

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

Project Number: 11212
 Test Date: June 28, 2011

Fan:	Motor:	Shutter:
Make- <i>Schaefer</i>	Make- <i>Marathon</i>	Material- <i>aluminum</i>
Model- <i>573CF112G-1-HE-M</i>	Model- <i>5KCR48WN0920T</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</i>	Location- <i>intake</i>
	Amps- <i>6.7-6.2</i>	
Blade:	Hz- <i>60</i>	Guards:
Number- <i>3</i>	Phase- <i>1</i>	Description- <i>wire</i>
Shape- <i>propeller</i>	S. F.- <i>1.2</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>3.0" 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	29.39
T(db): 78	Barometric Pressure, corrected	29.26

							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	29500	498	231.1	5.17	1151	25.6	0	50200	43.6
0.05	27400	497	230.6	5.34	1191	23.0	12	46600	39.1
0.10	25200	497	230.4	5.48	1224	20.6	25	42800	34.9
0.15	22500	496	230.2	5.58	1248	18.0	37	38200	30.6
0.20	18500	496	230.3	5.63	1261	14.7	50	31400	24.9
0.25	11600	496	230.3	5.76	1293	9.0	62	19800	15.3
0.28	6000	495	229.8	5.98	1342	4.5	70	10200	7.6