



恒昌矿山机械
HengChang mining machinery

The operating instruction of spiral chute



江西恒昌矿山机械设备制造有限公司

JIANGXI HENGCHANG MINING MACHINERY MANUFACTURING CO., LTD

Tel: +86-797-5792699

Tax: +86-797-5792698

Contact: Hengchang Mining Machinery

Email: info@miningmachinery.com.cn

Phone: +86-18870705821

Website: www.hengchangmachinery.com

Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.

I. Description

Spiral chute is a type of new gravity separation equipment, especially for concentrating sand ore in beach, riverside. The spiral chute is made of the fiberglass lined with wear-resistant polyurethane; the advantages are light, moisture proof, anti-rust, wear proof, anti-corrosion and no noise, properly suitable for the different feeding particle sizes and grades.

II. Application

The sorting equipment for grain size 0.3-0.02 mm fine iron ore, titanium ore, chromite, pyrite, zircon, silica sand, monazite, rutile, phosphorus ore, tungsten, tin, tantalum niobium ore with the difference of specific gravity, and other non-ferrous metals, rare metals and non-metallic mineral.

III. Working Principle

Spiral chute is working under the force of water flow, gravity, inertial centrifuge and friction. Slurry is pumped to the top of the spiral, and it enters a feed distributor that evenly distributes the feed to each spiral concentrator. The design and shape of the spiral make it work, when combined with gravitational acceleration. As the slurry travels the spiraling path down the spiral, mineral grains settle and start sorting according to size, density and to a lesser extent shape. Low density particles are carried with the bulk of the water towards the outside of the spiral, while particles with the greatest density migrate towards the inside of the spiral.

IV. Technical Parameter

Model	Outer diameter	Screw pitch	Heads number	Feeding Size	Capacity	Dimension	Weight
	(mm)			(mm)			
BLL-1500	1500	900,675	2-4	0.8-0.037	6-10	1600x1600x4510	1100
BLL-1200	1200	900,720,540	2-4	0.3-0.037	4-6	1360x1360x5230	800
BLL-900	900	675,540,405	2-4	0.3-0.037	2-3	1060x1060x4000	400
BLL-600	600	450,360,270	2-3	0.2-0.037	0.8-1.2	700x700x2600	150
BLL-400	400	240,18	1-2	0.2-0.037	0.15-0.2	460x460x1500	50

Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.

V. Structure



- | | | | |
|---------|-----------------------|----------|---------------------------|
| 1. 主分流槽 | Main Diffluent Trough | 4. 支架 | Stand |
| 2. 分流箱 | Diffluent Box | 5. 分流接斗 | Ore Receiving Hopper |
| 3. 螺旋溜槽 | Spiral Chute | 6. 环形收集斗 | Annular Collecting Hopper |

VI. Installation and Adjustment

- 1) First check the glass steel spiral slice quality (especially the work surface quality), size and shape to meet the requirements for assembly.
- 2) Screw plate connecting bolt hole by the general factory in advance with a drill. If the manufacturer has no processing is required, according to the same template drilling, in order to ensure good interchangeability.
- 3) Bolt the five coil sheet are connected into a group of spiral groove, level set, two adjacent flange connection within the surface smooth transition is connected, special attention should be paid on the surface may not be lower than the corresponding lower sheet surface. Along the diameter direction (the slot width direction) to edge alignment as the standard, do not allow plate rim inside, so the installation is intended to prevent the occurrence of ore fluid splash. Joint gap, with putty.
- 4) The coupled five of a group of four (or two or three) spiral groove rotating together into a desired shape, distribution.

Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.

- 5) The four roots (three) column is respectively arranged in four (or three, two) spiral groove, bolt the spiral groove and the pillar is fixed, then install the cross (tripod), so that each spiral along the park are cloth, then all bolts. After installation, spiral plate to maintain the natural shape, with no obvious variant.
- 6) Would give mine groove and product interception groove are respectively arranged in the spiral groove of the head end and the tail end to ensure that the connection of close water leakage. If there is a gap, by coating sealing. To ensure the smooth transition of groove surface.
- 7) To mine even divider and product assemble bucket and the slot bracket is not connected, free placed on the bracket, the installation should pay attention to in the chart are position. Each row of tube to distributor is respectively aligned with corresponding to the ore tank.

VII. Usage

1. The main factors affecting the beneficiation effect of the spiral chute are the feeding volume and the feeding concentration. The stability of the feeding volume is more important than the stability of the feeding concentration. Practice has proved that as long as the feeding volume remains stable, fluctuations in feeding concentration within a certain range have little effect on the result of beneficiation.
2. Spiral chute beneficiation process is stable and easy to control. The feeding volume of BLL-1500 is 15-25m³/h, the feeding volume of BLL-1200 is 10-14m³/h, and the feeding volume of BLL-900 is 3.6-5.4m³/h. The feeding volume should be controlled as stable as possible, and the allowable fluctuation range is $\pm 5\%$. Constant pressure feeding is generally used.
3. The allowable variation range of the ore pulp concentration is generally 30% -60%, which needs to be determined through experiments. The concentration of roughing feeding can be generally 30% -50%, and the concentration of concentration feeding can be 40% -60%. When the beneficiation effect is similar, a high feeding concentration can be selected to increase the capacity of the spiral chute.
4. In order to make the spiral chute operate normally, materials need to be screened before the slurry fed to the spiral chute to prevent large particles and impurities from entering the spiral chute and affecting the beneficiation effect.
5. Adjust the position of the valve block on the product interception tank to change the yield and grade of each product. The cutting width of each product needs to be determined through experiments. After the position of the valve block is determined, do not change it at will.
6. Spiral chute needs to pay attention to whether the ore pulp flow is normal after feeding. If it doesn't have any ore pulp flow in outside, it must be corrected (water rinse).
7. During operation, check the spiral chute for accumulation frequently, and clear the accumulation in time.

Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.

VIII. Pictures



Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

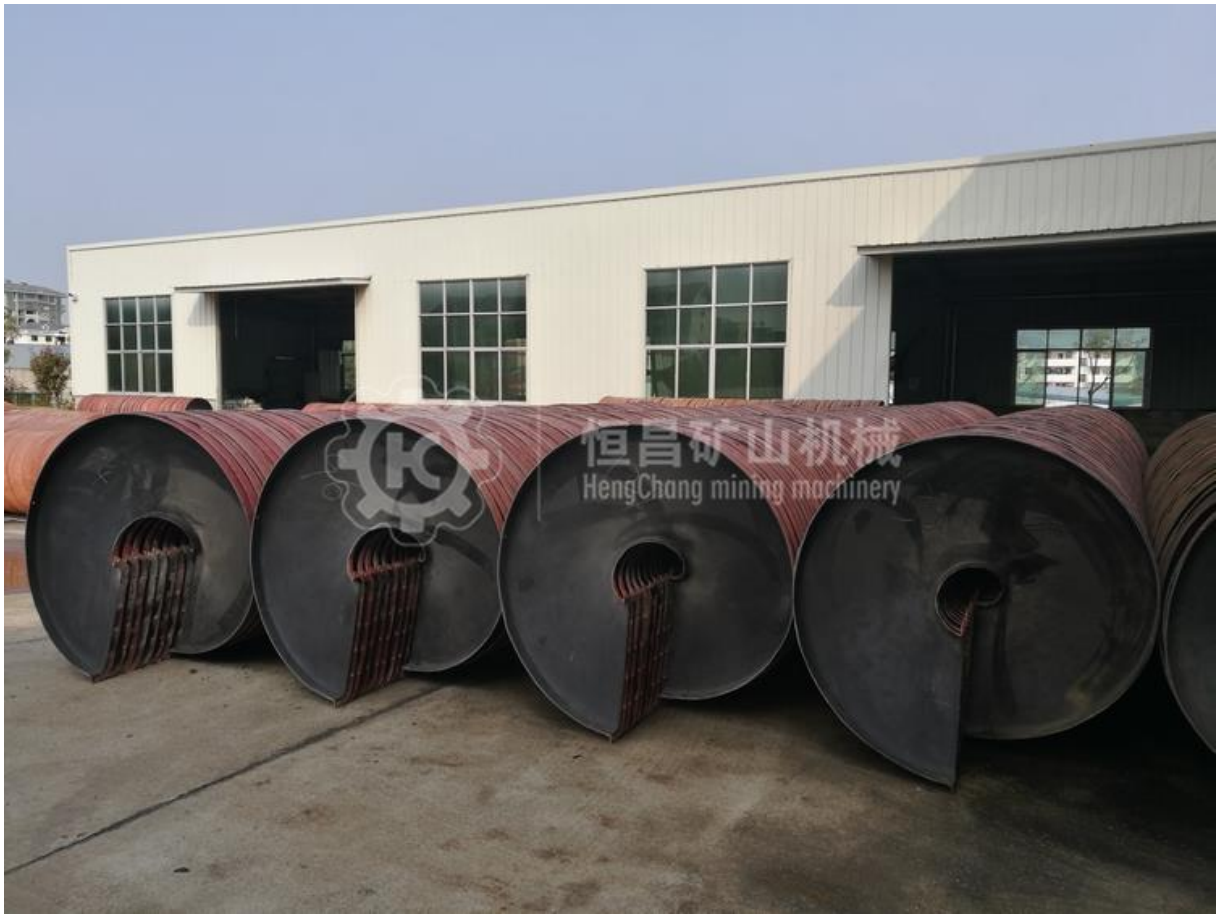
Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.



Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.



Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.



Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.

IX About us

Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd. is one of the leading company in mining gravity separator machine designing & manufacturing in China. Up to now, we have developed four major product lines; they are mining milling machine, mining classifying separator, mining flotation machine and the mining gravity separator.

We have three senior engineers and two junior engineers on equipment designing and mining process designing. At the same time, we kept good relationship with some mining research institute and university, such as Jiangxi University of Science and Technology, Ganzhou Nonferrous Metallurgy Research Institute, Hunan Research Institute of Nonferrous Metals, and etc., to improve our designing and production, and also provide technology support for the mining project.

With more than 30 years in mining business, we have accumulated enough experience in gold mining plant, tungsten mining plant, wolfram mining plant, tin mining plant, cassiterite mining plant, coltan mining plant, columbite mining plant, and iron ore mining plant, black/beach sand mining plant designing, manufacturing, installing, commissioning and training. We could provide the customized complete mining solution to our customer.

Our major overseas market is Africa and Southeast Asia, and our products covers 43 global countries, as more and more customers are aware of our quality products and good service, this number is growing fast.

Focus areas:

Mining equipment, vibrating feeder, vibrating screen, crusher, ball mill, classifying separator, leaching tank, flotation machine, gravity separator, shaking table, spiral chute, jig machine, centrifugal concentrator and other mining equipment.

Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.

About Us

Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd was established in 1985 with the registered capital of 500,000 USD. We covers an area of more than 30,000 square meters, owning more than 30 types of heavy processing equipments and with an annual sales Of more than 8 millions. We have a professional international level engineer team and a strong R&D department, having been cooperated with domestic and oversea Scientific Research Institutes for many years. As a professional mining machinery manufacturer, we take perfectness as our goal and are willing to make our continuous efforts.



Customers Visiting Us



Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.

Why Choose Us ?

OEM / custom make as per customers' requests.

International level engineers team

MORE

Experienced and Advanced mineral processing technology!

MORE

Over 30 years mining machinery manufacturing

MORE

HENGCHANG ONE-STOP SERVICE:

1. Providing test of your raw ore
2. Complete processing flowchart design
3. Supplying complete line of mining equipments
4. Engineers come to mining site for installation, commissioning and workers training.



Exhibition Show



Jiangxi Hengchang Mining Machinery Manufacturing Co., Ltd

Website: <https://www.hengchangmachinery.com/>

Contact: Hengchang Mining Machinery Whatsapp: +8618870705821 Email: info@miningmachinery.com.cn
Address: No. 3 Chuangye Road, Guzhang Industrial Park, Shicheng County, Ganzhou City, Jiangxi Province, China.