

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

Project Number: 08268
Test Date: September 10, 2008

Fan:

Make- *J&D Mfg.*
 Model- *VBG55G3C11E*
 Blade dia.- *55"*
 Orifice dia.- *55.5"*

Blade:

Number- *3*
 Shape- *propeller*
 Material- *galvanized steel*
 Pitch- *35 deg.*
 Clearance- *0.3"*

Drive Sheaves:

Drive dia.- *3.0"*
 Axle dia.- *10.0"*

Motor:

Make- *Marathon*
 Model- *5KCR48WN0674X*
 Hp- *1*
 RPM- *1725*
 Volts- *115/230*
 Amps- *9.6/4.8*
 Hz- *60*
 Phase- *1*
 S. F.- *1.40*

Housing:

Material- *galvanized steel*
 Intake area- *57.8" x 57.8"*
 Discharge- *55.5" dia.*
 Depth- *20"*

Shutter:

Material- *galvanized steel*
 # Doors- *2*
 # Columns- *-*
 Door length -
 Location- *exhaust*

Guards:

Description- *wire*
 Spacing- *2" x 4" / 2" concentric*
 Location- *intake / exhaust*

Discharge Cone:

Depth- *36.8"*
 Minor dia.- *55"*
 Major dia.- *64.3"*

Notes: 0

Test Conditions:

T(wb):	60	Barometric pressure, recorded	29.54
T(db):	77	Barometric Pressure, corrected	29.41

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	28900	510	229.9	4.86	1102	26.2
0.05	26900	508	229.9	5.17	1164	23.1
0.10	25000	506	229.7	5.40	1214	20.6
0.15	22700	505	229.5	5.63	1263	18.0
0.20	20200	504	229.5	5.79	1300	15.5
0.25	17200	503	229.5	5.91	1331	12.9
0.30	11700	504	229.6	5.66	1276	9.2