

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

Project Number: 10443
Test Date: September 16, 2010

Fan:

Make- *Schaefer*
 Model- *573CF1G-1-HE*
 Blade dia.- *57"*
 Orifice dia.- *58"*

Blade:

Number- *3*
 Shape- *propeller*
 Material- *galvanized steel*
 Pitch- *-*
 Clearance- *0.5"*

Drive Sheaves:

Drive dia.- *2.4" o.d.*
 Axle dia.- *8.9" o.d, "B" section*

Motor:

Make- *FHP*
 Model # - *A6K17NB17*
 Hp- *1*
 RPM- *1725*
 Volts- *115/230*
 Amps- *8.6/4.3*
 Hz- *60*
 Phase- *1*
 S. F.- *1.0*

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: *"A" belt seats ~ 8.5" o.d.*

Test Conditions:

T(wb):	65	Barometric pressure, recorded	29.21
T(db):	78	Barometric Pressure, corrected	29.08

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	25100	452	230.2	3.89	817	30.7
0.05	22800	451	230.3	4.01	842	27.1
0.10	20100	451	230.3	4.09	862	23.3
0.15	15700	451	230.7	4.06	855	18.3
0.20	7700	451	230.6	4.17	880	8.7
0.23	3200	450	230.4	4.27	901	3.5