

University of Illinois Department of
Agricultural and Biological Engineering
BEES Lab

Project Number: 05237

Test Date: July 12, 2005

Fan

Make: American Coolair

Model #: MNBRDD52L 3 ph.

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: Baldor

Model #: RM3116TEAO

Phase: 3

H.P.: 1

Amps: 3.6/1.8//3.2/1.6

Volts: 190/380//230/460

RPM: 1425/1725

50/60 hz

S.F.: 1.15

Drive

Drive Pulley Dia. 2.7" 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 MNRDD52L 3 ph

Test: 05237

▲ 3 phase

Fan description:

53" belt drive fan, 1 hp Baldor RM3116TEAO
motor, galvanized steel housing, butterfly damper,
discharge cone and guards

Static Pressure
in. water

Speed
rpm

Airflow
cfm

Efficiency
cfm/Watt

0.00

491

26,500

28.0

0.05

489

25,000

24.5

0.10

488

23,300

21.5

0.15

486

21,500

18.9

0.20

485

19,500

16.4

0.25

483

17,100

13.7

0.30

481

13,700

10.4