Coal Preparation Plant

Serial No.: CPMO2013.07.02
1. About Us

BHEC is the biggest consultancy, engineering design and EPC contractor engaged in coal mine, coal processing, low calorific coal fired power station and coal water fuel plant. In China. BHEC has 1450 full time employees, including 3 design masters of state level, 167 engineers of professor level and nearly 470 for senior engineers and 320 engineers.

BHEC has completed 98 general planning of coal filed, 90 more coal preparation plants, coal water fuel plants built on EPC basis, engineering designs for more than 400 mines and more than 550 coal preparation plants, over 80 power plants range from 3MW to 200MW and more than 30 coal water fuel projects.

FavorSea Industrial Channel Limited is privileged to represent BHEC as its' global marketing partner; it fulfils a similar role for other leading innovators from China's OEM mining and engineering sector. The OEM product portfolio and range of services covers mining, mineral processing plant design and contracting, technology solutions, EPC contracting, capital mining machinery & equipment, technical and after-sales support as well as fast-track JIT delivery of spares & consumables.

Industrial regulations and standards compiled by BHEC
Design Standards for CPP Project
Standard for feasibility study report compilation of coal industry
Performance Evaluation Standard of screening equipment for coal industry
Performance Evaluation Standard of crushing equipment for CPP

2. Coal Preparation in China

1. China is the largest coal producer and consumer in the world. About 70 percent of China’s total energy consumption and nearly 80 percent of its electricity production come from coal.
2. Coal cleaning industry was started in 1950s;
3. Clean coal technology was started in 1980s;
4. Coal preparation is the major tool for clean coal technology which significantly improves the coal application value and effectiveness.

5. 40% of the coal produced in China is washed.
6. China has the most up to date coal cleaning technologies in the world.
7. CPP tends to be built in larger scale (5.00Mt/a, 10.00Mt/a, 20.00Mt/a).
8. Coal preparation equipments tend to be in large scale and more and more reliable.
9. The control and management of CPP tend be fully automatized

3. Coal Preparation Processes in China

Coal Preparation Process

Jigging:
Conventional coal cleaning process;
Proven to be reliable and low operation cost;
Few steam coal prep.plants use it in recent years.

Heavy Medium:
HM bath or vessel
HM cyclone
Most efficiency washing process

Other process:
TBS - spiral separator
Conventional flotation, Column or bed flotation
Dry separation, Hydro-cyclone

Typical process for steam coal in china

Typical process for coking coal in China
4. Coal Preparation Equipments in China

With the development of coal preparation technology and material science, China has gained rapid growth in terms of coal preparation equipments developing, manufacturing and promoting. China is now leading the development of world coal preparation equipments.

China has a number of advanced coal technologies and equipments with independent intellectual property rights, such as large diameter dense medium cyclone, siever, flotation machine, micro-bubble flotation column (bed), pressure filter, quick pressure filter, compound coal dry separator and slurry pumps.

**Moving Bed Jig**
Max. area 4m³  
Capacity: 300t/h.unit

**Washing Jig**
Max. area 60m³  
Capacity: 700~800t/h.unit

**HM Cyclone:**  
Φ1200, 1300, 1400, 1500mm  
Capacity: 600~700t/h.unit  
E≤0.04 for primary separation

**HM Bath:**  
Max. width B=8000mm  
Capacity: 700~800t/h.unit  
E: ≤0.03

**Screen:**  
Max. width =4200mm
Flotation Cell:
Volume: 20m³/h.cell
Throughput: 600~800m³/h
Capacity: 60~70t/h

Magnetic Separator:
Volume: 20m³/h.unit
Throughput: 600~800m³/h
Efficiency: ≥99.8%

Crusher:
Capacity (max): 1600t/h
Particle Size (max): 1500mm
Crushing Strength: 160MPa

Slime Centrifuge:
Dia. 1200mm
Capacity: 60t/h
Pro Moisture: 16%-18%

Flotation Column:
Width x length = 3000 x 6000
Dia. 4500mm
Centrifuge:
Dia. 1400mm  
Capacity: 200~300t/h 
Pro. Moisture: 5%-8%

Swift Diaphragm Filter Press

Press Filter:
Filter area: 120m²  
Capacity: 60t/h 
Pro. Moisture ≤ 18%

Spiral Separator  
TBS Separator

Stacker and Reclaimer

Loading System

Automation

Automatic start and suspension for entire plant by centralized control  
Parameter display for process and automatic adjustment  
Programmable PLC module and remote control  
Automation and network of information management

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5. Projects

Panji 1# Mine Coal Preparation Plant:
CPP project constructed in the 1970s
Capacity: 3.00Mt/a
Technique: Jigging for firet and secondary washing + flotation separation
National Golden Prize

Pingshuo Anjialing Coal Preparation Plant:
Modern large scale coking coal CPP
Capacity: 25.00Mt/a
Technique: HM separation
National Silver Prize in 2006

Haerwusu Strip Mine Coal Preparation Plant:
Modern large scale CPP
Capacity: 25.00Mt/a
Technique: HM bath

Linhuan Coal Preparation Plant:
Designed by BHEC, starting production in 2008.
One of China's largest coking coal CPP
Capacity: 12.50Mt/a
Technique: HM cyclone + HM slurry + Flotation

Longgu Mine Coal Preparation Plant:
EPC Project, starting production in 2007
One of China's Largest coking coal CPP
Capacity: 10.00Mt/a
Technique: vibration screen for lump coal + HM cyclone + flotation

Huannan Wangfenggang Coal Preparation Plant:
EPC Project, starting production in 2007.
Capacity: 4.00Mt/a
Type: Coking coal CPP
Technique: HM cyclone + Flotation

Yunnan Yunwei Coal Preparation Plant:
EPC Project, Starting production in 2006
Capacity: 4.00Mt/a
Type: coking coal CPP
Technique: HM cyclone + Flotation