

University of Illinois Department of
Agricultural Engineering
BEES Lab

Project Number: 99172

Fan

Make: American Coolair

Model #: MNBRC48M3P

Manufacturer: American Coolair

Blade Size: 49.3" dia.

Orifice Dia.: 49.8"

Blade

Number: 4

Shape: propeller

Material: galvanized steel

Pitch: -

Clearance: 0.3"

Shutter

Material: aluminum

of Doors: 17 per column

of Columns: 2

Door Length: 25.3"

Location: intake

Other Attachments:

Discharge cone 28.5" deep, 49.8" i.d., 61.5" o.d.

Test Date: September 22, 1999

Motor

Make: Baldor

Model #: EM3554T

H.P.: 1.5

Amps: 4.2/2.1

Volts: 230/460 3 phase

RPM: 1750

S.F.: 1.15

Drive

Drive Pulley Dia. 3.5" o.d.
AK34

Axle Pulley Dia.: 9.5" o.d.

Housing

Material: galvanized steel

Intake Area: 51.5" x 52.5"

Discharge Area: 54.5" x 54.5"

Depth: 30.4" top
21.5" bottom

Guards

Description: wire

Spacing: 2" concentric

Location: exhaust

TEST RESULTS

AMERICAN COOLAIR MNBRC48M3P

Test: 99172

▲ 3 phase

Fan description:

49" belt drive, 1.5 hp Baldor EM3554T
motor, galv. steel slant housing, aluminum
Shutter, guard and discharge cone

Static Pressure	Speed	Airflow	Efficiency
<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
0.00	604	26,100	17.3
0.05	603	25,200	16.2
0.10	601	24,200	15.3
0.15	598	23,200	14.4
0.20	597	22,000	13.4
0.25	594	19,700	11.6
0.30	591	17,200	10.1