

University of Illinois Department of Agricultural Engineering
Bioenvironmental and Structural Systems Lab
Fan Description Form

Project Number: 97189

Test Date: June 26, 1997

Fan

Motor

Make: Acme

Make: AO Smith

Model #: BDR48J-C

Model #: K56A40B83

Manufacturer: Acme

H.P.: 1

Blade Size: 48"

Amps: 11/5.5

Orifice Dia.: 48.5"

Volts: 115/208-230

Blade
Number: 4

RPM: 1725/1425

Shape: propeller

S.F.: 1.30

Material: galv. Steel

Drive Pulley Dia.: AK27

Pitch: none

Axle Pulley Dia.: AL114

Clearance: 0.3"

Housing

Material: galv.steel

Shutter
Material: Aluminum

Intake Area: 52.5"x54"

Number Doors: 13 per row

Discharge Area: 51.5"x51.3"

Number Columns: 2

Depth: 34"top/20.8"bottom

Door Length: 25.8"

Guards

Description: wire

Location: intake

Spacing: none

Location: Exhaust

Other Attachments: Discharge cone 59.5" o.d., 22.5" deep

TEST RESULTS

ACME BDR48J-C

	Static Pressure	Speed	Airflow	Efficiency
	<u>in. water</u>	<u>rpm</u>	<u>cfm</u>	<u>cfm/Watt</u>
Test: 97189	0.00	422	19800	31.0
Fan description:	0.05	422	18500	27.0
48" belt drive, 1 hp AO Smith K56A40B83	0.10	421	17100	23.8
motor, galv. steel slant housing, aluminum	0.15	420	15300	20.5
shutter, guard and discharge cone	0.20	419	13200	16.9
	0.25	418	8800	11.0
	0.30	417	6000	6.9
