

Title (en)

ENERGY-EFFICIENT SYSTEMS INCLUDING VAPOR COMPRESSION FOR BIOFUEL OR BIOCHEMICAL PLANTS

Title (de)

ENERGIEEFFIZIENTE SYSTEME MIT DAMPFKOMPRESSION FÜR BIOKRAFTSTOFF- ODER BIOCHEMISCHE ANLAGEN

Title (fr)

SYSTÈMES ÉCOÉNERGÉTIQUES COMPRENANT UNE COMPRESSION DE VAPEUR POUR USINES DE BIOCARBURANTS OU DE PRODUITS BIOCHIMIQUES

Publication

EP 3684888 A1 20200729 (EN)

Application

EP 17925687 A 20170922

Priority

- US 201715711699 A 20170921
- US 2017052835 W 20170922

Abstract (en)

[origin: WO2019059915A1] Processes and systems are provided to compress vapors produced in distillation and recover the heat of condensation through vapor compression and to derive mechanical, thermal, and electrical energy from a combined heat and power system, while maintaining the plants original ability to operate. The plants existing distillation system, steam generation, and electrical demand determine the design basis for the retrofit system that is targeted at an optimized combination of energy usage, energy cost, and environmental impact. Vapor compression (by mechanical vapor recompression and/or thermal vapor recompression) minimizes the total energy usage. Optionally, combined heat and power provides a means of converting energy between fuel, electricity, and thermal energy in a manner that best complements plant requirements and energy economics and minimizes inefficiencies and energy losses.

IPC 8 full level

C10G 47/00 (2006.01); **C12P 7/64** (2006.01)

CPC (source: EP US)

B01D 1/2856 (2013.01 - EP); **B01D 3/002** (2013.01 - EP); **B01D 3/143** (2013.01 - EP); **C10G 7/00** (2013.01 - EP US); **C10G 7/12** (2013.01 - EP); **C12P 7/06** (2013.01 - EP); **C12P 7/16** (2013.01 - EP); **C10G 2300/4056** (2013.01 - EP); **Y02E 50/10** (2013.01 - EP); **Y02P 20/59** (2015.11 - EP); **Y02P 70/10** (2015.11 - EP)

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