



青岛金万通环保科技有限公司

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## About JinWanTong

Qingdao Jinwantong Environmental Science and Technology Co., Ltd. is an ISO9001 experienced manufacturer of wastewater treatment equipment in Qingdao China. We started in year 2006, provide one-stop services to client from project design to manufacturing, installation and final commissioning, professional services with cheap factory price.

Main Products::

- \*\*\* Air Flotation Machine
- \*\*\* Bridge Type Sludge Scraper for Sedimentation Tank and Clarifier
- \*\*\* Package Wastewater Treatment Plant
- \*\*\* Large-scale Industrial Wastewater Treatment Plant
- \*\*\* Lamella Clarifier
- \*\*\* Water Filter
- \*\*\* Sludge Dewatering Machine
- etc.

Quality Creates JinWanTong: Started in year 2006, passed ISO9001:2000 International Quality System Authentication in year 2007, got approved ISO9001-2008 in year 2015.

All products are strictly designed and manufactured under China GB and International ASME standards; For a better future and a greener tomorrow, we are here waiting to work together with your esteemed company !!!

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## Automatic Rotary Bar Screen

JHZ Series Automatic Rotary Bar Screen is also called mechanical fine bar screen or mechanical rake bar screen, is mainly used to remove large size impurities from wastewater in pretreatment process to avoid clogging and choke to the subsequent pumps and valves.



This automatic bar screen is mainly composed of electric motor, gearbox, steel frame, tooth rake, and transmission system. Electric motor and gearbox are mounted at the head of steel frame, together with driving sprocket and traction chains, forming the driving system.

Another group of driven sprockets are installed at the end of steel frame, connected with the driving sprockets through traction chains. With the rotation of sprockets, traction chains and bar/teeth will run against water flow, trap the large size impurities from wastewater and carry them upwards.

When impurities are carried to the upper limit position of steel frame, because of the guiding of sheave and curve rails, impurities will fall down automatically from trash outlet. At the same time, bar/teeth will self-clean up with each other.

The treated water then flows away through the gaps of bar/teeth to the subsequent treatment process for further treatment.

Model	Motor Power(kW)	Treat Capacity(m <sup>3</sup> /h)					Screen Width(mm)	Well Width(mm)
		150	300	450	460	460		
JHZ-300	0.37	150	300	450	460	460	300	350
JHZ-400	0.37	170	340	420	510	540	400	450
JHZ-500	0.55	240	480	590	730	750	500	550
JHZ-600	0.55	308	620	764	920	960	600	680
JHZ-700	0.55	360	720	930	1124	1160	700	780
JHZ-800	0.75	440	880	1080	1330	1420	800	880
JHZ-900	0.75	550	1024	1250	1450	1580	900	980
JHZ-1000	0.75	580	1160	1450	1760	1830	1000	1080
JHZ-1100	1.1	650	1310	1670	2000	2080	1100	1180
JHZ-1200	1.1	710	1470	1750	2080	2250	1200	1280
JHZ-1500	1.5	920	1840	2000	2250	2400	1500	1580

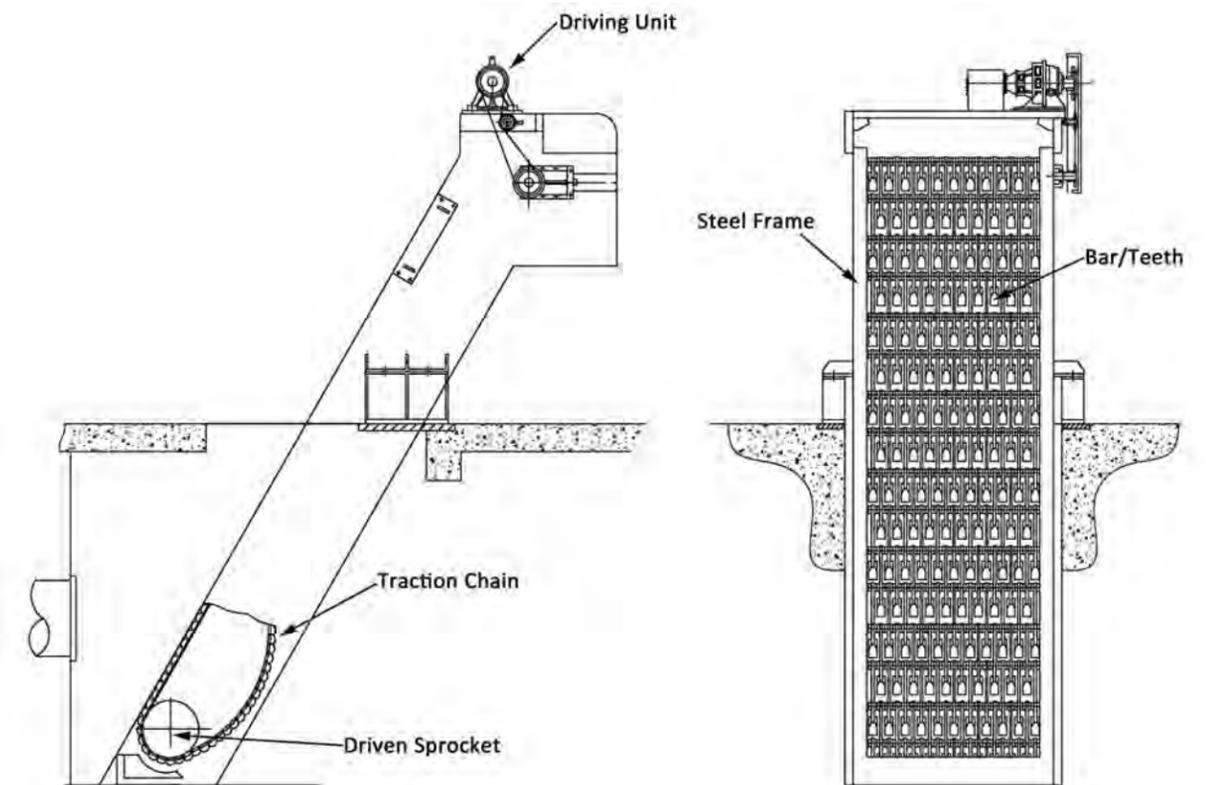
\*\*\* Excellent Anti-corrosion Performance  
Material of bar/teeth is SS304, nylon material is also optional.

\*\*\* Overload Protection  
Machine will shut down automatically once malfunction happens to avoid damages.

\*\*\* High Automation Degree with Remarkable Separation Efficiency.  
Operation interval is adjustable according to client's working condition, achieving automatic periodic operation; Optional PLC remote control is available.

\*\* Self-cleaning; Easy Maintenance  
This automatic screen can self-clean up while working, very a little maintenance is required in daily operation.

\*\* Low Power Consumption and Noise  
Reliable and famous motor for this machine, providing stable performance with low noise.



## Dissolved Air Flotation

Dissolved Air Flotation Machine(DAF) is a high efficiency TSS removal wastewater pretreatment equipment that clarifies wastewater by removing suspended matters such as oil, colloids or other suspended solids.

The removal is achieved by dissolving air into water under pressure and then releasing the air to atmospheric pressure in flotation tank.



The feed water to DAF float tank is often (but not always) dosed with a coagulant (such as ferric chloride or aluminum sulfate) to coagulate the colloidal particles and/or flocculants to conglomerate the particles into bigger clusters.

A portion of clarified effluent water leaving the DAF tank is pumped into a small pressure vessel (called air drum or saturator) into which compressed air is also introduced. This process saturates pressurized effluent water with air under pressure(2.5-4kg/cm<sup>2</sup>).

The air-saturated water stream is recycled to the front of the float tank and flows through a pressure reduction valve just as it enters the front of the float tank, which results in the air being released in the form of tiny bubbles(Φ5-20μm).

These bubbles attach to, and form with, the solids or chemical flocculants entering the vessel, causing them to float to water surface where they are retained and forms scum layer, which is then subsequently removed by DAF skimmer.

### Widely Used For:

- Reduce turbidity
- Product recovery and reuse(fiber, paper pulp, etc.)
- Pretreatment to remove suspended solids to meet sewer discharge limits
- Pretreatment to reduce loading on downstream biological treatment systems
- Polishing of biological treatment effluent
- Micro-algae Collection



Model	Treat Capacity (m <sup>3</sup> /h)	Air Dissolving Pump Power (kW)	Built-in DAF Skimmer Power (kW)	Overall Size (mm)
DAF-5	5	3	0.37	3200*1200*1200
DAF-10	10	3	0.37	4000*1200*1200
DAF-20	20	4	0.37	4800*1200*1500
DAF-30	30	4	0.37	5800*1500*1500
DAF-50	50	7.5	0.37	6500*1800*1800
DAF-80	80	7.5	0.55	7500*2000*2000
DAF-100	100	15	0.55	12500*2200*2000
DAF-150	150	18.5	0.75	14000*2200*2200
DAF-200	200	18.5	0.75	15500*2600*2200
DAF-250	250	22	1.1	16500*2800*2200
DAF-300	300	22	1.1	17500*2800*2400
DAF-350	350	22	1.1	18500*3600*2400
DAF-400	400	30	1.5	20000*3600*2600
DAF-450	450	30	1.5	21500*4000*2800
DAF-500	500	37	1.5	23000*4400*2800

## Cavitation Air Flotation

Cavitation Air Flotation Machine(CAF) is an advanced wastewater treatment equipment, mainly used to remove suspended solid, colloids and grease to achieve solid-liquid separation and liquid-liquid separation for industrial wastewater.

By dosing suitable flocculant and coagulant into wastewater, grease removal rate can be more than 95%, suspended solids removal rate can be more than 90%, and around 60% COD and BOD can be removed at the same time.



CAF Cavitation Air Flotation Machine is greatly different from DAF Dissolved Air Flotation Machine in its air dissolving method: One or several sets of CAF aerator(micro bubble generator) is installed in the aeration chamber of CAF machine. With the high speed rotation of impeller of CAF aerator under water, a vacuum zone is formed there and absorb the air above water surface into water and generate millions of micro bubbles.

These bubbles attach to, and form with, the solids or chemical flocculants entering the vessel, causing them to float to water surface where they are retained and forms scum layer, which is then subsequently removed by CAF skimmer.

### \*\*\* High Adaptability

Suit for wastewater from different industries, high adaptability to big changes on water quality and water quantity.

### \*\*\* Low Operating Costs:

Low electric consumption, only two moving parts --- CAF Aerator + CAF Skimmer.

### \*\*\* Save Investment:

Don't need air compressor, air dissolving pump and air dissolving tank, greatly reducing equipment investment.

### High Efficiency:

CAF machine is compact in structure, with small land occupation, but with >90% TSS removal rate.

### Easy to Operate and Maintain:

Only two moving parts, easy to maintain. After commissioning, CAF machine will runs smoothly, with low failure rate, easy to operate.

### Low Scum Moisture:

The floated scum will be removed automatically and continuously by CAF aerator. Low scum moisture, which reduces scum volume and the subsequent scum disposal costs.



Model	Treat Capacity (m <sup>3</sup> /h)	Tank Length (m)	Tank Width (m)	Tank Depth (m)	Aerator Quantity	Total Power(kW)
CAF-5	5	2.5	1	1.2	1	1.84
CAF-10	10	3	1.2	1.2	1	1.84
CAF-15	15	4	1.2	1.2	1	1.84
CAF-20	20	4.5	1.2	1.2	1	1.84
CAF-35	30	4.3	1.5	1.8	1	2.94
CAF-50	50	5.3	1.8	1.8	1	2.94
CAF-75	75	6.5	2.4	1.8	1	2.94
CAF-100	100	7.7	2.4	1.8	1	2.94
CAF-150	150	11.1	2.4	1.8	2	5.14
CAF-200	200	15.1	2.4	1.8	2	5.14
CAF-250	250	16.7	2.4	1.8	2	5.14
CAF-320	320	15.1	3.1	1.8	3	7.70
CAF-400	400	16.7	3.6	1.8	4	10.3
CAF-500	500	20.9	4.3	1.8	4	10.3

## DAF Clarifier

DAF clarifier is an open style round dissolved air flotation, it is also called circular dissolved air flotation or high efficiency shallow air flotation.



DAF clarifier purify wastewater by removing suspended solids, is a cost-effective alternative to conventional sedimentation clarification process, specially designed for high TSS wastewater, oily wastewater, paper mills backwater as well effluents from sugar, dairy, food, textile industries and tanneries.

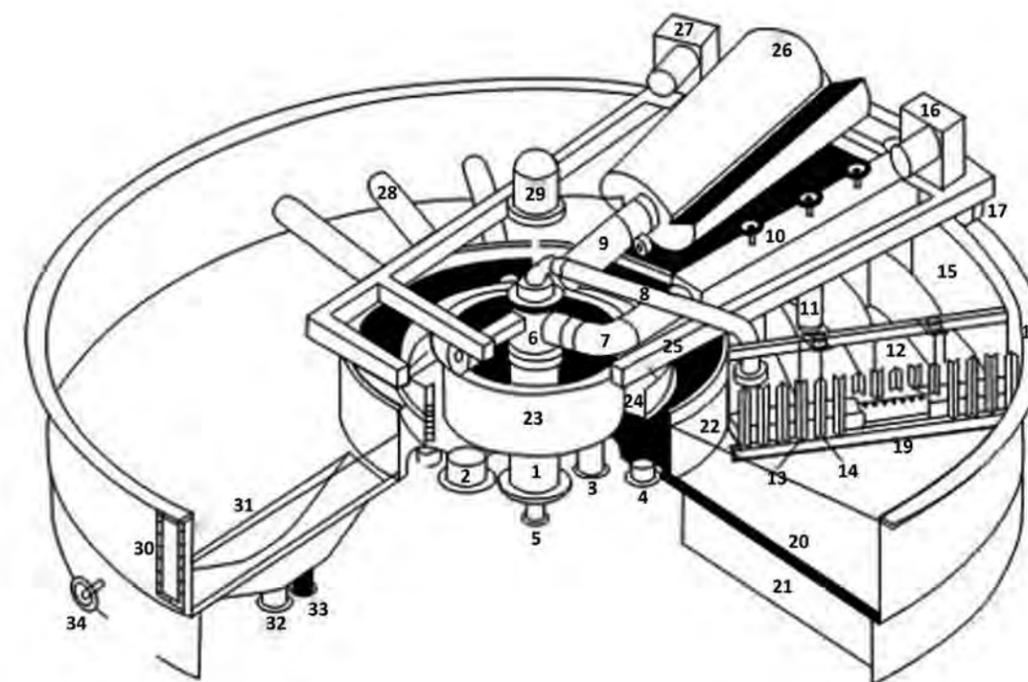
Compared to conventional sedimentation clarification process, DAF clarifier is:

- \*\*\* Much more cost effective;
- \*\*\* Lower engineering design costs;
- \*\*\* Lower installation cost;
- \*\*\* Shorter process time (require HRT only 3 - 5 minutes).

Model	Diameter (m)	Flow Rate (m <sup>3</sup> /h)	Driving Motor (kW)	Scraper Motor (kW)	Air Dissolving Pump(kW)	Air Compressor (kW)	Total Power(kw)
DAF-S-60	φ5	50-60	1.5	1.1	7.5	1.5	11.6
DAF-S-100	φ6	80-100	1.5	1.1	15	2.2	19.8
DAF-S-150	φ7	120-150	1.5	1.1	15	2.2	19.8
DAF-S-200	φ8	180-200	2.2	1.5	22	4	29.7
DAF-S-250	φ9	220-250	2.2	1.5	22	4	29.7
DAF-S-300	φ10	280-300	2.2	1.5	30	5.5	39.2
DAF-S-400	φ11	350-400	2.2	1.5	37	5.5	46.2
DAF-S-500	φ12	450-500	3	2	45	7.5	57.5
DAF-S-600	φ13	550-600	3	2.2	45	7.5	57.7
DAF-S-700	φ14	650-700	3	2.2	55	7.5	67.7
DAF-S-800	φ15	750-800	3	2.2	75	11	91.2

### Features:

- \*\*\* Short HRT, only need 3-5 minutes.
- \*\*\* High surface load, 8-12m<sup>3</sup>/m<sup>2</sup>·h
- \*\*\* Small disturbance to water, ensure stable performance.
- \*\*\* Compact in structure with small footprint, suits for large capacity water treatment.



1. Raw Water Inlet
2. Treated Clean Water Outlet
3. Scums/Sludge Outlet
4. Reflux Clean Water Outlet
5. Air Saturated Water Inlet
6. Rotary Joint
7. Rubber Connection
8. Air Saturated Water Pipe
9. Shaft of Spiral Scoop Scraper
10. Raw Water Distributor
11. Raw Water Distribution Pipe
12. Flow Control Ditch
13. Baffle
14. Adjustment Baffle
15. Outside Surface of Flow Control Ditch
16. Walking System Driving Motor
17. Driving Wheel
18. Rim of DAF Clarifier
19. Air Saturated Water Distributor
20. Tank Bottom
21. Tank Bottom Support
22. Rotary Bowl
23. Scums Collection Bowl
24. Clean Water Overflow Bowl
25. Walking System Structure
26. Spiral Scoop Scraper
27. Spiral Scoop Scraper Driving Motor
28. Clean Water Collection Pipe
29. Current Collecting Equipment
30. Sightglass
31. Sedimentation Removing Pit
32. Emptying Pipe
33. Sedimentation Outlet
34. Adjusting Handwheel

## Central Drive Sludge Scraper

Central Drive Sludge Scraper is also called clarifier scraper or bridge scraper, is a machine which scrape, collect and discharge sludge in round primary sedimentation tank, secondary sedimentation tank and sludge thickening tank; Standard products working diameter ranges from 4m to 20m.

Wastewater enters into sedimentation tank through the central Water Flow Stabilizer, which is also called "Energy Dissipating Inlet and Feed Well", its function is to dissipate inlet water energy, steady water flow and distribute water flow uniformly. Central drive sludge scraper is fitted with a central shaft with scraper arms and scraper blades that rotate in clockwise direction and thus convey the debris (sludge, etc.) towards the middle of sedimentation tank to the central sludge discharge pit, from where sludge is discharged.



Central Driving perfectly solved the problems of clarifier edges leveling as well as driven trolley skidding in winter conditions.

On request, this machine can be fitted with the suspended solids extraction mechanism, which thanks to the bridge rotation, conveys the foams (oily and light parts present on the water surface) to the scum trough fixed to the sedimentation tank wall. The clean water flows through the V-notched weirs and flows into the effluent launder.

### Features:

- \*\*\* Truss structure, high strength and light weight.
- \*\*\* New designed transmission mechanism together with shaft mounted speed reducer, compact and efficient. Easy to operate and maintain, low failure rate.
- \*\*\* Equipped with outdoor electrical components, safe and reliable, remote control are optional.
- \*\*\* Equipped with torque protection system, scraper will shut down automatically once the torque exceed preset value to avoid potential damages.

### Material:

Parts which contact with water: Stainless steel

Parts which don't contact with water: Carbon steel+Anti-corrosion treatment

Full stainless steel sludge scraper is optional.



Model	Tank Diameter (m)	Sedimentation Area (m <sup>2</sup> )	Treat Capacity (m <sup>3</sup> /h)	Speed Ratio
ZXG-4	4	12.6	0.26	11033
ZXG-6	6	28.3	0.59	11033
ZXG-8	8	50.3	1.05	17051
ZXG-10	10	78.5	1.64	20825
ZXG-12	12	113	2.36	20825
ZXG-14	14	154	3.21	24389
ZXG-16	16	201	4.19	24389
ZXG-18	18	254	4.76	24389
ZXG-20	20	314	5.25	31433

## Peripheral Drive Sludge Scraper

Peripheral Drive Sludge Scraper is generally used in round sedimentation tank to collect and scrape precipitated sludge to the central sludge collection pit at tank bottom, and to collect scum on water surface to scum bucket.

It is mainly composed of service bridge, scraper arms, scraper blades, water flow stabilizer, overflow weirs, scum baffle, center supporting device, driving unit, etc. Scum scraper and scum bucket are optional.



\*\*\* Standard solid walking wheel, durable and easy to install.

\*\*\* Scraper is ordered by logarithmic spiral and is equipped with universal wheel

\*\*\* Scraper will adjust itself automatically when encounter with large resistance, well guarantee working safety.

Model	Tank Diameter (m)	Tank Depth (m)	Peripheral Linear Velocity(m/min)	Driving Motor Power (kW)
ZBG-12	12	3.5	1-3	0.55
ZBG-14	14	3.5	1-3	0.55
ZBG-16	16	3.5	1-3	0.55
ZBG-17	17	3.5	1-3	0.55
ZBG-18	18	3.5	1-3	0.55
ZBG-20	20	3.5	1-3	0.55
ZBG-25	25	3.5	1-3	0.55
ZBG-30	30	4	1-3	0.75
ZBG-35	35	4	1-3	0.75
ZBG-40	40	4.5	1-3	1.1
ZBG-50	50	4.5	1-3	1.5

## CPI Oil Separator

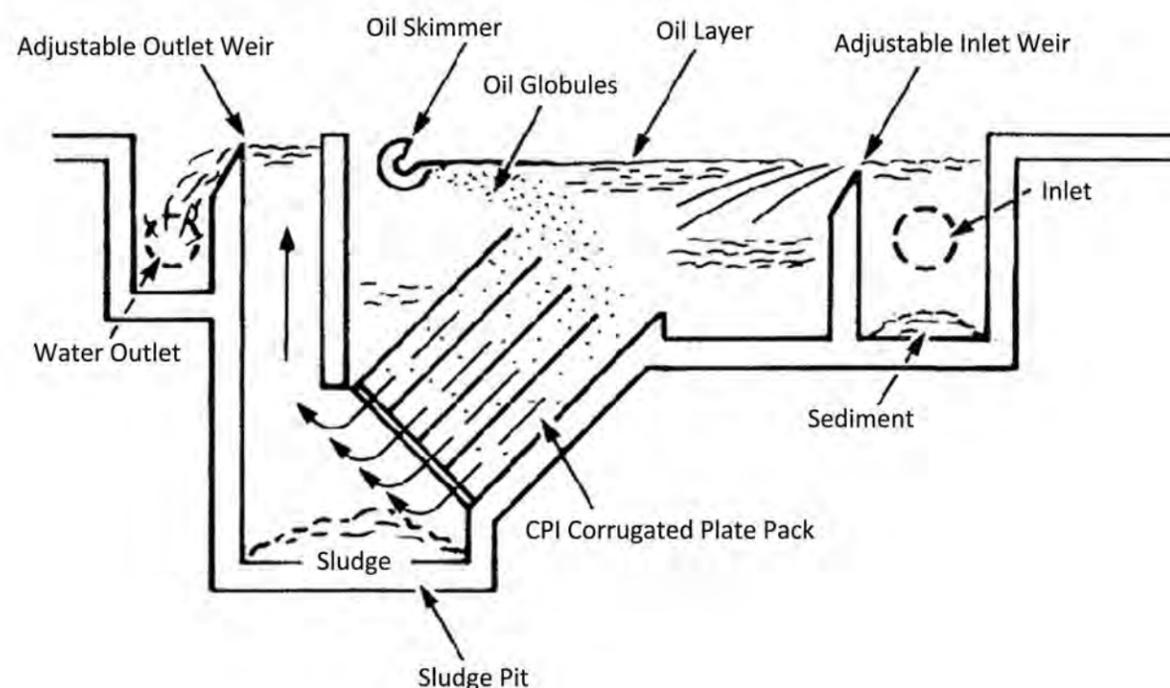
Corrugated Plate Interceptor(CPI) a high efficient oil-water gravity separator, now is widely used in oily wastewater treatment to remove bulk oil from water.

Gravity separation is the most straightforward method of wastewater treatment and is, therefore, utilised widely in industries for separation of settling and/or floatable impurities from a carrier liquid.

An enlarged separating surface can be achieved by placing various smaller planes on top of each other in the tank. If these planes are subsequently inclined in a tilted position, material separated between the plates is removed by the gravitational force. This is the principle on which the CPI corrugated plate pack is based.

In this plate pack the planes as referred to have been constructed in the shape of corrugated plates. They promote both the coalescence of the intercepted oil particles and, at the same time, their transfer through the plate pack.

CPI oil separator enables high efficiency gravity separation with corrugated plates, providing excellent treatability with a high flow rate. The simple structure makes it possible to reduce the construction cost and facilitates maintenance.



### Main Applications:

- \*\*\* Balast water and tank farm waters
- \*\*\* Refinery effluents and run-off
- \*\*\* Petrochemical effluents and run-off
- \*\*\* Airport or other large site rain run-off

## Lamella Clarifier

Lamella clarifier is also called lamella separator and inclined plate settler, is one kind of high efficiency solid-liquid separation solution which works on shallow tank theory to remove solid particles from liquids.

Because of the Lamella technology, a lamella clarifier with minimum 20% footprint of a conventional one is still capable of processing the same water amount.

Lamella clarifier works on the basis of shallow tank theory, which tells the settling efficiency of a sedimentation tank only relates to the effective surface area. Unlike the conventional clarifier, it uses a series of inclined plates. These plates provide a large effective settling area for a small footprint.

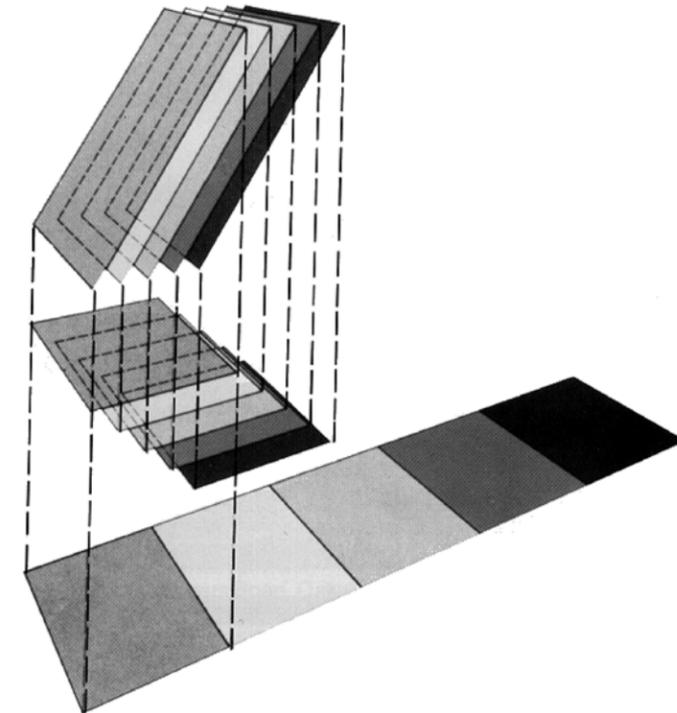


### Features:

- \*\*\* Shorter HRT, but excellent settling performance.
- \*\*\* Vertical installation, compact structure with small footprint, save space and land investment.
- \*\*\* Lamella plate is integrated in package, easy to install.
- \*\*\* Lamella plate material is PVC or SS304, with longer service life.
- \*\*\* Simple structure, no moving parts, no electricity consumption, easy to maintain.
- \*\*\* Epoxy lined tank body, excellent resistance to corrosion; SS304 and SS316L material are optional for corrosive wastewater.

### Application:

- \*\*\* Remove Cr, Cu, Fe, Zn, Ni, etc. heavy metal ions in electroplate effluent.
- \*\*\* Remove COD in food waste water and chemical waste water treatment.
- \*\*\* Reduce turbidity for river/lake water and waste water from coal mine, mineral processing, etc.
- \*\*\* Remove suspended solids(TSS) for wastewater from paper mills and printing & dyeing factory.



## Automatic Chemical Dosing System

In wastewater treatment, usually we are required to prepare and dose chemical solution into water by a certain proportion. For example dose flocculant for flocculation and dose acid/alkali for neutralization reaction.

Wastewater treatment process and dosing operation are both continuous, thus requiring a multi-functional dosing system which can prepare and dose chemical solution continuously in preset certain concentration.

This automatic chemical dosing system is specially designed for this application, can use both liquid and powdered chemicals to prepare and dose chemical solution continuously.



### Features:

- \*\*\* Suit for both liquid and powdered chemicals.
- \*\*\* Full-automatic, easy to operate and maintain, low labor costs.
- \*\*\* With proportional control function, can prepare solution in your required concentration.
- \*\*\* When chemicals in feed trough is less than preset quantity, the sensor will give a warning signal and stop preparing process automatically, safe and reliable.
- \*\*\* Uniquely designed intermittent stirring function, stirrer will work intermittently in stand-by time to ensure thorough mixing of solution, and keep solution in the best state.
- \*\*\* Powder feed trough is equipped with ring heater to well avoid caking or deterioration when powder is damp.

## Semi-Automatic Chemical Dosing System

JY series Chemical Dosing System is semi-automatic, suits for small scale wastewater treatment project.

It is mainly composed of the below two parts:

\*\*\* Chemical Preparation System

Contains one mixing tank and one agitator, used to mix water and chemicals in required proportion.

\*\*\* Metering & Dosing Pump:

Famous brand dosing pumps ensure precise dosage and long service life.

### Application:

- \*\*\* Dose flocculant, coagulant, filter aids, sanitizer and acid/alkali in water treatment.
- \*\*\* Dose scale inhibitor in cooling water and circulating water.

### Features:

\*\*\* Low Electric Consumption

Only have 1 agitator and 1 dosing pump in service, low electric consumption.

\*\*\* Stable and Small Footprint

Compact in structure, small land occupation. Easy to maintain, simple in operation.



## Package Wastewater Treatment Plant

Package Wastewater Treatment Plant is a complete and compact wastewater treatment system which is composed of a series of different wastewater treatment processes and equipment. It can be installed underground, above ground or even on a truck for mobile application, e.g. for oilfield mobile labor camp.

The aim is to remove pollutants from wastewater to make it clean and safe to be discharged, or even to be reused after further deep filtration by MBR process.



To municipal wastewater and residential sewage, generally we use A1/O or A2/O or A/A/O technology combined with bio-film process for :

- \*\*\* A1/O: remove COD, BOD and TP.
- \*\*\* A2/O: remove COD, BOD, NO<sub>2</sub>-N, NO<sub>3</sub>-N, NH<sub>3</sub>-N and TN.
- \*\*\* A/A/O: remove COD, BOD, NO<sub>2</sub>-N, NO<sub>3</sub>-N, NH<sub>3</sub>-N, TN and TP.

Different technical combination will be selected according to your inlet water quality and your government's requirements on the treated outlet water quality. Every country or city has its own emission standard. Almost every of our plant is customized.

Generally, a A/A/O package wastewater treatment plant includes: anaerobic tank, anoxic tank, aeration tank, sedimentation tank, sludge tank and clean water tank. Will be a little different according to your water quantity/flow rate.

### Suit For:

- \*\*\* Village or Small Town
- \*\*\* Residential Quarter / Residential Community
- \*\*\* Hotel; Shopping Malls; Bus Station; Airport
- \*\*\* Hospital; Office Building; School; Dormitory
- \*\*\* Tourist Area / Scenic Area
- \*\*\* Oilfield labor camp etc.
- \*\*\* Other places where generate similar organic wastewater.

Almost all relevant devices are packed in containers, thus make it convenient to move and easy to install. We will properly install the inside parts before shipping, when products arrive your site, you only need to connect the pipes and cables, very little labor required.



Please contact us directly if you want to use it for industrial wastewater, because industrial wastewater is complicated in components and changes greatly in water quality from different industries. To provide a professional and targeted solution, please advise:

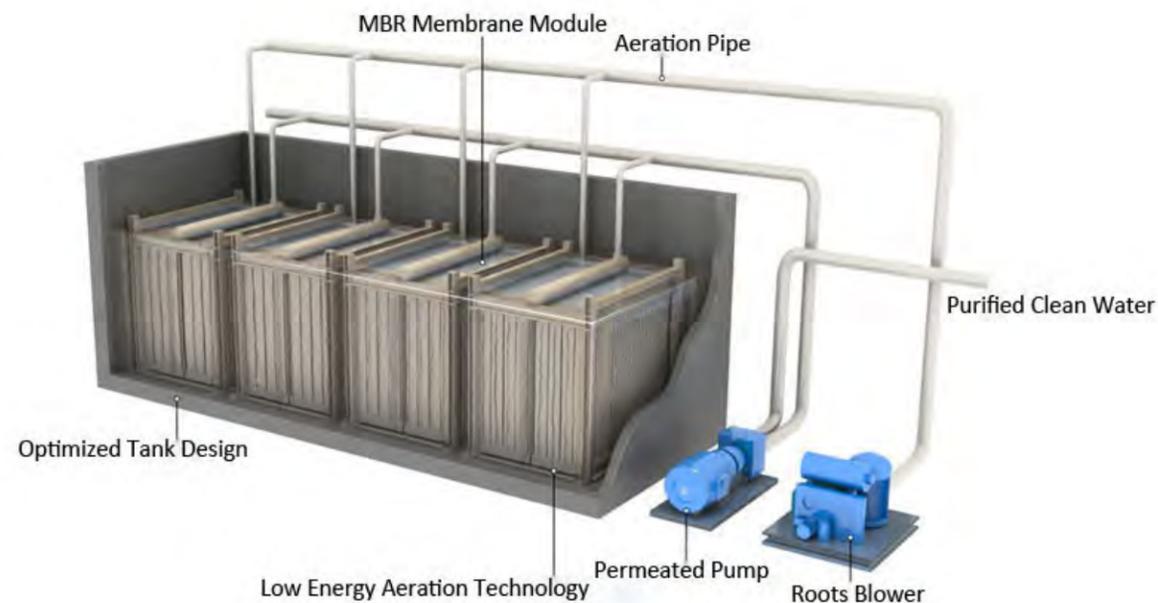
- \*\*\* Which industry does the water come from? The details the better.
- \*\*\* How many cubic meter(m<sup>3</sup>) water should be purified per hour?
- \*\*\* Please send us one copy of your raw water quality analysis report.
- \*\*\* Your requirements on the treated outlet water quality.
- \*\*\* The space you can provide for installation of this wastewater treatment plant --- L\*W(m)
- \*\*\* Your some special requirements(if any).

## MBR Wastewater Reuse System

MBR Wastewater Reuse System is an integrated new kind of wastewater treatment plant which combines membrane separation technology and biological treatment technology, with excellent treated outlet water quality ----- turbidity and TSS is near to 0, is especially designed for wastewater recycling and reuse.

MBR is abbreviation of "Membrane Bioreactor", is the core of this MBR wastewater reuse system. It is the combination of a membrane process like microfiltration or ultrafiltration with a suspended growth bioreactor. Hydraulic retention time (HRT) and sludge retention time (SRT) can be separately controlled, the refractory organics are trapped by MBR membrane and are continuously decomposed.

With 5000-10000 mg/l high MLSS(mixed liquor suspended solids) concentration, no need sedimentation tank, thus reducing the reactor volume to achieve the same loading rate. So that this MBR system can be compact in structure and small in footprint.



### Applications:

\*\*\* Wastewater treatment and reuse for office buildings, residential community, hospitals, hotels, schools, stadiums, etc..

\*\*\* Wastewater treatment for areas where without drainage network system, like tourism scenic spots, resorts, villas, hotels, residential areas, railway stations, toll stations, temporary construction sites, etc..

\*\*\* High concentration organic wastewater treatment for mining industry, food industry, pharmaceutical industry, sugar industry, alcohol industry, leather industry, paper industry, printing and dyeing industry, etc..

### Features:

\*\*\* Super High Treated Outlet Water Quality:

Treated water is perfectly separated from suspended solids, colloidal substances and microbial flora, turbidity and TSS is near to 0.

\*\*\* Small Footprint; Save Land:

Higher MLSS(mixed liquor suspended solids) concentration 5000-10000 mg/l, thus reducing the reactor volume to achieve the same loading rate. And no need sedimentation tank, only need 1/3 land compared to traditional wastewater treatment plant.

\*\*\* Save Operation Costs; Extend Reclaimed Water Application Range:

MBR wastewater reuse system can filter out bacteria, viruses and other harmful substances, thus greatly saving long-term operating costs caused by chemical dosing and disinfection, also extend purified clean water reuse application range.

\*\*\* Stable Running Performance and Flexible Control:

Efficient membrane separation perfectly trap macromolecular organics and hold them inside system, thus achieving completely separation of hydraulic retention time (HRT) and sludge retention time (SRT). System running is more stable, control is more flexible.

\*\*\* Strong Shock Resistance

MBR membrane avoid loss of various microbial flora, it is much helpful for slow growing bacteria (e.g. nitrifying bacteria). Residence time is prolonged, much helpful for decomposition and degradation of refractory macromolecular organics. With stronger shock resistance to changes of water quality and water quantity.

\*\*\* Small Sludge Amount; Low Sludge Disposal Costs.

High MLSS, only generate very a little excess sludge during system operation, low sludge disposal costs.



## Multi-medium Water Filter

Removing suspended solids smaller than 40 microns requires filters with either two or three layers of filtration medium. These are referred to as dual-medium filters or multi-medium filters.

Water filters are mainly used to reduce turbidity and to remove colloidal particles, micro-organism, suspended solid, organism, chlorine odor, heavy metal etc..

The most commonly used filtration medium is: quartz sand, anthracite, multi-porous ceramic, activated carbon, manganese sand, etc..

Water filter with single filtration medium is also much commonly used, according to the different filtration medium used in filters, the filter can be divided to:

- \*\*\* Quartz sand filter: Remove TSS
- \*\*\* Activated carbon filter: Remove Color and Odor
- \*\*\* Walnut shell filter: Oil Separation

.....



Raw water enters filter and is channeled to the filter top, and falls on a bed of filtration medium. Water get filtered from up to down under pressure while traveling across the filter bed.

Filtered water then exits through laterals at the bottom of filter and the trapped dirt on the filtration medium is removed via periodic backwashing and infrequent medium replacement.

Water filters are usually placed after biological treatment process as the tertiary treatment process to deep further purify the treated outlet water.

## RO Drinking Water Purification System

Reverse Osmosis(RO) is a deep water purification technology that uses a semipermeable membrane to remove ions, molecules, and larger particles from water. In reverse osmosis, an applied pressure is used to overcome osmotic pressure, a colligative property, that is driven by chemical potential differences of the solvent.

The result is that the solute is retained on the pressurized side of the membrane and the pure solvent is allowed to pass to the other side. To be "selective", this membrane should not allow large molecules or ions through the pores (holes), but should allow smaller components of the solution (such as solvent molecules) to pass freely.

Reverse osmosis can remove many types of dissolved and suspended species from water, including bacteria. RO drinking water purification system uses reverse osmosis membrane as the core to manufacture pure water, it is now widely used in:

- \*\*\* Sterile, pyrogen free water purification for pharmaceutical industry.
- \*\*\* Drinking water purification for food and beverage industry.
- \*\*\* Super pure water purification for chemical industry, power industry, precision machinery, special materials, optoelectronic materials, quartz products industry.



### Features:

- \*\*\* Compact in structure, small footprint.
- \*\*\* Proper layout and installation, nice in looking.
- \*\*\* Famous brand RO membrane, ensure long service life and stable operation.

## Belt Filter Press

Belt filter press is also called belt press or belt mud dehydrator, is widely used in both domestic and abroad market for its excellent performance and low investment & costs.

Our belt filter press embodies all the recognized principles of good belt filter press design. It is simple, reliable and easy to operate. The design has sufficient flexibility to accommodate nearly all types of sludges which are likely to be generated in a treatment facility. All components are rugged, heavy-duty industrial quality suited for continuous 24 hr./day, 7 day/wk. service.



Belt filter press is composed of the below 3 parts:

- \*\*\* Flocculation Tank
- \*\*\* Rotary Drum Screen
- \*\*\* Sludge Dewatering Rolling Squeezing Zone

The sludge is firstly pumped to the built-in flocculation tank, into which coagulant is also introduced. With the rotation of the agitator, the sludge will perfectly mix with coagulant and is coagulated in larger aggregates, then is sent to rotary drum screen to separate the free water.

The separated sludge will falls on the filter cloth/belt and access to Gravity Dewatering Zone to further separate free water. The separated free water will permeate through filter cloth/belt and is collected by a water collection tray.

The separated sludge then will enters into a 3-stage pressure dewatering zones -- pre-dewatering zone, low pressure dewatering zone and high pressure dewatering zone. Sludge is gradually dewatered under pressure and finally become to sludge cake.

### Application:

- \*\*\* Biological activated sludge dewatering for wastewater treatment plant.
- \*\*\* Solid-liquid separation and resource recovery: Dewater and recycle iron powder for steel plants; Solid-liquid separation from vinasse for wineries; Dewater and recycle stone powder for stone factories; Dewater coco pet.

### Features:

- \*\*\* Automatic, save labor.
- \*\*\* Small vibration and low noise.
- \*\*\* Excellent dewatering performance with very small footprint.
- \*\*\* Adaptable for nearly all types of sludges, high efficiency with large treatment capacity.
- \*\*\* Low electric consumption and low running costs.
- \*\*\* Automatic belt deviation-correction, safe and reliable.
- \*\*\* Include built-in flocculation tank, no need a separated one.
- \*\*\* Dewatering happens in several dewatering zones one by one, with high dewatering efficiency, dewatered sludge cake moisture content is low.
- \*\*\* Belt filter press can run continuously around the clock, and can automatically backwash, easy to operate and maintain.
- \*\*\* Famous brand parts with over 10 years experience in manufacturing of wastewater treatment equipment, ensure stable product quality and long service life.



## Chamber Filter Press

Chamber filter press is similar with but are different from plate-and-frame filter press. Many people mix up them and call chamber filter press as plate-and-frame filter press. While it is not important, the important is whether machine's performance can meet with your expectation.

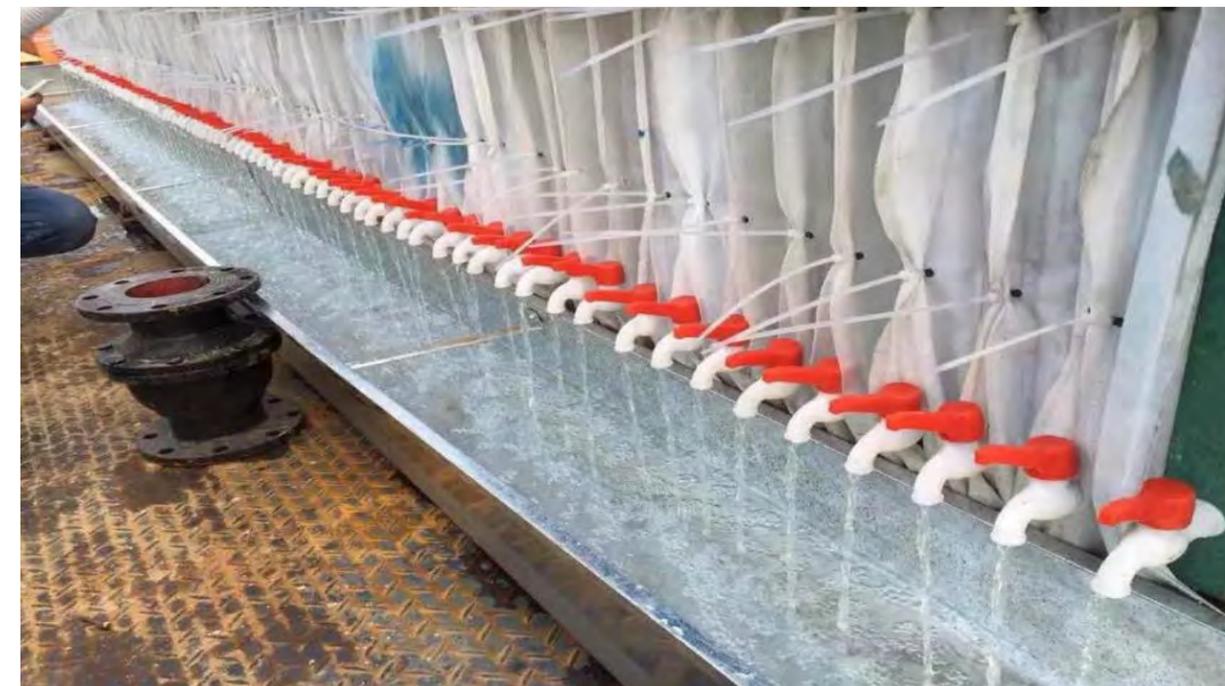
Chamber filter press suits for small-scale sludge dewatering application: It consists of many filtration plates which forms many separated chambers between each other; Each filtration plate is with two filtration cloths at the two sides.



The slurry is fed to filtration chambers and the sludge cakes are accumulated. As the sludge cake becomes thicker, the filter resistance increases as well. When the separation chambers are full, the filtration process is stopped as the optimum pressure difference is reached.



Filtrate that passes through filtration cloth is collected through collection pipe. After filtration process is finished, by pulling the filtration plates apart from each other, the sludge cake will fall down from those separation chambers and are then discharged to the final collection point.



# Screw Press

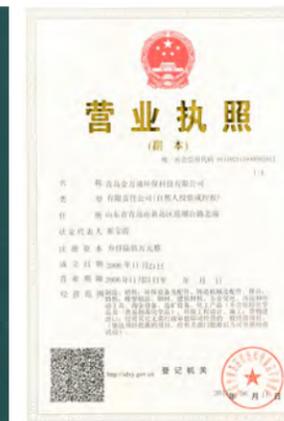
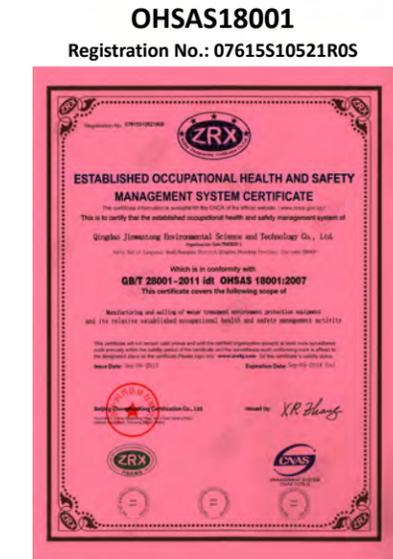
Screw Press is a high efficiency biosolids sludge dewatering machine which is now widely used in wastewater treatment for industries like petrochemical, paper-making, printing and dyeing, leather tanning, etc.

### Features:

- \*\*\* Full automatic, easy to operate, save labor.
- \*\*\* Heavy-duty industrial quality suited for continuous 24 hr./day, 7 day/wk. service.
- \*\*\* Large treat capacity with low dewatered sludge moisture.
- \*\*\* Material stainless steel, with longer service life, excellent anti-corrosion performance.
- \*\*\* Compact in structure, contains a built-in flocculation tank, small footprint.
- \*\*\* Self-cleaning, moving rings will clean screw press continuously during working.
- \*\*\* Especially suits for wastewater which contains oils.
- \*\*\* Low rotating speed, low electric consumption.
- \*\*\* Small vibration and low noise.
- \*\*\* Less spare parts(only the screw and moving rings), easy to maintain.



# Certificates of Manufacturer



### Business License

Registration No.: 91370211794030251J  
Registered Capital: CNY36,000,000.00 (Thirty-Six Million Chinese Yuan)



Patent No.: ZL201620972670.4



Patent No.: ZL201620972649.4



Patent No.: ZL201620972975.5