

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

Project Number: 23082
 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>VFE2-36HP-A3PM-CBA</i>		Model- <i>VF-MTRE-PM150-100A3DV</i>		# Doors- <i>2</i>	
Blade dia.- <i>37.7"</i>		Hp- <i>1500 Watt</i>		# Columns- <i>-</i>	
Orifice dia.- <i>38.1"</i>		RPM- <i>1000</i>		Door length- <i>-</i>	
		Volts- <i>380-480</i>		Location- <i>exhaust</i>	
Blade:		Amps- <i>3.2</i>			
Number- <i>6</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: 57.4
 T(db) F: 75 Barometric Pressure 29.48 (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	19040	970	380.7	2.28	1344	14.2	0	32400	24.1	42
0.05	18600	970	380.8	2.37	1390	13.4	12	31600	22.7	44
0.10	18140	970	381.1	2.46	1452	12.5	25	30800	21.2	47
0.15	17580	970	381.4	2.55	1506	11.7	37	29900	19.8	50
0.20	17150	970	381.6	2.64	1561	11.0	50	29100	18.7	54
0.25	16700	970	381.6	2.71	1597	10.5	62	28400	17.8	56
0.30	16210	970	379.8	2.82	1654	9.8	75	27500	16.7	60
0.40	15070	970	379.9	2.95	1738	8.7	100	25600	14.7	68
0.50	13610	970	380.2	3.05	1791	7.6	125	23100	12.9	77
0.60	11730	970	380.2	3.11	1831	6.4	149	19900	10.9	92
0.70	9180	969	380.2	3.00	1765	5.2	174	15600	8.8	113