Big Bale Drier

Ventus 2400 - your guarantee for dry straw
The Kongskilde Ventus 2400 drying system is designed for the drying of straw in big bales.

The drying process takes place in a drying section, which holds one big bale at a time.

Wet bales are placed on a conveyor, from where they are conveyed one by one to the drying section.

The required drying time is set on a timer. When the bale is dried in the required drying time it is automatically moved out of the drying section, to be replaced by the next wet bale.

Dry bales emerging from the drying section are moved onto a push section. Once on the push section the dry bale is pushed sideways on to the floor. Depending of the smoothness of the floor this can normally be done up to a maximum of 8 bales. The dry bales are then placed side by side on the floor ready to be picked up with a fork lift.

Ventus 2400
- High capacity fan fitted with efficient IE2 motor.
- The modular system makes it easy to build systems adapted to individual requirements both on the wet and dry side of the drier.
- The conveying chain runs on a low friction liner.
- The drying spears have a wear resistant low friction coating, reducing potential bale damage.
- The drying spears have a spring-loaded connection to the air distribution head, thereby minimizing any potential impact damage when introduced in to the bale.
- The hydraulic pump station is equipped with temperature and level control.
- The blower motor has a soft start device, giving a smooth start up.
- When running in drying mode the dryer is automatically controlled by a control panel. The controls can be set to manual, allowing for manual running of each function via a touch screen.
Technical Information

Ventus 2400 enables
- Wet bales to be turned into a saleable product
- Baler and tractor to be utilised more efficiently
- An increased amount of straw to be harvested
- In-field cost reductions
- Improved quality of harvested straw

Standard control panel
- The panel contains a communication module which automatically calls a designated number if the wet bale stock runs out, or if the drier stops for any other reason
- Router for remote support prepared for USB modem or cable
- Remote control for reversing of conveyor on wet side, allowing for central loading of wet bales
- Displays programme history

Bale dimensions
- Width .......................................................... 1200 mm
- Height .......................................................... 1200 – 1300 mm
- Length .......................................................... 2200 – 2500 mm

Motors installed (3 x 400V)
- Blower .......................................................... 37 kW
- Hydraulic pump ............................................ 5.5 kW
- Chain conveyor ............................................. 0.55 kW
  (min 2 depending on conveyor length)

Power supply to panel: .................................. 125Amp.

Typical consumption
- Blower .......................................................... app. 26 kW
- Oil heater ...................................................... 7.7-12 l/h
Technical Information

Floor requirements
High load bearing concrete, uncracked (C25/30)

Floor space
Drying section with spearhead ...................... app. 3,1 m x 4,7 m
Push station with drive section ...................... app. 3,0 m x 4,0 m
Conveyor section w. o. drive section ...... app. 2,95 m x 1,25 m
Conveyor section w. o. drive section, incl. post ................. app. 2,95 m x 1,38 m
Drive section ........................................... 0,53 m x 1,7 m

Length conveyor section ........................................... 2,95 m
Length drive section ........................................... 0,40 m
Number of sections per drive, one-way ................. 5 pcs.
Number of conveyor sections per drive, two-way........ 4 pcs.
Number of bales which can be pushed on the floor by the push station (smooth concrete) ......................... 8 pcs.
Number of bales that can be pushed sideways can be increased by installing sheets of low friction material on the floor.

Heaters

<table>
<thead>
<tr>
<th>Heater</th>
<th>Heat output kW/kcal</th>
<th>Fuel consumption l/h</th>
<th>Air flow m³/h</th>
<th>Heating of air Δt. °C</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAI 300HC</td>
<td>58/59,000</td>
<td>7,8</td>
<td>6,500</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>KM 100X</td>
<td>85/92,400</td>
<td>9,5</td>
<td>6,500</td>
<td>33,2</td>
<td></td>
</tr>
<tr>
<td>KM 130X</td>
<td>129/111,000</td>
<td>12</td>
<td></td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>KS125 w. 2 stage burner</td>
<td>149/128,140</td>
<td>max. 15,2 min. 7,6</td>
<td>6,500</td>
<td>60 30</td>
<td>max. 60 °C</td>
</tr>
<tr>
<td>KS 150 w. 2 stage burner</td>
<td>173/148,780</td>
<td>max. 17,6 min. 8,8</td>
<td>6,500</td>
<td>70 35</td>
<td>max. 60 °C</td>
</tr>
</tbody>
</table>

Δt = the difference between the temperature required and the minimum temperature outdoor.

Hot water radiator

<table>
<thead>
<tr>
<th>Hot water radiator 150 kW</th>
<th>Heat output kW/kcal</th>
<th>Air flow m³/h</th>
<th>Heating of air Δt. °C</th>
<th>Hot water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>145/125,000</td>
<td>6,500</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Hot water radiator 175 kW</td>
<td>165/140,000</td>
<td>6,500</td>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>

When drying with warm air from straw burner, the following values for energy consumption can be used as guideline:

<table>
<thead>
<tr>
<th></th>
<th>½ hour, moisture content in bale varies from 25 – 35% H₂O</th>
<th>½ hour, moisture content in bale varies from 35 – 45% H₂O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blower</td>
<td>13 kWh</td>
<td>20 kWh</td>
</tr>
<tr>
<td>Oil heater</td>
<td>3,8 l</td>
<td>5,7 l</td>
</tr>
</tbody>
</table>

Conditions:
The bale is dried until a moisture content of 13% is reached in a minimum of 85% of the straw at an outdoor temperature of 20°C. Large variations in the moisture content may occur in the individual bale before drying.

Complete drying of some very wet areas in the bale will demand longer drying time. Normally it should not be necessary to dry the bale for such a long time that all areas within the bale are dried to the final level.

The temperature of the air and the relative humidity will also have an impact on the drying capacity. The drying capacity will be larger in warm and dry conditions than in cold or humid conditions.