

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

Project Number: 11216
 Test Date: June 29, 2011

Fan:		Motor:		Shutter:
Make- <i>Schaefer</i>		Make- <i>Emerson</i>		Material- <i>aluminum</i>
Model- <i>575CF112G-3-HE-E</i>		Model- <i>P63SYFGG-4793</i>		# Doors- <i>15 per column</i>
Blade dia.- <i>57.3"</i>		Hp- <i>1.5</i>		# Columns- <i>2</i>
Orifice dia.- <i>57.8"</i>		RPM- <i>1725</i>		Door length <i>29.7"</i>
		Volts- <i>208-230/460</i>		Location- <i>intake</i>
		Amps- <i>4.7/2.3</i>		
Blade:		Hz- <i>60</i>		Guards:
Number- <i>5</i>		Phase- <i>3</i>		Description- <i>wire</i>
Shape- <i>propeller</i>		S. F.- <i>1.15</i>		Spacing- <i>1.5" concentric</i>
Material- <i>galvanized steel</i>				Location- <i>exhaust</i>
Pitch- <i>-</i>				
Clearance- <i>0.3"</i>		Housing:		Discharge Cone:
		Material- <i>fiberglass</i>		Depth- <i>39"</i>
Drive Sheaves:		Intake area- <i>58.6"x 59"</i>		Minor dia.- <i>57.8"</i>
Drive dia.- <i>2.5" o.d.</i>		Discharge- <i>57.8" o.d.</i>		Major dia.- <i>67"</i>
Axle dia.- <i>9.3" o.d.</i>		Depth- <i>28" top</i>		
		<i>26.8" bottom</i>		

Notes: 0

Test Conditions:

T(wb): 64.5	Barometric pressure, recorded	29.44
T(db): 77.5	Barometric Pressure, corrected	29.31

							SI Units		
Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt	Static Pressure (Pa)	Airflow (m ³ /hr.)	(m ³ /hr)/W
0.00	30300	432	230.9	3.91	1183	25.6	0	51500	43.5
0.05	28500	427	230.4	3.98	1217	23.4	12	48500	39.8
0.10	26600	423	229.7	4.05	1249	21.3	25	45200	36.2
0.15	24100	420	229.7	4.09	1270	19.0	37	40900	32.2
0.20	21200	419	229.6	4.11	1274	16.6	50	36000	28.2
0.25	15500	423	229.5	4.04	1245	12.5	62	26400	21.2
0.30	9900	419	229.5	4.10	1264	7.9	75	16900	13.3