**	**30.08**	**4312**	**34.95**				
6304	3200	2818	10.00	3068	13.35	3380	17.97	3667	22.77	**3916**	**27.42**	**4153**	**32.26**	**4381**	**37.31**				
6698	3400	2960	11.52	3196	15.02	3469	19.46	**3762**	**24.72**	**4007**	**29.63**	**4234**	**34.58**	**4455**	**39.79**				
7092	3600	3102	13.19	3329	16.89	3567	21.15	**3854**	**26.68**	**4102**	**31.99**	**4323**	**37.14**						
7486	3800	3245	15.03	3466	18.97	3677	23.11	**3940**	**28.58**	**4196**	**34.40**	**4415**	**39.84**						
7880	4000	3388	17.03	3606	21.25	**3799**	**25.39**	**4031**	**30.63**	**4288**	**36.84**								
8274	4200	3533	19.23	**3746**	**23.71**	**3928**	**27.95**	**4132**	**32.96**	**4375**	**39.23**								
8668	4400	3678	21.61	**3888**	**26.39**	**4062**	**30.78**	**4243**	**35.60**										
9062	4600	**3823**	**24.19**	**4030**	**29.26**	**4199**	**33.85**	**4365**	**38.64**										

200 HIB

Wheel: 22.5" dia., 5.89 ft. circ. **Outlet Area: 1.48 sq. ft.**
Inlet Area: 1.67 sq. ft. **Evasé Outlet Area: 2.37 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2380	1000	1465	2.06	1984	4.41														
3332	1400	1598	2.93	2065	5.77	2462	8.98	2794	12.32										
4284	1800	1769	4.07	2187	7.38	2546	11.04	2873	15.00	3166	19.14	**3428**	**23.37**	**3669**	**27.72**				
5236	2200	1950	5.45	2348	9.44	2672	13.50	2969	17.88	3245	22.51	**3506**	**27.37**	**3748**	**32.36**	**3971**	**37.44**		
5712	2400	2066	6.44	2436	10.63	2746	14.90	3031	19.50	3296	24.34	**3546**	**29.39**	**3785**	**34.67**	**4009**	**40.06**		
6188	2600	2188	7.60	2518	11.80	2829	16.49	3100	21.24	3355	26.29	**3596**	**31.58**	**3826**	**37.05**	**4046**	**42.69**		
6664	2800	2315	8.94	2600	13.01	2916	18.21	3176	23.16	**3421**	**28.39**	**3654**	**33.90**	**3875**	**39.57**				
7140	3000	2443	10.44	2694	14.45	3003	20.00	3259	25.28	**3493**	**30.67**	**3718**	**36.36**	**3931**	**42.22**				
7616	3200	2573	12.12	2801	16.18	3084	21.74	3345	27.54	**3571**	**33.13**	**3787**	**38.98**	**3994**	**45.06**				
8092	3400	2703	13.97	2918	18.21	3165	23.54	**3432**	**29.90**	**3655**	**35.83**	**3862**	**41.82**	**4062**	**48.07**				
8568	3600	2833	16.00	3040	20.48	3255	25.59	**3515**	**32.24**	**3741**	**38.66**	**3943**	**44.91**						
9044	3800	2964	18.24	3165	23.00	3356	27.97	**3594**	**34.55**	**3828**	**41.61**	**4028**	**48.21**						
9520	4000	3095	20.67	3293	25.77	**3468**	**30.76**	**3678**	**37.06**	**3912**	**44.56**								
9996	4200	3227	23.33	**3421**	**28.76**	**3587**	**33.89**	**3770**	**39.87**	**3991**	**47.44**								
10472	4400	3359	26.22	**3551**	**32.02**	**3709**	**37.31**	**3873**	**43.12**										
10948	4600	**3492**	**29.35**	**3681**	**35.51**	**3834**	**41.03**	**3984**	**46.78**										

220 HIB

Wheel: 25" dia., 6.54 ft. circ. **Outlet Area: 1.81 sq. ft.**
Inlet Area: 2.02 sq. ft. **Evasé Outlet Area: 2.96 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2930	1000	1318	2.54	1785	5.44														
4102	1400	1437	3.60	1858	7.11	2215	11.05	2514	15.18										
5274	1800	1590	5.01	1967	9.09	2290	13.59	2585	18.48	2849	23.59	**3085**	**28.81**	**3302**	**34.18**				
6446	2200	1752	6.70	2111	11.62	2403	16.62	2670	22.01	2919	27.71	**3154**	**33.70**	**3372**	**39.86**	**3572**	**46.09**		
7032	2400	1855	7.90	2190	13.08	2469	18.34	2726	24.00	2965	29.98	**3191**	**36.23**	**3405**	**42.69**	**3607**	**49.35**		
7618	2600	1965	9.33	2264	14.52	2543	20.28	2788	26.15	3018	32.39	**3235**	**38.90**	**3442**	**45.64**	**3640**	**52.58**		
8204	2800	2079	10.97	2337	16.00	2621	22.39	2856	28.51	**3077**	**34.97**	**3286**	**41.71**	**3485**	**48.70**				
8790	3000	2194	12.81	2421	17.77	2699	24.58	2930	31.10	**3141**	**37.74**	**3343**	**44.73**	**3536**	**51.99**				
9376	3200	2311	14.88	2516	19.87	2772	26.73	3007	33.87	**3211**	**40.78**	**3405**	**47.96**	**3592**	**55.47**				
9962	3400	2427	17.14	2621	22.35	2845	28.96	**3085**	**36.77**	**3286**	**44.07**	**3472**	**51.44**						
10548	3600	2544	19.63	2730	25.13	2925	31.45	**3160**	**39.67**	**3363**	**47.55**	**3545**	**55.25**						
11134	3800	2661	22.36	2843	28.23	3016	34.39	**3231**	**42.51**	**3441**	**51.17**	**3621**	**59.29**						
11720	4000	2779	25.35	2957	31.61	**3116**	**37.79**	**3306**	**45.58**	**3516**	**54.78**								
12306	4200	2897	28.60	**3072**	**35.27**	**3221**	**41.57**	**3388**	**49.00**	**3587**	**58.32**								
12892	4400	3016	32.15	**3188**	**39.24**	**3331**	**45.78**	**3480**	**52.98**										
13478	4600	**3135**	**35.97**	**3305**	**43.54**	**3443**	**50.33**	**3579**	**57.45**										

Performance shown is for fans with an outlet evasé, with an outlet duct, and with free or ducted inlet.
BHP as shown is a fan shaft brake horsepower and does not include belt drive losses.

Regular type face = Design 20
Bold type face = Design 24
Underlined figures = Maximum static efficiency

Performance Data

240 HIB

Wheel: 27.5" dia., 7.20 ft. circ. **Outlet Area: 2.19 sq. ft.**
Inlet Area: 2.41 sq. ft. **Evasé Outlet Area: 3.58 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3550	1000	1199	3.08	1623	6.58														
4970	1400	1307	4.36	1689	8.61	2014	13.39	2286	18.39										
6390	1800	1447	6.08	1789	11.02	2083	16.48	2350	22.38	2590	28.56	**2805**	**34.90**	**3002**	**41.39**				
7810	2200	1594	8.13	1920	14.08	2185	20.13	2428	26.67	2655	33.60	**2868**	**40.83**	**3066**	**48.28**	**3248**	**55.84**		
8520	2400	1688	9.59	1992	15.85	2246	22.23	2479	29.08	2696	36.32	**2901**	**43.87**	**3096**	**51.71**	**3279**	**59.74**		
9230	2600	1789	11.33	2059	17.59	2313	24.58	2535	31.67	2744	39.22	**2941**	**47.09**	**3129**	**55.25**	**3310**	**63.71**		
9940	2800	1892	13.31	2126	19.40	2384	27.14	2597	34.53	**2798**	**42.36**	**2988**	**50.53**	**3169**	**59.00**				
10650	3000	1997	15.55	2202	21.53	2455	29.80	2665	37.70	**2857**	**45.75**	**3040**	**54.19**	**3216**	**63.02**				
11360	3200	2103	18.05	2289	24.09	2521	32.39	2735	41.05	**2921**	**49.45**	**3097**	**58.13**	**3267**	**67.23**				
12070	3400	2209	20.81	2385	27.12	2588	35.10	**2806**	**44.56**	**2989**	**53.43**	**3158**	**62.35**	**3322**	**71.69**				
12780	3600	2315	23.82	2484	30.48	2661	38.13	**2874**	**48.06**	**3059**	**57.64**	**3224**	**66.94**						
13490	3800	2422	27.15	2587	34.26	2744	41.71	**2939**	**51.53**	**3130**	**62.03**	**3293**	**71.83**						
14200	4000	2529	30.77	2691	38.36	**2835**	**45.83**	**3007**	**55.23**	**3198**	**66.39**								
14910	4200	2637	34.73	**2796**	**42.83**	**2931**	**50.44**	**3082**	**59.41**	**3263**	**70.70**								
15620	4400	2745	39.03	**2902**	**47.67**	**3031**	**55.54**	**3166**	**64.25**										
16330	4600	**2854**	**43.71**	**3008**	**52.86**	**3133**	**61.07**	**3257**	**69.73**										

270 HIB

Wheel: 30.375" dia., 7.95 ft. circ. **Outlet Area: 2.56 sq. ft.**
Inlet Area: 2.92 sq. ft. **Evasé Outlet Area: 4.33 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4330	1000	1014	3.42	1368	7.23	1651	11.32	1898	15.75										
6062	1400	1107	4.96	1429	9.57	1697	14.80	1927	20.18	2133	25.73	2323	31.54	2502	37.63				
7794	1800	1227	6.94	1516	12.49	1763	18.36	1983	24.78	2182	31.54	2363	38.36	**2530**	**45.24**	**2688**	**52.33**	**2838**	**59.59**
9526	2200	1365	9.55	1624	15.97	1852	22.83	2057	29.88	2245	37.32	2419	45.18	**2582**	**53.30**	**2735**	**61.52**	**2879**	**69.77**
10392	2400	1440	11.18	1684	17.95	1903	25.29	2101	32.85	2283	40.58	2453	48.74	**2612**	**57.25**	**2763**	**66.06**	**2905**	**74.92**
11258	2600	1519	13.06	1748	20.15	1957	27.89	2148	35.94	2325	44.15	2490	52.56	**2645**	**61.33**	**2793**	**70.54**	**2933**	**79.94**
12124	2800	1600	15.20	1815	22.57	2016	30.77	2200	39.26	2371	47.97	**2531**	**56.76**	**2683**	**65.85**	**2826**	**75.20**	**2964**	**85.03**
12990	3000	1684	17.65	1885	25.26	2077	33.83	2255	42.79	2420	51.93	**2576**	**61.27**	**2724**	**70.73**	**2864**	**80.37**	**2998**	**90.36**
13856	3200	1770	20.41	1959	28.30	2141	37.15	2312	46.50	2473	56.16	**2624**	**65.97**	**2768**	**75.92**	**2904**	**85.86**		
14722	3400	1858	23.53	2034	31.59	2208	40.76	2373	50.55	**2528**	**60.58**	**2675**	**70.86**	**2815**	**81.33**	**2948**	**91.77**		
15588	3600	1947	26.99	2112	35.26	2277	44.67	2436	54.84	**2586**	**65.30**	**2728**	**75.96**	**2864**	**86.85**	**2994**	**97.86**		
16454	3800	2038	30.87	2192	39.29	2349	48.98	2501	59.42	**2647**	**70.37**	**2785**	**81.46**	**2917**	**92.77**				
17320	4000	2129	35.10	2274	43.72	2424	53.73	**2568**	**64.32**	**2709**	**75.64**	**2843**	**87.16**	**2971**	**98.85**				
18186	4200	2221	39.76	2358	48.60	2499	58.73	**2638**	**69.67**	**2773**	**81.23**	**2904**	**93.27**						
19052	4400	2314	44.88	2443	53.89	**2577**	**64.24**	**2711**	**75.52**	**2840**	**87.28**	**2966**	**99.60**						
19918	4600	2407	50.41	**2530**	**59.70**	**2657**	**70.21**	**2785**	**81.74**	**2909**	**93.75**								

300 HIB

Wheel: 33.5" dia., 8.77 ft. circ. **Outlet Area: 3.11 sq. ft.**
Inlet Area: 3.51 sq. ft. **Evasé Outlet Area: 5.27 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5270	1000	920	4.17	1241	8.81	1497	13.78	1721	19.17										
7378	1400	1004	6.04	1296	11.66	1539	18.01	1747	24.54	1934	31.31	2107	38.41	2268	45.75				
9486	1800	1112	8.43	1375	15.21	1599	22.36	1798	30.15	1978	38.35	2143	46.70	**2295**	**55.12**	**2437**	**63.65**	**2573**	**72.49**
11594	2200	1238	11.63	1473	19.44	1679	27.76	1865	36.35	2036	45.44	2194	55.01	**2342**	**64.92**	**2480**	**74.86**	**2611**	**84.95**
12648	2400	1307	13.64	1528	21.88	1726	30.79	1905	39.96	2070	49.37	2224	59.28	**2369**	**69.71**	**2505**	**80.35**	**2634**	**91.15**
13702	2600	1377	15.88	1585	24.51	1775	33.96	1948	43.75	2109	53.78	2258	63.97	**2399**	**74.68**	**2533**	**85.88**	**2660**	**97.33**
14756	2800	1451	18.50	1646	27.47	1828	37.43	1995	47.78	2150	58.38	**2296**	**69.15**	**2433**	**80.14**	**2563**	**91.56**	2687	103.39
15810	3000	1527	21.47	1710	30.76	1884	41.20	2045	52.08	2195	63.24	**2336**	**74.57**	**2470**	**86.07**	**2597**	**97.80**	**2718**	**109.90**
16864	3200	1605	24.83	1777	34.46	1942	45.23	2097	56.61	2243	68.38	**2380**	**80.33**	**2510**	**92.38**	**2634**	**104.56**		
17918	3400	1685	28.64	1845	38.47	2002	49.58	2152	61.52	**2293**	**73.78**	**2426**	**86.26**	**2552**	**98.89**	**2673**	**111.65**		
18972	3600	1766	32.87	1916	42.95	2065	54.37	2209	66.73	**2345**	**79.46**	**2474**	**92.46**	**2598**	**105.80**	**2715**	**119.09**		
20026	3800	1848	37.55	1988	47.82	2131	59.67	2268	72.30	**2400**	**85.59**	**2525**	**99.07**	**2645**	**112.87**				
21080	4000	1931	42.74	2063	53.27	2198	65.36	**2329**	**78.29**	**2457**	**92.09**	**2579**	**106.17**	**2695**	**120.39**				
22134	4200	2015	48.45	2139	59.19	2267	71.54	**2393**	**84.85**	**2515**	**98.89**	**2634**	**113.56**						
23188	4400	2099	54.65	2216	65.63	**2338**	**78.27**	**2459**	**91.96**	**2576**	**106.28**	**2690**	**121.24**						
24242	4600	2184	61.45	**2295**	**72.71**	**2410**	**85.49**	**2526**	**99.52**	**2638**	**114.08**								

Performance shown is for fans with an outlet evasé, with an outlet duct, and with free or ducted inlet. BHP as shown is a fan shaft brake horsepower and does not include belt drive losses.

Regular type face = Design 20
Bold type face = Design 24
Underlined figures = Maximum static efficiency

Performance Data

330 HIB

Wheel: 37" dia., 9.69 ft. circ. **Outlet Area: 3.79 sq. ft.**
Inlet Area: 4.31 sq. ft. **Evasé Outlet Area: 6.42 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6420	1000	833	5.09	1123	10.72	1355	16.78	1558	23.36										
8988	1400	909	7.36	1173	14.20	1393	21.94	1582	29.93	1751	38.16	1907	46.77	2054	55.81				
11556	1800	1007	10.29	1244	18.51	1447	27.22	1628	36.77	1791	46.76	1940	56.91	**2077**	**67.10**	**2206**	**77.53**	**2330**	**88.40**
14124	2200	1120	14.15	1333	23.68	1520	33.84	1688	44.27	1843	55.36	1986	67.03	**2120**	**79.10**	**2245**	**91.21**	**2363**	**103.42**
15408	2400	1182	16.58	1382	26.61	1562	37.49	1724	48.66	1874	60.17	2013	72.21	**2144**	**84.88**	**2268**	**97.96**	**2385**	**111.14**
16692	2600	1246	19.34	1435	29.90	1606	41.33	1763	53.28	1908	65.42	2044	77.94	**2172**	**91.04**	**2293**	**104.65**	**2408**	**118.60**
17976	2800	1313	22.53	1489	33.42	1654	45.56	1806	58.24	1946	71.11	**2078**	**84.22**	**2202**	**97.59**	**2320**	**111.55**	**2433**	**126.09**
19260	3000	1381	26.10	1547	37.44	1705	50.19	1850	63.35	1987	77.08	**2114**	**90.79**	**2235**	**104.75**	**2351**	**119.18**	**2461**	**134.01**
20544	3200	1452	30.22	1607	41.89	1757	55.05	1898	68.98	2029	83.17	**2154**	**97.84**	**2272**	**112.56**	**2384**	**127.35**		
21828	3400	1524	34.83	1669	46.81	1812	60.42	1947	74.87	**2075**	**89.84**	**2195**	**104.98**	**2310**	**120.49**	**2420**	**136.11**		
23112	3600	1597	39.95	1733	52.24	1869	66.25	1999	81.27	**2122**	**96.76**	**2239**	**112.61**	**2351**	**128.82**	**2458**	**145.18**		
24396	3800	1672	45.72	1799	58.25	1928	72.64	2052	88.01	**2172**	**104.26**	**2285**	**120.65**	**2394**	**137.51**				
25680	4000	1747	52.02	1866	64.79	1989	79.60	**2108**	**95.41**	**2223**	**112.09**	**2333**	**129.16**	**2439**	**146.64**				
26964	4200	1822	58.87	1934	71.92	2051	87.08	**2165**	**103.28**	**2276**	**120.45**	**2383**	**138.20**						
28248	4400	1898	66.41	2004	79.78	**2115**	**95.24**	**2224**	**111.82**	**2330**	**129.26**	**2434**	**147.61**						
29532	4600	1975	74.69	**2076**	**88.46**	**2180**	**104.01**	**2285**	**121.08**	**2387**	**138.91**								

360 HIB

Wheel: 41" dia., 10.73 ft. circ. **Outlet Area: 4.65 sq. ft.**
Inlet Area: 5.33 sq. ft. **Evasé Outlet Area: 7.89 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
7890	1000	752	6.26	1014	13.19	1223	20.62	1406	28.70										
11046	1400	820	9.03	1059	17.46	1257	26.95	1428	36.79	1580	46.87	1721	57.47	1853	68.50				
14202	1800	909	12.65	1123	22.76	1306	33.45	1469	45.15	1616	57.42	1751	69.94	**1875**	**82.52**	**1991**	**95.29**	**2102**	**108.49**
17358	2200	1012	17.44	1203	29.08	1372	41.59	1524	54.45	1663	67.98	1792	82.30	**1913**	**97.14**	**2027**	**112.22**	**2133**	**127.14**
18936	2400	1067	20.37	1248	32.74	1410	46.08	1556	59.78	1691	73.88	1817	88.75	**1935**	**104.29**	**2047**	**120.37**	**2152**	**136.47**
20514	2600	1125	23.78	1295	36.71	1450	50.83	1592	65.56	1723	80.52	1845	95.80	**1960**	**111.81**	**2069**	**128.49**	**2173**	**145.67**
22092	2800	1185	27.67	1345	41.15	1493	55.99	1630	71.55	1757	87.47	**1875**	**103.40**	**1988**	**120.03**	**2094**	**137.08**	**2196**	**154.95**
23670	3000	1247	32.11	1397	46.06	1539	61.67	1670	77.87	1793	94.64	**1909**	**111.74**	**2018**	**128.86**	**2122**	**146.47**	**2221**	**164.62**
25248	3200	1311	37.16	1451	51.52	1586	67.66	1713	84.74	1832	102.31	**1944**	**120.20**	**2050**	**138.18**	**2152**	**156.56**		
26826	3400	1376	42.82	1507	57.56	1636	74.29	1758	92.09	**1873**	**110.40**	**1982**	**129.16**	**2085**	**148.07**	**2184**	**167.20**		
28404	3600	1443	49.24	1565	64.27	1687	81.40	1805	99.97	**1916**	**119.01**	**2021**	**138.39**	**2122**	**158.29**	**2218**	**178.27**		
29982	3800	1510	56.26	1624	71.59	1741	89.36	1853	108.28	**1961**	**128.21**	**2063**	**148.37**	**2161**	**169.01**				
31560	4000	1577	63.92	1685	79.70	1796	97.91	**1903**	**117.27**	**2007**	**137.82**	**2106**	**158.75**	**2201**	**180.08**				
33138	4200	1646	72.52	1747	88.56	1852	107.11	**1955**	**127.05**	**2055**	**148.13**	**2151**	**169.82**						
34716	4400	1714	81.71	1810	98.21	**1909**	**117.00**	**2008**	**137.50**	**2104**	**159.01**	**2198**	**181.63**						
36294	4600	1784	91.97	**1874**	**108.71**	**1968**	**127.84**	**2063**	**148.87**	**2155**	**170.77**								

400 HIB

Wheel: 45.25" dia., 11.85 ft. circ. **Outlet Area: 5.66 sq. ft.**
Inlet Area: 6.49 sq. ft. **Evasé Outlet Area: 9.61 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
9610	1000	681	7.61	919	16.08	1108	25.11	1274	34.96										
13454	1400	743	11.00	959	21.23	1139	32.83	1294	44.83	1432	57.13	1560	70.08	1679	83.44				
17298	1800	823	15.37	1018	27.76	1184	40.81	1331	54.99	1465	70.05	1586	85.10	**1699**	**100.53**	**1804**	**116.06**	**1905**	**132.23**
21142	2200	917	21.25	1090	35.42	1243	50.64	1381	66.34	1507	82.83	1624	100.30	**1734**	**118.46**	**1836**	**136.55**	**1933**	**154.94**
23064	2400	967	24.83	1131	39.90	1277	56.06	1410	72.84	1532	89.96	1646	108.04	**1754**	**127.19**	**1855**	**146.68**	**1950**	**166.25**
24986	2600	1019	28.93	1173	44.67	1314	61.93	1442	79.78	1561	98.04	1672	116.75	**1776**	**136.21**	**1875**	**156.59**	**1969**	**177.46**
26908	2800	1074	33.73	1218	50.04	1353	68.24	1477	87.17	1592	106.55	**1699**	**125.97**	**1801**	**146.13**	**1897**	**166.89**	**1989**	**188.52**
28830	3000	1130	39.12	1266	56.13	1394	75.04	1513	94.82	1625	115.37	**1729**	**135.94**	**1828**	**156.84**	**1922**	**178.21**	**2012**	**200.40**
30752	3200	1188	45.28	1315	62.79	1437	82.40	1552	103.19	1660	124.63	**1762**	**146.55**	**1858**	**168.46**	**1950**	**190.73**		
32674	3400	1247	52.19	1366	70.20	1482	90.43	1593	112.20	**1697**	**134.46**	**1796**	**157.36**	**1889**	**180.30**	**1979**	**203.69**		
34596	3600	1307	59.91	1418	78.29	1529	99.24	1635	121.66	**1736**	**144.95**	**1832**	**168.79**	**1923**	**192.89**	**2010**	**217.24**		
36518	3800	1368	68.50	1471	87.11	1577	108.74	1679	131.90	**1777**	**156.21**	**1869**	**180.65**	**1958**	**205.85**				
38440	4000	1429	77.88	1526	96.94	1627	119.19	**1724**	**142.78**	**1818**	**167.74**	**1909**	**193.61**	**1995**	**219.58**				
40362	4200	1491	88.26	1583	107.89	1678	130.45	**1771**	**154.66**	**1862**	**180.44**	**1949**	**206.86**						
42284	4400	1553	99.53	1640	119.62	**1730**	**142.59**	**1820**	**167.65**	**1906**	**193.57**	**1991**	**221.04**						
44206	4600	1616	111.93	**1698**	**132.42**	**1783**	**155.67**	**1869**	**181.26**	**1953**	**208.14**								

Performance shown is for fans with an outlet evasé, with an outlet duct, and with free or ducted inlet.
BHP as shown is a fan shaft brake horsepower and does not include belt drive losses.

Regular type face = Design 20
Bold type face = Design 24
Underlined figures = Maximum static efficiency

Performance Data

450 HIB

Wheel: 50" dia., 13.09 ft. circ. **Outlet Area: 6.92 sq. ft.**
Inlet Area: 7.92 sq. ft. **Evasé Outlet Area: 11.7 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
11700	1000	616	9.27	831	19.55	1003	30.63												
16380	1400	672	13.40	868	25.90	1030	39.93	1170	54.50	1296	69.65	1411	85.27	1520	101.79				
21060	1800	744	18.71	920	33.72	1071	49.70	1204	66.97	1325	85.25	1435	103.68	**1537**	**122.40**	**1633**	**141.56**	**1724**	**161.17**
25740	2200	828	25.77	986	43.17	1124	61.63	1249	80.76	1363	100.84	1469	122.14	**1568**	**144.09**	**1661**	**166.31**	**1749**	**188.77**
28080	2400	874	30.21	1022	48.49	1155	68.28	1275	88.63	1386	109.61	1489	131.60	**1586**	**154.72**	**1678**	**178.62**	**1764**	**202.46**
30420	2600	921	35.20	1061	54.46	1188	75.36	1304	97.11	1412	119.40	1512	142.07	**1606**	**165.73**	**1696**	**190.68**	**1781**	**216.06**
32760	2800	970	40.94	1101	60.89	1223	82.99	1335	105.97	1439	129.51	**1537**	**153.46**	**1629**	**177.92**	**1716**	**203.26**	**1800**	**229.90**
35100	3000	1021	47.54	1144	68.23	1260	91.27	1368	115.40	1469	140.30	**1564**	**165.58**	**1653**	**190.83**	**1739**	**217.20**	**1820**	**244.06**
37440	3200	1073	54.97	1188	76.28	1299	100.26	1403	125.54	1501	151.69	**1593**	**178.26**	**1680**	**204.94**	**1763**	**231.93**		
39780	3400	1126	63.31	1234	85.26	1339	109.87	1440	136.49	**1534**	**163.53**	**1624**	**191.53**	**1708**	**219.38**	**1790**	**248.05**		
42120	3600	1180	72.63	1281	95.09	1381	120.45	1478	148.03	**1569**	**176.23**	**1656**	**205.26**	**1739**	**234.83**	**1818**	**264.57**		
44460	3800	1235	83.03	1329	105.84	1425	132.17	1517	160.25	**1606**	**189.91**	**1690**	**219.92**	**1770**	**250.36**				
46800	4000	1290	94.39	1379	117.86	1470	144.83	**1558**	**173.59**	**1644**	**204.30**	**1725**	**235.24**	**1803**	**266.88**				
49140	4200	1346	106.98	1429	130.75	1516	158.49	**1600**	**187.87**	**1682**	**219.08**	**1762**	**251.73**						
51480	4400	1402	120.64	1481	145.14	**1563**	**173.24**	**1644**	**203.56**	**1723**	**235.55**	**1800**	**269.03**						
53820	4600	1459	135.71	**1534**	**160.86**	**1611**	**189.18**	**1689**	**220.39**	**1764**	**252.65**								

490 HIB

Wheel: 55.125" dia., 14.43 ft. circ. **Outlet Area: 8.41 sq. ft.**
Inlet Area: 9.68 sq. ft. **Evasé Outlet Area: 14.25 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
14250	1000	559	11.29	754	23.81	910	37.31	1046	51.89										
19950	1400	610	16.33	787	31.47	935	48.70	1062	66.46	1175	84.65	1280	103.82	1378	123.70				
25650	1800	676	22.86	835	41.09	972	60.56	1093	81.68	1202	103.77	1302	126.28	**1394**	**148.92**	**1481**	**172.22**	**1564**	**196.25**
31350	2200	752	31.44	895	52.60	1020	75.07	1133	98.27	1237	122.88	1333	148.78	**1423**	**175.59**	**1507**	**202.53**	**1586**	**229.52**
34200	2400	793	36.75	928	59.14	1048	83.12	1157	107.96	1258	133.61	1351	160.23	**1439**	**188.39**	**1522**	**217.31**	**1601**	**246.78**
37050	2600	836	42.87	963	66.33	1078	91.75	1184	118.47	1281	145.33	1372	173.04	**1458**	**202.15**	**1539**	**232.26**	**1616**	**263.13**
39900	2800	881	49.95	1000	74.31	1110	101.09	1212	129.21	1306	157.79	**1395**	**187.03**	**1478**	**216.63**	**1557**	**247.51**	**1633**	**279.85**
42750	3000	927	57.95	1038	83.02	1144	111.28	1242	140.72	1333	170.84	**1419**	**201.57**	**1500**	**232.45**	**1578**	**264.55**	**1652**	**297.54**
45600	3200	975	67.17	1079	93.08	1179	122.11	1274	153.14	1362	184.67	**1446**	**217.29**	**1525**	**249.86**	**1600**	**282.61**	**1672**	**316.21**
48450	3400	1023	77.32	1120	103.83	1216	134.03	1307	166.26	**1393**	**199.52**	**1474**	**233.37**	**1551**	**267.73**	**1624**	**301.94**	**1694**	**336.50**
51300	3600	1072	88.70	1163	115.89	1254	146.90	1342	180.51	**1424**	**214.64**	**1503**	**250.06**	**1578**	**285.94**	**1650**	**322.37**	**1718**	**358.22**
54150	3800	1122	101.41	1207	129.13	1294	161.20	1377	195.23	**1458**	**231.50**	**1534**	**267.97**	**1607**	**305.31**	**1676**	**342.58**	**1744**	**381.18**
57000	4000	1172	115.29	1252	143.66	1335	176.69	**1415**	**211.83**	**1492**	**248.77**	**1566**	**286.75**	**1637**	**325.46**	**1705**	**364.64**	**1770**	**403.93**
59850	4200	1223	130.70	1298	159.60	1377	193.44	**1453**	**229.18**	**1528**	**267.55**	**1599**	**306.49**	**1668**	**346.52**	**1734**	**386.90**		
62700	4400	1274	147.44	1345	177.06	**1419**	**211.13**	**1493**	**248.33**	**1564**	**286.97**	**1634**	**327.84**	**1701**	**369.23**	**1765**	**410.77**		
65550	4600	1326	165.93	**1393**	**196.19**	**1463**	**230.76**	**1534**	**268.92**	**1602**	**308.24**	**1669**	**349.75**	**1734**	**392.40**				

540 HIB

Wheel: 61" dia., 15.97 ft. circ. **Outlet Area: 10.35 sq. ft.**
Inlet Area: 11.86 sq. ft. **Evasé Outlet Area: 17.50 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
17500	1000	505	13.83	682	29.28	822	45.70	945	63.60										
24500	1400	552	20.09	712	38.71	845	59.73	960	81.58	1062	103.88	1157	127.44	1246	152.02				
31500	1800	611	28.01	755	50.44	878	74.14	988	100.21	1087	127.51	1177	155.02	**1260**	**182.76**	**1339**	**211.54**	**1413**	**240.54**
38500	2200	681	38.74	809	64.49	923	92.36	1025	120.86	1118	150.69	1205	182.57	**1286**	**215.32**	**1362**	**248.43**	**1434**	**281.93**
42000	2400	718	45.25	840	72.79	948	102.15	1047	132.87	1137	163.86	1222	196.96	**1301**	**231.27**	**1376**	**266.78**	**1447**	**302.73**
45500	2600	757	52.81	871	81.43	975	112.68	1071	145.59	1158	178.31	1240	212.19	**1318**	**248.04**	**1391**	**284.87**	**1461**	**323.03**
49000	2800	798	61.59	905	91.39	1005	124.53	1096	158.63	1181	193.77	**1261**	**229.46**	**1336**	**265.77**	**1408**	**304.04**	**1476**	**343.26**
52500	3000	840	71.53	940	102.29	1035	136.75	1124	173.13	1206	210.05	**1284**	**248.02**	**1357**	**285.86**	**1427**	**324.97**	**1493**	**364.83**
56000	3200	883	82.77	977	114.64	1067	150.19	1152	187.93	1232	226.90	**1307**	**266.43**	**1379**	**306.83**	**1447**	**347.22**		
59500	3400	927	95.45	1014	127.83	1100	164.62	1183	204.60	**1260**	**245.09**	**1333**	**286.56**	**1402**	**328.36**	**1469**	**371.15**		
63000	3600	971	109.35	1053	142.71	1135	180.71	1214	221.74	**1289**	**264.23**	**1360**	**307.53**	**1427**	**351.08**	**1492**	**395.79**		
66500	3800	1016	124.92	1093	159.08	1171	198.20	1247	240.58	**1319**	**284.45**	**1388**	**329.49**	**1453**	**374.65**				
70000	4000	1062	142.30	1134	177.09	1208	217.18	**1280**	**260.16**	**1350**	**305.80**	**1417**	**352.59**	**1481**	**400.05**				
73500	4200	1108	161.24	1176	196.90	1246	237.76	**1315**	**281.86**	**1382**	**328.46**	**1447**	**376.93**						
77000	4400	1154	181.79	1219	218.68	**1285**	**260.11**	**1351**	**305.27**	**1416**	**353.35**	**1479**	**403.42**						
80500	4600	1201	204.54	**1262**	**242.01**	**1325**	**284.38**	**1388**	**330.50**	**1450**	**379.21**								

Performance shown is for fans with an outlet evasé, with an outlet duct, and with free or ducted inlet. BHP as shown is a fan shaft brake horsepower and does not include belt drive losses.

Regular type face = Design 20
Bold type face = Design 24
Underlined figures = Maximum static efficiency

Performance Data

600 HIB

Wheel: 67.5" dia., 17.67 ft. circ. **Outlet Area: 12.58 sq. ft.**
Inlet Area: 14.47 sq. ft. **Evasé Outlet Area: 21.30 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
21300	1000	456	16.85	616	35.68	743	55.79												
29820	1400	498	24.45	643	47.20	763	72.75	867	99.38	960	126.85	1045	155.22	1126	185.43				
38340	1800	551	34.07	681	61.31	793	90.42	892	122.06	981	155.06	1063	188.87	**1138**	**222.64**	**1209**	**257.44**	**1277**	**293.52**
46860	2200	613	46.89	730	78.55	832	112.05	925	147.04	1009	183.36	1088	222.42	**1162**	**262.83**	**1230**	**302.66**	**1295**	**343.39**
51120	2400	647	54.95	757	88.35	855	124.18	944	161.25	1026	199.30	1103	239.76	**1175**	**281.98**	**1243**	**325.41**	**1307**	**369.07**
55380	2600	682	64.09	785	98.89	880	137.33	966	176.97	1045	216.95	1120	258.81	**1190**	**302.20**	**1256**	**347.11**	**1319**	**393.36**
59640	2800	718	74.45	815	110.74	906	151.27	989	193.15	1066	236.00	**1138**	**279.19**	**1206**	**323.60**	**1271**	**370.20**	**1333**	**418.50**
63900	3000	755	86.20	847	124.18	933	166.14	1013	210.08	1088	255.53	**1158**	**301.27**	**1225**	**348.12**	**1288**	**395.55**	**1348**	**444.48**
68160	3200	794	99.88	879	138.54	962	182.59	1039	228.59	1111	275.77	**1179**	**323.97**	**1244**	**372.98**	**1306**	**422.60**		
72420	3400	833	114.94	913	154.85	991	199.72	1066	248.26	**1136**	**297.75**	**1202**	**348.15**	**1265**	**399.51**	**1325**	**450.95**		
76680	3600	873	131.89	948	172.82	1022	218.91	1094	269.17	**1162**	**320.95**	**1226**	**373.40**	**1287**	**426.73**	**1346**	**481.32**		
80940	3800	914	150.93	984	192.65	1055	240.51	1123	291.50	**1189**	**345.54**	**1251**	**399.92**	**1311**	**456.06**				
85200	4000	955	171.73	1020	213.89	1088	263.32	**1153**	**315.49**	**1217**	**371.60**	**1277**	**427.90**	**1335**	**485.72**				
89460	4200	996	194.36	1058	237.97	1122	288.12	**1185**	**342.24**	**1246**	**399.34**	**1304**	**457.50**						
93720	4400	1038	219.55	1096	263.78	**1157**	**315.11**	**1217**	**370.29**	**1275**	**427.99**	**1332**	**488.82**						
97980	4600	1080	246.83	**1135**	**292.18**	**1192**	**343.65**	**1250**	**400.60**	**1306**	**459.76**								

660 HIB

Wheel: 74.25" dia., 19.44 ft. circ. **Outlet Area: 15.28 sq. ft.**
Inlet Area: 17.57 sq. ft. **Evasé Outlet Area: 25.80 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
25800	1000	415	20.47	560	43.20	675	67.42												
36120	1400	452	29.44	584	56.97	694	88.21	788	120.23	872	153.20	950	187.94	1023	224.10				
46440	1800	501	41.25	620	74.54	721	109.49	811	147.80	892	187.83	966	228.40	**1035**	**269.91**	**1099**	**311.61**	**1161**	**355.46**
56760	2200	558	56.96	664	95.21	757	135.96	841	178.04	918	222.48	989	269.16	**1056**	**317.85**	**1119**	**367.22**	**1177**	**415.45**
61920	2400	588	66.42	688	106.83	778	150.71	859	195.74	933	241.46	1003	290.46	**1068**	**341.16**	**1130**	**393.93**	**1188**	**446.59**
67080	2600	620	77.54	714	119.85	800	166.20	878	214.06	951	263.43	1018	313.12	**1082**	**366.00**	**1142**	**420.38**	**1199**	**476.07**
72240	2800	653	90.20	741	134.04	824	183.30	899	233.69	969	285.57	**1035**	**338.39**	**1097**	**392.38**	**1156**	**448.74**	**1212**	**506.83**
77400	3000	687	104.59	770	150.25	849	201.63	921	254.31	989	309.18	**1053**	**364.94**	**1113**	**420.66**	**1171**	**478.91**	**1226**	**538.75**
82560	3200	722	120.94	800	168.21	875	221.29	945	277.02	1011	334.74	**1073**	**393.40**	**1131**	**451.56**	**1187**	**511.19**		
87720	3400	758	139.47	831	188.04	902	242.54	970	301.26	**1033**	**360.62**	**1093**	**421.66**	**1150**	**483.56**	**1205**	**546.47**		
92880	3600	795	160.40	862	209.24	930	265.66	995	326.15	**1057**	**389.09**	**1115**	**452.46**	**1171**	**517.80**	**1224**	**583.07**		
98040	3800	832	183.34	895	233.44	959	290.92	1022	353.85	**1081**	**418.24**	**1138**	**484.91**	**1192**	**552.21**				
103200	4000	869	208.37	928	259.40	990	319.48	**1049**	**382.63**	**1107**	**450.43**	**1162**	**519.28**	**1214**	**588.34**				
108360	4200	906	235.59	962	288.08	1021	349.63	**1078**	**414.94**	**1133**	**483.56**	**1186**	**554.38**						
113520	4400	944	265.95	997	319.77	**1052**	**381.46**	**1107**	**448.81**	**1160**	**519.09**	**1212**	**593.08**						
118680	4600	982	298.81	**1033**	**354.74**	**1085**	**417.36**	**1137**	**485.52**	**1188**	**557.32**								

730 HIB

Wheel: 82" dia., 21.47 ft. circ. **Outlet Area: 18.63 sq. ft.**
Inlet Area: 21.48 sq. ft. **Evasé Outlet Area: 31.50 sq. ft.**

CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
31500	1000	376	25.02	507	52.70	612	82.60												
44100	1400	410	36.11	529	69.59	628	107.43	714	147.02	790	187.27	861	229.99	927	274.11				
56700	1800	454	50.43	561	90.74	653	133.69	734	180.08	808	229.46	875	279.00	**937**	**329.20**	**996**	**381.29**	**1051**	**433.47**
69300	2200	505	69.36	601	116.00	686	166.27	762	217.65	831	271.22	896	328.94	**956**	**387.62**	**1013**	**447.79**	**1066**	**507.32**
75600	2400	533	81.27	623	130.32	704	183.48	778	238.99	845	294.80	908	354.17	**967**	**416.20**	**1023**	**480.40**	**1076**	**545.37**
81900	2600	562	94.87	647	146.50	725	203.24	795	261.14	861	321.28	922	382.31	**980**	**446.93**	**1034**	**512.82**	**1086**	**581.40**
88200	2800	592	110.40	672	164.24	746	223.48	814	285.04	878	349.09	**937**	**412.65**	**993**	**478.30**	**1047**	**547.93**	**1098**	**619.33**
94500	3000	623	128.13	698	183.86	769	246.16	835	311.39	896	377.77	**954**	**445.97**	**1008**	**513.57**	**1060**	**583.81**	**1110**	**657.11**
100800	3200	655	148.34	725	205.66	792	269.59	856	338.28	915	407.74	**972**	**480.55**	**1025**	**552.37**	**1075**	**624.04**	**1124**	**699.38**
107100	3400	687	170.57	753	229.82	817	296.08	878	367.06	**936**	**440.78**	**990**	**514.86**	**1042**	**591.11**	**1091**	**666.53**	**1139**	**744.71**
113400	3600	720	195.74	781	255.64	843	325.04	902	399.18	**957**	**474.46**	**1010**	**552.56**	**1060**	**631.09**	**1109**	**712.69**	**1155**	**792.49**
119700	3800	754	224.16	811	285.32	869	355.60	926	432.41	**980**	**511.98**	**1031**	**592.45**	**1080**	**674.85**	**1127**	**758.47**	**1172**	**842.32**
126000	4000	787	254.26	841	317.15	897	390.38	**950**	**466.89**	**1003**	**550.42**	**1052**	**633.07**	**1100**	**719.12**	**1146**	**806.28**	**1190**	**893.82**
132300	4200	821	287.99	872	352.45	925	427.09	**976**	**505.89**	**1026**	**589.93**	**1075**	**678.25**	**1121**	**766.01**	**1165**	**854.46**		
138600	4400	856	325.74	904	391.58	**954**	**467.31**	**1003**	**548.41**	**1051**	**634.25**	**1098**	**724.47**	**1143**	**815.84**	**1186**	**907.60**		
144900	4600	890	365.43	**936**	**433.51**	**983**	**509.85**	**1030**	**592.93**	**1076**	**680.26**	**1122**	**773.90**	**1165**	**866.70**				

Performance shown is for fans with an outlet evasé, with an outlet duct, and with free or ducted inlet.
BHP as shown is a fan shaft brake horsepower and does not include belt drive losses.

Regular type face = Design 20
Bold type face = Design 24
Underlined figures = Maximum static efficiency

Performance Data

800 HIB

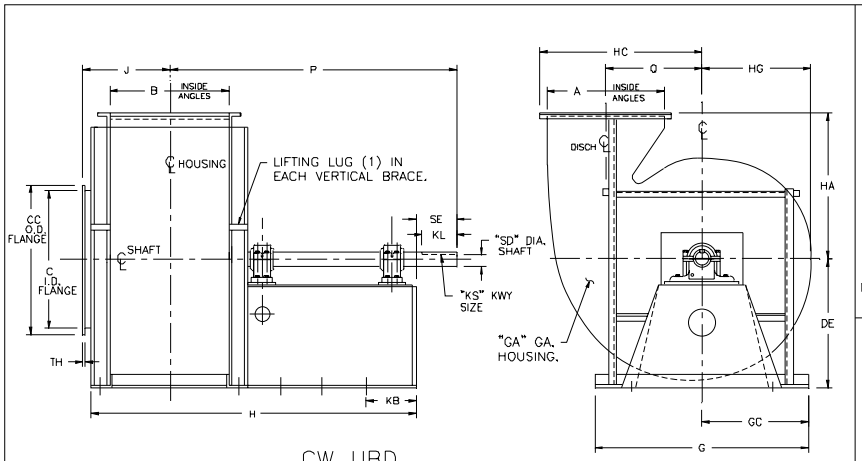
Wheel: 90.75" dia., 23.76 ft. circ.
Inlet Area: 26.35 sq. ft.

Outlet Area: 22.84 sq. ft.
Evasé Outlet Area: 38.60 sq. ft.

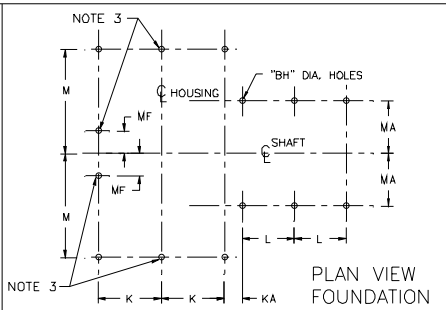
CFM	OV	4" SP		8" SP		12" SP		16" SP		20" SP		24" SP		28" SP		32" SP		36" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
38600	1000	339	30.45	458	64.51	553	101.20												
54040	1400	370	44.06	478	85.25	568	131.99	645	179.99	714	229.60	778	281.80	837	335.10				
69480	1800	410	61.67	507	111.21	590	163.74	664	221.38	730	281.00	791	342.28	**847**	**403.81**	**900**	**467.19**	**950**	**531.64**
84920	2200	457	85.33	543	142.04	620	203.82	688	266.01	751	332.42	810	403.56	**864**	**475.15**	**915**	**548.01**	**964**	**623.06**
92640	2400	482	99.78	563	159.68	637	225.69	703	292.77	764	361.81	821	434.73	**874**	**510.27**	**925**	**589.72**	**972**	**667.62**
100360	2600	508	116.32	585	179.79	655	248.84	719	320.75	778	393.60	833	468.18	**885**	**546.56**	**935**	**629.65**	**982**	**713.82**
108080	2800	535	135.28	607	200.96	674	273.64	736	349.84	793	427.07	**847**	**506.11**	**898**	**587.41**	**946**	**671.15**	**992**	**758.39**
115800	3000	563	156.99	631	225.51	695	301.70	754	380.68	810	463.43	**862**	**546.29**	**911**	**629.52**	**958**	**715.65**	**1003**	**805.05**
123520	3200	592	181.82	655	251.78	716	330.70	774	415.21	827	499.85	**878**	**588.09**	**926**	**676.30**	**972**	**766.02**		
131240	3400	621	209.15	680	280.99	738	362.30	794	450.70	**846**	**540.39**	**895**	**631.62**	**942**	**725.17**	**986**	**816.99**		
138960	3600	651	240.20	706	313.50	762	398.55	815	488.87	**865**	**581.69**	**913**	**677.68**	**958**	**773.54**	**1002**	**872.84**		
146680	3800	681	274.19	733	349.73	786	436.84	836	528.25	**885**	**626.01**	**932**	**726.63**	**976**	**826.97**				
154400	4000	712	312.56	760	388.57	811	478.99	**859**	**573.03**	**906**	**673.52**	**951**	**776.49**	**994**	**881.00**				
162120	4200	743	354.38	788	431.80	836	523.44	**882**	**619.83**	**928**	**724.70**	**971**	**829.87**						
169840	4400	774	399.78	817	479.88	**862**	**572.31**	**907**	**673.26**	**950**	**777.64**	**992**	**886.98**						
177560	4600	805	448.93	**846**	**531.41**	**888**	**623.98**	**931**	**726.95**	**973**	**835.08**								

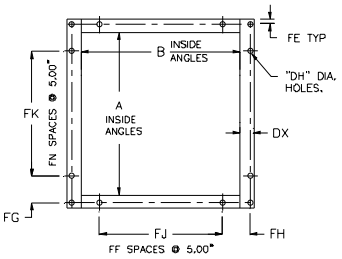
Performance shown is for fans with an outlet evasé, with an outlet duct, and with free or ducted inlet. BHP as shown is a fan shaft brake horsepower and does not include belt drive losses.

Regular type face = Design 20
Bold type face = Design 24
Underlined figures = Maximum static efficiency

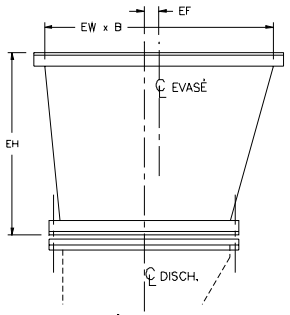


CW UBD

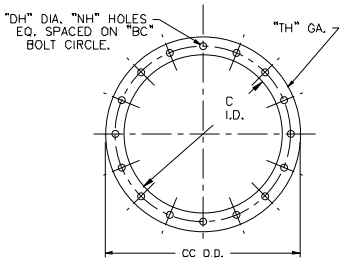




OUTLET FLANGE DETAIL



EVASÉ (OPTIONAL)



INLET FLANGE DETAIL

NOTES

1. CW ROTATION SHOWN, CCW ROTATION IS SIMILAR BUT OPPOSITE.
2. STANDARD ACCESSORIES: BOLTED ACCESS DOOR, HOUSING DRAIN, SHAFT SEAL, PUNCHED INLET & OUTLET FLANGES.
3. THESE HOLES ARE IN SIZE 270, 300 & 330 ONLY

RTF & HIB ARRANGEMENT NO.1, SWSI

DRAWN: 4/18/83

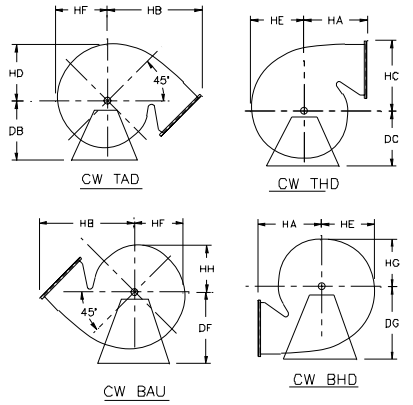
TWIN CITY FAN & BLOWER
MINNEAPOLIS, MINNESOTA 55442

REV. 7/25/96

DWG NO. BC 9987D

JOB	CONT
LOC	ENG/ARCH
S.O. NO.	TAG

SIZE	CLASS	ROT	DISCH	MOTOR HP	T.S.
CFM	SP	RPM	BHP	O.V.	

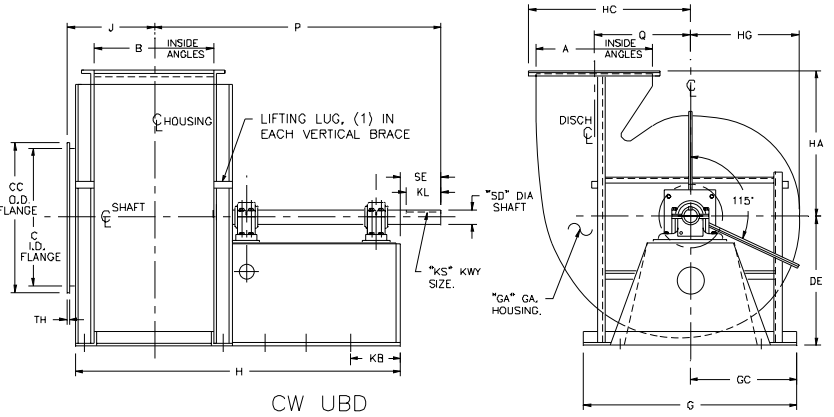


ACCESSORIES REQ'D.

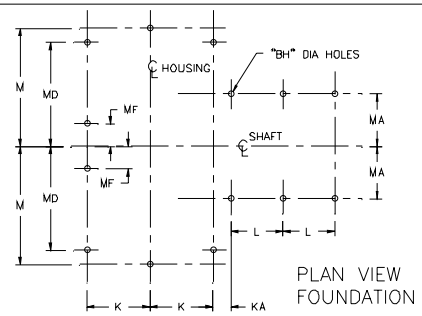
FAN SIZE	A	B	BC	BH	C	CC	DB DC	DD DE	DF DG	DH	DX	EF	EH	EW	FE	FF	FG	FH	FJ	FK	FN	G	GA	GC	H	HA	FAN SIZE
180	14.81	12.00	18.00	0.81	15.75	19.75	15.00	17.25	20.75	0.56	1.50	3.28	18.00	23.75	0.63	2	3.28	1.88	10.00	10.00	2	31.13	7	15.56	39.00	17.81	180
200	16.19	13.13	19.75	0.81	17.50	21.50	17.00	18.75	22.50	0.56	1.50	3.66	19.50	26.00	0.63	2	3.97	2.44	10.00	10.00	2	33.50	7	16.75	41.13	19.50	200
220	17.94	14.56	21.50	0.81	19.25	23.25	18.50	20.75	24.75	0.56	1.50	4.16	21.75	29.25	0.63	2	4.84	3.16	10.00	10.00	2	36.00	7	18.00	44.13	21.63	220
240	19.69	16.00	23.25	0.81	21.00	25.00	20.25	22.50	27.00	0.56	1.50	4.66	24.00	32.25	0.63	2	5.72	3.88	10.00	10.00	2	38.38	7	19.19	46.50	23.69	240
270	21.75	17.63	25.75	0.81	23.50	27.50	22.50	25.00	31.25	0.56	1.50	5.28	26.25	35.69	0.63	2	4.25	4.69	10.00	15.00	3	42.75	7	21.38	49.38	26.13	270
300	23.94	19.38	28.00	0.81	25.75	29.75	24.75	27.50	34.00	0.56	1.50	5.81	29.00	39.31	0.63	3	5.34	3.06	15.00	15.00	3	47.25	7	23.63	52.38	28.75	300
330	26.38	21.38	30.75	0.81	28.50	32.50	27.00	30.00	37.50	0.56	2.00	6.41	32.00	43.44	0.88	3	4.31	4.31	15.00	20.00	4	50.75	7	25.38	55.38	31.75	330

													KS								SD					
FAN SIZE	HB	HC	HD	HE	HF	HG	HH	J	K	KA	KB	KL	RTF-18 HIB-20	RTF-23 HIB-24	L	M	MA	MF	NH	P	Q	RTF-18 HIB-20	RTF-23 HIB-24	SE	TH		FAN SIZE
180	26.63	19.94	16.31	15.50	14.63	13.81	12.94	10.19	7.63	3.38	2.00	6.00	0.50x0.25	0.50x0.25	8.50	14.19	8.50	---	12	37.00	11.06	2.187	2.187	7.00	0.19		180
200	29.13	21.75	17.88	16.94	16.00	15.13	14.19	10.75	8.19	3.38	2.00	6.50	0.50x0.25	0.63x0.31	9.00	15.38	9.50	---	12	39.06	12.19	2.187	2.437	7.50	0.19		200
220	32.19	23.94	19.81	18.81	17.75	16.75	15.75	11.50	8.94	4.38	2.00	7.00	0.50x0.25	0.63x0.31	9.25	16.63	11.00	---	12	41.81	13.50	2.187	2.437	8.00	0.19		220
240	35.25	26.19	21.81	20.69	19.56	18.44	17.31	12.19	9.63	4.38	2.00	7.00	0.50x0.25	0.63x0.31	9.75	17.81	12.00	---	16	43.50	14.88	2.187	2.687	8.00	0.19		240
270	38.81	28.75	24.06	22.81	21.63	20.31	19.13	13.00	10.44	5.13	2.00	7.50	0.63x0.31	0.63x0.31	10.00	20.00	14.00	6.50	16	45.81	16.38	2.437	2.687	8.25	0.19		270
300	42.63	31.56	26.56	25.19	23.81	22.44	21.13	13.88	11.31	6.38	2.00	8.00	0.63x0.31	0.75x0.38	10.00	22.25	14.50	7.38	16	48.44	18.13	2.687	2.937	8.75	0.19		300
330	47.31	35.13	29.31	27.81	26.31	24.81	23.31	14.88	12.31	7.38	2.00	8.25	0.63x0.31	0.75x0.38	10.00	24.00	15.00	8.00	16	50.69	19.94	2.687	2.937	9.00	0.19		330

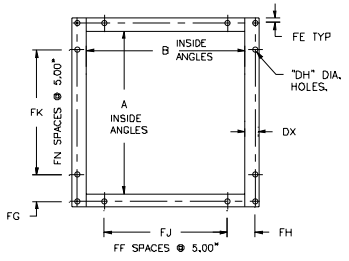
DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.



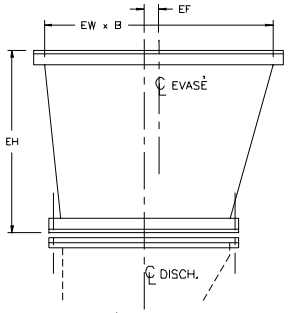
CW UBD



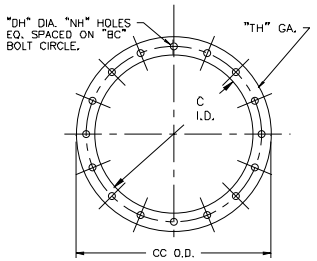
PLAN VIEW FOUNDATION



OUTLET FLANGE DETAIL



EVASÉ (OPTIONAL)



INLET FLANGE DETAIL

NOTES

1. CW ROTATION SHOWN, CCW ROTATION IS SIMILAR BUT OPPOSITE.
2. SIZE 800 WILL BE SUPPLIED WITH CHANNEL SUBBASE TO BE MOUNTED ON CONCRETE PEDESTAL IN THE FIELD.
3. STANDARD ACCESSORIES: BOLTED ACCESS DOOR, HOUSING DRAIN, PIE SPLIT HOUSING, SHAFT SEAL, PUNCHED INLET & OUTLET FLANGES.

RTF & HIB ARRANGEMENT NO.1, SWSI — DRAWN: 4/18/83

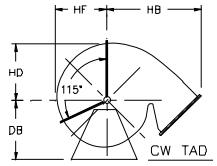
TWIN CITY FAN & BLOWER
MINNEAPOLIS, MINNESOTA 55442

REV. 7/25/96

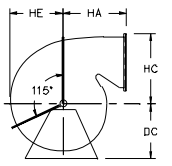
DWG NO. BC 9986D

JOB	CONT
LOC	ENG/ARCH
S.O. NO.	TAG

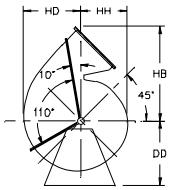
SIZE	CLASS	ROT	DISCH	MOTOR HP	TS
CFM	SP	RPM	BHP		OV



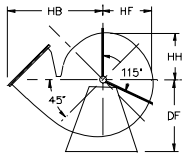
CW TAD



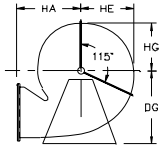
CW THD



CW TAU



CW BAU



CW BHD

ACCESSORIES REQ'D.

FAN SIZE	A	B	BC	BH	C	CC	DB DC	DD DE	DF DG	DH	DX	EF	EH	EW	FE	FF	FG	FH	FJ	FK	FN	G	GA RTF-18 HIB-20	GA RTF-23 HIB-24	GC	H		FAN SIZE
360	29.19	23.63	33.75	1.06	31.63	35.63	29.00	33.00	41.50	0.56	2.00	6.97	35.75	48.25	0.88	4	3.22	2.94	20.00	25.00	5	57.00	7	0.25	28.50	60.63		360
400	32.19	26.00	37.00	1.06	34.88	38.88	32.00	36.25	46.00	0.56	2.50	7.72	40.00	53.25	1.13	4	4.97	4.38	20.00	25.00	5	61.00	7	0.25	30.50	63.00		400
450	35.50	28.75	40.63	1.06	38.50	42.50	35.00	40.00	50.50	0.56	2.50	8.56	43.75	58.88	1.13	5	4.13	3.25	25.00	30.00	6	65.00	7	0.25	32.50	68.75		450
490	39.13	31.63	46.00	1.06	42.50	48.50	39.00	44.00	55.00	0.69	2.50	9.44	47.75	64.75	1.13	5	5.44	4.69	25.00	35.00	7	70.00	7	0.25	35.00	75.13		490
540	43.25	35.13	50.50	1.06	47.00	53.00	42.75	48.25	59.25	0.69	2.50	10.44	52.38	71.63	1.13	6	3.00	3.94	30.00	40.00	8	76.00	7	0.25	38.00	79.63		540
600	47.88	38.75	55.50	1.06	52.00	58.00	47.00	53.00	66.00	0.69	3.00	11.56	58.38	79.25	1.38	7	5.56	3.50	35.00	40.00	8	80.00	0.25	0.25	40.00	84.75		600
660	52.75	42.63	60.75	1.06	57.25	63.25	51.50	57.00	72.00	0.69	3.00	12.75	63.63	87.25	1.38	7	5.50	5.44	35.00	45.00	9	85.00	0.25	0.25	42.50	89.63		660
730	58.19	47.00	67.75	1.06	63.25	71.25	57.00	63.50	79.00	0.69	3.50	14.03	70.63	96.38	1.63	8	5.97	5.38	40.00	50.00	10	92.00	0.25	0.25	46.00	97.00		730
800	64.38	52.00	74.50	1.06	70.00	78.00	63.00	70.00	87.00	0.69	3.50	15.63	77.50	106.63	1.63	9	6.56	5.38	45.00	55.00	10	97.00	0.25	0.25	48.50	106.00		800

FAN SIZE	HA	HB	HC	HD	HE	HF	HG	HH	J	K	KA	KB	KL	KS RTF-23 HIB-24	KS RTF-18 HIB-20	L	M	MA	MD	MF	NH	P	Q	SD RTF-18 HIB-20	SD RTF-23 HIB-24	SE	TH	FAN SIZE
360	35.13	52.25	38.75	32.44	30.75	29.06	27.38	25.69	17.00	13.81	7.00	4.00	8.25	0.88x0.44	0.75x0.88	10.00	26.50	16.00	23.00	6.50	24	53.81	22.19	2.937	3.437	9.00	0.19	360
400	38.75	57.81	43.00	35.75	33.94	32.06	30.25	28.38	18.19	15.00	6.00	3.00	9.00	1.00x0.50	0.88x0.44	11.00	28.50	18.00	25.00	7.50	32	56.00	24.44	3.437	3.937	10.00	0.19	400
450	42.75	63.63	47.25	39.50	37.50	35.44	33.44	31.38	19.56	16.38	6.88	3.88	9.00	1.00x0.50	0.88x0.44	11.63	30.50	20.00	25.00	8.50	32	60.38	27.00	3.437	3.937	10.00	0.19	450
490	47.00	69.88	51.81	43.50	41.25	39.00	36.75	34.50	21.06	17.81	6.75	4.75	10.00	1.00x0.50	1.00x0.50	13.00	33.00	22.00	27.50	9.50	40	66.31	29.75	3.937	4.437	11.00	0.25	490
540	52.00	77.13	57.06	48.19	45.69	43.19	40.69	38.19	23.81	19.56	5.88	5.63	10.00	1.00x0.50	1.00x0.50	13.00	35.00	24.00	29.50	10.50	40	68.06	32.94	3.937	4.437	11.00	0.25	540
600	57.50	86.50	63.38	53.25	50.50	47.75	45.00	42.25	25.63	21.38	6.13	5.38	10.75	1.25x0.63	1.00x0.50	13.75	37.00	26.00	31.50	11.50	40	72.13	36.44	4.437	4.937	11.75	0.25	600
660	63.25	93.81	69.44	58.63	55.63	52.56	49.56	46.50	27.56	23.31	6.88	5.13	11.00	1.25x0.63	1.00x0.50	14.00	39.50	28.00	34.00	12.50	40	75.31	40.06	4.437	4.937	12.00	0.25	660
730	69.75	103.69	76.88	64.38	61.38	58.06	54.69	51.38	30.81	25.50	6.50	5.50	11.00	1.25x0.63	1.00x0.50	15.00	42.00	30.00	36.50	13.50	48	79.50	44.31	4.437	4.937	12.00	0.31	730
800	77.13	114.44	84.69	71.56	67.88	64.19	60.50	56.81	33.31	28.00	8.00	6.00	11.75	1.25x0.63	1.25x0.63	16.00	44.50	32.00	39.00	14.50	48	86.75	49.00	4.937	5.437	12.75	0.31	800

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

Typical Specifications

Furnish and install as indicated on the plans, Twin City Fan and Blower model HIB industrial duty backwardly curved fans.

HOUSING — Fan housings shall be made of a heavy-gauge steel with continuously welded construction and braced with structural shapes to eliminate any resonant vibration and provide smooth operation. Sizes 360 and larger shall be equipped with a pie-shaped split in the casing to permit the wheel and shaft to be removed without disturbing the inlet and outlet ductwork. Casing split must be fully gasketed and bolted together to prevent any leaks. Flanged inlet and outlet, access door, shaft seal, and drain shall be provided as standard equipment.

WHEEL — Blade design shall be backwardly curved for high efficiency and have non-overloading performance characteristics. Blades shall be die-formed of special alloy material for strength and accuracy of contour and continuously welded to the wheel inlet cone and backplate. A heavy steel (not cast iron) hub shall be provided. Wheels shall be shrunk fit on the shafts, and hubs shall include puller holes for use in the event of wheel removal. Wheels shall be statically and dynamically balanced on precision electronic machines, as well as balance tuned after complete assembly.

SHAFT — Shafts are to be solid material selected for AISI 1040 or 1045 hot rolled steel, accurately turned, ground, polished and ring gauged for accuracy.

BEARINGS — Fans must be supplied with heavy-duty, self-aligning grease or oil lubricated anti-friction spherical roller bearings with split pillow block housings (bearing races not split) to provide long bearing life.

DRIVE — Cast iron, fixed pitch sheaves are recommended for best reliability. Variable pitch sheaves can be provided on applications up through 20 HP when specified. Drives and belts are located external to the fan casing and rated for 150% of the required motor HP.

FINISH & COATING — The entire assembly, excluding the shaft, is thoroughly degreased and deburred before application of a protective coating to the entire assembly. The fan shaft is coated with a petroleum-based rust protectant.

ACCESSORIES — When specified, accessories such as belt guards, access doors, companion flanges, variable inlet vanes, outlet dampers, inlet boxes, inlet box dampers, evasés, evasé dampers, shaft coolers, shaft seals, inlet screens, drains, scroll and side liners, etc., shall be provided by Twin City Fan & Blower to maintain one source responsibility.

FACTORY TEST RUN — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each wheel shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 “Balance Quality and Vibration Levels for Fans” to Fan Application Category BV-3, Balance Quality Grade G6.3. Vibration measurements shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

GUARANTEE — Manufacturer shall guarantee the workmanship and materials for its High Efficiency Industrial Backward Curved Fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.

INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

CENTRIFUGAL FANS | UTILITY SETS | PLENUM & PLUG FANS | INLINE CENTRIFUGAL FANS

MIXED FLOW FANS | TUBEAXIAL & VANEAXIAL FANS | PROPELLER WALL FANS | PROPELLER ROOF VENTILATORS

CENTRIFUGAL ROOF & WALL EXHAUSTERS | CEILING VENTILATORS | GRAVITY VENTILATORS | DUCT BLOWERS

RADIAL BLADED FANS | RADIAL TIP FANS | HIGH EFFICIENCY INDUSTRIAL FANS | PRESSURE BLOWERS

LABORATORY EXHAUST FANS | FILTERED SUPPLY FANS | MANCOOLERS | FIBERGLASS FANS | CUSTOM FANS

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