Belt Vacuum Continuous Dryer
Overview of Belt Vacuum Continuous Dryer

- **a**: High efficiency, low temperature, conduction type & vacuum continuous drying equipment
- **b**: Good operation environment, continuous import and export under vacuum
- **c**: High degree of automation, low labor intensity, low energy consumption and low production cost
- **d**: High recoverability of solvent and product & reduced the running cost
- **e**: Automatic, thorough and quick cleaning
- **f**: Widely used in chemical industry, medicine, food, agricultural products and Chinese medicine processing industries
Working Principle

Simulation Operation Flow of Belt Vacuum Continuous Dryer
Characteristics of Belt Vacuum Continuous Dryer

GMP Standard
meeting the GMP hygienic requirements to realize drying by finishing continuous charging, discharging and grinding under vacuum condition

Adjustable Parameter
optimizing temperature vacuum degree and speed of the drying process to achieve the best economic benefits

No Destruction of Material Property
no destruction of the crystal material, the thermal sensitive material and the oxidation of the material

Easy to Operate
high-degree automation with PLC automatic programming control

Quality
unchanged thermal sensitivity of materials, recoverability of 95% solvent

CIP Cleaning
CIP automatic online cleaning system with various cleaning methods
Advantages of Belt Vacuum Continuous Dryer

- **High Quality**
  - No air contact
  - Free chemical Oxidation
  - No destruction of crystal
  - Product yield up to 99%
  - Solvent recovery 95%

- **Soft Drying**
  - Dry temperature
  - No mechanical impact
  - No air
  - Short stay

- **Economic Environment Protection**
  - Lowest steam power consumption
  - No dust, solvent
  - No pollution
  - Direct packaging of discharging

- **Automatic production**
  - PLC automatic programming control
  - Automatic omnidirectional cleaning

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Operating Process of Belt Vacuum Powder Continuous Dryer

**Step 1**
Water content

**Step 2**
Vacuum chamber Out

**Step 3**
Primary Condenser

**Step 4**
Vacuum Auto Discharge Service

**Step 5**
Two stage condenser

**Step 6**
Two stage recycling tank

1. Feeding system
2. Vacuum chamber distributor
3. Cooling zone
4. 1# Heating Zone
5. 2# Heating Zone
6. Discharging system
7. Crushing granulation
8. Packing
9. Vacuum automatic drain tank

Material

Vacuum pump
Application

Applicable Scope of Belt Vacuum Powder Continuous Dryer

Food

- food additives and chemical raw materials for food

Medicine

- various kinds of powders, crystals, granules etc.

Chemical Engineering

- oxidizable, explosive, strongly stimulation and highly toxic materials

And more

- products containing various recyclable solvents

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Operating Process of Belt vacuum Liquid Continuous Dryer

**Step 1**
Water content

**Step 2**
Vacuum chamber Out

**Step 3**
Primary condenser

**Step 4**
Vacuum Auto Discharge device

**Step 5**
Two stage condenser

**Step 6**
Two stage recycling tank

**Step 7**
Crushing granulation

**Step 8**
Discharging system

**Step 9**
Packing

**Material**

1. Metering Pump
2. Vacuum Chamber
3. Vacuum Chamber Distributor
4. 1# Heating Zone
5. 2# Heating Zone
6. Cooling zone
7. Two stage condenser
8. Discharging system
9. Packing

**Work flow**

- Metering pump
- Vacuum pump
- Vacuum automatic drain tank
- Vacuum Chamber
- Vacuum Chamber Distributor
- 1# Heating Zone
- 2# Heating Zone
- Cooling zone
- Two stage condenser
- Discharging system
- Packing
Applicable Scope of Belt Vacuum Liquid Continuous Dryer

- Instant Coffee: liquid drying of coffee
- Fresh Juice: liquid drying of vegetables and fruit
- Chinese Traditional Medicine Extract: high concentration, high viscosity extract
- Plant Extract: biological preparation plant extract
Contrast

Comparison Between Spray Dryer and Belt Vacuum Continuous Dryer

**Spray Dryer**
- spraying under high pressure
- sticking to the wall
- strong wind shear force
- product loss and quality damage

**Belt Vacuum Continuous Dryer**
- Smooth conveyer drying
- no mechanical pressure impact
- not sticky to the wall

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Automation

High Degree of Automation, Continuous and Stable Production of Equipment

Touch Screen  Remote Control  Intelligent Monitoring

Safer and More Reliable

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Adjustable Parameter

Controlled by Parameters to Ensure Different Requirements

Feed Control
- feed crushing control material particle size
- Feeding time controlled feed quantity
- Metering pump control feed rate

Vacuum Degree (90-99)Kpa
- controlling the vacuum degree in the warehouse to ensure the material moisture

Fabric Thickness (3-30mm)
- adjustable height of material and material thickness

Water ≤ 1-4%

Material
- Particle Size
- Feed Quantity
- Time Stay
- Moisture Content of the material charged

Adjustable Temperature

Crush
- adjustable grinding speed, controlled uniform size of the particles

Conveyor Belt Speed (0-50Hz)
- adjustable speed and thickness of each conveyor belt

Heating Temperature \((40-180)°C\)
- adjustable temperature of each layer, heated gradient and bottom cooling

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### Selection of Belt Vacuum Powder Continuous Dryer

**HCF Belt Vacuum Power Continuous Dryer**

<table>
<thead>
<tr>
<th>Basic Parameters/Model</th>
<th>HCF6.5-3</th>
<th>HCF15-3</th>
<th>HCF30-5</th>
<th>HCF50-5</th>
<th>HCF80-5</th>
<th>HCF100-7</th>
<th>HCF120-7</th>
<th>HCF160-7</th>
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<tbody>
<tr>
<td>Heating Area(m²)</td>
<td>6.5</td>
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<td>30</td>
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<td>80</td>
<td>100</td>
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<td>160</td>
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<tr>
<td>Water Evaporation Capacity(kg/h)</td>
<td>5~10</td>
<td>10~20</td>
<td>25~35</td>
<td>40~60</td>
<td>70~90</td>
<td>90~120</td>
<td>110~130</td>
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<td>Total Installed Power(kw)</td>
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<td>30~60</td>
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<td>400~600</td>
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**Notes**

1. The yield is calculated based on 70% content at 90°C drying temperature with dry power containing about ≤4% moisture. In case the dried liquid is water, specific gravity of the dry power is determined to be 1. The yield will be larger if the dried liquid is solvent.

2. All technical parameters are for reference only depending on the material conditions, and our company has the right to change them without further notice.
# Selection of Belt Vacuum Liquid Continuous Dryer

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**Haichang Machinery**
Wuxi Haichang Machinery Co., Ltd. is an enterprise specialized in manufacturing drying, crystallizing and granulating & tableting equipment for such industries as pharmacy, food, chemical engineering and biochemistry.
Our Products

National Leading Automated Drying Solution Supplier

Spherical Dryer
Belt Vacuum Powder Continuous Dryer
Belt Vacuum Liquid Continuous Dryer
PTFE Lining

Haichang Machinery
Customer
Part of Our Clients

Customer First,
Part customers

Haichang Machinery
Thank You!

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