

BREEZEMASTER

MODEL BDR

BELT DRIVE PROPELLER FANS



SYMBOL
OF
QUALITY

ACME ENGINEERING & MANUFACTURING CORPORATION / MUSKOGEE, OKLAHOMA

MODEL BDR BELT DRIVEN PROPELLER FANS

Acme's BreezeMaster Model BDR exhaust fan provides a healthier environment for animals, which can lead to improved productivity and profitability. The BDR's discharge air diffuser increases air flow without increasing horsepower for energy efficient operation. Available in sizes 36", 48", and 54", the BDR is designed to perform in any agricultural environment and constructed of galvanized steel to last. In addition, the

Acme BDR is easy to install and includes a safety guard, brackets and all the hardware for mounting.

The BDR was designed for those agricultural professionals who demand the best in quality, efficiency, performance and reliability at a competitive price. For poultry, swine, dairy, and other confinement applications, Acme's BDR provides the finest quality product for your investment.

CONSTRUCTION FEATURES

PROPELLER

Wide-cambered galvanized propeller provides maximum airflow and high CFM/Watt for low energy costs. Riveted blades controls critical stresses.

BEARINGS

Permanently lubricated unique captured bearings in strong formed bearing casing remain in perfect alignment after shipment, installation, and subsequent operation. Bearings are resiliently mounted in neoprene rings, providing extra protection and vibration isolation. The bearing assembly is rated at L₅₀ life of 200,000 hours and features Acme's **5 year** limited warranty.



HOUSING

Housing is available with all galvanized construction for corrosion resistance and durability or with economical wood box housing. Frame and motor supported by galvanized steel vertical supports to assist pulley alignment and easy adjustment.

MOTOR

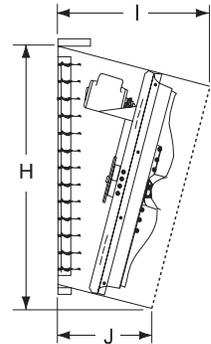
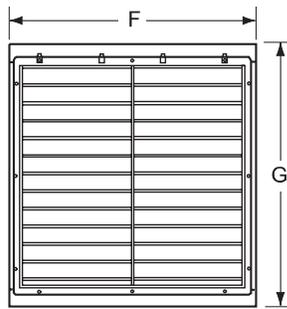
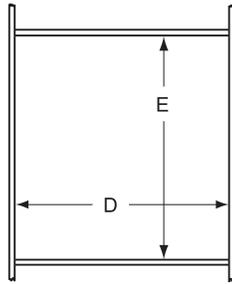
Motors are totally enclosed with sealed ball bearings and are energy efficient, continuous duty type.



CAUTION! Guards are strongly recommended when the fan is installed within (8) feet (2.5 m) of the floor, working level or within reach of personnel. Guards complying with OSHA regulations are available as optional equipment. Review OSHA Codes and obtain a quotation.



BREEZEMASTER CONFIGURATIONS



Fan Model	D	E	F	G	H	I	J
	Framed Opening Width	Framed Opening Height	Width Including Fan Mounting Flange	Height Including Fan Mounting Flange	Overall Height	Top Depth of Housing Only	Bottom Depth of Housing Only
BDR36 W/WSS	40.75	42.75	43.38	45.15	46.00	27.14	17.22
BDR48 W/WSS	54.75	57.25	57.38	58.86	62.64	33.06	19.50
BDR54 W/WSS	60.75	63.50	63.50	66.13	69.33	35.31	19.98

Dimensions shown in inches.

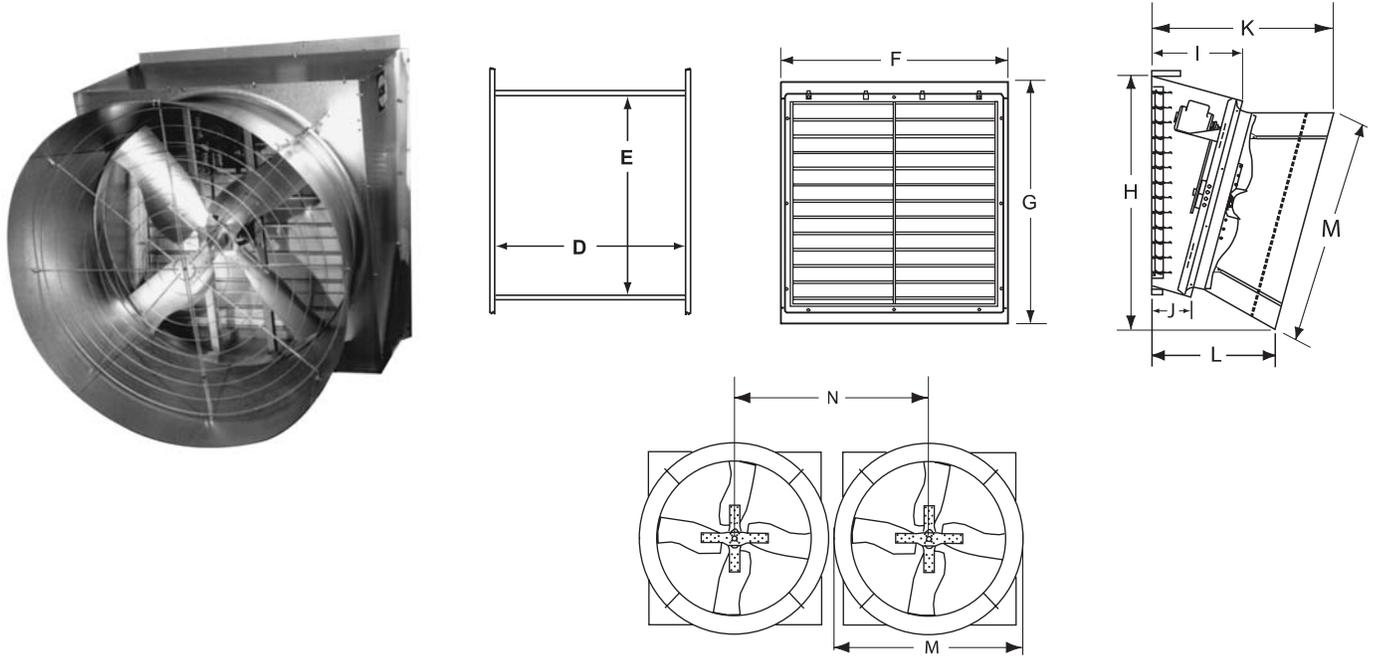
PERFORMANCE DATA

Galvanized Steel Slant Housing WSS, Inlet Shutter & Outlet Guard										
Fan Model	RPM	HP	CFM vs. Static Pressure							
			0.00		0.05		0.10		0.15	
			CFM	C/W	CFM	C/W	CFM	C/W	CFM	C/W
BDR36G-A	635	0.5	11500	18.0	10930	16.8	10330	15.4	9650	14.1
BDR48J-AL	442	1.0	19000	23.4	17700	21.0	16500	19.0	15000	16.9
BDR48J-A	469	1.0	21500	19.2	20400	17.7	19300	16.5	18100	15.2
BDR48K-A	533	1.5	24100	15.2	23200	14.4	22300	13.5	21200	12.6
BDR54J-A	420	1.0	24800	24.1	23400	22.1	22100	20.2	20500	18.2
BDR54J1-A	450	1.0	26400	21.2	25200	19.5	23800	17.8	22400	16.4
BDR54JL-A	356	1.0	21000	30.8	19500	26.8	17600	23.5	15400	20.4
BDR54K-A	483	1.5	28600	17.6	27300	16.4	26000	15.2	24700	14.0

Performance shown for all fans except BDR54K-A from tests performed at Bess Labs, University of Illinois.
 Performance shown for BDR54K-A from test performed by AMCA. Data shown at 0.00 static pressure is interpolated.



BREEZEMASTER CONFIGURATIONS



Fan Model	D Framed Opening Width	E Framed Opening Height	F Width Including Mounting Flange	G Height Including Mounting Flange	H Overall Height	I Top Depth Of Housing Only	J Bottom Depth Of Housing Only	K Top Depth With Cone	L Bottom Depth With Cone	M Cone O.D.	N Cone Fan Minimum Center Distance
BDR36 W/WSSC	40.75	42.75	43.38	45.15	51.82	20.73	10.71	33.75	22.25	45.13	45.13
BDR48 W/WSSC	54.75	57.25	57.38	58.86	67.50	23.20	9.44	48.24	32.98	59.45	59.45
BDR48J2 W/WSSC	54.75	57.25	57.38	58.86	70.43	23.20	9.44	53.36	38.27	62.38	62.38
BDR54 W/WSSC	60.75	63.50	63.50	66.16	76.84	24.66	9.30	52.33	34.82	67.00	67.00

Dimensions shown in inches.

PERFORMANCE DATA

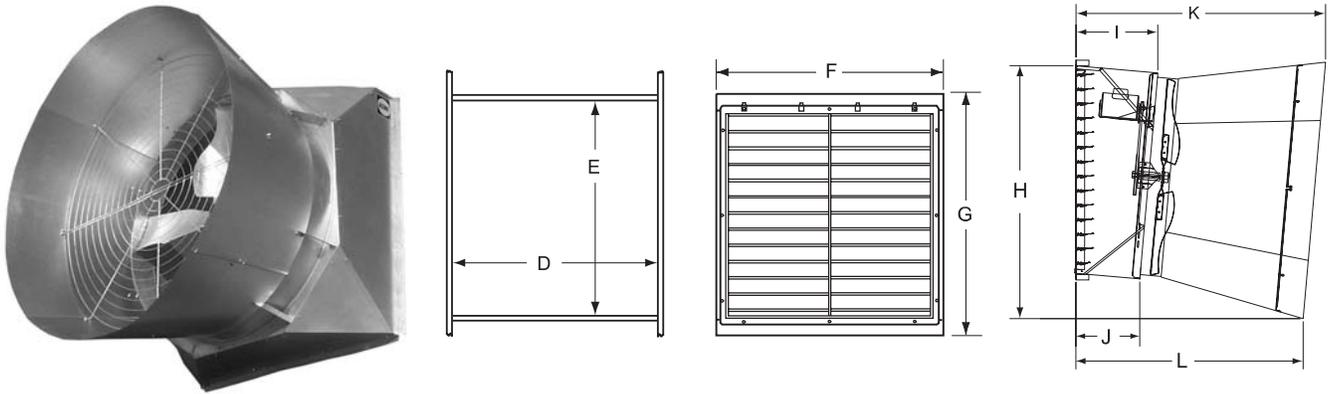
Galvanized Steel Slant Housing, WSSC, Inlet Shutter, Outlet Guard & Discharge Cone										
Fan Model	RPM	HP	CFM vs. Static Pressure							
			0.00		0.05		0.10		0.15	
			CFM	C/W	CFM	C/W	CFM	C/W	CFM	C/W
Single Phase										
BDR36G-C	634	0.5	12360	20.2	11800	18.7	11200	17.1	10560	15.7
BDR48J-C	473	1.0	23800	22.5	22700	20.6	21600	19.0	20300	17.2
BDR48J2-C	528	1.0	24300	22.6	23400	20.8	22300	19.0	21100	17.1
BDR48JL-C	422	1.0	19800	31.0	18500	27.0	17100	23.8	15300	20.5
BDR48K-C	535	1.5	26500	17.9	25600	16.6	24600	15.5	23500	14.3
BDR54J-C	425	1.0	27500	27.5	26100	24.2	24500	21.4	22700	18.9
BDR54J1-C	451	1.0	28558	28.4	27376	25.4	25863	22.7	24134	20.1
BDR54JL-C	325	1.0	21300	39.2	19400	33.0	17100	27.4	13500	20.5
BDR54K-C	484	1.5	30000	20.4	29300	19.5	28600	18.6	27300	17.0
Three Phase										
BDR48J-C	455	1.0	22700	23.6	21600	21.5	20300	19.4	18900	17.6
BDR48JL-C	402	1.0	20200	29.4	18900	26.1	17400	23.4	15500	20.3
BDR48K-C	530	1.5	26000	18.8	25000	17.5	24100	16.2	23000	15.1

Performance shown for all fans except BDR54K-C from tests performed at Bess Labs, University of Illinois. Performance shown for BDR54K-C from test performed by AMCA. Data shown at 0.00 static pressure is interpolated.



BREEZEMASTER CONFIGURATIONS

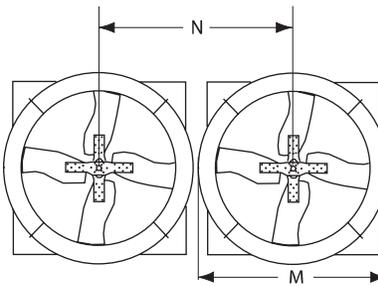
Round Cone - C2



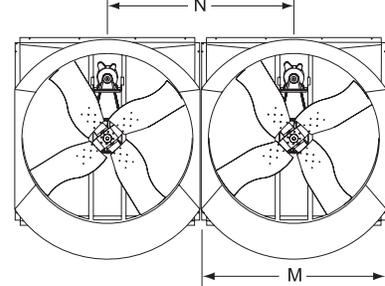
Elliptical Cone - C3



Round Cone BDRV54-C2



Elliptical Cone BDRV54-C3



Fan Model	D	E	F	G	H	I	J	K	L	M	N
	Framed Opening Width	Framed Opening Height	Width Including Mounting Flange	Height Including Mounting Flange	Overall Height	Top Depth Of Housing Only	Bottom Depth Of Housing Only	Top Depth With Cone	Bottom Depth With Cone	Cone O.D.	Cone Fan Minimum Center Distance
BDRV54-C2 W/WSSC	56.50	57.75	59.26	60.47	68.52	22.53	17.60	59.66	53.59	70.00	70.00
BDRV54-C3 W/WSSC	56.50	57.75	59.26	60.47	69.78	22.53	17.60	68.78	62.63	59.5 x 71	60.00

Dimensions shown in inches.

PERFORMANCE DATA

Galvanized Steel Slant Housing, Inlet Shutter, Outlet Guard, & Discharge Cone											
Fan Model	RPM	HP	CFM vs. Static Pressure								
			0.00		0.05		0.10		0.15		
			CFM	C/W	CFM	C/W	CFM	C/W	CFM	C/W	
Single Phase											
BDRV54J2-C2	435	1	28629	28.4	27414	25.5	25757	22.5	24043	19.9	
BDRV54J1-C2	435	1	28488	27.1	27142	24.0	25503	21.1	23388	18.3	
BDRV54J-C2	420	1	27555	29.1	26106	25.8	24396	22.4	22365	19.5	
BDRV54JL-C2	375	1	24758	35.4	22975	30.1	21039	25.8	18370	21.1	
BDRV54J2-C3	435	1	28239	28.2	27114	25.2	25386	22.2	23500	19.5	
BDRV54J1-C3	430	1	28550	26.7	27023	23.8	24981	20.7	23338	18.7	
BDRV54J-C3	420	1	27496	28.9	25901	25.3	24201	22.2	22209	19.3	
BDRV54JL-C3	375	1	24622	35.0	22760	29.3	20729	25.2	18163	20.9	

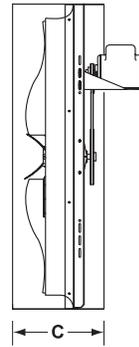
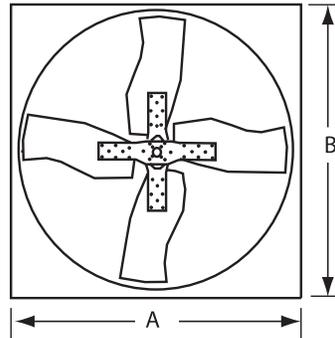
BDRV-C2 - Diffuser is round - will not fit between 60" centers.

BDRV-C3 - Diffuser is elliptical - will fit between 60" centers.

Performance shown for all fans from tests performed at Bess Labs, University of Illinois.



BREEZEMASTER CONFIGURATIONS



Fan Model	A	B	C
	Actual Width O.D.	Actual Height O.D.	Depth
BDR36 W/WOOD BOX	41.00	41.00	14.50
BDR36 W/METAL BOX	40.17	40.17	14.55
BDR48 W/WOOD BOX	54.87	54.87	15.91
BDR48 W/METAL BOX	54.05	54.05	16.02
BDR54 W/WOOD BOX	61.00	61.00	18.00
BDR54 W/METAL BOX	60.15	60.15	17.88

Dimensions shown in inches.

PERFORMANCE DATA

Metal or Wood Box Housing with 2 Guards										
Fan Model	RPM	HP	CFM vs. Static Pressure							
			0.00		0.05		0.10		0.15	
			CFM	C/W	CFM	C/W	CFM	C/W	CFM	C/W
BDR36G-E	614	0.5	11590	21.7	11060	20.2	10410	18.1	9690	16.5
BDR48J-E	476	1.0	22000	19.6	21000	18.2	19900	16.8	18700	15.6
BDR48K-E	535	1.5	24400	14.0	23600	13.2	22700	12.6	21600	12.0

Performance shown for all fans from tests performed at Bess Labs, University of Illinois.



OPTIONAL ACCESSORIES

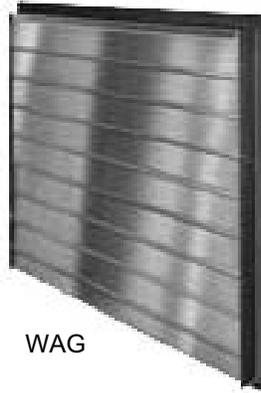
BELT TIGHTENER

Maintains proper belt tension, keeping RPM at the designed level for efficient operation and peak airflow.



SHUTTERS

Unique design lowers resistance while preventing back drafts. Available in galvanized frame with aluminum blades (Model WAG), all aluminum (Model WAA) or all plastic (Model APS) construction. Model APS uses UV stabilized PVC ABS frame and blades for corrosion resistance.



WAG



WAA



APS

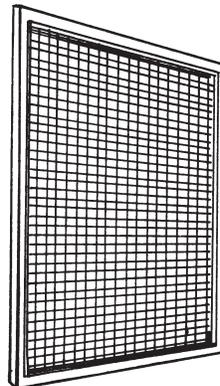
WALL HOUSING

Galvanized slant housing with flanges for mounting to exterior wall for exhaust applications in tunnel ventilated and cooled buildings. The slant arrangement protects the components from weather, incorporates wiring knockout, provides convenient shutter mounting with quick release clips, includes outlet screen and enhances air flow through velocity regain. Housings are available crated with fan and shutters; motors shipped separately. Housing may be ordered assembled at additional charge with shutter and motor shipped separately.



Fan Size	Aluminum Shutter	Plastic Shutter	Steel
36"	WAA3939	APS3939	WAG3939
48"	WAA5454	APS5454	WAG5454
54"	WAA6060	APS6060	WAG6060
V54"	WAAN57	APS57	WAGN57

Fan	Housing Model
36"	WSS36
48"	WSS48
54"	WSS54



GUARDS

Guards are galvanized heavy gauge welded wire.



EVAPORATIVE COOLING SYSTEMS



AIR INLETS



DIRECT FIRED INFRARED HEATERS



LIGHT TRAPS



CONTROLS



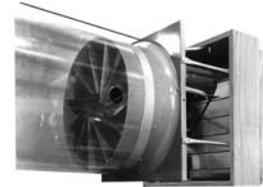
PROPELLER WALL FANS



CURTAIN MACHINES



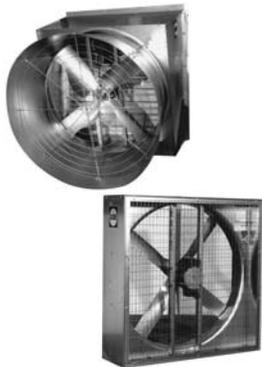
SUPPLY AIR FANS



SHUTTERS



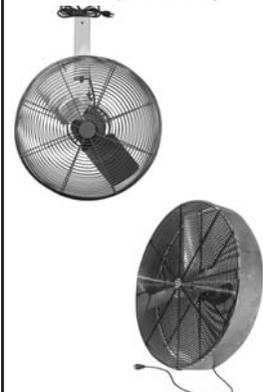
ECONOMY GALVANIZED FANS



PLASTIC/FIBERGLASS FANS



HORIZONTAL AIR FLOW FANS



LIMITED WARRANTY Acme Engineering and Manufacturing Corporation extends this limited warranty to the original purchaser and warrants that products described herein shall be free from original defects in workmanship and materials for two years from date of shipment (except for Acme's exclusive duplex split pillow block bearings and shaft 5 years from shipment, belts one year from shipment, and polyethylene tubing at 90 days from shipping, AIR40 Heater warranty one year from date of shipment, AIR40 Emitter warranty three years from date of shipment and DDP fan lifetime warranty on its propeller, cone, and housing), provided same have been properly handled, stored, installed, serviced, maintained and operated. Refer to Form MS149 for complete limited warranty terms and conditions. This form is available to anyone at www.acmefan.com. The Company's warranty is in lieu of all other warranties, express or implied, arising by law or otherwise, including without limitation the implied warranties of merchantability and fitness for a particular purpose,

which are hereby expressly disclaimed and waived.

Acme products are designed and manufactured to provide reliable performance but they are not guaranteed to be 100% free of defects. Even reliable products will experience occasional failures and this possibility should be recognized by the Purchaser and End User. If these products are used in a life support ventilation system where failure could result in loss or injury, the Purchaser and End User should provide adequate back-up ventilation, supplementary natural ventilation or failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

WARNING DO NOT use in HAZARDOUS ENVIRONMENTS where fan's electrical system could provide ignition to combustible or flammable materials unless unit is specifically built for hazardous environments. Comply with all local and national safety codes including the National Electrical Code (NEC)

and National Fire Protection Act (NFPA). Guards must be installed when fan is within reach of personnel or within eight (8) feet (2.5 m) of working level or when deemed advisable for safety.

DISCLAIMER The Company has made a diligent effort to illustrate and describe the products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose.

INDEMNITY Purchaser acknowledges various warnings by the Company regarding the products and its installation and use. If the Company incurs any claims, lawsuits, settlements, or expenses (including attorney fees) for any loss, injury, death or property damage including, but not limited to, claims arising out of the Purchaser's or any end user's installation or use of the products, the Purchaser shall indemnify and hold the Company harmless.



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