



**Bulletin AX05**



**AXCENTRIX BIFURCATOR FANS**

Models: AXD, AXB  
Direct Drive and Belt Drive

*MOVING YOUR WAY*

### FANSIZER®

#### Product Selection Software

FanSizer software allows you to select the best centrifugal or axial unit for your application. Input CFM and static pressure, and FanSizer will make the optimum selection. It allows you to complete job schedules which you can store, modify and print in seconds. Features include: on-line help, on-screen product drawings and dimensions, and complete text specifications. In addition, you can convert job schedules to ASCII code for use with other programs like word processing.

### FANCAD®

#### Library of CAD Drawings

FanCad is a library of drawings for use with computer-aided design (CAD) systems. FanCad's pre-drawn details can save hours of drafting time. Included are all popular PennBarry fans and related items.

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Following publication of this catalog changes may have been made in standard equipment, options and the like that would not be included. We reserve the right to make changes at any time, without notice, to models, specifications, options, availability, etc. This bulletin illustrates the appearance of PennBarry products at the time of publication and we reserve the right to make changes in design and construction at anytime without notice. Your local sales representative is the best source for current information.

# General Information

## AXD/AXB - Axcentrix Bifurcator Fans



**Model AXD  
Direct Drive  
Axcentrix**



**Axcentrix with Motor  
Chamber Louvers**

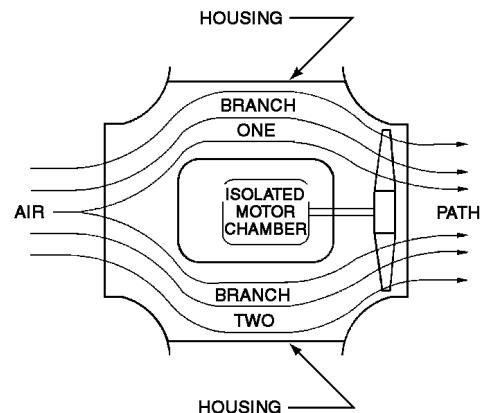
Axcentrix Bifurcator fans are inline, mixed flow blowers designed specifically to move large volumes of air against high static pressures. Because of their bifurcator housings, they can exhaust hot air, corrosive gases or flammable fumes. The motor is isolated from destructive heat and fumes in a separate chamber, so it remains cool and clean even after extended operation. The only moving part exposed to heat and fumes is the specially designed fan wheel.

- Wheel diameters from 14" through 45"
- CFM capacity ranges from 1,500 to 64,000
- Static pressure up to 8 1/2"
- Useful for applications in many industries, such as food processing, glass, breweries, chemical plants, pulp and paper, meat packing, hot metal, rubber and dairy
- Heavy gauge steel and continuous welding

## The Bifurcated Principle

Dictionaries define the term "bifurcate" as follows: "To divide into two branches." That is essentially what the Bifurcator blower provides. The two branches of the air stream pass one on each side of the isolated motor chamber as shown in the sketch on the right.

The isolation of the motor chamber to elevated temperatures is done by using liners and insulation packages. Motors are provided with shaft extensions and heat slingers to protect bearings and windings.



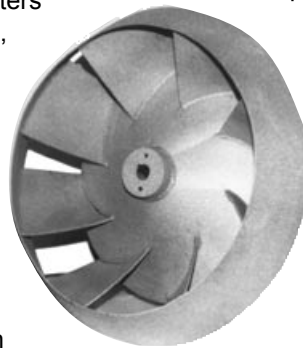
# Features and Benefits

## Axcentrix Bifurcator Fans - AXD/AXB

**Bifurcators** are engineered and built for quality. Standard construction features include heavy gauge steel, top name brand electric motors, continuous welding on every seam instead of spot welding and welded flanges instead of roll forming. The results are products that deliver superior performance with minimal downtime and maintenance, and the best full-life value of any powered ventilation product available.

The fan wheel of the Axcentrix Bifurcator is the key to its tremendous air moving capabilities. It is an eight-bladed, backward curved, ducted fan wheel. As air enters the housing, it is pressurized by the fan wheel, straightened by special straightener vanes and reintroduced smoothly into the duct with minimum turbulence.

Bifurcator fan wheels are statically and dynamically balanced for smooth operation and longer motor bearing life. Axcentrix Bifurcators are surprisingly quiet because they require lower tip speeds than conventional axial flow fans. This is an important consideration in applications with low ceiling heights or where there is no other operating machinery. Workers can converse



**Axcentrix Wheel**

in normal tones while standing only at five feet away, with all but the highest capacity Axcentrix blowers.

Bifurcators are available in a wide range of sizes and air movement capacities. Direct drive models are available with fan wheel diameters from 14" to 45", 1,500 through 58,000 CFM capacities and capability of moving air against static pressures as high as 8-1/2 in. w.g.

For applications involving other flow characteristics, Axcentrix blowers also come in special-order belt driven models whose capacities can be modified simply by changing belt pulleys. Special-order belt drive Axcentrix blowers are available with fan wheel sizes from 17" to 45", 1,500 through 64,000 CFM capacities and capable of moving air against static pressures up to 8 in. w.g.

Special order belt drive Axcentrix blowers feature easy to adjust V-belt drives for smooth, quiet operation. As with direct drive models, the belt driven Axcentrix motor, belts and bearings are completely isolated from process air flow, so all drive components remain cool and clean during operation.

## Simple Installation and Maintenance

Axcentrix Bifurcator fans can be mounted directly into ductwork with no extra support required. They can be mounted in any position with no loss of performance because of ball-bearing supported motor shafts. Its high efficiency even allows the fan to be mounted at the end of ductwork on the roof.

Each unit features a removable cone half section which makes inspection and/or removal of the motor and fan wheel very simple. The entire housing does not have to be removed from ductwork to perform routine inspections and maintenance, thereby saving maintenance time and labor.

With the optional SLYDE-OUT® motor mount, the Axcentrix motor and fan wheel can be removed and replaced in minimum time by one person.

# Options and Accessories

AXD/AXB - Axcentrix Bifurcator Fans

## Companion Flange

A companion flange is one angle iron ring with matching punched holes used to align duct work with fan inlet and outlet flanges. Available in standard sizes only.



Companion Flange

## Curb Cap

Provided as a base for the unit to be installed over the roof curb. Roof curb not included.



Curb Cap

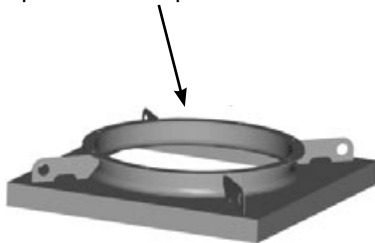
## SLYDE-OUT®

A SLYDE-OUT® feature is available as an option. This feature supports the mounted motor and propeller as it is slid out of the housing and allows thorough visual inspection and/or cleaning without dismounting the motor or propeller.

## Optional Construction



Most units can be utilized as Power Roof Ventilators with optional discharge cap and curb cap.

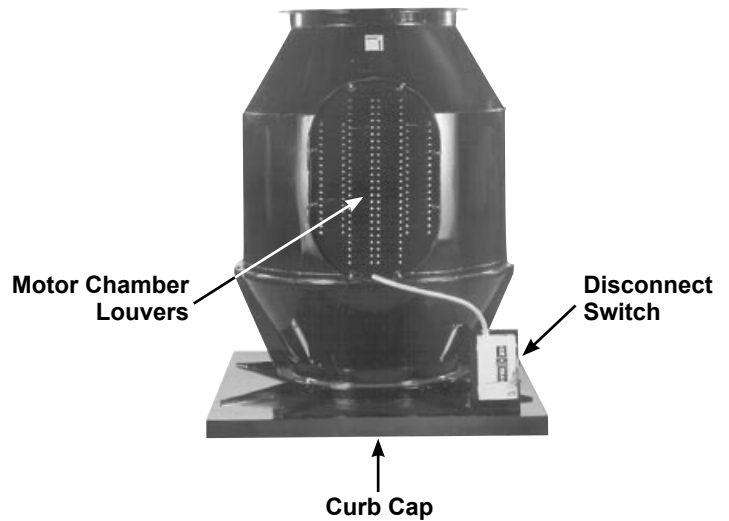


## Disconnect Switch

NEMA 1, 3R, 4X and 7/9 disconnect switches are offered. All disconnect switches are available mounted and unwired, mounted and wired, or shipped loose.



Disconnect Switch



Motor Chamber Louvers

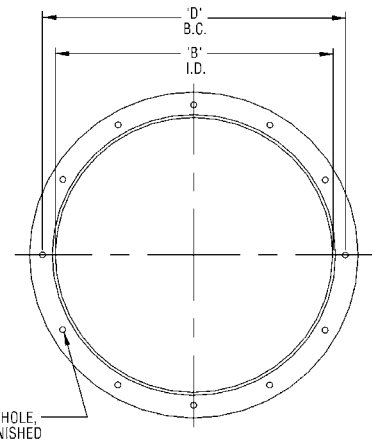
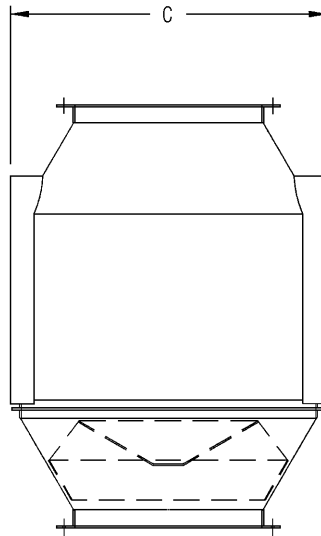
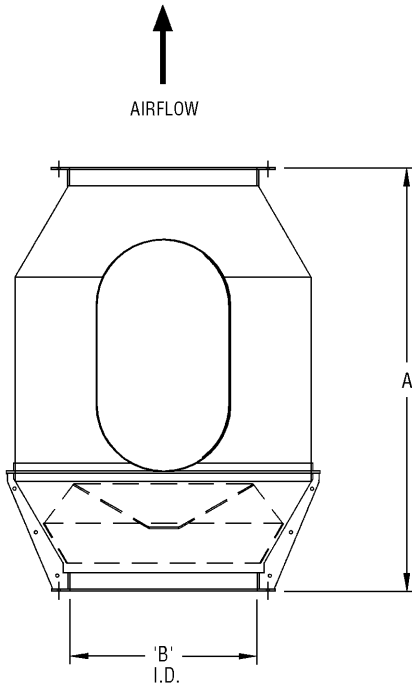
Disconnect Switch

Curb Cap

## Special Materials & Coatings

Bifurcator construction materials and coatings are offered in a wide variety. The offering is broad enough that most special situations can be accommodated. The following chart shows the available construction options and coatings. Contact the factory for additional coatings not shown.

AVAILABLE CONSTRUCTION	AVAILABLE COATINGS
450°F	Standard Enamel Air-Dry Heresite High Temperature Air-Dry Epoxy
750°F	
900°F	
1000°F	
Hot Dipped Galvanized	
316SS	



**Notes:**

1. Approximate fan weights are less motor and accessories.
2. Belt drive also available.
3. Rotation is CW as viewed from discharge.
4. Dimensions should not be used for construction.  
Certified drawings are available upon request.

MOUNTING HOLE PLAN

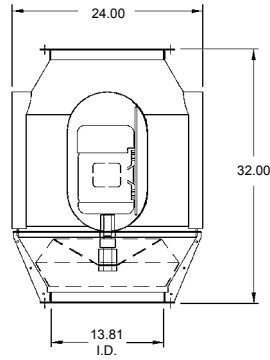
SIZE	A	B	C	D	E	F	MAX. FRAME	HSG. GA.	UNIT WEIGHT
014	32.00	13.81	24.00	16.00	0.44	8	145T	14	120
017	37.00	17.13	29.50	19.38	0.44	8	145T	14	235
020	43.38	20.25	35.00	22.50	0.44	8	213T	14	280
023	50.00	23.25	40.00	25.50	0.44	8	254T	14	375
026	55.50	25.75	43.50	28.75	0.44	12	286T	14	525
028	59.75	28.25	46.75	31.25	0.44	12	326T	14	575
030	64.00	30.38	51.25	33.25	0.44	12	326T	14	650
033	70.50	33.38	56.00	36.38	0.44	12	326T	12	850
036	77.00	36.38	60.75	39.50	0.56	12	364T	12	1050
038	81.25	38.50	64.00	41.0	0.56	16	404T	12	1200
040	85.00	40.50	67.50	43.75	0.56	16	404T	12	1450
045	96.50	45.50	76.00	48.75	0.69	16	405T	10	2300

# Direct Drive Fan Data

AXD - Axcenrix Bifurcator Fan

## 014

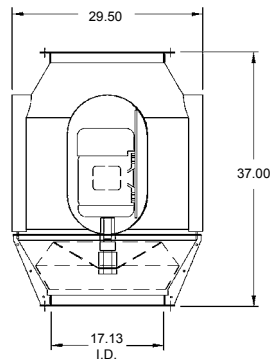
Wheel Diameter = 14 in.
Tip Speed, FPM = 3.67 x RPM
Maximum RPM = 1750



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP
870	1/2	1560	1170				
1160	3/4	2070	1830	1410	780		
1750	1	3140	2970	2840	2650	2400	1510

## 017

Wheel Diameter = 17 in.
Tip Speed, FPM = 4.45 x RPM
Maximum RPM = 1750



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
870	1/2	5620	2400	1540					
1160	3/4	3720	3440	3120	2490	1710			
1750	3	2790	5410	5230	5060	4850	4230	3120	2150

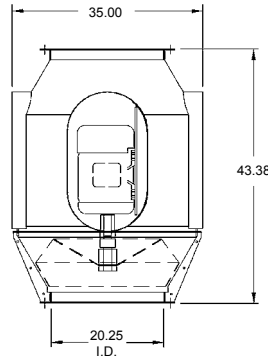
Notes: 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Direct Drive Fan Data

Axcentrix Bifurcator Fan - AXD

## 020

Wheel Diameter = 20 in.
Tip Speed, FPM = 5.24 x RPM
Maximum RPM = 1750

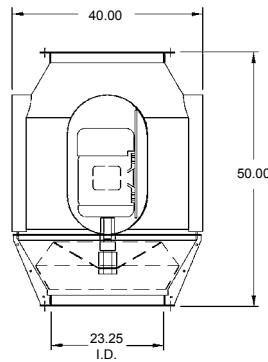


FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP
870	1	4930	4490	3830	2550	1390				
1160	2	6580	6280	5920	5460	4770	2820			
1750	7 1/2	9980	9800	9590	9360	9120	8560	7870	6720	5340

FAN RPM	MTR HP	3 1/2" SP	4" SP
1750	7 1/2	4080	2960

## 023

Wheel Diameter = 23 in.
Tip Speed, FPM = 6.02 x RPM
Maximum RPM = 1750



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
870	2	7500	7180	6290	5330	3870			
1160	5	10000	9600	9240	8720	8170	6350	4160	2240
1750	15	15080	14830	14580	14310	14090	13440	12700	11980

FAN RPM	MTR HP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP
1750	15	10800	9320	7830	6350	5070	3860

- Notes:**
- 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.
  - 2) Performance ratings do not include the effects of appurtenances in the airstream.

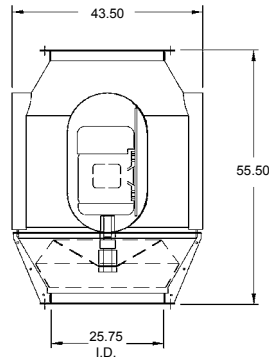


# Direct Drive Fan Data

AXD - Axcentrix Bifurcator Fan

## 026

Wheel Diameter = 26 in.
Tip Speed, FPM = 6.81 x RPM
Maximum RPM = 1750

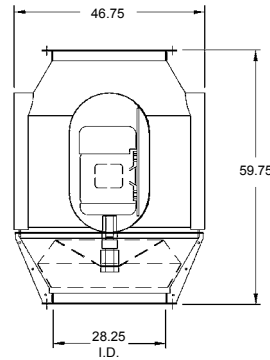


FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
870	3	11570	9860	9270	8550	7610	4370	1350	
1160	7 1/2	15400	13500	13050	12600	12060	10980	9360	6980
1750	25	23400	20880	20570	20340	19980	19350	18720	18000

FAN RPM	MTR HP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP
1160	7 1/2	4100								
1750	25	17280	16520	15660	14490	13050	11430	9500	7560	6300

## 028

Wheel Diameter = 20 in.
Tip Speed, FPM = 5.24 x RPM
Maximum RPM = 1750



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP	3 1/2" SP
870	5	14450	13210	11970	11030	10220	7400	3560			
1160	10	19270	18360	17410	16640	15580	14390	12930	10820	7880	4990
1750	30	29070	28430	27820	27200	26660	25390	24180	23040	22310	21550

FAN RPM	MTR HP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP	7 1/2" SP	8" SP	8 1/2" SP
1160	10	2820									
1750	30	20590	19570	18340	16860	15330	13210	11190	9220	7380	5790

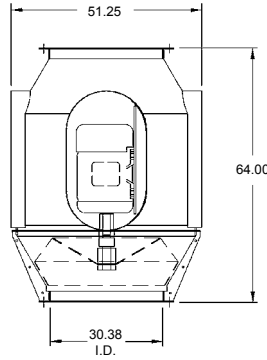
**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
2) Performance ratings do not include the effects of appurtenances in the airstream.

# Direct Drive Fan Data

Axcentrix Bifurcator Fan - AXD

## 030

Wheel Diameter = 30 in.
Tip Speed, FPM = 7.85 x RPM
Maximum RPM = 1750

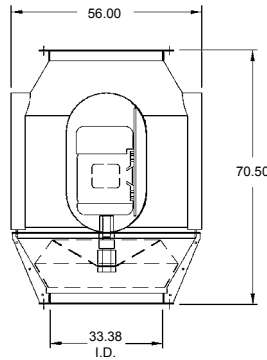


FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP	3 1/2" SP
870	7 1/2	17100	16460	15790	15010	14180	11960	8170			
1160	15	22800	22330	21830	21290	20740	19570	18180	16530	14330	11340
1750	50	34600	34290	33970	33660	33310	32640	31940	31210	30444	29650

FAN RPM	MTR HP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP	7 1/2" SP	8" SP	8 1/2" SP
1160	15	7740									
1750	50	28790	27870	26820	25740	24480	23070	21480	19560	17340	15010

## 033

Wheel Diameter = 33 in.
Tip Speed, FPM = 8.64 x RPM
Maximum RPM = 1160



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP
690	5	18050	17110	16160	15020	13600	8880	
870	10	22760	22070	21350	20510	19700	17600	14680
1160	25	30350	29820	29270	28650	28180	26950	25610

FAN RPM	MTR HP	2 1/2" SP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP
870	10	10040	5800				
1160	25	24010	22180	19800	16650	12980	9490

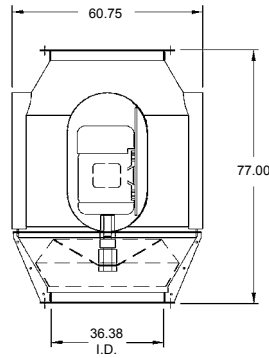
**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
2) Performance ratings do not include the effects of appurtenances in the airstream.

# Direct Drive Fan Data

AXD - Axcentrix Bifurcator Fan

## 036

Wheel Diameter = 36 in.
Tip Speed, FPM = 9.42 x RPM
Maximum RPM = 1160

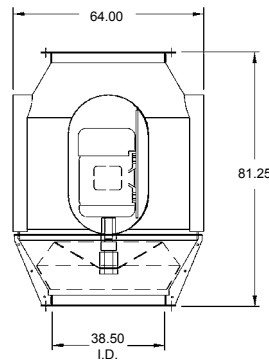


FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
690	7 1/2	23440	22430	21400	20210	18820	15000	8630	
870	15	29550	28740	27970	27180	26250	24200	21670	18000
1160	40	39400	38800	38210	37630	37070	35740	34400	32860

FAN RPM	MTR HP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP
870	15	12820	8030						
1160	40	31120	29050	26640	23630	19760	15590	12010	9030

## 038

Wheel Diameter = 38 in.
Tip Speed, FPM = 9.95 x RPM
Maximum RPM = 1160



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
690	10	27560	26560	25470	24280	22940	19390	13440	2990
870	20	34750	33930	33090	32260	31300	29210	26840	23540
1160	50	46340	45720	45100	44480	43870	42550	41110	39530

FAN RPM	MTR HP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP
870	20	18850	13110	8660						
1160	50	37870	35970	33720	31010	27990	23780	19560	15310	12230

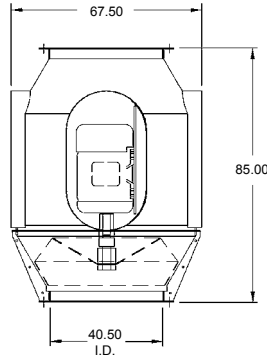
- Notes:**
- 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.
  - 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Direct Drive Fan Data

Axcentrix Bifurcator Fan - AXD

## 040

Wheel Diameter = 40 in.
Tip Speed, FPM = 10.47 x RPM
Maximum RPM = 1160

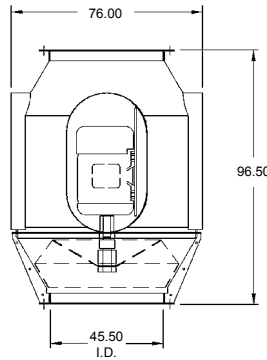


FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP
690	15	32550	31470	30290	29070	27720	24370	19390	11840	
870	25	41040	40140	39220	38250	37310	35240	32810	29860	26010
1160	60	54710	54120	53480	52830	52160	50790	49260	47680	45900

FAN RPM	MTR HP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP	7 1/2" SP	8" SP
870	25	20700	14090								
1160	60	44030	41950	39670	36910	33570	29520	24900	20100	15970	12420

## 045

Wheel Diameter = 45 in.
Tip Speed, FPM = 11.78 x RPM
Maximum RPM = 870



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
690	25	46350	45040	43710	42430	41080	37690	33570	28010
870	50	58430	57400	56400	55310	54290	52200	49850	46850

FAN RPM	MTR HP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP
690	25	19650	11990	5840				
870	50	43850	39470	35020	28390	21630	15800	10610

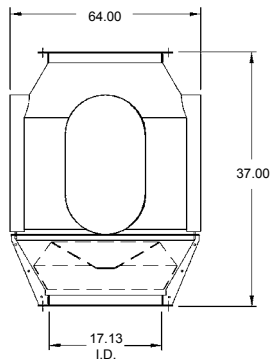
Notes: 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
2) Performance ratings do not include the effects of appurtenances in the airstream.

# Belt Drive Fan Data

AXB - Axcentrix Bifurcator Fan

## 017

Wheel Diameter = 17 in.
Tip Speed, FPM = 4.45 x RPM
Maximum RPM = 2115

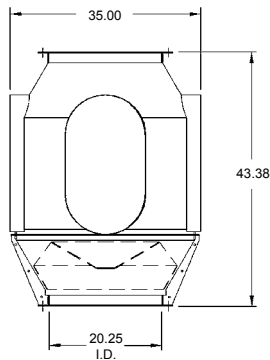


FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/4" SP	1 1/2" SP	1 3/4" SP
975	1/2	3400	3050	2410	1500				
1125	3/4	3920	3610	3280	2650	1710	970		
1240	1	4320	4050	3690	3300	2650	1740	1130	
1560	2	5430	5240	5020	4730	4420	4000	3380	2780
1785	3	6210	6010	5850	5640	5400	5110	4830	4350
2115	5	7360	7210	7050	6900	6750	6530	6300	6070

FAN RPM	MTR HP	2" SP	2 1/4" SP	2 1/2" SP	2 3/4" SP	3" SP	3 1/2" SP	4" SP	4 1/2" SP
1560	2	2170							
1785	3	3820	3390	2760	2250	1810			
2115	5	5840	5490	5090	4650	4190	3280	2460	1720

## 020

Wheel Diameter = 20 in.
Tip Speed, FPM = 5.24 x RPM
Maximum RPM = 1620



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/4" SP	1 1/2" SP	2" SP
750	1/2	4290	3730	2590	1170				
860	3/4	4880	4470	3780	2610	1260			
950	1	5380	5040	4460	3510	2270	1760	1240	
1200	2	6770	6480	6170	5720	5090	4240	3250	1420
1370	3	7760	7490	7200	6880	6510	5990	5290	3550
1620	5	9190	8960	8750	8500	8220	7920	7610	6530

FAN RPM	MTR HP	2 1/4" SP	2 1/2" SP	2 3/4" SP	3" SP	3 1/4" SP	3 1/2" SP	3 3/4" SP
1370	3	2760	2030	1400				
1620	5	5820	5100	4420	3740	3110	2540	1950

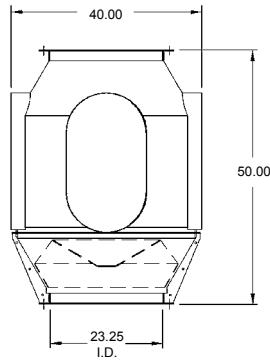
- Notes:
- 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.
  - 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Belt Drive Fan Data

Axcentrix Bifurcator Fan - AXB

# 023

Wheel Diameter = 23 in.
Tip Speed, FPM = 6.02 x RPM
Maximum RPM = 1850



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
590	1/2	5090	4200	2220					
680	3/4	5860	5120	3810	2000				
750	1	6460	5870	5000	3250	1720			
940	2	8100	7620	7060	6330	5090	2490		
1080	3	9310	8900	8490	7900	7290	4960	2790	
1270	5	10950	10600	10250	9890	9330	8120	6110	4100
1460	7 1/2	12580	12290	11970	11650	11310	10410	9250	7550
1610	10	13880	13610	13330	13040	12780	12110	11200	10020
1850	15	15940	15700	15460	15220	15000	14510	13810	13090

FAN RPM	MTR HP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP
1270	5	2570							
1460	7 1/2	5790	4190	2750					
1610	10	8430	6810	5210	3930	2590			
1850	15	12330	10010	9590	8190	6790	5510	4420	3240

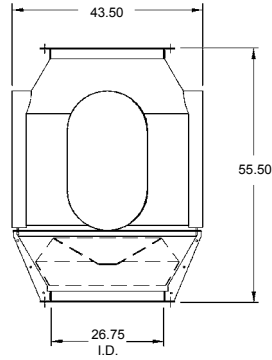
**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Belt Drive Fan Data

AXB - Axcentrix Bifurcator Fan

# 026

Wheel Diameter = 26 in.
Tip Speed, FPM = 6.81 x RPM
Maximum RPM = 1740



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP
580	3/4	7710	6080	4650	2030					
640	1	8510	6930	5810	3810	1560				
810	2	10770	9530	8430	7560	6320	2560			
930	3	12370	11300	10220	9430	8680	6220	2800		
1100	5	14630	13710	12810	11990	11290	9910	7920	4940	2730
1260	7 1/2	16760	15940	15140	14380	13590	12540	11290	9590	7090
1380	10	18350	17610	16910	16180	15410	14280	13300	12080	10440
1580	15	21010	20380	19750	19100	18240	17210	16290	15480	14440
1740	20	23140	22580	21990	21400	20840	19670	18550	17820	17100

FAN RPM	MTR HP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP	7 1/2" SP
1260	7 1/2	4590	2620							
1380	10	8220	5890	3810	2280					
1580	15	13200	11800	9790	7700	5790	4090	2760		
1740	20	16200	15220	13920	12600	10690	8740	6970	5220	3960

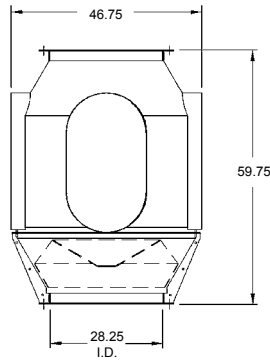
**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Belt Drive Fan Data

## Axcentrix Bifurcator Fan - AXB

# 028

Wheel Diameter = 28 in.
Tip Speed, FPM = 7.33 x RPM
Maximum RPM = 1640



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP	3 1/2" SP
570	1	9470	7590	6230	3530						
710	2	11790	10260	9020	7860	6100					
810	3	13450	12110	10790	9950	8880	5180				
960	5	15950	14810	13710	12650	11960	10040	6970	3460		
1100	7 1/2	18270	17290	16340	15320	14480	13170	11380	8770	5600	3130
1280	10	21260	20420	19580	18710	17930	16520	15420	14000	12090	9520
1380	15	22920	22110	21330	20570	19810	18280	17310	16200	14790	13000
1520	20	25250	24530	23810	23130	22410	20980	19820	18920	17930	16690
1640	25	27240	26600	25920	25270	24630	23290	22000	21090	20290	19280

FAN RPM	MTR HP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP	7 1/2" SP	8" SP
1280	10	6820	4390							
1380	15	10630	8010	5660	3830					
1520	20	15120	13390	11000	18690	6550	4780	3220		
1640	25	18200	16790	15310	13310	11100	9000	6980	5320	3920

**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

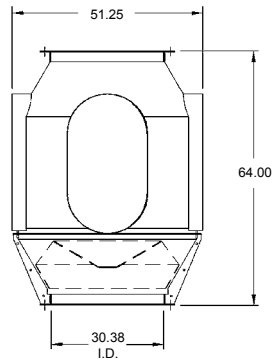


# Belt Drive Fan Data

AXB - Axcenrix Bifurcator Fan

## 030

Wheel Diameter = 30 in.
Tip Speed, FPM = 7.85 x RPM
Maximum RPM = 1500



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
570	2	11310	10170	8870	6710	3010			
690	3	13640	12800	11890	10800	9080	3890		
820	5	16200	15500	14740	13910	12960	10170	5870	
940	7 1/2	18540	17920	17280	16610	15880	14180	11330	7880
1040	10	20340	19800	19180	18590	17980	16580	14780	11980
1190	15	23330	22860	22340	21890	21420	20290	19040	17550
1310	20	25740	25360	24860	24390	23940	22930	21800	20660
1410	25	27630	27310	26870	26460	25970	26960	24210	23150
1500	30	29420	28910	28690	28280	27900	27040	26230	25200

FAN RPM	MTR HP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP
1040	10	8280							
1190	15	15300	12600	9220					
1310	20	19220	17480	14980	12240	9270			
1410	25	22050	20630	18900	16740	14510	11880	9000	
1500	30	24260	23120	21800	20180	18320	16160	13770	11300

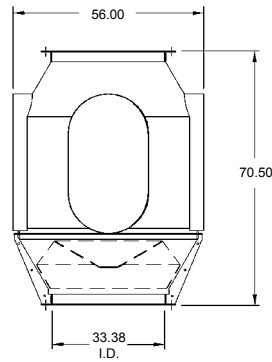
**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Belt Drive Fan Data

## Axcentrix Bifurcator Fan - AXB

# 033

Wheel Diameter = 33 in.
Tip Speed, FPM = 8.64 x RPM
Maximum RPM = 1410



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP	3 1/2" SP
520	2	13600	12340	10790	8230						
590	3	15440	14370	13070	11430	9010					
710	5	18570	17680	16740	15660	14380	10140	4720			
810	7 1/2	21190	20410	19630	18720	17740	15200	11130	6120		
890	10	23280	22590	21860	21120	20270	18310	15570	11400	6850	
1020	15	26680	26090	25470	24820	24150	22830	20900	18610	15400	11190
1120	20	29300	28780	28190	27610	27100	25730	24370	22600	20520	17750
1210	25	31660	31170	30650	30610	29580	28380	27180	25770	24090	22190
1290	30	33750	33750	32790	32480	31840	30770	29600	28390	26990	25370
1410	40	36890	36890	36420	36010	35580	34650	33710	32690	31580	30400

FAN RPM	MTR HP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP	7 1/2" SP	8" SP
1020	15	7510								
1120	20	14120	10040	7210						
1210	25	19630	16310	12810	9520					
1290	30	23560	21110	18190	14840	11460	8990			
1410	40	29020	26690	24790	22560	19700	16710	13570	10980	8810

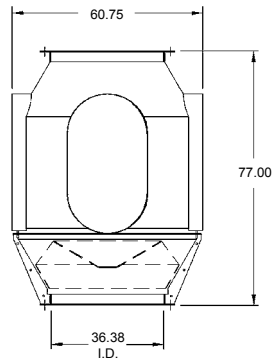
**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Belt Drive Fan Data

AXB - Axcentrix Bifurcator Fan

# 036

Wheel Diameter = 36 in.
Tip Speed, FPM = 9.42 x RPM
Maximum RPM = 1220



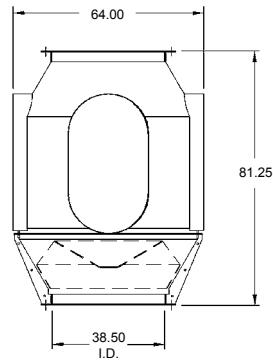
FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP
450	2	15280	13690	11590	7770					
510	3	17320	15950	14340	12000	8050				
610	5	20720	19600	18350	16880	15030	8610			
700	7 1/2	23770	22790	21810	20600	19310	15630	9510		
770	10	26150	25220	24390	23370	22270	19580	15500	9390	
880	15	29890	29100	28320	27550	26630	24670	22110	18690	13660
970	20	32950	31250	31530	30780	30100	28350	26450	24020	20900
1040	25	35320	34660	34000	33360	32720	31150	29460	27440	25170
1110	30	37700	37100	36450	35840	35230	33810	32270	30660	28780
1220	40	41440	40890	40260	39730	39180	38070	36700	35290	33810

FAN RPM	MTR HP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP
880	15	8740							
970	20	16480	11510	7880					
1040	25	21940	17880	13210	9610				
1110	30	26410	23450	19490	15270	11450			
1220	40	32090	30030	27580	24750	20990	17120	13370	10610

**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

## 038

Wheel Diameter = 38 in.
Tip Speed, FPM = 9.95 x RPM
Maximum RPM = 1120



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP
470	3	18780	17230	15240	12320	7690			
560	5	22370	21090	19660	17840	15630	7600		
640	7 1/2	25570	24420	23250	21860	20290	15680	8220	
700	10	27970	26930	25940	24710	23400	20020	14510	7890
810	15	32360	31430	30580	29640	28630	26260	23210	18790
890	20	35550	34770	33950	33110	32220	30210	27950	24970
960	25	38350	37590	36850	36070	35370	33530	31610	29200
1020	30	40750	40040	39360	38610	37900	36260	34470	32450
1120	40	44740	44070	43450	42830	42160	40780	39210	37600

FAN RPM	MTR HP	3" SP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP
810	15	12690	7720						
890	20	20920	15340	10380					
960	25	26300	22240	17390	12200				
1020	30	30060	27170	23390	18570	13670	10090		
1120	40	35770	33630	31270	27990	24080	19770	15210	11920

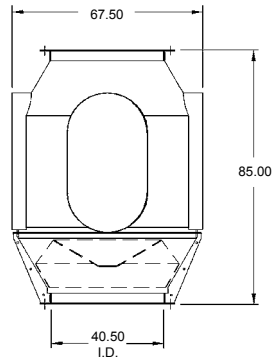
**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Belt Drive Fan Data

AXB - Axcenrix Bifurcator Fan

# 040

Wheel Diameter = 40 in.
Tip Speed, FPM = 10.47 x RPM
Maximum RPM = 1090



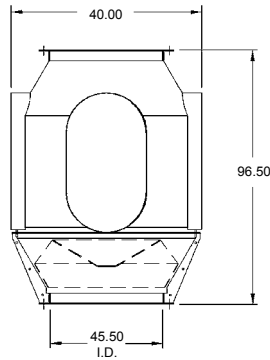
FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP
510	5	23670	22500	20650	18520	15370	5720			
580	7 1/2	27140	26280	24660	22950	20990	14780	6190		
640	10	29880	29980	28730	26480	24750	20550	13250	5940	
730	15	34200	33480	32540	31230	30020	27000	23220	17100	9990
810	20	37600	37010	36180	35230	34130	31590	28580	24820	19260
870	25	40480	40090	39400	38380	37310	35120	32600	29720	25850
920	30	43020	42680	42100	41270	40360	38320	35960	33390	30960
1010	40	47180	47050	46440	45850	45070	43340	41360	39220	36720
1090	50	50940	50560	50040	49460	48730	47320	45560	43740	41760

FAN RPM	MTR HP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP	7 1/2" SP
730	15	4750								
810	20	12280	7060							
870	25	20250	14020	8860	5060					
920	30	26620	21440	15370	10460	6520				
1010	40	34040	30980	26690	21150	16060	11630	7920		
1090	50	39740	37260	34400	30620	26140	21150	16540	12330	8800

**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

# 045

Wheel Diameter = 45 in.
Tip Speed, FPM = 11.78 x RPM
Maximum RPM = 950



FAN RPM	MTR HP	0" SP	1/4" SP	1/2" SP	3/4" SP	1" SP	1 1/2" SP	2" SP	2 1/2" SP	3" SP
420	5	28210	26040	23710	20250	15190				
480	7 1/2	32240	30390	28470	25980	22920	12550			
530	10	35600	33820	32210	30260	27840	21030	10430		
600	15	40300	38820	37320	35770	33950	29400	22380	12890	5410
660	20	44330	42940	41590	40260	38770	35040	30150	23040	14580
710	25	47690	46420	45170	43910	42630	39440	35800	30250	23180
760	30	51050	49830	48610	47470	46270	43650	40210	36180	31050
830	40	55750	54660	53570	52490	51380	49130	46470	43260	39450
900	50	60450	59430	58420	57430	56500	54440	52220	49450	46600
950	60	63810	62830	61880	60930	60020	58100	56110	53770	51020

FAN RPM	MTR HP	3 1/2" SP	4" SP	4 1/2" SP	5" SP	5 1/2" SP	6" SP	6 1/2" SP	7" SP	7 1/2" SP
660	20	7390								
710	25	15060	8590							
760	30	23630	16420	10030						
830	40	34690	28460	21350	15220	9600				
900	50	42870	38650	33470	26990	20650	15010	10180		
950	60	48230	44480	40420	35590	29200	23190	17810	12990	8620

**Notes:** 1) Performance shown is for Installation Type D: ducted inlet, ducted outlet.  
 2) Performance ratings do not include the effects of appurtenances in the airstream.

# Sample Specifications

## AXD/AXB - Axcenrix Bifurcator Fan

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- 1.1 Fans shall be tested and rated in accordance with AMCA air and sound methods and standards.
- 1.2 All motors and electrical components shall comply with NEMA, UL or other governing group.

### Belt Drive

#### PRODUCT

- 2.1 Fan shall be of axial/centrifugal, mixed flow type, configuration.
- 2.2 Fan shall be belt drive and sized for 1.5 service factor. Motor is mounted internally but out of airstream.
- 2.3 Fan housing shall be of all welded construction with a flanged inlet and outlet, and shall be constructed completely of carbon steel, stainless steel (type 316 or 304) or aluminum as specified on fan schedule.
  - 2.3.1 The fan housing shall have an integrally designed removable section to allow for impeller inspection or removal while the fan assembly remains installed.
  - 2.3.2 The fan shall be capable of supporting additional duct stack height of up to 20 feet if the application requires such due to building envelope, local codes or regional codes. Additional stack shall be properly guy wired.
- 2.4 Motor shall be separated from the air stream and is located in an easily accessible and visible chamber. This chamber bifurcates the fan housing and the air stream.
- 2.5 When required, the fan shall be equipped to be capable of continuous operation at 250°F, 450°F, 750°F, 900°F or 1000°F, as indicated on the fan schedule.
  - 2.5.1 The fan shall perform at the elevated temperatures without any additional external cooling fans other than its own integral mounted cooling wheels.
- 2.6 Impeller shall be of mixed flow type consisting of welded construction that shall be of carbon steel, stainless steel or aluminum, as indicated on the fan schedule.
  - 2.6.1 Impeller shall produce an operation curve that does not produce any dip in the fan curve, with stable operation over its full curve operating range.
- 2.7 The electric motor shall be as specified on fan schedule and is available in any enclosure as made available from the motor vendors. The motor shall be of a typical NEMA-T frame type and standard in nature with the motor industry and is readily available, unless specified otherwise due to application warranting such.
- 2.8 Fan shall be of AMCA spark resistant construction when required and as indicated on the fan schedule as either AMCA "A", "B" or "C".
- 2.9 Fan shall be coated with air dry enamel as standard or any other available coating as made available by coating suppliers and as indicated on the fan schedule.
- 2.10 The final complete fan assembly shall be vibration tested and mechanically balanced as per AMCA 204 Grade BV-3 / ANSI S2.19 G 6.3 and the results recorded on a label placed on the fan assembly.

#### ACCESSORIES

- 3.1 Fan manufacturer shall supply a NEMA rated disconnect when required as shown on the fan schedule.
- 3.2 The motor chamber shall have either louvered or birdscreen covers as shown on the fan schedule.
- 3.3 The fan manufacturer shall supply a galvanized roof curb with rigid insulation and a wood nailer as shown on the fan schedule.

### Direct Drive

#### PRODUCT

- 2.1 Fan shall be of axial/centrifugal, mixed flow type, configuration.
- 2.2 Fan shall be direct drive as shown on schedule.
- 2.3 Fan housing shall be of all welded construction with a flanged inlet and outlet, and shall be constructed completely of carbon steel, stainless steel (type 316 or 304) or aluminum as specified on fan schedule.
  - 2.3.1 The fan housing shall have an integrally designed removable section to allow for impeller inspection or removal while the fan assembly remains installed.
  - 2.3.2 The fan shall be capable of supporting additional duct stack height of up to 20 feet if the application requires such due to building envelope, local codes or regional codes. Additional stack shall be properly guy wired.
- 2.4 Motor shall be separated from the air stream and is located in an easily accessible and visible chamber. This chamber bifurcates the fan housing and the air stream.
- 2.5 When required, the fan shall be equipped to be capable of continuous operation at 250°F, 450°F, 750°F, 900°F or 1000°F, as indicated on the fan schedule.
  - 2.5.1 The fan shall perform at the elevated temperatures without any additional external cooling fans other than its own integral mounted cooling wheels.
- 2.6 Impeller shall be of mixed flow type consisting of welded construction that shall be of carbon steel, stainless steel or aluminum, as indicated on the fan schedule.
  - 2.6.1 Impeller shall produce an operation curve that does not produce any dip in the fan curve, with stable operation over its full curve operating range.
- 2.7 The electric motor shall be as specified on fan schedule and is available in any enclosure as made available from the motor vendors. The motor shall be of a typical NEMA -T frame type and standard in nature with the motor industry and is readily available, unless specified otherwise due to application warranting such.
- 2.8 Fan shall be of AMCA spark resistant construction when required and as indicated on the fan schedule as either AMCA "A", "B" or "C".
- 2.9 Fan shall be coated with enamel as standard or any other available coating as made available by coating suppliers and as indicated on the fan schedule.
- 2.10 The final complete fan assembly shall be vibration tested and mechanically balanced as per AMCA 204 Grade BV-3 / ANSI S2.19 G 6.3 and the results recorded on a label placed on the fan assembly.

#### ACCESSORIES

- 3.1 Fan manufacturer shall supply a NEMA rated disconnect when required as shown on the fan schedule.
- 3.2 The motor chamber shall have either louvered or birdscreen covers as shown on the fan schedule.

# One Year Limited Warranty

Axcentrix Bifurcator Fan - AXD/AXB

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## What Products Are Covered

PennBarry Commercial and Industrial Fans (each, a “PennBarry Product”)

## One Year Limited Warranty For PennBarry Products

PennBarry warrants to the original commercial purchaser that the PennBarry Products will be free from defects in material and workmanship for a period of one (1) year from the date of shipment.

## Exclusive Remedy

PennBarry will, at its option, repair or replace (without removal or installation) the affected components of any defective PennBarry Product; repair or replace (without removal or installation) the entire defective PennBarry Product; or refund the invoiced price of the PennBarry Product. In all cases, a reasonable time period must be allowed for warranty repairs to be completed.

## What You Must Do

In order to make a claim under these warranties:

1. You must be the original commercial purchaser of the PennBarry Product.
2. You must promptly notify us within the warranty period of any defect and provide us with any substantiation that we may reasonably request.
3. The PennBarry Product must have been installed and maintained in accordance with good industry practice and any specific PennBarry recommendations.

## Exclusions

These warranties do not cover defects caused by:

1. Improper design or operation of the system into which the PennBarry Product is incorporated.
2. Improper installation.
3. Accident, abuse or misuse.
4. Unreasonable use (including any use for non-commercial purposes, failure to provide reasonable and necessary maintenance as specified by PennBarry, misapplication and operation in excess of stated performance characteristics).
5. Components not manufactured by PennBarry.

## Limitations

1. In all cases, PennBarry reserves the right to fully satisfy its obligations under the Limited Warranties by refunding the invoiced price of the defective PennBarry Product (or, if the PennBarry Product has been discontinued, of the most nearly comparable current product).
2. PennBarry reserves the right to furnish a substitute or replacement component or product in the event a PennBarry Product or any component of the product is discontinued or otherwise unavailable.
3. PennBarry’s only obligation with respect to components not manufactured by PennBarry shall be to pass through the warranty made by the manufacturer of the defective component.

## General

**The foregoing warranties are exclusive and in lieu of all other warranties except that of title, whether written, oral or implied, in fact or in law (including any warranty of merchantability or fitness for a particular purpose).**

**PennBarry hereby disclaims any liability for special, punitive, indirect, incidental or consequential damages, including without limitation lost profits or revenues, loss of use of equipment, cost of capital, cost of substitute products, facilities or services, downtime, shutdown or slowdown costs.**

The remedies of the original commercial purchaser set forth herein are exclusive and the liability of PennBarry with respect to the PennBarry Products, whether in contract, tort, warranty, strict liability or other legal theory shall not exceed the invoiced price charged by PennBarry to its customer for the affected PennBarry Product at the time the claim is made.

Inquiries regarding these warranties should be sent to: PennBarry, 1401 North Plano Road, Richardson, TX 75081.



# OTHER PENNBARRY PRODUCTS

## CENTRIFUGAL PRODUCTS



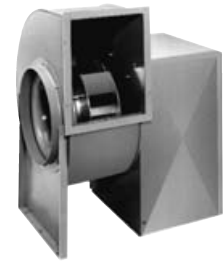
**Domex**  
Centrifugal  
Roof Exhausters



**Fumex Fatrap**  
Kitchen Hood Centrifugal  
Roof Exhausters



**Zephyr**  
Ceiling and Inline Fans



**Dynamo**  
Centrifugal Blowers



**Centrex Inliner**  
Centrifugal Inline Fans



**LC Dynafan**  
Low Contour Centrifugal  
Roof Exhausters

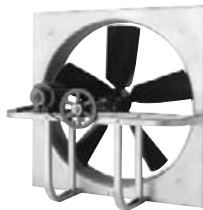


**ESI**  
Efficient Silent  
Inline Fan



**Fume Exhaust**  
Curb Mounted  
Centrifugal Fans

## AXIAL / GRAVITY PRODUCTS



**Breezeway**  
Propeller Wall Fans



**HI-EX**  
Power Roof Ventilator



**Tubeaxial**  
Inline Fans



**Vaneaxial**  
Inline Fans



**Powered Airette**  
Axial Roof Ventilators



**Airette**  
Gravity Intake/Relief Hood



**Domex Axial**  
Axial Roof Ventilators



**Axcentrix**  
Bifurcator Fan

For more information contact your local PennBarry Sales  
Manufacturer Representative or visit us at [www.PennBarry.com](http://www.PennBarry.com)