

Title (en)
METHOD FOR LIQUEFYING A STREAM RICH IN HYDROCARBONS

Title (de)
VERFAHREN ZUM VERFLÜSSIGEN EINES KOHLENWASSERSTOFF-REICHEN STROMES

Title (fr)
PROCEDE DE LIQUEFACTION D'UN COURANT RICHE EN HYDROCARBURES

Publication
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Application
EP 98924120 A 19980415

Priority

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Abstract (en)
[origin: DE19716415C1] The invention relates to a method for liquefying a stream rich in hydrocarbons, especially a stream of natural gas, by the indirect exchange of heat with the refrigerants in a closed-circuit cascade of mixed refrigerants. According to the invention, said closed-circuit cascade of mixed refrigerants consists of at least 3 circuits of mixed refrigerants, with each circuit comprising different refrigerants. The first of the three mixed refrigerant circuits is used for pre-cooling (E1), the second for liquefying (E2), and the third for super-cooling (E3) the hydrocarbon-rich stream (1) to be liquefied. The method provided for in the invention reduces specific energy consumption and investment costs since the three circuits of mixed refrigerants are or can be optimally adjusted to the enthalpy temperature curves of the hydrocarbon-rich stream to be liquefied and the refrigerant mixtures.

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Citation (search report)
See references of WO 9848227A1

Cited by
CN109631492A; US10480851B2; DE102011014984A1; US11408673B2; US11428463B2; US10663221B2; US11408676B2; DE102016004606A1; WO2017178620A1; US9441877B2; US10502483B2

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