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

Project Number: 24134
Test Date: February 20, 2024

Fan:		**Motor:**		**Shutter:**	*Butterfly damper*
Make-	*Eurusfan*	Make-	*EURUS AgriTec*	Material-	*plastic*
Model-	*VFA2-56HE-A3IM-CBM*	Model-	*YFE3-100L2-8BX*	# Doors-	*2*
Blade dia.-	*56.4"*	Hp-	*1100 Watt*	# Columns-	-
Orifice dia.-	*56.8"*	RPM-	*710*	Door length	-
		Volts-	*380*	Location-	*exhaust*
Blade:		Amps-	*3.3*		
Number-	*3*	Hz-	*50*	**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: ** 50 Hz test*

Test Conditions:
T(wb) F: 52.2
T(db) F: 71.8 Barometric Pressure 29.38 (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	**35500**	713	381.0	3.12	1383	**25.6**	0	60300	43.6	23
0.05	**33600**	709	381.0	3.24	1481	**22.7**	12	57200	38.6	26
0.10	**31800**	706	380.9	3.36	1568	**20.3**	25	54100	34.5	29
0.15	**29900**	703	380.9	3.46	1641	**18.2**	37	50800	30.9	32
0.20	**27700**	700	380.9	3.56	1709	**16.2**	50	47100	27.5	36
0.25	**25300**	698	380.9	3.63	1762	**14.3**	62	42900	24.4	41
0.30	**22800**	697	380.9	3.66	1789	**12.7**	75	38700	21.6	46