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(54) Title: ATOMISER NOZZLE

(57) Abstract

The invention relates to continuous gas fluidised bed polymerisation of olefins, especially ethylene, propylene, or mixtures of these with other alpha-olefins, wherein the monomer-containing recycle gas employed to fluidise the bed is cooled to condense out at least some liquid hydrocarbon. The condensed liquid, which can be a monomer or an inert liquid, is separated from the recycle gas and fed directly to the fluidised bed, through a gas-induced atomiser nozzle (1), to produce cooling by latent heat of evaporation. The nozzle (1) is provided with a mechanical device (9) within the liquid inlet to the atomising chamber (5). The mechanical device (9) preatomises the liquid so that the nozzle (1) requires reduced amounts of gas compared with conventional gas-induced atomiser nozzles (1).

