

ABSTRACT

An apparatus for pre-aligning a wafer comprises: a wafer stage for carrying the wafer, wherein a first alignment mark (W1) and a second alignment mark (W2) are arranged on the wafer such that they are substantially symmetrical to each other with respect to a center of the wafer; a peripheral vision acquisition system (1), configured to perform a first positional compensation for the wafer based on a relative positional relationship of an edge or a notch of the wafer with respect to the wafer stage; and a mark detection system (4), configured to capture images of the first and second alignment marks (W1, W2) and perform a second positional compensation for the wafer by determining a relative positional relationship of the center of the wafer with respect to a center of the wafer stage based on the positions of the first and second alignment marks (W1, W2) in a coordinate system of the mark detection system, wherein the coordinate system of the mark detection system (4) has a horizontal axis (X) defined by a line passing through the center of the wafer stage and a center of the mark detection system (4) and a vertical axis (Y) defined by a line crossing the horizontal axis (X) at right angles and passing through the center of the wafer stage.