QUOTATION DOCUMENT FOR STEEL DRUM PRODUCTION LINE

YINGKOU BOHAI MACHINERY EQUIPMENT CO., LTD., CHINA

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YINGKOU BOHAI MACHINERY EQUIPMENT CO., LTD.

Solution

for

55 Gallon Steel-Drum Production Line
(Output is 5 drums/minute)

A. Specification of 55 Gallon Steel Drum

1. Applied sheet: SPCC steel plate or cold-rolled sheet
2. Drum Inner diameter: 571.5mm
3. Drum Outside diameter: 585mm
4. Drum height: 897mm
5. Outside painting: Nitro bake paint
6. Paint thickness: Minimum 18 micron
7. Body color: One color or multicolor
8. Drum capacity: 216.5 Litters (55 Galon, US)
9. Weight: 16-18kg
10. Closures: 2 closures
11. Top holes: One 3/4 Inch + one 2 Inch
12. Numbers of corrugations: 6-10

Date: 2012.12.4
B. Raw Materials Consumption or production capacity

<table>
<thead>
<tr>
<th>Plate thickness(mm)</th>
<th>Finished drums (pcs/T)</th>
<th>Production capacity(kg/pc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>41</td>
<td>21.5</td>
</tr>
<tr>
<td>1.0B Up and bottom covers 1.2</td>
<td>47</td>
<td>19</td>
</tr>
<tr>
<td>Drum body 1.0</td>
<td>47</td>
<td>19</td>
</tr>
<tr>
<td>1.0</td>
<td>50</td>
<td>18</td>
</tr>
<tr>
<td>0.9B Up and bottom covers 1.0</td>
<td>54</td>
<td>16.8</td>
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<tr>
<td>Drum body 0.9</td>
<td>54</td>
<td>16.8</td>
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<tr>
<td>0.9</td>
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<td>16.2</td>
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<tr>
<td>0.8</td>
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<td>10.28</td>
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C. Equipment Quotation

1. Front Section Equipments
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<tr>
<th>NO.</th>
<th>Description</th>
<th>Unit</th>
<th>Qty</th>
<th>Price/set (USD)</th>
<th>Total(USD) EXW</th>
<th>Remark</th>
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<tbody>
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<td>Decoiler</td>
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<td>32,300.00</td>
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<td>7 rollers working, servo controlling</td>
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<td>Side Deviation Rectifying Device</td>
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<td>6</td>
<td>Cutting Machine</td>
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<td>Arch Shape Guiding Device</td>
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Sub-Total 13 | 127,000.00

2. Equipments for Covers

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Sub-Total 7 | 106,700.00
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#### Sub-Total

<p>|       | 11 | 181,700.00 | 4.Rear Section Equipments |</p>
<table>
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<tr>
<th>NO.</th>
<th>Description</th>
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<th>Total(USD) EXW</th>
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Equipments Total: US$ 654,700.00

The above quotation subject to the final explanation of YINGKOU BOHAI MACHINERY EQUIPMENT CO., LTD.
1. PLC: Japan MITSUBISHI
2. Electric relay: China CHNT
3. Proximity Switch: Japan OMRON

D. Terms of Payment
a. First payment: 30% payment in advance after signing sales contract
b. Second payment: 70% of the contract paid before shipment.

E. Delivery Time:
Within 120 days from the date that supplier receives 30% of the total price.

F. Installation and Adjustment
The seller will send five persons to the buyer’s site. They will be responsible for installation and adjustment. Seller will pay all charges for first 10 days at buyer’s site. After the 10 days, the buyer will pay US$100/day/person to seller. The buyer will be responsible for charges of round trip flight thickets and accommodation expenses.

G. Guarantee
The Seller should repair/replace, free of charge, any mechanical or electrical parts which owing to defect in design, material or workmanship fail or show signs of failure at any time within 12 months from the date of an “Acceptance Certificate” or 14 months from the date of shipment whichever is earlier.

The Seller shall not be liable for the defects arising out of:
a. Ordinary wear and tear, corrosion and erosion.
b. Wildness handling, negligence, misoperation and improper maintenance.
c. Any change of any part or whole of the Goods by the Buyer.
d. Removal or transfer of any part or whole of the Goods by the Buyer.

The text of the guarantee will be proposed by the buyer and also by the seller.

H. Workshop Plan
Workshop Height: ≥6 M

I. Workshop Foundation and Related Accessory Establishment
1. Water: Recycled cooling water. Water entrance temperature<32℃, Water out temperature<40℃. Pressure: 0.1-0.45Mpa, runoff: 20m³/h. 2” Self-Suction pump: 1 unit.
2. Power: Voltage 380V. Frequency: 50Hz
3. Transformer Capacity≥650KVA
4. Water Consumption: 0.2Kg/Pc
5. Air Compressor: Pressure: 0.6Mpa, runoff: 10m³/min.
6. Gas Storage Tank: 4 pcs. Capacity: 0.6 M³/Unit Pressure: 1MPa
J. Technical Specification of Equipment
Conveying Way: Step-advancing shift conveyor
Production Line Control Method: Automatic or Manual, multi machines or single machine working method.

K. Performance of Key Equipments

Front section equipments

1. Hydraulic Up-Coiling Device

![Hydraulic Up-Coiling Device](image)

Short introduction: Mainly 2 parts.
a) Up-Coiling Support Platform is for storing steel coil and facilitate Material Feed Trolley for delivering material.
b) Material Feed Trolley is used for carry steel coil. It is operated with hydraulic system to push cylinder for reciprocating linear movement and gear box to deliver steel coil in parallel to the center of uncoiling unit so as to assure the fixing.

2. Decoilier & Hydraulic Supporter

![Decoilier & Hydraulic Supporter](image)

Short introduction: Cantilever uncoiler, controlled by PLC
Main technics:
   a) Uncoiling width: 916-1320mm
   b) Plate thickness: 0.6-1.2mm
   c) Motor power: 5.0KW
   d) Uncoiler capacity: 10t
   e) Inside diameter: \(\phi 470-520\)mm, Outside diameter: \(\leq \phi 1200\)
   f) Machine size: 3900x1500x1940(mm), Total weight: 5T

3. Flattening Machine

Short introduction: 7 rollers working, servo automatic sizing, worm and gear adjust the leveled plate thickness.
Function: The clearances of up and down rollers can be adjusted by the upper hand-wheel while figure can be shown by dial indicator. The operation linear speed is adjusted step-less. It can be controlled by the signal of mid-bridge for high and low speed change.
Main technics:
   a) Plate width: 916-1320(mm)
   b) Plate thickness: 0.6-1.2(mm)

4. Cutting Machine
Function: Cut the leveled steel plate into drum body.

Main technics:
   a) Plate width: ≤1500mm
   b) Plate thickness: ≤3mm
   c) Motor power: 3.0KW
   d) Cutting ability: ≤20 times/min
   e) Machine size: 1800x950x1500(mm), Total weight: 3T

5. Hydraulic Station

Function: Provide oil for the oil cylinder of decoiler, lifting device, uncoiling supporter, and overturn machine to make sure stably working.
Main technics:
   a) Motor power: 7.5KW
   b) Machine size: 800x800x1500(mm), Total weight: 0.5T

6. Electric Control System

Function: Control the decoiler, flattening machine and other front section equipments working.

Equipments for covers
1. Top & Bottom Cover Mould

Short introduction: Equipped with two sets of 160T pressing machines
Function: Punching the bottom cover
Main technics:
   a) Motor power: 18.5KW
   b) Working ability: 5-26 pcs/min
   c) Machine size: 2185x1420x3070(mm), Total weight: 14.5T
2. Drum Injection Mould

Short introduction: Equipped with one set of 63T pressing machine
Double punching mould: punch oil filler and breathable mouth of the bottom cover.
Machine size: 710x480x300(mm)
Total weight: 0.5T
Double locking mould: lock oil filler and breathable mouth of the bottom cover.
Machine size: 710x480x300(mm)
Total weight: 0.5T
Main technics:
   a) Motor power: 11KW
   b) Machine size: 1800x1232x2550(mm)
   c) Total weight: 5.5T

3. Pre-Coiling & Gluing Machine

Short introduction: Pre-coiling machine for the bottom cover, cylinder push the cam to work, automatic glue-spaying system. It has advantages of safety, stability, smooth edging.
Main technics:
   a) Machine size: 1600x1400x1350(mm)
   b) Total weight: 4.5T

Middle Section Equipments

1. Circle-rolling Machine

   Short introduction: 3 rollers working.
   Main technics:
      a) Rolled plated width: ≤ 1100mm
      b) Plate thickness: 0.6-1.2(mm)
      c) Circle diameter: ≤ 570mm
      d) Motor power: 1.5KW
      e) Machine size: 2200x750x1300(mm), Total weight: 1.5T

2. Spot Welding Machine
Main technics:
   a) Welding Machine capacity: 75KVA
   b) Plate thickness: ≤ 1.5mm
   c) Drum height: ≤ 1000mm
   d) Working speed: 3 pcs/min

3. Seaming Machine

Main technics:
   a) Welding Machine capacity: 150KVA
   b) Plate thickness: ≤ 1.5mm
   c) Drum height: ≤ 1000mm
   d) Working speed: 3 pcs/min

4. Edging & Beading Machine
Short introduction: controlled by PLC, hydraulic drive
Main techniques:
- a) Beading height: ≤14mm
- b) Drum height: 894-905 (mm)
- c) Hydraulic system pressure: 8Mpa
- d) Air pressure: 0.1Mpa
- e) Machine size: 3700x700x1600 (mm), Total weight: 5T

Hydraulic Station:
Main techniques:
- a) Machine size: 1800x860x1700 (mm)
- b) Total weight: 1T
- c) Motor power: 22KW
5. Corrugation (W rib) Machine

Short introduction: controlled by PLC, hydraulic drive
Main technics:
   a) Corrugating height: ≤3mm
   b) W rib height: ≤9mm
   c) Drum height: 884-895(mm)
   d) W rib space: 280mm
   e) Motor power: 11KW
   f) Machine size: 4500x650x2100(mm), Total weight: 7T

Hydraulic station:
   a) Machine size: 1800x860x1700(mm)
   b) Total weight: 1T
   c) Motor power: 7.5KW

6. Edge-Curling Machine
Short introduction: controlled by PLC, hydraulic drive, 7 layers edge curling.

Main techniques:

a) Drum height: 886-897 (mm)
b) Motor power: 45 kW
c) Machine size: 4800 x 1300 x 2200 (mm), Total weight: 13 T

Hydraulic station:

a) Machine size: 1800 x 860 x 1700 (mm)
b) Total weight: 1 T
c) Motor power: 7.5 kW

7. Leakage Checking Machine

Short introduction: Manual/automatic control, pneuma lock.

Main techniques:
8. Multi-section Convey Device

Short introduction: Convey the drum body to be edged, beaded, Corrugated W rib reinforced and sealed bottom cover with PLC controlling.

Main technics:

a) Motor power: 4.0KW
b) Machine size: 11000x2100x1000 (mm)
c) Total weight: 3T

Rear section device

1. Degreasing & Phosphorization Room 21D
Short introduction: This part is used to transport the drums, controlled by PLC. adopts spraying device to automatic clean the coil, phosphorize and washing the grease on the drums. The conveyor device adopts superior steel, inwalls are made of 1mm steel plate.

Main technics:

a) Machine size: 36000x2110x2060(mm)
b) Total weight: 30T

2. Washing & Drying Room 21D

Short introduction: Drying the water on the surface of the drum, controlled by PLC. The whole machine adopts fuel heating devices. Fan is installed on the top of the room, so that hot and cycling wind can be produced to speed up the drying.

Main technics:

a) Motor power: 25KW
b) Machine size: 20000x1920x3600(mm)
3. Painting Room (double colors)

Function: The conveyor device is controlled by PLC, rotating table make the drums closely, painting system paint the drums in & outside with the spray gun. One color or various can be alternative. Mode of water-curtain spraying dispels spraying smoke. Nozzle adopts Nordson Brand, Painting equipment is made of Chang Jiang.

Main technics:
   a) Motor power: 55KW
   b) Machine size: 7400x4990x3600(mm)
   c) Total weight: 15T

4. Front Drum Distributor

Function: Transport the drums to the conveyor line of outside painting & stiffening room, the cylinder is controlled by PLC.
Main technics:
   a) Motor power: 2.0KW 
   b) Machine size: 1500x1050x800(mm) 
   c) Total weight: 1T 

5. Drying Line after Painting 24D

Function: The conveyor device is controlled by PLC, adopts fuel heating inwall of the room is equipped with heating tubes. Fan is installed on the top of the room, so that dry the paint.

Main technics:
   a) Motor power: 35KW 
   b) Machine size: 36000x2100x4300(mm) 
   c) Total weight: 30T 

6. Down-drum Roller Trans-line
Function: The device transports the dried drums to the ground.  
Main technics:  
  a) Motor power: 1.5KW  
  b) Machine size: 2000x900x800(mm)  
  c) Total weight: 0.3T

7. Overturn Equipment

Function: Change the state of drums from horizontal to vertical, so that it will be much easier to paint, controlled by Cylinder.
Main technics:
   a) Machine size: 1400x690x850(mm)
   b) Total weight: 0.5T

8. Cooling Equipment

Function: Degrease the temperature of finished drum on the surface, after painting & Drying Room.

Main technics:
   a) Motor power: 15KW
   b) Machine size: 5000x2100x4300(mm)
   c) Total weight: 3T

Welcome to use our products!