

University of Illinois Department of
Agricultural and Biological Engineering
BESS Lab

Project Number: 05235

Test Date: July 12, 2005

Fan

Make: American Coolair

Model #: MNBRDD52L

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. 2.7" 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	Static Pressure	Speed	Airflow	Efficiency
Test: 05235	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
	0.00	494	26,400	27.2
Fan description:	0.05	492	25,100	24.2
53" belt drive fan, 1 hp Emerson T63ZZBBA-800	0.10	491	23,500	21.4
motor, galvanized steel housing, butterfly damper,	0.15	490	21,700	18.9
discharge cone and guards	0.20	488	19,700	16.3
	0.25	487	17,500	13.9
	0.30	484	14,100	10.6