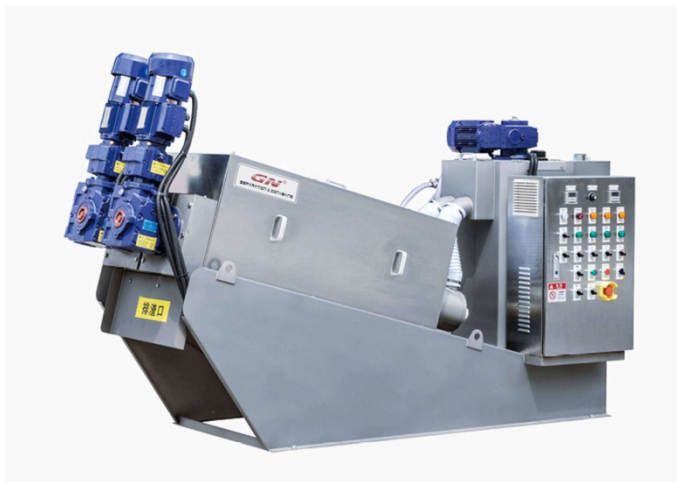


Screw Press Sludge Dewatering Machine

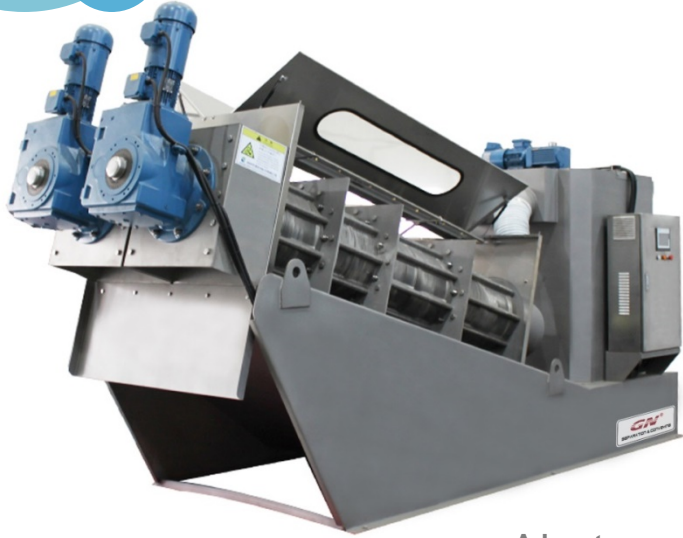


2020/06/01

GN Screw Press

Sludge Dewatering Machine

Brief Introduction



GN screw press sludge dewatering machine is a kind of economic and environmental friendly sludge dewatering equipment. It is a new type of sludge extrusion dewatering equipment by using the principle of screw extrusion, through the strong squeezing force generated by the change of screw diameter and screw pitch, and the tiny gap between the floating ring and the fixed ring, to realize solid-liquid separation.

GN dewatering screw press is composed of fully automatic control cabinet, flocculation modulation box, sludge thickening and dewatering device, and liquid collecting tank. GN dewatering screw press is with automatic control technology, which can realize the flocculation fully automatic operation, and continuously complete the sludge thickening and squeezing, finally return or discharge the collected filtrate liquid.

GN screw press dewatering machine is widely used in sewage treatment projects of municipal, aquaculture, food, starch, oil, pharmaceutical, chemical, paper, leather and other industries

Advantages of Screw Press Sludge Dewatering Machine

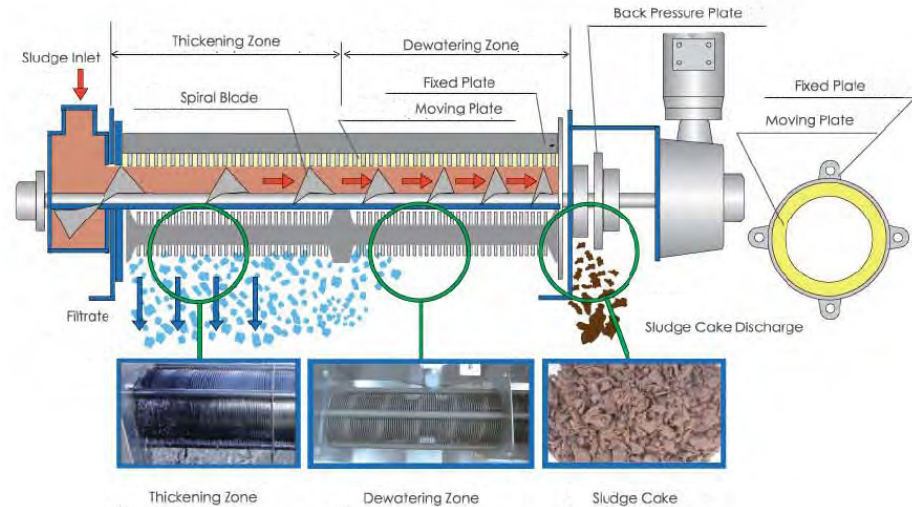
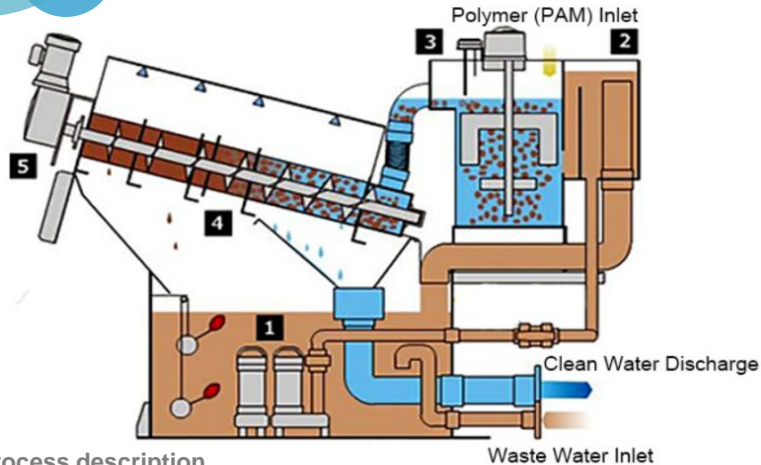
- 1. Suitable for wide range sludge dewatering and can be used for oily sludge treatment.
- 2. Operating continuously and automatically, not easy to block.
- 3. Low investment and operation cost, no secondary pollution.
- 4. Energy saving and environmental friendly, compact design with small footprint.
- 5. Sludge can be dewatered under aerobic conditions to avoid phosphorus release from anaerobic sludge dewatering.

GN Screw Press

Working Principle



SEPARATION & CONVEYING

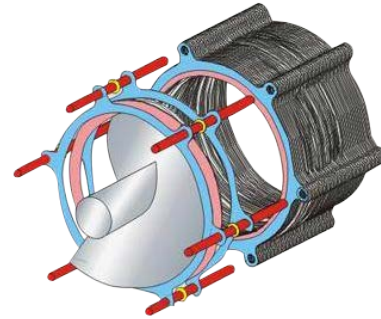
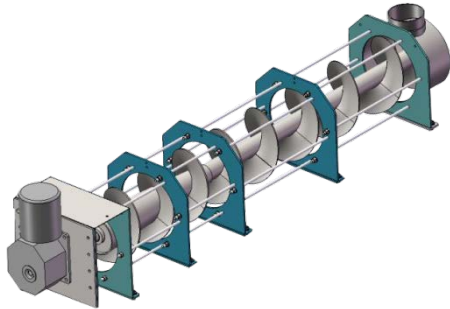


Process description

1. The sludge is delivered to the metering tank through the sludge pump, and then the sludge flows into the flocculation mixing tank. The excess sludge flows back to the sludge tank from the overflow pipe.
2. Inject polymer flocculants into the flocculation mixing tank, alum floc formed after stirring, and then enters into the dewatering section of the screw press after gravity concentration section.
3. Along the direction of the mud cake discharge outlet, the screw pitch of the screw gradually becomes smaller and compressed by the pressing plate, so that the internal pressure in the main body becomes larger. After the purpose of dewatering is achieved, the mud cake is discharged.
4. Self cleaning: the rotation of the screw shaft drives the continuous rotation of the floating ring. The equipment relies on the movement between the fixed ring and the floating ring to realize the continuous self-cleaning process, so as to ingeniously avoid the blocking problems commonly existing in the traditional dewatering equipment.
5. The clean filtrate after treatment by GN dewatering screw press is discharged from the filtrate port.

GN Screw Press

Working Principle



Features of Screw Press Sludge Dewatering Machine

- 1. The main body of the screw press sludge dewatering machine is a filtration device composed of fixed ring and moving ring, in which the screw axis runs through. The front section is for concentration and the back section for dewatering.
- 2. The filtering gap formed between the fixed ring and the moving ring of the dewatering screw press and the pitch of the screw axis gradually decreased from the concentration section to the dewatering section.
- 3. The rotation of the screw press shaft not only pushes the sludge from the concentration section to the dewatering section, but also continuously drives the moving ring to clean the filtering gap to prevent clogging.
- 4. After gravity concentration in the concentration section, sludge is transported to the dewatering section. In the process of advance, with the gradual decrease of filtering gap and screw pitch, and the blocking effect of back pressure plate, a great internal pressure is generated; leading the volume is constantly reduced, so as to achieve the purpose of full dewatering.
- 5. The screw press sludge dewatering machine is generally suitable for sludge concentration of 2000 mg / L to 50000mg / L, and the moisture content (**water / dry solid weight**) of sludge after dewatering is generally about 80% , and moisture content (**total water / water & solid weight**) is about 44%.
- 6. It is the soft materials sludge with particle diameter less than 2mm that are recommended to feed into the dewatering screw press , which can prevent the equipment from blocking and wearing. If feed the screw press with hard material, the equipment need to be equipped with screw conveyor plate sprayed with the wear-resistant coating.

Sludge Dewatering Machine

Advantage/Weakness Comparison

Type	Screw Press	Filter Press	Decanter Centrifuge
Energy Consumption	Low	Moderate	High
Labor Intensity	Low	High	Low
Footprint	Low	High	Low
Automation Degree	High	Low	High
Investment	Low	High	High
Sludge Moisture Content	High	Low	Moderate
Operating Cost	Low	Moderate	Moderate
Capacity	Low	High	High
Capability for Oily Sludge treatment	Moderate	Low	High



Screw Press



Filter Press



Decanter Centrifuge

Technical Specifications

Configuration Parameter

Model	Screw Diameter	Screw Nos.	Screw Power	Agitator Power	Flushing Pressure	Flushing Water (L/H)	Weight (KG)
GNDL101	100mm	1	0.18KW	0.18KW	0.1Mpa-0.2Mpa (No high pressure flushing device is required)	24	220
GNDL201	200mm	1	0.37KW	0.18KW		32	420
GNDL202		2	0.74KW	0.55KW		64	550
GNDL301	300mm	1	0.75KW	0.55KW		40	900
GNDL302		2	1.5KW	0.75KW		80	1400
GNDL303		3	2.25KW	1.1KW		120	1900
GNDL401	400	1	1.5KW	1.1KW		80	2200
GNDL402		2	3KW	1.5KW		160	3500
GNDL403		3	4.5KW	2x1.1KW		240	5500
GNDL404		4	6KW	2x1.1KW		320	7000

Technical Specifications

Handling Capacity



SEPARATION & CONVEYING

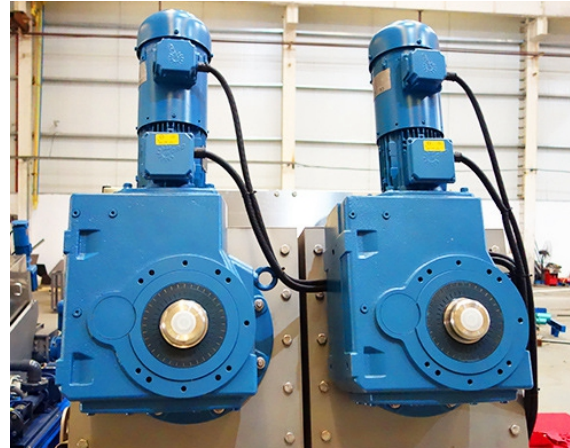
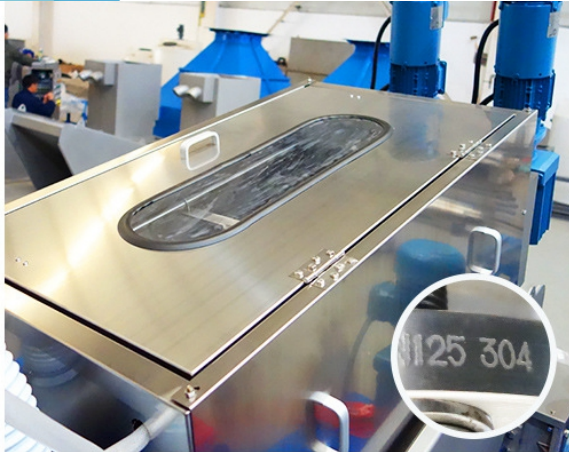
Model	Standard Capacity (For Dry Solids)	Capacity for Sludge with Different Concentration				
		10000mg/L	20000mg/L	30000mg/L	40000mg/L	50000mg/L
GNDL101	5~7 kg/h	~0.5m ³ /h	~0.25m ³ /h	~0.2m ³ /h	~0.15m ³ /h	~0.14m ³ /h
GNDL201	15~20 kg/h	~1.5m ³ /h	~0.75m ³ /h	~0.6m ³ /h	~0.5m ³ /h	~0.4m ³ /h
GNDL202	30~40 kg/h	~3m ³ /h	~1.5m ³ /h	~1.2m ³ /h	~1m ³ /h	~0.8m ³ /h
GNDL301	50~70 kg/h	~5m ³ /h	~2.5m ³ /h	~2m ³ /h	~1.5m ³ /h	~1.4m ³ /h
GNDL302	100~140 kg/h	~10m ³ /h	~5m ³ /h	~4m ³ /h	~3m ³ /h	~2.8m ³ /h
GNDL303	150~210 kg/h	~15m ³ /h	~7.5m ³ /h	~6m ³ /h	~4.5m ³ /h	~4.2m ³ /h
GNDL401	130~160 kg/h	~13m ³ /h	~6.5m ³ /h	~5m ³ /h	~4m ³ /h	~3.2m ³ /h
GNDL402	260~320 kg/h	~26m ³ /h	~13m ³ /h	~10m ³ /h	~8m ³ /h	~6.4m ³ /h
GNDL403	390~480 kg/h	~39m ³ /h	~19.5m ³ /h	~15m ³ /h	~12m ³ /h	~9.6m ³ /h
GNDL404	520~640 kg/h	~52m ³ /h	~26m ³ /h	~20m ³ /h	~16m ³ /h	~12.8m ³ /h

GN Screw Press

Features



SEPARATION & CONVEYING

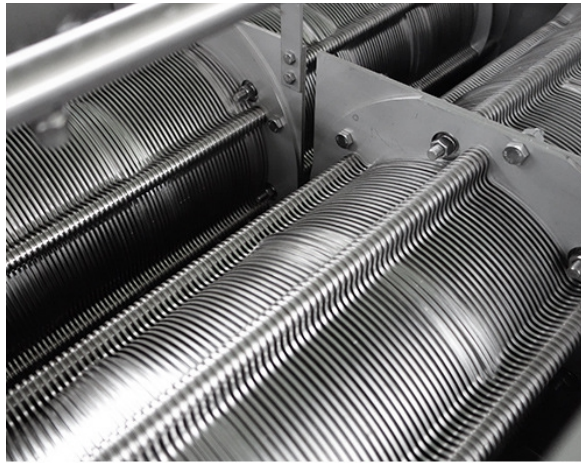


Features Description

1. The main body material is stainless steel 304, with high structural strength, good corrosion resistance and easy maintenance.
2. The motor and are famous brands with high stability.
3. The main electrical components are Siemens, Schneider, ABB and other famous brands

Dewatering Screw Press

Features



Features Description

1. The floating ring and fixed rings are made of SS304 stainless steel.
2. It has self-cleaning function, is not easy to block, and has long service life.
3. It can be used to treat oily sludge.
4. Adopt SS304 screw shaft

Contact

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SEPARATION & CONVEYING

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