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

Project Number: 12320
Test Date: May 17, 2012

Fan:		**Motor:**		**Shutter:**	
Make-	*TermotecnicaPericoli*	Make-	*ABB*	Material-	*aluminum*
Model-	*EOS42/0.75*	Model-	*M2VA80A-4*	# Doors-	*9*
Blade dia.-	*41" (1040mm)*	Hp-	*0.75 (0.55 kW)*	# Columns-	*1*
Orifice dia.-	*41.6" (1056mm)*	RPM-	*1410 // 1690*	Door length	*41.8" (1062mm)*
		Volts-	*380-420/220-240*	Location-	*exhaust*
Blade:		Amps-	*1.5/2.6 //1.4/2.4*		
Number-	*6*	Hz-	*50 // 60*	**Guards:**	
Shape-	*propeller*	Phase-	*3*	Description-	*wire*
Material-	*aluminum*	S. F.-	-	Spacing-	*0.8" x 4" (20x100mm)*
Pitch-	-			Location-	*intake*
Clearance-	*0.3" (7mm)*	**Housing:**			
		Material-	*galvanized steel*	**Discharge Cone:**	
Drive Sheaves:		Intake area-	*42.5"x42.5" (1080x10*	Depth-	*none*
Drive dia.-	*4.0" o.d. (95 p.d.)*	Discharge-	*41.6" dia. (1056mm)*	Minor dia.-	-
Axle dia.-	*12" o.d.(305mm o.d.)*	Depth-	*15.9" (404mm)*	Major dia.-	-
			0		

Notes: ** 60 Hz test*

Test Conditions:

T(wb):	57	Barometric pressure, recorded	29.45
T(db):	77	Barometric Pressure, corrected	29.32

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	**13300**	527	230.4	2.35	741	**17.9**	0	22500	30.4	33
0.05	**12600**	525	229.9	2.42	771	**16.3**	12	21300	27.7	36
0.10	**11700**	523	230.0	2.50	804	**14.5**	25	19900	24.7	40
0.15	**10700**	520	229.7	2.57	837	**12.8**	37	18200	21.8	46
0.20	**9600**	518	230.2	2.64	865	**11.1**	50	16300	18.9	53
0.25	**8300**	517	230.3	2.69	890	**9.3**	62	14100	15.8	63
0.30	**7000**	515	230.4	2.74	908	**7.7**	75	11800	13	77