Abstract

Method for the simultaneous material-removing processing of both sides of at least three semiconductor wafers

The invention relates to a method for the simultaneous material-removing processing of both sides of at least three semiconductor wafers between two rotating ring-shaped working disks of a double-side processing apparatus, wherein the double-side processing apparatus has a rolling apparatus, which causes at least three carriers to rotate, and wherein each of the carriers has precisely one opening, into which a semiconductor wafer is respectively inserted in a freely movable fashion, such that the semiconductor wafers are moved on a cycloidal trajectory between the working disks, wherein the arrangement of the carriers in the double-side processing apparatus and of the openings in the carriers is such that the inequality

$$R/e \cdot \sin(\pi/N^*) - r/e - 1 \leq 1.2$$

is satisfied, where N* denotes the ratio of the round angle and the angle at which the adjacent carriers are inserted into the rolling apparatus with the greatest distance with respect to one another, r denotes the radius of an opening for receiving a semiconductor wafer, e denotes the radius of the pitch circle around the midpoint of the carrier on which the opening is arranged, and R denotes the radius of the pitch circle on which the carriers move between the working disks by means of the rolling apparatus.

Fig. 1