

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

Project Number: 10441
Test Date: September 16, 2010

Fan: Make- <i>Schaefer</i> Model- <i>573CF1G-3-HE</i> Blade dia.- <i>57"</i> Orifice dia.- <i>58"</i> Blade: Number- <i>3</i> Shape- <i>propeller</i> Material- <i>galvanized steel</i> Pitch- <i>-</i> Clearance- <i>0.5"</i> Drive Sheaves: Drive dia.- <i>2.6" o.d.</i> Axle dia.- <i>8.9" o.d, "B" section</i>	Motor: Make- <i>Leeson</i> Cat. #: <i>117512</i> Hp- <i>1</i> RPM- <i>1760</i> Volts- <i>208-230/460</i> Amps- <i>3.2/1.6</i> Hz- <i>60</i> Phase- <i>3</i> S. F.- <i>1.25</i> Housing: Material- <i>fiberglass</i> Intake area- <i>58.5" x 59"</i> Discharge- <i>58" dia.</i> Depth- <i>28.5"</i> <i>0</i>	Shutter: Material- <i>aluminum</i> # Doors- <i>15 per column</i> # Columns- <i>2</i> Door length <i>29.6"</i> Location- <i>intake</i> Guards: Description- <i>wire</i> Spacing- <i>1.5" concentric</i> Location- <i>exhaust</i> Discharge Cone: Depth- <i>25.5"</i> Minor dia.- <i>58"</i> Major dia.- <i>66.5"</i>
--	--	---

Notes: *"A" belt seats ~ 8.5" o.d.*

Test Conditions:

T(wb):	66.5	Barometric pressure, recorded	29.21
T(db):	79	Barometric Pressure, corrected	29.08

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	27600	494	230.5	3.60	1084	25.4
0.05	25500	493	230.1	3.68	1124	22.7
0.10	23300	491	229.9	3.72	1134	20.5
0.15	20700	491	230.1	3.74	1145	18.0
0.20	14800	492	229.9	3.68	1116	13.2
0.25	7700	490	230.2	3.78	1159	6.7