

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

Project Number: 09335
Test Date: December 15, 2009

Fan:

Make- *Schaefer*
 Model- *486S1*
 Blade dia.- *48.5"*
 Orifice dia.- *49"*

Blade:

Number- *6*
 Shape- *propeller*
 Material- *galvanized steel*
 Pitch- *0*
 Clearance- *0.3"*

Drive Sheaves:

Drive dia.- *2.6", MA26*
 Axle dia.- *10.3" o.d., AK104*

Motor:

Make- *Emerson*
 Model- *T63ZZCLB-1385*
 Hp- *1*
 RPM- *1725/1425*
 Volts- *115/230*
 Amps- *8.4/4.2*
 Hz- *60*
 Phase- *1*
 S. F.- *1.4*

Housing:

Material- *galvanized steel*
 Intake area- *52.6" x 52.9"*
 Discharge- *52.8" x 52.6"*
 Depth- *30" top*
 21" bottom

Shutter:

Material- *aluminum*
 # Doors- *14 per column*
 # Columns- *2*
 Door length *26.6"*
 Location- *intake*

Guards:

Description- *wire*
 Spacing- *1" x 2"*
 Location- *exhaust*

Discharge Cone:

Depth- *none*
 Minor dia.- *-*
 Major dia.- *-*

Notes: AFR 0.55

Test Conditions:

T(wb):	55.5	Barometric pressure, recorded	29.78
T(db):	78	Barometric Pressure, corrected	29.65

Static Pressure		Airflow				
(in.H2O)	(cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	20500	416	230.3	4.63	971	21.1
0.05	19100	414	230.5	4.78	1006	19.0
0.10	17500	411	230.3	4.88	1027	17.1
0.15	15400	408	230.3	4.98	1047	14.7
0.20	10500	398	230.1	5.01	1058	10.0
0.25	6400	389	230.4	5.07	1064	6.0