

ABSTRACT

APPARATUS FOR THE TREATMENT OF SUBSTANCES

The apparatus comprises a container (3) which essentially has the shape of a body of revolution and comprises two half-shells (4, 5) detachable from one another and having a vertical axis. The container (3) preferably has the shape of a sphere with a material inlet (6) arranged in the upper half-shell (4) and a material outlet (10) arranged in the bottom of the lower half-shell (5). Also arranged in the container (3) is a stirrer (16) which is rotatable about an axis inclined not more than 20° and which is connected to a drive device (8) arranged on the upper half-shell (4) and picks up and constantly circulates the entire material during operation of the apparatus. The apparatus is suitable as a dryer, mixer and, with introduction of a suitable liquid, also as a granulator and can be used not only for chemical synthesis but also as a reactor, for example in the pharmaceutical manufacturing stage, in combined applications. Particular advantages of the apparatus according to the invention are the pressure surge resistance and the simple maintenance and cleaning by separation of the lower half-shell (5) from the fixed upper half-shell (4).

Figure 1