

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

Project Number: 11217
 Test Date: June 29, 2011

Fan:		Motor:		Shutter:
Make- <i>Schaefer</i>		Make- <i>Emerson</i>		Material- <i>aluminum</i>
Model- <i>573CF112G-3-HV-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>3</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>2.8" o.d.</i>		Discharge- <i>57.8" o.d.</i>		Major dia.- <i>67"</i>
Axle dia.- <i>8.3" o.d.</i>		Depth- <i>28" top</i>		
		<i>26.8" bottom</i>		

Notes: 0

Test Conditions:

T(wb): 64	Barometric pressure, recorded	29.46
T(db): 78	Barometric Pressure, corrected	29.33

							SI Units		
Static Pressure	Airflow						Static Pressure	Airflow	
(in.H2O)	(cfm)	rpm	Volts	Amps	Watts	cfm/Watt	(Pa)	(m^3/hr.)	(m^3/hr)/W
0.00	33300	555	230.3	4.56	1475	22.5	0	56500	38.3
0.05	31300	554	230.3	4.69	1530	20.5	12	53200	34.8
0.10	29400	553	229.4	4.81	1571	18.7	25	49900	31.7
0.15	27200	552	229.2	4.90	1608	16.9	37	46100	28.7
0.20	24600	551	229.5	4.97	1635	15.0	50	41800	25.6
0.25	21300	551	230.8	5.02	1661	12.8	62	36200	21.8
0.30	14300	551	230.8	5.00	1649	8.7	75	24300	14.7