

**University of Illinois Department of  
Agricultural Engineering  
BESS Lab**

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**Project Number:** 98189

**Test Date:** October 1, 1998

**Fan**

*Make:* Acme

*Model #:* DDPS36G-C

*Manufacturer:* Acme Eng. & Mfg.

*Blade Size:* 36.5"

*Orifice Dia.:* 36.8"

**Blade**

*Number:* 4

*Shape:* propeller

*Material:* stainless steel

*Pitch:* -

*Clearance:* 0.2"

**Shutter**

*Material:* aluminum

*# of Doors:* 11 per row

*# of Columns:* 2

*Door Length:* 20.5"

*Location:* intake

**Other Attachments:**

Discharge cone 25.8" deep, 37" i.d., 48" o.d.

**Motor**

*Make:* AO Smith

*Model #:* 95GC071A

*H.P.:* 1/2

*Amps:* 5.0/2.5

*Volts:* 115/208-230

*RPM:* 1725

*S.F.:* 1.0

**Drive**

*Drive Pulley Dia.* AK23

*Axle Pulley Dia.:* AL64

**Housing**

*Material:* fiberglass

*Intake Area:* 42.8"x45.8"

*Discharge Area:* 36.8" dia.

*Depth:* 26" top  
14.5" bottom

**Guards**

*Description:* wire

*Spacing:* 2.1" concentric

*Location:* exhaust

TEST RESULTS

ACME DDPS36G-C

|                                              | Static Pressure  | Speed      | Airflow    | Efficiency      |
|----------------------------------------------|------------------|------------|------------|-----------------|
|                                              | <u>in. water</u> | <u>rpm</u> | <u>cfm</u> | <u>cfm/Watt</u> |
| Test: 98189                                  | 0.00             | 638        | 13000      | 23.1            |
| Fan description:                             | 0.05             | 636        | 12410      | 20.8            |
| 36" Belt drive ½ hp AO Smith 95GC071A        | 0.10             | 636        | 11860      | 19.2            |
| motor, fiberglass housing, aluminum shutter, | 0.15             | 635        | 11180      | 17.4            |
| guard and discharge cone                     | 0.20             | 633        | 10380      | 15.8            |
|                                              | 0.25             | 633        | 9330       | 13.7            |
|                                              | 0.30             | 631        | 8210       | 11.6            |