Coal Centrifuges

for clean coal and coal slurry dewatering
Clean coal and coal slurry centrifuges

Since SIEBTECHNIK GmbH designed and manufactured the first coal centrifuge in 1957, successive design updates afterwards have significantly improved the performance of this equipment, and now, the horizontal centrifuge manufactured by SIEBTECHNIK / TEMA becomes the world standard in the field of world wide coal dewatering.

Certain development also has been achieved in the initially designed vertical coal centrifuge along with change of customer demands. Though, these equipment models in early years played certain roles, some inherent defects in design that often caused shutdown restricted the productivity.

Since TEMA was authorized by SIEBTECHNIK GmbH in 1990, TEMA began its production of centrifuge respectively in Australia, South Africa and the United States of America. The purpose of this production is to provide better and timely service to its local customers. As of today, there are above 4000 SIEBTECHNIK / TEMA coal centrifuges operating in worldwide coal preparation plants. In order to improve the processing capacity of this equipment, SIEBTECHNIK has developed clean coal centrifuge with larger screen basket diameter.

The following pictures are the clean coal centrifuge with screen basket diameter 1650 mm now being put into operation.
A number of design updates to vertical coal centrifuges failed to achieve ideal effect in terms of equipment overall performance, and the maintenance to it is very difficult. Now, all SIEBTECHNIK coal centrifuges adopt horizontal design, which is the state of the art technology, featured with large processing capacity and easy maintenance.
The well-designed horizontal vibratory screen centrifuge has high-efficient and high-yield performance. It is able to provide:

- 96% product recovery rate under certain conditions
- Easy and fast maintenance
- Increased production by adjustable axial vibration amplitude
- Regular vibration generated by eccentric wheel, stable equipment operation, and more energy-saving with one vibration motor
- No special machine base for shock absorption required

Equipment durability and high production yield capacity have been considered in designing every model of SIEBTECHNIK horizontal vibratory screen centrifuge. SIEBTECHNIK is also manufacturing heavy-load centrifuges with capability of centrifuge vibration generation and control. You may have more options if you choose SIEBTECHNIK vibration centrifuges ~ model diversified horizontal centrifuge series available in nowadays market.

<table>
<thead>
<tr>
<th>Model</th>
<th>HSG 1000</th>
<th>HSG 1100</th>
<th>HSG 1200</th>
<th>HSG 1300</th>
<th>HSG 1400</th>
<th>HSG 1500</th>
<th>HSG 1650</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal capacity*</td>
<td>Feed size 0.5 ~ 50 mm</td>
<td>100 - 160</td>
<td>170 - 190</td>
<td>190 - 240</td>
<td>240 - 280</td>
<td>280 - 350</td>
<td>350 - 400</td>
</tr>
<tr>
<td></td>
<td>Feed size 0.5 ~ 13 mm</td>
<td>80 - 150</td>
<td>140 - 160</td>
<td>150 - 220</td>
<td>220 - 260</td>
<td>250 - 310</td>
<td>300 - 350</td>
</tr>
<tr>
<td>Rated motor power kW</td>
<td>22</td>
<td>22/30</td>
<td>37</td>
<td>45/55</td>
<td>55/75</td>
<td>55/75</td>
<td>90/110</td>
</tr>
<tr>
<td>Length mm</td>
<td>2230</td>
<td>2350</td>
<td>2450</td>
<td>2900</td>
<td>2900</td>
<td>3920</td>
<td>4500</td>
</tr>
<tr>
<td>Width mm</td>
<td>1765</td>
<td>1990</td>
<td>1990</td>
<td>2225</td>
<td>2220</td>
<td>2630</td>
<td>2870</td>
</tr>
<tr>
<td>Height mm</td>
<td>1710</td>
<td>1920</td>
<td>1900</td>
<td>2205</td>
<td>2245</td>
<td>2500</td>
<td>2820</td>
</tr>
<tr>
<td>Weight (appr.) kg</td>
<td>3500</td>
<td>4200</td>
<td>4900</td>
<td>7500</td>
<td>7800</td>
<td>11000</td>
<td>13500</td>
</tr>
</tbody>
</table>

*The actual production capacity depends on the feed size distribution and composition, normally, the more the particles are, the higher the product water content will be. The feed water content shall be less than 30%
Advantages of horizontal vibrating centrifuges

- Horizontal design
- Broader front feed door, easy access to screen basket
- Easy maintenance and service
- Vibration is provided by a single motor, and vibration times can be easily adjusted by adjusting the motor’s V-shaped split belt pulley
- Separated lubrication system is able to apply oil lubrication to places where it is needed, including some monitoring and control instruments required for lubrication

- A shock absorber integrated in machine frame resulting in very low vibration level being passed onto equipment foundation
- Feed pipe installed, easy to be replaced without disassembling other parts
- Abrasion-resistant tile lining in solid and liquid chambers
- Screen basket made of non-magnetic stainless steel, enabling our centrifuge the ability to service in dense medium systems
SIEBTECHNIK worm / screen centrifuge specially designed for coal slurry dewatering will receive higher coal slurry recovery rate, while maintaining the low water content of the discharged materials. Better performances of worm / screen centrifuge can be found in:

- Higher coal slurry recovery rate
- Low water content in product
- Easier maintenance than vertical model, since horizontal model is designed for no disassembling when doing maintenance
- Screw scraper adopts integrated and carbon steel lining abrasive-resistant design for achieving better durability and abrasive-resistance performance
- Even material distribution by screw scraper which eliminates the problem of unbalance

Driven by large-torque involutes planet gear, more stable processing process, improved its ability to deal with load fluctuation when processing large quantity of feed

SIEBTECHNIK worm / screen centrifuge will save you installation and maintenance cost while providing high operation reliability

SIEBTECHNIK worm / screen centrifuge receives wide reputation of high-quality in the industry

The most reliable centrifuge available in current market

Experienced engineer and technical service team is ready to give you support whenever necessary

Smaller size of machine base costs less installation expense than installing a vertical mode

<table>
<thead>
<tr>
<th>Model</th>
<th>H 900 F/C</th>
<th>H 1000</th>
<th>H / CX 1200 F/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal capacity*</td>
<td>Feed size 0.5 ~ 1.5 mm</td>
<td>40 - 45</td>
<td>50 - 60</td>
</tr>
<tr>
<td></td>
<td>0.5 ~ 3 mm</td>
<td>50 - 55</td>
<td>60 - 70</td>
</tr>
<tr>
<td>Rated motor power</td>
<td>kW</td>
<td>55/75</td>
<td>75</td>
</tr>
<tr>
<td>Length</td>
<td>mm</td>
<td>2400</td>
<td>2400</td>
</tr>
<tr>
<td>Width</td>
<td>mm</td>
<td>2400</td>
<td>2400</td>
</tr>
<tr>
<td>Height</td>
<td>mm</td>
<td>2000</td>
<td>2000</td>
</tr>
<tr>
<td>Weight (appr.)</td>
<td>kg</td>
<td>3600</td>
<td>3850</td>
</tr>
</tbody>
</table>

*The actual production capacity depends on the feed size distribution and composition, normally, the more the particles are, the higher the product water content will be. The minimum solid concentration is 50%
Advantages of worm/screen centrifuges

- Horizontal design
- Higher centrifugal force (higher to 400g) design will lead to low water content of final product
- Easier maintenance than vertical model, since horizontal model is designed for no disassembling when doing maintenance
- All drives, gears and bearings are separated from material flow area which eliminates the possibility of drives being damaged by materials
- Broader front feed door gives convenience to have easy look at and access to the scraper, screen basket and solids discharge chamber
- Gear drive with high torque maintains stable differential speed
- Separated lubrication system is able to apply oil lubrication to places where it is needed, including some monitoring and control instruments required for lubrication
- Compared with vertical coal slurry centrifuge, the production yield can be increased by 40%, in case the screen basket size and energy consumption are the same
- No special foundation is required for installation
- Smaller space for the equipment to be installed
- Since the discharge of solid materials encounters no any obstacle, there is no any block in the discharge tube
- Downtime is further shortened due to simplified maintenance/inspection and fast disassembling design
- All parts that may be subject to wear & tear by product are lined with special ceramic tiles for achieve longer service years
Delivery Program

Screening Machines
Process Equipment

circular and elliptical motion screens
double counterweight screens
multideck horizontal screen
round screens
jigs

Sampling Systems, Airtube Systems,
Size Reduction Machines, Laboratory Equipment,
Control Screening Machines and Automation

individual units and complete installations
for sampling and sample preparation
airtube systems
jaw crushers
roller mills
hammer and hammer impact mills
eccentric vibrating mills and ball mills
control screening machines
analytical screening machines
splitter
testing drums
automation

Centrifuges

scroll-screen centrifuges
pusher centrifuges
sliding discharge centrifuges
vibratory centrifuges
decanter centrifuges