

The present invention relates to an apparatus (10C0) for removing fluids and/or solids from a mixture of particulate materials, having a container (21) which forms a ring-shaped process chamber (23) with a multiplicity of cells separated from one another by walls (25), said cells comprising an inlet cell (201), intermediate cells and an outlet cell (202), having an introduction device (1) for the introduction of the mixture for treatment into the inlet cell (201) of the process chamber (23), having a discharge device (3) for the discharge of the treated mixture out of the outlet cell (202) of the process chamber (23), having a fan device (7, 7') for feeding a first fluidization medium, in particular in the form of superheated steam, into the process chamber (23) from below through an inflow base (24, 24', 24'', 24''') in order to generate a fluidized bed (2) in the process chamber (23), having a heating device (6) for the preparation of the first fluidization medium upstream of the fan device (7, 7') as viewed in the flow direction, swirl blades (29) for conditioning the flow (110-160) in the container (21) from the process chamber (23) to the heating device (6) and, in part, to a vapour outlet (5), and having a dust extraction device (4) in the flow path between the process chamber (23) and the heating device (6), wherein, by way of the dust extraction device (4), dust can be conducted to the outlet cell (202), and to assist transportation of the mixture from the inlet cell (201) to the outlet cell (202) and/or a swirling of the mixture in the process chamber (23), the inflow base (24) has first unevennesses (342), and/or a second fluidization medium, in particular in the form of superheated steam, can at least intermittently be fed at least into the inlet cell (201) substantially parallel to the inflow base (24) by means of first nozzles (302), and/or first flow-guiding elements (303) are provided above the inflow base (24) and/or second flow-guiding elements (501, 502, 503, 600, 700) are provided below the inflow base (24', 24'', 24''').