

**Ut** UTP

**Ac** HydroGD

**Po** PolyGD



# RAINWATER

Processing

Settle solids interceptor & Oil interceptor

# Rainwater processing

Settle solids interceptor & Oil interceptor

Flow rate from 20 l/s upwards

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# Introduction

Settle solids interceptor & Oil interceptor

*Our skills serving the Environment*

Two types of runoff water contamination = two product ranges

## What type of Installation?

*Boat overhaul areas,  
Car washes Industrial sites...*



*Fuel distribution or oil storage areas...*



## What type of contamination?

### Chronic

*Oil and heavy metals combined with  
suspended solids*

### Accidental

*Oil from accidental spillage*

## Our solutions

### Settle Solids Interceptor

*Particle contamination is due to large,  
settleable suspended solids,  
well distributed or in a colloidal state.*

*Such contamination may generate:*

- unsightly waste and deposits, silting that may affect circulation by encouraging flooding;*
- possible blocking of the airways of fish, causing their disappearance from the waters;*
- finally and most seriously, increasingly turbid water, preventing light from entering the water, and thus affecting photosynthesis.*

*In order to trap suspended matter and oils in runoff, Techneau have developed a range of **settle solids interceptors**.*

### Oil interceptor

*Pollution from insoluble liquids (oil, grease, hydrocarbons) floating on water, results in significant reductions in atmospheric oxygen transfer.*

*In order to trap heavy materials and oils in runoff, Techneau have developed a range of **oil interceptors**.*



# Introduction

## Settle Solids Interceptor

Constant innovation for optimal operation

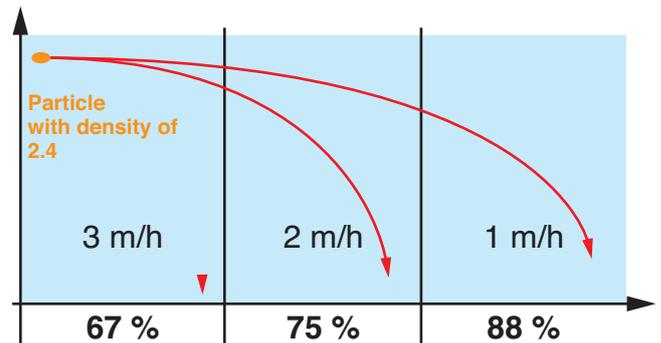
### Characteristics, decantation and throughflow

• The Settle Solids Interceptor is defined by its **Flow Rate** in litres per second and its **Hydraulic Head** in metres per hour. The hydraulic head, or "Hazen speed", is the ratio between the flow rate and the separation area, that is:

$$\text{Hydraulic head (m/h)} = \frac{\text{flow rate (m}^3\text{/h)}}{\text{Area (active) in m}^2}$$

• The purpose of the settle solids interceptor is to **trap particles** with a density of 2.4 and a diameter below 100 microns, which includes about 80% of the solid particles contained in runoff.

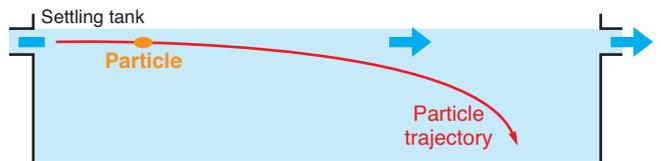
• The performances of a settle solids interceptor may be shown as follows: - - >



• To trap suspended materials, there are two types of decantation:

#### A. Static decantation:

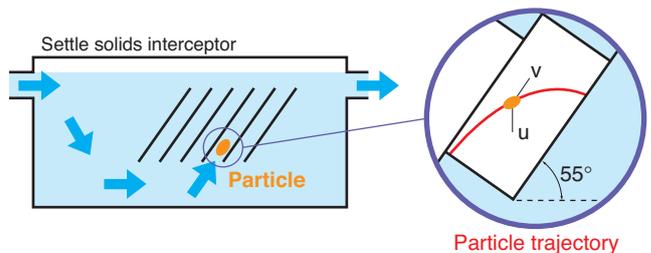
Requires a decantation tank with an extremely large surface, and a settling rate that is usually low.



#### B. Lamellar decantation:

Works on the trajectory to separate out continuously particles of different size and mass.

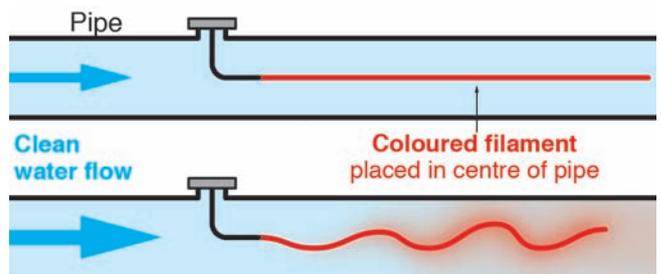
This method improves the settling rate considerably, meaning that the settling volume may be reduced.



• For particles to settle effectively, the movement of the water through the interceptor has to be **laminar (1)**. All **turbulent flow (2)** is therefore to be prevented.

**1. Laminar** movement is regular, fluid and rectilinear

**2. Turbulent** movement is "disordered" vortex flow



This means that the **oil interceptor** with coalescing filter is not suitable for particle settling.

# Installation and range

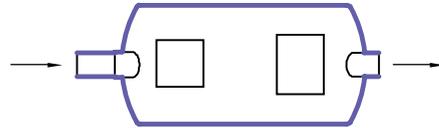
## Settle Solids Interceptor

*A complete range to cover all your needs*

### Processing methods

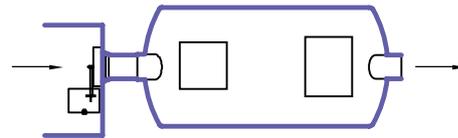
#### Installation **straight onto the water system**

Complete flow processed.



#### Installation **after a storm basin**

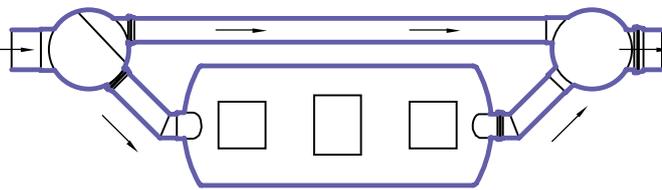
With flow controller.



#### Installation **by-passing the water system**

With a storm overflow chamber fitted with a flow controller.

The complete installation is positioned upstream from the settle solids interceptor.



### Range and building materials

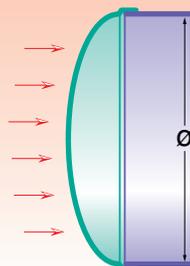
Hydraulic head:	Flow rate (l/s)						
	10	90	150	180	200	300	500
<b>1 m/h</b>	Steel						
	Polyester						
<b>2 m/h</b>	Steel						
	Polyester						
<b>3 m/h</b>	Steel						
	Polyester						

We use **the material** most suitable for the conditions on your site to make the tank.

### STEEL



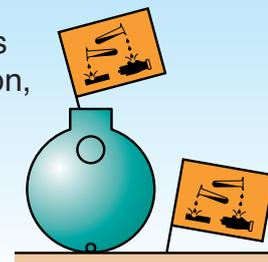
Built of formed S235JR steel. Shells, assembled with and welded onto two dished heads, provide excellent resistance to deformation.



### POLYESTER



Polyester withstands all chemical corrosion, both inside and outside, as well as immersion in sea water.



# Features

## Settle Solids Interceptor

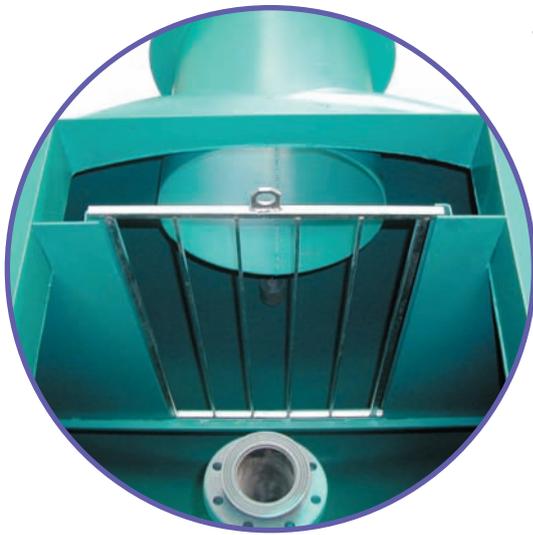
*Innovative solutions to optimise the operation and maintenance of your interceptor*

You will find our standard fittings on this double page.

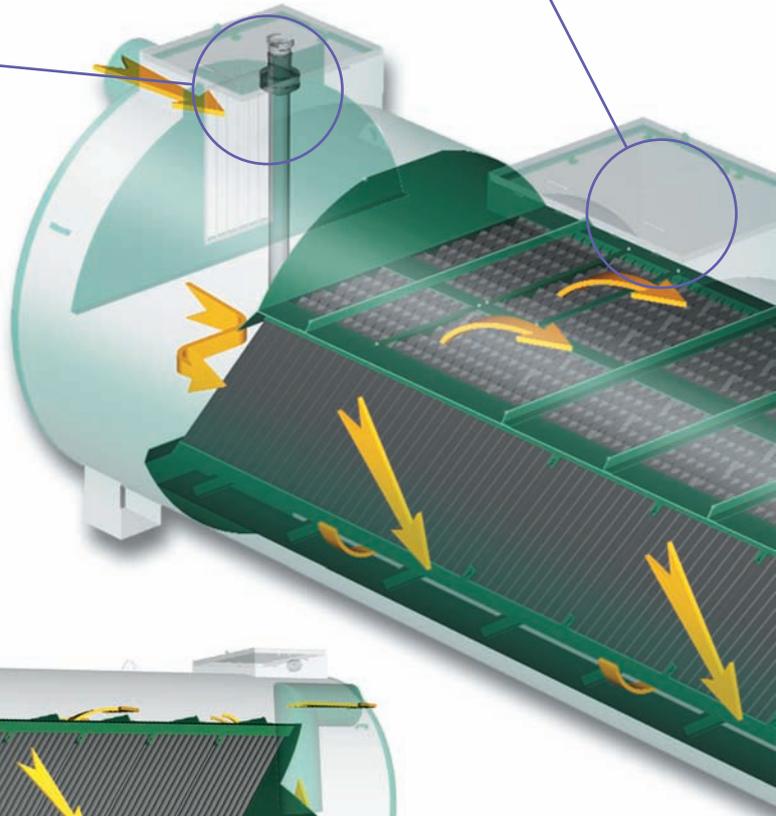
For options such as the automatic closing floater, alarms etc. see pages 7 and 8.

Large central opening to allow for all maintenance operations.

Technical floor.

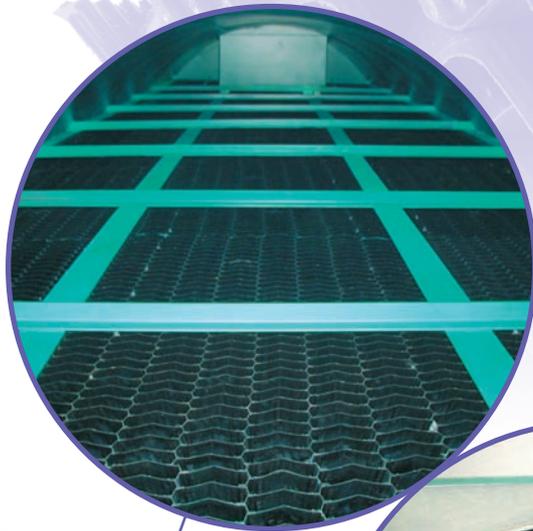


Galvanised steel removable screen, and PVC discharge column (Nominal Diameter 100), pressure 16 bars, with connecting flange.

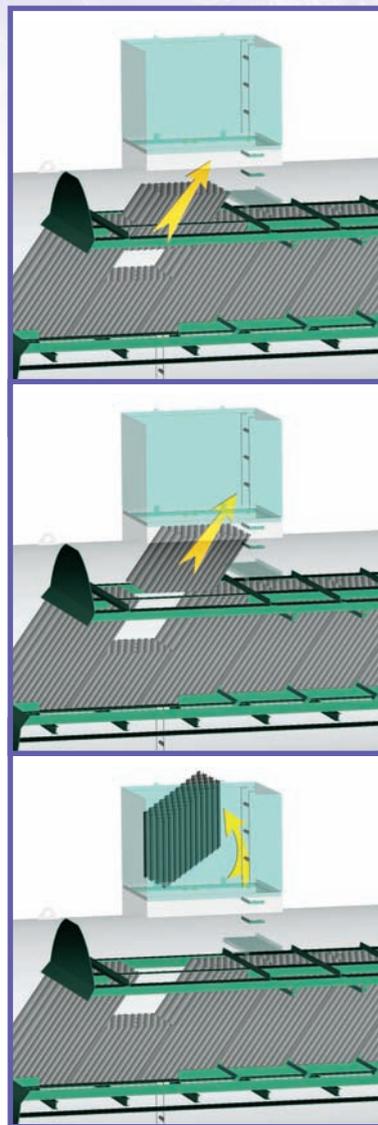
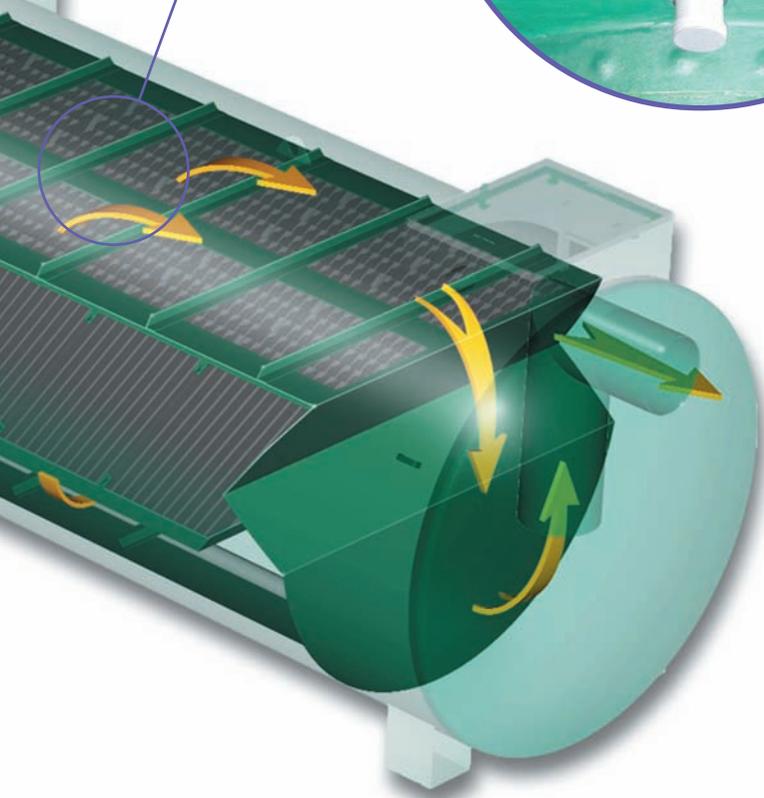
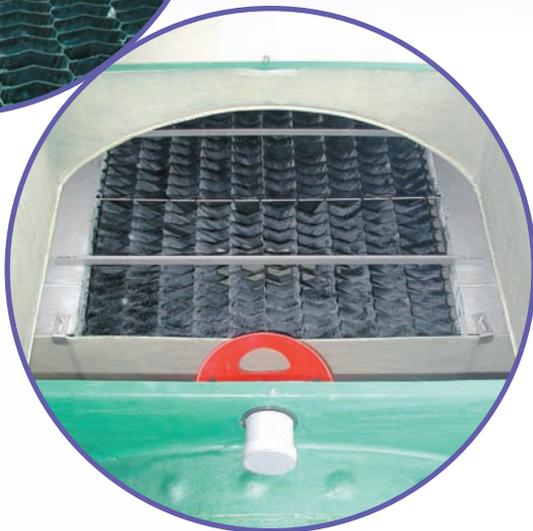


Effluent circulates through a settle solids interceptor based on the counter-flow principle, with the plates providing a large surface area.

Retained sludge is kept apart by baffles.



View of the inside of the Tubedeck-type removable lamellar modules.



The rectangular central opening facilitates extraction and maintenance of the removable lamellar modules.

# Options

## Settle solids interceptor & Oil interceptor

For equipping your interceptor in accordance with your needs or installation constraints

### Automatic Closing Floater

Optional for settle solids interceptors, the automatic closing floater is standard on Oil Interceptors.

Built entirely of **polyethylene**.

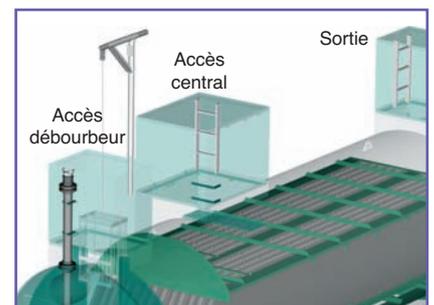
The principle underlying its operation is based on the difference in density between water (value: 1) and oils (value: 0.85).



### Specific extensions facilitating access to and maintenance of compartments

Set of painted steel extensions, comprising:

- > For accessing the first **sludge trap** compartment:
  - a **screen basket** with guide bar and lifting chain,
  - a **hoist arm support**,
  - a **discharge column extension**.
- > For accessing the central and outlet compartment:
  - **2 ladders**.

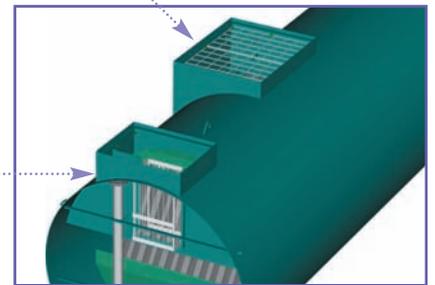
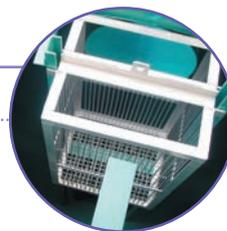


### Fall Prevention Grids

For the safety of persons when the covers or access hatches are open.

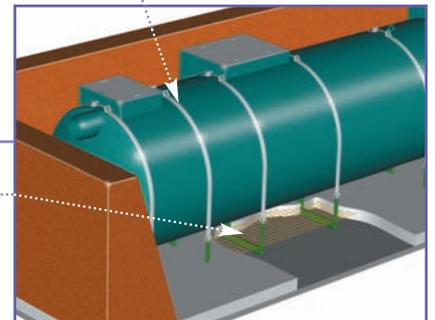
#### Screen Basket

Removable, galvanised steel basket, with a centre distance of 40 mm.



#### Anchor Straps

Used to attach the interceptor to the concrete slab on which it is to rest.



#### Rapid Frame and Anchor Straps

The interceptor is delivered with the anchor straps, support and reinforcements for putting the concrete filler into position.

#### Internal reinforcement straps

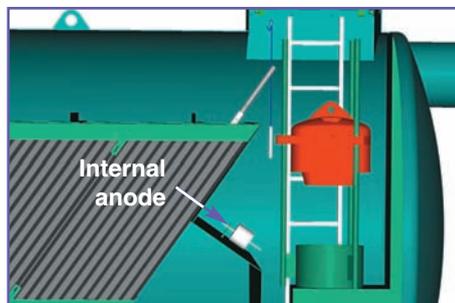
Used for very deep installations. sometimes avoid a concrete slab being necessary.

## Cathodic Protection

The external coating of a **steel** element is the first protection against electrochemical phenomena.

However, a slight scratch or change in the chemistry of the surroundings may be enough to affect this protection.

That is why you are recommended, when using **steel interceptors** (oil interceptors or settle solids interceptors), to provide **cathodic protection**.



## Visual and audible alarm for OILS: AH or AH8

The visual and audible alarm is used to detect the height of oils in an interceptor before the system becomes clogged. A sensor, fitted inside the interceptor, uses the difference in density to detect the level of the oil layer. When the maximum level is reached, a visual and audible alarm is triggered.

### 2 types of power supply:

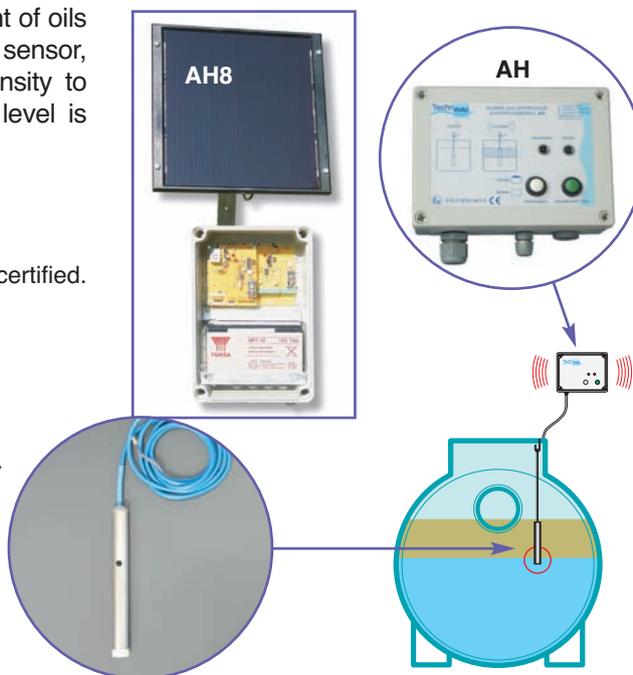
- Mains, 230-V
  - Autonomous, using solar panel, 24-V
- The alarm is fitted with a fail-safe safety device and is **ATEX** certified.

### Control cabinet:

- IP67 rated (dimensions: 180 x 130, depth: 60 mm)
- Front panel:
  - “On” light and switch fault visual and audible alarm,
  - Test and reset push button
- Buzzer, numbered terminals, dry contact for alarm transfer.

### Sensor:

- IP68 rated, supplied with 2 metres of 2 x 0.5 mm<sup>2</sup> cable and connection unit for an extension,
- 316 stainless steel body; the floater is rated for maximum oil density
- Inductive proximity-sensor.



## Visual and audible SLUDGE alarm: AB

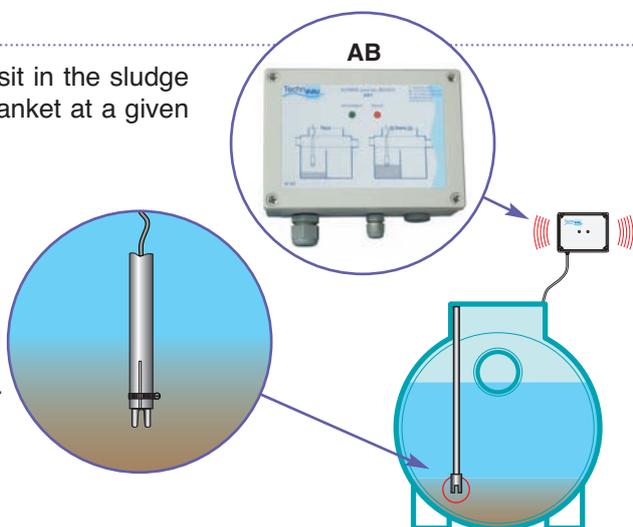
The sludge-level alarm is used to detect sludge deposit in the sludge trap. A pulsating-infrared detector, detects a sludge blanket at a given height and triggers a visual and audible alarm.

### Control cabinet:

- IP67 rated (dimensions: 180 x 130, depth: 60 mm)
- On front panel:
  - "Energised" and "Fault" indicator lamps
  - Visual or audible alarm switch,
  - Test and reset push button
- Potentiometer for adjusting detection threshold,
- Buzzer, numbered terminals, dry contact for alarm transfer.

### Sensor:

- IP68 rated, delivered with 10 metres of shielded cable, fitted on Ø 25 PVC tube.



# Introduction

## Oil interceptor

*A complete range to cover all your needs*

### Standards and manufacture

Oil interceptor construction has to comply with various Standards and, in particular, European Standard NF EN 858.

- **NF EN 858-1 :**

"Principles of product design, performance and testing, marking and quality control".

- **NF EN 858-2 :**

"Separator systems for light liquids (for example, oils).

Part 2: selection of nominal size, installation, operation and maintenance".

This Standard defines two levels of discharge:

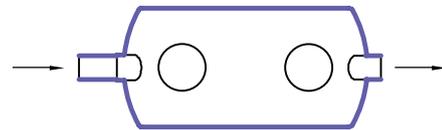
- **Class I : < 5 mg/l**
- **Class II : < 100 mg/l**

This range of oil interceptors is built either from **formed S235JR steel**, with dished heads in accordance with **81-104**, or from **polyester**, using the orthogonal filament winding technique, along circumferential and longitudinal axes (this gives maximum resistance on the load axes).

### Processing methods:

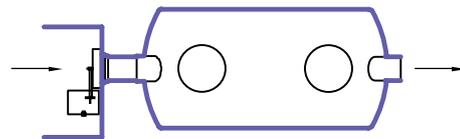
#### Installation straight onto the water system

complete flow processed.



#### Installation after a storm basin

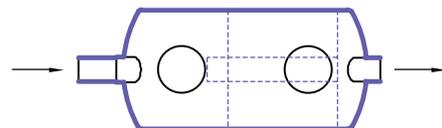
with flow controller



### Partial processing

#### Installation straight onto the water system

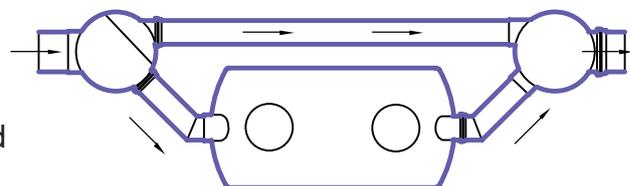
with a storm overflow by-pass integrated into the interceptor.



#### Installation by-passing the water system

with a storm overflow chamber fitted with a flow controller.

The complete installation is positioned upstream from the settle solids interceptor.

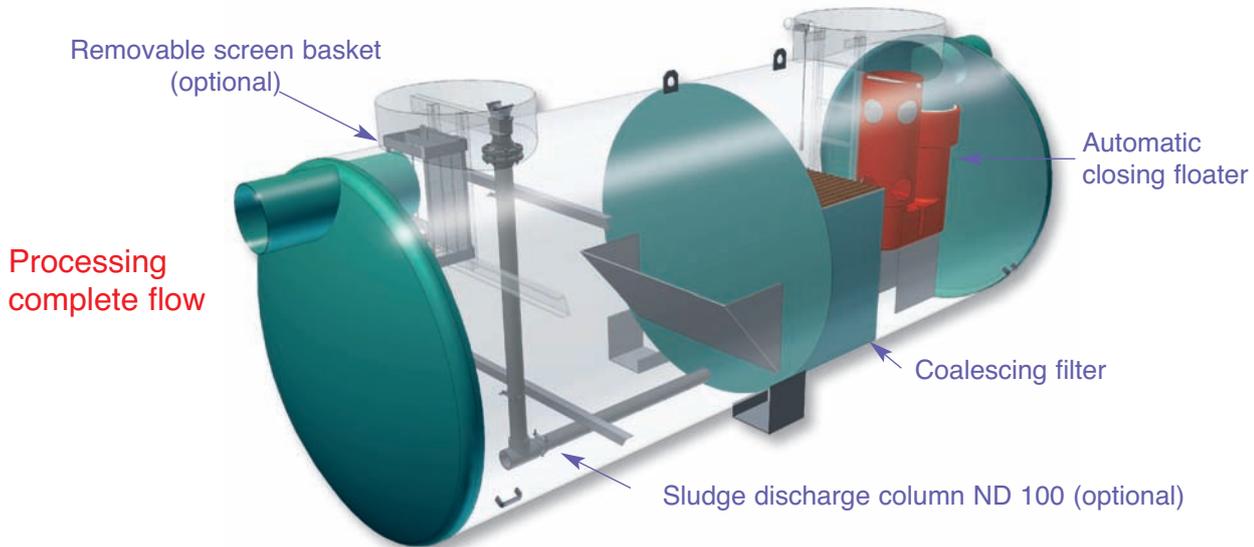


# Installation

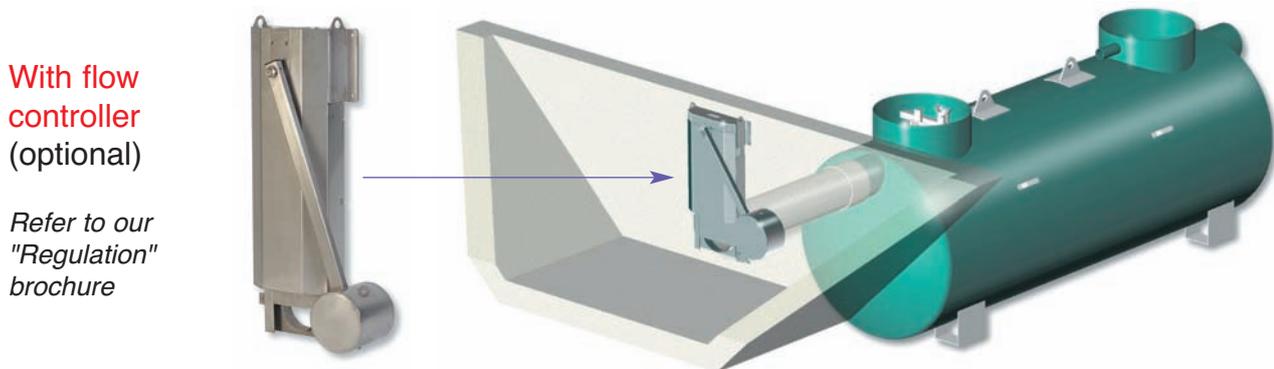
## Oil interceptor

Depending on the processing method

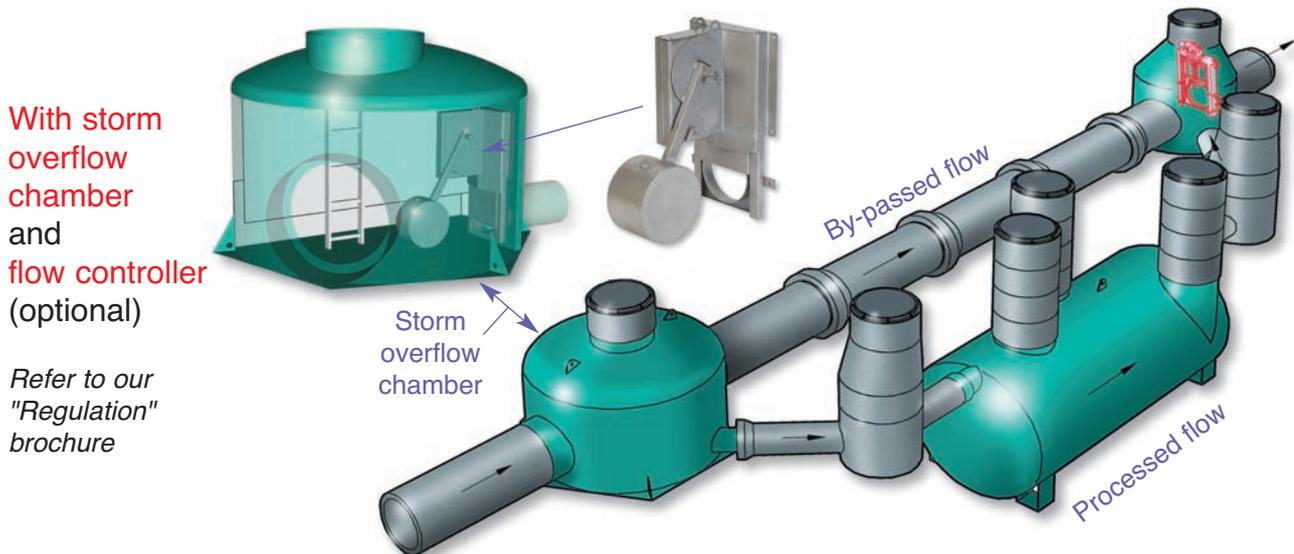
### Installation straight onto the water system



### Installation after a storm basin



### Installation by-passing water system

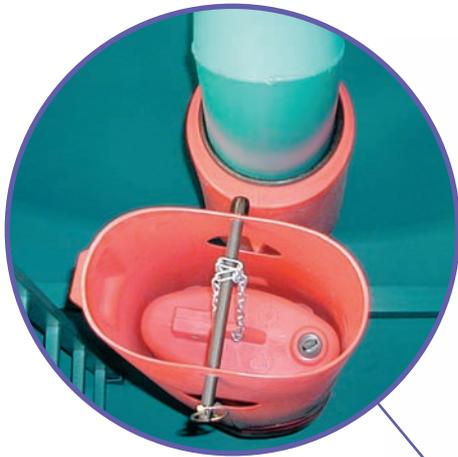


# Features

## Oil interceptor

Constant innovation for optimal operation and maintenance of your interceptor

Installation on main water system, with or without integrated by-pass

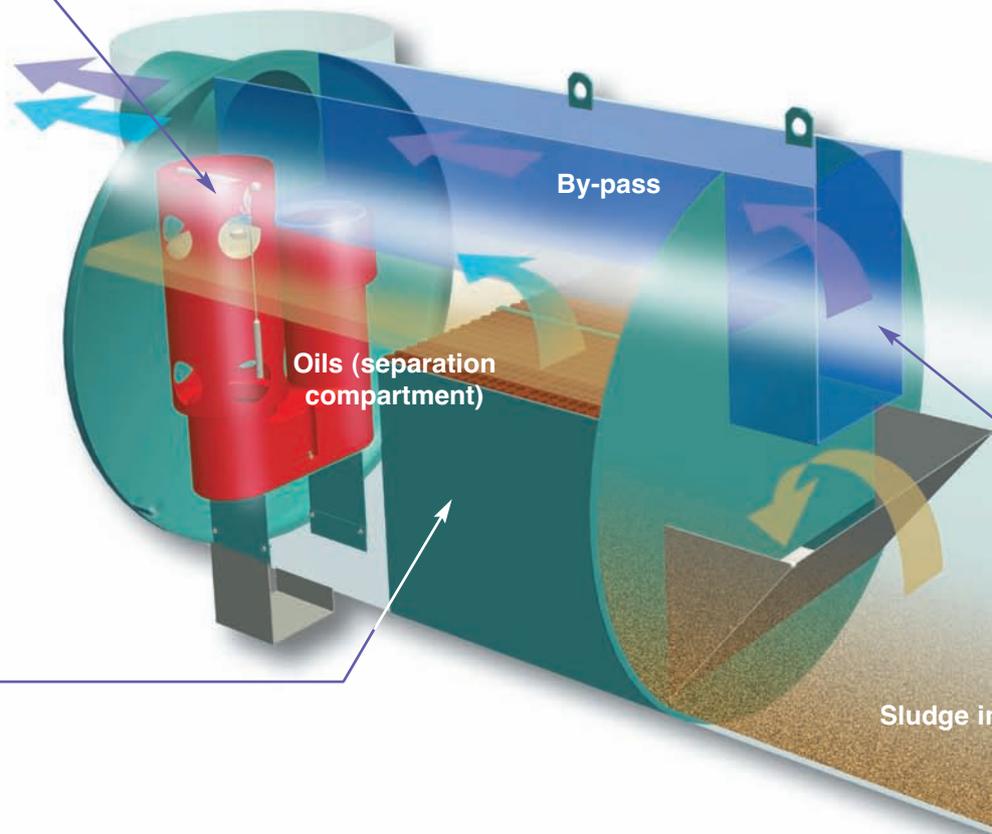
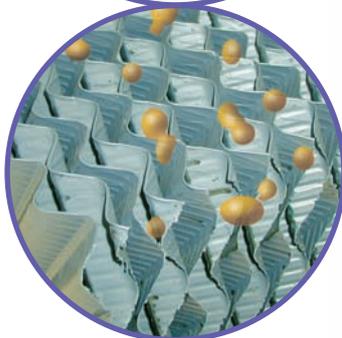
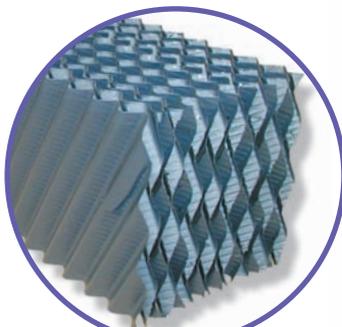


### Automatic closing floater:

#### *The indispensable safety device*

The automatic closing floater system prevents any leakage, accidental or due to lack of maintenance, downstream from the interceptor.

The automatic vertical closing floater follows the layer of oils until the interceptor is completely blocked.



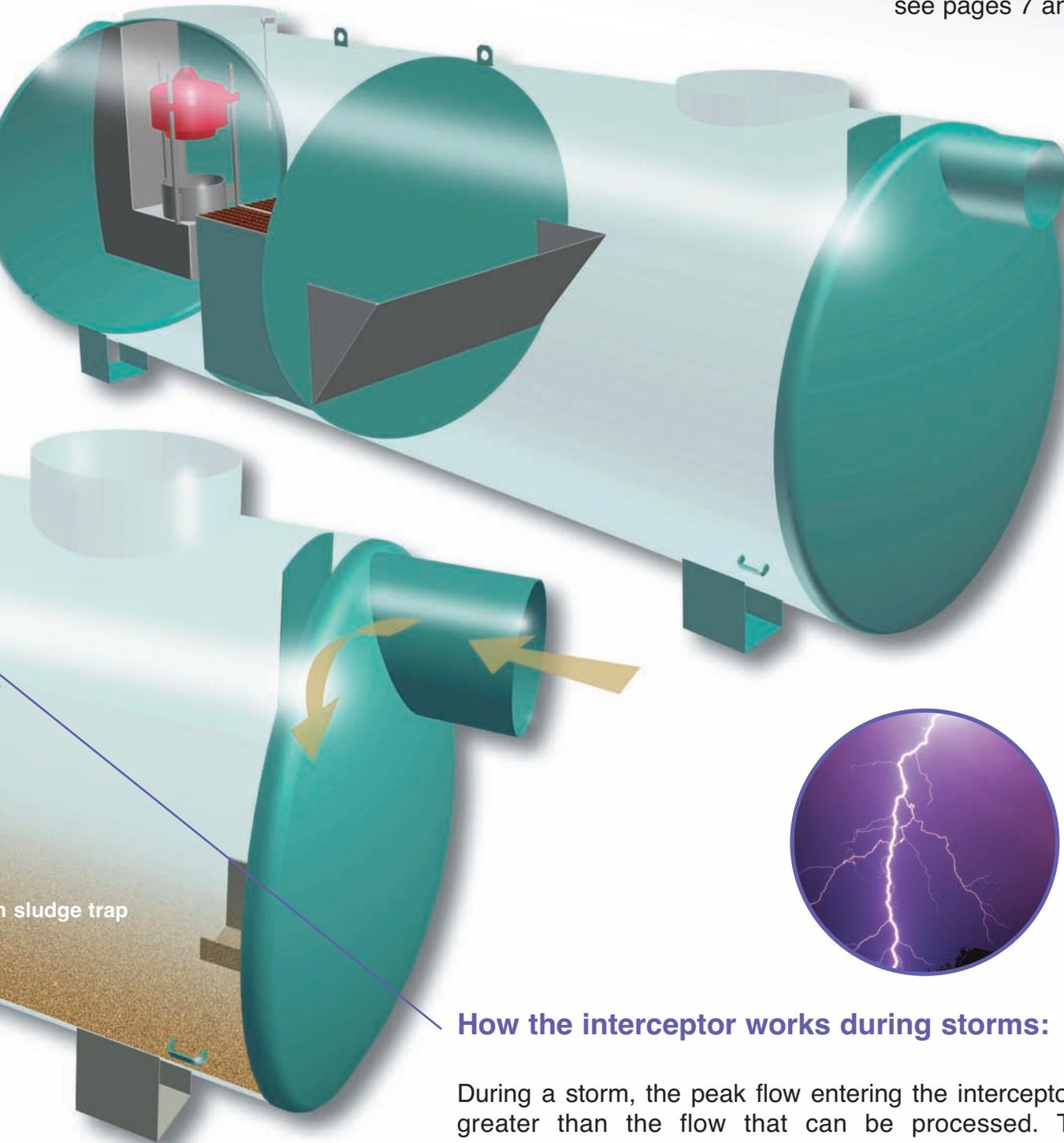
### How the lamellar coalescing cell works:

The effluent goes from the lower part to the upper part of the compartment, which helps the oil to float. The oil particles that are not dense enough to rise to the surface, stick to the back of the plates and form a film that is pushed upwards by the current.



Usable volume of the interceptor = **190** x nominal size

For the options such as anchor straps, screen basket, alarms, see pages 7 and 8



sludge trap

### How the interceptor works during storms:

During a storm, the peak flow entering the interceptor is greater than the flow that can be processed. This difference leads to an increase in the water in the sludge trap part. When the water level reaches the by-pass channel, the excess is sent straight to the outlet.

# Form

## Settle solids interceptor & Oil interceptor

Please photocopy this questionnaire, fill it in and fax it to + 33(0)2 33 56 61 93

### Your Contact Details

Date: ...../...../ 200.....

Company name: ..... Person to contact: .....

Complete address: .....

Telephone: ..... Fax: ..... E-mail: .....

### Information about the study

Tender  Site  Study - Reference: ..... Department: .....

### Information about the site

#### • Parameters for calculations: Rainfall - Flow rate:

Total area of catchment area to be covered:

..... m<sup>2</sup>

of which:

• Waterproofed area(s): ..... m<sup>2</sup>

• Non-waterproofed area(s): ..... m<sup>2</sup>

• Roofed area(s): ..... m<sup>2</sup>

Type of terrain: .....

Average slope (default value 1%): ..... %

Processing required:

Q<sub>2 months</sub> (20% Q<sub>10</sub>)

Q<sub>1 month</sub> (12% Q<sub>10</sub>)

Q<sub>10 years</sub>

other: .....

Peak flow: ..... l/s

Flow rate processed: ..... l/s

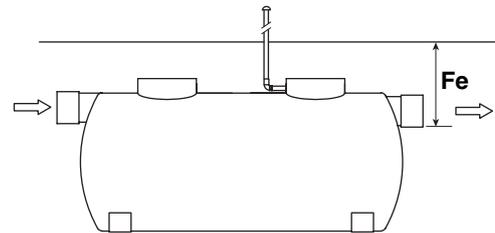
#### • Interceptor installation parameters:

Above grade installation

Water table  Sea water

Installation includes concrete extensions

Value of Fe (see diagram below): ..... mm



#### • Technical characteristics of the site:

Fuel distribution or transfer area

Industrial process water

Washing area -> Number of lanes: .....

->  Light cars  Heavy vehicles  Other

Nominal dia of connection to main water system:

..... mm

Gravity feed

Density of oils to be retrieved (default value: 0,85):

.....

Concentration of oils at inlet:

..... mg/l

Outflow:

Rainwater system

Waste water system

Natural environment

Process

Fall velocity: ..... m/h

Trapping capacity: ..... μ

Concentration at inlet:

• SM: ..... mg/l

• BOD: ..... mg/l

• COD: ..... mg/l

Concentration at outlet:

• SM: ..... mg/l

• BOD: ..... mg/l

• COD: ..... mg/l

# Projects we have worked on

Settle solids interceptor & Oil interceptor

*Thank you all for your confidence and loyalty*

Settle solids interceptor

## References

Numerous major sites, in France and abroad, are equipped with **Techneau** apparatus:

- Airbus A 380 production site in Toulouse
- Industrial site in Monterne
- Industrial site in Réunion
- Industrial estates in Poland
- Shipping centres in the Czech Republic
- Etc.



Oil interceptor



[www.techneau.com](http://www.techneau.com)



## WATER MANAGEMENT

- **WATER PRE-TREATMENT**
  - Oil interceptors
  - Grease and starch interceptors
- **WATER PROCESSING**
  - Lamellar settle solids interceptors
- **HYDRAULIC ACCESSORIES**
  - Flow rate regulators and controllers
    - Penstocks
- **WATER PUMPING**
  - For small communities
  - For communities

## GROUND EQUIPMENT

- **INSPECTION COVERS**
- **SIPHONS & CHANNELS**



Your distributor