

Title (en)

METHOD FOR OPERATING A TUBE BUNDLE HEAT EXCHANGER FOR HEATING A TEMPERATURE-SENSITIVE CONCENTRATE OF A FOOD PRODUCT UNDER HIGH PRESSURE, AND TUBE BUNDLE HEAT EXCHANGER FOR CARRYING OUT THE METHOD

Title (de)

VERFAHREN ZUM BETRIEB EINES ROHRBÜNDEL-WÄRMEAUSTAUSCHERS ZUR ERHITZUNG EINES TEMPERATURSENSIBLEN KONZENTRATS EINES LEBENSMITTELPRODUKTS UNTER HOHEM DRUCK UND ROHRBÜNDEL-WÄRMEAUSTAUSCHER ZUR DURCHFÜHRUNG DES VERFAHRENS

Title (fr)

PROCÉDÉ PERMETTANT DE FAIRE FONCTIONNER UN ÉCHANGEUR DE CHALEUR À FAISCEAU TUBULAIRE POUR CHAUFFER UN CONCENTRÉ SENSIBLE À LA TEMPÉRATURE D'UN PRODUIT ALIMENTAIRE SOUS HAUTE PRESSION ET ÉCHANGEUR DE CHALEUR À FAISCEAU TUBULAIRE POUR LA MISE EN OEUVRE DU PROCÉDÉ

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Application

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Abstract (en)

[origin: WO2017220194A1] The invention relates to a method for operating a tube bundle heat exchanger (100) for heating a temperature-sensitive concentrate (P) of a food product under high pressure, having the preamble features of claim 1. The aim of the invention is to overcome the disadvantages of the prior art and provide a method of the generic type and a tube bundle heat exchanger for carrying out the method which reduce the tendency of the concentrate to denature at a high pressure level, the tendency of the viscosity of the concentrate to increase or the tendency of the concentrate to gelate, and the tendency of same to accumulate and which ensure an end product that is sterile, i.e. microbiologically clean. This is achieved by a method in that • the tube bundle heat exchanger (100) flow paths supplied with the concentrate (P) are designed such that a pressure (p) of maximally 350 bar can be applied to the concentrate (P), and • an increased concentrate (P) flow speed (v) maximally equaling 3m/s is provided in the inner tubes (300) and/or in the annular gap-shaped outlet-side channel (600b) in order to generate a defined flow mechanical shear stress of the concentrate (P).

IPC 8 full level

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