

ABSTRACT

Objects of the present invention consist in provision of a multi-tubular reactor which can appropriately control a reaction so that formation of a hot spot or a cold spot is prevented during production of a substance with an exothermic or endothermic reaction. The present invention relates to a multi-tubular reactor (1) comprising a cylindrical shell (2), a plurality of reaction tubes (10) located in the shell, and a disk-and-doughnut type baffle (5), wherein

the reaction tubes (10) are arranged so as to be in a triangular configuration,

one or more of the reaction tubes (10) is/are a temperature-measuring reaction tube(s) provided with a thermometer (20), and

a line (BL) through a central axis of the temperature-measuring reaction tube and a central axis of the shell (2) forms an angle from 0 to 15 degree with a line (CL) through the central axis of the temperature-measuring reaction tube and a central axis of at least one adjacent reaction tube next to the temperature-measuring reaction tube, in a cross section of the reactor (1) perpendicular to the central axis of the shell (2), as well as a design and production method thereof.