

University of Illinois Department of
Agricultural Engineering
BEES Lab

Project Number:02197bd

Test Date: June 18, 2002

Fan

Make: Big Dutchman

Model #: 60-50-5204

Manufacturer: Canarm

Blade Size: 49.5"

Orifice Dia.: 51"

Blade

Number: 3

Shape: propeller

Material: galvanized steel

Pitch: -

Clearance: 0.7"

Shutter

Material: plastic w/s.s. frame

of Doors: 16 per column

of Columns: 3

Door Length: 18"

Location: intake

Other Attachments:

Discharge cone 25" deep, 51" i.d., 60" o.d.

Motor

Make: Marathon

Model #: 8VM56T17T5549E

H.P.: 1

Amps: 4.6/2.3

Volts: 208-230/460 3 phase

RPM: 1725

S.F.: -

Drive

Drive Pulley Dia. 3.5" o.d.

Axle Pulley Dia.: 10" o.d.

Housing

Material: fiberglass

Intake Area: 54" x 52.3"

Discharge Area: 53" dia.

Depth: 43" top
31" bottom

Guards

Description: wire

Spacing: 2" concentric

Location: exhaust

Test Results

BIG DUTCHMAN 60-50-5204

Test: 02197bd

- 3 phase

Fan description:

50" belt drive, 1 hp Marathon 8VM56T17T5549E
motor, fiberglass housing, plastic shutter, guard
and discharge cone

Static Pressure

in. water

0.00

0.05

0.10

0.15

0.20

0.25

0.30

Speed

rpm

587

584

583

580

579

578

576

Airflow

cfm

24,800

23,400

21,800

20,200

18,200

14,900

10,900

Efficiency

cfm/Watt

23.8

21.2

18.8

16.6

14.4

11.7

8.3