

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

Project Number: 08245
Test Date: August 26, 2008

Fan: Make- <i>Hired Hand</i> Model- 6603-7089 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.- 3.45" o.d. Axle dia.- 10.3"	Motor: Make- <i>Emerson</i> Model- <i>P63FCB-3995</i> Hp- 1.0 RPM- 1725/1425 Volts- 208-230/460 Amps- 5.8/2.9 Hz- 60/50 Phase- 3 S. F.- - Housing: Material- <i>galvanized steel</i> Intake area- 59.8" x 60" Discharge- 55.2" dia. Depth- 14"	Shutter: Material- <i>galvanized steel</i> # Doors- 2 # Columns- - Door length - Location- <i>exhaust</i> Guards: Description- <i>wire</i> Spacing- 2" x 4" / 2" concentric Location- <i>intake / exhaust</i> Discharge Cone: Depth- 35.5" Minor dia.- 55.2" Major dia.- 71.4"
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Notes:

Test Conditions:

T(wb): 65	Barometric pressure, recorded	29.36
T(db): 80	Barometric Pressure, corrected	29.22

Static						
Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	28100	572	233.7	4.03	1000	28.1
0.05	26700	571	234.0	4.13	1058	25.2
0.10	25100	570	233.0	4.20	1110	22.6
0.15	23300	570	232.7	4.29	1168	20.0
0.20	21200	569	233.2	4.39	1217	17.4
0.25	18600	568	232.7	4.49	1264	14.7
0.30	15800	567	233.3	4.53	1292	12.2