

University of Illinois Department of
Agricultural Engineering
BEES Lab

Project Number: 02196bd

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:

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: 02196bd

3 phase

Fan description:

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

Static Pressure

in. water

Speed

rpm

Airflow

cfm

Efficiency

cfm/Watt

0.00

582

23,800

22.0

0.05

582

22,300

19.6

0.10

580

20,800

17.4

0.15

580

19,200

15.6

0.20

578

17,400

13.7

0.25

578

14,300

11.2

0.30

575

10,600

7.9