

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

Project Number: 10418
Test Date: September 14, 2010

Fan:

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

Blade:

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

Drive Sheaves:

Drive dia.- *2.4" 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):	64.5	Barometric pressure, recorded	29.41
T(db):	79	Barometric Pressure, corrected	29.28

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	28500	378	229.7	4.50	1115	25.6
0.05	26700	378	229.9	4.57	1151	23.2
0.10	24800	377	229.8	4.62	1185	21.0
0.15	21900	377	229.8	4.66	1204	18.2
0.20	16400	377	229.9	4.56	1153	14.2
0.25	10300	377	230.7	4.70	1216	8.5