

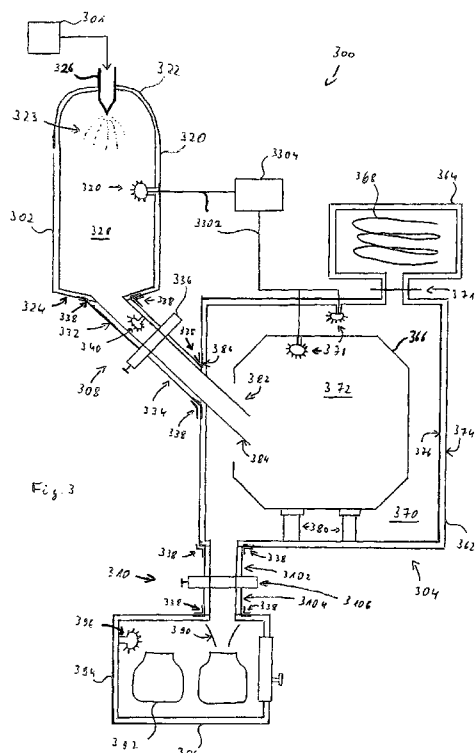


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(54) **Title:** PROCESS LINE FOR THE PRODUCTION OF FREEZE-DRIED PARTICLES

(57) **Abstract:** A process line (300) for the production of freeze-dried particles under closed conditions is provided, the process line comprising at least the following separate devices: a spray chamber (302) for droplet generation and freeze congealing of the liquid droplets to form particles, and a bulk freeze-dryer (304) for freeze drying the particles, wherein a transfer section (308) is provided for a product transfer from the spray chamber (302) to the freeze-dryer (304), for the production of the particles under end-to-end closed conditions each of the devices (302, 304) and of the transfer section (308) is separately adapted for closed operation, and the spray chamber (302) is adapted for separation of the liquid droplets from any cooling circuit.



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