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

Project Number: 23086
Test Date: April 11, 2023

Fan:
Make- *Eurusfan*
Model- *VFE2-50HO-B3PM-CR*
Blade dia.- *51.4"*
Orifice dia.- *51.6"*

Blade:
Number- *3*
Shape- *propeller*
Material- *plastic*
Pitch-
Clearance- *0.1"*

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

Motor:
Make- *EURUS AgriTec*
Model- *TFE5-100M6-70BXDVB3*
Hp- *1500 Watt*
RPM- *710*
Volts- *220-240*
Amps- *5.6*
Hz- *50 // 60*
Phase- *3*
S. F.- *-*

Housing:
Material- *Fiberglass*
Intake area- *53.8" x 53.8"*
Discharge- *51.6"*
Depth- *22.3"*

Shutter:
Material- *plastic*
Doors- *16 per column*
Columns- *3*
Door length- *17.6"*
Location- *intake*

Guards:
Description- *wire*
Spacing- *2" concentric*
Location- *exhaust*

Discharge Cone:
Depth- *33.3"*
Minor dia.- *51.6"*
Major dia.- *61.2"*

Notes: **230 VAC, 3 phase 60 Hz input*

Test Conditions:
T(wb) F: 58.5
T(db) F: 75.9
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**	689	229.2	3.91	1456	**23.2**	0	57500	39.5	25
0.05	**32400**	690	229.2	4.12	1538	**21.1**	12	55100	35.8	28
0.10	**31100**	690	230.5	4.31	1613	**19.3**	25	52900	32.8	30
0.15	**29800**	690	230.0	4.48	1681	**17.7**	37	50600	30.1	33
0.20	**28100**	690	229.6	4.65	1740	**16.1**	50	47700	27.4	36
0.25	**26300**	690	229.6	4.73	1773	**14.8**	62	44600	25.2	40
0.30	**23700**	690	229.6	4.79	1792	**13.2**	75	40200	22.5	45