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

Project Number: 24132
Test Date: February 19, 2024

Fan:
Make- *Eurusfan*
Model- *VFA2-56HE-E3IM-CBM*
Blade dia.- *56.4"*
Orifice dia.- *56.8"*

Blade:
Number- *3*
Shape- *propeller*
Material- *poly*
Pitch- -
Clearance- *0.2"*

Drive Sheaves:
Drive dia.- *direct*
Axle dia.- *drive*

Motor:
Make- *EURUS AgriTec*
Model- *YFE3-100L2B-8BX*
Hp- *1100 Watt*
RPM- *705*
Volts- *200*
Amps- *6.0*
Hz- *50*
Phase- *3*
S. F.- *1.15*

Housing:
Material- *Fiberglass*
Intake area- *63" x 63"*
Discharge- *56.8"*
Depth- *27.5"*

Shutter: *Butterfly damper*
Material- *plastic*
Doors- *2*
Columns- -
Door length -
Location- *exhaust*

Guards:
Description- *wire*
Spacing- *1.3" x 3.4" / 4" concentric*
Location- *intake / exhaust*

Discharge Cone:
Depth- *42.1"*
Minor dia.- *56.8"*
Major dia.- *68.5"*

Notes: ** 50 Hz test*

Test Conditions:
T(wb) F: 53.7
T(db) F: 74.9
Barometric Pressure 29.31 (In. Hg)

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt	SI Units Static Pressure (Pa)	Airflow (m^3/hr.)	(m^3/hr)/W	W/1000m^3/hr
0.00	**34000**	713	200.0	5.41	1292	**26.3**	0	57800	44.7	22
0.05	**32300**	709	200.0	5.60	1373	**23.5**	12	54900	40	25
0.10	**30200**	706	200.0	5.81	1451	**20.8**	25	51400	35.4	28
0.15	**28200**	703	200.0	6.00	1530	**18.4**	37	48000	31.3	32
0.20	**26300**	700	200.0	6.15	1583	**16.6**	50	44700	28.2	35
0.25	**23900**	698	200.0	6.27	1635	**14.6**	62	40700	24.9	40
0.30	**21100**	697	200.0	6.32	1654	**12.7**	75	35800	21.6	46