

**University of Illinois Department of
Agricultural Engineering
BESS Lab**

Project Number: 98165

Test Date: September 29, 1998

Fan

Make: Acme

Model #: DDPG50J-C

Manufacturer: Acme

Blade Size: 50"

Orifice Dia.: 50.5"

Blade

Number: 4

Shape: propeller

Material: galvanized steel

Pitch:

Clearance: 0.3"

Shutter

Material: Aluminum

of Doors: 13 per column

of Columns: 2

Door Length: 26.8"

Location: intake

Other Attachments:

Discharge cone 27" deep, 65" o.d., 50.5" i.d.

Motor

Make: Magnetek

Model #: 8-181782

H.P.: 1.0

Amps: 4.4 / 8.8

Volts: 230/115

RPM: 1725

S.F.: 1.00

Drive

Drive Pulley Dia. Ak25

Axle Pulley Dia.: Ak94

Housing

Material: fiberglass

Intake Area: 57.5"x 55.5"

Discharge Area: 50.5" dia

Depth: 30" top
16" bottom

Guards

Description: Wire

Spacing: 2.1" concentric

Location: exhaust

TEST RESULTS

ACME DDPG50J-C

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 98165	0.00	458	24700	24.0
Fan description:	0.05	457	23400	21.5
50" Belt drive 1 hp Magnetek 8-181782	0.10	455	22200	19.3
motor, fiberglass housing, aluminum shutter,	0.15	454	20800	17.4
guard and discharge cone	0.20	453	18700	15.3
	0.25	452	16400	13.0
	0.30	452	11900	9.7
