

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

Project Number: 10416
Test Date: September 14, 2010

Fan:

Make- *Schaefer*
 Model- *576CF2G-3-HV*
 Blade dia.- *57"*
 Orifice dia.- *58"*

Blade:

Number- *6*
 Shape- *propeller*
 Material- *galvanized steel*
 Pitch- *-*
 Clearance- *0.5"*

Drive Sheaves:

Drive dia.- *2.7" o.d.*
 Axle dia.- *10.3" o.d.*

Motor:

Make- *Leeson*
 Cat. #: *117514.00*
 Hp- *2*
 RPM- *1745*
 Volts- *208-230/460*
 Amps- *6-5.8/2.9*
 Hz- *60*
 Phase- *3*
 S. F.- *1.25*

Housing:

Material- *fiberglass*
 Intake area- *58.5" x 59"*
 Discharge- *58" dia.*
 Depth- *28.5"*
0

Shutter:

Material- *aluminum*
 # Doors- *15 per column*
 # Columns- *2*
 Door length *29.6"*
 Location- *intake*

Guards:

Description- *wire*
 Spacing- *1.5" concentric*
 Location- *exhaust*

Discharge Cone:

Depth- *25.5"*
 Minor dia.- *58"*
 Major dia.- *66.5"*

Notes: *0*

Test Conditions:

T(wb):	65	Barometric pressure, recorded	29.41
T(db):	80	Barometric Pressure, corrected	29.27

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	32800	433	230.6	5.49	1598	20.5
0.05	30800	431	230.2	5.63	1658	18.6
0.10	29500	430	230.1	5.68	1680	17.6
0.15	27300	429	229.7	5.76	1712	16.0
0.20	24400	428	229.6	5.76	1718	14.2
0.25	20400	430	229.6	5.69	1685	12.1
0.30	12800	424	229.4	5.66	1672	7.6