

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

Project Number: 07228
Test Date: May 22, 2007

Fan:

Make- *American Coolair*
 Model- *NBRID52M-SQ*
 Blade dia.- *53"*
 Orifice dia.- *53.8"*

Blade:

Number- *4*
 Shape- *propeller*
 Material- *steel, painted*
 Pitch- *-*
 Clearance- *0.4"*

Drive Sheaves:

Drive dia.- *AK39, 3.8" o.d.*
 Axle dia.- *11.4" o.d.*

Motor:

Make- *Emerson*
 Model- *P63EYE-3913*
 Hp- *1.5*
 RPM- *1725/1425*
 Volts- *208-230/460*
 Amps- *4.9-5.0/2.5*
 Hz- *60*
 Phase- *3*
 S. F.- *1.15*

Housing:

Material- *galvanized steel*
 Intake area- *57.3" x 57.3"*
 Discharge- *53.8" dia.*
 Depth- *25.8"*

Shutter:

Material- *galvanized steel*
 # Doors- *4*
 # Columns- *-*
 Door length *54" vertical*
 Location- *intake*

Guards:

Description- *wire*
 Spacing- *2"x2"/2" concentric*
 Location- *intake/exhaust*

Discharge Cone:

Depth- *32.4"*
 Minor dia.- *53.8"*
 Major dia.- *64.8"*

Notes: 0

Test Conditions:

T(wb):	62.5	Barometric pressure, recorded	29.48
T(db):	80	Barometric Pressure, corrected	29.34

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	29900	559	234.2	4.46	1335	22.4
0.05	28600	558	234.2	4.60	1409	20.3
0.10	27400	557	233.9	4.73	1471	18.6
0.15	25800	555	234.1	4.87	1534	16.8
0.20	24100	554	234.1	5.01	1590	15.2
0.25	22100	552	234.2	5.14	1675	13.2
0.30	20000	551	234.3	5.27	1721	11.6