

Coal Dewatering Centrifuge

- *Coarse Coal*
- *Fine Coal*
- *Ultrafine Coal*
- *Coal Tailing*

Dewatering Treatment



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Coal Dewatering Centrifuge

Centrifuge Type Selection



SEPARATION & CONVEYING

Coarse Coal
Dewatering



Fine Coal
Dewatering



Ultrafine Coal
Dewatering



Coal Tailing
Dewatering



Horizontal Vibratory Centrifuge



Horizontal Screen Scroll Centrifuge



Screen Bowl Decanter Centrifuge



Solid Bowl Decanter Centrifuge

Coal, as an important energy source, is widely used in the world. As an international brand coal washing centrifuge manufacturer, GN is committed to providing high-quality solid-liquid separation solutions for the wet coal preparation industry. GN Coal Dewatering Centrifuge series products can meet the dewatering demand in various stages of the coal washing process. GN high-quality products and professional services make the products sold to more than 60 countries and regions in the world. Over the years, GN has grown steadily, and has established branches in Houston, USA and office in Russia. Welcome to GN factory for inspection and negotiation. We can choose the appropriate model and configuration of coal dewatering centrifuge according to clients' different requirements.

Coal Dewatering Centrifuge

Centrifuge Type Applicable Material

Material Type	Coarse Coal	Fine Coal	Ultrafine Coal	Coal Tailing
Coal Particle Size (mm)	0.5-50	0.5-3	0.15-0.5	0-0.15
Horizontal Vibratory Centrifuge	√			
Horizontal Screen Scroll Centrifuge		√		
Screen Bowl Decanter Centrifuge			√	
Solid Bowl Decanter Centrifuge			√	√

In the coal preparation process, according to the difference in coal particle size and physical properties in different processes, the desired treatment effects are different; therefore different coal dewatering centrifuges are needed to get the best performance.

Horizontal Vibratory Centrifuge

Coarse Coal Dewatering



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GN Horizontal Vibratory Centrifuge for Coarse Coal is used for dewatering of coarse coal in coal washing plants, and well-applied coal particle range is 0.5-5mm. The Horizontal Vibratory Centrifuge combines vibration and centrifugal force to realize high efficient dewatering performance of coarse coal particles. GN Horizontal Vibratory Centrifuge for Coarse Coal is a serialized product with the diameters of the screen basket varying from 1000mm to 1600mm, which meets the processing capacity demand from 80t/h to 350t/h. After dewatering process by GN Horizontal Vibratory Centrifuge, the surface moisture on the coal is 5%-9%.

Horizontal Vibratory Centrifuge

Features



- High recovery and low crushing rate for the coarse coal, with low power consumption per ton.
- International famous brand vibration motor with convenient and easy amplitude adjustment
- Wear-resistant lining for the inlet and outlet to reduced wearing to the equipment
- All the wear-resistant parts are made of high wear-resistant materials to extend the service life
- Main bearing adopts international famous brands such as SKF, FAG or NSK
- Few wear parts and low maintenance cost
- Horizontal installation taking up small area and easy to assemble & disassemble
- Large processing capacity, and high upper limit of feed size
- High reliability, smooth operation, and low noise

Horizontal Vibratory Centrifuge



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Technical Specifications

Model	GNVC-1000	GNVC-1100	GNVC-1200	GNVC-1300	GNVC-1400	GNVC-1500	GNVC-1650
Screen Basket Diameter	1000mm	1100mm	1200mm	1300mm	1400mm	1500mm	1650mm
Screen Angel	13°				15°		
Screen Opening	0.5mm						
Capacity	80t/h	120t/h	160t/h	200t/h	250t/h	300t/h	350t/h
Speed	350RPM	330RPM	320RPM	310RPM	300RPM	290RPM	280RPM
Main Motor Power	22KW	30KW	30KW	37KW	45KW	55KW	75KW
Vibrators	2x3KW	2x4.98KW	2x4.98KW	2x5.67KW	2x5.67KW	2x8.6KW	2x8.6KW
Feeding Particle Size	0.5-50mm						
Feeding Surface Moisture	< 30%						
Product Surface Moisture	5-9%						

Horizontal Screen Scroll Centrifuge



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Fine Coal Dewatering



GN Horizontal Screen Scroll Centrifuge for Fine Coal is used for fine coal dewatering in coal washing plant, and well-applied coal particle range is 0-3mm. The fine coal with water in this particle range is also called coarse slime. GN Horizontal Screen Scroll Centrifuge can remove the moisture in the fine coal or coarse slime by a high centrifugal force, and the coarse slime is discharged due to the differential speed between the scraper and the screen basket. GN Horizontal Screen Scroll Centrifuge adopts horizontal installation design to replace the traditional vertical scraper discharge centrifuge. The advantages are as following of that the replacement of wear parts can be realized in the horizontal direction, the height of the workshop is greatly reduced, the failure rate is lower, and the stability is better, which is the development trend of coarse slime dewatering equipment at home and abroad. GN Horizontal Screen Scroll Centrifuge for Fine Coal is a serialized product; the screen basket diameter is from 900mm to 1200mm, which meets the processing capacity demand from 30 tons/h to 120 tons/h. After dewatering by GN Horizontal Screen Scroll Centrifuge, the surface moisture of coarse slime is about 12-16%.

Horizontal Screen Scroll Centrifuge



SEPARATION & CONVEYING

Features



- Horizontal installation, low factory height requirements, easy for maintenance
- All the wear-resistant parts are made of high wear-resistant materials to extend the service life
- Main bearing adopts international famous brands such as SKF, FAG or NSK
- High separation factor, strong dewatering ability for coarse slime
- High reliability, stable operation and low noise
- The opening diameter of the screen basket can be customized to meet the dewatering requirements of different slime

Horizontal Screen Scroll Centrifuge



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Technical Specifications

Model	GNSCC-900	GNSCC-1000	GNSCC-1200
Feeding Particle Size	0-3mm		
Screen Opening	0.25/0.35/0.5mm		
Feeding Moisture	< 30%		
Capacity	30 ~ 50 t/h	40 ~ 60 t/h	60 ~ 120 t/h
Product Surface Moisture	12 ~ 16 %		
Main Motor Power	55kw	75kw	75kw
Weight	4000kg	4500kg	5500kg



Screen Bowl Decanter Centrifuge



SEPARATION & CONVEYING

Ultra fine Coal Dewatering



GN Coal Dewatering Screen Bowl Decanter Centrifuge is used for dewatering of ultrafine coal in coal washing plant, and well-applied coal particle range is usually 0-0.5mm. The Coal Dewatering Screen Bowl Decanter Centrifuge is with screw propeller inside the bowl. Its straight bowl section is closed type and similar to Decanter Centrifuge, and the cone bowl section has mesh holes on it. GN Coal Dewatering Screen Bowl Decanter Centrifuge adopts the principle of "centrifugal sedimentation" and "centrifugal filtration" to carry out solid-liquid separation. Ultrafine coal slurry enters the centrifuge through the feed pipe, and goes through two stages of centrifugal sedimentation and centrifugal filtration, with the help of centrifugal force, finally comes out three products, Dewatered Coal, Filtered Water and Centrifugal Water. The filtered water can be re-entered into the centrifuge as circulating material. GN Coal Dewatering Screen Bowl Decanter Centrifuge is a serialized product; there are 5 models with bowl diameter from 900mm to 1600mm, and processing capacity from 10 tons/h to 100 tons/h. The surface moisture of ultrafine coal is about 14~24% after dewatering by GN Coal Dewatering Screen Bowl Decanter Centrifuge.

Screen Bowl Decanter Centrifuge



SEPARATION & CONVEYING

Features

- Wide Applicability: suitable for dewatering of flotation clean coal, medium coal, tail coal, primary slime, cyclone underflow and pipeline coal terminal
- Dual dewatering function of centrifugal sedimentation and centrifugal filtration, large processing capacity, low moisture after slime dewatering
- The supporting structure of bowl and screw main body of GN Screen Bowl Decanter Centrifuge is compact, easy to disassemble and install, and runs smoothly
- The filter section of the centrifuge bowl applies high-aluminum ceramic screen mesh, long service life
- The periphery of centrifuge screw is protected by ceramic slices, long service life
- The centrifuge applies automatic circulating oil lubrication system
- The electrical control system of the whole machine is advanced and reliable, with good electromechanical protection measures, including over torque, over oil pressure, over current, etc.



Screen Bowl Decanter Centrifuge



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Technical Specifications



Model	SBC900×1800	SBC1100×2600	SBC1200×2000	SBC1400×2000	SBC1600×2400
Bowl Diameter	900mm	1100mm	1200mm	1400mm	1600mm
Bowl Length	1800mm	2600mm	2000mm	2000mm	2400mm
Bowl Speed	900 rpm	800 rpm	700 rpm	650 rpm	600 rpm
Feeding Particle Size	0-0.5mm (Ultrafine Coal)				
Capacity	10 ~ 20 t/h	25 ~ 40 t/h	30 ~ 40 t/h	40 ~ 70 t/h	80 ~ 100 t/h
Feeding Concentration	15 ~ 40 %				
Product Surface Moisture	14 ~ 24%				
Motor Power	110 kw	160 kw	185 kw	200 kw	280 kw
Weight	12500 kg	18500 kg	17500 kg	18000 kg	20000 kg

Screen Bowl Decanter Centrifuge

Factory Picture



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Solid Bowl Decanter Centrifuge

Coal Tailing Dewatering



SEPARATION & CONVEYING



It is difficult to separate the ultrafine coal particles less than 150 microns by using conventional dewatering equipment. However, with the high-speed rotation speed, the separation factor of GN solid bowl decanter centrifuge can reach high up to 3000 G, which can dewater the ultrafine coal tailing. In addition, GN decanter centrifuge is also widely used in the solid-liquid separation of other minerals or tailings dewatering. The solid bowl decanter centrifuge in coal preparation industry usually adopts more advanced wear-resistant technology to extend the service life of solid bowl decanter centrifuge in mineral separation. Compared with the filter press, GN solid bowl decanter centrifuge is small footprint, more convenient to use and maintain, with fewer wearing parts and lower operating cost.

Solid Bowl Decanter Centrifuge



SEPARATION & CONVEYING

Technical Specifications

Model	GNLW-364E	GNLW-454E	GNLW-554E	GNLW-654E	GNLW-764E
Bowl Diameter	360 mm (14 Inch)	450 mm (18 Inch)	550 mm (22 Inch)	650 mm (25.6 Inch)	760 mm (30 Inch)
Bowl Length	1512 mm (59.5 Inch)	1890 mm (74.5 Inch)	2310 mm (91 Inch)	2730 mm (82 Inch)	3328 mm (131 Inch)
Approximate Capacity	10-15m ³ /h	20-30m ³ /h	40-50m ³ /h	60-80m ³ /h	100-120m ³ /h
Max. Speed (RPM)	3900	3500	3150	2900	2650
Product Surface Moisture	<30%				
Bowl L/D Ratio	4.2	4.2	4.2	4.2	4.4
Drive/Control Type	VFD+PLC+ HMI				
Bowl Material	SS2304/SS316/SS2205 Centrifugal Casting				
Screw Wear-resisting Protection	Tungsten carbide plate protection / wear resistant coating protection				

The capacity is only for reference, and varies under different working conditions.

Solid Bowl Decanter Centrifuge

Coal Tailing Dewatering



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Site Application Video :

<http://www.gnfensong.com/video/gnlw764-decanter-centrifuge-for-coal-mine-tailings-slurry-treatment>

Solid Bowl Decanter Centrifuge

Features



- Bowl material made from Duplex Stainless steel 2304 by centrifugal casting, which is better than SS304 and SS316.

- Solids discharge port protected by tungsten carbide inserts, anti-abrasion for longer life.



- The adjustable effluent ports provide for fast precise pond depth configuration.

- Pneumatic spring assist the opening of the centrifuge cover and give more safety.



- Tungsten carbide alloy plow/scraper provide fully protection for the bowl solids discharge end.

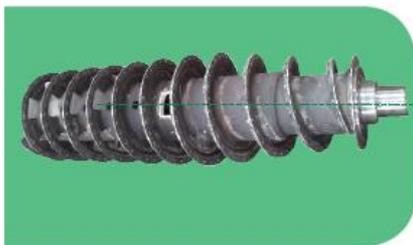
Solid Bowl Decanter Centrifuge

Features



- Conveyor Wear Surface: Tungsten carbide tiles .The life is much longer than hard surface. And all tiles is interchangeable for easy maintenance.

- Mud distribution port on the conveyor is protected by tungsten carbide alloy inserts for anti-abrasion when processing heavy mud.



- Stainless steel conveyor heat treatment to over 1000 C degree for better strength. And opening on the conveyor to increase the capacity of the centrifuge.



- Two motors mounted on one end, parallel and at equal elevation for smallest footprint and maximum accessibility.

- The bearings of the centrifuge are SKF premium bearings.

GN Facilities



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No. 1 Factory: Headquarter Office



No. 2 Factory: Centrifuge & Pump Manufacture



GN Facilities

Centrifuge Workshop



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GN Facilities

Fabrication & Coating



Laser Cutting



Plasma cutting



Ball Blasting and Paint



Welding



Powder Coating



Warehouse & Stock

Contact

GN Branches



SEPARATION & CONVEYING

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