



IDRAFLOT™

Dissolved Air Flotation units
for solid/liquid separation



Solutions & Technologies



IDRAFLOT™

Far over the traditional flotation units

Flotation DAF is a process using air dissolved in water in order to achieve solid/liquid separation. In order to increase the process efficiency, chemical additives are normally dosed.

Coagulation followed by flocculation inside the treated fluid is achieved. Coagulation is meant to destabilize solid particles in stable equilibrium inside the fluid, while flocculation is meant to gather the particles into bigger and more extended flocks. Flotation, consisting of saturation of a certain quantity of water (about 5 BAR which reduces the pressure in the system), takes place when flocks collide with water saturated with air, creating an aggregate made of flock – micro bubble of air rising up to the liquid surface by means of the density difference of the aggregate face to the surrounding liquid.



Materials



The corrosion resistance is one of the IDRAFLOT™ basic characteristics, substantial in case of handling extremely concentrated liquids. Our experience and cooperation with research centres allows us to choose the most suitable materials to handle aggressive liquids.

Austenitic stainless steel AISI 316 L

Number: 1.4435 – Name: X2 CrNiMo 18-14-3

Cr-Ni-Mo steel, austenitic weakly bound structure, nonhardening, non-magnetic. The low percentage of Carbon in this alloy reduces the risk of intergranular corrosion at high temperatures.

Uses: alkaline liquids, acid liquids (pH>4) with a low percentage of chlorides, oil emulsions.

Austenitic stainless steel AISI 304

Number: 1.4301 – Name: X5 CrNi 18-10

Cr-Ni-Mo steel, austenitic weakly bound structure, nonhardening, non-magnetic. The low percentage of Carbon in this alloy reduces the risk of intergranular corrosion at high temperatures.

Uses: alkaline liquids, acid liquids (pH>4) with a low percentage of chlorides, oil emulsions.

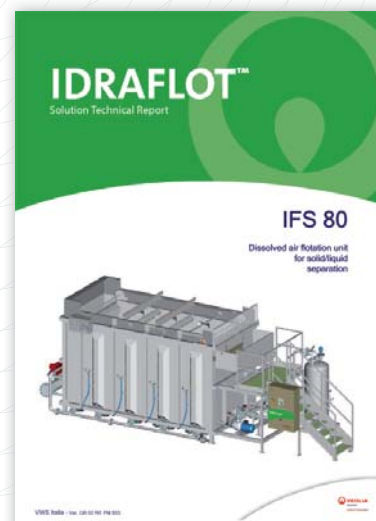
Superduplex stainless steel

Number: 1.4410 – Name: X2 CrNiMo 25-7-4

Cr-Ni-Mo steel, austenitic-ferritic structure, magnetic. The high percentage of Chrome gives excellent resistance to localised corrosion.

Uses: acid liquids (pH>4) with high chloride and metals content, brine waters.

IDRAFLOT™ technical reports

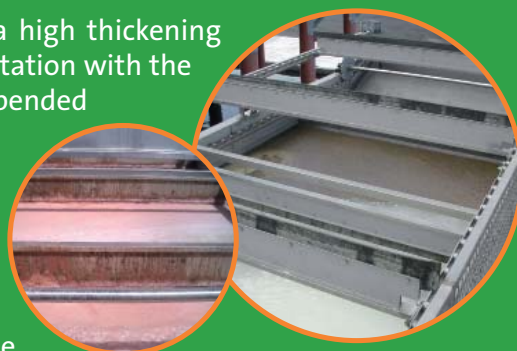




IDRAFLOT™ - new generation flotation units go far over the traditional flotation systems

Very compact, these units reach such a high thickening and clarification grade allowing ultra flotation with the highest removal efficiency on COD, suspended solids and fat.

IDRAFLOT™ flotation units are protected by three patents. They are intended to assure a perfect mixing of the waste with saturated water and an uniform distribution of the water flow along the entire surface of the unit.



In addition, IDRAFLOT™ flotation units have mixing volumes intended to optimize the process and the unit global handling. Global volume reduction is intended to:

- reduce chemical additive dosing
- reduce the saturated water flow rate (up to 50% less compared to the actual IDRAFLOT™ models)
- avoid hydraulic short circuits
- reduce the unit management costs.

The battle against the climate change is a priority for everyone.
VWS Italia has a real commitment to reduce CO₂ emissions: we are working to make sure that our technological offering is ever more environmentally sustainable.

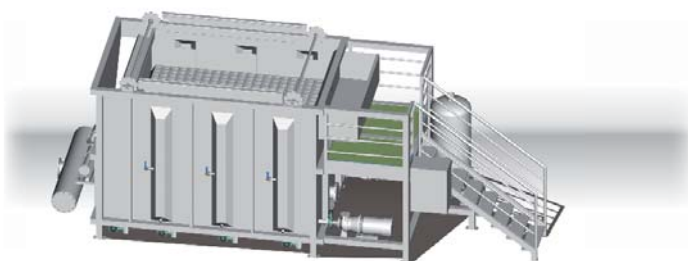




An innovative system

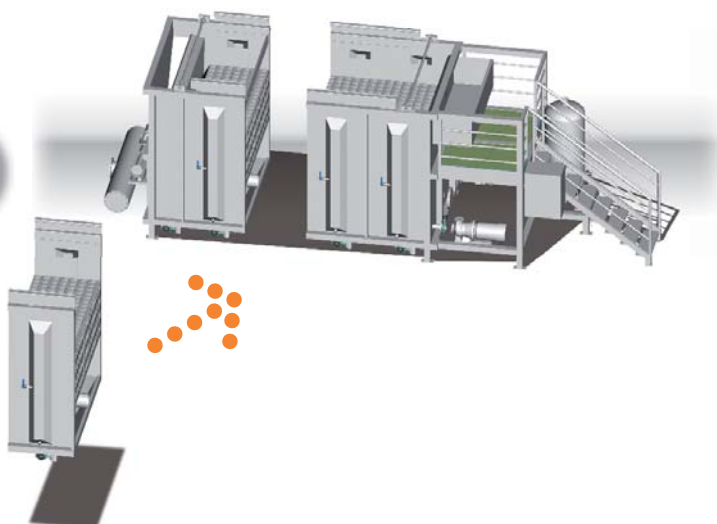
The innovative mixing system which involves the process of water saturated with air/water is formed by lateral mixing channels along the entire structure of the unit. The particular device of the channels and the feeds guarantee an optimal contact between wastewater and clean water saturated with air, rarely obtainable by traditional flotation units.

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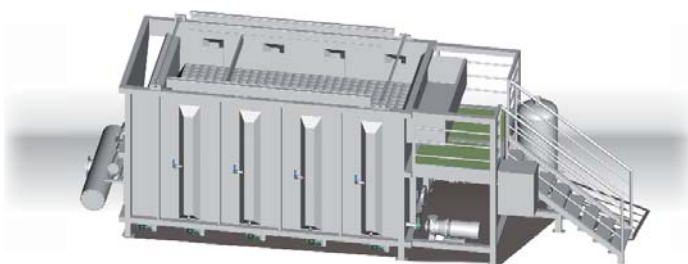
To the initial structure...

2



... one or more modules can be added.

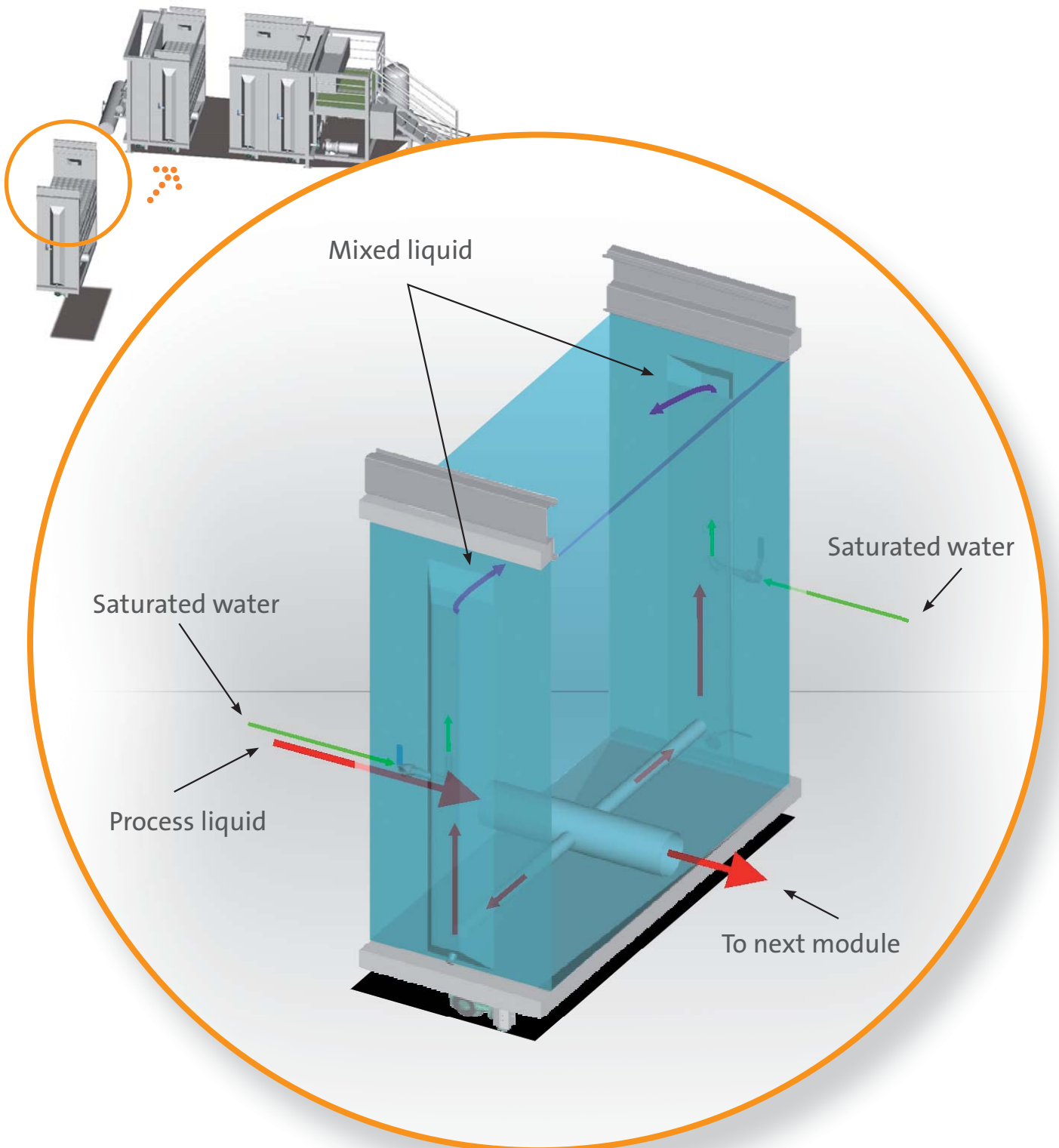
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The IDRAFLOT™ solution meets the new production needs.

Modularity

Satisfying our customers' needs is made possible with the conception of a new modularity solution capable to cope with costs and delivery time reduction requirements. For this purpose, at a planning stage, IDRAFLOT™ offers the possibility to insert future additional modules to the basic unit. This flexibility allows IDRAFLOT™ to totally fit the productive requirements.





Application Fields

IDRAFLOT™ is an excellent solution in all fields where water clarification and depuration are required.

- Dairy
- Slaughterhouses, meat, salami and fat processing
- Fishing industry
- Canneries
- Wine industry
- Confectionery industry
- Soft drinks production
- Dye-works, tanneries
- Pulp & Paper industry

Moreover it is a suitable solution for biological treatment and thickening of “activated sludge” from biological plants as well.



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