University of Illinois Department of Agricultural Engineering  
BESS Lab

Project Number: 03044bd  
Test Date: 4/29/03

Fan
Make: Big Dutchman
Model #: 60-50-5206 w/cone
Manufacturer: Canarm
Blade Size: 50"
Orifice Dia.: 50.8"
Blade Number: 50"
Shape: 3
Material: galv. steel
Pitch: -
Clearance: 0.4"

Motor
Make: GE
Model #: 5K49PN4354
H.P.: 1
Amps: 3.9-3.5/2.2-2.0
Volts: 220-230/380-/415
RPM: ‘1725/1425
S.F.: 1.00

Drive
Drive Pulley Dia. 3.8” o.d.
Axle Pulley Dia.: 9” o.d.

Housing
Material: fiberglass
Intake Area: 54” x52.3”
Discharge Area: 55” dia.
Depth: 44” top
31” bottom

Guards
Description: wire
Spacing: 2”
Location: exhaust

Shutter
Material: plastic
# of Doors: 16 per column
# of Columns: 3
Door Length: 18”
Location: intake

Other Attachments:
Discharge cone 28” deep, 55” i.d., 61.5” o.d.
### TEST RESULTS

**BIG DUTCHMAN 60-50-5206 W/CONE**

<table>
<thead>
<tr>
<th>Static Pressure</th>
<th>Speed</th>
<th>Airflow</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>in. water</td>
<td>rpm</td>
<td>cfm</td>
<td>cfm/Watt</td>
</tr>
<tr>
<td>0.00</td>
<td>572</td>
<td>24,700</td>
<td>24.2</td>
</tr>
<tr>
<td>0.05</td>
<td>570</td>
<td>23,100</td>
<td>21.8</td>
</tr>
<tr>
<td>0.10</td>
<td>567</td>
<td>21,400</td>
<td>19.3</td>
</tr>
<tr>
<td>0.15</td>
<td>566</td>
<td>19,900</td>
<td>17.3</td>
</tr>
<tr>
<td>0.20</td>
<td>563</td>
<td>17,500</td>
<td>14.6</td>
</tr>
<tr>
<td>0.25</td>
<td>561</td>
<td>14,600</td>
<td>11.8</td>
</tr>
<tr>
<td>0.30</td>
<td>559</td>
<td>9,600</td>
<td>7.6</td>
</tr>
</tbody>
</table>

- **Test:** 03044bd
- **3 phase, 380V, 50Hz**
- **Fan description:**
  - 50" belt drive, 1 hp GE 5K49PN4354 motor,
  - fiberglass housing, plastic shutter, guard
  - and discharge cone