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PACKING WITH A CROSS CHANNEL STRUCTURE FOR A MATERIAL EXCHANGE COLUMN WITH A HIGH SPECIFIC SEPARATION PERFORMANCE

Abstract of disclosure

The packing (1) with cross channel structure for a material exchange column (2) should have a high specific separation performance. The packing is specifiable by a specific surface area, a, and an inclination angle of the passages, φ. It belongs to a class of packings with $a = a_{cl}$ and $\varphi = \varphi_{cl}$ in accordance with the following assertions:

- for fluids which flow in the packing, equally large fluid flows are in each case provided;
- a number n of theoretical separation stages per meter which can be empirically determined for the packing, namely the parameter NTSM; can be represented by a first function $f_1(a, \varphi)$ of the variables a and φ;
- a flow resistance which results for a gas flow which flows through the packing can be characterised by a pressure loss per meter, Δp, as a second function $f_2(a, \varphi)$;
- under the auxiliary condition n = const, Δp assumes a relative minimum for which the variables a and φ — in dependence on the parameter n — assume the values $a_m(n)$ and $\varphi_m(n)$ respectively;
- it is true that $n > 4.5$, $a_{cl} < a_m(n)$, $\varphi_{cl} > \varphi_m(n)$ and $\varphi_{cl} > 45°$.

(Fig. 2)