

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

Project Number: 06047
Test Date: March 2, 2006

Fan:

Make- *Valco*
 Model- *HPM36W760MNAT*
 Blade dia.- *36"*
 Orifice dia.- *36.7"*

Blade:

Number- *3*
 Shape- *propeller*
 Material- *cast aluminum*
 Pitch- *-*
 Clearance- *0.4"*

Drive Sheaves:

Drive dia.- *4.3" 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	Barometric pressure, recorded	29.36
T(db):	78	Barometric Pressure, corrected	29.23

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	11500	853	230.0	2.36	507	22.8
0.05	10500	848	230.2	2.50	537	19.5
0.10	9500	845	229.9	2.57	554	17.1
0.15	8600	841	230.1	2.65	571	15.1
0.20	7800	840	229.8	2.66	573	13.7
0.25	6100	843	230.4	2.60	560	10.9
0.30	3700	847	230.3	2.48	542	6.8