

# Water Injection Systems

## Our Experience

Eta Process Plant designs, provides, and installs complete customised water injection packages with process guarantees for onshore and offshore applications. With over 40 years of experience globally, Eta maintains project management and quality assurance standards that are in compliance with the leading engineering, procurement, construction, oil and gas company requirements.

Eta's optimised process design tailors height, weight, and power consumption to the specific application and location, while minimising capital, operating, and overall lifetime costs.

Comprehensive project management includes procurement, shipping, installation, and commissioning services. Fully skid-mounted heavy-duty packaged equipment is available for marine and offshore service.

## Our Technologies

Water injection is used to enhance oil recovery by injecting very large volumes of treated water taken from the ocean or waterways into the oil reservoir to boost reservoir pressure.

Eta offers the following complete and customised skid-packaged units to provide total treatment for injection water.

### FILTRATION

#### COARSE FILTERS

Auto backflushing filters for coarse filtration of raw water down to 50 microns.

#### FINE FILTERS

Dual media pressure filters with automated backwash and conditioning sequences for fine filtration down to 2 microns.

#### ULTRAFILTRATION

Membrane filtration to remove all particles down to specified limits.

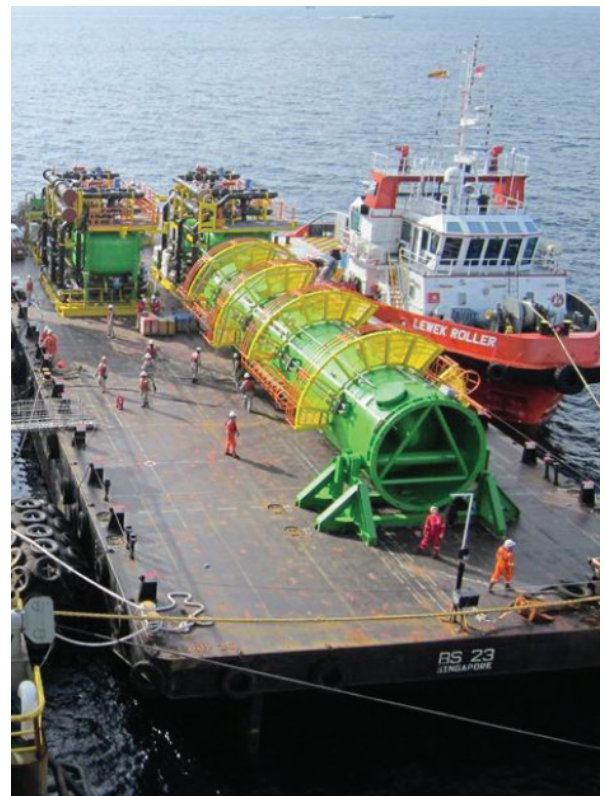
### DEAERATION

#### VACUUM DEAERATORS

Continuous water deaeration to 10 ppb residual dissolved oxygen. Lower residual oxygen may be achieved by chemical scavenging.

#### GAS STRIP DEAERATION

Use of oxygen-free stripping gas (nitrogen, natural gas, etc.) for deaeration.





## Our Technologies

### WATER TREATMENT

#### ■ CHEMICAL INJECTION

Storage and dosing equipment for filtration aids, such as scavengers and biocides.

#### ■ NANOFILTRATION

Removes sulphates to prevent scale formation.

#### ■ ELECTROCHLORINATION

Skid-mounted systems to generate sodium hypochlorite by continuous electrolysis of seawater.

#### ■ PUMPING SYSTEMS

Design and supply of packages to suit the platform requirements.

#### ■ CONTROL SYSTEMS

Local or remote PLC-based control systems and motor controls can be provided for a complete turnkey package.

## Benefits

Complete scope of supply including process guarantees.

- Compact skid packages ideal for offshore applications
- Easy operation and low maintenance
- High efficiency removal
- Reduced on-site time
- Customised design and ongoing support throughout the life of the equipment
- Design and supply of full PLC control systems and motor controls with user interface via HMI

Please contact us for further information.

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## Applications

Eta's water injection systems can be used for any seawater, river water, lake, or aquifer application. Due to Eta's optimised and compact designs, they are ideal for offshore enhanced oil recovery projects (fixed platforms, FPSOs, and TLPs).

## Continuous Support & Service

Eta's engineers are closely involved in all aspects of your project starting with process evaluation, integration and optimisation, followed by detailed process and mechanical engineering, E&I and design through complete fabrication, assembly, inspection, testing, and commissioning as well as post-commissioning operations service.

## References

With over 400 related packages installed across the globe, Eta has extensive reference lists available upon request.

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