

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

Project Number: 99223

Test Date: November 17, 1999

Fan

Make: Aerotech

Model #: VX511F1CR

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. 3.8 " o.d.

Axle Pulley Dia.: 12.3" 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 VX511F1CR

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 99223	0.00	529	28,900	26.5
Fan description:	0.05	528	27,100	24.0
1 hp belt drive, 8-181416 Aerotech	0.10	526	24,900	21.0
motor, fiberglass housing, plastic shutter,	0.15	525	22,300	18.2
guard and discharge cone	0.20	524	19,200	15.4
	0.25	524	15,200	12.2
	0.30	524	5,700	4.8
