

#### JORSUN SHANGHAI JORSUN ENVIRONMENT CO.,LTD.

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## 01 **JORSUN** CORPORATE PROFILE

2004

Inception In Shanghai

5000 +

Global Project Application Cases

40

**Patents** 



**JORSUN** 

9001 certificate, CE certificate. With the concept of "professionalism and innovation ", Jorsun has made breakthroughs in the standardization and series technology of high-speed DAF, high-speed Lamella ® Clarifier and other

improves the quality of products and services in the process of cooperation with customers to enhance customer satisfaction. Jorsun has provided excellent product and service to famous water treatment contractor and end user across over 50 countries. Now we have thousands of successful cases.

With the goal of becoming a leading water separation technology company with a sense of safety and trust, after years of operation, Jorsun has gathered a team of energetic and motivated professionals to move forward without forgetting the original intention.

## 02

### **JORSUN**

### **CORPORATE CULTURE**



### QUALIFICATION CERTIFICATE



#### High-tech Enterprise Certificate



#### ISO Certification Certificate





#### **Trademark Registration Certificate**









#### Patent Certificate









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## 03 **JORSUN** MAJOR ACHIEVEMENTS



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**JORSUN** 

MANUFACTURING PROCESS







2 CNC Cutting



3 CNC Bending



4 Welding



5 Detection



6 Assembling



7 Factory Commissioning



8 Delivery

## 05 JORSUN

### **COOPERATION PROCESS**



Consultation 01



Manufacturing 04



Proposal



Delivery 05



Contract 03



On-site Service

06

JORSUN

## 06 **JORSUN OUR CLIENTS**



































建利國際集團



JANG

ZINGSEMI











**炒** 协鑫



























































#### **Dissolved Air Flotation**

About DAF High efficient horizontal roll-flow DAF 2013 version classic DAF High Efficiency Sedimentation DAF Super Roll Flow® DAF

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#### Lamella °Clarifier

Lamella®Clarifier Introduction NLST-Lamella®Clarifier 2013 version classic DAF

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#### **Supporting Equipment**

Automatic Polymer Preparation Device Chemical Dosing Device More Equipments

27~30

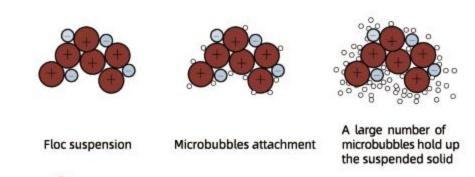


Central Drive sludge Scraper

31~32







Microbubbles

### **Application Fields**

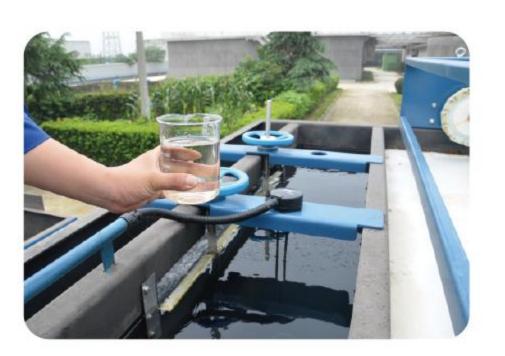
- Pretreatment or enhanced treatment for industrial wastewater
- Upgrading treatment of municipal wastewa-
- ter
- Restaurant and kitchen wastewater,landfill
- wastewater
- Slaughter and breeding wasetwater
   River and lake water purification and algae
   treatment
- Pretreatment for WTP, seawater desalination

#### About DAF

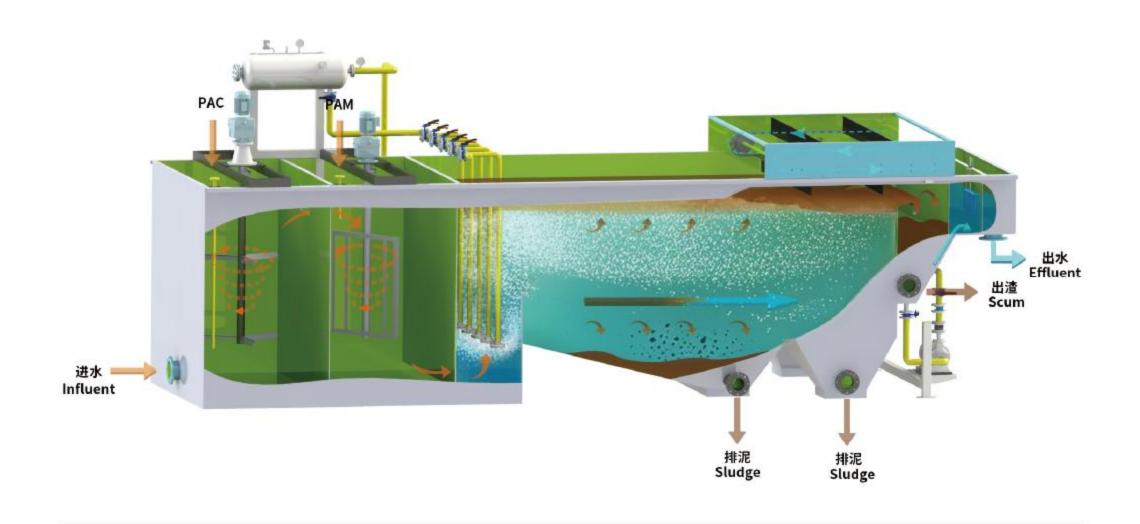
#### **Working Principle**

Air flotation is a process technology device to achieve solid-liquid separation or liquid-liquid separation. It is mainly used to separate and remove suspended solid, colloid, oil or grease, algae and other substances in water with density close to or smaller than water.

According to Henry's law, through the dissolving and releasing process of air flotation, the air flotation device can produce a huge amount of micro bubbles with particle size of 3~30µm in water. After water or wastewater is coagulated or flocculated, the suspended solid or colloid in water forms large flocs, and after entering the air flotation device, the large flocs fully mix and contact with the micro bubbles, and form a floating body with less density than water after adhering to the micro bubbles, which floats to the water surface and is skimmed off by the scraper to achieve solid-liquid separation and purification of water quality.



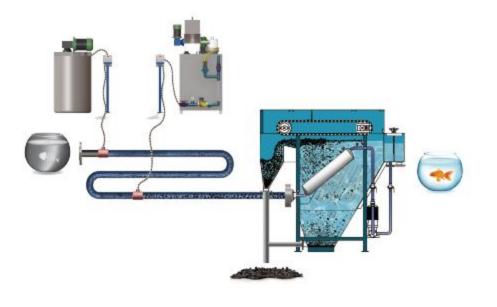
#### **DAF Process**



#### **DAF Effects**



#### **DAF System Process**



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High efficient horizontal roll-flow DAF

## RF-HDAF2 /RF-I-HDAF2

Application Fields •

- Industrial wastewater pretreatment
- High SS concentration (SS>300ppm) treatment

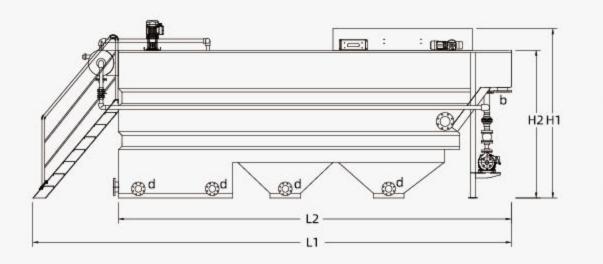
On the basic of JORSUN roll-flow DAF, we optimized the flow and water distribution in DAF ,enhanced the hydraulic loading rate, reduced footprint, then increase the single unit's capacity.

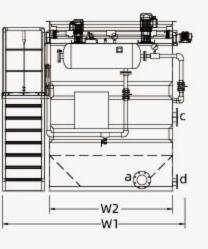
#### Features •

- Enhance hydraulic loading rate by 20%. Save installation footprint by 20%
- Single unit capacity increase to 300m3/h with pry installation design
- For wastewater with sedimentation phenomenon, sludge hopper design is optional

#### Key Technology •

- Steady-state laminar flow technology in the separation zone
- Isopotential synchronous water collection





Model	Capacity		d	Power (	kW)		Dimension (m)				Nozzle list (DN)			
RF-HDAF2/ RF-I-HDAF2	m³/h	Recycle pump	Air compressor	Skimmer	I-HDAF2 Fast mixer	I-HDAF2 Slow mixer	HDAF2 L <sub>1</sub> /L <sub>2</sub>	I-HDAF2 L <sub>1</sub> /L <sub>2</sub>	W <sub>1</sub> /W <sub>2</sub>	H <sub>1</sub> /H <sub>2</sub>	Inlet (a)	Outlet (b)	Sludge outlet (c)	Vent nozzle (d)
002	~ 2	0.75	0.55	0.2	0.37	0.25	3.5/2.5	4.0/3.0	2.4/1.2	2.2/1.7	50	50	80	80
005	~ 5	1.1	0.55	0.2	0.37	0.25	4.0/3.0	4.5/3.5	2.4/1.2	2.2/1.7	80	80	80	80
010	~ 10	4.0	0.55	0.12	0.37	0.25	4.3/3	4.8/3.5	2.9/1.7	2.7/2.2	100	100	100	100
020	~ 20	5.5	0.75	0.12	0.37	0.25	5.5/4.2	6.5/5.2	2.9/1.7	2.7/2.2	150	100	100	100
030	~ 30	5.5	0.75	0.12	0.37	0.25	5.6/4.2	6.6/5.2	3.2/2.2	2.9/2.4	150	150	150	100
040	~ 40	5.5	0.75	0.12	0.75	0.37	6.6/5.2	7.8/6.4	3.2/2.2	2.8/2.4	200	200	150	100
050	~ 50	7.5	0.75	0.12	0.75	0.37	7.6/6.2	9.1/7.7	3.2/2.2	2.8/2.4	200	200	150	100
060	~ 60	11	2.2	0.12	1.5	0.37	7.4/5.8	8.7/7.1	3.7/2.7	3.2/2.8	250	200	150	100
070	~ 070	11	2.2	0.12	1.5	0.37	8.8/7.2	10.3/8.7	3.7/2.7	3.2/2.8	300	250	150	100
080	~ 80	11	2.2	0.12	1.5	0.37	9.3/7.7	10.9/9.3	3.7/2.7	3.2/2.8	250	200	150	100
100	~ 100	11	2.2	0.12	1.5	0.37	8.7/7.1	10.4/8.8	4.4/3.4	3.2/2.8	300	250	150	100
120	~ 120	15	2.2	0.12	1.5	0.37	9.2/7.6	11/9.4	4.6/3.6	3.2/2.8	300	250	150	100
150	~ 150	18.5	3.0	0.12	1.5	0.37	10.7/9.1	12.9/11.3	4.6/3.6	3.2/2.8	300	300	150	100
080D	~ 80	11	2.2	0.24			10.3		4.4/3.4	2.7/2.3	250	200	150	100
100D	~ 100	11	2.2	0.24			11.6		4.4/3.4	2.7/2.3	300	250	150	100
200D	~ 200	22	3.0	0.24			13.3		4.4/3.4	2.7/2.3	350	300	150	100
250D	~ 250	22	3.0	0.24			15.5		4.5/3.6	2.7/2.3	400	350	150	100
300D	~ 300	30	3.7	0.24			17.9		4.4/3.4	2.7/2.3	450	350	150	100

### 2013 version classic DAF

Standard &Integrated DAF

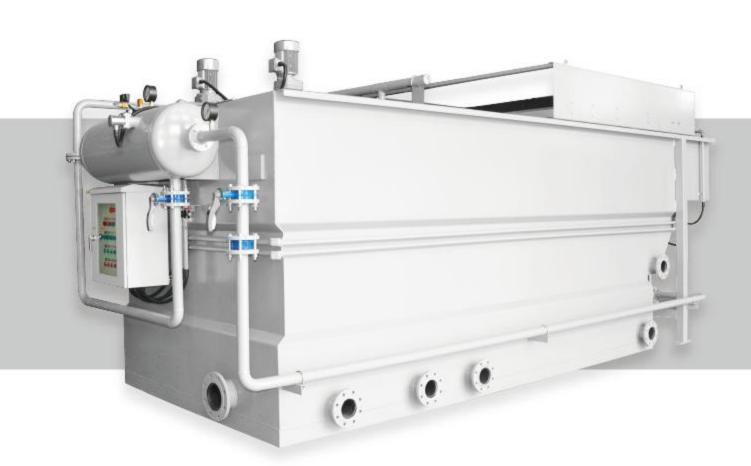
### DAF&IDAF

This DAF (Dissolved Air Flotation) device is a typical dissolved air flotation model with high market retention, wide range of applications, high resistance to solid load, and excellant operational stability. It is mainly used in the industrial wastewater pretreatment stage and has better performance when used after sedimentation processes. It is also widely used in river and lake water purification treatment.



### DAF2&IDAF2

This DAF (Dissolved Air Flotation) device is an upgraded version of the standard DAF device which can better adapt to adverse conditions such as complicated water quality, high concentrations of suspended solids, and easy sedimentation of flocs during the flotation process. It has stronger tolerance to water quality and can withstand higher solid loads. It is widely used in industrial wastewater pretreatment and high-suspended solids water treatment processes.











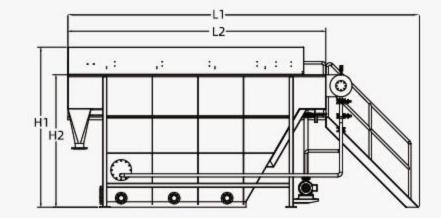
## SDAF

**High Efficiency Sedimentation DAF** 

SDAF is a dissolved air flotation product developed based on air flotation separation process. It has high resistance to suspended solids concentration and solid load.

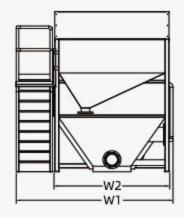
#### Features •

- Inclined plates in separation zone, it not only provides more effective separation area but also optimizes the flow distribution.
- Suitable for high concentration solid (suspended solids, oil and colloidal substance) content (the highest concentration of 10000 mg/L) waste water.
- Maximum hydraulic load at 12m/h and with better outlet water quality.
- Lower chemical consumption.
- No dead angle in scum collection area, no deposit.



#### Key Technology ●

- Micro bubbles generation technique
- Surface capture technology
- Counter flow box type skimming techique
- Horizontal flow technology in separation zone
- Scum recirculation and flocculation technology



Model	Capacity		Power (	kW)		D	imension (m	)	No	zzle list (I	DN)
SDAF	m³/h	Recycle pump	Air compressor	Skimmer	Sludge scraper	L <sub>1</sub> /L <sub>2</sub>	W₁/Wౖ	H <sub>1</sub> /H <sub>2</sub>	inlet (a)	Outlet (b)	Sludge outlet (c)
003	~3	0.75	0.55	0.12	1	3.4/2.2	2.4/1.7	2.4/1.9	80	80	100
005	~ 5	1.1	0.55	0.12	1	3.8/2.5	2.4/1.7	2.5/2.1	80	80	100
010	~ 10	1.1	0.55	0.12	1	5.1/3.8	2.4/1.7	3.0/2.4	100	100	100
020	~ 20	3.0/5.5	0.75	0.12	/	5.4/4.1	2.9/2.2	3.0/2.4	150	150	150
030	~ 30	3.0/5.5	0.75	0.12	1	5.5/4.2	3.2/2.5	3.2/2.6	150	150	150
040	~ 40	4.0/5.5	0.75	0.12	/	6.5/5.2	3.2/2.5	3.2/2.6	200	200	150
050	~ 50	7.5	1.5	0.12	1.5	7.2/5.9	3.2/2.5	3.2/2.6	200	200	150
060	~ 60	7.5	1.5	0.12	1.5	7.6/6.7	2.7/3.3	3.3/2.7	250	250	150
080	~ 80	11	1.5	0.12	1.5*2	9.4/8.5	3.6/2.4	3.3/2.7	250	250	150
100	~ 100	15	2.2	0.12	1.5*2	10.0/8.8	3.7/3.0	3.3/2.7	300	250	150
120	~ 120	15	2.2	0.12	1.5*2	10.9/9.7	3.7/3.0	3.3/2.7	300	300	150
150	~ 150	18.5	2.2	0.12	1.5*2	13.5/12.2	3.7/3.0	3.3/2.7	350	300	150

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## Super Roll Flow® DAF RF-DAF

#### Applied fields 💌

- Upgrading treatment of municipal wastewater
- River and lake water purification and algae treatment
- Pretreatment for WTP, seawater desalination
- Other application with big flowrate, low SS concentration

High speed roll-flow DAF- Roll Flow® DAF is a new generation DAF equipment developed by JORSUN with patent obtained.

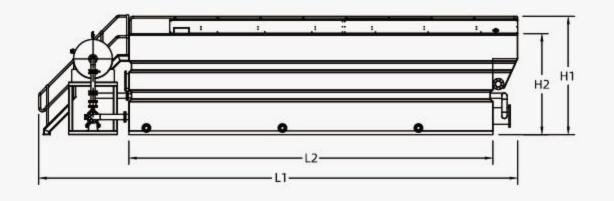
It's a high speed and efficient DAF with the character of big capacity and high hydraulic loading rate.

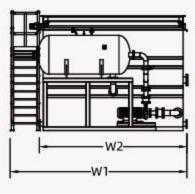
#### Features •

- High load, surface load at 15~52m/h.
- Large water volume, single unit processing capacity can reach 5×10 <sup>4</sup>m <sup>3</sup>/d.
- Low energy consumption with more than 50% saving .
- Save land occupation, reduce land occupation by 40~70%.
- Excellant water quality with effluent SS at less than 5mg/L, phosphorus at less than 0.1mg/L.
- Skid-mounted or civil construction are both available.

#### Key Technology ●

- Steady-state laminar flow technology in the separation zone
- Small resistance linear water distribution, isopotential synchronous water collection
- Dispersed dissolved air water distribution technique
- Equal load parallel separation technique
- Strong injection and wrapping high-speed dissolved air technique
- Full coverage skimmer technique







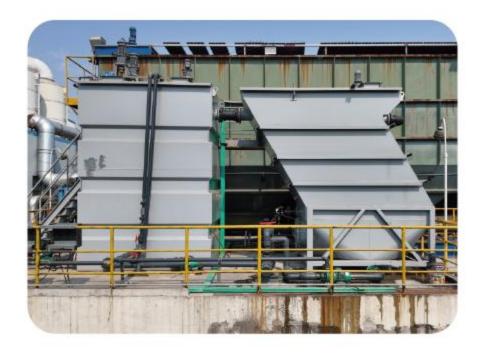
**JORSUN** 

Model	Capacity	1	Power (kW	)	Di	Nozzle list (DN)					
RF-DAF	m³/d	Recycle pump	Air compressor	Skimmer	L <sub>1</sub> /L <sub>2</sub>	W <sub>1</sub> /W <sub>2</sub>	H <sub>1</sub> /H <sub>2</sub>	Inlet (a)	Outlet (b)	Sludge outlet (c)	Vent nozzle (d)
200	5000	11	2.2	0.12	8.0/6.0	3.8/3.0	2.9/2.6	350	300	150	100
400	10000	18.5	2.2	0.12	10.9/8.6	4.6/3.8	3.1/2.8	500	400	150	100
600	15000	22	3.0	0.24	13.5/11.2	4.8/4.0	3.1/2.8	600	500	150	100
800	20000	30	3.0	0.24	16.8/14.5	4.8/4.0	3.1/2.8	650	600	150	100
1000	24000	37	3.0	0.24	18.9/16.6	4.8/4.0	3.1/2.8	700	600	150	100

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## JORSUN Lamella ®Clarifier

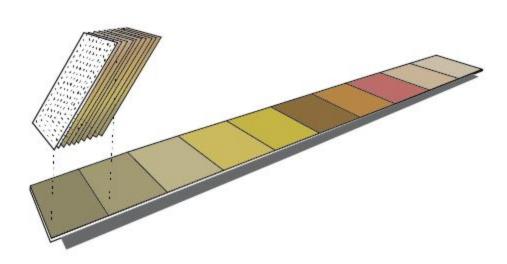
#### About Lamella ®Clarifier



#### **Working Principle**

Lamella clarifier is an applied technology developed based on the shallow pool principle proposed by Hazen. That is, by setting a number of parallel inclined thin plates in the pool, a multiple effective precipitation area and excellent hydraulic flow pattern are obtained. Since there is positive correlation between precipitation capacity and effective precipitation area, the precipitation treatment efficiency can be increased by multiples.

The effective precipitation area of lamella clarifier is the accumulation of the projection area of the inclined plates (as shown in the schematic diagram below).





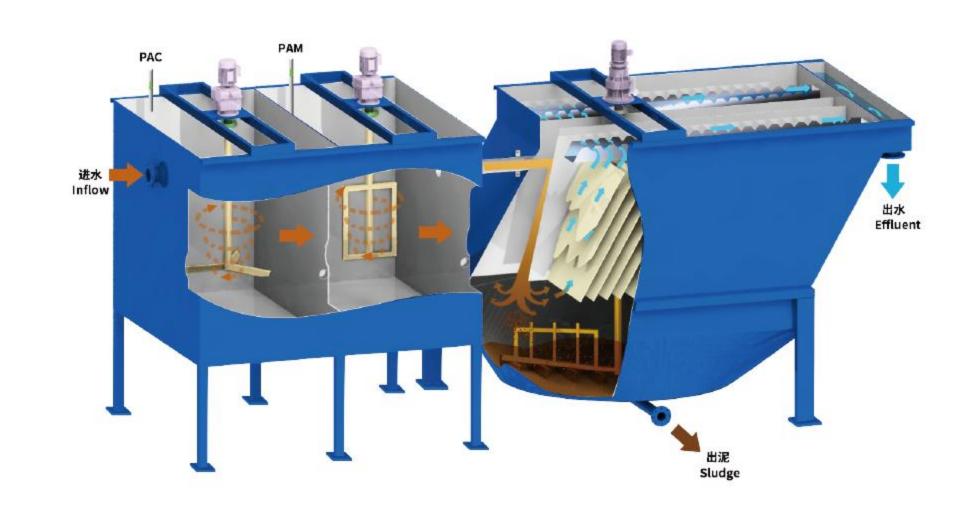
#### **Application Fields**

- Chemical precipitation of industrial wastewater.
- Mining, cutting and grinding wastewater purification.
- River, lake water purification.
- Chemical sedimentaion- replace the tradinational secondary clarifier.
- Replace other sedimentation tank.

#### **Construction Forms**

Skid-mounted/civil structure/container transportation

#### Lamella Clarifier Separation Mechanism



#### **Precipitation Effects**



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## Lamella Clarifier NLST

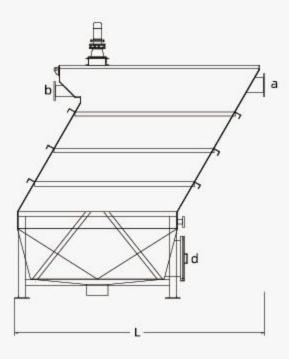
#### Applied fields ●

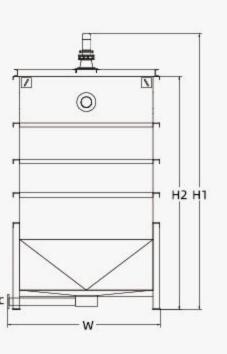
- Chemical precipitation of industrial wastewater.
- Mining, cutting and grinding wastewater purification.
- River,lake water purification.
- Chemical sedimentaion- replace the tradinational secondary clarifier.
- Replace other sedimentation tank.

In 2005, the first lamella clarifier Jorsun designed was applied in semiconductor wastewater. Jorsun keeps improving the design ,and promote lamella clarifier application in more and more industries. Up to now, we have 1000+ successful lamella clarifier applications, and now anual growth is over 100, and product has upgraded for 3 generations.

#### Features •

- Higher surface laoding rate.
   Plates length increased to 2~3m .Plates filling rate increased by 11~25%. Surface loading rate is 6-10 times higher than horizontal/radial sedimentation tank.
- Smaller occupied area. Footprint is 15-30% of horizontal/radial sedimentation tank.
- Avoid shor current and dead corner.
   Water is equally distirbuted to lamella plates by precisily positioning plates space, equally linear water distribution and synchronous water collection process.
- Non-clogging plates. Plates have larger spacing distanceis and equiped with backwash device.
- Smooth in discharging sludge, no sludge dead corners and equipped with sludge scraper.
- Sturdy and durable plates which is made of high strength and corrosion-resistant materials.



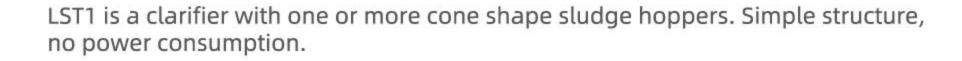


	Capacity (referrence)	D	imension (	m)	Sludge scraper	Nozzle list (DN) GB/JIS/ANSL				
Model	m³/h	L	W	H <sub>1</sub> /H <sub>2</sub>	kw	Inlet (a)	Outlet (b)	Sludge outlet (c)	Backwash (d)	
NLST-005	5~7	2.2	1.7	3.2/2.4	0.25	80	50	50	50	
NLST-010	10~11	2.9	1.7	3.2/2.4	0.25	100	80	50	50	
NLST-020	15~21	2.8	2.2	3.8/3.0	0.25	100	80	80	50	
NLST-030	20~30	3.5	2.2	3.8/3.0	0.25	150	150	100	50	
NLST-040	35~43	3.9	2.2	4.3/3.5	0.25	200	150	100	50	
NLST-050	40~52	3.8	2.8	4.3/3.5	0.25	200	200	100	50	
NLST-070	55~72	4.4	2.8	4.3/3.5	0.25	250	250	100	50	
NLST-080	65~82	4.2	3.3	4.3/3.5	0.25	250	250	100	50	
NLST-100	80~105	4.9	3.3	4.3/3.5	0.25	250	250	100	50	
NLST-090D	70~95	6.6	2.2	4.3/3.5	0.25*2	250	250	100	50	
NLST-150D	120~150	7.7	2.8	4.4/3.6	0.25*2	300	300	100	50	
NLST-200D	180~215	8.5	3.3	4.4/3.6	0.25*2	350	350	100	50	

## 2013 version classic LST

Lamella Clarifier

LST1

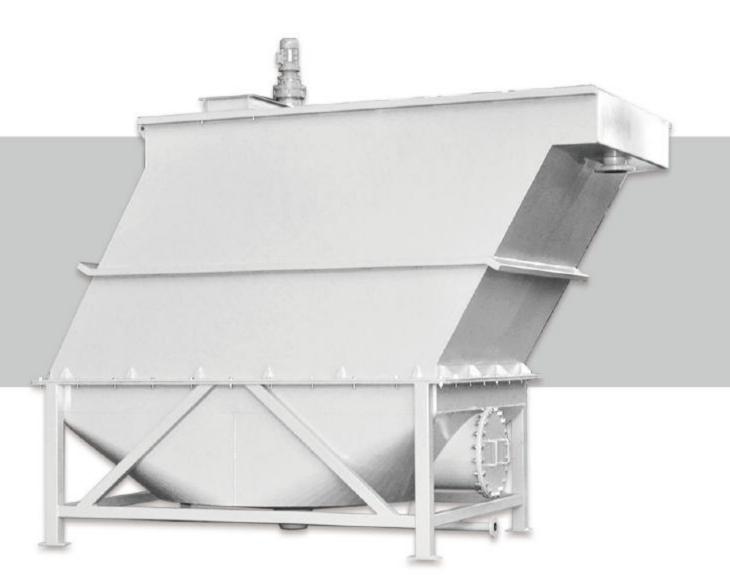


### Lamella Clarifier LST2

LST2 is a sedimentation tank with a mud bucket and scraper. It has one or more mud buckets with scrapers. It has significant advantages in the complete set of large sedimentation tanks. Advantages includes large mud bucket volume, no dead corners for sludge discharge.









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## JORSUN Supporting Equipment



PL3
Automatic Polymer Preparation Device

An integrated equipment that prepares PAM solution automatically. It could be applied for PAM preparation and dosage. The powder will be dissolved, diluted, aged and dosed automatically. No manual operation required in the whole process. Normally concentration of PAM solution is just 0.05%~0.15%.

#### Features •

- Automatic and continuous operation.
- Small footprint and great capacity.
- Variable solution concentration.

Model	Capacity	Volume	Time	Power	(kW)	Dimension (m)			Nozzle list (DN)			
PL3	L/h	L	min	给料机	ван	L	W/W1	H/H1	Inlet (a)	Outlet (b)	Ventnozzle (c)	
500	~500	700	50	0.18	0.2x3	1.65	1.04/0.65	1.04/0.65	DN25	DN32	DN32	
1000	~1000	1200	50	0.18	0.4x3	1.86	1.25/0.86	1.25/0.86	DN25	DN32	DN32	
1500	~1500	1800	50	0.18	0.4x3	2.10	1.30/1.00	1.30/1.00	DN25	DN32	DN32	
2000	~2000	2600	50	0.18	0.4x3	2.40	1.50/1.10	1.50/1.10	DN25	DN32	DN32	
3000	~3000	3800	50	0.18	0.4x3	3.20	1.60/1.20	1.60/1.20	DN25	DN40	DN40	
4000	~4000	5000	50	0.18	0.75x3	3.60	1.60/1.20	1.60/1.20	DN32	DN40	DN40	
5000	~5000	6000	50	0.18	0.75x3	4.00	1.80/1.30	1.80/1.30	DN32	DN40	DN40	



SJY&DJY
Chemical Dosing Device

A chemical dosing system that combines chemical dissolving, dilution and storage. Quantitative amount of water and chemical are added into device, dissolved and diluted into certain concentration solution by mixer. It has two types: SJY-single tank type, and DJY-double tanks for continuous operation.

#### Features •

Suitable for PAC, acid, alkali and other chemicals.

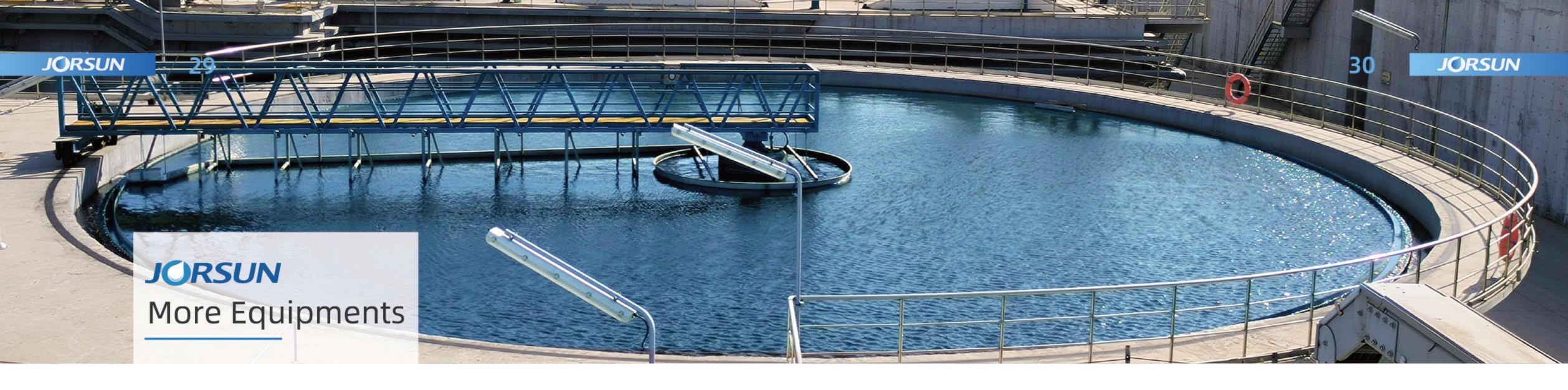
Simple structure, easy operation.

DJY type can achieve continuous dosing operation.

SJY	L/batch	L	min	kW	L	W1/W	H/H1	Inlet (a)	Outlet (b)	Ventnozzi (c)
200	~200	200	set up	0.4	0.60	0.66/0.96	1.37/1.05	DN25	DN25	DN25
500	~500	500	set up	0.4	0.89	0.89/1.35	1.65/1.34	DN25	DN25	DN25
1000	~1000	1000	set up	0.4	1.10	1.10/1.60	1.98/1.63	DN25	DN25	DN25
1500	~1500	1500	set up	0.4	1.42	1.42/1.92	1.98/1.63	DN25	DN25	DN25
2000	~2000	2000	set up	0.75	1.46	1.46/2.06	2.17/1.84	DN25	DN25	DN25
DJY	L/batch	L	min	kW	L	W1/W	н/н1	Inlet (a)	Outlet (b)	Ventnozz (c)
500	~500	1000	set up	0.4	1.75	1.60/0.91	2.96/2.65	DN25	DN25	DN25
1000	~1000	2000	set up	0.4	2.20	1.90/1.14	3.60/3.24	DN25	DN25	DN25
1500	~1500	3000	set up	0.4	2.78	2.15/1.46	3.60/3.24	DN25	DN25	DN25
2000	~2000	4000	set up	0.75	2.86	2.15/1.46	3.95/3.42	DN25	DN25	DN25

4000 ~4000 8000 set up 0.75 3.98 3.30/2.62 2.38/2.05 DN40 DN40

5000 ~5000 10000 set up 0.75 4.16 2.89/2.20 3.46/2.51 DN40



# MFR Mechanical Chemical Reaction

MFR device is a common chemical reaction device for Dissolved Air Flotation and Lamella Clarifier. Normally it is made of one fast reaction chamber and one slow reaction chamber and can be customized to single tank, double tanks and multi tanks.

#### Features:

- Clear reaction process.
- Sufficient reaction time.
- Adjustable stirring intensity.

#### **PFR** Pipe Flocculator



PFR is hydraulic mixing device providing reaction kinetic energy by hydraulic head pressure, changing the Gvalue and the reaction time by transforming pipe diameter and

#### Features:

- Energy saving, area saving.
- Durable, low maintenance cost.
- Carried out in the closed pipeline, clean and sanitary.

#### **HS** Static Screen



Static screen is a pretreatment equipment in industrial wastewater with a mesh of between 0.5 and 1 mm. Its function is to eliminate the thick waste in the paper, textile , tanning, laundry, canning and milk industries, abattoirs, and etc. The static screen offers an economic solution in the continuous solid-liquid separation process with almost no maintenance requirements and no power consumption.

#### Features:

- Optimal selection of solid-liquid separation for wastewater pretreatment.
- Stainless steel material, strong and durable.
- Cost- effective, maintenance free, no power consumption required.

#### JDRS Rotary drum screen



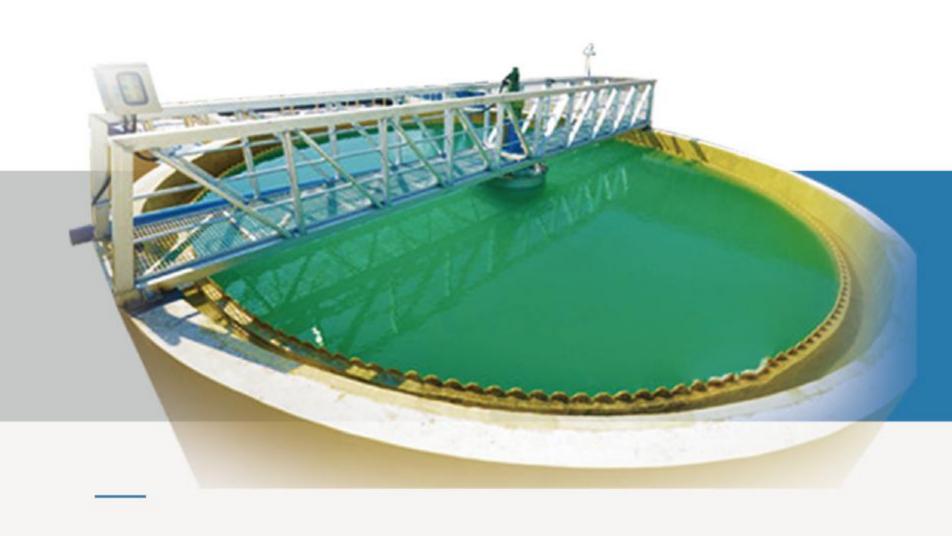
The rotary drum screen is an effective fine filter for continuously screening solid suspended matter in water. Mainly used in sewage pre-treatment or industrial screening processes, it can efficiently removes suspended solid particles or fibrous impurities from water.

#### Features:

- The whole machine is skid-mounted for easy installation.
- Easy to maintain.
- Intelligent control, energy-saving and efficient.

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## JORSUN Sludge Scraper



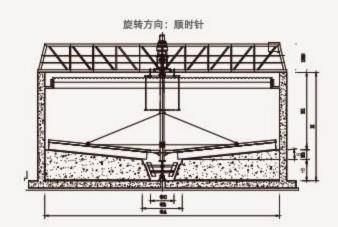
Central Drive sludge Scraper

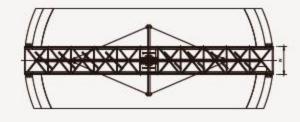
## ZXG/ZXN

Central drive sludge scraper is applied for small and medium sized clarifier with central inlet, sur-rounding outlet and central sludge discharge. It is mainly used for sludge discharge of clarifiers especially for industrial wastewater and urban sewage treatment projects.

#### Features •

- Working bridge can be steel structure or concerete type.
- Simple installation & maintenance and low operating cost.
- High Energy-efficient drives with over torque protection device, or it can be equipped with torsiometer as needed.
- Material options: carbon steel with coating (epoxy,-FRP or rubber), stainless steel (sus304 or sus316L).
- Optional units: rake unit, skimming device, v type outlet weir.





Model	Diameter	HDepth	Peripheral line	Rotation (rpm)	Bottom slope	Driving	Guide tube	Standard	Gear reducer model
ZXG/ ZXN	(m)	(m)	m/min	r/min	%	(kW)	(m)	N.m	
4	4	2.8 ~ 4.0	2.4	0.19				600	
6	6	2.8 ~ 4.0	2.2	0.11		0.25	0.8	1500	Direct
8	8	3.0 ~ 4.0	1.8	0.07			1.1	2640	
10	10	3.0 ~ 4.0	1.6	0.05			1.4	4000	
12	12	3.0 ~ 4.0	1.7	0.04	0.5~1.0		1.7	5750	
14	14	3.0 ~ 4.0	1.6	0.04			1.9	7900	
16	16	3.0 ~ 4.0	1.7	0.03			2.2	10300	
18	18	3.0 ~ 4.0	1.7	0.03		0.75	2.5	13000	
20	20	3.0 ~ 4.0	1.7	0.03			2.8	16200	