

University of Illinois Department of  
Agricultural and Biological Engineering  
BESS Lab

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**Project Number:** 05144

**Test Date:** April 21, 2005

**Fan**

*Make:* Valco

*Model #:* HGS48G340MNA

*Manufacturer:* Valco

*Blade Size:* 48" dia.

*Orifice Dia.:* 48.5"

**Blade**

*Number:* 3

*Shape:* propeller

*Material:* cast aluminum

*Pitch:* -

*Clearance:* 0.3"

**Shutter**

*Material:* aluminum/galv. steel

*# of Doors:* 14 per column

*# of Columns:* 2

*Door Length:* 26.8" long

*Location:* intake

**Other Attachments:**

Discharge cone 34.3" deep, 48.5" i.d., 60" o.d.

**Motor**

*Make:* Raydot

*Model #:* K56B06D27

*Phase:* 1

*H.P.:* 1.0

*Amps:* 9.6/4.8

*Volts:* 115/230

*RPM:* 1725/1425

*S.F.:* 1.40

**Drive**

*Drive Pulley Dia.* 3.5" o.d.

*Axle Pulley Dia.:* 10.3" o.d.

**Housing**

*Material:* galvanized steel

*Intake Area:* 52.7" x 54"

*Discharge Area:* 48.5" dia.

*Depth:* 27.3" top  
20" bottom

**Guards**

*Description:* wire

*Spacing:* 2" concentric

*Location:* exhaust

## TEST RESULTS

VAL-CO HGS48G340M\_A (N or C)

Test: 05144

Fan description:

48" belt drive, 1 hp Raydot K56B06D27  
motor, galvanized steel slant housing,  
aluminum shutter, guard and discharge cone

Static Pressure  
in. water

Speed  
rpm

Airflow  
cfm

Efficiency  
cfm/Watt

0.00

584

25,800

23.7

0.05

583

24,400

21.3

0.10

582

22,900

19.3

0.15

581

21,300

17.5

0.20

580

19,600

15.6

0.25

580

17,400

13.6

0.30

579

15,300

11.8