

**CASE
STUDY**



Oily Water Treatment for the Ibiza Energy Production Plant

Year: 2013

Project Location: UPT Ibiza (a thermal power plant)

Objectives: Remove solids, oils, and hydrocarbons from the wastewater produced from the UPT Ibiza

Process Stages: 1st STAGE: reception, coarse oil removal, regulation, and pumping. 2nd STAGE: fine oil removal, regulation and recycle to the 1st stage. 3rd STAGE: physical-chemical treatment and clarification. 4th STAGE: final filtration to discharge point

Installed Technologies and Engineering Services by SIGMA: 1st STAGE: i) systems for fuel and coarse hydrocarbons separation, ii) sieving systems, iii) systems for fine hydrocarbons separation, and iv) longitudinal section of sandblasting system; the whole system is presented as a compact unit. 2nd STAGE: dissolved air flotation system SIGMA DAF FPAC-20-S. 3rd STAGE: analysis, design, and calculation of the reactive sequence and dosing for the physical-chemical treatment

Performance
Solids Concentration After 2nd Stage
<55 mg/L

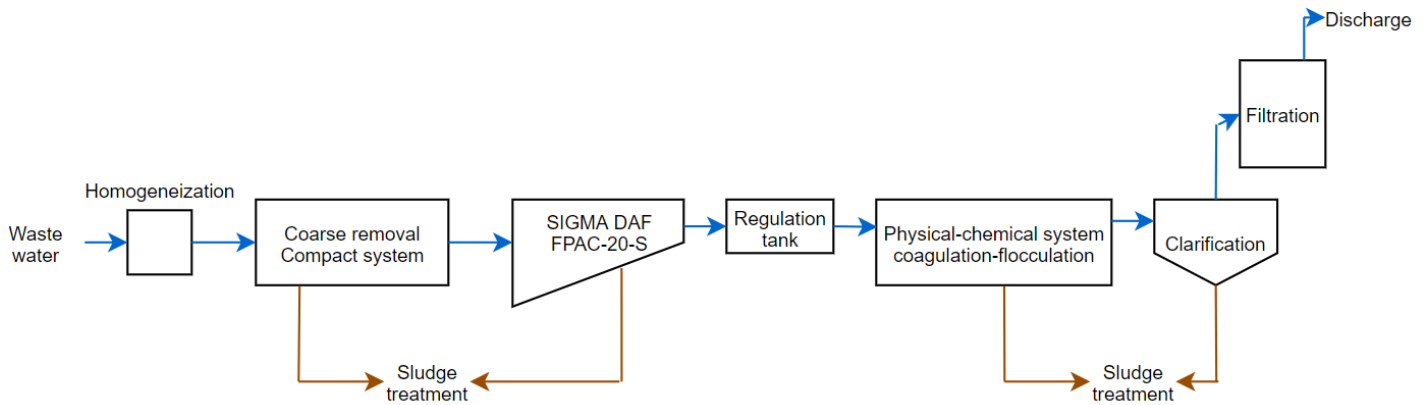
Process Diagram:

1st STAGE: reception, coarse oil removal, regulation, and pumping.

2nd STAGE: fine oil removal, regulation and recycle to the 1st stage.

3rd STAGE: physical-chemical treatment and clarification.

4th STAGE: final filtration to discharge point



Background:

The Ibiza Thermal Power Plant or UPT is a conventional cycle thermoelectric facility located in the municipality of Ibiza. It has 13 active thermal groups that add the power of 270 MW (six engines, four gas turbines, and three double gas turbines), and which use natural gas as the main fuel and diesel as an auxiliary.

The objective of the technologies and equipment installed by SIGMA is the elimination of solids, oils, and hydrocarbons from the wastewater coming from the UPT. The equipment was installed to optimize the existing water purification process.