EXPERIENCE THE POWER OF CHEMISTRY WITH BUBBLES

Available with patented gas mixing technology

BEYOND CONVENTIONAL

Transcend Cleantec Pvt. Ltd.

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Transcend Cleantec is a worldwide leading company in wastewater & solid-liquid separation of industrial & municipal wastewater. Our head office and factories are located in Pune, while we've got branches all over the country as well as agents and distributors all over the world. Our featured products are used widely in paper, textile industry.

At Transcend we strongly believe in innovating for bringing out the best in class product. Every member in our dedicated R&D team has over a decade of experience in this field.

DISSOLVED AIR FLOTATION (DAF)

Dissolved air flotation (DAF) is a water treatment process that clarifies waste water (or other water) by the removal of suspended matter such as oil or solids. This removal is achieved by dissolving air in the water or wastewater under pressure and then releasing the air at atmospheric pressure in a flotation tank basin. The released air forms tiny bubbles which adhere to the suspended matter causing the suspended matter to float to the surface of the water where it may then be removed by a skimming device.

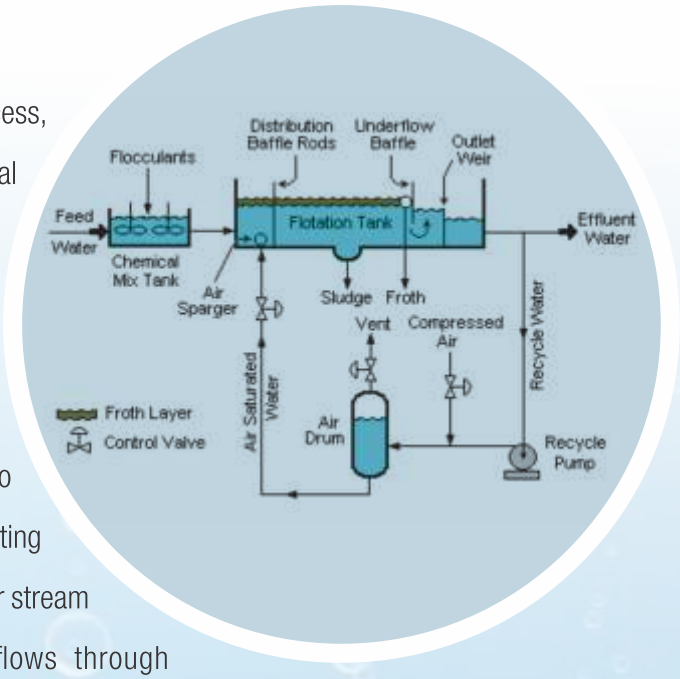
PRODUCT DETAILS

The DAF separator provides effective separation of suspended solids, fats, oils and greases from liquids by dissolved air flotation. Flotation of the solids is accomplished by the introduction of tiny air bubbles into the process water. As the bubbles rise, they attach themselves to the particles in suspension and carry them to the surface for removed.

ADVANTAGES

- Overall specialized, compact structure, and high performance.
- Stable performance and reliable operation.
- Hydraulic load: 4~ 6 m3 / (m2h).
- Maximum inlet SS concentration is 10000 mg/L.
- Automatic scum removal, Solid content can be up to 30 ~ 100 mg/L.
- Applied for waste water with suspended solids & floc density lighter than water or close to the water and weak precipitation phenomenon.

FLOTATION THEORY



Dissolved Air Flotation is based on a physical / chemical process, where the injection of air into the water stream with chemical assistance causes the particles/flocks to float to the surface. This floating sludge layer is then automatically and continuously removed by a scraper mechanism.

A portion of the clarified effluent water leaving the DAF tank is pumped into a small pressure vessel (called the air drum) into which compressed air is also introduced. This results in saturating the pressurized effluent water with air. The air-saturated water stream is recycled to the front of the floatation tank and flows through a pressure reduction valve just as it enters the front of the floatation tank, which results in the air being released in the form of tiny bubbles. Bubbles form at nucleation sites on the surface of the suspended particles, adhering to the particles. As more bubbles form, the lift from the bubbles eventually overcomes the force of gravity. This causes the suspended matter to float to the surface where it forms a froth layer which is then removed by a skimmer. The froth-free water exits the floatation tank as the clarified effluent from the DAF unit.

The feed water to the DAF floatation tank is often (but not always) dosed with a suitable coagulant to coagulate the colloidal particles and/or a flocculant to conglomerate the particles into bigger clusters.

ADVANTAGES OF USING DAF OVER OTHER CLARIFICATION PROCESSES

- DAF is more efficient in removing low-density floc than, sedimentation processes
- The problem of algae clogging filters and reducing filter run times usually occurs in the plants. But DAF is effective in removing algae from water supplies. In fact, air bubbles formed in DAF can also remove some taste and odour compounds from the water which can be considered as a secondary benefit
- DAF is more effective than sedimentation in removing pathogens such as Giardia cysts and Cryptosporidium oocysts
- DAF plants have a lesser footprint compared to sedimentation plants on account of smaller tanks. In some cases, DAF is placed over filtration reducing the plant footprint further
- DAF produces floating sludge with higher percent of solids which possibly reduces biological sludge treatment and disposal
- Energy savings is higher in DAF compared to sedimentation plants as smaller motors are used to run the flocculator, longer filter runs, and less filter back washing of filters

The Transcend's, Dissolved Air Flotation (DAF) wastewater treatment plant is typically used in wide range of industrial applications to reduce the financial impact of trade effluent charges and maintain environmental compliance. The Transcend's DAF Wastewater treatment systems is widely used for the reduction of Chemical Oxygen Demand (COD), Fats, Suspended Solids, turbidity, Oil & Grease, Color, biological sludge's & Organic matter. The Transcend's DAF Process has also been successfully applied to sensitive industrial applications, such as oil industries, food & beverage industries. chemical industries, paper industries, textile industries and specially best for water jet industries. The Transcend's DAF is ideal for new projects & existing plant upgradation.

MODEL	Dimension (W x L x H) MM	Flow in M3/Hr.	Power In Kw
TDAF-100	150x700x1500	5	4.45
TDAF-200	1500x1350x1500	10	7.20
TDAF-300	1500x2000x1500	15	10.1
TDAF-400	2000x2000x1500	20	12.7
TDAF-500	2000x2500x1500	25	13.45
TDAF-750	2000x3750x1500	37.5	16.9
TDAF-1000	2000x5000x1500	50	18.9
TDAF-1250	2500x5000x1500	62.5	22.7
TDAF-1500	3000x5000x1500	75	35.7
TDAF-2000	3000x6500x1500	100	38.2

PRECISION DESIGN & ENGINEERED

MULTI-DISC SCREW PRESS

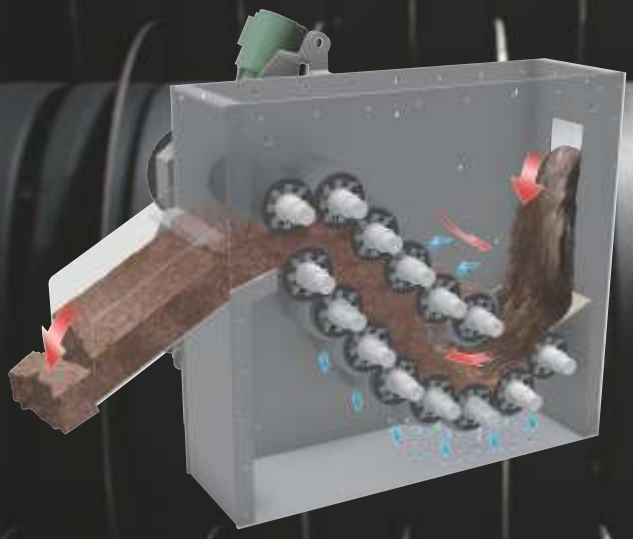
for consistent lifecycle performance

FILTRATION
DEWATERING
THICKENING

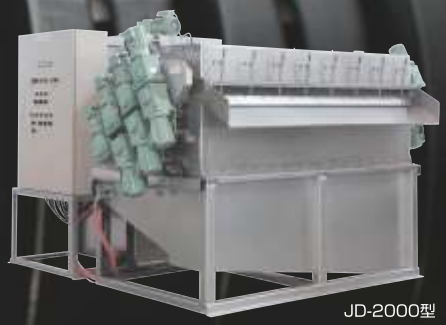
- OPERATIONAL CONVENIENCE
- LOW LIFECYCLE COST
- ROBUST ENGINEERING
- ODOURLESS

Multi-Disc Dehydrators

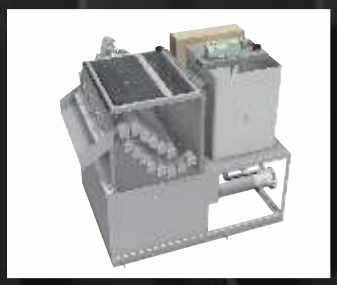
JD SERIES



JD-500型



JD-2000型



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