

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

Project Number: 06093
Test Date: May 10, 2006

Fan:

Make- *Schaefer*
 Model- *486SC112*
 Blade dia.- *48.1"*
 Orifice dia.- *48.6"*

Blade:

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

Drive Sheaves:

Drive dia.- *2.7" o.d.*
 Axle dia.- *9.3" o.d.*

Motor:

Make- *Schaefer*
 Model- *T63ZZDGC-1720*
 Hp- *1.5*
 RPM- *1725*
 Volts- *115/208-230*
 Amps- *13.2/6.7*

Hz- *60*
 Phase- *1*
 S. F.- *1.0*

Housing:

Material- *galvanized steel*
 Intake area- *52.8" x 53"*
 Discharge- *48.6" dia.*
 Depth- *37.3" top*
 23" bottom

Shutter:

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

Guards:

Description- *wire*
 Spacing- *1.6" concentric*
 Location- *exhaust*

Discharge Cone:

Depth- *30"*
 Minor dia.- *48.6"*
 Major dia.- *63"*

Notes: *0*

Test Conditions:

T(wb):	65	Barometric pressure, recorded	29.05
T(db):	79	Barometric Pressure, corrected	28.92

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	24600	486	229.7	5.15	1075	22.9
0.05	23500	484	229.9	5.43	1133	20.7
0.10	22000	481	229.8	5.70	1201	18.3
0.15	19200	475	229.6	6.02	1274	15.1
0.20	16600	468	229.8	6.20	1311	12.6
0.25	13600	456	229.8	6.24	1323	10.3