

AMERICAN COOLAIR CORPORATION



Farm Ventilation Systems



Farm Building Ventilation Systems

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Fan Units

N
B
C

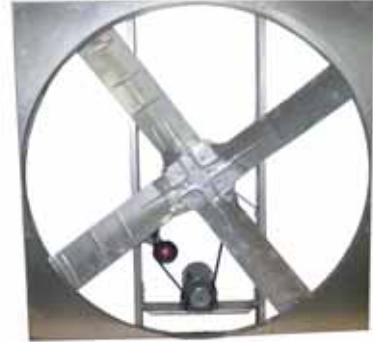


NBC Features

- Cast Aluminum Airfoil Blades
- All-galvanized construction
- Four fan bearings (52 & 54) - Double bearing life
- Sizes: 36 - 54
- Airflow to 33,500 CFM
- See Coolair Form #910-28 for more information

NEF Features

- Die-formed galvanized blades
- All-galvanized construction
- Can be shipped knocked-down — ideal for export
- Sizes: 36 - 54
- Airflow to 30,500 CFM
- See Coolair Form #910-21 for more information



N
E
F

N
C
F



NCF Features

- Die-formed epoxy paint coated blades
- All-welded galvanized construction
- Lower speeds for quieter operation
- Sizes: 36 - 52
- Airflow to 29,300 CFM
- See Coolair Form #910-12 for more information

NBF Features

- Die-formed epoxy paint coated blades
- All-welded steel construction, epoxy paint coated
- Lower speeds for quieter operation
- Sizes: 24 - 60
- Airflow to 43,300 CFM
- See Coolair Form #910-10 for more information



N
B
F



The "C-Drive"

All fans feature Coolair's innovative "C-Drive" assembly in which the cast aluminum fan hub also serves as the driven sheave with the fan bearings at the center. Power is applied through V-belts directly to the propeller, and blade load is concentrated directly over the bearings for more economical operation and longer bearing life.



Fan Housings & Accessories

SWH

Slope Wall Housing

The *slope* wall housing allows the shutter to be placed on the intake side of the fan and eliminates the air turbulence that occurs with the shutter on the exhaust side of the fan. It also prevents the warm air from being lost through the metal wall housing to the outside cold air in cold climate conditions. The SWH housing is constructed of galvanized steel for long, durable wear and low maintenance.



SWHCE

Slope Wall Housing with Discharge Cone

The addition of a discharge cone to the slope wall housing greatly increases the performance of the fan for a minimal initial investment. American Coolair's discharge cones are specifically engineered to recover energy from the airstream, converting it into increased airflow (**as much as 12%**), while at the same time, **reducing electrical power consumption**. Cones are galvanized steel and come with a concentric wire guard.



FWH

Square Wall Housing

Coolair's FWH wall housing is an exterior unit to house any Coolair fan and the LRW shutter. The FWH is constructed of heavy gauge galvanized steel and can be attached to exterior walls to free the interior space from obstructions.



Housing Guards

Fan housings come standard with galvanized mesh guards with 2" spacing. Slope wall housings have a front guard, while the square wall housings have a rear guard. For housings where OSHA guarding is necessary, PVC coated steel wire guards with 1/2" x 1" spacing are available. Shutter-side guards are also available.

Pivot Fan Mount

For precision air circulation, Coolair offers its Pivot Fan Mount. The mount consists of galvanized steel tubing, and the fan is held in place utilizing heavy gauge painted steel mounting brackets. The mount can be affixed to any structural column in the building, and with full 2-axis adjustment, the fan can be positioned to deliver air anywhere in the house. The Pivot Mount is available for all NCF and NBF fans.



Shutters & Dampers

Fan Shutters

Coolair offers several shutter options to meet any environmental, aesthetic, and production needs. The FES features interlocking aluminum blades with a galvanized steel frame and tie bars. The LRW is an all-aluminum shutter with interlocking blades, extruded aluminum frame, and nylon bearings. The PVCA features the durability and flexibility of PVC in an economical and efficient design.



FES
Aluminum Shutter



LRW
Aluminum Shutter



PVCA
PVC Shutter

DD

Damper Door Cone

The DD Damper Door Cone functions as both a damper and discharge cone. The galvanized damper doors open fully when the fan is energized, removing virtually all blockage from the airstream. When the fan is powered off, the doors automatically close and seal magnetically. Gasketing around the circumference of the doors provides a complete weather barrier. See Pages 6 & 7 for more information and performance ratings.



IDD

Inlet Damper Door

The IDD Inlet Damper Door can be used in place of a standard inlet shutter, for increased fan performance. It also isolates the fan motor and drives from the corrosive in-house atmosphere. The IDD can be specified with a new fan, or as a shutter replacement on existing installations. The IDD can also be insulated to save on energy costs.



LRW-E

Motorized Air Inlet Shutter

The LRW-E Air Inlet Shutter is designed to allow fresh air to enter the house as the fans at the opposite side/end of the building exhaust it. The LRW-E features a sturdy aluminum frame, aluminum blades, aluminum reinforcing brackets and nylon bearings on all movable linkage. The LRW-E Air Inlet Shutter is fully automatic and comes standard with a motor to automatically open and close the shutter blades.



Air Inlet Shutter Model	Air Flow Capacity (CFM)	Required Opening Dimensions	Overall Dimensions Including Flange
LRW16E	1,000	16 1/2 x 16 1/2	19 1/4 x 19 1/4
LRW21E	1,800	21 1/2 x 21 1/2	24 1/4 x 24 1/4
LRW27E	3,000	27 1/2 x 27 1/2	30 1/4 x 30 1/4
LRW33E	4,500	33 1/2 x 33 1/2	36 1/4 x 36 1/4
LRW39E	6,300	39 1/2 x 39 1/2	42 1/4 x 42 1/4
LRW45E	8,400	45 1/2 x 45 1/2	48 1/4 x 48 1/4
LRW51E	10,700	51 1/2 x 51 1/2	54 1/4 x 54 1/4
LRW57E	13,400	57 1/2 x 57 1/2	60 1/4 x 60 1/4
LRW66E	18,000	66 1/2 x 66 1/2	69 1/4 x 69 1/4
LRW4515E	2,800	45 1/2 x 15 1/2	48 1/4 x 18 1/4
LRW4527E	5,000	45 1/2 x 27 1/2	48 1/4 x 30 1/4
LRW6015E	3,700	60 1/2 x 15 1/2	63 1/4 x 18 1/4
LRW6024E	6,000	60 1/2 x 24 1/2	63 1/4 x 27 1/4
LRW6036E	8,900	60 1/2 x 36 1/2	63 1/4 x 39 1/4



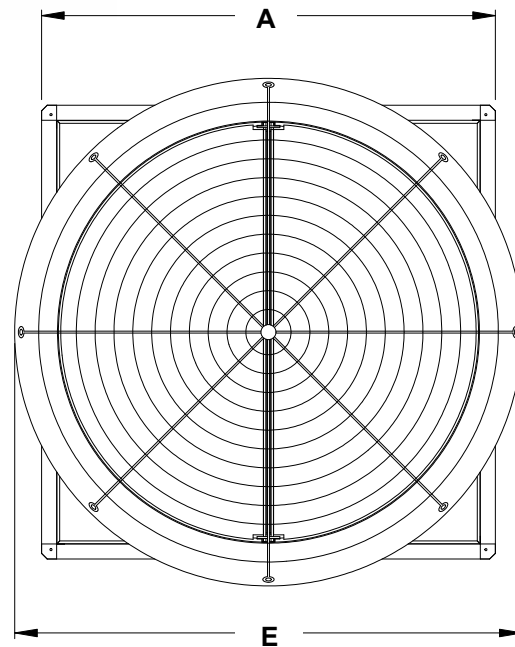
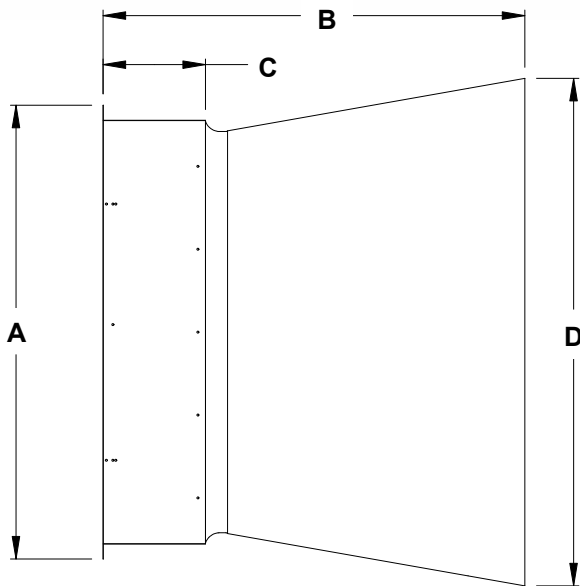
Belt Drive Damper Door Fans

Type MNBCDD & MNEFDD Fans



Coolair's MNBCDD and MNEFDD Damper Door fans are engineered to maximize performance. When the unit is energized, the doors fully open automatically, reducing blockage in the airstream to a minimum and optimizing airflow. When the unit is powered off, the doors automatically close and seal magnetically. Gasketing around the circumference of the doors provides a complete weather barrier.

Coolair's Damper Door design is available with either the cast blade NBC fan, or the economical formed blade NEF fan. All Damper Door fan packages come complete with an automatic belt tensioner, and inlet and discharge guards.



Dimensions in Inches

Fan Size	# of Blades	Cone Type	A	B	C	D	E	Rough Opening
36	3	Standard	47	48	14 ³ / ₈	48 ¹ / ₂	48 ¹ / ₂	44 ³ / ₄ x 44 ² / ₄
52	3	Standard	58 ¹⁵ / ₁₆	55 ¹ / ₂	14 ³ / ₈	67 ³ / ₈	67 ³ / ₈	56 ³ / ₄ x 56 ³ / ₄
		Elliptical*					59 ¹ / ₂	
54	4	Standard	61	67 ¹ / ₄	14 ³ / ₈	73	73	58 ³ / ₄ x 58 ³ / ₄

* — In addition to the standard circular cone, the MNBCDD52 and MNEFDD52 fan packages are also available with an elliptical cone, which allows the fans to be mounted on 5 foot centers.

Performance Ratings

The performance ratings listed below were obtained through testing by the Bioenvironmental and Structural Systems Lab (BESS Lab) at the University of Illinois. All fans were tested with a shutter, discharge guard and discharge cone. The fan housing was mounted flush to the test chamber face, as in an actual building installation. Power measurements were taken on the fan/motor combination and include motor efficiency and drive losses.



Cubic Feet per Minute (CFM) at Static Pressure														
Fan Model	Fan Size	BESS Lab Test #	Motor HP	Fan RPM @.05	0" S.P.		.05" S.P.		.10" S.P.		.15" S.P.		.20" S.P.	
					CFM	CFM / Watt	CFM	CFM / Watt	CFM	CFM / Watt	CFM	CFM / Watt	CFM	CFM / Watt
MNBCDD36J	36	12446	1/2	753	13,280	28.1	12,010	24.2	10,600	21.1	9,040	18.1	7,220	14.9
MNBCDD36K		12445	3/4	881	15,630	22.1	14,530	19.7	13,340	17.6	12,090	16.1	10,880	14.6
MNBCDD36J Δ		12441	1/2	761	13,440	27.2	12,200	23.6	10,690	20.4	9,230	17.7	7,550	14.8
MNBCDD36K Δ		12442	3/4	881	15,680	21.5	14,530	19.0	13,400	17.7	12,160	15.6	10,790	14.1
MNBCDD52L	52	05245	1	492	28,649	27.1	26,652	24.1	24,401	21.4	22,080	19.0	19,107	16.5
MNBCDD52M*		05257	1 1/2	545	31,704	23.0	30,069	20.8	28,089	18.8	26,120	17.1	23,835	15.4
MNBCDD52L Δ		05243	1	491	28,696	27.4	26,611	24.4	24,344	21.5	21,938	19.1	18,927	16.4
MNBCDD52M Δ*		05241	1 1/2	549	32,006	23.7	30,145	21.4	28,274	19.4	26,322	17.7	24,000	16.0
MNBCDD54LE	54	11390	1	394	27,100	34.2	24,800	29.0	21,400	23.4	18,400	19.6	15,200	16.1
MNBCDD54L		11389	1	427	29,800	28.0	27,600	24.4	24,344	21.5	21,938	19.1	18,927	16.4
MNBCDD54ME		11388	1 1/2	457	31,700	26.6	29,700	23.6	27,400	20.6	24,200	17.4	21,800	15.4
MNBCDD54M		11387	1 1/2	483	33,500	24.7	31,600	21.9	29,300	19.3	26,700	16.9	24,200	14.9
MNBCDD54LE Δ		11391	1	400	27,600	37.6	25,400	32.0	22,600	26.7	19,300	21.9	16,000	18.1
MNBCDD54L Δ		11392	1	435	30,100	32.8	27,900	28.1	25,300	23.9	22,500	20.4	19,100	17.1
MNBCDD54ME Δ		11393	1 1/2	465	32,200	29.4	30,400	25.8	28,100	22.6	25,400	19.4	22,700	17.0
MNBCDD54M Δ		11394	1 1/2	491	34,000	26.5	32,200	23.3	30,000	20.8	28,000	18.5	25,100	16.1
MNEFDD36J	36	12435	1/2	754	12,010	26.6	11,280	23.0	10,340	19.4	9,560	17.0	8,590	14.4
MNEFDD36K		12436	3/4	885	14,000	20.8	13,420	18.7	12,660	16.4	11,970	15.3	11,180	13.1
MNEFDD36J Δ		12440	1/2	764	12,240	24.7	11,470	21.4	10,660	18.6	9,810	16.1	8,910	13.9
MNEFDD36K Δ		12439	3/4	885	14,020	20.1	13,470	18.1	12,740	15.8	12,000	14.2	11,270	12.5
MNEFDD52L	52	07215	1	485	27,249	27.9	25,457	23.9	23,342	20.2	20,738	16.9	17,425	13.4
MNEFDD52M		07213	1 1/2	518	28,723	24.8	27,351	22.1	25,350	19.1	23,049	16.4	20,765	14.2
MNEFDD52L Δ		07217	1	480	26,956	28.2	25,275	23.7	22,846	19.9	20,263	16.6	17,864	14.0
MNEFDD52M Δ		07216	1 1/2	521	29,027	25.7	27,302	22.5	25,400	19.2	23,403	16.9	20,910	14.5
MNEFDD54L	54	11400	1	455	28,100	30.7	25,900	25.8	23,200	21.3	20,300	17.6	17,500	14.4
MNEFDD54M		11402	1 1/2	515	31,100	25.8	29,700	23.2	27,700	20.3	25,100	17.3	22,800	15.0
MNEFDD54L Δ		11397	1	462	28,600	33.2	26,600	28.1	23,800	23.0	21,000	19.1	18,500	16.0
MNEFDD54M Δ		11395	1 1/2	521	30,900	26.8	29,800	24.4	28,300	22.1	26,200	19.3	23,400	16.2

Δ — 3-Phase Motor

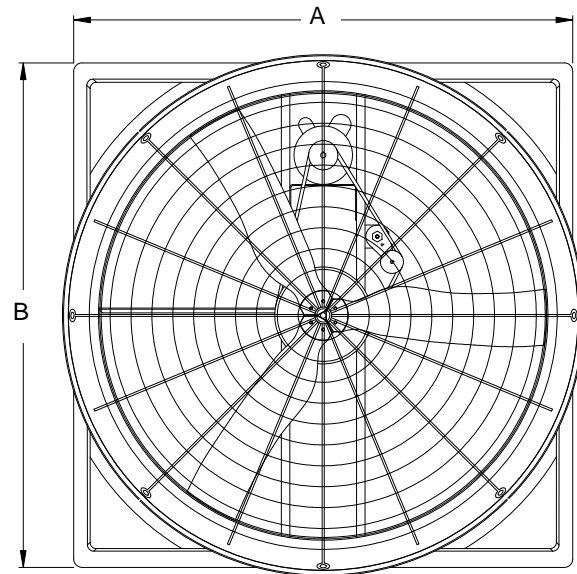
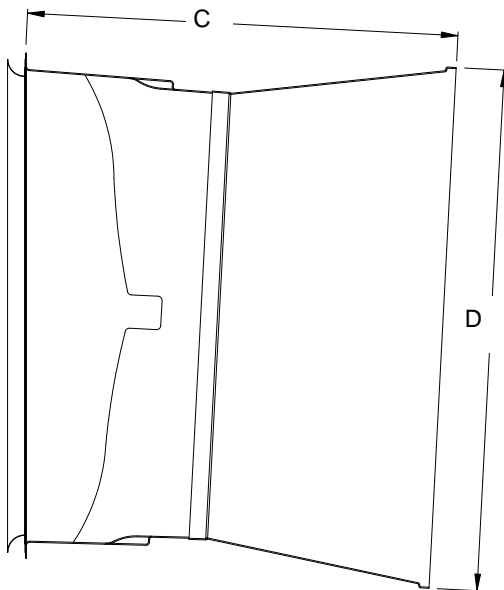
* — Performance values for 0" static pressure for model MNBCDD52M exceeded the BESS Lab airflow measurement capabilities and were calculated through regression analysis.



Fiberglass Fans — Belt Drive



Type **FGBC** Fans



Fan Size	A	B	C	D	Rough Opening
36	44 1/2	44 3/4	48 1/8	46	41 1/2 X 41 1/2
52	59 3/4	60 3/8	51 5/8	62 1/2	56 7/8 X 56 7/8

FGBC36 & FGBC52

Our most energy efficient fans yet! FGBC fans are the answer to your ventilation requirements. Both the FGBC36 and FGBC52 utilize our innovative and proven drive assembly that allows V-belt power to be transmitted directly through the bearings, resulting in more economical operation and increased bearing life. The cast aluminum airfoil blade assemblies are engineered to provide the most air performance available today.

Performance Ratings

The performance ratings listed below were obtained through testing by the Bioenvironmental and Structural Systems Lab (BESS Lab) at the University of Illinois. All fans were tested with a shutter, discharge guard and discharge cone. The fan housing was mounted flush to the test chamber face, as in an actual building installation. Power measurements were taken on the fan/motor combination and include motor efficiency and drive losses.



FGBC Fan (Including Discharge Cone and Discharge Guard) with Inlet Shutter

Cubic Feet per Minute (CFM) at Static Pressure														
Fan Model	Fan Size	BESS Lab Test #	Motor HP	Fan RPM @ .05"	0" S.P.		.05" S.P.		.10" S.P.		.15" S.P.		.20" S.P.	
					CFM	CFM/Watt	CFM	CFM/Watt	CFM	CFM/Watt	CFM	CFM/Watt	CFM	CFM/Watt
FGBC36J	36	06208	1/2	774	12,651	25.4	11,665	22.7	10,535	20.2	9,267	18.1	7,632	15.1
FGBC36K		06211	3/4	899	14,685	19.7	13,804	18.1	12,862	16.6	11,798	15.1	10,778	13.9
FGBC36L		06213	1	1041	17,039	15.3	16,279	14.3	15,543	13.4	14,703	12.5	13,776	11.8
FGBC52K	52	01171	3/4	408	24,371	37.2	22,065	31.5	19,484	26.6	14,260	19.8	2,026	3.1
FGBC52L		01174	1	445	26,445	31.7	24,310	27.7	22,159	24.3	18,810	20.2	12,416	14.1
FGBC52L		01175	1	483	28,633	27.9	26,782	24.9	24,731	22.0	22,428	19.5	18,972	16.3
FGBC52M ¹		01182	1-1/2	540	31,850	23.4	30,300	21.2	28,430	19.1	26,565	17.5	24,233	15.7

1. Performance values for 0" and .05" static pressure for FGBC52M exceeded the BESS Lab airflow measurement capabilities and were calculated through regression analysis.



Rotary auto belt tensioner ensures continuous optimal belt tension and peak fan operation.



Coolair's innovative cast aluminum disc with captured bearings.

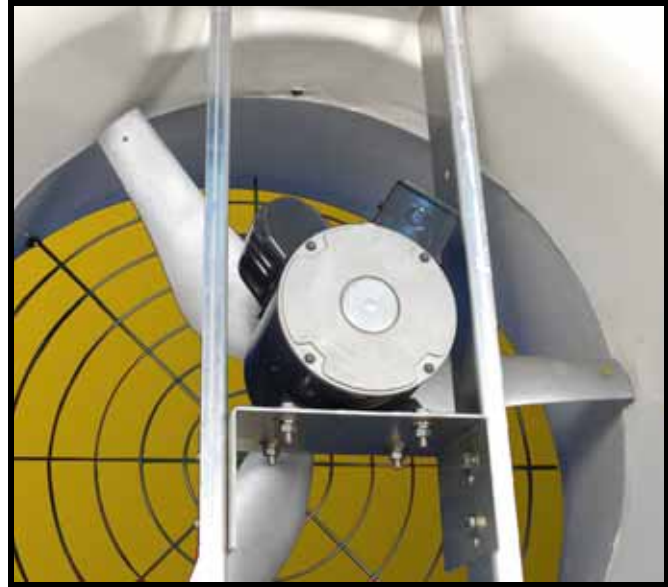


Specially formed structural components provide for a sturdy, yet aerodynamic support package.



Fiberglass Fans — Direct Drive

When efficiency and reliability are top priority in today's most hostile environments, Coolair's FGDC fans are the answer to your ventilation requirements. FGDC fans feature an all-fiberglass housing with discharge cone, and a rugged, heavy-duty all-aluminum support frame, designed for optimum performance and corrosion resistance. Each FGDC model uses a cast aluminum airfoil blade assembly specifically engineered for maximum efficiency.

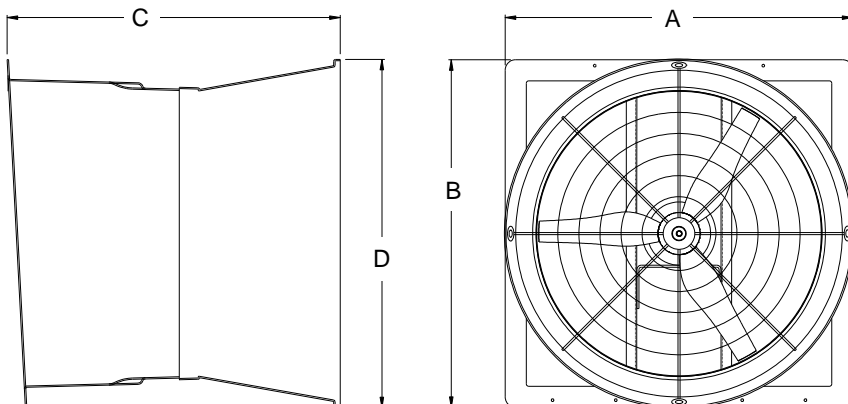


Cubic Feet per Minute (CFM) at Static Pressure

Fan Model	Fan Size	Motor HP	Fan RPM	0" S.P.		.05" S.P.		.10" S.P.		.15" S.P.		.20" S.P.	
				CFM	CFM/Watt	CFM	CFM/Watt	CFM	CFM/Watt	CFM	CFM/Watt	CFM	CFM/Watt
FGDC16F16	16	1/6	1675	2,654	11.7	2,517	10.9	2,374	10.1	2,222	9.3	2,050	8.5
FGDC20H16	20	1/3	1665	5,004	13.6	4,774	12.6	4,546	11.7	4,318	10.8	4,069	10.0
FGDC26H11	26	1/3	1130	7,690	17.5	7,180	16.1	6,557	14.6	5,971	13.2	5,440	12.0
FGDC36J8	36	1/2	835	13,466	20.4	12,534	18.2	11,515	16.1	10,435	14.3	9,262	12.6

Variable Speed Control

A variable speed controller is an available option for all FGDC models. The controller allows motor speed adjustment from full to half performance, ideal for minimum ventilation applications or wherever a precise flow rate is required.



Fan Size	A	B	C	D	Rough Opening
16	23	23	27 ⁵ / ₈	22	20 x 20
20	27	27	30 ³ / ₄	27	24 x 24
26	33	33	31 ⁵ / ₈	33	30 x 30
36	44 ¹ / ₂	44 ³ / ₄	48 ¹ / ₈	46	41 ¹ / ₂ x 41 ¹ / ₂

Type FD Galvanized Direct Drive Fans



FD24 in a Metal Box



FD36 & FD48 in Wafer Wood Boxes

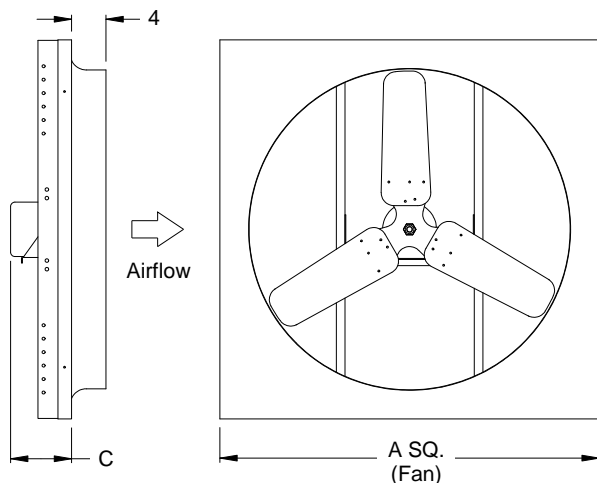


Coolair's direct drive FD fans are designed to provide years of trouble-free performance. With no drive losses and no belts to slip or replace, the FD fan is the efficient, low-maintenance answer to your ventilation needs. FD fans feature all-galvanized steel construction. The fan blades and spider are die formed of a heavy gauge material, and are computer balanced. The spun fan panel and heavy gauge galvanized support frame provide for both efficient and durable performance. FD Fans can be ordered in either a galvanized steel box, or in a wafer wood crate.

Cubic Feet per Minute (CFM) at Static Pressure											
Fan Model	Fan Size	Motor HP	Fan RPM	0" S.P.		0.05" S.P.		0.10" S.P.		0.125" S.P.	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
FD24H11	24	1/3	1,140	6,225	.370	6,000	.381	5,750	.391	5,600	.396
FD36J8	36	1/2	840	11,250	.524	10,725	.564	10,150	.591	9,850	.604
FD48L8	48	1	840	20,000	.896	18,720	.924	17,550	.960	16,900	.974

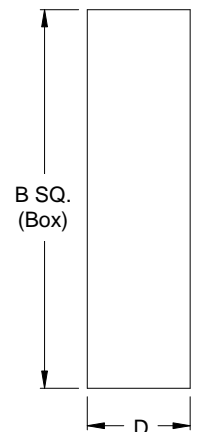
Variable Speed Control

A variable speed controller is an available option for all FD models. The controller allows motor speed adjustment from full to half performance, ideal for minimum ventilation applications or wherever a precise flow rate is required.



Fan Size	A	B	C	D	Approx. Weight
24 ¹	32	32 1/4	5 3/4	12	90 lbs.
36 ¹	44	44 1/4	8 3/4	12	120 lbs.
36 ²	44	45	8 3/4	12	90 lbs.
48 ¹	56	56 1/4	9 7/8	15	168 lbs.
48 ²	56	57	9 7/8	15	148 lbs.

1. Fan in Metal Box
2. Fan in Wafer Wood Box



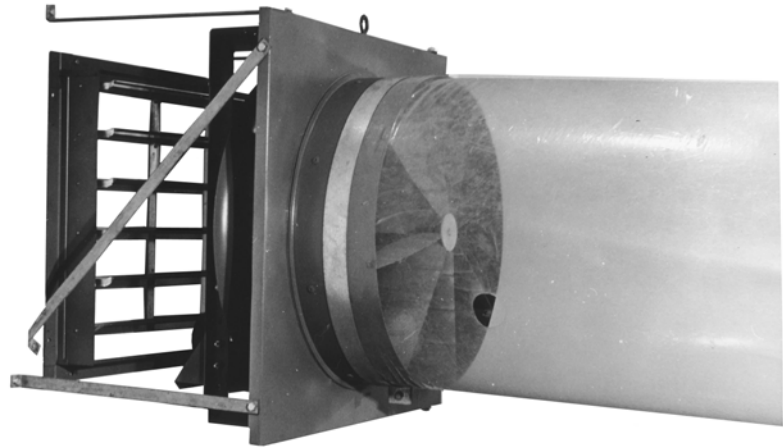
Power Tube Fans

PTF

Power Tube Fan

In controlled environments where a precise tempering of air is critical to production, American Coolair offers the PTF Power Tube fan. The PTF fan, with its companion polyethylene Power Tube, is specially designed to make up air lost to exhaust fans while at the same time provide low velocity tempering and mixing of air.

Constructed of heavy gauge steel, the PTF fan is offered in sizes from 12 to 30 inches. The 12 and 18 inch fans are direct drive units. The 24 and 30 inch fans are belt driven and incorporate the Coolair exclusive static shaft design used on the Coolair Type NBF and NCF fans.



PERFORMANCE RATINGS (Power Tube included)

Model	Fan Size	Motor HP	Drive Type	Fan RPM	System CFM *	Motorized Shutter Model	Framed Opening
PTFA12F17	12	1/6	Direct	1,725	1,250	LRW16E	17" x 17"
PTFA18H16	18	1/3	Direct	1,625	3,650	LRW21E	22" x 22"
PTFB24H	24	1/3	Belt	784	4,850	LRW27E	28" x 28"
PTFB30J	30	1/2	Belt	627	7,550	LRW33E	34" x 34"
PTFB30L	30	1	Belt	815	10,450	LRW33E	34" x 34"

Power Tube

Manufactured from polyethylene tubing with UV inhibitor, the Power Tube is custom punched to suit your particular requirements. The Power Tube is clear so as not to obscure vision or light in your facility. Coolair Power Tube hangers are designed to be easily installed — just slide the hanger into position on the tubing, and clip onto a suspended wire. The Tube Hanger also supports the tube when the fan is not in use, allowing for unrestricted view and normal air movement. The Coolair Power Tube is a methodically researched product designed to meet the ventilation needs of the industry with traditional American Coolair quality.

Tube Hanger Spacing	
12" Tube	8 ft
18" Tube	8 ft
24" Tube	5 ft
30" Tube	5 ft

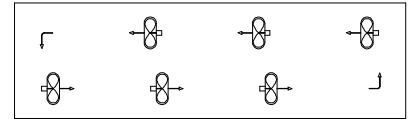
Power Tube Selection Chart

(Tube Length in feet)

For PTFA12F17		For PTFA18H16		For PTFB24H		For PTFB30J		For PTFB30L	
Model	Tube Length	Model	Tube Length	Model	Tube Length	Model	Tube Length	Model	Tube Length
2BJS	10 - 16	8DJR	20 - 24	4DJS	30 - 36	3EKM	60 - 72	31EKJ	60 - 72
2BKK	17 - 21	8DKK	25 - 31	4DKK	37 - 44	3EKP	73 - 87	31EKL	73 - 88
2BKM	22 - 27	8DKM	32 - 39	4DKM	45 - 54	3EKR	88 - 105	31EKN	89 - 107
2BKR	28 - 35	8DKQ	40 - 48	4DKP	55 - 65	3ELL	106 - 126	31EKQ	108 - 130
2AKQ	36 - 45	8DLJ	49 - 58	4DKS	66 - 79	3ELP	127 - 150	31ELJ	131 - 158
2ALK	46 - 58	8DLN	59 - 70	4DLM	80 - 96	3CKP	151 - 178	31ELN	159 - 189
2ALQ	59 - 74	8BKP	71 - 85	4BKP	97 - 116	3CKS	179 - 212	31CKQ	190 - 224
2AMK	75 - 93	8BLJ	86 - 103	4BKS	117 - 138	3CLQ	213 - 250	31CLJ	225 - 268
2AMN	94 - 115	8BLN	104 - 125	4BLL	139 - 166	3AKO	251 - 296	31CLM	269 - 316
		8BLS	126 - 149	4BLQ	167 - 199	3ALL	297 - 345	31CLQ	317 - 367
		8ALN	150 - 178	4ALL	200 - 238	3ALO	346 - 380	31FLK	368 - 425
		8ALR	179 - 210	4ALP	239 - 280	3ALQ	381 - 410	31FLN	426 - 475

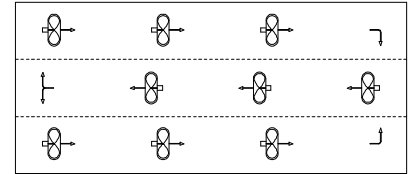
Circulator Fans

Eliminate air stratification, reduce animal stress, and eliminate hot and cold spots effectively and economically with American Coolair BK and FH fans. These fans feature aluminum propellers directly mounted to totally enclosed motors, steel guards that comply with OSHA standards, and cord sets that plug into standard 115 volt electrical outlets.



Typical Fan Placement - Individual House

In general, the amount of circulation airflow needed is 2-1/2 to 3 CFM per square foot of floor space. Use the fans whenever the house exhaust fan system is not operating at full capacity. Circulator fans should be installed above the top of the animals to be cooled, but should be no closer than 1' from the roof. Use the figures to the right to determine the best fan layout for any type of building.



Typical Fan Placement - Multiple-Gutter House

FH Horizontal Air Fan



Type FH Horizontal Air Fans feature heavy gauge galvanized steel motor mounts, fan guards, and fan casing to provide the durability and corrosion resistance needed for greenhouse environments. Each FH fan comes with a chain mounting kit.

Model	Fan Size	Motor HP	Voltage	Fan RPM	CFM
FH18B11	18	1/15	115	1,100	2,000
FH18G11	18	1/4	115	1,050	3,500

BK Basket Fan



Type BK Basket Fans feature coated steel wire guards. Each BK fan comes with a rafter hanging kit designed to easily mount to a "2-by" wooden beam or up to 2-1/8" metal tubing as standard. The standard mounting kit features 2-axis pivot adjustment to allow for precise vertical and horizontal orientation. Wall and ceiling mounting brackets, as well as chain kits, are also available to install the fans virtually anywhere in the building.

Model	Fan Size	Motor HP	Voltage	Fan RPM	CFM
BK18B11	18	1/15	115	1,075	2,310
BK18G11	18	1/4	115	1,125	3,130
BK20B11	20	1/15	115	1,075	2,960
BK20G11	20	1/4	115	1,125	3,880



Evaporative Cooling Systems

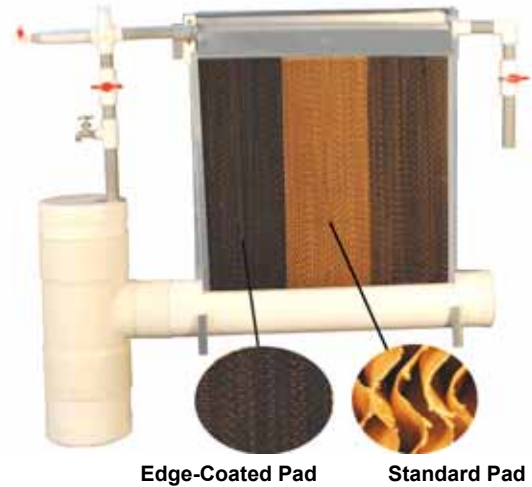
Evaporative Cooling in Concept

To counter periods of extreme temperature that affect in-house environments and therefore production, Coolair Evaporative Cooling Pad Systems are used with outstanding success. When large quantities of air are pulled through Evaporative Cooling Pads that are saturated with water, a substantial cooling effect is realized due to the evaporation of that water. Used in conjunction with Coolair fans, a temperature reduction of 10-25 degrees is commonplace. Suited for virtually all geographic locations, the Coolair Evaporative Cooling System delivers the greatest economic benefits to areas where higher temperatures during longer periods of time are normal.

The Evaporative Cooling Pad

Evaporative Cooling Pads (Evap Pads) are a product developed for horticultural and agricultural cooling applications. Evap Pads are made of a specially formulated cellulose paper, impregnated with insoluble anti-rot salts, stiffening saturants and wetting agents. Evap Pads have a cross fluted configuration that provides maximum cooling when warm air passes through the wet Evap Pad material.

- Evap Pads will not sag, rot or develop holes.
- With proper care and maintenance, Evap Pads will last for 5 years or more.
- There is no carry-over of water droplets to enter the house.
- Aesthetic appearance of Evap Pads compliments modern buildings.

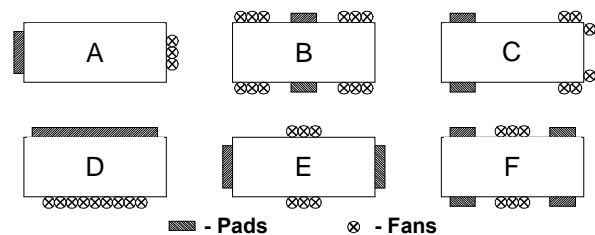


Evap Pads are 4" or 6" thick, and 12" or 24" wide with height increments every 12" from 24" to 72". The Evap Pads are positioned adjacent to each other to form a continuous surface of the required height and length. In addition to the standard Evap Pad, Edge-coated pads, which help reduce algae growth or build-up, are also available.

All 6" Evap Pads and 4" Evap Pads up to 48" tall are self-supporting, and do not require wire baskets or other supporting materials. The pads are held in place by component parts of the system. Tall pad supports are required on 4" pad systems over 4' tall. Standard Evaporative Cooling Systems are available from 2' to 6' tall in lengths up to 110'. Systems up to 12' tall are available with American Coolair's 'Doublestack' Evap Pad Cooling System.

System Design

For poultry or livestock applications, the preferable pad location would be at the end of the building opposite the fans (Designs 'A' & 'C'). The air should be drawn the length of the building except in cases when the resulting air velocity would surpass the comfort level of the animals confined. In these instances, pad placement is recommended on both ends of the house with the fans installed on both sides of the middle (Designs 'E' & 'F'). Design 'B' shows a typical 'broiler' poultry house while Design 'D' shows a typical dairy installation.



An important consideration for the placement of pads in a building is the prevailing wind direction during the summer months. Pads should be placed on the same side as the prevailing winds with fan installation on the opposite side.

For system designs to suit the specific needs for your type of building and atmospheric conditions, you may wish to consult your American Coolair representative. However, as a general guide, you can use the following system recommendations to insure proper cooling in your building:

For 4" pad systems: Use 1 sq. ft. of pad per 250 CFM.

For 6" pad systems: Use 1 sq. ft. of pad per 400 CFM.

Example: A building has 6 fans that produce 20,000 CFM each for a total of 120,000 CFM through the building.

4" systems — $120,000 \div 250 = 480$ sq. ft. of pad required.

6" systems — $120,000 \div 400 = 300$ sq. ft. of pad required.

Evaporative Cooling Systems

PVC

- System length 5' to 110' - System height 2' to 6'
- Completely self-contained
- PVC trough and sump included
- Available in Standard Top (system includes pipe cover/ spray deflector) or Open Top (for easy access to distribution pipe) designs
- Multiple pump designs available. For longer systems, consult your American Coolair representative.



Aluminum

- System length 5' to 100' - System height 2' to 6'
- Ideal when large amounts of cooling is needed.
- Extruded aluminum trough
- Aluminum pipe cover/ spray deflector
- Multiple pump designs available. For longer systems, consult your American Coolair representative.



Pump and Sump

The pumps are sized for the system to supply at least 1/2 gallon of water per minute per linear foot of pad system. The integral PVC sump and trough hold an adequate water supply for systems up to 110' long and 6' high.

Pump and Sump

The pumps are sized for the system to supply at least 1/2 gallon of water per minute per linear foot of pad system. The sump should be purchased locally and be sized for at least 3/4 gallon capacity per square foot of pad area.

Doublestack

The Doublestack Evap Pad Cooling System features the Open Top distribution system, and is available in system heights from 7' to 12'. The Doublestack System includes rigid pad supports that completely bear the weight of the upper Evap Pads, keeping them securely in place. This prevents the weight of the upper pads from causing the lower pads to sag.

'Modular' Doublestack systems are available in lengths up to 60' and come standard with a PVC water return trough and PVC sump. 'Tank' systems are available from 50' to 100' in length and require a separate sump tank (to be purchased locally).



Water Distribution System

The water distribution systems for the PVC, Aluminum, and Doublestack designs feature PVC pipe with metered outlet holes, water return trough, water filter, an automatic supply valve, and a volume control valve. All systems also include top and bottom pad support material, water distribution pipe cover (except for Open Top systems), and all necessary fasteners.



Motors and Controllers



Motors

American Coolair provides dependable, energy efficient motors to drive our fans. These totally enclosed motors are available in 1/15 to 3 horsepower sizes. Motors have been tested at maximum brake horsepower conditions and operate within standard allowable NEMA temperature limits and carry the motor manufacturer's full warranty.

A19 Thermostat

- Single stage, single pole
- Temperature range 30° - 110°F
- Controls motors up to 1 HP



T109 Thermostat

- Two stage, single pole
- NEMA 4X weatherproof box
- Temperature range 30° - 110°F
- Controls 2-speed motors up to 3/4 HP
- 3°F separation between stages.



T16 Thermostat

- Single stage, single pole
- NEMA 4X weatherproof box
- Temperature range 30° - 110°F
- Controls motors up to 1 HP

WARNING

If these ventilation products are used in agricultural structures to support life where failure of the ventilation could result in loss or injury, the user must provide an adequate back-up ventilation system and a failure alarm system. The user must accept the risk of such loss or injury from failure of the ventilation system.

Limited Warranty

In the sale of its products, American Coolair Corporation agrees to correct, by repairs or replacement, any defects in workmanship or material that may develop under proper and normal use during the period of one year from the date of shipment from the factory. Any product or part proving, upon American Coolair's examination, to be defective during limited warranty period will be repaired or replaced, at American Coolair's option, f.o.b. factory, without charge. Deterioration or wear caused by chemicals, abrasive action or excessive heat shall not constitute defects. Motors are guaranteed only to the extent of the manufacturer's warranty. American Coolair's limited warranty does not apply to any of its products or parts that have been subject to accidental damage, misuse by the user, unauthorized modifications, improper installation or electrical wiring, or lack of proper lubrication or other service requirements as established by American Coolair. Repairs or replacements provided under the above terms shall constitute fulfillment of all American Coolair's obligations with respect to limited warranty. THE LIMITED WARRANTY STATED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, INCLUDING WITHOUT LIMITATION THAT OF MERCHANTABILITY AND FITNESS. NO LIABILITY FOR REINSTALLATION COST OR FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY NATURE IS ASSUMED OR SHALL BE IMPOSED UPON AMERICAN COOLAIR.



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