

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

Project Number: 99192

Test Date: September 24, 1999

Fan

Make: American Coolair

Motor

Make: Emerson

Model #: MNBFHC48L

Model #: T63ZZBBZ-800

Manufacturer: American Coolair

H.P.: 1.0

Blade Size: 49.0" dia.

Amps: 11.0/5.5

Orifice Dia.: 49.4"

Volts: 115/208-230

Blade

Number: 6

RPM: 1725

Shape: propeller

S.F.: 1.3

Material: painted steel

Drive

Drive Pulley Dia. 3.8" o.d.

AK39

Pitch: -

Axle Pulley Dia.: 16" o.d.

Clearance: 0.2"

Housing

Shutter

Material: galvanized steel

Material: aluminum

Intake Area: 51.5" x 52.5"

of Doors: 17 per column

Discharge Area: 54.5" x 54.5"

of Columns: 2

Depth: 30.4" top
21.5" bottom

Door Length: 25.3"

Guards

Location: intake

Description: wire

Other Attachments:

Discharge cone 28.5" deep, 49.4" i.d., 61" o.d.

Spacing: 2" concentric

Location: exhaust

TEST RESULTS

AMERICAN COOLAIR MNBFHC48L

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 99192	0.00	409	23,200	21.7
Fan description:	0.05	408	22,100	19.9
49" belt drive, 1 hp Emerson T63ZZBBA-800	0.10	407	20,900	18.2
motor, galv. Steel slant housing, aluminum	0.15	406	19,100	16.2
Shutter, guard and discharge cone	0.20	405	17,200	14.3
	0.25	405	13,100	10.9
	0.30	405	8,500	7.2
