

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

Project Number: 07493  
 Test Date: November 20, 2007

**Fan:**  
 Make- *Better Air*  
 Model- *MPF-1200*  
 Blade dia.- *12.4"*  
 Orifice dia.- *12.6"*

**Blade:**  
 Number- *6*  
 Shape- *propeller*  
 Material- *plastic*  
 Pitch- *-*  
 Clearance- *0.1"*

**Drive Sheaves:**  
 Drive dia.- *direct*  
 Axle dia.- *drive*

**Motor:**  
 Make- *Vostermans*  
 Model- *4E30*  
 Hp- *0.12 kW*  
 RPM- *1600*  
 Volts- *240*  
 Amps- *0.6*  
 Hz- *60*  
 Phase- *1*  
 S. F.- *-*

**Housing:**  
 Material- *plastic*  
 Intake area- *12.5" x 12.5"*  
 Discharge- *12.6" dia.*  
 Depth- *21" top*  
           *19.5" bottom*

**Shutter:**  
 Material- *plastic*  
 # Doors- *4*  
 # Columns- *1*  
 Door length- *13.3"*  
 Location- *Intake*

**Guards:**  
 Description- *wire*  
 Spacing- *2" concentric*  
 Location- *exhaust*

**Discharge Cone:**  
 Depth- *none*  
 Minor dia.- *-*  
 Major dia.- *-*

**Notes:**

**Test Conditions:**

T(wb): 62                                      Barometric pressure, recorded    29.23  
 T(db): 79                                        Barometric Pressure, corrected    29.10

# Open Nozzle	Noz. Dia. (inch)	Pressure		Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
		Drop (in.H2O)	Static (in.H2O)						
1	8	1.01	0.00	1420	1617	230.5	0.62	126	11.3
1	8	0.92	0.04	1355	1611	230.6	0.64	124	10.9
1	8	0.90	0.05	1340	1610	230.1	0.63	128	10.5
1	8	0.78	0.10	1247	1604	230.5	0.68	126	9.9
1	8	0.65	0.15	1138	1600	230.3	0.65	127	9.0
1	8	0.57	0.18	1065	1600	230.5	0.66	132	8.1
1	6	0.70	0.20	663	1641	230.5	0.57	111	6.0
1	4	2.42	0.25	547	1629	230.0	0.61	120	4.6
1	4	1.66	0.30	453	1608	229.7	0.64	127	3.6