

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

Project Number: 23081
 Test Date: April 11, 2023

Fan:	Motor:	Shutter: <i>Butterfly damper w/ electric opener</i>
Make- <i>Eurusfan</i>	Make- <i>EURUS AgriTec</i>	Material- <i>plastic</i>
Model- <i>VFE2-36HO-B3PM-CBA</i>	Model- <i>TFE5-100M4-85BXDVB3</i>	# Doors- <i>2</i>
Blade dia.- <i>37.7"</i>	Hp- <i>750 Watt</i>	# Columns- <i>-</i>
Orifice dia.- <i>38.1"</i>	RPM- <i>990</i>	Door length -
	Volts- <i>220-240</i>	Location- <i>exhaust</i>
Blade:	Amps- <i>3.0</i>	
Number- <i>3</i>	Hz- <i>50 // 60</i>	Guards:
Shape- <i>propeller</i>	Phase- <i>3</i>	Description- <i>wire</i>
Material- <i>plastic</i>	S. F.- <i>-</i>	Spacing- <i>2" concentric</i>
Pitch- <i>-</i>		Location- <i>intake / exhaust</i>
Clearance- <i>0.2"</i>	Housing:	
	Material- <i>Fiberglass</i>	Discharge Cone:
Drive Sheaves:	Intake area- <i>43" x 43"</i>	Depth- <i>27.5"</i>
Drive dia.- <i>direct</i>	Discharge- <i>38.1" dia.</i>	Minor dia.- <i>38.1"</i>
Axle dia.- <i>drive</i>	Depth- <i>21.3"</i>	Major dia.- <i>44.5"</i>

Notes: *230 VAC, 3 phase 60 Hz input

Test Conditions:

T(wb) F: 56.4
 T(db) F: 73.9 Barometric Pressure 29.49 (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	16090	980	229.2	2.08	771	20.9	0	27300	35.5	28
0.05	15500	980	229.2	2.17	807	19.2	12	26300	32.6	31
0.10	14800	980	229.6	2.24	841	17.6	25	25100	29.9	33
0.15	14040	980	229.7	2.30	859	16.3	37	23900	27.8	36
0.20	13220	980	229.9	2.37	892	14.8	50	22500	25.2	40
0.25	12410	980	229.6	2.44	911	13.6	62	21100	23.1	43
0.30	11500	980	229.6	2.50	929	12.4	75	19500	21	48