

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

Project Number: 06046
Test Date: March 2, 2006

Fan:

Make- *Valco*
 Model- *HPM36W760MGAT*
 Blade dia.- *36"*
 Orifice dia.- *36.7"*

Blade:

Number- *3*
 Shape- *propeller*
 Material- *galvanized steel*
 Pitch- *-*
 Clearance- *0.4"*

Drive Sheaves:

Drive dia.- *3.5" o.d.*
 Axle dia.- *8.3" o.d.*

Motor:

Make- *Fanpack*
 Model- *B370-4W*
 Hp- *1/2*
 RPM- *1725/1425*
 Volts- *115/230*
 Amps- *4.6/2.3*
 Hz- *60/50*
 Phase- *1*
 S. F.- *1.0*

Housing:

Material- *fiberglass*
 Intake area- *40.8" x 40.5"*
 Discharge- *36.7" o.d.*
 Depth- *24" top*
 20.3" bottom

Shutter:

Material- *aluminum*
 # Doors- *11 per column*
 # Columns- *2*
 Door length *20.8"*
 Location- *intake*

Guards:

Description- *wire*
 Spacing- *2" concentric*
 Location- *exhaust*

Discharge Cone:

Depth- *27.8"*
 Minor dia.- *36.7"*
 Major dia.- *45.5"*

Notes: *60 Hz, 1 ph. test*

Test Conditions:

T(wb):	55.5	Barometric pressure, recorded	29.36
T(db):	78.5	Barometric Pressure, corrected	29.23

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	13300	685	230.1	2.66	576	23.2
0.05	12200	677	230.0	2.92	621	19.6
0.10	11000	670	230.0	3.08	669	16.4
0.15	9600	663	230.4	3.27	705	13.7
0.20	5700	660	230.4	3.30	711	8.0
0.25	3700	634	230.1	3.85	832	4.5