

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

Project Number: 09333
Test Date: December 15, 2009

Fan:		Motor:		Shutter:
Make- <i>Schaefer</i>		Make- <i>Emerson</i>		Material- <i>aluminum</i>
Model- <i>483S1-E</i>		Model- <i>T63ZZCLB-1385</i>		# Doors- <i>14 per column</i>
Blade dia.- <i>48.5"</i>		Hp- <i>1</i>		# Columns- <i>2</i>
Orifice dia.- <i>49"</i>		RPM- <i>1725/1425</i>		Door length <i>26.6"</i>
		Volts- <i>115/230</i>		Location- <i>intake</i>
Blade:		Amps- <i>8.4/4.2</i>		
Number- <i>3</i>		Hz- <i>60</i>		Guards:
Shape- <i>propeller</i>		Phase- <i>1</i>		Description- <i>wire</i>
Material- <i>galvanized steel</i>		S. F.- <i>1.4</i>		Spacing- <i>1" x 2"</i>
Pitch- <i>0</i>				Location- <i>exhaust</i>
Clearance- <i>0.3"</i>		Housing:		
		Material- <i>galvanized steel</i>		Discharge Cone:
Drive Sheaves:		Intake area- <i>52.6" x 52.9"</i>		Depth- <i>none</i>
Drive dia.- <i>3.8", MA38</i>		Discharge- <i>52.8" x 52.6"</i>		Minor dia.- <i>-</i>
Axle dia.- <i>11.3" o.d., AK114</i>		Depth- <i>30" top</i>		Major dia.- <i>-</i>
		<i>21" bottom</i>		
Notes:	<i>AFR</i>	<i>0.73</i>		

Test Conditions:

T(wb):	55	Barometric pressure, recorded	29.73
T(db):	78	Barometric Pressure, corrected	29.60

Static						
Pressure	Airflow					
(in.H2O)	(cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	19500	564	230.4	4.08	849	22.9
0.05	18100	563	230.4	4.24	885	20.5
0.10	16700	562	230.1	4.39	919	18.2
0.15	15100	561	230.2	4.55	951	15.9
0.20	13300	560	230.4	4.68	987	13.5
0.25	8800	559	230.4	5.00	1053	8.4
0.30	5600	557	230.3	5.29	1116	5.0