

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

Project Number: 24200
 Test Date: April 9, 2024

Fan:		Motor:		Shutter:	
Make- <i>Better Air</i>		Make- <i>AG-I</i>		Material- <i>plastic</i>	
Model- <i>FW-60/2 w/ cone</i>		Model- <i>A204HA6BA00</i>		# Doors- <i>19 per column</i>	
Blade dia.- <i>60"</i>		Hp- <i>2.0</i>		# Columns- <i>3</i>	
Orifice dia.- <i>60.5"</i>		RPM- <i>1725</i>		Door length <i>20.4"</i>	
		Volts- <i>230</i>		Location- <i>intake</i>	
Blade:		Amps- <i>9.5</i>			
Number- <i>3</i>		Hz- <i>60</i>		Guards:	
Shape- <i>propeller</i>		Phase- <i>1</i>		Description- <i>wire</i>	
Material- <i>galvanized steel</i>		S. F.- <i>1.0</i>		Spacing- <i>2" concentric</i>	
Pitch- <i>-</i>				Location- <i>exhaust</i>	
Clearance- <i>0.3"</i>		Housing:			
		Material- <i>fiberglass</i>		Discharge Cone:	
Drive Sheaves:		Intake area- <i>61.9" x 61.8"</i>		Depth- <i>23"</i>	
Drive dia.- <i>3.25" o.d.</i>		Discharge- <i>60.5" dia.</i>		Minor dia.- <i>60.5"</i>	
Axle dia.- <i>12" o.d.</i>		Depth- <i>34.5" top</i>		Major dia.- <i>66.5"</i>	
		<i>30.5" bottom</i>			

Notes: 0

Test Conditions:

T(wb) F: 56.7
 T(db) F: 72.7
 Barometric Pressure 29.14 (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	36200	458	230.9	8.01	1629	22.2	0	61500	37.8	26
0.05	33600	457	230.5	8.31	1695	19.8	12	57100	33.7	30
0.10	30900	456	230.5	8.57	1752	17.6	25	52500	29.9	33
0.15	27600	455	230.2	8.81	1807	15.3	37	47000	26	38
0.20	18600	456	230.5	8.65	1771	10.5	50	31600	17.9	56
0.25	13300	453	230.0	9.62	1986	6.7	62	22600	11.4	88
0.30	8600	450	230.0	10.35	2143	4.0	75	14700	6.9	146