

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

Project Number: 12482
 Test Date: July 11, 2012

Fan:		Motor:		Shutter:	
Make- <i>Schaefer</i>		Make- <i>FHP</i>		Material- <i>aluminum</i>	
Model- <i>573CF112C-1-HV</i>		Model- <i>A6K17NB16</i>		# Doors- <i>15 per column</i>	
Blade dia.- <i>57"</i>		Hp- <i>1.5</i>		# Columns- <i>2</i>	
Orifice dia.- <i>57.7"</i>		RPM- <i>1725</i>		Door length <i>29.6"</i>	
		Volts- <i>115/230</i>		Location- <i>exhaust</i>	
Blade:		Amps- <i>13.6/6.8</i>			
Number- <i>3</i>		Hz- <i>60</i>		Guards:	
Shape- <i>propeller</i>		Phase- <i>1</i>		Description- <i>wire</i>	
Material- <i>cast aluminum</i>		S. F.- <i>1.0</i>		Spacing- <i>1.5" concentric</i>	
Pitch- <i>-</i>				Location- <i>exhaust</i>	
Clearance- <i>0.4"</i>		Housing:		Discharge Cone:	
		Material- <i>fiberglass</i>		Depth- <i>39.5"</i>	
Drive Sheaves:		Intake area- <i>58.4" x 58.5"</i>		Minor dia.- <i>57.7"</i>	
Drive dia.- <i>3.5" o.d.</i>		Discharge- <i>57.7" o.d.</i>		Major dia.- <i>67"</i>	
Axle dia.- <i>11" o.d.</i>		Depth- <i>28" top</i>			
		<i>27" bottom</i>			

Notes: *60 Hz test

Test Conditions:

T(wb): 65.5	Barometric pressure, recorded	29.43
T(db): 80	Barometric Pressure, corrected	29.29

							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	W/1000m ³ /hr
0.00	30800	525	230.3	6.66	1404	21.9	0	52300	37.2	27
0.05	28800	524	230.2	6.88	1452	19.9	12	49000	33.7	30
0.10	26600	523	229.9	7.08	1495	17.8	25	45200	30.2	33
0.15	24000	523	229.6	7.26	1532	15.7	37	40800	26.6	38
0.20	18300	522	229.6	7.40	1562	11.7	50	31100	19.9	50
0.25	12500	521	230.4	7.64	1621	7.7	62	21200	13.1	76
0.30	5200	518	230.7	8.18	1740	3.0	75	8800	5	198