

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

Project Number: 23092
 Test Date: April 12, 2023

Fan:		Motor:		Shutter:	
Make- <i>Eurusfan</i>		Make- <i>EURUS AgriTec</i>		Material- <i>plastic</i>	
Model- <i>VFE2-56HO-B3PM-CR</i>		Model- <i>TFE5-100M6-70BXDVB3</i>		# Doors- <i>18 per column</i>	
Blade dia.- <i>56.4"</i>		Hp- <i>1500 Watt</i>		# Columns- <i>3</i>	
Orifice dia.- <i>56.8"</i>		RPM- <i>690</i>		Door length <i>19.8"</i>	
		Volts- <i>220 - 240</i>		Location- <i>intake</i>	
		Amps- <i>5.6</i>			
Blade:		Hz- <i>50 // 60</i>		Guards:	
Number- <i>3</i>		Phase- <i>3</i>		Description- <i>wire</i>	
Shape- <i>propeller</i>		S. F.- <i>-</i>		Spacing- <i>4" concentric</i>	
Material- <i>plastic</i>				Location- <i>exhaust</i>	
Pitch-		Housing:			
Clearance- <i>0.2"</i>		Material- <i>Fiberglass</i>		Discharge Cone:	
		Intake area- <i>60.5" x 60.5"</i>		Depth- <i>41"</i>	
Drive Sheaves:		Discharge- <i>56.8" dia.</i>		Minor dia.- <i>56.8"</i>	
Drive dia.- <i>direct</i>		Depth- <i>27.5</i>		Major dia.- <i>68.4"</i>	
Axle dia.- <i>drive</i>					

Notes: *230 VAC, 3 phase 60 Hz input

Test Conditions:

T(wb) F: 58.2
 T(db) F: 75.5 Barometric Pressure 29.19 (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	38400	690	230.4	3.52	1311	29.3	0	65300	49.8	20
0.05	36800	689	229.6	3.83	1422	25.9	12	62600	44	23
0.10	34800	690	230.1	4.07	1526	22.8	25	59200	38.8	26
0.15	33300	690	230.0	4.32	1616	20.6	37	56600	35	29
0.20	30700	690	229.5	4.55	1703	18.0	50	52100	30.6	33
0.25	28300	689	229.6	4.72	1772	16.0	62	48000	27.1	37
0.30	25300	689	229.6	4.84	1813	14.0	75	43100	23.8	42