

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

Project Number: 11209
 Test Date: June 28, 2011

Fan:	Motor:	Shutter:
Make- <i>Schaefer</i>	Make- <i>FHP</i>	Material- <i>aluminum</i>
Model- <i>575CF1G-1</i>	Model- <i>A6K17NB17</i>	# Doors- <i>15 per column</i>
Blade dia.- <i>57.3"</i>	Hp- <i>1</i>	# Columns- <i>2</i>
Orifice dia.- <i>57.8"</i>	RPM- <i>1725</i>	Door length <i>29.7"</i>
	Volts- <i>115/230</i>	Location- <i>intake</i>
	Amps- <i>8.6/4.3</i>	
Blade:	Hz- <i>60</i>	Guards:
Number- <i>5</i>	Phase- <i>1</i>	Description- <i>wire</i>
Shape- <i>propeller</i>	S. F.- <i>1.0</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>2.4" o.d.</i>	Discharge- <i>57.8" o.d.</i>	Major dia.- <i>67"</i>
Axle dia.- <i>10.3" o.d.</i>	Depth- <i>28" top</i>	
	<i>26.8" bottom</i>	

Notes: 0

Test Conditions:

T(wb): 65	Barometric pressure, recorded	29.40
T(db): 78	Barometric Pressure, corrected	29.27

							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	26300	377	231.8	3.89	821	32.1	0	44700	54.5
0.05	24600	376	231.7	4.08	865	28.4	12	41800	48.3
0.10	22100	375	230.6	4.27	904	24.5	25	37600	41.6
0.15	19100	375	230.4	4.33	916	20.8	37	32400	35.4
0.20	12900	375	230.0	4.26	898	14.3	50	21800	24.3
0.25	6300	374	229.7	4.40	929	6.8	62	10700	11.5