

# AERATION

## WHY DO YOU NEED AERATION?

Aerating water is a common and well-established water treatment method. It serves as a simple cost effective way to treat a wide range of contaminants which cannot be physically separated. If you have strict discharge requirements then an Aeration tank is a good way to ensure you are consistently compliant. Aeration works by releasing contaminants from the water into the air or converting contaminants into a form which can be discharged.

### WHAT IS TREATED?

Light Hydrocarbons	Alcohol
BTEX	Ammonia
Detergents	Chlorine
Degreasers	Iron
Hydrogen Sulfide	Mercury
Herbicides	Manganese
Pesticides	pH
Oxygen Content	and many more



## HOW DOES AERATION WORK?

### VOLATILISATION



As air bubbles float to the surface they will come into contact with volatile substances in the water. When air bubbles contact the volatile substances they vaporise into the bubble and are carried to the water surface where they are released.

### OXIDATION



Introducing air into the water creates an environment where substances can be rapidly oxidised. There are a large number of contaminants which can be discharged once they are oxidised. In a still tank only contaminants very close to the water's surface can oxidise, while in an aerated tank substances can be oxidised throughout. This effect will also reduce the COD of the discharge water.

### BIOLOGICAL ACTIVITY



In most waste water there will be a few naturally occurring bacteria who can eat contaminants in the water. By aerating the water you cause the bacteria population to boom and increase the effect of biological activity to an effective level for treatment. Bacteria convert contaminants into volatile substances and other material which can be discharged.