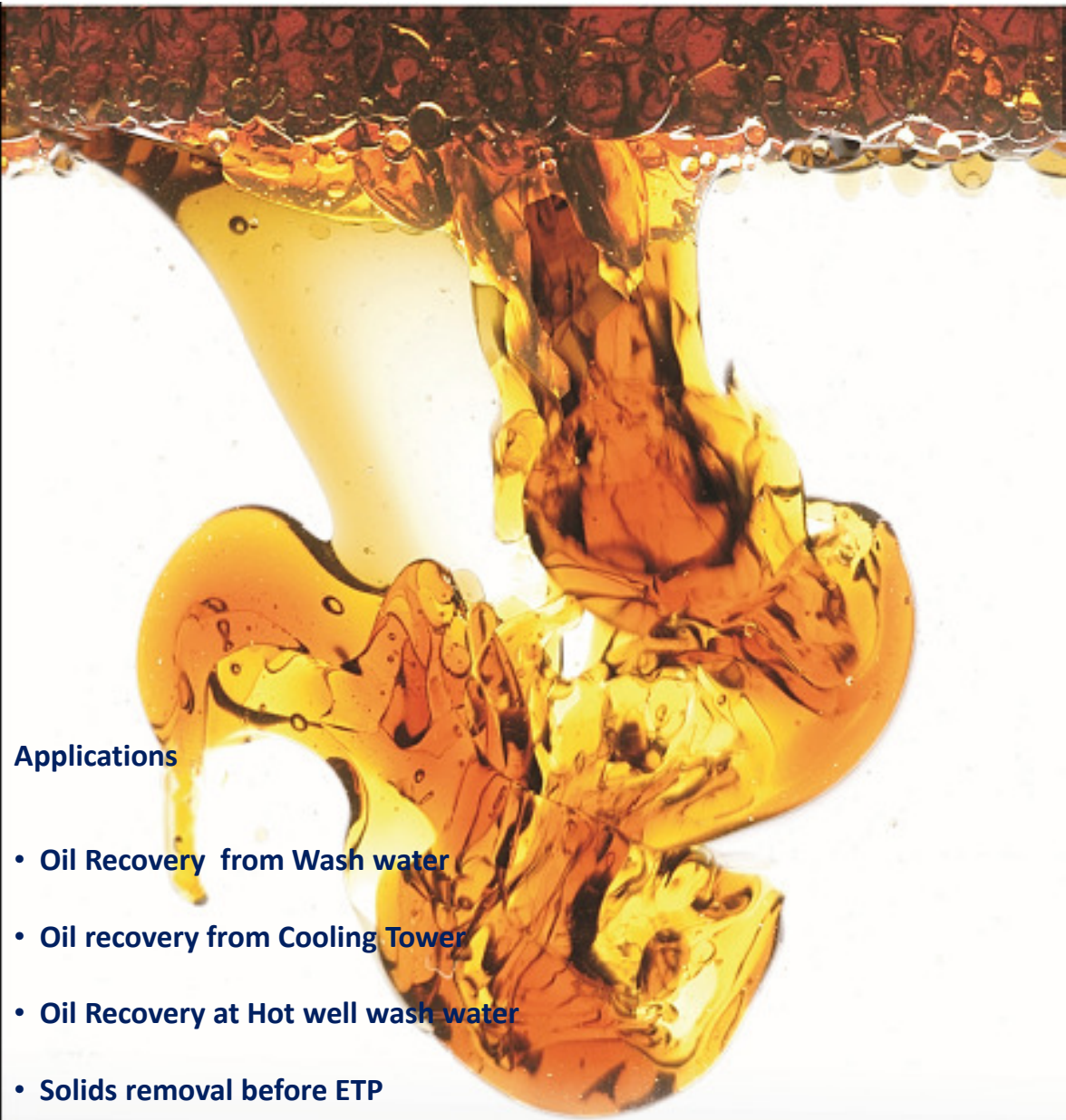


## OIL & FATS RECOVERY

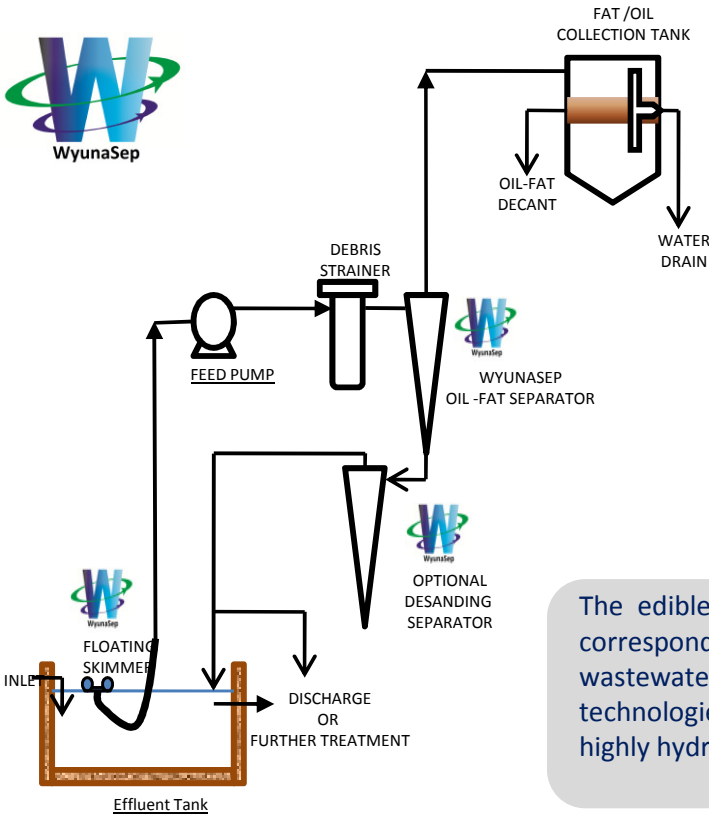


### Applications

- Oil Recovery from Wash water
- Oil recovery from Cooling Tower
- Oil Recovery at Hot well wash water
- Solids removal before ETP

## Oil and Fats Recovery System and Separation System



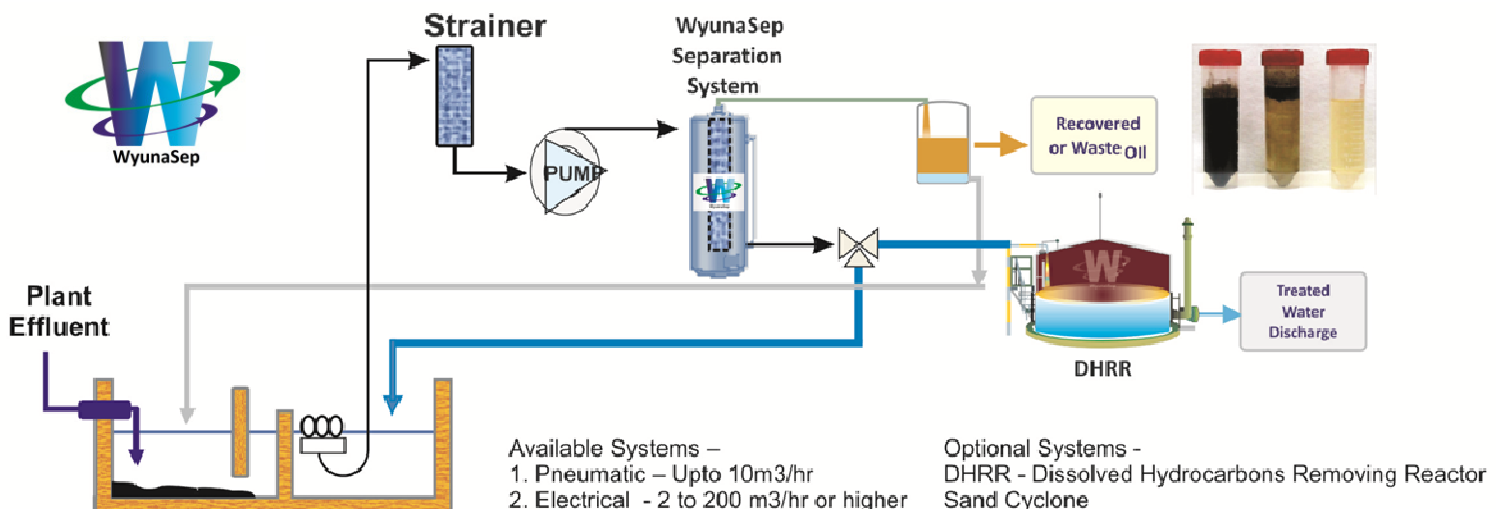


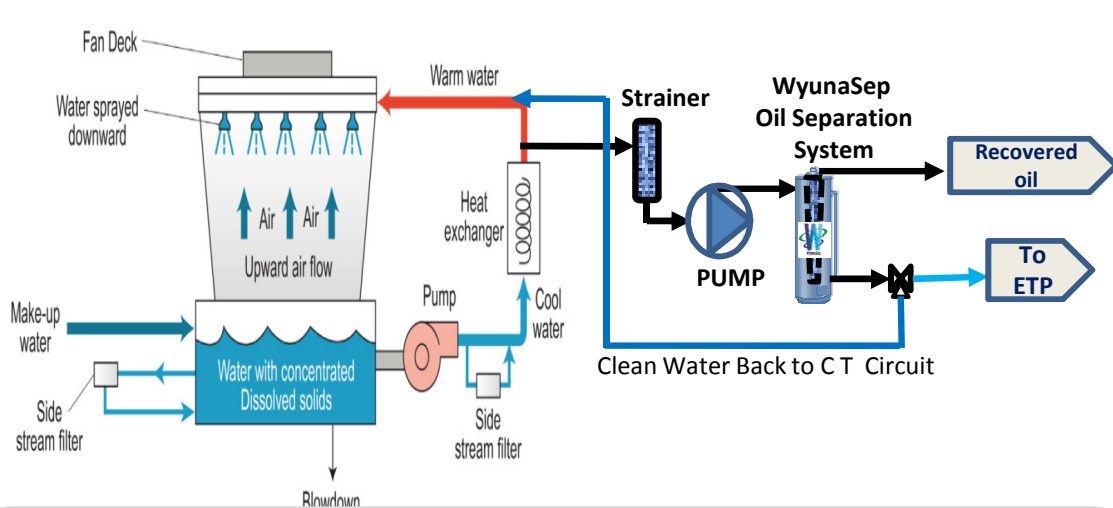
The edible oil refineries have increased in the last few years, with a corresponding increase in oil production. As a result, edible oil containing wastewaters (EOCW) are being produced in huge quantities. Conventional technologies are inefficient in treating these wastewaters due to the highly hydrophobic nature of the lipids

Refining crude vegetable oils generates large amounts of wastewater. In the edible oil industry, wastewaters mainly come from the degumming, de-acidification and deodorization and neutralization steps. In the neutralization step, sodium salts of free fatty acid (soap stocks) are produced whose splitting through the use of H<sub>2</sub>SO<sub>4</sub> generates highly acidic and oily wastewaters. Its characteristics depend largely on the type of oil processed and on the process implemented that are high in COD, oil and grease, sulphate and phosphate content, resulting in both high inorganic as well as organic loading of the relevant wastewater treatment works.

With overloaded municipal facilities and increasingly restrictive water quality regulations, it has become necessary to restrict industrial waste loads. Vegetable oil refineries generate a high BOD loading along with a high fat loading, which makes treatment difficult.

Refinery wash water from the oil water wash centrifuges was found to be the major contributor of BOD<sub>5</sub> and fat, with barometric cooling tower blow down and water from acidulation contributing smaller amounts to the load.





**Cooling Tower – Oil Water Separation :** It has been observed that due to vacuum process most of Veg Oil refineries cooling tower water contains very significant to large quantity of oil in its cooling tower water. This water has become main cause of the extra burden on cooling tower maintenance and cooling tower not working to its full efficiency as the oil film and oil content reduces the heat transfer as well as quality of water. This also increases the water load and the load on the ETP.

**With the help of WyunaSep Oil recovery system and ETP-Pre treatment system.**

- ❖ You can recover all the free oil in the system – Waste water as well as Cooling tower water
- ❖ Increases good quality of recovered oil, as it is recovered before any treatments in ETP.
- ❖ Reduces load on ETP further treatment.
- ❖ Increases cooling tower efficiency, by removing the oil from its water.
- ❖ Reduces Cooling tower maintenance requirement.
- ❖ Saves operators time and efforts to handle dirty water.
- ❖ With help of ETP Pre- treatment system – you can reduce the solids load on your ETP.
- ❖ Due to reduction in solids prior to ETP reduces load on pumps and chemical dosing in further treatments.
- ❖ It also helps in down sizing the further treatments and filter presses for solids handling.



**OF-15 – 15M3/hr**



**OF Pneumatic – 10m3/hr**



**Pneumatic 3 m3/hr system**

**BENEFITS**

- Foot Print : Compact, 10% the size and weight of conventional systems.
- Most efficient, and cost effective solution to water treatment problems
- Weather proof MOC, closed loop system
- Very short residence time (in the order of seconds)
- Highly consistent performance & Proven technology
- Power supply – only one motor for Pump - Pneumatic version up to 10m3 available
- Oil content – single cycle @20 ppm or recycle @10 ppm in two stage
- Clean water without any use of chemicals
- Effluent can be recycled for continuous treatment.
- Hydrocyclone has no moving parts, this significantly reduces maintenance
- Modular add-on features. Independent , skid based or containerised
- Controls – Manual & Automatic
- Can be installed vertically or horizontally
- Quicker separation of oil & solids reduces many issues like odour, Dissolved hydrocarbon process, bacterial /fungi generation etc.

