

University of Illinois Department of
Agricultural and Biological Engineering
BESS Lab

Project Number: 05236

Test Date: July 12, 2005

Fan

Make: American Coolair

Model #: MNBRDD52LE

Manufacturer: American Coolair

Blade Size: 52.8"

Orifice Dia.: 53.3"

Blade

Number: 4

Shape: propeller

Material: painted steel

Pitch: -

Clearance: 0.3"

Shutter Butterfly damper

Material: galvanized steel

of Doors: 2

of Columns: -

Door Length: 55.5"

Location: exhaust

Other Attachments:

Discharge cone 40" deep, 53.3" i.d., 67.5" o.d.

Motor

Make: Emerson

Model #: T63ZZBBA-800

Phase: 1

H.P.: 1

Amps: 11/5.5

Volts: 115/208-230

RPM: 1725

S.F.: 1.30

Drive

Drive Pulley Dia. 2.6" o.d.

Axle Pulley Dia.: 9.5" o.d.

Housing

Material: galvanized steel

Intake Area: 56" x 56"

Discharge Area: 53.3" dia.

Depth: 22.5"

Guards

Description: wire

Spacing: 2" x 2" intake
2" concentric, exhaust

Location: intake/exhaust

TEST RESULTS

AMERICAN COOLAIR MNRDD52LE

Test: 05236

Fan description:

53" belt drive fan, 1 hp Emerson T63ZZBBA-800
motor, galvanized steel housing, butterfly damper,
discharge cone and guards

Static Pressure	Speed	Airflow	Efficiency
<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
0.00	472	25,600	29.8
0.05	471	24,100	26.1
0.10	470	22,200	22.8
0.15	468	20,400	19.7
0.20	467	18,200	16.8
0.25	466	15,600	13.7
0.30	465	11,000	9.4
