

LSX Spiral sand washing machine





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Luoyang Longzhong Heavy Machinery Co., Ltd is a high technology enterprise in Luoyang city, which is a professionally corporate enterprise that engaged in mine crushing machinery and , industrial grinding mill researching, development and manufacturing. The company is located in beautiful Luoyang, in the middle of China, which covers more than 50000 square meters with modern and professional technical team, equipped with advanced CAD computer aided design system and computer simulation test system. All of these good facilities keep our products in high quality.

Our main products are Crusher, Sand making machine (Vertical Shaft Impact Crusher), Vibrating Screen, Vibrating Feeder, Sand Washing Machine, Sand Recycling Machine, Belt conveyor, industrial mills etc. What's more, the Sand Recycling Machine has been awarded the reputation of Luoyang high-tech achievements transformation project. We have become the main production and export base of Sand making and grinding mill machine.

Base on years' experience and technology, LSX spiral sand washing machine is designed to provide bigger capacity and higher cleaning level than traditional one. It is also called "stone washing machine" as its input material size is at most 30mm. Now it is widely used for cleaning materials in quarry, minerals, building materials, transportation, chemical industry, water conservancy and hydropower, cement mixture station and so on.





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● Features:

1. Three functions: cleaning, dewatering and grading.
2. Cleaning and upward conveying at the same time.
3. Low water consumption.
4. Impellers use wear resisting plate or polyurethane material so as to reduce the running cost.
5. Designed according to low volume and low investment.

● Working conditions:

This sand washer should be installed with an angle of 15 degree, under the water tub, three weir plates form the sediment pool, the screw head is immersed in this pool, the screw is driven by electric motor through reducer rotating continuously, the fresh water is feeding from porous plate at bottom of sediment pool, this machine have three functions of washing, de-watering, classifying.

Washing:

The sand is feeding into the sediment pool from the feeding box, with the help of rotating screw blade, the sand is turning, rolling and grinding each other to eliminate impurity and water-air layer around sand to facilitate de-water. The fresh water rising current from the porous plate carries foreign matter to water surface and overflow the weir plate, to finish washing processing.

De-watering:

The sand with bigger density is sunken down to tub bottom, the screw blade push this sand upwards, when passing through upper tub of proper length above water level, the water is draining into sediment pool from another drainage ditch, the de-watered sand is out from the discharging opening.

Classifying:

Material classifying is realized by overflowing the fine particle that does not meet the standard requirements. The controlling method is adjusting height of overflowing weir and adjusting speed of screw.



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● Structure Description:

This machine is a single screw sand washing machine, and it contains the following parts:

The Transmission Device: It is composed of the electric motor, big and small belt pulleys, triangle belt and gear reducer.

Gear reducer: speed ratio $i=68.61$, a whole sealing oil bath type. The gear is steel cylinder helical gears. The materials of the gear reducer are HT20-40 with industrial pad liner ($\delta=0.5\text{mm}$). The liner is smeared with fluid sealant. The reasonable design of the gear and the gear reducer ensures the accuracy of transmission.

Screw arbor: Screw diameter $D=920\text{mm}$, Thread pitch $S=445\text{mm}$, Head $Z=1$, Cylinder number $N=15.5$. The materials of screw blade is Q235A, $\delta=8\text{mm}$ armor plate jointed continuously to the hollow shaft. The screw of each thread pitch is composed of six liners. Liner materials are high manganese cast steel (ZGMn13). The screw liner is connected by bolt, nut and screw blade. Hollow shaft is seamless pipe (219X22) which ensures intensity and rigidity. On the both side, jointing ring flange which is connected to lug and under-part bearing respectively. This structure meets the demand of sand to wash, separate, and classify and dehydrate fully.

Under-part bearing: the lower extreme of screw arbor is under the waterline of trough, supported by the under-part bearing. All axial force of screw arbor is supported by rolling bearings from gear reducer. Under-part bearing does not support axial force, but radial force. Under-part bearing is installed the outside of trough's under surface. Tail shaft is connected to the screw arbor. It rotates in the flexible rubble sealing washer when works. Thackeray washer rotates with tail shaft, which still sealed well after under-part bearing's long-term use.



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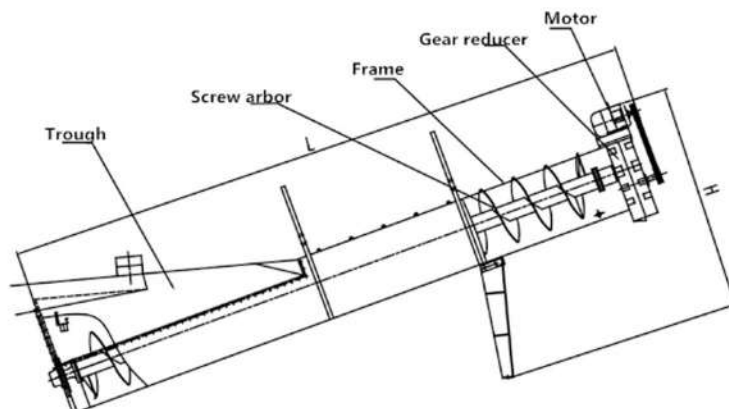
Trough: It contains shell, input devices, right weir plates and left weir plates. Trough is steel plate jointed into water tight structure. Right and left weir plates and input devices are connected by bolt, nut, and grower washers. Right weir plate and left weir plate &=3(mm)rubber sheet for sealing.

On the bottom of trough, it installs sheet bending machine on one side which keeps a suitable clearance with the out edge of the impeller in order to move particles forward. Another side is gutter used for discharging moisture from sand.

Overflow plate can be adjusted; upgrade one or two weir plates, can curtail the valid length change the admission velocity of washing water, can increase working head and change overflow speed, getting rid of granule according to the demand of classification.

Wire plates can provide compensation when trough's location tilts by the mistakes of assembling and installment.

The sand needed to wash gets into the washer from input devices. It has no inside and outside baffle plate, can control the material flow effectively and reduce velocity of flow. When input devices install at the correct location, sand can get into the washer evenly, and reduce backset to keep fine materials.



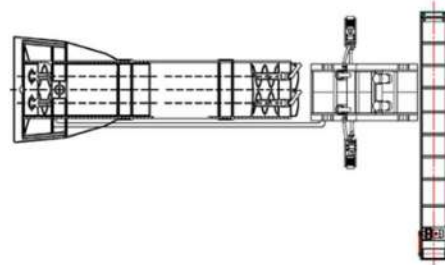
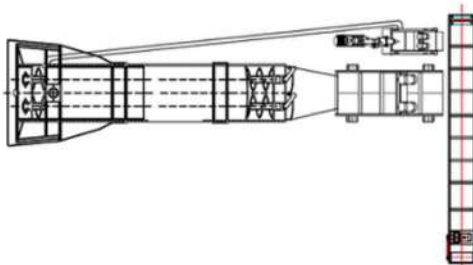
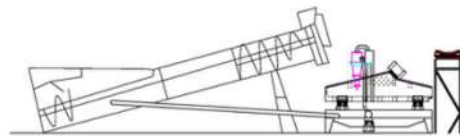
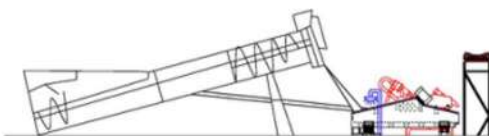


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● Technical Parameter:

Model	Spiral diameter (mm)	length of tub(mm)	Feed size (mm)	Capacity (m³/h)	Speed of screw (r/min)	Motor Power (kw)	Water consumption (m³/h)	Weight (t)	Overall dimension (L×W×H) (mm)
LSX508	508	6705	≤10	20	38	5.5	6-60	2.67	8000×2434×1430
LSX610	610	7225	≤10	40-50	32	7.5	6-63	3.8	8000×2050×1400
LSX762	762	7620	≤10	50-75	26	11	9-63	5.23	8545×2550×3862
LSX-920	920	7585	≤10	100	21	11	10-80	6.2	8420×2180×3960
2LSX-920	920	7585	≤10	200	21	2*11	20-160	11.5	8420×3970×3960
LSX-1120	1120	9750	≤10	175	17	18.5	20-150	10.9	10770×3950×4860
2LSX-1120	1120	9750	≤10	350	17	2*18.5	40-300	17.8	10770×5260×4860

● Flowing design:





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● Part of the case:



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