

TS 8519

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(Figure 1)

DISTRIBUTOR DEVICE FOR MULTIPLE-BED DOWNFLOW REACTORS

The present invention provides a distributor device for distributing liquid and gas in a multiple-bed downflow reactor which comprises

- (i) a substantially horizontal collecting tray provided with a central gas passage surrounded by a weir and with liquid passages around the weir;
  - (ii) a substantially horizontal distribution tray located below the collecting tray, which distribution tray is provided with a plurality of tubular downcomers for downward flow of liquid and gas;
  - (iii) a fluid deflector plate located above the central gas passage of the collecting tray;
  - (iv) a mixing chamber defined between the collecting tray and the distribution tray; and
  - (v) open-ended guide conduits having first ends and second ends, wherein the first ends communicate with the liquid passages of the collecting tray and the second ends open into the mixing chamber, and wherein the second ends are so positioned that, during normal operation, liquid streams emerging from the second ends impinge;
- a multiple-bed downflow reactor including the distributor device; and use of the multiple-bed downflow reactor in hydrocarbon processing.

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