

# Coalescer

## Liquid / Liquid Coalescer (CLL Type)

COSCO Ind.'s high-efficiency coalescer is recommended for a wide range of gas & liquid filtration process.

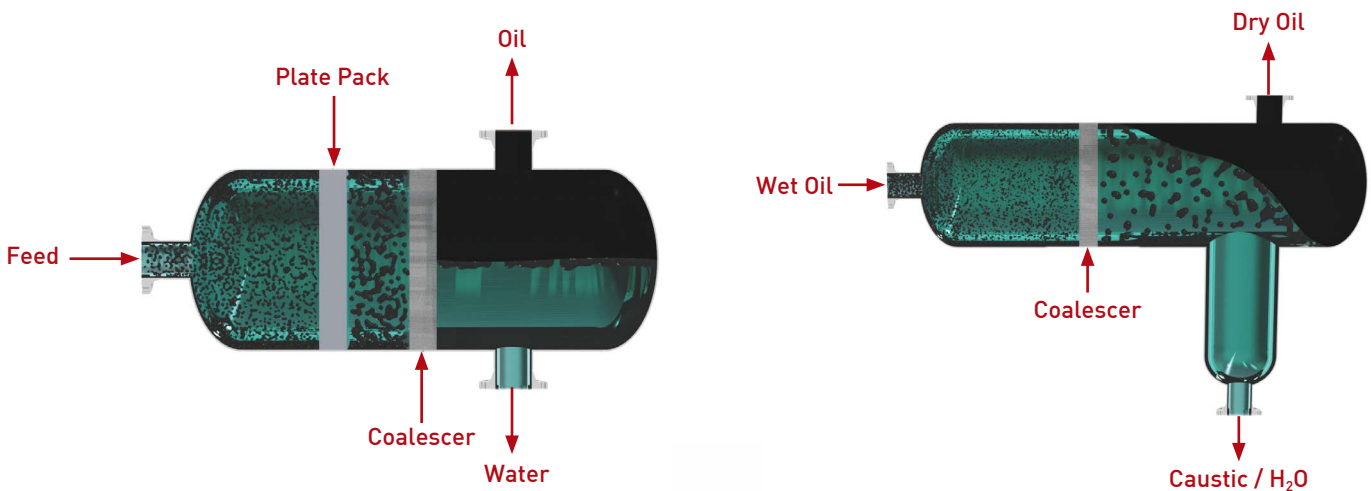
A coalescer is a technological device performing coalescence. It's primarily used to separate emulsions into their components via various processes, operating in reverse to an emulsifier.

COSCO Ind. can supply Coalescer according to fluid material which needs to be separated.

(Liquid-Liquid / Liquid-Gas / Three Phase Separation)

### Features

- Reduces cost due to smaller vessel design
- Capacity increase for the existing vessels
- Higher recovery of valuable products
- Removal of haziness in the product
- Reduces blending delays
- Reduces wastewater production from tankage, separator and desalter



# Filter Separator

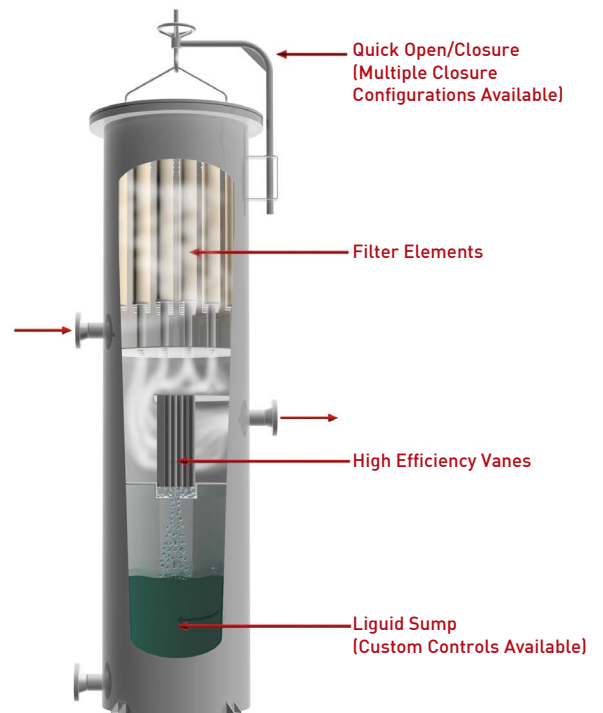
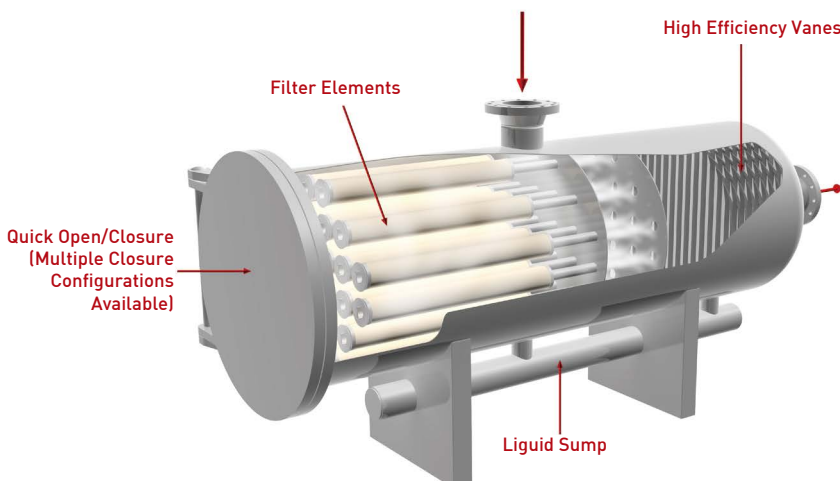
## Liquid-Gas Separator (CFS Type)

COSCO Ind. two stage filter separator technology allows you to have the smallest possible vessel diameter, resulting in the lowest cost while removing aerosol liquids and solid particles efficiently.

The first stage contains replaceable coalescing filters mounted on a tube sheet. Here the bulk liquids and solids are removed while coalescing the aerosol liquid droplets into large ones. Some of these coalesced droplets fall off the filter but the majority is pushed to the second stage due to the high surface velocity. In the second stage, these large droplets are removed by a high capacity Double Pocket Vane and Mesh Pad.

### Features

- Removes aerosol mist to protect downstream equipment from damage, fouling, pitting corrosion or deactivating of catalyst of molecular sieves
- Reduces amine or glycol foaming problems by removing solids and free liquid particles from the inlet gas stream
- Allows low cost vessel designs
- Debottleneck existing equipment, and adding upto 100% more capacity without requiring a new separator



# Filter Separator

## Reverse Flow Gas Coalescer (CRGC Type)

Remove liquid and solid particles entrained in gas  
Efficiency of 99.5% removal of particles  $0.3\mu\text{m}$   
100% turndown

### Applications

- Removal of Lube Oil Downstream of Compressor
- Inlet to Gas Turbines
- Inlet to Molecular Sieve Plant
- Low NOx Applications

### There are 3 mechanisms that enable droplets to coalesce on the surface of the element

- Sieving
- Impacting
- Diffusion

### Sizing Considerations

- Inlet nozzle velocity and pressure drop
- Bulk liquid removal / stilling screen
- Velocity through risers
- Liquid loading per element
- Liquid loading per element
- Element spacing / gas velocity
- Vapor disengagement
- Outlet baffle sizing
- Outlet nozzle velocity and pressure drop

