

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

Project Number: 23100  
 Test Date: April 13, 2023

<b>Fan:</b>	<b>Motor:</b>	<b>Shutter:</b>
Make- <i>Eurusfan</i>	Make- <i>EURUS AgriTec</i>	Material- <i>plastic</i>
Model- <i>VFE2-36HO-B3PM-CR</i>	Model- <i>TFE5-100M4-85BXDVB3</i>	# Doors- <i>12 per column</i>
Blade dia.- <i>37.7"</i>	Hp- <i>750 Watt</i>	# Columns- <i>2</i>
Orifice dia.- <i>38.1"</i>	RPM- <i>990</i>	Door length <i>20"</i>
	Volts- <i>220-240</i>	Location- <i>intake</i>
	Amps- <i>3</i>	
<b>Blade:</b>	Hz- <i>50 // 60</i>	<b>Guards:</b>
Number- <i>3</i>	Phase- <i>3</i>	Description- <i>wire</i>
Shape- <i>propeller</i>	S. F.- <i>-</i>	Spacing- <i>2" concentric</i>
Material- <i>plastic</i>		Location- <i>exhaust</i>
Pitch- <i>-</i>		
Clearance- <i>0.2"</i>	<b>Housing:</b>	<b>Discharge Cone:</b>
	Material- <i>Fiberglass</i>	Depth- <i>27.2"</i>
<b>Drive Sheaves:</b>	Intake area- <i>40.3" x 40.3"</i>	Minor dia.- <i>38.1"</i>
Drive dia.- <i>direct</i>	Discharge- <i>38.1" dia.</i>	Major dia.- <i>45"</i>
Axle dia.- <i>drive</i>	Depth- <i>21.3"</i>	

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

**Test Conditions:**

T(wb) F: 55.3  
 T(db) F: 75.2                      Barometric Pressure                      29.02 (In. Hg)

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt	SI Units			
							Static Pressure (Pa)	Airflow (m <sup>3</sup> /hr.)	(m <sup>3</sup> /hr)/W	W/1000m <sup>3</sup> /hr
0.00	16550	980	229.2	2.00	737	22.4	0	28100	38.1	26
0.05	15860	980	229.6	2.09	774	20.5	12	26900	34.8	29
0.10	15160	980	229.6	2.18	807	18.8	25	25800	31.9	31
0.15	14460	980	229.6	2.25	841	17.2	37	24600	29.2	34
0.20	13590	980	229.6	2.32	861	15.8	50	23100	26.8	37
0.25	12700	980	229.6	2.39	894	14.2	62	21600	24.1	41
0.30	12190	980	229.2	2.44	911	13.4	75	20700	22.7	44