

Spiral chute



1、 product description

Spiral chute is integrated spiral separator, spiral chute, shaker, centrifugal concentration machine characteristics of the equipment, mining, mineral processing is the best equipment, especially the seaside, riverside, sand beach, the stream of placer mining is more ideal. The product has the advantages of reasonable structure, simple installation, covers an area of small, simple operation, stable ore beneficiation, clear, large processing capacity, high efficiency enrichment ratio high, high recovery rate, reliable operation characteristics. Have weight light, moisture-proof, rust-proof, corrosion resistance, of the feeding quantity and concentration, particle size, quality of volatility adaptability is strong, no noise.

2、 Separation principle

Spiral chute is a membrane flow gravity separation equipment, the selection principle is the use of useful minerals and gangue in proportion, particle size, shape differences, in rotating inclined flow by gravity, centrifugal force, hydrodynamic pressure and friction force with different groove face, realize the useful minerals and gangue stratification, branch tape sorting. Heavy, coarse granularity, fast sedimentation of particles gradually moved towards the spiral groove inner edge, the proportion of small, fine particle size, particle sedimentation slow gradually moved to the spiral groove edge, gradually banding, culminating in the spiral groove end by cutting ore tank is respectively connected out, to realize separation.

3、 Application

The sorting equipment for grain size 0.3--0.02 mm fine iron ore, titanium ore, chromite, pyrite, zircon, monazite, rutile , phosphorus ore, tungsten, tin, B mine of tantalum niobium ore with the difference of specific gravity, and other non-ferrous metals, rare metals and non-metallic mineral. The sorting process with a stable, easy to control, to allow changes to the mineral concentration range, high enrichment, high recovery rate, small occupation area, little water consumption, simple structure, no need of power, large processing quantity, simple installation, convenient operation, small investment, quick advantages.

4、 The method of use

The spiral chute is erected, calibrated vertical line, with metal or wood fixed in position, by the sand pump will ore to spiral top two inlet, adding supplemental water, mineral ore concentration regulation paddle, paddle down naturally from high swirl, in rotating inclined flow produces a kind of inertial centrifugal force, with ore proportion, particle size, shape differences, swirl through the action of gravity and centrifugal force, will be mine and sand separating, concentrate into the concentrate pipe connected with a hopper, tailings into tailing bucket a pipeline is connected to a sand pool, then the pump discharge, finished processing the whole process.

5、 Structure and technical parameter

Mainly by the ore separator, cross, to mine groove, helical groove, cutting trough, pick ore bucket and slot pillar of seven components. The helical groove is spiral chute of the main components, each spiral chute is 2 -- 4 head spiral groove, each head spiral groove is composed of 5 spiral plates (according to mineral properties and beneficiation process need, after tests also consider 4 circles, in order to reduce the equipment height) spiral plate by bolts are fixed together, spiral sheet is made of glass fiber reinforced plastic (FRP) made, light weight, anti-corrosion, moisture-proof, anti deformation and strength.

6、 Installation

Spiral chute installation procedures and requirements:

- 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.



Model	5LL-1200	5LL-900	5LL-600	5LL-400
External diameter (mm)	1200	900	600	400
Screw distance (mm)	900,720,540	675,540,405	450,360,270	240,180
Ratio(Screw distance /diameter)	0.75,0.6,0.45	0.75,0.6,0.45	0.75,0.6,0.45	0.6,0.45
Inclination angle(°)	9°	9°	9°	9°
Max. scroll buckets for each machine	4-2	4-2	3	2
Feeding granularity (mm)	0.3-0.03	0.3-0.03	0.2-0.02	0.2-0.02
Feeding concentration (%)	25-55	25-55	25-55	25-55
Capacity(t/h)	4-6	2-3	0.8-1.2	0.15-0.2
Dimensions	Length(mm)	1360	1060	700
	Width(mm)	1360	1060	700
	Height(mm)	5230	4000	2600
Weight (kg)	600	400	150	50