COMPACT DEVICE FOR MIXING FLUIDS IN A DOWNFLOW REACTOR

ABSTRACT

The present invention relates to a compact device for mixing fluids in a downflow reactor comprising at least one substantially horizontal gathering means provided with a vertical gathering line intended to receive the fluids, at least one injection means arranged in said gathering line, an annular mixing chamber located downstream from the gathering means in the direction of circulation of the fluids, said chamber comprising an inlet end directly connected to said gathering line and an outlet end for passage of the fluids, and a horizontal predistribution plate comprising at least one chimney, said plate being located downstream from said chamber at a distance d2, in the direction of circulation of the fluids.

The invention also relates to a reactor comprising a compact mixing device. The invention applies to the sphere of exothermic reactions and more particularly to hydrotreatment, hydrodesulfurization, hydrodenitrogenation, hydrocracking, hydrogenation and hydrodearomatization reactions.

Figure 1