

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

Project Number: 06043
Test Date: March 2, 2006

Fan:

Make- *Valco*
 Model- *HGS36G760MGAT*
 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- *galvanized steel*
 Intake area- *40.8" x 40.5"*
 Discharge- *36.7" o.d.*
 Depth- *26.3" top*
 19" 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- *22.8" deep*
 Minor dia.- *36.7"*
 Major dia.- *48.8"*

Notes: *60 Hz, 1 ph. test*

Test Conditions:

T(wb):	55.5	Barometric pressure, recorded	29.22
T(db):	78.5	Barometric Pressure, corrected	29.09

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	12600	678	229.8	2.85	618	20.4
0.05	11700	671	230.1	3.02	654	17.9
0.10	10800	665	229.6	3.18	685	15.7
0.15	9600	657	229.6	3.35	722	13.3
0.20	6900	655	230.0	3.35	713	9.6
0.25	4000	633	230.0	3.78	810	4.9