

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

Project Number: 16508
 Test Date: July 1, 2016

Fan:	Motor:	Shutter:
Make- <i>Termotecnica Pericol</i>	Make- <i>ABB</i>	Material- <i>galvanized steel</i>
Model- <i>EWD26</i>	Model- <i>M2AA080A6</i>	# Doors- <i>6</i>
Blade dia.- <i>24.6"</i>	Hp- <i>230/400 // 230/460</i>	# Columns- <i>1</i>
Orifice dia.- <i>25"</i>	RPM- <i>905 // 1125</i>	Door length <i>27.9"</i>
	Volts- <i>230/400 // 230/460</i>	Location- <i>exhaust</i>
Blade:	Amps- <i>1.85/1.07 // 1.55/0.9</i>	
Number- <i>6</i>	Hz- <i>50 // 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>0.9" x 4"</i>
Pitch- <i>-</i>		Location- <i>intake</i>
Clearance- <i>0.2"</i>	Housing:	
	Material- <i>galvanized steel</i>	Discharge Cone:
Drive Sheaves:	Intake area- <i>28.6" x 28.6"</i>	Depth- <i>none</i>
Drive dia.- <i>direct</i>	Discharge- <i>28.3" x 28"</i>	Minor dia.- <i>-</i>
Axle dia.- <i>drive</i>	Depth- <i>20.3"</i>	Major dia.- <i>-</i>
	<i>0</i>	

Notes: **50 Hz test*
Centrifugal shutter opener

Test Conditions:

T(wb) F: 64	Barometric pressure, recorded	29.42
T(db) F: 77	Barometric Pressure, corrected	29.29 (In. Hg)

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt	SI Units			
							Static Pressure (Pa)	Airflow (m ³ /hr.)	(m ³ /hr)/W	W/1000m ³ /hr
0.00	5640	942	230.6	1.71	429	13.1	0	9600	22.3	45
0.05	5450	938	230.6	1.74	446	12.2	12	9300	20.8	48
0.10	5250	934	230.6	1.78	467	11.2	25	8900	19.1	52
0.15	5030	930	230.6	1.81	484	10.4	37	8500	17.7	57
0.20	4780	926	230.6	1.84	502	9.5	50	8100	16.2	62
0.25	4520	922	230.6	1.87	519	8.7	62	7700	14.8	68
0.30	4210	918	230.6	1.91	537	7.8	75	7100	13.3	75
0.35	3890	915	230.6	1.93	554	7.0	87	6600	11.9	84
0.40	3510	913	230.6	1.94	557	6.3	100	6000	10.7	93