

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

Project Number: 99175

Test Date: September 23, 1999

Fan

Make: American Coolair

Motor

Make: Emerson

Model #: MNBRC48L

Model #: T63ZZBBA-800

Manufacturer: American Coolair

H.P.: 1.0

Blade Size: 49.3" dia.

Amps: 11.0/5.5

Orifice Dia.: 49.8"

Volts: 115/208-230

Blade

Number: 4

RPM: 1725

Shape: propeller

S.F.: 1.3

Material: galvanized steel

Drive

Drive Pulley Dia. 3.0" o.d.

AK30

Pitch: -

Axle Pulley Dia.: 9.5" o.d.

Clearance: 0.3"

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, 49.8" i.d., 61.5" o.d.

Spacing: 1"x2"

Location: exhaust

TEST RESULTS

AMERICAN COOLAIR MNBRC48L

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 99175	0.00	525	23,000	20.7
Fan description:	0.05	523	22,000	19.1
49" belt drive, 1 hp Emerson T63ZZBBA-800	0.10	521	20,800	17.6
motor, galv. steel slant housing, aluminum	0.15	519	19,500	16.1
Shutter, guard and discharge cone	0.20	517	17,300	13.8
	0.25	516	15,100	11.8
	0.30	516	13,000	10.1
