

University of Illinois Department of
Agricultural and Biological Engineering
BESS Lab

Project Number: 05233

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: AO Smith

Model #: 327P776

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: 05233

Fan description:

53" belt drive fan, 1 hp AO Smith 327P776 motor,
galvanized steel housing, butterfly damper,
discharge cone and guards

Static Pressure
in. water

Speed
rpm

Airflow
cfm

Efficiency
cfm/Watt

0.00

470

25,500

29.3

0.05

469

23,900

25.4

0.10

467

22,100

22.3

0.15

466

20,100

19.2

0.20

464

18,100

16.5

0.25

462

14,700

12.6

0.30

461

10,200

8.8