SENZ
SEPARATION SOLUTIONS

DECANTER CENTRIFUGE SEPARATION TECHNOLOGY

Shenzhou Centrifuge Co.,Ltd.

CONTENTS

INTRODUCTION

The enterprise profile

Jinhua Shenzhou Centrifuge Co., Ltd. is a manufacturer of solid-liquid separation equipment. We produce 2-phase and 3-phase centrifuge, multi-disk screw press, vertical cutting dryer, centrifugal dehydrators, integrated sludge thickening and dewatering machines, complete sludge dewatering equipment, sewage treatment equipment, planetary gear differentials, and related supporting equipment for decanters (sludge cutting machines, shaftless screw conveyors, integrated flocculant preparation systems, etc.).

With a production history of over 40 years, our products are distributed throughout the country and have gone abroad. We have long-term cooperation with higher education institutions such as Zhejiang University of Technology. Having the ability to design and develop centrifuge products, obtaining national patent applications, and obtaining CE and ISO9001 approvals and certifications.

Committed to research and development and manufacturing, providing centrifugal separation equipment and solutions to tens of thousands of domestic and overseas users.

Mr. Sun, the Chairman of the Board, has over 40 years of design and manufacturing experience. He has worked in the first batch of decanter production and research units in China, participated in university collaborations and lectures. Leading the development direction of centrifugal separation equipment and technology.

The company has independent import and export rights, and its equipment is currently exported to 70 countries including the United States, Canada, Australia, Russia, Singapore, etc.

Assembly line

The company's professional manufacturing workshop includes multiple cranes, hydraulic presses, CNC machine tools, CNC machining centers, plasma cutting machines, gantry milling machines, sawing machines, planing machines, folding and shearing machines, air compressors, edge rolling machines, welding equipment, etc.

Testing equipment, dynamic balance testing machines, fully automatic vibration aging machines, noise, vibration temperature and other various testing instruments, to complete the requirements of various industries for product equipment manufacturing.






The founder of the company is an expert in the industry for many years, involved in product control, product cycle management, etc., to ensure that the company's products are produced and delivered in a short time, and to ensure the stability and reliability of equipment.

The technical leader has a lot of experience in research and development and production and has held important positions in large domestic enterprises and participated in multiple project construction, product optimization, and management work and have multiple core technology patents related to centrifuges.






The core team is a senior talent with over 10 years of work experience in centrifuge applications, with extensive experience in research and development, production, quality control, supply chain management, product management, and customer service. They have served well-known domestic and international customers in multiple fields.

The equipment is applied to over 100 industries in over 20 fields. Continuously research, design, and produce new products according to market requirements, equipped with advanced experimental instruments.

Certificates

The company has won multiple honors such as Zhejiang Province Quality Credit Unit, Advanced Enterprise, Patent Demonstration Enterprise, Credit Grade AAA, Utility Model Patent Certificate, ISO9001, CE Certification, Quality Inspection Report, and other certification systems.

Corporate Advantage

- 45 years of technical experience
- Professional technical team
- The plant covers an area of 30,000 m^2
- Exported to more than 70 countries
- High performance / High value
- ISO9001、CE certification and inspection reports

DECANTER CENTRIFUGE

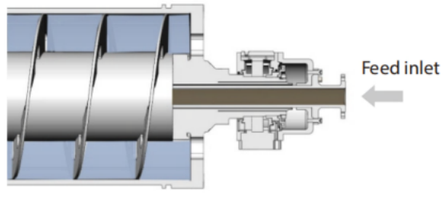
LW Series Decanter Centrifuge （2-Phase）

Decanter centrifuge is a settling equipment with horizontal spiral discharge and continuous operation. It can generally be divided into filtration and sedimentation.

Description

The decanter is mainly composed of bowl, scroll, differential mechanism, liquid level baffle, driving system, control system and other components.

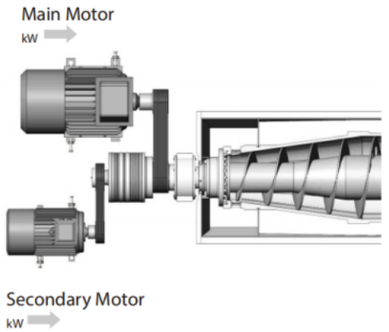
The main components are usually made of SS or anti-corrosion materials to prevent equipment from being corroded and contaminated. The electric motor is the driving device of the equipment, and it is a key equipment for achieving solid-liquid separation, and the difference in speed between the bowl speed and the scroll propeller determines the separation effect and efficiency of the material.



Operating principle

Decanter centrifuge is driven by a main motor and an auxiliary motor, with the bowl and scroll rotating at high speed in the same direction.

The material enter the scroll and drum through the feed pipe. Under the action of centrifugal force, the lighter part of the material forms a cylindrical liquid ring layer. Solid particles with higher density deposit on the inner wall of the drum, forming a mud layer.

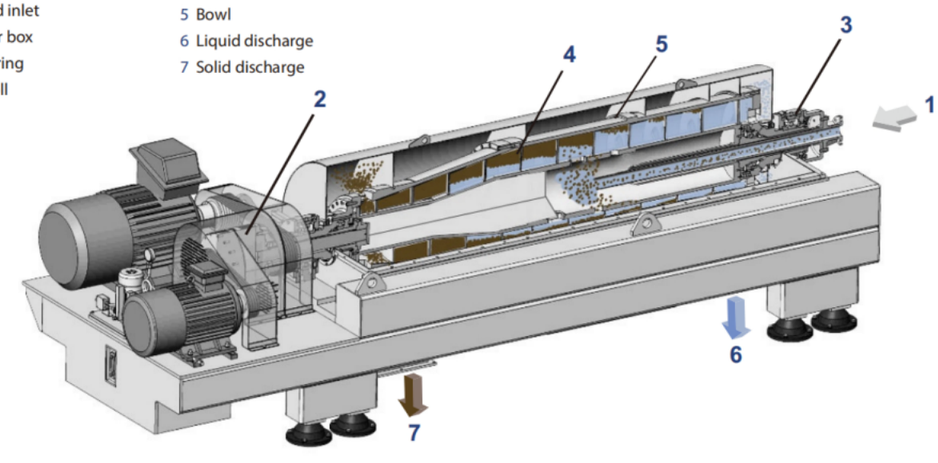


The relative speed difference between the scroll and the bowl pushes the solid phase towards the cone end of the bowl and pushes it out. Push the slag discharge port to discharge, and the filtrate is discharged from the large end of the drum through a reflux pipe, achieving solid-liquid separation.

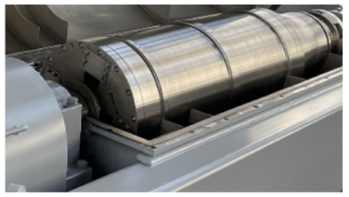
The partial separation process involves sending sludge and flocculant solution into the drum through the inlet pipeline for mixed flocculation inside. If the sludge is added to the pipeline before or after the pump, the flocculation reaction has already occurred.

Operating principle diagram

1 Feed inlet
2 Gear box
3 Bearing
4 Scroll
5 Bowl
6 Liquid discharge
7 Solid discharge

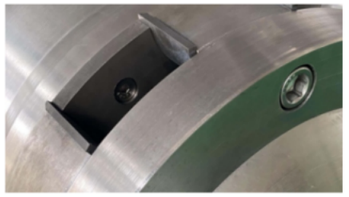


Materials



The bowl of the decanter can be made of SS304 or SS316, or it can be centrifugal cast with duplex stainless steel 2205 or 2304.

The steel frame is made of painted carbon steel on the outside and internal stainless steel. The upper casing will be made of carbon steel or stainless steel.



The solid discharge outlet is replaceable sintered tungsten carbide or cemented carbide. We can provide several types of wear protection to minimize wear, thermal spraying coating, sintered tungsten carbide parts, etc.

The feed inlet, solid discharge area, bowl, scroll are all protected by wear-resistant materials, and the selection of materials is matched with the wear patterns in each specific industrial process.

Several or all wear protection components can be replaced to reduce maintenance costs.

Scroll with BD plate can concentrate, dehydrate, and separate difficult to separate materials from various initial sedimentation and activated sludge ratios. Further forced separation and pressure pushing of materials can improve processing capacity and effectiveness.

The differential is equipped with a 2-stage semi connected 2K-H planetary gearbox. This type of involute planetary gear differential has more advantages, high reliability, long service life, and no faults.

Features

Large processing capacity of an equipment

Compact structure and small space-occupancy

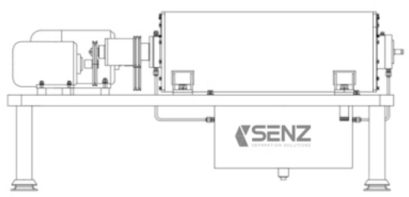
Equipped with multiple safety protection devices

Excellent manufacture equipment and quality protection system

LW150 DECANTER CENTRIFUGE

Description

The LW150 is the smallest industrial centrifuge designed for 2-phase separation in the laboratory, mainly used for small-scale continuous processing operations of 1/1-500u/H. The inlet and outlet volumes are much smaller than those required for industrial centrifuges. Used for scientific research institutions and small-scale production. Usually used in industries such as food, chemicals, and biology.



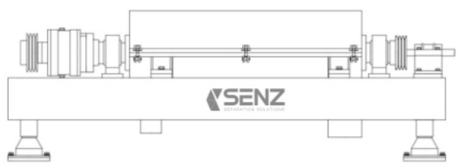
Specifications

Designation	LW150X650-N
Bowl diameter	150 mm / 5.9 in
Bowl length	650 mm / 25.6 in
Max. Speed	5500 rpm
Typical speed	4800 rpm
G-force	2541 g
Capacity	0.1-0.6 m^3/h
Main drive motor	4 kW
Back drive motor	1.5 kW
Dimensions	1450 x 800 x 760 mm / 57 x 31 x 30 in
Weight	500 Kg

LW250 DECANTER CENTRIFUGE

Description

The LW250 model is a small centrifuge with a length to diameter ratio of 3 and 4, and a slag removal capacity of 0.3m^3/ h. Small in size, suitable for small-scale wastewater treatment, chemical sludge, desulfurization, starch and other related industries.



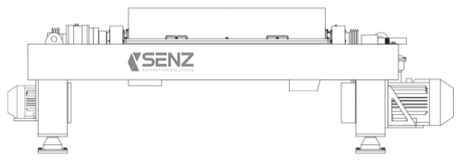
Specifications

Designation	LW250X720-N	LW250X1000-N
Bowl diameter	250 mm / 10 in	250 mm / 10 in
Bowl length	720 mm / 28 in	1000 mm / 39 in
Max. Speed	5000 rpm	4500 rpm
Typical speed	4300 rpm	3800 rpm
G-force	3500 g	2835 g
Capacity	0.3-1.8 m^3/h	0.5-5 m^3/h
Main drive motor	7.5 kW	7.5 kW
Back drive motor	4 kW	4 kW
Dimensions	1915 x 1250 x 680 mm / 75 x 49 x 27 in	2190 x 1200 x 750 mm / 86 x 47 x 30 in
Weight	850 Kg	950 Kg

LW300 DECANTER CENTRIFUGE

Description

The common model LW300 that has been applied in industries such as biomedicine, small-scale wastewater treatment, heparin sodium extraction, potato degreasing, fruit juice, high concentration ammonia water treatment in fertilizer plants, coal mine wastewater, pile drilling mud, magnetic powder, printing and dyeing, textile, etc.



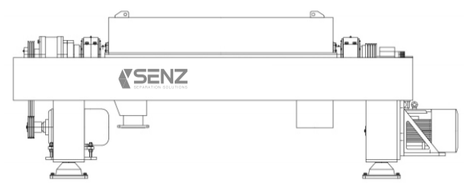
Specifications

Designation	LW300X900-N	LW300X1200-N
Bowl diameter	300 mm / 12 in	300 mm / 12 in
Bowl length	900 mm / 35 in	1200 mm / 47 in
Max. Speed	4200 rpm	4000 rpm
Typical speed	3500 rpm	3300 rpm
G-force	2964 g	2688 g
Capacity	1-6 m^3/h	2-6 m^3/h
Main drive motor	11 kW	11 kW
Back drive motor	4 kW	4 kW
Dimensions	2580 x 820 x 1030 mm / 101 x 32 x 40 in	3030 x 820 x 1030 mm / 119 x 32 x 40 in
Weight	1020 Kg	1420 Kg

LW355 DECANTER CENTRIFUGE

Description

The LW355 is a centrifuge used in the oil and gas industry. The oil wastewater treatment equipment is an oilfield treatment process. The oil wastewater output through the oil extraction process is multi-stage concentrated, and then treated by the sewage treatment equipment to separate the oil and water. After use, the effect can meet the discharge standards.



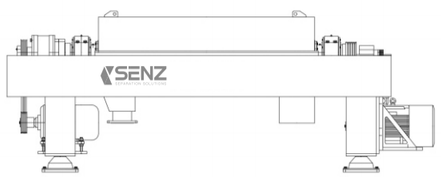
Specifications

Designation	LW355X1160-N	LW355X1460-N
Bowl diameter	355 mm / 14 in	355 mm / 14 in
Bowl length	1160 mm / 46 in	1460 mm / 57 in
Max. Speed	3700 rpm	3600 rpm
Typical speed	3000 rpm	2900 rpm
G-force	2721 g	2576 g
Capacity	2-8 m^3/h	2-10 m^3/h
Main drive motor	15 kW	15 kW
Back drive motor	5.5 kW	7.5 kW
Dimensions	2620 x 1300 x 850 mm / 103 x 51 x 33 in	2900 x 1350 x 935 mm / 114 x 53 x 33 in
Weight	1610 Kg	2150 Kg

LW400 DECANTER CENTRIFUGE

Description

The commonly used LW400 is a model with more users, stable technology and 2 kinds of length-diameter ratio. It has been used in papermaking, printing and dyeing, chemical products, drilling mud separation, starch, juice, chemical fertilizer plant high concentration ammonia water treatment and other industries.



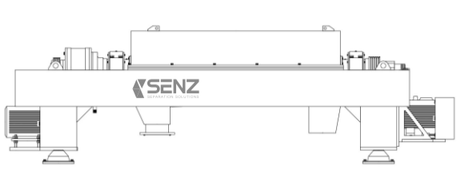
Specifications

Designation	LW400X1200-N	LW400X1600-N
Bowl diameter	400 mm / 15 in	400 mm / 15 in
Bowl length	1200 mm / 47 in	1600 mm / 63 in
Max. Speed	3600 rpm	3500 rpm
Typical speed	2900 rpm	2800 rpm
G-force	2903 g	2744 g
Capacity	3-12 m^3/h	3-15 m^3/h
Main drive motor	18.5 kW	22 kW
Back drive motor	5.5 kW	7.5 kW
Dimensions	2730 x 1600 x 1080 mm / 107 x 63 x 43 in	3130 x 1600 x 1080 mm / 123 x 63 x 43 in
Weight	1800 Kg	2000 Kg

LW450 DECANTER CENTRIFUGE

Description

The LW450 is a common model that has been applied in practical engineering, such as stone cutting and polishing wastewater, river dredging, sugarcane, magnetic particle dewatering treatment, drilling wastewater treatment, vegetable juice, steel wastewater treatment, slaughterhouse wastewater, pile drilling mud, corn starch, etc



Specifications

Designation	LW450X1350-N	LW450X1800-N
Bowl diameter	450 mm / 18 in	450 mm / 18 in
Bowl length	1350 mm / 53 in	1800 mm / 71 in
Max. Speed	3500 rpm	3400 rpm
Typical speed	2800 rpm	2700 rpm
G-force	3087 g	2913 g
Capacity	4-20 m^3/h	4-25 m^3/h
Main drive motor	37 kW	37 kW
Back drive motor	11 kW	11 kW
Dimensions	3940 x 1150 x 1440 mm / 155 x 45 x 57 in	4270 x 1150 x 1500 mm / 168 x 45 x 59 in
Weight	3500 Kg	3900 Kg

LW500 DECANTER CENTRIFUGE

Description

LW500 is a common model, which has been used in wastewater treatment, metal mine wastewater, magnetic particle treatment, textile, chemical wastewater, calcium carbonate, vegetable juice, fruit juice and other industries in practical projects.

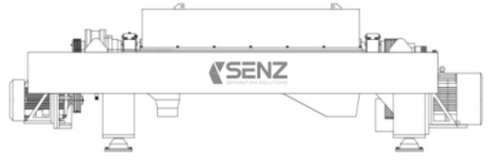
Specifications

Designation	LW500X1500-N	LW500X2000-N
Bowl diameter	500 mm / 20 in	500 mm / 20 in
Bowl length	1500 mm / 59 in	2000 mm / 79 in
Max. Speed	3300 rpm	3200 rpm
Typical speed	2600 rpm	2500 rpm
G-force	3049 g	2867 g
Capacity	5-30 m^3/h	5-35 m^3/h
Main drive motor	45 kW	45 kW
Back drive motor	11 kW	11 kW
Dimensions	3200 x 1740 x 1140 mm / 126 x 68 x 45 in	3700 x 1740 x 1140 mm / 145 x 68 x 45 in
Weight	3600 Kg	4200 Kg

LW550 DECANTER CENTRIFUGE

Description

LW550 is a common model that has been applied in industries such as wastewater treatment, aquaculture, textile and chemical fiber wastewater, pharmaceutical factory wastewater, traditional Chinese medicine residue dehydration, garbage infiltration treatment, river sludge treatment, starch and others.



Specifications

Designation	LW550X1650-N	LW550X2200-N
Bowl diameter	550 mm / 22 in	550 mm / 22 in
Bowl length	1650 mm / 65 in	2200 mm / 87 in
Max. Speed	3200 rpm	3000 rpm
Typical speed	2500 rpm	2300 rpm
G-force	3154 g	2772 g
Capacity	5-35 m^3/h	5-40 m^3/h
Main drive motor	55 kW	55 kW
Back drive motor	22 kW	22 kW
Dimensions	3885 x 1350 x 1600 mm / 153 x 53 x 63 in	5180 x 1270 x 1440 mm / 204 x 50 x 57 in
Weight	4000 Kg	6000 Kg

LW650 DECANTER CENTRIFUGE

Description

LW650 is a common model, which has been used in water plant sewage treatment, lithium iron phosphate raw material treatment, juice vegetable juice separation treatment, magnetic powder treatment, municipal sewage treatment, textile wastewater, starch and other industries in practical projects.

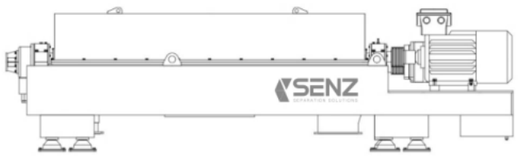
Specifications

Designation	LW650X1950-N	LW650X2600-N
Bowl diameter	650 mm / 26 in	650 mm / 26 in
Bowl length	1950 mm / 77 in	2600 mm / 102 in
Max. Speed	2600 rpm	2500 rpm
Typical speed	1900 rpm	1800 rpm
G-force	2460 g	2275 g
Capacity	6-60 m^3/h	6-65 m^3/h
Main drive motor	75 kW	90 kW
Back drive motor	30 kW	30 kW
Dimensions	4840 x 1510 x 1720 mm / 191 x 59 x 68 in	5100 x 1800 x 1450 mm / 200 x 71 x 57 in
Weight	7000 Kg	9000 Kg

LW760 DECANTER CENTRIFUGE

Description

LW760 is a large decanter machine with low rotating speed but large processing capacity. It has been used in water plant sewage treatment, chemical industry, juice vegetable juice treatment, printing and dyeing textile, pharmaceutical, starch and other industries in practical projects.



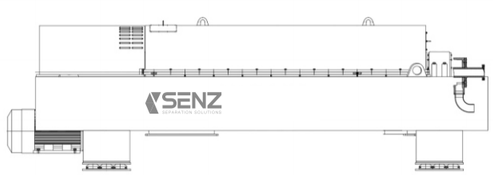
Specifications

Designation	LW760X2280-N	LW760X3040-N
Bowl diameter	760 mm / 30 in	760 mm / 30 in
Bowl length	2280 mm / 90 in	3040 mm / 120 in
Max. Speed	2500 rpm	2400 rpm
Typical speed	1800 rpm	1700 rpm
G-force	2660 g	2451 g
Capacity	7-100 m^3/h	7-120 m^3/h
Main drive motor	120 kW	120 kW
Back drive motor	37 kW	37 kW
Dimensions	5240 x 1950 x 1610 mm / 206 x 77 x 63 in	5700 x 1950 x 1610 mm / 224 x 77 x 63 in
Weight	9800 Kg	11500 Kg

LW900 DECANTER CENTRIFUGE

Description

LW900 is a large decanter with large processing capacity. It has been applied in the practical projects of water plant sewage treatment, chemical industry, fruit juice and vegetable juice treatment, textile printing and dyeing, pharmaceutical, starch and other industries.



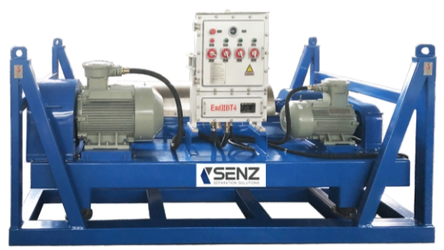
Specifications

Designation	LW900X2700-N	LW900X3600-N
Bowl diameter	900 mm / 35 in	900 mm / 35 in
Bowl length	2700 mm / 106 in	3600 mm / 142 in
Max. Speed	1800 rpm	1600 rpm
Typical speed	1300 rpm	1100 rpm
G-force	1542 g	1218 g
Capacity	25-140 m^3/h	25-150 m^3/h
Main drive motor	150 kW	150 kW
Back drive motor	37 kW	37 kW
Dimensions	5900 x 2500 x 2200 mm / 232 x 98 x 87 in	6800 x 2500 x 2200 mm / 268 x 98 x 87 in
Weight	16000 Kg	18000 Kg

OILFIELD CENTRIFUGE

Description

The oil and gas drilling fluid purification decanter centrifuge (LW series frequency conversion centrifuge - dual motor dual frequency conversion type) is a large displacement model developed for high speed and large processing capacity.



It is designed for an integrated frame body, which is convenient for on-site installation and lifting; Explosion proof, corrosion proof, weather proof and shock absorption treatment are adopted. Frequency converter and other electrical components are installed in the flameproof cabinet. The flameproof cabinet is equipped with heating and ventilation system, which is suitable for field operation.

The screw pusher is driven by planetary gear reducer, with mechanical and electrical overload protection device, it can realize power transmission of low speed and large torque, and the equipment can be started stably. The equipment has single motor drive, variable frequency dual motor drive, hydraulic drive and other forms, which are selected according to different conditions of users.

The equipment is used for solid particles with diameter ≥ 2 μ The separation of m suspension and the treatment of drilling mud and liquid have high recovery rate and effective solid phase control. It can operate stably for a long time at 0-4000 Rpm speed, and the centrifugal force generated can reach 3180G. The solid control system is used in oil drilling (drilling fluid tail slurry), trenchless, coalbed methane and other fields to remove harmful fine solid particles such as rock cuttings from the mud, or recover valuable weighting materials such as barite, saving costs.

Treatment process

Oilfield sewage sludge treatment process, It mainly consists of a decanter centrifuge, a sludge slurry pump, a metering and dosing pump device, a flocculant dosing equipment, and a shaft less screw conveyor.

Adding a flocculant to the oily sludge liquid and preparing a solvent of high molecular weight polyacrylamide in a ratio of 1:260 water to evenly and slowly add it to the oily sludge liquid will cause the suspended particles in the oily sludge liquid to lose stability and form a flocculent. Under the dual action of centrifugal force and gravity, the flocculent will detach from the oil-water phase and precipitate, thereby removing a large amount of mud, sand, and colloid in the oily sludge liquid, Peel crude oil off the surface of oily sludge.

AUTOMATIC HYDRAULIC CENTRIFUGE

Description

The automatic hydraulic centrifuge is controlled by hydraulic drive, and the system is designed with a special structure and adopts a wireless transmission control method between the upper and lower computers, which can drive high load work in the centrifugal field.

The liquid system is applied in centrifuge equipment to meet the functional requirements of users. Compared to traditional motor or cylinder drives, this system has stronger load-bearing capacity and higher reliability under high g-value centrifugal fields.

Specifications

Designation	LWY355X1460-N
Bowl diameter	355 mm / 14 in
Bowl length	1460 mm / 57 in
Max. Speed	3600 rpm
Typical speed	2900 rpm
G-force	2541 g
Capacity	30 m^3/h
Flow capacity	45 m^3/h
Motor power	45 kW
Dimensions	3140 x 1660 x 1400 mm / 124 x 65 x 55 in
Weight	3100 Kg

Reference data only, not for technical specifications.

3-PHASE CENTRIFUGE

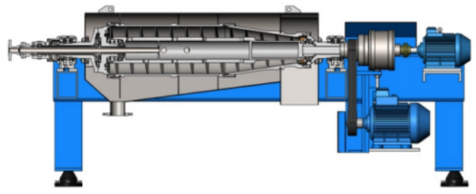
LWS Series Decanter Centrifuge（3-Phase）

It used for dehydration, concentration, clarification, and solid particle separation of materials with density differences between solid and liquid. By changing technical parameters, it can be used to separate materials with different requirements.

Description

The 3-phase centrifuge is an efficient separation equipment that uses the principle of centrifugal settling to continuously separate oil water residue.

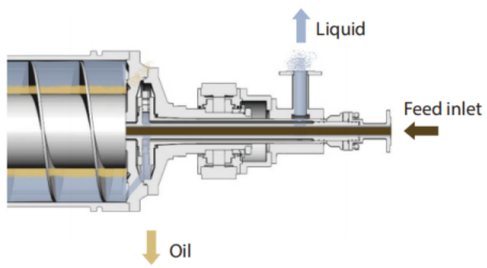
It is mainly consistent of Scroll, bowl, differential system, liquid level baffle, driving system, and a control system. Its structural composition is similar to that of a two-phase centrifuge. This centrifuge is mainly used for clarifying or removing impurities from aged oil in oil fields, used engine oil, and food waste oil.



Operating principle

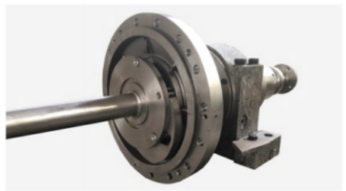
The centrifuge starts to rotate at full speed, and the slurry is added to the spiral inner cylinder through the feed pipe and then flows into the drum. Under the action of centrifugal force, the solid slag with a higher density settles on the drum wall, and is pushed towards the small end of the drum by the spiral conveyor and discharged from the slag outlet;

Oil and water form a concentric ring, and the light phase liquid (oil) overflows from the light phase liquid outlet, while the heavy phase liquid (water) flows into the pump chamber at the large end of the drum and is discharged by the centrifugal pump pressure. The thickness of different liquid rings is adjusted by the variable centripetal pump wheel.



Materials

Centripetal pumps can be made of 304, 316L materials, or other materials. The pressure discharge structure of the centripetal pump is relatively complex.



There are 2 types of centripetal pumps: adjustable and non adjustable. The adjustable type can achieve non-stop adjustment of the depth of the drum liquid pool, and the centrifugal pump pressure discharge method is more suitable for situations where liquid is prone to volatilization.

The liquid is discharged by a centripetal pump and is not in the same cavity as the solid, eliminating the possibility of small droplets of the original liquid coming into contact with the solid again after discharge. It has a high degree of cleanliness and is suitable for production fields such as drugs and food.

3-PHASE CENTRIFUGE

LWS355 Decanter (3-Phase)

LWS420 Decanter (3-Phase)

LWS520 Decanter (3-Phase)

LWS650 Decanter (3-Phase)

Specifications

Designation	LWS355X1460-N	LWS420X1680-N	LWS450X1800-N	LWS500X2000-N	LWS520X2080-N	LWS550X2200-N	LWS650X2600-N
Bowl diameter	355 mm / 14 in	420 mm / 17 in	450 mm / 18 in	500 mm / 20 in	520 mm / 20 in	550 mm / 22 in	650 mm / 26 in
Bowl length	1460 mm / 57 in	1680 mm / 66 in	1800 mm / 71 in	2000 mm / 79 in	2080 mm / 82 in	2200 mm / 87 in	2600 mm / 102 in
Max. Speed	3500 rpm	3400 rpm	3200 rpm	2900 rpm	3000 rpm	2800 rpm	2500 rpm
Typical speed	2800 rpm	2700 rpm	2500 rpm	2200 rpm	2300 rpm	2100 rpm	1800 rpm
G-force	2435 g	2700 g	2580 g	2355 g	2620 g	2414	2275 g
Capacity	5 m^3/h	10 m^3/h	12 m^3/h	14 m^3/h	15 m^3/h	20 m^3/h	25 m^3/h
Main drive	15 kW	30 kW	37 kW	37-45 kW	45-55 kW	55 kW	75-79 kW
Back drive	7.5 kW	11 kW	11 kW	11 kW	11-22 kW	22 kW	30 kW
Dimensions	3430 x 920 x 1220 mm 135 x 36 x 48 in	3930 x 1650 x 1100 mm 155 x 65 x 43 in	4000 x 1320 x 1150 mm 157 x 52 x 45 in	4200 x 1800 x 1220 mm 165 x 71 x 48 in	4605 x 1475 x 1170 mm 181 x 58 x 46 in	4800 x 1650 x 1300 mm 188 x 65 x 51 in	5050 x 1800 x 1450 mm 199 x 71 x 57 in
Weight	2400 Kg	3550 Kg	4200 Kg	4570 Kg	5345 Kg	5600 Kg	8900 Kg

SLUDGE DEWATERING SYSTEM

Complete sludge dewatering system

The sludge concentration and dehydration system is a solid-liquid separation system with a sludge dewatering centrifuge as the core equipment.

Description

The system mainly consists of a sludge dewatering centrifuge, feeding system, solution preparation and dilution system, dehydrated sludge conveying system, control system, and corresponding valve pipelines, which can achieve fully automatic control.

The complete system has a large aspect ratio and a high engine speed. The entire processing process includes cutting and crushing, feeding, unloading, conveying sludge, adding flocculants, and monitoring the operational status of the entire system.

Sludge feeding system

The system is composed of sludge cutter, pump, electromagnetic flowmeter, electromagnetic valve, manual valve solenoid valve, pipeline, ultrasonic sludge density analyzer, ultrasonic liquid level meter, separation liquid outlet concentration meter, etc.

There are often fibers, larger particles, hair, etc. mixed in the sludge, and blockage problems often occur when using only centrifugal pumps. matching our system can solve this problem.

Flocculant Dosing Device

The supporting equipment mainly consists of a dry powder feeder, dosing screw, mixer, vibrator, agitator, liquid level controller, water supply system, screw dosing pump, and control system.

Suitable for the preparation and dosing of polymer organic flocculants, the dry powder of the agent needs to be directly added to the hopper of the equipment, achieving fully automatic feeding, dissolution, maturation, storage, dosing and other processes.

It runs automatically and adopts 3 channel structure, which is used for stirring, curing, and storage.

Shaftless Screw Conveyor

The shaftless screw conveyor is a rotating screw shaft, driving a nut to move along its axis. The screw is equivalent to the screw shaft, and the material is equivalent to the nut.

When the screw body continuously rotates, the material is also continuously transported. Its spiral body is a thick ribbon blade, driven by the drive end shaft, without a shaft in the middle.

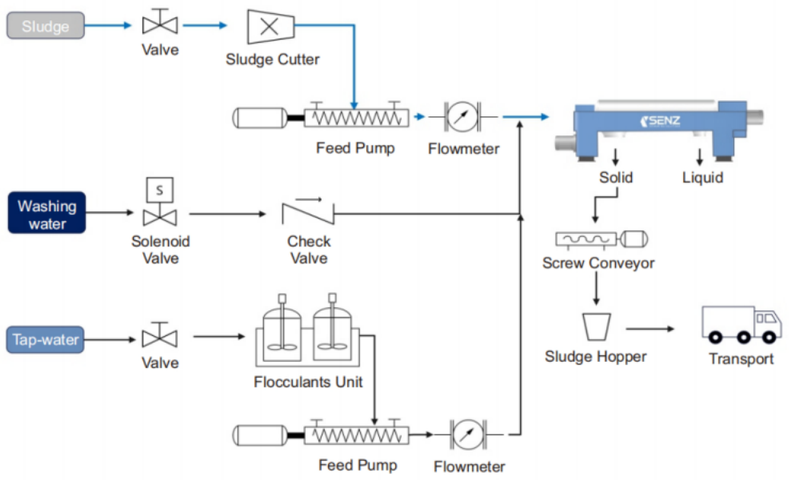
The spiral body contacts (slides) with the bottom lining plate of the inner wall of the casing. The U-shaped conveyor channel is closed but the upper cover can be opened.

Therefore, it is suitable for transporting materials that are contaminated, odorless, dangerous, bridging, and clean. It can effectively transport dry, damp, viscous, powdery, and rough materials, preventing the impact of blockages and entanglements.

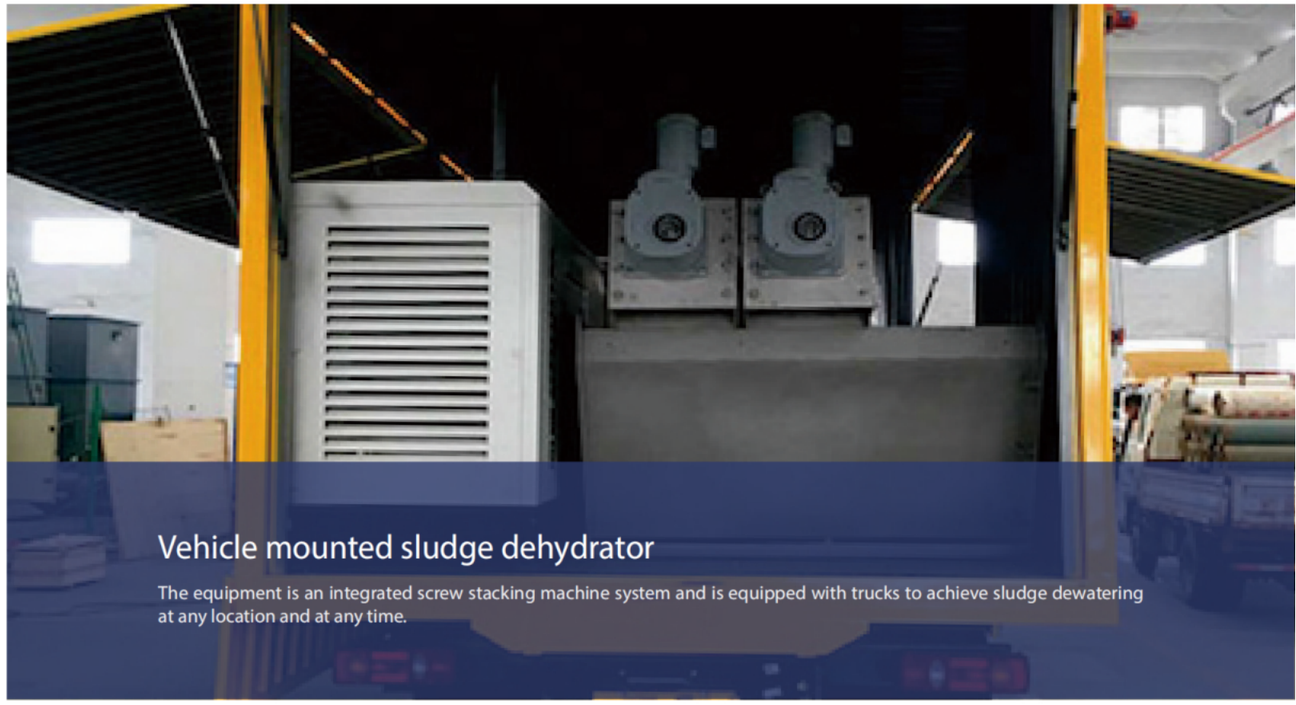
SLUDGE DEWATERING SYSTEM

Technological Process

The precipitated sludge is crushed by a sludge cutting machine and transported by a feed pump. The sludge flow entering the feed pump enters the centrifuge through an electromagnetic flow meter. After being separated by a centrifuge, it becomes a solid and a liquid. The liquid is directly discharged or returned, and the dehydrated sludge is discharged through a shaftless screw conveyor.



MOVABLE TYPE OF DEWATERING PRESS



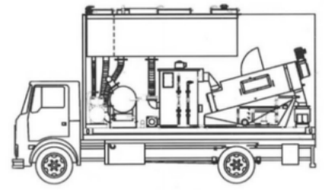
Vehicle mounted sludge dehydrator

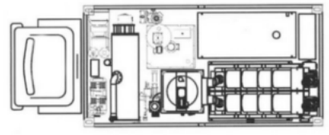
The equipment is an integrated screw stacking machine system and is equipped with trucks to achieve sludge dewatering at any location and at any time.

Description

Vehicle mounted sludge dehydrator (Septic tank cleaning vehicle, mobile dehydrator) includes vehicle body, sludge dryer, feed pump and mixing device. The feed pump is installed on one side of the carriage. The outlet end of the feed pump is connected to a pipeline, and the other end of the pipeline is connected to a stirring device.

The stirring device is equipped with an air compression system. The sludge outlet of the stirring device is connected to a sludge dryer, and the outlet of the dryer is sequentially connected to a belt conveyor and a container. The mixing device, sludge drying machine, and belt conveyor are installed in the middle of the vehicle body, while the container is installed at the rear of the vehicle body.





DISC CENTRIFUGE

DHN Series Disc Centrifuge

Disc centrifuge is a kind of vertical centrifuge, rotating drum mounted on the upper end of the vertical shaft, through the transmission device driven by the motor and high-speed rotation. It is mainly used for separating liquid and solid particles.

Description

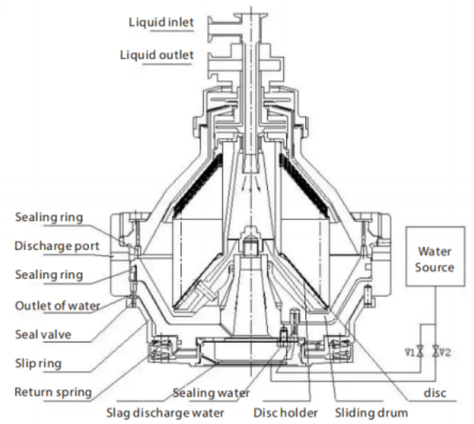
Disc centrifuge is mainly composed of host, motor, frequency converter, PLC control cabinet, collection tank, cleaning system and other parts. The main machine is the core part of the centrifuge, and its interior is mainly composed of rotating drum, screen, disc, spacer ring, etc. A plurality of discs are mounted on the rotating drum, the screen is closely attached to the rotating drum, and the spacer ring is located between the discs.

A wide range of applications, can be used to handle a variety of viscous liquid and solid particles. Easy to clean, because of the simple structure, so easy to clean.

Operating principle

Disc centrifuge mainly realizes the separation of materials through the centrifugal force field generated by high-speed rotation. When starting, the drum drives the disc to rotate at high speed, and the liquid or solid particles are thrown onto the screen under the action of centrifugal force, while the solid particles are left on the disc. As the drum continues to rotate, the liquid and solid particles are gradually separated. Finally, the liquid and solid particles are collected into the collection tank and the screen, respectively.

The function of the disc is to shorten the settling distance of solid particles or droplets, expand the settling area of the drum, and the installation of the disc in the drum improves the production capacity of the separator. The solids in the drum are removed manually after the separator is shut down, or discharged from the drum without stopping by slagging.



Specifications

Designation	DHN360	DHN470	DHN550	DHN616
Capacity	2000-5000 L/h	5000-10000 L/h	10000-20000 L/h	25000-35000 L/h
Inlet Pressure	0.05 Mpa	0.05 Mpa	0.05 Mpa	0.1 Mpa
Outlet Pressure	0.1-0.35 Mpa	0.1-0.4 Mpa	0.1-0.4 Mpa	0.3 Mpa
Dimension	1530 x 1150 x 1500 mm 60 x 45 x 59 in	1800x 1200 x 1750 mm 71 x 47 x 69 in	1950 x 1550 x 1960 mm 77 x 61 x 77 in	2185 x 1728 x 2082 mm 86 x 68 x 82 in
Weight	1200 Kg	1600 Kg	2300 Kg	3000 Kg

Designation	DHNZ204	DHNZ360	DHNZ470	DHNZ550
Capacity	500-1000 L/h	1000-3000 L/h	3000-7000 L/h	5000-10000 L/h
Inlet Pressure	0.05 Mpa	0.05 Mpa	0.05 Mpa	0.05 Mpa
Outlet Pressure	0.1-0.2 Mpa	0.1-0.2 Mpa	0.1-0.2 Mpa	0.1-0.2 Mpa
Dimension	810 x 850x 1350 mm 32 x 33 x 53 in	1530x 1150 x 1500 mm 60 x 45 x 59 in	1800 x 1200 x 2030 mm 71 x 47 x 80 in	1950 x 1550 x 1960 mm 77 x 61 x 77 in
Weight	520 Kg	1200 Kg	1600 Kg	2300 Kg

TUBULAR CENTRIFUGE

GQ/GF Series Tubular Centrifuge

Tubular centrifuges include GF and GQ series, GQ series is clarified tubular centrifuge, GF series is liquid and liquid separation tubular centrifuge.

Description

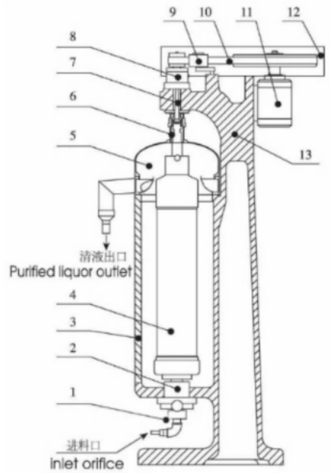
The internal structure of tubular centrifuge mainly includes feeding system, centrifugal drum, discharge system, drive system and control system. The feed system usually consists of a feed pipe, a feed pump and a feed regulating valve.

The feed pipe introduces the mixture into the centrifuge, the feed pump is used to provide enough pressure to feed the mixture into the centrifuge, and the feed regulator is used to control the feed flow and pressure.

Operating principle

Tubular centrifuges use centrifugal force to separate materials of different gravity. According to the different principle of separation, it can be divided into clarified type and separated type. The main function of the clarified type is to deal with liquid-solid separation, and the main function of the separated type is to deal with liquid and liquid separation, or the three-phase separation of two liquids and solids.

The upper part of the tubular drum is a flexible spindle, and the lower part is a damping bearing. The motor drives the drum to make the drum shaft rotate at a high speed, forming a strong centrifugal force field in the drum. The centrifugal force of the drum makes the liquid flow upward along the inner wall of the drum, so that the liquid is separated into layers according to the density difference of different components, and flows out from the outlet of the liquid tray.



1.Damping system
2.Sliding bearing
3.Fuselage door
4.Bowl
5.Liquid trap
6.Protective cover
7.Spindle
8.Handpiece
9.Press pulley
10.Belt
11.Moter drive
12.Cover
13.Fuselage

Specifications

Designation	GQ/GF45	GQ/GF75	GQ/GF105	GQ/GF115	GQ/GF125	GQ/GF150
Bowl Diameter	45 mm / 1.8 in	75 mm / 3 in	105 mm / 4 in	115 mm / 5 in	125 mm / 5 in	150 mm / 6 in
Max.Speed	10000-30000 rpm	19000 rpm	16300 rpm	16300 rpm	15000 rpm	13400 rpm
G-force	19800 g	15200 g	15620 g	17000 g	15700 g	14300 g
Volume	0.45 L	2.2 L	6 L	7 L	8 L	10 L
Capacity	100 L/h	600 L/h	1200 L/h	1300 L/h	1500 L/h	2500 L/h
Motor	0.55 kW	1.5 kW	2.2 kW	3.0 kW	3.0 kW	3.0 kW
Dimension	500 x 420 x 760 mm	760 x 450 x 1120 mm	550 x 850 x 1600 mm	600 x 900 x 1600 mm	650 x 950 x 1600 mm	700 x 1000 x 1600 mm
Weight	90 Kg	260 Kg	500 Kg	520 Kg	530 Kg	600 Kg

PUSHER CENTRIFUGE

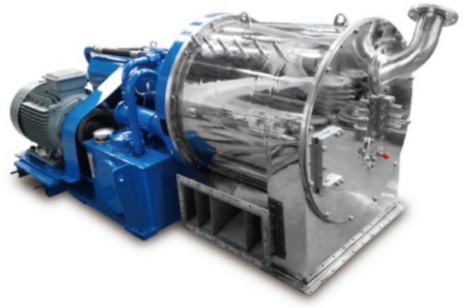
HR Series Pusher Centrifuge

Pusher centrifuge is a horizontal piston push, continuous operation filter centrifuge. Can continuously feed, separate, wash, discharge and other processes under full operation.

Description

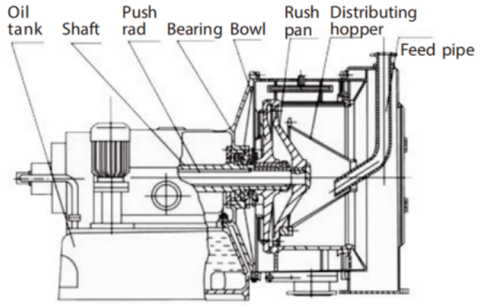
Pusher centrifuge is mainly composed of frame, drum, shaft and bearing, cylinder, hydraulic pressure, cover and so on. The drum part is the main working part to realize the separation, which is composed of the drum and the screen, the pushing ring, the pushing sheet and other parts.

The rotary drum is also equipped with a feed distributor, push sheet, etc. Shaft and bearing parts This part is composed of hollow shaft, push shaft, bearing seat, guide bushing, sealing bushing, front and rear labyrinth ring and rolling bearing.



Operating principle

Pusher centrifuges are mainly based on centrifugal force. When the centrifuge spins at high speed, the material is quickly separated into solid and liquid parts under the action of centrifugal force. The suspension is continuously sent to the cloth tray through the feed pipe and evenly distributed to the inner rotating drum screen under the action of centrifugal force.



Most of the liquid is thrown out of the drum through the cracks in the screen mesh and the holes in the inner drum wall, while the solid phase is trapped in the plate mesh to form a ring cake. Through the reciprocating movement of the inner drum and the outer drum, the cake is constantly pushed forward and further dried, and finally discharged out of the machine through the tangential discharge port by the scraper.

The size and uniformity of solid particles of the treated material, the viscosity of the mother liquor, the solid content of the suspension, and the uniformity of the feeding have a significant impact on the output of the centrifuge, and also affect the loss of fine particles during the separation and filtration process, the moisture content of the separated solid and other technical indicators.

Specifications

Designation	HR400-N	HR500-N	HR630-N	HR850-N
Bowl diameter	337 / 400 mm	438 / 500 mm	560 / 630 mm	720 / 800 mm
Bowl length	145 / 155mm	180 / 180 mm	240 / 320 mm	240 / 320 mm
Typical speed	1500-2200 rpm	1200-2000 rpm	1000-1800 rpm	800-1600 rpm
G-force	503 / 1083 g	402 / 1120 g	350 / 1142 g	286 / 1145 g
Capacity	1-8 m^3/h	5-15 m^3/h	8-25 m^3/h	15-40 m^3/h
Main motor	11 kW	30-45 kW	37-55 kW	55-75 kW
Back motor	4 kW	15 kW	30 kW	37 kW
Dimensions	2460 x 1286 x 1030 mm	2750 x 1480 x 1290 mm	3690 x 1600 x 1265 mm	3700 x 1800 x 1450 mm
Weight	2480 Kg	3100 Kg	4100 Kg	7000 Kg

SLUDGE DEWATERING PRESS

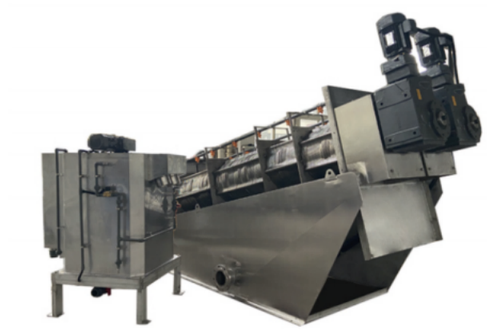
SZ Series Sludge Dewatering Press

The sludge dewatering press with small and light, energy-saving, low-powered, easy maintenance, replacement, easy handling. Suitable for small and medium-sized sewage plants, township sewage plants, and sewage treatment stations.

Description

The main body of the dewatering machine is composed of a fixed ring and a movable ring stacked on top of each other, and the spiral shaft passes through it to form a filtering device. The front section is the concentration section, and the rear section is the dehydration section.

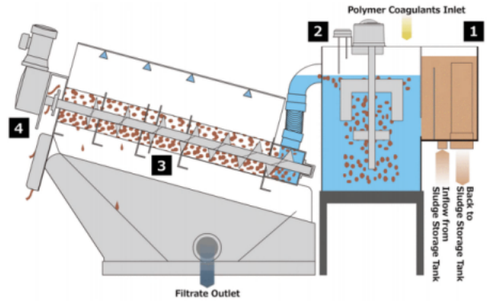
The filter gap formed between the fixed ring and the movable ring, as well as the pitch of the spiral shaft, gradually decreases from the concentration section to the dehydration section. The rotation of the spiral shaft not only drives the sludge to be transported from the concentration section to the dewatering section, but also continuously drives the moving ring to clean the filter gaps and prevent blockage.



Operating principle

The sludge enters the filter cartridge from the inlet and is pushed towards the outlet by the spiral shaft rotating plate. The spiral shaft and the rotating plate gradually decreases that pressure on the sludge continues to increase. Under the pressure difference, it begins to dehydrate, and water flows out from the filtering gap between the fixed ring and the movable ring plate.

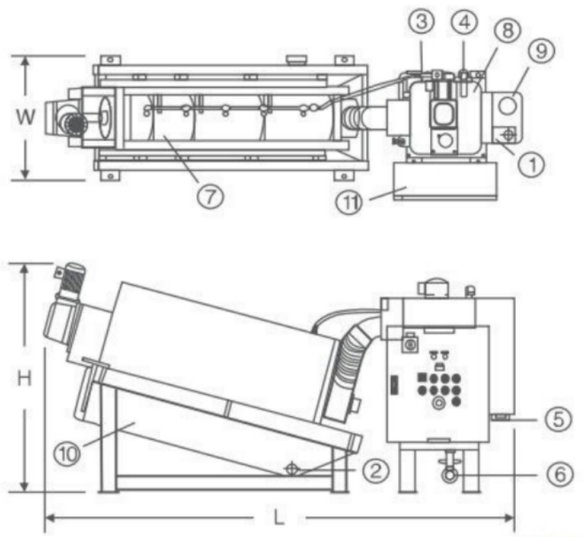
The equipment relies on the automatic cleaning function between the fixed plate and the movable plate to clean the gap between the filters and prevent blockage. After sufficient dehydration, the mud cake is discharged from the outlet under the promotion of the spiral shaft.



Structure

The sludge dewatering press mainly consists of a metering tank, flocculation mixing tank, stirring device, dewatering main body, filtrate tank, motor, electric control cabinet, and a bracket. The inlet and outlet of the preparation are all equipped with flanges to facilitate on-site pipeline connection.

	Designation
1	Feed inlet
2	Liquid discharge
3	Feed water inlet
4	Liquid medicine inlet
5	Return port
6	Mixing tank drain outlet
7	Screw shaft
8	Polymer coagulants inlet
9	Metering tank
10	Base
11	Control cabinet



Specifications Selection

Model	DS Capacity (kg/h)	Sludge Treatment Capacity (m^3/h)				
		10000mg/L	20000mg/L	30000mg/L	40000mg/L	50000mg/L
SZ-101	5-7	0.5	2.25	0.2	0.15	0.14
SZ-131	10-14	1	0.5	0.4	0.3	0.28
SZ-201	15-20	1.5	0.75	0.6	0.5	0.4
SZ-202	30-40	3	1.5	1.2	1	0.8
SZ-203	45-60	4.5	2.25	1.8	1.5	1.2
SZ-301	50-70	5	2.5	2	1.5	1.4
SZ-302	100-140	10	5	4	3	2.8
SZ-303	150-210	15	7.5	6	4.5	4.2
SZ-304	200-280	20	10	8	6	5.6
SZ-351	100-120	10	5	4	3	2.4
SZ-352	200-240	20	10	8	6	4.8
SZ-353	300-360	30	15	12	9	7.2
SZ-354	400-480	40	20	16	12	9.6
SZ-401	130-160	13	6.5	5	4	3.2
SZ-402	260-320	26	13	10	8	6.4
SZ-403	390-480	39	19.5	15	12	9.6
SZ-404	520-640	52	26	20	16	12.8

Size Selection

Model	Discharging Distance (mm)	Power (kW)			Amount of Rinse Water	Size (mm)			Weight	Operating weight
		Screw Shaft	Mixer	Total		L	W	H		
SZ-101	215	0.18	0.18	0.36	24	1850	740	1040	220	315
SZ-131	250	0.18	0.18	0.36	48	2000	785	1040	250	395
SZ-201	350	0.37	0.18	0.36	32	2510	900	1300	420	540
SZ-202	350	0.74	0.55	1.29	64	2560	1050	1300	550	660
SZ-203	350	1.11	0.55	1.66	96	2610	1285	1300	700	1010
SZ-301	530	0.75	0.55	1.3	40	3330	1005	1760	900	1300
SZ-302	530	1.5	0.75	2.25	80	3530	1290	1760	1350	2000
SZ-303	530	2.25	1.1	3.35	120	3680	1620	1760	1900	2700
SZ-304	530	3	1.1	4.1	160	3830	2010	1760	2500	3600
SZ-351	570	1.1	0.75	1.85	60	4005	1100	2130	1100	2000
SZ-352	570	2.2	1.1	3.3	120	4390	1650	2130	2100	3250
SZ-353	570	3.3	1.5	4.8	180	4520	1950	2130	3100	4600
SZ-354	570	4.4	0.75 + 0.75	4.8	240	4750	2715	2130	4100	5700
SZ-401	660	1.1	1.1	2.6	80	4860	1100	2100	2200	4200
SZ-402	660	3	1.5	4.5	160	4690	1760	2100	3500	6000
SZ-403	660	4.5	1.1+1.1	6.7	240	5010	2585	2100	5500	8000
SZ-404	660	6	1.1+1.1	8.2	320	5160	3160	2100	7000	9500

VERTICAL CUTTING DRYER

SGL Series Vertical cutting dryer

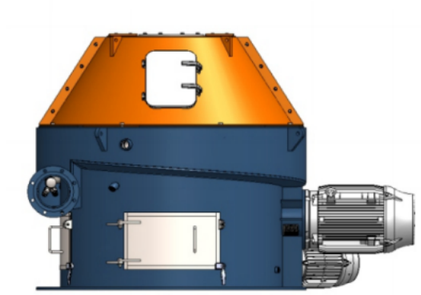
It is a vertical scraper discharge centrifuge, which is mainly composed of motor, upper cover, rotor, scraper, screen basket, base, sand discharge funnel, feed port, gearbox assembly, lubrication system, control box, etc.

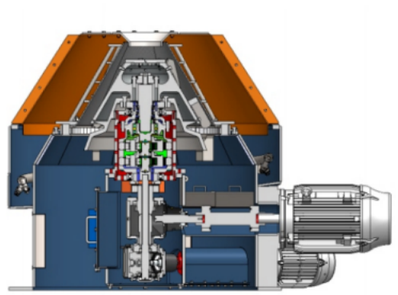
Description

The cuttings dryer can effectively recover the liquid phase components in the drilling cuttings and make the solid phase very dry. It is suitable for water-based mud, oil-based mud and synthetic based mud to recover the mud in the drilling cuttings, thus reducing the drilling cost and environmental pollution.

Its processing capacity is 40~60 tons per hour, and the liquid/oil content of the treated cuttings is less than 5% (w/w), which meets the international emission standards and environmental protection requirements. It can be applied to the treatment of drilling cuttings in land and offshore drilling.

VERTICAL CUTTING DRYER





Features

1. The rotating parts are vertical design, which ensures stable operation and less vibration.
2. The main parts are made of corrosion-resistant steel, manganese steel or other materials.
3. The cone angle of the drum can be selected according to the process conditions.
4. The specially made strip filter metal screen, with better abrasive resistance and longer service life.
5. Feeding, separation, dehydration and unloading are completed continuously, with large capacity.
6. Independent lubrication system, operates simple and reliable.
7. 3K type planetary gearbox, with impact structure and large torque.

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Specifications

Designation	Bowl diameter	Max. Speed	G-force	Filter Screen Size	Motor	Weight	Dimensions
SGL-700	700 mm / 276 in	900 r/min	320 g	0.2-0.5	22 kW	2020 kg	2020x1670x1400 mm / 795 x657x 551 in

FLOCCULANT PREPARATION DEVICE

Description

The Py3 flocculant preparation device is suitable for the preparation and dosing of polymer organic flocculants. Users only need to directly add the dry powder of the agent to the hopper of the equipment, which can achieve fully automatic feeding, dissolution, maturation, storage, dosing and other processes. The entire equipment does not require manual operation and operates completely automatically.

The equipment adopts a three groove structure, which is used for mixing, curing, and storage. The supporting equipment mainly consists of a thousand powder feeder, a feeding screw, a mixer, a vibrator, a mixer level control instrument, a water supply system, a screw dosing pump, and a control system.

Features

1. Automatic operation, constant drug concentration, and accurate dosing.
2. The equipment has a simple structure and a small footprint.
3. Medication infiltration and heating system to avoid dry powder agglomeration and uneven dissolution.
4. The supporting accessories adopt advanced imported components, with a long service life.
5. The equipment tank is made of corrosion-resistant PP material, which is beautiful and durable.
6. The control system is advanced and the equipment operates safely.

Specifications

Designation	PY3-500	PY3-1000	PY3-1500	PY3-2000	PY3-3000	PY3-4000	PY3-8000
Output	500 L/h	1000 L/h	1500 L/h	2000 L/h	3000 L/h	4000 L/h	8000 L/h
Power	1.0 kW	1.0 kW	1.0 kW	1.0 kW	3.0 kW	3.0 kW	3.0 kW
Hopper	55 L	55 L	110 L	110 L	200 L	200 L	550 L
Weight	210 kg	360 kg	420 kg	500 kg	650 kg	900kg	1280 kg
Material	304/PP	304/PP	304/PP	304/PP	304/PP	304/PP	304/PP

PLC CONTROL SYSTEM

Description

The centrifuge is designed for continuous, attention-free operation. The advanced centrifuge control system allows full monitoring and adjustments of the system. Start-up and shutdown of the centrifuge can be programmed to occur outside of the operators' working hours and can also allow for 24/7 operation if required.

We supplies a Carbon or Stainless Steel local panel which includes the touch panel, PLC and contacts for valves, solid extraction and pump as per PID.

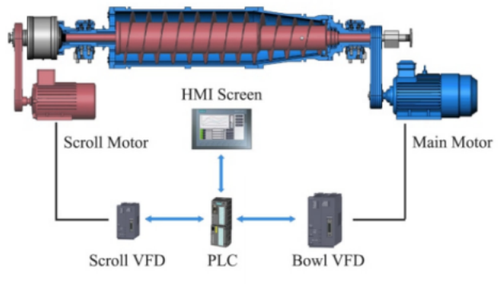
The centrifuge control system is designed through internal programming. The controller consists in 3 parts, each of which has its own function:

- Screen displays the status, information and adjustment parameters.
- PLC that is part of the functioning program.
- Drive that manages the dewatering.

Features

The main frequency converter and auxiliary frequency converter are connected in a straight line with the DC bus, which has a significant energy-saving and energy-saving effect. When the centrifuge is running, the auxiliary motor is in a power generation state and operates continuously. The start is smooth and the speed range is wide, meeting the treatment of liquids with different solid contents and increasing the processing capacity.

Both the main and auxiliary motors are controlled by frequency converters, achieving stepless adjustment of the centrifuge drum speed and differential speed within the design range. By adjusting the speed of the auxiliary motor, the differential speed of the combined force can be obtained.



Operator control system

COMPONENTS AND ACCESSORIES

Bowl

The bowl is a cylindrical conical cylindrical rotor composed of a conical body and a cylindrical body. This shape is designed for better separation performance. When the bowl rotates at high speed, it drives the slurry to rotate together.

Under the action of centrifugal force, heavier solid particles will be separated from the liquid. The cylindrical part of this drum is conducive to clarification (centrifugal separation) of the filtrate, while the conical part is conducive to dehydration of solid materials.

Screw

It accelerates the feeding of slurry and pushes the material deposited on the inner wall of the bowl to the solid discharge end of the centrifuge. The spiral part is composed of spiral blades wrapped around the outer circumference of the spiral discharger core shaft, combined into a multi-level spiral structure to achieve the purpose of unloading.

Differential

The differential drives the spiral discharger and rotates it at a constant speed relative to the external drum. The deceleration ratio of the differential and the speed of the external bowl determine the speed difference between the external bowl and the spiral discharger.

Hard metal and wear-resistant kit

It accelerates the feeding of slurry and pushes the material deposited on the inner wall of the bowl to the solid discharge end of the centrifuge. The spiral part is composed of spiral blades wrapped around the outer circumference of the spiral discharger core shaft, combined into a multi-level spiral structure to achieve the purpose of unloading.

Main spare parts

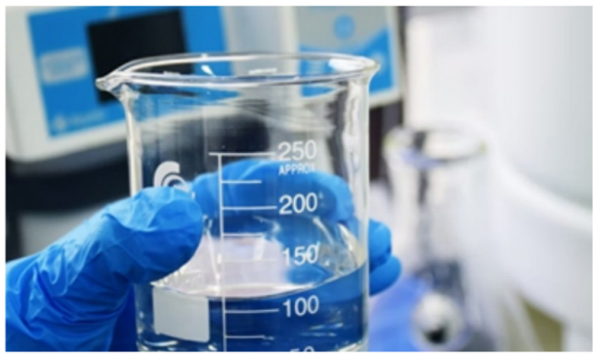
APPLICATION

Description

In the chemical industry, decanter centrifuge is used in processes such as solid-liquid separation, liquid-liquid separation, and concentration. In the pharmaceutical industry, it is used to separate solid impurities from drugs and purify drugs. In the food industry, it can be used for clarification and concentration of liquids such as orange juice and apple juice.

In addition, decanter have important applications in the field of environmental protection. It can be used for solid-liquid separation in sewage treatment processes, thereby reducing the content of pollutants in wastewater and protecting the environment.

More application details can be found in the table on the next page.



APPLICATION

Application	Liquid-Liquid Separation	Solid-Liquid Separation	Particle classification
Municipal sewage	Sewage treatment plant	Municipal sludge dewatering	
	Sewage from waterworks	River mud	
	Waste leachate treatment	Septic Tank	
	Wastewater from sand making plant	Pile driving, shield mud	
Industrial sewage	Dyeing, Papermaking wastewater	Desulfuerization sludge treatment	
	Electroplating, Lather wastewater	Metal processing sludge	
	Textile, Chemical fiber wastewater	Soda Residue of Soda Mill	
		Graphite sludge	
Chemical industry, Mining	Steel works wastewater	PVC	Tio2
	Coal washery wastewater	Separation of crystal and DCD	Kaolin clay
	Wastewater from Stone Factory	Tire powder	Diatomite
	Wastewater from metal mines	Magnetic material	Chalk
		Porcelain clay, CaCo3	Carbon white carbon black, etc
Food production and processing	Separation of pulp and juice	Kitchen waste	
	Vegetable oil separation	Protein separation	
	Vegetable juice separation	Starch dewatering	
	Food waste oil	Distiller's grains dewatering	
	Hot pot waste oil residue	Tobacco, licorice	
	Beer, wine wastewater	Bean dregs	

Application	Liquid-Liquid Separation	Solid-Liquid Separation	Particle classification
Medicine and Biology	Sewage of pharmaceutical factory	Dehydration of Chinese herb residue	
	Antibiotics, Penicillin	Herbal processing	
	Sulfate, Calcium citrate		
	Potassium chloride		
Oil and natural gas	Crude oil refning	Oil sludge reduction	
	Mineral oil recovery	Drilling mud treatment	
		Oily sludge treatment	
Aquaculture wastewater	Animal wastewater treatment	Animal manure treatment	
	Biogas liquid	Biogas residue	
	Abattoir wastewater treatment		
	Animal blood, fats treatment		
	Abattoir by-product processing		
Other industries	High concentration alcohol	Non-metallic pulp	Plastic scrap recycling
	Organic solution	Car washing sludge	Mica sheet
	Bilge water	Gypsum slurry	Talcum powder
			Pearl powder
			Sepiolite

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Serious and diligent service to every customer.

Pre-sales service

Consulting users on separation processes in the industry.
Materials for laboratory testing users.
Select the corresponding model.
Develop supporting equipment according to user requirements.

In sales service

Arrange production according to the plan and terms.
Production time can be adjusted according to customer needs
Construction of a complete separation process flow for user sites.

After-sale service

Guide installation and debugging, regular maintenance, and repair.
Supply of spare parts.
Technical training.
Sale of second-hand machines.

PROJECT CASE














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