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

Project Number: 24126
Test Date: February 19, 2024

Fan:
Make- *Eurusfan*
Model- *VFA2-56HE-C3IM-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- *YFE3-112L3B-10BX*
Hp- *1100 Watt*
RPM- *690*
Volts- *380*
Amps- *4.3*
Hz- *60*
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: ** 60 Hz test*

Test Conditions:
T(wb) F: 53.3
T(db) F: 74.4
Barometric Pressure 29.35 (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	**33800**	695	380.9	4.13	1335	**25.3**	0	57500	43	23
0.05	**31900**	693	380.9	4.20	1409	**22.6**	12	54200	38.5	26
0.10	**29900**	691	380.9	4.27	1491	**20.1**	25	50900	34.1	29
0.15	**28000**	689	380.9	4.34	1554	**18.0**	37	47600	30.6	33
0.20	**25900**	687	380.9	4.40	1620	**16.0**	50	44000	27.2	37
0.25	**23400**	686	380.9	4.45	1656	**14.1**	62	39800	24	42
0.30	**20600**	686	380.8	4.46	1673	**12.3**	75	35100	21	48