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

Project Number: 24131
Test Date: February 19, 2024

Fan:
Make- *Eurusfan*
Model- *VFA2-56HO-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- *YFE3-100L3B-8BX*
Hp- *1500 Watt*
RPM- *705*
Volts- *200*
Amps- *8.6*
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: 53.4
T(db) F: 74.4
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	**38500**	713	200.0	7.72	1728	**22.3**	0	65400	37.8	26
0.05	**36800**	710	200.0	7.91	1814	**20.3**	12	62600	34.5	29
0.10	**34700**	707	200.0	8.13	1901	**18.3**	25	59000	31	32
0.15	**32700**	705	200.0	8.30	1975	**16.5**	37	55500	28.1	36
0.20	**30600**	703	200.0	8.47	2042	**15.0**	50	51900	25.4	39
0.25	**28400**	701	199.7	8.60	2098	**13.5**	62	48300	23	43
0.30	**25800**	700	199.6	8.67	2130	**12.1**	75	43800	20.6	49