



# STREAMLINER™

*Deoiling Hydrocyclone*

**WATER TECHNOLOGIES**

# STREAMLINER™ Deoiling Hydrocyclone

*Building upon many years of oil & gas industry experience, Veolia has developed the STREAMLINER™ range of deoiling hydrocyclones, incorporating unique design features for improved reliability, performance and efficiency.*

## Produced Water

The constituents of produced water are many and varied, with the major substances being:

- Water
- Hydrocarbons
- Solids, both suspended and dissolved
- Production chemicals

These contaminants need to be treated to enable the produced water to be either injected or safely disposed according to local environmental regulations.

## How the STREAMLINER™ Deoiling Hydrocyclone works

Produced water, pumped or under pressure from the separators, is fed into the hydrocyclone vessel and makes its way to the multiple inlet ports of each liner.

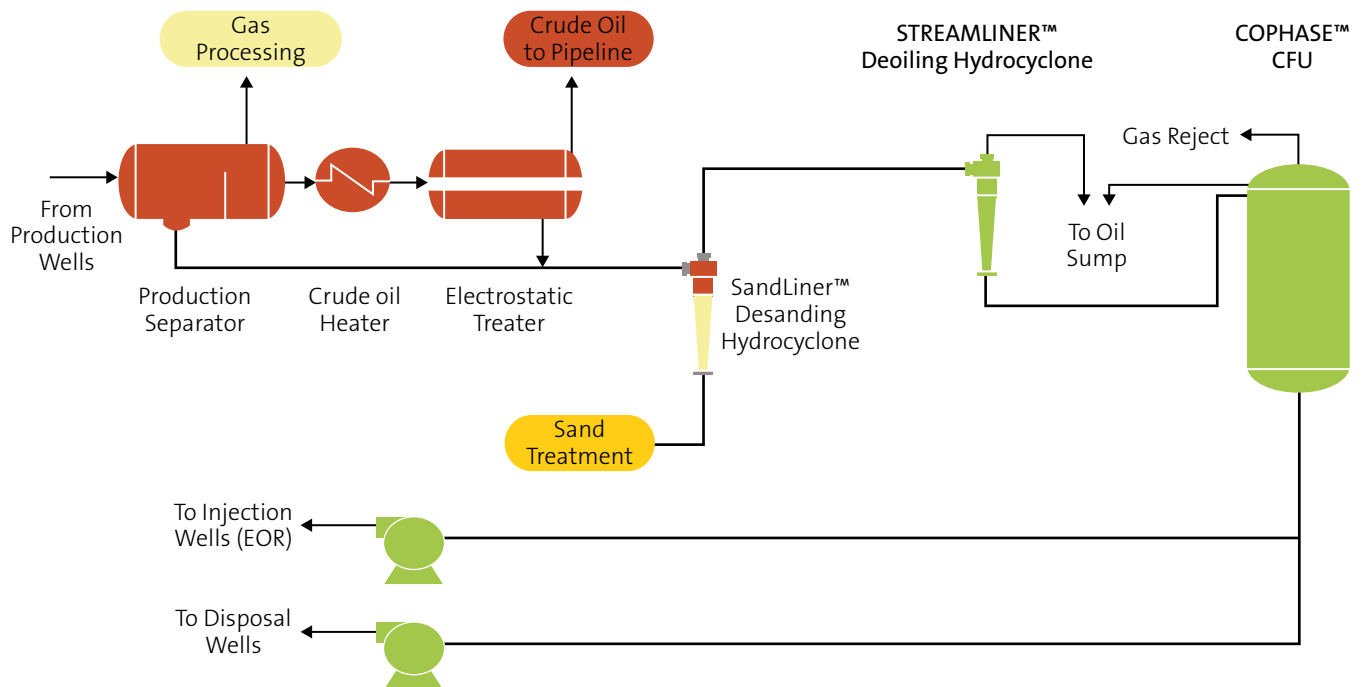
The pressure difference between the inlet and outlet ports of the liner ensures the correct flow path. An axially positioned swirl inducer immediately creates a rotation in the liquid flow. The conical shape of the liner increases the fluid rotation speed as the diameter narrows, resulting in high centrifugal forces and therefore separation of lighter oil and gas from heavier water and solids.

Heavier water and solids move in a vortex near the wall of the liner towards the outlet port, whereas the lighter oil and gas will move in a secondary vortex along the axis of the liner in the opposite direction towards the vortex finder located in the centre of the swirl inducer. A small diameter passage from the vortex finder leads to the disposal chamber of the pressure vessel.

The water is now sent for further treatment, discharged, or injected. The concentrated produced water is either sent back to the primary separators to recover oil, or stored for reject. designs of flotation units currently available.



## Typical process installation diagram



Veolia has an extensive range of produced water treatment processes including the STREAMLINER™ and SandLiner™ range of hydrocyclones and Cophase™ Compact Flotation Unit, meaning that common problems associated with interfacing plant from different suppliers can be eliminated. Our process experts are available to help design the optimum treatment system for your application. We strongly advise that this is initiated as early as possible in the design process to enable you to maximise the benefits of our expertise.

*The main purpose of a deoiling hydrocyclone is to separate free oil from produced water prior to further treatment, discharge, or injection.*



### Benefits of the STREAMLINER™ Deoiling Hydrocyclone include:

- Geometry optimised for capacity and efficiency
- Annular axial inlets reduce turbulence
- Multiple inlet ports improve wear resistance
- Swirl inducer can be inspected without liner disassembly
- Retractable swirl inducer allows for internal liner inspection and easier jet cleaning
- Liners can be retrofitted into existing installations

# Resourcing the world

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