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***BACKWARD INCLINED BIA DWDI  
INDUSTRIAL CENTRIFUGAL FANS***



Arrangement 3

# BIA DWDI Industrial Centrifugal Fans

Aerovent's BIA 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 BIA 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.
- Rotatable housing offered as standard on sizes 12" through 25", optional on sizes 28" and 32".
- Class I, II, and III construction.
- Lifting eyes are provided on all sizes.
- Standard discharge arrangement is clockwise top horizontal.



## Sizes and Capacities

- Wheel diameters from 12" through 79".
- Flow capacities to 320,000 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 manufactured by Browning and are selected to provide an allowance of 1.4 times the normal satisfactory capacity.

The Aerovent BIA DWDI fans shown herein have been tested and rated in accordance with industry accepted test codes, and are guaranteed by Aerovent to deliver rated performance.

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# Wheel Design

The BIA wheel features continuously welded, backward curved airfoil blades, staggered on each side of the center plate. This wheel offers quiet operation and high working efficiencies for clean dry air service.



Wheel sizes 12" through 25" are furnished in welded aluminum construction only. All other sizes are furnished with steel construction as standard, aluminum as an option. Although BIA wheels are recommended, BI wheels can be furnished on request.

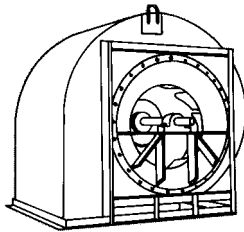
SIZE	WR <sup>2</sup> FACTORS OF BIA WHEELS						MAX. WHEEL SPEED*		
	CL I		CL II		CL III		CL I	CL II	CL III
	ALUM	STEEL	ALUM	STEEL	ALUM	STEEL			
12	2	-	2	-	2	-	3388	4406	5591
14	4	-	4	-	4	-	3006	3909	4962
16	5	-	5	-	5	-	2668	3468	4402
18	10	-	10	-	10	-	2371	3082	3913
20	14	-	14	-	14	-	2135	2775	3522
22	33	-	33	-	33	-	1906	2477	3144
25	39	-	39	-	42	-	1663	2202	2795
28	70	143	70	143	76	154	1476	1919	2435
32	113	237	113	237	116	248	1310	1671	2160
35	190	411	190	411	197	428	1164	1486	1921
39	361	789	361	789	372	817	1028	1337	1696
44	555	1228	555	1228	568	1273	918	1194	1515
49	895	2272	898	2332	898	2332	823	1070	1358
55	1295	3286	1335	3386	1335	3386	735	955	1212
63	2054	5160	2125	5329	2125	5329	642	835	1060
71	3949	10024	4237	10754	4237	10754	571	742	942
79	5504	13969	5950	15102	5950	15102	514	668	848

\*At 70°F

# Drive Arrangements

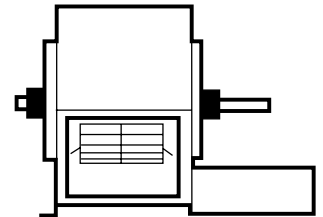
## Arrangement #3

For maximum structural strength, bearings are mounted on each side of the wheel. Available in sizes 12" through 79". This arrangement is limited to handling dry, uncontaminated air to 200°F maximum.



## Arrangement #7

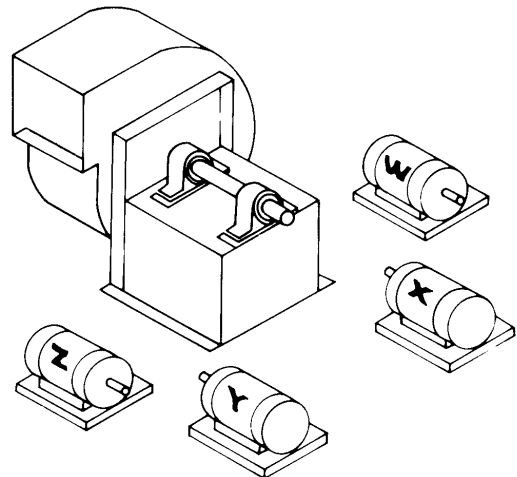
This is an Arrangement #3 fan with a pedestal added to accommodate a motor and flexible coupling.



# Motor Positions

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

For Arrangement #3, specify motor position and the following when ordering: (1) V-belt drive, (2) vibration bases, (3) belt guards.



# Accessories

## Vibration Isolators

Rubber-in-shear or spring type vibration isolators are available for all sizes and arrangements. Individual pads will be furnished as standard. If rails or rail assemblies are required, consult factory for specifications and pricing. Structural steel unitary bases, which allow assembly of fan and motor as an integral unit, are also available.

## 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. Nested or external type inlet vortex dampers are available.



## 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 GT 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.

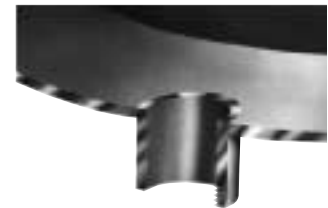
## Unitary Bases

Unitary bases are offered in all sizes as an option. Bases are constructed of structural channel in the following sizes:

Size 12" - 22"	3" channel
Size 25" - 32"	5" channel
Size 35" - 39"	6" channel
Size 44" - 55"	7" channel
Size 63" - 79"	8" channel

## 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

SIZE	HOUSING				WHEEL		SHAFT SIZES		WHEEL WEIGHT (LBS.)	UNIT WEIGHT (LBS.)
	SCROLL		FRAME ANGLE SIZE	DISCHARGE COLLAR	BACK PLATE	FRONT PLATE	BEARING	WHEEL		
	BACK	SIZE								
<b>CLASS I</b>										
12	.105	.105	1½ x 1½ x ¾	1 x ⅛	.135	.105	1¾	1¾	16	128
14	.105	.105	1½ x 1½ x ¾	1 x ⅛	.135	.105	1¾	1¾	22	164
16	.105	.105	1½ x 1½ x ¾	1 x ⅛	.135	.105	1½	1½	23	228
18	.105	.105	1½ x 1½ x ¾	1 x ⅛	.135	.105	1¹¹/₁₆	1¹¹/₁₆	36	289
20	.105	.105	1½ x 1½ x ¾	1½ x ¾	.179	.105	1¹¹/₁₆	1¹¹/₁₆	42	370
22	.105	.135	2 x 2 x ¾	1½ x ¾	.179	.105	1¹⁵/₁₆	1¹⁵/₁₆	78	474
25	.105	.135	2 x 2 x ¾	1½ x ¾	.179	.135	2¾	2¾	87	554
28	.105	.135	2 x 2 x ¾	1½ x ¾	.179	.135	2¾	2¾	174	810
32	.105	.135	2½ x 2½ x ¼	1½ x ¾	.179	.135	2⅞	2⅞	276	1117
35	.105	.135	2½ x 2½ x ¼	2 x ¼	¼	.135	2⅞	2¹⁵/₁₆	378	1456
39	.135	.135	3 x 3 x ¼	2 x ¼	¼	.135	2⅞	3⅞	588	1908
44	.135	.135	3 x 3 x ¼	2 x ¼	¼	.135	2³/₁₆ ⊕	3⅞	730	2341
49	.135	.135	3 x 4 x ⁵/₁₆	2 x ¼	¾	.179	2¹⁵/₁₆ ⊕	3¹⁵/₁₆	1084	2950
55	.135	.135	3 x 4 x ⁵/₁₆	2 x ¼	¾	.179	3⅞ ⊕	4⅞	1250	3758
63	.135	.135	3½ x 5 x ¾	2 x ¼	¾	.179	3⅞ ⊕	4⅞	1503	4926
71	.135	.135	3½ x 5 x ¾	2 x ¼	¾	¼	3¹⁵/₁₆ ⊕	4¹⁵/₁₆	2294	6732
79	.135	.135	3½ x 5 x ¾	2 x ¼	¾	¼	4⅞ ⊕	5⅞	2589	9094
<b>CLASS II</b>										
12	.105	.105	1½ x 1½ x ¾	1 x ⅛	.135	.105	1¾	1¾	16	128
14	.105	.105	1½ x 1½ x ¾	1 x ⅛	.135	.105	1½	1½	22	171
16	.105	.105	1½ x 1½ x ¾	1 x ⅛	.135	.105	1¹¹/₁₆	1¹¹/₁₆	23	233
18	.105	.105	1½ x 1½ x ¾	1 x ⅛	.135	.105	1¹⁵/₁₆	1¹⁵/₁₆	36	296
20	.105	.105	1½ x 1½ x ¾	1½ x ¾	.179	.105	1¹⁵/₁₆	1¹⁵/₁₆	42	378
22	.105	.135	2 x 2 x ¾	1½ x ¾	.179	.105	2¾	2¾	78	484
25	.105	.135	2 x 2 x ¾	1½ x ¾	.179	.135	2⅞	2⅞	87	568
28	.105	.135	2 x 2 x ¾	1½ x ¾	.179	.135	2⅞	2⅞	174	825
32	.105	.135	2½ x 2½ x ¼	1½ x ¾	.179	.135	2⅞ ⊕	2¹¹/₁₆	276	1136
35	.135	.135	2½ x 2½ x ¼	2 x ¼	¼	.135	2⅞ ⊕	3⅞	378	1512
39	.135	.135	3 x 3 x ¼	2 x ¼	¼	.135	2⅞ ⊕	3⅞	588	1923
44	.135	.135	3 x 3 x ¼	2 x ¼	¼	.135	2¹¹/₁₆ ⊕	3¹⁵/₁₆	730	2417
49	.135	.135	3 x 4 x ⁵/₁₆	2 x ¼	¾	.179	3⅞ ⊕	4⅞	1113	3050
55	.135	.135	3 x 4 x ⁵/₁₆	2 x ¼	¾	.179	3¹⁵/₁₆ ⊕	4¹⁵/₁₆	1288	3877
63	.179	.179	3½ x 5 x ¾	2 x ¼	¾	.179	3¹⁵/₁₆ ⊕	4¹⁵/₁₆	1552	5290
71	.179	.179	3½ x 5 x ¾	2 x ¼	¾	¼	4⅞ ⊕	5⅞	2461	7256
79	.179	.179	3½ x 5 x ¾	2 x ¼	¾	¼	4⅞ ⊕	6	2799	9551
<b>CLASS III</b>										
12	.135	.135	1½ x 1½ x ¾	1 x ⅛	.135	.105	1¾ ⊕	1½	16	181
14	.135	.135	1½ x 1½ x ¾	1 x ⅛	.135	.105	1½ ⊕	1¹¹/₁₆	22	233
16	.135	.135	1½ x 1½ x ¾	1 x ⅛	.135	.105	1½ ⊕	1¹⁵/₁₆	23	307
18	.135	.135	1½ x 1½ x ¾	1 x ⅛	.135	.105	1¹¹/₁₆ ⊕	2¾	36	397
20	.135	.135	1½ x 1½ x ¾	1½ x ¾	.179	.105	1¹⁵/₁₆ ⊕	2¾	42	496
22	.135	.135	2 x 2 x ¾	1½ x ¾	.179	.105	2³/₁₆ ⊕	2⅞	78	627
25	.135	.135	2 x 2 x ¾	1½ x ¾	.179	.135	2³/₁₆ ⊕	2¹⁵/₁₆	94	738
28	.135	.135	2 x 2 x ¾	1½ x ¾	.179	.135	2³/₁₆ ⊕	2¹⁵/₁₆	187	1040
32	.135	.179	2½ x 2½ x ¼	1½ x ¾	.179	.135	2⅞ ⊕	3⅞	289	1381
35	.135	.179	2½ x 2½ x ¼	2 x ¼	¼	.135	2¹¹/₁₆ ⊕	3¹⁵/₁₆	394	1782
39	.179	.179	3 x 3 x ¼	2 x ¼	¼	.135	2¹¹/₁₆ ⊕	3¹⁵/₁₆	609	2317
44	.179	.179	3 x 3 x ¼	2 x ¼	¼	.135	2¹⁵/₁₆ ⊕	4⅞	757	2845
49	.179	.179	3 x 4 x ⁵/₁₆	2 x ¼	¾	.179	3⅞ ⊕	4¹⁵/₁₆	1113	3563
55	.179	.179	3 x 4 x ⁵/₁₆	2 x ¼	¾	.179	3¹⁵/₁₆ ⊕	5⅞	1288	4541
63	.179	.179	3½ x 5 x ¾	2 x ¼	¾	.179	4⅞ ⊕	5⅞	1552	6315
71	.179	.179	3½ x 5 x ¾	2 x ¼	¾	¼	4⅞ ⊕	6	2461	8220
79	.179	.179	3½ x 5 x ¾	2 x ¼	¾	¼	4¹⁵/₁₆ ⊕	6½	2799	10921

⊕ Spherical roller bearings.  
Dimensions are in inches unless otherwise noted.

# 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 a BIA wheel, Arrangement #3, to provide 12,000 CFM at 3½" 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:

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

**For this example:** 3½" SP x 1.13 = 4" SP at Standard Conditions

Turn to page 10 for the 20" BIA DWDI fan performance table. Using 12,000 CFM at 4" SP at standard conditions, find the RPM and brake horsepower to be 2,157 RPM and 11.69 BHP. **Note:** 11.69 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:

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

**For this example:**  $\frac{11.69}{1.13} = 10.35$  BHP at Operating Conditions

Therefore, the 20" BIA DWDI fan providing 12,000 CFM at 3½" SP, at 140°F will run at 2,157 RPM and will require 10.35 BHP at operating conditions and 11.69 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 28" DWDI centrifugal fan with a BIA wheel, in Arrangement #3, to provide 20,200 CFM at 2½" 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:

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

**For this example:** 2½" SP x 1.20 = 3" SP at Standard Conditions

Turn to page 11 for the 28" BIA DWDI fan performance table. Using 20,200 CFM at 3" SP at standard conditions, find the RPM and brake horsepower to be 1,323 RPM and 14.17 BHP. **Note:** 14.17 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:

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

**For this example:**  $\frac{14.17}{1.20} = 11.81$  BHP at Operating Conditions

Therefore, the 28" BIA DWDI fan providing 20,200 CFM at 2½" SP, at 5,000 ft. elevation will run at 1,323 RPM and will require 11.81 BHP at operating conditions and 14.17 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 <sub>2</sub> O)	OUTLET VELOCITY (FPM)	VELOCITY PRESSURE (IN. H <sub>2</sub> 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 <sup>3</sup> /s
PRESSURE	SP	.24836	kPa
POWER	BHP	.74570	bkW
VELOCITY	FPM	.00508	m/s
DENSITY	lbs/ft <sup>3</sup>	16.018	kg/m <sup>3</sup>
SPEED	RPM	.01667	rps
AREA	ft <sup>2</sup>	.09290	m <sup>2</sup>
CIRCUMFERENCE	ft.	.30480	m
DIAMETER	in.	25.4	mm

# Performance Data

All capacities shown in the performance tables that follow are for standard air conditions: 70°F at sea level (0.075 lbs./cu. ft. air density).

The performance tables shown are given in English

units. To convert these figures to metric units, multiply the English unit by the conversion factor found in Table 4 on page 7.

## Size 12 DWDI Backward Inclined Airfoil

Wheel Diameter: 12.4"

Outlet Area: 1.58 ft.<sup>2</sup>

Wheel Circumference: 3.25 ft.

Max. BHP = .112 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1580	1000	1262	0.21	1505	0.37	<u>1729</u>	<u>0.55</u>												
2370	1500	1638	0.42	1846	0.65	2023	0.88	<u>2181</u>	<u>1.12</u>	<u>2334</u>	<u>1.37</u>	<u>2484</u>	<u>1.64</u>	<u>2631</u>	<u>1.92</u>	2777	2.22		
3160	2000	2042	0.78	2222	1.07	2381	1.37	2523	1.68	2656	1.99	2778	2.30	2895	2.62	<u>3010</u>	<u>2.95</u>	<u>3237</u>	<u>3.64</u>
3950	2500	2466	1.34	2618	1.68	2761	2.05	2892	2.42	3013	2.80	3126	3.18	3235	3.57	3339	3.96	3532	4.74
4740	3000	2901	2.14	3032	2.54	3157	2.96	3276	3.40	<b>3389</b>	<b>3.85</b>	<b>3496</b>	<b>4.30</b>	<b>3596</b>	<b>4.75</b>	<b>3692</b>	<b>5.21</b>	<b>3875</b>	<b>6.13</b>
5530	3500	3343	3.25	<b>3457</b>	<b>3.69</b>	<b>3568</b>	<b>4.17</b>	<b>3674</b>	<b>4.65</b>	<b>3777</b>	<b>5.16</b>	<b>3877</b>	<b>5.69</b>	<b>3972</b>	<b>6.21</b>	<b>4063</b>	<b>6.74</b>	<b>4235</b>	<b>7.80</b>
6320	4000	<b>3789</b>	<b>4.69</b>	<b>3891</b>	<b>5.20</b>	<b>3989</b>	<b>5.72</b>	<b>4085</b>	<b>6.26</b>	<b>4178</b>	<b>6.82</b>	<b>4270</b>	<b>7.40</b>	<b>4359</b>	<b>7.99</b>	4445	8.59	4609	9.79
7110	4500	<b>4238</b>	<b>6.53</b>	<b>4329</b>	<b>7.09</b>	<i>4418</i>	<i>7.67</i>	<i>4505</i>	<i>8.27</i>	<i>4590</i>	<i>8.87</i>	<i>4674</i>	<i>9.50</i>	<i>4755</i>	<i>10.14</i>	<i>4836</i>	<i>10.80</i>	<i>4991</i>	<i>12.15</i>
7900	5000	<i>4689</i>	<i>8.81</i>	<i>4772</i>	<i>9.43</i>	<i>4853</i>	<i>10.07</i>	<i>4933</i>	<i>10.72</i>										
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1580	1000																		
2370	1500																		
3160	2000	<b>3459</b>	<b>4.38</b>	<b>3678</b>	<b>5.18</b>														
3950	2500	<b>3716</b>	<b>5.54</b>	<b>3900</b>	<b>6.40</b>	<b>4080</b>	<b>7.28</b>	<b>4257</b>	<b>8.19</b>	<b>4433</b>	<b>9.15</b>	<i>4608</i>	<i>10.18</i>	<i>4785</i>	<i>11.28</i>				
4740	3000	<b>4047</b>	<b>7.07</b>	<b>4207</b>	<b>8.00</b>	<b>4362</b>	<b>8.96</b>	<i>4514</i>	<i>9.94</i>	<i>4667</i>	<i>10.97</i>	<i>4818</i>	<i>12.02</i>	<i>4967</i>	<i>13.09</i>				
5530	3500	<b>4396</b>	<b>8.86</b>	<i>4550</i>	<i>9.95</i>	<i>4697</i>	<i>11.04</i>	<i>4837</i>	<i>12.13</i>	<i>4971</i>	<i>13.22</i>								
6320	4000	<i>4762</i>	<i>10.99</i>	<i>4907</i>	<i>12.21</i>														
7110	4500																		
7900	5000																		

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 3388 RPM)  
**Bold face** = Class II fans (Max. 4406 RPM)  
*Italic face* = Class III fans (Max. 5591 RPM)

## Size 14 DWDI Backward Inclined Airfoil

Wheel Diameter: 13.98"

Outlet Area: 2.02 ft.<sup>2</sup>

Wheel Circumference: 3.66 ft.

Max. BHP = .204 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2020	1000	1123	0.27	1338	0.47	<u>1536</u>	<u>0.70</u>												
3030	1500	1459	0.55	1643	0.84	1800	1.13	<u>1939</u>	<u>1.43</u>	<u>2074</u>	<u>1.75</u>	<u>2207</u>	<u>2.09</u>	<u>2336</u>	<u>2.45</u>	2465	2.84		
4040	2000	1820	1.01	1979	1.38	2120	1.76	2245	2.15	2363	2.55	2471	2.95	2575	3.35	<u>2676</u>	<u>3.77</u>	<u>2876</u>	<u>4.65</u>
5050	2500	2199	1.73	2333	2.16	2459	2.64	2575	3.11	2682	3.60	2782	4.08	2878	4.58	2970	5.07	<b>3141</b>	<b>6.07</b>
6060	3000	2587	2.77	2702	3.27	2813	3.81	2918	4.37	<b>3018</b>	<b>4.94</b>	<b>3112</b>	<b>5.52</b>	<b>3201</b>	<b>6.10</b>	<b>3286</b>	<b>6.68</b>	<b>3448</b>	<b>7.86</b>
7070	3500	2981	4.19	<b>3082</b>	<b>4.77</b>	<b>3179</b>	<b>5.36</b>	<b>3274</b>	<b>5.99</b>	<b>3365</b>	<b>6.64</b>	<b>3453</b>	<b>7.31</b>	<b>3537</b>	<b>7.98</b>	<b>3618</b>	<b>8.66</b>	<b>3770</b>	<b>10.01</b>
8080	4000	<b>3379</b>	<b>6.06</b>	<b>3469</b>	<b>6.71</b>	<b>3556</b>	<b>7.38</b>	<b>3641</b>	<b>8.07</b>	<b>3723</b>	<b>8.78</b>	<b>3804</b>	<b>9.52</b>	<b>3882</b>	<b>10.27</b>	<i>3958</i>	<i>11.04</i>	<i>4103</i>	<i>12.57</i>
9090	4500	<b>3780</b>	<b>8.44</b>	<b>3860</b>	<b>9.15</b>	<i>3939</i>	<i>9.90</i>	<i>4016</i>	<i>10.66</i>	<i>4091</i>	<i>11.44</i>	<i>4164</i>	<i>12.23</i>	<i>4237</i>	<i>13.06</i>	<i>4308</i>	<i>13.90</i>	<i>4445</i>	<i>15.61</i>
10100	5000	<i>4182</i>	<i>11.38</i>	<i>4256</i>	<i>12.19</i>	<i>4327</i>	<i>12.99</i>	<i>4398</i>	<i>13.83</i>	<i>4466</i>	<i>14.67</i>	<i>4534</i>	<i>15.54</i>	<i>4600</i>	<i>16.41</i>	<i>4666</i>	<i>17.32</i>	<i>4794</i>	<i>19.17</i>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2020	1000																		
3030	1500																		
4040	2000	<b>3072</b>	<b>5.59</b>	<b>3265</b>	<b>6.61</b>														
5050	2500	<b>3304</b>	<b>7.10</b>	<b>3466</b>	<b>8.18</b>	<b>3625</b>	<b>9.30</b>	<b>3782</b>	<b>10.47</b>	<b>3937</b>	<b>11.69</b>	<i>4091</i>	<i>12.99</i>	<i>4247</i>	<i>14.38</i>				
6060	3000	<b>3600</b>	<b>9.06</b>	<b>3742</b>	<b>10.25</b>	<b>3879</b>	<b>11.47</b>	<i>4013</i>	<i>12.72</i>	<i>4148</i>	<i>14.03</i>	<i>4282</i>	<i>15.38</i>	<i>4413</i>	<i>16.74</i>	<i>4543</i>	<i>18.14</i>	<i>4673</i>	<i>19.61</i>
7070	3500	<i>3912</i>	<i>11.37</i>	<i>4048</i>	<i>12.75</i>	<i>4179</i>	<i>14.15</i>	<i>4302</i>	<i>15.53</i>	<i>4422</i>	<i>16.95</i>	<i>4538</i>	<i>18.37</i>	<i>4653</i>	<i>19.83</i>	<i>4769</i>	<i>21.34</i>	<i>4884</i>	<i>22.88</i>
8080	4000	<i>4239</i>	<i>14.11</i>	<i>4368</i>	<i>15.66</i>	<i>4491</i>	<i>17.23</i>	<i>4610</i>	<i>18.81</i>	<i>4725</i>	<i>20.40</i>	<i>4836</i>	<i>21.99</i>	<i>4943</i>	<i>23.59</i>				
9090	4500	<i>4575</i>	<i>17.34</i>	<i>4698</i>	<i>19.06</i>	<i>4816</i>	<i>20.79</i>	<i>4929</i>	<i>22.54</i>										
10100	5000	<i>4918</i>	<i>21.08</i>																

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 3006 RPM)  
**Bold face** = Class II fans (Max. 3909 RPM)  
*Italic face* = Class III fans (Max. 4962 RPM)



# Size 16 DWDI Backward Inclined Airfoil

Wheel Diameter: 15.75"

Outlet Area: 2.56 ft.<sup>2</sup>

Wheel Circumference: 4.12 ft.

Max. BHP = .406 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2560	1000	942	0.32	<u>1141</u>	<u>0.58</u>	<u>1330</u>	<u>0.89</u>												
3840	1500	1220	0.62	1377	0.98	1517	1.35	<u>1647</u>	<u>1.75</u>	<u>1776</u>	<u>2.18</u>	<u>1901</u>	<u>2.63</u>	2027	3.12				
5120	2000	1521	1.13	1655	1.58	1774	2.05	1884	2.54	1989	3.04	2088	3.55	<u>2186</u>	<u>4.09</u>	<u>2282</u>	<u>4.64</u>	<u>2473</u>	<u>5.83</u>
6400	2500	1834	1.90	1951	2.44	2056	3.01	2154	3.59	2246	4.19	2333	4.80	2418	5.42	2501	6.06	2659	7.35
7680	3000	2154	3.00	2257	3.64	2352	4.30	2440	4.98	2523	5.67	2604	6.38	<b>2680</b>	<b>7.09</b>	<b>2754</b>	<b>7.82</b>	<b>2896</b>	<b>9.31</b>
8960	3500	2479	4.50	2571	5.24	2657	5.99	<b>2737</b>	<b>6.76</b>	<b>2814</b>	<b>7.56</b>	<b>2887</b>	<b>8.36</b>	<b>2958</b>	<b>9.17</b>	<b>3026</b>	<b>9.99</b>	<b>3157</b>	<b>11.66</b>
10240	4000	<b>2808</b>	<b>6.47</b>	<b>2890</b>	<b>7.30</b>	<b>2968</b>	<b>8.15</b>	<b>3042</b>	<b>9.01</b>	<b>3113</b>	<b>9.90</b>	<b>3181</b>	<b>10.80</b>	<b>3246</b>	<b>11.70</b>	<b>3309</b>	<b>12.62</b>	<b>3432</b>	<b>14.49</b>
11520	4500	<b>3138</b>	<b>8.97</b>	<b>3213</b>	<b>9.90</b>	<b>3284</b>	<b>10.84</b>	<b>3353</b>	<b>11.81</b>	<b>3419</b>	<b>12.78</b>	<b>3482</b>	<b>13.77</b>	<b>3543</b>	<b>14.77</b>	<b>3602</b>	<b>15.78</b>	<b>3716</b>	<b>17.84</b>
12800	5000	<i>3471</i>	<i>12.06</i>	<i>3539</i>	<i>13.09</i>	<i>3604</i>	<i>14.13</i>	<i>3668</i>	<i>15.20</i>	<i>3729</i>	<i>16.26</i>	<i>3788</i>	<i>17.33</i>	<i>3846</i>	<i>18.44</i>	<i>3902</i>	<i>19.55</i>	<i>4009</i>	<i>21.79</i>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2560	1000																		
3840	1500																		
5120	2000	2660	7.10																
6400	2500	<b>2814</b>	<b>8.72</b>	<b>2968</b>	<b>10.17</b>	<b>3119</b>	<b>11.67</b>	<b>3269</b>	<b>13.26</b>	<b>3420</b>	<b>14.93</b>								
7680	3000	<b>3034</b>	<b>10.84</b>	<b>3165</b>	<b>12.39</b>	<b>3295</b>	<b>14.00</b>	<b>3424</b>	<b>15.69</b>	<i>3551</i>	<i>17.42</i>	<i>3678</i>	<i>19.22</i>	3803	21.07	3928	22.99	4053	24.97
8960	3500	<b>3281</b>	<b>13.37</b>	<b>3402</b>	<b>15.12</b>	3520	16.91	3634	18.71	3745	20.54	<b>3856</b>	<b>22.44</b>	<b>3967</b>	<b>24.41</b>	<b>4077</b>	<b>26.42</b>	<b>4185</b>	<b>28.46</b>
10240	4000	<i>3548</i>	<i>16.38</i>	<i>3659</i>	<i>18.31</i>	<i>3767</i>	<i>20.28</i>	<i>3873</i>	<i>22.28</i>	<i>3977</i>	<i>24.32</i>	<i>4078</i>	<i>26.36</i>	<i>4177</i>	<i>28.44</i>	<i>4275</i>	<i>30.56</i>	<i>4371</i>	<i>32.69</i>
11520	4500	<i>3826</i>	<i>19.94</i>	<i>3931</i>	<i>22.05</i>	<i>4032</i>	<i>24.20</i>	<i>4130</i>	<i>26.38</i>	<i>4226</i>	<i>28.60</i>	<i>4321</i>	<i>30.85</i>						
12800	5000	<i>4112</i>	<i>24.08</i>	<i>4211</i>	<i>26.39</i>	<i>4308</i>	<i>28.74</i>	<i>4401</i>	<i>31.11</i>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 2668 RPM)

**Bold face** = Class II fans (Max. 3468 RPM)

*Italic face* = Class III fans (Max. 4402 RPM)

# Size 18 DWDI Backward Inclined Airfoil

Wheel Diameter: 17.72"

Outlet Area: 3.24 ft.<sup>2</sup>

Wheel Circumference: 4.64 ft.

Max. BHP = .732 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3240	1000	837	0.40	<u>1014</u>	<u>0.73</u>	<u>1182</u>	<u>1.12</u>												
4860	1500	1084	0.79	1224	1.24	1348	1.71	<u>1464</u>	<u>2.21</u>	<u>1578</u>	<u>2.76</u>	<u>1690</u>	<u>3.33</u>	1801	3.95				
6480	2000	1352	1.43	1471	2.00	1577	2.59	1674	3.21	1767	3.84	1856	4.50	<u>1943</u>	<u>5.18</u>	<u>2029</u>	<u>5.88</u>	<u>2198</u>	<u>7.38</u>
8100	2500	1630	2.40	1734	3.09	1827	3.81	1914	4.54	1996	5.30	2074	6.08	2149	6.86	2223	7.67	2364	9.31
9720	3000	1914	3.80	2006	4.61	2090	5.44	2168	6.30	2243	7.18	2314	8.07	<b>2382</b>	<b>8.98</b>	<b>2447</b>	<b>9.89</b>	<b>2574</b>	<b>11.78</b>
11340	3500	2203	5.70	2285	6.63	2361	7.58	<b>2433</b>	<b>8.56</b>	<b>2501</b>	<b>9.56</b>	<b>2566</b>	<b>10.58</b>	<b>2629</b>	<b>11.61</b>	<b>2690</b>	<b>12.65</b>	<b>2805</b>	<b>14.75</b>
12960	4000	<b>2495</b>	<b>8.19</b>	<b>2568</b>	<b>9.24</b>	<b>2638</b>	<b>10.32</b>	<b>2704</b>	<b>11.41</b>	<b>2767</b>	<b>12.53</b>	<b>2827</b>	<b>13.66</b>	<b>2885</b>	<b>14.81</b>	<b>2941</b>	<b>15.97</b>	<b>3050</b>	<b>18.33</b>
14580	4500	<b>2789</b>	<b>11.35</b>	<b>2855</b>	<b>12.52</b>	<b>2919</b>	<b>13.73</b>	<b>2980</b>	<b>14.94</b>	<b>3038</b>	<b>16.17</b>	<b>3094</b>	<b>17.41</b>	<b>3149</b>	<b>18.69</b>	<b>3201</b>	<b>19.97</b>	<b>3303</b>	<b>22.59</b>
16200	5000	<i>3084</i>	<i>15.25</i>	<i>3145</i>	<i>16.57</i>	<i>3203</i>	<i>17.88</i>	<i>3260</i>	<i>19.23</i>	<i>3314</i>	<i>20.57</i>	<i>3367</i>	<i>21.95</i>	<i>3418</i>	<i>23.33</i>	<i>3467</i>	<i>24.72</i>	<i>3563</i>	<i>27.58</i>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
3240	1000																		
4860	1500																		
6480	2000	2365	9.00																
8100	2500	<b>2501</b>	<b>11.03</b>	<b>2638</b>	<b>12.87</b>	<b>2772</b>	<b>14.77</b>	<b>2906</b>	<b>16.79</b>	<b>3039</b>	<b>18.88</b>								
9720	3000	<b>2696</b>	<b>13.71</b>	<b>2813</b>	<b>15.68</b>	<b>2928</b>	<b>17.71</b>	<b>3043</b>	<b>19.85</b>	<i>3156</i>	<i>22.04</i>	<i>3269</i>	<i>24.33</i>	3380	26.67	3491	29.09	3603	31.62
11340	3500	<b>2916</b>	<b>16.92</b>	<b>3024</b>	<b>19.15</b>	<b>3128</b>	<b>21.39</b>	<b>3230</b>	<b>23.69</b>	<b>3329</b>	<b>26.01</b>	<b>3427</b>	<b>28.40</b>	<b>3525</b>	<b>30.87</b>	<b>3623</b>	<b>33.43</b>	<b>3720</b>	<b>36.04</b>
12960	4000	<i>3153</i>	<i>20.73</i>	<i>3252</i>	<i>23.18</i>	<i>3348</i>	<i>25.67</i>	<i>3442</i>	<i>28.20</i>	<i>3535</i>	<i>30.78</i>	<i>3625</i>	<i>33.38</i>	<i>3712</i>	<i>35.98</i>	<i>3799</i>	<i>38.66</i>	<i>3885</i>	<i>41.38</i>
14580	4500	<i>3400</i>	<i>25.22</i>	<i>3494</i>	<i>27.92</i>	<i>3584</i>	<i>30.64</i>	<i>3671</i>	<i>33.40</i>	<i>3756</i>	<i>36.20</i>	<i>3840</i>	<i>39.04</i>						
16200	5000	<i>3654</i>	<i>30.46</i>	<i>3743</i>	<i>33.47</i>	<i>3829</i>	<i>36.38</i>	<i>3911</i>	<i>39.35</i>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 2371 RPM)

**Bold face** = Class II fans (Max. 3082 RPM)

*Italic face* = Class III fans (Max. 3913 RPM)

# Size 20 DWDI Backward Inclined Airfoil

Wheel Diameter: 19.68"

Outlet Area: 4.00 ft.<sup>2</sup>

Wheel Circumference: 5.15 ft.

Max. BHP = 1.26 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4000	1000	737	0.47	904	<u>0.89</u>																
6000	1500	960	0.95	1078	1.46	<u>1189</u>	<u>2.03</u>	<u>1300</u>	<u>2.67</u>	<u>1413</u>	<u>3.36</u>	1527	4.08								
8000	2000	1202	1.76	1301	2.40	1391	3.07	1475	3.78	1558	4.54	1641	5.36	1724	6.23	1808	7.14	1979	9.02		
10000	2500	1451	2.97	1540	3.81	1617	4.59	1691	5.42	1760	6.27	1827	7.16	1893	8.08	1960	9.06	<u>2093</u>	<u>11.15</u>		
12000	3000	1705	4.67	1785	5.71	1856	6.69	1921	7.64	1983	8.61	2043	9.61	2101	10.64	<b>2157</b>	<b>11.69</b>	<b>2267</b>	<b>13.88</b>		
14000	3500	1962	6.96	2034	8.20	2100	9.39	2161	10.54	2217	11.64	2271	12.75	2323	13.88	2375	15.05	2474	17.46		
16000	4000	2221	9.94	2287	11.38	2348	12.77	2405	14.13	2458	15.44	2508	16.71	2556	17.97	2603	19.24	2694	21.86		
18000	4500	2483	13.73	2543	15.36	2599	16.95	2652	18.50	2703	20.04	2750	21.50	2795	22.93	2839	24.36	2923	27.21		
20000	5000	<b>2745</b>	<b>18.39</b>	2800	20.21	2852	22.00	2902	23.76	2950	25.49	2995	27.18	3039	28.85	3080	30.44	3159	33.61		
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4000	1000																				
6000	1500																				
8000	2000																				
10000	2500	<b>2226</b>	<b>13.37</b>	<b>2362</b>	<b>15.68</b>	<b>2499</b>	<b>18.06</b>														
12000	3000	<b>2378</b>	<b>16.23</b>	<b>2489</b>	<b>18.74</b>	<b>2600</b>	<b>21.38</b>	<b>2712</b>	<b>24.11</b>	<b>2825</b>	<b>26.86</b>	<b>2940</b>	<b>29.71</b>	<b>3053</b>	<b>32.62</b>						
14000	3500	<b>2569</b>	<b>19.95</b>	<b>2663</b>	<b>22.55</b>	<b>2759</b>	<b>25.31</b>	<b>2854</b>	<b>28.20</b>	<b>2949</b>	<b>31.20</b>	<b>3044</b>	<b>34.30</b>	<b>3140</b>	<b>37.48</b>						
16000	4000	<b>2782</b>	<b>24.59</b>	<b>2867</b>	<b>27.39</b>	<b>2949</b>	<b>30.24</b>	<b>3032</b>	<b>33.23</b>	<b>3116</b>	<b>36.35</b>	<b>3199</b>	<b>39.58</b>	<b>3282</b>	<b>42.92</b>	<b>3365</b>	<b>46.36</b>	<b>3449</b>	<b>49.92</b>		
18000	4500	<b>3005</b>	<b>30.16</b>	<b>3084</b>	<b>33.18</b>	<b>3161</b>	<b>36.29</b>	<b>3235</b>	<b>39.43</b>	<b>3309</b>	<b>42.67</b>	<b>3382</b>	<b>45.98</b>	<b>3456</b>	<b>49.41</b>						
20000	5000	<b>3235</b>	<b>36.78</b>	<b>3309</b>	<b>40.02</b>	<b>3382</b>	<b>43.37</b>	<b>3452</b>	<b>46.75</b>	<b>3520</b>	<b>50.18</b>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 2135 RPM)

**Bold face** = Class II fans (Max. 2775 RPM)

*Italic face* = Class III fans (Max. 3522 RPM)

# Size 22 DWDI Backward Inclined Airfoil

Wheel Diameter: 22.05"

Outlet Area: 5.02 ft.<sup>2</sup>

Wheel Circumference: 5.77 ft.

Max. BHP = 2.23 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5020	1000	658	0.59	807	<u>1.12</u>																
7530	1500	857	1.20	962	1.83	<u>1061</u>	<u>2.54</u>	<u>1160</u>	<u>3.35</u>	<u>1261</u>	<u>4.22</u>	1362	5.11								
10040	2000	1073	2.22	1161	3.02	1241	3.85	1316	4.75	1390	5.70	1465	6.74	1539	7.83	1613	8.95	1766	11.31		
12550	2500	1295	3.73	1374	4.77	1443	5.76	1509	6.80	1571	7.88	1630	8.98	1689	10.14	1749	11.37	<b>1868</b>	<b>14.00</b>		
15060	3000	1521	5.86	1593	7.16	1656	8.39	1714	9.58	1769	10.79	1823	12.05	1875	13.35	<b>1925</b>	<b>14.67</b>	<b>2023</b>	<b>17.41</b>		
17570	3500	1750	8.73	1815	10.28	1874	11.78	1928	13.21	1978	14.60	2026	15.99	2073	17.41	2120	18.91	2208	21.92		
20080	4000	<b>1982</b>	<b>12.48</b>	<b>2041</b>	<b>14.28</b>	<b>2095</b>	<b>16.02</b>	<b>2146</b>	<b>17.73</b>	<b>2193</b>	<b>19.36</b>	<b>2238</b>	<b>20.96</b>	<b>2281</b>	<b>22.55</b>	<b>2323</b>	<b>24.15</b>	<b>2404</b>	<b>27.43</b>		
22590	4500	<b>2215</b>	<b>17.21</b>	<b>2269</b>	<b>19.27</b>	<b>2319</b>	<b>21.26</b>	<b>2366</b>	<b>23.20</b>	<b>2411</b>	<b>25.11</b>	<b>2454</b>	<b>26.98</b>	<b>2494</b>	<b>28.77</b>	<b>2533</b>	<b>30.55</b>	<b>2608</b>	<b>34.13</b>		
25100	5000	<b>2450</b>	<b>23.09</b>	<b>2499</b>	<b>25.37</b>	<b>2545</b>	<b>27.60</b>	<b>2590</b>	<b>29.82</b>	<b>2632</b>	<b>31.97</b>	<b>2673</b>	<b>34.12</b>	<b>2711</b>	<b>36.16</b>	<b>2748</b>	<b>38.18</b>	<b>2819</b>	<b>42.17</b>		
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
5020	1000																				
7530	1500																				
10040	2000																				
12550	2500	<b>1987</b>	<b>16.79</b>	<b>2108</b>	<b>19.68</b>	<b>2230</b>	<b>22.65</b>														
15060	3000	<b>2123</b>	<b>20.39</b>	<b>2222</b>	<b>23.55</b>	<b>2321</b>	<b>26.85</b>	<b>2420</b>	<b>30.24</b>	<b>2522</b>	<b>33.74</b>	<b>2624</b>	<b>37.29</b>	<b>2725</b>	<b>40.95</b>						
17570	3500	<b>2292</b>	<b>25.02</b>	<b>2377</b>	<b>28.31</b>	<b>2462</b>	<b>31.76</b>	<b>2547</b>	<b>35.39</b>	<b>2632</b>	<b>39.17</b>	<b>2717</b>	<b>43.06</b>	<b>2802</b>	<b>47.02</b>						
20080	4000	<b>2483</b>	<b>30.87</b>	<b>2558</b>	<b>34.36</b>	<b>2632</b>	<b>37.97</b>	<b>2706</b>	<b>41.72</b>	<b>2780</b>	<b>45.59</b>	<b>2855</b>	<b>49.67</b>	<b>2929</b>	<b>53.86</b>	<b>3003</b>	<b>58.18</b>	<b>3078</b>	<b>62.65</b>		
22590	4500	<b>2681</b>	<b>37.82</b>	<b>2752</b>	<b>41.63</b>	<b>2821</b>	<b>45.55</b>	<b>2887</b>	<b>49.48</b>	<b>2953</b>	<b>53.56</b>	<b>3018</b>	<b>57.70</b>	<b>3084</b>	<b>62.00</b>						
25100	5000	<b>2887</b>	<b>46.16</b>	<b>2952</b>	<b>50.17</b>	<b>3018</b>	<b>54.42</b>	<b>3080</b>	<b>58.64</b>	<b>3141</b>	<b>62.96</b>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 1906 RPM)

**Bold face** = Class II fans (Max. 2477 RPM)

*Italic face* = Class III fans (Max. 3144 RPM)

# Size 25 DWDI Backward Inclined Airfoil

Wheel Diameter: 24.8"

Outlet Area: 6.35 ft.<sup>2</sup>

Wheel Circumference: 6.49 ft.

Max. BHP = 3.63 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6350	1000	601	0.73	<u>729</u>	<u>1.35</u>	865	2.10												
9525	1500	777	1.43	879	2.27	<u>968</u>	<u>3.14</u>	<u>1051</u>	<u>4.07</u>	<u>1139</u>	<u>5.09</u>	1231	6.20	1319	7.38				
12700	2000	965	2.55	1055	3.64	1132	4.74	1202	5.87	1269	7.05	1332	8.25	1394	9.49	1458	10.81	1595	13.69
15875	2500	1163	4.24	1239	5.56	1310	6.94	1375	8.33	1434	9.72	1489	11.12	1544	12.58	1596	14.04	<b>1696</b>	<b>17.07</b>
19050	3000	1367	6.66	1432	8.21	1495	9.82	1554	11.46	1610	13.13	1662	14.79	<b>1711</b>	<b>16.46</b>	<b>1758</b>	<b>18.14</b>	<b>1849</b>	<b>21.59</b>
22225	3500	1573	9.92	1631	11.72	<b>1686</b>	<b>13.55</b>	<b>1739</b>	<b>15.42</b>	<b>1791</b>	<b>17.35</b>	<b>1840</b>	<b>19.28</b>	<b>1887</b>	<b>21.22</b>	<b>1931</b>	<b>23.14</b>	<b>2015</b>	<b>27.04</b>
25400	4000	<b>1782</b>	<b>14.20</b>	<b>1833</b>	<b>16.22</b>	<b>1883</b>	<b>18.30</b>	<b>1931</b>	<b>20.40</b>	<b>1978</b>	<b>22.56</b>	<b>2023</b>	<b>24.72</b>	<b>2067</b>	<b>26.92</b>	<b>2110</b>	<b>29.15</b>	<b>2190</b>	<b>33.56</b>
28575	4500	<b>1992</b>	<b>19.61</b>	<b>2039</b>	<b>21.91</b>	<b>2083</b>	<b>24.18</b>	<b>2127</b>	<b>26.53</b>	<b>2170</b>	<b>28.91</b>	<b>2211</b>	<b>31.29</b>	<b>2252</b>	<b>33.73</b>	<b>2292</b>	<b>36.20</b>	<b>2369</b>	<b>41.19</b>
31750	5000	2204	26.33	2246	28.85	2287	31.40	2327	33.97	2366	36.57	2404	39.18	2442	41.85	2479	44.54	2551	50.00
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6350	1000																		
9525	1500																		
12700	2000	<b>1730</b>	<b>16.78</b>																
15875	2500	<b>1796</b>	<b>20.26</b>	<b>1904</b>	<b>23.76</b>	<b>2015</b>	<b>27.46</b>	<b>2123</b>	<b>31.29</b>	<b>2226</b>	<b>35.24</b>								
19050	3000	<b>1936</b>	<b>25.14</b>	<b>2019</b>	<b>28.76</b>	<b>2101</b>	<b>32.50</b>	<b>2187</b>	<b>36.49</b>	<b>2277</b>	<b>40.68</b>	2370	45.11	2462	49.64	2551	54.24	2638	59.03
22225	3500	<b>2095</b>	<b>31.03</b>	<b>2172</b>	<b>35.07</b>	2246	39.19	2318	43.41	2388	47.67	<b>2460</b>	<b>52.16</b>	<b>2533</b>	<b>56.77</b>	<b>2609</b>	<b>61.58</b>	<b>2687</b>	<b>66.55</b>
25400	4000	2265	38.00	2336	42.48	2405	47.04	2473	51.70	2538	56.37	2602	61.16	2664	65.97	2726	70.91	2788	75.94
28575	4500	2441	46.15	2509	51.13	2574	56.14	2637	61.22	2698	66.32	2758	71.50						
31750	5000	2620	55.50	2686	61.04	2749	66.58												

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 1663 RPM)

**Bold face** = Class II fans (Max. 2202 RPM)

*Italic face* = Class III fans (Max. 2795 RPM)

# Size 28 DWDI Backward Inclined Airfoil

Wheel Diameter: 27.95"

Outlet Area: 8.08 ft.<sup>2</sup>

Wheel Circumference: 7.32 ft.

Max. BHP = 6.60 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8080	1000	534	0.94	<u>647</u>	<u>1.72</u>	<u>768</u>	<u>2.67</u>												
12120	1500	690	1.82	781	2.89	860	4.01	<u>933</u>	<u>5.17</u>	<u>1011</u>	<u>6.48</u>	1092	7.88	1170	9.37				
16160	2000	858	3.25	937	4.64	1006	6.05	1068	7.49	1127	8.97	<b>1183</b>	<b>10.50</b>	<b>1238</b>	<b>12.09</b>	<u>1294</u>	<u>13.75</u>	1416	17.42
20200	2500	1034	5.42	1101	7.09	1164	8.85	1221	10.60	1273	12.36	1323	14.17	1371	16.01	1418	17.90	<b>1506</b>	<b>21.73</b>
24240	3000	1215	8.50	1273	10.48	1328	12.51	1381	14.62	1430	16.72	1476	18.83	<b>1520</b>	<b>20.97</b>	<b>1561</b>	<b>23.08</b>	<b>1642</b>	<b>27.48</b>
28280	3500	1398	12.66	1449	14.94	1498	17.27	1546	19.69	1591	22.10	1635	24.58	1676	27.02	1716	29.51	1790	34.45
32320	4000	<b>1584</b>	<b>18.13</b>	<b>1629</b>	<b>20.70</b>	<b>1673</b>	<b>23.33</b>	<b>1716</b>	<b>26.02</b>	<b>1757</b>	<b>28.73</b>	<b>1797</b>	<b>31.49</b>	<b>1837</b>	<b>34.34</b>	<b>1874</b>	<b>37.11</b>	<b>1946</b>	<b>42.79</b>
36360	4500	<b>1771</b>	<b>25.05</b>	<b>1812</b>	<b>27.95</b>	<b>1852</b>	<b>30.89</b>	<b>1890</b>	<b>33.83</b>	<b>1928</b>	<b>36.86</b>	<b>1965</b>	<b>39.92</b>	<b>2001</b>	<b>43.01</b>	<b>2036</b>	<b>46.12</b>	<b>2104</b>	<b>52.44</b>
40400	5000	<b>1959</b>	<b>33.62</b>	<b>1996</b>	<b>36.81</b>	<b>2032</b>	<b>40.03</b>	<b>2068</b>	<b>43.34</b>	<b>2102</b>	<b>46.60</b>	<b>2136</b>	<b>49.95</b>	<b>2170</b>	<b>53.37</b>	<b>2203</b>	<b>56.81</b>	<b>2267</b>	<b>63.77</b>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8080	1000																		
12120	1500																		
16160	2000	<b>1535</b>	<b>21.33</b>																
20200	2500	<b>1595</b>	<b>25.81</b>	<b>1690</b>	<b>30.22</b>	<b>1788</b>	<b>34.91</b>	<b>1884</b>	<b>39.79</b>	<b>1976</b>	<b>44.86</b>								
24240	3000	<b>1719</b>	<b>31.99</b>	<b>1792</b>	<b>36.56</b>	<b>1866</b>	<b>41.40</b>	<b>1942</b>	<b>46.47</b>	<b>2021</b>	<b>51.75</b>	2103	57.34	2185	63.14	2264	69.00	2341	75.07
28280	3500	<b>1860</b>	<b>39.46</b>	1929	44.66	1995	49.93	2058	55.23	2121	60.73	<b>2184</b>	<b>66.37</b>	<b>2249</b>	<b>72.27</b>	<b>2316</b>	<b>78.36</b>	<b>2385</b>	<b>84.67</b>
32320	4000	2012	48.47	2075	54.11	2136	59.89	2196	65.80	2254	71.77	2311	77.89	2366	84.01	2420	90.19		
36360	4500	2169	58.84	2229	65.15	2286	71.47	2342	77.94	2396	84.43								
40400	5000	2328	70.76	2386	77.75														

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 1476 RPM)

**Bold face** = Class II fans (Max. 1919 RPM)

*Italic face* = Class III fans (Max. 2435 RPM)

# Size 32 DWDI Backward Inclined Airfoil

Wheel Diameter: 31.5"

Outlet Area: 10.26 ft.<sup>2</sup>

Wheel Circumference: 8.25 ft.

Max. BHP = 12.00 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10260	1000	474	1.19	<u>574</u>	<u>2.18</u>	<u>681</u>	<u>3.39</u>														
15390	1500	612	2.31	693	3.67	763	5.09	<u>828</u>	<u>6.58</u>	<u>897</u>	<u>8.23</u>	969	10.01	1038	11.90						
20520	2000	761	4.13	831	5.88	892	7.67	947	9.49	1000	11.40	<u>1049</u>	<u>13.31</u>	<u>1098</u>	<u>15.34</u>	1148	17.45	1256	22.11		
25650	2500	917	6.87	977	9.01	1033	11.24	1083	13.45	1130	15.72	1174	18.01	1216	20.31	1258	22.73	<b>1336</b>	<b>27.58</b>		
30780	3000	1077	10.77	1129	13.29	1178	15.88	1225	18.55	1269	21.25	1310	23.94	<b>1348</b>	<b>26.59</b>	<b>1385</b>	<b>29.31</b>	<b>1457</b>	<b>34.91</b>		
35910	3500	1240	16.07	1286	18.99	<b>1329</b>	<b>21.93</b>	<b>1371</b>	<b>24.96</b>	<b>1411</b>	<b>28.03</b>	<b>1450</b>	<b>31.17</b>	<b>1487</b>	<b>34.31</b>	<b>1522</b>	<b>37.44</b>	<b>1588</b>	<b>43.74</b>		
41040	4000	<b>1405</b>	<b>23.01</b>	<b>1445</b>	<b>26.27</b>	<b>1484</b>	<b>29.61</b>	<b>1522</b>	<b>33.02</b>	<b>1559</b>	<b>36.50</b>	<b>1595</b>	<b>40.04</b>	<b>1629</b>	<b>43.54</b>	<b>1663</b>	<b>47.16</b>	<i>1726</i>	<i>54.29</i>		
46170	4500	<b>1571</b>	<b>31.79</b>	<b>1607</b>	<b>35.44</b>	<b>1642</b>	<b>39.15</b>	<i>1677</i>	<i>42.97</i>	<i>1710</i>	<i>46.76</i>	<i>1743</i>	<i>50.66</i>	<i>1775</i>	<i>54.58</i>	<i>1807</i>	<i>58.62</i>	<i>1867</i>	<i>66.62</i>		
51300	5000	<i>1738</i>	<i>42.68</i>	<i>1771</i>	<i>46.75</i>	<i>1803</i>	<i>50.85</i>	<i>1834</i>	<i>54.96</i>	<i>1865</i>	<i>59.19</i>	<i>1895</i>	<i>63.41</i>	<i>1925</i>	<i>67.75</i>	<i>1954</i>	<i>72.08</i>	<i>2011</i>	<i>80.94</i>		
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
10260	1000																				
15390	1500																				
20520	2000	<b>1362</b>	<b>27.09</b>																		
25650	2500	<b>1415</b>	<b>32.76</b>	<b>1499</b>	<b>38.34</b>	<b>1586</b>	<b>44.29</b>	<b>1672</b>	<b>50.56</b>	<b>1753</b>	<b>56.94</b>										
30780	3000	<b>1525</b>	<b>40.61</b>	<b>1590</b>	<b>46.44</b>	<b>1655</b>	<b>52.51</b>	<i>1723</i>	<i>59.00</i>	<i>1793</i>	<i>65.70</i>	<i>1866</i>	<i>72.82</i>	<i>1938</i>	<i>80.09</i>	<i>2009</i>	<i>87.65</i>	<i>2077</i>	<i>95.31</i>		
35910	3500	<b>1650</b>	<b>50.09</b>	<i>1711</i>	<i>56.67</i>	<i>1770</i>	<i>63.40</i>	<i>1826</i>	<i>70.14</i>	<i>1881</i>	<i>77.02</i>	<i>1937</i>	<i>84.19</i>	<i>1995</i>	<i>91.71</i>	<i>2055</i>	<i>99.52</i>	<i>2116</i>	<i>107.51</i>		
41040	4000	<i>1785</i>	<i>61.47</i>	<i>1841</i>	<i>68.72</i>	<i>1895</i>	<i>76.05</i>	<i>1948</i>	<i>83.52</i>	<i>2000</i>	<i>91.16</i>	<i>2050</i>	<i>98.85</i>	<i>2099</i>	<i>106.66</i>	<i>2147</i>	<i>114.52</i>				
46170	4500	<i>1924</i>	<i>74.68</i>	<i>1977</i>	<i>82.66</i>	<i>2028</i>	<i>90.74</i>	<i>2078</i>	<i>99.00</i>	<i>2126</i>	<i>107.25</i>										
51300	5000	<i>2065</i>	<i>89.80</i>	<i>2117</i>	<i>98.75</i>																

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 1310 RPM)  
**Bold face** = Class II fans (Max. 1671 RPM)  
*Italic face* = Class III fans (Max. 2160 RPM)

# Size 35 DWDI Backward Inclined Airfoil

Wheel Diameter: 35.43"

Outlet Area: 12.98 ft.<sup>2</sup>

Wheel Circumference: 9.28 ft.

Max. BHP = 21.62 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12980	1000	421	1.50	<u>511</u>	<u>2.77</u>	<u>605</u>	<u>4.27</u>														
19470	1500	544	2.93	616	4.64	678	6.42	<u>736</u>	<u>8.31</u>	<u>797</u>	<u>10.39</u>	862	12.69	923	15.06						
25960	2000	677	5.23	739	7.45	793	9.70	842	12.01	889	14.41	<u>933</u>	<u>16.86</u>	<u>976</u>	<u>19.39</u>	<u>1021</u>	<u>22.10</u>	1117	27.99		
32450	2500	815	8.68	869	11.41	918	14.20	963	17.03	1004	19.85	1043	22.73	1081	25.68	1118	28.72	<b>1188</b>	<b>34.91</b>		
38940	3000	958	13.64	1004	16.82	1047	20.07	1089	23.47	1128	26.86	1164	30.23	<b>1199</b>	<b>33.69</b>	<b>1231</b>	<b>37.05</b>	<b>1295</b>	<b>44.12</b>		
45430	3500	1103	20.36	1143	24.00	<b>1182</b>	<b>27.77</b>	<b>1219</b>	<b>31.59</b>	<b>1255</b>	<b>35.51</b>	<b>1289</b>	<b>39.42</b>	<b>1322</b>	<b>43.40</b>	<b>1353</b>	<b>47.34</b>	<b>1412</b>	<b>55.35</b>		
51920	4000	<b>1249</b>	<b>29.09</b>	<b>1285</b>	<b>33.25</b>	<b>1320</b>	<b>37.51</b>	<b>1353</b>	<b>41.75</b>	<b>1386</b>	<b>46.17</b>	<b>1418</b>	<b>50.64</b>	<b>1449</b>	<b>55.16</b>	<b>1478</b>	<b>59.60</b>	<i>1535</i>	<i>68.74</i>		
58410	4500	<b>1397</b>	<b>40.24</b>	<b>1429</b>	<b>44.86</b>	<b>1460</b>	<b>49.54</b>	<i>1491</i>	<i>54.36</i>	<i>1521</i>	<i>59.23</i>	<i>1550</i>	<i>64.13</i>	<i>1578</i>	<i>69.04</i>	<i>1606</i>	<i>74.08</i>	<i>1660</i>	<i>84.29</i>		
64900	5000	<i>1545</i>	<i>53.97</i>	<i>1574</i>	<i>59.08</i>	<i>1603</i>	<i>64.33</i>	<i>1631</i>	<i>69.59</i>	<i>1658</i>	<i>74.86</i>	<i>1685</i>	<i>80.25</i>	<i>1711</i>	<i>85.64</i>	<i>1737</i>	<i>91.15</i>	<i>1788</i>	<i>102.40</i>		
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12980	1000																				
19470	1500																				
25960	2000	<b>1211</b>	<b>34.28</b>																		
32450	2500	<b>1258</b>	<b>41.44</b>	<b>1333</b>	<b>48.54</b>	<b>1410</b>	<b>56.02</b>	<b>1486</b>	<b>63.89</b>	<i>1559</i>	<i>72.10</i>										
38940	3000	<b>1356</b>	<b>51.39</b>	<b>1414</b>	<b>58.80</b>	<b>1472</b>	<b>66.51</b>	<i>1532</i>	<i>74.66</i>	<i>1595</i>	<i>83.25</i>	<i>1659</i>	<i>92.13</i>	<i>1723</i>	<i>101.32</i>	<i>1786</i>	<i>110.86</i>	<i>1846</i>	<i>120.46</i>		
45430	3500	<b>1467</b>	<b>63.38</b>	<i>1522</i>	<i>71.80</i>	<i>1573</i>	<i>80.11</i>	<i>1623</i>	<i>88.67</i>	<i>1673</i>	<i>97.55</i>	<i>1723</i>	<i>106.66</i>	<i>1774</i>	<i>116.09</i>	<i>1827</i>	<i>125.90</i>	<i>1882</i>	<i>136.16</i>		
51920	4000	<i>1587</i>	<i>77.77</i>	<i>1637</i>	<i>86.96</i>	<i>1685</i>	<i>96.24</i>	<i>1732</i>	<i>105.67</i>	<i>1778</i>	<i>115.30</i>	<i>1823</i>	<i>125.14</i>	<i>1866</i>	<i>134.90</i>	<i>1909</i>	<i>144.97</i>				
58410	4500	<i>1710</i>	<i>94.38</i>	<i>1758</i>	<i>104.62</i>	<i>1803</i>	<i>114.78</i>	<i>1847</i>	<i>125.14</i>	<i>1890</i>	<i>135.64</i>										
64900	5000	<i>1836</i>	<i>113.62</i>	<i>1882</i>	<i>124.89</i>																

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 1164 RPM)  
**Bold face** = Class II fans (Max. 1486 RPM)  
*Italic face* = Class III fans (Max. 1921 RPM)

# Size 39 DWDI Backward Inclined Airfoil

Wheel Diameter: 39.37"

Outlet Area: 16.02 ft.<sup>2</sup>

Wheel Circumference: 10.31 ft.

Max. BHP = 40.62 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
16020	1000	361	1.81	439	3.29	516	4.99												
24030	1500	466	3.59	527	5.57	582	7.69	<u>632</u>	<u>9.87</u>	<u>684</u>	<u>12.29</u>	<u>736</u>	<u>14.84</u>	787	17.56				
32040	2000	580	6.47	632	9.07	679	11.74	722	14.47	762	17.22	801	20.11	839	23.10	877	26.21	955	32.82
40050	2500	701	10.90	744	14.05	785	17.30	823	20.57	859	23.92	894	27.39	927	30.85	959	34.37	1021	41.68
48060	3000	825	17.24	862	20.96	897	24.73	931	28.60	964	32.56	996	36.61	1025	40.52	<b>1054</b>	<b>44.60</b>	<b>1110</b>	<b>52.94</b>
56070	3500	952	25.93	983	30.13	1014	34.48	<b>1044</b>	<b>38.90</b>	<b>1073</b>	<b>43.35</b>	<b>1102</b>	<b>47.96</b>	<b>1130</b>	<b>52.60</b>	<b>1157</b>	<b>57.27</b>	<b>1208</b>	<b>66.64</b>
64080	4000	<b>1079</b>	<b>37.20</b>	<b>1107</b>	<b>42.03</b>	<b>1134</b>	<b>46.88</b>	<b>1161</b>	<b>51.88</b>	<b>1187</b>	<b>56.88</b>	<b>1213</b>	<b>62.02</b>	<b>1239</b>	<b>67.29</b>	<b>1264</b>	<b>72.54</b>	<b>1312</b>	<b>83.12</b>
72090	4500	<b>1207</b>	<b>51.52</b>	<b>1232</b>	<b>56.91</b>	<b>1256</b>	<b>62.28</b>	<b>1281</b>	<b>67.94</b>	<b>1304</b>	<b>73.41</b>	<b>1328</b>	<b>79.17</b>	<b>1351</b>	<b>84.87</b>	<b>1374</b>	<b>90.68</b>	<b>1419</b>	<b>102.49</b>
80100	5000	<b>1336</b>	<b>69.32</b>	<b>1358</b>	<b>75.18</b>	<b>1381</b>	<b>81.33</b>	<b>1403</b>	<b>87.42</b>	<b>1424</b>	<b>93.45</b>	<b>1446</b>	<b>99.78</b>	<b>1467</b>	<b>106.02</b>	<b>1488</b>	<b>112.37</b>	<b>1529</b>	<b>125.15</b>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
16020	1000																		
24030	1500																		
32040	2000	<b>1032</b>	<b>39.90</b>																
40050	2500	<b>1081</b>	<b>49.22</b>	<b>1143</b>	<b>57.30</b>	<b>1206</b>	<b>65.81</b>	<b>1268</b>	<b>74.66</b>	<b>1328</b>	<b>83.84</b>								
48060	3000	<b>1163</b>	<b>61.39</b>	<b>1215</b>	<b>70.23</b>	<b>1265</b>	<b>79.15</b>	<b>1316</b>	<b>88.56</b>	<b>1368</b>	<b>98.34</b>	<b>1420</b>	<b>108.35</b>	<b>1472</b>	<b>118.70</b>	<b>1523</b>	<b>129.28</b>	<b>1574</b>	<b>140.45</b>
56070	3500	<b>1257</b>	<b>76.24</b>	<b>1304</b>	<b>85.96</b>	<b>1350</b>	<b>95.94</b>	<b>1394</b>	<b>105.98</b>	<b>1437</b>	<b>116.19</b>	<b>1481</b>	<b>126.97</b>	<b>1524</b>	<b>137.14</b>	<b>1568</b>	<b>148.94</b>	<b>1613</b>	<b>160.56</b>
64080	4000	<b>1357</b>	<b>93.70</b>	<b>1401</b>	<b>104.60</b>	<b>1443</b>	<b>115.51</b>	<b>1484</b>	<b>126.59</b>	<b>1525</b>	<b>138.06</b>	<b>1564</b>	<b>149.44</b>	<b>1603</b>	<b>161.21</b>	<b>1640</b>	<b>172.72</b>	<b>1678</b>	<b>184.82</b>
72090	4500	<b>1462</b>	<b>114.36</b>	<b>1503</b>	<b>126.29</b>	<b>1543</b>	<b>138.45</b>	<b>1581</b>	<b>150.52</b>	<b>1619</b>	<b>163.00</b>	<b>1656</b>	<b>175.55</b>	<b>1692</b>	<b>188.12</b>				
80100	5000	<b>1570</b>	<b>138.36</b>	<b>1609</b>	<b>151.51</b>	<b>1647</b>	<b>164.85</b>	<b>1683</b>	<b>178.04</b>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 1028 RPM)  
**Bold face** = Class II fans (Max. 1337 RPM)  
*Italic face* = Class III fans (Max. 1696 RPM)

# Size 44 DWDI Backward Inclined Airfoil

Wheel Diameter: 44.09"

Outlet Area: 20.11 ft.<sup>2</sup>

Wheel Circumference: 11.54 ft.

Max. BHP = 71.50 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
20110	1000	322	2.26	<u>392</u>	<u>4.12</u>	<u>461</u>	<u>6.27</u>												
30165	1500	416	4.49	471	7.01	520	9.66	565	12.42	611	15.44	657	18.60	703	22.05				
40220	2000	519	8.16	565	11.41	606	14.70	645	18.17	681	21.65	716	25.30	<u>750</u>	<u>29.07</u>	<u>784</u>	<u>32.99</u>	<u>853</u>	<u>41.21</u>
50275	2500	627	13.74	665	17.66	701	21.69	736	25.91	768	30.10	798	34.30	828	38.72	857	43.20	912	52.32
60330	3000	738	21.73	770	26.31	801	31.02	832	35.95	861	40.85	889	45.85	916	50.94	<b>942</b>	<b>56.07</b>	<b>991</b>	<b>66.35</b>
70385	3500	850	32.51	879	37.94	906	43.32	<b>933</b>	<b>48.90</b>	<b>959</b>	<b>54.51</b>	<b>985</b>	<b>60.31</b>	<b>1010</b>	<b>66.14</b>	<b>1034</b>	<b>71.99</b>	<b>1079</b>	<b>83.64</b>
80440	4000	<b>964</b>	<b>46.73</b>	<b>989</b>	<b>52.78</b>	<b>1013</b>	<b>58.85</b>	<b>1037</b>	<b>65.11</b>	<b>1061</b>	<b>71.54</b>	<b>1084</b>	<b>77.94</b>	<b>1107</b>	<b>84.52</b>	<b>1129</b>	<b>91.03</b>	<b>1172</b>	<b>104.35</b>
90495	4500	<b>1079</b>	<b>64.83</b>	<b>1101</b>	<b>71.53</b>	<b>1123</b>	<b>78.40</b>	<b>1144</b>	<b>85.22</b>	<b>1166</b>	<b>92.42</b>	<b>1187</b>	<b>99.56</b>	<b>1207</b>	<b>106.58</b>	<b>1228</b>	<b>114.01</b>	<b>1268</b>	<b>128.78</b>
100550	5000	<b>1194</b>	<b>87.16</b>	<b>1214</b>	<b>94.60</b>	<b>1234</b>	<b>102.19</b>	<b>1253</b>	<b>109.67</b>	<b>1273</b>	<b>117.57</b>	<b>1292</b>	<b>125.34</b>	<b>1311</b>	<b>133.26</b>	<b>1329</b>	<b>140.99</b>	<b>1366</b>	<b>157.15</b>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
20110	1000																		
30165	1500																		
40220	2000	<b>922</b>	<b>50.14</b>																
50275	2500	<b>966</b>	<b>61.88</b>	<b>1021</b>	<b>71.96</b>	<b>1077</b>	<b>82.59</b>	<b>1132</b>	<b>93.61</b>	<b>1186</b>	<b>105.23</b>								
60330	3000	<b>1039</b>	<b>77.09</b>	<b>1085</b>	<b>88.09</b>	<b>1130</b>	<b>99.38</b>	<b>1175</b>	<b>111.05</b>	<b>1221</b>	<b>123.20</b>	<b>1268</b>	<b>135.93</b>	<b>1314</b>	<b>148.78</b>	<b>1360</b>	<b>162.22</b>	<b>1405</b>	<b>176.03</b>
70385	3500	<b>1123</b>	<b>95.75</b>	<b>1165</b>	<b>107.96</b>	<b>1206</b>	<b>120.48</b>	<b>1245</b>	<b>132.99</b>	<b>1284</b>	<b>146.01</b>	<b>1323</b>	<b>159.45</b>	<b>1361</b>	<b>172.83</b>	<b>1401</b>	<b>187.17</b>	<b>1441</b>	<b>201.71</b>
80440	4000	<b>1213</b>	<b>117.87</b>	<b>1252</b>	<b>131.47</b>	<b>1289</b>	<b>145.01</b>	<b>1326</b>	<b>159.06</b>	<b>1362</b>	<b>173.23</b>	<b>1397</b>	<b>187.58</b>	<b>1432</b>	<b>202.44</b>	<b>1465</b>	<b>216.87</b>	<b>1499</b>	<b>232.09</b>
90495	4500	<b>1306</b>	<b>143.57</b>	<b>1343</b>	<b>158.67</b>	<b>1379</b>	<b>174.06</b>	<b>1413</b>	<b>189.25</b>	<b>1446</b>	<b>204.53</b>	<b>1479</b>	<b>220.27</b>	<b>1512</b>	<b>236.45</b>				
100550	5000	<b>1403</b>	<b>173.89</b>	<b>1438</b>	<b>190.48</b>	<b>1471</b>	<b>206.84</b>	<b>1504</b>	<b>223.77</b>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 918 RPM)  
**Bold face** = Class II fans (Max. 1194 RPM)  
*Italic face* = Class III fans (Max. 1515 RPM)

# Size 49 DWDI Backward Inclined Airfoil

Wheel Diameter: 49.21"

Outlet Area: 25.04 ft.<sup>2</sup>

Wheel Circumference: 12.88 ft.

Max. BHP = 123.8 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
25040	1000	289	2.83	<u>351</u>	<u>5.13</u>	<u>413</u>	<u>7.80</u>												
37560	1500	373	5.61	422	8.73	465	11.97	<u>506</u>	<u>15.46</u>	<u>547</u>	<u>19.18</u>	589	23.21	630	27.48				
50080	2000	464	10.10	506	14.20	543	18.32	577	22.53	610	26.96	641	31.45	<u>671</u>	<u>36.06</u>	<u>702</u>	<u>41.01</u>	<u>764</u>	<u>51.28</u>
62600	2500	561	17.05	595	21.92	628	27.01	659	32.22	688	37.49	715	42.74	742	48.26	767	53.64	817	65.15
75120	3000	661	27.04	690	32.80	718	38.70	745	44.71	772	51.01	797	57.23	821	63.53	<b>844</b>	<b>69.86</b>	<b>888</b>	<b>82.69</b>
87640	3500	762	40.57	787	47.16	811	53.82	<b>835</b>	<b>60.72</b>	<b>859</b>	<b>67.86</b>	<b>882</b>	<b>75.01</b>	<b>904</b>	<b>82.16</b>	<b>926</b>	<b>89.57</b>	<b>967</b>	<b>104.28</b>
100160	4000	<b>864</b>	<b>58.27</b>	<b>886</b>	<b>65.73</b>	<b>908</b>	<b>73.42</b>	<b>929</b>	<b>81.09</b>	<b>950</b>	<b>88.96</b>	<b>971</b>	<b>97.04</b>	<b>991</b>	<b>105.03</b>	<b>1011</b>	<b>113.23</b>	<b>1050</b>	<b>129.98</b>
112680	4500	<b>966</b>	<b>80.58</b>	<b>986</b>	<b>89.00</b>	<b>1006</b>	<b>97.63</b>	<b>1025</b>	<b>106.18</b>	<b>1044</b>	<b>114.92</b>	<b>1063</b>	<b>123.86</b>	<b>1081</b>	<b>132.63</b>	<b>1100</b>	<b>141.95</b>	<b>1136</b>	<b>160.42</b>
125200	5000	<b>1069</b>	<b>108.35</b>	<b>1087</b>	<b>117.62</b>	<b>1105</b>	<b>127.10</b>	<b>1123</b>	<b>136.77</b>	<b>1140</b>	<b>146.26</b>	<b>1157</b>	<b>155.93</b>	<b>1174</b>	<b>165.77</b>	<b>1191</b>	<b>175.78</b>	<b>1224</b>	<b>195.85</b>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
25040	1000																		
37560	1500																		
50080	2000	<b>826</b>	<b>62.43</b>																
62600	2500	<b>865</b>	<b>76.95</b>	<b>915</b>	<b>89.69</b>	<b>965</b>	<b>102.88</b>	<b>1014</b>	<b>116.51</b>	<b>1063</b>	<b>131.21</b>								
75120	3000	<b>931</b>	<b>96.07</b>	<b>972</b>	<b>109.70</b>	<b>1012</b>	<b>123.64</b>	<b>1053</b>	<b>138.42</b>	<i>1094</i>	<i>153.47</i>	<i>1136</i>	<i>169.28</i>	<i>1178</i>	<i>185.64</i>	<i>1219</i>	<i>202.29</i>	<i>1259</i>	<i>219.34</i>
87640	3500	<b>1006</b>	<b>119.23</b>	<b>1043</b>	<b>134.20</b>	<i>1080</i>	<i>149.87</i>	<i>1116</i>	<i>165.91</i>	<i>1150</i>	<i>181.69</i>	<i>1185</i>	<i>198.45</i>	<i>1220</i>	<i>215.61</i>	<i>1255</i>	<i>233.02</i>	<i>1291</i>	<i>251.20</i>
100160	4000	<i>1086</i>	<i>146.53</i>	<i>1121</i>	<i>163.47</i>	<i>1155</i>	<i>180.72</i>	<i>1188</i>	<i>198.14</i>	<i>1220</i>	<i>215.66</i>	<i>1252</i>	<i>233.88</i>	<i>1282</i>	<i>251.59</i>	<i>1313</i>	<i>270.42</i>	<i>1343</i>	<i>289.10</i>
112680	4500	<i>1170</i>	<i>178.82</i>	<i>1203</i>	<i>197.55</i>	<i>1235</i>	<i>216.57</i>	<i>1265</i>	<i>235.23</i>	<i>1295</i>	<i>254.49</i>	<i>1325</i>	<i>274.34</i>	<i>1354</i>	<i>294.12</i>				
125200	5000	<i>1256</i>	<i>216.11</i>	<i>1288</i>	<i>237.10</i>	<i>1318</i>	<i>257.72</i>	<i>1347</i>	<i>278.46</i>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 823 RPM)

**Bold face** = Class II fans (Max. 1070 RPM)

*Italic face* = Class III fans (Max. 1358 RPM)

# Size 55 DWDI Backward Inclined Airfoil

Wheel Diameter: 55.12"

Outlet Area: 31.41 ft.<sup>2</sup>

Wheel Circumference: 14.43 ft.

Max. BHP = 218.5 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
31410	1000	258	3.55	<u>313</u>	<u>6.41</u>	<u>369</u>	<u>9.81</u>												
47115	1500	333	7.04	377	10.98	416	15.11	<u>452</u>	<u>19.42</u>	<u>488</u>	<u>24.02</u>	<u>526</u>	<u>29.14</u>	562	34.39				
62820	2000	415	12.75	451	17.72	485	23.01	515	28.25	545	33.90	572	39.40	<u>599</u>	<u>45.22</u>	<u>627</u>	<u>51.52</u>	<u>682</u>	<u>64.31</u>
78525	2500	501	21.41	531	27.47	561	33.95	588	40.35	614	46.98	638	53.54	662	60.43	685	67.37	729	81.61
94230	3000	590	33.91	616	41.14	641	48.55	665	56.06	689	63.94	711	71.64	733	79.72	<b>753</b>	<b>87.48</b>	<b>793</b>	<b>103.83</b>
109935	3500	680	50.83	702	59.02	724	67.52	<b>746</b>	<b>76.34</b>	<b>767</b>	<b>85.17</b>	<b>787</b>	<b>93.96</b>	<b>807</b>	<b>103.05</b>	<b>827</b>	<b>112.50</b>	<b>863</b>	<b>130.69</b>
125640	4000	<b>771</b>	<b>73.01</b>	<b>791</b>	<b>82.47</b>	<b>810</b>	<b>91.90</b>	<b>829</b>	<b>101.59</b>	<b>848</b>	<b>111.56</b>	<b>867</b>	<b>121.81</b>	<b>885</b>	<b>131.90</b>	<b>903</b>	<b>142.26</b>	<b>937</b>	<b>162.87</b>
141345	4500	<b>862</b>	<b>100.95</b>	<b>880</b>	<b>111.55</b>	<b>898</b>	<b>122.44</b>	<b>915</b>	<b>133.18</b>	<b>932</b>	<b>144.16</b>	<b>949</b>	<b>155.40</b>	<b>965</b>	<b>166.36</b>	<b>982</b>	<b>178.07</b>	<b>1014</b>	<b>201.15</b>
157050	5000	<b>954</b>	<b>135.77</b>	<b>971</b>	<b>147.83</b>	<b>986</b>	<b>159.21</b>	<b>1002</b>	<b>171.30</b>	<b>1018</b>	<b>183.64</b>	<b>1033</b>	<b>195.67</b>	<b>1048</b>	<b>207.91</b>	<b>1063</b>	<b>220.36</b>	<b>1093</b>	<b>245.89</b>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
31410	1000																		
47115	1500																		
62820	2000	<b>737</b>	<b>78.18</b>																
78525	2500	<b>772</b>	<b>96.44</b>	<b>817</b>	<b>112.57</b>	<b>861</b>	<b>128.83</b>	<b>905</b>	<b>146.03</b>	<b>949</b>	<b>164.59</b>								
94230	3000	<b>831</b>	<b>120.46</b>	<b>868</b>	<b>137.74</b>	<b>904</b>	<b>155.38</b>	<b>940</b>	<b>173.61</b>	<i>977</i>	<i>192.72</i>	<i>1014</i>	<i>212.24</i>	<i>1051</i>	<i>232.44</i>	<i>1088</i>	<i>253.57</i>	<i>1124</i>	<i>275.16</i>
109935	3500	<b>898</b>	<b>149.52</b>	<b>931</b>	<b>168.28</b>	<i>964</i>	<i>187.91</i>	<i>996</i>	<i>207.94</i>	<i>1027</i>	<i>228.16</i>	<i>1058</i>	<i>249.01</i>	<i>1089</i>	<i>270.36</i>	<i>1120</i>	<i>291.99</i>	<i>1152</i>	<i>314.66</i>
125640	4000	<i>970</i>	<i>184.09</i>	<i>1001</i>	<i>205.22</i>	<i>1031</i>	<i>226.63</i>	<i>1060</i>	<i>248.16</i>	<i>1089</i>	<i>270.43</i>	<i>1117</i>	<i>292.84</i>	<i>1145</i>	<i>316.04</i>	<i>1172</i>	<i>339.09</i>	<i>1199</i>	<i>362.70</i>
141345	4500	<i>1045</i>	<i>224.64</i>	<i>1074</i>	<i>247.85</i>	<i>1102</i>	<i>271.30</i>	<i>1130</i>	<i>295.62</i>	<i>1156</i>	<i>319.17</i>	<i>1183</i>	<i>344.26</i>	<i>1209</i>	<i>369.17</i>				
157050	5000	<i>1121</i>	<i>270.91</i>	<i>1149</i>	<i>296.78</i>	<i>1177</i>	<i>323.62</i>	<i>1203</i>	<i>349.75</i>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 735 RPM)

**Bold face** = Class II fans (Max. 955 RPM)

*Italic face* = Class III fans (Max. 1212 RPM)



# Size 63 DWDI Backward Inclined Airfoil

Wheel Diameter: 62.99"

Outlet Area: 41.02 ft.<sup>2</sup>

Wheel Circumference: 16.49 ft.

Max. BHP = 425.9 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
41020	1000	226	4.65	274	8.38	<u>323</u>	<u>12.83</u>												
61530	1500	291	9.16	330	14.35	364	19.73	<u>395</u>	<u>25.26</u>	<u>427</u>	<u>31.36</u>	460	37.98	492	44.98				
82040	2000	363	16.62	395	23.21	424	29.97	451	36.97	477	44.29	501	51.60	525	59.34	548	67.04	597	84.08
102550	2500	438	27.89	465	35.95	491	44.37	515	52.84	537	61.25	559	70.19	579	78.80	599	87.80	638	106.61
123060	3000	516	44.21	539	53.72	561	63.43	582	73.24	603	83.53	622	93.48	641	103.90	<b>659</b>	<b>114.28</b>	<b>694</b>	<b>135.64</b>
143570	3500	595	66.37	615	77.34	634	88.36	<b>653</b>	<b>99.80</b>	<b>671</b>	<b>111.14</b>	<b>689</b>	<b>122.88</b>	<b>707</b>	<b>135.05</b>	<b>723</b>	<b>146.50</b>	<b>755</b>	<b>170.56</b>
164080	4000	<b>675</b>	<b>95.49</b>	<b>692</b>	<b>107.62</b>	<b>709</b>	<b>120.12</b>	<b>726</b>	<b>132.99</b>	<b>742</b>	<b>145.66</b>	<b>758</b>	<b>158.65</b>	<b>774</b>	<b>171.96</b>	<b>790</b>	<b>185.66</b>	<b>820</b>	<b>212.75</b>
184590	4500	<b>755</b>	<b>132.21</b>	<b>770</b>	<b>145.65</b>	<b>786</b>	<b>160.02</b>	<b>801</b>	<b>174.13</b>	<b>815</b>	<b>187.88</b>	<b>830</b>	<b>202.62</b>	<b>845</b>	<b>217.69</b>	<b>859</b>	<b>232.30</b>	<b>887</b>	<b>262.42</b>
205100	5000	<i>835</i>	<i>177.43</i>	<i>849</i>	<i>192.59</i>	<i>863</i>	<i>208.06</i>	<i>877</i>	<i>223.85</i>	<i>890</i>	<i>239.17</i>	<i>904</i>	<i>255.59</i>	<i>917</i>	<i>271.47</i>	<i>930</i>	<i>287.60</i>	<i>956</i>	<i>320.68</i>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
41020	1000																		
61530	1500																		
82040	2000	<b>645</b>	<b>102.13</b>																
102550	2500	<b>676</b>	<b>126.20</b>	<b>715</b>	<b>147.06</b>	<b>754</b>	<b>168.63</b>	<b>792</b>	<b>190.76</b>	<b>830</b>	<b>214.61</b>								
123060	3000	<b>727</b>	<b>157.20</b>	<b>759</b>	<b>179.49</b>	<b>791</b>	<b>202.88</b>	<b>822</b>	<b>226.27</b>	<i>855</i>	<i>251.74</i>	<i>887</i>	<i>276.88</i>	<i>920</i>	<i>303.86</i>	<i>952</i>	<i>331.08</i>	<i>984</i>	<i>359.81</i>
143570	3500	<b>786</b>	<b>195.42</b>	<b>815</b>	<b>220.02</b>	<b>844</b>	<b>245.79</b>	<b>871</b>	<b>271.04</b>	<b>899</b>	<b>298.27</b>	<b>926</b>	<b>325.39</b>	<b>953</b>	<b>353.14</b>	<b>980</b>	<b>381.25</b>	<b>1008</b>	<b>410.85</b>
164080	4000	<i>849</i>	<i>240.58</i>	<i>876</i>	<i>268.07</i>	<i>902</i>	<i>295.78</i>	<i>928</i>	<i>324.54</i>	<i>953</i>	<i>353.24</i>	<i>978</i>	<i>383.08</i>	<i>1002</i>	<i>412.79</i>	<i>1025</i>	<i>442.09</i>	<i>1049</i>	<i>473.40</i>
184590	4500	<i>914</i>	<i>292.95</i>	<i>940</i>	<i>323.87</i>	<i>965</i>	<i>355.05</i>	<i>989</i>	<i>386.28</i>	<i>1012</i>	<i>417.35</i>	<i>1035</i>	<i>449.33</i>	<i>1058</i>	<i>482.19</i>				
205100	5000	<i>981</i>	<i>353.86</i>	<i>1006</i>	<i>388.22</i>	<i>1030</i>	<i>422.69</i>	<i>1052</i>	<i>455.85</i>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 642 RPM)

**Bold face** = Class II fans (Max. 835 RPM)

*Italic face* = Class III fans (Max. 1060 RPM)

# Size 71 DWDI Backward Inclined Airfoil

Wheel Diameter: 70.86"

Outlet Area: 52.19 ft.<sup>2</sup>

Wheel Circumference: 18.53 ft.

Max. BHP = 767 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
52190	1000	201	5.89	244	10.67	287	16.25												
78285	1500	260	11.75	294	18.26	324	25.06	<u>352</u>	<u>32.22</u>	<u>380</u>	<u>39.87</u>	409	48.20	437	56.91				
104380	2000	324	21.27	352	29.55	378	38.21	402	47.13	425	56.42	446	65.57	467	75.27	488	85.36	531	106.79
130475	2500	392	35.98	415	45.98	438	56.67	459	67.31	479	78.24	498	89.33	516	100.43	534	112.02	568	135.53
156570	3000	461	56.75	481	68.70	500	80.80	519	93.46	538	106.76	555	119.51	<b>572</b>	<b>132.88</b>	<b>588</b>	<b>146.12</b>	<b>618</b>	<b>172.45</b>
182665	3500	531	84.94	549	99.02	566	113.13	<b>583</b>	<b>127.78</b>	<b>599</b>	<b>142.27</b>	<b>615</b>	<b>157.24</b>	<b>630</b>	<b>171.95</b>	<b>645</b>	<b>187.18</b>	<b>673</b>	<b>217.42</b>
208760	4000	<b>603</b>	<b>122.58</b>	<b>618</b>	<b>137.98</b>	<b>633</b>	<b>153.83</b>	<b>648</b>	<b>170.16</b>	<b>662</b>	<b>186.13</b>	<b>677</b>	<b>203.37</b>	<b>691</b>	<b>220.17</b>	<b>705</b>	<b>237.42</b>	<b>732</b>	<b>272.34</b>
234855	4500	<b>674</b>	<b>169.37</b>	<b>688</b>	<b>187.04</b>	<b>702</b>	<b>205.18</b>	<b>715</b>	<b>222.87</b>	<b>728</b>	<b>240.95</b>	<b>741</b>	<b>259.43</b>	<b>754</b>	<b>278.28</b>	<b>767</b>	<b>297.55</b>	<b>791</b>	<b>334.87</b>
260950	5000	<i>746</i>	<i>227.87</i>	<i>759</i>	<i>247.75</i>	<i>771</i>	<i>267.05</i>	<i>783</i>	<i>286.72</i>	<i>795</i>	<i>306.76</i>	<i>807</i>	<i>327.18</i>	<i>819</i>	<i>348.00</i>	<i>830</i>	<i>367.86</i>	<i>853</i>	<i>409.87</i>
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP	
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
52190	1000																		
78285	1500																		
104380	2000	<b>574</b>	<b>129.98</b>																
130475	2500	<b>602</b>	<b>160.67</b>	<b>636</b>	<b>186.74</b>	<b>671</b>	<b>214.55</b>	<b>705</b>	<b>242.95</b>	<b>738</b>	<b>272.44</b>								
156570	3000	<b>648</b>	<b>200.48</b>	<b>676</b>	<b>228.43</b>	<b>704</b>	<b>257.76</b>	<b>732</b>	<b>288.10</b>	<i>761</i>	<i>320.24</i>	<i>790</i>	<i>353.08</i>	<i>818</i>	<i>385.62</i>	<i>847</i>	<i>421.03</i>	<i>875</i>	<i>456.84</i>
182665	3500	<b>700</b>	<b>248.48</b>	<b>727</b>	<b>281.18</b>	<b>752</b>	<b>313.08</b>	<b>776</b>	<b>345.24</b>	<b>800</b>	<b>378.67</b>	<b>824</b>	<b>413.19</b>	<b>848</b>	<b>448.55</b>	<b>873</b>	<b>486.10</b>	<b>897</b>	<b>522.41</b>
208760	4000	<i>757</i>	<i>306.91</i>	<i>781</i>	<i>341.92</i>	<i>804</i>	<i>377.07</i>	<i>827</i>	<i>413.55</i>	<i>850</i>	<i>451.33</i>	<i>871</i>	<i>487.35</i>	<i>893</i>	<i>526.33</i>	<i>914</i>	<i>564.72</i>	<i>934</i>	<i>602.14</i>
234855	4500	<i>815</i>	<i>373.74</i>	<i>838</i>	<i>412.94</i>	<i>860</i>	<i>452.28</i>	<i>881</i>	<i>491.46</i>	<i>902</i>	<i>531.96</i>	<i>923</i>	<i>573.73</i>						
260950	5000	<i>876</i>	<i>453.37</i>	<i>897</i>	<i>495.23</i>	<i>918</i>	<i>538.51</i>	<i>939</i>	<i>583.38</i>										

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

Regular face = Class I fans (Max. 571 RPM)

**Bold face** = Class II fans (Max. 742 RPM)

*Italic face* = Class III fans (Max. 942 RPM)

# Size 79 DWDI Backward Inclined Airfoil

Wheel Diameter: 78.74"

Outlet Area: 64.45 ft.<sup>2</sup>

Wheel Circumference: 20.60 ft.

Max. BHP = 1300 x (RPM ÷ 1000)<sup>3</sup>

CFM	OV	0.5" SP		1" SP		1.5" SP		2" SP		2.5" SP		3" SP		3.5" SP		4" SP		5" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
64450	1000	181	7.29	220	13.25	258	20.00														
96675	1500	234	14.51	264	22.40	292	31.08	<u>317</u>	<u>39.87</u>	<u>342</u>	<u>49.25</u>	<u>368</u>	<u>59.49</u>	394	70.67						
128900	2000	292	26.38	317	36.57	341	47.53	362	58.31	382	69.41	402	81.35	<u>420</u>	<u>92.76</u>	439	105.29	478	131.99		
161125	2500	352	44.13	374	57.02	394	69.89	413	83.08	431	96.57	448	110.18	465	124.51	481	138.70	511	167.20		
193350	3000	415	70.14	433	84.91	450	99.80	467	115.35	484	131.69	500	148.05	514	163.35	<b>529</b>	<b>180.26</b>	<b>557</b>	<b>213.91</b>		
225575	3500	478	104.97	494	122.22	509	139.40	<b>524</b>	<b>157.19</b>	<b>539</b>	<b>175.61</b>	<b>553</b>	<b>193.67</b>	<b>567</b>	<b>212.37</b>	<b>581</b>	<b>231.78</b>	<b>606</b>	<b>268.92</b>		
257800	4000	<b>542</b>	<b>150.81</b>	<b>556</b>	<b>170.23</b>	<b>570</b>	<b>190.30</b>	<b>583</b>	<b>209.94</b>	<b>596</b>	<b>230.11</b>	<b>609</b>	<b>250.80</b>	<b>622</b>	<b>272.05</b>	<b>634</b>	<b>292.54</b>	<b>658</b>	<b>335.13</b>		
290025	4500	<b>607</b>	<b>209.60</b>	<b>619</b>	<b>230.79</b>	<b>631</b>	<b>252.45</b>	<b>643</b>	<b>274.62</b>	<b>655</b>	<b>297.32</b>	<b>667</b>	<b>320.55</b>	<i>679</i>	<i>344.30</i>	<i>690</i>	<i>367.01</i>	<i>712</i>	<i>413.75</i>		
322250	5000	<i>672</i>	<i>282.19</i>	<i>683</i>	<i>305.85</i>	<i>694</i>	<i>329.97</i>	<i>705</i>	<i>354.57</i>	<i>716</i>	<i>379.66</i>	<i>726</i>	<i>403.59</i>	<i>737</i>	<i>429.62</i>	<i>747</i>	<i>454.33</i>	<i>768</i>	<i>506.81</i>		
CFM	OV	6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP		14" SP			
		RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
64450	1000																				
96675	1500																				
128900	2000	<b>517</b>	<b>160.92</b>																		
161125	2500	<b>542</b>	<b>198.67</b>	<b>572</b>	<b>230.16</b>	<b>603</b>	<b>263.81</b>	<b>634</b>	<b>299.37</b>	<b>664</b>	<b>336.20</b>										
193350	3000	<b>583</b>	<b>247.35</b>	<b>609</b>	<b>282.97</b>	<b>634</b>	<b>318.96</b>	<b>659</b>	<b>356.16</b>	<i>685</i>	<i>395.71</i>	<i>711</i>	<i>436.10</i>	<i>737</i>	<i>477.85</i>	<i>762</i>	<i>519.42</i>	<i>787</i>	<i>563.19</i>		
225575	3500	<b>630</b>	<b>306.88</b>	<b>654</b>	<b>346.80</b>	<i>677</i>	<i>387.03</i>	<i>699</i>	<i>427.50</i>	<i>720</i>	<i>467.70</i>	<i>742</i>	<i>511.16</i>	<b>763</b>	<b>553.58</b>	<b>785</b>	<b>598.79</b>	<b>808</b>	<b>646.92</b>		
257800	4000	<i>681</i>	<i>378.55</i>	<i>703</i>	<i>422.47</i>	<i>724</i>	<i>466.49</i>	<i>744</i>	<i>510.14</i>	<i>765</i>	<i>557.43</i>	<i>784</i>	<i>602.14</i>	<i>803</i>	<i>648.37</i>	<i>822</i>	<i>695.96</i>	<i>841</i>	<i>744.76</i>		
290025	4500	<i>734</i>	<i>462.54</i>	<i>754</i>	<i>509.61</i>	<i>774</i>	<i>558.60</i>	<i>793</i>	<i>607.22</i>	<i>812</i>	<i>657.49</i>	<i>830</i>	<i>706.81</i>	<i>848</i>	<i>757.43</i>						
322250	5000	<i>788</i>	<i>559.09</i>	<i>808</i>	<i>613.23</i>	<i>826</i>	<i>664.61</i>	<i>845</i>	<i>720.25</i>												

Underlined figures indicate optimal efficiency range.

Performance shown is with outlet ducts.  
BHP shown does not include drive losses.

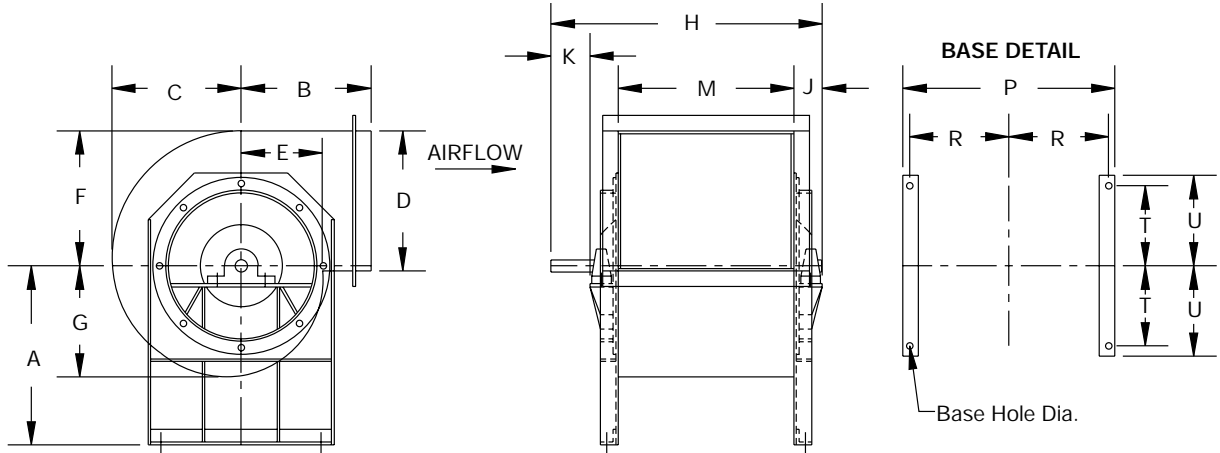
Regular face = Class I fans (Max. 514 RPM)

**Bold face** = Class II fans (Max. 668 RPM)

*Italic face* = Class III fans (Max. 848 RPM)

# Dimensional Data

## Arrangement 3 Rotatable Housing - Sizes 12" - 25"



Arrangement 7 is available. Consult factory for dimensions.

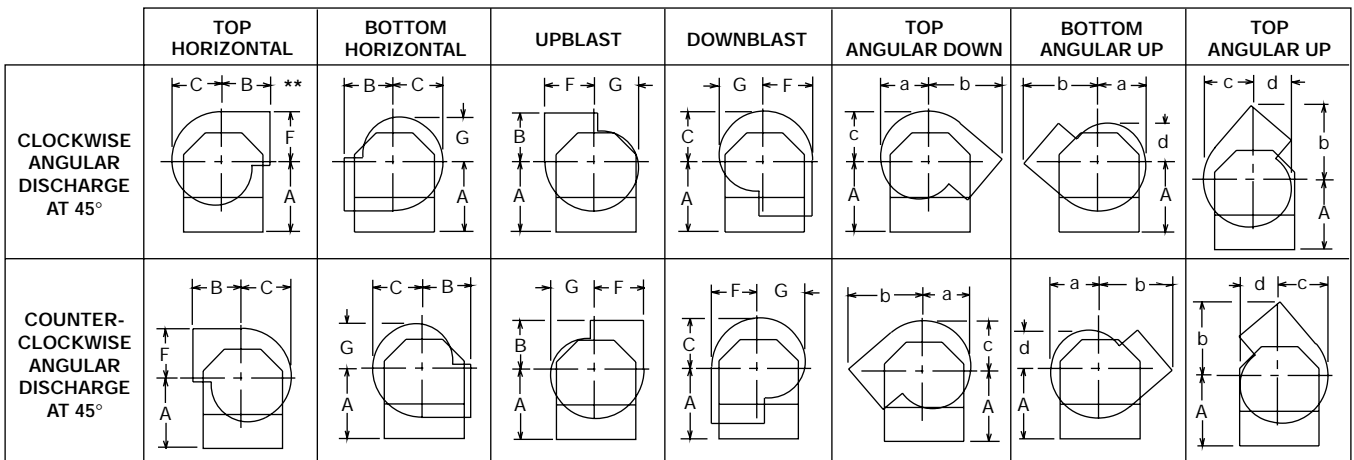
SIZE	A (1)	B (1)	C	D	a	b	c	d	E	F	G	K	
												CL I, II	CL III
12	17 <sup>5</sup> / <sub>16</sub>	12 <sup>9</sup> / <sub>16</sub>	12 <sup>19</sup> / <sub>32</sub>	13 <sup>27</sup> / <sub>32</sub>	11 <sup>25</sup> / <sub>32</sub>	18 <sup>5</sup> / <sub>16</sub>	13 <sup>1</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>32</sub>	13 <sup>3</sup> / <sub>16</sub>	10 <sup>9</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>
14	19 <sup>11</sup> / <sub>16</sub>	13 <sup>11</sup> / <sub>16</sub>	14 <sup>7</sup> / <sub>32</sub>	15 <sup>5</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>4</sub>	20 <sup>3</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>4</sub>	10 <sup>21</sup> / <sub>32</sub>	9 <sup>1</sup> / <sub>16</sub>	14 <sup>7</sup> / <sub>8</sub>	11 <sup>27</sup> / <sub>32</sub>	3 <sup>3</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>8</sub>
16	23 <sup>5</sup> / <sub>8</sub>	14 <sup>13</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>32</sub>	17 <sup>19</sup> / <sub>32</sub>	14 <sup>15</sup> / <sub>16</sub>	22 <sup>5</sup> / <sub>16</sub>	16 <sup>9</sup> / <sub>16</sub>	12	10 <sup>3</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>4</sub>	13 <sup>5</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>8</sub>
18	23 <sup>3</sup> / <sub>8</sub>	16 <sup>1</sup> / <sub>8</sub>	18	19 <sup>13</sup> / <sub>16</sub>	16 <sup>3</sup> / <sub>4</sub>	24 <sup>11</sup> / <sub>16</sub>	18 <sup>5</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>	11 <sup>15</sup> / <sub>32</sub>	18 <sup>13</sup> / <sub>16</sub>	15	4 <sup>3</sup> / <sub>8</sub>	5
20	24 <sup>13</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>2</sub>	20	22	18 <sup>5</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>8</sub>	20 <sup>11</sup> / <sub>16</sub>	15	12 <sup>11</sup> / <sub>16</sub>	20 <sup>29</sup> / <sub>32</sub>	16 <sup>21</sup> / <sub>32</sub>	4 <sup>3</sup> / <sub>8</sub>	5
22	27 <sup>3</sup> / <sub>16</sub>	19	22 <sup>3</sup> / <sub>8</sub>	24 <sup>21</sup> / <sub>32</sub>	20 <sup>7</sup> / <sub>8</sub>	29 <sup>15</sup> / <sub>16</sub>	23 <sup>3</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>4</sub>	14 <sup>7</sup> / <sub>32</sub>	23 <sup>3</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>8</sub>	5	5 <sup>5</sup> / <sub>8</sub>
25	30 <sup>5</sup> / <sub>16</sub>	20 <sup>25</sup> / <sub>32</sub>	25 <sup>3</sup> / <sub>32</sub>	27 <sup>23</sup> / <sub>32</sub>	23 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>4</sub>	26	18 <sup>7</sup> / <sub>8</sub>	16	26 <sup>1</sup> / <sub>4</sub>	20 <sup>15</sup> / <sub>16</sub>	5	5 <sup>5</sup> / <sub>8</sub>

SIZE	H (2)			J			M	P		R	T	U	BASE HOLE DIA.
	CL I	CL II	CL III	CL I	CL II	CL III		CL I, II	CL III				
12	25 <sup>11</sup> / <sub>32</sub>	25 <sup>11</sup> / <sub>16</sub>	29 <sup>3</sup> / <sub>32</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>16</sub>	16 <sup>31</sup> / <sub>32</sub>	20 <sup>9</sup> / <sub>32</sub>	20 <sup>13</sup> / <sub>32</sub>	19 <sup>1</sup> / <sub>32</sub>	7 <sup>3</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>16</sub>
14	28 <sup>1</sup> / <sub>8</sub>	28 <sup>1</sup> / <sub>8</sub>	31 <sup>7</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>16</sub>	19 <sup>7</sup> / <sub>8</sub>	22 <sup>15</sup> / <sub>32</sub>	22 <sup>19</sup> / <sub>32</sub>	21 <sup>7</sup> / <sub>32</sub>	9	10 <sup>1</sup> / <sub>32</sub>	9 <sup>1</sup> / <sub>16</sub>
16	30 <sup>1</sup> / <sub>2</sub>	30 <sup>1</sup> / <sub>2</sub>	34 <sup>1</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>16</sub>	21 <sup>1</sup> / <sub>2</sub>	24 <sup>21</sup> / <sub>32</sub>	24 <sup>3</sup> / <sub>32</sub>	23 <sup>19</sup> / <sub>32</sub>	9 <sup>3</sup> / <sub>4</sub>	10 <sup>25</sup> / <sub>32</sub>	9 <sup>1</sup> / <sub>16</sub>
18	33 <sup>23</sup> / <sub>32</sub>	33 <sup>23</sup> / <sub>32</sub>	37 <sup>15</sup> / <sub>32</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>16</sub>	24 <sup>4</sup> / <sub>32</sub>	27 <sup>7</sup> / <sub>16</sub>	27 <sup>9</sup> / <sub>16</sub>	26 <sup>3</sup> / <sub>16</sub>	10 <sup>5</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>16</sub>
20	36 <sup>6</sup> / <sub>16</sub>	36 <sup>6</sup> / <sub>16</sub>	40 <sup>1</sup> / <sub>16</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>16</sub>	26 <sup>11</sup> / <sub>16</sub>	30 <sup>1</sup> / <sub>16</sub>	30 <sup>3</sup> / <sub>16</sub>	28 <sup>13</sup> / <sub>16</sub>	11 <sup>7</sup> / <sub>8</sub>	12 <sup>29</sup> / <sub>32</sub>	9 <sup>1</sup> / <sub>16</sub>
22	40 <sup>5</sup> / <sub>32</sub>	41 <sup>5</sup> / <sub>32</sub>	43 <sup>29</sup> / <sub>32</sub>	2 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>16</sub>	29 <sup>29</sup> / <sub>32</sub>	34 <sup>9</sup> / <sub>32</sub>	34 <sup>13</sup> / <sub>32</sub>	32 <sup>17</sup> / <sub>32</sub>	13 <sup>1</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>16</sub>
25	44 <sup>27</sup> / <sub>32</sub>	44 <sup>27</sup> / <sub>32</sub>	47 <sup>19</sup> / <sub>32</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>16</sub>	33 <sup>19</sup> / <sub>32</sub>	37 <sup>31</sup> / <sub>32</sub>	38 <sup>7</sup> / <sub>32</sub>	36 <sup>7</sup> / <sub>32</sub>	15	16	1 <sup>1</sup> / <sub>16</sub>

(1) DB AND TAD DISCHARGES FURNISHED LESS DISCHARGE COLLAR.  
 (2) APPROXIMATE, MAY VARY WITH BEARING SIZE.

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION.  
 ALL FIGURES ARE IN INCHES.

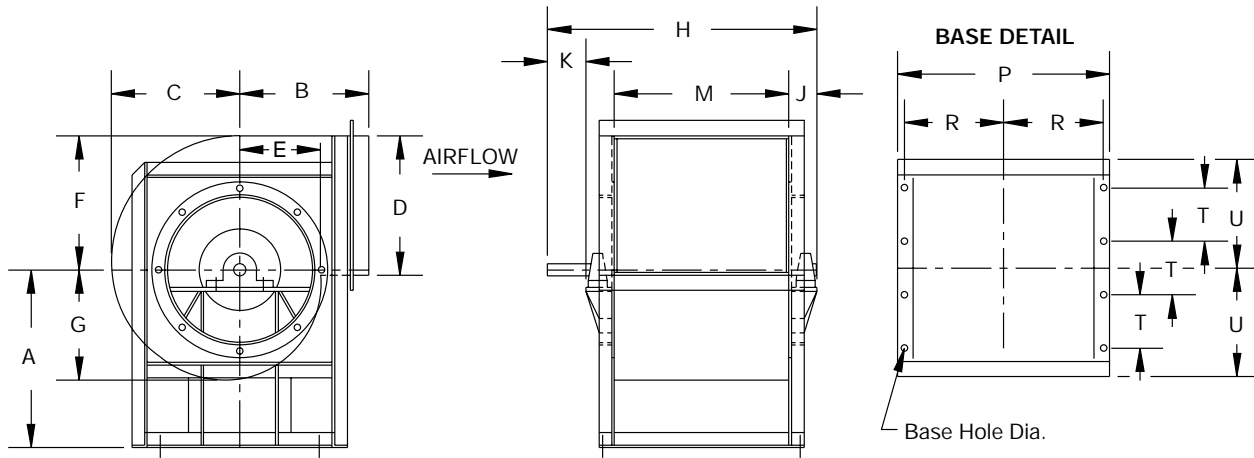
## Discharge Positions



\*\*CLOCKWISE TOP HORIZONTAL IS STANDARD POSITION AND ROTATION.

# Dimensional Data

## Arrangement 3 Fixed Housing - Sizes 28" – 79"



SIZE	A (1)				B (1)		C	D	a	b		c	d	E	F
	TH TAD	BH BAU	UB TAU	DB (1)	(3)	TAD				BAU TAU	TAD				
28	33 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>2</sub>	23 <sup>15</sup> / <sub>16</sub>	35 <sup>7</sup> / <sub>16</sub>	28 <sup>5</sup> / <sub>16</sub>	31 <sup>7</sup> / <sub>32</sub>	26 <sup>7</sup> / <sub>16</sub>	37 <sup>7</sup> / <sub>8</sub>	46	29 <sup>5</sup> / <sub>16</sub>	21 <sup>1</sup> / <sub>4</sub>	18	29 <sup>5</sup> / <sub>8</sub>
32	37 <sup>3</sup> / <sub>16</sub>	37 <sup>3</sup> / <sub>16</sub>	37 <sup>3</sup> / <sub>16</sub>	37 <sup>3</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>16</sub>	37 <sup>25</sup> / <sub>32</sub>	31 <sup>15</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>16</sub>	29 <sup>3</sup> / <sub>4</sub>	42 <sup>1</sup> / <sub>4</sub>	50 <sup>3</sup> / <sub>8</sub>	33	23 <sup>7</sup> / <sub>8</sub>	20 <sup>9</sup> / <sub>32</sub>	33 <sup>11</sup> / <sub>32</sub>
35	41 <sup>1</sup> / <sub>8</sub>	41 <sup>1</sup> / <sub>8</sub>	41 <sup>1</sup> / <sub>8</sub>	41 <sup>1</sup> / <sub>8</sub>	29 <sup>7</sup> / <sub>16</sub>	42 <sup>1</sup> / <sub>2</sub>	35 <sup>7</sup> / <sub>8</sub>	39 <sup>9</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>2</sub>	47 <sup>7</sup> / <sub>16</sub>	56 <sup>1</sup> / <sub>2</sub>	37 <sup>1</sup> / <sub>16</sub>	26 <sup>7</sup> / <sub>8</sub>	22 <sup>25</sup> / <sub>32</sub>	37 <sup>1</sup> / <sub>2</sub>
39	37 <sup>3</sup> / <sub>16</sub>	45 <sup>1</sup> / <sub>4</sub>	43 <sup>11</sup> / <sub>16</sub>	33 <sup>9</sup> / <sub>16</sub>	29 <sup>9</sup> / <sub>16</sub>	46 <sup>7</sup> / <sub>16</sub>	39 <sup>7</sup> / <sub>8</sub>	43 <sup>31</sup> / <sub>32</sub>	37 <sup>3</sup> / <sub>16</sub>	50 <sup>3</sup> / <sub>8</sub>	62 <sup>3</sup> / <sub>16</sub>	41 <sup>5</sup> / <sub>16</sub>	29 <sup>7</sup> / <sub>8</sub>	25 <sup>5</sup> / <sub>16</sub>	41 <sup>11</sup> / <sub>16</sub>
44	41 <sup>1</sup> / <sub>8</sub>	50 <sup>3</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>16</sub>	37 <sup>1</sup> / <sub>4</sub>	32 <sup>5</sup> / <sub>8</sub>	51 <sup>3</sup> / <sub>16</sub>	44 <sup>5</sup> / <sub>8</sub>	49 <sup>1</sup> / <sub>4</sub>	41 <sup>11</sup> / <sub>16</sub>	55 <sup>3</sup> / <sub>4</sub>	69	46 <sup>3</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>2</sub>	28 <sup>11</sup> / <sub>32</sub>	46 <sup>11</sup> / <sub>16</sub>
49	45 <sup>1</sup> / <sub>4</sub>	55 <sup>7</sup> / <sub>8</sub>	53 <sup>9</sup> / <sub>16</sub>	39	35 <sup>7</sup> / <sub>8</sub>	55 <sup>1</sup> / <sub>8</sub>	49 <sup>13</sup> / <sub>16</sub>	54 <sup>31</sup> / <sub>32</sub>	46 <sup>7</sup> / <sub>16</sub>	61 <sup>1</sup> / <sub>8</sub>	75 <sup>3</sup> / <sub>4</sub>	51 <sup>5</sup> / <sub>16</sub>	37 <sup>5</sup> / <sub>16</sub>	31 <sup>5</sup> / <sub>8</sub>	52 <sup>1</sup> / <sub>16</sub>
55	50 <sup>3</sup> / <sub>8</sub>	62 <sup>3</sup> / <sub>16</sub>	59 <sup>7</sup> / <sub>16</sub>	39 <sup>13</sup> / <sub>16</sub>	39 <sup>13</sup> / <sub>16</sub>	61 <sup>13</sup> / <sub>16</sub>	55 <sup>25</sup> / <sub>32</sub>	61 <sup>25</sup> / <sub>32</sub>	52	69 <sup>1</sup> / <sub>4</sub>	84 <sup>5</sup> / <sub>8</sub>	57 <sup>5</sup> / <sub>16</sub>	41 <sup>3</sup> / <sub>4</sub>	35 <sup>3</sup> / <sub>8</sub>	58 <sup>5</sup> / <sub>16</sub>
63	56 <sup>11</sup> / <sub>16</sub>	70 <sup>1</sup> / <sub>2</sub>	67 <sup>7</sup> / <sub>16</sub>	44 <sup>5</sup> / <sub>8</sub>	44 <sup>5</sup> / <sub>8</sub>	67 <sup>23</sup> / <sub>32</sub>	63 <sup>11</sup> / <sub>16</sub>	70 <sup>11</sup> / <sub>32</sub>	59 <sup>7</sup> / <sub>16</sub>	78 <sup>5</sup> / <sub>8</sub>	94 <sup>7</sup> / <sub>8</sub>	65 <sup>7</sup> / <sub>8</sub>	47 <sup>3</sup> / <sub>4</sub>	40 <sup>3</sup> / <sub>8</sub>	66 <sup>5</sup> / <sub>8</sub>
71	63 <sup>3</sup> / <sub>4</sub>	79 <sup>3</sup> / <sub>4</sub>	75 <sup>3</sup> / <sub>4</sub>	50 <sup>3</sup> / <sub>4</sub>	50 <sup>3</sup> / <sub>4</sub>	76 <sup>3</sup> / <sub>16</sub>	71 <sup>19</sup> / <sub>32</sub>	79 <sup>1</sup> / <sub>32</sub>	66 <sup>7</sup> / <sub>8</sub>	89	107 <sup>3</sup> / <sub>16</sub>	74 <sup>1</sup> / <sub>8</sub>	53 <sup>1</sup> / <sub>2</sub>	45 <sup>7</sup> / <sub>16</sub>	74 <sup>7</sup> / <sub>8</sub>
79	70 <sup>7</sup> / <sub>8</sub>	88 <sup>1</sup> / <sub>8</sub>	84 <sup>1</sup> / <sub>8</sub>	55 <sup>3</sup> / <sub>4</sub>	55 <sup>3</sup> / <sub>4</sub>	84 <sup>21</sup> / <sub>32</sub>	79 <sup>17</sup> / <sub>32</sub>	87 <sup>27</sup> / <sub>32</sub>	74 <sup>5</sup> / <sub>16</sub>	97 <sup>31</sup> / <sub>32</sub>	118 <sup>1</sup> / <sub>4</sub>	82 <sup>11</sup> / <sub>32</sub>	59 <sup>11</sup> / <sub>16</sub>	50 <sup>15</sup> / <sub>32</sub>	83 <sup>3</sup> / <sub>16</sub>

SIZE	G	H (2)			J			K		M	P	R	T	U	BASE HOLE DIA.
		CL I	CL II	CL III	CL I	CL II	CL III	CL I, II	CL III						
28	23 <sup>9</sup> / <sub>16</sub>	49 <sup>3</sup> / <sub>4</sub>	49 <sup>3</sup> / <sub>4</sub>	53 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>	7	37 <sup>7</sup> / <sub>8</sub>	41 <sup>1</sup> / <sub>8</sub>	40 <sup>1</sup> / <sub>8</sub>	17	20	<sup>11</sup> / <sub>16</sub>
32	26 <sup>17</sup> / <sub>32</sub>	54 <sup>7</sup> / <sub>16</sub>	56 <sup>7</sup> / <sub>16</sub>	57 <sup>13</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>	7	42 <sup>9</sup> / <sub>16</sub>	47 <sup>9</sup> / <sub>16</sub>	45 <sup>5</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>	23	<sup>11</sup> / <sub>16</sub>
35	29 <sup>27</sup> / <sub>32</sub>	61 <sup>1</sup> / <sub>32</sub>	63 <sup>1</sup> / <sub>32</sub>	64 <sup>9</sup> / <sub>32</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	7	8 <sup>1</sup> / <sub>4</sub>	47 <sup>25</sup> / <sub>32</sub>	52 <sup>25</sup> / <sub>32</sub>	50 <sup>17</sup> / <sub>32</sub>	21 <sup>1</sup> / <sub>2</sub>	25	<sup>11</sup> / <sub>16</sub>
39	33 <sup>3</sup> / <sub>16</sub>	66 <sup>3</sup> / <sub>8</sub>	68 <sup>3</sup> / <sub>8</sub>	69 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	7	8 <sup>1</sup> / <sub>4</sub>	53 <sup>1</sup> / <sub>8</sub>	59 <sup>1</sup> / <sub>8</sub>	56 <sup>3</sup> / <sub>8</sub>	24	28	<sup>11</sup> / <sub>16</sub>
44	37 <sup>5</sup> / <sub>32</sub>	72 <sup>11</sup> / <sub>16</sub>	74 <sup>11</sup> / <sub>16</sub>	75 <sup>15</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	7	8 <sup>1</sup> / <sub>4</sub>	59 <sup>7</sup> / <sub>16</sub>	65 <sup>7</sup> / <sub>16</sub>	62 <sup>11</sup> / <sub>16</sub>	26 <sup>1</sup> / <sub>2</sub>	30 <sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>16</sub>
49	41 <sup>1</sup> / <sub>8</sub>	84 <sup>3</sup> / <sub>4</sub>	84 <sup>3</sup> / <sub>4</sub>	84 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>4</sub>	66 <sup>1</sup> / <sub>4</sub>	74 <sup>1</sup> / <sub>4</sub>	70 <sup>1</sup> / <sub>2</sub>	29 <sup>1</sup> / <sub>2</sub>	33 <sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>16</sub>
55	46 <sup>13</sup> / <sub>32</sub>	92 <sup>13</sup> / <sub>32</sub>	92 <sup>13</sup> / <sub>32</sub>	93 <sup>5</sup> / <sub>32</sub>	5 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>4</sub>	9	73 <sup>29</sup> / <sub>32</sub>	81 <sup>29</sup> / <sub>32</sub>	78 <sup>5</sup> / <sub>32</sub>	22 <sup>1</sup> / <sub>4</sub>	37 <sup>1</sup> / <sub>2</sub>	<sup>15</sup> / <sub>16</sub>
63	53 <sup>1</sup> / <sub>32</sub>	103 <sup>7</sup> / <sub>16</sub>	103 <sup>7</sup> / <sub>16</sub>	106 <sup>3</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>4</sub>	9	84 <sup>13</sup> / <sub>16</sub>	94 <sup>13</sup> / <sub>16</sub>	90 <sup>3</sup> / <sub>16</sub>	25	42	<sup>15</sup> / <sub>16</sub>
71	59 <sup>5</sup> / <sub>8</sub>	114 <sup>11</sup> / <sub>16</sub>	116 <sup>11</sup> / <sub>16</sub>	117 <sup>11</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	9	10	95 <sup>5</sup> / <sub>16</sub>	105 <sup>5</sup> / <sub>16</sub>	100 <sup>11</sup> / <sub>16</sub>	28 <sup>3</sup> / <sub>4</sub>	47	<sup>15</sup> / <sub>16</sub>
79	66 <sup>1</sup> / <sub>32</sub>	127 <sup>5</sup> / <sub>32</sub>	127 <sup>5</sup> / <sub>32</sub>	128 <sup>5</sup> / <sub>32</sub>	6 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	9	10	105 <sup>25</sup> / <sub>32</sub>	115 <sup>25</sup> / <sub>32</sub>	111 <sup>5</sup> / <sub>32</sub>	31 <sup>1</sup> / <sub>2</sub>	51 <sup>3</sup> / <sub>4</sub>	<sup>15</sup> / <sub>16</sub>

(1) DB AND TAD DISCHARGES FURNISHED LESS DISCHARGE COLLAR.

(2) APPROXIMATE, MAY VARY WITH BEARING SIZE.

(3) FOR TH, BH, UB, BAU & TAU DISCHARGES. DB DISCHARGE FRAMED INTO BASE. DETAIL NOT SHOWN.

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION.

ALL FIGURES ARE IN INCHES.

# Typical Specifications

Fans shall be of the DWDI Industrial Centrifugal Fan type, with Backward Inclined Airfoil blades, as manufactured by Aerovent, Minneapolis, Minnesota, and shall be of the size and capacity as indicated in the fan schedule. Centrifugal fans shall be tested in accordance with ANSI/ASHRAE 51 and ANSI/AMCA 210 test codes for air moving devices and guaranteed by Aerovent to deliver at the rated published performance levels. In addition, each unit shall be factory run tested prior to shipment.

**CONSTRUCTION** — Housing shells shall be designed to meet Class I / Class II / Class III Construction. The housings shall be constructed of steel with continuous seam type welding and side angle reinforcement. Housings shall be field rotatable for sizes 12 through 25 as standard, and optional on sizes 28 and 32. Lifting eyes shall be supplied on all sizes.

**WHEEL** — Wheel sizes 12 through 25 shall be constructed from heavy-gauge aluminum only. Sizes 28 and larger shall be furnished with heavy-gauge steel construction as standard with aluminum as an option. The BIA wheel features continuously welded backward curved double thickness airfoil blades. The blades shall be continuous and precision welded to flat wheel cones and staggered on each side of the center plate. The wheel shall be dynamically and statically balanced and shall be attached to the shaft with a split taper lock bushing or furnished with straight bore hubs.

**BEARINGS** — Bearings shall be pillow block or spherical roller design, oversized to ensure maximum bearing life.

**DRIVES** — Belts and sheaves furnished by the manufacturer shall be selected to provide a minimum 1.4 service factor when measured against motor horsepower.

**BALANCING** — The wheel assembly 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. In addition, direct drive fan wheels shall be balanced on the motor shaft after final assembly and belt driven fan wheels shall be balanced on the fan shaft after final assembly, in the manufacturing facility, to the following peak velocity values, filter-in, at the fan test speed:

Fan Application Category	Rigidly Mounted (in./s)	Flexibly Mounted (in./s)
BV-3	0.15	0.20

**MOTORS** — Fan motors shall be foot mounted NEMA Design B, standard industrial, continuous duty ball bearing, variable torque type suitable for operation on voltage, phase, and hertz, as listed in the fan schedule. Motor bearings shall have a minimum L-10 life, as defined by AFBMA, of at least 40,000 hours (200,000 hours average life).

**FINISH** — The unit, after fabrication, shall be cleaned and chemically pretreated by a phosphatizing process and shall be painted inside and outside with an alkyd primer and finish painted with an air dry enamel. Fan shall be coated with the following optional coatings:

- |   |  |
|---|--|
| <input type="checkbox"/> Air Dry Epoxy                          | <input type="checkbox"/> Heresite P413 - Baked Phenolic                          |
| <input type="checkbox"/> High Temperature Aluminum              | <input type="checkbox"/> Heresite VR506 - Air Dry Phenolic                       |
| <input type="checkbox"/> Asphalt Based Coating                  | <input type="checkbox"/> Powder Coat   |
| <input type="checkbox"/> Plasite 4310 - Vinyl Ester             | <input type="checkbox"/> Carbocoat 30 (Replaces Sanitile 550 and Eisenheiss 210) |
| <input type="checkbox"/> Plasite 7122L - Air Dry Epoxy Phenolic |  |

**SOUND POWER LEVELS** — The sound power level of the fans shall not exceed:

Octave Band - CPS (Sound Power  $10^{-12}$ )

20-75	75-150	150-300	300-600	600-1200	1200-2400	2400-4800	4800-10000

**OPTIONAL ACCESSORIES** — The units shall be furnished complete with:

- |  |   |
|--|---|
| <input type="checkbox"/> Flanged Outlet                                  | <input type="checkbox"/> Inlet Guard                      |
| <input type="checkbox"/> Flanged Inlet                                   | <input type="checkbox"/> Outlet Guard                     |
| <input type="checkbox"/> Quick Opening Cleanout Door                     | <input type="checkbox"/> Split Housing (Type A/Type B)    |
| <input type="checkbox"/> Bolted Cleanout Door                            | <input type="checkbox"/> Unitary Base                     |
| <input type="checkbox"/> Housing Drain                                   | <input type="checkbox"/> RIS Isolators                    |
| <input type="checkbox"/> OSHA Belt Guard (Arrangement #3)                | <input type="checkbox"/> Spring Isolators                 |
| <input type="checkbox"/> Rotatable Housing (Standard on sizes 12" - 25") | <input type="checkbox"/> Outlet Damper (Parallel/Opposed) |
| <input type="checkbox"/> Shaft and Coupling Guard (Arrangement #7)       | <input type="checkbox"/> Nested Inlet Vortex Damper       |
| <input type="checkbox"/> Coupling  |   |