

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

Project Number: 11226
 Test Date: June 29, 2011

Fan:	Motor:	Shutter:
Make- <i>Schaefer</i>	Make- <i>Leeson</i>	Material- <i>aluminum</i>
Model- <i>573CF1G-3</i>	Model- <i>A6T17NB106A</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>1760</i>	Door length <i>29.7"</i>
	Volts- <i>208-230/460</i>	Location- <i>intake</i>
	Amps- <i>3.2/1.6</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>1.25</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>2.6" 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	29.45
T(db): 78	Barometric Pressure, corrected	29.32

							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	27500	464	230.0	3.06	834	32.9	0	46700	56
0.05	25200	463	229.8	3.15	875	28.8	12	42900	49
0.10	22300	462	229.9	3.22	908	24.6	25	37900	41.8
0.15	19200	461	229.9	3.25	925	20.8	37	32700	35.3
0.20	11900	461	230.4	3.28	941	12.6	50	20100	21.4
0.25	4100	459	230.3	3.46	1020	4.0	62	7000	6.9