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

Project Number: 23087
Test Date: April 12, 2023

Fan:
Make- *Eurusfan*
Model- *VFE2-50HO-B3PM-CBA*
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- *56.5" x 56.5"*
Discharge- *51.6"*
Depth- *22.3"*

Shutter: *Butterfly damper w/ electric opener*
Material- *plastic*
Doors- *2*
Columns- *-*
Door length- *-*
Location- *exhaust*

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

Discharge Cone:
Depth- *35"*
Minor dia.- *51.6"*
Major dia.- *61"*

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

Test Conditions:
T(wb) F: 56.7
T(db) F: 73.4
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	**33300**	689	230.1	3.98	1487	**22.4**	0	56600	38	26
0.05	**32000**	689	230.1	4.19	1564	**20.5**	12	54400	34.8	29
0.10	**30200**	689	230.1	4.42	1653	**18.3**	25	51300	31	32
0.15	**28700**	690	229.6	4.56	1705	**16.8**	37	48700	28.6	35
0.20	**26700**	690	230.1	4.66	1747	**15.3**	50	45400	26	39
0.25	**24600**	690	229.1	4.74	1774	**13.9**	62	41900	23.6	42
0.30	**22300**	690	229.5	4.79	1792	**12.5**	75	38000	21.2	47