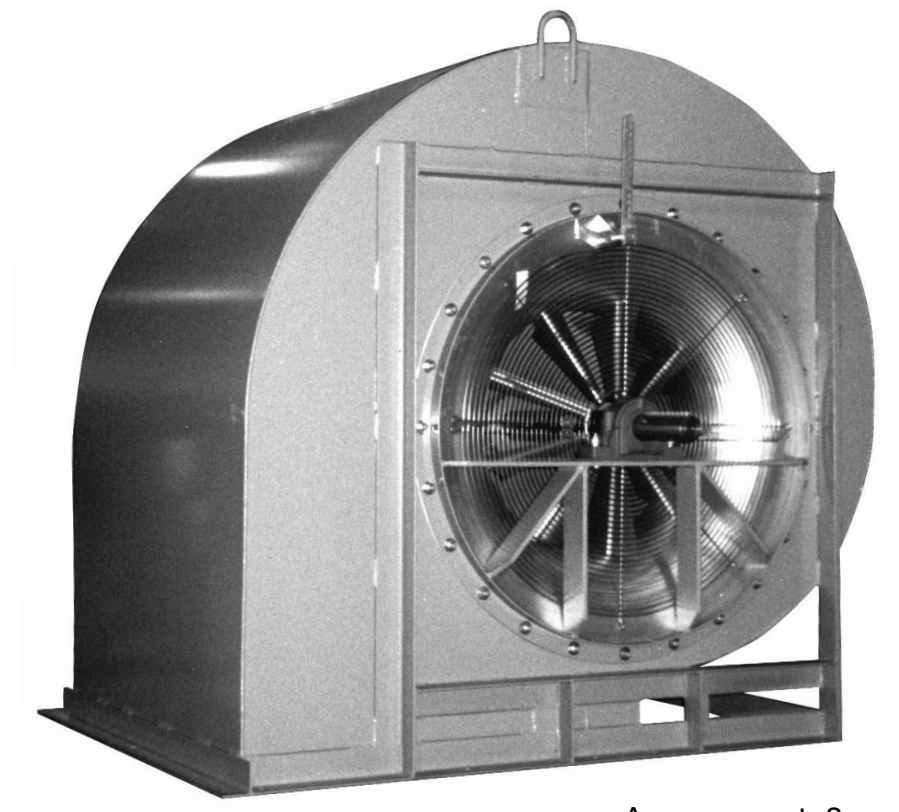




***BACKWARD INCLINED CBA
INDUSTRIAL DWDI CENTRIFUGAL FANS***



Arrangement 3

CBA DWDI Industrial Centrifugal Fans

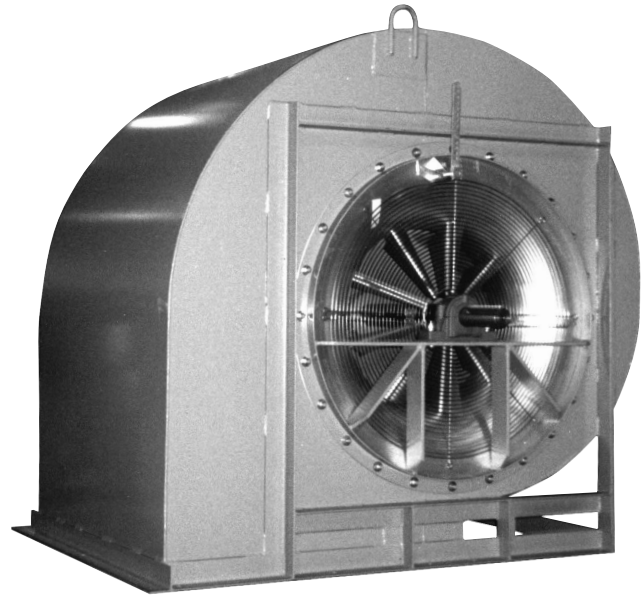
Aerovent's CBA DWDI Centrifugal Fans are designed for clean air applications handling large volumes of air as required in many industrial air supply and exhaust applications and heating, ventilating, and air conditioning systems. The CBA DWDI features backward inclined airfoil blades for efficiency, energy savings and operation at lower noise levels than other industrial fan types.

Construction Features

- Backward inclined airfoil blades
- Welded steel with side angle reinforcement on housing
- Class I, II, III, and IV construction
- Lifting eyes are provided on all sizes
- Standard discharge arrangement is clockwise top horizontal

Sizes and Capacities

- Wheel diameters from 12.25" through 89"
- Flow capacities to 344,000 CFM
- Static pressure to 14" w.g.
- Stable operation from wide open to fully closed
- Temperature range from -40°F to 200°F



Bearings and Drives

Bearings are generously sized to ensure maximum bearing life. Belts and sheaves are selected to provide an allowance of 1.4 times the normal satisfactory capacity.

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Certification



Aerovent certifies that the CBA DWDI Airfoil fans shown on pages 9 through 15 are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Refer to Bulletin 726 for sound power levels.

Construction Features

Wheel Construction

Airfoil wheels are available in sizes 122 through 165 in aluminum construction only using extruded aluminum blades. Sizes 182 through 982 are made of steel using die-formed hollow airfoil blades, both sides of the blades continuously welded to the conical spun inlet shroud (rim) and the backplate.

Note that the use of a conical spun shroud (rim) makes CBA fans less susceptible to the performance losses associated with poor inlet conditions. All airfoil wheels are statically and dynamically balanced to grade G6.3 per ANSI S2.19 for smooth operation prior to being assembled in the fan, followed by final balance of the entire rotating assembly.

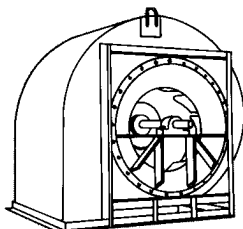


DWDI airfoil wheel with die-formed hollow airfoil blades continuously welded to the rim and backplate.

Drive Arrangements

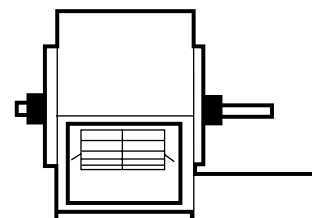
Arrangement #3

For maximum structural strength, bearings are mounted on each side of the wheel. Available in sizes 12.25" through 89". This arrangement is limited to handling dry, uncontaminated air to 200°F maximum.



Arrangement #7

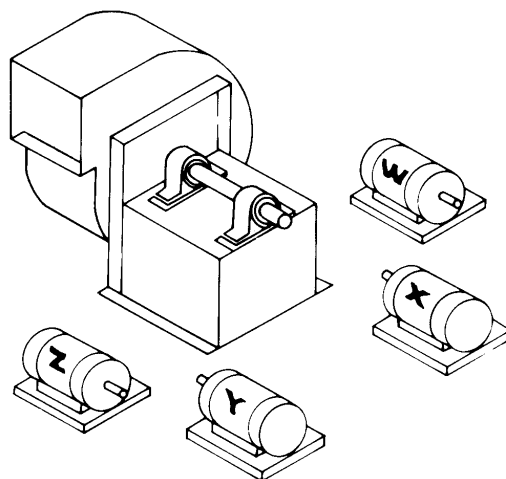
This is an Arrangement #3 fan with a pedestal added to accommodate a motor and flexible coupling.



Motor Positions

Motor positions are determined by viewing the fan from the drive side and selecting W, X, Y, or Z.

Motor position must be specified on Arrangement 3 fans when ordering V-belt drive, vibration bases, and/or belt guards.



Accessories

Cleanout Doors

Cleanout doors are available in two types:

1. Quick opening, latch type, neoprene foam gasketed.
2. Bolted type, neoprene foam gasketed.

Doors are located at approximately 3 o'clock or 9 o'clock positions on the housing scroll opposite fan discharge. If a specific location is required, provide detailed information.

Nested Inlet Vortex Damper

Inlet vortex dampers control air volume while reducing horsepower. The vanes impart a swirl to the air in the wheel rotation direction, reducing the power input at a given fan speed.



Outlet Damper Parallel Blade

Best suited to applications requiring accurate air volume control from wide open to 75% wide open.

Outlet Damper Opposed Blade

Suited for control over a broad range of air volumes.

Standard Duty — Static pressures to 7" w.g.

Heavy Duty — Recommended for severe duty applications or where continual modulation is required. Static pressures to 14" w.g.

Flanged Outlet

For a bolted duct connection, an outlet flange can be provided. Flanges are predrilled. Companion flanges are available.

Safety Equipment

Inlet Guard — Split wire guards mounted in the inlet cone.

Outlet Guard — OSHA approved type outlet guard slips over the discharge, with no flanged outlet required.

OSHA Belt Guard — Furnished as integral part of unit when specified along with unitary base. Custom design guards can be furnished to customer specifications. For use on Arrangement 3 fans.

Shaft and Coupling Guard — For use on Arrangement 7 fans.

Unitary Bases

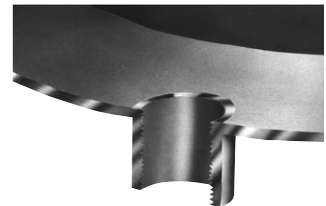
A structural steel base provides common support to fan, motor and drive including guards. The base is designed for use without isolators.

Vibration Isolation Bases

Common structural base for fan, motor and drive is designed for use with spring or rubber-in-shear type isolators. Use of flexible connectors at the outlet is required on fans with isolators.

Housing Drain

On steel and aluminum units, a standard 1" drain is welded to the housing at the lowest point. Stainless steel units are welded with a standard pipe coupling.



Additional Accessories

- Split housing
- Inlet box
- Special coatings

Material Specifications

Class I & II

SIZE	HOUSING		SHAFT DIAMETER & BEARINGS					
	SIDES	SCROLL	CLASS I			CLASS II		
			SHAFT DIAMETER		BEARING TYPE	SHAFT DIAMETER		BEARING TYPE
			@ BRG.	@ WHEEL		@ BRG.	@ WHEEL	
122	14	14	1 ³ / ₁₆	1 ³ / ₁₆	B	1 ⁷ / ₁₆	1 ⁷ / ₁₆	B
135	14	14	1 ³ / ₁₆	1 ³ / ₁₆	B	1 ¹¹ / ₁₆	1 ¹¹ / ₁₆	B
150	14	14	1 ⁷ / ₁₆	1 ⁷ / ₁₆	B	1 ¹¹ / ₁₆	1 ¹¹ / ₁₆	B
165	14	14	1 ⁷ / ₁₆	1 ⁷ / ₁₆	B	1 ¹⁵ / ₁₆	1 ¹⁵ / ₁₆	B
182	12	14	1 ¹¹ / ₁₆	1 ¹¹ / ₁₆	B	1 ¹⁵ / ₁₆	1 ¹⁵ / ₁₆	B
200	12	14	1 ¹¹ / ₁₆	1 ¹¹ / ₁₆	B	2 ³ / ₁₆	2 ³ / ₁₆	B
222	12	14	1 ¹⁵ / ₁₆	1 ¹⁵ / ₁₆	B	2 ⁷ / ₁₆	2 ⁷ / ₁₆	B
245	12	14	2 ³ / ₁₆	2 ³ / ₁₆	B	2 ⁷ / ₁₆	2 ⁷ / ₁₆	B
270	12	14	2 ³ / ₁₆	2 ³ / ₁₆	B	2 ¹¹ / ₁₆	2 ¹¹ / ₁₆	B
300	10	12	2 ⁷ / ₁₆	2 ⁷ / ₁₆	B	2 ⁷ / ₁₆	2 ¹⁵ / ₁₆	B
330	10	12	2 ⁷ / ₁₆	2 ⁷ / ₁₆	B	2 ⁷ / ₁₆	3 ⁷ / ₁₆	R
365	10	12	2 ¹¹ / ₁₆	2 ¹¹ / ₁₆	B	2 ¹¹ / ₁₆	3 ⁷ / ₁₆	R
402	10	12	2 ⁷ / ₁₆	2 ¹⁵ / ₁₆	R	2 ¹¹ / ₁₆	3 ⁷ / ₁₆	R
445	10	12	2 ⁷ / ₁₆	3 ⁷ / ₁₆	R	2 ¹⁵ / ₁₆	3 ¹⁵ / ₁₆	R
490	10	12	2 ¹¹ / ₁₆	3 ⁷ / ₁₆	R	3 ⁷ / ₁₆	3 ¹⁵ / ₁₆	R
542	10	12	2 ¹⁵ / ₁₆	3 ¹⁵ / ₁₆	R	3 ⁷ / ₁₆	4 ⁷ / ₁₆	R
600	10	12	3 ⁷ / ₁₆	4 ⁷ / ₁₆	R	3 ¹⁵ / ₁₆	4 ¹⁵ / ₁₆	R
660	10	12	3 ⁷ / ₁₆	4 ⁷ / ₁₆	R	3 ¹⁵ / ₁₆	4 ¹⁵ / ₁₆	R
730	10	10	3 ¹⁵ / ₁₆	4 ¹⁵ / ₁₆	R	3 ¹⁵ / ₁₆	5 ⁹ / ₁₆	R
807	10	10	3 ¹⁵ / ₁₆	5 ⁷ / ₁₆	R	4 ⁷ / ₁₆	6 ⁷ / ₁₆	SR
890	7	10	3 ¹⁵ / ₁₆	5 ¹⁵ / ₁₆	R	4 ⁷ / ₁₆	6 ¹⁵ / ₁₆	SR

Class III & IV

SIZE	HOUSING				SHAFT DIAMETER & BEARINGS					
	CLASS III		CLASS IV		CLASS III			CLASS IV		
	SIDES	SCROLL	SIDES	SCROLL	SHAFT DIAMETER		BEARING TYPE	SHAFT DIAMETER		BEARING TYPE
					@ BRG.	@ WHEEL		@ BRG.	@ WHEEL	
122	CONSULT FACTORY		CONSULT FACTORY		CONSULT FACTORY			CONSULT FACTORY		
135	CONSULT FACTORY		CONSULT FACTORY		CONSULT FACTORY			CONSULT FACTORY		
150	CONSULT FACTORY		CONSULT FACTORY		CONSULT FACTORY			CONSULT FACTORY		
165	CONSULT FACTORY		CONSULT FACTORY		CONSULT FACTORY			CONSULT FACTORY		
182	10	10	7	7	2 ³ / ₁₆	2 ³ / ₁₆	B	2 ⁷ / ₁₆	2 ⁷ / ₁₆	B
200	10	10	7	7	2 ⁷ / ₁₆	2 ⁷ / ₁₆	R	2 ³ / ₁₆	2 ¹⁵ / ₁₆	SR
222	10	10	7	7	2 ⁷ / ₁₆	2 ⁷ / ₁₆	R	2 ⁷ / ₁₆	3 ⁷ / ₁₆	SR
245	7	7	7	7	2 ⁷ / ₁₆	2 ¹⁵ / ₁₆	R	2 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	SR
270	7	7	7	7	2 ¹¹ / ₁₆	3 ⁷ / ₁₆	R	2 ¹⁵ / ₁₆	3 ¹⁵ / ₁₆	SR
300	7	7	7	7	2 ¹¹ / ₁₆	3 ⁷ / ₁₆	R	2 ¹⁵ / ₁₆	4 ⁷ / ₁₆	SR
330	7	7	0.25	0.25	2 ¹⁵ / ₁₆	3 ⁷ / ₁₆	R	3 ⁷ / ₁₆	4 ¹⁵ / ₁₆	SR
365	7	7	0.25	0.25	2 ¹⁵ / ₁₆	3 ¹⁵ / ₁₆	R	3 ⁷ / ₁₆	4 ¹⁵ / ₁₆	SR
402	7	7	0.25	0.25	3 ⁷ / ₁₆	3 ¹⁵ / ₁₆	R	3 ¹⁵ / ₁₆	5 ⁷ / ₁₆	SR
445	7	7	0.25	0.25	3 ⁷ / ₁₆	4 ⁷ / ₁₆	R	3 ¹⁵ / ₁₆	5 ⁷ / ₁₆	SR
490	7	7	0.25	0.25	3 ¹⁵ / ₁₆	4 ¹⁵ / ₁₆	R	4 ⁷ / ₁₆	5 ⁷ / ₁₆	SR
542	7	7	0.25	0.25	3 ¹⁵ / ₁₆	5 ⁷ / ₁₆	R	4 ⁷ / ₁₆	5 ¹⁵ / ₁₆	SR
600	7	7	0.25	0.25	4 ⁷ / ₁₆	5 ⁷ / ₁₆	SR	4 ¹⁵ / ₁₆	6 ⁷ / ₁₆	SR
660	7	7	0.25	0.25	4 ¹⁵ / ₁₆	5 ¹⁵ / ₁₆	SR	5 ⁷ / ₁₆	6 ⁷ / ₁₆	SR
730	7	7	0.25	0.25	4 ¹⁵ / ₁₆	6 ¹⁵ / ₁₆	SR	5 ¹⁵ / ₁₆	7 ¹ / ₂	SR
807	7	7	0.25	0.25	—	—	SR	—	—	SR
890	7	7	0.25	0.25	—	—	SR	—	—	SR

Bearing Types: B = Ball Bearing R = Unit Roller Bearings SR = Split Pillow Block Roller Bearings

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Performance Correction For Temperature & Altitude

Performance Correction For Elevated Temperatures, at Sea Level

When a fan operates at standard conditions, it is handling air at 70°F as measured at sea level. If the performance of the fan is based on standard conditions, the fan can be selected directly from the performance tables in this catalog.

When a fan operates at temperatures other than 70°F, a “Temperature Correction Factor” (Table 1) is used to convert these conditions to standard air conditions. This conversion must be done before the fan can be selected from the performance tables in this catalog. After the fan is selected at standard conditions, the temperature correction factor is used to convert the brake horsepower at standard air conditions to the brake horsepower at operating conditions. This is shown in the example below.

Example: The contractor specifies a 20" DWDI centrifugal fan with an airfoil wheel, in Arrangement 3, to provide 9,936 CFM at 3.54" SP at 140°F at sea level (0.0663 lbs./cu. ft density).

For 140°F, Table 1 shows a correction factor of 1.13. Using the temperature correction factor, the static pressure at standard conditions is determined as follows:

$$\frac{\text{Operating Static Pressure}}{\text{Temp. Correction Factor}} = \text{Static Pressure at Std. Conditions}$$

$$3.54" \text{ SP} \times 1.13 = 4" \text{ SP at Standard Conditions}$$

Turn to page 10 for the 20" CBA DWDI fan performance table. Using 9,936 CFM at 4" SP at standard conditions, find the RPM and brake horsepower to be 1,891 RPM and 9.22 BHP. **Note:** 9.22 BHP is the brake horsepower required at standard conditions and is also referred to as the “cold brake horsepower” or “starting brake horsepower.”

The actual brake horsepower at the operating condition of 140°F at sea level is determined by the following equation:

$$\frac{\text{Brake HP at Std. Conditions}}{\text{Correction Factor}} = \text{Brake HP at Operating Conditions}$$

$$\frac{9.22}{1.13} = 8.16 \text{ BHP at Operating Conditions}$$

Therefore, the 20" CBA DWDI fan providing 9,936 CFM at 3.54" SP, at 140°F will run at 1,891 RPM and will require 8.16 BHP at operating conditions and 9.22 BHP at starting.

Performance Correction For Altitudes Other Than Sea Level, at 70°F

The method for correcting for altitude is the same as for temperature except the altitude correction factors are found in Table 2.

When a fan operates at altitudes other than sea level, an “Altitude Correction Factor” is used to convert these conditions to standard air conditions. This conversion must be done before the fan can be selected from the performance tables in this catalog. After the fan is selected at standard conditions, the altitude correction factor is used to convert the standard brake horsepower to the operating brake horsepower. This is shown in the example below.

Example: The contractor specifies a 36½" DWDI centrifugal fan with an airfoil wheel, in Arrangement 3, to provide 30,338 CFM at 3.33" SP, at 70°F, at 5,000 ft. elevation (0.0624 lbs./cu. ft density).

For 5,000 ft. elevation, Table 2 shows a correction factor of 1.20. Using the altitude correction factor, the static pressure at standard conditions is determined as follows:

$$\frac{\text{Operating Static Pressure}}{\text{Temp. Correction Factor}} = \text{Static Pressure at Std. Conditions}$$

$$3.33" \text{ SP} \times 1.20 = 4" \text{ SP at Standard Conditions}$$

Turn to page 12 for the 36½" CBA DWDI fan performance table. Using 30,338 CFM at 4" SP at standard conditions, find the RPM and brake horsepower to be 989 RPM and 24.61 BHP. Note: 24.61 BHP is the brake horsepower required at standard conditions and is also referred to as the “cold brake horsepower” or “starting brake horsepower.”

The actual brake horsepower at the operating condition of 70°F and 5,000 ft. elevation is determined by the following equation:

$$\frac{\text{Brake HP at Std. Conditions}}{\text{Correction Factor}} = \text{Brake HP at Operating Conditions}$$

$$\frac{24.61}{1.20} = 20.51 \text{ BHP at Operating Conditions}$$

Therefore, the 36½" CBA DWDI fan providing 30,338 CFM at 3.33" SP, at 5,000 ft. elevation will run at 989 RPM and will require 20.51 BHP at operating conditions and 24.61 BHP at starting.

Performance Correction For Temperature & Altitude

Performance Correction For Temperatures Other than 70°F and Altitudes Other than Sea Level

The method for correcting for temperature and altitude is the same as for correcting for either temperature or altitude except the temperature and altitude correction factor, calculated below, is used.

When a fan operates at temperatures other than 70°F and altitudes other than sea level, the correction factors for both temperature and altitude must be applied. This conversion must be done before the fan can be selected from the performance tables in this catalog. After the fan is selected at standard conditions, the “Temperature and Altitude Correction Factor” is used to convert the standard brake horsepower to the operating brake horsepower.

The temperature and altitude correction factor is calculated as follows:

$$\text{Temp. \& Altitude Correction Factor} = \text{Temp. Correction Factor (Table 1)} \times \text{Altitude Correction Factor (Table 2)}$$

Example: If the operating conditions are 120°F and 3,000 ft. above sea level, the correction factor is determined as follows:

- From Table 1, the temperature correction factor for 120°F is 1.09.
- From Table 2, the altitude correction factor for 3,000 ft. above sea level is 1.12.
- Therefore, $1.09 \times 1.12 = 1.22$

For 120°F and 3,000 ft. above sea level, the temperature and altitude correction factor is 1.22.

Use this factor and either of the procedures on page 6 to convert the fan’s performance to standard air conditions and to convert the standard brake HP to the operating brake horsepower.

Table 3. Velocity Pressures vs. Fan Outlet Velocities Based on Standard Air

OUTLET VELOCITY (FPM)	VELOCITY PRESSURE (IN. H ₂ O)	OUTLET VELOCITY (FPM)	VELOCITY PRESSURE (IN. H ₂ O)
1,000	.063	3,600	.808
1,200	.090	3,800	.900
1,400	.122	4,000	1.00
1,600	.160	4,200	1.10
1,800	.202	4,400	1.21
2,000	.250	4,600	1.32
2,200	.302	4,800	1.44
2,400	.360	5,000	1.56
2,600	.422	5,400	1.82
2,800	.489	5,800	2.10
3,000	.560	6,200	2.40
3,200	.638	6,600	2.72
3,400	.721	—	—

Table 1. Temperature Correction Factors (°F)

TEMP. (°F)	FACTOR
-25	0.82
0	0.87
20	0.91
40	0.94
60	0.98
70	1.00
80	1.02
100	1.06
120	1.09
140	1.13
160	1.17
180	1.21
200	1.25

Table 2. Altitude Correction Factors (Feet Above Sea Level)

ALTITUDE	FACTOR	ALTITUDE	FACTOR
0	1.00	5,000	1.20
500	1.02	5,500	1.22
1,000	1.04	6,000	1.25
1,500	1.06	6,500	1.27
2,000	1.08	7,000	1.30
2,500	1.10	7,500	1.32
3,000	1.12	8,000	1.35
3,500	1.14	8,500	1.37
4,000	1.16	9,000	1.40
4,500	1.18	10,000	1.45

Table 4. Metric Conversion Factors

	ENGLISH	FACTOR	METRIC
VOLUME FLOW	CFM	.000472	m ³ /s
PRESSURE	SP	.24836	kPa
POWER	BHP	.74570	bkW
VELOCITY	FPM	.00508	m/s
DENSITY	lbs/ft ³	16.018	kg/m ³
SPEED	RPM	.01667	rps
AREA	ft ²	.09290	m ²
CIRCUMFERENCE	ft.	.30480	m
DIAMETER	in.	25.4	mm

Engineering Data – Maximum RPM, Wheel Weights & WR² (Moment of Inertia in lb-ft²)


CBA DWDI

FAN SIZE	CLASS I			CLASS II			CLASS III			CLASS IV		
	MAX. RPM	WHEEL WEIGHT (LB)	WR ² (LB-FT ²)	MAX. RPM	WHEEL WEIGHT (LB)	WR ² (LB-FT ²)	MAX. RPM	WHEEL WEIGHT (LB)	WR ² (LB-FT ²)	MAX. RPM	WHEEL WEIGHT (LB)	WR ² (LB-FT ²)
122	3793	14.0	1.10	4948	14.6	1.10	CONSULT* FACTORY			CONSULT* FACTORY		
135	3274	14.8	1.56	4258	17.5	1.60						
150	3103	21.8	2.40	4048	23.8	2.43						
165	2662	25.0	3.75	3472	27.7	4.55						
182	2273	57.9	16.2	2893	59.7	17.2	3626	81.0	23.7	4080	89.5	23.99
200	2074	66.3	23.1	2639	82.9	24.9	3309	102	34.1	3730	110	36.5
222	1864	92.6	39.3	2372	97.5	39.4	2974	136	53.9	3345	149	57.7
245	1693	119	60.5	2154	117	60.5	2701	167	83.0	3042	199	97
270	1499	131	82.3	1967	145	83.4	2422	196	121	2756	231	144
300	1349	161	133	1770	197	158	2180	230	183	2481	294	220
330	1226	212	196	1609	261	252	1982	291	302	2254	335	321
365	1101	265	316	1418	325	399	1791	406	523	2040	397	482
402	998	309	464	1286	383	587	1624	454	700	1848	484	710
445	903	473	730	1163	593	1032	1469	617	1075	1674	634	1086
490	820	541	1052	1056	688	1497	1334	709	1562	1518	776	1684
542	740	696	1824	954	799	2197	1205	910	2478	1365	980	2727
600	669	857	2868	863	938	3265	1089	1079	3683	1241	1268	4500
660	609	1129	4349	784	1221	4931	990	1458	5797	1127	1584	6512
730	550	1488	7277	709	1501	7279	895	1795	8551	1018	2043	10403
807	498	1876	11463	641	2004	12218	810	2288	14490	922	3634	26231
890	452	2896	19649	582	2806	19190	735	3232	24346	837	3735	37842

Bare Fan Weights

CBA DWDI

SIZE	ARRANGEMENT 3				ARRANGEMENT 3F	
	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS I	CLASS II
122	145	159	CONSULT FACTORY	CONSULT FACTORY	188	207
135	165	181			215	235
150	201	220			261	287
165	231	254			300	330
182	258	284			335	369
200	358	393	653	726	465	511
222	469	516	833	928	610	671
245	529	582	919	1021	688	757
270	665	731	1123	1248	864	950
300	931	1024	1532	1702	1210	1332
330	1056	1162	1691	1879	1372	1510
365	1406	1546	2125	2362	1828	2010
402	1758	1933	2656	2952	2285	2513
445	2184	2402	3302	3669	2839	3123
490	2402	2643	3611	4012	3123	3435
542	3064	3371	4576	5086	3983	4382
600	4316	4748	6437	7152	—	—
660	5512	6063	8432	9370	—	—
730	6344	6978	9706	10785	—	—
807	7883	8672	12061	13401	—	—
890	9464	10410	14479	16089	—	—



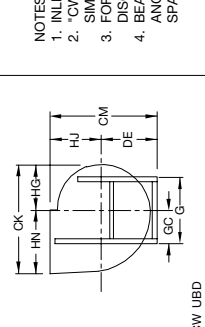
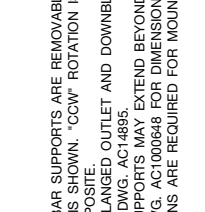
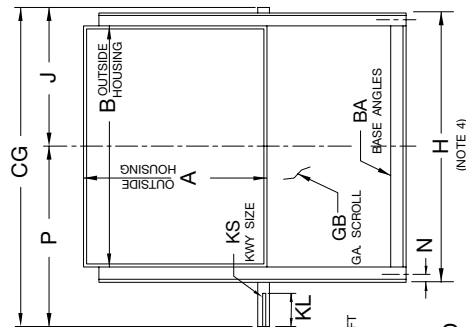
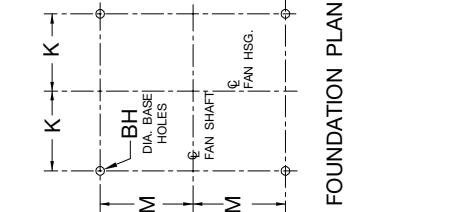
AEROVENT
Twin City Fan Companies, Ltd.

DRAWN 6-15-05
REVISED
DWG. NO. R-1002034

JOB:
LOC.
ENG./ARCH.
CERT. BY:
S.O. NO.

DISCH. ROT. UNIT NO.
SP RPM BHP
CFM OV TS

ACCESSORIES REQ'D.

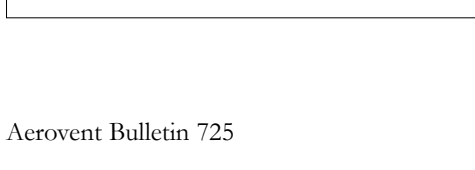
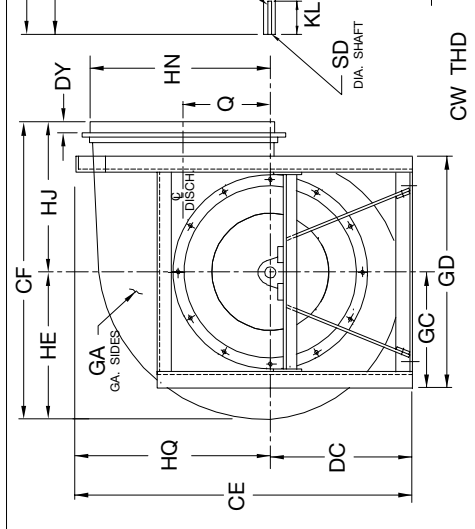
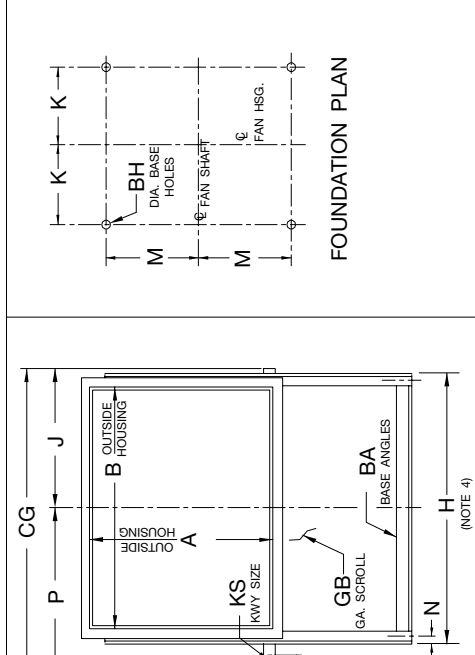


- NOTES:
1. INLET BEARING BAR SUPPORTS ARE REMOVABLE.
 2. "CW" ROTATION IS SHOWN. "CCW" ROTATION IS SIMILAR BUT OPPOSITE.
 3. FOR OPTIONAL FLANGED OUTLET AND DOWNBLAST DISCHARGE SEE DWG. AC14895.
 4. BEARING BAR SUPPORTS MAY EXTEND BEYOND BASE ANGLES. SEE DWG. AC1000648 FOR DIMENSIONS IF SPACE LIMITATIONS ARE REQUIRED FOR MOUNTING FAN.

SIZE	A	B	BA	BH	CE	CF	CG CL I	CG CL II	CJ	CK	CM	DC	DE	DG	G	GA	GB	GC	SIZE
122	13.00	17.44	1.5 x 1.5	0.44	23.19	19.81	26.69	28.63	24.31	22.25	20.75	10.25	11.50	15.00	19.75	14	14	9.88	122
135	14.31	19.44	1.5 x 1.5	0.44	25.50	21.88	28.69	30.63	26.50	24.50	23.00	11.25	12.75	16.25	21.00	14	14	10.50	135
150	15.88	21.44	1.5 x 1.5	0.44	28.06	24.32	33.13	33.13	29.38	27.19	25.44	12.25	14.00	18.00	22.75	14	14	11.38	150
165	17.44	23.56	1.5 x 2.0	0.44	30.88	26.76	35.25	35.62	32.00	29.88	27.88	13.50	15.25	19.50	24.25	14	14	12.13	165
182	19.38	26.00	1.5 x 2.0	0.44	34.06	29.69	38.13	38.50	35.31	33.13	30.75	14.75	16.75	21.50	26.00	12	14	13.00	182
200	21.19	28.50	1.5 x 2.0	0.56	37.38	32.62	40.63	42.12	38.69	36.31	33.56	16.25	18.25	23.50	28.00	12	14	14.00	200
222	23.56	31.63	2.0 x 2.0	0.56	41.50	36.25	44.62	46.88	42.81	40.31	37.69	18.00	20.50	26.00	31.25	12	14	15.63	222
245	25.94	34.81	2.0 x 2.0	0.56	45.88	40.00	49.62	50.75	46.75	44.38	41.50	20.00	22.50	28.25	33.50	12	14	16.75	245
270	28.63	38.25	2.0 x 2.0	0.56	50.56	44.13	53.00	54.75	51.44	49.00	45.69	22.00	24.75	31.00	36.00	12	14	18.00	270

SIZE	GD	H	HE	HG	HU	HN	J CL I	J CL II	K	KL	KS CL I	KS CL II	M	N	P CL I	P CL II	Q	SD CL I	SD CL II	SIZE
122	18.50	20.50	10.56	9.31	9.25	12.94	11.44	12.38	9.63	3.00	.25 x .13	.38 x .19	6.75	0.63	15.25	16.25	6.44	1.187	1.437	122
135	19.75	22.50	11.63	10.25	10.25	14.25	12.44	13.38	10.63	3.00	.25 x .13	.38 x .19	7.38	0.63	16.25	17.25	7.13	1.187	1.687	135
150	21.50	24.50	12.88	11.38	11.44	15.81	14.38	14.38	11.63	3.50	.38 x .19	.38 x .19	8.25	0.63	18.75	18.75	8.69	1.437	1.687	150
165	24.25	27.63	14.13	12.50	12.63	17.38	15.44	15.56	12.94	3.50	.38 x .19	.50 x .25	8.75	0.88	19.81	20.06	8.69	1.437	1.937	165
182	26.00	30.00	15.69	13.81	14.00	19.31	16.63	16.75	14.13	4.00	.38 x .19	.50 x .25	9.63	0.88	21.50	21.75	9.63	1.687	1.937	182
200	28.00	32.50	17.31	15.19	15.31	21.13	17.78	18.56	15.38	4.00	.38 x .19	.50 x .25	10.63	0.88	22.75	23.56	10.56	1.687	2.187	200
222	31.25	35.63	19.06	16.81	17.19	23.50	19.56	20.63	16.94	4.50	.50 x .25	.63 x .31	11.75	0.88	25.06	26.25	11.75	1.937	2.437	222
245	33.50	38.88	21.00	18.50	19.00	25.88	21.81	22.31	18.56	5.00	.63 x .31	.63 x .31	12.88	0.88	27.81	28.44	12.94	2.187	2.437	245
270	36.00	42.25	23.19	20.44	20.94	28.56	23.50	24.31	20.25	5.00	.50 x .25	.63 x .31	14.13	0.88	29.50	30.44	14.25	2.187	2.687	270

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.



FOUNDATION PLAN

FOUNDATION PLAN

NOTES:
 1. INLET BEARING BAR SUPPORTS ARE REMOVABLE.
 2. "CW" ROTATION IS SHOWN. "CCW" ROTATION IS SIMILAR BUT OPPOSITE.
 3. FOR OPTIONAL FLANGED OUTLET CONNECTION AND DOWNBLAST DISCHARGE SEE DWG. AC14886.
 4. BEARING BAR SUPPORTS MAY EXTEND BEYOND BASE ANGLES. SEE DWG. AC1000648 FOR DIMENSIONS IF SPACE LIMITATIONS ARE REQUIRED FOR MOUNTING FAN.



SIZE	A	B	BA	BH	CE	CF	CG	CL I	CL II	CJ	CK	CM	DC	DE	DG	DY	G	GA	GB	GC	SIZE
300	31.81	42.69	2.5x2.5	0.56	58.00	49.06	59.13	59.13	57.00	56.00	51.81	24.50	28.50	34.25	1.25	41.00	10	12	20.50	300	
330	35.13	46.69	2.5x2.5	0.56	64.44	54.13	63.13	63.13	62.25	61.56	56.75	27.00	31.00	37.25	1.50	44.00	10	12	22.00	330	
365	38.69	51.81	2.5x2.5	0.56	67.00	60.00	68.88	68.88	68.75	67.88	62.00	29.50	33.50	41.00	1.50	48.00	10	12	24.00	365	
402	42.63	57.19	3.0x3.0	0.81	74.38	66.19	74.13	74.75	76.06	74.62	68.50	33.00	37.00	45.50	1.50	52.50	10	12	26.25	402	
445	47.13	63.13	3.0x3.0	0.81	81.13	73.13	80.00	80.37	83.75	82.31	74.88	35.50	40.00	50.00	1.50	56.50	10	12	28.25	445	
490	51.94	69.44	3.0x3.0	0.81	89.38	80.69	88.00	90.57	91.94	91.07	82.50	39.00	44.00	54.75	1.50	61.50	10	12	30.75	490	
542	57.38	76.94	3.0x4.0	0.81	103.25	89.25	94.75	95.69	101.44	100.94	91.56	43.50	49.00	60.25	1.50	67.00	10	12	33.50	542	
600	63.50	85.00	3.0x4.0	0.81	113.75	98.88	107.07	108.63	111.81	111.31	101.19	48.00	54.00	66.25	1.50	73.00	10	12	36.50	600	
660	69.69	93.69	3.5x5.0	0.81	124.75	108.75	115.81	117.44	123.19	122.19	110.94	52.50	59.00	73.25	1.50	80.00	10	12	40.00	660	
730	77.25	103.38	3.5x5.0	0.81	136.75	120.38	128.00	128.00	136.13	135.13	122.00	57.00	64.50	80.75	1.50	88.00	10	10	44.00	730	

SIZE	H	HE	HG	HJ	HN	HQ	J	J	J	K	KL	KS	KS	M	N	P	P	Q	SD	SD	SD	SIZE
300	47.75	25.75	22.75	23.31	31.75		26.25	26.25	22.75	5.50	63x.31	63x.31	63x.31	15.88	1.13	32.88	32.88	15.81	2.437	2.437	2.437	300
330	51.75	28.38	25.00	25.75	35.06		28.25	28.25	24.75	5.50	63x.31	63x.31	63x.31	17.38	1.13	34.88	34.88	17.50	2.437	2.437	2.437	330
365	56.88	31.50	27.75	28.50	38.63		31.13	31.13	27.31	5.50	63x.31	63x.31	63x.31	18.88	1.13	37.75	37.75	19.25	2.687	2.687	2.687	365
402	63.25	34.69	30.56	31.50	42.56		33.50	33.81	30.25	6.00	63x.31	63x.31	63x.31	20.88	1.38	40.63	40.94	21.25	2.437	2.437	2.687	402
445	69.13	38.25	33.75	34.88	47.06		36.44	36.56	33.19	6.00	63x.31	63x.31	63x.31	22.88	1.38	43.56	43.81	23.50	2.437	2.437	2.937	445
490	75.50	42.19	37.19	38.50	51.88		39.94	41.13	36.38	7.00	63x.31	63x.31	63x.31	25.38	1.38	48.06	49.44	25.88	2.687	2.687	3.437	490
542	85.00	46.69	41.19	42.56	57.31	59.75	43.75	44.19	40.63	6.00	75x.38	88x.44	27.63	1.88	51.00	51.50	28.63	2.937	2.937	3.347	542	
600	93.00	51.69	45.56	47.19	63.44	65.75	48.88	49.63	44.63	8.00	88x.44	100x.50	30.63	1.88	58.19	58.19	31.69	3.437	3.437	3.937	600	
660	103.75	56.81	49.94	51.94	69.63	72.25	53.25	54.06	49.50	8.00	88x.44	100x.50	33.13	2.38	62.56	63.38	34.75	3.437	3.437	3.937	660	
730	113.38	62.88	55.38	57.50	77.13	79.75	58.81	58.81	54.31	9.00	100x.50	100x.50	37.13	2.38	69.19	69.19	38.50	3.937	3.937	3.937	730	

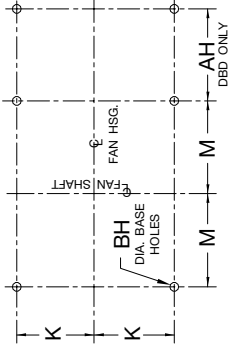
DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.



Drawn 6-15-05
Revised
DWG. NO. R-1002012

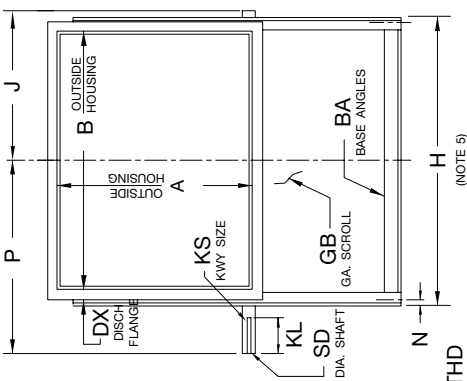
JOB:
LOC.
ENG./ARCH.
CERT. BY:
S.O. NO.

CLASS DISCH. ROT. MTR. LOC. UNIT NO.
CFM SP RPM BHP OV TS
ACCESSORIES REQ'D.

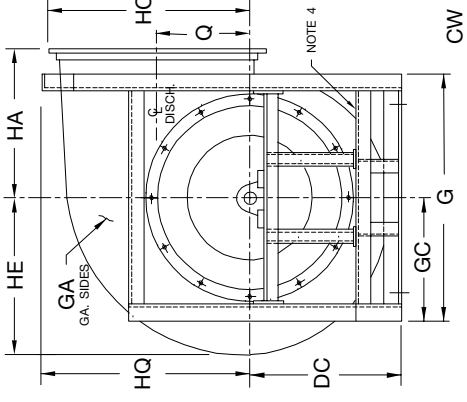


FOUNDATION PLAN

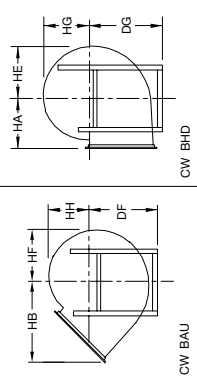
- NOTES:
1. FOR SLIP CONNECTION ON DISCHARGE, CONTACT FACTORY FOR DWG. AC18864.
2. INLET BEARING BAR SUPPORTS ARE REMOVABLE.
3. "CW" ROTATION IS SHOWN. "CCW" ROTATION IS SIMILAR BUT OPPOSITE.
4. FRAME SUPPORTS VARY IN CONSTRUCTION BY SIZE AND BY DISCHARGE POSITION.
5. BEARING BAR SUPPORTS MAY EXTEND BEYOND BASE ANGLES. SEE DWG. AC1000648 FOR DIMENSIONS IF SPACE LIMITATIONS ARE REQUIRED FOR MOUNTING FAN.



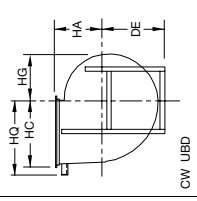
CW THD



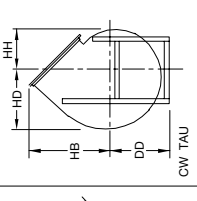
CW DBD



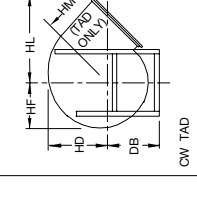
CW BHD



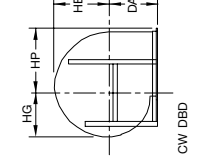
CW UBD



CW TAU



CW TAD



CW DBD

SIZE	A	AH	B	BA	BH	DA	DB	DC	DD	DE	DF	DG	DX	G	GA	GB	GC	GD	H	HA	HB	HC	SIZE
807	85.44	47.06	114.31	3.5x5.0	0.81	64.19	59.50	63.00	67.50	72.00	76.50	89.00	2.50	95.50	10	10	47.75	95.50	124.38	64.19	107.50	87.81	807
890	94.13	50.25	126.13	3.5x5.0	0.81	70.00	65.50	69.25	73.75	78.25	85.00	97.81	2.50	106.50	7	10	53.25	106.50	136.13	70.00	117.75	96.50	890
982	104.00	53.75	139.19	4.0x6.0	0.81	77.75	71.50	76.50	80.00	86.50	92.00	108.25	2.50	122.00	7	7	61.00	122.00	151.25	77.75	130.13	106.31	982

SIZE	HD	HE	HF	HG	HH	HL	HM	HP	HQ	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J
807	74.00	69.50	65.38	61.25	57.13	113.69	73.00	90.31	87.75	64.31	65.56	59.81	9.0	1.00x.50	40.88	2.38	74.69	75.44	42.63	3.937	4.437	807	807	
890	81.56	76.63	72.06	67.50	62.94	125.38	80.75	99.00	96.50	70.19	71.50	65.69	9.0	1.00x.50	46.38	2.38	80.56	82.00	46.94	3.937	4.437	890	890	
982	90.06	84.63	79.56	74.50	69.44	140.06	91.75	109.75	106.75	77.81	78.44	72.75	9.0	1.25x.63	53.13	2.88	88.31	88.88	51.81	4.937	5.437	982	982	

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

"CB" & "CBA" APPR. 3F, DWDI, CLASS I
NON-ROTATABLE

CW - POSITION "Z"
CCW - POSITION "W"

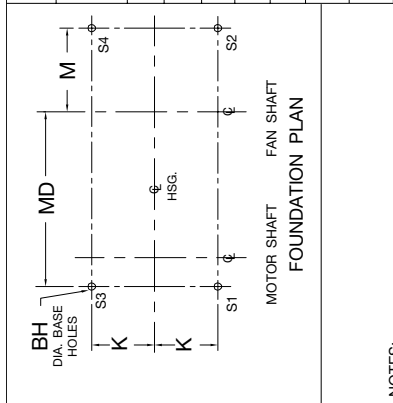
DRAWN 6-15-05
REVISED

AEROVENT
Twin City Fan Companies, Ltd.

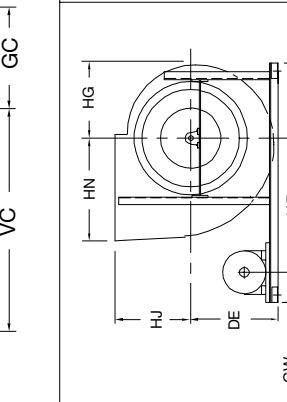
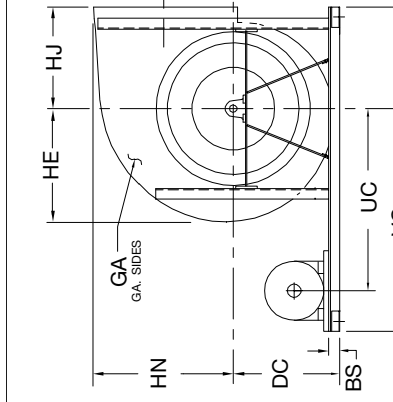
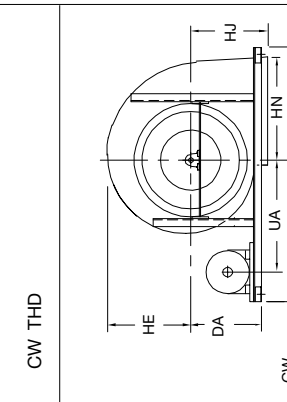
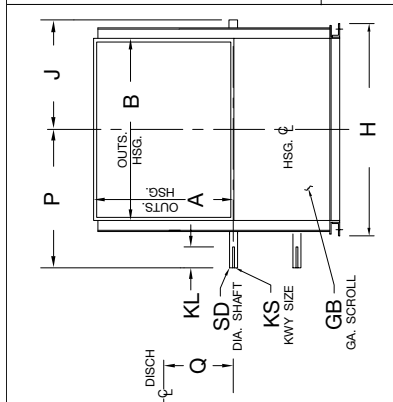
JOB: _____
LOC. _____
ENG./ARCH. _____
CERT. BY: _____
S.O. NO. _____

SIZE _____ DISCH. _____ ROT. _____ UNIT NO. _____
CFM _____ SP _____ RPM _____ BHP _____ OV _____ TS _____

ACCESSORIES REQD.



NOTES:
1. "CW" ROTATION, MOTOR POSITION "Z" SHOWN. "CCW" ROTATION, MOTOR POSITION "W" IS SIMILAR BUT OPPOSITE.
2. STANDARD APPR. 3F MOTOR LOCATION ON LEFT FOR "CW" ROTATION UNITS AND ON RIGHT FOR "CCW" ROTATION. DIMENSION "FR" EQUALS MAX. MOTOR FRAME.
3. FOR OPTIONAL FLANGED OUTLET, CONTACT FACTORY FOR DWG. ACT16038.
4. SEE ES4-98 FOR POINT LOADS AT LOCATION "S1," "S2," ETC.



NOTE: CONTACT FACTORY FOR BHD AND OTHER UBD ORIENTATIONS.

SIZE	A	B	BH	BS	BS	KL	KL	K	K	THD/UBD	DC	DC	DE	DE	FR	FR	GA	GA	GB	GB	GC	GC	GC	GC	H	H	H	H	THD/UBD	HE	HE	HG	HG	HJ	HJ	HJ	HJ	THD/UBD	HN	HN	SIZE
122	13.00	17.44	0.69	4.00	4.00	12.38	12.38	12.38	184T	14	14	14	14	14	14	14	14	14	14	14	16.00	9.13	11.38	28.00	24.00	10.56	9.31	13.88	9.25	12.94	122										
135	14.31	19.44	0.69	4.00	4.00	13.00	13.00	13.00	184T	14	14	14	14	14	14	14	14	14	14	17.25	9.75	12.00	30.00	26.00	11.63	10.25	14.50	10.25	14.25	135											
150	15.88	21.44	0.69	4.00	4.00	13.88	13.88	13.88	213T	14	14	14	14	14	14	14	14	14	18.88	10.63	12.88	32.00	28.00	12.88	11.38	15.38	11.44	15.81	150												
165	17.44	23.56	0.69	4.00	4.00	14.63	14.63	15.13	215T	14	14	14	14	14	14	14	14	14	20.38	12.13	13.63	34.13	30.13	14.13	12.50	16.13	12.63	17.38	165												
182	19.38	26.00	0.69	4.00	4.00	15.50	15.50	16.69	254T	12	12	12	12	12	12	12	12	12	22.38	13.00	14.50	36.50	32.50	15.69	13.81	17.00	14.00	19.31	182												
200	21.19	28.50	0.69	4.00	4.00	16.50	16.50	18.31	254T	12	12	12	12	12	12	12	12	12	24.13	14.00	15.50	39.00	35.00	17.31	15.19	18.00	15.31	21.13	200												
222	23.56	31.63	0.69	5.00	5.00	18.63	18.63	20.06	254T	12	12	12	12	12	12	12	12	12	27.00	15.63	17.13	42.38	40.38	19.06	16.81	20.13	17.19	23.50	222												
245	25.94	34.81	0.69	5.00	5.00	19.75	19.75	22.00	256T	12	12	12	12	12	12	12	12	12	29.38	18.25	18.25	45.63	43.63	21.00	18.50	21.25	19.00	25.88	245												
270	28.63	38.25	0.69	5.00	5.00	21.00	21.44	24.19	256T	12	12	12	12	12	12	12	12	12	32.13	19.50	19.50	49.00	47.00	23.19	20.44	22.50	20.94	28.56	270												

SIZE	J	K	K	K	DBD	THD/UBD	KL	KL	KS	M	M	M	M	DBD	THD/UBD	MD	MD	P	Q	SD	SD	UA	UA	UC	UC	VE	VE	VC	VC	VA	VA	HJ	HJ	HJ	HJ	THD/UBD	HN	HN	SIZE
122	11.44	12.75	10.63	3.00	.25x.13	13.00	6.13	8.38	23.00	24.25	26.13	15.25	6.44	1.187	19.63	20.88	22.75	26.00	27.25	29.13	122																		
135	12.44	13.75	11.63	3.00	.25x.13	14.25	6.75	9.00	23.88	25.25	27.38	16.25	7.13	1.187	20.50	21.88	24.00	26.88	28.25	30.38	135																		
150	14.38	14.75	12.63	3.50	.38x.19	15.88	7.63	9.88	28.13	29.63	32.00	18.75	7.88	1.437	23.63	25.13	27.50	31.13	32.63	35.00	150																		
165	15.44	15.81	13.69	3.50	.38x.19	17.38	8.13	10.63	29.25	30.88	33.13	19.81	8.69	1.437	24.75	26.38	28.63	32.25	33.88	36.13	165																		
182	16.63	17.00	14.88	4.00	.38x.19	19.38	10.00	11.50	34.25	36.00	39.00	21.50	9.63	1.687	28.38	30.13	33.13	37.25	39.00	42.00	182																		
200	17.88	18.25	16.13	4.00	.38x.19	21.13	11.00	12.50	35.50	37.75	40.75	22.75	10.56	1.687	29.63	31.88	34.88	38.50	40.75	43.75	200																		
222	19.56	19.94	18.31	4.50	.50x.25	24.00	12.63	14.13	37.25	39.50	43.13	25.06	11.75	1.937	31.38	33.63	37.25	40.25	42.50	46.13	222																		
245	21.81	21.56	19.94	5.00	.50x.25	26.38	15.25	15.25	38.88	41.38	45.25	27.81	12.94	2.187	33.88	35.50	39.38	41.88	44.38	48.25	245																		
270	23.50	23.25	21.63	5.00	.50x.25	29.13	16.50	16.50	40.75	43.50	47.63	29.81	14.25	2.187	34.88	37.63	41.75	43.75	46.50	50.63	270																		

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

"CB" & "CBA" ARR. 3F, DWDI, CLASS I
NON-ROTATABLE

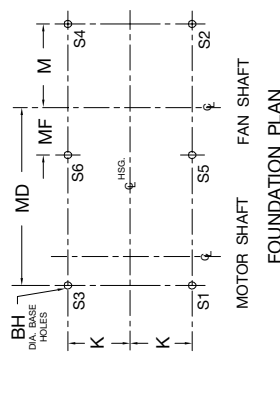
CW - POSITION "Z"
CCW - POSITION "W"



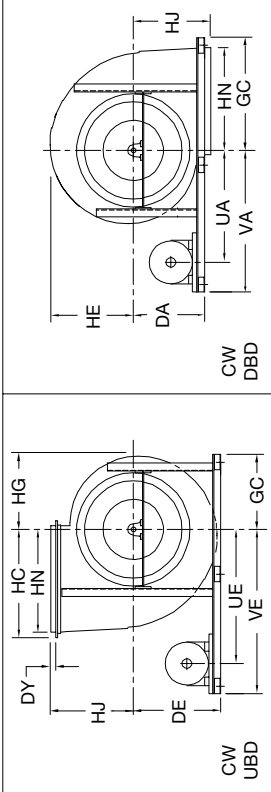
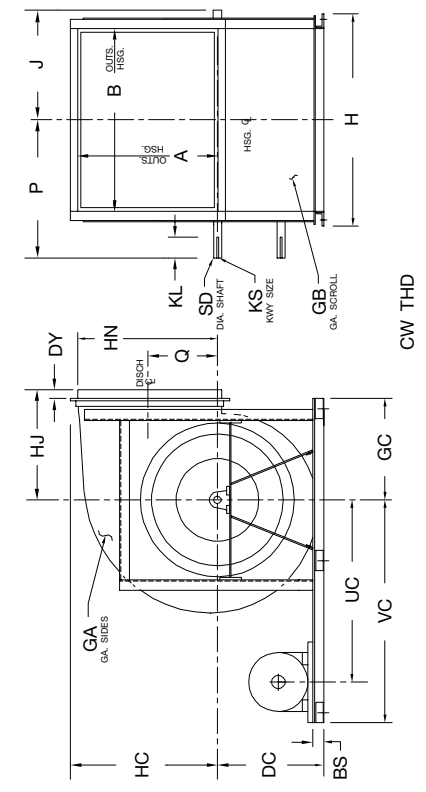
DRAWN 6-15-05
REVISED
DWG. NO. R-1002046

JOB:
LOC.
ENG./ARCH.
CERT. BY:
S.O. NO.

SIZE DISCH. ROT. UNIT NO.
CFM SP RPM BHP OV TS
ACCESSORIES REQD.



NOTES:
1. "CW" ROTATION, MOTOR POSITION "Z" SHOWN. "CCW" ROTATION, MOTOR POSITION "W" IS SIMILAR BUT OPPOSITE.
2. STANDARD ARR. 3F MOTOR LOCATION ON LEFT FOR "CW" ROTATION UNITS AND ON RIGHT FOR "CCW" ROTATION. DIMENSION "FR" EQUALS MAX. MOTOR FRAME.
3. FOR OPTIONAL FLANGED OUTLET, CONTACT FACTORY FOR DWG. AC16039.
4. DIMENSION "MF" APPLIES ONLY WHEN SIX (6) MOUNTING BRACKETS ARE REQUIRED.
5. SEE ES4-98 FOR POINT LOADS AT LOCATION "S1," "S2," ETC.




**NOTE: SEE DRAWING 16028 FOR SIZES 542-660.
CONTACT FACTORY FOR BHD AND OTHER
UBD ORIENTATIONS.**

SIZE	J	A	B	K	THD/UBD	KL	KS	DC	DA	M	M	THD/UBD	DE	DY	FR	GA	GB	GC	THD/UBD	H	DBD	H	THD/UBD	H	DBD	H	THD/UBD	HC	HE	HG	HJ	DBD	THD/UBD	HJ	HN	SIZE
300	31.81	42.69	0.69	5.00	BS	5.00	23.00	23.75	23.00	26.75	1.25	284T	10	12	35.25	21.50	53.50	51.50	33.25	25.75	22.75	24.50	23.31	31.75	300											
330	35.13	46.69	0.69	5.00	24.50	26.00	29.38	1.50	286T	10	12	38.63	23.00	57.50	36.56	28.38	25.00	26.00	26.00	31.50	27.75	29.00	28.50	35.06	330											
365	38.69	51.81	0.81	6.00	27.50	28.75	32.50	1.50	324T	10	12	42.63	25.50	62.63	40.13	31.50	27.75	29.00	31.50	30.56	30.56	31.50	31.50	42.56	402											
402	42.63	57.19	0.81	6.00	30.00	31.56	35.69	1.50	326T	10	12	46.63	27.25	68.00	44.06	34.69	30.56	31.50	31.50	34.69	33.75	34.88	34.88	47.06	445											
445	47.13	63.13	0.81	6.00	33.38	34.75	39.25	1.50	364T	10	12	51.13	29.25	73.88	48.56	38.25	33.75	34.88	48.56	42.19	37.19	38.50	38.50	51.88	490											

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

"CB" & "CBA" ARR. 3F, DWDI, CLASS II
NON-ROTATABLE

CW - POSITION "Z"
CCW - POSITION "W"



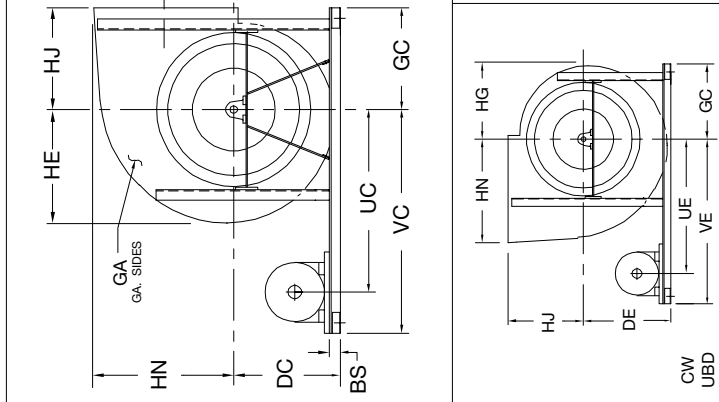
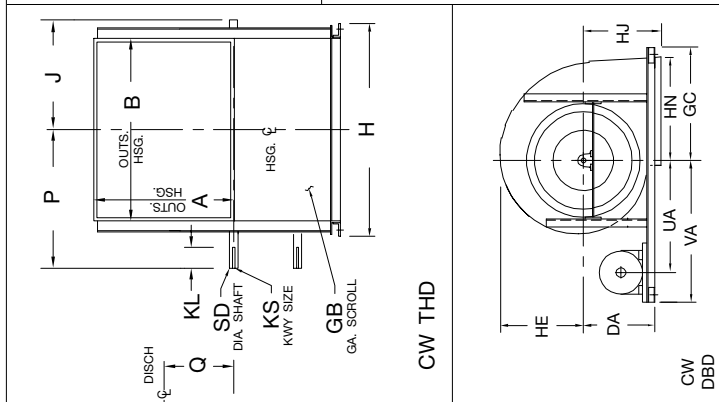
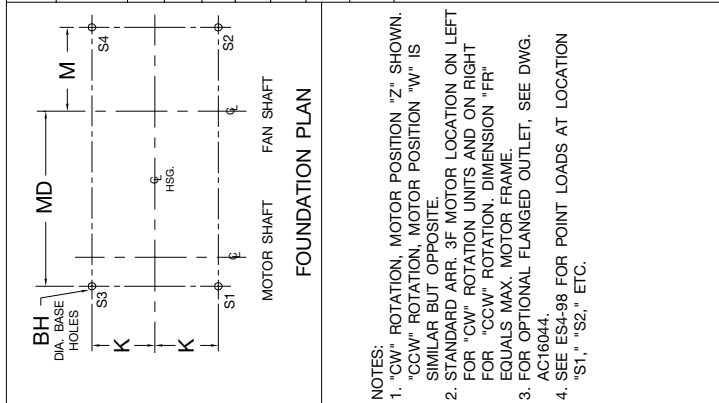
AEROVENT
Twin City Fan Companies, Ltd.

DRAWN 6-15-05
REVISED
DWG. NO. R-1002051

JOB: _____
LOC. _____
ENG./ARCH. _____
CERT. BY: _____
S.O. NO. _____

SIZE	DISCH.	ROT.	UNIT NO.
CFM	SP	RPM	BHP
			OV
			TS

ACCESSORIES REQ'D.



NOTES:

- "CW" ROTATION, MOTOR POSITION "Z" SHOWN. "CCW" ROTATION, MOTOR POSITION "W" IS SIMILAR BUT OPPOSITE.
- STANDARD ARR. 3F MOTOR LOCATION ON LEFT FOR "CW" ROTATION UNITS AND ON RIGHT FOR "CCW" ROTATION. DIMENSION "FR" EQUALS MAX. MOTOR FRAME.
- FOR OPTIONAL FLANGED OUTLET, SEE DWG. AC16044.
- SEE ES4-98 FOR POINT LOADS AT LOCATION "S1," "S2," ETC.

NOTE: CONTACT FACTORY FOR BHD AND OTHER UBD ORIENTATIONS.

SIZE	A	B	BH	BS	BS	DA	DC	DE	FR	GA	GB	GC	GC	GC	H	H	H	HE	HG	HJ	HJ	HJ	HJ	HN	SIZE
122	13.00	17.44	0.69	4.00	12.38	12.38	12.38	12.38	215T	14	14	16.00	9.13	11.38	28.00	24.00	10.56	9.31	13.88	9.25	12.94	12.94	12.94	122	
135	14.31	19.44	0.69	4.00	13.00	13.00	13.00	13.00	254T	14	14	17.25	9.75	12.00	30.00	26.00	11.63	10.25	14.50	10.25	14.25	14.25	14.25	135	
150	15.88	21.44	0.69	4.00	13.88	13.88	13.88	13.88	254T	14	14	18.88	10.63	12.88	32.00	28.00	12.88	11.38	15.38	11.44	15.81	15.81	15.81	150	
165	17.44	23.56	0.69	4.00	14.63	14.63	15.13	15.13	256T	14	14	20.38	12.13	13.63	34.13	30.13	14.13	12.50	16.13	12.63	17.38	17.38	17.38	165	
182	19.38	26.00	0.69	4.00	15.50	15.50	16.69	16.69	284T	12	14	22.38	13.00	14.50	36.50	32.50	15.69	13.81	17.00	14.00	19.31	19.31	19.31	182	
200	21.19	28.50	0.69	4.00	16.50	16.50	18.31	18.31	284T	12	14	24.13	14.00	15.50	39.00	35.00	17.31	15.19	18.00	15.31	21.13	21.13	21.13	200	
222	23.56	31.63	0.69	5.00	18.63	18.63	20.06	20.06	286T	12	14	27.00	15.63	17.13	42.38	40.38	19.06	16.81	20.13	17.19	23.50	23.50	23.50	222	
245	25.94	34.81	0.69	5.00	19.75	19.75	22.00	22.00	324T	12	14	29.38	18.25	19.75	45.63	43.63	21.00	18.50	21.25	19.00	25.88	25.88	25.88	245	
270	28.63	38.25	0.69	5.00	21.00	21.00	24.19	24.19	326T	12	14	32.13	19.50	19.50	49.00	47.00	23.19	20.44	22.50	20.94	28.56	28.56	28.56	270	

SIZE	J	K	K	K	KL	KS	M	M	M	M	MD	MD	MD	P	Q	SD	UA	UC	UE	VA	VC	VE	SIZE
122	12.38	12.75	10.63	3.00	.38x.19	13.00	6.13	8.38	26.13	27.38	29.25	16.25	6.44	1.437	21.63	22.88	24.75	29.13	30.38	32.25	30.38	32.25	122
135	13.38	13.75	11.63	3.00	.38x.19	14.25	6.75	9.00	30.63	32.00	34.13	17.25	7.13	1.687	24.75	26.13	28.25	33.63	35.00	37.13	35.00	37.13	135
150	14.38	14.75	12.63	3.50	.38x.19	15.88	7.63	9.88	31.75	33.25	35.63	18.75	7.88	1.687	25.88	27.38	29.75	34.75	36.25	38.63	36.25	38.63	150
165	15.56	15.81	13.69	3.50	.50x.25	17.38	9.13	10.63	34.50	36.75	38.75	20.06	8.69	1.937	27.00	28.63	30.88	35.88	37.50	39.75	37.50	39.75	165
182	16.75	17.00	14.88	4.00	.50x.25	19.38	10.00	11.50	36.75	38.50	41.50	21.75	9.63	1.937	29.88	31.63	34.63	39.75	41.50	44.50	41.50	44.50	182
200	18.56	18.25	16.13	4.00	.50x.25	21.13	11.00	12.50	38.00	40.25	43.25	23.56	10.56	2.187	31.13	33.38	36.38	41.00	43.25	46.25	43.25	46.25	200
222	20.63	19.94	18.31	4.50	.63x.31	24.00	12.63	14.13	39.75	42.00	45.63	26.25	11.75	2.437	32.88	35.13	38.75	42.75	45.00	48.63	45.00	48.63	222
245	22.31	21.56	19.94	5.00	.63x.31	26.38	15.25	16.50	45.00	47.50	51.38	28.44	12.94	2.437	36.63	39.13	43.00	48.00	50.50	54.38	50.50	54.38	245
270	24.31	23.25	21.63	5.00	.63x.31	29.13	16.50	16.50	46.88	49.63	54.00	30.44	14.25	2.687	38.50	41.25	45.63	49.88	52.63	57.00	52.63	57.00	270

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

"CB" & "CBA" ARR. 3F, DWDI, CLASS II
NON-ROTATABLE

CW - POSITION "Z"
CCW - POSITION "W"

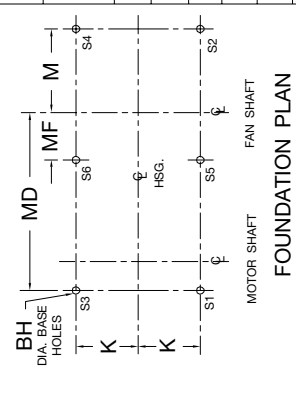
AEROVENT
Twin City Fan Companies, Ltd.

DRAWN 6-15-05
REVISED
DWG. NO. R-1002062

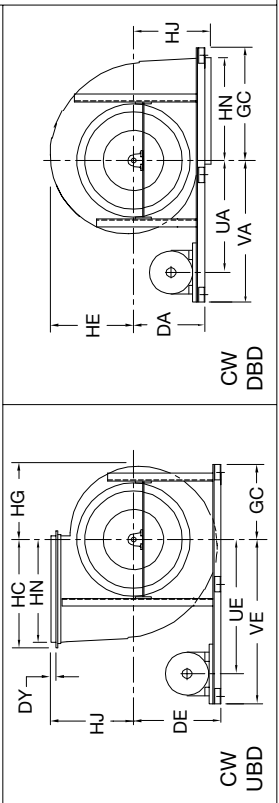
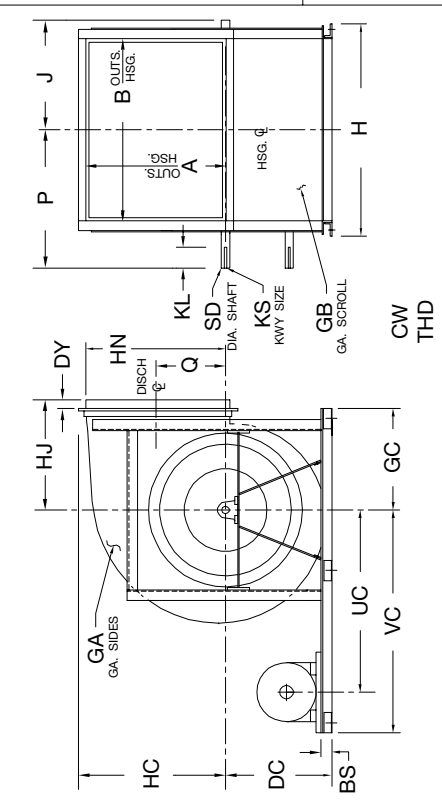
JOB:
LOC:
ENG./ARCH.:
CERT. BY:
S.O. NO.

SIZE	DISCH.	ROT.	UNIT NO.
CFM	SP	RPM	BHP
			OV
			TS

ACCESSORIES REQD.



- NOTES:
- "CW" ROTATION, MOTOR POSITION "Z" SHOWN. "CCW" ROTATION, MOTOR POSITION "W" IS SIMILAR BUT OPPOSITE.
 - STANDARD ARR. 3F MOTOR LOCATION ON LEFT FOR "CW" ROTATION UNITS AND ON RIGHT FOR "CCW" ROTATION. DIMENSION "FR" EQUALS MAX. MOTOR FRAME FOR OPTIONAL FLANGED OUTLET, CONTACT FACTORY FOR DWG. AC16045.
 - DIMENSION "MF" APPLIES ONLY WHEN SIX (6) MOUNTING BRACKETS ARE REQUIRED.
 - SEE ES4-98 FOR POINT LOADS AT LOCATION "S1," "S2," ETC.



NOTE: SEE DRAWING 16034 FOR SIZES 542-660. CONTACT FACTORY FOR BHD AND OTHER UBD ORIENTATIONS.

SIZE	A	B	BH	BS	DA	DC	DE	DY	FR	GA	GC	GC DBD	H	H THD/UBD	H DBD	H THD/UBD	H DBD	HC	HE	HG	HU	HU DBD	HU THD/UBD	HJ	HN	SIZE
300	31.81	42.69	0.89	5.00	23.00	23.75	26.75	1.25	364T	10	21.50	35.25	51.50	51.50	53.50	51.50	33.25	25.75	22.75	24.50	24.50	23.31	31.75	31.75	300	
330	35.13	46.69	0.69	5.00	24.50	26.00	29.38	1.50	365T	10	23.00	38.63	55.50	55.50	57.50	55.50	36.56	28.38	25.00	26.00	26.00	25.75	35.06	35.06	330	
365	38.69	51.81	0.81	6.00	27.50	28.75	32.50	1.50	365T	10	25.50	42.63	62.63	62.63	62.63	62.63	40.13	31.50	27.75	29.00	29.00	28.50	38.63	38.63	365	
402	42.63	57.19	0.81	6.00	30.00	31.56	35.69	1.50	405T	10	27.25	46.63	68.00	68.00	68.00	68.00	44.06	34.69	30.56	31.50	31.50	31.50	42.56	42.56	402	
445	47.13	63.13	0.81	6.00	33.38	34.75	39.25	1.50	445T	10	29.25	51.13	73.88	73.88	73.88	73.88	48.56	38.25	33.75	34.88	34.88	34.88	47.06	47.06	445	
490	51.94	69.44	0.81	6.00	37.00	38.19	43.19	1.50	445T	10	31.75	55.88	80.25	80.25	80.25	80.25	53.88	42.19	37.19	38.50	38.50	38.50	51.88	51.88	490	

SIZE	J	K	K DBD	K THD/UBD	KL	KS	M	M DBD	M THD	MD	MD DBD	MD UBD	P	Q	SD	UE	VA	VC	VE	VC	VE	VC	VE	VC	VE	VC
300	26.25	25.50	23.88	5.50	0.63 x 0.31	32.25	18.50	53.50	56.50	61.25	61.25	61.25	32.88	15.81	2.437	46.75	56.50	59.50	64.25	64.25	64.25	300				
330	28.25	27.50	25.88	5.50	0.63 x 0.31	35.63	20.00	55.75	59.13	64.13	64.13	64.13	34.88	17.50	2.437	46.00	49.38	54.38	58.75	62.13	62.13	330				
365	31.13	30.06	28.94	5.50	0.63 x 0.31	39.63	22.50	58.50	62.25	67.63	67.63	67.63	37.75	19.25	2.687	48.75	52.50	57.88	61.50	65.25	70.63	365				
402	33.81	32.75	31.63	6.00	0.63 x 0.31	43.63	24.25	67.00	71.00	77.13	77.13	77.13	40.94	21.25	2.687	55.63	59.63	65.75	70.00	74.00	80.13	402				
445	36.56	35.69	34.56	6.00	0.75 x 0.38	48.13	26.25	73.68	78.13	84.63	84.63	84.63	43.81	23.50	2.937	61.00	65.50	72.00	76.63	81.13	87.63	445				
490	41.13	38.88	37.75	7.00	0.88 x 0.44	52.88	28.75	76.88	81.75	88.75	88.75	88.75	49.44	25.88	3.437	64.25	69.13	76.13	79.88	84.75	91.75	490				

DIMENSIONS ARE SUBJECT TO CHANGE. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

Typical Specifications

Fans shall be Type CBA Airfoil, as manufactured by Aerovent, Minneapolis, Minnesota.

Fans shall have a sharply rising pressure characteristic extending through the operating range and continuing to rise beyond the peak efficiency to ensure quiet and stable operation. Fans shall have a non-overloading design with self-limiting horsepower characteristics and shall reach a peak in the normal selection area. All fans shall be capable of operating over the minimum pressure class limits, as specified in AMCA's Standard 2408-69.

PERFORMANCE — Fans shall be tested in accordance with AMCA 210 and AMCA 301 test codes for air moving devices and shall be guaranteed by the manufacturer to deliver rated published performance levels. Fans shall be licensed to bear the AMCA certified ratings seal for both sound and air.

HOUSING — CBA fan housings shall be of heavy-gauge, continuously welded construction. Housings with lock seams or partially welded construction are not acceptable. Housings shall be suitably braced to prevent vibration or pulsation. Fan housings shall have spun, aerodynamically designed inlet cones or inlet venturies for smooth airflow into the wheels.

WHEEL — All fan wheels shall have tapered spun wheel cones or shrouds, providing stable flow and high rigidity. Wheels shall be of the non-overloading type. Airfoil wheels shall be die-formed airfoil blade type, continuously welded to the rim and back plate. Blades shall be designed for maximum efficiency and quiet operation. Partial welding will not be acceptable on airfoil blades. Smaller sizes may use extruded aluminum blades. All airfoil wheels shall be statically and dynamically balanced. The complete fan assembly shall be test balanced at the operating speed prior to shipment.

SHAFT — CBA 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 — Bearings shall be heavy duty, grease lubricated, anti-friction ball or roller, self-aligning, pillow block type and selected for a minimum average bearing life (AFBMA L-50) in excess of 200,000 hours at the maximum fan RPM.

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.

ACCESSORIES — When specified, accessories such as belt guards, weather covers, access doors, companion flanges, outlet dampers, inlet screens, etc., shall be provided by Aerovent to maintain one source responsibility.

When specified, fans shall be supplied with internal or nested type variable inlet vanes for wheel diameters 16¹/₂" and larger. Cantilevered vane blades shall be used through Size 660 to minimize air performance insertion losses and noise. The operating mechanism shall be out of the inlet airstream. Double width fans shall have interconnecting linkage to insure operation in unison.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at 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 its CBA airfoil fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.