



TiPSS™ Technologies

Corrugated Plate Interceptors (CPI)
Oil and suspended solids removal

WATER TECHNOLOGIES



TiPSS™ Technologies

We have more than 70 years' industrial experience in delivering deoiling solutions.

Veolia Water Technologies has extensive expertise in designing solutions for the separation of contaminants for multiple industrial markets and applications.

Tilted Plate Separator System (TiPSS) is an oil-water separation system that uses tilted plate packs (lamellar set plates) to improve the separation surface. Gravity drives the separation of pollutants (oil, gas, solids, or combinations) based on particle size and density differences between various components.

WATER APPLICATIONS

There are several water sources that can be treated by TiPSS Technologies:

- Produced water
- Process water
- Wastewater
- Runoff water
- Desalter water

TIPSS EXPERTISE

- ✓ Turnkey deliveries
- ✓ Installation, commissioning and start up
- ✓ After sales services
- ✓ Pilot plants

SERVICES BUNDLES

Core offer

- ✓ AquaService

Bundles

- ✓ Consumables and spare parts
- ✓ Remote support (Hubgrade digital services)

Addressing your challenges

STRICT ENVIRONMENTAL REGULATIONS

Companies are adapting their operations to suit the requirements of strict regulations. All TiPSS technologies are ready to support customer challenges in meeting even the most stringent environmental regulations.

FOOTPRINT

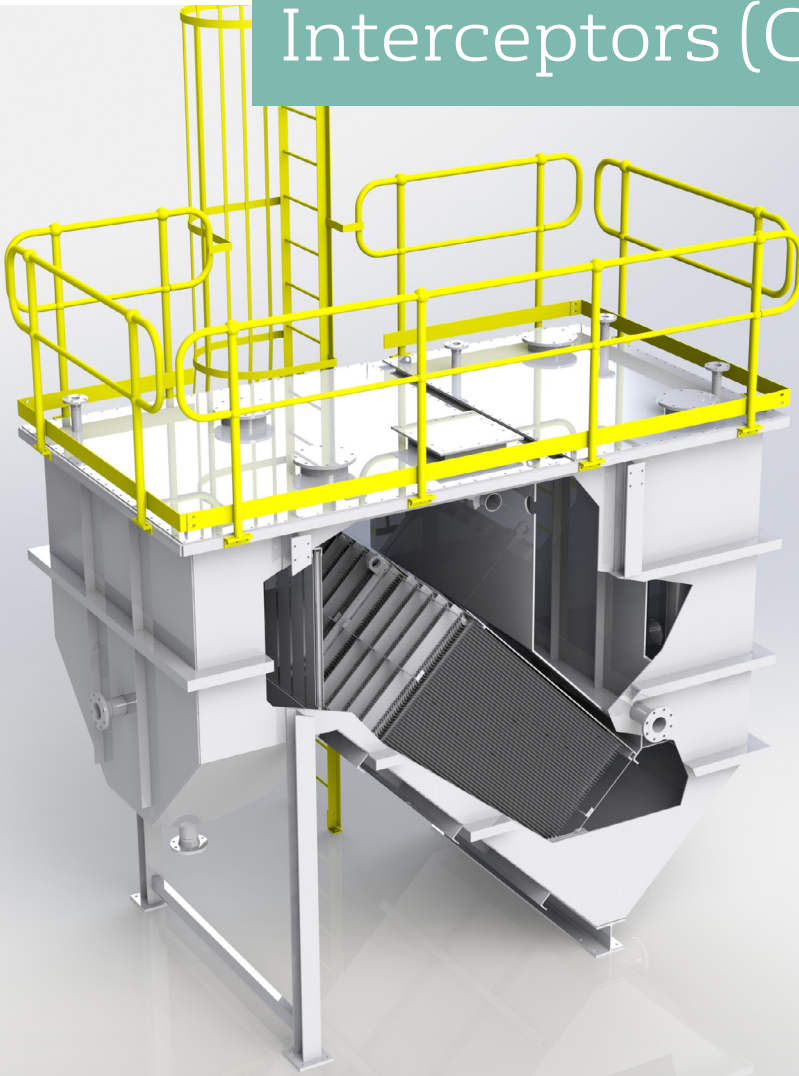
TiPSS technologies are cost effective and compact solutions with low operational weight compared to other deoiling technologies.

REMOVAL OF FREE OIL

TiPSS technologies removes free oil before the biological treatment process and prevent downstream equipment failure in water treatment operations.



Corrugated Plate Interceptors (CPI)



MARKETS

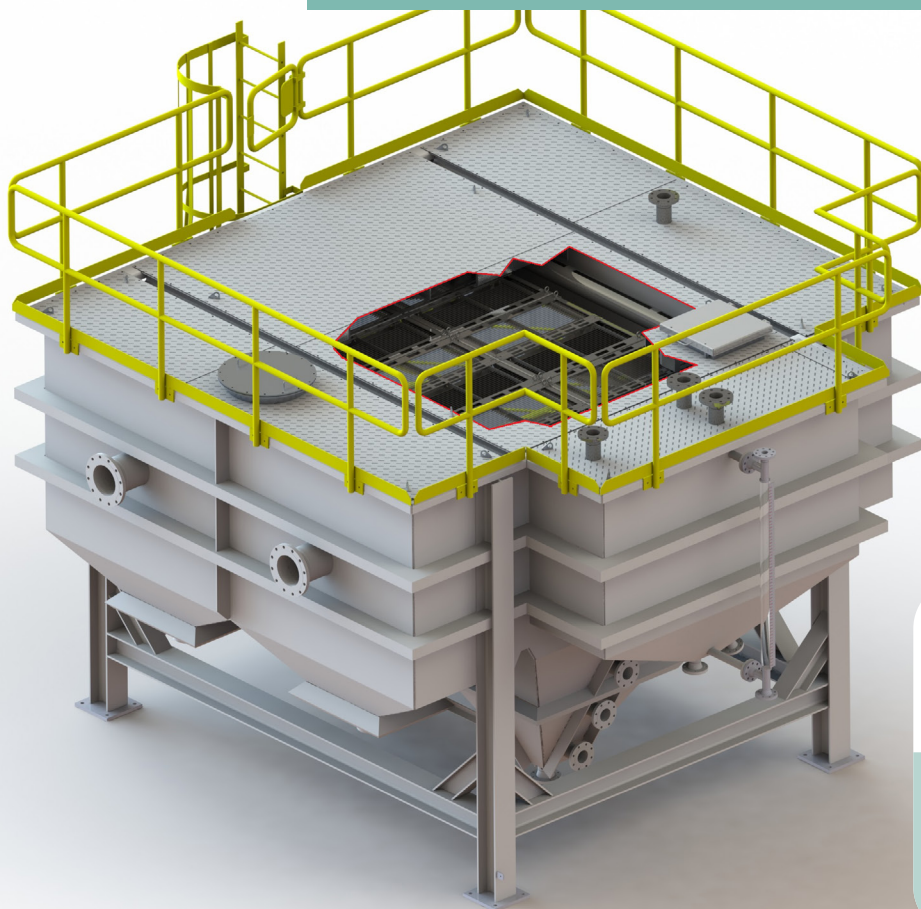
- Airports
- Automotive
- Food and beverage
- Oil refineries
- Petrochemicals
- Power plants
- Tank farms

Classic CPI

By stacking smaller plates on top of each other in the tank, an enlarged separation surface is obtained. These inclined plates are built with corrugated plate packs and can separating very tiny oil particles.

Plate packs	1 till 12
Oil removal	80 - 90%
Typical effluent levels	10 - 20 ppm (free separable oil)
TSS removal	80 - 90%
Oil cut off diameter	40 μm and larger

Cross flow CPI



MARKETS

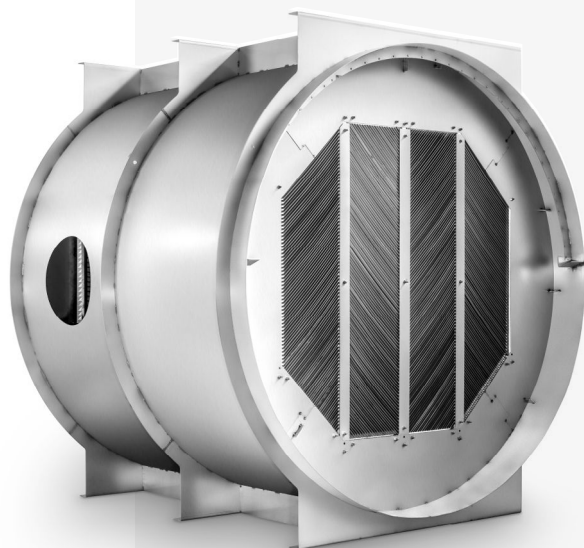
Automotive
Food and beverage
Oil refineries
Petrochemicals

The corrugated plates inclined at a 60-degree angle improve solids separation. The sludge cones collect the segregated particles, and the flow is perpendicular to the plate orientation.

In water treatment facilities, the cross flow CPI is ideal to separate oil and very high feed solids concentrations (up to 2000 mg/l).

Plate packs	1 till 8
Oil removal	80 - 90%
Typical effluent levels	10 - 20 ppm (free separable oil)
TSS removal	90 - 95%
Sand cut off size	<10 micron
Oil cut off diameter	40 μ m and larger

Pressurized CPI



MARKETS

Oil and gas fields (onshore)
Offshore platforms
Oil refineries
Petrochemicals
Revamps, debottlenecking

In the pressurized CPI, the oily water flows horizontally and separates the particles perpendicular to the water flow. The plate packs installed improve separation efficiencies and enlarge the separation capacities of existing separator vessels. Plate packs do not require welding for installation.

Simultaneously, the pressurized CPI can separate two or more immiscible liquids, solids and gas under moderate or high pressures.

Plate packs	Custom
Oil removal	50 - 90%
TSS removal	80 - 90%
Oil cut off diameter	40 μ m and larger

FEATURES



No moving parts



Continuous operations
for less downtime



Short hydraulic
retention time



Compact construction
and uniformity
in design



High feed oil and solids
concentrations



Insensitivity to
weather conditions
and variations in
temperatures



Low footprint and
minimum space



Resistant to shock
and slug loads



BENEFITS



Low costs -
the reduction of
installation, delivery,
and maintenance
costs lowers your
operational costs.



**High separation
efficiency** - allowing
high oil and solids
feed concentrations
with better deoiling
performance and high
output water quality.



Configurations -
several options
are available for
prefabricated units
to suit your needs
and specifications.



SELECTION CRITERIA

These are the key criteria we use to choose the best TiPSS solution for our customers.

Criteria	CPI	cfCPI	pCPI
Oil feed concentrations	100-5000 mg/l	100-5000 mg/l	100-5000 mg/l
Solid feed concentrations	<250 mg/l	250-2000 mg/l	<1000 mg/l

Criteria	CPI	cfCPI	pCPI
Oil droplets separation	>40µm	>40µm	>40µm
Heavy solids (e.g. sand, metal)	> 20µm	>10µm	>10µm
Light solids (e.g. sludges, wax)	>40µm	>30µm	>30µm
Feed pressure	Atmospheric	Atmospheric	2 - 20 barg
Flow rates (max/unit)	5000 m³/h	300 m³/h	1000 m³/h
Type	Steel tank Concrete basin	Steel tank	Pressure vessel
Principle	Gravity counter current	Gravity cross flow	Pressurized cross flow

