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(54) Title: NOZZLE FOR ATOMIZING A FLUID IN A FLUIDISED BED

(57) Abstract

A continuous gas fluidised bed process for the polymerisation of olefins, especially ethylene, propylene, or mixtures thereof with other alpha–olefins by cooling the recycle gas stream to condense some liquid (e.g., a comonomer), separating at least part of the liquid and spraying it under pressure through a nozzle (1) directly into the fluidised bed by pressurising the liquid and feeding it to a spray nozzle (1) having a mechanical device (6) for atomising the liquid, under conditions such that the spray is formed within a spray–forming zone (5) of the nozzle outlet. The spray–forming zone (5) is preferably shielded from the fluidised bed particles by a wall or walls which can be, for example, a tube or a plate. Also described is a nozzle having two or more series of outlets, each series being fed and controlled independently to enable improved turn–up/turn–down of the liquid supply to the bed.

