4-30TPH Mine Powder Briquetting Plant

General Introduction

Briquetting technology

Briquetting is the transformation of a powdery or granular product into a larger more convenient size. This is accomplished by compacting the product with a roller press sometimes in the presence of a binder material. The briquettes can be produced with high or low pressure and can undergo mechanical or thermal treatment according to the characteristics of the processed material, the binder used and the desired end product.

Suitable material for briquetting:

Colour and black metallic mine powder:

1. Iron concentrate fines
2. Raw material powder,
3. Manganese ore fines
4. Silicomanganese alloy.

Othes
- Iron scale,
- Iron sludge
- Precipitator dust,

Coal
- Coal powder,
- Coke powder
- Slime peat
- Middle coal
- Lignite etc.

Other material:
- Charcoal powder
- Fireproof material
- Desulfurization gypsum,
- Dolomite etc.

Anyway, briquetting is the only way to change the powdery material into briquettes which is suitable for transporting, in the meantime, this way also saves energy.
Final Products

All the above material can be transformed into different shapes according to buyer’s request through using different rollers. We list some types below:

1. Roller
2. Pillow shape
3. Egg type
4. Ball type
5. Various type
6. Square type

Flowchart

1. Raw material → crushing → feeding
2. Mixing
3. Finished Products → drying → briquetting
Main Equipment

Crusher

The Vertical Complex Crusher is a new type of rough grinding and fine crushing product combined the domestic and foreign crushing technologies together, developed and designed by our team of highly qualified engineers on main technical parameter. It can be widely used in the medium cement plants to crush crude cement material and chamotte. It provides an ideal fine crushing equipment of technical reconstruction or setting up new cement production lines for cement plant. Also it is suitable for crushing iron ore, sandstone, gypsum, slag, gangue, lump coal and other hard ore.

Special features:

High and cubic crushing ratio,
Low energy consumption,
Steady running,
Smart structure and easy operation and maintain

Main technical data:

<table>
<thead>
<tr>
<th>Model</th>
<th>Max input size (mm)</th>
<th>Output size (mm)</th>
<th>Producing capacity (TPH)</th>
<th>Power (kw)</th>
<th>Size (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCLP500</td>
<td>≤20</td>
<td>≤3</td>
<td>3-6</td>
<td>15</td>
<td>1150×750×1200</td>
<td>1100</td>
</tr>
<tr>
<td>GCLP650</td>
<td>≤20</td>
<td>≤3</td>
<td>8-10</td>
<td>22</td>
<td>1650×900×1300</td>
<td>1900</td>
</tr>
<tr>
<td>GCLP750</td>
<td>≤30</td>
<td>≤3</td>
<td>13-15</td>
<td>37</td>
<td>1500×1050×1600</td>
<td>3500</td>
</tr>
<tr>
<td>GCLP1000</td>
<td>≤30</td>
<td>≤3</td>
<td>18-22</td>
<td>45</td>
<td>1800×1270×1900</td>
<td>4700</td>
</tr>
</tbody>
</table>

Box Feeder:

The box quantitative feeding machine is a traditional product; it is mainly used for briquetting production line. Its adjustment of feeding speed is with extraordinary use in the production line.

The main advantage of this machine as following:

High producing capacity
Strong adjusting ability
Equable feeding
**Belt conveyor**

The machine is used to conveying powder material, grain material and small lumpy material that are easy to fish out. It can also used to the packing material such as coal, detritus, gravel, cement, fertilizer, ect. and the material whose conveying pile density is less than 1.67t/ m³. The temperature of the conveyed material is less than 60°C. The length of the machine and the shape can be made according to the demand of the client. When you transmit the material, you can use the electric roller or driving-equipment with driving-stand.

**Double paddle mixer**

Our double paddle mixer is suitable for blending two or more Powders/ granules with various densities. Small quantity of Liquid also can be sprayed during mixing.

**The main feature of our double paddle mixer**

**as following:**

- Suitable for mixing of powders, granules and other materials
- High efficient rapid mixing, shortens mixing time
- Enhanced mixing uniformity

**Main technical data:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Speed of main shaft (r/min)</th>
<th>Power (kw)</th>
<th>Producing capacity</th>
<th>Weight (kg)</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCWJ2000</td>
<td>35</td>
<td>11</td>
<td>10-12</td>
<td>1600</td>
<td>3100×750×500</td>
</tr>
<tr>
<td>GCWJ2500</td>
<td>35</td>
<td>15</td>
<td>15-20</td>
<td>2100</td>
<td>4200×800×620</td>
</tr>
<tr>
<td>GCWJ3000</td>
<td>35</td>
<td>18.5</td>
<td>20-25</td>
<td>2900</td>
<td>4700×800×620</td>
</tr>
</tbody>
</table>

**Briquetting Press**

Our briquette press has two larger rollers in a fixed position in the frame; the other two smaller rollers are moveable. As its named implied, it has four rollers and do twice pressing in production of briquettes, so the briquette is stronger and in higher density, the surface of briquettes is smoother.
### Main technical data

<table>
<thead>
<tr>
<th>Model</th>
<th>GCXM-4</th>
<th>GCXM-6</th>
<th>GCXM-8</th>
<th>GCXM-10</th>
<th>GCXM-15</th>
<th>GCXM-20</th>
<th>GCXM-30</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Producing capacity</strong></td>
<td>4TPH</td>
<td>6TPH</td>
<td>8TPH</td>
<td>10TPH</td>
<td>15TPH</td>
<td>20TPH</td>
<td>30TPH</td>
</tr>
<tr>
<td><strong>Width of roller</strong></td>
<td>240mm</td>
<td>250mm</td>
<td>280mm</td>
<td>300mm</td>
<td>336mm</td>
<td>400mm</td>
<td>500mm</td>
</tr>
<tr>
<td><strong>Diameter of roller</strong></td>
<td>360mm</td>
<td>400mm</td>
<td>450mm</td>
<td>550mm</td>
<td>650mm</td>
<td>750mm</td>
<td>850mm</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>7.5-15kw</td>
<td>1-18.5kw</td>
<td>15-22kw</td>
<td>18.5kw-30kw</td>
<td>30-45kw</td>
<td>55-75kw</td>
<td>75-90kw</td>
</tr>
<tr>
<td><strong>Speed of main shaft</strong></td>
<td>18r/min</td>
<td>15r/min</td>
<td>15r/min</td>
<td>13r/min</td>
<td>13r/min</td>
<td>13r/min</td>
<td>10r/min</td>
</tr>
<tr>
<td><strong>Retarder</strong></td>
<td>ZQ350</td>
<td>ZQ400</td>
<td>ZQ500</td>
<td>ZQ500</td>
<td>ZQ650</td>
<td>ZQ750</td>
<td>ZQ850</td>
</tr>
<tr>
<td><strong>Type of pressure</strong></td>
<td>Mechanical</td>
<td>Mechanical</td>
<td>Mechanical &amp; Hydraulic</td>
<td>Mechanical &amp; Hydraulic</td>
<td>Mechanical &amp; Hydraulic</td>
<td>Mechanical &amp; Hydraulic</td>
<td>Mechanical &amp; Hydraulic</td>
</tr>
<tr>
<td><strong>Material of roller</strong></td>
<td>65Mn</td>
<td>65Mn</td>
<td>65Mn 9crest2Mn</td>
<td>65Mn 9crest2Mn</td>
<td>65Mn 9crest2Mn</td>
<td>65Mn 9crest2Mn</td>
<td>65Mn 9crest2Mn</td>
</tr>
<tr>
<td><strong>Form of structure</strong></td>
<td>Four roller double press</td>
<td>Four roller double press</td>
<td>Four roller double press</td>
<td>Four roller double press</td>
<td>Four roller double press</td>
<td>Four roller double press</td>
<td>Four roller double press</td>
</tr>
<tr>
<td><strong>Bearing of main shaft</strong></td>
<td>319*4</td>
<td>319*4</td>
<td>319*4</td>
<td>2097724*4</td>
<td>2097732*4</td>
<td>2097732*4</td>
<td>2097734*4</td>
</tr>
<tr>
<td><strong>Main shaft</strong></td>
<td>D: 95mm 45#steel</td>
<td>D:110mm 45#steel</td>
<td>D:120mm 45#steel</td>
<td>D:135mm Forging steel</td>
<td>D:165mm Forging steel</td>
<td>D:165mm Forging steel</td>
<td>D:250mm Forging steel</td>
</tr>
<tr>
<td><strong>Shape and size</strong></td>
<td>according to your request</td>
<td>according to your request</td>
<td>according to your request</td>
<td>according to your request</td>
<td>according to your request</td>
<td>according to your request</td>
<td>according to your request</td>
</tr>
</tbody>
</table>

### Key part of briquette press

**Different Rollers**

![Roller Image](image1)

![Roller Image](image2)

![Roller Image](image3)

### Vertical Dryer

This type dryer can be used in the drying and dehydration of coal briquettes, fine coke and black nonferrous metals. This is the most ideal equipment for large and medium companies in the production lines.
The moisture of output briquettes can be in the range of 2-4%.

<table>
<thead>
<tr>
<th>Model</th>
<th>Producing capacity (TPH)</th>
<th>Power (kw)</th>
<th>Time for drying</th>
<th>Temperature for drying</th>
<th>Consumption of coal (kg/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCLG2200</td>
<td>4-6</td>
<td>22</td>
<td>3 hours</td>
<td>150-250 C</td>
<td>50</td>
</tr>
<tr>
<td>GCLG2500</td>
<td>6-8</td>
<td>37</td>
<td>3 hours</td>
<td>150-250 C</td>
<td>80</td>
</tr>
<tr>
<td>GCLG3000</td>
<td>10-12</td>
<td>45</td>
<td>3 hours</td>
<td>150-250 C</td>
<td>100</td>
</tr>
</tbody>
</table>

**Dry Powder Briquetting Press**

**General Introduction:**
Briquettes made with binders are usually pressed at low pressure. When briquettes are made without binders, however, the success of the process depends upon crushing or plastically deforming the particles to bring them closely together.

High Pressure Dry Powder Briquette Press is widely used to make briquettes from various powdery materials, including aluminium powder, magnesium powder, ore powder, active charcoal powder, alumina, caustic soda (sodium hydroxide), clay, coke powder, coal, cryolite, chemical fertilizer, plastic, calces, pigment etc. without adding binder. The main purpose of the machine is to reduce powder pollution, minimize size/capacity of raw material, recycle and make more it convenient for transportation. This machine is characterized by high efficiency and low power consumption, compact structure and so on.

**Requirement on raw material:**
2. There shouldn't be any metallic material in the raw material to avoid damaging the surface of rollers.
3. Sufficient supply of raw material to make perfect and good-looking briquette.
4. The moisture of material should be no more than 3%.

**Photos of briquette press**
Mini Briquetting Press

General Introduction
Our mini briquetting press GCXM-1 is the special machine for handling coal dust. It is very popular in the world market as its low cost, exquisite appearance and high efficiency. This is two rollers single press type machine. The main technical data of this machine as following:

Technical parameter
Model: GCXM-1
Power: 5.5kw
Producing capacity: 1-2TPH
Type of pressure: Mechanical
Diameter of roller: 290mm
Width of roller: 200mm
Form of structure: Two rollers single press
Overall size: 1200×1000×1420
Weight: 560kg
Shisha Charcoal Briquette Machine

This shisha charcoal briquette machine is applicable for making small round tablets from charcoal dust. The output briquette is in good density, perfect shape, good appearance. Meanwhile, it is easy for combustion, no smell and last longer when burning.

Model: GCZ26  
Dies(sets): 40  
Max pressure(kN): 100  
Dia. of Tablet (mm): 10-60  
Thickness. of Tablet (mm): 5-16  
Max. Production capacity:(tablets/hour): 18000  
Moisture of charcoal dust before pressing: 15%-20%  
Overall size(mm) : 1100×940×1800  
Motor(kW): 7.5  
Main machine weight(kg): 1800

Coal Briquette Machine/Coal Ball Machine

This type of coal briquetting machine can press coal powder, charcoal powder etc. into various shapes product.

Model: GC-140  
Producing capacity: 40pcs/min  
Diameter of finished product: 100-140mm  
Power: 7.5kw  
Weight: 1200kg
BBQ Charcoal Briquette Machine

This BBQ charcoal briquette machine can be used to extrude charcoal stick of different diameter (diameter range: 15-65mm) in cylinder or square shape without hole through different moulds from charcoal dust or charcoal powder.

**Technical data**
- Production capacity: 150kg/h
- Motor Power: 5.5kw
- Diameter of finished charcoal stick: 15-65mm
- Overall size of the machine: 1300*800*1600mm
- Packing size: 1550*1310*1360mm
- Weight: 800KGS