

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

Project Number: 07489
Test Date: November 20, 2007

Fan:		Motor:		Shutter:	
Make-	<i>Better Air</i>	Make-	<i>Vostermans</i>	Material-	<i>plastic</i>
Model-	<i>MPF-1600C</i>	Model-	<i>4E40</i>	# Doors-	<i>5</i>
Blade dia.-	<i>16.4"</i>	Hp-	<i>0.28 kW</i>	# Columns-	<i>1</i>
Orifice dia.-	<i>16.7"</i>	RPM-	<i>1600</i>	Door length-	<i>17.2</i>
		Volts-	<i>240</i>	Location-	<i>intake</i>
Blade:		Amps-	<i>1.2</i>		
Number-	<i>6</i>	Hz-	<i>60</i>	Guards:	
Shape-	<i>propeller</i>	Phase-	<i>1</i>	Description-	<i>wire</i>
Material-	<i>plastic</i>	S. F.-	<i>-</i>	Spacing-	<i>2" concentric</i>
Pitch-	<i>-</i>			Location-	<i>exhaust</i>
Clearance-	<i>0.2"</i>	Housing:		Discharge Cone:	
		Material-	<i>plastic</i>	Depth-	<i>18.8"</i>
Drive Sheaves:		Intake area-	<i>16.5" x 16.5"</i>	Minor dia.-	<i>16.7"</i>
Drive dia.-	<i>direct</i>	Discharge-	<i>16.7" dia.</i>	Major dia.-	<i>20.8"</i>
Axle dia.-	<i>drive</i>	Depth-	<i>21" top</i>		
			<i>19.5" bottom</i>		

Notes:

Test Conditions:

T(wb):	61	Barometric pressure, recorded	29.23
T(db):	77	Barometric Pressure, corrected	29.10

# Open Nozzle	Noz. Dia. (inch)	Pressure		Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
		Drop (in.H2O)	Static Pressure (in.H2O)						
2	8	1.24	0.00	3134	1560	229.7	1.20	265	11.8
2	8	1.15	0.04	3024	1549	230.4	1.23	265	11.4
2	8	1.11	0.05	2971	1545	229.9	1.23	267	11.1
2	8	1.01	0.10	2827	1528	230.1	1.27	275	10.3
2	8	0.90	0.15	2674	1513	230.5	1.30	281	9.5
2	8	0.79	0.20	2497	1500	230.3	1.33	293	8.5
2	8	0.67	0.25	2306	1486	230.3	1.36	294	7.8
1	8	2.10	0.30	2044	1489	230.2	1.33	288	7.1