

COKE CONTROL REACTOR, DEVICE FOR PREPARING LOW-CARBON OLEFINS

ABSTRACT

The present application discloses a coke control reactor, a device for preparing low-carbon olefins from an oxygen-containing compound, and a use thereof. The coke control reactor includes a riser reactor and a bed reactor; the bed reactor includes a bed reactor shell, and the bed reactor shell encloses a reaction zone I, a transition zone, and a gas-solid separation zone I from bottom to top; a bed reactor distributor is arranged in the reaction zone I; a coke controlled catalyst delivery pipe is arranged outside the reaction zone I; an upper section of the riser reactor penetrates through a bottom of the bed reactor and is axially inserted in the bed reactor; and an outlet end of the riser reactor is located in the transition zone. The coke control reactor can control the conversion and generation of coke species in a catalyst. On the one hand, inactive large-molecule coke species remaining in a regenerated catalyst are converted into small-molecule coke species; and on the other hand, a riser reactor raw material and a bed reactor raw material can also enter the catalyst to generate highly-active small-molecule coke species to improve the selectivity for ethylene.

Figure 1 for publication.