

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

Project Number: 08257
Test Date: August 26, 2008

Fan: Make- <i>Hired Hand</i> Model- 6603-8010 Blade dia.- 54.5" Orifice dia.- 55.2" Blade: Number- 3 Shape- <i>propeller</i> Material- <i>galvanized steel</i> Pitch- - Clearance- 0.4" Drive Sheaves: Drive dia.- 4.2" Axle dia.- 10.3"	Motor: Make- <i>CMG</i> Model- <i>PPA90S24-4</i> Hp- <i>1.1 kW</i> RPM- <i>1440</i> Volts- <i>240/415</i> Amps- <i>3.98/2.3</i> Hz- <i>50</i> Phase- <i>3</i> S. F.- - Housing: Material- <i>galvanized steel</i> Intake area- <i>59.8" x 60"</i> Discharge- <i>55.2" dia.</i> Depth- <i>14"</i>	Shutter: Material- <i>galvanized steel</i> # Doors- <i>2</i> # Columns- - Door length - Location- <i>exhaust</i> Guards: Description- <i>wire</i> Spacing- <i>2" x 4" / 2" concentric</i> Location- <i>intake / exhaust</i> Discharge Cone: Depth- <i>35.5"</i> Minor dia.- <i>55.2"</i> Major dia.- <i>71.4"</i>
--	--	---

Notes: 50 hz test

Test Conditions:

T(wb): 64	Barometric pressure, recorded	29.31
T(db): 78	Barometric Pressure, corrected	29.18

Static						
Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	28100	574	220.4	3.16	928	30.3
0.05	26700	572	220.4	3.33	987	27.0
0.10	25100	571	220.4	3.44	1036	24.2
0.15	23200	568	220.5	3.58	1091	21.2
0.20	20900	567	220.5	3.71	1141	18.3
0.25	18400	565	220.4	3.81	1181	15.6
0.30	15300	565	220.4	3.88	1205	12.7