

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

Project Number: 23091
 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-A3PM-CR</i>		Model- <i>TFE5-100M6-70BXDV</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>380-480</i>		Location- <i>intake</i>	
		Amps- <i>3.2</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: *380 VAC, 3 phase 50 Hz input

Test Conditions:

T(wb) F: 58.4
 T(db) F: 75.7 Barometric Pressure 29.20 (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	38500	689	380.3	2.25	1318	29.2	0	65400	49.6	20
0.05	36800	690	380.7	2.43	1422	25.9	12	62600	44	23
0.10	35000	689	381.1	2.61	1531	22.9	25	59500	38.9	26
0.15	33200	689	381.6	2.77	1633	20.3	37	56400	34.5	29
0.20	31000	690	381.9	2.91	1720	18.0	50	52700	30.6	33
0.25	28600	689	382.0	3.03	1791	16.0	62	48600	27.1	37
0.30	25700	689	382.3	3.12	1842	14.0	75	43700	23.7	42