

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

Project Number: 06042
Test Date: March 2, 2006

Fan:

Make- *Valco*
 Model- *HGS36G340LGAT*
 Blade dia.- *36"*
 Orifice dia.- *36.7"*

Blade:

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

Drive Sheaves:

Drive dia.- *4.0" o.d.*
 Axle dia.- *8.3" o.d.*

Motor:

Make- *Raydot*
 Model- *K56B06D27*
 Hp- *1.0*
 RPM- *1725/1425*
 Volts- *115/230*
 Amps- *9.6/4.8*
 Hz- *60/50*
 Phase- *1*
 S. F.- *1.4*

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	Barometric pressure, recorded	29.22
T(db):	78	Barometric Pressure, corrected	29.09

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	15300	841	230.3	4.71	950	16.1
0.05	14600	840	229.7	4.86	990	14.8
0.10	14000	838	229.7	5.04	1028	13.6
0.15	13300	837	229.5	5.21	1066	12.5
0.20	12600	836	229.5	5.39	1097	11.5
0.25	11700	835	229.6	5.57	1144	10.2
0.30	10300	834	229.6	5.72	1180	8.7