

FH Type Mechanic Screen



Channel Width(Max):3m

Channel Depth(Max): 10m

Filtering gap: 1, 3, 5, 10, 15, 20mm, etc.

Inclination referred to vertical:60°~80°

The teeth belt cleaning the screening continuously and cuttingdown most of the polluting load

The teeth are made of plastic material (nylon) . Stainless steelSS304 or SS316L is available as option.

Material of frame can be made of either carbon steel, galvanizedsteel or stainless steelL

Capacity of one unit is up to10, 000 m³/h

Mechanical grating

Mechanical grid is a special water treatment equipment that can continuously and automatically intercept and remove sundries of various shapes in the fluid, which can be widely used in urban sewage treatment.

Product introduction:

At the same time, it can also be used as the front screening equipment in the wastewater treatment process of textile, food processing, papermaking, leather and other industries. It is one of the most advanced solid-liquid screening equipment.

Product working principle:

The mechanical grid drawing is a group of rotary grid chains assembled by a unique rake tooth factory. Driven by the motor reducer, the rake chain rotates against the water flow direction.

When the rake tooth chain is transported to the upper part of the equipment, due to the guidance of the grooved wheel and the curved rail, there is a relative self-cleaning movement between each group of rake teeth, and most solid substances fall by gravity. The other part cleans the sundries adhered to the rake teeth by the reverse movement of the sweeper.

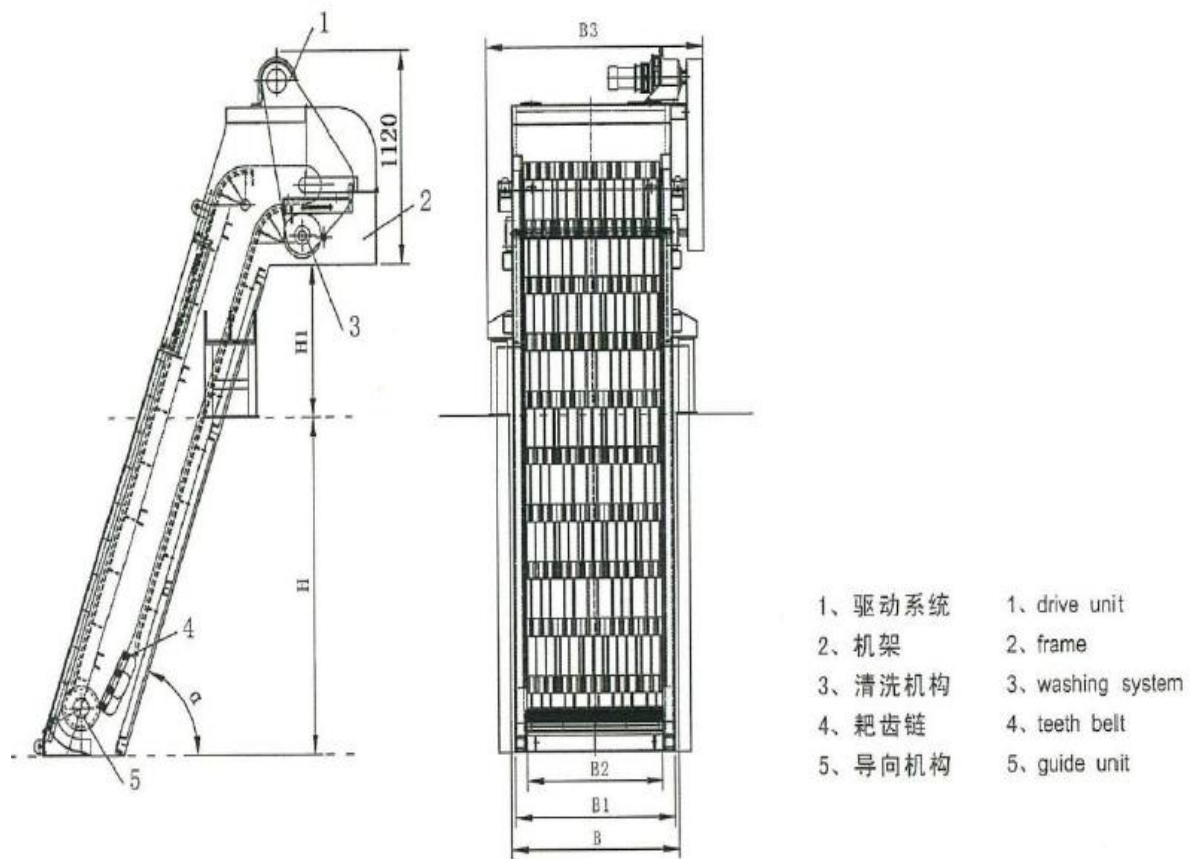
According to the water flow direction, the rake tooth chain is similar to the grid, and the rake tooth clearance assembled on the rake tooth chain shaft can be selected according to the service conditions. When the rake teeth separate the solid suspended solids in the fluid, it can ensure the smooth flow of water. The whole working process is continuous or intermittent.

Product features:

The biggest advantages of the equipment are high degree of automation, high separation efficiency, low power consumption, no noise and good corrosion resistance. It can ensure continuous and stable operation when unattended. It is equipped with overload safety protection device, which will automatically shut down in case of equipment failure, so as to avoid overload operation of the equipment. The equipment can arbitrarily adjust the equipment operation interval according to the needs of users to realize periodic operation; It can be automatically controlled according to the liquid level difference before and after the grid; It also has manual control function to facilitate maintenance. Users can choose according to different work needs.

Due to the reasonable structural design of the equipment, when the equipment is working, it has strong self purification ability and will not be blocked, so the daily maintenance workload is very small.

FH Type Mechanic screen



Main technical data of partly equipments

H	[2.5 5 7.5] (m)	gap (mm)					Screen Width (B 1)	Channel Width (B)
		1	3	5	10	15		
Model	Power supply (KW)	Flow rate (m ³ /h)						
FH-300	0.37	150	300	450	460	460	300	400
FH-400		170	340	420	510	540	400	500
FH-500	0.55	240	480	590	730	750	500	600
FH-600		308	620	764	920	960	600	700
FH-700		360	720	930	1124	1160	700	800
FH-800	0.75	440	880	1080	1330	1420	800	900
FH-900		550	1024	1250	1450	1580	900	1000
FH-1000		580	1160	1450	1760	1830	1000	1100
FH-1100	1.1	650	1310	1670	2000	2080	1100	1200
FH-1200		710	1470	1750	2080	2250	1200	1300
FH-1300	1.5	780	1560	1820	2160	2310	1300	1400

Screens and Compactors

GL Type Automatic Bar Screen



Channel Width(Max): 3m

Channel Depth(Max): 10m

Filtering gap: 10, 15, 20mm, etc

Inclination referred to vertical: 60°~80°

Back rake design against clogging of driving chain

Material of rakes: carbon steel epoxy painted, carbon steel hotdip galvanization, stainless steel SS304 or SS316L

Material of frame: carbon steel epoxy painted, carbon steel hotdip galvanization, stainless steel SS304 or SS316L

The capacity of one unit is up to 10,000 m³/h

GL Series grille cleaner (coarse grille)

1、 Overview GL Series grid decontamination machine is a large coarse grid equipment used to remove large suspended solids in water, which is usually also called coarse grid machine; The device can continuously and automatically remove the suspended solids in the liquid. It has the advantages of reasonable design, simple structure, safe and reliable operation and high degree of automation. It can be widely used in urban sewage treatment and water intake in waterworks Large flow water treatment places such as inlet, rainwater pump station and cooling water intake of power plant. The equipment frame structure refers to the advantages of the patented rotary solid-liquid separator of our factory, and adopts a different working principle, that is, the rake tooth chain makes a rotary movement before and after the grid bar. When the rake tooth runs to the upstream surface of the grid bar, it is inserted into the gap of the grid bar and makes a cleaning action from bottom to top. Rake chain adopts

The closed type ensures that no sundries are allowed to invade and makes the equipment run more smoothly. During equipment installation, the whole machine is used for hoisting, and only two steel plates need to be embedded on the floors on both sides of the water collecting well, which is simple, economical and convenient for installation and maintenance.

working principle

GL Series grid trash remover includes frame, drive speed change system, drive guide wheel, support wheel, closed rotary traction chain rotating around it, tooth rake and grid

Article. Driven by the motor reducer, the rotary traction chain rotates from bottom to top. When the tooth rake on the traction chain runs to the upstream surface of the grid bar, the rake teeth are inserted into the gap of the grid bar for cleaning action to scrape the sundries intercepted on the grid bar into the rake. Because the tooth rake is designed as a double tooth rake, there is an included angle between the two teeth. In this way, when one tooth is inserted into the gap of the grid strip for fishing, the other tooth forms an encircling potential to surround the solid sundries, so as to prevent them from leaking, and the removal efficiency is high and complete. When the tooth rake is transported to the upper part of the machine, the rake teeth turn over, and the sundries fall off by themselves to the material container or directly fall into the conveyor, so as to remove the sundries in time.

In addition, the company's technical personnel have fully considered some defects and deficiencies in the previous operation of the GL Series grid when upgrading and designing the grid, and have been optimized and improved by the company's product center technology to improve the practice and observation for nearly a year. At present, the GL Series grid trash remover has greatly exceeded the traditional similar models in terms of energy saving and operation performance. The details are as follows:

1. Sundries may enter the traction chain and get stuck after winding the traction chain, so a closed traction chain is added to improve the design of anti winding measures.
2. The underwater shaft assembly is made of 316L corrosion-resistant stainless steel and equipped with optimization measures such as reinforced nylon oil-free bearing, so as to avoid the maintenance cost of frequent replacement of accessories due to corrosion of underwater parts.

3. Chain climbing accidents often occur in the daily operation of the grid decontamination machine, resulting in the damage of the transmission chain and causing great losses to customers. For this, the technicians carefully designed a set of strict chain breaking prevention device through many relevant experiments.

Equipment characteristics and service conditions ◆ equipment characteristics

1. The grid bar of GL type grid trash remover is placed in the middle of the rake tooth traction chain (other mechanical grids are placed under the traction chain), which changes the movement direction of the rake tooth in the fishing process (opposite to other grids), and avoids the risk of being stuck by the hard substances brought into the bottom.

2. The equipment adopts closed rotary traction chain. It is mainly composed of chain plate, chain pin and roller. During operation, it is guided by the guide rail on the frame, and the roller rolls on the guide rail, with small resistance and stable operation.

3. In order to avoid the damage of impact load to the equipment, overload safety protection device is designed and installed. In case of equipment failure, it will alarm in time and shut down automatically.

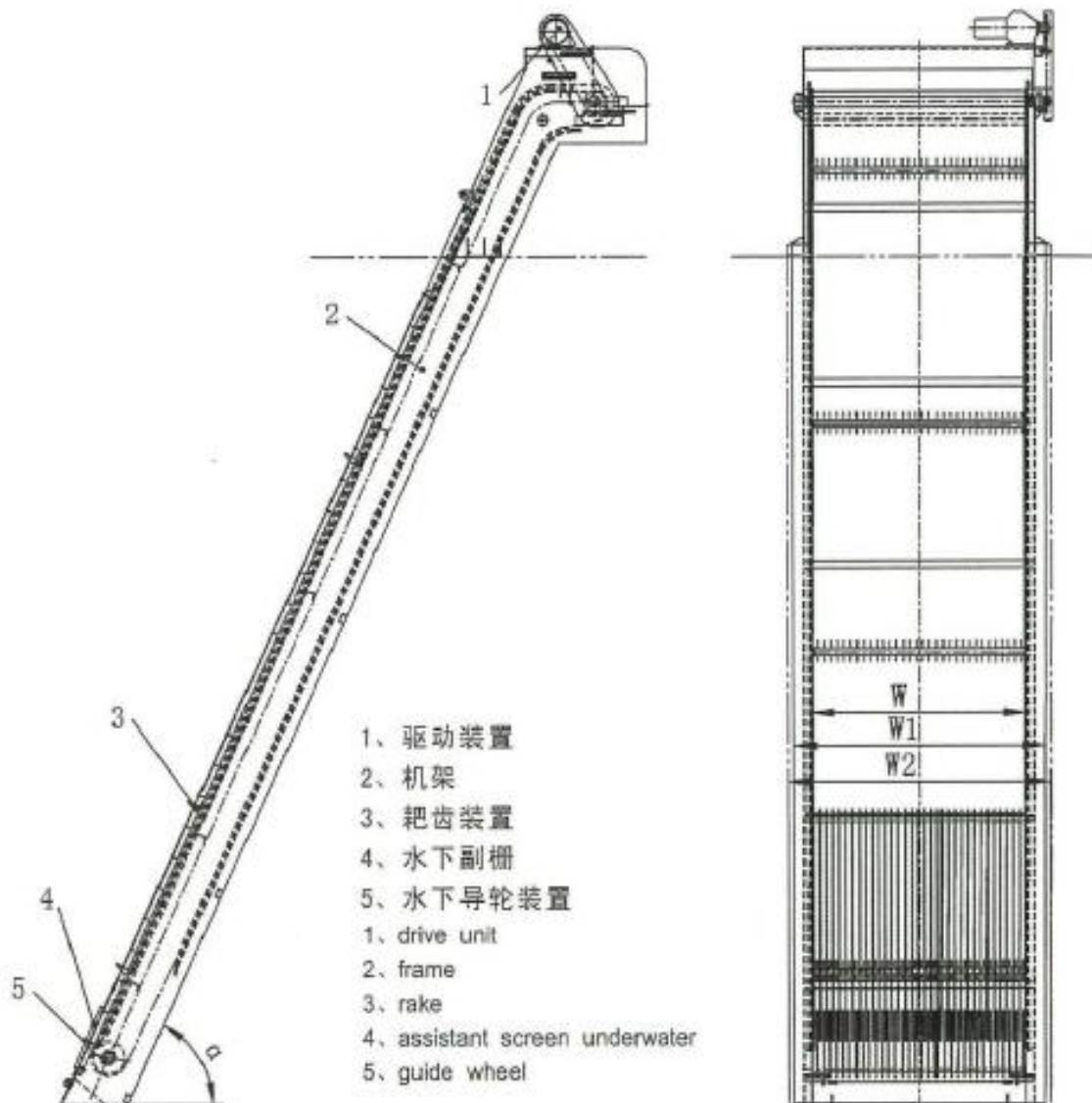
4. The equipment can arbitrarily adjust the operation interval of the equipment according to the needs of customers to realize periodic operation;

5. According to the liquid level difference before and after the grid, it can be controlled automatically. At the same time, it is also equipped with necessary manual control function, which can facilitate shutdown maintenance or annual overhaul; The equipment also has an alarm device, which will generate audible and visual alarm in case of machine failure. Users can choose according to different work needs.

In a word, GL type grid trash remover has the advantages of high degree of automation, good slag fishing and slag removal effect, low power consumption, no noise in operation, good corrosion resistance of equipment (the above water part of the machine is made of carbon steel, the underwater part is made of stainless steel, and the equipment shell is made of stainless steel); When the grid trash remover is unattended, it can also ensure continuous and stable operation with less daily maintenance. service conditions

GL type grid trash remover is applied to the two grids of water supply and drainage of sewage treatment plants and the water intake of water intake structures without coarse floating objects; It can also be used in the water intake of industrial wastewater such as papermaking, textile, leather, wine making, sugar pressing and aquatic products, as well as the water source of urban water supply companies. Generally, according to the design regulations, the grid trash remover shall be installed at the head and second Doug grid wells of the water inlets of water supply, drainage, water intake and other structures.

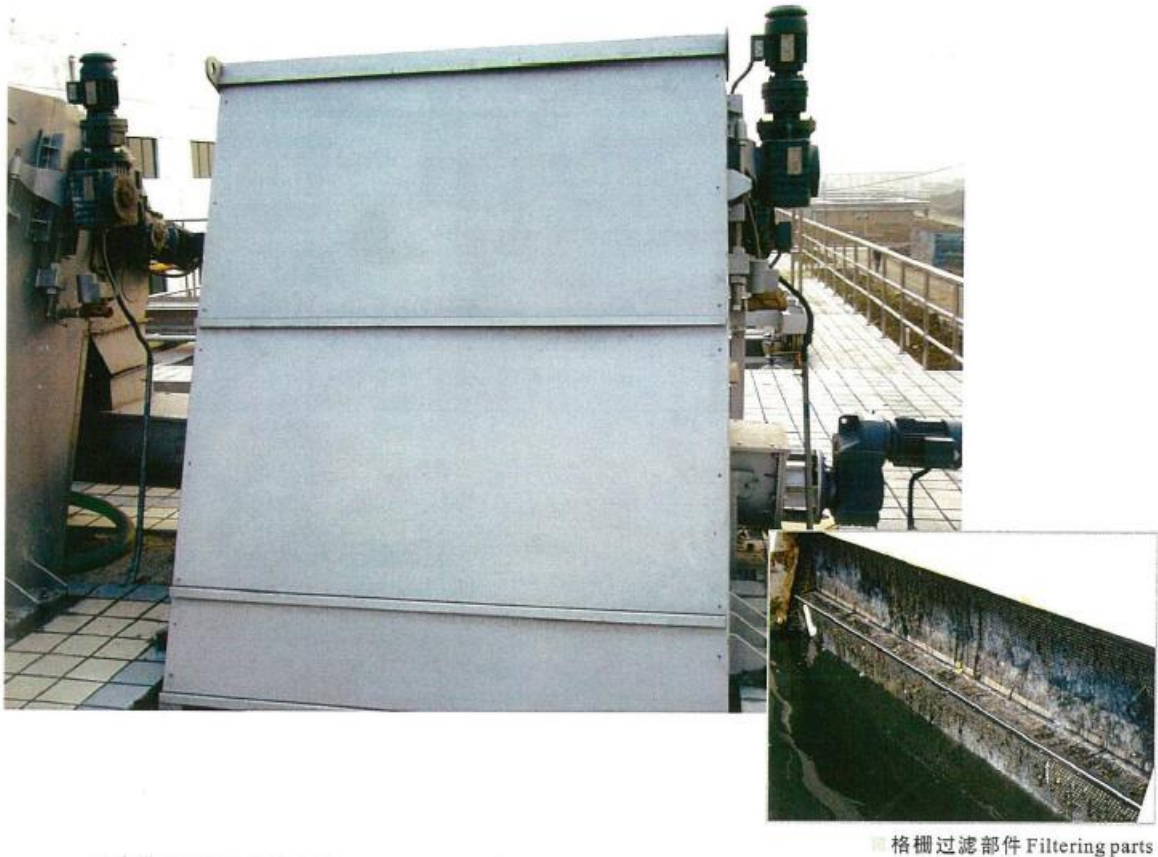
GL Type Automatic Bar Screen



Main technical data

Model	Filtering belt Width (W)	Screen width (W1)	Channel width (W2)	Filtering gap (mm)	Filtering belt speed (m/min)	Discharge Height (m)	Inclination referred to vertical (a)	Power supply (kw)
GL300	300	430	500	3~20	2.2	0.8~1.0	60° ~80°	0.75
GL500	500	630	700	3~20				0.75
GL800	800	930	1000	3~20				1.1
GL1000	1000	1130	1200	3~20				1.1
GL1200	1200	1330	1400	3~20				1.5
GL1500	1500	1630	1700	3~20				1.5
GL1800	1800	2090	2210	3~20				2.2
GL2200	2200	2490	2610	3~20				3.0

GJW Type Perforated Plate Fine Screen



Perforated plate dissociation up to 2mm

Heavy duty type stainless steel drag chain

Maintenance free, no submerged bearing

Long life stainless steel perforated plate, no need replace filter parts frequently

Adjustable efficient washing device, suitable for removing fibre solids from water

High flow rate, low water-head lost

Low power consumption, low flush water

With efficient washing brush at the back of the screen most of the solids could be brushed to conveyor. Automatic washing device could perfectly clean the perforated plate hole.

Front and back full closed design, back chute directly connected with inlet of conveyor.

Option: timing or differential level sensor control

1、 Product introduction

The main purpose of the stepped grid machine is to remove small floating objects and garbage, leaves, weeds, wood blocks, domestic garbage, animal hair, fibers, etc. in the water body. It is widely used in sewage treatment waterworks, circulating water, reclaimed water plant pump stations and water inlets of other hydraulic structures to ensure the normal operation of subsequent processes.

2、 Working principle

The stepped grid machine is a group of rotary grid chains assembled by a unique circular mesh plate. Driven by the motor reducer, the mesh chain rotates against the water flow direction.

When the net plate chain is transported to the upper part of the equipment, due to the guidance

of the grooved wheel and the curved rail, there is a relative self-cleaning movement between each group of rake teeth, and most of the solid materials fall by gravity. The other part cleans the sundries stuck on the screen plate by the reverse movement of the sweeper and flushing water.

According to the water flow direction, the mesh plate chain is similar to the filter plate. The mesh plate aperture assembled on the mesh plate chain shaft can be selected according to the service conditions. When the net plate separates the solid suspended solids in the fluid, it can ensure the smooth flow of water. The whole working process is continuous or intermittent.

3. Main features

The biggest advantage of the stepped grid machine is that the interception rate is very high, which is several times higher than that of the ordinary rake tooth grid machine. It can intercept very small sundries, such as pepper skin and pepper shell, with high automation, low power consumption, no noise and good corrosion resistance. It can ensure continuous and stable operation when unattended. It is equipped with overload safety protection device. In case of equipment failure, it will stop automatically, which can avoid equipment overload.

The equipment can arbitrarily adjust the equipment operation interval according to the needs of users to realize periodic operation; It can be automatically controlled according to the liquid level difference before and after the grid; It also has manual control function to facilitate maintenance. Users can choose according to different work needs. Due to the reasonable structural design of the equipment, when the equipment is working, it has strong self purification ability and will not be blocked, so the daily maintenance workload is very small.

4. Structure and performance

The stepped screen grid decontamination machine is mainly composed of driving device, frame, transmission sprocket, traction chain, stepped screen and electrical control cabinet.

1. Rack

The frame of the stepped screen grid trash remover is an integral rigid structure welded with stainless steel plate and section steel. The frame material can be all stainless steel. The two side plates are set with cross braces at a certain distance. Necessary measures shall be taken according to the specific requirements of the grid to ensure the safe and reliable operation of the equipment. There is a gap between the two sides of the rack and the grid well, and the floating garbage is prevented from passing through through the rubber sealing plates on both sides of the rack.

2. Traction chain and sprocket

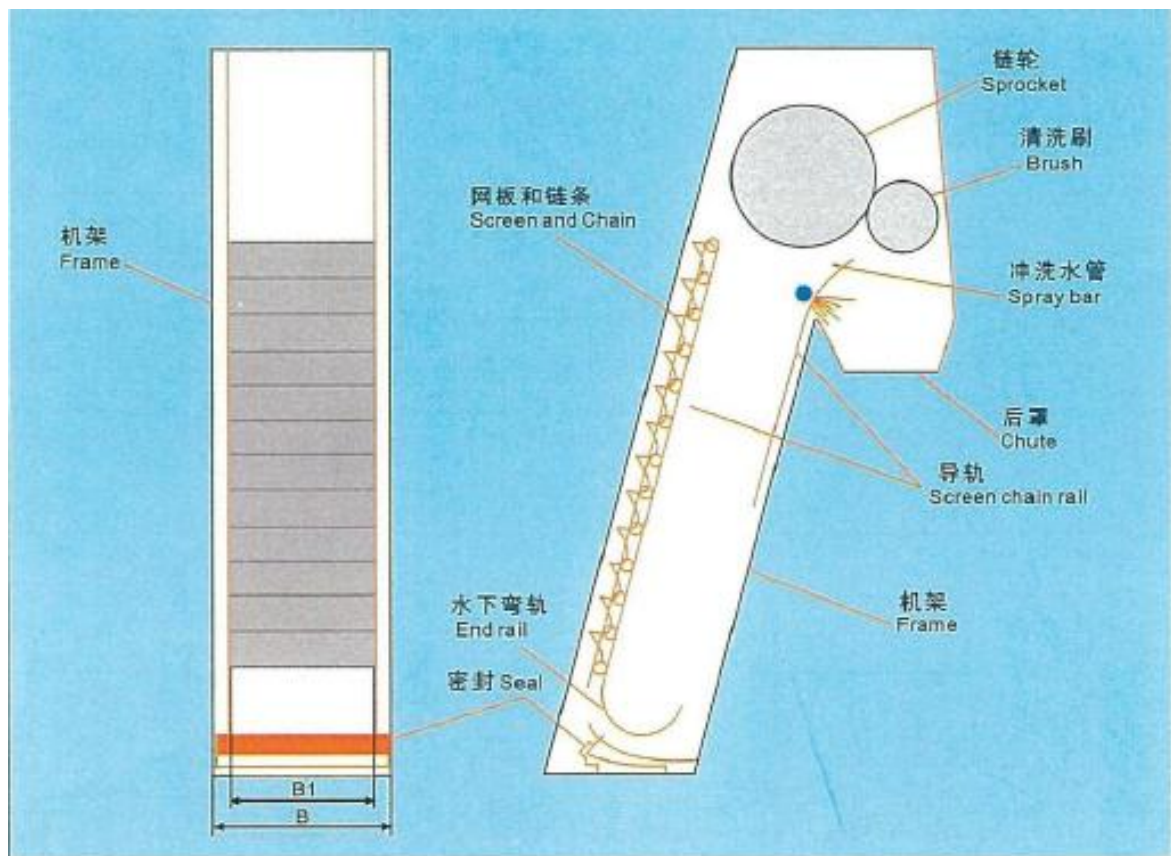
The traction chain used for transmission is made of stainless steel, the chain has sufficient section size, and the breaking strength of the traction chain is not less than 5 times of the maximum traction force. The traction sprocket and guide device (non sprocket) for transmission are respectively placed at the upper and lower parts of both sides of the frame. In the form of underwater guide device, there are reliable facilities in the structure to prevent the winding of grid slag and other dirt. The guide must be a non sprocket mechanism.

3. Stepped screen plate the stepped screen plate is made of stainless steel, and the screen surface is regularly arranged small holes. The mesh surface shall have the functions of water passing and sewage interception. The step surface can intercept large dirt, with a width of 7.5 ~ 8.0cm. The whole stepped screen filter belt surface shall be provided with sufficient water passage to ensure

that the water area and flow meet the design requirements, and the flow rate of sewage through the grid gap shall be less than 1m / s.

5. Technical parameters and selection

The equipment specifications are divided into gjw400 ~ 1500 types according to the channel width. If the machine width exceeds 1500mm, it shall be made into parallel connection. The mesh diameter is divided into various specifications such as 1mm ~ 10mm. The selection is based on the water flow, lifting height, total amount of solid-liquid separation, the shape and particle size of the separated substances, and different materials are selected at the same time. The equipment trench depth can be arbitrarily extended according to user needs and actual use conditions. Special specifications shall be designed separately.



Main technical data

Mode	GJW700-GJW3000
Device width screen width B (mm)	700~3000
Perforated plate width B1 (mm)	B-150
Channel width B2 (m)	B+100
Channel depth H (m)	1.5~10
Perforated plate hole dia φ (mm)	3、5、6、8、10
Unit flow rate ($10^4\text{m}^3 / \text{d}$)	1.3~5
Filtering belt speed (m / min)	≤ 3
Total motor power supply (kw)	1.5~3

Design water-head (m)	0.5~1
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RSM Type Rotating Drum Screen



Simple structure with high reliability

Compact design, minimum space required

Rotating drum is made of wedge wire bars with the best hydraulic feature

Filtering gap: 0.25, 0.5, 1.0, 1.5, 2.0, 3.0mm

Capacity, filtering gap, screening drum length are positive linear relations

Material of frame can be stainless steel SS304 or SS316L

Scope of use:

The equipment can remove fine particles with a diameter of more than 0.25mm in water, and is suitable for sewage treatment in various industries such as papermaking, tanning, slaughtering, wine making, food, chemical fiber and textile.

working principle:

The AC speed regulating motor drives the grid cylinder through the reducer. The sewage goes to

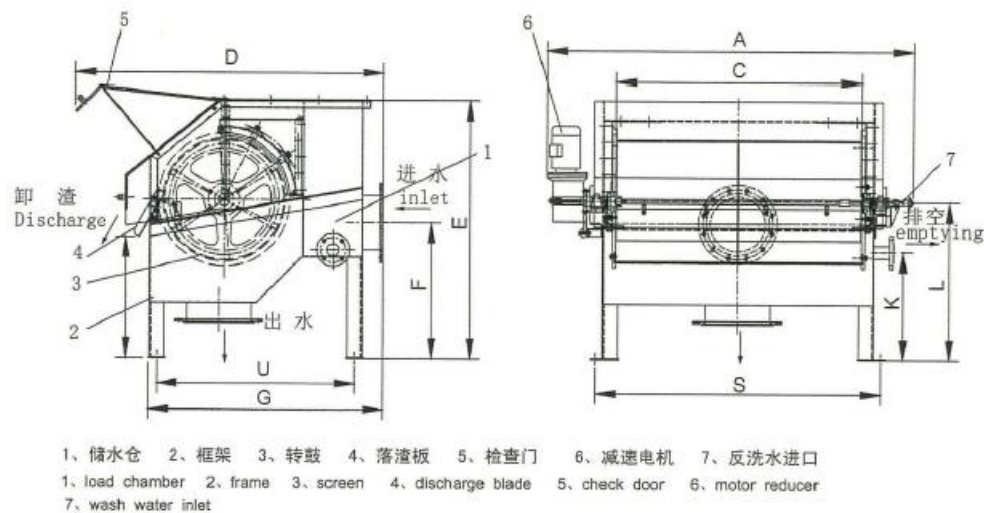
the water tank through the inlet valve and rises to the filter water level through the partition of the buffer uniform distribution box. The purified water enters the water storage box through the grid gap and is discharged outward at the bottom. At the same time, the grid is cleaned, and the impurities larger than the grid gap and fibrous organic matter are cleaned, The water content of the garbage discharged by the grid to the slag discharge hopper for treatment is 30% ~ 50% lower than that of the original internal influent microfilter.

characteristic:

The equipment is made of stainless steel, corrosion-resistant, compact structure, small floor area and convenient installation. It can be directly fixed with expansion bolts. The equipment can be connected with water inlet and outlet pipes without grooves.

The grid bar has a trapezoidal section, so that the filter residue is not easy to block the filter screen. According to the different inlet flow, the speed regulating motor is used to control to ensure that the work is maintained in a good state.

The special flushing device can brush away the impurities (even a small amount) adhered to the grid surface. After two internal flushing, the screen barrel can achieve a good grid cleaning effect. At the same time, an internal flushing device is set to flush away the dirt attached to the mesh.



Main technical data

Model	Inlet	Outlet	Washing Water	A	C	D	E	F	G	H	K	L	S	U
RSM3560	DN100	DN150	DN15	1160	600	950	1470	1080	700	1055	985	1140	676	550
RSM610	DN150	DN200	DN15	1250	610	1550	1600	980	1175	940	841	1091	806	995
RSM1220	DN200	DN250	DN20	1835	1220	1550	1300	680	1179	604	541	791	1416	995
RSM1830	DN250	DN300	DN25	2445	1830	1550	1600	980	1175	940	841	1091	2026	995
RSM81830	DN300	DN350	DN25	2510	1830	1830	2280	1545	1240	1450	1388	1670	2026	1050

Notes: Height of rotating drum screen can be adjusted according to the application condition, all the height dimensions in the drawing is for reference. Actual dimension will be based on customer design

Filtering gap	0.25	0.5	0.75	1.0	1.5	2.5	Screen drum diameter (mm)	Screen drum length (mm)	Power supply (kw)
Model	Flow rate (m3/h)								
RSM3560	8	15	20	25	32	42	350	600	0.25
RSM610	33	60	81	100	130	170	610	610	0.55
RSM1220	65	120	162	200	260	340	610	1220	0.75
RSM1830	100	180	243	306	397	520	610	1830	0.75
RSM81830	175	315	436	535	695	912	800	1830	1.1

Notes: Other filtering gap is available based on customer design.

LSY Type Shaftless Screw Compactor-conveyer



Screening of multiple screen installed side by side will be transported and dewatered in one machine

Simple structure and reliable operation, low maintenance cost

Shaftless screw achieves easy transfer of material

Enclosure to eliminate the secondary pollution

Shaftless screw is made of special molding technology and has high stiffness

The compaction chamber consists of a drain-pressing pipe comprising a set of wedge wire bars and washing nozzles

Hinged closing element and counterweight can be adjusted for the different requirements

Materials of channel: carbon steel, hot dip galvanized steel, stainless steel SS304 or SS316L

Materials of screw: carbon steel Q345, stainless steel SS304 or SS316L

Materials of liner: HDPE, nylon or UHMWPE

Working principle and composition of screw conveyor

Screw conveyor is a continuous conveying equipment widely used in metallurgy, building materials, chemical industry, grain and machining. From the perspective of conveying material displacement direction, screw conveyor is divided into horizontal screw conveyor and vertical screw conveyor, which are mainly used for horizontal conveying and vertical lifting of various loose materials such as powder, granular and small pieces. This machine is not suitable for conveying special materials that are easy to deteriorate, viscous, easy to agglomerate or high temperature, afraid of pressure and have great corrosivity. Ls screw conveyor is designed and manufactured according to JB / t679-95 screw conveyor. It is a replacement product of GX screw conveyor. The head and tail bearings are moved outside the shell. The lifting bearing adopts sliding bearing and is equipped with dust-proof sealing device. The bearing bush is generally made of powder metallurgy. The felt bearing bush is used for conveying cement. The lifting shaft and screw shaft are connected by sliding block. When removing the screw, there is no need to move the driving device. When removing the lifting bearing, there is no need to move the screw. The lifting

bearing can be lubricated without removing the cover plate. The reliability of the whole machine is high, Long service life, strong adaptability and convenient installation and maintenance. Screw conveyor has the advantages of simple structure, low manufacturing cost, strong sealing, safe and convenient operation, and can be loaded and unloaded at multiple points in the middle. It is widely used in chemical industry, building materials, metallurgy, grain and other departments $\beta < \text{Under the condition of } 20^\circ$, transport powdery, granular and small materials with low viscosity, not easy to deteriorate and not caking.

Application scope of screw conveyor

Screw machine is widely used in various industries, such as building materials, chemical industry, electric power, metallurgy, coal mine carbon, grain and other industries. It is suitable for horizontal or inclined conveying of powdery, granular and small materials, such as coal mine, ash, slag, cement, grain and so on. The material temperature is less than 200°C . The screw machine is not suitable for conveying perishable, viscous and caking materials. In the concrete mixing plant, the function of screw conveyor has been most reflected

The technical characteristics of screw conveyor are composed of driving device, closed tank and screw. The coal in the tank is pushed and output by screw rotation.

The screw conveyor is characterized by:

The utility model has the advantages of simple structure, small cross-sectional size, good sealing performance, reliable operation and low manufacturing cost, and is convenient for intermediate loading and unloading. The conveying direction can be reversed or transported to the opposite two directions at the same time. Materials can also be stirred, mixed, heated and cooled during transportation. The material flow can be adjusted through the loading and unloading gate. However, it is not suitable to transport perishable, viscous, caking and large materials. During the conveying process, the materials are easy to be broken, and the spiral and chute are easy to be worn. The unit power is large. In use, the tightness of the material groove and the appropriate gap between the screw and the material groove shall be maintained. Vertical screw conveyor is suitable for short distance vertical conveying. The screw of flexible screw conveyor is composed of flexible shaft and synthetic rubber blade, which is easy to bend. It can be arranged arbitrarily according to the site or process requirements for space transportation. The blades of screw conveyor have on-site pulling type and integral pulling loss. The on-site pulling type can be made into any thickness and size, and the integral pulling type is not suitable for making non-standard screws. From the perspective of conveying material displacement direction, screw conveyor is divided into horizontal screw conveyor and vertical screw conveyor, which are mainly used for horizontal conveying and vertical lifting of various loose materials such as powder, granular and small pieces. The screw conveyor is not suitable for conveying, which is easy to deteriorate, viscous, easy to agglomerate or high temperature, afraid of pressure Special materials with high corrosivity.

Screw conveyor is generally composed of conveyor body, material inlet and outlet and driving device; The spiral blade of screw conveyor has three forms: solid spiral surface, belt spiral surface and blade spiral surface. Among them, the blade spiral surface is relatively less used and is mainly used to transport materials with high viscosity and compressibility. This spiral suspended surface type has the functions of mixing and mixing materials during the completion of conveying operation. Compared with other conveying

equipment, screw conveyor has the advantages of small section size, good sealing performance, stable and reliable operation, multi-point loading and unloading in the middle, safe operation and simple maintenance.

Structural features of screw conveyor

1. The screw shaft is connected with the lifting bearing, head and tail shaft with embedded tongue, which does not need axial movement for installation and disassembly, and is convenient for maintenance Long mandrel, less hanging and fewer fault points
2. The variable diameter structure is adopted to increase the volume of the lifting bearing and avoid the contact between the lifting bearing and materials. The service life of the lifting bearing can reach more than two years.
3. All transmission parts adopt floating connection mode. The lifting bearing is a universal joint structure, so that the spiral body, lifting bearing and tail assembly form an integral rotating floating body, which can rotate freely with the conveying resistance within a certain range, without jamming and blocking.
4. The head and tail bearing seats are outside the shell. All bearings adopt multi-layer sealing and matching sealing technology, with long service life.

Composition of screw conveyor

Screw conveyor is usually composed of screw conveyor body, inlet and outlet device and driving device. The screw machine body is composed of head section, middle section and tail section.

Generally, the intermediate sections of the screw conveyor are arranged according to the length during the factory assembly. The longest intermediate section is close to the head section, and the intermediate sections of the same length are next to each other. If there are special requirements, the arrangement order shall be given when ordering. A thrust bearing is installed in the head section of the screw conveyor to bear the axial force, and a bearing is installed in the middle section and tail section to support the screw shaft. In addition, an axially movable radial bearing is also installed in the tail section of the screw conveyor to compensate for the length error of the screw shaft and adapt to the change of temperature.

There are two forms of spiral surface of screw conveyor: solid screw (S-system method) and belt screw (d-system method). Flange connection is adopted between the screw shafts to ensure the interchangeability of the connecting shafts and facilitate maintenance. The cover of screw conveyor is tile type and clamped on the casing with cover buckle. If the sealing performance needs to be improved, users can add waterproof coarse canvas between the cover and the casing by themselves. The feeding and discharging devices of the screw conveyor have four types: feeding port, square discharging port, manual pushing discharging port and rack discharging port, which are welded on the machine body by the user at the use site. When arranging the inlet and outlet positions of the screw conveyor, pay attention to ensure the distance from the outlet to the end, and avoid the collision between the outlet and the lifting bearing oil cup, casing connecting flange, base, etc.

Safe operation of screw conveyor

Screw conveyor has become one of the important equipment in the whole production link. Advanced structure, strong adaptability, low resistance, long service life, convenient maintenance and complete protection devices are the remarkable characteristics of screw conveyor.

Before the operation of the screw conveyor, first confirm that the equipment, personnel and transported goods of the screw conveyor are in a safe and intact state; Secondly,

check that all moving parts are normal and free of foreign matters. Check that all electrical circuits start all electrical equipment. After the previous electrical equipment starts normally (the motor or other equipment has reached normal speed and normal state), start the next electrical equipment. During the operation of the screw conveyor, the provisions of the transported articles in the design and the design capacity of the screw conveyor must be observed. Secondly, it shall be noted that all kinds of personnel shall not touch the moving part of the belt conveyor, and non professionals shall not touch electrical components and control buttons at will. Finally, during the operation of the screw conveyor, the rear stage of the frequency converter cannot be opened. If the maintenance needs are determined, it must be carried out when the frequency conversion operation is stopped, otherwise the frequency converter may be damaged. When the screw conveyor stops running, press the stop button and cut off the main power supply after all the systems stop.

The main products are:

Lsy, LS, GX, WLS, LC series screw conveyors;

MS, MC, MZ, MSF, MSD series buried scraper conveyor,

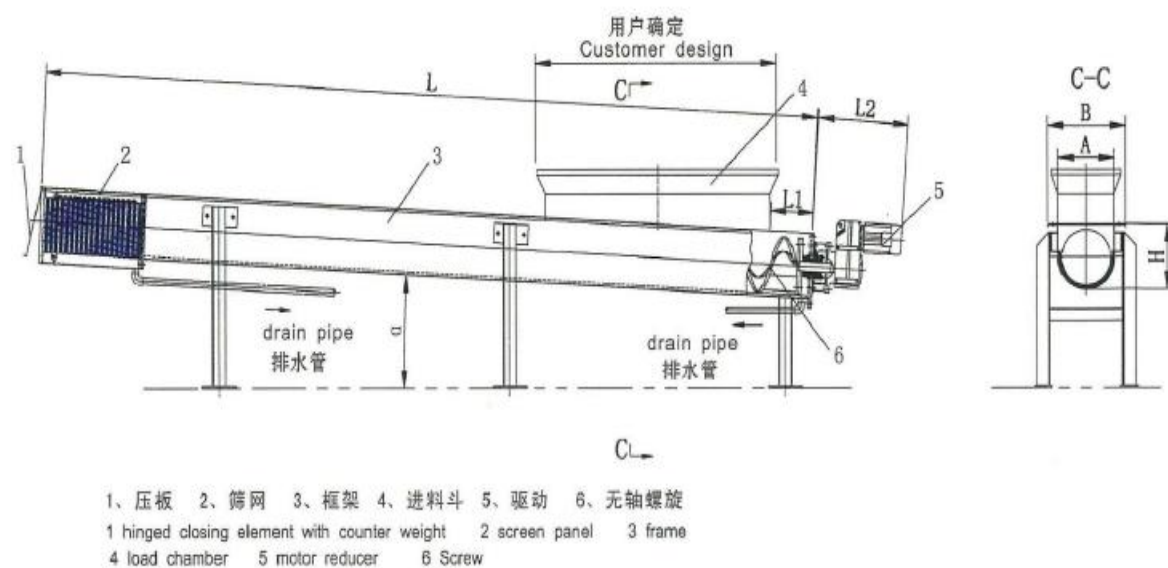
Fu series chain conveyor;

TD, th, NE and other series bucket elevator;

DSZ, YSJ dust humidifying mixer series;

HXF star ash unloading valve (XF material rotary valve), DLSF series electric double-layer interlocking valve,

ZF gate valve and other valve series; Ship unloading equipment and sewage sludge treatment equipment; Stainless steel screw conveyor, etc.



Main technical data

Model	Flow rate (m ³ /h)	Power supply (kw)	A (mm)	B (mm)	H (mm)	L1 (mm)	L2 (mm)	L (m)	Inclination referred to vertical (α)
LSY260	2.2	1.5	260	370	270	150	600	3~10	0° ~5°
LSY320	5.5	2.2	320	430	340	200	700		
LSY355	8	3.0	355	465	380	250	800		
LSY420	11	5.5	420	530	430	250	800		

LY Type Screw Compactor



Simple structure and reliable operation, low maintenance costs

Dewatered solids result in reduction of overall dimensions

With overload protection device

Material of screw: stainless steel SS304 or SS316L

Material of frame: carbon steel, hot dip galvanized steel, stainlesssteel SS304 or SS316L

Application scope of screw press

Scope of application 1: in the drainage pump station, sewage treatment plant and waterworks, the slag intercepted by the trash rack shall be dehydrated and compressed.

Scope of application 2: dehydration and compression treatment in the treatment of wastewater generated in papermaking, wine making, food, leather, textile, printing and dyeing, petrochemical and other industries.

Working principle of screw press:

Drive the reducer to drive the blade shaft to rotate, and the spiral rising angle generates forward thrust, so as to squeeze the materials entering the press pipe. The extruded materials are discharged from the discharge port, and the waste water is separated and enters the drainage channel to achieve the purpose of separation.

The materials in contact with the materials of the screw press are high-quality acid and alkali resistant stainless steel. The screw press is composed of a frame, a transmission system, a feeding part, a juice pressing part, a hydraulic (spring) system, a shield and an electrical control part. The pressing screw rotates with the main shaft, the material conveying screw is sleeved on the main shaft and rotates reversely with the pressing screw, which has a large and uniform pressing force on the materials. The slag discharge cone is controlled by a hydraulic cylinder (spring) to adjust the oil pressure (spring) The pressure effect on materials can be changed and the sweating rate can be adjusted from the surface. The effect will be different due to different materials.



Structure of screw press:

The screw press is composed of extrusion screw, spiral pipe, transmission parts, feed hopper and discharge hopper, etc. the dirt enters the spiral pipe from the feed hopper, and is compressed and dehydrated under the action of extrusion screw, and then transported to the slag outlet.

It is mainly composed of pressing device, transmission device, feeding device, motor, discharging device and base.

The main device is the screw rod mechanism in the press device: taper hollow shaft and screw blade.

Driving device: three-phase asynchronous motor, which connects the motor with the screw shaft with a coupling. After the material to be processed is fed from the feeding port, it is squeezed and crushed by the screw blade, and then transported forward with the screw and sent out from the discharge port.



Characteristics of screw press:

The utility model has the advantages of simple structure, small floor area and convenient installation and maintenance; except that the inlet and outlet are open, other parts can be covered and closed, so that the materials will not overflow and reduce air pollution.

1. The use of shaftless screw, small contact surface with materials and low friction can improve the extrusion efficiency, and there is no blockage and winding;
2. The equipment is made of stainless steel, with high strength, good corrosion resistance and long service life;
3. The driving device adopts shaft mounted direct driving mode, with stable and reliable operation and low energy consumption;
4. The outlet is provided with a spring baffle to increase the extrusion force and improve the dehydration rate;
5. Except for the inlet and outlet, the rest adopt sealing structure, and the use environment is clean and hygienic.

Technical conditions:

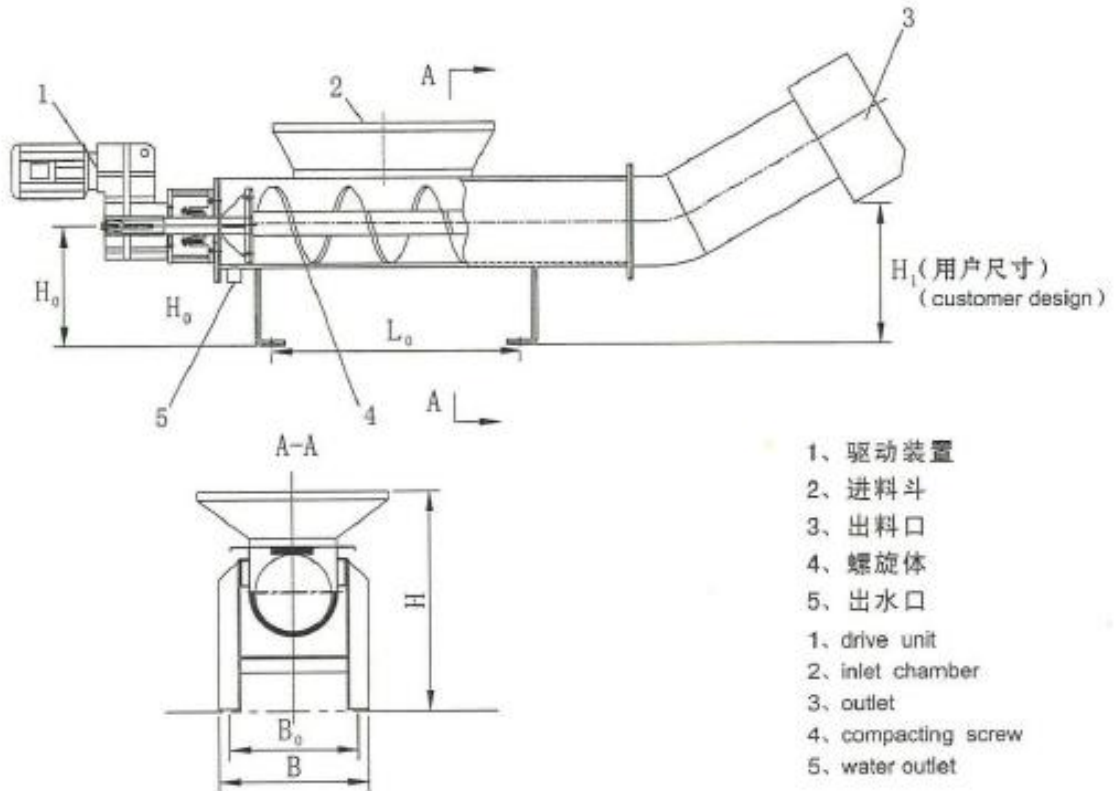
The correctness of the machine installation is a prerequisite for good use in the future. The screw machine is properly installed at the place of use and meets the requirements of the technical conditions:

1. The installation shall be completed at least 20 days before the formal installation of the screw machine, and its foundation shall be able to reliably support the conveyor, ensure that the screw machine will not sink and additional deformation due to too small foundation support force, and ensure sufficient stability during the operation of the screw machine.
 2. Before installation, clean the parts that are stuck with dust during transportation or unloading.
 3. The allowable deviation of longitudinal straightness and levelness of screw conveyor casing and frames at both ends of the main is 1 / 1000 of the length, and the total length does not exceed the following table:
 4. The cover bearing surface of each casing shall be located in the same plane in the whole length of the screw machine.
 5. The inner surfaces of two adjacent casings shall not have significant height at their mutual joints.
 6. After the casing is installed, all bases shall be solid, and then the anchor screws shall be tightened.
 7. Each middle suspension bearing of the shall reliably lift the connecting shaft between the two screws without jamming or bending the screws. During installation, an adjusting gasket can be added between the suspension bearing base and the shell support angle steel to make each suspension bearing concentric.
 8. During installation, the clearance between the outer diameter and the half round groove bottom of the casing shall not be less than 70% of its nominal clearance.
 9. The clearance between the end face of the rolling bearing of the end flat bearing set and the end face of the bearing seat and end cover shall not be less than 2mm.
 10. In order to adjust the cumulative deviation between the casing and the screw length, asbestos tape is allowed to be padded between the flanges of each casing during the installation of the screw machine. When high sealing is required, waterproof coarse canvas can also be padded between the casing and the cover.
 11. The final speed shaft of the driving device and the screw machine shall be concentric. If the driving device is connected with the transmission shaft of the screw machine by a balanced coupling, the parallelism deviation between the final speed shaft of the driving device and the transmission shaft of the screw machine shall not exceed 1 / 100, and the parallel displacement of the axis shall not exceed 2mm.
 12. All coupling screws shall be tightened to a reliable degree.
 13. The site installation of the inlet and outlet shall make the flange bearing surface of the inlet and outlet parallel to the axis of the screw conveyor and closely fit with the connected flange without gap.
 14. After installation, check whether there is enough lubricating oil at each oil storage place. If not, add enough, and then no-load commissioning can be carried out.
 15. After installation, no-load test run shall be conducted for more than 4 hours. During no-load test run, attention shall be paid to the correctness of screw machine assembly.
 - a. The operation of the press shall be stable and reliable. B. oil leakage shall not occur in each bearing box.
 - c. The temperature rise of each bearing shall not exceed 20 °C. D. all fastening parts shall not be loose.
 - e. The idle power of the press shall not exceed 30% of the rated power.
- If the above defects are found, they shall be corrected immediately before operation until

there is no such defect.

It is widely used in various industries, such as building materials, chemical industry, electric power, metallurgy, coal, grain and so on. It is suitable for horizontal or inclined transportation of powdery, granular and small materials, such as coal, ash, slag, cement and grain. The material temperature is less than 200 °C. It is not suitable for transportation of perishable, viscous and caking materials.

Precautions for customer selection: the screw conveyor press should not transport perishable, viscous and caking materials, because these materials will stick to the screw and rotate without moving forward during transportation, or form a material plug at the hanging bearing, which makes it unable to work normally.



Main technical data

Model	LY-250	LY-300	LY-350	LY-400	LY-450
B_0 (mm)	305	355	410	460	510
L_0 (mm)	1650	1670	1750	1850	2000
H_0 (mm)	470	500	550	600	650
B (mm)	430	480	540	590	640
Power supply (kw)	2.2	3.0	3.0	4.0	4.0
Rotating speed (r/min)	5	5	5	5	5
Dry sludge quantity discharged (m^3/h)	1.0	1.5	2.0	2.7	3.4
water ratio of screening Before treatment	85%~95%				
water ratio of screening After treatment	50%~55%				

SG Type Channel Comminuter



Protecting pumps and then save maintenance efforts
Low rotational speed and high torque, reduce energy cos
Automatic and remote controllable

Purpose:

The equipment can crush the wood chips, empty bottles, cloth chips and other sundries in the sewage pipe network to protect other equipment in the pump station and make it operate normally. Due to the construction of buried pump station, the damage of sewage pump station to the surrounding environment can be reduced, such as odor / bacteria can be restrained to the greatest extent.

It is mainly used in the drainage pump station, including sewage pump station and rainwater pump station. It is most matched with the buried integrated prefabricated pump station, which can solve the problem of too much garbage blocking the pump and avoid the inconvenience of manual regular cleaning when using the basket grid. It can be called the guardian angel of the pump station. For the drainage pipeline of the newly-built community, it can also be considered to install crushed grille to avoid the occasional kitchen waste blocking the drainage pipeline.

Working principle of crushing grid:

The crushing grid decontamination machine is composed of dry and wet explosion-proof motor, gearbox, drive, cutting blade, vertical drum, seal, installation support, overflow grid, submersible cable, standby manual grid and other components. After the motor is started,

the blade and the vertical drum rotate at the same time. After the sewage enters the drum area, the solid floating matter in the sewage is intercepted by the rotating grid and sent to the cutting area. The two groups of differential rotating blades quickly cut axially and radially to crush it into 4-10mm fine particles. Most of the other sewage and sufficiently small particles directly pass through the drum area, And the crushed small particles flow away with the water pump.

There are two key components of crushed grid:

1. The blade is related to the treatment effect and service life of the whole machine, and has a great relationship with tooth shape arrangement, heat treatment hardness and working clearance.
2. The motor and crushed grille need to work under submerged conditions, which requires that the motor can be used both dry and wet, and its waterproof treatment should be appropriate before it can be used for a long time under such service conditions.

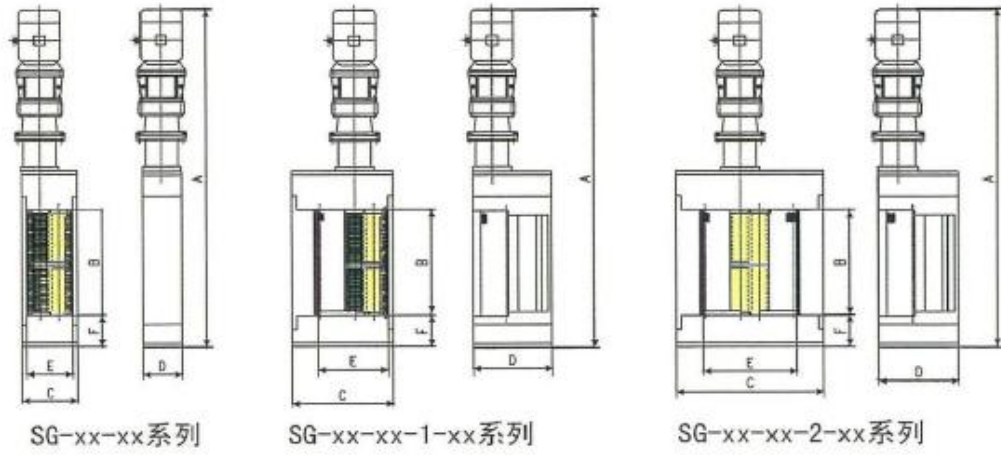
Product features:

1. Integrated design, compact equipment, flexible structure and installation options, suitable for channel selection of various sizes.
2. Low speed operation, low power consumption and low wear. The principle of differential operation of cutting blade is used to enhance the effect of tearing garbage.
3. Special blade structure design, with strong self-cleaning ability, no winding and sundries accumulation.
4. The reasonable transmission structure makes it easy to replace the cutting blade, simple maintenance and reduce the maintenance cost.
5. A reliable protection system is required to effectively protect the equipment from damage in case of overload.

Product advantages:

1. The equipment is fully buried, small in size and light in weight. There is no need to build a pump house and the civil engineering cost is low.
2. Small head loss, small channel width and depth, small floor area and low civil engineering cost.
3. There is no need for supporting screw conveying equipment, pressing equipment, deodorization equipment, waste outward transportation equipment, etc., which saves investment.
4. The self-contained installation guide rail only needs to be put into the pre installed guide rail during installation. Due to its light weight and small volume, there is no need for large lifting equipment. During maintenance, all the equipment can be lifted out of the pool through the lifting ring for maintenance.
5. The equipment is completely buried, and the top can be covered or clock lawn to beautify the environment.
6. The equipment is completely buried with low noise.
7. Garbage does not need to be transported outside and has no secondary pollution to the surrounding environment.
8. It can realize full-automatic unattended and save the salary of managers.
9. There is no need for supporting screw conveying equipment and pressing equipment, the total installed capacity of the pump station is small, and the operation electricity charge is reduced.
10. Garbage does not need to be transported out, and there is no transportation fee.
11. Stable performance and reduce daily maintenance cost.

Product model description



产品型号说明



Main technical data

Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Maximum flow (m ³ /h)	Power supply (kw)
SG-20-030-1-260	2200	300	525	410	365	165	123	3.7
SG-20-060-1-260	2500	600	525	410	365	165	247	3.7
SG-20-100-1-260	2900	1000	525	410	365	165	411	3.7
SG-20-125-1-260	3150	1250	525	410	365	165	514	3.7
SG-20-150-1-260	3400	1500	525	410	365	165	620	3.7
SG-20-060-2-260	2500	600	525	410	365	165	516	3.7
SG-20-100-2-260	2900	1000	525	410	365	165	860	3.7
SG-20-125-2-260	3150	1250	525	410	365	165	1075	3.7
SG-20-150-2-260	3400	1500	525	410	365	165	1290	3.7
SG-20-060-2-400	2500	600	525	410	365	165	765	3.7
SG-20-100-2-400	3000	1000	525	410	365	165	1275	3.7
SG-20-125-2-400	3250	1250	525	410	365	165	1593	3.7
SG-20-150-2-400	3500	1500	525	410	365	165	1912	3.7

Rotating Blade grit Removal Unit



Adaptable for Jeta and Pista Vorter Grit Removal System

The particular geometry of the blades allows a constant speed of the fluid. Grits are poured to tank wall by strong radial flow and slip to the tank bottom with the function of centrifugal force

The grit can be removed by air lifting or a slurry pump

Variable speed drive to modify the blade rotation according to specific requirements

Materials of construction: carbon steel epoxy painted, hot galvanized steel, stainless steel SS304 or SS316L

Cyclone desander

The sewage enters tangentially from the grit chamber and has a certain flow rate, which generates centrifugal force on the sand particles, so that the heavier sand particles settle to the sand collecting tank at the bottom of the tank along the unique structure of the tank wall and grit chamber, and prevent the sinking of small sand particles. The advanced air lifting system provides good conditions for the discharge of grit. The grit is directly transported to the sand water separator equipment to realize the complete separation of grit and sewage.

Application of cyclone desander

The cyclone grit chamber desander is used in the cyclone grit chamber. It is an advanced equipment with good grit setting and sand washing effect.

Structure and working principle

The cyclone grit chamber desander is composed of impeller, transmission shaft, motor, reducer and sand suction system. Due to the upward inclination of the impeller slurry plate, the sewage in the tank will make a spiral movement during rotation. In addition, due to the tangential entry of sewage, a swirling flow with the impeller rotation direction * will be generated, and the sewage in the tank will form a vortex flow state. Under the condition of appropriate blade pulp inclination and linear velocity, the sand particles

in the sewage will be scoured and still maintain a good settlement effect, while the organic matter originally attached to the sand particles and substances with low gravity will flow out of the cyclone tank with the sewage. In addition, due to the rotation of the impeller, the sensitivity of the cyclone tank to the change of flow pattern caused by the change of water inflow is reduced, which ensures the stability of the grit chamber and the low content of organic components in sand production.

Auto-Control

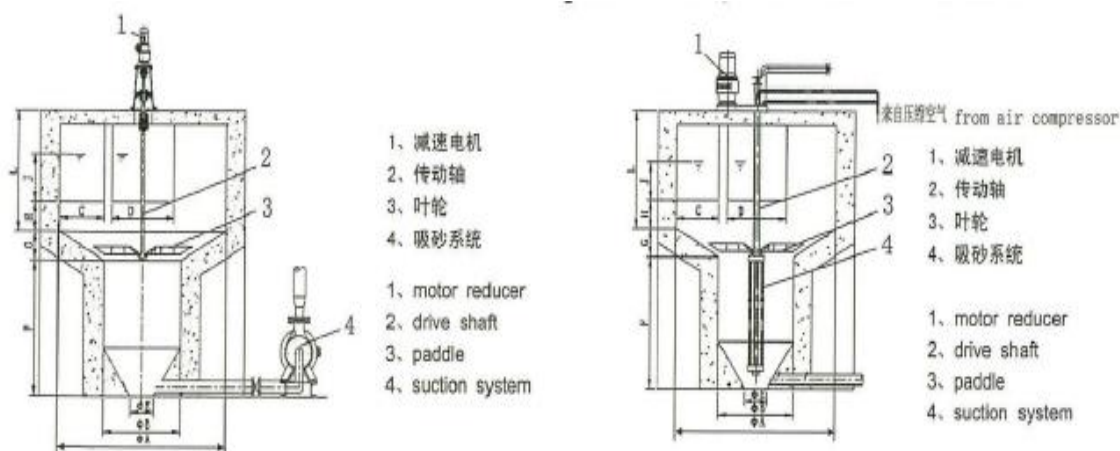
The control system of the device is composed of a PLC (programmable controller) as the core and a centralized control system as the auxiliary. The control cabinet is composed of industrial PLC control machine, main control console and driving device. It can operate automatically according to the preset program or send various control commands through the on-off button of the main control console according to the process requirements. During the operation of the system, the inlet and outlet flow rate is high, the treatment capacity is large, the sand production effect is good, the floor area is small, the equipment structure is simple, energy saving, reliable operation and convenient operation and maintenance. It is suitable for large, medium and small sewage treatment plants.

performance

1. Compact and integrated structure, high degree of automation, low energy consumption, low noise and high separation efficiency
2. Continuous decontamination without blockage and clean slag discharge
3. Good corrosion resistance

Main features

1. Compact structure, small floor area and low equipment investment.
2. Transmission efficiency and mechanical wear are small, equipment faults are few, energy is saved, and operation management and maintenance are convenient.
3. The sand setting effect is good, and the removal of inorganic matter in the water source is particularly significant.
4. According to different water quality of water source, corrosion-resistant materials are adopted, and the equipment has strong durability.
5. The process layout is flexible and convenient, which is easy to meet the needs of sectional construction during the contract period.



Main technical data of unit

Model	A (m)	B (m)	C (m)	D (m)	E (m)	F (m)	G (m)	H (m)	J (m)	L (m)
XC-180	1. 83	1	0. 305	0. 61	0. 3	1. 4	0. 3	0. 3	0. 2	1. 1

XC-360	2. 13	1	0. 38	0. 76	0. 3	1. 4	0. 3	0. 3	0. 3	1. 1
XC-600	2. 43	1	0. 45	0. 9	0. 3	1. 45	0. 4	0. 3	0. 4	1. 15
XC-1000	3. 05	1	0. 61	1. 2	0. 3	1. 55	0. 45	0. 3	0. 45	1. 35
XC-1800	3. 65	1. 5	0. 75	1. 5	0. 4	1. 7	0. 6	0. 51	0. 58	1. 45
XC-3000	4. 87	1. 5	1	2	0. 4	2. 2	1	0. 51	0. 6	1. 85
XC-4600	5. 48	1. 5	1. 1	2. 2	0. 4	2. 2	1	0. 61	0. 63	1. 85
XC-6000	5. 80	1. 5	1. 2	2. 4	0. 4	2. 5	1. 3	0. 75	0. 7	1. 95
XC-7800	6. 10	1. 5	1. 2	2. 4	0. 4	2. 5	1. 3	0. 89	0. 75	1. 95

Rotating blade air lifting type grit removal unit

Model	Capacity (m ³ /h)	Rotate speed of paddle (r/min)	Power supply (kw)	Air Compressor			Matched grit classifier
				Air capacity (m ³ /min)	Pressure (kpa)	Power (kw)	
XCQ-180	180	12	0. 55	1. 35	44. 1	2. 2	LSF-260
XCQ-360	360						
XCQ-600	600						
XCQ-1000	1000						
XCQ-1800	1800		0. 75	1. 43	49	3	LSF-320
XCQ-3000	3000		1. 1	2. 48	49	4	
XCQ-4600	4600			2. 71	49	4	LSF-355
XCQ-6000	6000		1. 5	2. 99	58. 8	5. 5	LSF-420
XCQ-7800	7800						

Rotating blade pump lifting type grit removal unit

Sand-basin		Power supply (kw)	Matched suction pump			Matched grit classifier		
Model	Capacity (m ³ /h)		Flow rate (m ³ /h)	Head (m)	Power (kw)			
XCB-180	180	0. 55	30	18	4	LSF-260		
XCB-360	360							
XCB-600	600							
XCB-1000	1000	0. 75	40	15		4	LSF-320	
XCB-1800	1800							
XCB-3000	3000	1. 1	60	13			4	LSF-355
XCB-4600	4600							
XCB-6000	6000	1. 5	100	8				4
XCB-7800	7800				5. 5			

QXS Type Degritting Traveling Bridge



Adaptable for rectangular tank or pre-aeration tank
 One central drive unit drives the wheel in each side
 Patent rail clamping and off tracking resistant device against hitting the rail
 The sand can be removed by air lifting or sand pumps
 With surface scraper to skim off oil and scum
 Automatic and remote controllable
 Materials of construction: carbon steel epoxy painted, hot dip galvanized steel, stainless steel SS304 or SS316L
 Accessories: steel rail etc

1、 Product introduction

The bridge sand suction machine is mainly used in the horizontal flow aeration grit chamber of sewage treatment plant (station) to remove the grit at the bottom of the grit chamber.

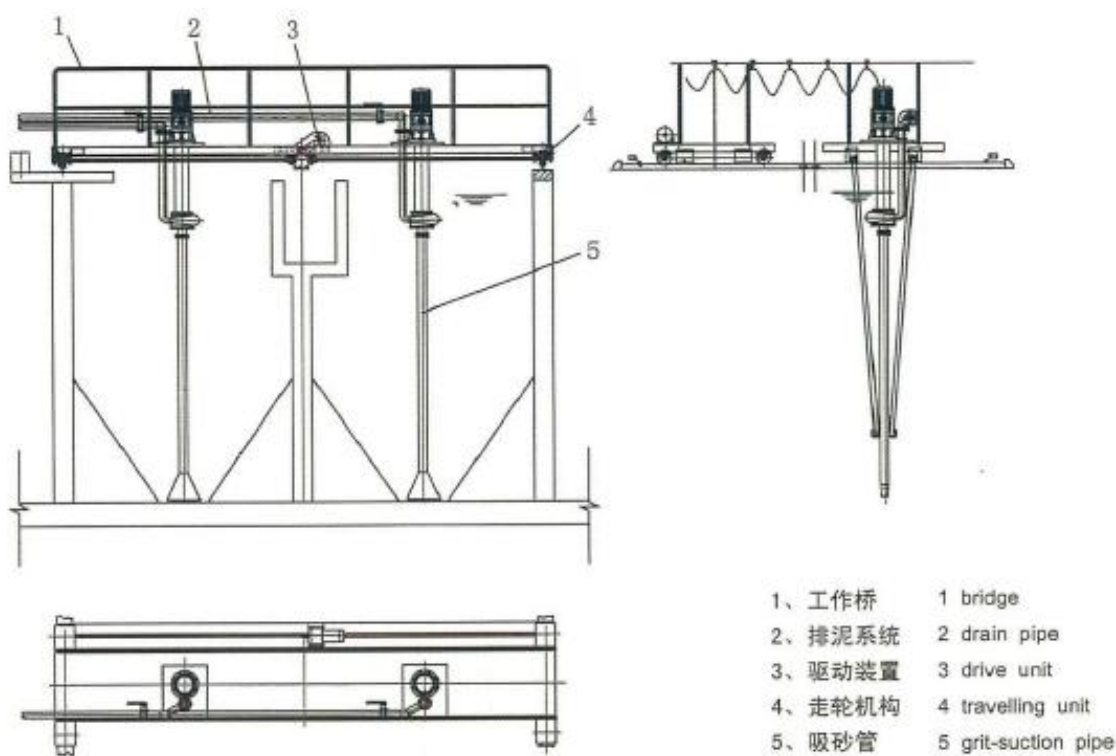
2、 Working principle and structure

The sand suction machine moves back and forth along the steel rail on the surface of the grit chamber. The sand suction pump (submersible sewage pump) on the machine sucks out the sand water mixture at the bottom of the basin and lifts it to a certain height to enter the sand and gravel separator for separation. At the same time, a slag skimming board can be set on the machine to scrape the scum on the water surface into the slag tank at the end of the basin.

The bridge sand suction machine is mainly composed of main beam, track, driving device, frame, sand suction system, slag skimming device, etc.

3、 Equipment characteristics

1. Advanced technology and simple structure
2. Non clogging submersible sewage pump is used for sand suction, which is safe and reliable
3. Synchronous transmission and stable operation
4. The sand suction pump is self coupled and easy to maintain



Model	XS-2	XS-4	XS-6	XS-8	XS-10	XS-12
Tank width(m)	2~3	4	6	8	10	12
Tank depth(m)	2.7~5.5					
Grit lifting pump	Q=22m ³ /h H=5.8m, N=1.4kw			Q=42m ³ /h, H=11m, N=2.9KW		
Skimmer power(kW)	0.55					
Power supply(kW)	≤0.37			≤2*3.7		
Travell speed(m/min)	2~5					

LSF Type Grit Classifier



Flow rate of one unit(Max):126m³/h

Maximum efficiency in grit-liquid separation

Shaftless screw can discharge grit and eliminate clogging and overload\

U type liner is molded by high quality plastic

Low speed operation, minimum power consumption and low wearing

Material of screw: high hardness alloy steel, stainless steel SS304 or SS316L

Material of construction: stainless steel SS304 or SS316L

Options: Hydro cyclone for grit

purpose

Spiral sand water separator is applicable to the grit chamber of sewage treatment plant. It is an integrated equipment for the separation and lifting of organic sand in sewage, which can separate particles with particle size $\geq 0.2\text{mm}$. It has high separation efficiency. The equipment adopts shaftless screw and anhydrous medium bearing. It has the characteristics of light weight, compact structure, reliable operation and convenient installation. It is an ideal sand water separation equipment.

working principle

The installation angle of the spiral sand water separator is between $20^\circ - 30^\circ$. The sand water mixture enters the water tank from the water inlet pipe. The particles with large specific gravity in the mixture (such as sand particles) fall due to their own weight and deposit at the bottom of the spiral groove. Driven by the screw, the material rises along the bottom of the inclined U-shaped groove. After leaving the liquid level, it continues to move up for a certain distance, The water in the sand gradually flows back to the water tank in the gap in the spiral groove, and the sand gradually dries at the discharge outlet and falls into other conveying devices by self weight. The supernatant

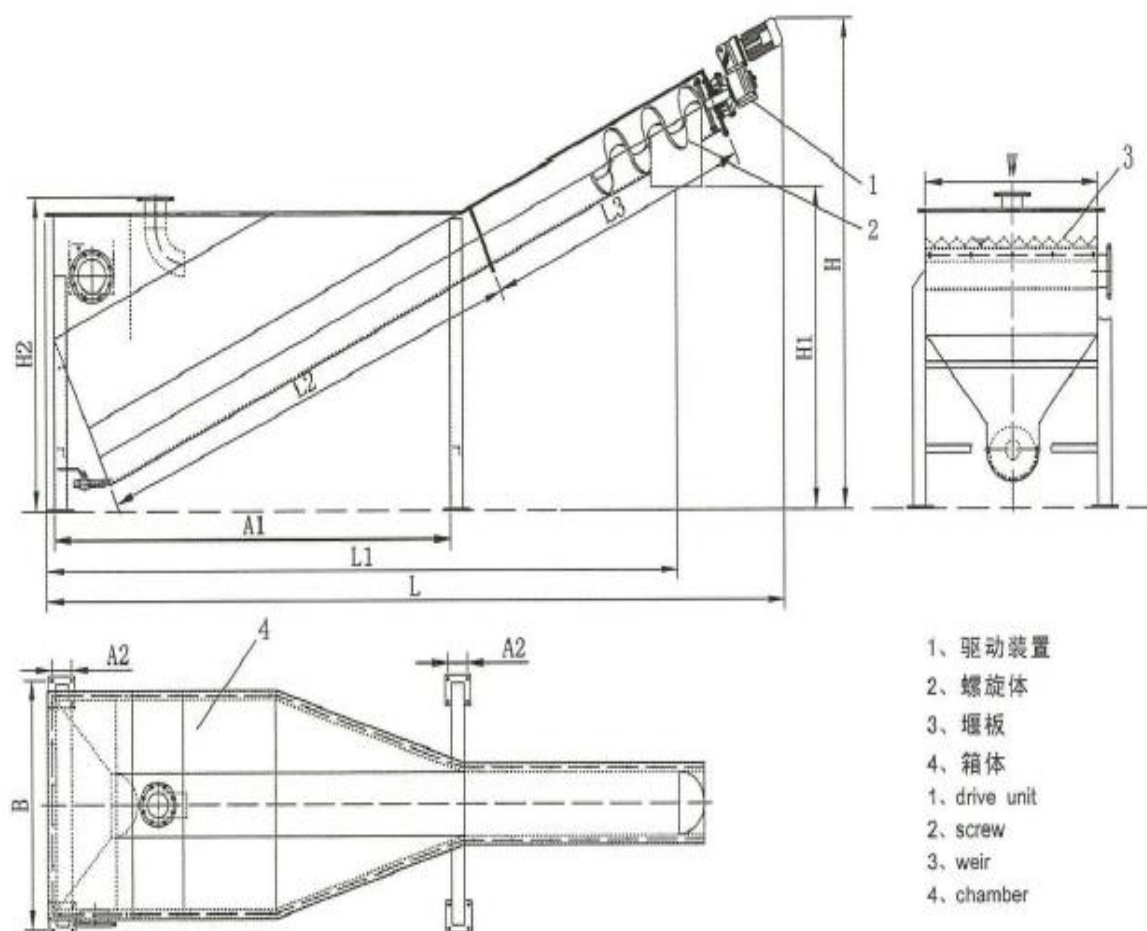
continuously flows out of the drainage pipe. Achieve the purpose of sand and water separation.

Structure and working process

1. The spiral sand water separator is composed of shaftless spiral, lining strip, U-shaped groove, water tank, deflector, outlet weir and driving device.
2. The sand water mixture is input into the water tank from the top of one end of the separator. The medium and heavy mixed liquid, such as sand particles, will be deposited at the bottom of the groove. Under the screw push, the sand particles will rise along the inclined groove bottom, continue to move for a certain distance after leaving the liquid level, and discharge the sand particles to the sand bucket through the sand discharge port after they are fully dehydrated, The water separated from sand water is discharged from the overflow port and sent to the inlet pool in the plant.

characteristic

1. The separation efficiency can reach 96% ~ 98%, and particles with particle size $\geq 0.2\text{mm}$ can be separated;
2. It adopts shaftless screw and anhydrous middle bearing, which is convenient for maintenance;
3. Compact structure and light weight;
4. The key product of the new transmission device, the reducer, is an advanced shaft mounted type without coupling, which is convenient for installation and alignment;
5. The lining strip is of quick installation type, which is easy to replace;
6. The axial position of the screw is adjustable, which is convenient to adjust the safety gap between its tail and the box wall;



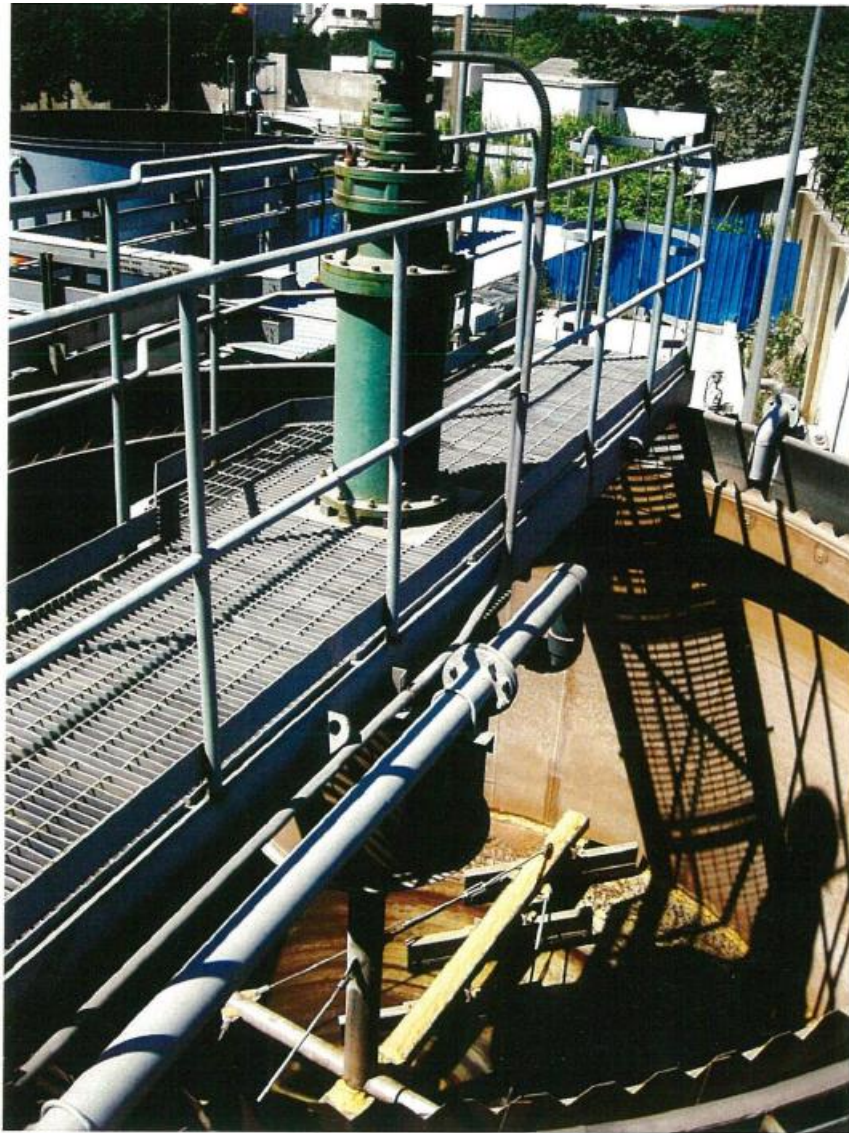
Main technical data

Model	LSF-260	LSF-320	LSF-355	LSF-420
L (mm)	4350	4770	6350	6700
L1 (mm)	3840	4380	5890	6290
L2 (mm)	3000		4000	
L3 (mm)	1000	1500	2000	2500
W (mm)	1653	1748	1880	1920
H (mm)	2100	2350	3050	3250
H1 (mm)	1670	1860	2480	2590
H2 (mm)	1600	1800	2250	2250
B (mm)	1260	1340	1506	1800
A1 (mm)	2700	2800	3900	3800
A2 (mm)	150			
Inlet diameter (mm)	φ 100	φ 150	φ 200	φ 200
Overflow port diameter (mm)	φ 150	φ 200	φ 250	φ 250



Clarifiers and settlers

ZG Type Scraper with Central Drive



Adaptable for circular clarifier with maximum diameter 20m

Simply design and high reliability with minimum maintenance

High performance drive unit with overload protection unit and torque protection device

Materials of construction: carbon steel epoxy painted, hot dip galvanized steel, stainless steel SS304 or SS316L

Options: Lifting rake device

Options: Center well, notch weir, surface scrapers (baffle plate and bracket, skimming plates and scum box, etc.)

ZG series center drive mud scraper

1、 Overview

ZG series center drive mud scraper is a suspended mud removal equipment. It is mainly used for sludge discharge in municipal and industrial sewage treatment projects, such as primary sedimentation tank, secondary sedimentation tank, thickening tank and other circular sedimentation tanks with small tank diameter.

2、 Scope of application

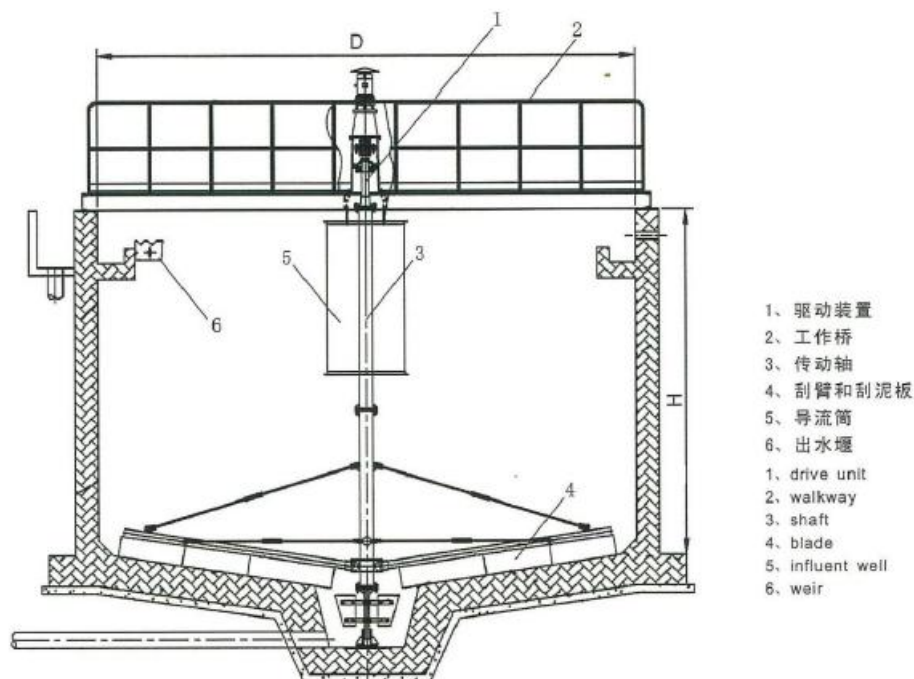
ZG series center drive mud scraper is suitable for sludge discharge of circular sedimentation tank with small tank diameter. It is mainly used for sludge discharge of primary sedimentation tank, secondary sedimentation tank and gravity sludge thickener in sewage treatment plant. The central drive sludge scraper can scrape and collect the sludge with high concentration dispersed in the tank to the central sludge sump at the bottom of the tank and further concentrate it for subsequent sludge dewatering treatment.

3、 Working principle

ZG series center drive mud scraper is mainly composed of working bridge, transmission device, flow stabilizing cylinder, transmission shaft, scraper arm, mud scraper plate, etc. The machine is equipped with a fixed platform across the pool. When working, the whole machine load acts on the center of the working bridge; The sewage flows to the surrounding area through the steady flow cylinder in the center of the tank. As the overflow area increases and the flow rate decreases, the sediment in the sewage settles at the bottom of the tank. The sludge scraper scrapes and collects the precipitated sludge into the central sludge pit and discharges it from the sludge pipe by water pressure. The machine has the advantages of simple structure, stable transmission, low power consumption and good mud scraping effect. It is an ideal mud discharge equipment.

4、 Structural features

1. Less transmission links, high mechanical efficiency and compact structure;
2. Over torque protection mechanism can be set as required to automatically alarm and shut down when the torque reaches the set value to ensure the safe and reliable operation of the equipment;
3. The main shaft adopts a rigid tubular structure, and there is no bearing at the pool bottom, eliminating the maintenance work at the pool bottom with extremely bad environment.
4. The sludge scraper of the concentration tank is driven by the suspension center and is composed of a vertical reducer with motor, a rotary bearing with external teeth, a main shaft, a scraper arm, a scraper, a concentration grid, a steady flow cylinder, a control cabinet, etc.
5. Driven by the transmission device, the scraper arm rotates around the central axis of the tank, and the scraper on the scraper arm pushes the sludge deposited at the bottom of the tank from outside to inside to the sludge sump in the center of the tank.
6. During operation, due to accidental reasons such as foreign matter jamming or excessive mud accumulation on the scraper and scraper arm, the transmission is over twisted. When the torque reaches the set value, the over twisted protection mechanism acts instantaneously, cuts off the power supply and automatically alarms and stops the machine.



Main technical data

Model	D Tank diameter (m)	H Tank depth (m)	Peripheral linear speed (m/min)	Power supply (kw)	Steel parts weight (kg)
ZG3	3	3	1~2	0.37	2500
ZG4	4	3.5	1~2	0.37	3200
ZG5	5	4	1~2	0.37	3800
ZG6	6	4	1~2	0.37	4000
ZG8	8	4.5	1~2	0.55	5000
ZG10	10	4.5	1.5~2.5	0.55	6000
ZG12	12	5	1.5~2.5	0.55	6800
ZG14	14	5	2~3	0.75	7600
ZG16	16	5	2~3	0.75	8300
ZG18	18	5	2~3	0.75	9100





BG Type Peripheral Drive Scraper



Adaptable for circular clarifier with 10-50m diameter

Half-bridge, 1+1/3 length half-bridge type, full-bridge design according to customer requirement

Log spiral scraper board with high collection efficiency

Hinged scraper arm against equipment damage by overload

Small scraper board is installed in sludge pit for losing sludge

Materials of construction: carbon steel epoxy painted, hot dip galvanized steel, stainless steel SS304 or SS316L

Options: Central well, notch weir, surface scrapers (baffle plate and bracket, skimming plates and scum box, etc.)

1、 Application of BG peripheral drive mud scraper

It is widely used for sludge discharge of circular sedimentation tank in water supply and drainage engineering.

2、 Main structure of central drive sludge machine

They are main beam, driving device, transmission vertical frame, scraper arm, scraper, central guide cylinder, etc.

1. Main beam

The main beam, also known as the working bridge, is a component across the diameter of the sedimentation tank. It is mainly fixed on the platform of the driving device at both ends of the center of the tank to play its due role. It is made of carbon steel, including carbon steel profile and carbon steel plate. As long as they are welded into truss structure. Because it is a large part, it is usually transported to the actual application site and then connected by bolts on the site.

2. Driving device

The driving device is mainly composed of motor, cycloidal pin gear reducer, worm gear reducer, external meshing pinion, slewing ring, slewing support platform, etc. The

driving device is installed on the central pillar, and the external meshing main gear is made of alloy steel. The central vertical frame of the scraper arm is driven to rotate through the motor reducer and meshing transmission system. The mud scraper on the scraper arm scrapes the sludge deposited at the bottom of the tank from the outside to the inside to the mud sump in the center of the tank. When the torque value exceeds the limit, it can automatically stop and alarm, which is safe and reliable.

3. Transmission vertical frame

The central transmission vertical frame is made of 304 stainless steel section steel, which is one of the main components of the central transmission mud scraper to bear the load. The upper end of the vertical frame is connected to the gear ring of the rotating support, and both sides of the lower end of the vertical frame are equipped with symmetrical scraper arms and radial support of sliding bearings.

4. Mud scraping system

The mud scraping system is mainly composed of mud collecting scraper, concentration grid and connecting support, which is made of high-quality stainless steel plate and profile. The wiper arm is composed of upper chord, lower chord and pull rod, which shall be symmetrically arranged on the transmission shaft. All components shall be made of steel. The upper chord of the scraper arm shall be horizontal, and the lower chord shall be parallel to the slope of the pool bottom. The scraper arm shall have the ability to withstand the maximum mud scraping moment without distortion and deformation.

The scraper combination adopts the connection form of section and the lower chord of the scraper arm. The scraper and the lower chord are arranged at 45° , and the overlap of the adjacent two scrapers shall not be less than 20mm. The support in the scraper combination shall be welded into a frame form by stainless steel angle steel, and the upper and lower parts of the support shall be connected with the lower chord and rubber scraper by bolts. The scraper directly acting on the sludge scraping at the bottom of the tank shall be Buna-N rubber, and the rubber scraper shall have the function of vertically adjusting the distance of 20-30mm for installation and adjustment.

The concentration grid shall be $40 \times 40 \times 4$ angle steel with an interval of 400mm, and the lower part of the concentration grid shall be flat with the lower chord of the scraper arm to improve the sludge concentration effect.

5. Draft tube

The guide cylinder is installed on the upper part of the central vertical frame to change the short circuit caused by the high radial flow rate when the central column enters the water, which affects the sedimentation. The guide cylinder shall be welded with high-quality carbon steel plate. The guide cylinder shall be able to rotate with the transmission shaft, but it shall be firmly connected with the transmission shaft.

6. Control system

The control box shall be installed on one side of the working bridge. The box shall be made of stainless steel plate. The control box shall have local operation button, automatic / manual transfer switch, emergency stop button, inching operation button and on / stop / fault indicator.

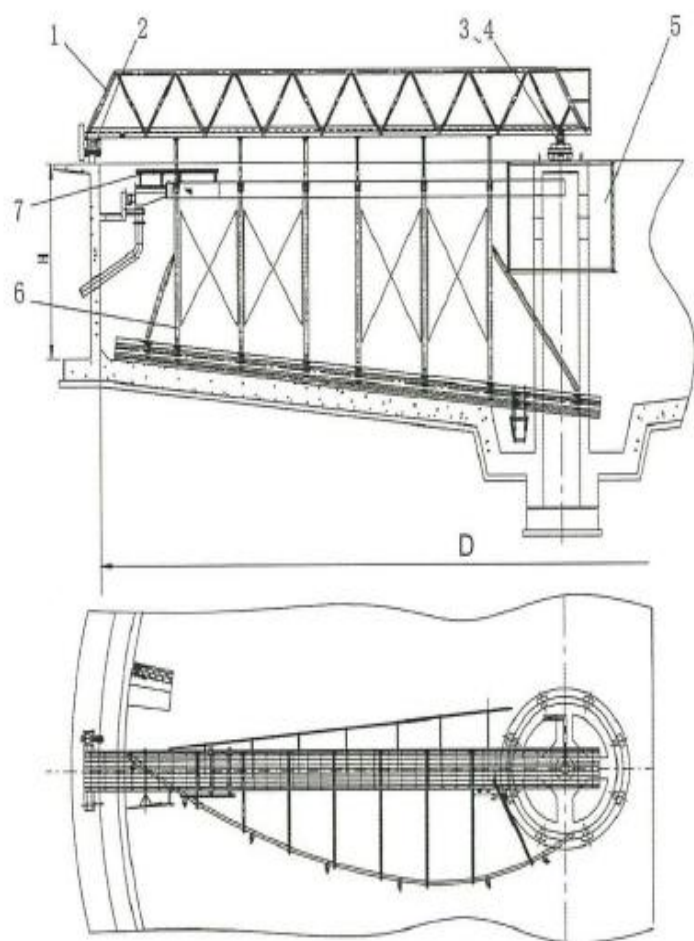
3、 Working principle of central drive mud scraper

The central drive mud scraper adopts the central drive and suspension type. After the sewage flows into the guide cylinder from the water inlet pipe under the working bridge and diffuses, it flows out evenly to the periphery in a radial shape. The suspended sludge is deposited at the bottom of the tank after sedimentation. The driving device drives

the central vertical shaft to rotate, and drives the scraper arm and mud scraper plate to rotate, scraping the sludge from the periphery of the tank to the central sludge collecting tank, By the hydrostatic pressure in the tank, the sludge is discharged out of the tank through the sludge discharge pipe, the scum on the water surface is skimmed to the side of the tank through the rotating slag skimming device, and then scraped into the slag discharge bucket by the slag scraper to discharge out of the tank; The supernatant overflows into the outlet tank through the triangular outlet weir plate and is discharged.

4、 Operation points of central drive mud scraper

1. Preparations before startup: check whether the reducer is filled to the normal oil level, whether there are foreign matters stuck in the operating part, and there should be no wood blocks and other foreign matters on the water surface to avoid faults during operation.
2. Power on the motor and check the forward and reverse steering.
3. The oil in the reducer needs to be changed once after one month of use, and only once a year in the future.
4. Pay attention to whether the equipment operates normally during operation. In case of any problem, the operation shall be stopped in time for inspection.
5. It is forbidden to put your hands on the track when the slag inclusion machine is working.



- 1、工作桥 2、驱动装置 3、中心支座
 4、集电装置 5、导流筒 6、刮板和刮臂
 7、撇渣系统
- 1、walkway 2、drive unit 3、center support
 4、trolley device 5、guide well 6、scraper arm
 and blade 7、scum baffle and scum blade

Main technical data

Model	D Tank diameter (m)	H Tank depth (m)	Peripheral linear speed (m/min)	Power supply (kw)	Empty weight (kg)
BG12	12	3.5	1~2	0.55	5000
BG14	14	3.5			6000

BG16	16	3.5			7000
BG17	17	3.5			7500
BG18	18	3.5			8000
BG20	20	3.5			9000
BG25	25	3.5			12000
BG30	30	4.0		0.75	13500
BG35	35	4.0		0.75	15000
BG40	40	4.5		1.1	17500
BG50	50	4.5	1.5	21000	



BXH Type Suction Bridge with Peripheral Drive



Adaptable for circular clarifier with 20-50m diameter

Half-bridge and full-bridge design according to customer requirement

Independent suction pipe system, flow rate of each suction pipe can be adjusted easily.

The sludge is siphon discharged by a vacuum pump. The process can be completed automatically

Materials of construction: carbon steel epoxy painted, hot dip galvanized steel, stainless steel SS304 or SS316L

Options: Central well, notch weir, surface scrapers (baffle plate and bracket, skimming plates and scum box, etc.)

1、 Overview

BXH peripheral drive mud suction machine is suitable for municipal and industrial sewage treatment. It is usually used to scrape, collect and suck out the sludge at the bottom of amplitude flow circular sedimentation tank. The mud suction machine includes the following main components: working bridge, driving mechanism, central support, mud scraper, scraper arm, skimming arm and skimming plate, mud suction pipe, mud collecting tank, siphon, vacuum pumping system, current collector, control box, etc. The following accessories are also required: steady flow cylinder, weir plate, scum baffle, scum cylinder, all fixed supports and connectors, fasteners, etc. The whole machine has simple structure and stable operation, and is suitable for long-time continuous operation.

2、 Main structural features

1. Structural principle: driven by the driving mechanisms at both ends, the full bridge peripheral drive mud scraper operates along the circular tank surface walkway around the slewing bearing in the center of the sedimentation tank. Firstly, driven by the scraper arm support, the bottom V-shaped sludge scraper pushes the sludge settled to the bottom of the tank to the sludge suction pipe in the center of the V-shaped sludge scraper. According to the principle of connecting pipe, the sludge suction process uses the liquid

level difference to press the activated sludge settled at the bottom of the tank to the sludge collecting tank. Then, the sludge in the sludge collecting tank is discharged into the annular sludge discharge tank at the upper edge of the central column by the siphon, and discharged out of the tank through the sludge discharge main pipe in the center of the central column. The scum on the water surface is collected by the scum scraper into the scum funnel beside the pool and discharged out of the pool.

1.1. Working bridge: the working bridge is made of square tube into truss beam structure. The form is beautiful and generous, with small wind resistance and good stiffness; The walkway adopts galvanized steel grating plate made professionally, which is beautiful and firm in structure. The end of the working axle is connected with the driving device, and the central part is connected with the central support through a pin shaft. The bridge spans the entire diameter of the sedimentation tank, and the mud scraping and slag skimming devices are suspended under the working bridge. When making the working bridge, fully consider the self weight of the mud suction machine, as well as the bending moment caused by the mud scraping and mud suction process, as well as other lateral forces, human loads and other active loads. The design active load shall not be less than 150kg / m, and the overall deflection of the working bridge during operation shall not be greater than 1 / 800.

Steel steps are set at both ends of the bridge to facilitate operators to get on and off the bridge.

1.2. Driving device:

The driving device is a component that drives the working bridge to run, and the whole adopts welded structure to match with the working bridge. The shaft mounted reducer is adopted to reduce the speed, directly drive the walking wheel and drive the whole machine, with compact structure. The coordination with the working bridge is fully considered in the design to ensure the assembly accuracy of the walking wheel, so as to ensure the walking stability of the whole machine.

The driving end beam frame is composed of section steel, the traveling wheel hub is cast iron steel, and the traveling wheel adopts high-strength rubber solid tire. The bearings at both ends of the traveling wheel are spherical self-aligning bearings with seats, which is convenient for assembly and adjustment. The driving device is equipped with a cleaning device, which can remove sundries on the walkway. Ensure good walking.

1.3. Center support

The center support is composed of upper and lower steel structure supports and slewing bearings. The use of standard slewing ring not only supports large load, but also has the function of anti overturning moment. A current collecting device is arranged above the central support. The current collecting device is composed of an array of copper slip rings and brush holders. The carbon brush and copper ring installed on the brush holder slide relatively and conduct electricity. The power supply of the power supply cable buried in the central column is transmitted to the local electrical control box on the mud scraper and suction machine to provide power for the work of the mud scraper and suction machine. The control signal of the control cable is also transmitted through the same principle of the collector.

1.4. Central collector ring

The central collector ring is located at the central support, and multiple groups of wiring rows are set. Each group of rings has double carbon brushes to prevent power failure. It not only provides the power required for the operation of the mud scraper, but also

transmits the signal of the operation status of the mud scraper, which can realize the remote start and stop control of the mud scraper in the central control room.

1.5. Mud scraper and wiper arm support:

The equipment is equipped with 8 groups of V-shaped mud scraping plates, which are driven forward by the mud scraping plate support, and the lower part is equipped with rubber scraper. There are waist shaped holes on the rubber scraper, which can be adjusted up and down, and closely cooperate with the pool bottom without leakage. Under the action of the sludge scraper, the sludge at the bottom of the tank is gradually scraped to the center of the V-shaped sludge scraper, which is convenient for the sludge suction pipe to discharge the sludge nearby.

1.6. Siphon system:

The siphon system includes 8 groups of mud suction pipes and supports. Each mud suction pipe is a separate pipe, so that each group of pipes does not interfere with each other. The suction port is no more than 80mm from the highest point of the pool bottom to ensure the mud suction effect.

1.7. Vacuum pumping and siphon breaking device:

The purpose of vacuum pumping is to fill the siphon with sludge to form siphon, and lift the sludge in the sludge collecting tank from the sludge collecting tank to the reinforced concrete sludge discharge tank outside the upper edge of the central column. When the mud scraper is started, the vacuum pump shall be started first to make the siphon system form siphon, and then the driving motor of the mud scraper shall be started to make the mud scraper run. When the mud scraper stops working, the solenoid valve of the siphon destruction device opens, the siphon function in the siphon system is destroyed, and the siphon will no longer lift the sludge. At this time, the sludge discharge process stops. The whole process is controlled by the local electrical control cabinet of the equipment. Under the "automatic" or "remote control" state, the mud scraper and suction machine can be started or stopped with "one key".

1.8. Field control cabinet

(1) each mud scraper and suction machine is equipped with a field control cabinet, which is located on one side of the working bridge. The power supply is 400V / 220V. The power line is led from the bottom of the pool to the collector ring device and then to the field control cabinet.

(2) The panel of the field control cabinet is equipped with manual / automatic / remote control selection switch to realize the local and remote work control of the mud scraper. The control panel is also equipped with start, stop and emergency stop buttons and overload alarm indication. When the driving device is overloaded or other faults occur, the mud scraper will stop running and send an alarm signal. The on-site control cabinet can accept the operation and stop signals of the main control room and provide the following signals to the main control room (only terminals are reserved, according to the user's requirements):

- A. Remote control status (output);
- B. operation signal (output);
- C. Equipment fault or overload alarm (output);
- D. equipment startup (input);
- E. equipment stop (input);

(3) Field control cabinet

The field control cabinet shall at least meet the following requirements (Pakistan power

supply: 3-phase 5-wire system, AC 400V):

- (1) operation indicator light
- (2) start and stop control buttons
- (3) Emergency stop button
- (4) Manual / automatic / remote control transfer switch
- (5) overload protection
- (6) All functions meet the requirements of PLC interface
- (7) Meet the standby socket (power supply: 3P, 400V / 50Hz, or 2p, 240V / 50Hz) during maintenance
- (8) the electric cabinet adopts double-layer door panel cabinet shell, protection grade IP55 (outdoor type), and is equipped with grounding terminal #

1.9. Accessories

Corresponding accessories of sedimentation tank shall be provided according to the needs of users, including: flow stabilizing cylinder, weir plate, scum baffle, scum cylinder, all fixed supports, connectors, fasteners, etc.

3、Coating and anti-corrosion process

1. Coating and anti-corrosion are mainly for other parts except corrosion-resistant stainless steel, non-metallic parts and hot-dip galvanized parts

Carbon steel parts.

2. Coating process 2.1 coating environmental requirements

2.1.1 coating shall be carried out under clean and dry conditions. During outdoor operation, strong wind, dust, rain, snow, fog and sunlight make the coating temperature exceed 500 °C

C can not be painted.

2.1.2 the coating shall be carried out in an environment where the relative temperature does not exceed 85% and the ambient temperature is not lower than 50c.

2.2 metal surface requirements before coating

2.2.1 the surface of parts to be coated shall be cleaned before coating:

a) Derusting of steel surface shall be carried out according to gb8923 and shall reach Sa21 / 2;

b) The casting surface shall be free of burrs, sharp edges and obvious protrusions of pouring and riser, and shall be mechanically cleaned, sandblasted or sprayed Rust, sand, dirt and other attachments on the surface by shot and other methods.

2.2.2} the treated parts shall be removed with clean and dry compressed air or clean brush, and the primer shall be applied in time within 2 hours. In case of rust, pollution or peeling of primer before primer coating, it shall be reprocessed according to 4.2.2.1.

2.3 after surface treatment, the primer shall be sprayed within two hours. Under the appropriate coating site and environmental climate, each process shall be operated in strict accordance with the coating requirements. After each process passes the inspection, it shall enter the next process. The spraying method shall be adopted. It is required to ensure the surface quality while ensuring the internal quality.

3. Supporting system:

Surface treatment: sand blasting, Sa2.5 grade

Coating: 702 epoxy zinc rich primer, one layer of dry film thickness of 50um, epoxy micaceous iron intermediate coating, one layer of dry film thickness of 70 μ m;

Epoxy asphalt finish, two layers of dry film thickness of 100um (underwater part);

Chlorinated rubber finishing coat, 2 layers, dry film thickness 100 # um; Total dry film thickness (DFT) \geq 200um.

4、 Equipment inspection

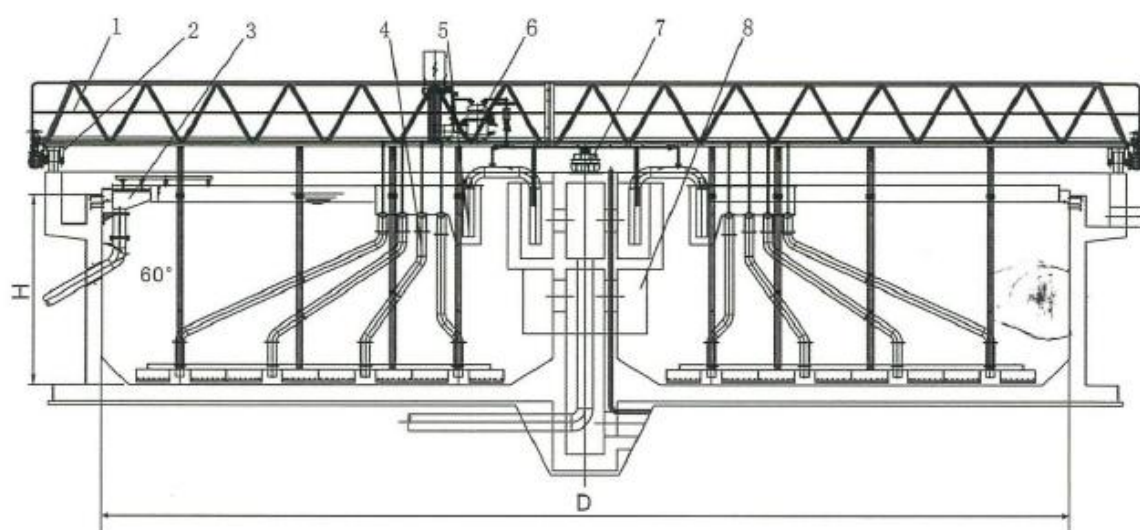
All parts shall be manufactured in the manufacturer, assembled and inspected in the manufacturer before leaving the factory.

After the on-site installation of the mud suction machine, the mechanical performance test shall be conducted to confirm whether the structure and mechanical performance of the mud suction machine meet the requirements.

The test meets the requirements, and the water can be injected only after the test run is 8 hours and everything is normal.

5、 Process data to be provided before ordering:

- (1) Detailed foundation drawing of sedimentation tank;
- (2) Influent flow, influent SS, effluent SS, sludge reflux ratio and other process parameters.

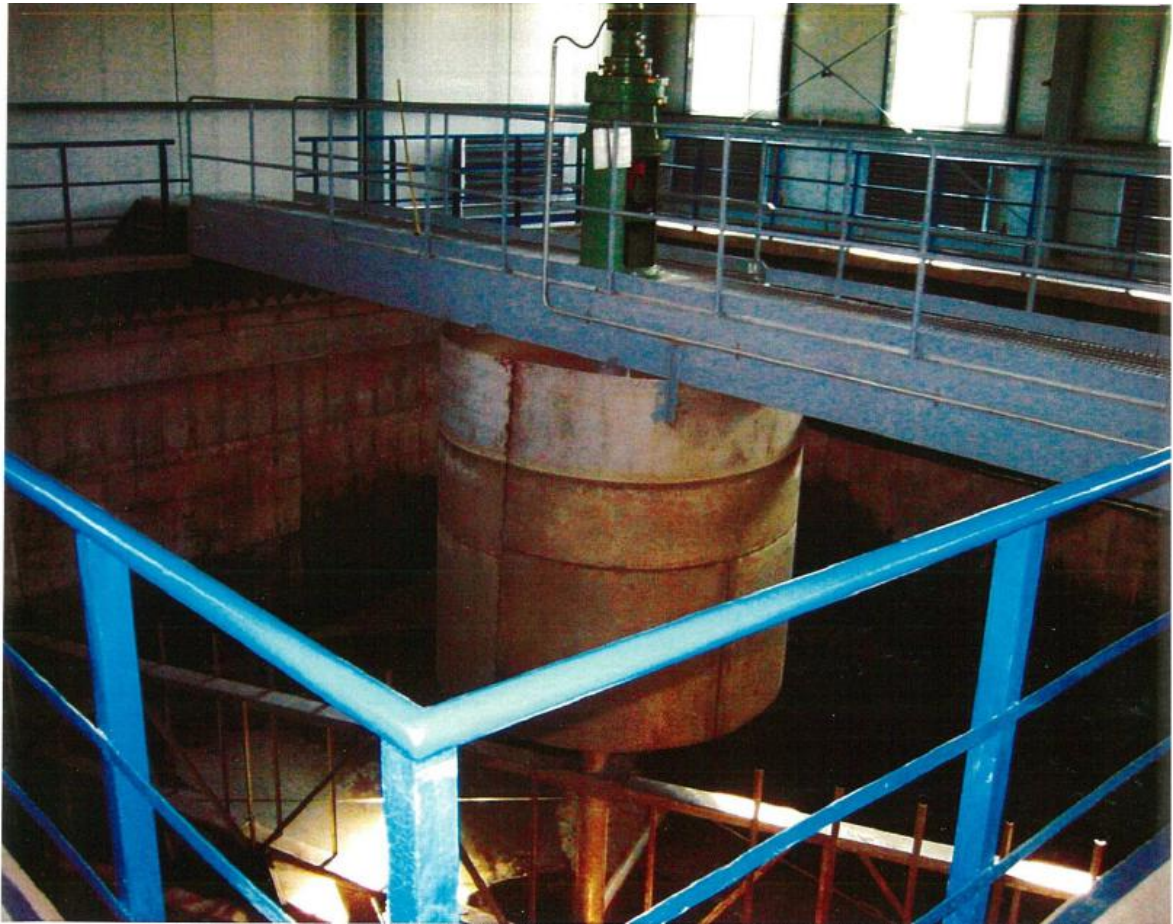


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|-----------------|----------------------|------------------------------|-----------------------|
| 1、工作桥 | 2、驱动装置 | 3、撇渣挡渣系统 | 4、吸泥管路 |
| 5、虹吸系统 | 6、真空泵系统 | 7、中心支座 | 8、导流筒 |
| 1、walkway | 2、drive unit | 3、scum baffle and scum blade | 4、sludge suction pipe |
| 5、siphon system | 6、vacuum pump system | 7、center support | 8、guide well |

Main technical data

Model	D Tank diameter (m)	H Tank depth (m)	Peripheral linear speed (m/min)	Power supply (kw)
BXH20	20	3.5	1.36	0.55
BXH25	25	3.5	1.70	0.55
BXH30	30	4.0	2.04	0.75
BXH38	38	4.0	2.58	0.75
BXH45	45	4.5	3.05	1.5
BXH50	50	4.5	3.38	1.5

ZNG Type Sludge Thickener with Central Drive



Adaptable for thickener with maximum diameter 20m

Simply design and high reliability with low maintenance efforts

Reinforced thickened bars

High performance drive unit with overload protection unit and torque protection device

Options: Lifting rake unit

Options: Center well, notch weir, surface scrapers (baffle plate and bracket, skimming plates and scum box, etc.)

1、 Equipment use

It is mainly used in the thickening tank of sewage treatment plant (station) to concentrate the sludge, reduce the sludge volume and provide conditions for the next dehydration. It is generally suitable for small tank diameter (6–20m). When the tank diameter is less than 14m, worm gear transmission is adopted. When it is greater than 14m, reducer is used to drive slewing ring transmission.

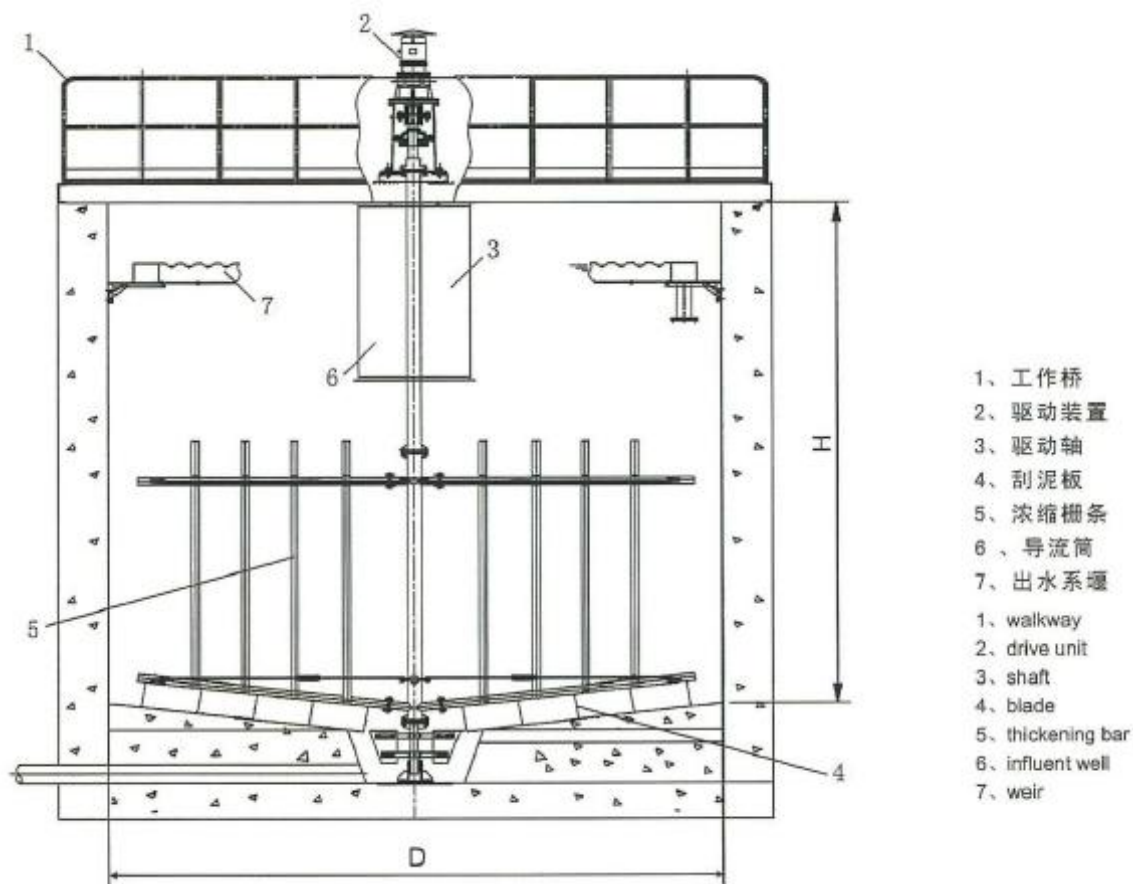
2、 Working principle and structure

The thickener is driven by the central transmission device to rotate the transmission shaft and scraper arm. The scraper on the scraper arm gradually scrapes the sludge from the side of the tank to the mud pit in the center of the tank and discharges it out of the tank through the sludge discharge pipe; the scraper arm is fixed with a stirring grid bar to stir the sludge during rotation to overflow water and gas, provide a sedimentation space for flocculent sludge, accelerate the sedimentation of sludge and improve the thickening effect.

3、 Equipment characteristics

1. It adopts reducer and worm gear transmission, with large transmission torque and high effect; it is equipped with torque protection device, which is safe to use;
2. When the load is too large, the underwater sludge scraping system can be lifted manually

(or electrically), and then gradually lowered to scrape the sludge layer by layer;
 3. The mud collecting pit is equipped with a small scraper to stir and scrape the mud.
 The mud is discharged completely without blockage.



Main technical data

Model	D Tank diameter (m)	H Tank depth (m)	Peripheral linear speed (m/min)	Power supply (kw)	Nominal torque (N·m)
ZNG3	3	3	1~2	0.37	700
ZNG4	4	3.5	1~2	0.37	1200
ZNG5	5	4	1~2	0.37	1800
ZNG6	6	4	1~2	0.37	2600
ZNG8	8	4.5	1~2	0.55	4700
ZNG10	10	4.5	1.5~2.5	0.55	7300
ZNG12	12	5	1.5~2.5	0.55	10500
ZNG14	14	5	2~3	0.75	14300
ZNG16	16	5	2~3	0.75	18700
ZNG18	18	5	2~3	0.75	23700

ZGA type scraper with central drive



Adaptable for circular clarifier with 10~40m diameter

Simply design and high reliability with less maintenance

High performance drive unit with overload protection unit and torque protection device

Materials of construction: carbon steel epoxy painted, hot dip galvanized steel, stainless steel SS304 or SS316L

Options: Central column, central well, notch weir, surface scrapers (baffle plate and bracket, skimming plates and scum box, etc.)

1、 Use

The center driven vertical frame mud scraper is mostly used in the circular settling tank of sewage treatment plant to scrape the sludge settled at the bottom of the tank to the mud collecting pit and skim the scum on the tank surface to the slag collecting bucket for further treatment.

2、 Vertical frame type center drive mud scraper structure

The vertical frame central drive mud scraper is suitable for sludge discharge and slag removal of circular sedimentation tank with central buttress. The equipment is fixed on the rotating vertical frame, and the scraper arm rotates around the central axis of the tank driven by the driving device to scrape and collect the sludge deposited at the bottom of the tank from the scraper to the sludge collecting pit in the center of the tank. At the same time, the scum on the liquid level is concentrated in the gradually shrinking area formed by the slag skimming plate rotating with the guide cylinder and the slag retaining weir around the tank. When the swing arm reaches the slag collecting bucket, the scum is scraped out of the sludge collecting bucket discharge tank by the slag scraper on the swing arm.

main performance

(1) Mud scraping at the bottom of the tank, the driving device adopts deceleration driving

mechanism, with compact structure and high mechanical efficiency;

(2) Oblique mud scraper with good continuity and high mud collection efficiency; A mud scraping rubber plate shall be installed under the stainless steel mud scraping plate to ensure that the mud scraping is completely clean and there will be no floating mud.

(3) The slope ratio of tank bottom is 1:10, and the sludge resistance during sludge scraping can be ignored.

(4) The main beam is made of square steel with high structural strength. The process of hot galvanizing and spraying finish paint is adopted, with strong anti-corrosion performance. The main beam can also be poured directly with concrete, which saves investment.

(5) Simple operation and remote control. Through deceleration drive and transmission of suspension components, the sludge is scraped and collected to the central sludge collecting tank by scraper and discharged out of the tank by hydrostatic pressure or pump. The middle water inlet and sludge discharge are adopted, and the surrounding drainage is adopted to ensure uniform water flow. Using liquid level difference, self-priming sludge discharge, scum scraping and collection removal device and overload protection device.

The vertical frame type central drive mud scraper is mainly composed of working bridge, central driving device, central rotary tree hanger, scraper arm, intermediate pull rod, tie bar, backflow cylinder, skimming and slag discharge, etc.

3、 Working principle

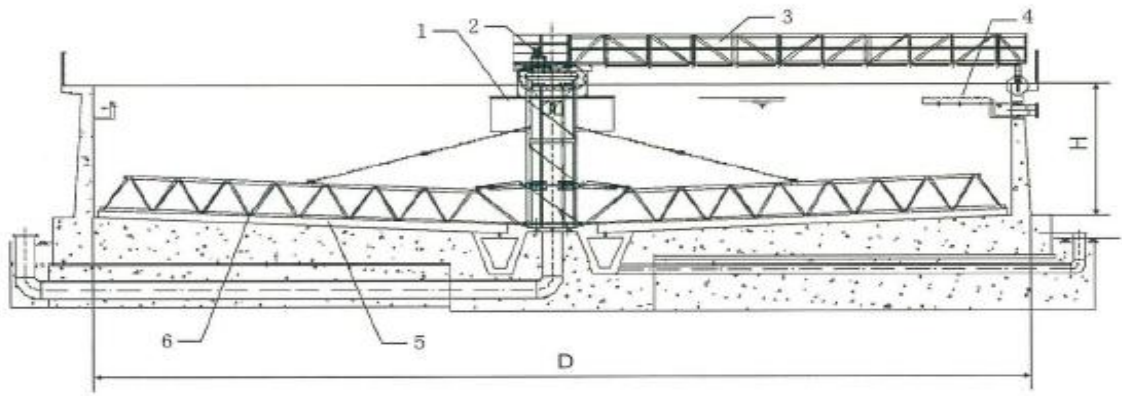
The equipment adopts the central transmission and vertical rack type. After the sewage flows into the guide cylinder from the inlet pipe and diffuses, it flows out evenly in a radial shape to the periphery. The suspended sludge is deposited at the bottom of the tank after sedimentation. The driving device drives the central vertical frame to rotate, and drives the scraper wall and scraper plate to rotate. After scraping the sludge from the periphery of the tank to the central sludge collecting tank, it is discharged from the sludge discharge pipe outside the tank by the static water pressure in the tank, The scum on the water surface is skimmed to the side of the pool through the skimming device, and then scraped into the slag bucket by the slag scraper to discharge out of the pool, while the supernatant overflows into the outlet tank through the outlet weir plate to discharge.

Electrical control: the start, stop and operation time of the equipment can be set according to the needs of users, and PLC interface can be provided.

The main features of vertical frame central drive mud scraper are:

1. The central transmission and platform fixed buttress type are adopted, which is simpler and lighter than the traditional mechanism;
2. Save operation cost and facilitate maintenance and management;
3. Over-torque protection mechanism can be equipped according to specific requirements.

When the torque value reaches the set value, it will automatically alarm and stop, which is safe and reliable.



- | | |
|-------|---------------|
| 1、导流筒 | 1、guide well |
| 2、驱动 | 2、drive unit |
| 3、工作桥 | 3、walkway |
| 4、出水堰 | 4、outlet weir |
| 5、刮泥板 | 5、blade |
| 6、刮臂 | 6、scraper arm |

Main technical data

Model	D Tank diameter(m)	H Tank depth (m)	Peripheral linear speed (m/min)	Power supply (kw)
ZGA8	8	2.2	1.5~2.0	0.37
ZGA10	10	2.2		0.37
ZGA14	14	2.4		0.37
ZGA18	18	2.6		0.55
ZGA20	20	2.6		0.55
ZGA26	26	3.0		0.75
ZGA30	30	3.0		0.75
ZGA35	35	3.5		1.1
ZGA40	40	3.5		1.5



QXH type Traveling Bridge Suction Scraper



Adaptable for rectangular clarifier with 4-20m width

One central drive unit drives the wheel in each side

Patent rail clamping and off tracking resistant device against hitting the rail

The sludge can be removed by air lifting or sludge pumps

Automatic and remote controllable

Materials of construction: carbon steel epoxy painted, hot dip galvanized steel, stainless steel SS304 or SS316L

Optional accessories: steel rail, etc

1、 Use

The travelling pump mud suction machine is used in the horizontal sedimentation tank of sewage treatment plant and waterworks to scrape the sludge settled on the bottom of the tank to the pump mud suction port, suck the sludge while traveling through the pump, and then discharge the sludge out of the tank.

Bridge suction dredger is a special sludge discharge machine used in the sludge discharge of sedimentation tank of water supply and drainage engineering to collect sediment by using pressure difference. Traveling mud suction machine is also one of the sewage treatment equipment. It is a very common mud discharge machine in this process. Of course, sludge suction machine is not a practical sludge discharge equipment, but the high sludge discharge efficiency is obvious to all, and it also plays an important role in sewage treatment plant.

2、 Basic working principle of travelling mud suction machine

Traveling mud suction machine is a very common kind of mud suction machine. Its basic working principle is as follows:

1) Walking: the transmission mechanism of the mud suction machine adopts a two-stage cycloidal needle wheel reducer, which is directly connected with the wheel car with a

cross slider coupling to drive the steel wheel to roll on the pool track. Use the travel switch to control the travel of the mud suction machine to make it keep walking back and forth to suck mud. The siphon mud suction machine uses the siphon principle. Before the mud suction machine works, start the vacuum pump or water ejector to remove the suction

2) Mud suction:

Stop the vacuum pump after the air in the sludge pipe is. Open the sludge suction pipe and use the water level difference inside and outside the sedimentation tank to continuously draw the activated sludge scraped and collected by the sludge scraper at the bottom of the tank to the sludge suction nozzle out of the tank. The pump suction dredger directly uses the sludge pump to discharge sludge. When the sludge suction machine works, start the submerged pump synchronously to pump the sludge out of the tank.

3、 Structural features of travelling mud suction machine

Travelling mud suction machine

1. Working bridge
- 2 drive the traveling device
- 3 mud suction system
- 4 skimming device (option)
- 5 electric control cabinet
- 6 siphon generator (siphon mode), etc.

When it is used in the inclined pipe sedimentation tank, the mud suction frame and mud suction hanger at the bottom of the tank shall also be installed.

3.1 transmission device: the shaft mounted reducer is used as the driving power and installed on the beams at both ends of the crane. It is double driven, compact in structure and convenient for loading and unloading. It is equipped with overload protection device. When the equipment drives overload, it plays the role of shutdown protection (adjusting the compression spring and adjusting the preload).

3.2 sludge suction system: four submersible sewage pumps are used as sludge suction power, installed on the driving platform and connected with the sludge discharge pipeline. When the crane runs along the long direction of the tank, the submersible sewage pump sucks the sediment sludge at the bottom of the tank into the pipeline and arranges it into the sludge tank through the sludge discharge pipeline.

3.3 oil skimming device: the mud suction machine is equipped with an oil skimming scraper to scrape the floating oil in the tank to both ends of the tank body, and then it is discharged by the oil drainage devices at both ends of the tank body.

3.4 sludge discharge pipeline: it is connected with the submersible sewage pump to discharge the sludge pumped into the pipeline by the sewage pump.

3.5 hanger: it is connected with the driving platform to support the suspension of mud suction pipeline and mud scraper.

3.6 mud scraper: it is used to scrape and collect the sludge settled at the bottom of the tank. Its structure is rhombic, which can more effectively scrape and collect the sludge. The bottom end of the mud scraper is a certain distance from the bottom of the

tank, so as to reduce the resistance of the equipment in operation, make the sludge have better fluidity and facilitate the suction and discharge of submersible sewage pump.

3.7 electrical control box:

The machine has manual, emergency stop, reverse, cut-off, delay and other control functions. In case of failure or maintenance reasons, the motor can be turned off through the stop button to realize emergency cut-off.

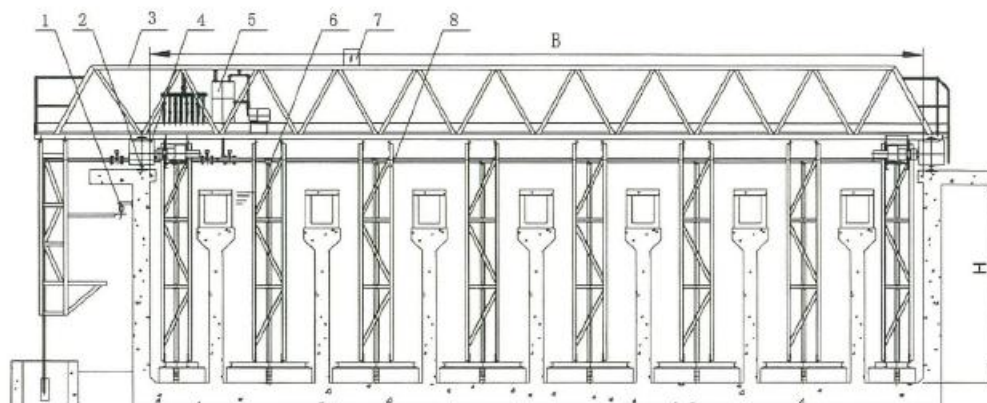
When the traveling crane runs to both ends of the sedimentation tank, the traveling crane can stay or run in reverse through the limit switch. A delay device is set in the control box to adjust the delay time to control the time interval of equipment operation. In addition, there are separate control of start, stop and driving of sludge suction pump, as well as leakage protection function.

3.8 stroke control device: it is installed at both ends of the driving device and collides with the limit proton on the rail to realize the reciprocating motion of the crane.

The equipment is supported by four points. The walking girder crosses the horizontal sedimentation tank and is driven bilaterally. Steel rails are laid on both sides of the tank. It runs from one end of the tank to the other end of the tank, sucks mud while walking, bumps into stroke control, turns back and sucks mud back, completing a working cycle.

7. Main features

- 1) Simple structure and light weight: due to the truss structure, the weight is greatly reduced compared with the traditional structure.
- 2) Simple and convenient maintenance and low operation cost.
- 3) The new transmission mechanism adopts shaft mounted reducer, which has the advantages of convenient installation, simple and compact structure and high efficiency.
- 4) According to the needs of users, the walking wheels can be rubber wheels, nylon wheels and steel wheels. It can be manufactured according to the user's specific size, and the parts in contact with water can also be made of stainless steel.



- | | | | | | |
|--------|--------|--------|-----------------|------------------|--------------------------|
| 1、输电装置 | 2、轨道组成 | 3、工作桥 | 1、 power supply | 2、 rail | 3、 walkway |
| 4、驱动装置 | 5、真空系统 | 6、吸泥系统 | 4、 drive unit | 5、 vacuum system | 6、 sludge suction system |
| 7、电控柜 | 8、支架 | | 7、 control box | 8、 braket | |

Main technical data

Model	D Tank	H Tank depth	L Tank depth	Peripheral linear	Power supply (kw)
-------	--------	--------------	--------------	-------------------	-------------------

	diameter (m)	(m)	(m)	speed (m/min)	
QXH8	8~14	3.5~5.0	Customer design	0~1.0	
QXH10					
QXH12					
QXH14					
QXH16	16~20				
QXH18					
QXH20					



QG type Traveling Bridge Scraper



Adaptable for rectangular clarifier with 420m width

One central drive unit drives the wheel in each side

Patent rail clamping and off tracking resistant device against hitting the rail

Gear reducer type switch box achieves accurate and reliable movement of lifting rake and lying rake

Automatic and remote controllable

Materials of construction: carbon steel epoxy painted, hot dip galvanized steel, stainless steel SS304 or SS316L

Optional accessories: steel rail, etc

1、 Use

The bridge mud scraper is suitable for discharging mud from flat bottom rectangular tanks such as horizontal sedimentation tanks of urban sewage treatment plants and waterworks. The machine is one-way mud scraper. Oil skimming and slag skimming devices can be added according to user requirements.

2、 Structure and working principle of bridge mud scraper:

It is mainly composed of central rotating support, working bridge, flow stabilizing cylinder, mud scraping plate, central current collector, driving mechanism, track and traveling wheel. It is divided into half bridge type and full bridge type according to the form of bridge.

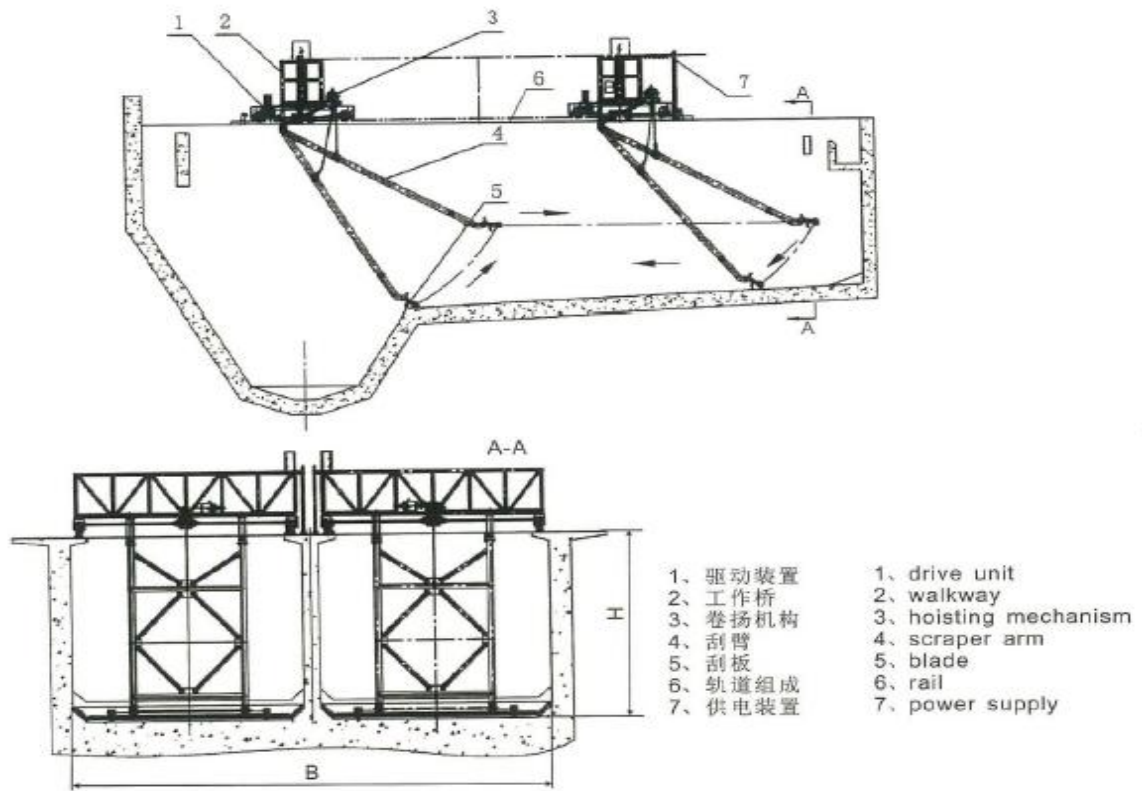
The raw water flows out from the bottom of the pool through the upper part of the central buttress, and flows radially to the water collecting tank around the pool after water distribution through the flow stabilizer. With the decrease of radial velocity, the suspended solids in the raw water are separated and settled at the bottom of the pool. The working bridge takes the central support as the circle center, and the end walking wheel rotates along the track around the tank under the action of the driving device,

driving the lower mud scraper with an approximate logarithmic spiral track to rotate slowly, scrape and collect it to the central mud collecting tank of the sedimentation tank, discharge it outside the tank by water pressure or pump, and the upper scum is scraped to the slag discharge hopper synchronously by the slag scraper.

The bridge type mud scraper adopts truss structure. When the mud scraper does not work, it stops at the water inlet end; When the mud scraper is working and driving along the water, put down the slag skimming plate first, put the scum on the pool surface into the steel slag skimming tank at the pool end, and the mud scraper is lifted away from the pool bottom; When driving in the reverse direction, put down the mud scraper to scrape the sludge at the bottom of the tank into the sludge collecting tank at the end of the tank, and the slag skimming plate is lifted away from the liquid level to prevent the scum from retrograde; Make a round-trip work movement according to this, so as to achieve the purpose of scraping mud and skimming slag. It is suitable for sedimentation tanks with large diameter. The structure is central buttress type single arm scraping and collecting sludge. The machine has reasonable structure, high efficiency and convenient management, operation and maintenance. It is an ideal sewage treatment equipment.

3、 Main features of equipment

1. The mud scraper with a span of less than 10m can be driven centrally, and the mud scraper with a span of more than 10m can be driven at both ends. The rollers on both sides drive synchronously and operate stably;
2. Steel wheels are used for traveling on water, and rubber wheels are used for traveling on underwater scraper;
3. Skimming and mud scraping work in the opposite direction;
4. The equipment is easy to operate and can directly control the operation of the equipment locally / remotely.



Main technical data

Model	D Tank diameter (m)	H Tank depth (m)	L Tank depth (m)	Peripheral linear speed (m/min)	Power supply (kw)
QG4	4	2.5~5.0	Customer design	1.0~2.0	0.73
QG5	5				0.73
QG6	6				0.8
QG8	8				0.92
QG10	10				1.1
QG12	12				1.3
QG14	14				1.7
QG16	16				1.7



Automatic chemical preparation and dosing system

PT type automatic polymer preparation and dosing unit



Three tanks are the integrality, Continual running and easy operation

Double feeding functions, as dry power and liquid chemical agent (option)

Flow rate of powder and water can be adjusted, so the concentration of polymer solution can be adjusted

Local control box controls the whole preparation process, which can achieve homogenous mixing of solution

Acousto-optic alarm when the dry powder level is low

Options: Vacuum conveyor

Options: On-line diluted system with static mixer

Materials of tank: stainless steel SS304/316L. PPH. HDPE

Materials of powder dosing system and mixers: stainless steel Ss304/316L PT

1、 Use

Sewage treatment dosing device is mainly used for water supply, boiler water, circulating water and wastewater treatment in power plant, petroleum, chemical industry, environmental protection, water supply system and other industries. It has a complete set of equipment integrating drug dissolving, dosing, mixing and liquid conveying, mainly including drug dissolving tank, electrodeless governor, agitator, dosing tank, magnetic pump. It is an integrated device composed of flowmeter and various valves and pipe fittings.

2、 Working principle

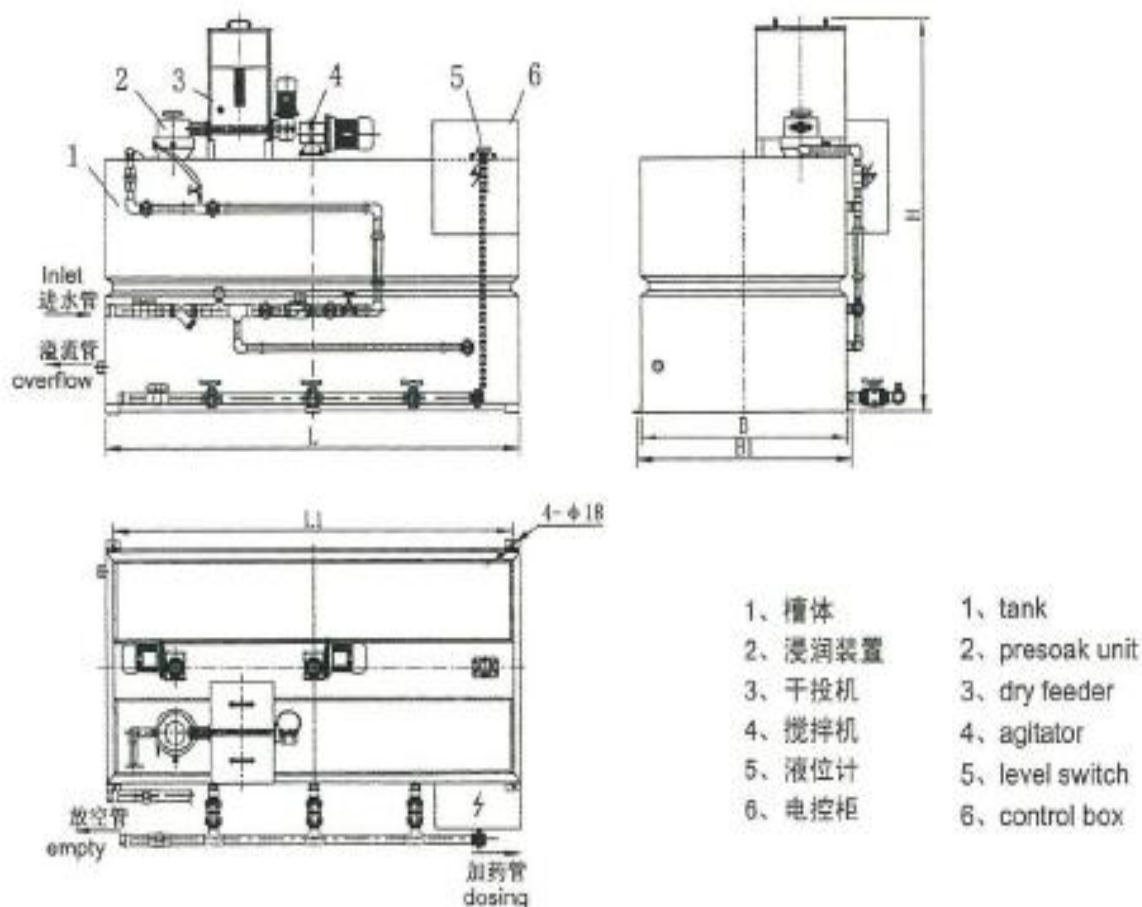
This industrialized complete set of device can greatly reduce the workload of design and on-site construction, and provide a reliable guarantee for the quality, safety and on-site operation of the whole machine. Such as adding coagulant, flocculant, phosphate, ammonia solution, lime water, water quality stabilizer (corrosion inhibitor), scale inhibitor,

liquid insecticide, etc. In addition, the main treatment method is the contact oxidation method, which is a relatively mature biochemical treatment technology at present. The water quality parameters are designed and calculated according to the water quality of general domestic sewage, including liquid medicine solution preparation system, metering and dosing system, safety system and control system.

Its functions can be divided into: acid-base dosing device, flocculation dosing device and sterilization dosing device. The reagent is added into the medicine dissolving box, automatically added with clean water to dissolve according to the proportion, and the reagent is added by the metering dosing system. The dosing control can be manual or automatic according to the DCS system output control signal.

3、 Characteristics

The dosing device is prepared in the drug dissolving tank according to the required drug concentration. After being stirred evenly by the agitator, it is put into the drug adding tank, and the prepared solution is transported to the dosing point or the designated system by the magnetic pump (dosing pump). The complete set of dosing device has the characteristics of compact structure, safety and simple operation. The device can also carry out targeted design and configure necessary components according to the requirements of different process flows of users, which is economical and practical.



Main technical data

Model	PT200	PT430	PT958	PT1340	PT2660	PT4165	PT6660	PT10940
L (mm)	940	1370	1800	2130	2450	2780	3100	3970

B (mm)	470	680	900	1070	1220	1390	1550	1990
H (mm)	1450	1450	1620	1620	2000	2250	2650	2650
L1 (mm)	860	1290	1720	2050	2370	2700	3020	3890
BI (mm)	520	730	950	1120	1270	1440	1600	2040
Dosing capacity (L/h)	200	430	958	1340	2660	4165	6660	10940
Tank capacity (L)	350	750	1580	2200	4050	6170	9610	15780
Flow rate of water inlet (m ³ /h)	0.12~0.6	0.3~1.5	0.6~3	0.8~4	1.6~8	2.4~12	4.2~20	6~30
Curing time (h)	1.0~1.5	1.0~1.5	1.0~1.5	1.0~1.5	1.0~1.5	1.0~1.5	1.0~1.5	1.0~1.5
Water inlet diameter	DN20	DN25	DN25	DN32	DN40	DN40	DN50	DN65
Dosing pipe diameter	DN20	DN25	DN25	DN32	DN40	DN40	DN50	DN65
Emptying diat	DN20	DN25	DN25	DN25	DN40	DN40	DN40	DN50
Overflow diameter	DN32	DN32	DN40	DN40	DN50	DN65	DN65	DN80
Power supply (kw)	0.54	0.92	1.3	1.7	2.4	3.2	4.8	6.4
Empty weight (kg)	250	350	480	560	790	1050	1200	1450

PTB type polymer dosing system



PTB type polymer dosing system

- Two boxes type batch preparation system give the homogenous and activated polymer solution
- Batch preparation against short circuit flow
- The powder pre-wetted in hydration system and accelerated in the water ejector to the mixing tank
- Hopper is low and manual feed easily
- Acousto-optic alarm when the dry power level is low
- Local control box controls the whole preparation process
- Options: Liquid polymer dosing system
- Options: Vacuum conveyor
- Options: On-line diluted system with static mixer
- Materials of powder dosing system and mixer :stainless steel SS304/316L

1、 Structural features

PTB polymer dissolving and dosing device is a turnkey automatic equipment for batch preparation and dosing of polymer solution.

Full automatic turnkey dosing device (including dosing pump), users only need to access power and water to work without being guarded.

The step-by-step dissolution and mixing system is used to efficiently complete the combination and mixing of polymers, so as to obtain a homogeneous and active polymer solution.

The operation is simple, which can be easily displayed, controlled and operated by PLC; Two box dispensing, stable concentration and high activity.

The outlet of the feeder is equipped with an electric heating device. The constant temperature heating method can prevent the water vapor from entering the screw and causing agglomeration and blockage.

The agitator has unique structure and appropriate rotating speed, which can ensure the homogenization of the solution without damaging the polymer molecular chain.

1. Dosing device

It is composed of stainless steel hopper, screw conveyor, electric heater, etc

The effective volume of stainless steel hopper is 60L, which can meet the consumption for a long time; The hopper is equipped with a mirror, which can manually observe the material level; The material level meter can automatically monitor the material level and send a signal alarm when it reaches the low level.

The screw conveyor is composed of high-precision screws driven by worm gear reducer; Worm gear reducer has the characteristics of light weight, stable operation and high efficiency; High precision screw can fully meet the user's consumption.

The electric heater is installed in the discharge pipe of the conveyor; It can prevent the dry powder in the discharge pipe from blocking the discharge pipe due to moisture and caking.

2. Drug dissolving device

It is composed of pre infiltration device, drug dissolving tank, drug storage tank and mixer

The pre infiltration device adopts stainless steel cyclone bucket, and the water enters from the tangent direction. A cyclone water curtain is formed in the cyclone bucket, which is pre wetted and mixed with dry powder and enters the drug dissolving tank.

A baffle is set in the drug dissolving tank, and a mixer is installed in the middle; The agitator has unique structure and appropriate rotating speed, which can ensure the homogenization of the solution without damaging the polymer molecular chain. It can stir and mix the dry powder solution well; An electrode type liquid level gauge is installed in the drug dissolving tank, and the liquid level signal is sent to PLC to realize automatic control; The medicine dissolving tank is provided with an overflow pipe to prevent the solution from flowing out from the top.

Electrode type liquid level gauge is installed in the medicine storage tank, and the liquid level signal is sent to PLC to realize automatic control; A vent pipe is set at the bottom, which can empty the liquid medicine when the equipment is not used for a long time.

3. Water supply system

It is composed of stainless steel pipeline, manual ball valve, filter, pressure gauge, solenoid valve and stop valve.

The filter is used to intercept impurities in water and protect the solenoid valve.

The pressure gauge is installed behind the filter to display the pressure. If the pressure is too low, it indicates that the filter is blocked and the impurities in the filter need to be removed.

The solenoid valve receives the electric signal to realize automatic water inlet.

The stop valve is used to regulate the inlet flow, which is convenient and stable.

4. Secondary dilution device

It is composed of electromagnetic flowmeter, pipeline static mixer and pipeline accessories.

The electromagnetic flowmeter is used to measure the flow of dilution water, display the flow value, and provide the flow signal to PLC.

The pipeline static mixer is to install two sets of spiral blades rotating in opposite directions in the PVC pipeline; When PAM solution and dilution water enter the mixer, the mixer can change the flow direction to produce a circumferential flow mode, so that the solution can be mixed quickly to achieve the best mixing effect.

Pipeline accessories include manual ball valve, solenoid valve, one-way valve and elbow Union, etc

5. Control system

It is composed of electrical control cabinet and liquid level switch.

The electrical control cabinet adopts Siemens PLC, Siemens TD200 text display, Siemens and Schneider electrical components, and is equipped with conveying screw frequency converter to control the dosage of dry powder.

The liquid level switch adopts Taiwan Anliang liquid level controller, with accurate measurement and stable signal.

2、 Working principle

Control, automatic and remote control.

1. Manual status:

It can start and stop ① dry pump, ② mixer, ③ electric valve, ④ dosing pump and ⑤ inlet solenoid valve separately.

2. Automatic status:

In the automatic state, when the liquid level in the drug storage tank is low, the electric valve between the dispensing tank and the drug storage tank will open automatically until the liquid level in the dispensing tank is low, and the electric valve will close. When the liquid level in the dispensing tank is low, the water inlet solenoid valve will open automatically, and the dry time delay is 30

Seconds on. Dry run for 10 minutes. When the liquid level in the dispensing tank is high, the water inlet solenoid valve is closed. The level meter in the hopper detects the amount of dry powder. When there is material, the level meter has a signal, and when there is no material, the level meter has no signal. When the material level meter has no signal, PLC sends an alarm signal and delays

If there is no signal after 10 minutes, stop the machine immediately; At this time, the dosing pump is manually controlled to start and stop.

3. Remote control status:

In the remote control state, when the central control room sends a signal to start the whole equipment, the equipment immediately works according to the automatic program; When the central control room sends a signal to stop the whole equipment, the equipment will stop working immediately. The central control room sends a signal to control the start and stop of the dosing pump.

4. Installation

Check the foundation condition before equipment installation. The foundation shall be constructed in strict accordance with the design size, and the foundation levelness shall be $\leq 3\text{mm}$.

Move the equipment to the predetermined position with a forklift or lifting device.

Clean the dust and sundries inside and outside the equipment.

Connect the water inlet pipe, vent pipe, overflow pipe and dosing pipe of the equipment to each pipeline respectively.

Open the manual ball valves of the water inlet pipeline, dilution water pipeline and dosing pipeline, close the vent valve at the bottom of the equipment, and open the manual ball valve at the outlet of the solution storage tank.

Connect the power line to the electric control cabinet.

5. Operation

After confirming that the above installation and connection are correct, the equipment can be turned on. The specific steps are as follows:

When using for the first time, fill the hopper with dry powder. There is no liquid medicine in the dispensing tank and drug storage tank, which is at ultra-low level, and there is no alarm at this time. Turn the "manual, automatic and remote control" knob to "automatic", at this time, the solenoid valve starts to work, opens after 30 seconds of dry speculation delay, and automatically closes after 10 minutes of dry speculation operation. When the liquid level of the dispensing tank reaches the low level, the mixer will open after 3 minutes. When the liquid level reaches the high level, the water inlet solenoid valve will be closed. After the mixer runs for 45 minutes, the electric valve opens and the liquid medicine in the dispensing tank enters the drug storage tank. When the liquid level in the dispensing tank reaches the low level, the electric valve is closed, the water inlet solenoid valve is opened, the mixer is opened after 3 minutes, the dry speculation is opened after 30 seconds, and the dry speculation is automatically closed after 10 minutes of operation. When the liquid level in the dispensing tank reaches the high level, the water inlet solenoid valve is closed. At this time, the liquid level in the dispensing tank and storage tank is at a high level, the PLC sends a "ready" signal, and the "ready" indicator on the control panel is on, indicating that the dosing pump can be started at this time.

After the "ready" process is completed, start the dosing pump and start dosing. When the liquid level in the medicine storage tank is low, the electric valve is opened and the medicine liquid in the dispensing tank enters the medicine storage tank. When the liquid level in the dispensing tank reaches the low level, the electric valve is closed, the water inlet solenoid valve is opened, the dry speculation is opened after a delay of 30 seconds, the mixer is opened after a delay of 3 minutes, and the dry speculation is automatically closed after running for 10 minutes. When the liquid level in the dispensing tank reaches the high level, the water inlet solenoid valve is closed. Always run such a work cycle.

The mixer is controlled by the liquid level in the dispensing tank except for the first time. That is, when the liquid level in the dispensing tank reaches the low level, the mixer starts to work after a delay of 3 minutes. When the liquid level in the drug storage tank reaches the low level, the mixer stops working.

If the equipment is powered off suddenly during normal operation or due to other reasons, after restart, workers need to manually add the liquid medicine in the dispensing tank and drug storage tank, and re dispense the medicine after emptying.

6. Maintenance

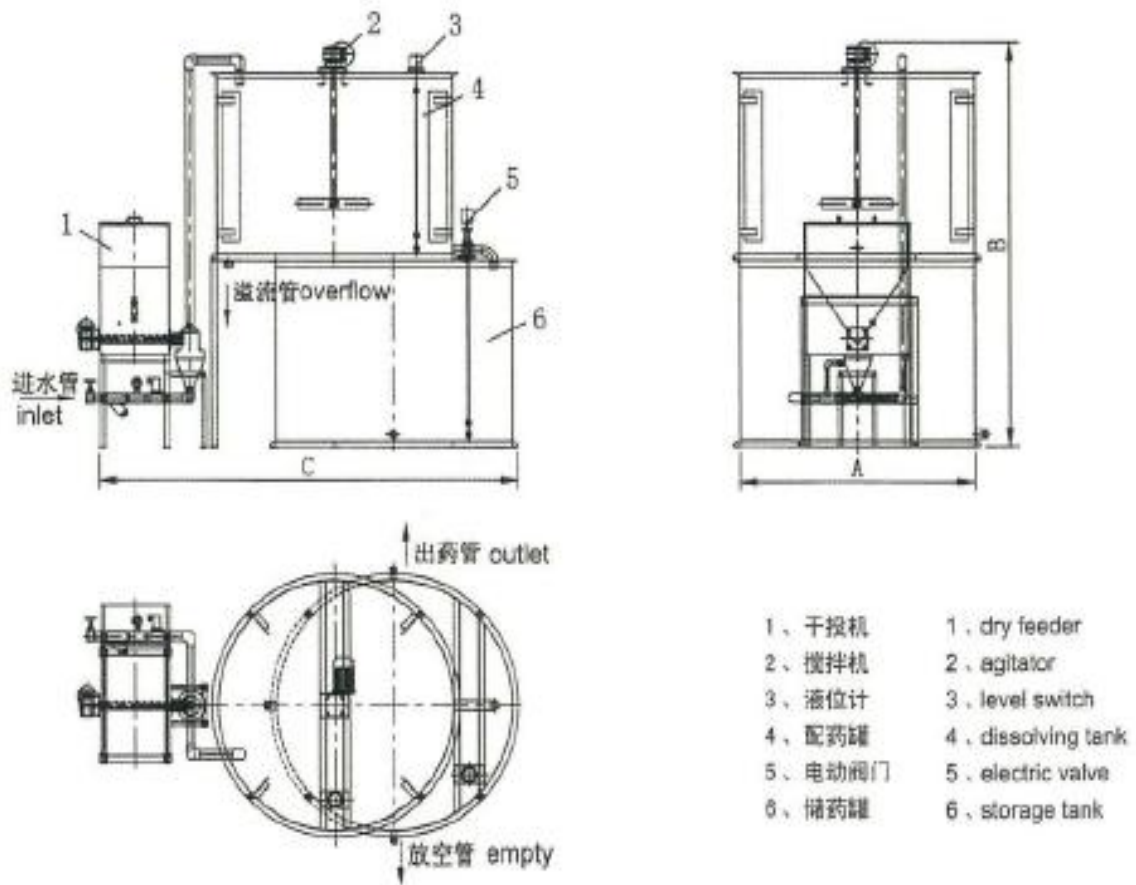
Regularly overhaul the worm gear reducer.

Clean tap water shall be used as the water supply source, and the water supply pressure shall be ≥ 0.3 MPa and kept stable, otherwise the solution concentration will be affected. If it is found that the pressure is normal and the inlet flow decreases, the filter shall be cleaned in time.

The garbage in the tank shall be removed during the first use to ensure the internal cleanliness. At ordinary times, ensure that the tank body is clean in the pre infiltration device, and clean up the garbage and medicine blocks in time.

The equipment shall be ventilated to avoid excessive humidity affecting the use of dry powder. If the prepared solution is not used for a long time (more than 3 days), hydrolysis failure will occur. At this time, it can be vented. According to the specific requirements

of the dry powder used and the concentration of the solution to be filled, please actually measure the amount of dry powder transported (due to the different density and other physical properties of various dry powders). The use effect of various concentrations of drug solution shall be tested to obtain the best use effect, and can be officially put into use only after it is confirmed to meet the engineering design requirements.



Main technical data

Model	Tank diameter	A	B	C	D
PTB0.6	0.3 m \times 2	800	1500	1600	1200
PTB1.0	0.5 m \times 2	960	1800	1750	1400
PTB2.0	1.0 m \times 2	1250	2300	2000	1600
PTB3.0	1.5 m \times 2	1430	2300	2200	1800
PTB4.0	2.0 m \times 2	1610	2800	2500	2100
PTB5.4	2.7m \times 2	1860	2800	2700	2400
PTB6.6	3.3 m \times 2	1860	3350	2700	2400
PTB8.4	4.2 m \times 2	2000	3750	2800	2500

Model	PTB0.6	PTB1.0	PTB2.0	PTB3.0	PTB4.0	PTB5.5	PTB6.5	PTB8.5
Dry power flow rate (kg/h)	0.6	1.0	2.0	3.0	4.0	5.5	6.5	8.5
Dosing capacity (L/h)	240	400	800	1200	1600	2200	2600	3400
Dissolving tank capacity (L)	300	500	1000	1500	2000	2700	3300	4200
Storage tank capacity	300	500	1000	1500	2000	2700	3300	4200

(L)								
Flow rate of water inlet (L/h×100)	12	20	40	60	80	110	140	170
Curing time(h)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Inlet diameter	DN25	DN25	DN32	DN32	DN40	DN50	DN50	DN65
Dosing diameter	DN40	DN40	DN40	DN40	DN40	DN50	DN50	DN50
Empty diameter	DN25	DN25	DN25	DN25	DN25	DN32	DN32	DN32
Overflow diameter	DN40	DN40	DN40	DN40	DN40	DN50	DN50	DN50



Dry chemical(ime, etc.)storage and dosing system



Adaptable for industry applications for large quantity of dry chemical (such as lime)

Pneumatically transported to lift the chemical by conveyor against free dust

Silo volume: 10-100m³

Dosing quantity: 50-2000t/h dry powder

Equipped with bin bottom activation device

Equipped with powder metering and transporting device

Equipped with bag filter

Materials of construction: carbon steel epoxy painted (stainless steel is an option)

Options: inlet water control unit, lime dissolving tank and mixer. Etc

Application Industry:

- 1) Municipal sludge conditioning
- 2) municipal tap water supply
- 3) chemical wastewater treatment
- 4) metallurgy and power industry
- 5) food and chemical industry
- 6) sludge drying
- 7) others

1、 Lime dosing system definition

Lime dosing system is a kind of equipment for storing, configuring and dosing quicklime powder.

2、 Working principle of lime dosing system

The lime dosing system is to transport calcium oxide and calcium hydroxide powder (fine particles with particle size of 200–400 mesh) to the storage bin through bulk tank truck, measure it by star feeder, and then transport the powder to the lime dissolution tank by screw conveyor; The environmental protection little bee is stirred and prepared by a stirrer, and the slag is discharged, and then the prepared lime solution is added to the raw water at the dosing point by a screw pump. The whole system is carried out in a closed environment, and a dust collector is set in the silo, which effectively avoids the phenomenon that lime will endanger the environment and the health of on-site operators will be affected by dust outside.

3、 Equipment composition of lime dosing system

Lime silo, silo top dust collector, activation hopper, level gauge, discharge plug valve, screw conveyor, dissolving tank, mixer, magnetic flap level gauge, screw pump, pipeline system and electrical automatic control system.

4、 Significance of lime dosing system

1. Adjust pH value

2. Coagulation and sedimentation can precipitate SS into blocks, which is generally used in combination with PAM

3. Remove specific acid radical ions. When the pH of the solution is alkaline, the acid radical ions can be precipitated to achieve the purpose of phosphorus and sulfur removal

5、 Product features of lime dosing system

1. Basic inlet and outlet capacity: the storage capacity of powder silo is from 5m³ To 150m³; The preparation capacity of lime powder is from 5 to 10000kg/h: the preparation capacity of lime emulsion is from 100 to 100000kg/h (concentration 10%).

2. continuous automatic preparation, powder feeder with speed regulating device, wide range of feed volume adjustment, lime emulsion preparation of high concentration accuracy.

3. Advanced Rapper or arch breaker can be selected to make lime blanking more smooth.

4. The advanced volume is the quicklime digestion system. By reasonably adjusting the relationship between feed and water inflow and adjusting the more appropriate digestion temperature, the quicklime digestion can be more complete and the digestion efficiency can be higher.

5. The lime pipeline valve adopts special pipe valve, which has no blockage, no leakage and convenient operation and control. It is especially suitable for the process transportation of granular materials.

6. The level gauge adopts imported liquid level measuring instrument for accurate control.

7. The electric control system adopts advanced automatic control system, and the equipment operates efficiently and automatically.

6、 Process flow of lime dosing system

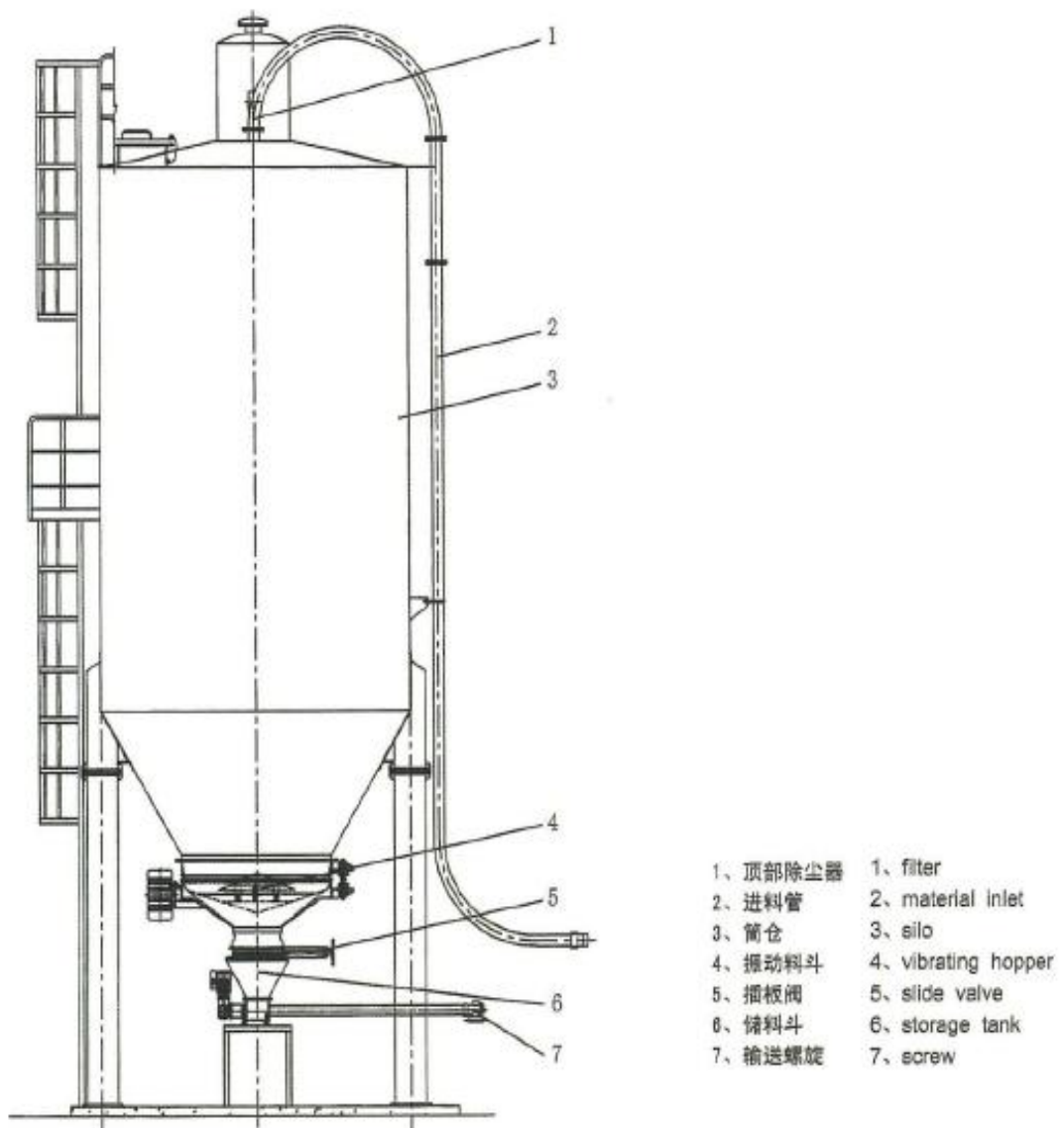
1. Feeding: the lime powder from the lime tank truck is transported into the lime silo through the positive pressure at the feeding port.

The silo is equipped with dust collector, safety valve, material level gauge and arch

breaking system. The dust collector separates the positive pressure gas from the lime powder to ensure that the equipment will not hold the pressure and the dust will not leave the equipment. The safety valve mainly protects the dust collector from holding the pressure in the silo and damaging the main body of the silo when the permeability is not good. The main function of the material level gauge is to indicate the material level of the silo to prevent excessive feeding and timely feeding in case of insufficient feeding.

2. Lime milk configuration: the lime powder is quantitatively transported to the lime milk dissolving tank through the screw conveyor, and the water is fed in proportion to prepare the lime milk with appropriate solubility for use.

3. Transportation: the configured lime milk is added to the dosing point through the lime milk pump.



Filter and separation device
QF type Dissolved air flotation(DAF)



Flow rate of one set : 1-100m³/h

Recycle flow dissolved air flotation

High efficiency pressurization system providing high quantity dissolved-air water to create large quantities of small bubbles

Customer design on recycle flow ratio according to the type of wastewater to achieve target removal efficiency

Adjustable stainless steel chain type skimmer to suit the different quantity of sludge

Integrated coagulation tank and/or flocculation tank and cleaning water tank (as optional) is available to save the space and cost

Automatic and remote controllable

Materials of construction carbon steel epoxy painted , carbon steel FRP lined , stainless steel SS304/316L

1、 Use

Because the air flotation machine has many advantages, such as rapid solid-liquid separation, less user investment, compact equipment structure, automatic management and convenient use and management, the air flotation machine is often used in the treatment of water supply, industrial wastewater and urban sewage. The equipment is widely used in oil refining, chemical industry, brewing, vegetable oil production and refining, slaughtering, electroplating, printing and dyeing and other industrial wastewater and municipal wastewater treatment. Except for some raw water bodies with more sand and sewage with heavy mechanical impurities, most of them are light suspended particles. Compared with other air flotation methods, it has the advantages of high hydraulic load and compact tank body. It can be used to treat water with low turbidity, high chroma, high organic

content, low oil content, low surfactant content or rich algae.

Not only conventional industrial and domestic sewage can be treated by air floatation machine, but also some low-temperature wastewater and wastewater containing a large amount of algae can be treated by air floatation machine. This method has many application scenarios and excellent effect.

2、 Working principle

The working principle of the air floatation machine is not complicated. First, put the sewage to be treated into the designated area to be treated, and then the air released by the air floatation machine is fully mixed with the sewage. The flocs are adsorbed by small bubbles, and then slowly float to the water surface to form scum. The treated water at the lower layer directly enters the clean water tank through the water collector, After the dross is gathered, it can be scraped uniformly and enter the sludge tank. Most of the sewage and wastewater are treated better.

For raw water containing light suspended solids, if the traditional sedimentation method is still used, the effect will be very poor. Especially under the low temperature condition in winter, it is more difficult to ensure the treatment effect due to the deterioration of coagulation and hydraulic conditions. It can be imagined that if the floc particles that are difficult to precipitate are forced to sink, it is bound to get twice the result with half the effort. It is better to guide the situation by artificially introducing bubbles into the water body to make them adhere to the floc particles, so as to greatly reduce the overall density of the floc particles, and force them to float upward by taking advantage of the rising speed of the bubbles, so as to realize rapid solid-liquid separation. In this sense, the emergence of air floatation technology is a revolution in gravity sedimentation method, which opens up a new field of solid-liquid separation technology. The air floatation machine developed and produced by the application of air floatation technology has also become the choice of more and more users.

Principle of air floatation equipment:

1. The dissolved air floatation machine breathes while absorbing moisture. The pump is filled with pressure, mixed, vapor-liquid melting, high efficiency, and small bubbles $\leq 30\mu\text{m}$.
2. The dissolved air floatation machine operates under the bottom pressure. The dissolved air efficiency reaches 99% and the release rate reaches 99%.
3. The high-efficiency absorption of micro bubbles and floating particles improves the actual effect of SS removal.
4. The high efficiency of dissolved air and water is 80-100%, which is three times higher than that of the traditional dissolved air floatation machine.
5. The working pressure volume curve is flat, which is very easy to maintain the automatic control system, easy to operate, easy to maintain and low noise.
6. In the process composition of extremely difficult wastewater treatment with complex components, the air floatation machine is also accompanied by adhesion and gas explosion, which reduces the surface activity and organic chemical concentration, greatly reduces

the oxygen consumption, promotes the deepening cleaning of sewage, and presents a qualified water body for subordinate solutions.

Principle of high efficiency shallow air flotation machine.

Hlqf air flotation equipment is an excellent water purification equipment in the world.

The machine is easy to use and has great working capacity.

Hlqf air floatation machine adopts dynamic water leakage and static data water output.

The water inlet and outlet of the equipment are continuously detected by turbidimeter.

The main parameter signals are transmitted to the powder dosing device. The dosing size

is carried out by the automatic dosing device. The dissolved air water system software

and sludge discharge system software of the air floatation oil solution equipment are

fully automatic, The dynamic operation of machinery and equipment can connect the data

signal to the centralized main control room.

3、 Characteristics of air flotation machine;

The wastewater reflected by the dosing of the air flotation machine enters the mixing

area of the air flotation machine, mixes and touches with the released dissolved gas to

make the flocs adhere to the micro bubbles, and then enters the air flotation machine

area. Under the effect of the buoyancy of air and water, the flocs generate scum on the

river surface. After the cold water of the next layer flows to the clean water tank through

the water collector, part of it flows back to be used as dissolved air water, and the

remaining cold water is discharged according to the overflow port. After the scum on the

water surface of the air flotation machine is accumulated to be thin and thick, it is

scraped into the sludge tank of the air flotation machine by the foam scraper and then

comes out. The SS that can be moved down is settled in the cone and removed on time.

4、 Installation, commissioning and precautions

(1) Installation:

1. Before equipment installation, the foundation must be compacted. And 100-150mm high with concrete mortar. It can also be installed overhead, but the foundation must be able to bear the weight of the equipment during operation.

2. The level shall be adjusted after the equipment is in place.

3. The equipment needs to be provided with a sewer for cleaning, which can be dug into an open channel or directly connected to the regulating tank by pipeline, so that the water for flushing the air flotation tank can be discharged.

4. The connecting pipeline between the sewage inlet and the reaction tank shall be as short as possible to prevent the flocs from being damaged in the pipeline.

5. The clean water outlet can be connected to the sewer for discharge. If it is necessary to enter the next treatment process, it can be directly connected with the next treatment equipment.

6. Sludge outlet can be connected to sludge tank or sludge treatment equipment.

7. The electrical box shall be generally placed on the side of the escalator, and the environment shall be clean and clean.

(2) . commissioning:

A. Before equipment commissioning, the following preparations shall be made:

1. Clean all the stolen goods and sundries in the pool.
2. Lubricate the parts that need lubrication, such as water pump and air compressor.
3. Check that all valves are in the open position to ensure that the water inlet bottom valve of the dissolved air pump is flooded.
3. Turn on the power supply, start the water pump, dissolved air pump, slag scraper and air compressor, and check whether the steering direction is consistent with the direction indicated by the arrow. Start the air compressor with manual control, check whether the air compressor operates normally, and find out the causes in time in case of abnormalities.

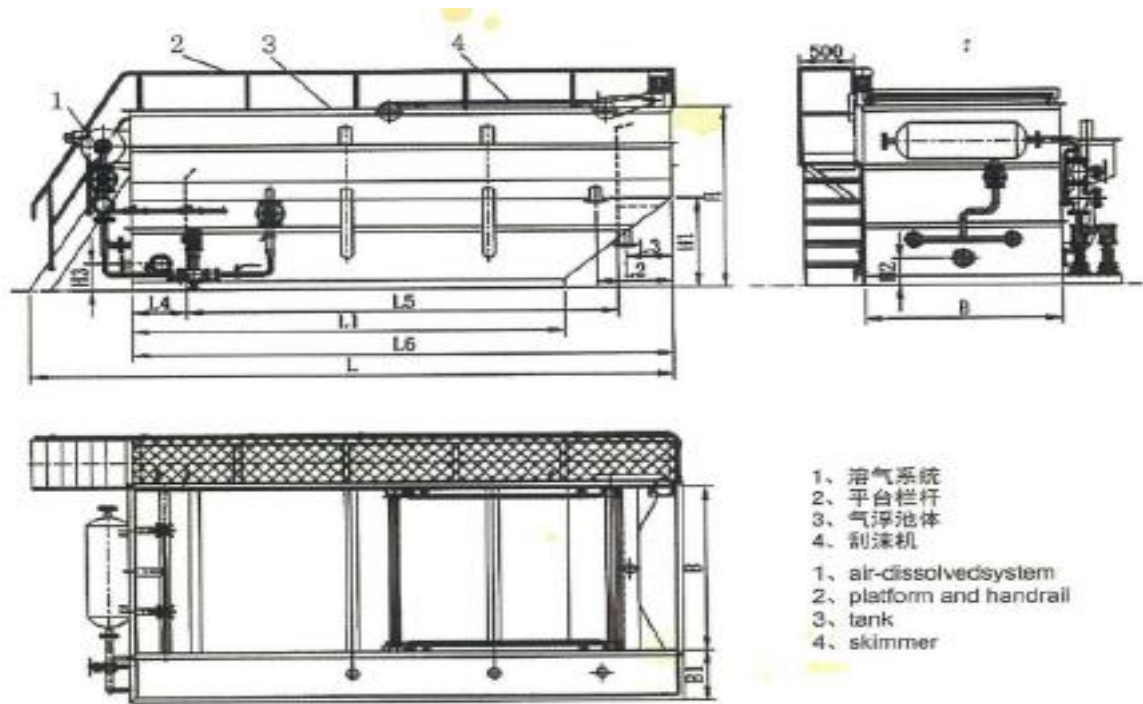
B. Commissioning:

1. Add water: make the water level of the air flotation machine less, and the water inlet bottom valve of the non dissolved air pump and the water outlet level of the air flotation tank can be manually adjusted by the above valve.
2. Operation of air dissolving system: check that the water inlet and outlet valves of the air dissolving pump are in the open position, open the water outlet control valve of the air dissolving tank, turn the electrical knob switches of the air dissolving pump, slag scraper, submersible sewage pump and dosing pump to the automatic position, start the water pump and air compressor, the pressure on the pressure gauge of the pipeline of the air dissolving pump rises gradually, generally reaching about 0.3MPa, and the pressure of the air dissolving tank is about 0.4MPa. At this time, The dissolved air water is released into the air flotation tank through the releaser. A large number of fine bubbles appear in the air flotation tank, making the clear water turn milky white. The dissolved air system is normal. The higher the dissolved air pressure, the higher the density of the released dissolved air bubbles. When the amount of bubbles is small and the aeration is not obvious, the inlet valve of the inlet pump can be properly closed to reduce the amount of water, or the outlet valve of the air dissolving tank can be properly closed to ensure sufficient pressure. The gas of the dissolved gas system is provided by the air compressor. As the dissolved air water continuously takes away the air in the tank, the air in the tank gradually decreases and the water level rises. When the water level rises to a certain position, the floating ball level gauge will control the operation of the air compressor so that there is enough air in the tank.
3. Air flotation operation: after the dissolved air system operates normally, the sewage after dosing reaction is sent to the air flotation mixing tank. The flow shall be reduced first, and then gradually increase to the rated value after it is normal.
4. Dissolved air water: tap water shall be used as return water for dissolved air water. After it is normal, the treated clean water shall be used as return water.
5. When the equipment is shut down, turn the switch of each electrical valve to the stop position (when the water inlet pump is controlled by the floating ball liquid level, the switch is controlled by the floating ball and does not need to be closed manually).
6. Filtration system (some equipment configuration): during normal operation, turn the valve arrow on the filter tank to the filter position, open the water inlet and outlet

valve of the filter tank, open the water inlet and outlet valve of the self-priming pump 1, close the water inlet and outlet valve of the self-priming pump 2, turn the switch of the self-priming pump 1 to the automatic position, the water pump is controlled by the floating ball level in the clean water tank, and the water will be filtered automatically when the water level is high; When the filter tank is blocked, close the self-priming pump 1, close the water inlet and outlet valve of the self-priming pump 1, open the water inlet and outlet valve of the self-priming pump 2, turn the valve arrow to the back wash position, open the back wash pipeline valve, and turn the switch of the self-priming pump 2 to the automatic position. The water pump is controlled by the float ball level in the clean water tank. When the water level is high, the back wash will be carried out automatically, Generally, it is flushed once a day for 10-15 minutes, depending on the inlet water quality.

(3) , precautions and daily maintenance

1. The reading of the pressure gauge on the dissolved gas tank shall not * exceed 0.6MPa.
2. Clean water pump, air compressor and foam scraper shall be lubricated regularly. Generally, the oil of air compressor shall be added once every two months and changed once every six months.
3. Depending on the amount of sediment in the air flotation tank, the lower sludge discharge valve shall be opened regularly to discharge sludge.
4. The sewage entering the air flotation machine must be medicated, otherwise the effect is not ideal.
5. Regularly check whether the safety valve on the dissolved gas tank works reliably.
6. When the releaser is blocked, it needs to be cleaned manually with clean water to flush the blockage.
- 7、 Electrical schematic diagram (see attached figure)
- 8、 Attached accessories:
 1. Product certificate
 2. Packing list: (1) one complete machine (2) one power distribution cabinet (3) one air compressor



Main technical data

Model	QF-3	QF-5	QF-10	QF-15	QF-20	QF-30	QF-40	QF-50	QF-70	QF-80	QF-100
Treatment capacity (m ³ /h)	2~3	3~5	5~10	10~15	15~20	20~30	30~40	40~50	60~70	70~80	90~100
Air dissolved water flow rate (m ³ /h)	0.5~1	1~2	2~3	3~5	5~7	6~10	8~13	15~20	20~25	25~28	30~35
Separating area (m ²)	1	1.5	3	4.5	5.4	8	11	13.5	19.5	21.5	28
Main motor (kw)	1.5	2.2	3	4	4	5.5	5.5	7.5	7.5	15	15
Air compressor motor (kw)	0.37	0.37	0.37	0.37	0.37	1.5	1.5	1.5	1.5	1.5	1.5
Skimmer (kw)	0.12	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.37	0.37
Empty, weight (kg)	1100	1400	1900	2400	3000	3700	4300	4950	6000	6700	7800
Working weight (kg)	3600	4400	9400	12400	15000	20700	26300	32950	44800	51700	67800
L (mm)	2500	2750	4200	4700	4700	5700	6700	6700	8400	8700	9600
L1 (mm)	1500	1700	2500	3000	3000	4000	6000	6000	7700	8000	8900
L2 (mm)	450	500	700	700	700	700	600	600	600	750	750
L3 (mm)	100	100	240	240	240	500	1000	1000	1000	1000	1000
L4 (mm)	500	500	500	500	500	500	500	500	600	750	900
L5 (mm)	1300	1500	2500	3000	3000	3000	4000	4000	5000	5000	6000
L6 (mm)	2200	2400	3500	4000	4000	4000	5000	5000	5000	5000	6000
H (mm)	1700	1700	2000	2000	2000	2000	2450	2450	2450	2450	2550
H1 (mm)	800	850	900	900	900	900	2100	2100	2100	2100	2200
H2 (mm)	300	300	300	300	300	300	150	150	175	150	175
H3 (mm)	138	145	145	145	145	145	125	125	150	150	175
B (mm)	800	1000	1200	1500	1800	2000	-	-	-	-	-
B1 (mm)	400	400	556	556	556	556	-	-	-	-	-

Filter and separation device

Containerized water/wastewater treatment system



Chemical-physical compact plant

Compact total oxidation plant

Potable water treatment unit

Fixed or mobile water and wastewater treatment pilot plant





1、 Applicable occasion and scope

Oil, exploration and other field operation areas in desert and marginal areas;

Military field exercises, field hospitals, flood fighting and disaster relief, etc;

Ship boiler make-up water, island defense and border defense forces;

(temporary) emergency water for oil platforms, industrial and mining enterprises, etc.

Mobile water purification equipment mobile drinking water equipment mobile water treatment purification vehicle mobile water supply equipment mobile water treatment equipment

Mobile purified water equipment mobile water purification equipment mobile purified water equipment mobile direct drinking water equipment (machines, appliances, vehicles)

Mobile water making equipment on-board water purification equipment on-board drinking water equipment on-board water treatment purification vehicle on-board water supply equipment

Scope of application:

Various industrial and domestic sewage treatment; Urban reclaimed water treatment;

Treatment of regional reclaimed water (residential areas, ports, commercial centers, hospitals, parks, hotels, schools, organs, factories and mines, etc.); Reclaimed water from special reclaimed water equipment (car washing, laundry, bathing and other industries).

2、 Advantages

1. Be able to adapt to the environment with complex source water quality;

2. Stable water production, not easy to block and simple operation;

3. The water quality is excellent and meets the corresponding water quality standards;

4. Self provided generator and power pump without external power supply.

5. The equipment installed in the vehicle can be moved easily, the layout and structure of the whole vehicle are reasonable, and shock absorption measures are taken.

6. Water production standard of mobile water purification equipment:

Meet the national drinking water standard gb5749-85;

Standard for bottled purified water gb17323-1997

Who drinking water standards;

National boiler make-up water standard;And other relevant standards.

3、 Equipment advantages:

1. When the effective residence time is less than 5 hours, the effects of COD < 50mg / L, ammonia nitrogen < 5mg / L and SS < 5mg / l can be achieved;
2. The SS of the mixed liquid in the aeration tank is only below 100mg / L, and the sludge output is low. There is no need to set a secondary sedimentation tank, which can directly enter the subsequent upflow biofilter system;
3. Thin biofilm (10-300) μ m), high biological activity, no blockage and large falling off;
4. Compared with the traditional process, the investment is the lowest and the cost performance is the highest;
5. Compared with biological aerated filter and membrane activated sludge process, it completely overcomes the weaknesses of complex construction and operation and high operation cost.

4、 Equipment characteristics:

1. Compact equipment and low land occupation;
2. The moving bed filler is directly used in the anaerobic tank, and the effect of nitrogen and phosphorus removal is good. The ammonia nitrogen removal rate is 95-99%, the phosphorus removal rate is 70-75%, and the total nitrogen removal rate is 80-85%, which can effectively eliminate the eutrophication of water body;
3. The combined biofilter requires a small amount of aeration and water during backwashing, which is much higher than the traditional sand filtration method and biological aerated filter, easy to operate and save investment;
4. Moving bed packing and filter packing have long service life and can be used for 30 years without replacement;
5. The hydraulic retention time (HRT) of the main equipment is about 5 hours, with high efficiency and compact process; Compared with the existing fixed bed biofilm reactor packing, the treatment efficiency is increased by 30-50% and the operation cost is reduced by 30%;
6. After the treatment of urban sewage and domestic sewage, various indexes of effluent meet and better than the reclaimed water quality standard;
7. High degree of automation, convenient operation and maintenance;
8. It can be placed underground, semi underground and on the ground according to the scale and site conditions;
9. No peculiar smell, small sludge output, no concentration, no noise when set underground and little impact on the environment;
10. It can be used for urban reclaimed water, regional reclaimed water and small special reclaimed water treatment equipment.

Odor control equipment

Bio- filter for consistent odor and voc treatment



Low chemical cost

Reliably operation with high load impact resistant capability

Acclimated micro-organism can against the specific harmgas components, which will improve the load rate in unit volume

Specifically proportioning active filter media with large specificarea and high void rate can support large quantity micro-organisms

Active filter media with a low pressure drop will save energy andrunning cost

Permanent living environment and long life active filter media

Nature biology degradation method against secondary pollution

High efficiency removal rate of VOC Removal rate of H, s canexceed 99%

Plc contro

1、 Application scope:

1. Municipal Industry: it is applicable to H₂S, mercaptan, thioether, ammonia, amine and other malodors produced by food waste treatment station, waste transfer station, urban waste treatment plant, fecal treatment plant, urban sewage treatment plant, sewage collection pump station, grid room, sludge tank and sludge treatment room;

2. Engineering enterprises: suitable for spraying, rubber factory, tire factory, paper mill, food factory, tobacco, printing, breeding farm, chemical industry and occasions where benzene, ester, alcohol, ketone, aldehyde, phenol gasoline are produced in the production process.

2、 Working principle:

Firstly, the odor gas collected through the gas collection pipeline is fully contacted with the biological deodorization liquid inside the filled deodorization device through the pipeline. The mass transfer between gas and liquid is carried out at the phase interface between the liquid and gas on the filler surface. The odor particles in air or water are surrounded by the water molecule membrane. At this time, the water molecule membrane must be destroyed first, Then capture the odor particles. Biological deodorization liquid is a complex of natural extract, peptide and enzyme components. It is a biocatalyst system. While deodorizing, it can promote the growth of beneficial bacteria, decompose and emulsify oil deposits or pollutants. The deodorization process is to inhibit the activity of odor particles, degrade them and promote oxidation to achieve better deodorization effect.

3、 Features:

① Simple operation

The nutrients contained in the inorganic nutrient filter material ensure that there is no need to supplement nutrients in the use process, reducing the operation cost and system complexity. The system is fully enclosed and is not affected by climate. The operation status of the equipment can be grasped in time through the instrument.

② High pollutant removal rate

The removal rate of H₂S with an average concentration of 10-100 ppm is more than 95%, and the overall control of odor concentration, including mercaptan and sulfide, is more than 95%;

③ Low operation cost

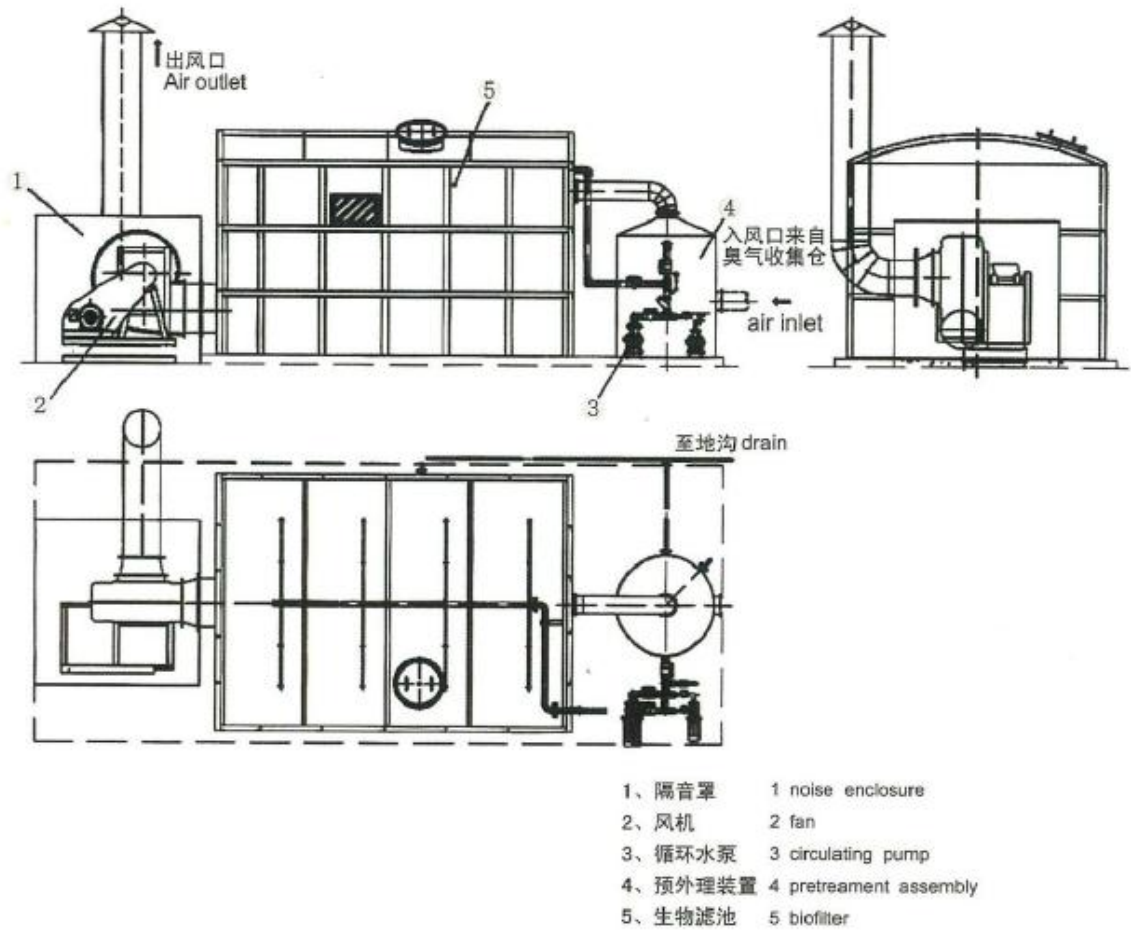
The height of filter material is high, but the resistance is small, so the energy consumption of fan is small and the power consumption is small. During operation, only a small amount of water is needed without adding chemicals, nutrients, etc. Little manual maintenance.

④ Sufficient residence time

The removal rate of malodorous substances is related to the gas residence time, and sufficient residence time is one of the guarantee measures for the removal rate. The residence time of the biological odor treatment device of our company is 10s-25s, which is obviously superior to similar domestic products.

⑤ Long service life

The equipment can be made of SUS304 or FRP, which has the characteristics of long service life and corrosion resistance.

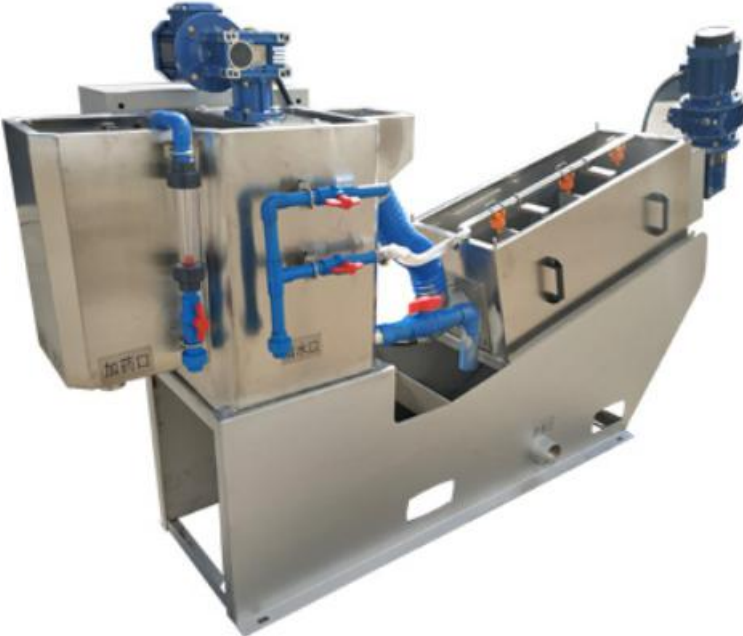


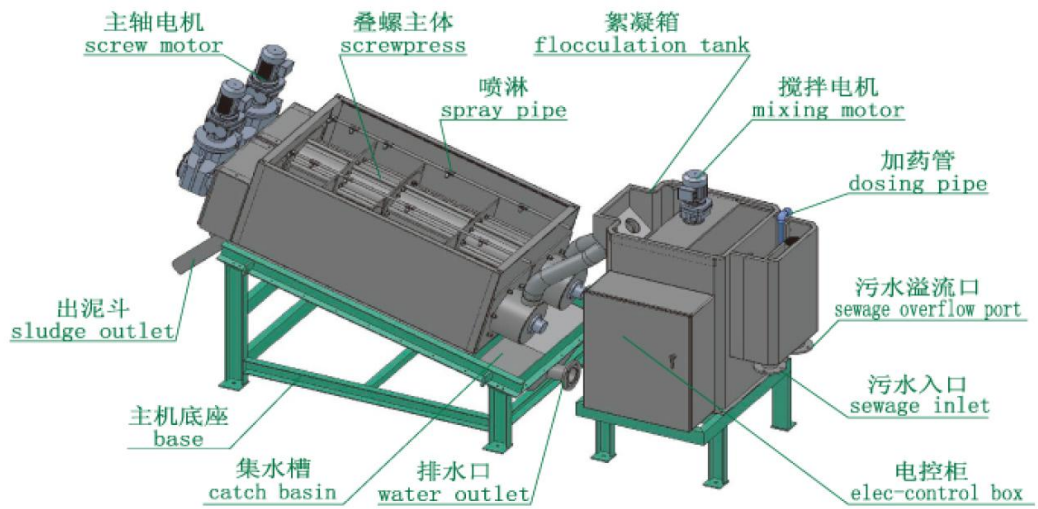
Main technical data

Model	Capacity (m ³ /h)	Medium height (m)	L×W×H (mm)	Normal power supply (kw)
BOT-1000	1000	1.0~1.25	2500×2000×2700	2.2
BOT-2000	2000	1.0~1.25	5000×2000×2700	3.0
BOT-3000	3000	1.0~1.25	5000×3000×2700	4.0
BOT-4000	4000	1.0~1.25	7000×3000×2700	5.5
BOT-5000	5000	1.0~1.25	7200×3500×2700	7.5
BOT-7500	7500	1.0~1.25	9500×4000×2700	11
BOT-10000	10000	1.0~1.25	12500×4000×2700	15

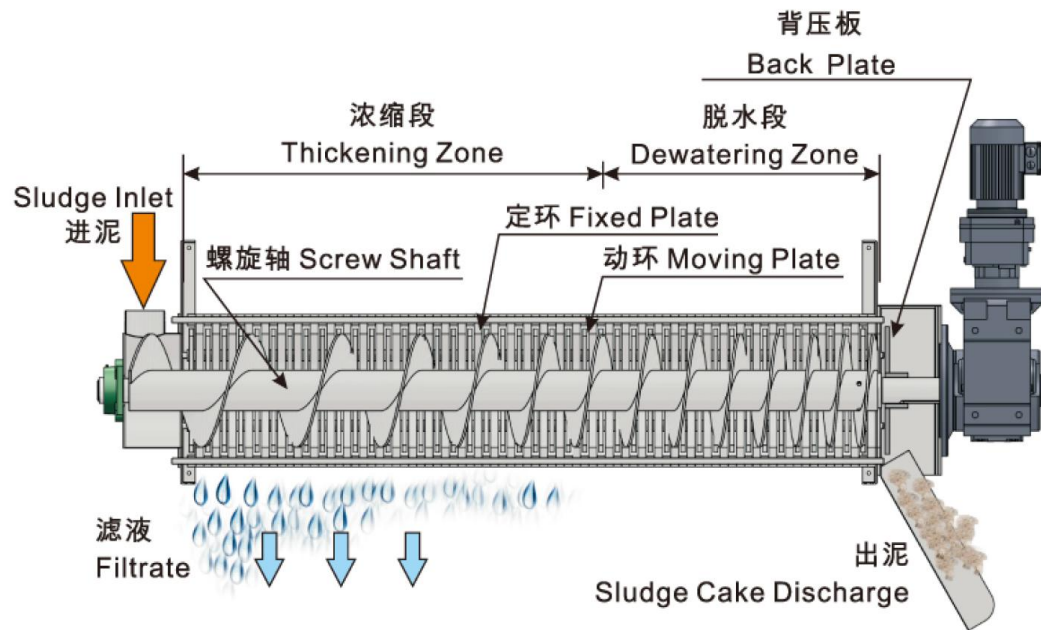


Stacked screw dehydrator





discharged from the outlet.



1、 Use

It is widely used in municipal sewage treatment projects and water treatment systems in aquaculture, food, starch, oil, pharmaceutical, chemical, papermaking, leather and other industries.

2、 Structural principle of screw type sludge dehydrator

The stacked screw sludge dehydrator is a new type of solid-liquid separation equipment which uses the screw extrusion principle to realize the extrusion dehydration of sludge through the strong extrusion pressure generated by the change of screw diameter and pitch and the small gap between the swimming ring and the fixed ring.

The stacked screw sludge dehydrator adopts the multi overlapping plate spiral filter pressing mode, which has the function of self-cleaning filter slot. It is not blocked, water-saving, power-saving and durable. It creates a precedent for direct dehydration of low concentration sludge (2000mg / L ~), can realize 24-hour continuous unmanned operation, and greatly reduces the cost of design, construction, operation and maintenance management.

The stacked screw sludge dehydrator is composed of stacked screw body, driving device, filtrate tank, mixing system, frame, etc. When the stacked screw sludge dehydrator works, the sludge is lifted to the mixing tank through the sludge pump. At this time, the dosing pump also quantitatively transmits the chemical solution to the mixing tank. The mixing motor drives the whole mixing system to fully mix the sludge and the chemical solution, resulting in alum. When the liquid level reaches the upper position of the liquid level sensor, the liquid level sensor receives a signal to make the main motor of the stacked screw work, Thus, the pressure filtration begins to flow into the sludge in the stacked screw main body. Under the action of the screw shaft, the sludge is lifted step by step to the sludge outlet, and the filtrate flows out from the gap between the fixed ring and the swimming ring.

(1) Stacked spirochete

The stacked screw body is composed of fixed ring, traveling ring, screw shaft, screw, gasket and several connecting plates. The whole stacked screw body is made of stainless steel 304. The fixed ring is connected together through six screws. Gasket and traveling ring are installed between the fixed rings. Both the fixed ring and traveling ring are made of wear-resistant materials, so that the service life of the whole machine is long. The spiral shaft penetrates between the fixed ring and the swimming ring, and the swimming ring is sleeved on the spiral shaft.

The main body is a filtering device formed by multiple fixed rings and swimming rings, through which a spiral shaft passes. The front section is the concentration section and the rear section is the dehydration section, which completes the sludge concentration and pressing dehydration in one barrel, replacing the traditional filter cloth and centrifugal filtration mode with a unique and subtle filter body mode. After gravity concentration in the concentration section, the sludge is transported to the dehydration section. In the process of moving forward, with the gradual reduction of filter joint and pitch, and the blocking effect of back pressure plate, great internal pressure is generated, and the volume is continuously reduced to achieve the purpose of full dehydration.

(2) Spiral shaft

The spiral shaft is composed of taper shaft and spiral blade.

Firstly, the spiral blade is cut by laser, and the taper shaft is cast and formed for rough machining, and then the spiral blade and the taper shaft are welded by full welding. According to the working condition of the screw stacking sludge dehydrator, the outer circle of the spiral shaft blade is in direct contact with the traveling ring, resulting in friction, and the blade surface is always in contact with the sludge, resulting in some wear. Therefore, The treatment process adopted by our company: hard material surfacing is carried out on the outer circle of spiral blade, then thermal spraying is carried out on the surface of the whole shaft, and then grinding is carried out on the outer circle of spiral blade,. Fine turning shall be carried out for the shafts at both ends to ensure the coaxiality and surface finish of the two shafts

(3) Driving device

The driving device is the power source of the equipment, and the performance of the driving device will directly affect the performance of the whole machine. Therefore, our company selects domestic brands of motor and reducer with superior performance, with motor protection grade of IP54 and insulation grade of F. Explosion proof motors can also be used according to customer requirements, and variable frequency starting and speed regulation methods can be adopted to adapt to different application conditions and avoid the impact of load.

(4) Filtrate tank

The filtrate tank is welded by stainless steel 304 plates to collect the filtrate filtered by the screw stack body. The periphery of the filtrate tank is connected with the frame

FLTY-131	1800	7850	920	260	240	180	300	0.2
FLTY-132	1910	1040	920	440	240	250	450	0.3
FLTY-133	2135	1150	920	600	240	350	700	0.5
FLTY-201	2440	1000	1530	330	350	320	500	1.1
FLTY-202	2650	1260	1530	650	350	470	750	1.65
FLTY-203	2675	1345	1530	960	350	650	1050	2.2
FLTY-301	3360	1100	1830	510	500	910	1320	1.3
FLTY-302	3570	1260	1830	900	500	1350	2130	2.05
FLTY-303	3700	1725	1830	850	500	1820	2880	2.8
FLTY-351	3550	1150	1850	600	560	1610	2210	1.3
FLTY-352	3650	1430	1850	800	560	2300	3400	2.05
FLTY-353	3900	2100	1850	1100	560	3350	4850	2.8
FLTY-354	4650	2650	2180	1350	560	4500	6100	3.75
FLTY-401	3850	1200	2200	580	720	2500	3400	1.65
FLTY-402	4300	1650	2200	850	720	3480	5200	2.75
FLTY-403	4800	2200	2200	1100	720	4550	7050	4.05
FLTY-404	5200	3300	2200	1350	720	6550	9660	5.9

Comparison table for selection of stacked screw sludge dehydrator:

Sludge concentration Model	Raw water excess sludge chemical precipitated sludge		Scum floatation sludge		Mixed, aerobic, municipal sludge
	0.2%	1.0%	2.0%	5.0%	3.0%
FLTY-131	~4kg-DS/h (~2.0 m ³ /h)	~6kg-DS/h (~0.6 m ³ /h)	~8kg-DS/h (~0.5 m ³ /h)	~20kg-DS/h (~0.4 m ³ /h)	~25kg-DS/h (~0.8m ³ /h)
FLTY-132	~8kg-DS/h (~4.0 m ³ /h)	~12kg-DS/h (~1.2m ³ /h)	~16kg-DS/h (~1.0 m ³ /h)	~40kg-DS/h (~0.8m ³ /h)	~50kg-DS/h (~1.6 m ³ /h)
FLTY-133	~12kg-DS/h (~6.0 m ³ /h)	~18kg-DS/h (~1.8 m ³ /h)	~24kg-DS/h (~1.5m ³ /h)	~60kg-DS/h (~1.2 m ³ /h)	~75kg-DS/h (~2.4 m ³ /h)
FLTY-201	~8kg-DS/h (~4.0 m ³ /h)	~12kg-DS/h (~1.2 m ³ /h)	~20kg-DS/h (~1.0 m ³ /h)	~40kg-DS/h (~0.8 m ³ /h)	~52kg-DS/h (~1.8m ³ /h)
FLTY-202	~16kg-DS/h (~8.0 m ³ /h)	~24kg-DS/h (~2.4 m ³ /h)	~40kg-DS/h (~2.0 m ³ /h)	~80kg-DS/h (~1.6 m ³ /h)	~100kg-DS/h (~3.4m ³ /h)
FLTY-203	~24kg-DS/h (~12.3m ³ /h)	~36kg-DS/h (~3.6 m ³ /h)	~60kg-DS/h (~3.0 m ³ /h)	~120kg-DS/h (~2.4 m ³ /h)	~150kg-DS/h (~5.4 m ³ /h)
FLTY-301	~20kg-DS/h (~10 m ³ /h)	~30kg-DS/h (~2.0 m ³ /h)	~50kg-DS/h (~2.5 m ³ /h)	~100kg-DS/h (~2.0 m ³ /h)	~130kg-DS/h (~4.3 m ³ /h)
FLTY-302	~40kg-DS/h (~20 m ³ /h)	~60kg-DS/h (~6.0m ³ /h)	~100kg-DS/h (~5.0 m ³ /h)	~200kg-DS/h (~4.0 m ³ /h)	~260kg-DS/h (~8.5 m ³ /h)
FLTY-303	~60kg-DS/h (~30 m ³ /h)	~90kg-DS/h (~9.0 m ³ /h)	~150kg-DS/h (~7.5m ³ /h)	~300kg-DS/h (~6.0 m ³ /h)	~390kg-DS/h (~13m ³ /h)
FLTY-351	~40kg-DS/h (~20m ³ /h)	~60kg-DS/h (~6.0 m ³ /h)	~100kg-DS/h (~5.0 m ³ /h)	~200kg-DS/h (~4.0 m ³ /h)	~250kg-DS/h (~17.5 m ³ /h)
FLTY-352	~80kg-DS/h (~40 m ³ /h)	~120kg-DS/h (~12 m ³ /h)	~200kg-DS/h (~10m ³ /h)	~400kg-DS/h (~8.0 m ³ /h)	~500kg-DS/h (~8.6 m ³ /h)
FLTY-353	~120kg-DS/h (~60m ³ /h)	~180kg-DS/h (~18 m ³ /h)	~300kg-DS/h (~15m ³ /h)	~600kg-DS/h (~12 m ³ /h)	~780kg-DS/h (~26 m ³ /h)
FLTY-354	~160kg-DS/h (~80m ³ /h)	~240kg-DS/h (~24 m ³ /h)	~400kg-DS/h (~20 m ³ /h)	~800kg-DS/h (~16m ³ /h)	~1000kg-DS/h (~34 m ³ /h)
FLTY-401	~70kg-DS/h (~35m ³ /h)	~100kg-DS/h (~10 m ³ /h)	~170kg-DS/h (~8.5 m ³ /h)	~340kg-DS/h (~6.5 m ³ /h)	~440kg-DS/h (~16m ³ /h)
FLTY-402	~135kg-DS/h (~65m ³ /h)	~200kg-DS/h (~20m ³ /h)	~340kg-DS/h (~17m ³ /h)	~680kg-DS/h (~13.6m ³ /h)	~880kg-DS/h (~44.2m ³ /h)
FLTY-403	~200kg-DS/h (~100m ³ /h)	~300kg-DS/h (~30m ³ /h)	~510kg-DS/h (~25.5m ³ /h)	~1020kg-DS/h (~20.4m ³ /h)	~1326kg-DS/h (~29.5m ³ /h)
FLTY-404	~266kg-DS/h (~133m ³ /h)	~400kg-DS/h (~40m ³ /h)	~680kg-DS/h (~34m ³ /h)	~1360kg-DS/h (~27.0m ³ /h)	~1700kg-DS/h (~58.5m ³ /h)