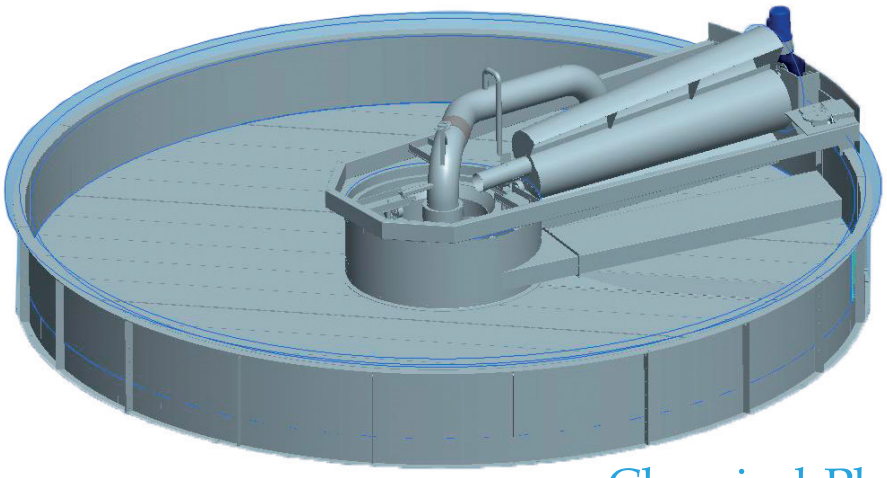
Panta Rei water solutions

CHEMPHYS
dissolved air flotation



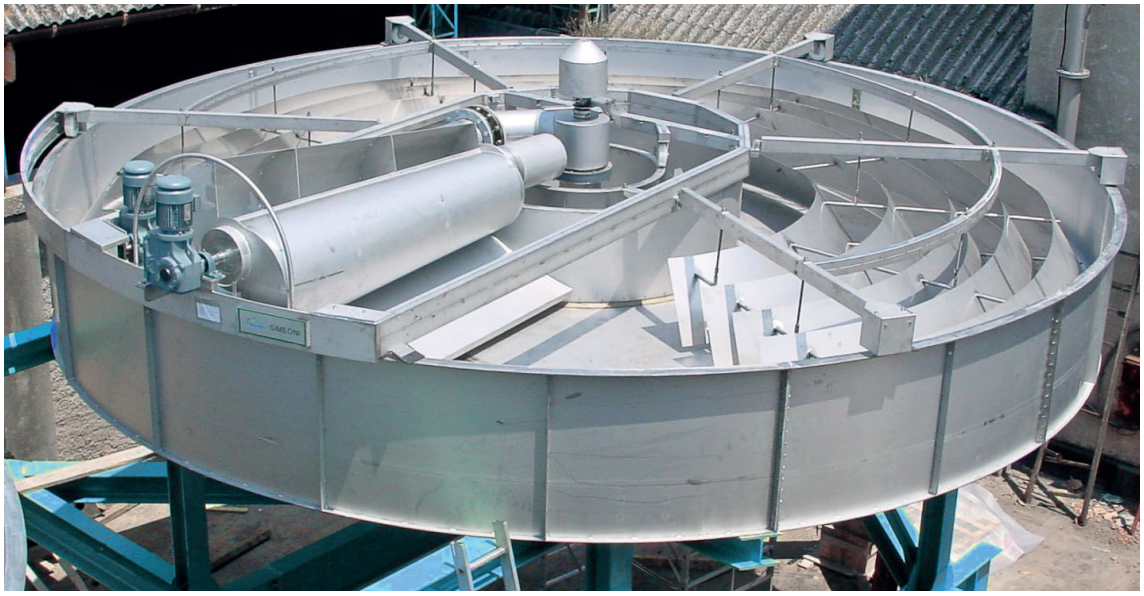
Chemical-Physical Treatment Unit

The Dissolved Air Floatation (DAF) process is a chemical-physical treatment used to remove **oils and fats**, **emulsions and suspended solids** from the wastewater and, as a consequence, also the COD, BOD and color loads are reduced.

The principle is that air is initially dissolved in the water under a pressure of several atmospheres, followed by release of the pressure to the atmospheric level. The entire flow is held in a retention tank under pressure to allow time for the air to dissolve; then it is sent to the floatation tank where it comes out of solution forming very fine bubbles.

Panta Rei GUARANTEED equipment

The wastewater is pumped to the DAF process. Thanks to the **density difference** created by the fine dissolved air bubbles, the oil and fats and solids are separated from the water phase and mechanically removed. A portion of the DAF effluent is normally recycled, pressurized and semi-saturated with air, then mixed with the main incoming wastewater stream, so that, in this way, air comes out of solution when in contact with the particulate and emulsified matters.



The whole process is also enhanced through the addition of chemicals (coagulants, flocculant in form of polymers, either cationic and/or anionic), where the flocs created are separated thanks to the DAF effect, and for this reason the process becomes, in this case, a true **chemical-physical treatment unit** which can be used as a valuable **pre-treatment unit** or as **final fine-tuning** of the wastewater.

Efficient chemical-physical units with DAF technology for solids, oils, greases & color removal.

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