

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

Project Number: 22189
 Test Date: March 14, 2022

Fan:		Motor:		Shutter:	
Make- <i>Eurusfan</i>		Make- <i>Eurusdrive</i>		Material- <i>plastic</i>	
Model- <i>VFA2-36HO-A3IM-CS</i>		Model- <i>YFE3-100L4-6BX</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"</i>		RPM- <i>965</i>		Door length- <i>20"</i>	
		Volts- <i>380</i>		Location- <i>intake</i>	
		Amps- <i>2.2</i>			
Blade:		Hz- <i>50</i>		Guards:	
Number- <i>3</i>		Phase- <i>3</i>		Description- <i>wire</i>	
Shape- <i>propeller</i>		S. F.- <i>1.15</i>		Spacing- <i>4" concentric</i>	
Material- <i>poly</i>				Location- <i>exhaust</i>	
Pitch- <i>-</i>					
Clearance- <i>0.2"</i>		Housing:		Discharge Cone:	
		Material- <i>fiberglass</i>		Depth- <i>27.1"</i>	
Drive Sheaves:		Intake area- <i>40.3" x 40.3"</i>		Minor dia.- <i>38" dia.</i>	
Drive dia.- <i>direct</i>		Discharge- <i>38" dia.</i>		Major dia.- <i>44.9"</i>	
Axle dia.- <i>drive</i>		Depth- <i>21.2"</i>			

Notes: 0

Test Conditions:

T(wb) F: 54	Barometric pressure, recorded	29.44
T(db) F: 74	Barometric Pressure, corrected	29.32 (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	16450	971	380.3	1.89	778	21.1	0	27900	35.9	28
0.05	15750	970	380.3	1.93	822	19.2	12	26800	32.5	31
0.10	15060	968	380.3	1.96	842	17.9	25	25600	30.4	33
0.15	14290	967	380.3	1.99	877	16.3	37	24300	27.7	36
0.20	13420	966	380.3	2.02	895	15.0	50	22800	25.5	39
0.25	12550	965	380.3	2.05	930	13.5	62	21300	22.9	44
0.30	11650	963	380.3	2.07	947	12.3	75	19800	20.9	48