

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

Project Number: 10075
Test Date: February 2, 2010

Fan:		Motor:		Shutter:	
Make- <i>Fancom</i>		Make- <i>ABB</i>		Material- <i>galvanized steel</i>	
Model- <i>3492W</i>		Model- <i>M2VA80B-4</i>		# Doors- <i>8"</i>	
Blade dia.- <i>36"</i>		Hp- <i>0.75 kW</i>		# Columns- <i>12</i>	
Orifice dia.- <i>36.6"</i>		RPM- <i>1690</i>		Door length <i>37"</i>	
		Volts- <i>380-480/220-280</i>		Location- <i>exhaust</i>	
Blade:		Amps- <i>1.9/3.3</i>			
Number- <i>6</i>		Hz- <i>60</i>		Guards:	
Shape- <i>propeller</i>		Phase- <i>3</i>		Description- <i>wire</i>	
Material- <i>aluminum</i>		S. F.- <i>-</i>		Spacing- <i>0.8" x 3"</i>	
Pitch- <i>-</i>				Location- <i>intake</i>	
Clearance- <i>0.3"</i>		Housing:			
		Material- <i>galvanized steel</i>		Discharge Cone:	
Drive Sheaves:		Intake area- <i>37.5" x 37.5"</i>		Depth- <i>none</i>	
Drive dia.- <i>5.1" o.d.</i>		Discharge- <i>36.3" x 37.5"</i>		Minor dia.- <i>-</i>	
Axle dia.- <i>12" o.d.</i>		Depth- <i>15.8"</i>		Major dia.- <i>-</i>	

Notes: *Centrifugal shutter opener*

Test Conditions:

T(wb):	53	Barometric pressure, recorded	29.34
T(db):	75	Barometric Pressure, corrected	29.22

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	13180	698	240.5	3.35	1155	11.4
0.05	12630	696	240.3	3.42	1188	10.6
0.10	12130	693	240.3	3.49	1222	9.9
0.15	11530	690	240.3	3.57	1258	9.2
0.20	10900	688	240.2	3.65	1292	8.4
0.25	10230	685	240.1	3.72	1327	7.7
0.30	9520	682	239.8	3.80	1358	7.0