

ABSTRACT

A stage device is equipped with a first scale (46B, 46D) which is placed with a Y-axis direction serving as its longitudinal direction and in which a first grating whose periodic direction is in an X-axis direction is formed and a second scale (46A, 46C) which is placed with the X-axis direction serving as its longitudinal direction and in which a second grating whose periodic direction is orthogonal to the periodic direction of the first grating is formed, the first scale and the second scale being placed on a plane which a stage (WST) faces. Further, on the upper surface of the stage, a plurality of X heads (66₁ to 66₅) placed at different positions in the X-axis direction and a plurality of Y heads (64₁ to 64₅) placed at different positions in the Y-axis direction are arranged. An encoder system that has these heads measures positional information of the stage within an XY plane, based on an output of the X head facing the first scale and an output of the Y head facing the second scale.