

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

Project Number: 06044
Test Date: March 2, 2006

Fan:

Make- *Valco*
 Model- *HGS36G280MGA*
 Blade dia.- *36"*
 Orifice dia.- *36.7"*

Blade:

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

Drive Sheaves:

Drive dia.- *direct*
 Axle dia.- *drive*

Motor:

Make- *Raydot*
 Model- *7-184738-01*
 Hp- *1/2*
 RPM- *850*
 Volts- *230*
 Amps- *2.5*
 Hz- *60*
 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):	56	Barometric pressure, recorded	29.26
T(db):	78	Barometric Pressure, corrected	29.13

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	12800	839	229.8	2.58	578	22.2
0.05	12000	831	229.6	2.71	608	19.8
0.10	11300	824	229.6	2.81	638	17.8
0.15	10500	817	229.9	2.96	673	15.7
0.20	9500	806	229.6	3.08	704	13.5
0.25	8200	794	229.6	3.26	747	10.9
0.30	5200	781	229.8	3.40	774	6.7