Commercial vacuum and steam heat treatment of logs, solid wood packaging materials, and other commodities

A PARTNERSHIP FOR ADVANCED TECHNOLOGY.

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WELKER VACUUM GmbH
Company Information

- Established in 1856
- World Wide Leading Manufacturer of Vacuum Machinery for Textiles, Plastics, Sanitation, Sterilisation
- Location: Neustadt, Germany
- References: More than 2,000 Systems World Wide
Company Information
Welker Plant Examples: Waco, TX
Company Information
Welker Plant Examples: Mocksville, NC
Container Unit
SINGLE 40 FEET
316 SS
Container Unit
FLEX 20/40 FEET
316 SS
Bulk unit for
24 tons of logs
With automatic
loading rack
304 SS
Bulk unit for 24 tons of logs
Loaded manually by fork lift
304 SS
System Description: Multiphase Process Cycle
Multiphase Process Cycle
Phase 1 - High Vacuum
Multiphase Process Cycle
Phase 2 – Steam Inlet and Heating Up

Feed water

BOILER
Gas or Electric

Temperature Control

TC

Air Inlet

Vacuum Pump

Open position
Closed position
Multiphase Process Cycle
Phase 3- Keeping The Temperature

Feed water

BOILER
Gas or Electric

Temperature Control

TC

Air Inlet

Vacuum Pump

Open position

Closed position
Multiphase Process Cycle
Phase 5- Unloading

Feed water
BOILER
Gas or Electric

Temperature Control
TC

Air Inlet
PHYTOVAC

Vacuum Pump

Open position
Closed position
Multiphase Process Cycle
Automatic Control System

• Online Process Data
• USB Interface
• Probe Monitoring
• Self Diagnosis
• Online Service Interface
PHYTOMASTER

3 x TYPE TWIN 40 for 6 40 FEET HIGH CUBE Containers
## PHYTOVAC MASTER analysis

<table>
<thead>
<tr>
<th></th>
<th>24 Hr. cycle</th>
<th>8 Hr. cycle</th>
<th>8 Hr. cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYTOMASTER</td>
<td>$ 657,460</td>
<td>$ 657,460</td>
<td>$ 445,080</td>
</tr>
<tr>
<td>Engineering/permitting</td>
<td>$ 7,500</td>
<td>$ 7,500</td>
<td>$ 7,500</td>
</tr>
<tr>
<td>100 BHP Boiler</td>
<td>$ 60,000</td>
<td>$ 60,000</td>
<td>$ 60,000</td>
</tr>
<tr>
<td>Boiler installation</td>
<td>$ 20,000</td>
<td>$ 20,000</td>
<td>$ 20,000</td>
</tr>
<tr>
<td>Plumbing</td>
<td>$ 10,000</td>
<td>$ 10,000</td>
<td>$ 10,000</td>
</tr>
<tr>
<td>Electrical</td>
<td>$ 10,000</td>
<td>$ 10,000</td>
<td>$ 10,000</td>
</tr>
<tr>
<td>Intangible</td>
<td>$ 15,000</td>
<td>$ 15,000</td>
<td>$ 15,000</td>
</tr>
<tr>
<td><strong>Total capital cost</strong></td>
<td>$ 779,960</td>
<td>$ 779,960</td>
<td>$ 567,580</td>
</tr>
<tr>
<td>Labor cost/container or load</td>
<td>$ 18.50 X 1 hour</td>
<td>$ 18.50</td>
<td>$ 18.50</td>
</tr>
<tr>
<td>Electrical cost/container or load</td>
<td>14KWh X .12$/KWh</td>
<td>$ 1.68</td>
<td>$ 1.68</td>
</tr>
<tr>
<td>Energy/Natural gas cost/container/load</td>
<td>3.414130 BTU X $3.00</td>
<td>$ 10.24</td>
<td>$ 5.12</td>
</tr>
<tr>
<td>Water cost</td>
<td>1000 gal. X $.004</td>
<td>$ 4.00</td>
<td>$ 4.00</td>
</tr>
<tr>
<td>Variable cost/ treated container/load</td>
<td>$ 34</td>
<td>$ 29</td>
<td>$ 66</td>
</tr>
<tr>
<td><strong>Gross revenue/container</strong></td>
<td>$ 1,000</td>
<td>$ 1,000</td>
<td>$ 1,000</td>
</tr>
<tr>
<td><strong>Net revenue minus variable cost</strong></td>
<td>$ 966</td>
<td>$ 971</td>
<td>$ 934</td>
</tr>
<tr>
<td><strong>Yearly revenue based on # of containers</strong></td>
<td>350</td>
<td>$ 337,953</td>
<td>1050</td>
</tr>
<tr>
<td><strong>Simple R.O.I</strong></td>
<td>2.3</td>
<td>0.77</td>
<td>0.58</td>
</tr>
</tbody>
</table>