

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

Project Number: 19536
 Test Date: October 22, 2019

Fan:	Motor:	Shutter:
Make- <i>Heze Gofee</i>	Make- -	Material- <i>galvanized steel</i>
Model- <i>GFFD-1380-TH</i>	Model- <i>GFEF-1.1KW-4S</i>	# Doors- <i>10</i>
Blade dia.- <i>49.5"</i>	Hp- <i>1.5 (1.1 kW)</i>	# Columns- <i>1</i>
Orifice dia.- <i>51"</i>	RPM- <i>1460</i>	Door length- <i>50.8"</i>
	Volts- <i>380</i>	Location- <i>exhaust</i>
Blade:	Amps- <i>2.9</i>	
Number- <i>6</i>	Hz- <i>50</i>	Guards:
Shape- <i>propeller</i>	Phase- <i>3</i>	Description- <i>wire</i>
Material- <i>stainless steel</i>	S. F.- <i>-</i>	Spacing- <i>1.1" x 3.5"</i>
Pitch- <i>-</i>		Location- <i>intake</i>
Clearance- <i>0.7"</i>	Housing:	
	Material- <i>galvanized steel</i>	Discharge Cone:
Drive Sheaves:	Intake area- <i>51.1" x 51.2"</i>	Depth- <i>none</i>
Drive dia.- <i>4.6" o.d.</i>	Discharge- <i>51.1" x 50.8"</i>	Minor dia.- <i>-</i>
Axle dia.- <i>12.8" o.d.</i>	Depth- <i>18"</i>	Major dia.- <i>-</i>



Notes: **50 Hz test*
Centrifugal shutter opener

Test Conditions:

T(wb) F: 57	Barometric pressure, recorded	29.10
T(db) F: 76	Barometric Pressure, corrected	28.98 (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	22700	516	380.2	2.81	1443	15.7	0	38500	26.7	37
0.05	21700	515	380.1	2.87	1486	14.6	12	36900	24.8	40
0.10	20700	514	380.1	2.94	1534	13.5	25	35200	23	44
0.15	19700	513	380.0	3.00	1574	12.5	37	33400	21.2	47
0.20	18200	512	380.0	3.05	1613	11.3	50	31000	19.2	52
0.25	16900	512	380.0	3.09	1642	10.3	62	28700	17.5	57
0.30	15000	511	380.0	3.10	1648	9.1	75	25500	15.5	65