

ENGINEERING WATER
INNOVATION SINCE 1950.



DIFLOAT[®]

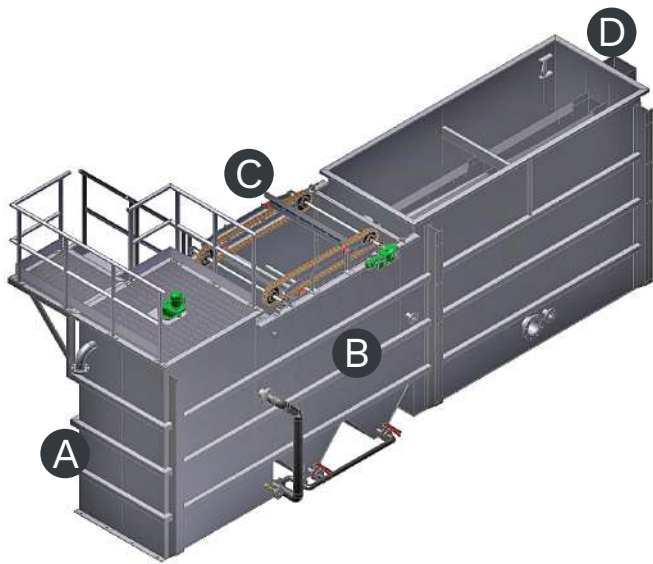
DISSOLVED AIR FLOTATION SYSTEM (DAF)

A effective wastewater treatment, clarification, and thickening technology, ideal for:

- Oil, petrochemicals, and refineries
- Energy production
- Construction and mining camps
- Tannery production
- Pulp and paper industry
- Food processing
- Dairy plants
- Municipal water treatment
- Government and military facilities
- Algae removal

Technology: DIFLOAT DAF
Location: Kingsville, ON, Canada

DIFLOAT PROCESS



DIFLOAT DAF i operates on a simple design philosophy which, combined with optimum conditioning chemistry and properly designed equipment, provides an efficient mechanism for solids and FOG separation.

In a typical DIFLOAT system, the raw water is pre-treated with a coagulant and flocculant in the rapid mixing and flocculation chamber (A), enters the flotation chamber where it's mixed with the injected supersaturated water with micro bubbles of size 10 to 40 microns (B). A mechanical float removal device (skimmer) travels over the tank surface and pushes the float into the scum collection channel (C). The clarified water is collected when it reaches the end of the flotation tank (D) for further processing.

DIFLOAT MAJOR COMPONENTS



TANKS

Stainless steel tanks custom tailored for each project. Analyzed for stresses & hydrostatically tested once in manufacturing. Shipped to site ready to be installed



SKIMMER

Suspended mechanical arms designed to remove organics & solids from the surface of the water as part of the DAF process.



SATURATION SKID

Air Saturation system with compact design that recycles 50-70% less effluent stream to mix with air under high pressure, and form air dissolved water with microbubbles of size 10 to 40 microns.

DIFLOAT ADVANTAGES

1. RECYCLE-FLOW PRESSURIZATION

Allows the system to operate at higher pressures and minimize the destruction of floc formed in the process flow, thereby increasing the effectiveness of the system.

2. EFFICIENT DAF RECYCLE PUMP

Designed to operate at high pressures increasing the amount of saturated air by 46% more than traditional centrifugal pumps.

3. IMPROVED AIR SATURATION SYSTEM

DIFLOAT™ uses 50 to 70% less recycle flow than conventional DAF systems while introducing the same amount of dissolved air into the flotation tank.



4. OPTIMUM USE OF CHEMICALS

Stronger floc formation, lower float volumes, and lower float moisture content, allowing the DIFLOAT™ system to operate with much lower air:solids ratio and higher solids loading rate

5. COMPACT DESIGN

Due to its high loading rate, the area needed for a DIFLOAT™ system is approximately 15% of that required for a conventional clarification, utilizing the space more efficiently

6. COST-EFFECTIVE

Our packaged DAF plants are pre-assembled and pre-tested in our controlled facility, often saving 50% or more over in-situ construction. They can also be integrated into pre-engineered building systems for increased savings and reduced schedule

DIFLOAT CASE STUDIES

LOCATION ENGINEER START FLOW QTY

Jose,
Venezuela

Napier-Reid

2019

795 m³/d

1



Deseronto,
Ontario

R.V. Anderson

2020

4,420 m³/d

2



Kingsville,
Ontario

Maple Reinders
Constructors

2021

70,000 m³/d

1



Technology: DIFLOAT DAF

Location: Deseronto, ON, Canada

Design flow: 4,420 m³/d



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