Dissolved Air Flotation Catalogue

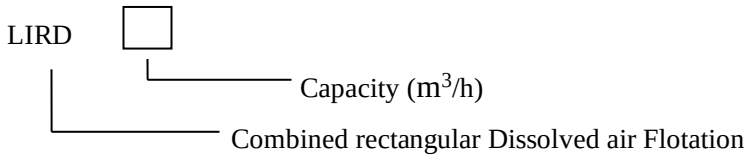
Type 1 Most Applied Rectangular DAF

1. Applicant

It is mainly used for the separation and removal of fine suspended particles with a specific gravity of nearly 1.0. Airflow method (DAF) is a water purifier by making impurity particles adhering on a large number of fine bubbles to form their overall density of <1 state, so the bubble will take the impurities suspend solid rise on the surface to realize solid and liquid separation.

The main design parameters of the DAF process includes residence time, flocculation time, surface loading rate, reflux ratio, dissolved air pressure etc. The hydraulic retention time of the flotation tank is about 5 ~ 35 min with the surface loading rate as 2.5 ~ 8m / (m.h). Optimizing the dissolved air pressure and the reflux ratio can effectively reduce the operation and maintenance costs of the water plant. In addition, due to the short stay time, the cost of floating pond infrastructure costs less than that of sedimentation tank but can get better treatment results.

2. Model Selection



3. Feature

1. Covers small place with energy-saving, easy operation and simple management functions.

2. High efficiency of dissolved air with stable treatment effect by integration control of machine, electricity, instrument t.

4. Structure and Working Principle

LIRD-type DAF is composed of floating pool body, dissolved air system, dissolved air return pipeline, dissolved air water release device, skimmer (can be optional for combination style , Driving style or Chain plate style as per requirement)according to user needs can be combined, driving and chain plate) and electric control cabinet And other components.

DAF mainly help with solid-liquid separation (meantime also reducing COD, BOD, color, etc.). In the raw water by adding flocculant PAC or PAM, after effective flocculation reaction (time, dosage and flocculation effect to

be determined by the experiment), the raw water then enters into DAF's contact area. In the contact area, the micro-bubbles in the dissolved water and the flocs in the raw water are bonded to each other to enter the separation zone. Under the action of the buoyancy of the bubbles, the flocs rise to the liquid level with the bubbles to form scum. The scum is scraped to the sludge area via skimmer. The lower fresh water flows through the sump to the clear water tank. Part of the water will reflux for the use of dissolved air system, the other part is discharged.

The return of water goes through the jet suction device which will make the air maximized dissolving into the water to form dissolved air water which will quickly release the pressure through the air tank in the DAF contact area .then it will generate a diameter of 3030um~50um micro-bubbles whose main function is to adhere the flocs in the raw water

5. Structure and Working Principle

Model	Capacity （m3/h）	air Volume （m^3/h）	Pump (kw）	Compressor （kw）	Skimmer （kw）	Run Weight (kg)
LIRD-1	0.5～1	0.3～0.5	0.55	0.55	0.18	1800
LIRD-2	1.5～2	0.6～1	0.75	0.55	0.18	2100
LIRD-3	2～3	1～1.5	0.75	0.75	0.37	3600
LIRD-5	3～5	1.5～2	1.1	0.75	0.37	4400
LIRD-10	5～10	2～3	1.5	0.75	0.37	9400
LIRD-15	11～15	3～5	2.2	0.75	0.37	12400
LIRD-20	16～20	5～7	2.2	0.75	0.37	15000
LIRD-25	21～25	6～8	3	0.75	0.37	18000
LIRD-30	26～30	8～10	3	0.75	0.37	21000
LIRD-40	31～40	10～15	5.5	0.75	0.37	27000
LIRD-50	41～50	15～18	7.5	1.5	0.37	33000
LIRD-60	51～60	18～20	7.5	1.5	0.55	40000
LIRD-70	61～70	20～25	11	1.5	0.55	45000

LIRD-80	71～80	25～30	11	1.5	0.55	52000
LIRD-100	91～100	30～35	15	2.2	0.55	68000
LIRD-120	101～120	35～45	15	2.2	0.55	76000
LIRD-150	121～150	45～55	15	2.2	0.75	85000

The above data only for reference, please subject to our final confirmation

Type 2 Super Efficiency Radical Kroft DAF Clarifier

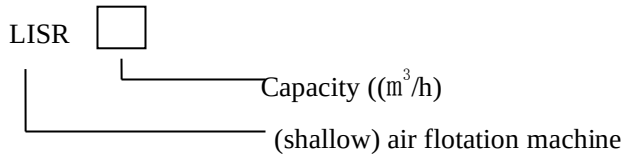
1 Applicant

In the water supply and drainage treatment process, Dissolved air flotation (DAF)is the most effective method for removing the suspended matter close to the water density.

it is widely applied in water supply and drainage works below:

1. To remove algae or reduce turbidity in waterworks-based lake water as its water sources.
2. Such industrial waste water treatment projects as petrochemical, textile, printing and dyeing, electroplating, tanning, food industry etc
3. Recovery of useful substances from waste water like fiber in paper making

2. Model Instruction



3. Feature

1. Effective water depth: between 400mm and 750 mm.

2. Hydraulic retention in the tank: (3 ~ 5 min).

3. Large treated capacity with high surface load .

4. Small footprint, light unit load, all prefabricated components assembled, no operation room, Flexible for both overhead and multi-layer assembly.

5. Low-cost for installation and maintenance, easy to clean.

6. High degree of purification, algae and other suspended solids removal rate Over 90%, concentrated sludge concentration can reach 3-5%.

7. The device uses special clever structure of air dispenser with , over 90% dissolved air under only one-fifth of other dissolved air dispenser as well as with unique superb anti-jamming ability compared to

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other similar products

4. Structure and Operation Instruction

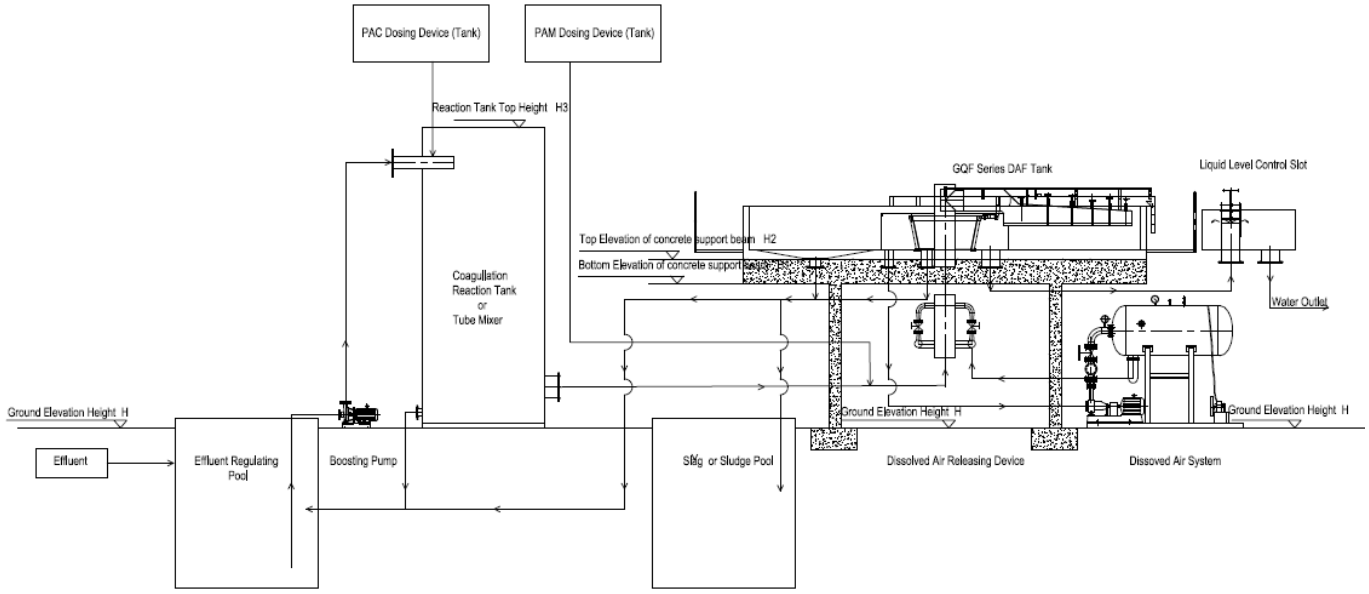
It is an compact cylindrical shallow pool which Includes the pool body, rotating water distribution mechanism, dissolved air release mechanism, rotating rack, water collection mechanism, skimming mechanism, dissolved air system, back flow water pipes and electric control cabinet etc. Its water inlet and outlet as well as sludge outlet pot are all configured in the rotating area of the equipment. The water distribution and collecting mechanism, the dissolved air release mechanism are closely connected together by rotating around the center pool rack . We provide the whole complete sets of equipment assembly and control system by setting both centralized and decentralized control to achieve the best operation characteristics.

Our superb DAF water purification technology can make the air maximize melting into the water to strive to be in a saturated state under some pressure , and then the formation of pressure dissolved water will release via pressure-reduce valve to generate abundant fine micro bubbles which will absorb floating flocculation solid in the water , the suspend solid will then float on the surface together with the bubbles to form scum which will be scrapped by skimming mechanism thus to purify the water.

I developed the ultra-efficient shallow air flotation device, is an advanced rapid air float system, in the traditional theory of air flotation, but also the successful use of the "shallow theory" and "zero speed" principle, through careful design , Set flocculation, flotation, skimming, sedimentation, scraper as a whole, is a water purification treatment of efficient equipment.

Our developed new superb efficiency shallow DAF system is an advanced quick-speed flotation system with all flocculation , flotation, skimming , mud scrapping together under successful use of the "shallow theory" and the "principle of zero speed" to gain high efficiency.

4. Craft Flow Diagram



5. Main Technique Parameter

Model	Pool DN (m)	Flow Volume (m^3/h)	Drive Power (kw)	Skimmer Power (kw)	Run Load (t)	Water Pump power (kw)	Reaction Diameter	
							Reaction Tank Size φD x H(m)	Pipe Mixer DN（mm）
LIRD40	φ3	30-40	1.5	1.1	15	5.5	φ2.1x2.9	200
LIRD60	φ4	50-60	1.5	1.1	17	7.5	φ2.1x2.9	250
LIRD80	φ5	70-80	1.5	1.1	21	11	φ2.1x2.9	300
LIRD120	φ6	100-120	2.2	1.1	28	15	φ2.1x2.9	300
LIRD150	φ7	150	2.2	1.1	37	22	φ2.4x3.0	300
LIRD200	φ8	200	2.2	1.5	42	22	φ2.4x4.0	400
LIRD250	φ9	250	2.2	1.5	46	22	φ2.4x4.9	400
LIRD300	φ10	300	3	1.5	57	30	φ2.4x5.5	450
LIRD400	φ11	400	3	1.5	68	37	2-φ2.4x4.0	500
LIRD500	φ12	500	3	2.2	81	45	2-φ2.4x4.9	600
LIRD600	φ13	600	3	2.2	93	45	2-φ2.4x5.5	600

LIRD700	φ14	700	3	2.2	99	55	2-φ2.4x5.5	700

Remark: The back-flow ratio R=30%，Hydraulic surface load：q=6～8m3/m2.h, all subject to our final confirmation

Type 3 Cavitation Air Flotation Machine

1. Brief

LICAF is specifically designed system for removal of greases, jelly and suspended solids (SS) in industrial or municipal wastewater.

2. Model Selection

LICAF □

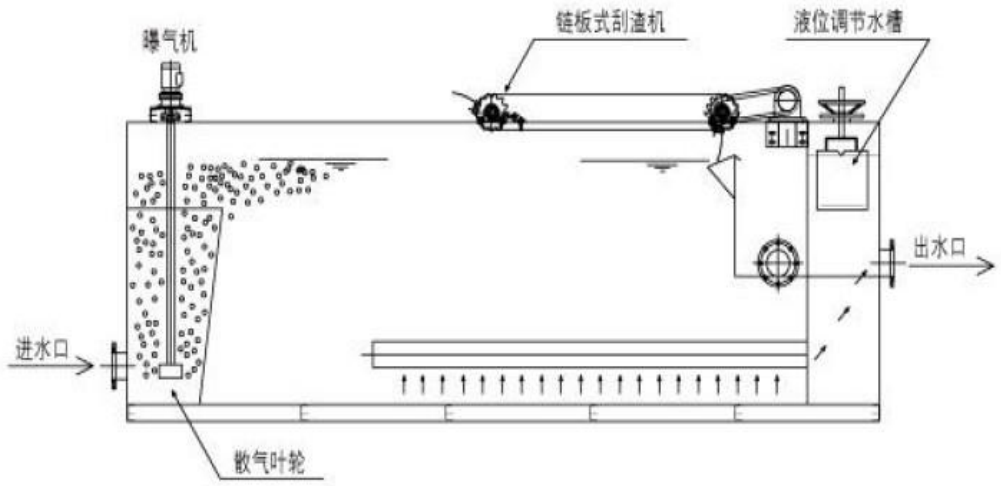
└ Capacity (m3/h)

└ Rectangular Vortex Dissolved Air Flotation Machine

3. Feature

Vortex DAF is an excellent creatively-designed sewage treatment technology equipment with easy operation, economical operating by way of directly removing solid suspended grain from the waste water through the microbubbles generated by aerator whose impellers will distribute all the generated microbubbles in the water averagely instead of pre-air water dissolution by dissolved air flotation tank, air compressor and circulation pumps.so the entire operation process will not occur blocking phenomenon.

4. Working Principle Diagram



涡凹气浮工作原理图

5. Main Parameter

Model	Capacity （m3/h）	Pool L （m）	Pool W (m)	Pool H (m)	Aerator (kw)	Skimmer（kw）
LICAF-3	3	2.2	1	1.3	1.5	0.37
LICAF-5	5	2.5	1	1.3	1.5	0.37
LICAF-10	10	3	1.2	1.3	2.2	0.37
LICAF-15	15	4	1.2	1.3	2.2	0.37
LICAF-20	20	5	1.2	1.3	2.2	0.37
LICAF-30	30	5	1.6	1.8	2.2	0.37
LICAF-40	40	6	1.6	1.8	3	0.37
LICAF-50	50	6	1.6	1.8	3	0.37
LICAF-70	70	7	2.2	1.8	3	0.55
LICAF-80	80	7.5	2.4	1.8	4.4	0.55
LICAF-100	100	8	2.4	1.8	6	0.55
LICAF-150	150	12	2.4	1.8	6	0.55
LICAF-200	200	15	3	1.8	9	0.55
LICAF-300	300	15	3.2	1.8	12	0.55

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Remark: The back-flow ratio R=30%，Hydraulic surface load：q=6～8m3/m2.h, all subject to our final confirmation

Type 4 Experimental DAF

1.Brief

This device is our special developed high-efficiency pilot dissolved air flotation system as per various market demand based on many-year on-site operating experience

The whole system can be used for small water treatment and large-scale water plant on-site pilot. It is very suitable for the design and final plan determination of overall sewage solution for designing institute and engineering companies.

2. Model

EDAF----1

- Capacity 0.3-1(m^3/h)
- Pilot Dissolved Air Flotation (Experimental DAF)

Main Technical Parameter

Model	EDAF-1	Compressor	0.55kw
Capacity	0.5-1.0m^3/h	Water Pump	0.55kw
Back-flow Ratio	30%-100%	Scrapper	0.18kw
Air Water Volume	0.3-1 m^3/h	Tank Body	1400*550*1080mm

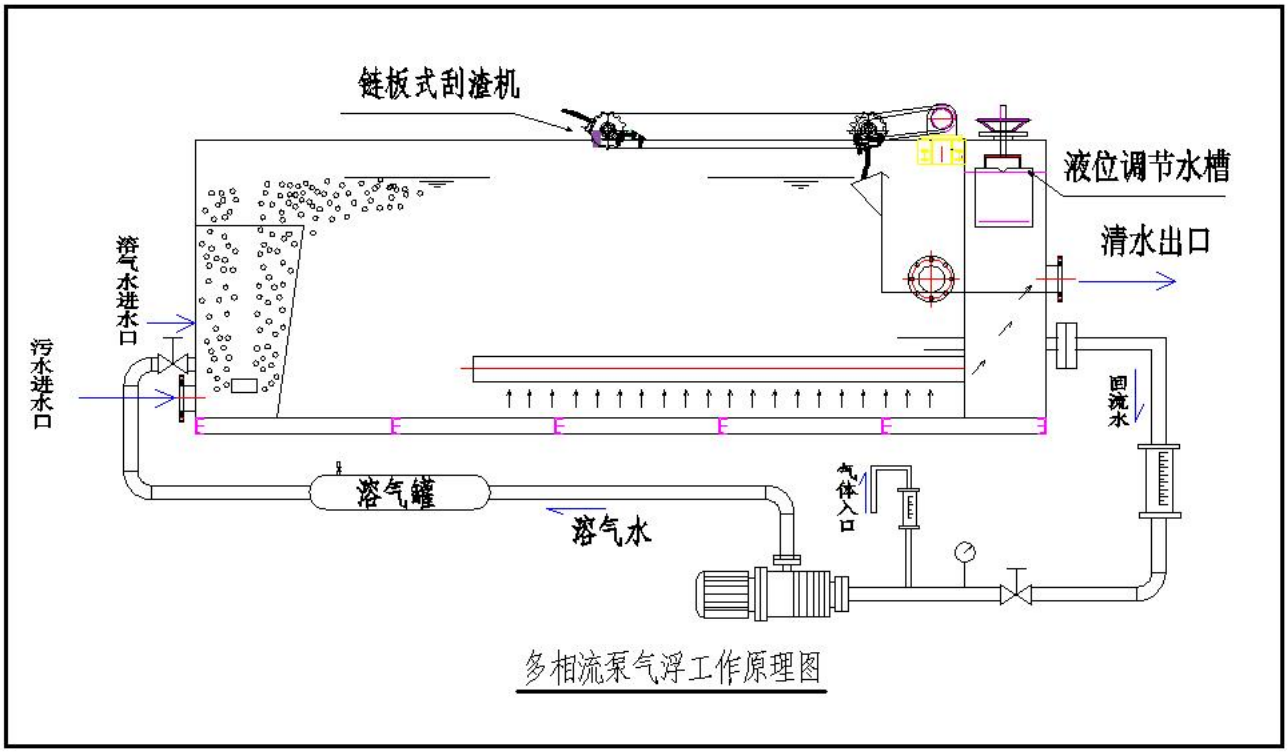
Remark: The back-flow ratio R=30%，Hydraulic surface load：q=6～8m3/m2.h, all subject to our final confirmation

Type 5 Multiple Phase Pump DAF

1. Brief Introduction

Multi-phase flow pump air flotation machine using Germany's advanced multi-phase flow pump, reducing its necessary traditional DAF configuration such as the air compressor, pressure vessels, universal centrifugal pumps and control systems etc. The air is pumped directly into its inlet pipe via its own vacuum. Gas-liquid multi-phase pump special impeller structure makes the pump establish pressure process via gas-liquid two-phase full dissolution to achieve high pressure saturation. When reducing pressure, the dedicated release device will disperse its dissolved air in the flotation system. In this way, the diameter of the generated bubble can be less than 30 microns.

2. Working principle



3. Equipment Model Selection

Model	Capacity （m3/h）	Pool L （m）	Pool W (m)	Pool H (m)	Multi-pump (kw)	Skimmer (kw)	Total Power (kw)
LIMP-5	5	3.0	1.0	1.8	1.1	0.37	1.87
LIMP-10	10	4.0	1.2	1.8	2.2	0.37	2.57
LIMP-15	15	4.5	1.4	1.9	3.0	0.37	3.37
LIMP-20	20	4.5	1.8	2.0	3.0	0.37	3.37

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LIMP-30	30	5	2.0	2.1	4.0	0.37	4.37
LIMP-40	40	6	2.2	2.1	4.0	0.37	4.37
LIMP-50	50	6	2.8	2.1	4.0	0.37	4.37
LIMP-60	60	7	2.8	2.1	5.5	0.55	5.87
LIMP-70	70	8	3.0	2.1	5.5	0.55	6.05
LIMP-80	80	9	3.2	2.1	7.5	0.55	8.05
LIMP-100	100	10	3.4	2.1	11	0.55	11.55
LIMP-150	150	12	3.8	2.5	15	0.75	15.75
LIMP-200	200	15	3.8	2.8	18.5	0.75	19.25

Remark: The back-flow ratio R=30%，Hydraulic surface load：q=6～8m3/m2.h, all subject to our final confirmation

The Above is main DAF clarifier, more types like Catalytic oxidation dissolved air flotation , vertical DAF, Air induction DAF, sedimentation DAF, full dissolved DAF if needed, we will design separately

After-sale Service

1.Technical service

1）Installation and commission: we are responsible for installation and commission

2）Training

Equipment operator training: after the installation and commissioning, our professional and technical personnel will provide the necessary training for operation of this machine and notices, till the qualified products are produced.

3）Technical data

（1）We provide technical data for equipment installation, maintenance and manual.

（2）We provide technical follow up program and technical assistance and support.

2.Maintenance

1) Guarantee: one year
2) Warranty period: after the acceptance of equipment, we provide one year free warranty. Warranty period is calculated from the signature date of the acceptance certificate.
3) Within the warranty period, if quality problem occurs, we will response after telephone or written notice within 2 hours, and if necessary, send people to the site within 48 hours for repair (after-sale service hotline: 010-61282438).After the warranty period, we are responsible for providing maintenance, information service and technology improvement with most favorable price.

3.After-sale service

1) We have reliable after-sale service, providing normal technical and fittings service.
2）We provide complete service for professional consultation, programming, design, manufacturing, installation, commissioning, production technical support, raw material supply, etc.