

DEAERATION



Deaeration is often the final stage of a Water Injection System. Its purpose is to remove dissolved oxygen from the water to prevent corrosion in downstream pipework, in particular in the injection well.

Two types of deaeration systems are commonly used:

- Vacuum Deaeration
- Gas Strip Deaeration

FEATURES AND BENEFITS

- Oxygen reduction to below 5ppb
- Single and multistage columns
- High turndown
- Reduced height designs
- High efficiency mass transfer packing
- Unaffected by motion

OPERATION

Mechanically removing dissolved oxygen from water is a mass transfer process. All mass transfer processes require a driving force and a contacting device. Both vacuum deaeration and gas strip deaeration processes work on a very similar basis. The driving force for mass transfer is provided by reducing the partial pressure of oxygen in the vapour phase. In a vacuum system this is done by reducing the total pressure whereas in a gas stripping column a gas is added to displace the oxygen in the vapour phase, thereby reducing the partial pressure.

Having generated a driving force, the next step is a contacting device to accelerate the transfer of oxygen from the liquid to vapour phase. These structures are provided by the random packing selected by Enhydra to maximise the surface area whilst minimising liquid hold-up and pressure drop.

