

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

Project Number: 19072  
 Test Date: January 28, 2019

<b>Fan:</b>		<b>Motor:</b>		<b>Shutter:</b>	
Make- DACS		Make- DACS		Material- Plastic	
Model- MagFan Plus 2.2 - 30 750		Model- 3003009		# Doors- 1	
Blade dia.- 56.3" (1430)		Hp- 2.2 kW		# Columns- 1	
Orifice dia.- 56.8" (1442)		RPM- 750		Door length 1800 mm	
		Volts- 230		Location- intake	
<b>Blade:</b>		Amps- see note			
Number- 3		Hz- -		<b>Guards:</b>	
Shape- propeller		Phase- 3		Description- wire	
Material- poly		S. F.- S1		Spacing- 1.6" x 2.9" / 5.4" concentric	
Pitch- -				Location- intake / exhaust	
Clearance- 0.4" (10 mm)		<b>Housing:</b>			
		Material- poly		<b>Discharge Cone:</b>	
<b>Drive Sheaves:</b>		Intake area- 61.5" x 61.5" (1562x1		Depth- 47"	
Drive dia.- direct		Discharge- 56.8" (1442)		Minor dia.- 56.8"	
Axle dia.- drive		Depth- 12" (305)		Major dia.- 68.5"	

**Notes:** 230 V single phase input to controller. Roll door housing with bell mouth intake frame  
 MagDrive 2000 2.2 kW speed controller, 1004992022S, rated 12.5 Amp 1 phase

**Test Conditions:**

T(wb) F: 56.5	Barometric pressure, recorded	28.94
T(db) F: 77	Barometric Pressure, corrected	28.81 (In. Hg)

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt	SI Units			
							Static Pressure (Pa)	Airflow (m <sup>3</sup> /hr.)	(m <sup>3</sup> /hr)/W	W/1000m <sup>3</sup> /hr
0.00	above chamber airflow capacity						0			
0.05	40000	750	231.1	6.74	1557	25.7	12	68000	43.7	23
0.10	38000	750	230.3	7.44	1713	22.2	25	64500	37.7	27
0.15	36100	750	230.1	8.04	1849	19.5	37	61400	33.2	30
0.20	34700	750	229.8	8.51	1955	17.7	50	58900	30.1	33
0.25	32800	750	229.6	9.04	2074	15.8	62	55800	26.9	37
0.30	30700	750	229.8	9.48	2176	14.1	75	52100	23.9	42
0.35	28700	750	229.8	9.77	2243	12.8	87	48700	21.7	46
0.40	26200	750	229.4	9.97	2285	11.5	100	44600	19.5	51