

AUTOMOTIVE & METAL INDUSTRY

Waste Water Treatment Solutions



CASE STUDY

Automotive/Aeronautic/Metal industry (cars, trucks, planes, heavy machinery, components) faces increasing environmental requirements, especially on COD, metal removal and special molecules removal. Often residual metal levels, residual hydrocarbon or oil levels or surfactant content are a problem which traditional chemical or biological treatment plants cannot solve. Often a good and effective treatment plant can no longer comply with new requirements, coming either from authorities or even from internal goals and strategy. Most often, operating costs for existing plants are extremely high.

Introducing advanced oxidation systems to these operations is the key to solve these problems, either along with new treatment plants or just revamping/retrofitting existing ones. Very short paybacks on investment with these revamping are quite common. Many companies use very expensive final or tertiary treatment procedures, like activated carbon adsorption, to try to solve these problems, most of the times unsuccessfully at a very high cost. VentilAQUA's AOP solutions with electrocoagulation show the way to metal, oils and emulsion removal.

No more huge chemical dosage, no more huge activated carbon adding, no more pH control up and down is required.

What do they do?

Traditional approach to waste water treatment, based on basic coagulation/flocculation processes, not efficient and too expensive in running costs.

What are they trying to achieve?

Efficient oil removal and metal precipitation. Additionally, reduce operating costs and ensure compliance with local reject limits and regulations.



SOLUTION

VentilAQUA presented an AOP based solution, introducing electro-coagulation and DAF flotation all together in a compact display, adapted to the existing space inside production areas. Two electrocoagulation cells, model VABEC 500AG120, standing in a metal frame and conneted, gravitically, to a VAMEF12 DAF unit, with chemical dosage, pH control, coagulation/floculation stirred reactor, recirculation pump, air compressor, sludge separation, all in a compact and unique display. Automatic operation, wireless control from main control room and from internet App.

RESULTS

Metal removal is easy as fast forward with electrocoagulation. Oils and emulsion removal also. No more huge chemical dosage, no more huge activated carbon adding, no more pH control up and down is required.



DATA RESULTS:

Inlet parameters :

COD – 40.000 mg/j
TSS – 500 mg/l
Flow – 2000 L/h

Outlet parameters :

COD reduction between 90 and 97%
BOD reduction between 89 and 99%
O&G below 5 ppm
Boro below 0,3 ppm
Cu below 0,4 ppm
Pb below 0.01 ppm
Sn below 0.01 ppm
Fluorine below 0.01 ppm
Detergents below 1 ppm

97%

COD Reduction
NO METALS

O&G

BELOW 5ppm

