

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

Project Number: 21280
 Test Date: September 7, 2021

Fan:
 Make- *Roxell*
 Model-** *Oxsano-#07101000 / #07101008*
 Blade dia.- *56"*
 Orifice dia.- *56.5"*

Motor:
 Make- *Heze Gofee Motor Cc*
 Model- *Roxell 20297*
 Hp- *-*
 RPM- *-*
 Volts- *-*
 Amps- *-*
 Hz- *-*
 Phase- *1*
 S. F.- *-*

Shutter: *Butterfly*
 Material- *fiberglass*
 # Doors- *2*
 # Columns- *-*
 Door length- *-*
 Location- *exhaust*

Blade:
 Number- *3*
 Shape- *propeller*
 Material- *galvanized steel*
 Pitch- *-*
 Clearance- *0.3"*

Guard:
 Description- *wire*
 Spacing- *0.9" x 3.6" / 2" x 2"*
 Location- *intake / exhaust*

Housing:
 Material- *fiberglass*
 Intake area- *59.5" x 60.5"*
 Discharge- *56.5"*
 Depth- *25.8" top*
 24.8" bottom

Discharge Cone:
 Depth- *20.5"*
 Minor dia.- *56.5"*
 Major dia.- *64.5"*

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

Notes: *230 VAC, 60 Hz, 1 phase power input
 ** Model 07101000 unassembled. Model 07101008 Partially assembled.

Test Conditions:

T(wb) F: 65 Barometric pressure, recorded 29.24
 T(db) F: 78 Barometric Pressure, corrected 29.11 (In. Hg)

							SI Units			
Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt	Static Pressure (Pa)	Airflow (m ³ /hr.)	(m ³ /hr)/W	W/1000m ³ /hr
0.00	33800	647	229.6	9.56	1368	24.7	0	57500	42	24
0.05	32200	646	229.4	10.12	1462	22.0	12	54700	37.4	27
0.10	30600	647	230.1	10.63	1549	19.7	25	52000	33.5	30
0.15	28600	646	228.9	11.14	1622	17.6	37	48600	30	33
0.20	26800	646	229.3	11.53	1699	15.8	50	45500	26.8	37
0.25	24500	646	228.9	11.98	1770	13.8	62	41600	23.5	43
0.30	22000	647	228.4	12.39	1834	12.0	75	37300	20.4	49