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(54) Title: GAS PHASE OLEFIN POLYMERISATION PROCESS AND APPARATUS

(57) Abstract

The present invention is a process and an apparatus for the gas phase polymerization of olefin(s) using a fluidised–bed reactor (1) from which, at the top part, is withdrawn a recycling gas stream which comprises unreacted gas and entrained solid particles and which is moved by virtue of a compressor (4), which is cooled by passing into a heat exchanger (7) and which is reintroduced into the reactor at the bottom part (1a) of the latter. The heat exchanger (7) is a multitubular exchanger successively comprising an inlet chamber (6), a bundle of tubes (9) with a horizontal longitudinal axis and an outlet chamber (10) equipped with a discharge orifice (11). In the outlet chamber (10) the flow of the gas stream is accelerated up to the orifice (11) and is directed at any point in the said chamber along a horizontal axis and/or towards the bottom part (1a) of the said chamber, so as to create, in the bottom part of the said chamber, a sweeping stream which flows horizontally or with a downward inclination and without obstacle up to the orifice and which promotes the entrainment of the particles up to the orifice.

