

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

Project Number: 99224

Test Date: November 17, 1999

Fan

Make: Aerotech

Model #: VX517F1CR

Manufacturer: Aerotech

Blade Size: 51.2"

Orifice Dia.: 51.6"

Blade

Number: 3

Shape: propeller

Material: aluminum

Pitch: -

Clearance: 0.2"

Shutter

Material: plastic

of Doors: 16 per column

of Columns: 2

Door Length: 26.5"

Location: intake

Other Attachments:

discharge cone 51.4" i.d., 59.5" o.d., 25.3"

Motor

Make: Aerotech

Model #: 8-181416

H.P.: 1.0

Amps: 4.3/8.6

Volts: 230/115

RPM: 1725

S.F.: 1.3

Drive

Drive Pulley Dia. 3.1 " o.d.

Axle Pulley Dia.: 11.3" o.d.

Housing

Material: fiberglass

Intake Area: 55.8" x 57.5"

Discharge Area: 51.6"

Depth: 24.3" top
23.5" bottom

Guards

Description: wire

Spacing: 2.3" concentric(modified)

Location: exhaust

TEST RESULTS

AEROTECH VX517F1CR

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 99224	0.00	472	25,400	31.3
Fan description:	0.05	471	23,000	27.0
1 hp belt drive, 8-181416 Aerotech	0.10	470	20,300	23.0
motor, fiberglass housing, plastic shutter,	0.15	469	16,600	18.2
guard and discharge cone	0.20	470	12,200	13.7
	0.25	470	4,000	4.4