University of Illinois Department of Agricultural and Biological Engineering
Bioenvironmental and Structural Systems Lab
Final Report

Project Number: 24129
Test Date: February 19, 2024

Fan:		**Motor:**		**Shutter:**	*Butterfly damper*
Make-	*Eurusfan*	Make-	*Shanghai Eurus Agritec Co.,*	Material-	*plastic*
Model-	*VFA2-56HO-B3IM-CBM*	Model-	*YFE3-112L4A-10BX*	# Doors-	*2*
Blade dia.-	*56.4"*	Hp-	*1500 Watt*	# Columns-	-
Orifice dia.-	*56.8"*	RPM-	*690*	Door length-	-
		Volts-	*230*	Location-	*exhaust*
Blade:		Amps-	*9.0*		
Number-	*3*	Hz-	*60*	**Guards:**	
Shape-	*propeller*	Phase-	*3*	Description-	*wire*
Material-	*poly*	S. F.-	*1.15*	Spacing-	*1.3" x 3.4" / 4" concentric*
Pitch-	-			Location-	*intake / exhaust*
Clearance-	*0.2"*	**Housing:**			
		Material-	*Fiberglass*	**Discharge Cone:**	
Drive Sheaves:		Intake area-	*63" x 63"*	Depth-	*42.1"*
Drive dia.-	*direct*	Discharge-	*56.8"*	Minor dia.-	*56.8"*
Axle dia.-	*drive*	Depth-	*27.5"*	Major dia.-	*68.5"*

Notes: ** 60 Hz test*

Test Conditions:
T(wb) F: 53.4
T(db) F: 74.4 Barometric Pressure 29.32 (In. Hg)

							SI Units			
Static Pressure (in.H2O)	**Airflow (cfm)**	**rpm**	**Volts**	**Amps**	**Watts**	**cfm/Watt**	**Static Pressure (Pa)**	**Airflow (m^3/hr.)**	**(m^3/hr)/W**	**W/1000m^3/hr**
0.00	**38700**	694	231.2	8.38	1786	**21.7**	0	65800	36.8	27
0.05	**37000**	692	230.7	8.53	1885	**19.6**	12	62800	33.3	30
0.10	**34900**	690	230.4	8.68	1972	**17.7**	25	59300	30.1	33
0.15	**32700**	688	230.6	8.82	2043	**16.0**	37	55600	27.2	37
0.20	**30700**	686	228.8	8.91	2109	**14.5**	50	52100	24.7	40
0.25	**28500**	685	229.0	9.01	2164	**13.2**	62	48400	22.4	45
0.30	**25800**	685	230.2	9.07	2185	**11.8**	75	43800	20.1	50