

**University of Illinois Department of
Agricultural Engineering
BESS Lab**

Project Number: 01091

Test Date: May 21, 2001

Fan

Make: American Coolair

Model #: FGBR52L

Manufacturer: American Coolair

Blade Size: 53"

Orifice Dia.: 53.3"

Blade

Number: 4

Shape: propeller

Material: stainless steel

Pitch: -

Clearance: 0.2"

Shutter w/plastic bell mouth

Material: plastic

of Doors: 16 per column

of Columns: 3

Door Length: 17.1"

Location: intake

Other Attachments:

Discharge cone 27.1" deep, 53.3": i.d., 62" o.d.
belt tensioner

Motor

Make: Emerson

Model #: T63ZZBBA-800

H.P.: 1

Amps: 11/5.5

Volts: 115/208-230

RPM: 1725

S.F.: 13.2/6.6 SFA

Drive

Drive Pulley Dia 2.6" o.d.

Axle Pulley Dia.: 9.8" o.d.

Housing

Material: fiberglass

Intake Area: 56" x 56"

Discharge Area: 53.3" dia.

Depth: 24" top
21.5" bottom

Guards

Description: wire

Spacing: 2" concentric

Location: exhaust

TEST RESULTS

AMERICAN COOLAIR FGBR52L

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 01091	0.00	464	26,500	26.0
Fan description:	0.05	462	24,900	22.9
53" belt drive fan, 1 hp Emerson T63ZZBBA-800	0.10	461	23,200	20.3
motor, fiberglass housing, plastic bell mouth	0.15	458	20,800	17.2
shutter, guard and discharge cone	0.20	456	18,000	14.2
	0.25	453	10,400	7.9
	0.30	448	6,900	4.7
