

ABSTRACT

APPARATUS & PROCESS FOR HEAT EXCHANGE WITH FLUID BEDS .

Apparatus and process for heat exchange with fluid beds comprises heat-exchange tubes located longitudinally with respect to the axis of a fluidisation zone with a rectangular pitch, one side of which having a length at least one and a half times the length of the other side and/or with a triangular pitch, having two sides each at least one and a half times the length of the shortest side reduces the impact of the heat-exchange tubes on the fluidisation characteristics of the fluid bed. The invention is particularly suitable for oxidation reactions using molecular oxygen-containing gas in the presence of a fluid bed of fluidisable catalyst, such as (a) the acetoxylation of olefins, (b) the oxidation of ethylene to acetic acid and/or the oxidation of ethane to ethylene and/or acetic acid, (c) the ammoxidation of propylene and/or propane to acrylonitrile and (d) the oxidation of C4's to maleic anhydride.

Fig. 1