

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

Project Number: 07460
 Test Date: November 19, 2007

Fan: Make- <i>Better Air</i> Model- <i>LPF-3600C</i> Blade dia.- <i>36.4"</i> Orifice dia.- <i>37"</i>	Motor: Make- <i>FHP</i> Model- <i>M009581</i> Hp- <i>3/4</i> RPM- <i>1725</i> Volts- <i>115/230</i> Amps- <i>6.8/3.4</i> Hz- <i>60</i> Phase- <i>1</i> S. F.- <i>1.0</i>	Shutter: Material- <i>plastic</i> # Doors- <i>12 per column</i> # Columns- <i>2</i> Door length- <i>20.8"</i> Location- <i>intake</i>
Blade: Number- <i>3</i> Shape- <i>propeller</i> Material- <i>plastic</i> Pitch- <i>-</i> Clearance- <i>0.3"</i>	Housing: Material- <i>plastic</i> Intake area- <i>41" x 41"</i> Discharge- <i>37" dia.</i> Depth- <i>27.8" top</i> <i>27" bottom</i>	Guards: Description- <i>wire</i> Spacing- <i>2" concentric</i> Location- <i>exhaust</i>
Drive Sheaves: Drive dia.- <i>3.0" o.d., MA30</i> Axle dia.- <i>9.0" o.d., MA90</i>		Discharge Cone: Depth- <i>19"</i> Minor dia.- <i>37"</i> Major dia.- <i>44.5"</i>

Notes:

Test Conditions:

T(wb): 64.5	Barometric pressure, recorded	29.34
T(db): 80	Barometric Pressure, corrected	29.20

# Open Nozzle	Noz. Dia. (inch)	Pressure		Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
		Drop (in.H2O)	Static (in.H2O)						
6	8	2.48	0.00	13348	581	230.4	4.14	890	15.0
6	8	2.25	0.04	12700	580	230.2	4.23	900	14.1
6	8	2.19	0.05	12544	580	230.1	4.25	905	13.9
6	8	1.89	0.10	11638	579	230.3	4.36	927	12.6
6	8	1.58	0.15	10637	577	230.0	4.46	953	11.2
6	8	1.18	0.20	9204	576	230.0	4.55	959	9.6
3	8	1.54	0.25	5259	579	230.0	4.23	905	5.8
3	8	1.07	0.30	4382	574	230.0	4.67	990	4.4