

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

Project Number: 11218
 Test Date: June 29, 2011

Fan:	Motor:	Shutter:
Make- <i>Schaefer</i>	Make- <i>Emerson</i>	Material- <i>aluminum</i>
Model- <i>573CF112G-3-HE-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>3.3" 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): 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	31600	528	229.6	4.04	1246	25.3	0	53700	43.1
0.05	29600	527	229.6	4.16	1297	22.8	12	50300	38.8
0.10	27600	526	229.7	4.25	1337	20.6	25	46900	35.1
0.15	25100	526	230.3	4.32	1370	18.3	37	42600	31.1
0.20	22200	525	230.1	4.38	1394	15.9	50	37600	27
0.25	16400	526	230.2	4.35	1383	11.9	62	27900	20.2
0.30	9800	524	230.5	4.52	1450	6.7	75	16600	11.5