

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

Project Number: 98163

Test Date: September 29, 1998

Fan

Make: Acme

Model #: DDPS50J1-C

Manufacturer: Acme

Blade Size: 50"

Orifice Dia.: 50.5"

Blade

Number: 4

Shape: propeller

Material: stainless 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 #: C 782

H.P.: 1.0

Amps: 4.3 / 8.6

Volts: 230/115

RPM: 1725

S.F.: 1.40

Drive

Drive Pulley Dia. Ak26

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 DDPS50J1-C

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 98163	0.00	481	25900	24.4
Fan description:	0.05	479	24600	21.7
50" Belt drive 1 hp Magnetek C782	0.10	477	23400	19.7
motor, fiberglass housing, aluminum shutter,	0.15	475	22000	17.7
guard and discharge cone	0.20	474	20000	15.6
	0.25	473	17600	13.3
	0.30	473	14100	10.6