

Title (en)

DEVICE AND METHOD FOR REMOVING VOLATILE COMPONENTS FROM POLYMER SOLUTIONS

Title (de)

VORRICHTUNG UND VERFAHREN ZUR ENTFERNUNG VON FLÜCHTIGEN KOMPONENTEN AUS POLYMERLÖSUNGEN

Title (fr)

DISPOSITIF ET PROCEDE POUR L'ELIMINATION DE CONSTITUANTS VOLATILS DANS DES SOLUTIONS POLYMERES

Publication

**EP 1077753 A1 20010228 (DE)**

Application

**EP 99915751 A 19990408**

Priority

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Abstract (en)

[origin: DE19817678A1] An apparatus for complete removal of volatile components from a polymer solution comprising a heat exchanger with a central reception zone for the polymer solution, a product zone for the treated polymer solution, and a second, multichannel heat exchanger connecting the container zone to the product zone, the channels of which flare out to double their original width between the inlet and outlet. The apparatus comprises at least one container with an inlet for the polymer solution, an exit for the volatile component, an outlet for the treated polymer solution, and a heat exchanger (31) having a central reception zone for the polymer solution, which is connected to the container inlet. The apparatus has a product zone for reception of the treated polymer solution, and a multichannel heat exchanger with channels (14), which form a heat exchange zone, and which connect the reception zone to the product zone, and a heater for heating the multichannel heat exchanger and its channels. Each channel is 1.0-40 cm long, has a constant height over its length of 1.3-13 mm, and its inlet region in the reception zone is 1-10 cm wide. The channels flare out between inlet (23) and outlet (32) to the product zone to at least double their original width. An Independent claim is included for a process for removing volatile components from a polymer solution containing at least 40 wt.% polymer involving: (A) feeding the polymer solution to the reception zone under a pressure of 1-100 bar; (B) passage of the heated polymer solution through the channels of the first heat exchanger at a temperature of half the evaporation pressure of the polymer solution and below the boiling point or decomposition temperature of the polymer, with a polymer dwell time in the channel of 5-120 seconds; (C) separation of the volatile component from the polymer solution via the exit; and (D) collection of the polymer free from volatile components.

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