

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

Project Number: 08248
Test Date: August 26, 2008

Fan: Make- <i>Hired Hand</i> Model- <i>6603-7087</i> Blade dia.- <i>54.5"</i> Orifice dia.- <i>55.2"</i> Blade: Number- <i>3</i> Shape- <i>propeller</i> Material- <i>galvanized steel</i> Pitch- <i>-</i> Clearance- <i>0.4"</i> Drive Sheaves: Drive dia.- <i>3.95" o.d.</i> Axle dia.- <i>10.3"</i>	Motor: Make- <i>Emerson</i> Model- <i>P63FCB-3995</i> Hp- <i>1.0</i> RPM- <i>1725/1425</i> Volts- <i>208-230/460</i> Amps- <i>5.8/2.9</i> Hz- <i>60/50</i> Phase- <i>3</i> S. F.- <i>-</i> 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- <i>-</i> 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>
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Notes: 0

Test Conditions:

T(wb): 64	Barometric pressure, recorded	29.36
T(db): 78	Barometric Pressure, corrected	29.23

Static						
Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.04	30700	654	232.0	4.80	1441	21.3
0.05	30400	654	232.0	4.81	1448	21.0
0.10	29100	654	232.2	4.94	1510	19.3
0.15	27700	652	232.3	5.08	1582	17.5
0.20	26000	651	231.5	5.21	1644	15.8
0.25	24200	650	232.5	5.34	1707	14.2
0.30	22100	649	233.7	5.48	1767	12.5