

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

Project Number: 99189

Test Date: September 24, 1999

Fan

Make: American Coolair

Motor

Make: Emerson

Model #: MNBFC48M1P

Model #: T63ZZCDZ-1257

Manufacturer: American Coolair

H.P.: 1.5

Blade Size: 49.0" dia.

Amps: 13.2/6.7 - 15.5/7.8

Orifice Dia.: 49.4"

Volts: 115/230

Blade

Number: 6

RPM: 1725/1425

Shape: propeller

S.F.: 1.3

Material: painted steel

Drive

Drive Pulley Dia. 4.3" o.d.

AK44

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 MNBFC48M1P

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 99189	0.00	462	25,800	17.8
Fan description:	0.05	461	24,900	16.7
49" belt drive, 1.5 hp Emerson T63ZZCDZ-1257	0.10	460	23,900	15.6
motor, galv. steel slant housing, aluminum	0.15	459	22,600	14.4
Shutter, guard and discharge cone	0.20	459	21,000	13.1
	0.25	458	18,800	11.5
	0.30	457	16,100	9.8
