

Title (en)  
VAPOR-COMPRESSION EVAPORATION SYSTEM AND METHOD

Title (de)  
VORRICHTUNG UND VERFAHREN ZUR DAMPF-VERDICHTUNG UND -VERDAMPFUNG

Title (fr)  
SYSTEME ET PROCEDE D'EVAPORATION PAR COMPRESSION DE VAPEUR

Publication  
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Application  
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Abstract (en)  
[origin: WO2005028982A1] According to one embodiment of the invention, a vapor-compression evaporation system includes a plurality of vessels in series each containing a feed having a nonvolatile component, a mechanical compressor (445) coupled to the last vessel in the series and operable to receive a vapor from the last vessel in the series, a pump operable to deliver a cooling liquid (444) to the mechanical compressor, a tank coupled to the mechanical compressor and operable to separate liquid and vapor received from the mechanical compressor, a plurality of heat exchangers coupled inside respective ones of the vessels, the heat exchanger in the first vessel in the series operable to receive the vapor from the tank, at least some of the vapor condensing therein, whereby the heat of condensation provides the heat of evaporation to the first vessel in the series, and wherein at least some of the vapor inside the first vessel in the series is delivered to the heat exchanger in the next vessel in the series, whereby the condensing, evaporating, and delivering steps continue until the last vessel in the series is reached.

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