

University of Illinois Department of  
Agricultural and Biological Engineering  
BESS Lab

---

**Project Number:** 05201

**Test Date:** June 15, 2005

**Fan**

*Make:* Val-Co

*Model #:* HGS48G420LGA

*Manufacturer:* Val-Co

*Blade Size:* 48.2"

*Orifice Dia.:* 48.6"

**Blade**

*Number:* 3

*Shape:* propeller

*Material:* galvanized steel

*Pitch:* -

*Clearance:* 0.2"

**Shutter**

*Material:* aluminum

*# of Doors:* 14 per column

*# of Columns:* 2

*Door Length:* 26.8"

*Location:* intake

**Other Attachments:**

Discharge cone 34.4" deep, 48.6" i.d., 60" o.d.

**Motor**

*Make:* GE

*Model #:* 5KCR48WN0608X

*Phase:* 1

*H.P.:* 1.5

*Amps:* 15.0/7.5

*Volts:* 115/230

*RPM:* 1725

*S.F.:* 1.00

**Drive**

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

*Axle Pulley Dia.:* 9.3" o.d.

**Housing**

*Material:* galvanized steel

*Intake Area:* 52.6" x 53"

*Discharge Area:* 48.6" dia.

*Depth:* 27.5" top

**Guards**

*Description:* wire

*Spacing:* 2"

*Location:* exhaust

## TEST RESULTS

VAL-CO HGS48G420LGA

Test: 05201

Fan description:

48" belt drive, 1.5 hp GE 5KCR48WN0608X motor,  
galvanized steel slant housing, aluminum shutter,  
discharge cone and guard

Static Pressure  
in. water

Speed  
rpm

Airflow  
cfm

Efficiency  
cfm/Watt

0.00

647

26,100

22.3

0.05

645

25,000

20.3

0.10

643

23,700

18.2

0.15

641

22,400

16.3

0.20

640

20,800

14.5

0.25

637

19,100

12.8

0.30

636

17,200

11.0