



Horizontal thin film evaporator for high quality purification of liquids at low costs

(08 AT 0105 271F)



### Abstract

**An Austrian company has developed a revolutionary technology to purify liquids in a wide range of applications. Its horizontal thin film evaporator is suitable for process and drinking water production, sewage conditioning, concentration and distillation of liquids and recycling of raw materials from waste water. Advantages are lower investment and maintenance costs, lower energy consumption and a significantly better liquid quality. The company is looking for licensees or strategic partners.**

### Description

A small Austrian company has developed a new technology for the thermal treatment (purification) of liquids. This new technology is very economical and environmentally friendly.



This new and revolutionary technology is basically a distillation process with the innovation of a horizontal thin film evaporator including integrated mechanical vapour recompression (similar to a heat pump). An Austrian patent for this new technology has been granted, PCT-patent has already been applied for.

Compared to a traditional vertical thin film evaporator this technology is much more compact and has therefore significant lower manufacturing costs.

Advantages compared to a pipe-based evaporator are much better heat transfer, permanent cleaning of heat exchange surfaces, a much higher liquid concentration, and much better process control.

The prototype can achieve specific energy consumption values of less than 45 Wh/l which is significantly lower than competitive technologies (based on water).

The thermal separation of liquids can be done by cooling or heating of a surface. The liquid is spread on the surface in a thin film by rotating strips, wipers, scrapers, dippers or sprinklers.

The following pressures are possible: normal, vacuum and high pressure.

An industry-size prototype has been built and extensively tested thus successfully proving the market potential for this new technology.

### Innovations and advantages of the offer

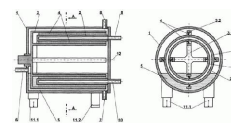
Thermal treatment of various kinds of liquids featuring:

- horizontal thin film evaporator (patent granted)
- integrated mechanical vapour recompression (patent granted)

### Current and Potential Domain of Application

The new technology is suitable for (examples):

- process water production (pharma industry, food industry, etc.)
- waste water and sewage conditioning (landfills, galvanic processes, cooling solvents, etc.)
- drinking water production (salt water, contaminated water, etc.)
- concentration of liquids (fruit juice, etc.)
- distillation of liquids (spirits, etc.)
- recycling of raw materials from waste water (semiconductor industry, etc.)



For further information (including IPR status) please contact:

Susanna Chericoni  
Phone: 39 050 931620  
Fax: 39 050 931640  
Email: s.chericoni@cpr.it