

University of Illinois Department of
Agricultural Engineering
BESS Lab

Project Number: 02344

Fan

Make: Raydot/Valair
Model #: FW20W140MPA
Manufacturer: Raydot
Blade Size: 20"
Orifice Dia.: 20.3"

Blade

Number: 3
Shape: propeller
Material: plastic
Pitch: -
Clearance: 0.2"

Shutter

Material: plastic
of Doors: 7
of Columns: 1
Door Length: 20.2"
Location: intake

Other Attachments:

Test Date: October 8, 2002

Motor

Make: Raydot
Model #: HF2F028N
H.P.: 1/4
Amps: 1.5
Volts: 230
RPM: 1625
S.F.: -

Drive

Drive Pulley Dia. Direct
Axle Pulley Dia.: drive

Housing

Material: fiberglass
Intake Area: 19.8" x 19.8"
Discharge Area: 20.3" dia.
Depth: 23" top
20" bottom

Guards

Description: wire
Spacing: 1.5"
Location: exhaust

Test Results

RAYDOT/VALAIR FW20W140MPA

Test: 02344

Fan description:

20" direct drive, 1/4 hp Raydot HF2F028N motor,
fiberglass housing, plastic shutter,
and guard

Static Pressure

in. water

0.00

0.05

0.10

0.15

0.20

0.25

0.30

Speed

rpm

1600

1595

1589

1588

1587

1594

1598

Airflow

cfm

3,810

3,590

3,400

3,200

2,950

2,660

2,260

Efficiency

cfm/Watt

11.7

11.0

10.3

9.6

9.0

8.3

7.2