

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

Project Number: 23080
 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-A3PM-CBA</i>	Model- <i>TFE5-100M4-85BXDV</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>380-480</i>	Location- <i>exhaust</i>
Blade:	Amps- <i>1.7</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: *380 VAC, 3 phase 50 Hz input

Test Conditions:

T(wb) F: 55.9
 T(db) F: 73.1 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	16100	980	379.6	1.67	808	19.9	0	27400	33.9	30
0.05	15510	980	379.7	1.74	846	18.3	12	26300	31.1	32
0.10	14770	980	380.0	1.79	875	16.9	25	25100	28.7	35
0.15	13960	980	380.4	1.82	894	15.6	37	23700	26.5	38
0.20	13230	980	380.6	1.87	923	14.3	50	22500	24.4	41
0.25	12380	980	380.8	1.91	948	13.1	62	21000	22.2	45
0.30	11510	980	381.1	1.94	966	11.9	75	19600	20.3	49