

RENDERING & PROTEIN RECOVERY

EVAPORATOR PLANTS



RENDETECH



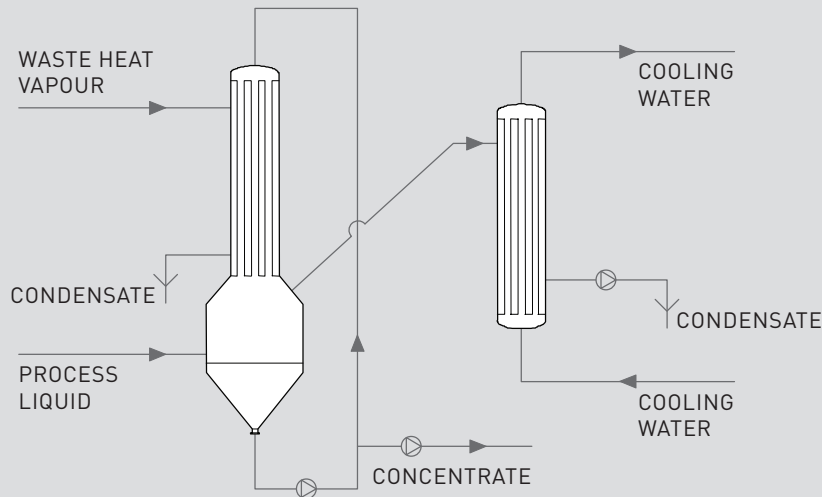


A Rendertech Evaporator is a shell-and-tube heat exchanger that uses heat from water vapour or steam to evaporate water in order to concentrate a solution or slurry. In a rendering plant, Evaporator plants can be used to recover valuable products from liquid waste streams or to thicken a product slurry before it is cooked or dried.

Evaporator bodies (or effects) are often combined in series to improve the efficiency of the total plant.

There are many factors to take into consideration when specifying an Evaporator plant; every Rendertech Evaporator plant is custom designed and manufactured for the heat source available and the liquid that is being concentrated.

EVAPORATOR PLANTS


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FEATURES AND BENEFITS

Custom designed for each application.

Can utilise waste heat for reduced energy consumption.

Can recover valuable solids from a liquid waste stream.

Designed to handle liquids with higher solids concentrations, including slurries.

Easy to operate and requires limited operator input.

Generously sized tubes for enhanced heat transfer and reduced blocking.

Doesn't require emptying and cleaning between processing days – quick start-up and shutdown.

FALLING FILM EVAPORATOR

In a falling film Evaporator, the evaporator liquid is pumped to the top of the heat exchanger tubes and allowed to form a thin layer as it runs down the inside of the tubes. Waste process vapour or boiler steam is applied to the outside of the tubes, which transfers heat to the liquid and causes it to boil. When the boiling liquid and vapour reach the body at the bottom of the tubes, the vapour is removed and the liquid recirculated to the top of the tubes.

Concentrated liquid is continually withdrawn for further processing. Falling film Evaporators tolerate a wide range of operating conditions and solids loadings.

FORCED FLASH EVAPORATOR

A forced flash Evaporator is designed to prevent the Evaporator liquid from boiling inside the tubes. The liquid is pumped into the bottom of the tubes, where it is heated using vapour or steam. When the liquid enters the separate flash chamber from the top of the tubes, some of the liquid flashes to vapour and is removed.

Forced flash Evaporators are suited to liquids with high solid concentrations where there is a risk of fouling inside the evaporator tubes.



MULTI-EFFECT EVAPORATORS

Multiple effects, or heating bodies, are often installed in series. A second effect uses the vapour evaporated from the first effect as its heat source – greatly increasing the thermal efficiency of the plant.

A combination of waste heat and steam-heated effects can be used to achieve the outcome required.

Evaporators generally run under a vacuum to reduce the boiling point of the liquid and increase the heat transfer rate. A Rendertech shell-and-tube Vacuum Condenser is used to condense the liquid that is boiled off, and this creates the vacuum.

Ancillary equipment

Rendertech can provide ancillary equipment to suit the specific requirements of your site, including stickwater tanks, concentrate tanks, CIP systems, vapour ducting, and odour control.

OPTIONS

Waste Heat Evaporator plants

Steam-heated Evaporator plants

Forced flash Evaporators

Complete turnkey installation

YOUR PROCESS PARTNER

We are specialists in process and storage solutions, providing the products and technical expertise to get the best from your plant. For more information call for a no obligation chat about your processing needs.

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