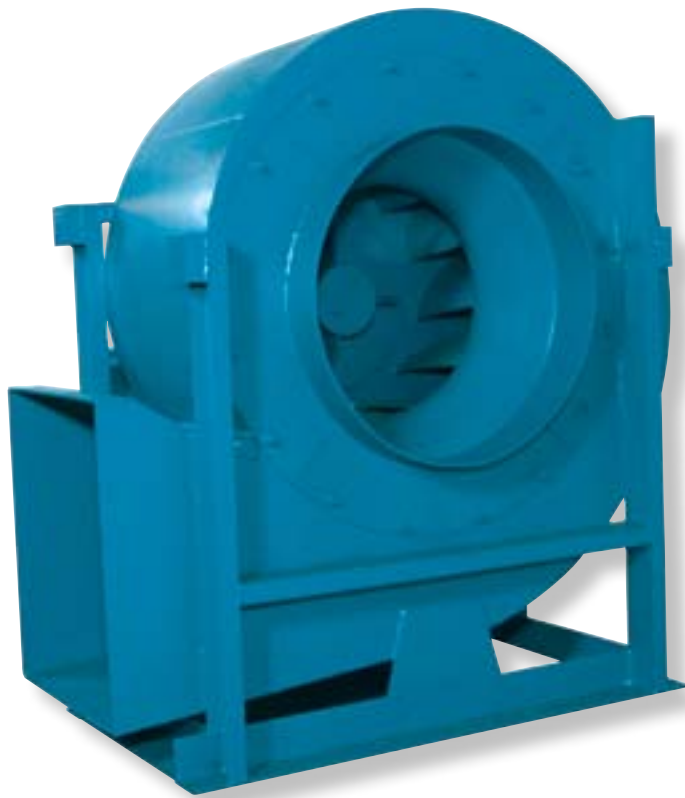


Fans & Blowers

Twin City

Air Moving Solutions.



RADIAL TIP FANS

Model RTF

RadialTipFans

Model RTF



Model RTF
Arr. 1

Model RTF radial tip fans are of a heavy duty, rugged design, suitable for applications involving large volumes of gas streams at moderate to high pressure. Designed to handle clean or dirty airstreams, they are widely used to exhaust gases from bag-type collectors, precipitators, scrubbers, cyclones, and other industrial applications. This type of fan is also used for induced draft on boilers, incinerators, and kiln exhaust. Steel, air pollution, dryer, petrochemical, cement, furnaces and ovens, solvent recovery, sewage sludge and solid waste incineration industries have found the Model RTF radial tip design particularly suitable for their applications.

Capabilities

- Heavy-duty construction with choice of speed range:

Class 18 — Suitable to 18,000 FPM tip speed
Pressures to 24" w.g.

Class 23 — Suitable to 23,000 FPM tip speed
Pressures to 36" w.g.

Class 23 wheels are equipped with wear pads on the blades. Consult factory for higher tip speed designs.

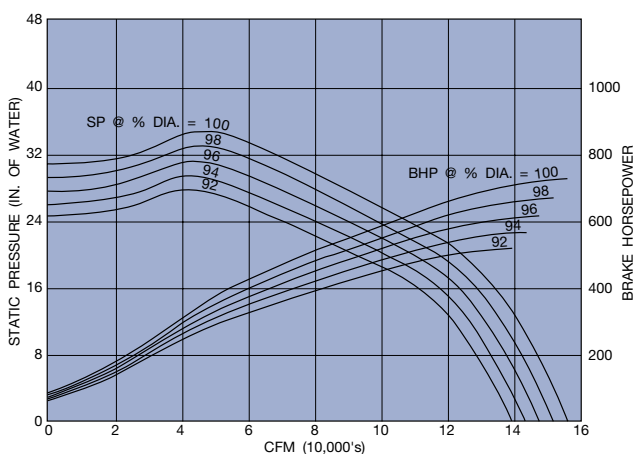
- Volume to 223,800 CFM.
- Standard fan suitable to 300°F.

Features

- High efficiency, lower first and operating costs.
- AMCA licensed air performance on sizes 270 through 800, pages 8 to 12.
- Self-cleaning wheel design.
- Statically and dynamically balanced rotor assembly.
- Heavy duty, self-aligning, grease lubricated, anti-friction, pillow block bearings.
- Heavy-gauge reinforced housing and bearings pedestal for vibration-free service.

Typical Performance Curve with Various Diameter Fan Wheels

Size: 600 RPM: 1175 Density: 0.075 lb/ft³



Twin City Fan & Blower certifies that the RTF Radial Tip Fans Sizes 270 through 800 shown on pages 8 to 12 are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Fans & Blowers
Twin City

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Accessories

Inlet Boxes

Integral or detached type, generously designed to minimize pressure drop. Specify inlet box position to AMCA Standard 2405-66 shown on page 4. Detached inlet boxes include support legs and flanges on both inlet and outlet. Free-standing designs are also available to allow a flex connector between box and fan. Standard detached inlet box will not support stack weight. All inlet box designs include drain and access door.

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.

Outlet Dampers

Double surface airfoil blades are available in either parallel or opposed blade design.

Abrasion and Corrosion Resistant Alloys and Coatings

Optional construction includes an abrasion resistant steel blade, backplate, scroll and side or cheek liners. Construction materials include Corten, stainless steel, Monel, aluminum, Hastelloy, and other alloys. Construction from heavier than standard gauges is available. Special corrosion resistant coatings of various types are available.

Temperature and Vibration Detectors

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

Evasé

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

High Temperature Construction

301 to 500°F: Requires addition of shaft cooler and high temperature grease bearings.

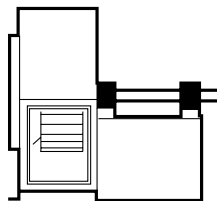
501 to 600°F: Above modifications plus high temperature aluminum paint.

601 to 800°F: Above modifications plus modified pedestal design.

Arrangements

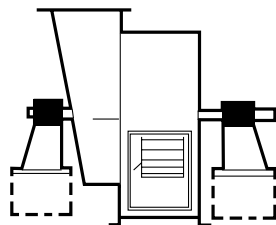
Arrangement 1

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



Arrangement 3SI

SWSI fan with integral inlet box and independent bearing pedestals. The wheel is supported between two bearings.

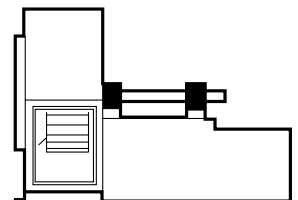


Arrangement 7SI

Direct coupled with a flexible coupling. A single-width, single-inlet fan with an integral inlet box and independent bearing pedestal and bearing/motor pedestal installed on a common base. The wheel is supported between two bearings.

Arrangement 8

Direct coupled with a flexible coupling. The motor pedestal can be custom fabricated out of steel for up to 300 HP. On larger HP units, use of standard Arr. 1 fan with a concrete pedestal for the motor is advisable.

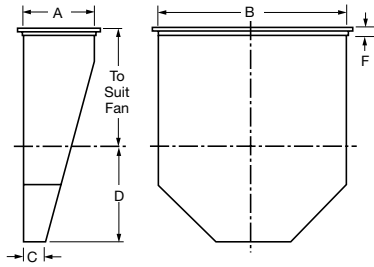


Arrangement 9F

Floor mount. Similar to Arrangement #1 with the fan base extended to mount motor in a horizontal position.

InletBoxes

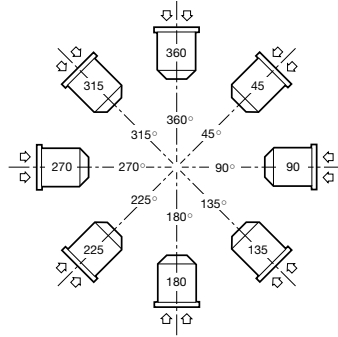
Typical Inlet Box Dimensions



SIZE	A	B	C	D	INLET AREA (FT ²)	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	76.88	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	36.00	3.5 x 3.5

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

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

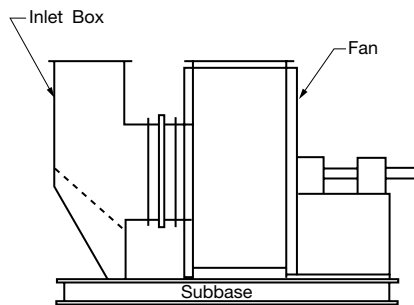
Reference line is the Top Vertical Axis through center of fan shaft.

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

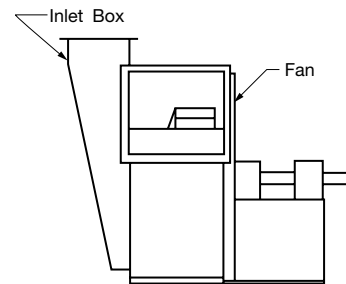
Position of inlet box is designated in degrees clockwise from Top Vertical Axis as shown.

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

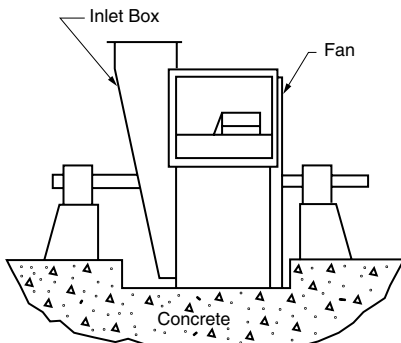
Arrangement 1 fan with detached inlet box. Can be supplied in Arrangement 8.



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



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



Arrangement 7SI — Similar to Arrangement 3SI except bearings pedestals and motor installed on a steel common base.

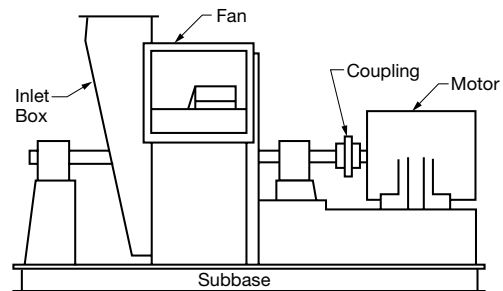


Table 1. Material and Mechanical Specifications

FAN SIZE	DESIGN RTF	SHAFT DIA.	MAX. HP V-BELT DRIVE	MIN. SHEAVE DIA. ¹	MAX. HP DIRECT DRIVE	MAX. RPM ²	WHEEL WT. (LB)	WHEEL			WR ² (LB-FT ²)	HOUSING	ARR. 1 FAN WT. (LB)
								BACK PLATE	BLADES	SHROUD			
180	18	2.188	30	5.7	40	3342	59	0.25	10 GA.	10 GA.	21	7 GA.	745
	23	2.188	60	5.4	75	3971	70	0.31	10 GA.	10 GA.	22	7 GA.	760
200	18	2.188	40	6.6	75	3026	71	0.25	10 GA.	10 GA.	31	7 GA.	825
	23	2.438	75	5.9	100	3800	84	0.31	10 GA.	10 GA.	36	7 GA.	850
220	18	2.188	50	7.5	60	2723	87	0.25	10 GA.	10 GA.	46	7 GA.	875
	23	2.438	100	6.6	125	3484	103	0.31	10 GA.	10 GA.	55	7 GA.	930
240	18	2.188	60	8.4	75	2476	105	0.25	10 GA.	10 GA.	68	7 GA.	920
	23	2.688	125	7.2	150	3167	125	0.31	10 GA.	10 GA.	81	7 GA.	1000
270	18	2.438	75	9.5	100	2264	128	0.31	10 GA.	10 GA.	90	7 GA.	1100
	23	2.688	150	7.9	150	2892	153	0.31	10 GA.	10 GA.	112	7 GA.	1160
300	18	2.688	100	11.1	150	2052	149	0.31	10 GA.	10 GA.	131	7 GA.	1300
	23	2.938	200	8.7	200	2622	178	0.31	10 GA.	10 GA.	164	7 GA.	1350
330	18	2.688	100	11.4	150	1858	196	0.31	10 GA.	10 GA.	196	7 GA.	1530
	23	2.938	200	9.7	250	2374	231	0.31	10 GA.	10 GA.	243	7 GA.	1580
360	18	2.938	150	12.6	150	1676	248	0.31	10 GA.	10 GA.	326	7 GA.	1950
	23	3.438	250	11.4	300	2143	270	0.31	10 GA.	10 GA.	364	0.25	2330
400	18	3.438	200	12.1	200	1519	352	0.31	10 GA.	7 GA.	532	7 GA.	2450
	23	3.938	250	13.5	400	1942	405	0.38	10 GA.	7 GA.	639	0.25	2870
450	18	3.438	200	14.7	250	1375	408	0.31	10 GA.	7 GA.	781	7 GA.	2980
	23	3.938	250	11.5	500	1757	510	0.38	10 GA.	7 GA.	1042	0.25	3540
490	18	3.938	250	14.2	300	1247	537	0.38	7 GA.	7 GA.	1343	7 GA.	3790
	23	4.438	400	14.1	600	1573	667	0.50	7 GA.	7 GA.	1741	0.25	4370
540	18	3.938	250	17.2	400	1127	756	0.38	7 GA.	0.25	2140	7 GA.	4660
	23	4.438	400	17.4	700	1440	890	0.50	7 GA.	0.25	2694	0.25	5480
600	18	4.438	300	17.7	400	1019	1041	0.50	0.25	0.25	3942	0.25	6360
	23	4.938	400	15.6	800	1302	1108	0.50	0.25	0.25	4276	0.25	6520
660	18	4.438	300	21.0	500	926	1222	0.50	0.25	0.25	5717	0.25	7280
	23	4.938	400	18.6	1000	1183	1522	0.63	0.25	0.25	7333	0.25	7710
730	18	4.438	300	24.6	600	838	1484	0.50	0.25	0.25	8483	0.25	8840
	23	4.938	400	21.6	1200	1071	1847	0.63	0.25	0.25	11020	0.25	9350
800 ³	18	4.938	400	25.7	700	758	1769	0.50	0.25	0.25	12645	0.25	8660
	23	5.438	400	19.6	1400	968	2216	0.63	0.25	0.25	16426	0.25	9370

¹ Minimum fan diameter when using maximum HP motor. Check with the factory on applications over 300 HP.

² Maximum RPM shown are for 70°F. For higher temperatures use Table 2 on page 6 to derate RPM.

³ Size 800 RTF is not supplied with conventional bearings pedestal. Instead we supply channel subbases. The subbase is to be mounted on concrete pedestal with steel sole plate in the field. Fan weights include weight of channel subbase.

Dimensions are in inches unless otherwise noted.



Derating Factors For High Temperature

When elevated temperatures are encountered, the maximum RPM allowable as shown in Table 1 on page 5 must be derated according to the derating factors from Table 2. Standard steel construction is suitable for use in gas temperatures to 800°F. Aluminum wheels are suitable for temperatures to 250°F only.

Table 2. Temperature Derating Factors

TEMP. (°F)	DERATING FACTOR	
	STANDARD STEEL	STAINLESS STEEL
70	1.000	1.000
200	0.990	0.950
300	0.975	0.916
400	0.955	0.877
500	0.930	0.841
600	0.904	0.809
700	0.880	0.777
800	0.837	0.754

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 conditions can be calculated by using the “Temperature and Altitude Density Ratios” table below.

Table 3. Temperature and Altitude Density Ratios

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



RTF 800

Fan Efficiency Grade = FEG80

Wheel Dia.: 90.75" Inlet Area: 26.35 ft² Outlet Area: 22.84 ft² Outlet Evasé: 38.60 ft² Tip Speed: 23.76 x RPM

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
54040	1400	327	47.22	<u>435</u>	<u>92.28</u>	521	140.43												
69480	1800	347	63.47	453	119.90	<u>535</u>	<u>177.05</u>	606	236.98	670	298.98								
84920	2200	370	84.32	473	150.53	553	218.38	<u>622</u>	<u>288.12</u>	<u>683</u>	<u>358.23</u>	<u>739</u>	<u>431.03</u>	<u>792</u>	<u>506.69</u>				
100360	2600	395	109.59	493	184.29	573	263.86	641	345.00	<u>700</u>	<u>424.47</u>	<u>755</u>	<u>507.05</u>	<u>806</u>	<u>590.83</u>	<u>853</u>	<u>674.93</u>	<u>898</u>	<u>761.44</u>
115800	3000	429	144.60	515	224.24	593	312.54	660	404.03	719	495.99	773	589.13	<u>822</u>	<u>680.89</u>	<u>868</u>	<u>773.50</u>	<u>912</u>	<u>868.44</u>
131240	3400	467	189.49	538	270.22	614	367.96	680	468.26	739	572.13	792	675.91	841	779.85	<u>886</u>	<u>882.25</u>	<u>929</u>	<u>986.95</u>
146680	3800	507	244.94	567	327.73	637	431.78	701	540.64	<u>759</u>	<u>652.59</u>	812	767.89	860	881.96	905	996.60	947	1110.15
162120	4200	550	314.92	601	397.93	660	501.84	723	620.74	780	742.56	832	865.26	880	990.19	924	1113.97	966	1240.27
169840	4400	571	353.34	619	437.73	674	543.46	735	665.72	790	788.39	842	916.76	890	1046.60	934	1175.71		
177560	4600	593	396.69	638	481.95	689	587.93	746	710.30	802	841.65	853	973.40	900	1105.03	944	1239.00		
185280	4800	615	443.38	658	531.17	705	635.97	758	758.97	813	893.24	863	1028.27	910	1165.54	954	1304.33		
193000	5000	638	495.86	678	583.42	722	688.43	771	811.18	824	947.27	874	1088.14	921	1231.80	964	1371.90		
200720	5200	660	549.77	698	638.82	740	745.94	785	866.87	835	1003.42	885	1149.44	931	1295.84				
208440	5400	683	610.07	719	700.40	758	805.96	801	929.86	847	1064.25	897	1217.02	942	1365.59				
216160	5600	705	671.72	740	765.66	<u>777</u>	<u>872.02</u>	817	994.42	860	1129.33	908	1283.49	953	1436.91				
223880	5800	728	740.39	761	834.71	796	941.23	834	1064.62	875	1202.82	919	1351.60	965	1515.12				

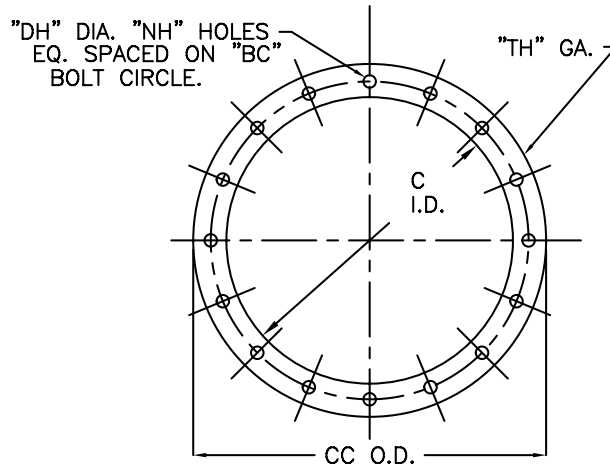
Unshaded Area = Class 18 (Max. RPM 758) **Shaded Area** = Class 23 (Max. RPM 968) Underlined numbers = maximum static efficiency.

Performance certified is for installation Type B & D: Free or ducted inlet, ducted outlet.
 Power rating (bhp) does not include transmission losses.
 Performance ratings include the effects of an outlet evasé in the airstream.

Drawings

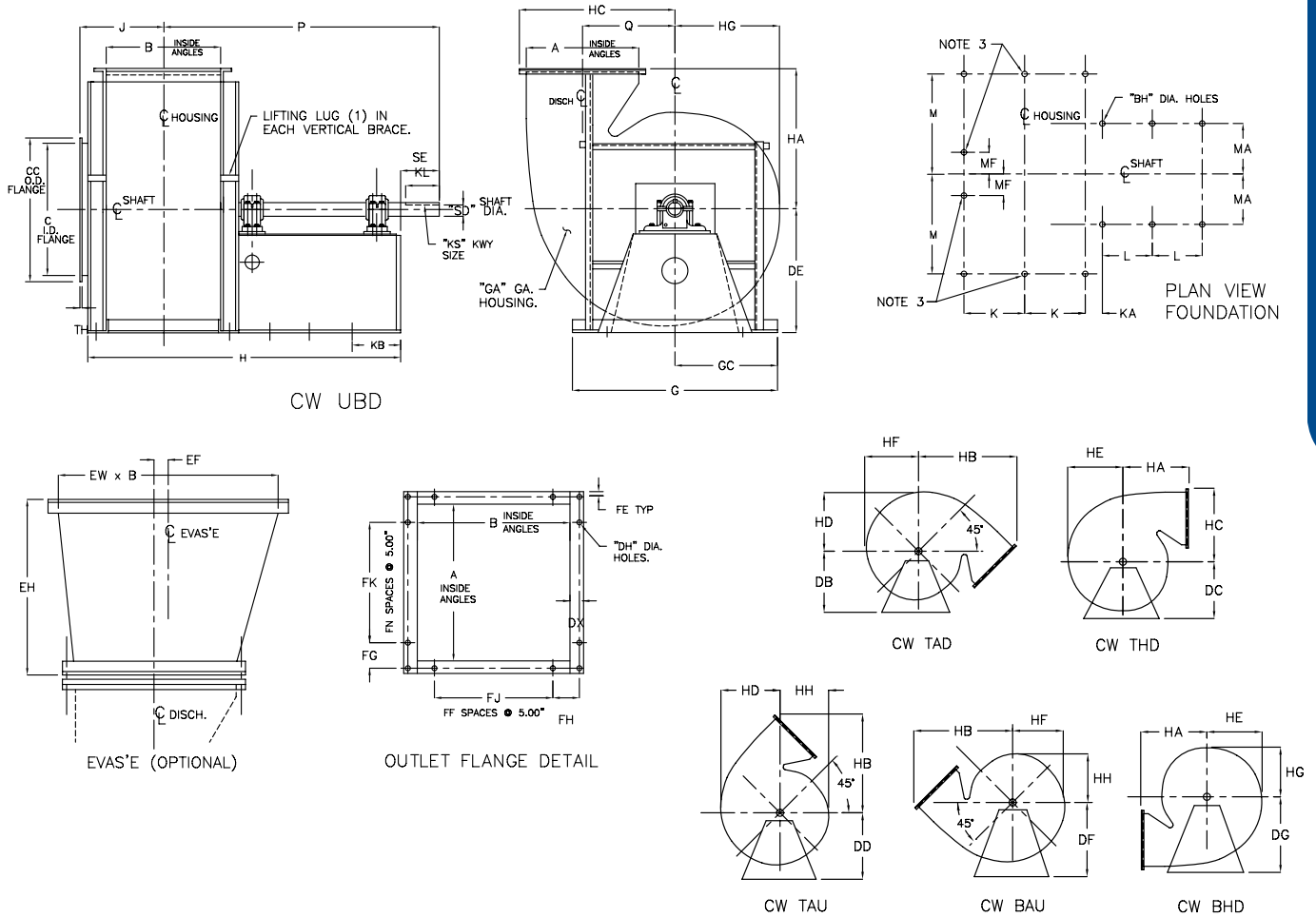
Inlet Flange

FAN SIZE	BC	C	CC	DH	NH	TH
180	18.00	15.75	19.75	0.56	12	0.19
200	19.75	17.50	21.50	0.56	12	0.19
220	21.50	19.25	23.25	0.56	12	0.19
240	23.25	21.00	25.00	0.56	16	0.19
270	25.75	23.50	27.50	0.56	16	0.19
300	28.00	25.75	29.75	0.56	16	0.19
330	30.75	28.50	32.50	0.56	16	0.19
360	33.75	31.63	35.63	0.56	24	0.19
400	37.00	34.88	38.88	0.56	32	0.19
450	40.63	38.50	42.50	0.56	32	0.19
490	46.00	42.50	48.50	0.69	40	0.25
540	50.50	47.00	53.00	0.69	40	0.25
600	55.50	52.00	58.00	0.69	40	0.25
660	60.75	57.25	63.25	0.69	40	0.25
730	67.75	63.25	71.25	0.69	48	0.31
800	74.50	70.00	78.00	0.69	48	0.31



INLET FLANGE
DETAIL

Arrangement 1, SWSI



FAN SIZE	A	B	BH	DB DC	DD DE	DF DG	DX	EF	EH	EW	FE	FF	FG	FH	FJ	FK	FN	G	GA	GC	H	HA	HB
180	14.81	12.00	0.81	15.00	17.25	20.75	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	26.63
200	16.19	13.13	0.81	17.00	18.75	22.50	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	29.13
220	17.94	14.56	0.81	18.50	20.75	24.75	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	32.19
240	19.69	16.00	0.81	20.25	22.50	27.00	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	35.25
270	21.75	17.63	0.81	22.50	25.00	31.25	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	38.81
300	23.94	19.38	0.81	24.75	27.50	34.00	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	42.63
330	26.38	21.38	0.81	27.00	30.00	37.50	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	47.31

FAN SIZE	HC	HD	HE	HF	HG	HH	J	K	KA	KB	KL	KS		L	M	MA	MF	P	Q	SD		SE
												CL 18	CL 24							CL 18	CL 24	
180	19.94	16.31	15.50	14.63	13.81	12.94	10.19	7.63	3.38	2.00	6.00	0.50 x 0.25	0.50 x 0.25	8.50	14.19	8.50	—	37.00	11.06	2.19	2.19	7.00
200	21.75	17.88	16.94	16.00	15.13	14.19	10.75	8.19	3.38	2.00	6.50	0.50 x 0.25	0.63 x 0.31	9.00	15.38	9.50	—	39.06	12.19	2.19	2.44	7.50
220	23.94	19.81	18.81	17.75	16.75	15.75	11.50	8.94	4.38	2.00	7.00	0.50 x 0.25	0.63 x 0.31	9.25	16.63	11.00	—	41.81	13.50	2.19	2.44	8.00
240	26.19	21.81	20.69	19.56	18.44	17.31	12.19	9.63	4.38	2.00	7.00	0.50 x 0.25	0.63 x 0.31	9.75	17.81	12.00	—	43.50	14.88	2.19	2.69	8.00
270	28.75	24.06	22.81	21.63	20.31	19.13	13.00	10.44	5.13	2.00	7.50	0.63 x 0.31	0.63 x 0.31	10.00	20.00	14.00	6.50	45.81	16.38	2.44	2.69	8.25
300	31.56	26.56	25.19	23.81	22.44	21.13	13.88	11.31	6.38	2.00	8.00	0.63 x 0.31	0.75 x 0.38	10.00	22.25	14.50	7.38	48.44	18.13	2.69	2.94	8.75
330	35.13	29.31	27.81	26.31	24.81	23.31	14.88	12.31	7.38	2.00	8.25	0.63 x 0.31	0.75 x 0.38	10.00	24.00	15.00	8.00	50.69	19.94	2.69	2.94	9.00

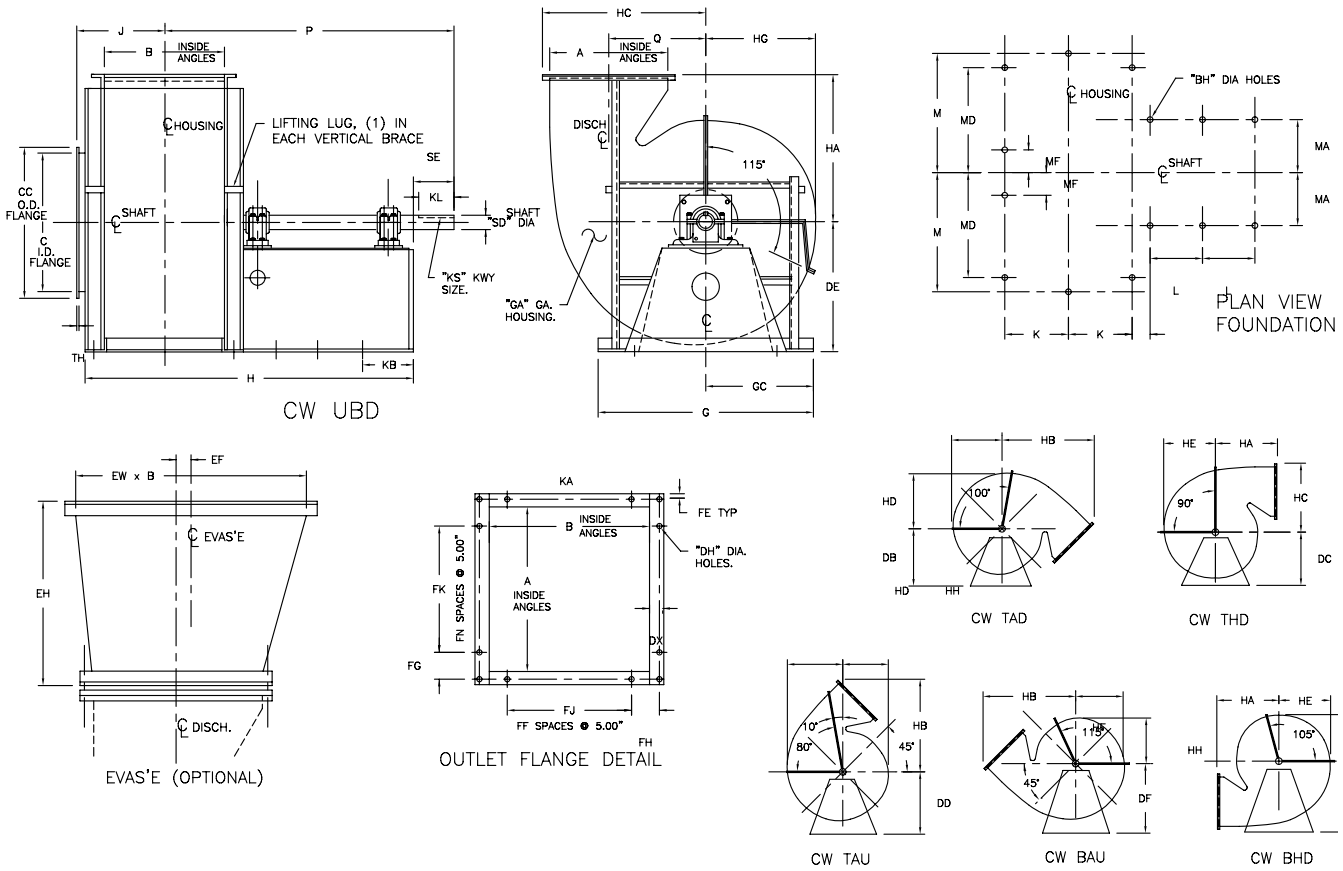
NOTES:

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.

BC9987D

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

Arrangement 1, SWSI



FAN SIZE	A	B	BH	DB DC	DD DE	DF DG	DX	EF	EH	EW	FE	FF	FG	FH	FJ	FK	FN	G	SD		GC	H	HA	HB
																			CL 18	CL 24				
360	29.19	23.63	1.06	29.00	33.00	41.50	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	35.13	52.25
400	32.19	26.00	1.06	32.00	36.25	46.00	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	38.75	57.81
450	35.50	28.75	1.06	35.00	40.00	50.50	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	42.75	63.63
490	39.13	31.63	1.06	39.00	44.00	55.00	2.50	9.44	47.75	64.75	1.13	5	3.44	4.69	25.00	35.00	7	70.00	7	0.25	35.00	75.13	47.00	69.88
540	43.25	35.13	1.06	42.75	48.25	59.25	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	52.00	77.13
600	47.88	38.75	1.06	47.00	53.00	66.00	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	57.50	85.50
660	52.75	42.63	1.06	51.50	57.00	72.00	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	63.25	93.81
730	58.19	47.00	1.06	57.00	63.50	79.00	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	69.75	103.69
800	64.38	52.00	1.06	63.00	70.00	87.00	3.50	15.63	77.50	106.63	1.63	9	6.56	5.38	45.00	55.00	11	100.00	0.25	0.25	48.50	106.00	77.13	114.44

FAN SIZE	HC	HD	HE	HF	HG	HH	J	K	KA	KB	KL	KS		L	M	MA	MD	MF	P	Q	SD		SE
												CL 18	CL 24								CL 18	CL 24	
360	38.75	32.44	30.75	29.06	27.38	25.69	17.00	13.81	7.00	4.00	8.25	0.75 x 0.38	0.88 x 0.44	10.00	26.50	16.00	23.00	6.50	53.81	22.19	2.94	3.44	9.00
400	43.00	35.75	33.94	32.06	30.25	28.38	18.19	15.00	6.00	3.00	9.00	0.88 x 0.44	1.00 x 0.50	11.00	28.50	18.00	25.00	7.50	56.00	24.44	3.44	3.94	10.00
450	47.25	39.50	37.50	35.44	33.44	31.38	19.56	16.38	6.88	3.88	9.00	0.88 x 0.44	1.00 x 0.50	11.63	30.50	20.00	25.00	8.50	60.38	27.00	3.44	3.94	10.00
490	51.81	43.50	41.25	39.00	36.75	34.50	21.06	17.81	6.75	4.75	10.00	1.00 x 0.50	1.00 x 0.50	13.00	33.00	22.00	27.50	9.50	66.31	29.75	3.94	4.44	11.00
540	57.06	48.19	45.69	43.19	40.69	38.19	23.81	19.56	5.88	5.63	10.00	1.00 x 0.50	1.00 x 0.50	13.00	35.00	24.00	29.50	10.50	68.06	32.94	3.94	4.44	11.00
600	63.38	53.25	50.50	47.75	45.00	42.25	25.63	21.38	6.13	5.38	10.75	1.00 x 0.50	1.25 x 0.63	13.75	37.00	26.00	31.50	11.50	72.13	36.44	4.44	4.94	11.75
660	69.44	58.63	55.63	52.56	49.56	46.50	27.56	23.31	6.88	5.13	11.00	1.00 x 0.50	1.25 x 0.63	14.00	39.50	28.00	34.00	12.50	75.31	40.06	4.44	4.94	12.00
730	76.88	64.38	61.38	58.06	54.69	51.38	30.81	25.50	6.50	5.50	11.00	1.00 x 0.50	1.25 x 0.63	15.00	42.00	30.00	36.50	13.50	79.50	44.31	4.44	4.94	12.00
800	84.69	71.56	67.88	64.19	60.50	56.81	33.31	28.00	8.00	6.00	11.75	1.25 x 0.63	1.25 x 0.63	16.00	44.50	32.00	39.00	14.50	86.75	49.00	4.94	5.44	12.75

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.

BC9986G

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

Model RTF

Fans shall be Model RTF Radial Tip Fans as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota.

PERFORMANCE — Performance ratings shall conform to AMCA Standard 205 (fan efficiency grade) and 211 (air performance). Fans shall be tested in accordance with ANSI/AMCA Standard 210 (air performance) and 300 (sound performance) in an AMCA accredited laboratory. Fans shall be licensed to bear the AMCA certified ratings seal for air and fan efficiency grade (FEG).

HOUSING — Housings shall be made of heavy-gauge steel with continuously welded construction and braced with structural shapes to eliminate any resonant vibration and to provide smooth operation. Size 360 and larger housings shall have a pie-shaped split for easy wheel and shaft removal without disturbing inlet and outlet ductwork. The housing split must be fully gasketed and bolted together to prevent any leaks. Flanged inlet and outlet, inspection door, shaft seal and drain shall be provided as standard equipment. Bearing support members shall be fabricated of heavy steel shapes or made of concrete to insure maximum rigidity.

WHEEL — Blade design shall be curved forward at the entering edge to meet air at the correct angle of entry for high efficiency and radial at the tip of the leaving edge to provide a self-cleaning characteristic. Blades shall be formed from high strength low alloy material for strength and accuracy of contour and continuously welded to the inlet shroud and backplate. A heavy fabricated steel hub shall be provided. Wheels shall be shrunk fit on the shafts and hubs must include puller holes for use in event of wheel removal. All wheels shall be statically and dynamically balanced on precision electronic machines, as well as trim balanced during the factory test run.

SHAFT — Shafts shall be AISI 1040 or 1045 hot rolled steel, accurately turned, ground, polished, and ring gauged for accuracy. Shafts shall be sized for the first critical speed of at least 1.43 times the maximum speed.

BEARINGS — Fans shall be supplied with heavy duty, self-aligning, grease lubricated, anti-friction, pillow block type bearings selected for a minimum average bearing life (AFBMA L-50) in excess of 200,000 hours at the maximum fan RPM. Bearings may be ball or roller with non-split pillow block or spherical roller bearings with split pillow block housing (bearing races not split). Where required, sleeve bearings may be used with appropriate cooling method for high carrying loads.

DRIVE — Motor sheaves shall be cast iron, variable pitch on applications 20 HP and smaller, and fixed pitch on 25 HP and larger. Drives and belts shall be located external to the fan casing and rated for 150% of the required motor HP.

FINISH AND COATING — The entire fan assembly, excluding the shaft, shall be thoroughly degreased and deburred before application of a rust-preventative primer. After the fan is completely assembled, a finish coat of paint shall be applied to the entire assembly. The fan shaft shall be coated with a petroleum-based rust protectant. Aluminum components shall be unpainted.

ACCESSORIES — When specified, accessories shall be provided by Twin City Fan & Blower to maintain one source responsibility.

FACTORY RUN TEST — 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. Balance readings 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 — The manufacturer shall guarantee the workmanship and materials for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.

INDUSTRIAL & COMMERCIAL FANS

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



A Twin City Fan Company

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