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(54) Title: UNDERFLOW CYCLONE WITH PERFORATED BARREL**(57) Abstract**

A cyclone (310) and process for fluidized catalytic cracking of heavy oils is disclosed. Gas and entrained solids are added tangentially around a vapor outlet tube (320) in a cylindrical tube cyclone body. Solids and some gas are withdrawn via a plurality of openings (316) radially and longitudinally distributed in the cylindrical sidewall (314) of the cyclone. Distributed withdrawal replaces or reduces conventional underflow of solids from an end of cyclone outlet and reduces solids reentrainment. The removal of particles less than 5 microns in size is enhanced by reducing eddy formation and particle bouncing near the cyclone sidewall (314). The device may be used as an FCC regenerator third stage separator.

GAS + SOLIDS

