

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

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**Project Number:** 01184

**Test Date:** August 21, 2001

**Fan**

*Make:* American Coolair

*Model #:* MNBR52M

*Manufacturer:* American Coolair

*Blade Size:* 53"

*Orifice Dia.:* 53.4"

**Blade**

*Number:* 4

*Shape:* propeller

*Material:* galvanized steel

*Pitch:* -

*Clearance:* 0.2"

**Shutter w/ bell mouth inlet**

*Material:* plastic

*# of Doors:* 16

*# of Columns:* 3

*Door Length:* 17.1"

*Location:* intake

**Other Attachments:**

Belt tensioner

**Motor**

*Make:* Emerson

*Model #:* T63ZZCDZ-1257

*H.P.:* 1.5

*Amps:* 13.2/6.7

*Volts:* 115/230

*RPM:* 1725

*S.F.:* -

**Drive**

*Drive Pulley Dia.* 2.8"  
AK28

*Axle Pulley Dia.:* 9.5"

**Housing**

*Material:* galvanized steel

*Intake Area:* 56" x 57"

*Discharge Area:* 53.4" dia.

*Depth:* 30.3" top  
21.3" bottom

**Guards**

*Description:* wire

*Spacing:* 2" x 2"

*Location:* exhaust

# TEST RESULTS

## AMERICAN COOLAIR MNBR52M

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 01184	0.00	502	25,900	19.3
Fan description:	0.05	500	24,600	17.7
52" belt drive, 1.5 hp Emerson T63ZZCDZ-1257	0.10	499	23,200	16.3
motor, galvanized steel slant housing,,	0.15	498	21,700	14.8
plastic shutter and guard	0.20	497	20,000	13.3
	0.25	496	17,700	11.5
	0.30	494	14,700	9.3

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