

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

Project Number: 08362
Test Date: December 19, 2008

Fan:		Motor:		Shutter:	
Make-	<i>J & D</i>	Make-	<i>Emerson</i>	Material-	<i>galvanized steel</i>
Model-	<i>VBG55G3C151</i>	Model-	<i>T63ZZDNA-1840</i>	# Doors-	<i>2</i>
Blade dia.-	<i>54.9"</i>	Hp-	<i>1.5</i>	# Columns-	<i>-</i>
Orifice dia.-	<i>55.5"</i>	RPM-	<i>1725</i>	Door length -	
		Volts-	<i>115/208-230</i>	Location-	<i>exhaust</i>
		Amps-	<i>10.8/5.4</i>		
Blade:		Hz-	<i>60</i>	Guards:	
Number-	<i>3</i>	Phase-	<i>1</i>	Description-	<i>wire</i>
Shape-	<i>propeller</i>	S. F.-	<i>1.5</i>	Spacing-	<i>2"x4" / 2" concentric</i>
Material-	<i>galvanized steel</i>			Location-	<i>intake / exhaust</i>
Pitch-	<i>-</i>				
Clearance-	<i>0.3"</i>	Housing:		Discharge Cone:	
		Material-	<i>galvanized steel</i>	Depth-	<i>36.6"</i>
Drive Sheaves:		Intake area-	<i>57.6" x 57.7"</i>	Minor dia.-	<i>55.5"</i>
Drive dia.-	<i>3.45" o.d. AK34</i>	Discharge-	<i>55.5"</i>	Major dia.-	<i>63.8"</i>
Axle dia.-	<i>10" o.d.</i>	Depth-	<i>20.1"</i>		

Notes: *blade L130*

Test Conditions:

T(wb):	57	Barometric pressure, recorded	29.03
T(db):	78	Barometric Pressure, corrected	28.90

Static

Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	31500	576	230.4	6.99	1556	20.2
0.05	29800	575	229.7	7.30	1620	18.4
0.10	27900	574	230.4	7.55	1682	16.6
0.15	26000	572	230.0	7.86	1742	14.9
0.20	24200	571	229.8	8.06	1791	13.5
0.25	22100	570	229.5	8.25	1829	12.1
0.30	19700	569	229.5	8.37	1850	10.7