

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

Project Number: 08247
Test Date: August 26, 2008

Fan:		Motor:		Shutter:	Butterfly damper
Make-	<i>Hired Hand</i>	Make-	<i>Emerson</i>	Material-	<i>galvanized steel</i>
Model-	6603-7086	Model-	P63FCB-3995	# Doors-	2
Blade dia.-	54.5"	Hp-	1.0	# Columns-	-
Orifice dia.-	55.2"	RPM-	1725/1425	Door length -	
		Volts-	208-230/460	Location-	<i>exhaust</i>
Blade:		Amps-	5.8/2.9		
Number-	3	Hz-	60/50	Guards:	
Shape-	<i>propeller</i>	Phase-	3	Description-	<i>wire</i>
Material-	<i>galvanized steel</i>	S. F.-	-	Spacing-	<i>2" x 4" / 2" concentric</i>
Pitch-	-			Location-	<i>intake / exhaust</i>
Clearance-	0.4"	Housing:			
		Material-	<i>galvanized steel</i>	Discharge Cone:	
Drive Sheaves:		Intake area-	59.8" x 60"	Depth-	35.5"
Drive dia.-	3.8" o.d.	Discharge-	55.2" dia.	Minor dia.-	55.2"
Axle dia.-	10.3"	Depth-	14"	Major dia.-	71.4"

Notes:

Test Conditions:

T(wb):	63	Barometric pressure, recorded	29.36
T(db):	77	Barometric Pressure, corrected	29.23

Static						
Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	30400	625	232.4	4.44	1252	24.3
0.05	29000	624	232.4	4.58	1320	22.0
0.10	27700	623	232.5	4.70	1381	20.0
0.15	26200	622	232.0	4.78	1434	18.3
0.20	24500	622	232.4	4.91	1500	16.3
0.25	22400	621	232.8	5.04	1557	14.4
0.30	20000	620	232.8	5.15	1606	12.4